

# WARREN BRANCH LIBRARY

13750 Sidonie, City of Warren, Macomb County, Michigan

DESIGN / ARCHITECT OF RECORD:

PLY+ ARCHITECTURE  
219 N. MAIN ST.  
ANN ARBOR, MI 48104

CRAIG BORUM, FAIA  
PH. (734) 827-2238

STRUCTURAL + M/E/P + IT ENGINEER:

IMEG  
33533 TWELVE MILE ROAD, SUITE 200  
FARMINGTON HILLS, MI 48331

PETE PAPANIKOLAOU, PE, PHD, LEED AP  
PH. (630) 717-2445

CIVIL ENGINEERS + LANDSCAPE ARCHITECTURE:

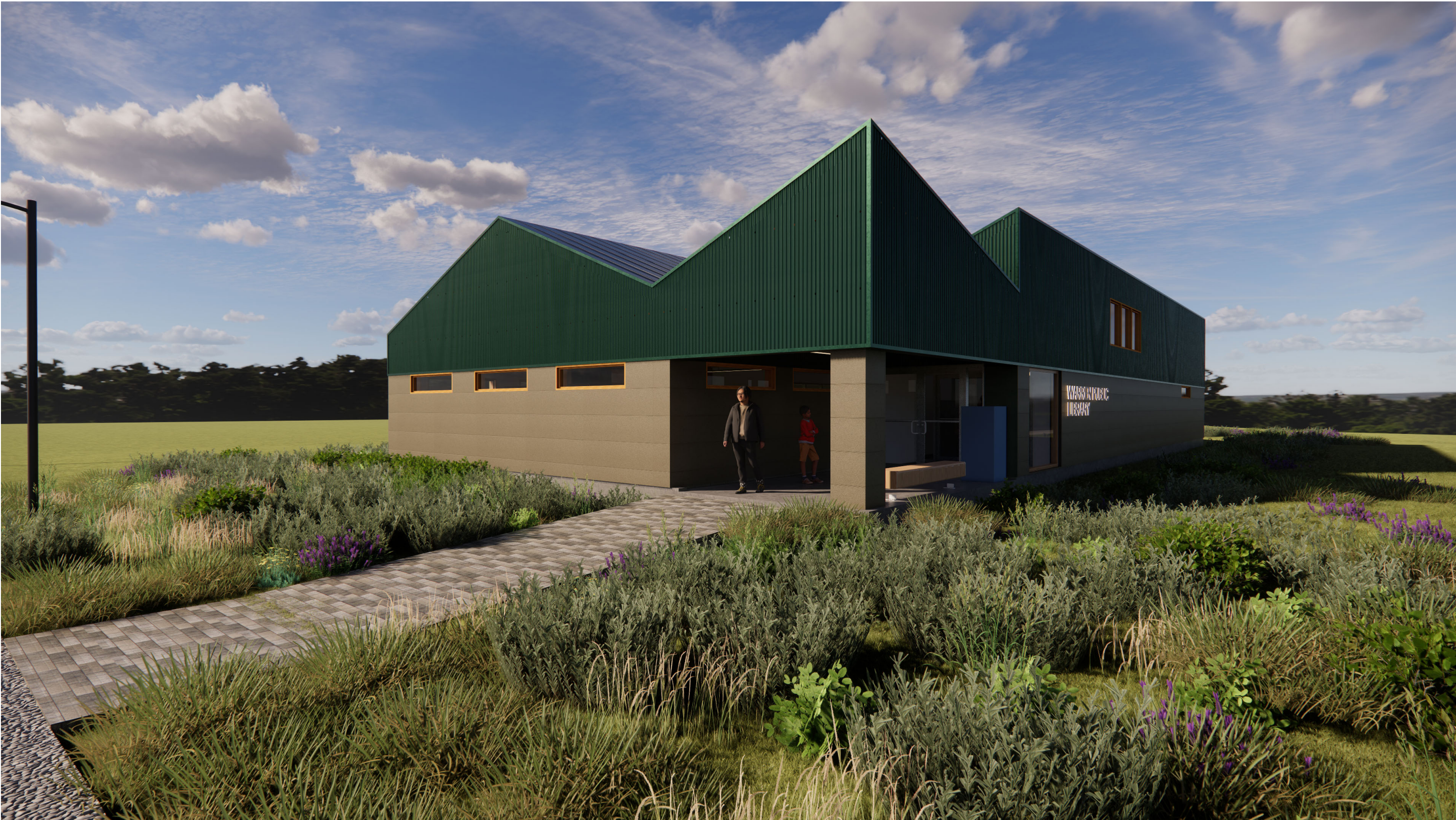
NEDERVELD  
3037 MILLER RD  
ANN ARBOR, MI 48103

JASON VAN RYN  
PH. (734) 945-3220

OWNER:

CITY OF WARREN, PURCHASING DIVISION  
ONE CITY SQUARE, SUITE 425  
WARREN, MI 48093

CRAIG J. TREPPA  
PH. (586) 574-4636



PLY+

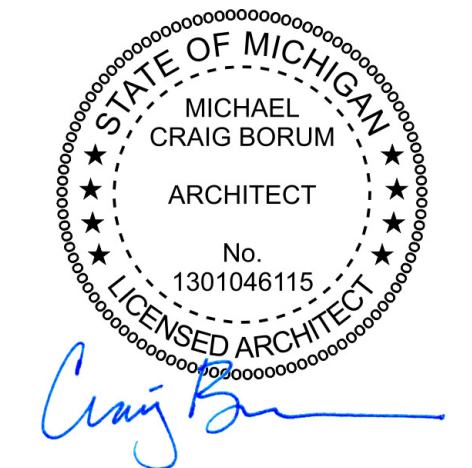
architecture, urbanism, design

409 1/2 N 4th Ave  
Ann Arbor, Michigan 48104  
USA

Telephone:  
734 827 2238  
www.plyarch.com

Project Name

WARREN BRANCH LIBRARY



Drawing Name

Cover Sheet

Drawn By  
AW

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

Revisions  
Issued for      Date

Project No.  
ITB-W-14.78 | P24006

Sheet Number

A0.00



ISSUED	
11/27/24	50% DD
12/20/24	100% DD
01/31/25	50% CD
03/14/25	Permit and Bid Set

[illegible]

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12/20/24 100% DD
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[illegible]

ISSUED	
11/27/24	50% DD
12/29/24	100% DD
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[illegible]

Plumbing									
P000	Plumbing Coversheet	●	●	●	●				
P200	Underfloor Plan - Plumbing	●	●	●	●				
P201	Level 01 Plan - Plumbing	●	●	●	●				
P400	Plumbing Details		●	●	●				
P500	Plumbing Diagrams		●	●	●				
P600	Plumbing Schedules		●	●	●				

<b>Mechanical</b>												
M000	HVAC Coversheet											
M201	Level 01 Plan - HVAC											
M400	HVAC Details											
M401	HVAC Details											
M500	HVAC Diagrams											
M501	HVAC Diagrams											
M502	HVAC Diagrams											
M600	HVAC Schedules											
M601	HVAC Schedules											

Electrical											
E000	Electrical Coversheet	●	●	●	●						
E001	Electrical Lighting Coversheet		●	●	●						
E100	Level 01 Site Plan – Electrical	●	●	●	●						
E201	Level 01 Plan – Lighting	●	●	●	●						
E211	Level 01 Plan – Power	●	●	●	●						
E400	Electrical Details		●	●	●						
E401	Electrical Details		●	●	●						
E402	Electrical Details		●	●	●						
E500	Electrical Diagrams	●	●	●	●						
E600	Electrical Schedules	●	●	●	●						
E601	Electrical Schedules	●	●	●	●						
E700	Electrical Panel Schedules	●	●	●	●						

ISSUED	
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[illegible]

<b>1. Site</b>									
A100 Architectural Site Plan	●	●	●	●					

2. Building Plan											
A2.00	Foundation Plan	●	●	●	●						
A2.10	Main Floor Plan	●	●	●	●						
A2.20	Reflected Ceiling Plan	●	●	●	●						
A2.30	Roof Plan	●	●	●	●						
A2.40	Wall Type Plan			●	●						

3. Enlarged Plan  
 A3.00 Enlarged Plans - Toilet Rooms

4. Building Elevations & Section									
A4.00	Exterior Elevations	●	●	●	●				
A4.50	Building Sections	●	●	●	●				

5. Wall Sections	
A5.00	Wall Sections
A5.10	Wall Sections
A5.20	Wall Sections

<b>6. Detail Drawings</b>							
A6.00	Enlarged Plan Details			●			
A6.01	Enlarged Section Details			●			
A6.02	Enlarged Section Details			●			
A6.03	Enlarged Section Details			●			

7. Interior Elevations									
A7.00	Interior Elevations	●	●	●	●				
A7.10	Interior Elevations	●	●	●	●				
A7.20	Interior Elevations	●	●	●	●				

<b>8. Schedules &amp; Finishes</b>	
A8.00 Door Schedule	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
A8.05 Exterior Glazing Elevations	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
A8.10 Finish Plan + Schedule	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

<b>9.</b>	<b>Equipment &amp; Millwork</b>										
A9.00	Interior Millwork		●	●	●						
A9.01	Interior Millwork				●						
A9.02	Interior Millwork			●	●						
A9.03	Interior Millwork				●						
A9.10	Furniture Plan (CITY REF)	●	●	●	●						
A9.20	Equipment Plan (CITY REF)		●	●	●						

Signage									
SG1.00	Interior Signage Keyplan		●	●					
SG1.10	Interior Signage		●	●					

LEGEND:

○ NOT ISSUED  
○ REFERENCE ONLY  
● ISSUED

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architecture, urbanism, design

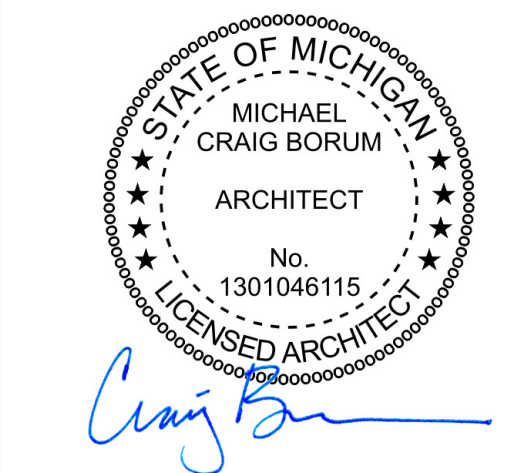
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Sheet Index

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CG

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ITB-W-1478 | P24006

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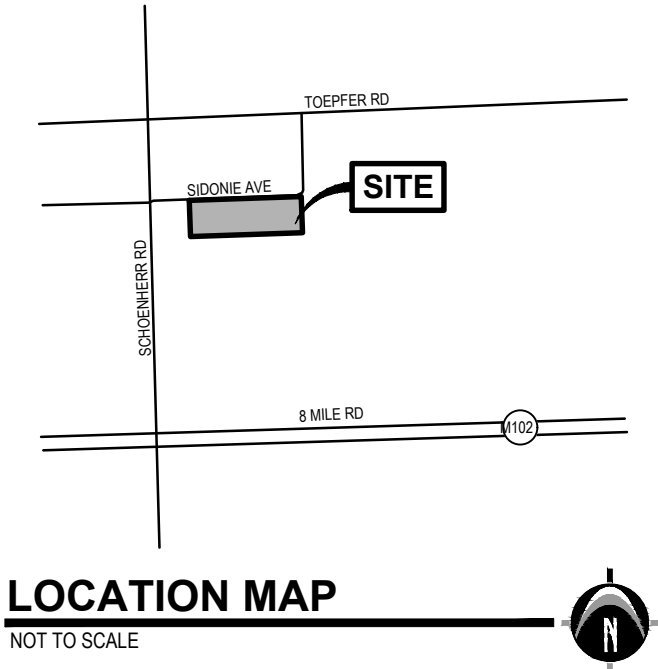
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# WARREN BRANCH LIBRARY

## CITY OF WARREN, MACOMB COUNTY, MICHIGAN

### CONSTRUCTION PLAN





### NEDERVELD

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**GRAND RAPIDS**  
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Grand Rapids, MI 49503  
Phone: 616.375.5150

**HOLLAND**  
730 Chicago Dr.  
Holland, MI 49423  
Phone: 616.393.0449

**PREPARED FOR:**

PLY PLUS INC.  
Andrew Wolking

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Ann Arbor, MI 48103  
Phone: 734.827.2238

REVISIONS:		
Title: 50% Design Development Plans		
Drawn: WL/OO	Checked: JVR/RBC	Date: 11/26/2024
Title: 100% Design Development Plans		
Drawn: BC/OO	Checked: JVR/RBC	Date: 12/18/2024
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ARCHITECTURAL RENDERING

N.T.S.



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE:  
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## WARREN BRANCH LIBRARY

### Cover Sheet

13700 Sidone Ave., Warren, MI 48099  
PART OF THE SOUTHWEST 1/4 OF SECTION 36, T1N, R12E,  
CITY OF WARREN, MACOMB COUNTY, MICHIGAN

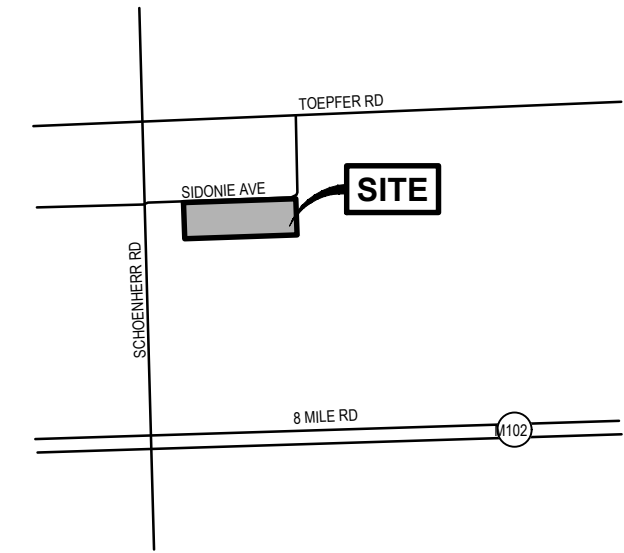
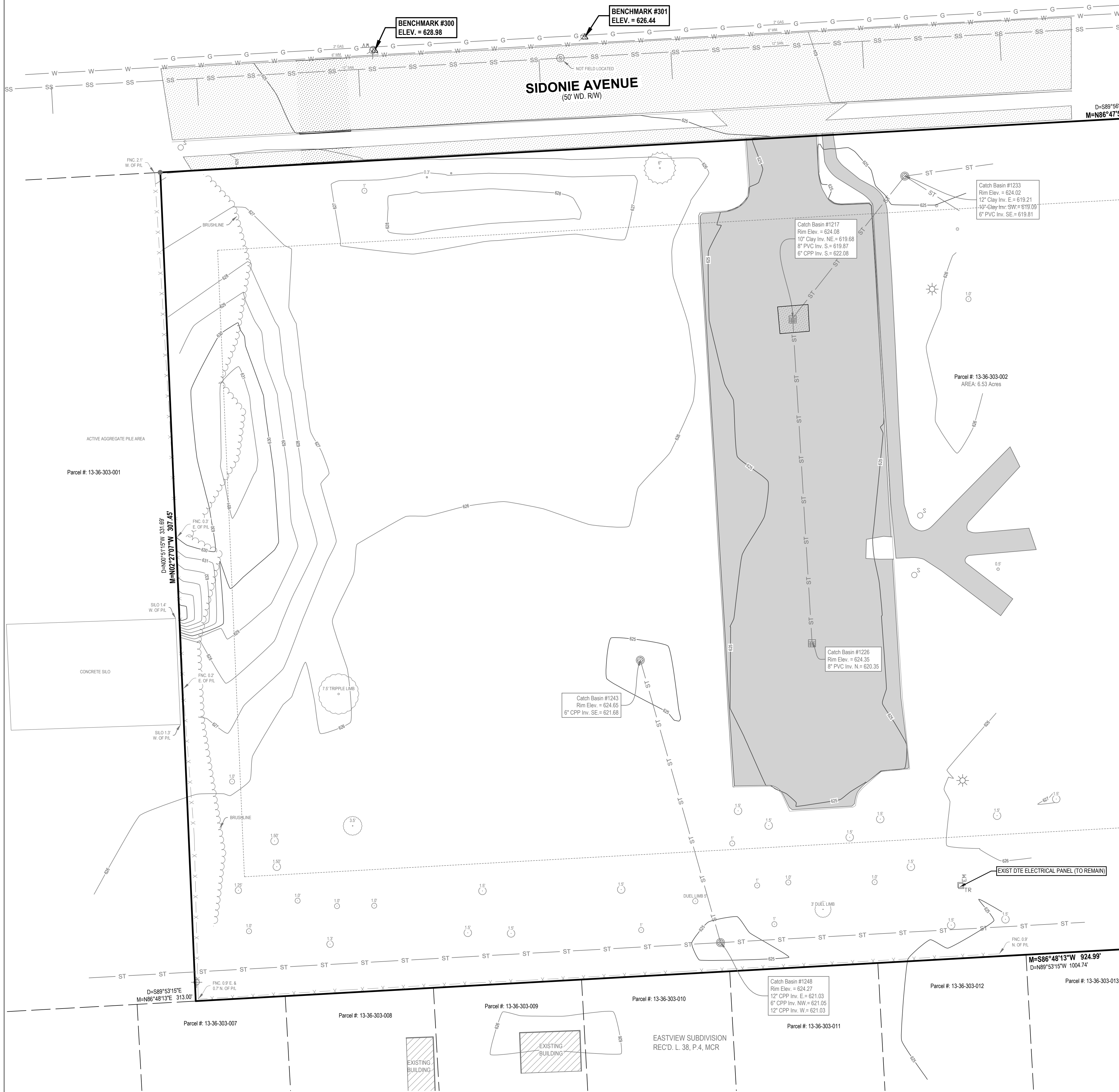
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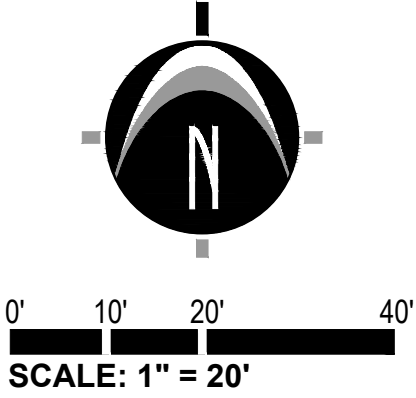
**PROJECT NO:**  
23500291

**SHEET NO:**  
**C-100**





LOCATION MAP  
NOT TO SCALE



### BENCHMARKS

- BENCHMARK #300** ELEV. = 628.98 (NAVD88)  
Arrow on top of hydrant, located on the North side of Sidonie Avenue & 390' +/- East of Schoenherr Road.
- BENCHMARK #301** ELEV. = 626.44 (NAVD88)  
Benchtie on South side of power pole, located on the North side of Sidonie Avenue & 460' +/- East of Schoenherr Road.

### DESCRIPTION

T1N1R12E SEC 36 COMM AT W 1/4 POST SEC 36; S0°51'15"W 977.47 FT ALG W SECLINE; TH S89°53'15"E 313.0 FT ALG N LINE EASTVIEW SUBDIVISION TO PT OF BEG; TH N0°51'15"E 331.69 FT PARA TO & 313.0 FT E OF W SEC LINE; TH S89°56'30"E 1004.96 FT ALG S LINE NATIONAL GARDENS SUBDIVISION; TH S0°53'30"W 332.64 FT; TH N89°53'15"W 1004.74 FT ALG N LINE EASTVIEW SUBDIVISION TO PT OF BEG. 7.662 A

(Tax Description)

### SURVEYOR'S NOTES

- Flood Zone Classification: An examination of the National Flood Insurance Program's Flood Insurance Rate Map for Community Number 260129, Map Number 26099C0403G (Not Printed), with an Effective Date of September 29, 2006, shows this parcel to be located in Zone X (subject to map scale uncertainty).
- Lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary. These locations should not be interpreted to be exact locations nor should it be assumed that they are the only utilities in this area.
- NOTE TO CONTRACTORS: 3 (THREE) WORKING DAYS BEFORE YOU DIG, CALL MISS DIG AT TOLL FREE 1-800-482-7171 FOR UTILITY LOCATIONS ON THE GROUND.
- BASIS OF BEARING: NAD83 Michigan State Planes, South Zone, International Foot

### LEGEND

	Section Corner		Transformer
	Iron - Set 1/2" X 1/8" iron rebar with NED Cap		Water Valve
	Catch Basin - Round		Fence
	Catch Basin - Square		Storm Line
	Control Point/ Benchmark		Sanitary Line
	Deciduous Tree		Water Main
	Electric Meter		Gas
	Evergreen Tree		Asphalt
	Hydrant		Existing Building
	Light Pole		Concrete
	Post		Measured Dimension
	Utility Pole		Described Dimension
	Sign		

This survey was made from the legal description shown above. The description should be compared with the Abstract of Title or Title Policy for accuracy, easements and exceptions.

**SURVEYOR'S CERTIFICATE:**  
I certify that the requirements for 1970 PA 132, MCL 54.213 have been met. The relative positional precision of the corners identified for this survey and shown on the map are within the limits accepted by the practice of professional surveying.



By:   
Brandon G. Parrent Licensed Professional Surveyor No. 4001063096

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### PREPARED FOR:

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### REVISIONS:

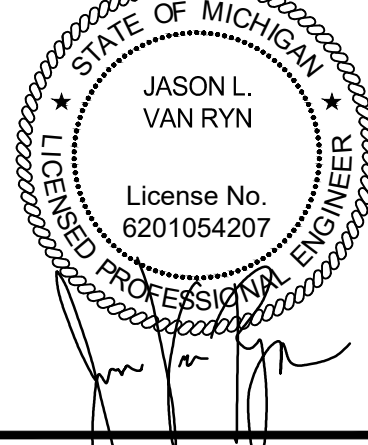
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## WARREN BRANCH LIBRARY

Existing Site Conditions Plan

13700 Sidonie Ave., Warren, MI 48089  
PART OF THE SOUTHWEST 1/4 OF SECTION 36, T1N, R12E,  
CITY OF WARREN, MACOMB COUNTY, MICHIGAN

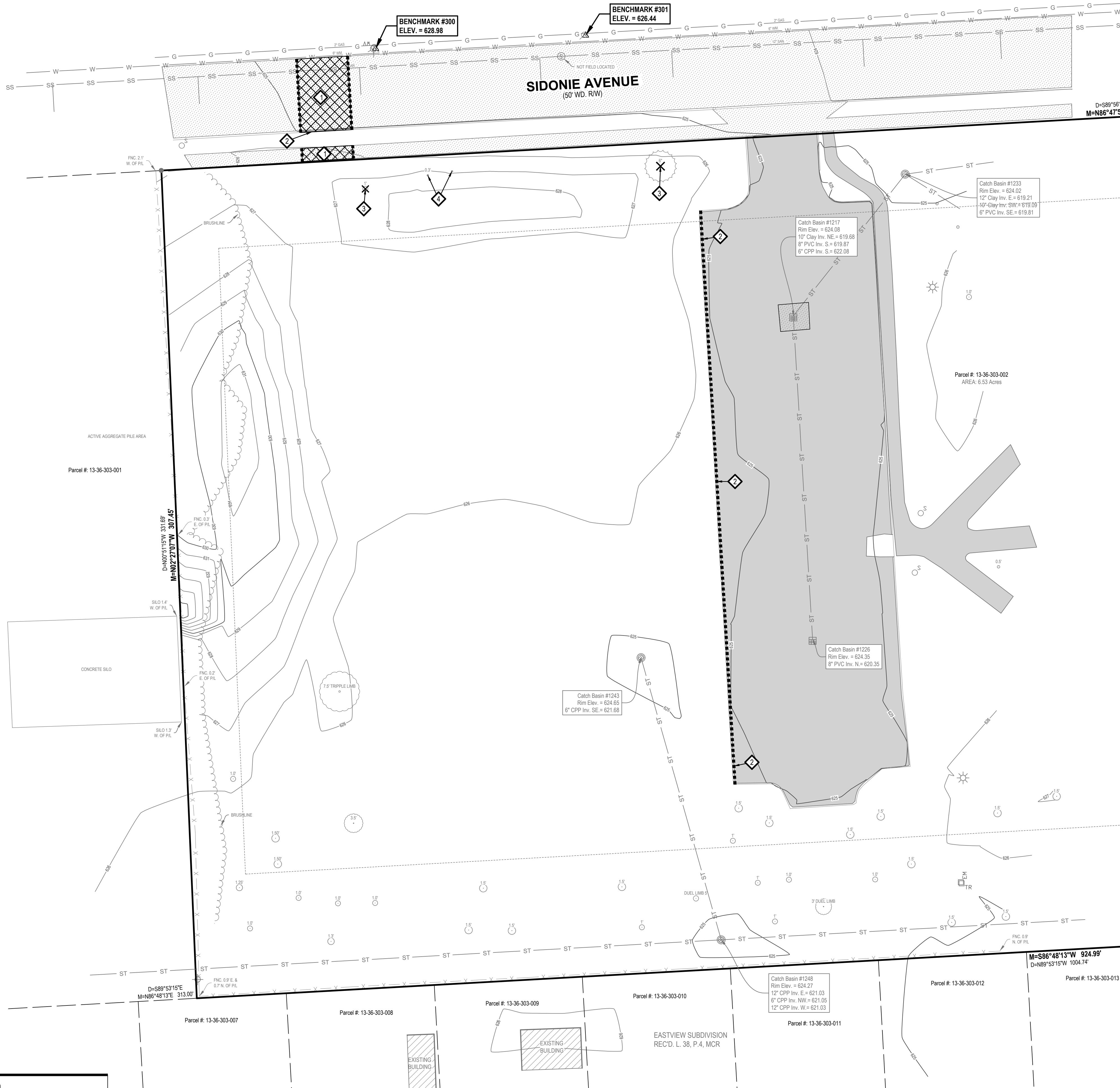
### STAMP:



PROJECT NO:  
23500291

SHEET NO:  
**C-201**





#### LEGEND

- EXISTING GRADE CONTOUR
- EXISTING CONCRETE REMOVAL
- EXISTING TREE REMOVAL
- SAWCUT EXISTING PAVEMENT

#### REMOVAL / DEMOLITION NOTES

- REMOVE EXISTING CONCRETE
- REMOVE EXISTING CONCRETE CURB
- REMOVE EXISTING TREE
- TRANSPLANT EXISTING TREE

#### REMOVAL / DEMOLITION NOTES

- THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES AT LEAST THREE WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION OPERATIONS. THERE ARE EXISTING UNDERGROUND UTILITIES WHICH CROSS THE PROPOSED REPLACEMENT WORK AREAS. ALTHOUGH THEIR EXACT LOCATION CANNOT BE DETERMINED, IT IS KNOWN THESE UTILITIES ARE LOCATED WHERE DIGGING IS REQUIRED. THE CONTRACTOR SHALL CONDUCT THE REQUIRED EXCAVATION IN THESE AREAS WITH EXTREME CAUTION.
- ALL EXISTING UTILITY INFORMATION SHOWN IS TAKEN FROM EXISTING RECORDS, AND FIELD VERIFIED WHERE ACCESSIBLE ONLY. INFORMATION OBTAINED FROM EXISTING RECORDS MAY NOT BE COMPLETE OR ACCURATE. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE CONTRACTOR SHALL FIELD VERIFY FOR ACCURACY, LOCATION AND CONDITION.
- BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY AND BY THE OWNER, REPRESENTATIVES OF THE CITY, THE OWNER AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING UTILITIES AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS AND EXISTING VIDEO TAPES. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION WORK.
- ALL EXISTING UTILITIES, SEWERS AND WATER LINES ARE TO REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL CONTACT AND COORDINATE WITH ALL APPLICABLE UTILITY COMPANIES, MUNICIPALITIES AND AGENCIES BEFORE COMMENCING ANY WORK.
- THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES REGARDING REMOVAL OF EXISTING POLES, OVERHEAD WIRES, UNDERGROUND UTILITIES, GUY WIRES, GAS LINES, ETC. ALL ADJUSTMENT OR RECONSTRUCTION WORK, EXCEPT FOR THOSE STRUCTURES OTHERWISE NOTED ON THE PLANS, SHALL BE PERFORMED BY THE CONTRACTOR. EXISTING APPURTENANCES SUCH AS UTILITY POLES AND VALVES BOX SHALL NOT BE DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN EXISTING UTILITY SERVICE TO ALL ADJOINING PROPERTIES.
- ALL DEBRIS SHALL BE REMOVED FROM THE SITE, AND NO STOCKPILING ON SITE SHALL BE ALLOWED UNLESS APPROVED BY THE OWNER OR THEIR REPRESENTATIVES.
- THE CONTRACTOR SHALL LIMIT SAWCUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE REQUIRED OR AS SHOWN. ALL PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AND REMOVED TO FULL DEPTH AT ALL PAVEMENT LIMITS OR EXISTING JOINTS. IF ANY DAMAGE IS INCURRED TO ANY OF THE SURROUNDING PAVEMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR AT NO ADDITIONAL COST TO ANYONE ELSE, INCLUDING THE CITY OR OWNER.
- ASPHALT AREAS SHOWN TO BE SAWCUT AND REMOVED FULL DEPTH ARE ACTUAL FACE OF PROPOSED CURBS. IT WILL BE NECESSARY TO MAKE OFF-SET SAWCUTS TO PROVIDE CLEARANCE FOR PROPOSED CURBS. THE CONTRACTOR SHALL DETERMINE THE AMOUNT OF OFF-SET NECESSARY TO CONSTRUCT THE PROPOSED CURBS. ADDITIONAL CUTS MAY BE DESIRED TO FACILITATE THE REMOVAL OF THE EXISTING PAVEMENT, BUT THERE WILL BE NO EXTRA PAYMENT FOR ADDITIONAL CUTS. PAVEMENT SHALL BE REMOVED WITHOUT DAMAGING OR UNDERMINING THE REMAINING PAVEMENT. IF ADJACENT PAVEMENT IS DAMAGED, THE CONTRACTOR SHALL MAKE ADDITIONAL FULL DEPTH SAWCUTS AND REMOVE THE DAMAGE AREAS AS NECESSARY.
- ALL PAVEMENT REMOVAL AREAS SHALL BE FULL PAVEMENT CROSS-SECTION REMOVAL DOWN TO NATIVE SOIL LAYER IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED MONTH/DAY/YEAR.
- ALL TREES WITHIN THE GRADING LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.



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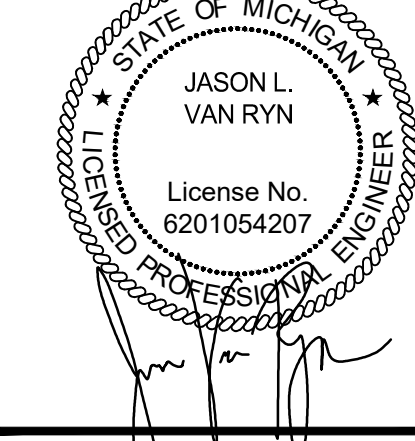
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**Demolition Plan**

13700 Sidonie Ave., Warren, MI 48089

PART OF THE SOUTHWEST 1/4 OF SECTION 36, T.1N, R.12E,  
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#### STAMP:



**PROJECT NO:**  
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**SHEET NO:**  
**C-203**





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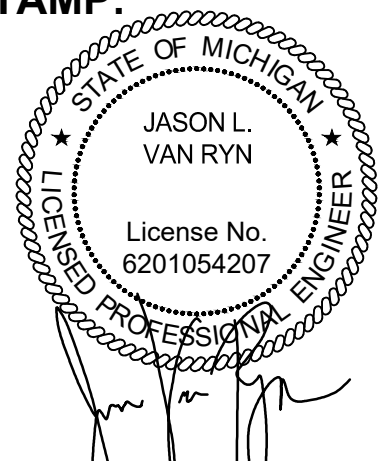
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## WARREN BRANCH LIBRARY

### Overall Site Layout Plan

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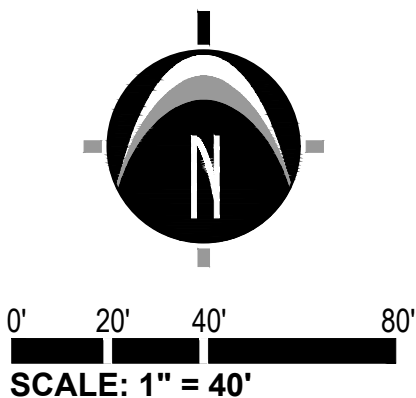
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**SHEET NO:**  
**C-204**




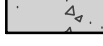
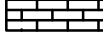


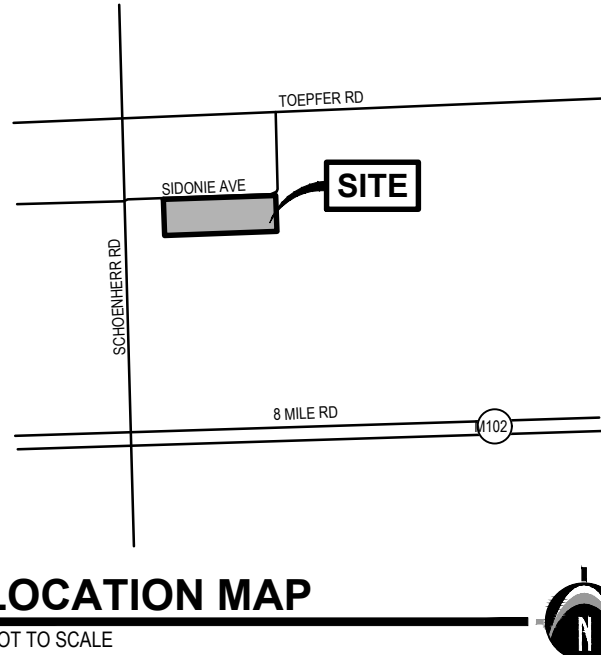
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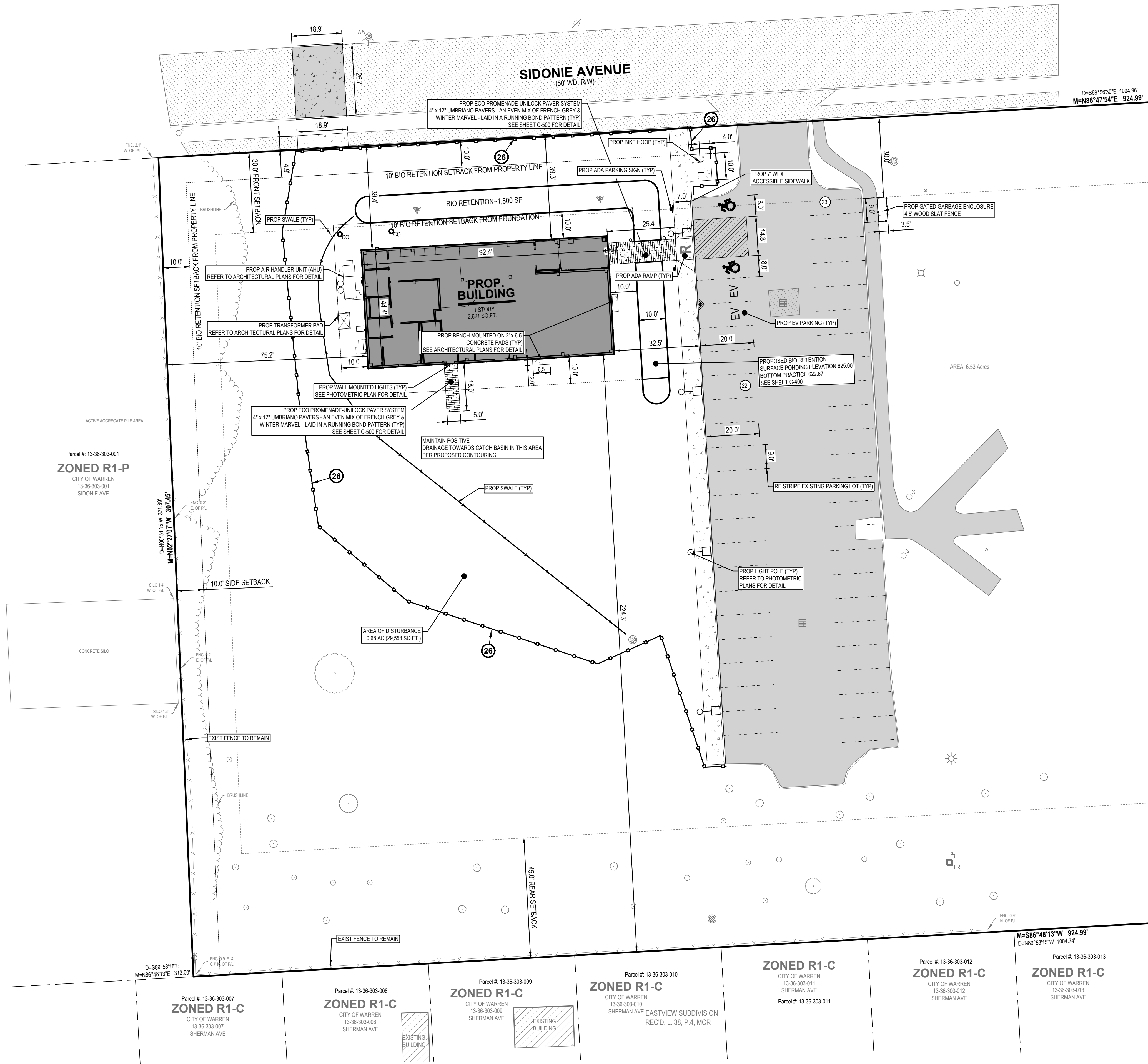


**LEGEND**

	EXISTING BITUMINOUS
	EXISTING CONCRETE
	PROPOSED CONCRETE (STANDARD DUTY)
	PROPOSED CONCRETE (HEAVY DUTY)
	PROPOSED PERMEABLE PAVERS







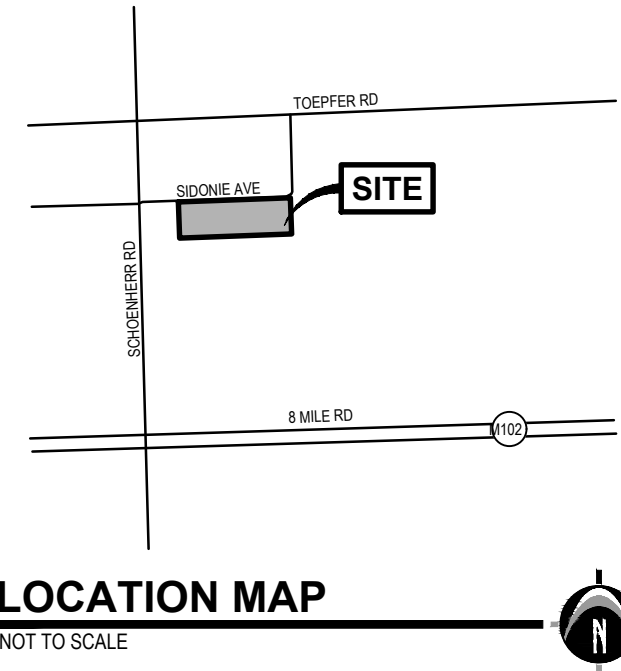
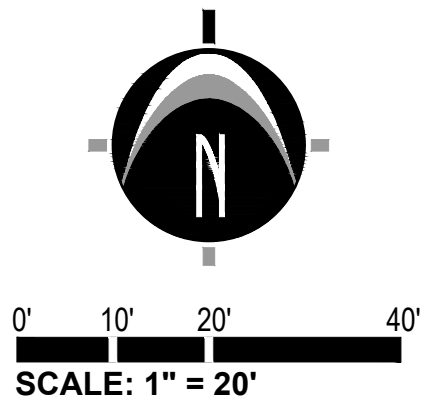
GENERAL NOTES

- ZONING OF PROPERTY: R-1-C PUBLIC LAND  
R-1-C ZONING REQUIREMENTS  
A) MINIMUM LOT AREA = 7,200 SQ. FT.  
B) MINIMUM LOT WIDTH = 60 FT.  
C) MAXIMUM BUILDING HEIGHT = 35 FT OR 2 STORIES  
D) MAXIMUM LOT COVERAGE = 30%  
SETBACKS  
A) FRONT YARD = 30 FT.  
B) SIDE YARD = 10 FT.  
C) REAR YARD = 45 FT.
- SUMMARY OF LAND USE:  
A) TOTAL ACREAGE = 6.53 ACRES (284,404 SQ. FT.) (EXCLUDING R.O.W.)  
B) AREA OF PROPOSED BUILDING = 2,621 SQ. FT.  
C) BUILDING HEIGHT = 1 STORY  
D) LOT COVERAGE = 6.85%  
E) GROSS PAVEMENT AREA = APPROX. 14,369 SQ. FT.  
F) GROSS CONCRETE AREA = APPROX. 2,481 SQ. FT.  
G) ZONING OF PARCELS TO SOUTH AND WEST = R-1-C AND R-1-P ONE-FAMILY PARKING  
ZONING OF PARCELS TO NORTH AND EAST = R-1-C AND R-1-C
- PARKING REQUIREMENTS:  
A) MINIMUM REQUIRED SPACE PER CITY = 9'X22' (22' AISLE)  
B) TYPICAL PARKING SPACE PROVIDED = 9'X18' (24' AISLE)  
C) TYPICAL VAN ACCESSIBLE PARKING SPACE = 11'X18' WITH 5' AISLE  
D) TYPICAL CAR ACCESSIBLE PARKING SPACE = 8'X18' WITH 5' AISLE  
E) NUMBER OF SPACES PROVIDED = 45 (INCLUDING 2 ACCESSIBLE & 2 EV CHARGING SPACES)
- THIS PROJECT IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN, BASED ON THE NATIONAL FLOOD INSURANCE PROGRAM RATE MAPS.
- BEST MANAGEMENT PRACTICES WILL BE UTILIZED DURING AND AFTER CONSTRUCTION OF THE PROJECT. MEASURES WILL INCLUDE THE USE OF SEEDING AND MULCHING, SEDIMENT INLET FILTERS, COMPACTION AND PAVING. THE OWNER OF THE SUBJECT PARCEL SHALL HAVE THE RESPONSIBILITY TO MAINTAIN THE PERMANENT SOIL EROSION PROTECTION MEASURES.
- UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.
- CONTRACTOR TO FIELD VERIFY ALL INVERTS.
- ALL LIGHTING SHALL BE SHIELDED FROM ALL ADJACENT PROPERTIES. PROPOSED LIGHTING SHALL CONSIST OF WALL-MOUNTED LIGHTS AND LIGHT POLES, BOTH FITTED WITH DOWN CAST TYPE FIXTURES TO BE SPECIFIED BY LIGHTING CONSULTANT.
- THE PERMANENT PARCEL NUMBER FOR THE SITE IS 13-36-303-002.  
THE ADDRESS OF THE PROPERTY IS 13700 SIDONIE AVE.
- NO FENCES OR WALLS OTHER THAN WHAT IS SHOWN ON THE SITE PLAN ARE PROPOSED AT THIS TIME.
- ALL LANDSCAPED AREAS SHALL BE AUTOMATICALLY IRRIGATED

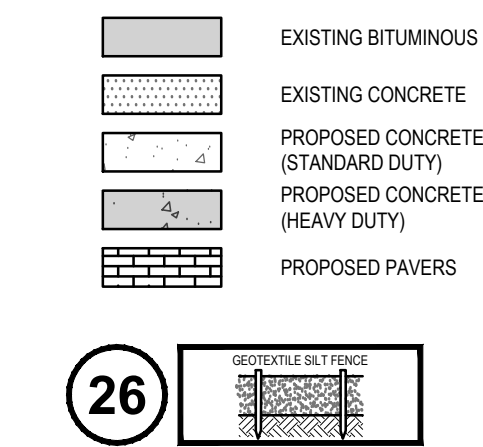
DESCRIPTION

T1N,R12E SEC 36 COMM AT W 1/4 POST SEC 36; S0°51'15"W 977.47 FT ALG W S ECLINE; TH S89°53'15"E 313.0 FT ALG N LINE EASTVIEW SUBDIVISION TO PT OF BEG; TH N0°51'15"E 331.69 FT PARA TO & 313.0 FT E OF W S ECLINE; TH S89°56'30"E 1004.96 FT ALG S LINE NATIONAL GARDENS SUBDIVISION; TH S0°53'30"W 332.64 FT; TH N89°53'15"W 1004.74 FT ALG N LINE EASTVIEW SUBDIVISION TO PT OF BEG. 7.662 A

(Tax Description)



LEGEND



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Phone: 616.375.5150

**HOLLAND**  
730 Chicago Dr.  
Holland, MI 49423  
Phone: 616.353.0449

PREPARED FOR:

PLY PLUS INC.  
Andrew Wolking

219 N. Main Street  
Ann Arbor, MI 48103  
Phone: 734.827.2238

REVISIONS:

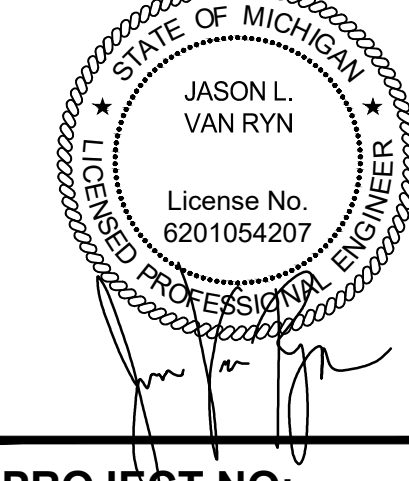
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Site Layout Plan

13700 Sidonie Ave., Warren, MI 48089  
PART OF THE SOUTHWEST 1/4 OF SECTION 36, T1N, R12E,  
CITY OF WARREN, MACOMB COUNTY, MICHIGAN

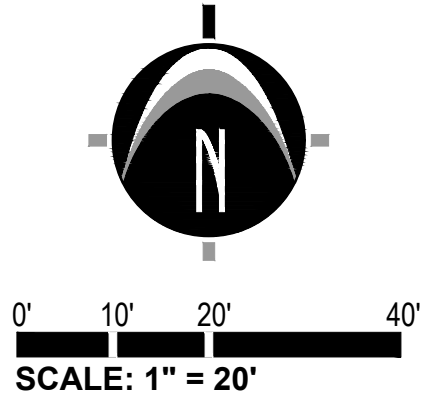
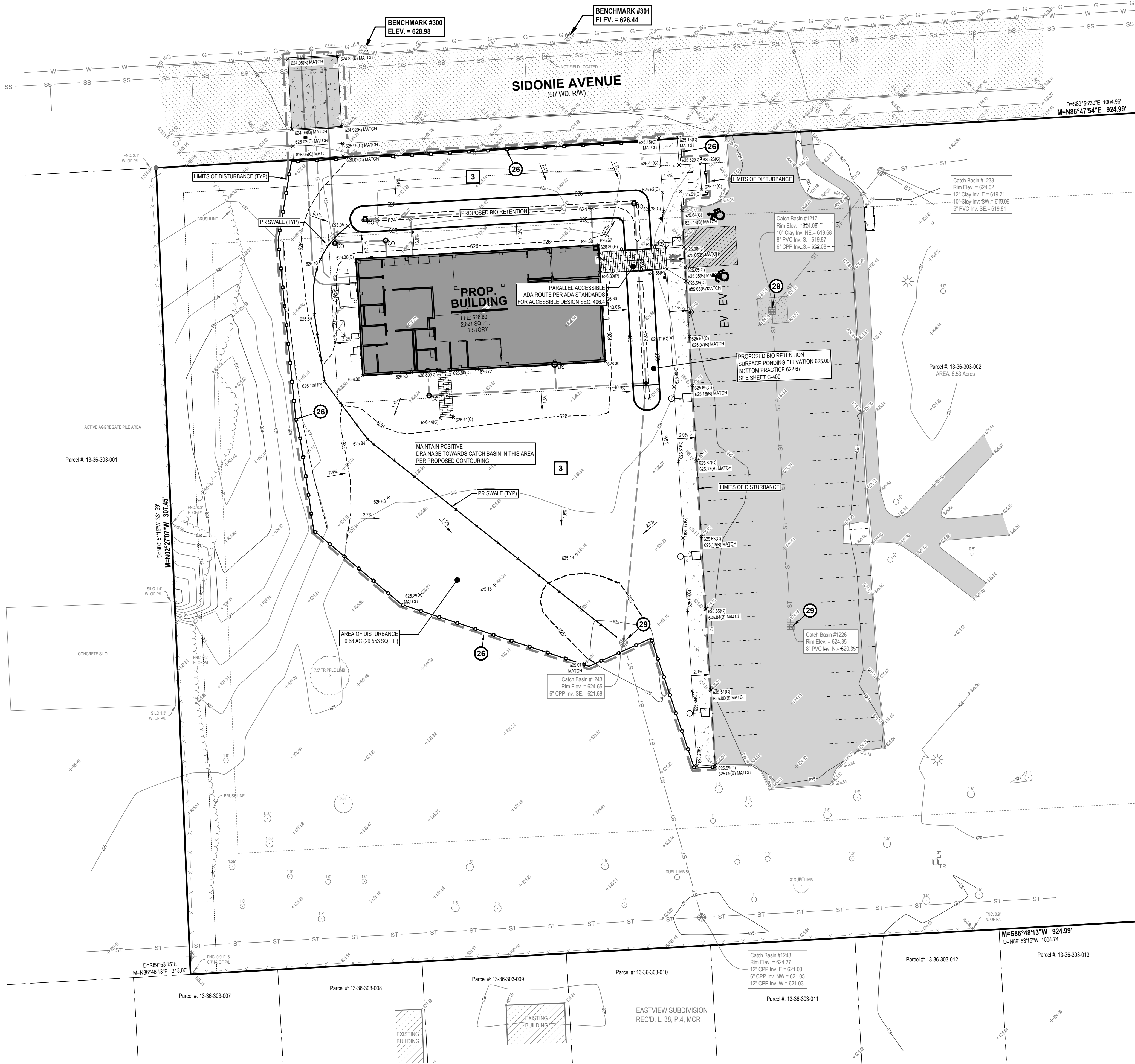
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PROJECT NO:  
23500291

SHEET NO:  
**C-205**





LEGEND

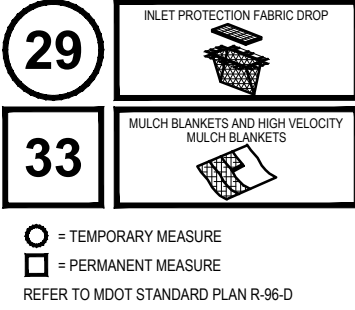
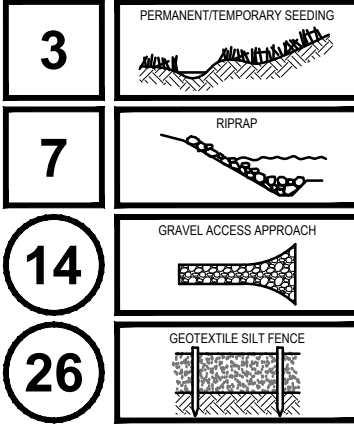
- EX. GRADE CONTOUR
- PROP. GRADE CONTOUR
- PROP. GRADE ELEV.
- PROP. GRADE ELEV. (BLACKTOP)
- PROP. GRADE ELEV. (CONCRETE)
- PROP. GRADE ELEV. (GUTTER)
- PROP. GRADE ELEV. (EDGE OF METAL)
- PROP. GRADE ELEV. (HIGH POINT)
- EX. BITUMINOUS
- EX. CONCRETE
- PROPOSED CONCRETE (STANDARD DUTY)
- PROP. STORM SEWER
- PROP. SANITARY SEWER
- PROP. WATERMAIN
- PROP. LIMITS OF GRADING
- SILT FENCE

SOIL EROSION CONTROL SCHEDULE

	2025											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PLACE SILT FENCE												
STRIP & STOCKPILE TOPSOIL												
CONSTRUCT CONNECTION TO STORM SEWER												
ROUGH GRADE SITE												
CONSTRUCT BUILDING FOUNDATION AND BUILDING												
CONSTRUCT IMPROVEMENTS AROUND BUILDING												
CONSTRUCT UTILITY LINES TO BUILDING												
FINISH GRADE SITE												
PAVE SITE												
RESPIREAD TOPSOIL/COMPACTION												
SEED DISTURBED AREAS												
SITE RESTORATION/CLEAN UP												

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- CONTRACTOR SHALL POSSESS THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT PRIOR TO START OF ANY EARTH WORK.
- CONTRACTOR SHALL MODIFY THIS SOIL EROSION AND SEDIMENTATION CONTROL PLAN TO SHOW THE ADDITIONAL CONTROL MEASURES INTENDED TO BE USED DURING CONSTRUCTION. SUBMIT MODIFICATIONS TO THE CONTROLLING AGENCY, THE OWNER, AND THE ENGINEER.
- EROSION PROTECTION SHALL BE PROVIDED AT ALL STORM SEWER INLETS AND OUTLETS. ALL BARE EARTH SHALL BE STABILIZED WITH SEEDING.
- REFER TO THE M.D.O.T. "SOIL EROSION AND SEDIMENTATION CONTROL MANUAL" (MARCH 2021) FOR ADDITIONAL INFORMATION.
- THE ENTIRE STORM SEWER SYSTEM SHALL BE CLEANED AND FLUSHED FOLLOWING CONSTRUCTION AND PAID RECEIPT THEREOF PROVIDED TO THE ENGINEER AND COUNTY SESC AGENT PRIOR TO FINAL PAYMENT TO THE CONTRACTOR OR FINAL ACCEPTANCE OF THE CONSTRUCTION BY THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO INSPECT, TAKE CORRECTIVE ACTION AND MAINTAIN ALL TEMPORARY SESC MEASURES DAILY AND AFTER EACH RAIN EVENT UNTIL FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT.



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Andrew Wolking

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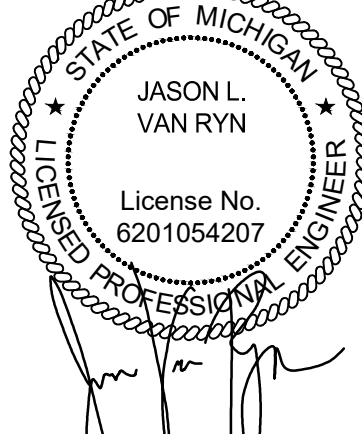
REVISIONS:

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S.E.S.C. & Grading Plan  
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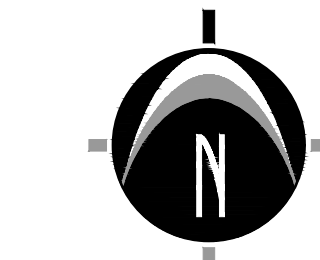
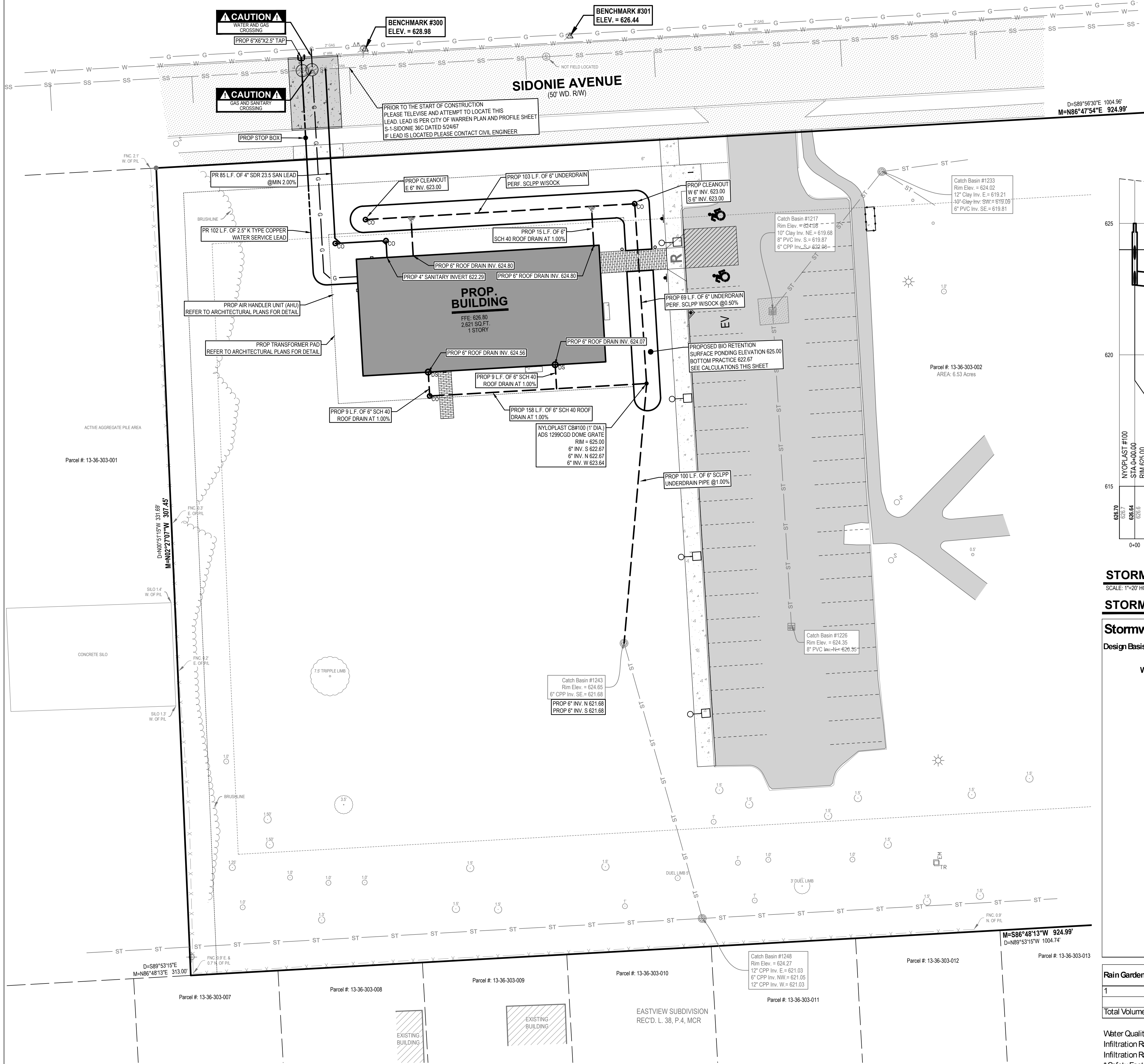
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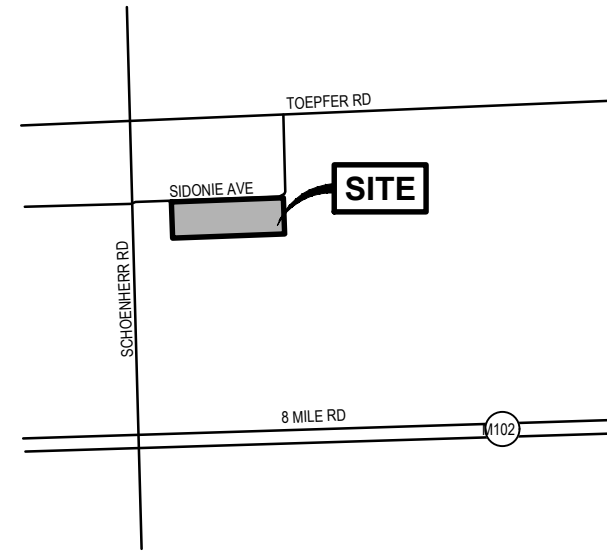
PROJECT NO:  
23500291

SHEET NO:  
**C-300**





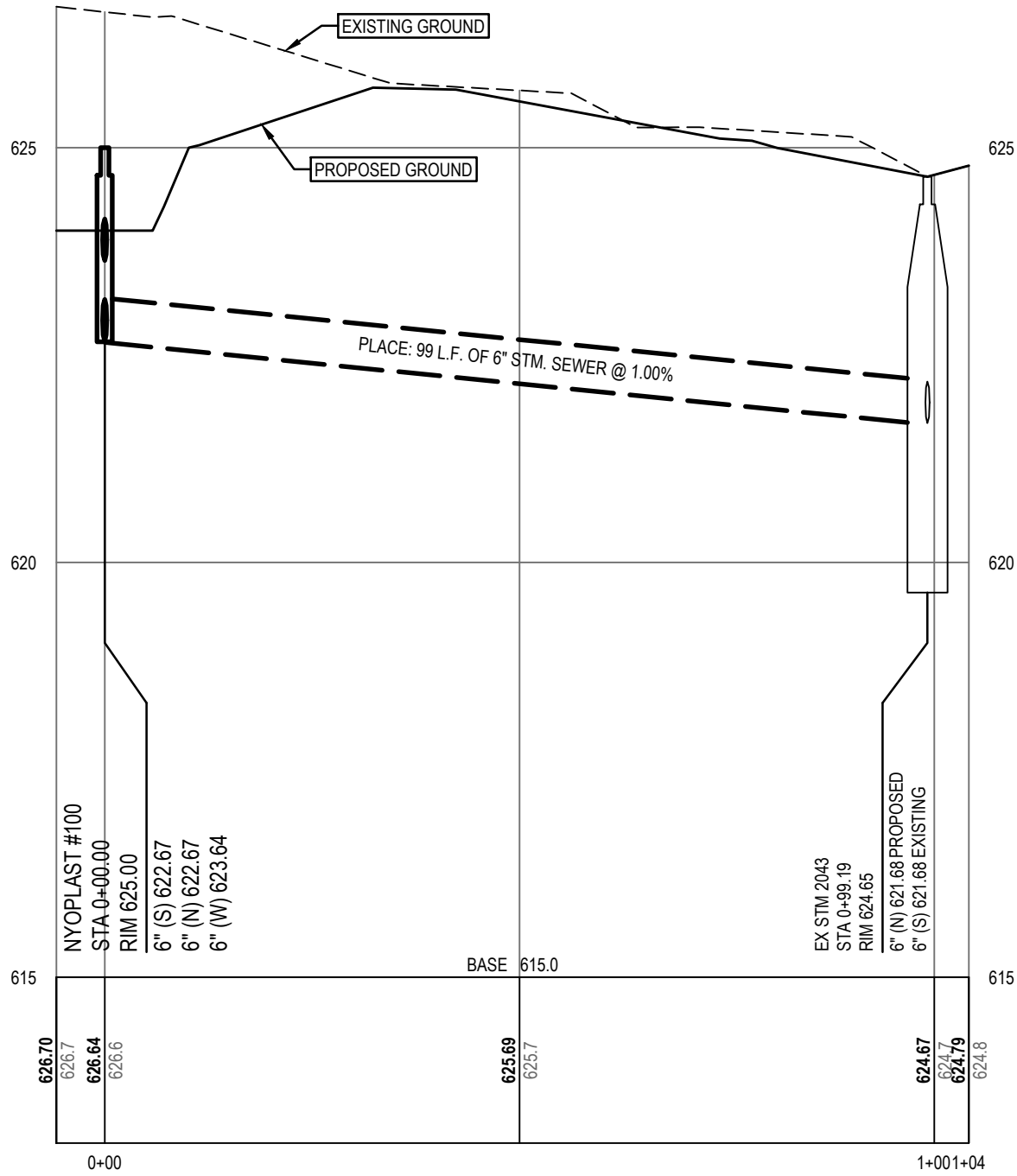
0' 10' 20' 40'  
SCALE: 1" = 20'



LOCATION MAP  
NOT TO SCALE

LEGEND

- EX. GRADE CONTOUR
- PROP. GRADE CONTOUR
- EX. BITUMINOUS
- EX. CONCRETE
- PROPOSED CONCRETE (STANDARD DUTY)
- PROP. STORM SEWER
- PROP. SANITARY SEWER
- PROP. WATERMAIN
- = INDICATES 18" MIN. CLEARANCE REQUIRED (UNLESS OTHERWISE NOTED)



STORM PROFILE CB#100 TO EX CB#2043

SCALE: 1"=20' HORIZONTAL 1"=2' VERTICAL

STORMWATER MANAGEMENT CALCULATIONS

Stormwater Management Calculations

Design Basis: Macomb County Public Works Commissioners Procedures & Design Standards for Stormwater Management

Water Quality Volume ( $V_{wq}$ ) - Volume from the site for a 1.0" rain event

1a) Developed area contributing runoff (A)	=	29,956	ft <sup>2</sup>	=	0.69	acres
<b>Surface</b>	<b>Area (sq. ft)</b>	<b>C factor</b>	<b>Weighted C</b>			
Building	4106	0.95	0.13			
Roof/Pavement	2007	0.95	0.06			
Semi-Pervious	23,843	0.45	0.36			
	29,956		0.55			
1b) Existing area contributing runoff (A)	=	29,956	ft <sup>2</sup>	=	0.69	acres
<b>Surface</b>	<b>Area (sq. ft)</b>	<b>C factor</b>	<b>Weighted C</b>			
Building	0	0.95	0.00			
Pavement	0	0.95	0.00			
Gravel	0	0.85	0.00			
Semi-pervious	29,956	0.45	0.45			
	29,956		0.45			
2a) Post Development Runoff Coefficient	C	=	0.55			
2b) Pre-Development Runoff Coefficient	C	=	0.45			
3) Calculate $V_{wq} = 3,630 \times 1 \text{ in.} \times C \times A$	$V_{wq}$	=	1378	ft <sup>3</sup>		

Rain Garden ID	Bottom Contour Area	Top Contour Area	Surface Storage Volume	Subsurface Storage Volume	Active Infiltration Volume
1	368 s.f.	1852 s.f.	1110 c.f.	202 c.f.	78 c.f.
Total Volume Provided		1390 c.f.	1110 c.f.	202 c.f.	78 c.f.

Water Quality Vol Req 1,378 c.f.  
Infiltration Rate 0.85 in/hr  
Infiltration Rate\* 0.425 in/hr  
\* Safety Factor 0.5  
Per USDA Soil Survey

Rain Garden 1	
Top of Storage	625.00
Surface Storage	0.50
Mulch	0.33
Soil	1.00
Choke	0.00
Stone	0.50
Outlet Invert	622.67

Subsurface Depth 1.83



Know what's below.  
CALL before you dig.

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Andrew Wolkling

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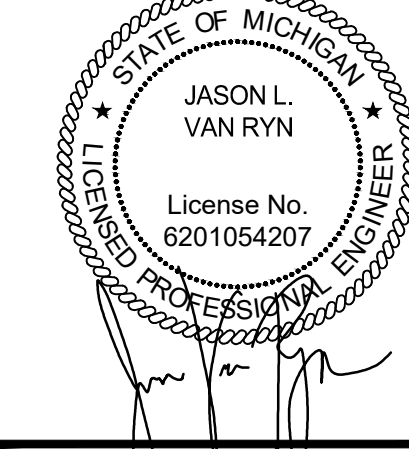
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Utility Plan

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STAMP:



PROJECT NO:  
23500291

SHEET NO:

C-400



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Title: 50% Design Development Plans		
Drawn: WL/OO	Checked: JVR/BC	Date: 11/26/2002
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Drawn: BC/OO	Checked: JVR/BC	Date: 03/12/2002

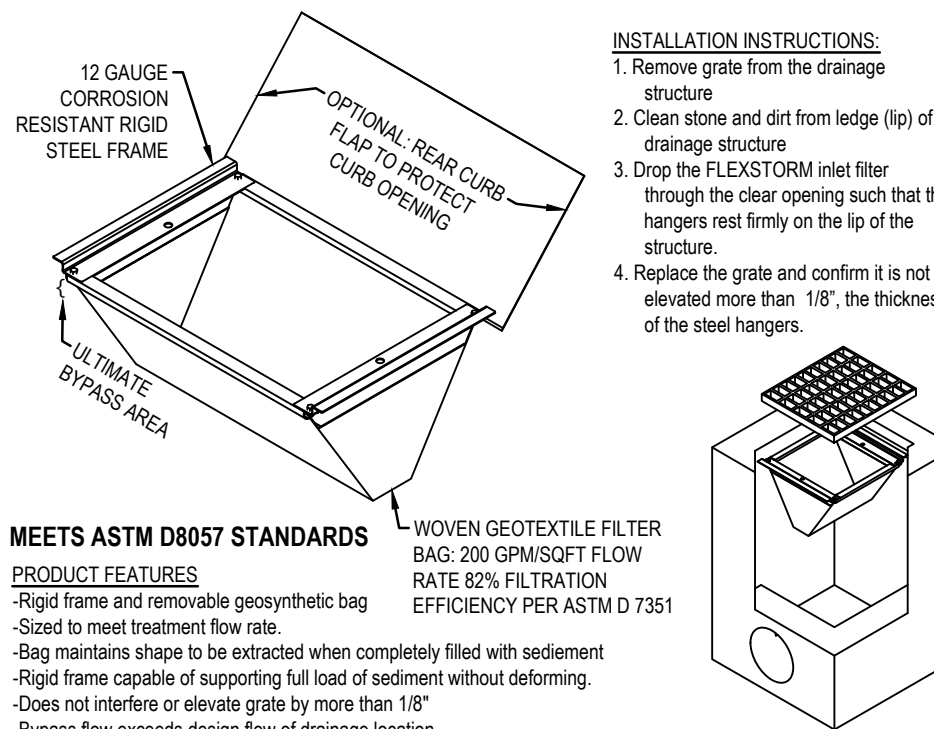
NOTE:

1. LIGHT BROOM FINISH
2. LOCATE CONTROL JOINTS AND EXPANSION JOINTS PER ACI STANDARDS
3. PANEL SIZE SHALL NOT EXCEED 8 FEET
4. JOINTS SHALL BE KEPT AS SQUARE AS POSSIBLE WITH THE LENGTH NEVER EXCEEDING 1.25X THE WIDTH
5. AIR ENTRAINMENT - 7%  $\pm$  1%
6. SLUMP 4"  $\pm$  1"
7. REFER TO GEOTECHNICAL REPORT AND RECOMMENDATIONS FOR FINAL CONCRETE PAVING DETAILS

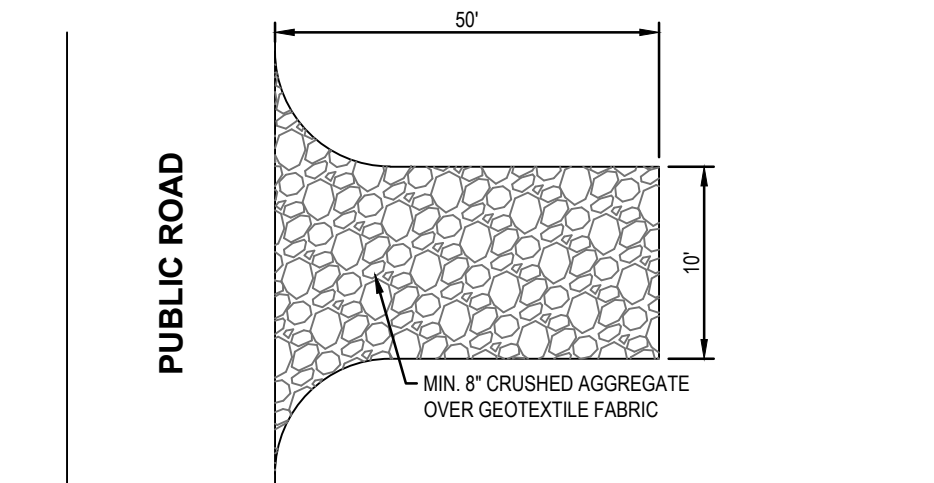
COMPACTED SAND BASE

COMPACTED SUBGRADE

N.T.S.



N.T.S.



N.T.S.

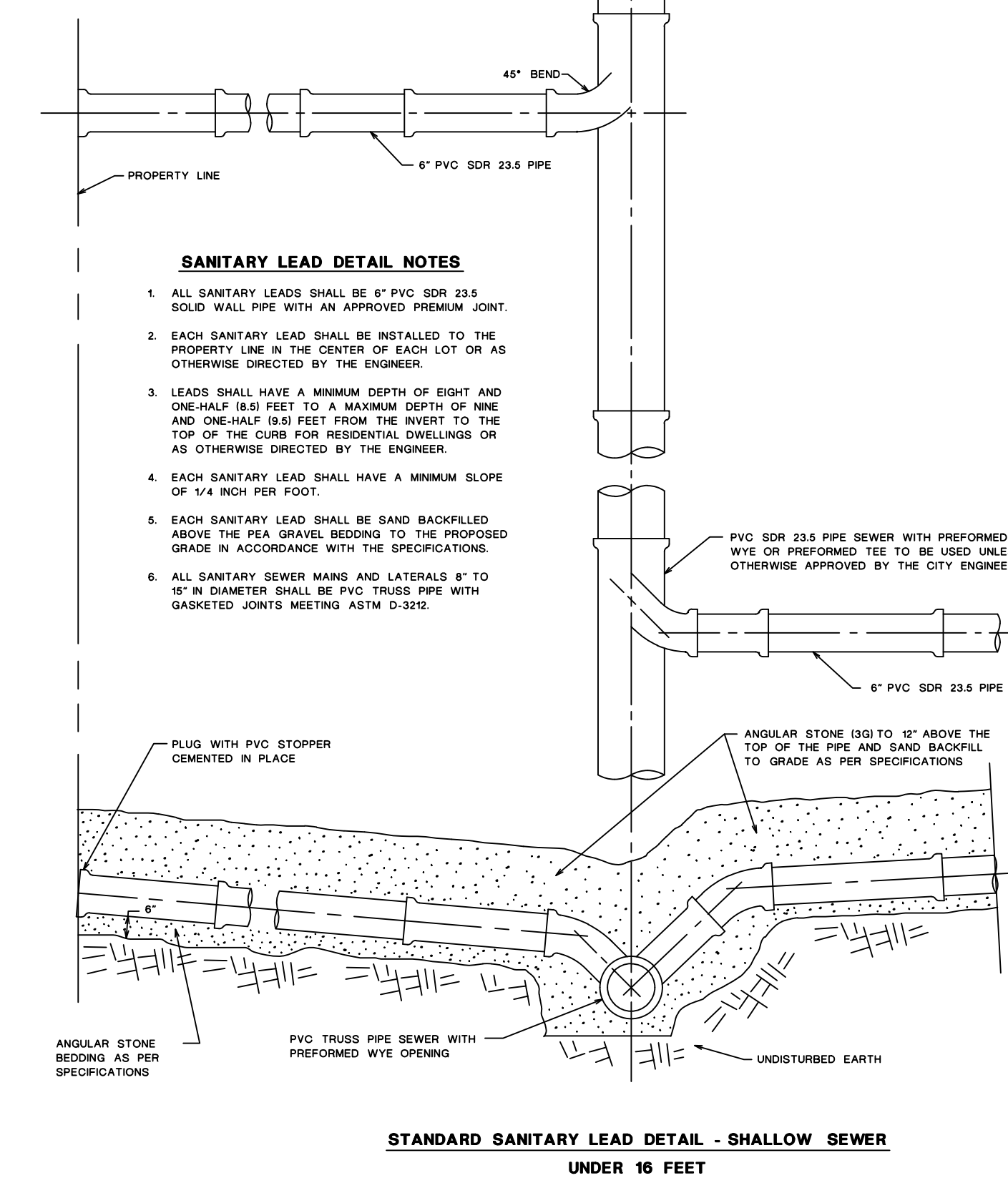


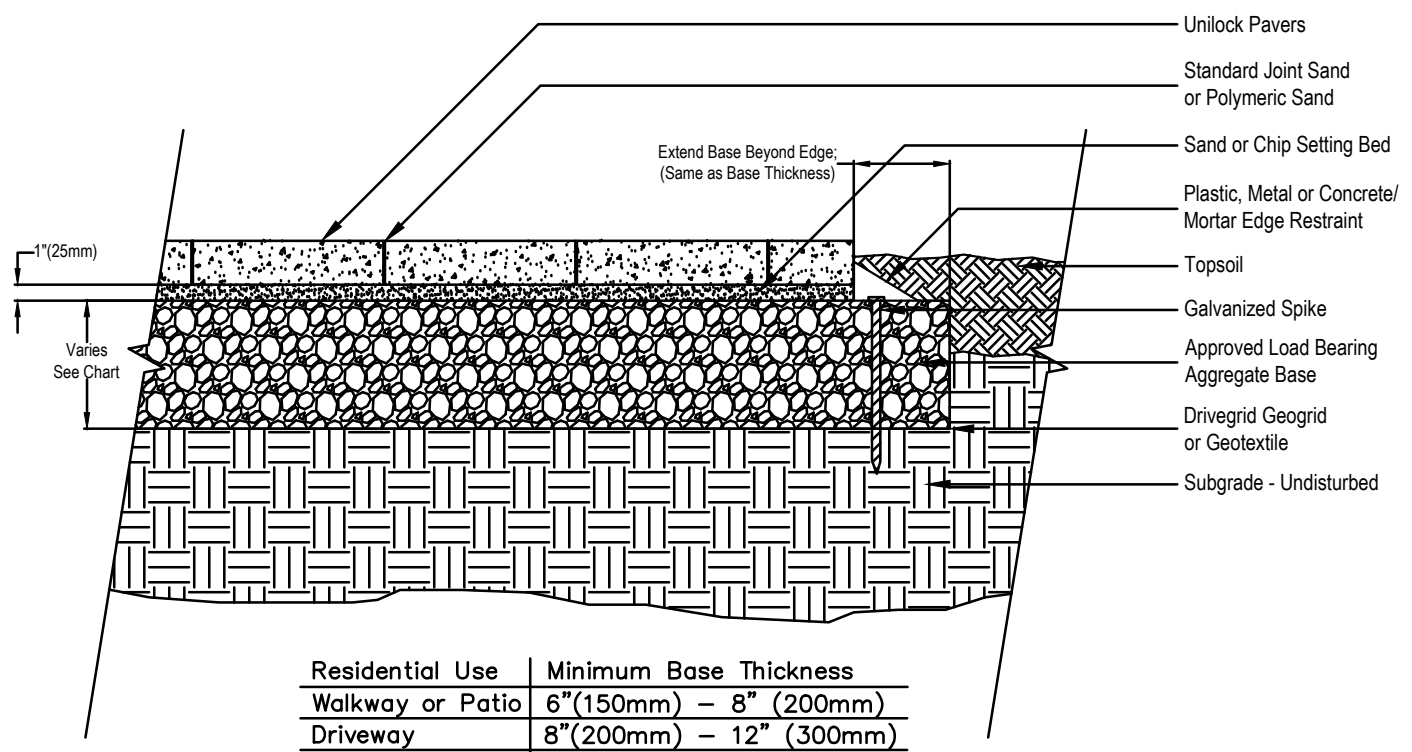
Diagram illustrating the cross-section of a pavement structure, showing layers from top to bottom:

- Unlock Pavers
- Standard Joint Sand or Polymeric Sand
- Standard Joint Sand or where paver meets butt
- Drivegridd Geogrid or Geotextile
- Contact Unilock

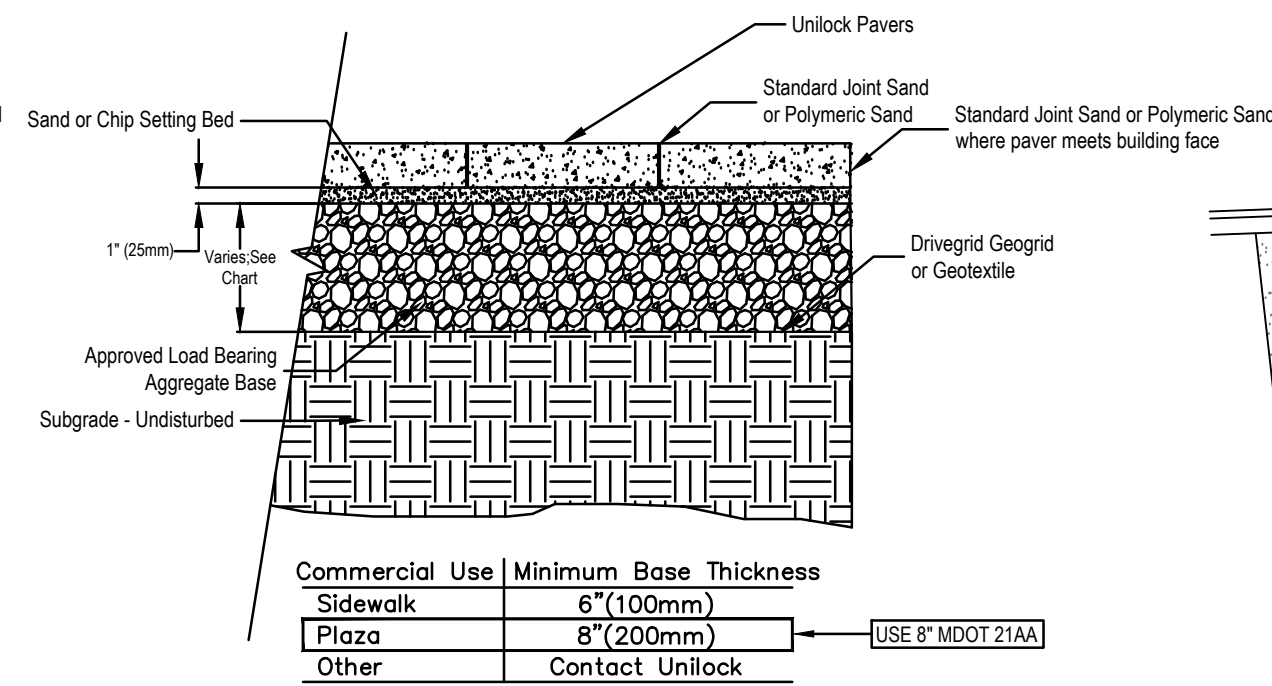
Minimum Base Thickness

6" (100mm)	8" (200mm)
Contact Unilock	USE 12" MDOT 21AA

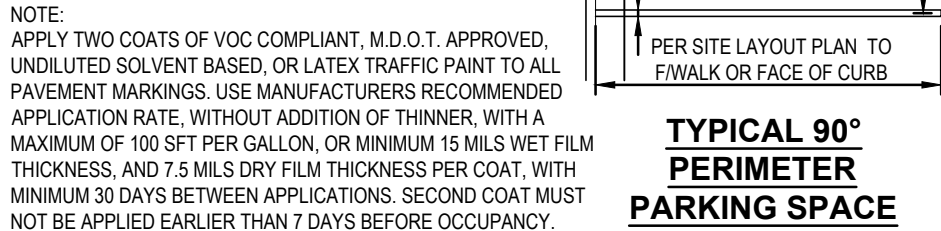
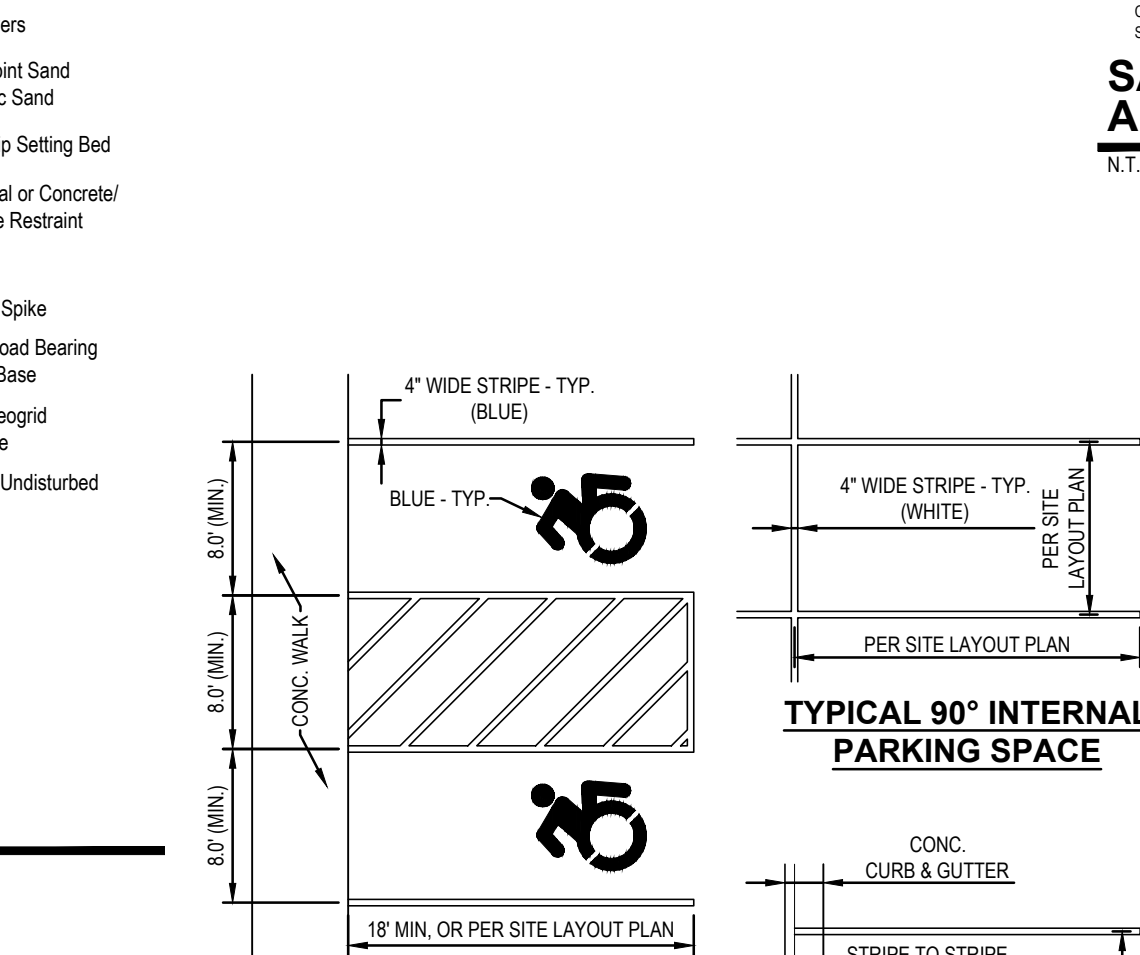
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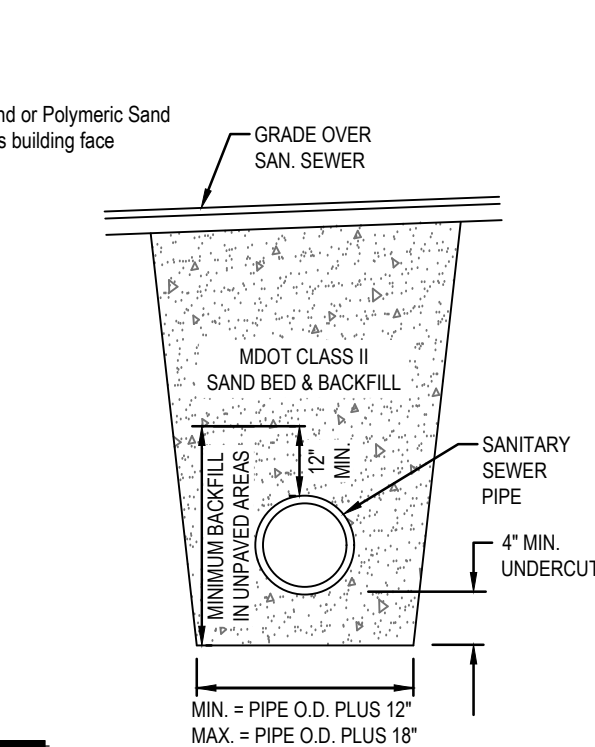
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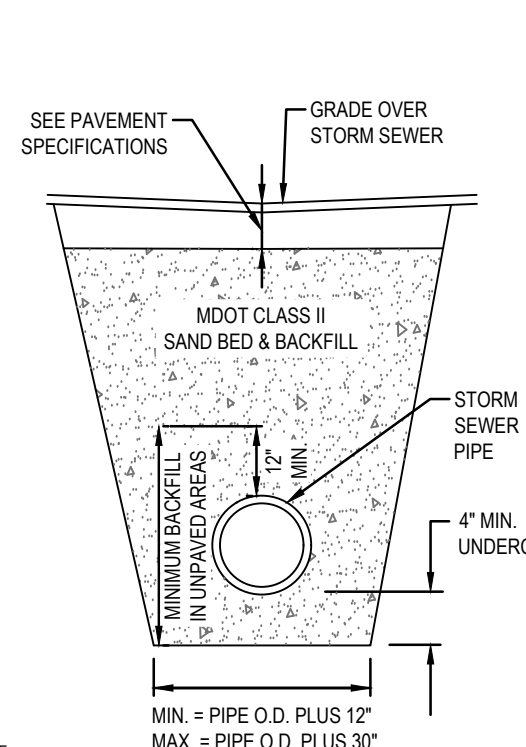
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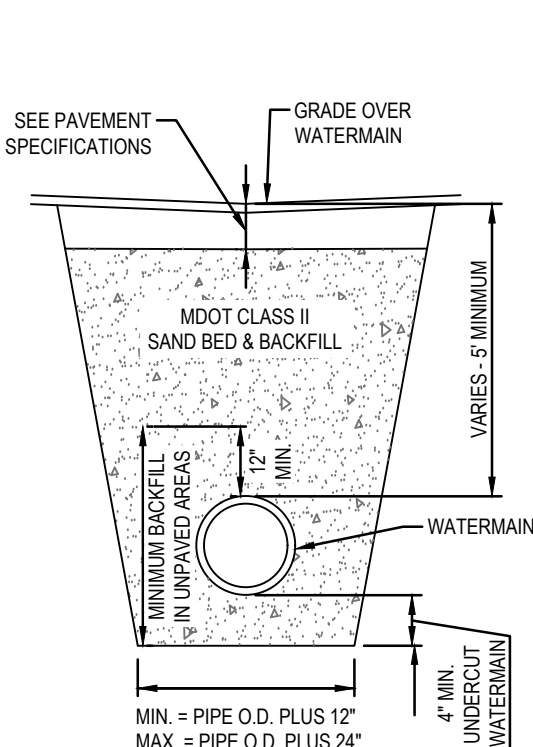
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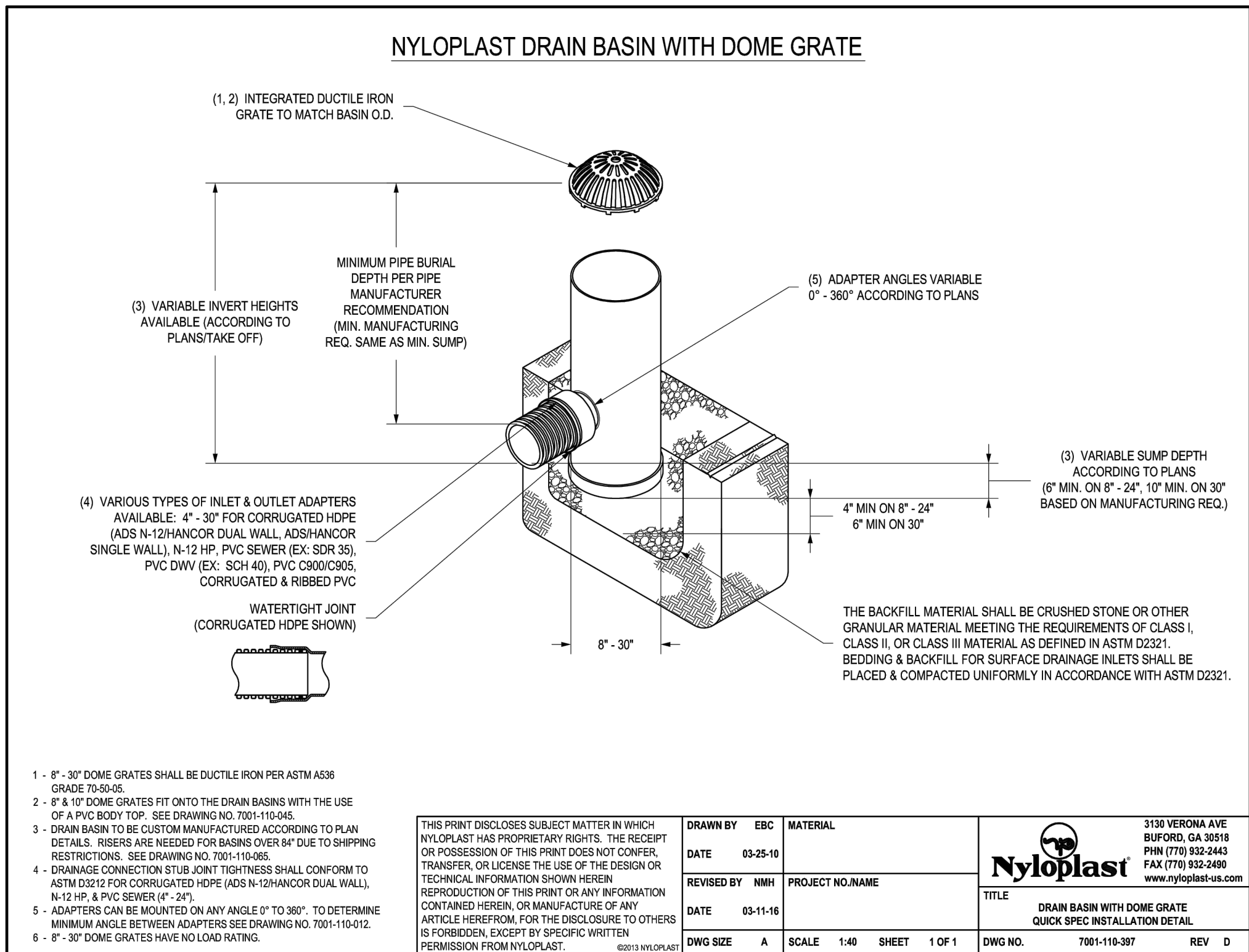
## NTS



## NTS



## NTS



## STORM SEWER

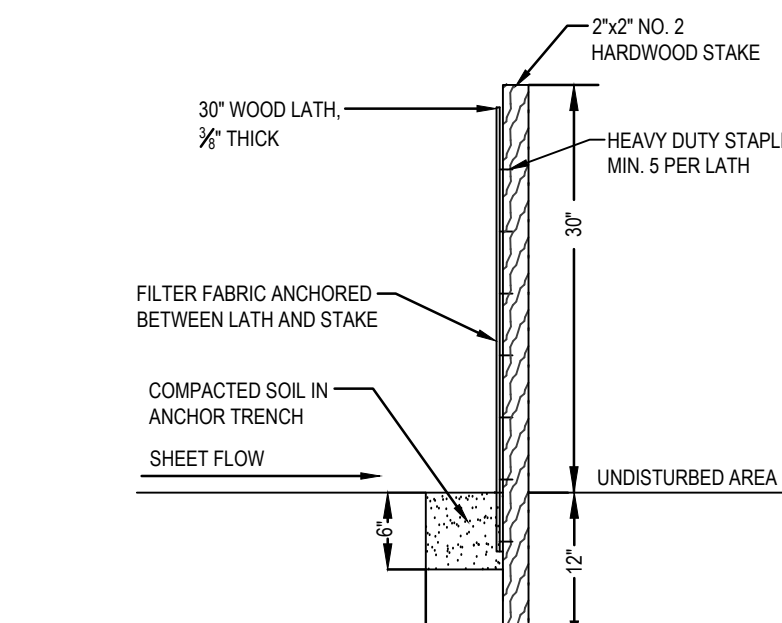
1. ALL CATCH BASINS SHOULD BE PROVIDED WITH A MINIMUM 5' DUMP.
2. ALL STORM SEWER SHOULD BE SMOOTH LINE CORRUGATED POLYETHYLENE PIPE (ASPPM) WITH WATER TIGHT JOINTS. ALL PIPES SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM.
3. ALL STORM SEWER SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM.
4. ALL STORM SEWER SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM.
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6. ALL STORM SEWER SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM. ALL JOINTS SHALL BE 12" MINIMUM.

## WATERMAIN AND SANITARY SEWER

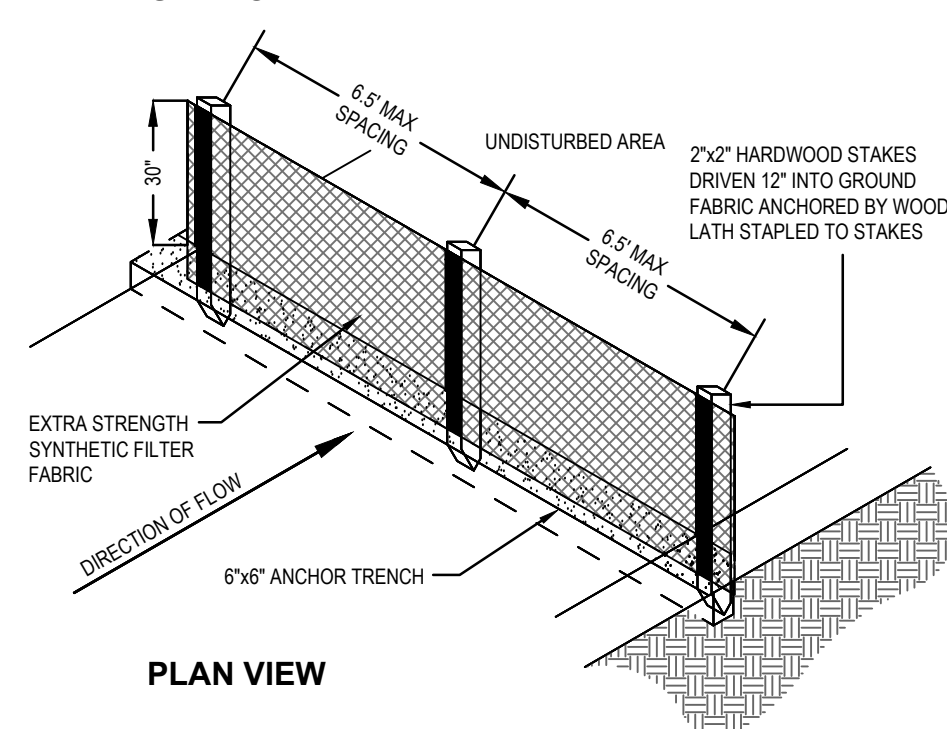
1. ALL WATERMAIN AND SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE CITY STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING POST CONSTRUCTION VIDEO INSPECTION OF THE SANITARY SEWER SYSTEM.

## GENERAL

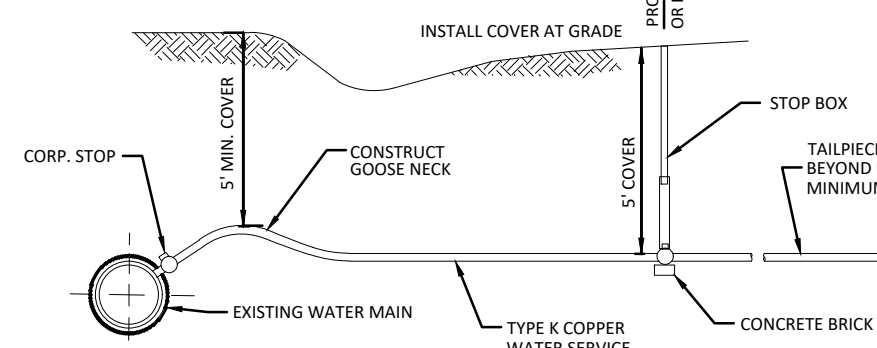
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### SECTION VIEW



N.T.S.



N.T.S.



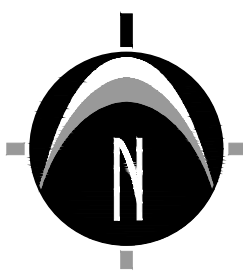


## LANDSCAPE SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
TREES					
	Ac	2	Acer rubrum	Red Maple	2.5' cal. min.
	Ab	9	Juniperus virginiana 'Burkii'	Burk Eastern Redcedar	7' hgt. min.
	Al	3	Liriodendron tulipifera	Tulip Poplar	2.5' cal. min.
	Na	3	Nyssa sylvatica	Tupelo	2.5' cal. min.
SHRUBS					
	Ac	20	Aquilegia canadensis	Eastern Columbine	#1
	Ag	35	Andropogon gerardii	Big Bluestem	#3
	Al	21	Asclepias incarnata	Swamp Milkweed	#1
	Am	88	Achillea millefolium	Common Yarrow	#1
	Ap	9	Annona melanocarpa 'SINNAPEM'	Low Scape Snowflake™ Black Chokeberry	24" min.
	Az	18	Asclepias tuberosa	Butterfly Milkweed	#1
	Ba	39	Baptisia australis	Blue Wild Indigo	#1
	Cb	6	Cornus sericea 'Taleiy'	Bayley's Red Twig Dogwood	24" min.
	Cz	44	Calamagrostis canadensis	Bluejoint Grass	#1
	Cf	17	Cornus sericea 'Farrow'	Arctic Fire® Red Twig Dogwood	24" min.
	Ci	24	Coryopsis lanceolata	Lanceleaf Tickseed	#1
	Cs	3	Cephaelis occidentalis 'SMCOSS'	Sugar Shadblow	24" min.
	Df	6	Desphora frutescens	Bush Cinquefoil	24" min.
	Ej	9	Eupatorium maculatum	Joe Pye Weed	#1
	Ep	5	Eupatorium perfoliatum	Common Boneset	#2
	Eq	96	Echinacea purpurea	Coneflower	#1
	Es	56	Echinacea pallida	Pale Purple Coneflower	#1
	Ey	59	Eryngium yuccifolium	Rattlesnake Master	#3
	Hm	9	Hibiscus moscheutos	Rose Mallow	#3
	Jn	12	Juniperus virginiana 'Spartan'	Blue Flag	#1
	Kn	6	Juniperus virginiana 'Greggii'	Grey Guardian™ Eastern Redcedar	24" min.
	Km	27	Koeleria macrantha	Prairie Junegrass	#1
	Lc	9	Lobelia cardinalis	Cardinal Flower	#1
	Ls	7	Lobelia siphilitica	Great Lobelia	#1
	La	10	Liatris spicata	Blazing Star	#1
	Mb	8	Monarda fistulosa	Bergamot	#1
	Pd	6	Penstemon digitalis	Beardtongue	#1
	Pv	28	Plantain virginicum	Switch Grass	#2
	Pz	14	Pycnanthemum virginicum	Mountain Mint	#1
	Rd	49	Rudbeckia hirta	Black-eyed Susan	#1
	Rp	25	Ratibida pinnata	Yellow Coneflower	#1
	Sc	7	Silphium perfoliatum	Cup Plant	#1
	Sh	91	Sporobolus heterolepis	Prairie Dropseed	#1
	St	25	Schizanthus scoparium	Little Bluestem	#1
	Sn	24	Symphoricarpon novae-angliae	New England Aster	#1
	So	22	Symphoricarpon colutargense	Sky Blue Aster	#1
	Sr	9	Solidago rigida	Stiff Goldenrod	#1
	Ss	10	Solidago speciosa	Show Goldenrod	#1
	Vr	15	Veronicastrum virginicum	Culver's Root	#1

## LEGEND

	EXISTING BITUMINOUS
	EXISTING CONCRETE
	PROPOSED BITUMINOUS (STANDARD DUTY)
	PROPOSED BITUMINOUS (HEAVY DUTY)
	PROPOSED CONCRETE (STANDARD DUTY)
	PROPOSED CONCRETE (HEAVY DUTY)



SCALE: 1" = 20'

## LANDSCAPE CALCULATIONS

### LANDSCAPE SCREENS: SECTION 40.44.a

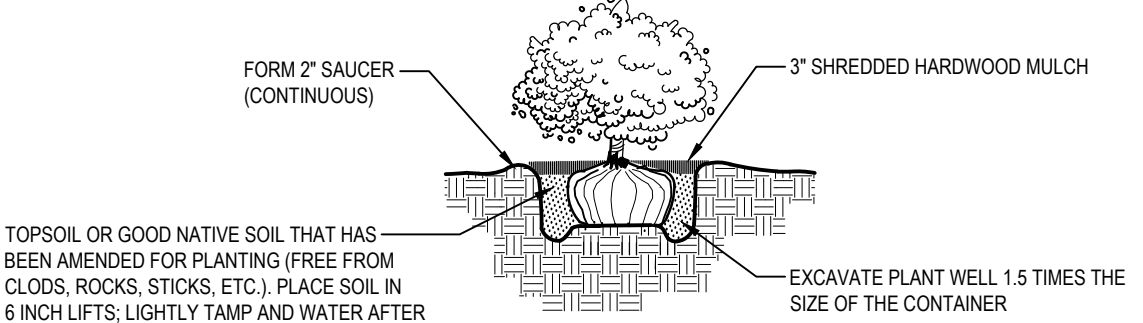
UTILITY SUBSTATION AND MECHANICAL EQUIPMENT SHALL BE SCREENED BY EVERGREENS ON AT LEAST 3 SIDES, 6' ABOVE VERTICAL HEIGHT OF EQUIPMENT WITHIN 2 YEARS OF INSTALLATION

REQUIRED: EXTERIOR AIR HANDLER 7'2" HEIGHT  
PROPOSED: 8 EVERGREENS (7' INSTALLED HEIGHT AND FAST GROWTH RATE OF 6-12' PER YEAR)

### LANDSCAPE SCREENS: SECTION 42.44.b

FOUNDATION PLANTINGS SHALL BE PROVIDED ALONG THE FRONT AND SIDES OF ANY BUILDING FACING A PUBLIC ROAD, PARKING LOT, OR ANY OTHER AREA OF THE BUILDING WHICH PROVIDES ACCESS TO THE GENERAL PUBLIC. ONE ORNAMENTAL TREE AND FIVE SHRUBS PER THIRTY-FIVE LINEAL FEET OF APPLICABLE BUILDING FRONTAGE

REQUIRED: 8 TREES & 40 SHRUBS (27' / 35' = 7.8 = 8)  
PROPOSED: 8 TREES AND 42 SHRUBS



TOPSOIL OR GOOD NATIVE SOIL THAT HAS BEEN AMENDED FOR PLANTING (FREE FROM CLODS, ROCKS, STICKS, ETC.). PLACE SOIL IN 6 INCH LIFTS, LIGHTLY TAMP AND WATER AFTER EACH LIFT TO REMOVE AIR POCKETS.

## TYPICAL SHRUB / PERENNIAL / ORNAMENTAL GRASS PLANTING DETAIL

N.T.S.

2 STRAND TWISTED 12 GAUGE GALVANIZED WIRE ENCASED IN 1" DIA. RUBBER HOSE (RUBBER HOSE AT BARK - TYP.) WIRE SHALL HAVE SOME SLACK IN IT TO ALLOW THE TRUNK TO SWAY SLIGHTLY WHILE KEEPING THE ROOT SYSTEM STABILIZED. WHITE FLAG EACH GUY WIRE TO INCREASE VISIBILITY.

(3) 2 INCH X 2 INCH HARDWOOD STAKES DRIVEN (MIN. 18") FIRMLY INTO SUBGRADE PRIOR TO BACKFILLING. NECESSARY STAKE ABOVE FIRST BRANCHES FOR FIRM SUPPORT.

FORM SAUCER OUT OF PREPARED SOIL (6 INCH MIN.); TAMPED

GOOD NATIVE SOIL OR TOPSOIL (FREE FROM CLODS, ROCKS, STICKS, ETC.) PLACE SOIL IN 6 INCH LIFTS, LIGHTLY TAMP AND WATER AFTER EACH LIFT TO REMOVE AIR POCKETS

PLACE ROOTBALL ON UNDISTURBED PEDESTAL TO PREVENT SETTLING. PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.

## TYPICAL TREE PLANTING DETAIL

N.T.S.

## LANDSCAPE NOTES

### PLANTING NOTES:

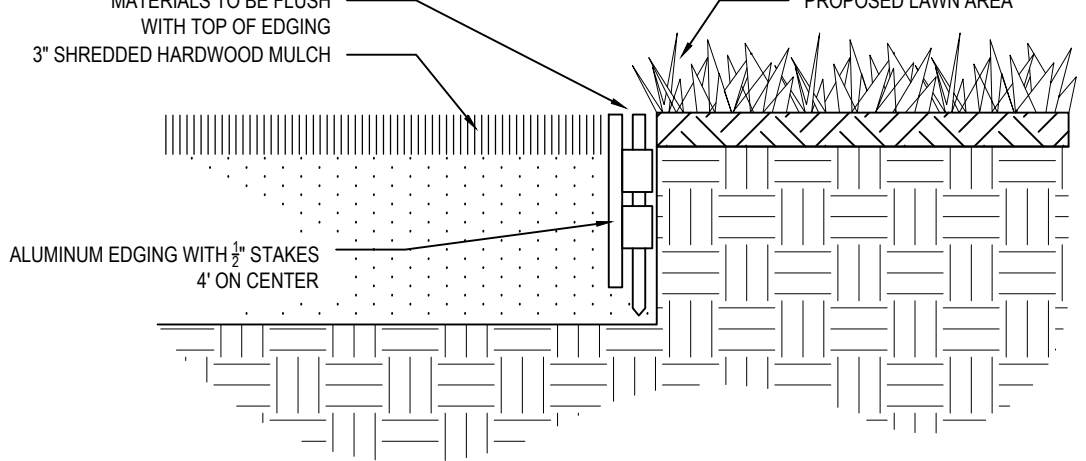
- ALL PLANT MATERIAL SHALL BE LOCALLY NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL MEET CURRENT AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. DO NOT PLANT MATERIALS UNTIL DIRECTED BY OWNER, LANDSCAPE ARCHITECT, AND/OR CONSTRUCTION MANAGER. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT MATERIAL, FOR ANY REASON BEFORE OR AFTER IT IS INSTALLED.
- SIZES SPECIFIED ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE INSTALLED.
- ANY PLANT SUBSTITUTIONS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT.
- MAINTENANCE OF LANDSCAPING ITEMS, TREES, AND PLANTS SHALL BE PERFORMED BY THE PROPERTY OWNER OR A QUALIFIED PROFESSIONAL. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE MUNICIPAL STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY AND WEED FREE CONDITION. ANY DEAD, DISEASED OR DAMAGED PLANT MATERIALS ARE TO BE REPLACED IMMEDIATELY AFTER NOTIFIED TO DO SO.
- PLANT TREES AND SHRUBS IN ACCORDANCE WITH PLANTING DETAILS. DIG TREE PITS PER DETAILS. PLANT TREES AND SHRUBS AT THE SAME GRADE LEVEL AT WHICH THEY WERE GROWN AT THE NURSERY. IF HEAVY CLAY SOILS ARE EVIDENT, PLANT TREES AND SHRUBS HIGHER, APPROX. 1/4 OF THE ROOT BALL ABOVE GRADE, AND BACKFILL TO TOP OF ROOT BALL.
- REMOVE ALL TWINE, WIRE, NURSERY TREE GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALLS. REMOVE THE TOP 1/3 OF BURLAP FROM EARTH BALLS AND REMOVE BURLAP FROM AROUND TRUNK.
- FINELY SHREDDED HARDWOOD BARK MULCH, NATURAL COLOR (NON-COLORED), IS REQUIRED FOR ALL PLANTINGS AND PLANTING BEDS. MULCH PER PLANTING DETAILS. MULCH IN PLANT BEDS SHALL BE 3" THICK AT TIME OF INSPECTION AND AFTER COMPACTED BY RAIN OR IRRIGATION. ALL PLANTING BEDS SHALL BE EDGED WITH 6" X 12 GAUGE STEEL LANDSCAPE EDGING.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. IF A CONFLICT WITH UTILITIES EXIST, NOTIFY OWNER/CONSTRUCTION MANAGER PRIOR TO PLANTING.
- PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR AFTER PLANTING AND ACCEPTANCE.

### TOPSOIL AND TURF NOTES:

- WHEREVER GROUND IN ITS NATURAL STATE HAS BEEN DISTURBED, APPROVED LANDSCAPING OR GRASS SHALL BE FULLY INSTALLED, AND ESTABLISHED WITHIN A REASONABLE PERIOD OF TIME, BUT NO LONGER THAN ONE GROWING SEASON (UNLESS OTHERWISE NOTED AND APPROVED).
- DURING EXCAVATION, GRADING, AND INSTALLATION OF REQUIRED LANDSCAPING, ALL SOIL EROSION AND SEDIMENTATION CONTROL REGULATIONS SHALL BE STRICTLY FOLLOWED AND COMPLIED WITH.
- ALL LAWN AREAS SHALL RECEIVE SOD OR HYDROSEED. TURF SHALL BE INSTALLED ON TOPSOIL UNLESS APPROVED OTHERWISE. DO NOT PLANT UNTIL ACCEPTANCE OF FINISH GRADE.
- SOD SHALL BE GROWN ON TOPSOIL UNLESS APPROVED OTHERWISE. SOD SHALL BE 2 YEARS OLD AND STRONGLY ROOTED. PLACE SOD TIGHTLY WITH NO GAPS AND WITH GRASS IN SAME DIRECTION. SEAMS OF SOD SHALL BE STAGGERED IN A RUNNING BOND PATTERN. SOD SHALL BE WATERED IMMEDIATELY TO AVOID DRYING OUT. DO NOT INSTALL SOD UNTIL ACCEPTANCE OF FINISH GRADE AND IRRIGATION SYSTEM IS OPERATING PROPERLY UNLESS DIRECTED IN WRITING TO DO OTHERWISE. FINISH ROLL SOD WITH A WATER FILLED LAWN ROLLER, ROLL PERPENDICULAR TO LENGTH OF SOD.
- TURF SHALL BE INSTALLED ON A MIN. OF 3"-4" OF LIGHTLY COMPACTED APPROVED TOPSOIL. TOPSOIL SHALL BE FERTILE, SCREENED, FRIABLE TOPSOIL FREE OF STONES 1/2" IN DIA. AND LARGER, ROOTS, STICKS, OR OTHER EXTRANEOUS MATERIAL INCLUDING NOXIOUS PLANTS. PH BETWEEN 6.0 AND 6.5, SALTS 500 PARTS PPM, ORGANIC CONTENT 3% MIN. DO NOT INSTALL TOPSOIL UNTIL APPROVED BY OWNER/M. TOPSOIL SHALL BE FINE GRADED TO A SMOOTH FINISH, FREE OF LUMPS AND DEPRESSIONS.
- ALL LANDSCAPE ISLANDS WITHIN PARKING LOTS SHALL BE BACK FILLED WITH TOPSOIL TO A DEPTH OF 18" MIN.

### IRRIGATION NOTES:

- AN IN-GROUND IRRIGATION SYSTEM IS REQUIRED PER LOCAL ZONING ORDINANCES. ALL LANDSCAPED AREAS SHOWN ARE TO BE AUTOMATICALLY IRRIGATED BY AN IN-GROUND IRRIGATION SYSTEM. THE G.C. SHALL BE RESPONSIBLE FOR RETAINING A QUALIFIED FIRM FOR THE DESIGN OF THE IRRIGATION SYSTEM. THE DESIGN MUST SHOW HOW THE SYSTEM TIES INTO THE BUILDING SYSTEM AND SHOW ALL OF THE NECESSARY EQUIPMENT FOR A COMPLETE SYSTEM. THE G.C. SHALL SUBMIT THE IRRIGATION SYSTEM DESIGN TO THE ARCHITECT/OWNER FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.



## ALUMINUM EDGING DETAIL

N.T.S.



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

NOTE: EXISTING UTILITIES AND SERVICE LINES IDENTIFIED AS "UTILITY" WERE OBTAINED FROM AVAILABLE AS-BUILT RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY THE LOCATION, DEPTH AND STATUS OF ALL UTILITIES AND SERVICE LINES PRIOR TO NEW CONNECTIONS.

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Phone: 616.375.5190

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Holland, MI 49423  
Phone: 616.353.0449

## PREPARED FOR:

PLY PLUS INC.  
Andrew Wolkong

219 N. Main Street  
Ann Arbor, MI 48103  
Phone: 734.827.2238

## REVISIONS:

Title: 50% Design Development Plans	Drawn: WL/JO	Checked: JVR/BC	Date: 11/26/2024
Title: 100% Design Development Plans	Drawn: BC/JO	Checked: JVR/BC	Date: 12/18/2024
Title: 100% Design Development Plans	Drawn: BC/JO	Checked: JVR/BC	Date: 12/31/2024
Title: Site Plan Submittal	Drawn: BC/JO	Checked: JVR/BC	Date: 01/08/2025
Title: 50% Construction Document Plans	Drawn: BC/JO	Checked: JVR/BC	Date: 01/31/2025
Title: 100% Construction Document Plans	Drawn: BC/JO	Checked: JVR/BC	Date: 03/12/2025

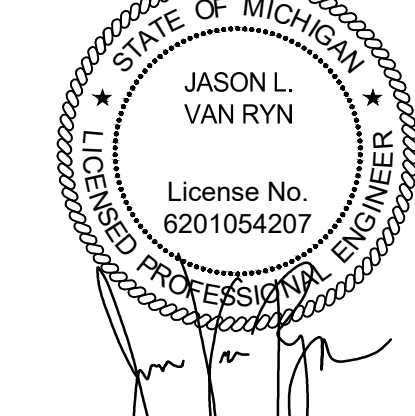
**WARREN BRANCH LIBRARY**

**Landscape Plan**

13700 Sidonie Ave., Warren, MI 48089

PART OF THE SOUTHWEST 1/4 OF SECTION 36, T1N, R12E, CITY OF WARREN, MACOMB COUNTY, MICHIGAN

## STAMP:



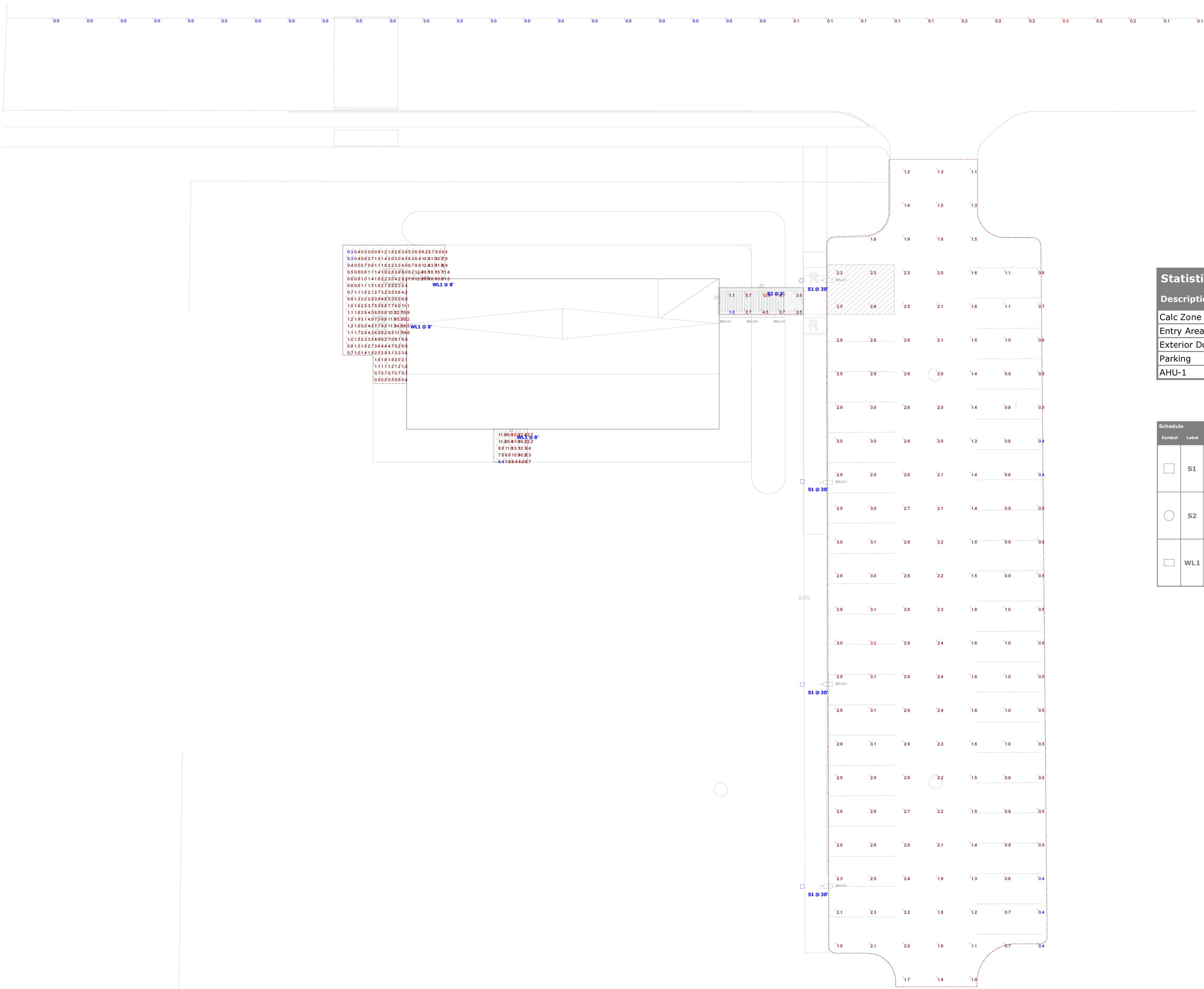
## PROJECT NO:

23500291

## SHEET NO:

**L-100**





Plan View  
Scale - 1" = 14ft

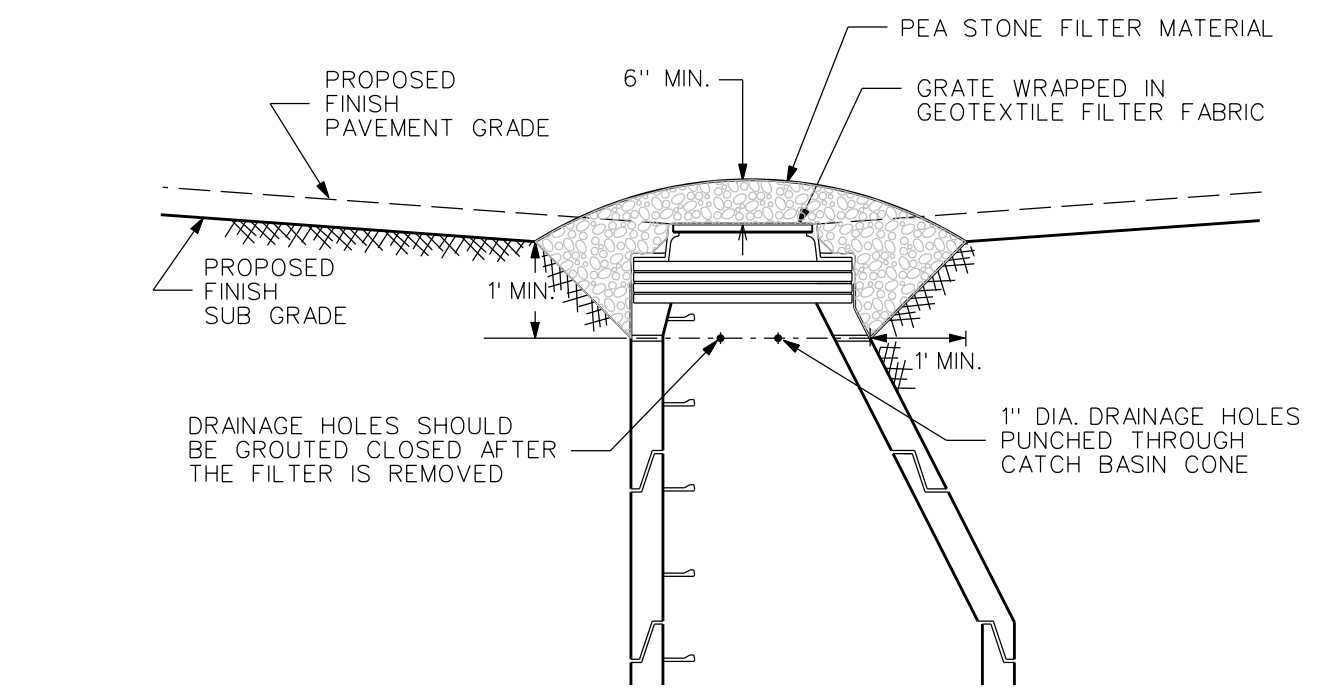
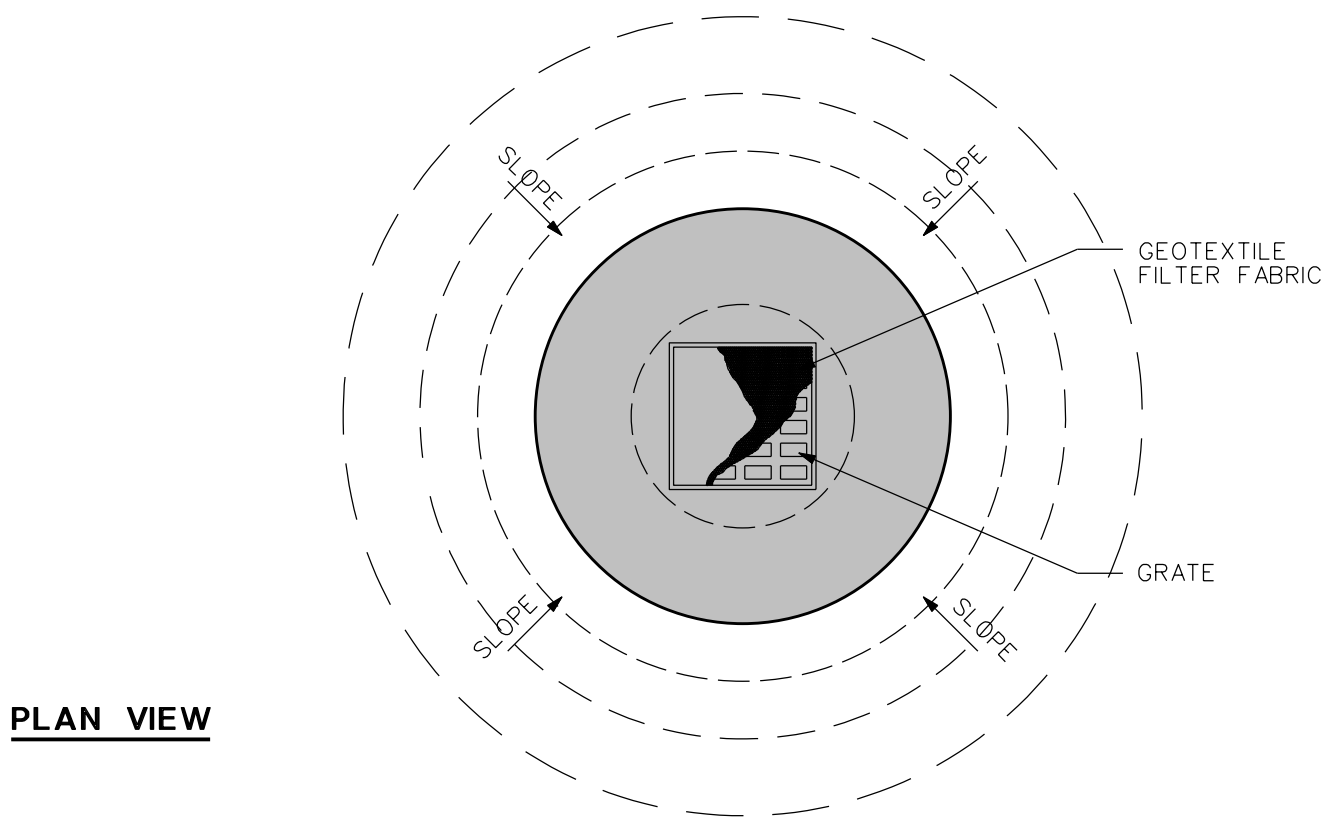
Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A
Entry Area	+	4.3 fc	12.8 fc	1.0 fc	12.8:1	4.3:1
Exterior Door	+	11.6 fc	18.9 fc	6.4 fc	3.0:1	1.8:1
Parking	+	1.8 fc	3.2 fc	0.4 fc	8.0:1	4.5:1
AHU-1	+	4.7 fc	19.2 fc	0.3 fc	64.0:1	15.7:1

Schedule										
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage	Plot
	S1	4	Lithonia Lighting	DSXB LED P5 40K 70CRI T2M	D-Series Size 1 Area Luminaire P5 Performance Package 4000K CCT 70 CRI Type 2 Medium	1	17428	0.81	138.16	
	S2	1	Lithonia Lighting	DSXB LED 12C 350 40K ASY	D-SERIES BOLLARD WITH 12 4000K LEDS OPERATED AT 350mA AND ASYMMETRIC DISTRIBUTION	1	1283	0.81	16	
	WL1	3	Lithonia Lighting	WST LED P2 40K VF MVOLT	WST LED, Performance package 2, 4000 K, visual comfort forward throw, MVOLT	1	3469	0.81	25	



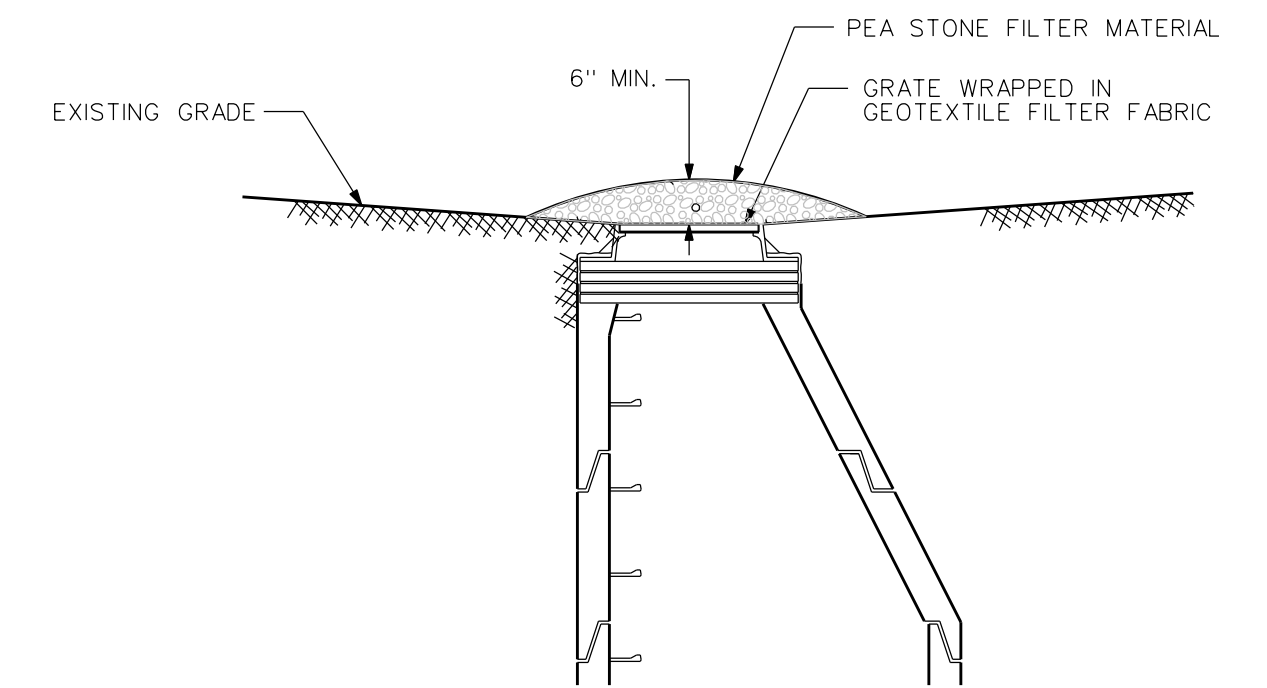
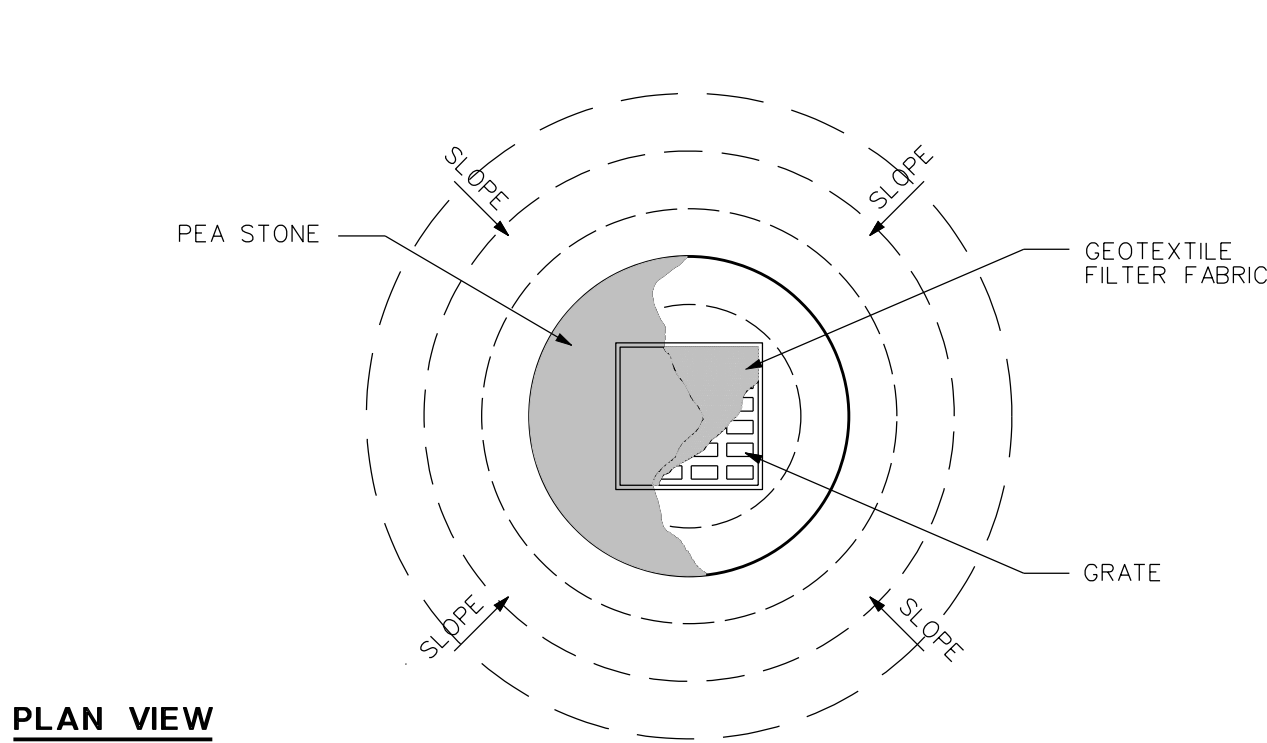
CASE 1

PARKING LOT INLET FILTER  
(BEFORE PAVING)



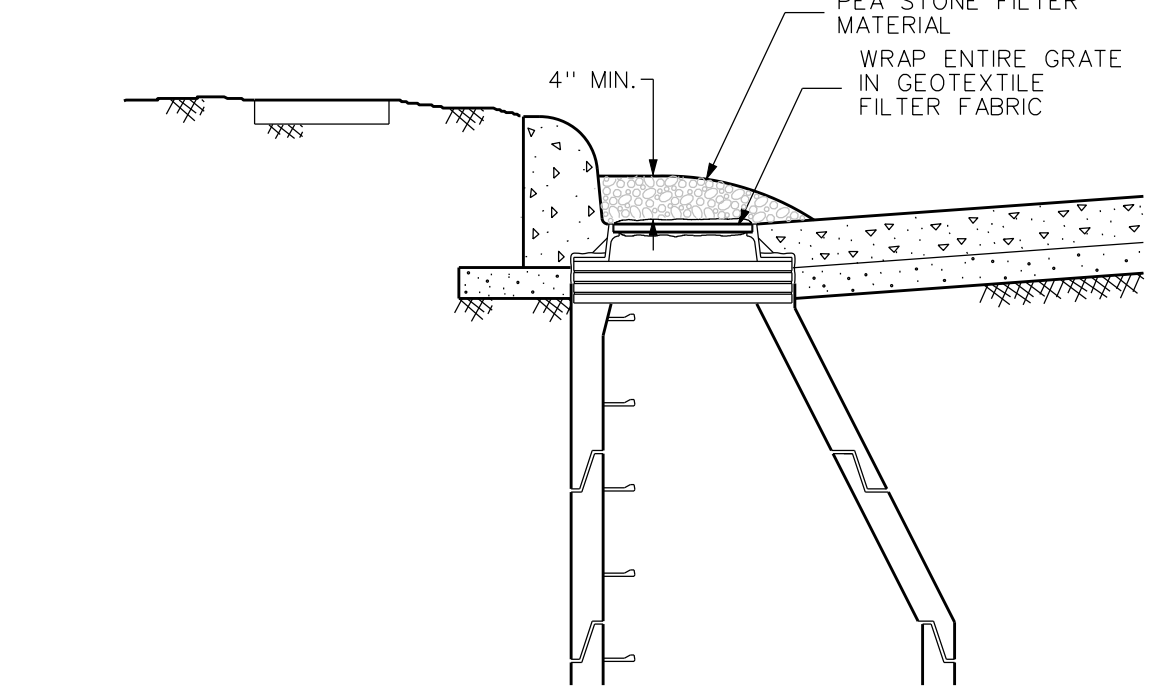
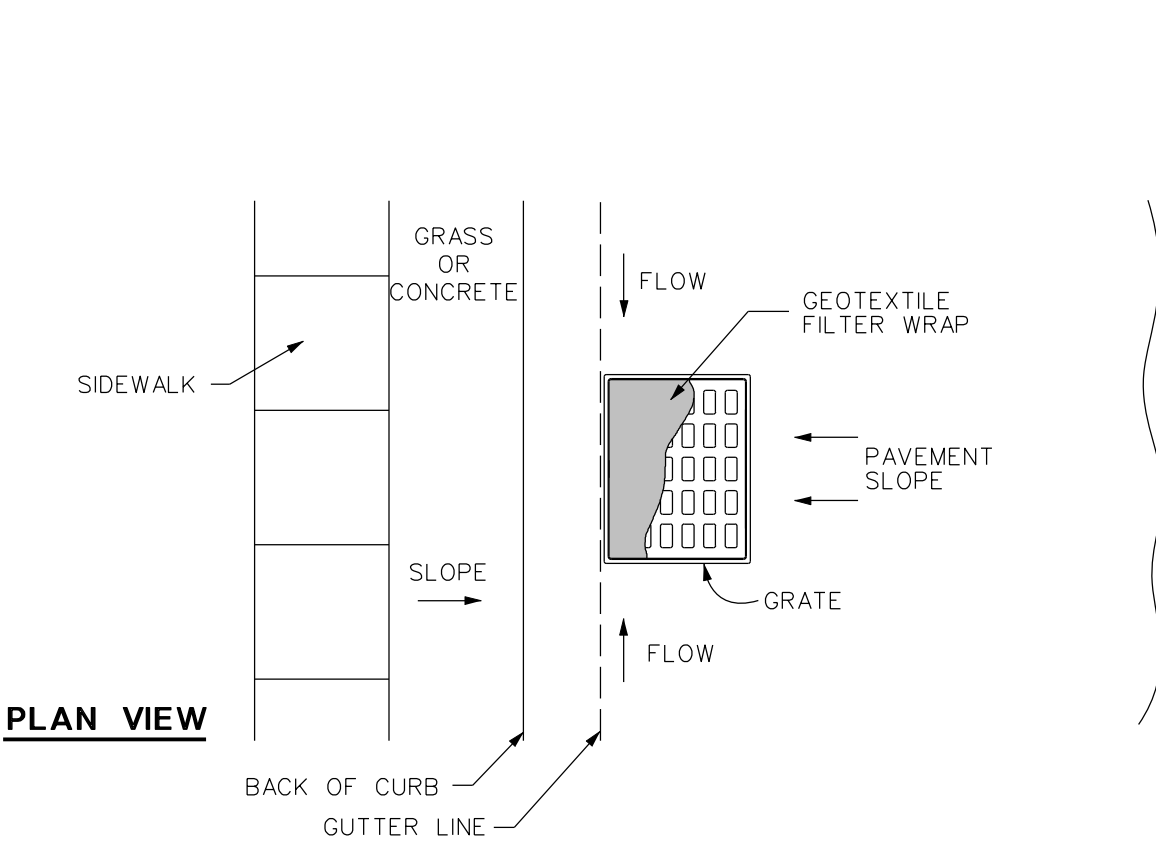
CASE 2

NON-PAVED AREA  
LOW POINT INLET FILTER  
(CONSTRUCTION IN AREA)



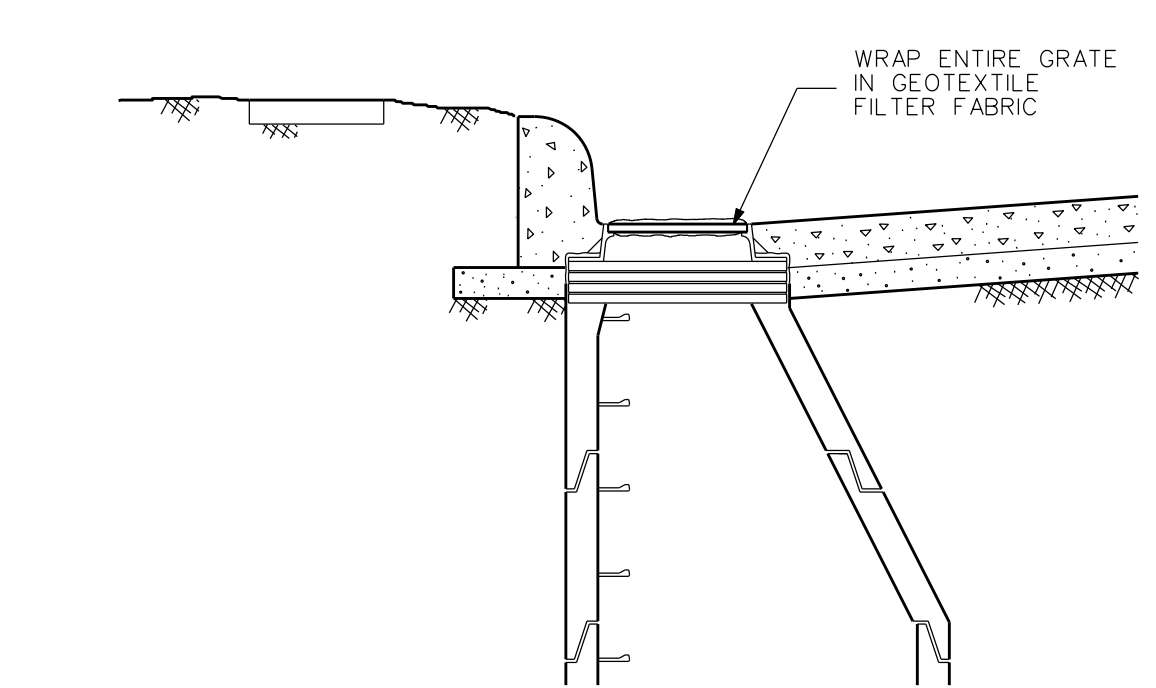
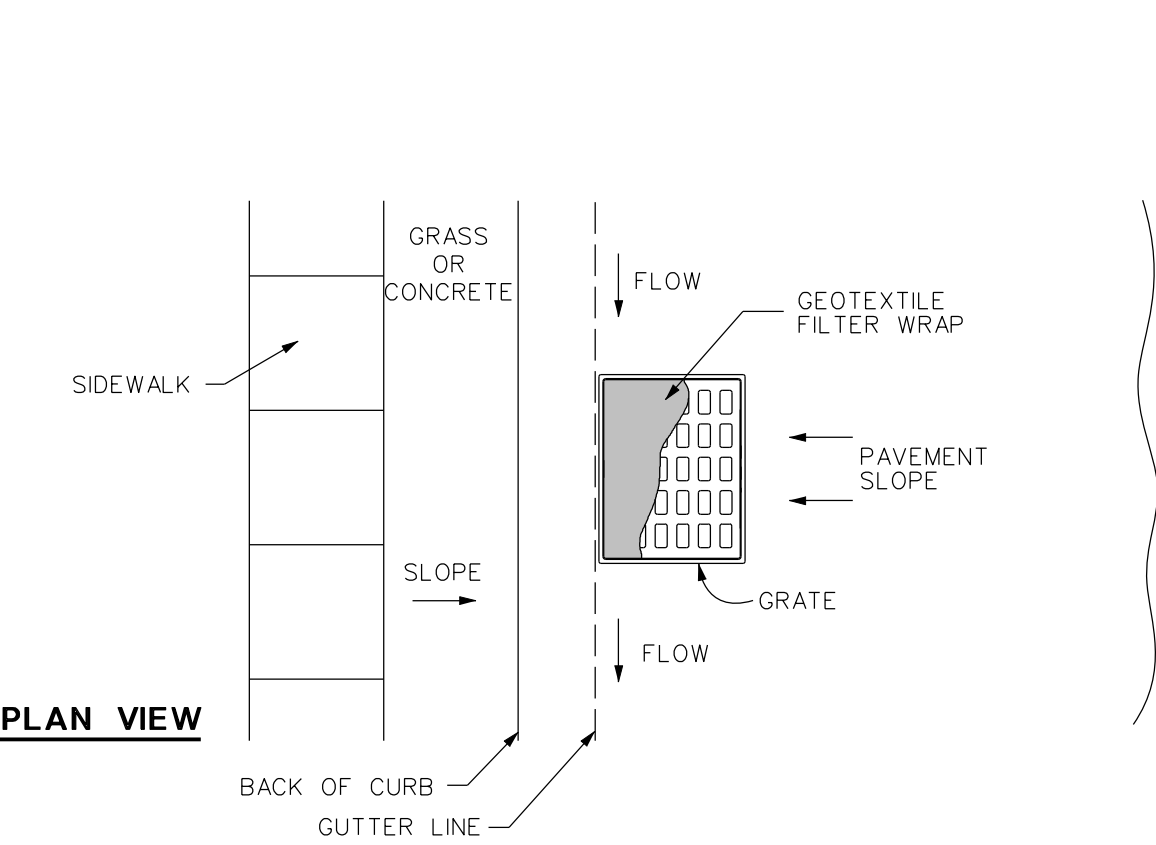
CASE 3

CURB AND GUTTER LOW POINT FILTER  
(CONSTRUCTION IN AREA)



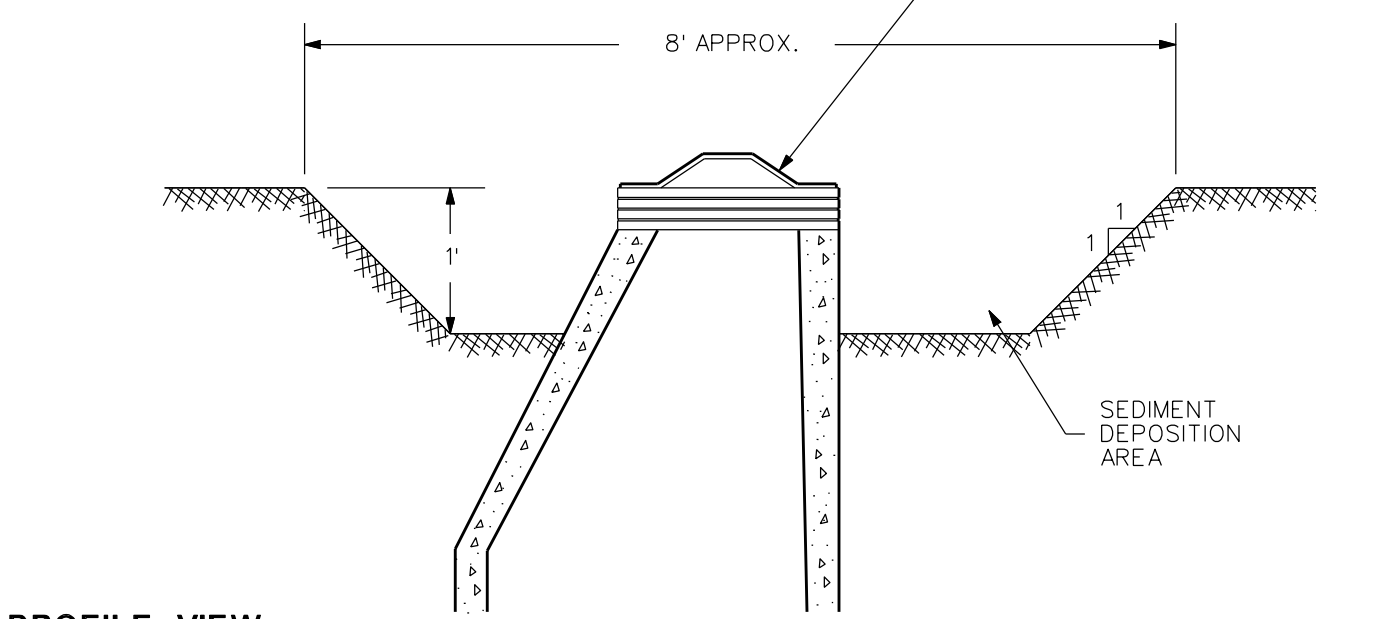
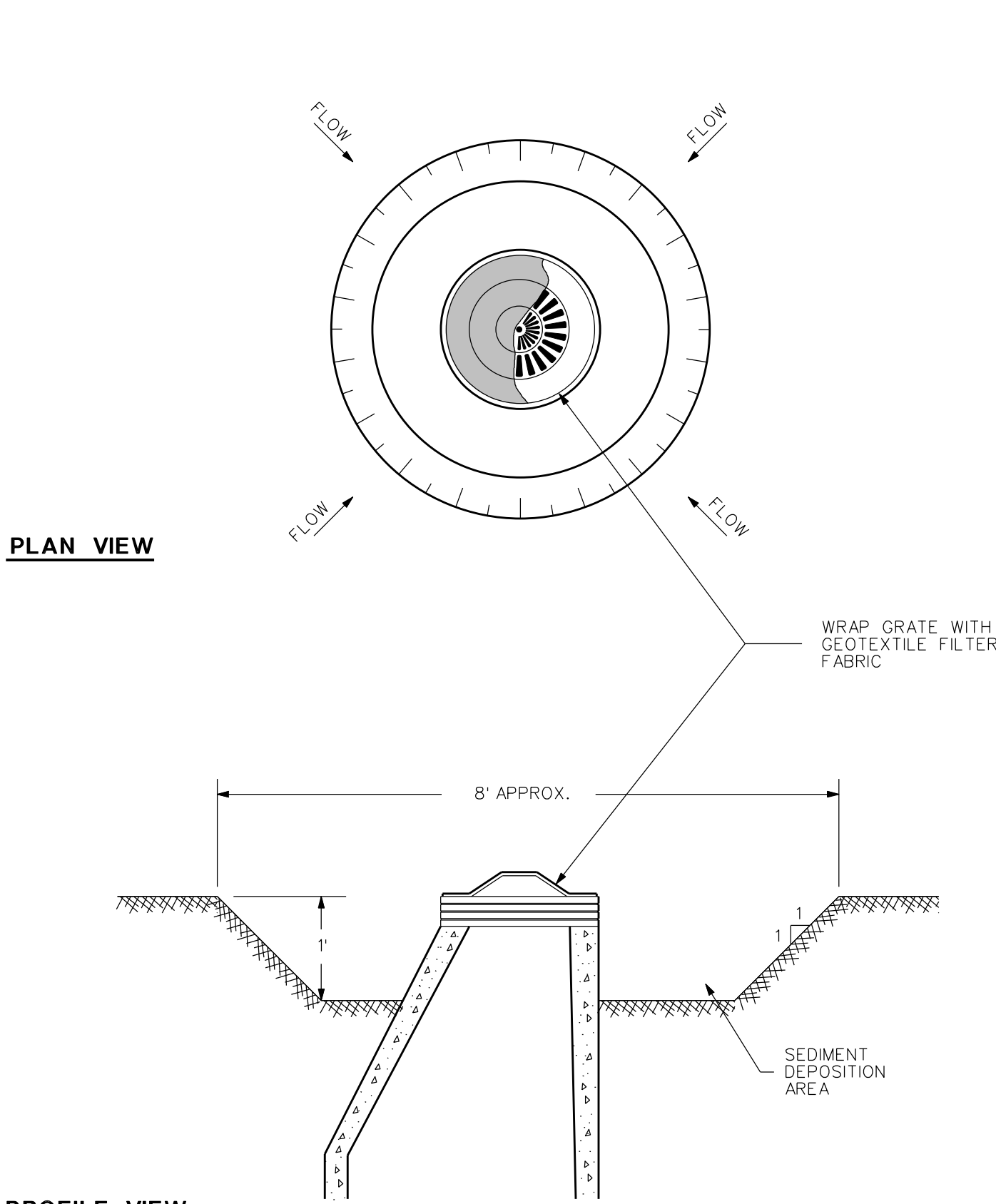
CASE 4

CURB AND GUTTER RELIEF POINT FILTER  
(CONSTRUCTION IN AREA)



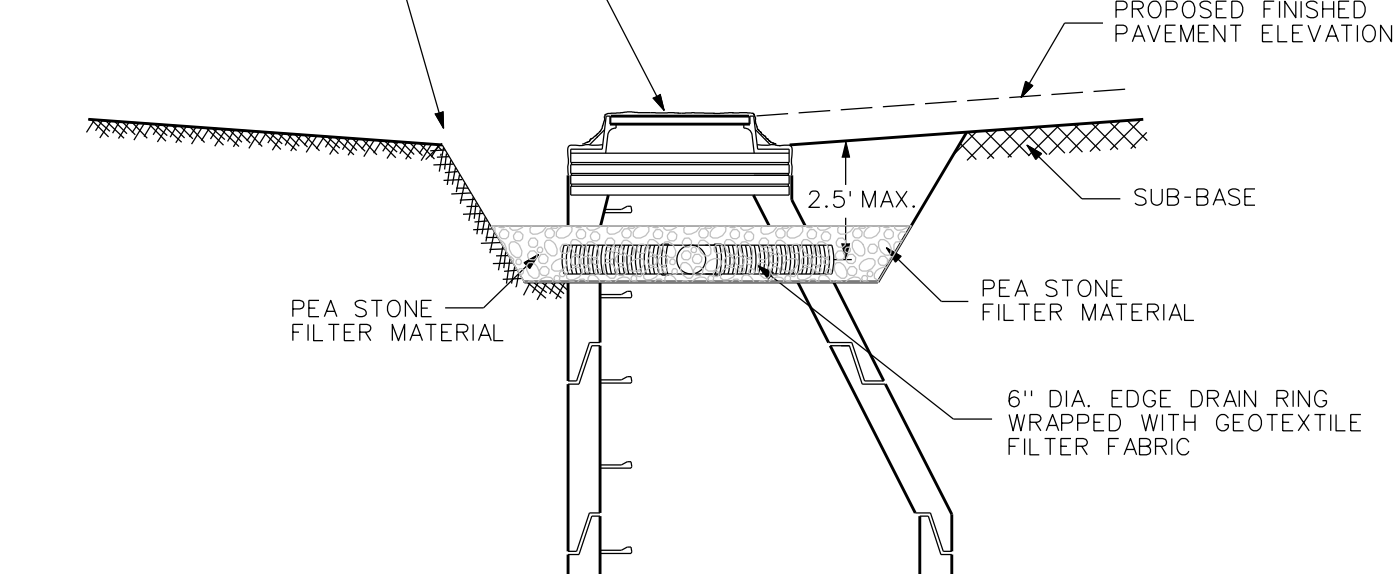
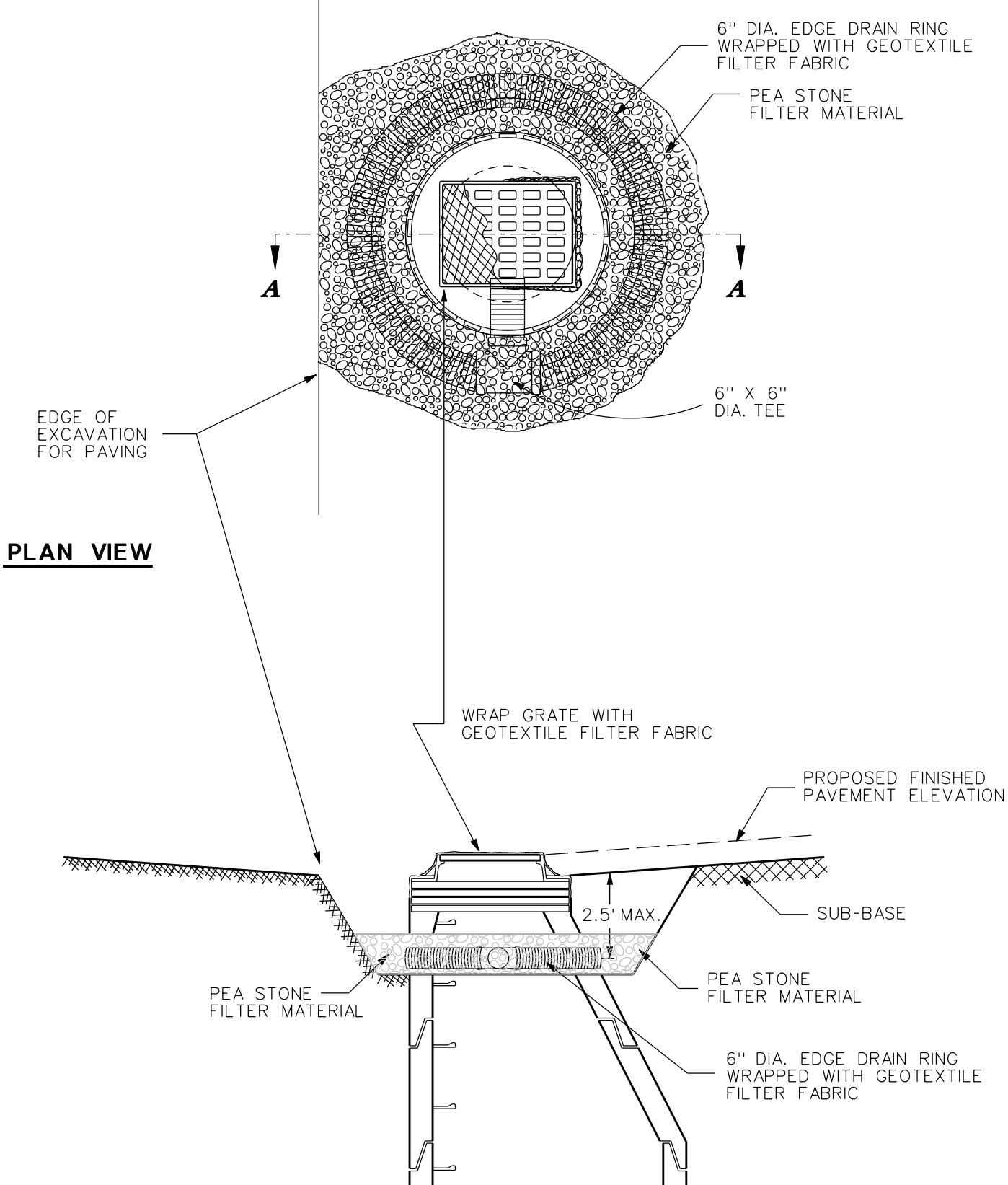
CASE 5

NON-PAVED AREA  
INLET SEDIMENT PIT  
(NEW CONSTRUCTION)

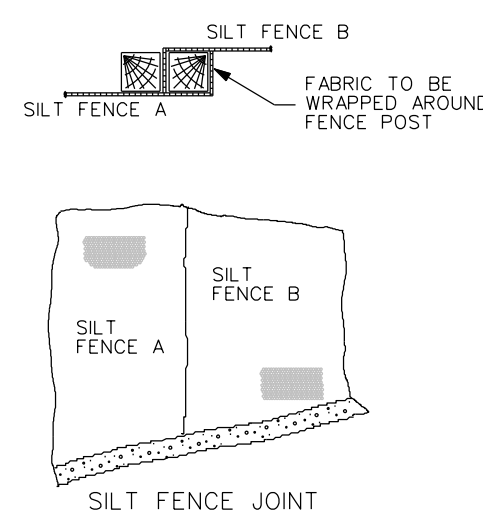
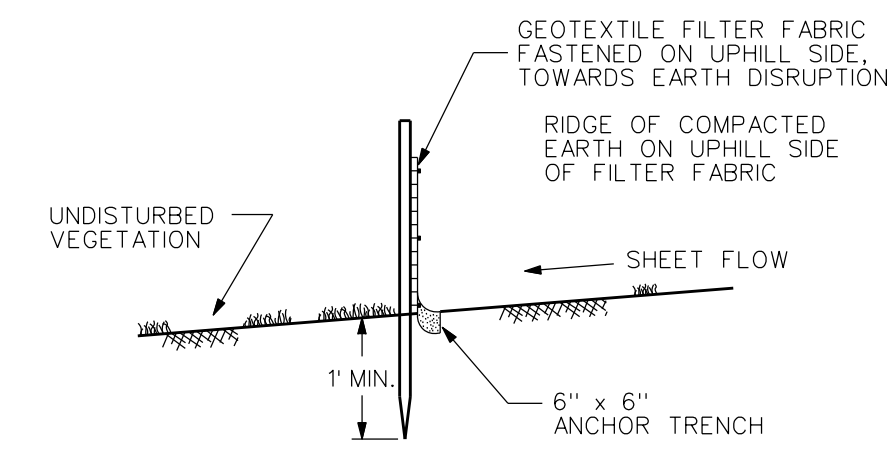
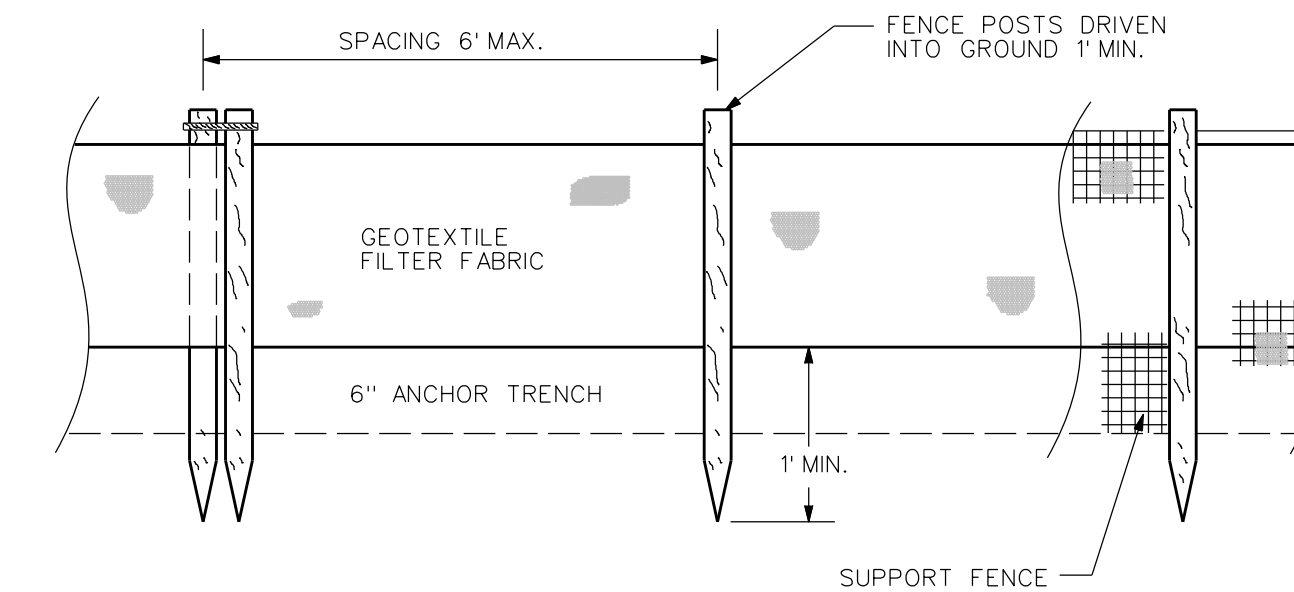
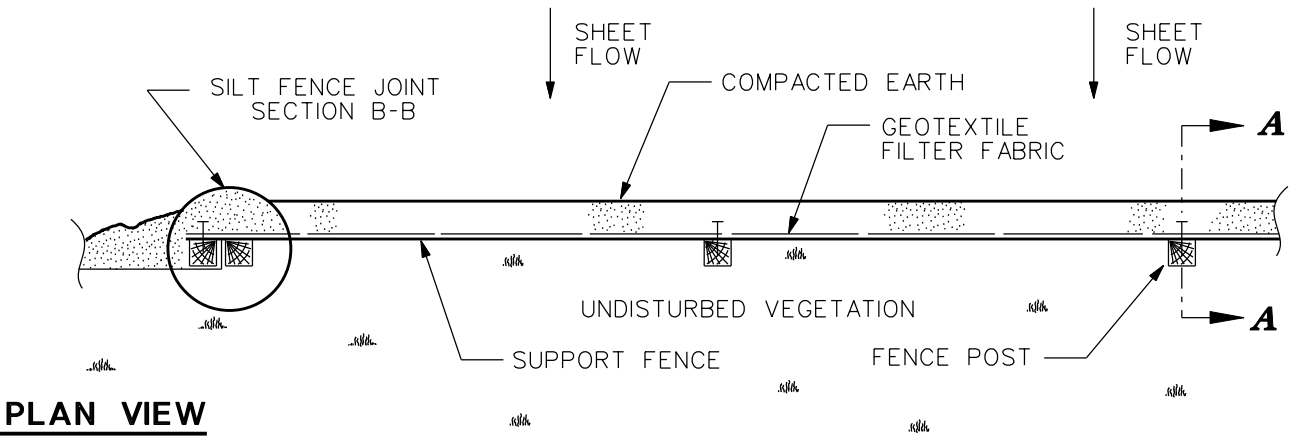


CASE 6

CURB AND GUTTER INLET FILTER  
(BEFORE PAVING)



SILT FENCE



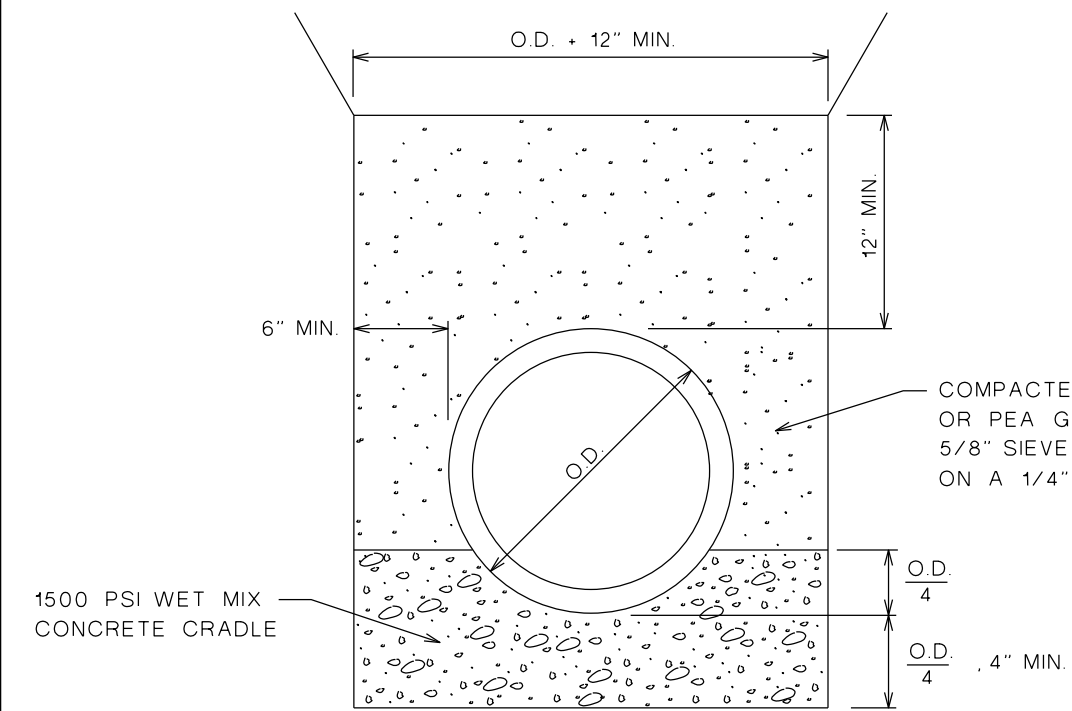
SOIL EROSION AND SEDIMENTATION CONTROL  
PLAN NOTES

- A. ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE COUNTY OF MACOMB.
- B. THE CONTRACTOR SHALL PERFORM PERIODIC MAINTENANCE OF SEDIMENTATION FILTERS AS MAY BE REQUIRED TO MAINTAIN THEIR EFFECTIVENESS.
- C. EROSION AND ANY SEDIMENTATION FROM THE WORK AREA SHALL BE CONTAINED IN THE WORK AREA AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN THE WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- D. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN CONSTRUCTION. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE WORK AREA.
- E. CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND AS DIRECTED ON THESE PLANS. EROSION CONTROL MEASURES MUST BE MAINTAINED AND REMAIN IN PLACE UNTIL PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER EARTH CHANGES HAS BEEN ACCOMPLISHED.
- F. SURFACE DISRUPTION IN ADVANCE OF CONSTRUCTION OF PAVING AND STORM SEWER (CLEARING, GRADING OR SIGNIFICANT SOIL REMOVAL), SHALL BE LIMITED AS FOLLOWS:
  - (1) MARCH, APRIL & MAY - FIVE (5) DAYS PIPE INSTALLATION.
  - (2) JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER & NOVEMBER - TEN (10) DAYS PIPE INSTALLATION.
  - (3) DECEMBER, JANUARY & FEBRUARY - FIFTEEN (15) DAYS PIPE INSTALLATION.COMPLETION OF BACKFILL AND REMOVAL OF EXCESS MATERIAL SHALL FOLLOW PIPE LAYING BY NO MORE THAN ONE HUNDRED (100) FEET.
- G. GENERALLY, PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FIVE (5) CALENDAR DAYS AFTER FINAL GRADING. FINAL GRADING SHALL BE COMPLETED WITHIN FIFTEEN (15) CALENDAR DAYS AFTER PAVING IS COMPLETED.
- H. ALL MUD/DIRT TRACKED ONTO EXISTING CITY/COUNTY ROADS FROM THIS SITE, DUE TO CONSTRUCTION SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR/BUILDER.
- I. DURING CONSTRUCTION OF THE STORM SEWER SYSTEM, THE ENDS OF ALL OPEN PIPES MUST BE PROTECTED BY STONE FILTERS OR OTHER APPROVED MEANS.
- J. ALL CONTRACTORS ARE TO PROVIDE A SUITABLE MEANS OF DUST CONTROL DURING THEIR RESPECTIVE OPERATIONS.
- K. THE UNDERGROUND CONTRACTOR MUST CONSTRUCT SILT TRAPS AROUND ALL STRUCTURES WHICH ARE NEEDED FOR DRAINAGE DURING THE TIME PERIOD BETWEEN STORM SEWER INSTALLATION AND EXCAVATION. ALL OTHER STRUCTURES SHALL BE STEEL PLATED. SILT TRAPS TO BE USED ARE THOSE WHICH ARE INDICATED ON THE DETAIL SHEET.
- L. STEEL PLATES MUST BE PLACED OVER ALL EXPOSED STRUCTURES PRIOR TO EXCAVATION TO PREVENT EXCESS EARTH MATERIAL FROM BEING DEPOSITED INTO THE DRAINAGE SYSTEM.
- M. AFTER FINAL SOIL STABILIZATION ALL STRUCTURES IN THE WORK AREA MUST BE CLEANED AS CALLED OUT IN THE SPECIFICATIONS AND AS A MEASURE OF SOIL EROSION CONTROL.
- N. AS A PERMANENT METHOD OF PREVENTING SOIL EROSION, THE BACK OF CURB AREA WILL BE SOODED, SEEDED OR PAVED AS CALLED OUT IN THE SPECIFICATION.
- O. ALL CATCH BASINS OR INLETS SHALL BE CLEANED AT THE END OF CONSTRUCTION AND DURING CONSTRUCTION IF DEEMED NECESSARY BY THE PROJECT ENGINEER OR THE SOIL EROSION CONTROL AGENT.

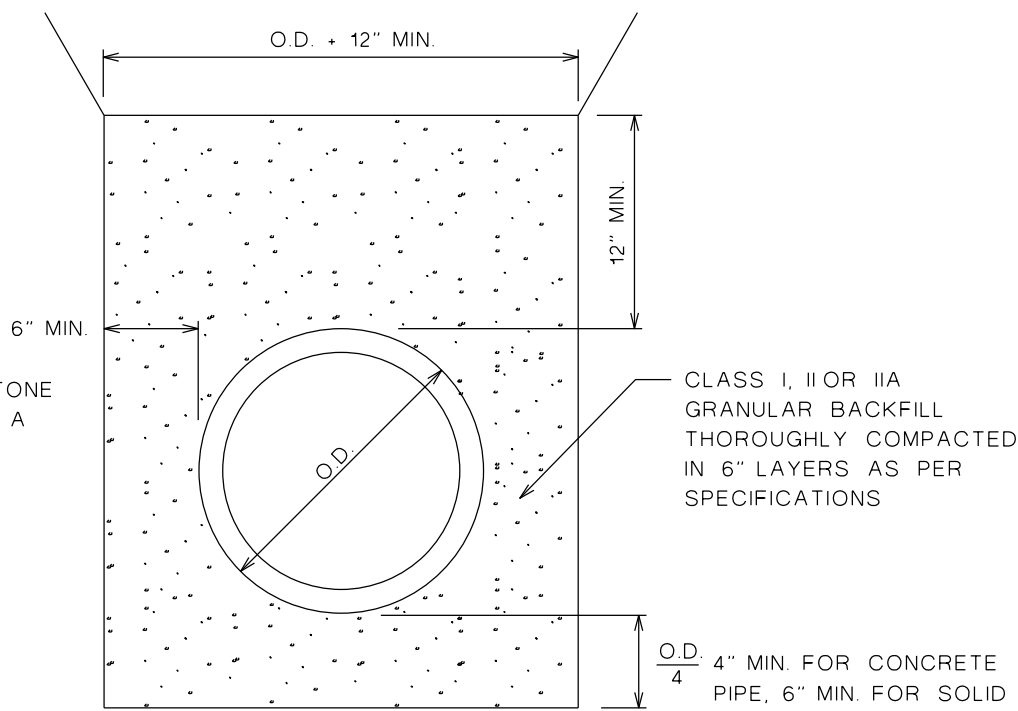
DIVISION OF ENGINEERING  
CITY OF WARREN, MICHIGAN

SOIL EROSION  
AND  
SEDIMENTATION CONTROL  
DETAILS

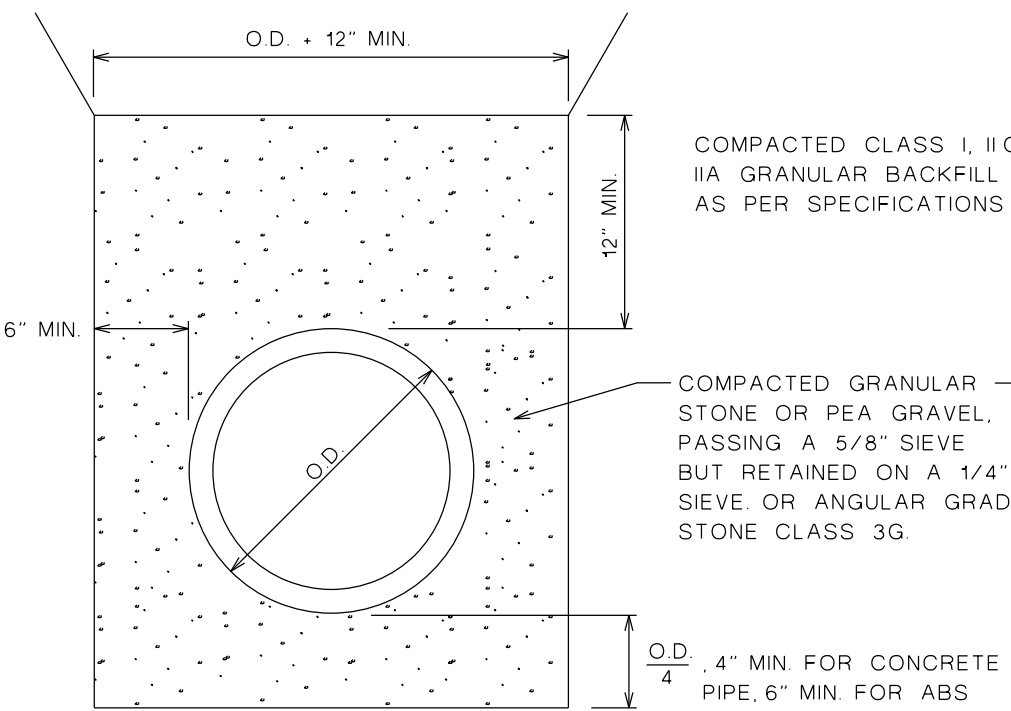




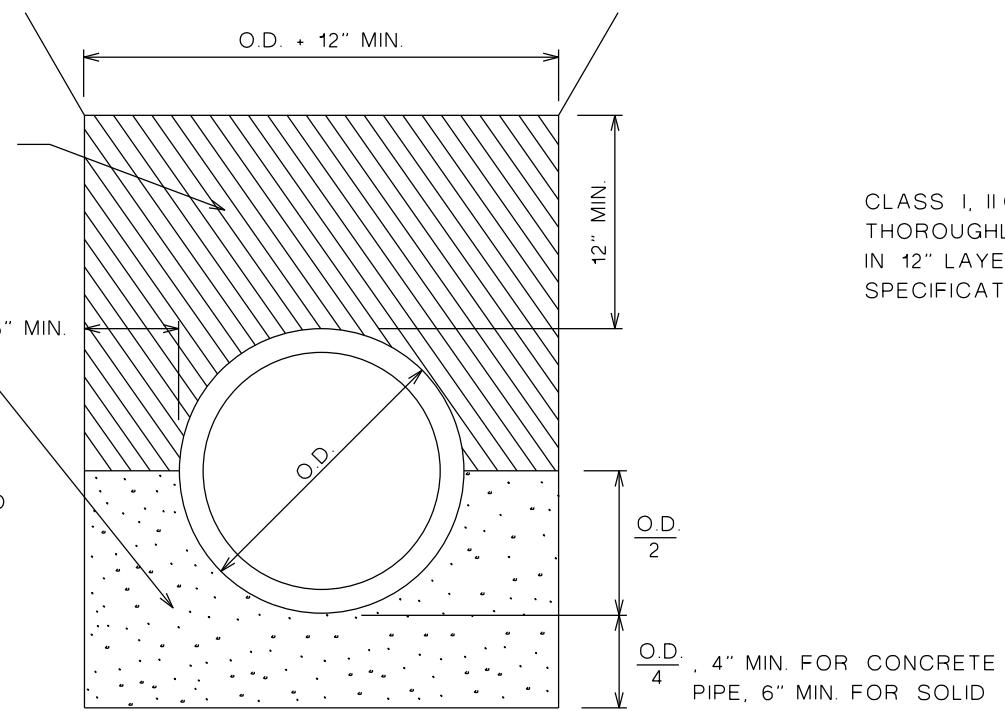
CLASS A BEDDING DETAIL



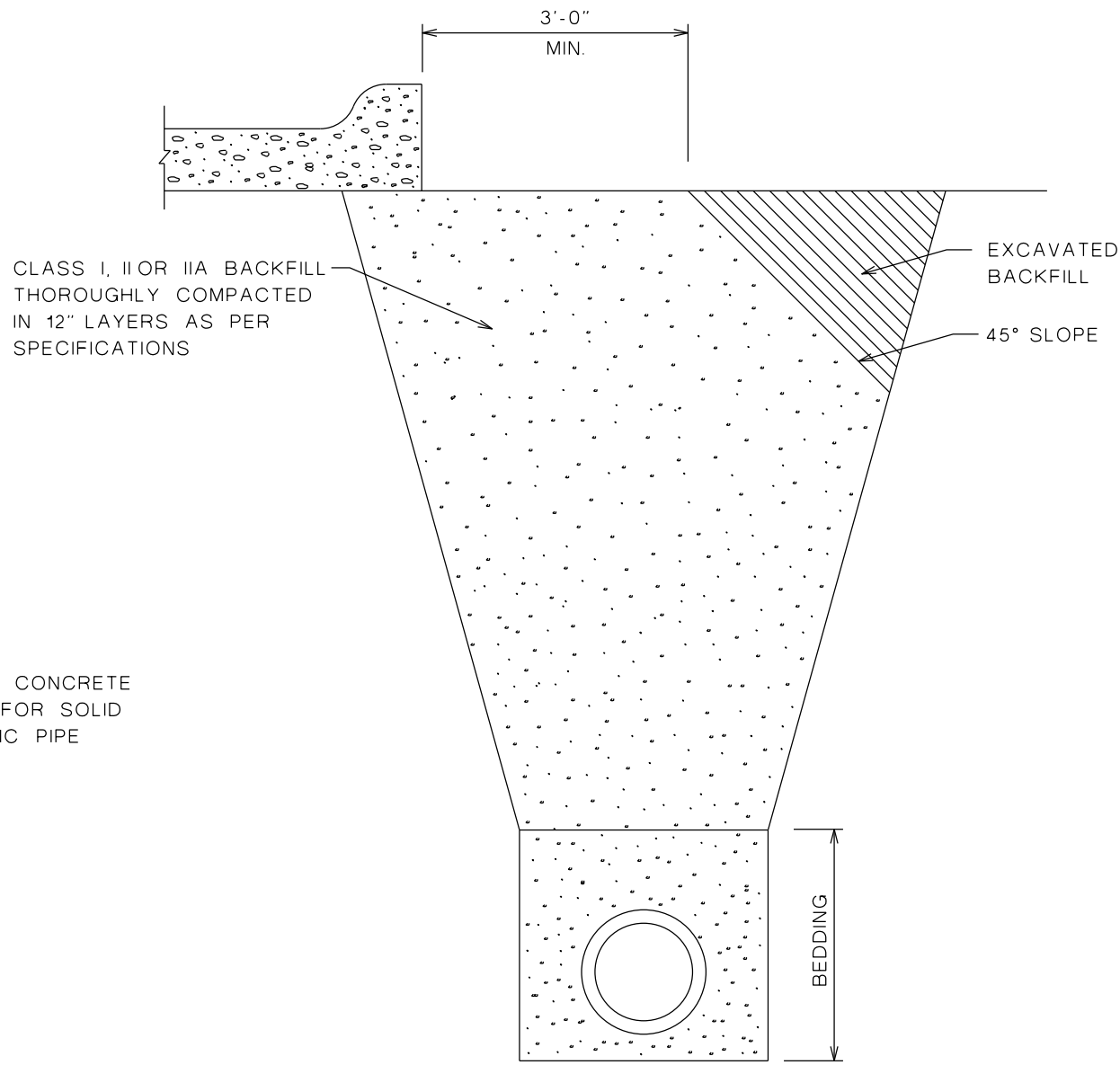
CLASS B BEDDING DETAIL



CLASS B MODIFIED BEDDING DETAIL



CLASS C BEDDING DETAIL

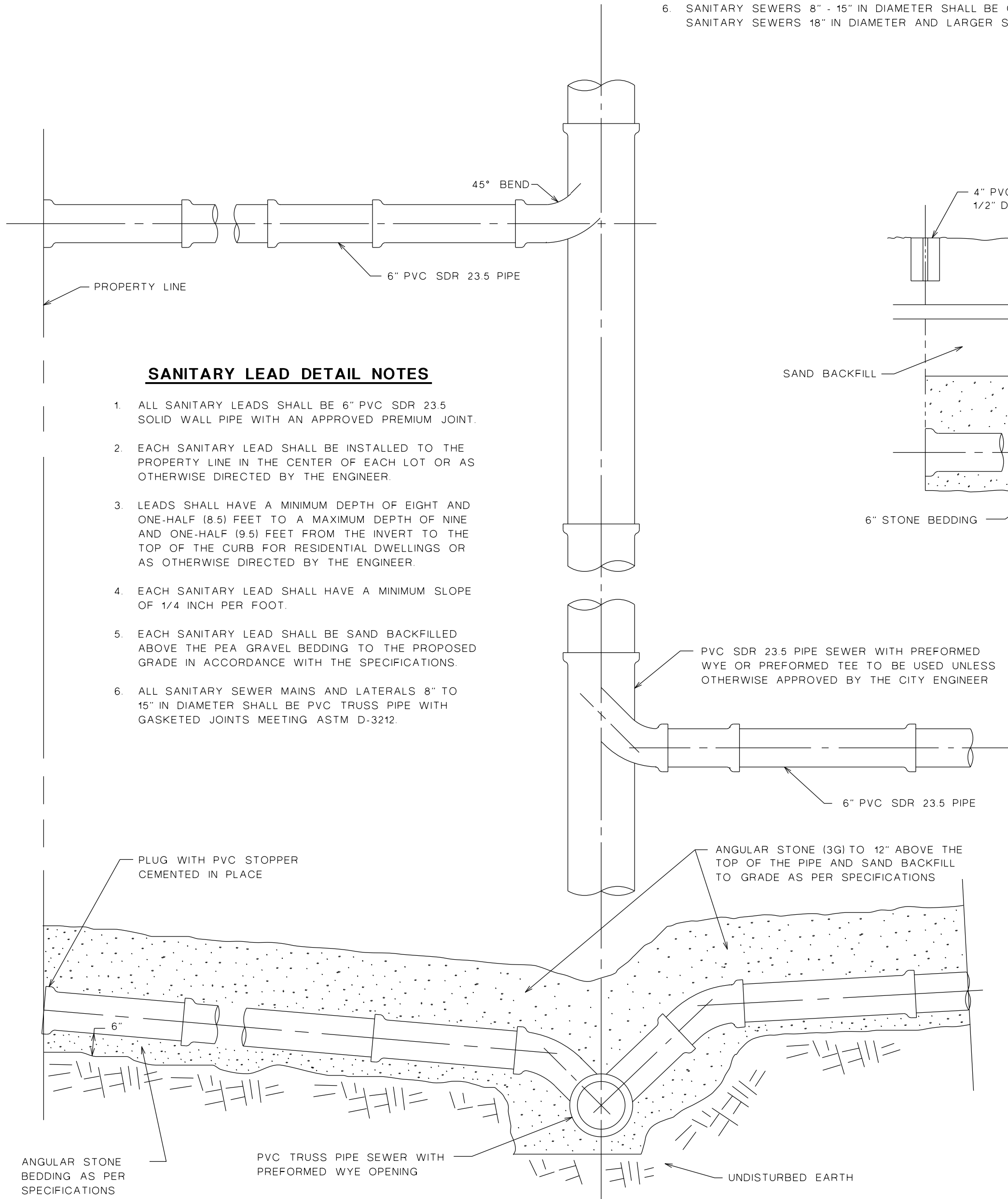


DETAIL FOR BACKFILLING WITHIN 3 FEET OF EXISTING OR PROPOSED PAVEMENT

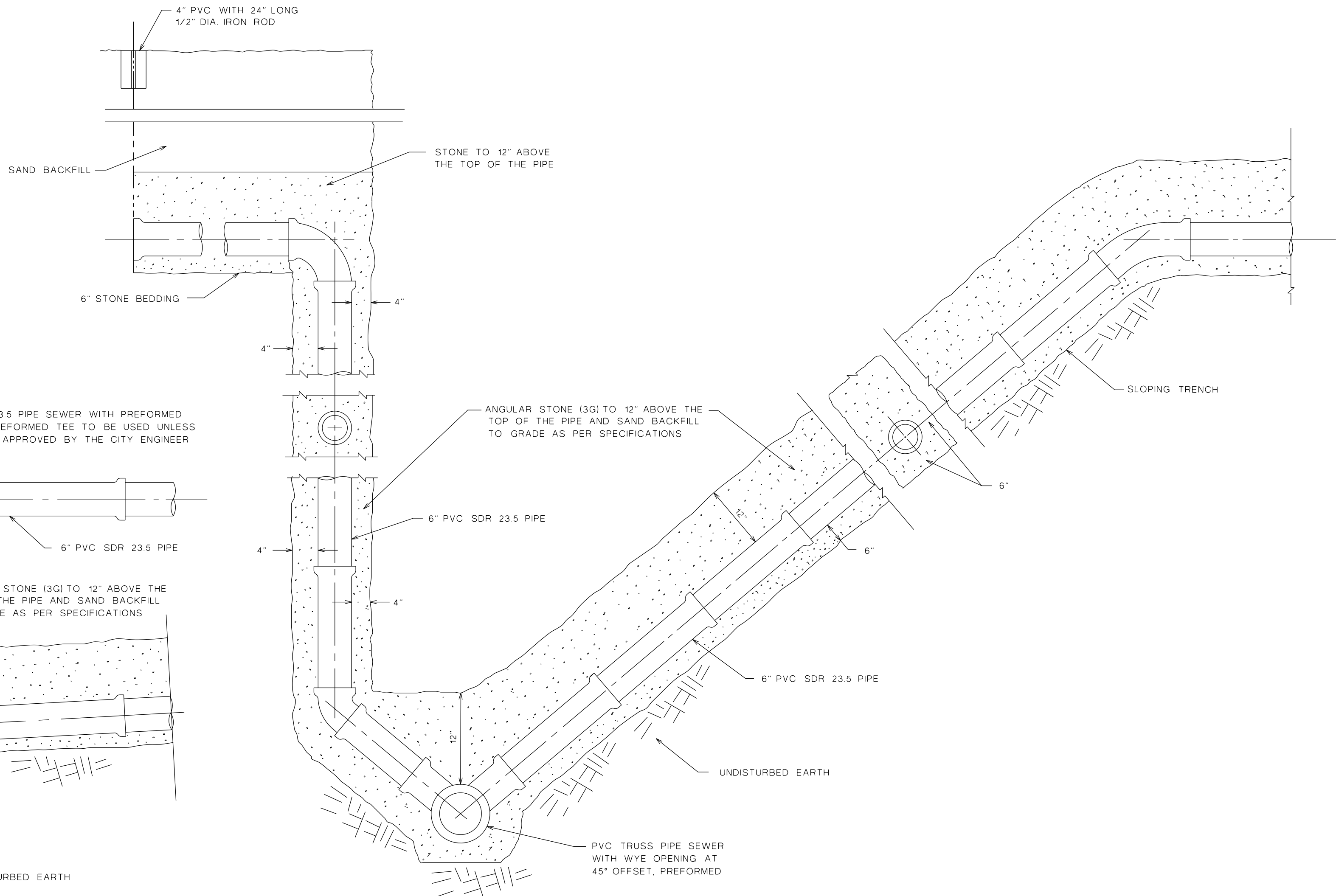
- WHERE TRENCHES ARE UNDER ROAD SURFACES, PAVEMENTS INCLUDING RETURNS, CURBS, DRIVEWAYS, SIDEWALKS, PARKING AREAS OR WHERE THE EDGE OF THE TRENCH IS WITHIN THREE (3) FEET OF AN EXISTING OR PROPOSED CONCRETE OR ASPHALT PAVEMENT OR SIDEWALK, SUCH TRENCHES SHALL BE BACKFILLED WITH COMPACTED SAND AS PER SPECIFICATIONS.
- DURING BACKFILL OPERATIONS THE AREA OF THE TRENCH THAT IS TO BE SAND FILLED AND COMPACTED SHALL BE MAINTAINED AT LEAST SIX (6) INCHES ABOVE THAT PORTION BACKFILLED WITH EXCAVATED MATERIALS AT ALL TIMES.

BEDDING DETAIL NOTES

- THE BEDDING DETAILS ARE FOR ALL SEWERS PLACED IN OPEN CUT EXCAVATIONS.
- ON PIPES OF 30" DIAMETER OR LESS THE TRENCH WIDTH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE EXTERNAL DIAMETER OF THE PIPE PLUS 16". FOR PIPES LARGER THAN 30" DIAMETER THE TRENCH WIDTH AT THE TOP OF THE PIPE SHALL NOT EXCEED THE EXTERNAL DIAMETER OF THE PIPE PLUS 24".
- FROM ONE FOOT ABOVE THE TOP OF THE PIPE TO THE PROPOSED GRADE THE TRENCH SHALL BE BACKFILLED IN ACCORDANCE WITH SECTION 706 OF THE SPECIFICATIONS FOR SANITARY AND STORM SEWERS.
- CLASS B MODIFIED BEDDING SHALL BE REQUIRED FOR ALL SANITARY SEWER CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. (ANGULAR STONE CLASS 3G SHALL BE THE BEDDING MATERIAL FOR TRUSS PIPE)
- CLASS C BEDDING SHALL BE THE MINIMUM BEDDING REQUIRED FOR ALL STORM SEWER CONSTRUCTION.
- SANITARY SEWERS 8" - 15" IN DIAMETER SHALL BE CONSTRUCTED OF PVC TRUSS PIPE W/GASKETED JOINT. SANITARY SEWERS 18" IN DIAMETER AND LARGER SHALL BE CONSTRUCTED OF CLASS IV OR BETTER R.C.S.P.(W/PREMIUM JOINT)



STANDARD SANITARY LEAD DETAIL - SHALLOW SEWER UNDER 16 FEET



STANDARD SANITARY LEAD DETAIL - DEEP SEWER 16 FEET AND OVER

LEGEND

PLAN VIEW

CENTER LINE	---
EXIST. SEWER	---
EXIST. GAS MAIN	-G- -G-
EXIST. UNDERGROUND ELECTRIC	-E- -E-
EXIST. WATER MAIN	---
PROPOSED INSTALLATION	---
EXIST. MANHOLE	○
PROPOSED MANHOLE	●
UTILITY POLES	⊗
FIRE HYDRANT	⊕
GATE VALVE IN WELL	⊕
EXIST. CATCH BASIN	⊕
PROP. CATCH BASIN	⊕
EXIST. INLET	---
PROP. INLET	---
EXIST. FENCE	-X- -X-
EXIST. SWALE OR DITCH	→
EXIST. CULVERT	---
EXIST. CULVERT (WITH HDDRS.)	---
TREES (DECIDUOUS)	⊗
TREES (EVERGREEN)	⊗
PROP. PAV'T. (PAVING PLAN)	---
EXIST. PAV'T. (SEWER & WATERMAIN PLANS)	---
EXIST. GRAVEL ROAD	---
EXIST. SIDEWALK & PROP. LINE	---
EXIST. HOUSE OR BLDG & LEAD WALK	---
PAVEMENT REMOVAL ONLY	XXXXXX
PAVEMENT REMOVAL & REPLACE	XXXXXX
TUNNEL, JACK OR BORE	---
SEWER OR WATER MAINS	---

PROFILE

CENTER LINE	---
NORTH OR WEST R OR SIDEWALK	---
SOUTH OR EAST R OR SIDEWALK	---
NORTH OR WEST HOUSE GRADE	---
SOUTH OR EAST HOUSE GRADE	---
PROPOSED GRADE	---
PROPOSED SEWER	---
EXISTING SEWER	---

	1/08/08	C.M.K.
	8/24/06	R.M.A.
	2/24/93	W.L.K.
REVISIONS	DATE	BY
		CHANGE

DIVISION OF ENGINEERING  
CITY OF WARREN, MICHIGAN

PIPE BEDDING  
AND SEWER  
DETAILS

SCALE: NONE	DESIGNED BY: T.S.S.
APPROVED BY: J.V.H.	DRAWN BY: W.L.K.
SHEET 1 OF 1 SHEETS	DATE 2/24/93



**DW-1**



ABBREVIATION LEGEND

ACU	AIR CONDITIONING UNIT	D	DEPTH	FIN	FINISH	L	LONG, LENGTH	PERF	PERFORATED	T&G	TONGUE AND GROOVE
ADJ	ADJACENT, ADJUSTABLE	DEMO	DEMOLISH, DEMOLITION	FLR	FLOOR	LAM	LAMINATE	PLBG	PLUMBING	TEL	TELEPHONE
AFF	ABOVE FINISH FLOOR	DEPT	DEPARTMENT	FRP	FIBERGLASS REINFORCED PANEL	LAV	LAVATORY	PLAM	PLASTIC LAMINATE	TEMP	TEMPERED, TEMPORARY
AHJ	AUTHORITY HAVING JURISDICTION	DET	DETAIL	FWC	FABRIC WALL COVERING	LBS	POUNDS	PLYWD	PLYWOOD	TER	TERRAZZO
ALT	ALTERNATE	DF	DRINKING FOUNTAIN			LF	LINEAR FOOT	PREFAB	PREFABRICATED	TO	TOP OF
ALUM	ALUMINUM	DIA	DIAMETER	GRFC	GLASS FIBER REINFORCED CONCRETE	LH	LEFT HAND	PSF	POUNDS PER SQUARE FOOT	TOS	TOP OF SLAB
ANO	ANODIZED	DIAG	DIAGONAL	GRFG	GLASS FIBER REINFORCED GYPSUM	LVL	LEVEL	PSI	POUNDS PER SQUARE INCH	TV	TELEVISION
APPROX	APPROXIMATELY	DIFF	DIFFUSER	GL	GLASS	LT WT	LIGHT WEIGHT	PT	PAINT	TYP	TYPICAL
ARCH	ARCHITECT, ARCHITECTURAL	DIM	DIMENSION	GYP	GYPSUM	MAINT	MAINTENANCE	RAD	RADIUS	UC	UNDERCOUNTER
AUTO	AUTOMATIC	DN	DOWN			MATL	MATERIAL	REF	REFER, REFERENCE		
BD	BOARD	DR	DOOR	H	HIGH, HEIGHT	MAX	MAXIMUM	REFL	REFLECTED	VCT	VINYL COMPOSITION TILE
BF	BARRIER FREE	DWG	DRAWING	HC	HOLLOW CORE	MECH	MECHANICAL	REFRIG	REFRIGERATOR	VERT	VERTICAL
BLDG	BUILDING	EIFS	EXTERIOR INSULATION FINISH SYSTEM	HDWD	HARDWOOD	MT	METAL	REINF	REINFORCED	VIF	VERIFY IN FIELD
BLKG	BLOCKING	EJ	EXPANSION JOINT	HM	HOLLOW METAL	MEZZ	MEZZANINE	REV	REVISION	VWC	VINYL WALL COVERING
BN	BULLNOSE	EL	ELEVATION	HORIZ	HORIZONTAL	MFR	MANUFACTURER	RH	RIGHT HAND		
BOT	BOTTOM	ELEC	ELECTRIC, ELECTRICAL	HR	HOUR	MIN	MINIMUM	RO	ROUGH OPENING	W	WIDE, WIDTH
BRKT	BRACKET	ELEV	ELEVATOR			MISC	MISCELLANEOUS	SC	SOLID CORE	WC	WATER CLOSET
BSMT	BASEMENT	ENCL	ENCLOSURE	ID	INSIDE DIAMETER	MTD	MOUNTED	SCHED	SCHEDULE	WD	WOOD
B/D	BOTTOM OF DECK	ENTR	ENTRANCE	INCL	INCLUDE, INCLUDING			SECT	SECTION	WO	WINDOW OPENING
CAB	CABINET	EP	ELECTRICAL PANEL	INFO	INFORMATION	NIC	NOT IN CONTRACT	SF	SQUARE FEET	W/O	WITHOUT
CBB	CEMENT BACKER BOARD	EQ	EQUAL	IN	INCH, INCHES	NOM	NOMINAL	SIM	SIMILAR	WP	WATERPROOF
CG	CORNER GUARD	EQUIP	EQUIPMENT	INSUL	INSULATE, INSULATION	NTS	NOT TO SCALE	SPEC	SPECIFICATION	X	BY
CJ	CONTROL JOINT	EXIST	EXISTING	IR	IMPACT RESISTANT			SS	SOLID SURFACE		
CJ	CONTROL JOINT	EXT	EXTERIOR	INT	INTERIOR	OC	ON CENTER	STC	SOUND TRANSMISSION CLASS		
CL	CENTER LINE	FACT	FACTORY	JC	JANITOR CLOSET	OD	OUTSIDE DIAMETER	STD	STANDARD		
CLG	CEILING	FACP	FIRE ALARM CONTROL PANEL	JT	JOINT	OH	OVERHEAD	STL	STEEL		
CMU	CONCRETE MASONRY UNIT	FD	FLOOR DRAIN	JST	JOIST	OPNG	OPENING	STRUCT	STRUCTURAL		
CONC	CONCRETE	FDC	FIRE DEPT CONNECTION			OPP	OPPOSITE	ST STL	STAINLESS STEEL		
CONT	CONTINUOUS	FDTN	FOUNDATION	KD	KNOCK DOWN			SURF	SURFACE		
CORR	CORRIDOR	FE	FIRE EXTINGUISHER	KIT	KITCHEN						
COORD	COORDINATE	FEB	FIRE EXTINGUISHER BRACKET								
CT	CERAMIC TILE	FEC	FIRE EXTINGUISHER CABINET								

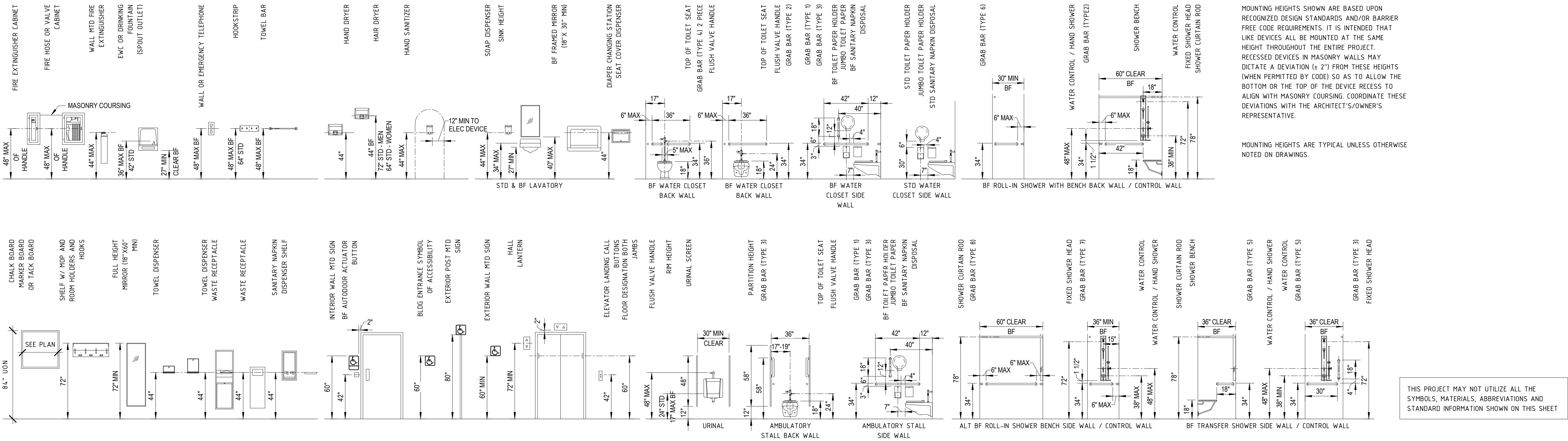
MATERIAL LEGEND

	CONCRETE MASONRY UNIT		CONCRETE		STEEL		GRAVEL INFILL
	WOOD SURFACE PATTERN		SOIL		BATT INSULATION		
	WOOD CROSS CUT		RIGID INSULATION		GYPSUM PLASTER		

SYMBOL LEGEND

	SECTION DETAIL MARKER		EXTERIOR ELEVATION MARKER		FINISH TAG		PLAN AND SECTION DETAIL MARKER
	BUILDING AND WALL SECTION MARKER		FINISH TAG		DOOR TAG		
	INTERIOR ELEVATION MARKER		WINDOW TAG		ROOM TAG		
			ROOM NAME				

MOUNTING HEIGHTS



PLY+

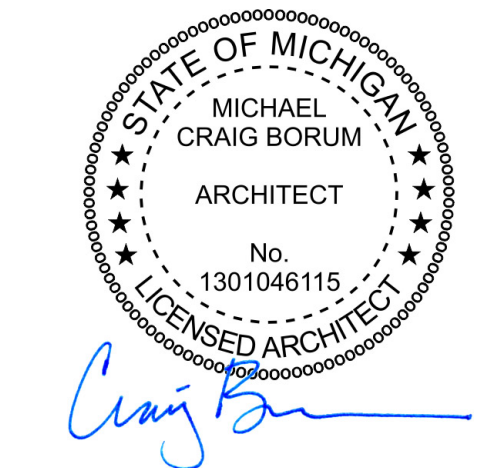
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Project Name

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Drawing Name

Architectural Reference  
Standards

Drawn By

CG

Checked By

CB

Issue Date

03/14/25 Permit & Bid Set

Revisions

Issued for Date

Project No.

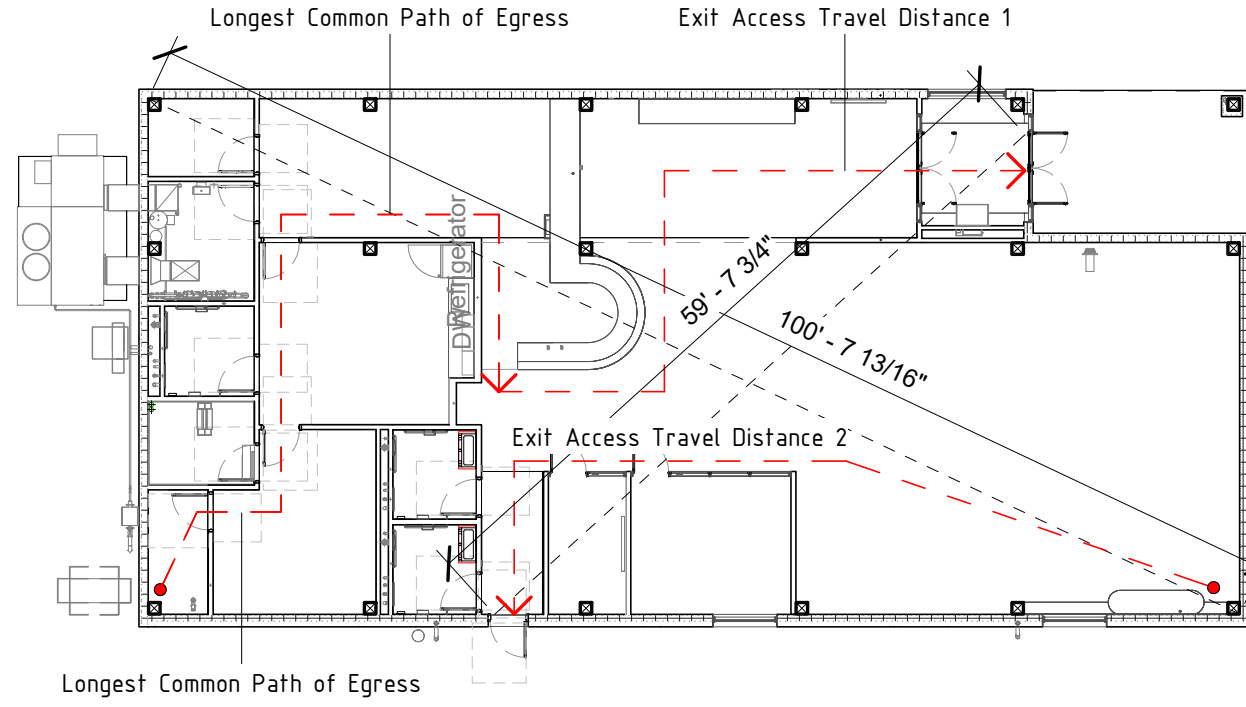
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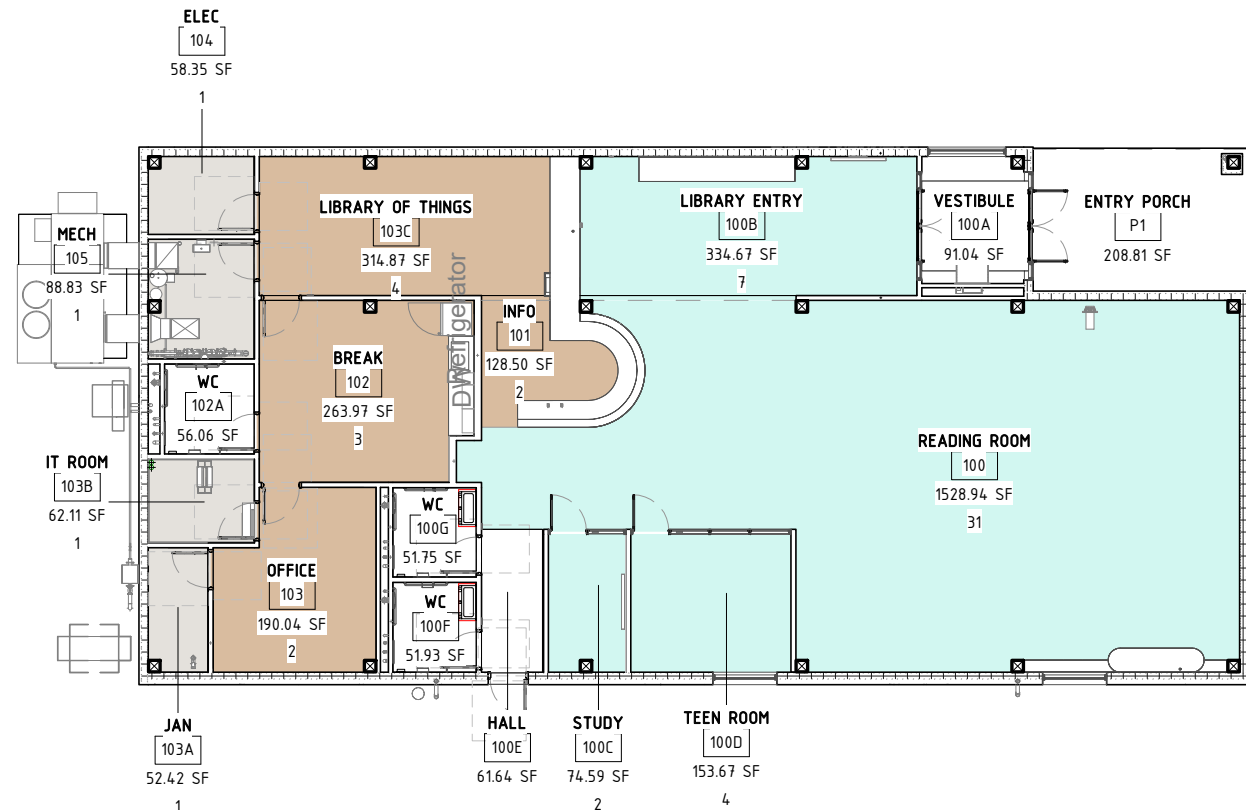


Travel Distance Calculation		
Travel Path	Travel Distance	Compliance
Exit Access Travel Distance 1	134' - 1 1/2"	Y
Exit Access Travel Distance 2	72' - 10 1/8"	Y
Longest Common Path of Egress	71' - 10 7/8"	Y

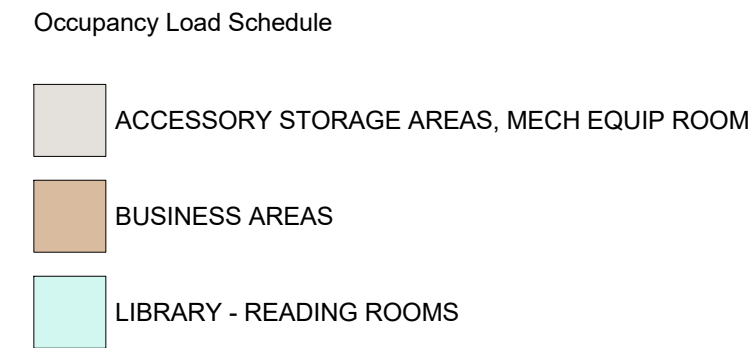


2 | Main Level - Egress  
1/16" = 1'-0"

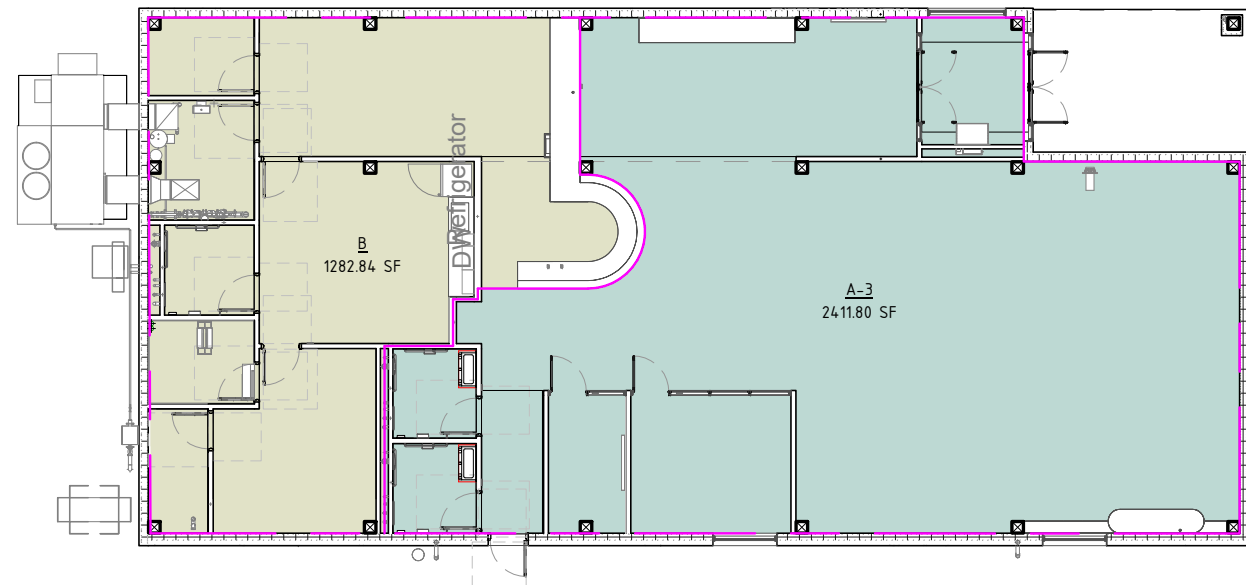
Room Schedule - Occupant Load					
Name	Number	Use	Area	Load Factor SF	Occupant Load
<b>A-3</b>					
READING ROOM	100	READING ROOM	1528.94 SF	50.00 SF	31
LIBRARY ENTRY	100B	READING ROOM	334.67 SF	50.00 SF	7
STUDY	100C	PRIVATE STUDY	74.59 SF	50.00 SF	2
TEEN ROOM	100D	PRIVATE STUDY	153.67 SF	50.00 SF	4
					44
<b>Business</b>					
INFO	101	INFO	128.50 SF	100.00 SF	2
BREAK	102	STAFF	263.97 SF	100.00 SF	3
OFFICE	103	STAFF	190.04 SF	100.00 SF	2
JAN	103A	STOR/UTIL	52.42 SF	300.00 SF	1
IT ROOM	103B	STOR/UTIL	62.11 SF	300.00 SF	1
LIBRARY OF THINGS	103C	STAFF	314.87 SF	100.00 SF	4
ELEC	104	STOR/UTIL	58.35 SF	300.00 SF	1
MECH	105	STOR/UTIL	88.83 SF	300.00 SF	1
					15
Grand total					59



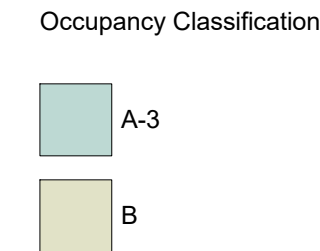
3 | Main Level - Occupancy  
1/16" = 1'-0"



Room Schedule - Room Area By Occupancy			
Name	Number	Use	Area
<b>A-3</b>			
READING ROOM	100	READING ROOM	1528.94 SF
VESTIBULE	100A	VESTIBULE	91.04 SF
LIBRARY ENTRY	100B	READING ROOM	334.67 SF
STUDY	100C	PRIVATE STUDY	74.59 SF
TEEN ROOM	100D	PRIVATE STUDY	153.67 SF
HALL	100E	VESTIBULE	61.64 SF
WC	100F	TOILET	51.93 SF
WC	100G	TOILET	51.75 SF
			2348.25 SF
<b>Business</b>			
INFO	101	INFO	128.50 SF
BREAK	102	STAFF	263.97 SF
WC	102A	TOILET	56.06 SF
OFFICE	103	STAFF	190.04 SF
JAN	103A	STOR/UTIL	52.42 SF
IT ROOM	103B	STOR/UTIL	62.11 SF
LIBRARY OF THINGS	103C	STAFF	314.87 SF
ELEC	104	STOR/UTIL	58.35 SF
MECH	105	STOR/UTIL	88.83 SF
			1215.15 SF
Grand total			3563.39 SF



1 | Occupancy Classification  
1/16" = 1'-0"



## APPLICABLE CODES

**BUILDING**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, BUREAU OF CONSTRUCTION CODES, 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS.  
ENFORCING AGENCY: CITY OF WARREN, COI

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, BUREAU OF CONSTRUCTION CODES, 2015 MICHIGAN BUILDING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**BARRIER FREE**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, 2015 MICHIGAN BUILDING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

AMERICANS WITH DISABILITIES ACT (ADA), 2010, STANDARDS FOR ACCESSIBLE DESIGN  
ENFORCING AGENCY: ALL FEDERAL AGENCIES (ON COMPLAINT BASIS) FOR U.S. REHABILITATION ACT OF 1973, U.S. DEPARTMENT OF JUSTICE AND ARCHITECTURE AND TRANSPORTATION BARRIERS COMPLIANCE BOARD (ON COMPLIANT BASIS) FOR AMERICANS WITH DISABILITY ACT

**ENERGY**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, BUREAU OF CONSTRUCTION CODES, 2015 MICHIGAN UNIFORM ENERGY CODE FOR BUILDINGS AND STRUCTURES, NOT INCLUDING RESIDENTIAL BUILDINGS, INCORPORATING ANSI/ASHRAE/ESNA STANDARD 90.1-2013  
ENFORCING AGENCY: CITY OF WARREN, COI

**STRUCTURAL**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, BUREAU OF CONSTRUCTION CODES, 2015 MICHIGAN BUILDING CODE INCORPORATING THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**MECHANICAL**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, 2021 MICHIGAN MECHANICAL CODE INCORPORATING THE 2021 EDITION OF THE INTERNATIONAL MECHANICAL CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**PLUMBING**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, 2021 MICHIGAN PLUMBING CODE INCORPORATING THE 2021 EDITION OF THE INTERNATIONAL PLUMBING CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**FIRE PROTECTION**  
NFPA 13, SPRINKLER SYSTEMS, 2013 EDITION AS REFERENCED IN THE 2015 MICHIGAN BUILDING CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**ELECTRICAL**  
MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS, 2023 MICHIGAN ELECTRICAL CODE INCORPORATING THE 2023 EDITION OF THE NATIONAL ELECTRICAL CODE  
ENFORCING AGENCY: CITY OF WARREN, COI

**FIRE ALARM**  
NFPA 72, NATIONAL FIRE ALARM CODE, 2013 EDITION AS REFERENCED IN THE 2015 MICHIGAN BUILDING CODE

BUILDING INFORMATION	
ALLOWABLE BUILDING AREA: (MBC TABLE 506.2)	ALLOWED MAXIMUM: 6,000 SF (NS) GROUND FLOOR (GROSS): 3,890 SF GROUND FLOOR (NET): 3,574 SF
ALLOWABLE BUILDING HEIGHT: (MBC TABLE 504.3, TABLE 504.4)	ALLOWED MAXIMUM: 1 STORY, 40 FEET (NS) PROVIDED: 1 STORY (+/-) 18 FEET
USE GROUP CLASSIFICATION MAIN FLOOR: (MBC 303.4)	MIXED USES, NON-SEPARATED ASSEMBLY A-3 BUSINESS B
CONSTRUCTION TYPE: (MBC TABLE 601)	TYPE VB
OCCUPANT LOAD MAIN FLOOR: (MBC 1004.1.1)	59 OCCUPANTS
BUILDING FIRE RESISTANCE RATING REQUIREMENTS: (MBC TABLE 601, 602, TABLE 706.4)	PRIMARY STRUCTURAL FRAME - 0 HOUR BEARING WALL (EXTERIOR) - 0 HOUR BEARING WALL (INTERIOR) - 0 HOUR NONBEARING WALLS AND PARTITIONS - 0 HOUR FLOOR CONSTRUCTION - 0 HOUR ROOF CONSTRUCTION - 0 HOUR
MINIMUM INTERIOR FINISH REQUIREMENTS: (MBC TABLE 803.11, 804.4)	(NS) INTERIOR EXIT STAIRWAYS AND RAMPS - A CORRIDORS AND LOBBIES - A ROOMS AND ENCLOSED SPACES - C INTERIOR FLOOR FINISH REQUIREMENT - CLASS II
MINIMUM INSULATION REQUIREMENTS: (MEC TABLE R402.1.1)	CEILING R-VALUE: 38 WOOD FRAME WALL R-VALUE: 20 OR 13+5 SLAB R-VALUE & DEPTH: 10, 2 FT

EGRESS AND FIRE PROTECTION SYSTEMS	
EGRESS CAPACITY: (MBC 1005.3.2 OTHER COMPONENTS)	0.2 - NOT SPRINKLERED GROUND LEVEL CAPACITY
EGRESS TRAVEL DISTANCE ASSEMBLY: (MBC 1017.2)	ASSEMBLY 200' (NOT SPRINKLERED) BUSINESS 200' (NOT SPRINKLERED)
COMMON PATH OF TRAVEL: (MBC 1006.2.1)	ASSEMBLY 75' (NOT SPRINKLERED) BUSINESS 75' (NOT SPRINKLERED)
SEPARATION OF EXITS: (MBC 1007.1.1)	1/2 THE LONGEST DIAGONAL OF THE SPACE (NOT SPRINKLERED)
AUTOMATIC SPRINKLER SYSTEM (MBC 903.2.1.3)	REQUIRED IF OCCUPANT LOAD IS 100 OR MORE, OR IF THE FIRE AREA EXCEEDS 5000 SQFT (FIRE AREA IS 3890 SF, NOT REQUIRED)
FIRE EXTINGUISHERS: (MBC 906, NFPA 10)	PROVIDED AS REQUIRED, (75 FEET MAXIMUM TRAVEL DISTANCE AND IN HAZARDOUS LOCATIONS)
FIRE ALARM AND DETECTION SYSTEM: (MBC 907.2.1, 907.2.9.2)	MANUAL FIRE ALARM SYSTEM REQUIRED IF OCCUPANT LOAD IS 300 OR MORE (BUILDING OCCUPANT LOAD IS 58, NOT REQUIRED)
PANIC EXIT HARDWARE: (MBC 1010.1.10)	SHALL MEET THE REQUIREMENTS OF MBC 1010.1.10
EGRESS SIGNAGE AND LIGHTING:	SHALL MEET THE REQUIREMENTS OF MBC 1013 TACTILE EXIT SIGNS (ICC A117.1) EMERGENCY LIGHTING SHALL MEET THE REQUIREMENTS OF MBC 1008
PRIMARY LEVEL OF EXIT DISCHARGE	MAIN FLOOR (GROUND FLOOR)

## PLUMBING FIXTURE CALCULATIONS

**ASSEMBLY (A-3)**  
WC: 1 PER 125 MALE OCCUPANTS  
1 PER 65 FEMALE OCCUPANTS  
LAV: 1 PER 200 MALE OCCUPANTS  
1 PER 200 FEMALE OCCUPANTS  
FOUNTAIN: 1 PER 500 TOTAL OCCUPANTS

**BUSINESS (B)**  
WC: 1 PER 25 MALE OCC. FOR THE FIRST 50, 1 PER 50 AFTER  
1 PER 25 FEMALE OCC. FOR THE FIRST 50, 1 PER 50 AFTER  
LAV: 1 PER 40 MALE OCC. FOR THE FIRST 80, 1 PER 80 AFTER  
1 PER 40 FEMALE OCC. FOR THE FIRST 80, 1 PER 80 AFTER  
FOUNTAIN: 1 PER 100 TOTAL OCCUPANTS

**A-3:** 44 OCCUPANTS/ 2 = 22 EACH GENDER  
**B:** 15 OCCUPANTS/ 2 = 7.5 EACH GENDER

MALE: 22/ 125 = 0.18 WC  
FEMALE: 22/ 65 = 0.34 WC

MALE: 22/ 200 = 0.11 LAV  
FEMALE: 22/ 200 = 0.11 LAV

44/ 500 = 0.09 FOUNTAINS  
15/ 100 = 0.15 FOUNTAIN

BUILDING TOTAL REQUIRED:  
MALE: 1 WC, 1 LAV  
FEMALE: 1 WC, 1 LAV  
1 DRINKING FOUNTAIN  
1 SERVICE SINK

BUILDING TOTAL PROVIDED:  
MALE: 1 WC, 1 LAV  
FEMALE: 2 WC, 2 LAV  
1 DRINKING FOUNTAIN  
1 SERVICE SINK

PLY+

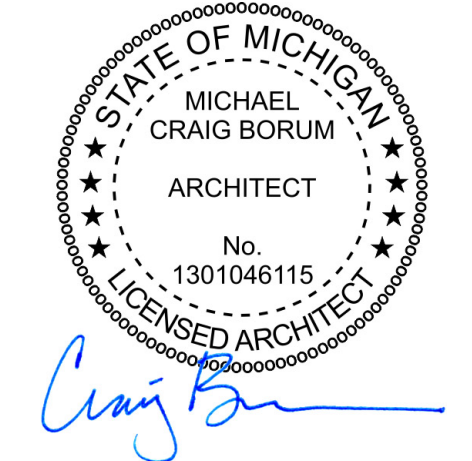
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Project Name

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Drawing Name

Code Summary

Drawn By  
YJ

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

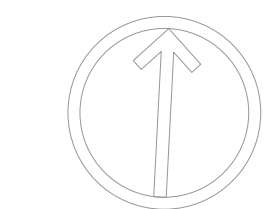
Revisions  
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Project No.  
ITB-W-14.78 | P24006

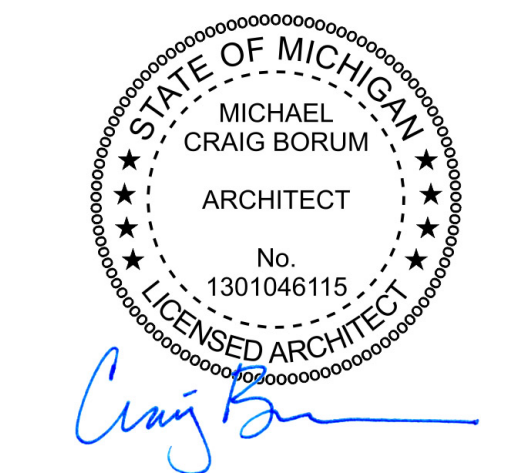
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Project Name  
WARREN BRANCH LIBRARY



Drawing Name  
Architectural Site Plan

Drawn By  
CG

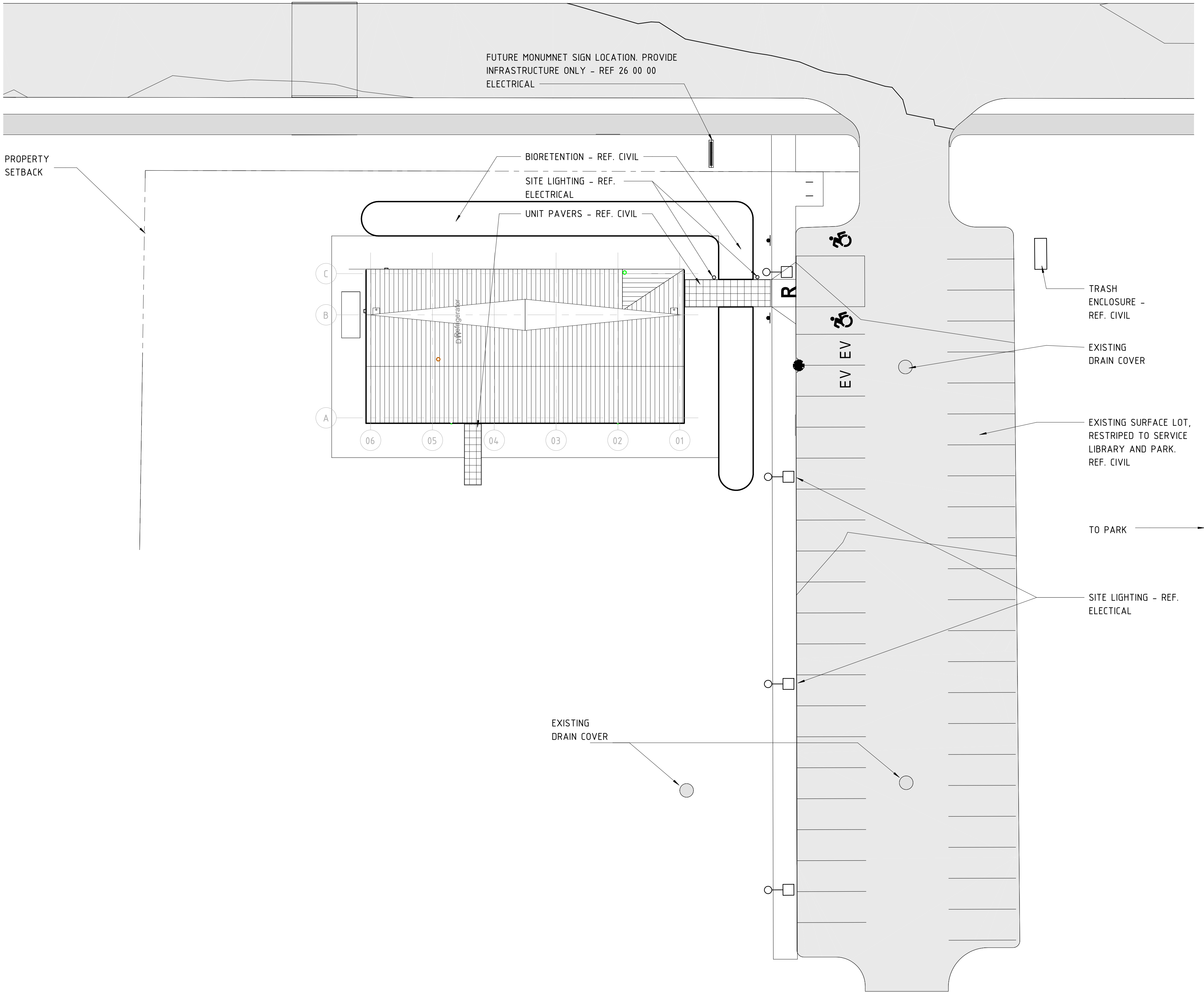
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03/14/25 Permit & Bid Set

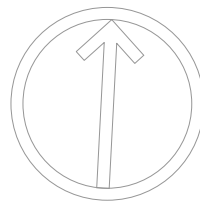
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ITB-W-14.78 | P24.006

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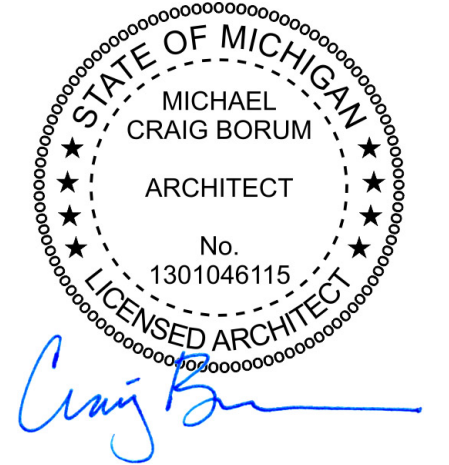






Project Name

WARREN BRANCH LIBRARY



Drawing Name

Foundation Plan

Drawn By  
YJ

Checked By  
CB

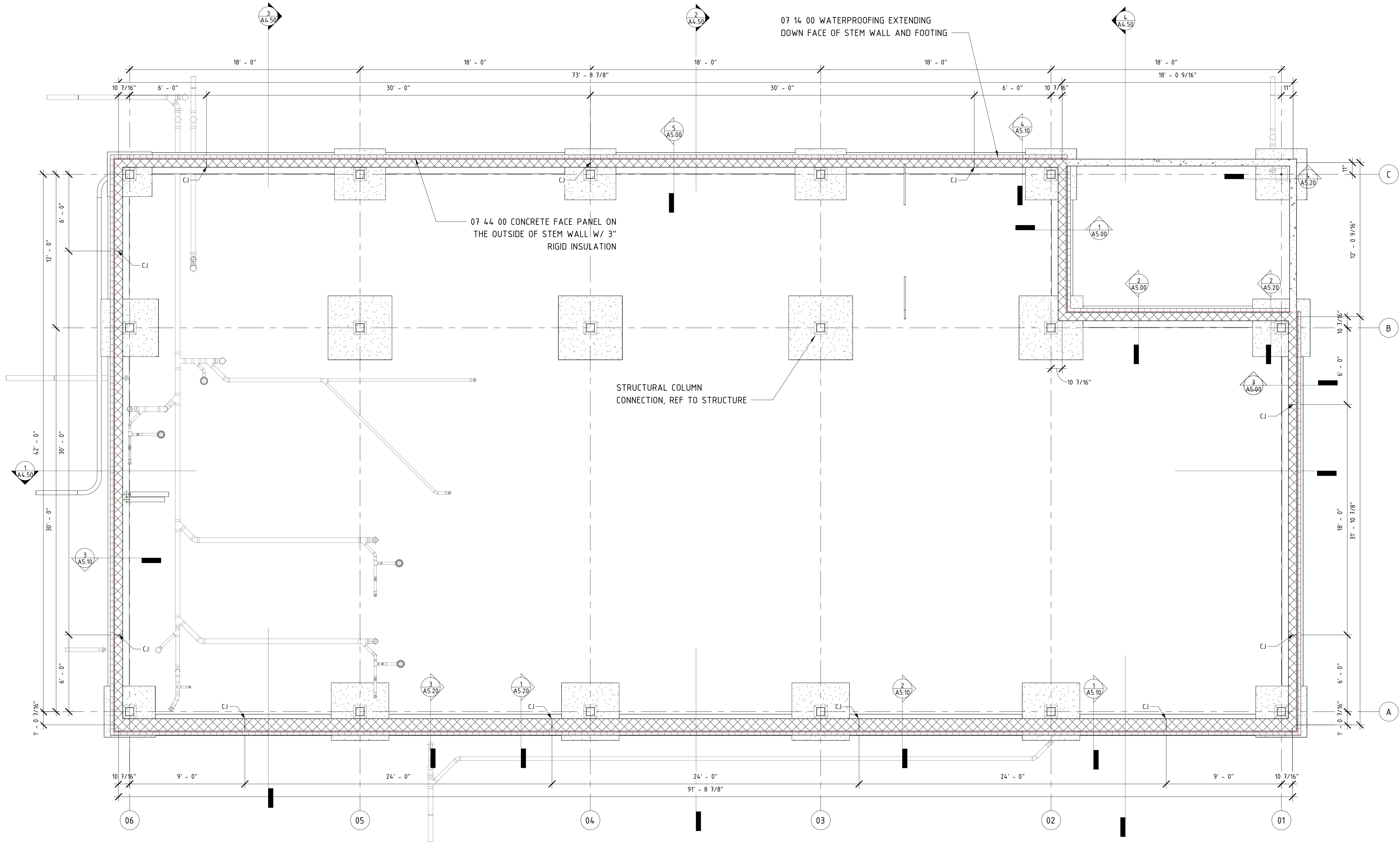
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Sheet Number

A2.00



1 | Foundation Plan  
1/4" = 1'-0"



GENERAL NOTES

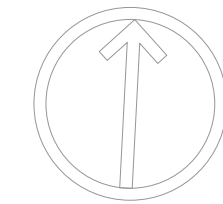
1. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT WALL BASE.
2. COORDINATE SIZE AND LOCATION OF ALL ACCESS DOORS WITH TRADES REQUIRING SAME. QUANTITIES SHOWN DO NOT NECESSARILY REPRESENT ALL ACCESS DOORS REQUIRED FOR ACCESSIBILITY.

PLY+

architecture, urbanism, design

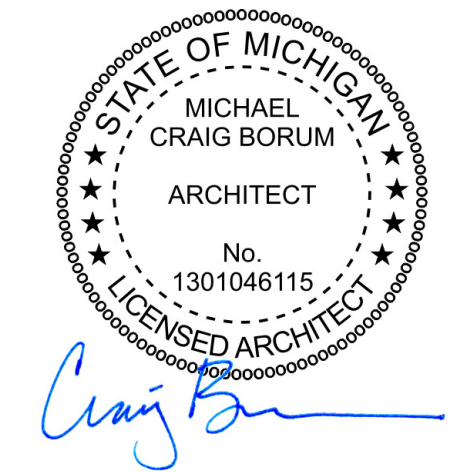
409 1/2 N 4th Ave  
Ann Arbor, Michigan 48104  
USA

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734 827 2238  
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Project Name

WARREN BRANCH LIBRARY



Drawing Name

Main Floor Plan

Drawn By  
YJ

Checked By  
CB

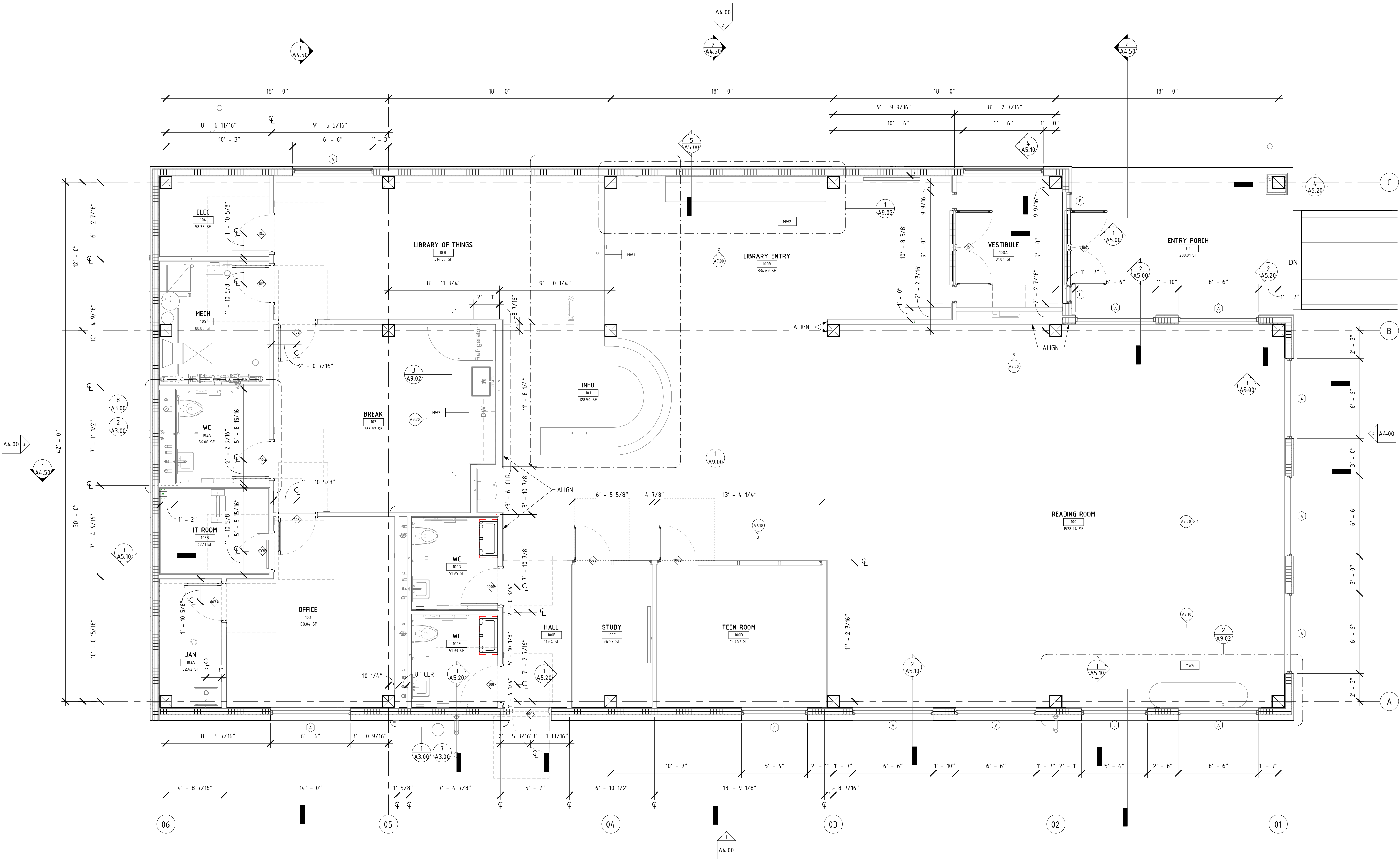
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03/14/25 Permit & Bid Set

Revisions  
Issued for Date

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ITB-W-14.78 | P24006

Sheet Number

A2.10



1 Main Level - Floor Plan  
1/4" = 1'-0"



FIXTURE LEGEND:

- RECESSED LED PANEL (2'X4')
- PENDANT LIGHT FIXTURE
- PENDANT LINEAR LIGHT FIXTURE
- INDUSTRIAL LIGHT FIXTURE
- RECESSED DOWNLIGHT

Note:  
1. FIRE/LIFE SAFETY FIXTURES: SEE ELECTRICAL, FIRE PROTECTION, PLUMBING, AND TECHNOLOGY DRAWINGS & SPECIFICATIONS.  
2. MECHANICAL EQUIPMENT/FIXTURES - SEE MECHANICAL DRAWINGS & SPECIFICATIONS.

KEYNOTES:

- C1

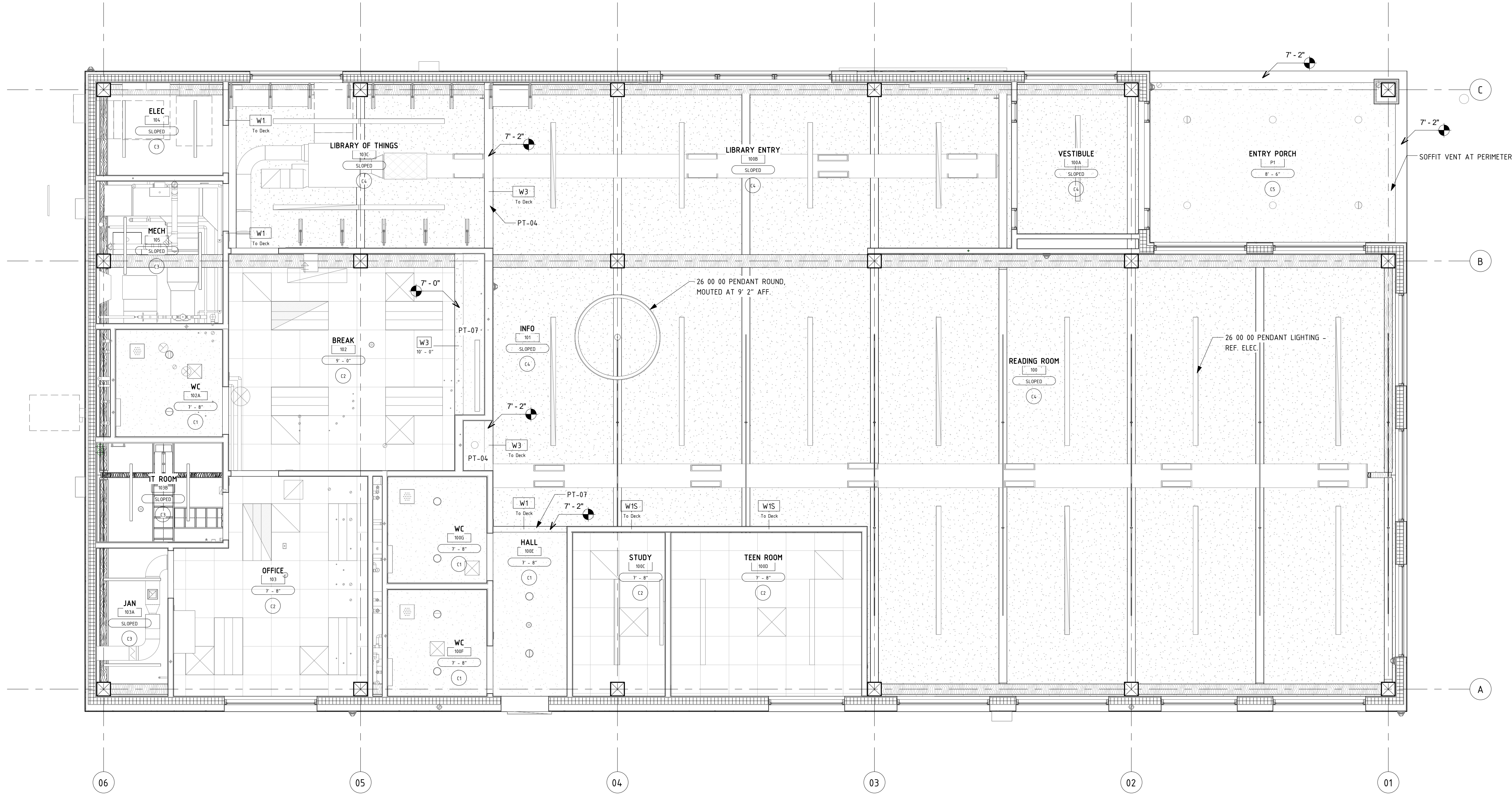
09 21 16 1/2" GYPSUM
- C2

09 51 00 24"x 24" SUSPENDED LAY-IN ACOUSTICAL CEILING
- C3

EXPOSED CONSTRUCTION
- C4

09 21 16 5/8" GYPSUM ATTACHED TO SIP PANEL 09 90 00 PAINTED
- C5

09 25 13 DEFS EXTERIOR SOFFIT



1 | Main Level Ceiling Plan  
1/4" = 1'-0"



GENERAL NOTES

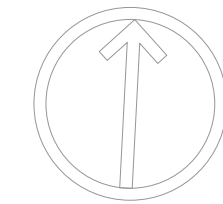
- REFER TO MECHANICAL AND ELECTRICAL DOCUMENTS FOR ALL PIPES, CURBS, VENTS, DUCTS, CONDUITS, LIGHTNING PROTECTION, AND OTHER FEATURES EXTENDING THROUGH THE ROOF SURFACES WHICH REQUIRE FLASHING AND COORDINATE SIZE AND LOCATION OF SAME.
- PROVIDE POSITIVE SLOPE TO ALL ROOF DRAINS.
- VERIFY EXACT LOCATIONS OF ROOFING CONTROL JOINTS (IF REQUIRED) WITH ROOFING MANUFACTURER.

PLY+

architecture, urbanism, design

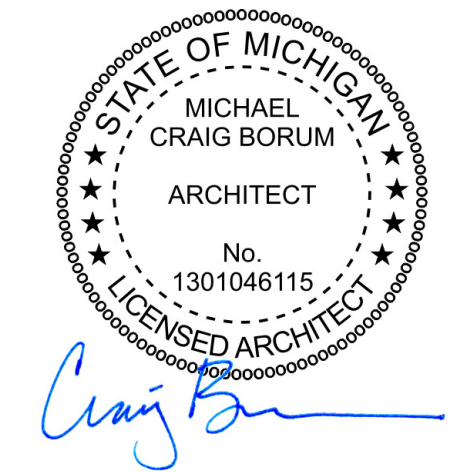
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USA

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Project Name

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Drawing Name

Roof Plan

Drawn By  
YJ

Checked By  
CB

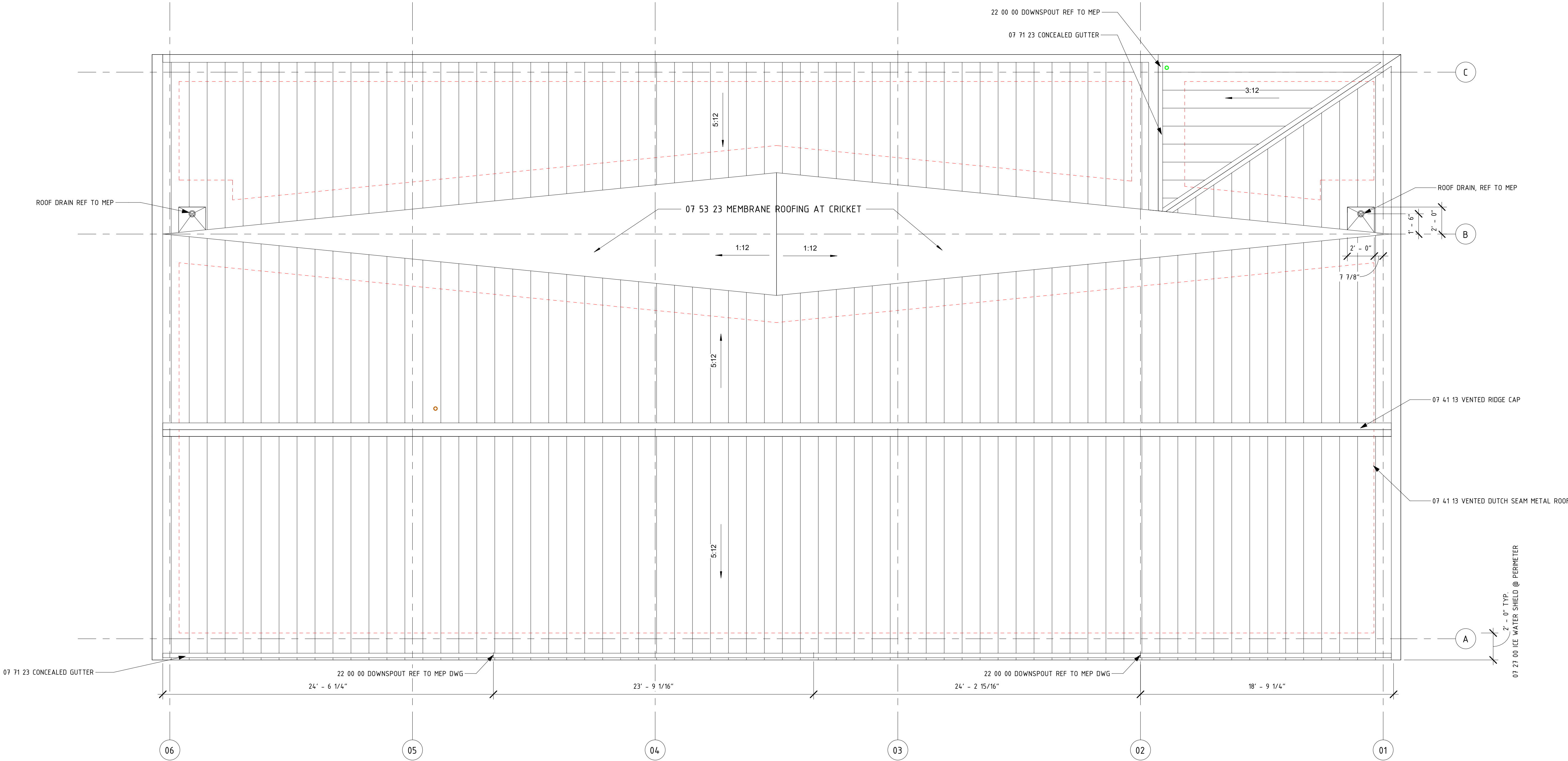
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ITB-W-14.78 | P24006

Sheet Number

A2.30



1 | Roof Plan  
1/4" = 1'-0"



W1: 3 5/8" LIGHT GAUGE FRAMING WITH PAINTED GYPSUM WALLBOARD

09 21 16 5/8" GYPSUM BOARD BOTH SIDES, PAINTED AS SCHEDULED

09 22 16 3 5/8" METAL STUDS @ 16" O.C.

W1-S: 3 5/8" LIGHT GAUGE FRAMING 24" O.C. WITH PAINTED GYPSUM WALLBOARD AND 3" ROCKWOOL AFB SOUND INSULATION

09 21 16 5/8" GYPSUM BOARD BOTH SIDES, PAINTED AS SCHEDULED

09 21 16 ROCKWOOL SOUND ATTENUATION INSULATION

09 22 16 3 5/8" METAL STUDS @ 24" O.C.

W2: 3 5/8" LIGHT GAUGE FRAMING WITH PAINTED GYPSUM WALLBOARD ONE SIDE

09 21 16 5/8" GYPSUM BOARD ONE SIDE, PAINTED AS SCHEDULED

09 22 16 3 5/8" METAL STUDS @ 24" O.C.

W3: 6" LIGHT GAUGE FRAMING WITH PAINTED GYPSUM WALLBOARD BOTH SIDES

09 21 16 5/8" GYPSUM BOARD BOTH SIDES, PAINTED AS SCHEDULED

09 22 16 6" METAL STUDS @ 16" O.C.

W4-S: 3 5/8" LIGHT GAUGE FRAMING WITH CERAMIC TILE WAINSCOTT ONE SIDE AND PAINTED GYPSUM WALLBOARD

09 30 00 CERAMIC TILE  
09 21 16 5/8" CEMENT BACKER BOARD  
09 21 16 5/8" GYPSUM BOARD, PAINTED AS SCHEDULED  
09 21 16 ROCKWOOL SOUND ATTENUATION INSULATION  
09 22 16 3 5/8" METAL STUDS @ 16" O.C.

W4-S2: 3 5/8" LIGHT GAUGE FRAMING WITH CERAMIC TILE WAINSCOTT ONE SIDE

09 30 00 CERAMIC TILE  
09 21 16 5/8" CEMENT BACKER BOARD  
09 21 16 ROCKWOOL SOUND ATTENUATION INSULATION  
09 22 16 3 5/8" METAL STUDS @ 16" O.C.

W4-S3: 3 5/8" LIGHT GAUGE FRAMING WITH CERAMIC TILE WAINSCOTT BOTH SIDES

09 30 00 CERAMIC TILE  
09 21 16 5/8" CEMENT BACKER BOARD  
09 21 16 ROCKWOOL SOUND ATTENUATION INSULATION  
09 22 16 3 5/8" METAL STUDS @ 16" O.C.

W6: 3 5/8" LIGHT GAUGE FRAMING WITH FRP PANELING ONE SIDE AND PAINTED GYPSUM WALLBOARD

06 83 16 FRP  
09 21 16 5/8" GYPSUM BOARD, PAINTED AS SCHEDULED

09 22 16 3 5/8" METAL STUDS @ 16" O.C.

W7: 6.5" SIP PANEL WITH PAINTED GYPSUM WALL BOARD AND FIBER CEMENT PANELS ON 8" CMU STEM WALL

06 12 00 SIP PANEL  
09 21 16 GYPSUM WALL BOARD PAINTED  
07 42 43 FIBER CEMENT SIDING OVER 3/4" HANGER OVER 7/8" HAT  
07 27 00 SA AIR BARRIER  
04 20 00 8" FULLY GROUTED CMU STEM WALL TOP COURSE PAINTED  
07 14 00 FLUID APPLIED WATERPROOFING WITH PROTECTION BOARD

INTERIOR

W8: 6.5" SIP PANEL WITH PAINTED GYPSUM WALL BOARD AND FIBER CEMENT PANELS ON 8" CMU STEM WALL

06 12 00 SIP PANEL  
09 21 16 GYPSUM WALL BOARD PAINTED  
09 30 00 TILE WAINSCOTT WITH 09 21 16 5/8" CEMENT BACKER BOARD \*  
07 42 43 FIBER CEMENT SIDING OVER 3/4" HANGER OVER 4" VERTICAL Z GIRT  
07 27 00 SA AIR BARRIER  
04 20 00 12" FULLY GROUTED CMU STEM WALL TOP COURSE PAINTED  
07 14 00 FLUID APPLIED WATERPROOFING WITH PROTECTION BOARD

INTERIOR

EXTERIOR

W9: 6.5" SIP PANEL WITH PAINTED GYPSUM WALL BOARD AND CORRUGATED METAL SIDING

06 12 00 SIP PANEL  
09 21 16 GYPSUM WALL BOARD PAINTED  
07 42 13 CORRUGATED METAL SIDING OVER 7/8" HORIZONTAL HAT OVER 7/8" VERTICAL HAT CHANNEL  
07 27 00 SA AIR BARRIER

INTERIOR

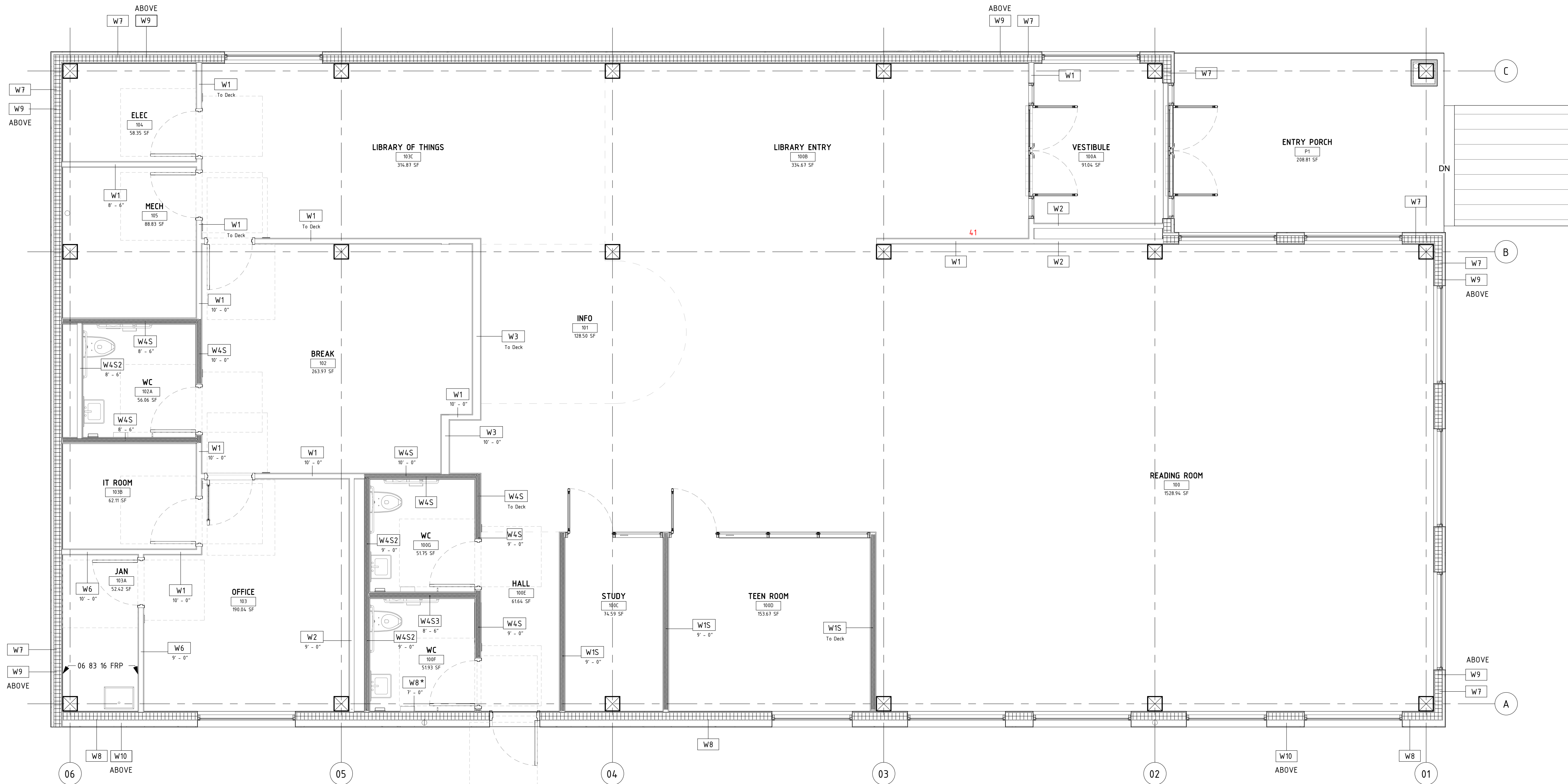
EXTERIOR

W10: 6.5" SIP PANEL WITH PAINTED GYPSUM WALL BOARD AND CORRUGATED METAL SIDING

06 12 00 SIP PANEL  
09 21 16 GYPSUM WALL BOARD PAINTED  
07 42 13 CORRUGATED METAL SIDING OVER 7/8" HORIZONTAL HAT OVER 4" VERTICAL Z-GIRT  
07 27 00 SA AIR BARRIER

INTERIOR

EXTERIOR



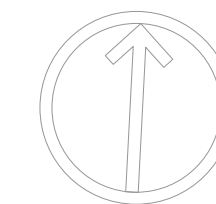
1 Main Level - Wall Type Plan  
A4.00 1/4" = 1'-0"

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architecture, urbanism, design

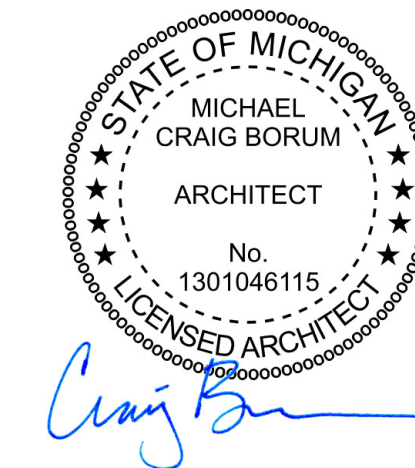
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Project Name

WARREN BRANCH LIBRARY



Drawing Name

Wall Type Plan

Drawn By  
AW

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

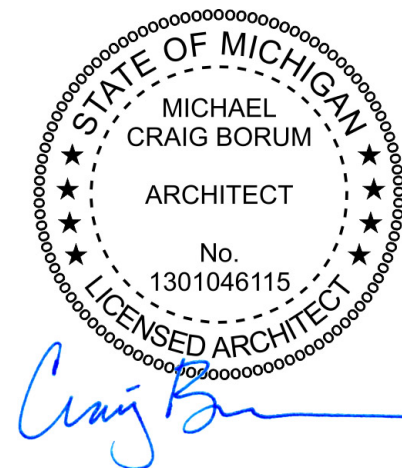
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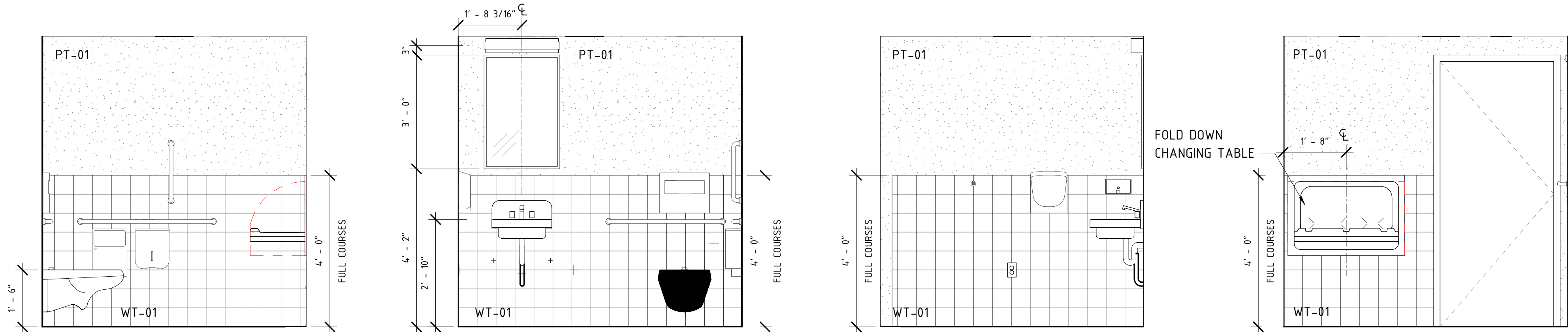
Sheet Number

A2.40





Toilet Accessories	
Toilet Room Acc Number	Toilet Room Acc Description
T1	GRAB BAR SET 1 (1) GRAB BAR TYPE 1, (1) GRAB BAR TYPE 2, (1) GRAB BAR TYPE 3
T2	TOILET PAPER DISPENSER
T3	SANITARY NAPKIN DISPOSAL
T4	SEAT COVER DISPENSER
T5	SOAP DISPENSER
T6	MIRROR 24"W x 36"H
T7	RECESSED FOLD-DOWN CHANGING TABLE UNIT
T8	HAND DRYER
T9	COAT HOOK WITH BUMPER

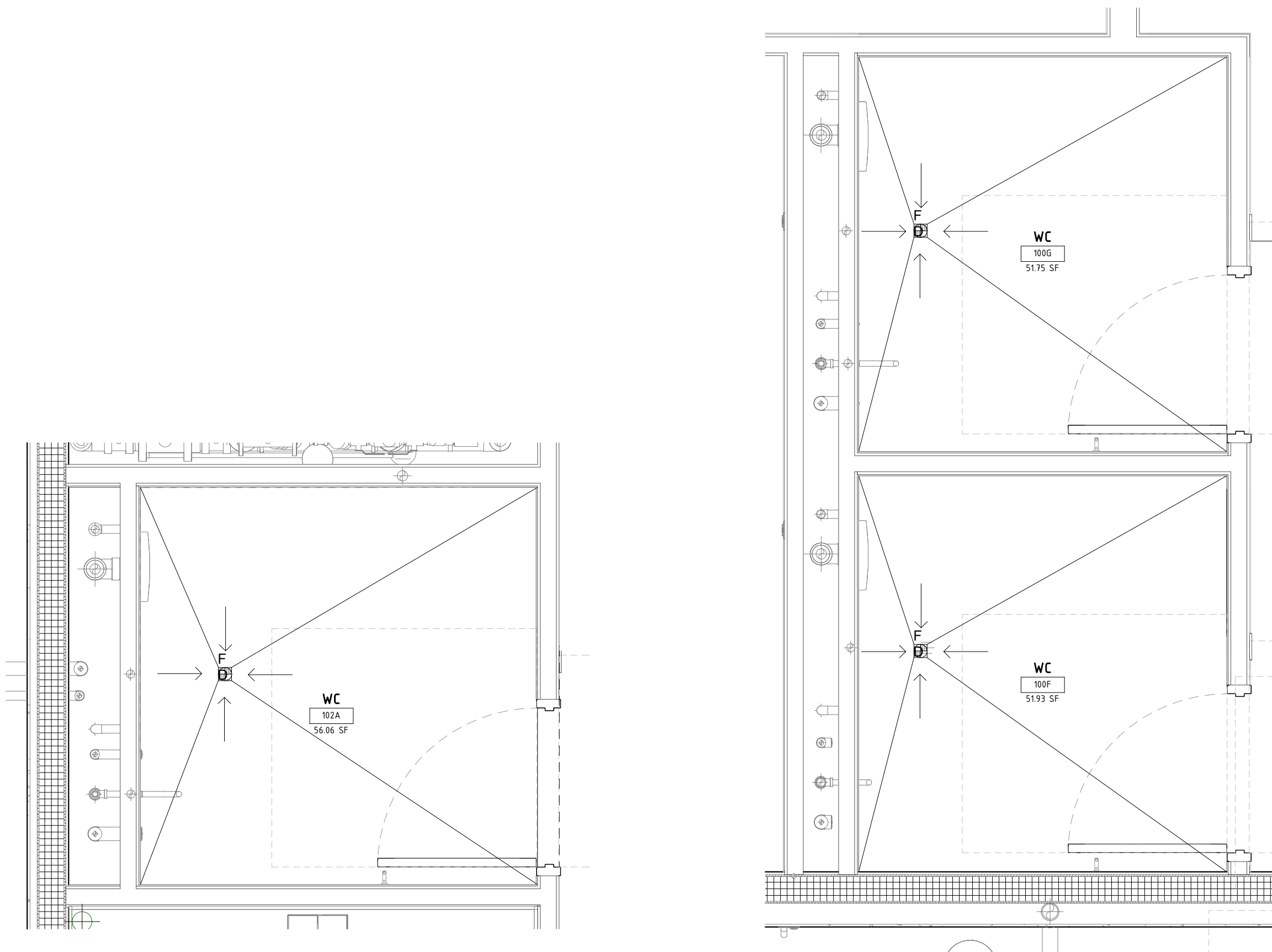


6 North Bathroom Elevation - TYP.  
A3.00 1/2" = 1'-0"

5 West Bathroom Elevation - TYP.  
A3.00 1/2" = 1'-0"

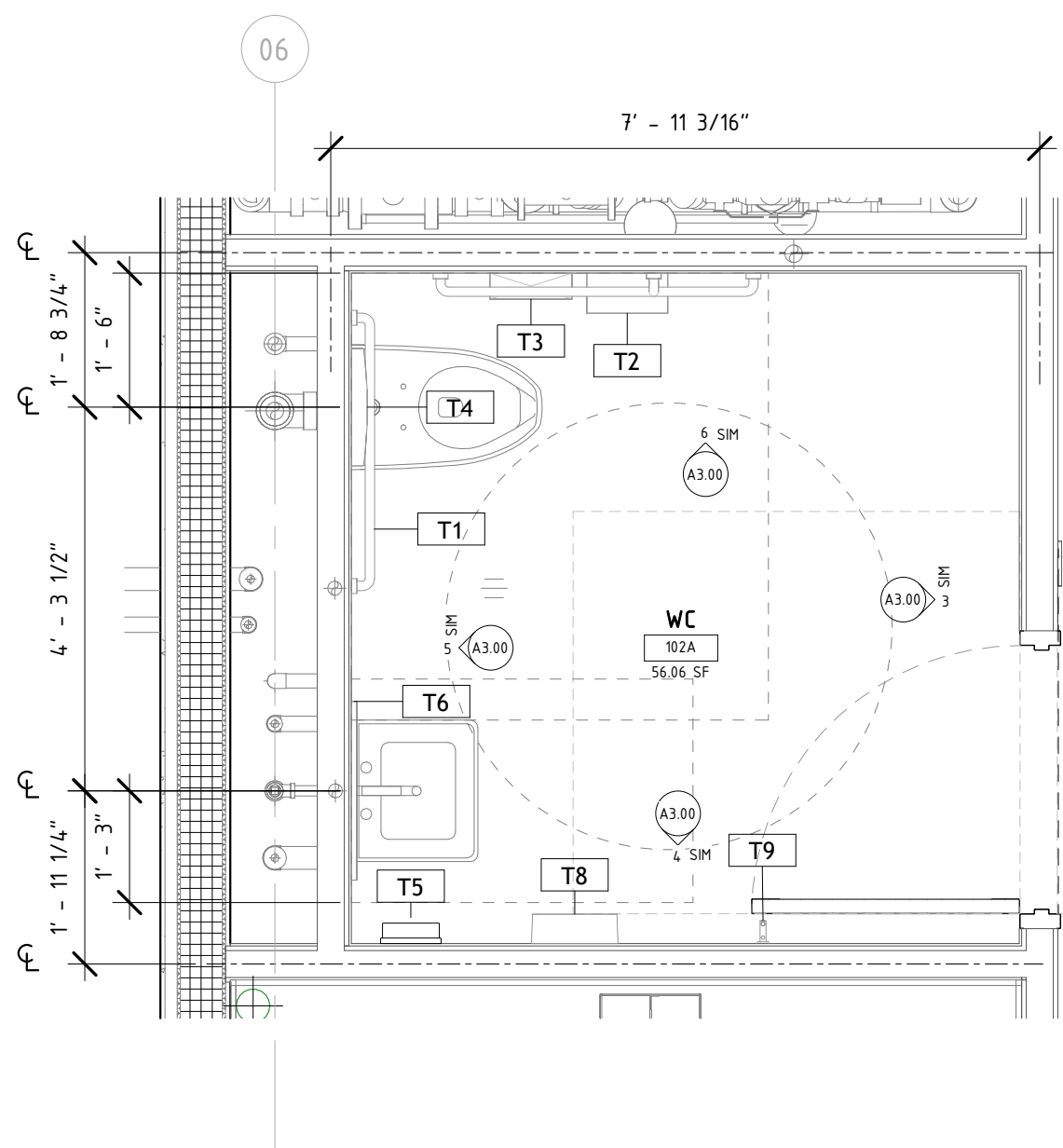
4 South Bathroom Elevation - TYP.  
A3.00 1/2" = 1'-0"

3 East Bathroom Elevation - TYP.  
A3.00 1/2" = 1'-0"

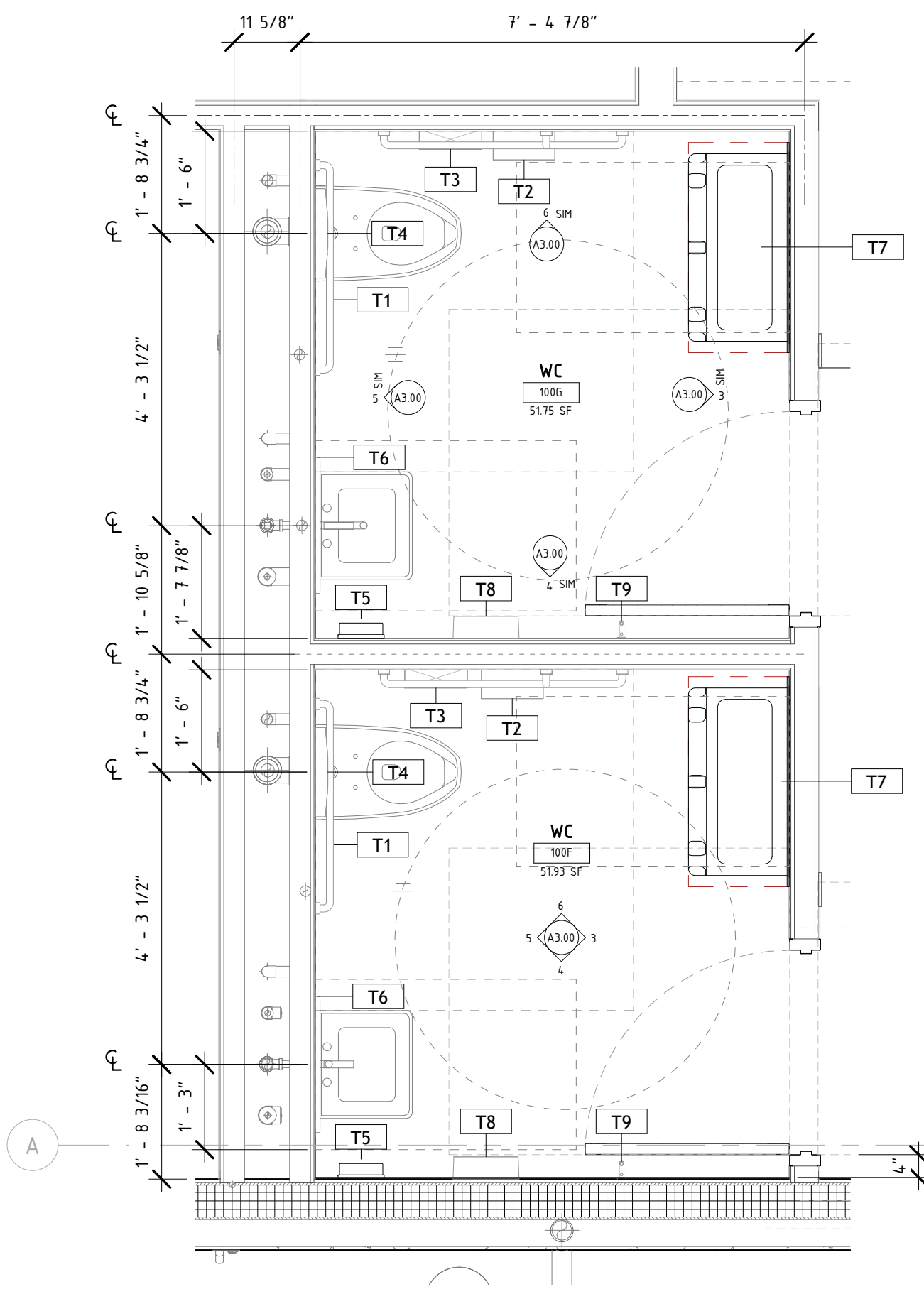


8 Staff Bathroom Slope Plan  
1/2" = 1'-0"

7 Bathroom Slope Plan  
1/2" = 1'-0"



2 ENLARGED FLOOR PLAN  
A2.10 1/2" = 1'-0"

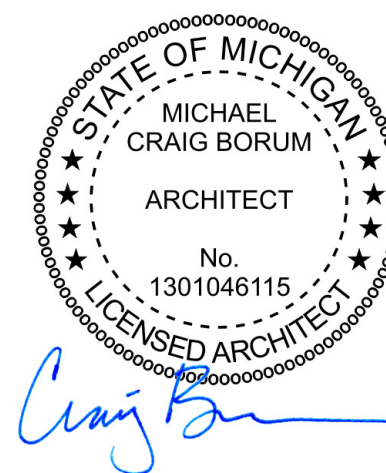


1 ENLARGED FLOOR PLAN  
A2.10 1/2" = 1'-0"



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Exterior Elevations

Drawn By

CG

Checked By

CB

Issue Date

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Revisions

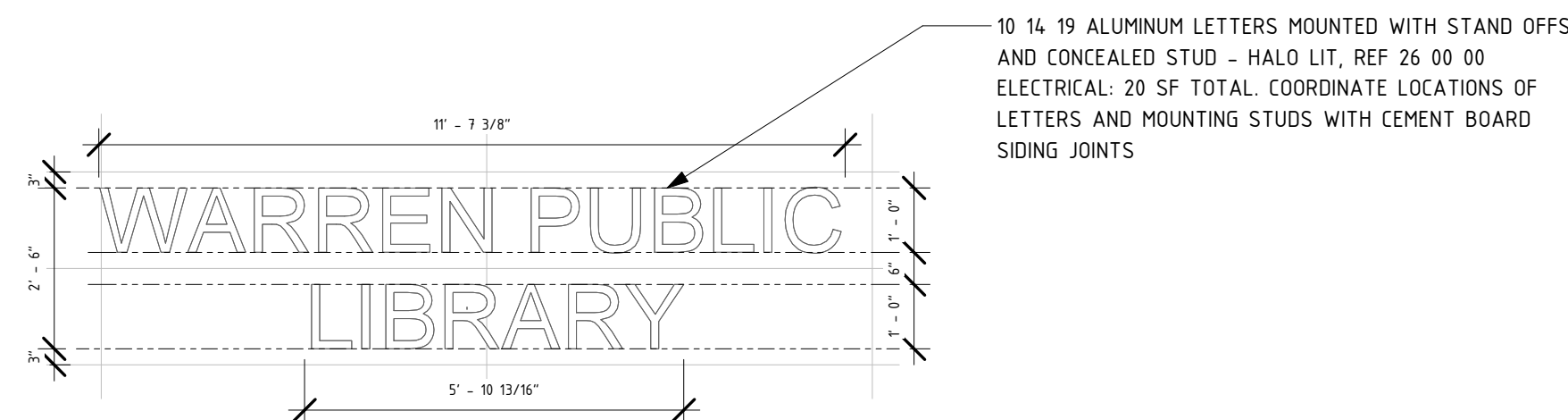
Issued for Date

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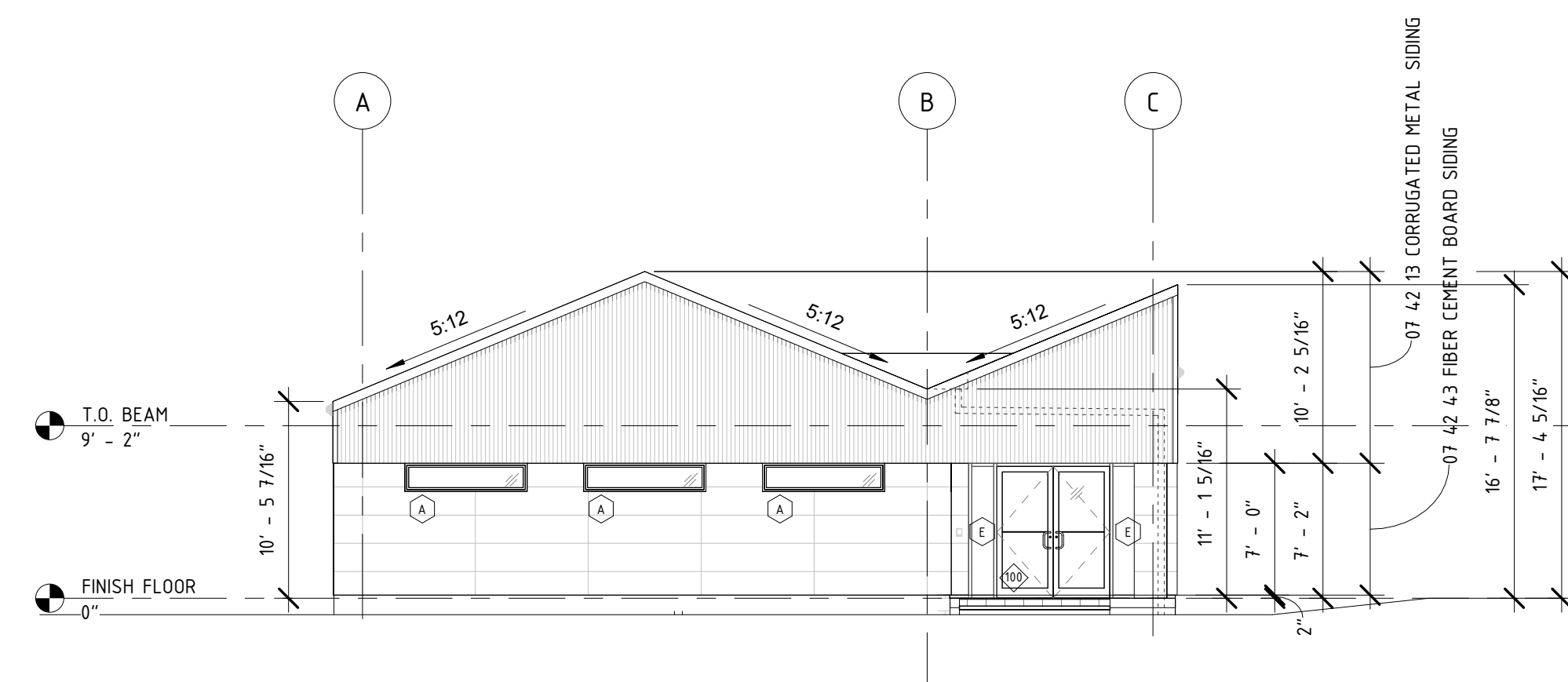
ITB-W-14.78 | P24006

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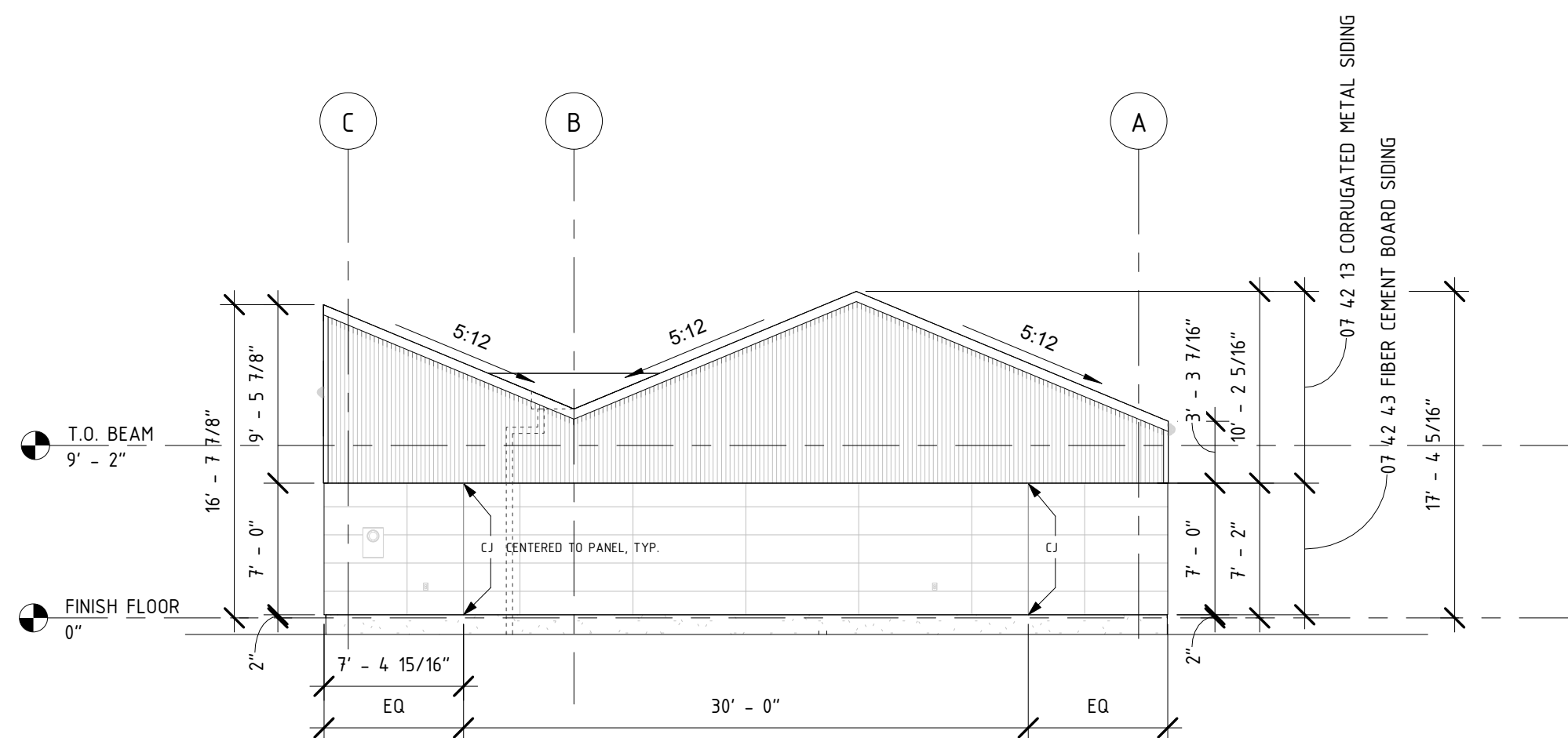
A4.00



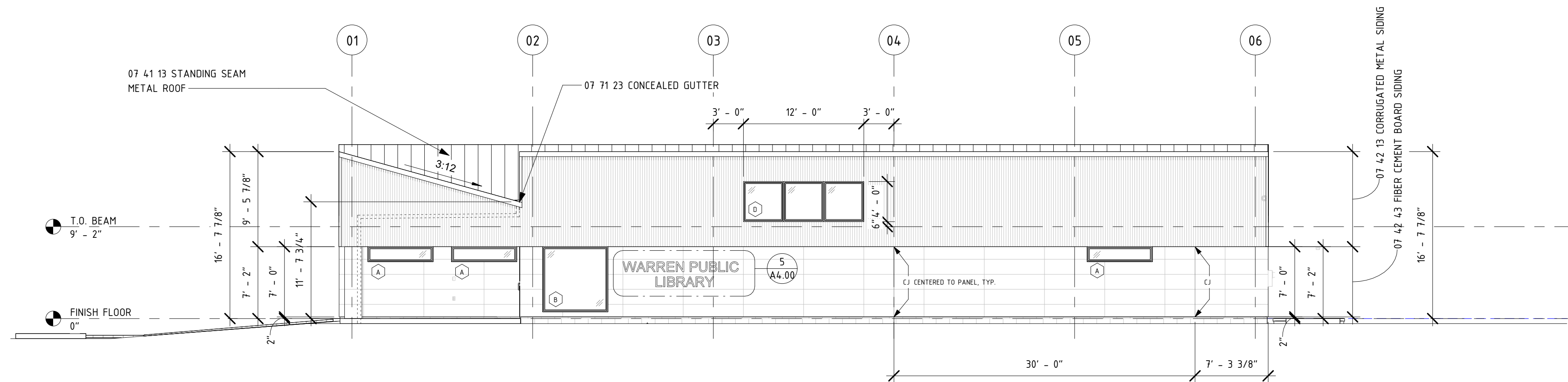
5 NORTH ELEVATION SIGNAGE DETAIL  
A4.00 3/8" = 1'-0"



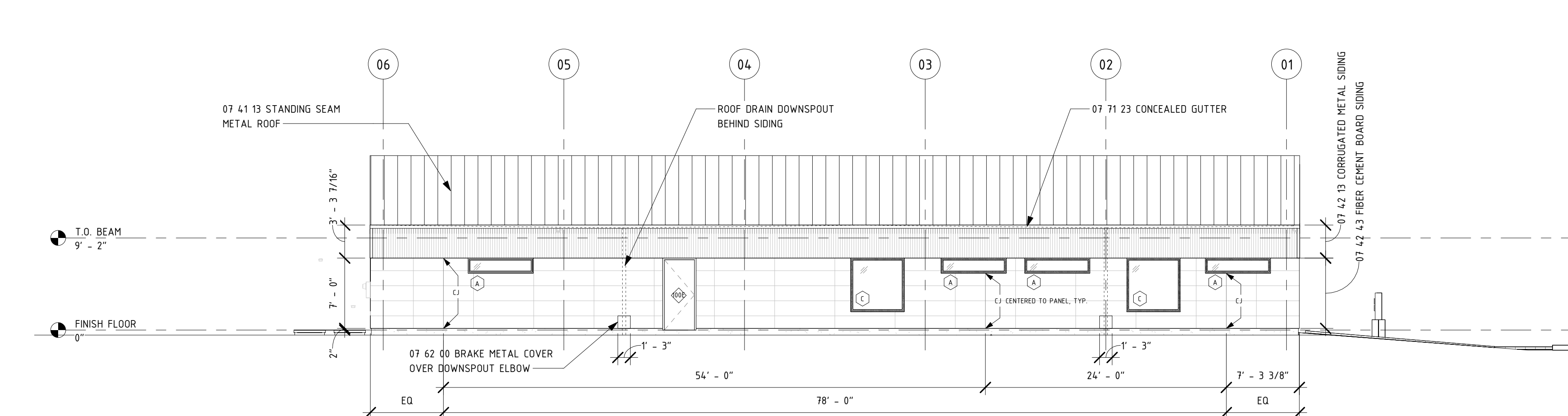
4 ELEVATION - EAST  
A2.10 1/8" = 1'-0"



3 ELEVATION - WEST  
A2.10 1/8" = 1'-0"

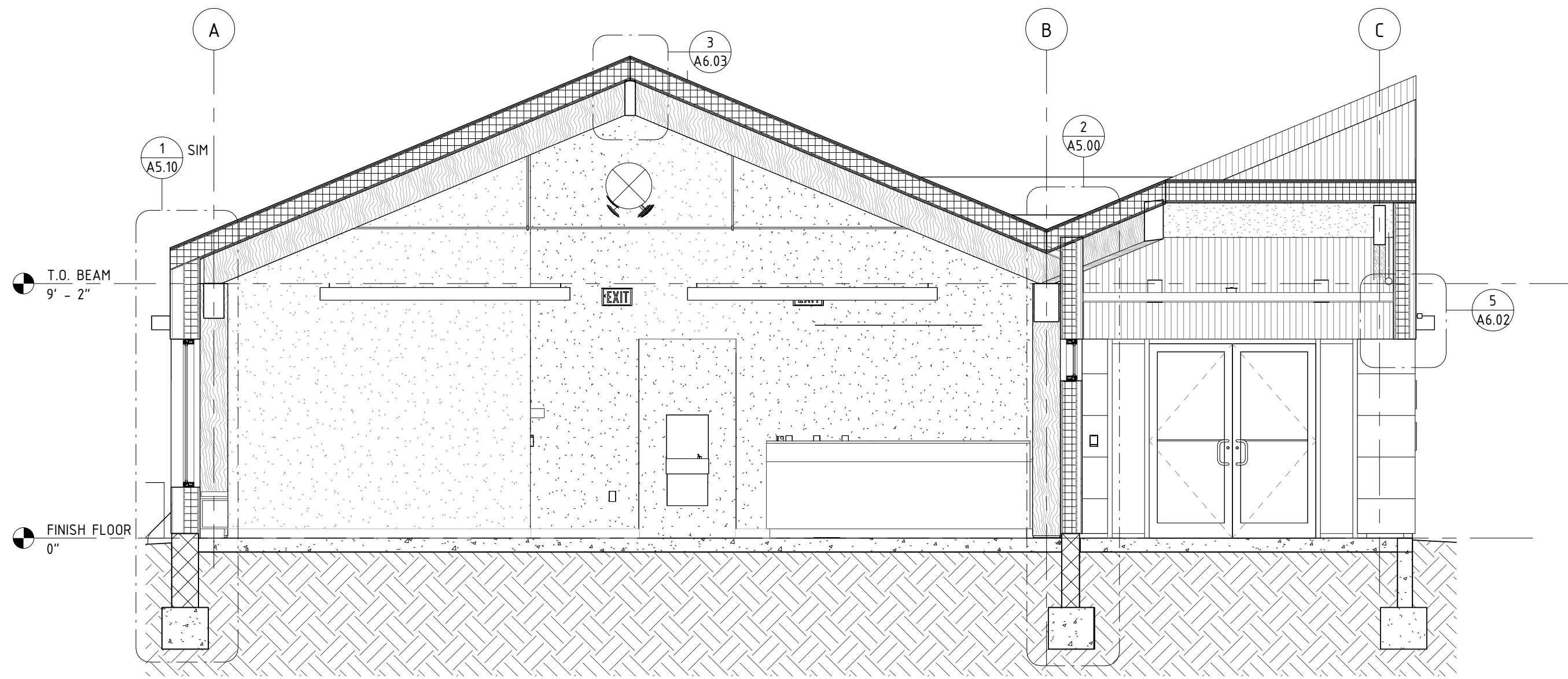


2 ELEVATION - NORTH  
A2.10 1/8" = 1'-0"

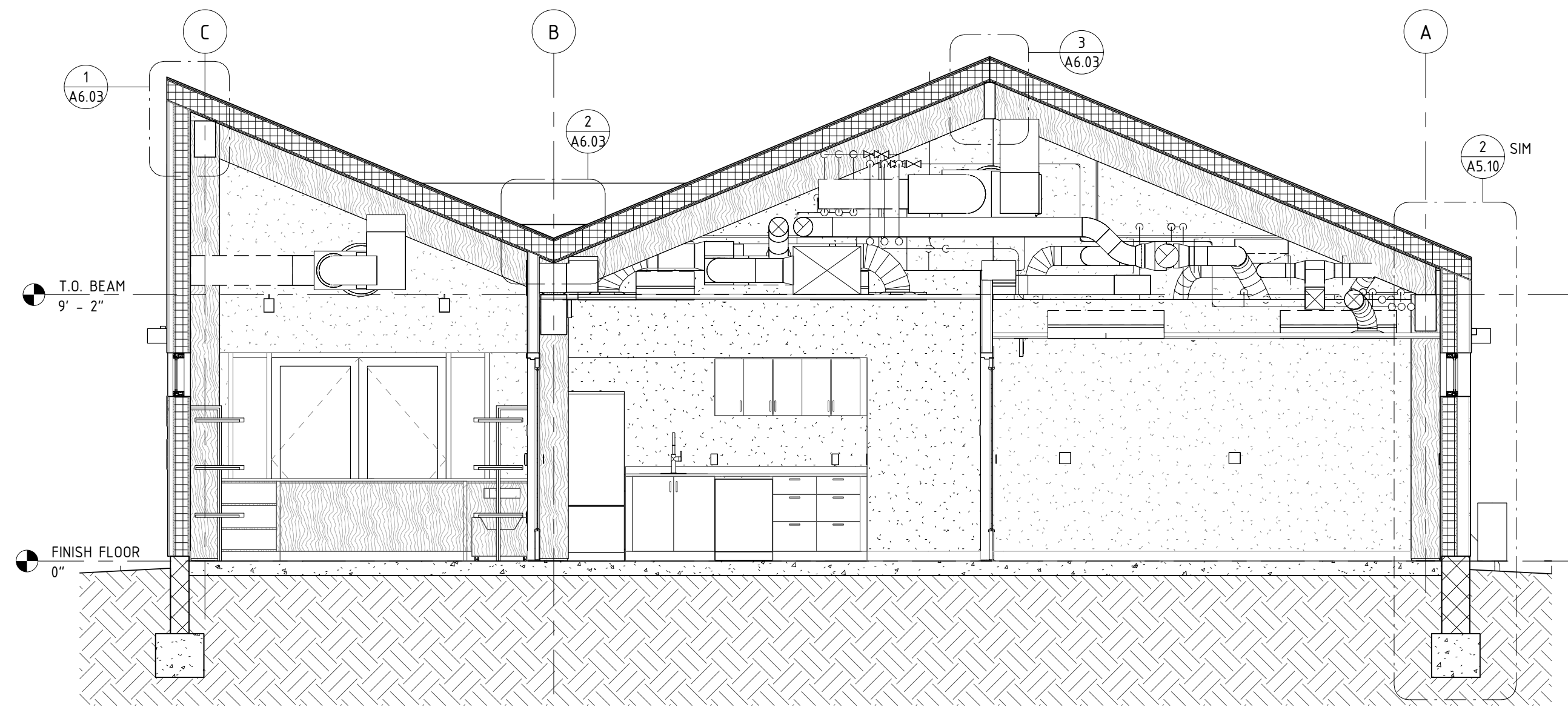


1 ELEVATION - SOUTH  
A2.10 1/8" = 1'-0"

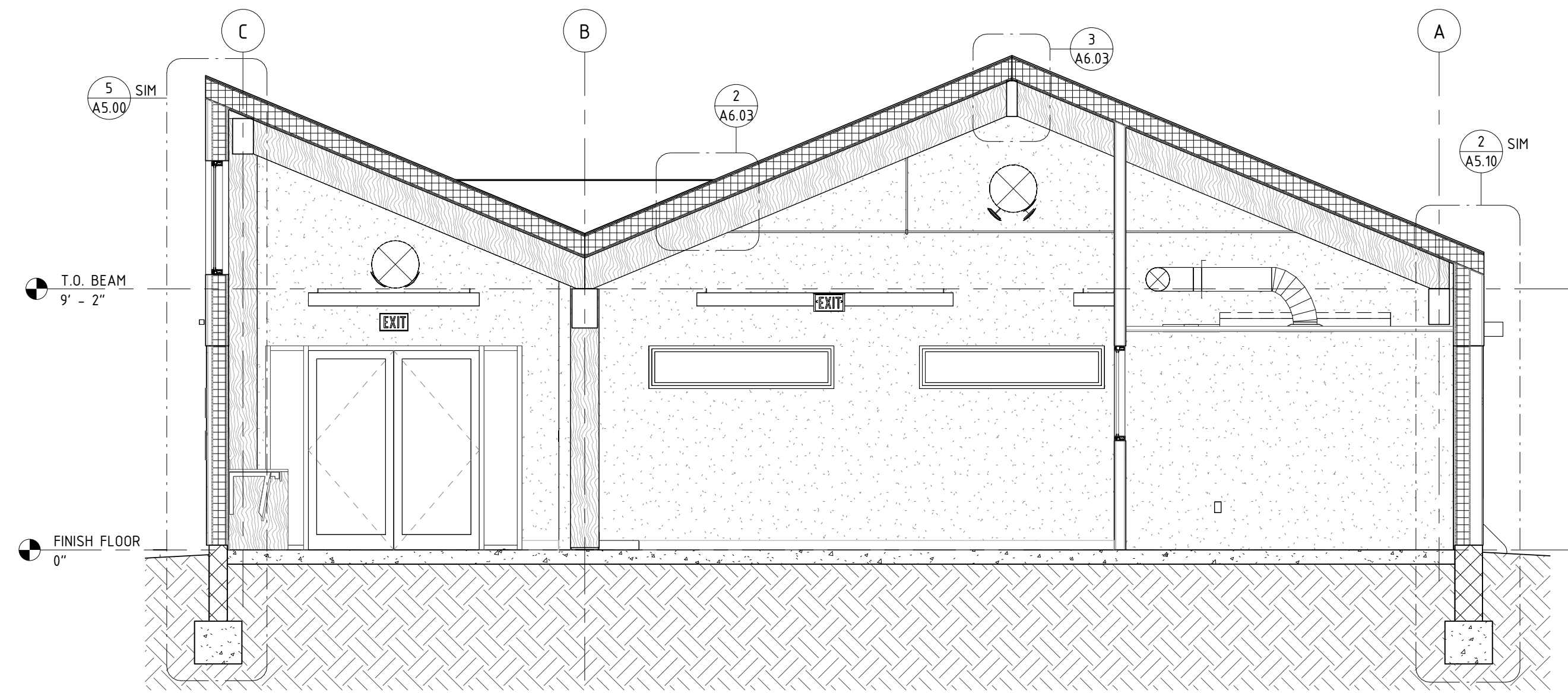




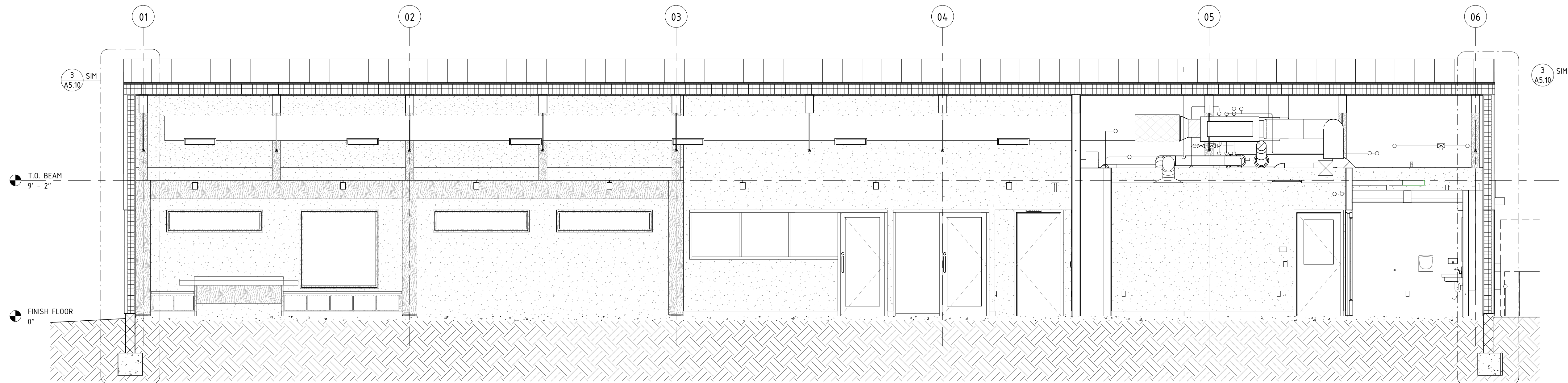
4 SOUTH TO NORTH BUILDING SECTION  
A2.00 | 1/4" = 1'-0"



3 NORTH TO SOUTH BUILDING SECTION B  
A2.00 | 1/4" = 1'-0"



2 NORTH TO SOUTH BUILDING SECTION A  
A2.00 | 1/4" = 1'-0"



1 EAST WEST BUILDING SECTION  
A2.00 | 1/4" = 1'-0"

PLY+

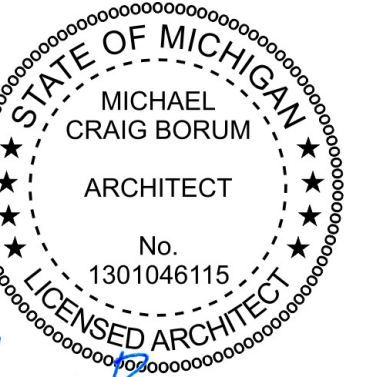
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Project Name

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Drawing Name

Building Sections

Drawn By  
AW

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

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Issued for Date

Project No.  
ITB-W-1478 | P24006

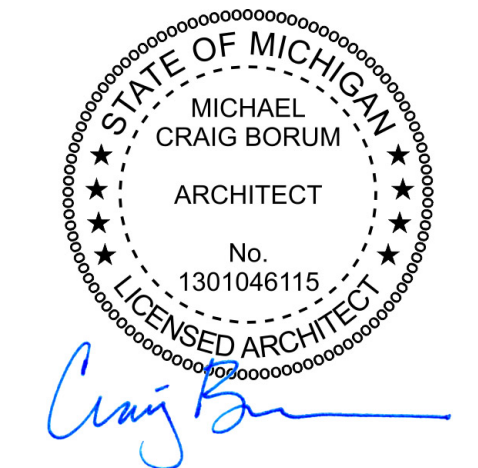
Sheet Number

A4.50



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Wall Sections

Drawn By  
YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

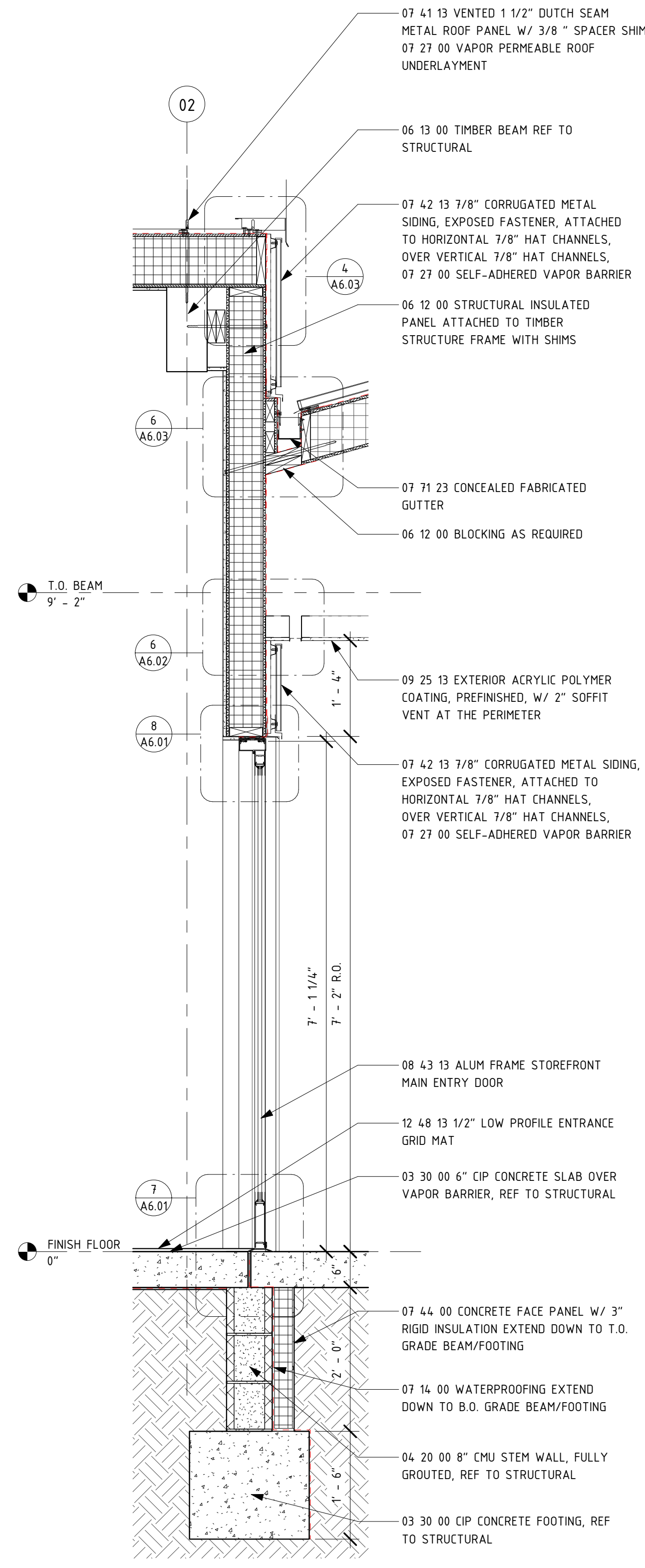
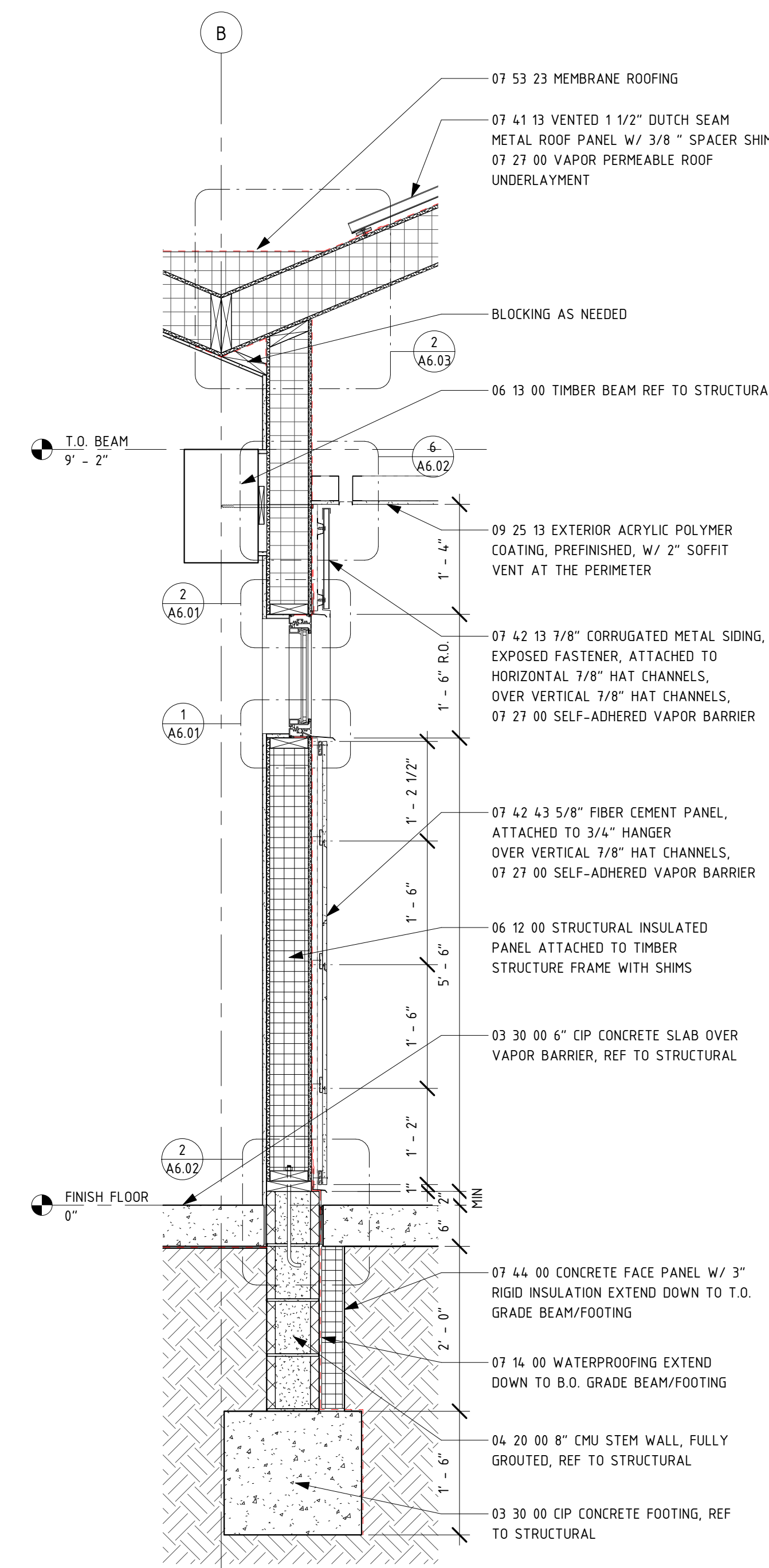
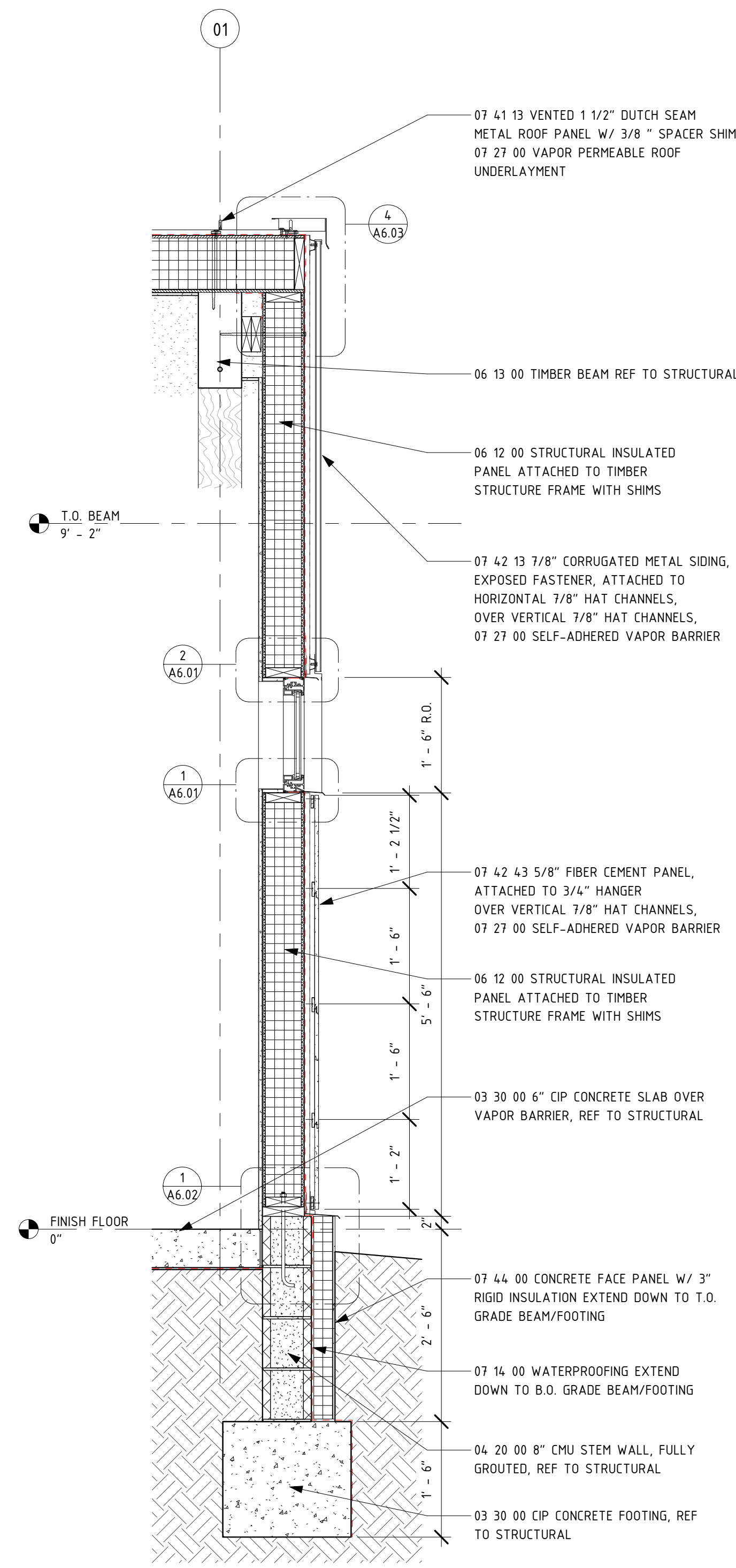
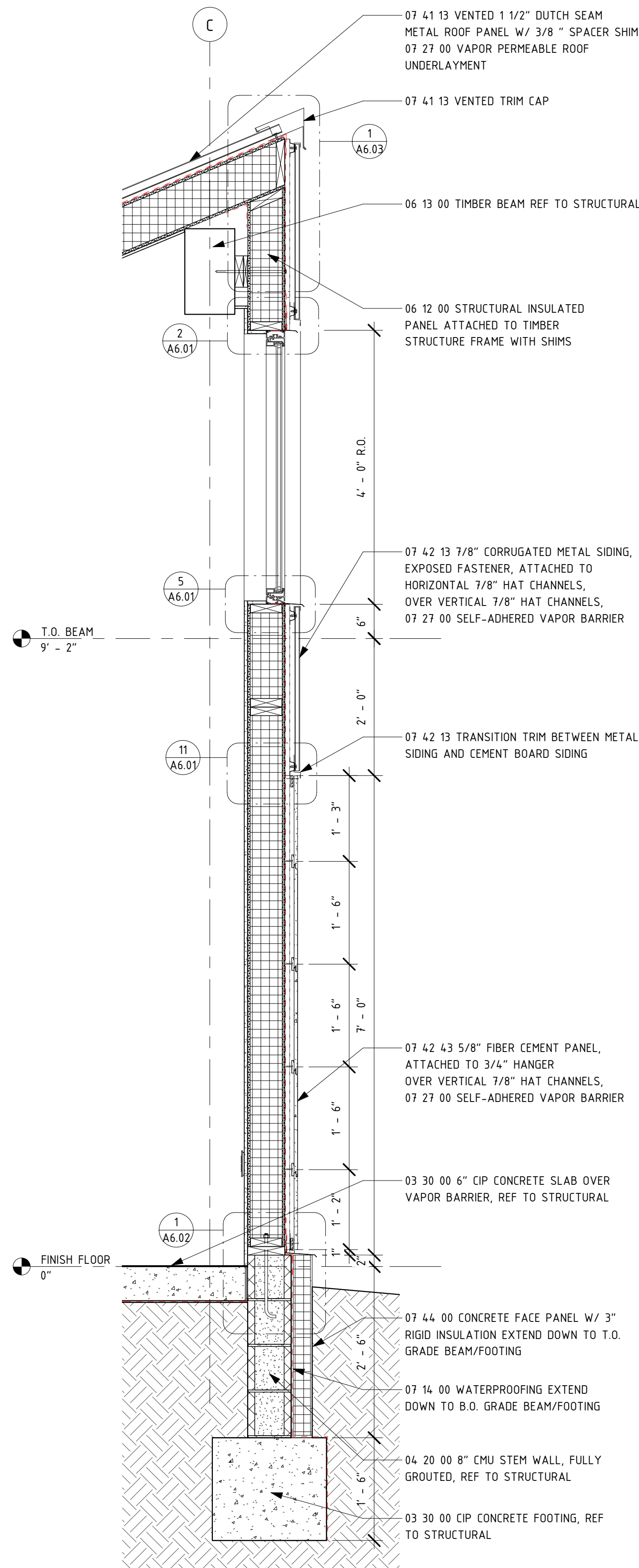
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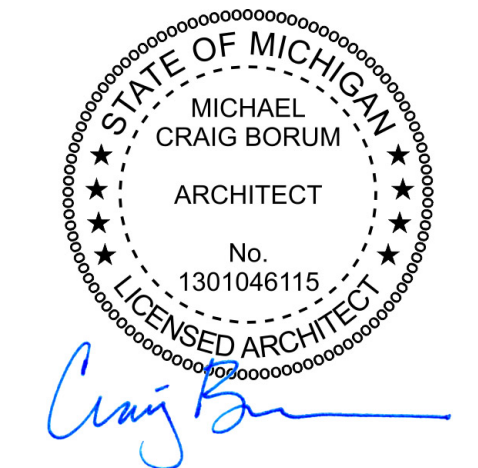
A5.00





Project Name

WARREN BRANCH LIBRARY



Drawing Name

Wall Sections

Drawn By  
YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

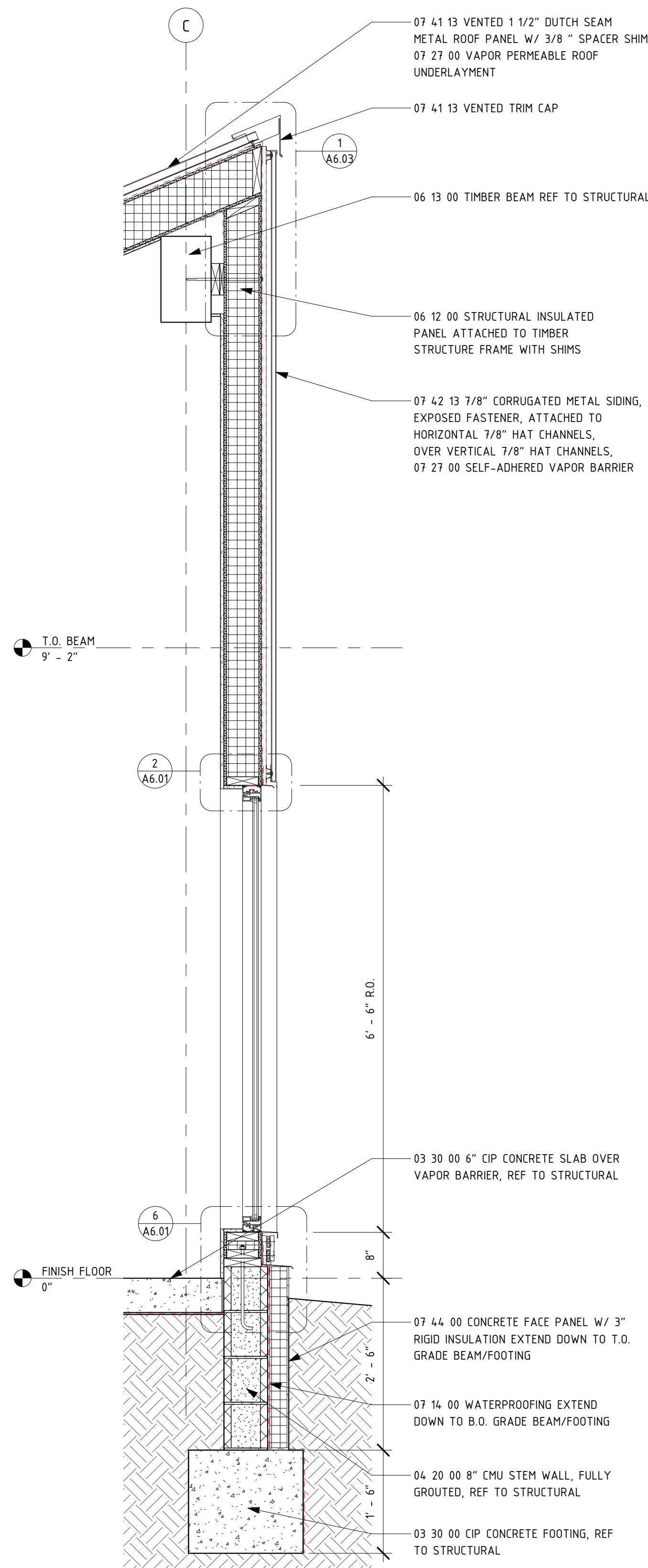
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Project No.  
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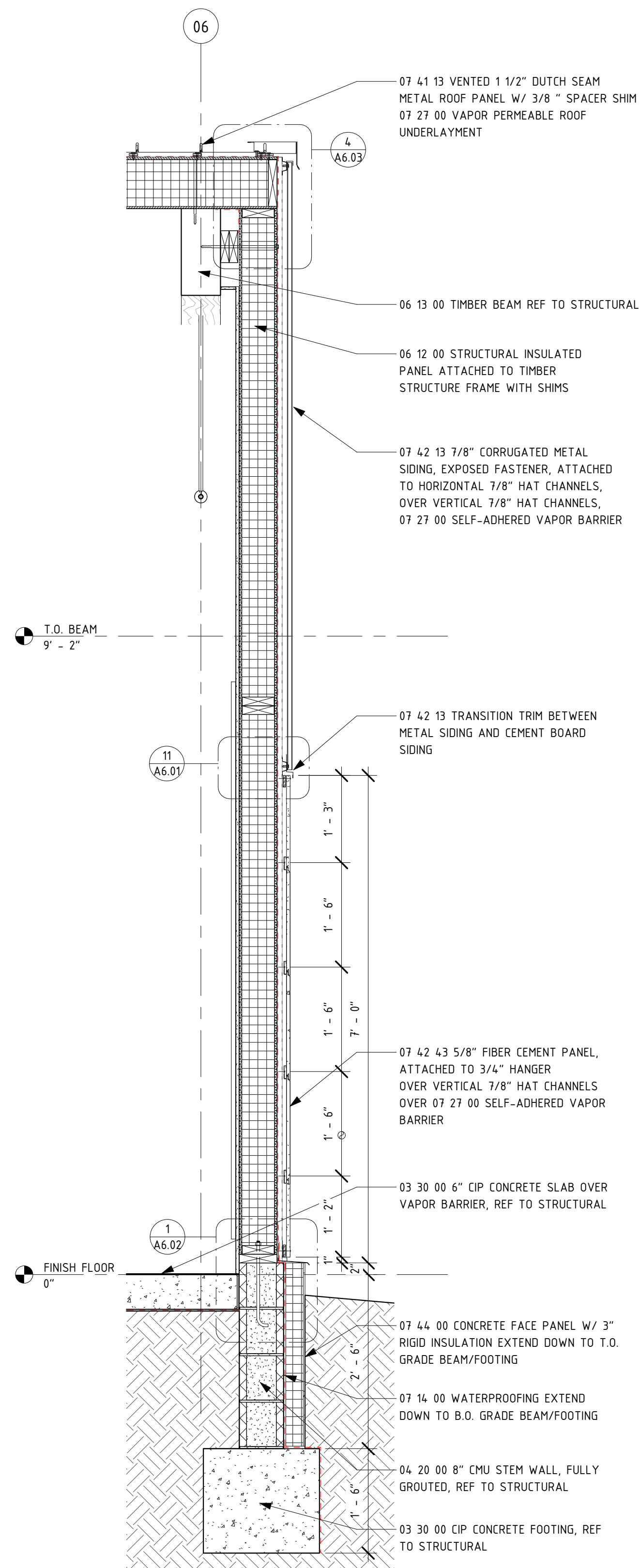
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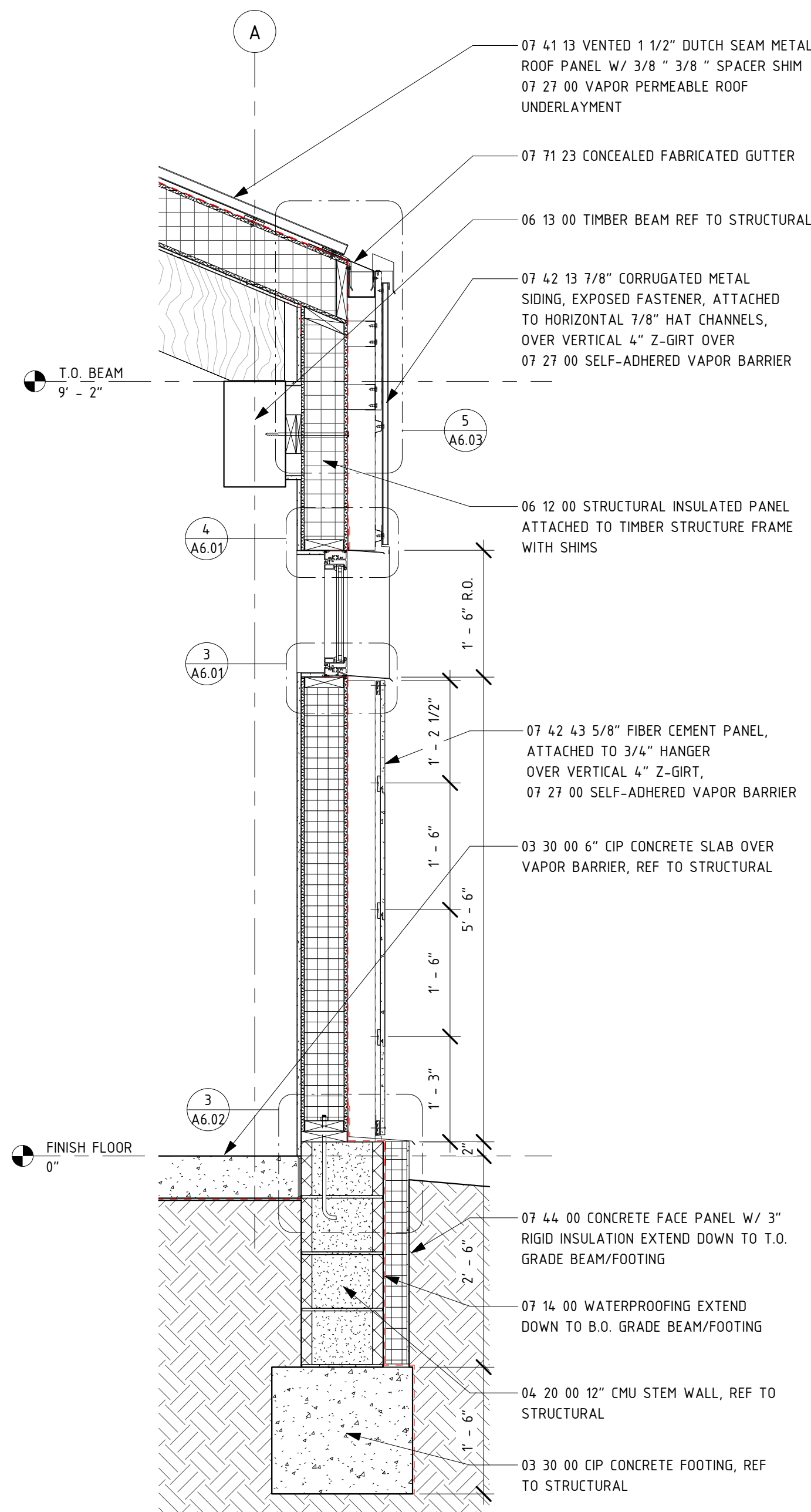
4 | WALL SECTION

A2.00 | 3/4" = 1'-0"



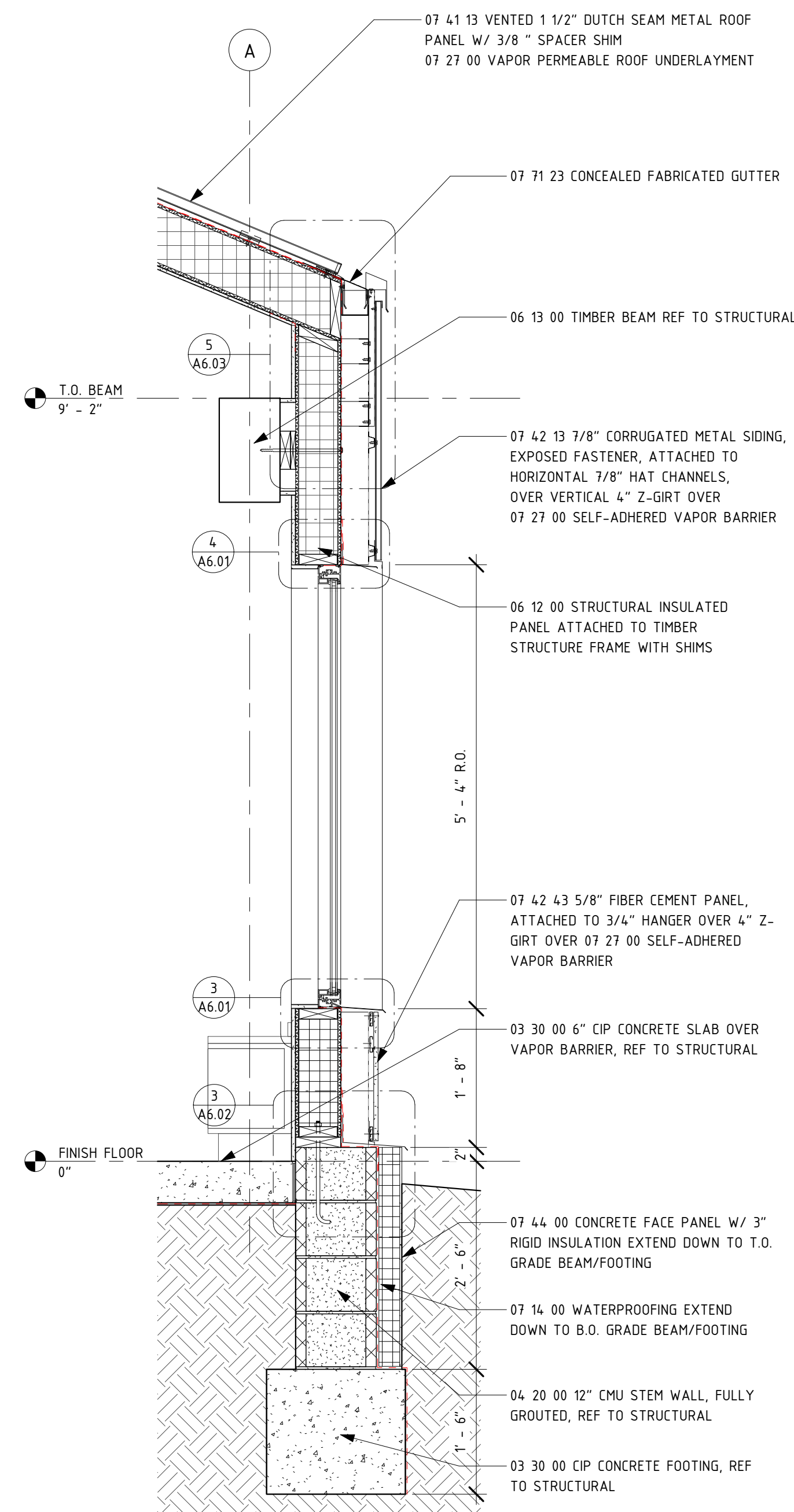
3 | WALL SECTION

A2.00 | 3/4" = 1'-0"



2 | WALL SECTION

A2.00 | 3/4" = 1'-0"



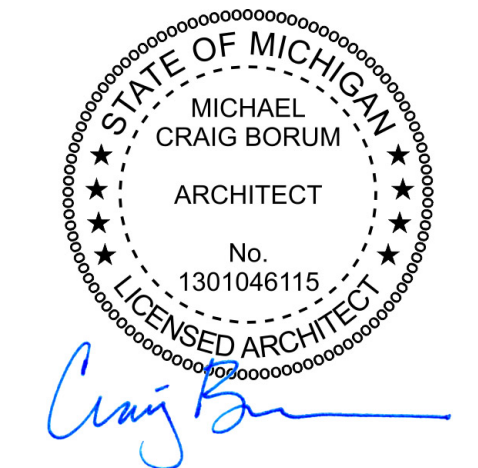
1 | WALL SECTION

A2.00 | 3/4" = 1'-0"



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Wall Sections

Drawn By  
YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

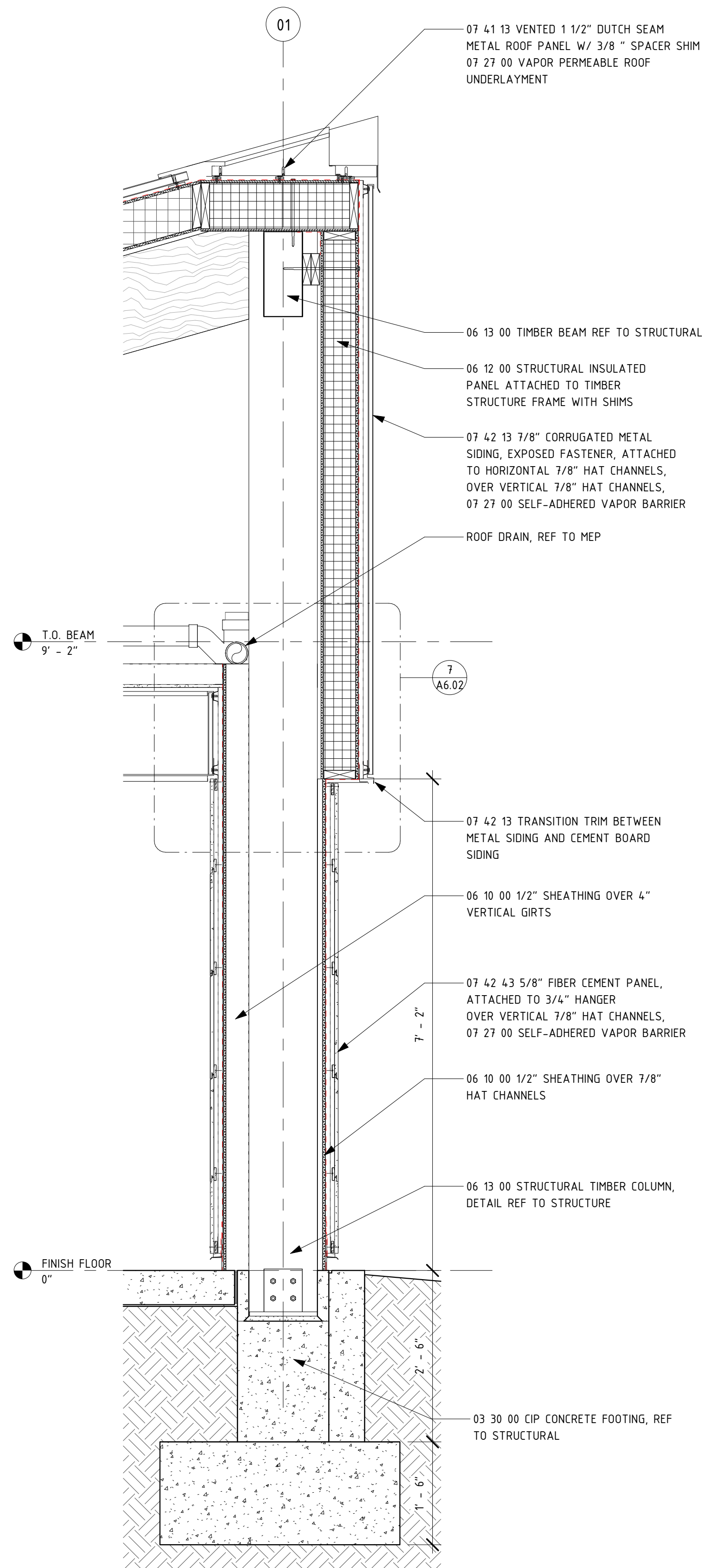
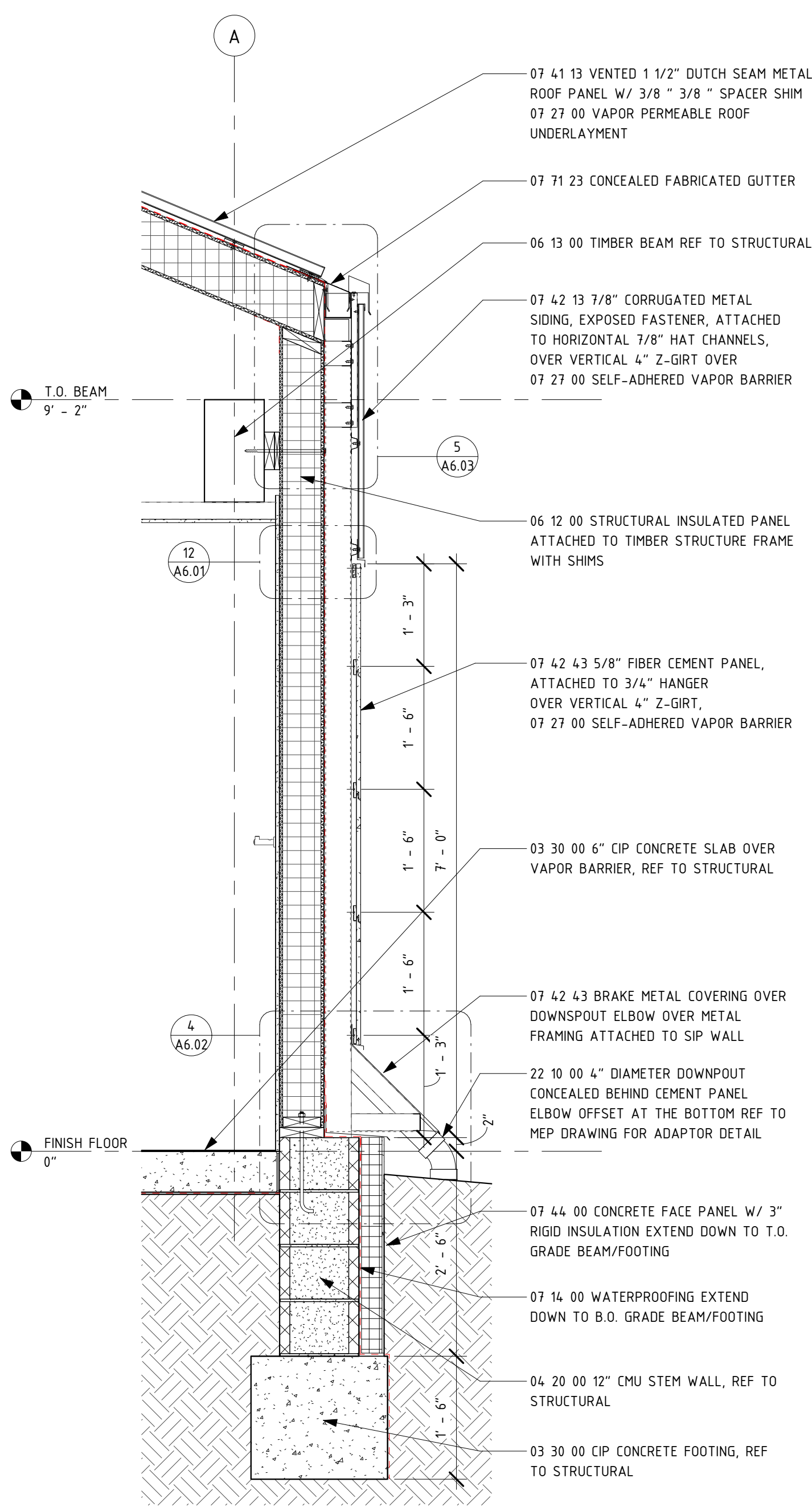
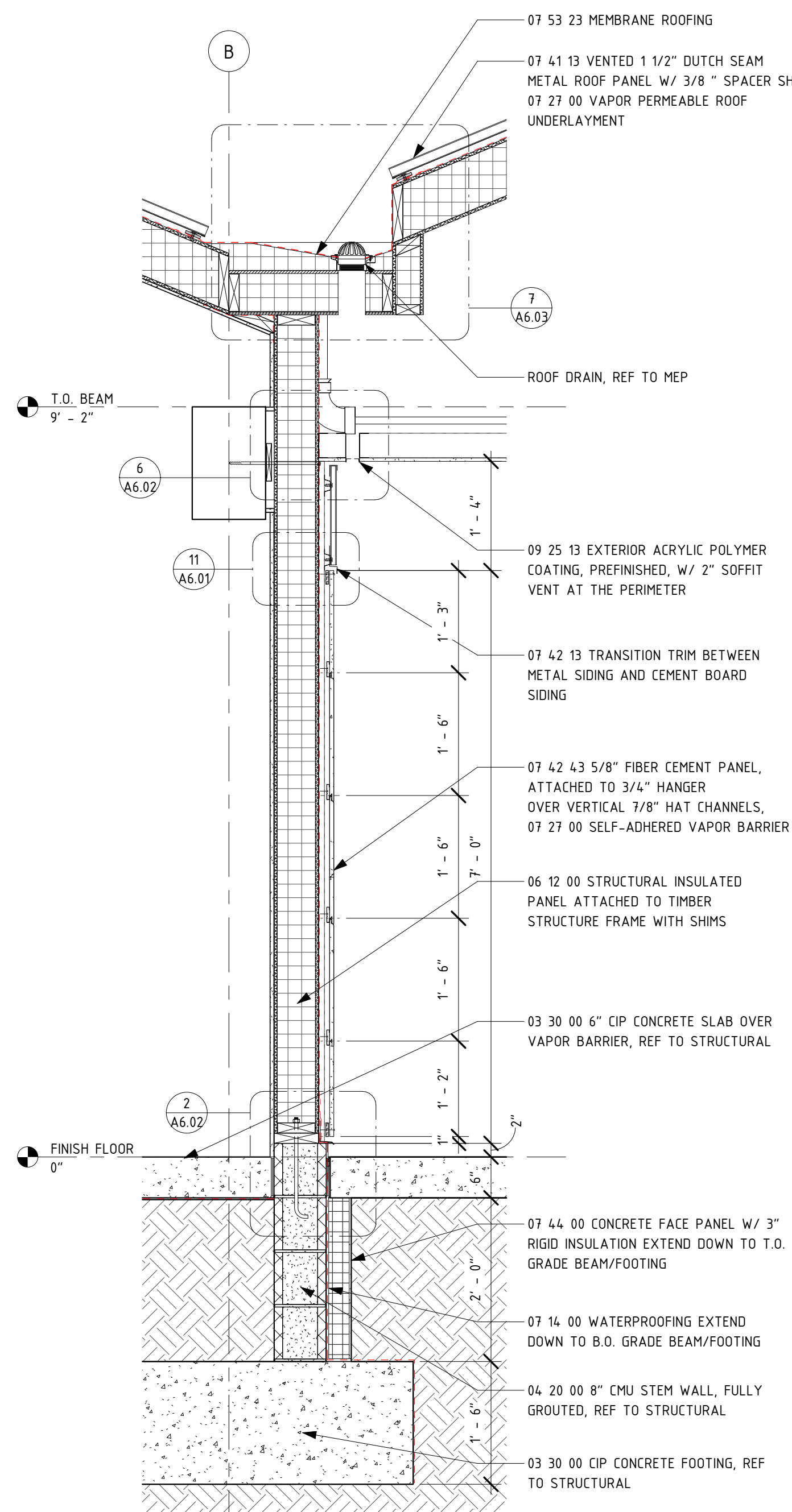
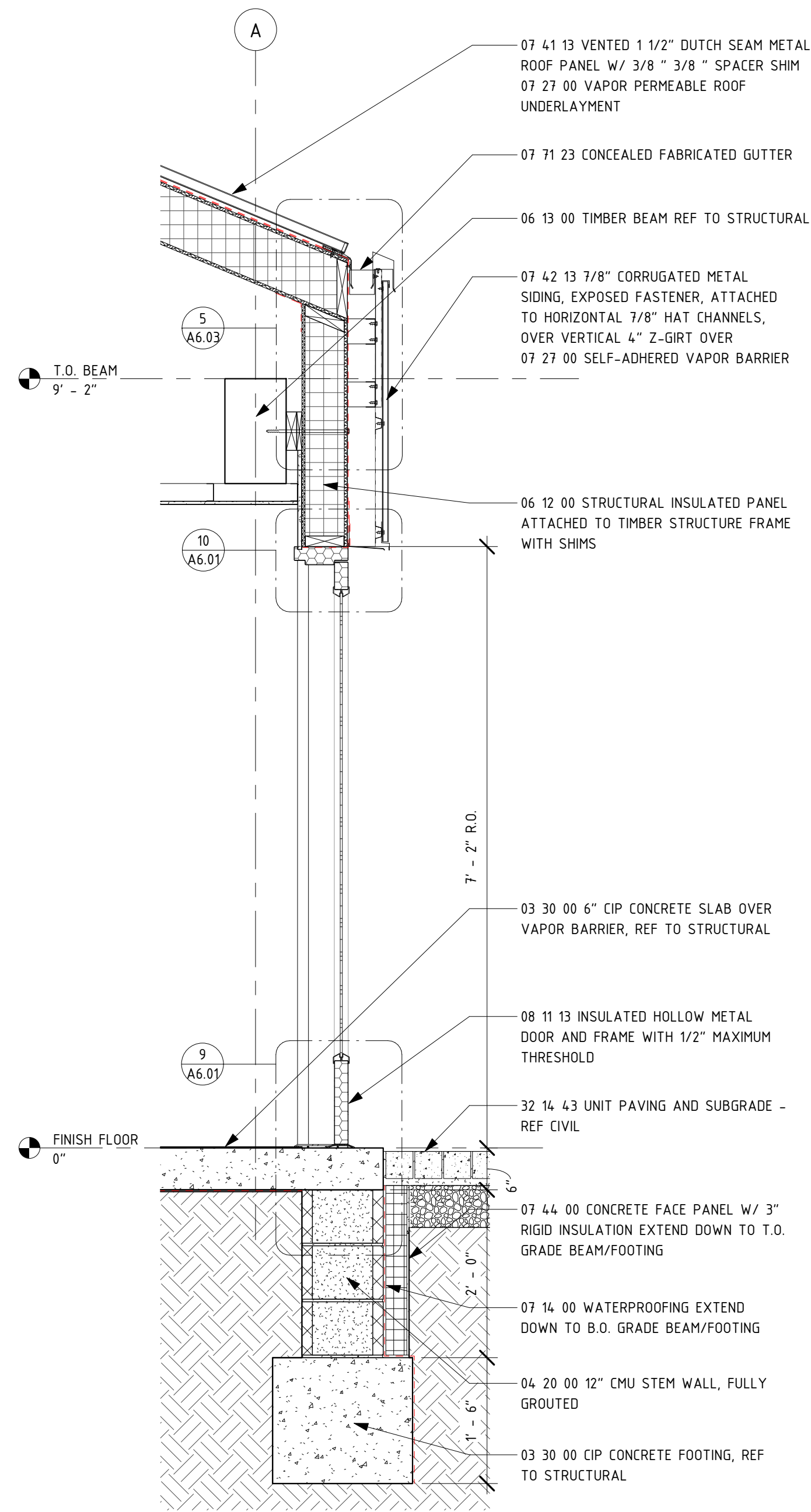
Revisions

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ITB-W-14.78 | P24006

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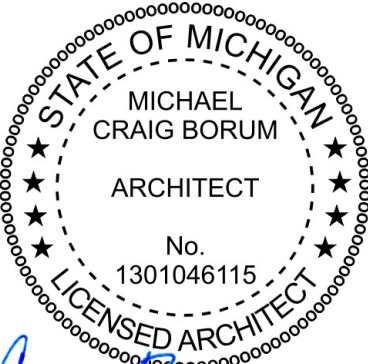
A5.20

4 | WALL SECTION  
A2.00 | 3/4" = 1'-0"3 | WALL SECTION  
A2.00 | 3/4" = 1'-0"2 | WALL SECTION  
A2.00 | 3/4" = 1'-0"1 | WALL SECTION  
A2.00 | 3/4" = 1'-0"



Project Name

WARREN BRANCH LIBRARY



*Michael Craig Borum*

Drawing Name

Enlarged Plan Details

Drawn By  
YJ

Checked By  
CB

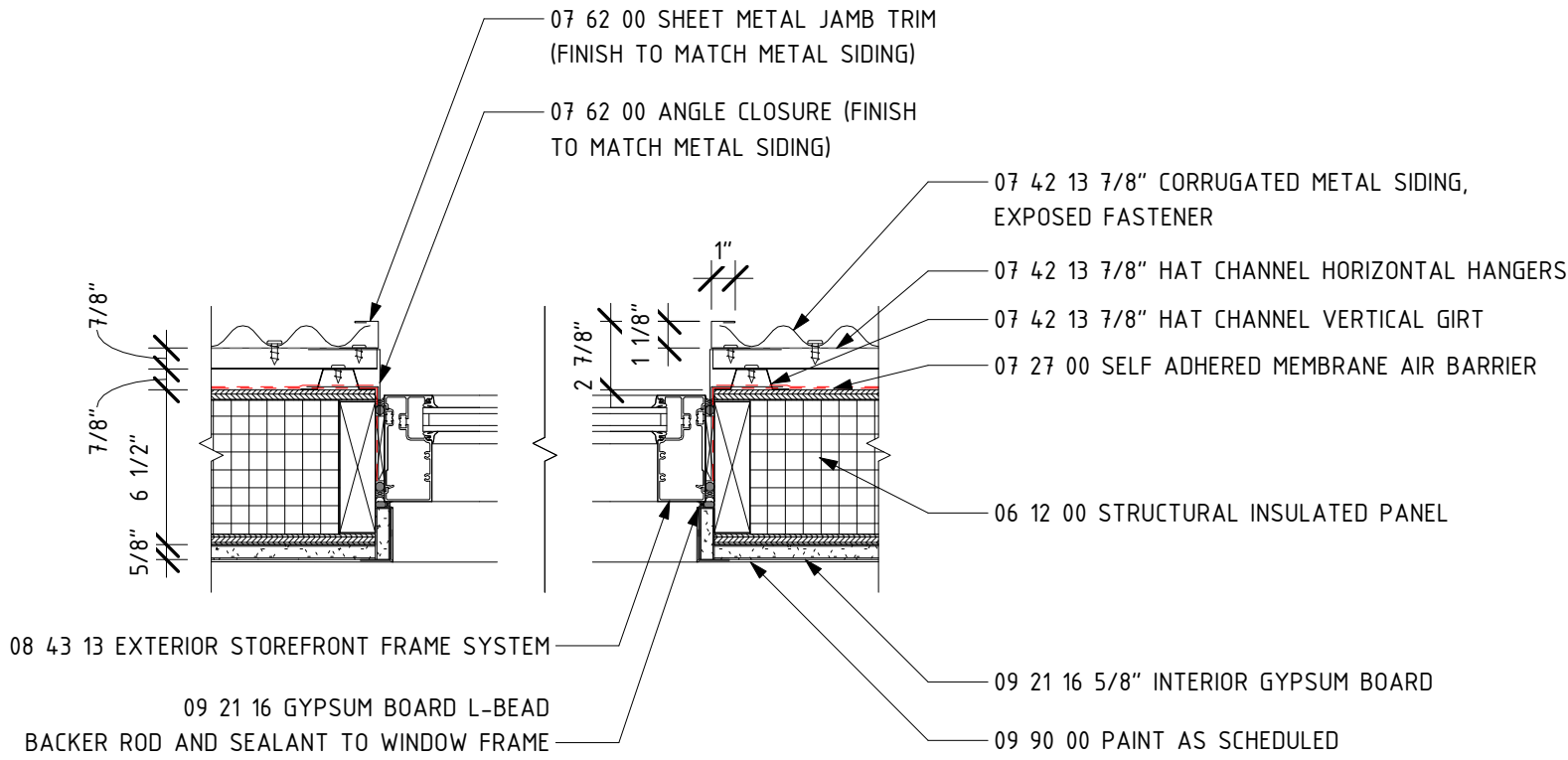
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03/14/25 Permit & Bid Set

Revisions  
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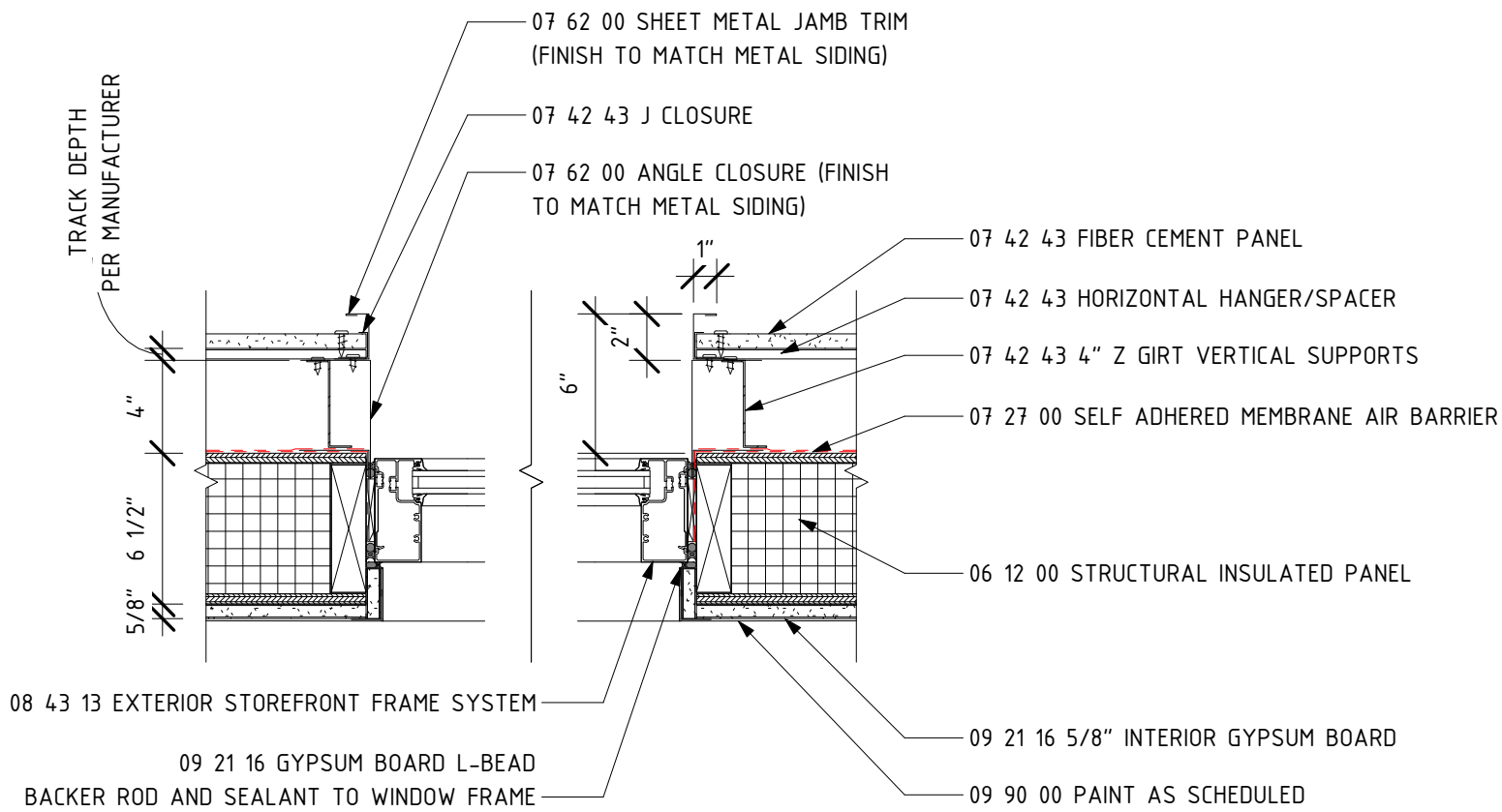
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Sheet Number

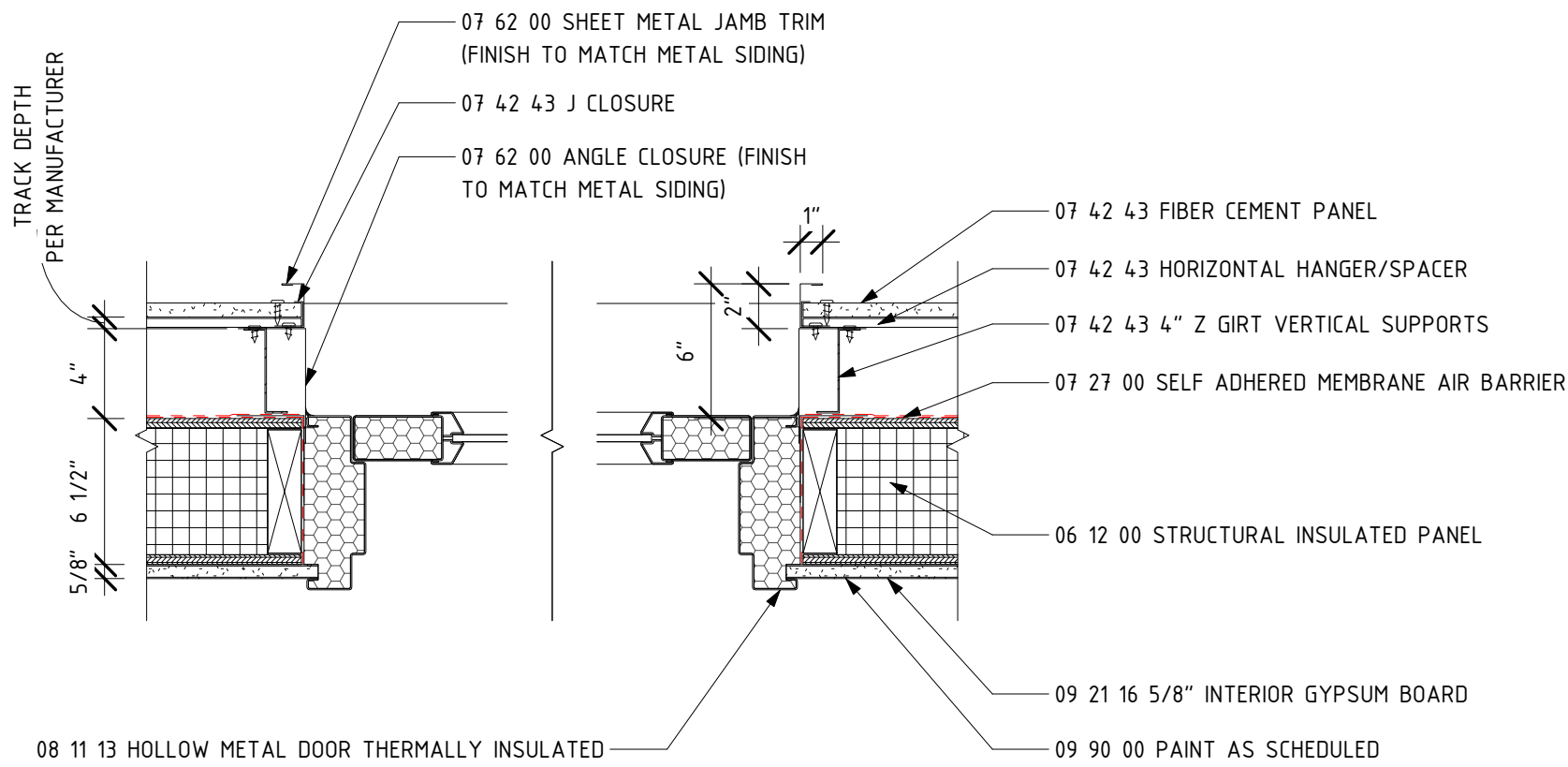
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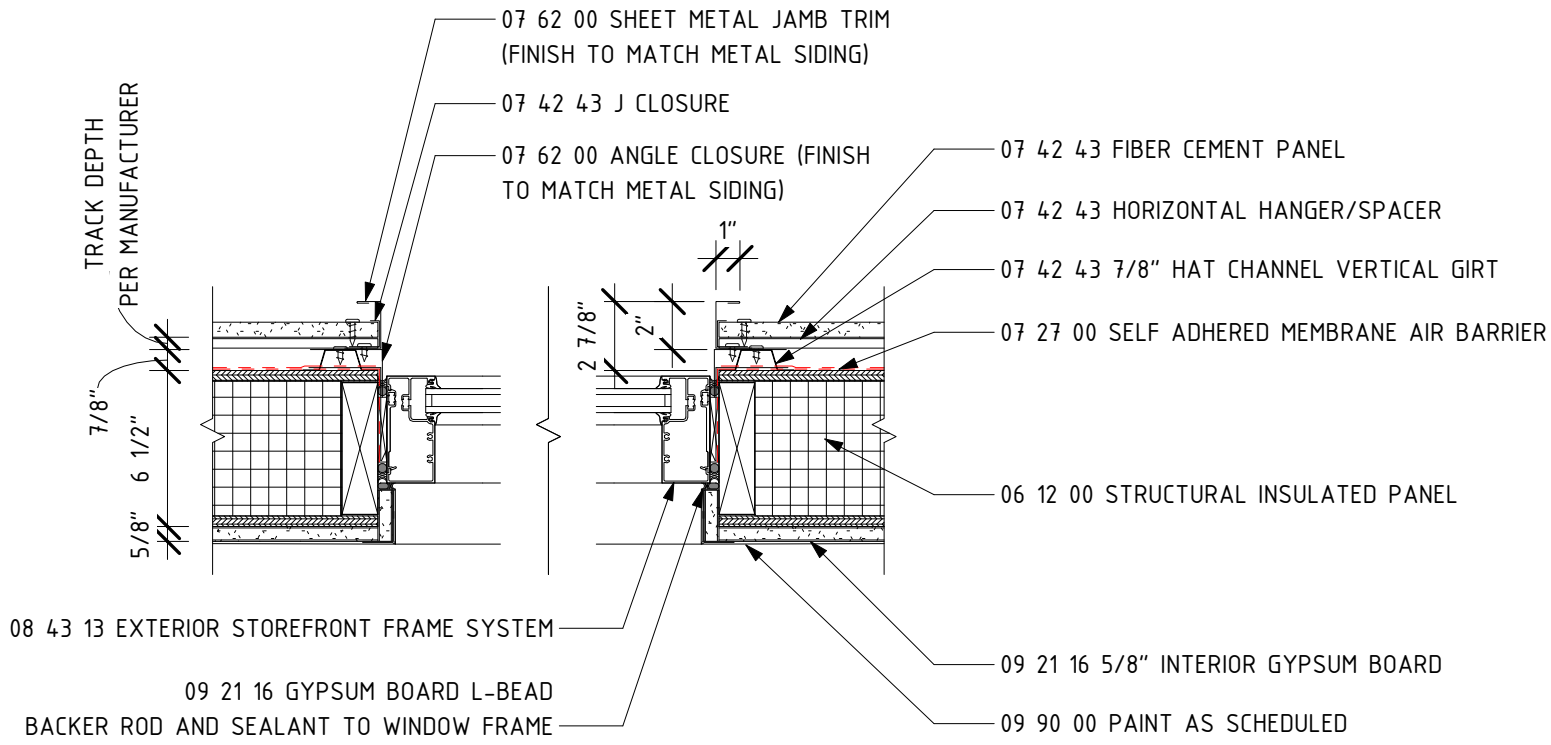
3 | PLAN DETAIL - WINDOW JAMB  
1 1/2" = 1'-0"



2 | PLAN DETAIL - WINDOW JAMB  
1 1/2" = 1'-0"

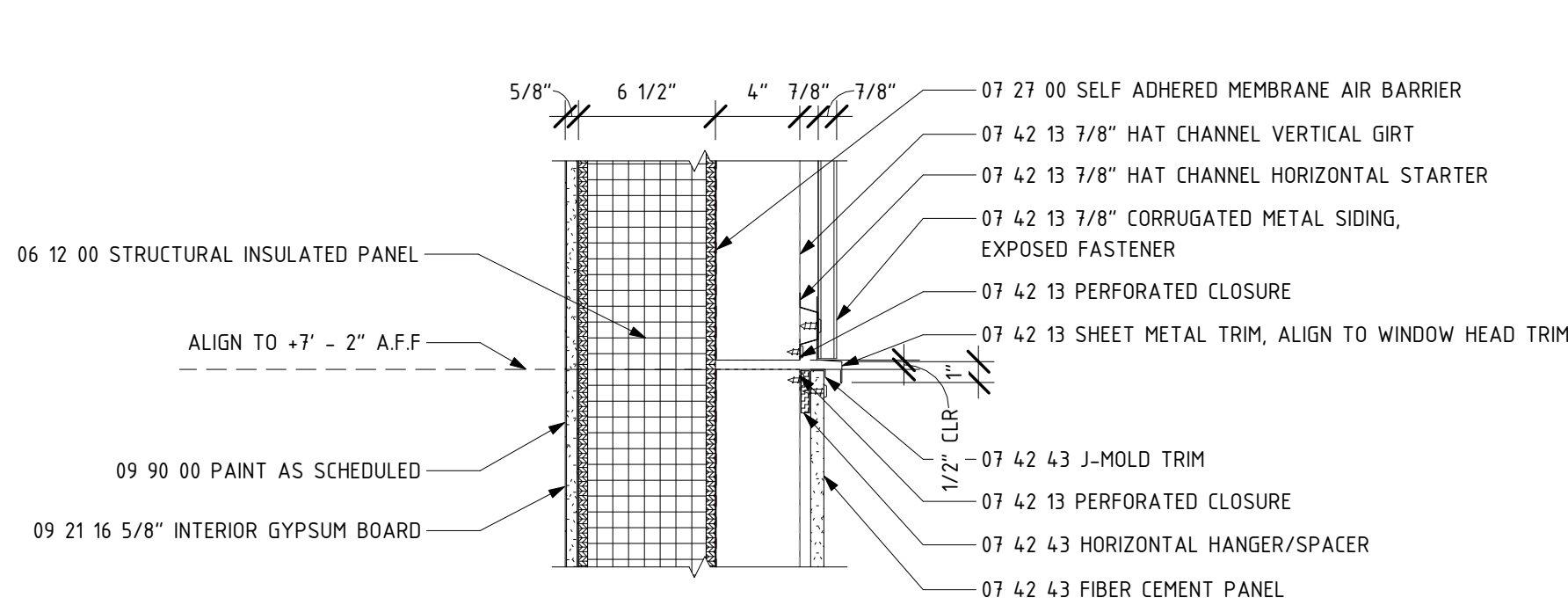
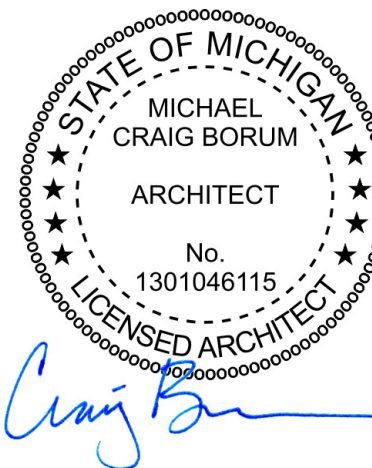


4 | PLAN DETAIL - DOOR JAMB  
1 1/2" = 1'-0"

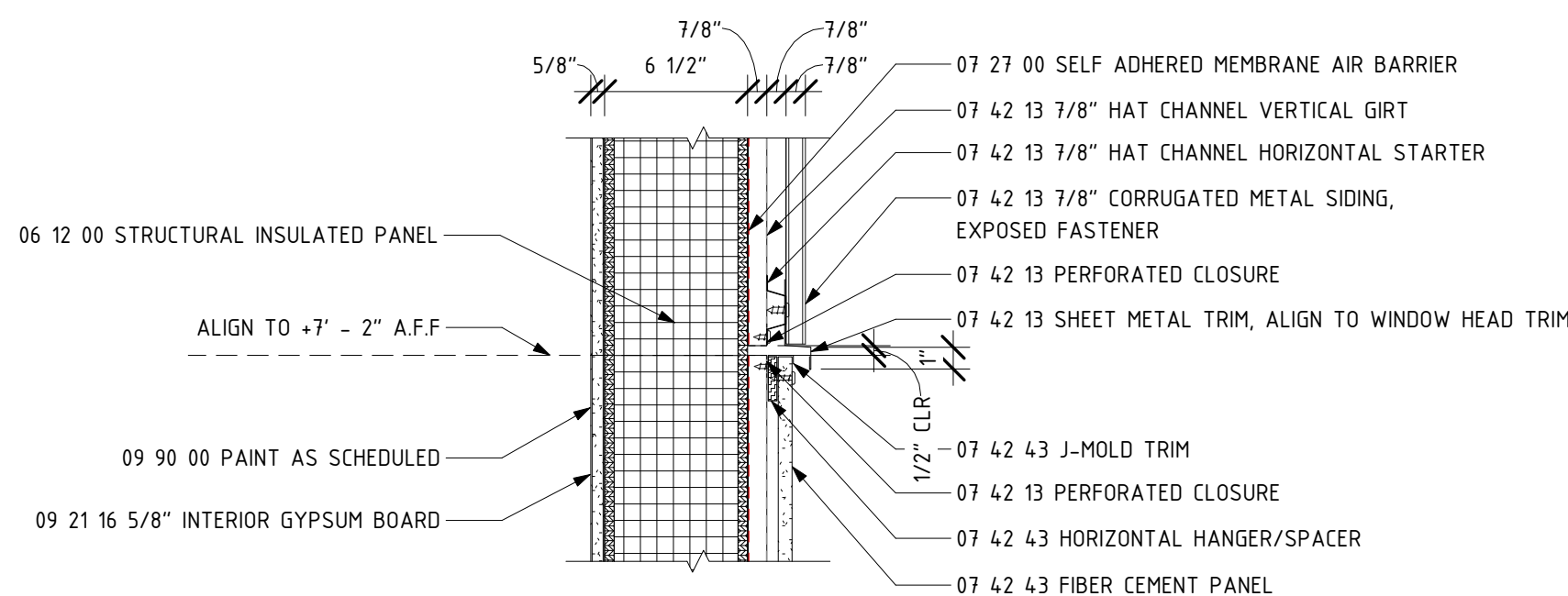


1 | PLAN DETAIL - WINDOW JAMB  
1 1/2" = 1'-0"

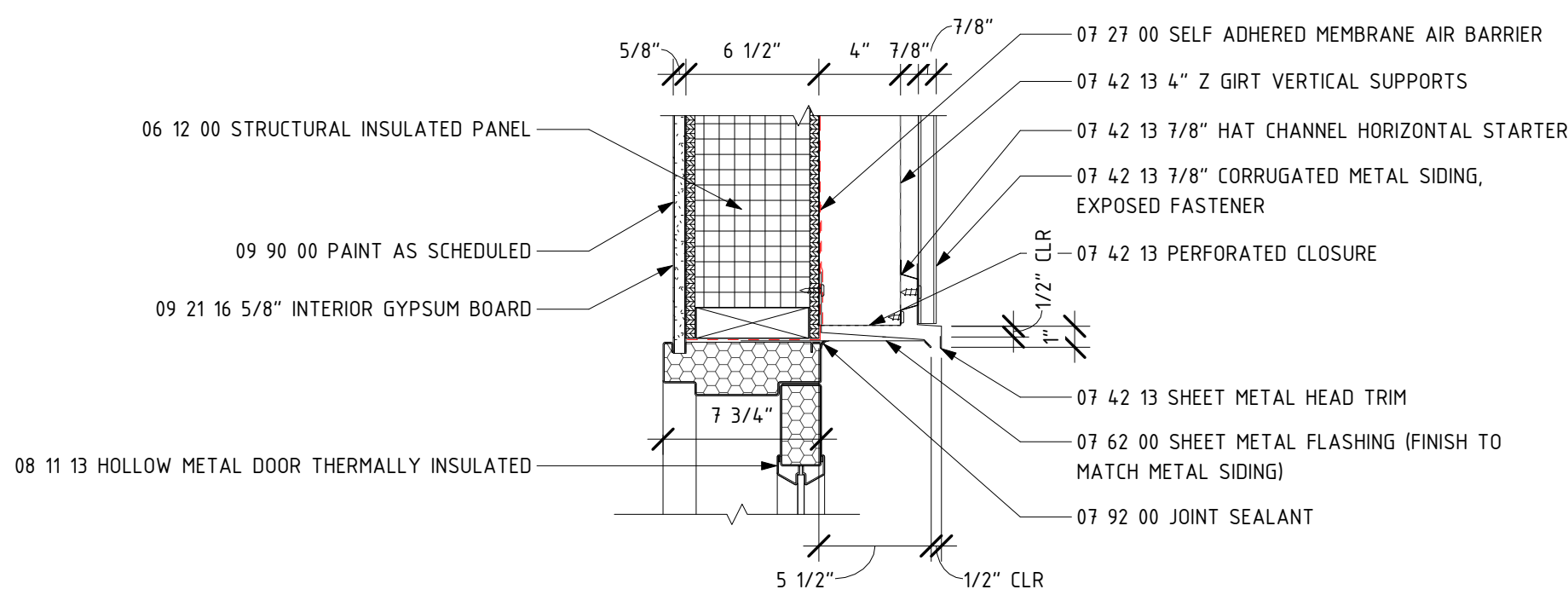




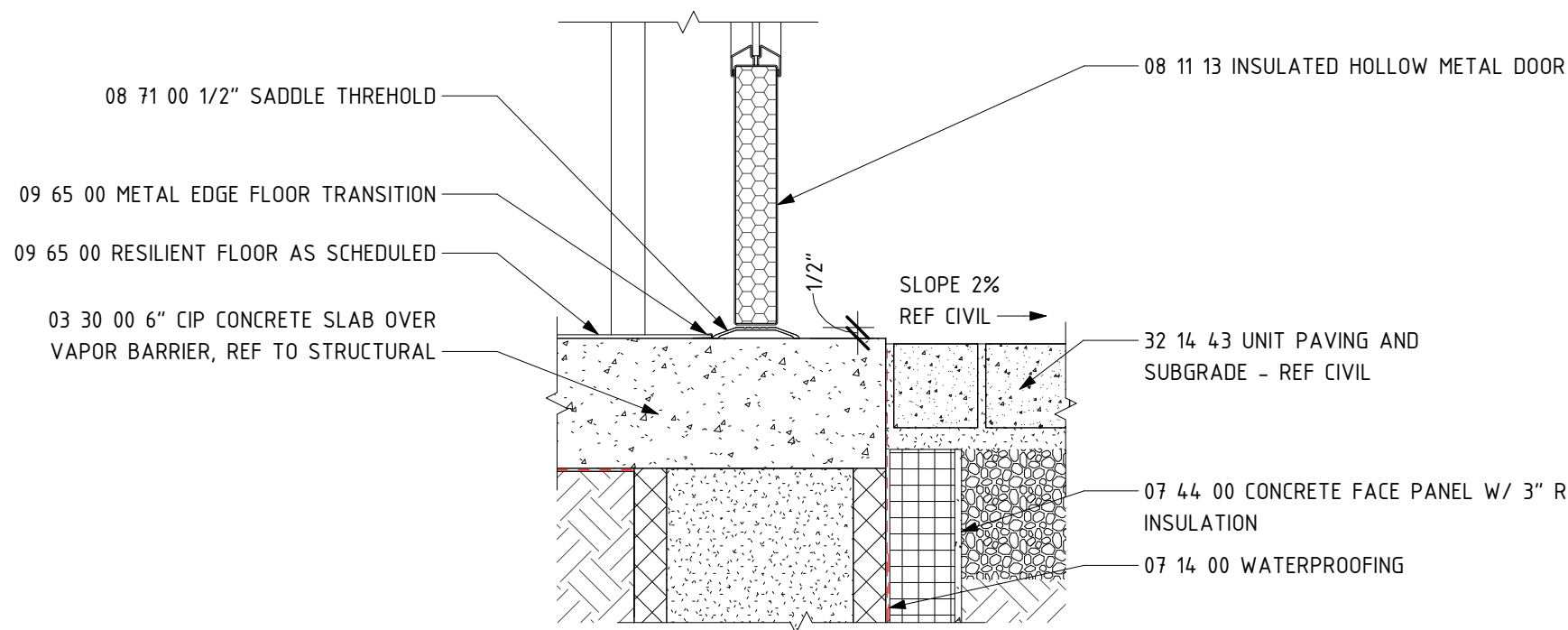
12 SECTION DETAIL - SIDING TRANSITION  
A5.20 1 1/2" = 1'-0"



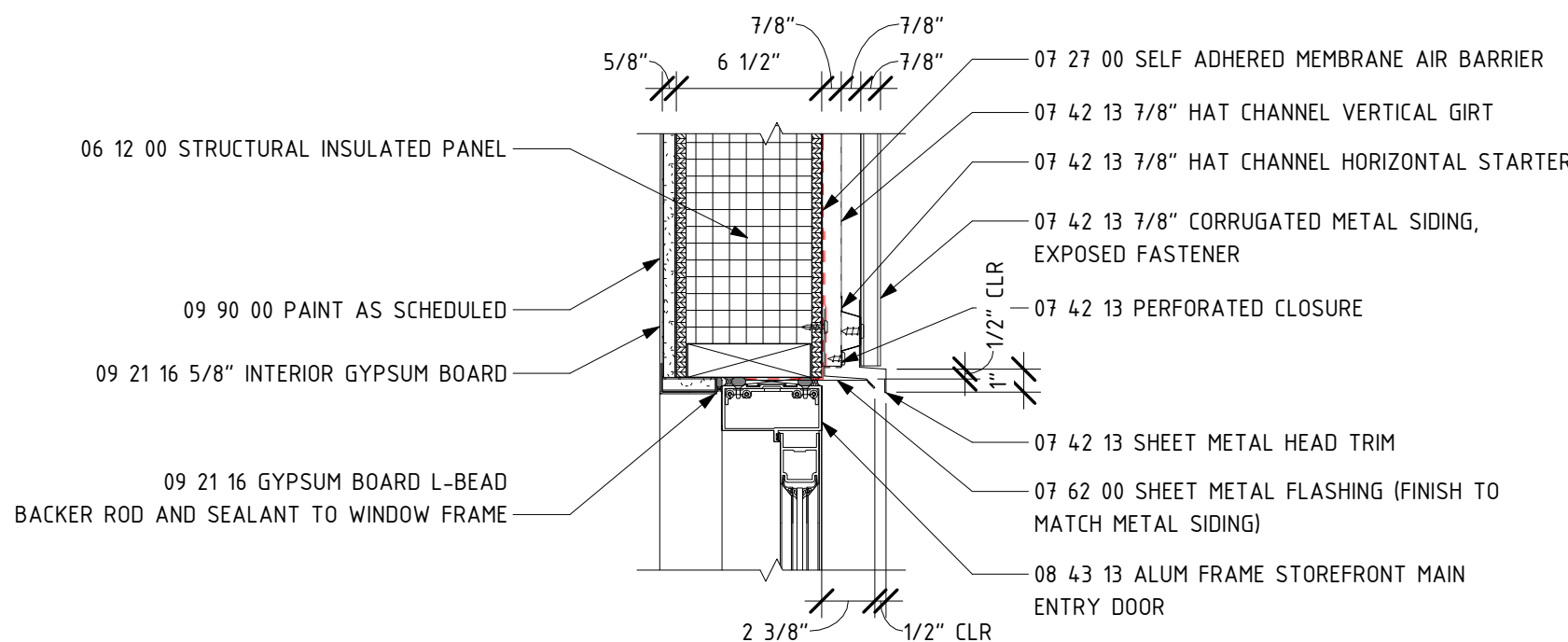
11 SECTION DETAIL - SIDING TRANSITION  
A5.00 1 1/2" = 1'-0"



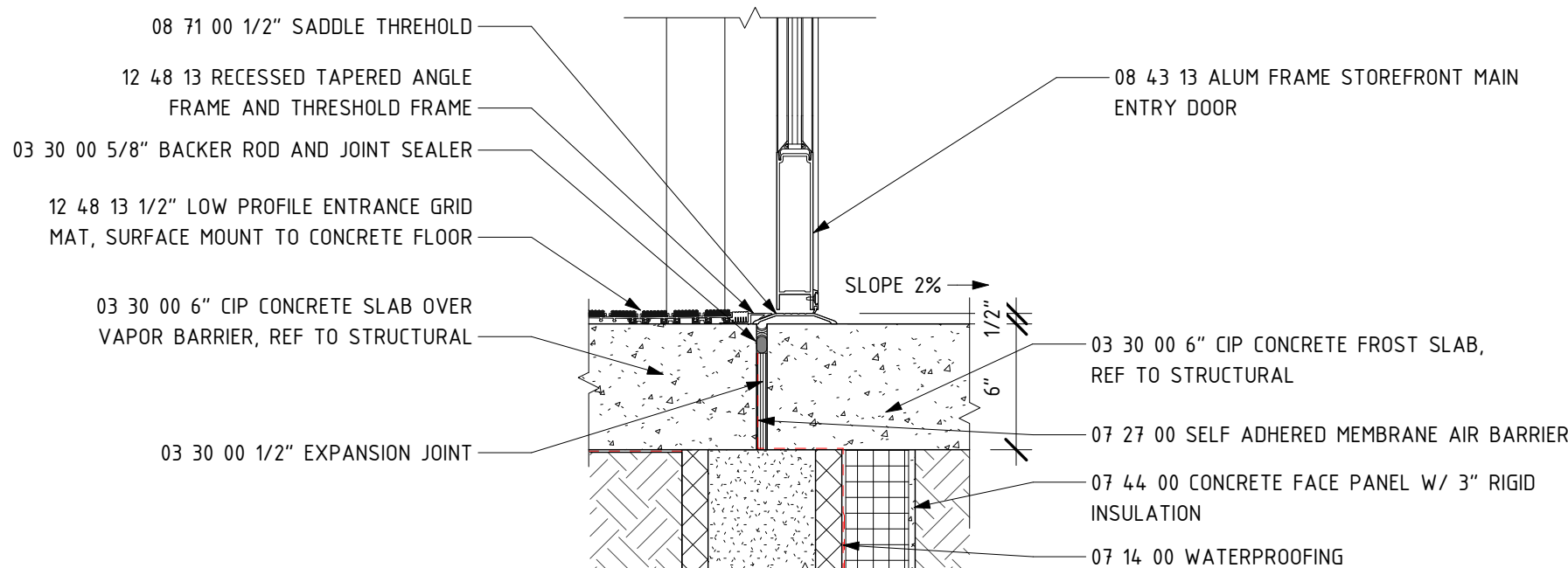
10 SECTION DETAIL - DOOR HEAD  
A5.20 1 1/2" = 1'-0"



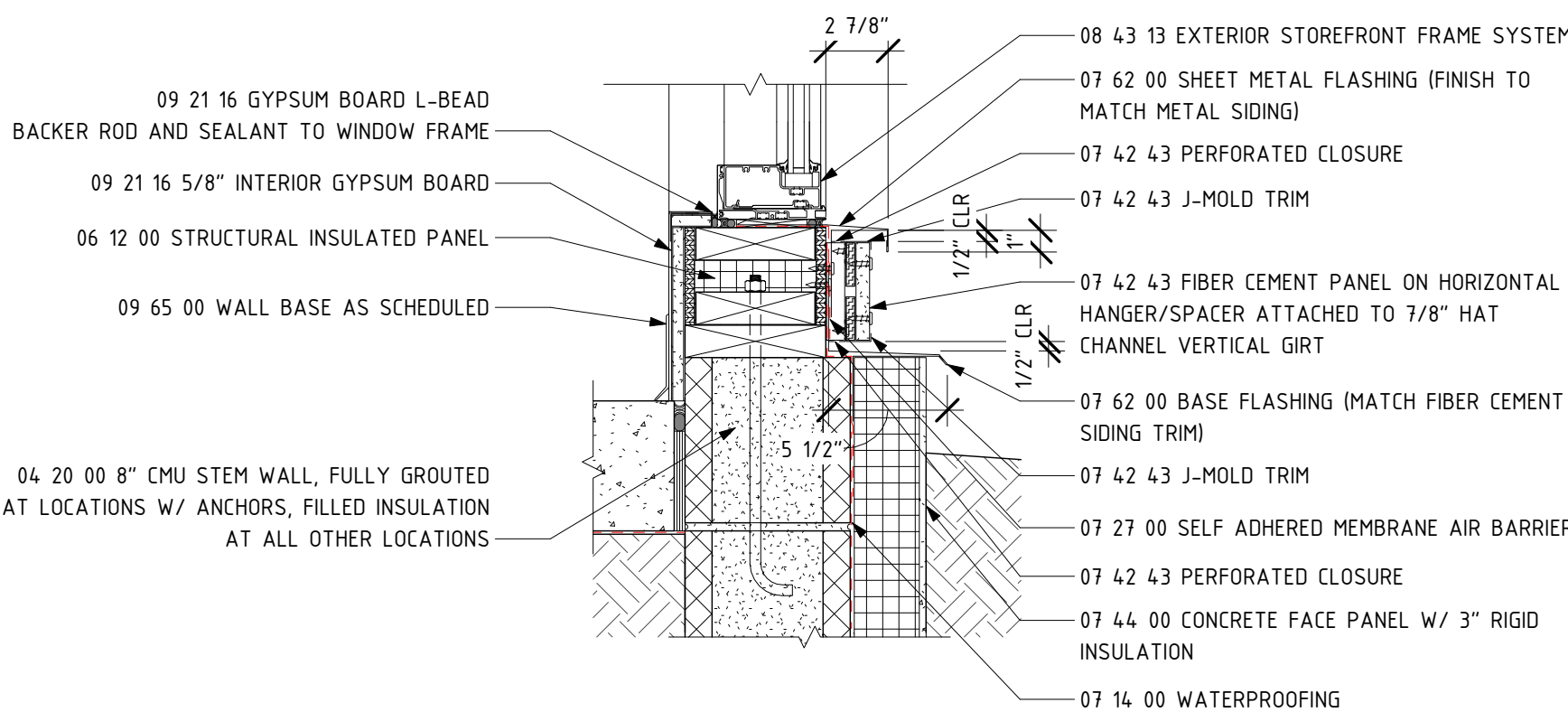
9 SECTION DETAIL - DOOR THRESHOLD  
A5.20 1 1/2" = 1'-0"



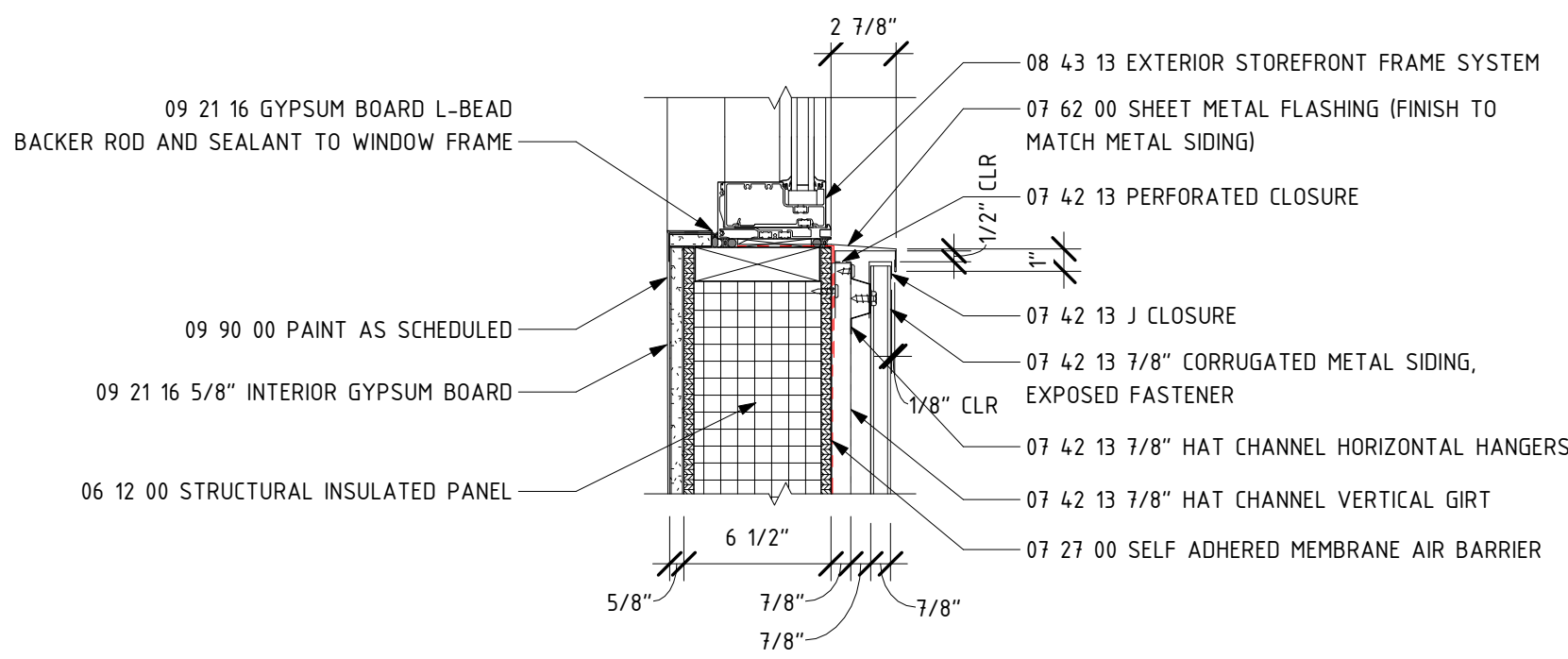
8 SECTION DETAIL - DOOR HEAD  
A5.00 1 1/2" = 1'-0"



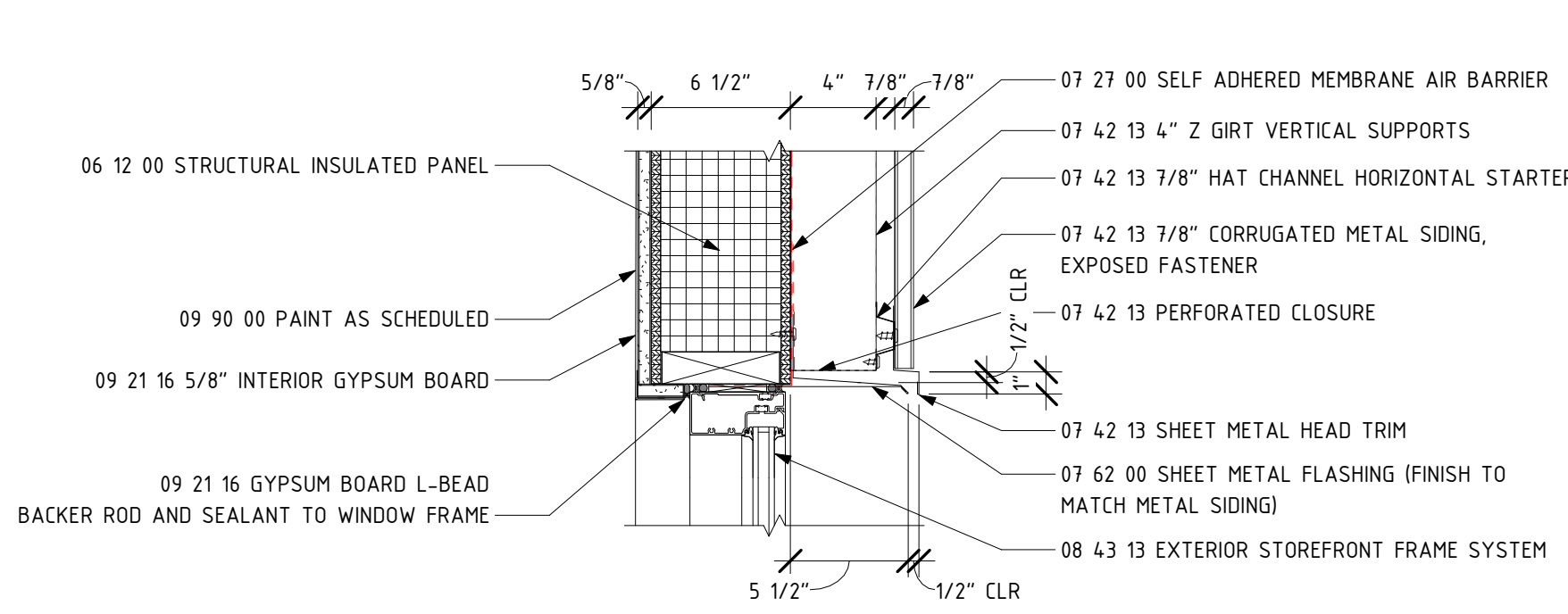
7 SECTION DETAIL - DOOR THRESHOLD  
A5.00 1 1/2" = 1'-0"



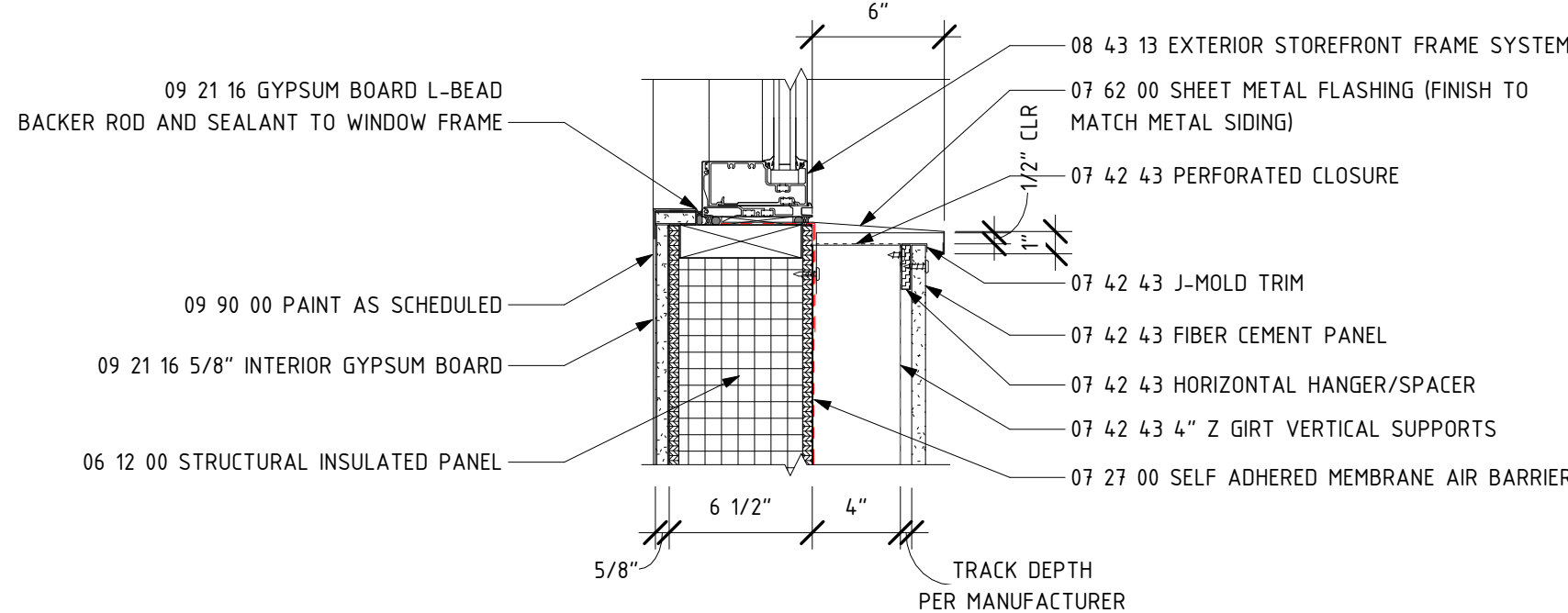
6 SECTION DETAIL - WINDOW SILL  
A5.10 1 1/2" = 1'-0"



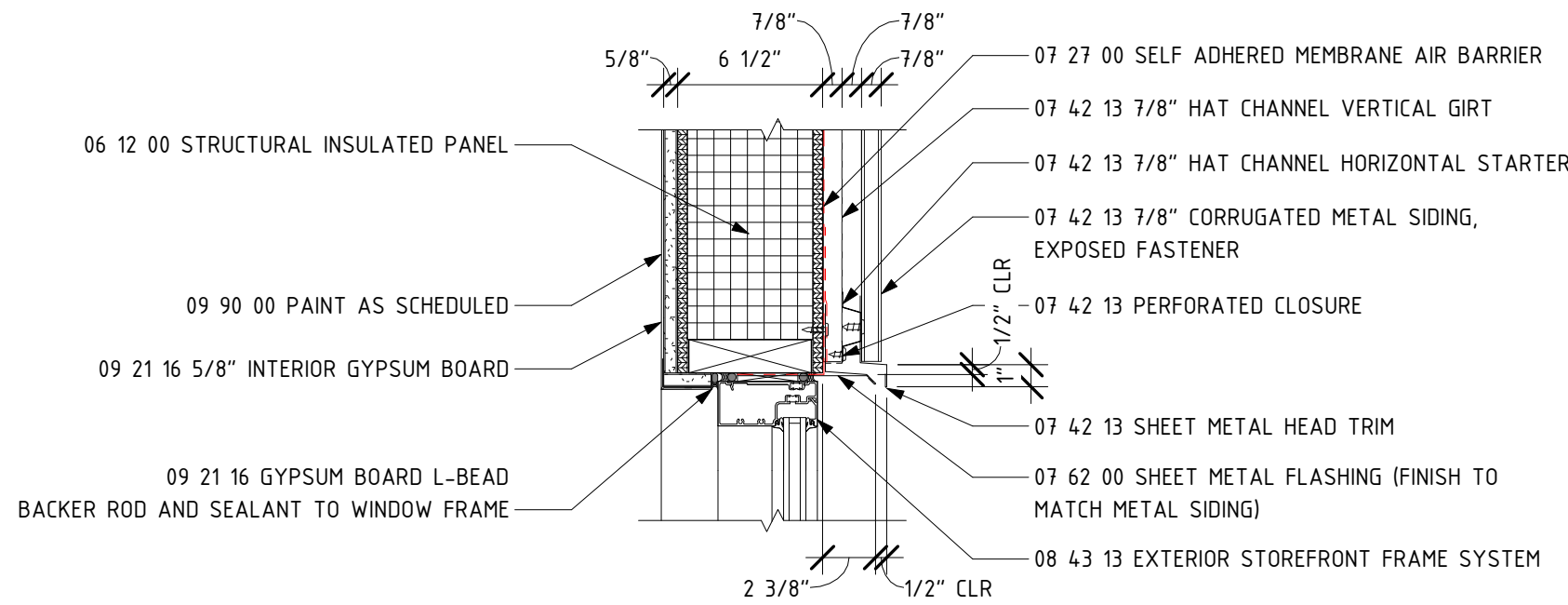
5 SECTION DETAIL - WINDOW SILL  
A5.00 1 1/2" = 1'-0"



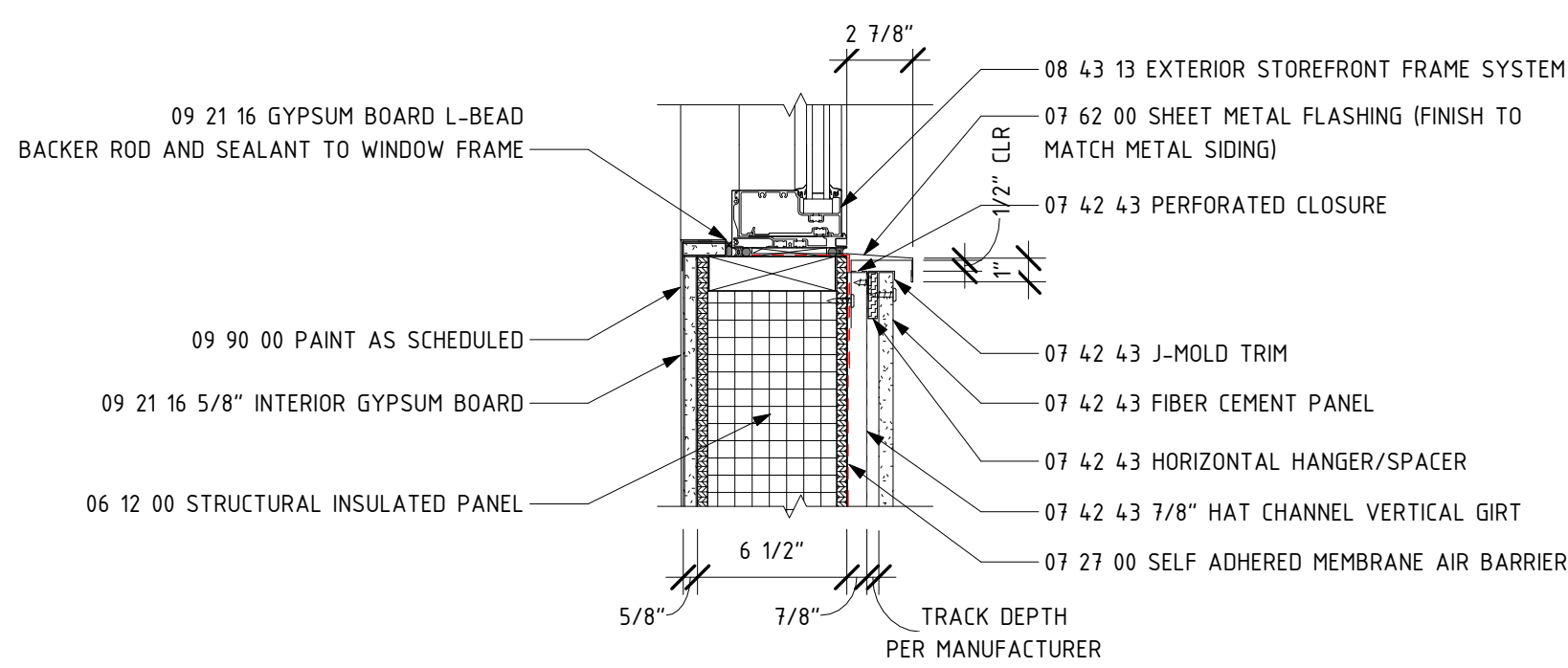
4 SECTION DETAIL - WINDOW HEAD  
A5.10 1 1/2" = 1'-0"



3 SECTION DETAIL - WINDOW SILL  
A5.10 1 1/2" = 1'-0"



2 SECTION DETAIL - WINDOW HEAD  
A5.00 1 1/2" = 1'-0"

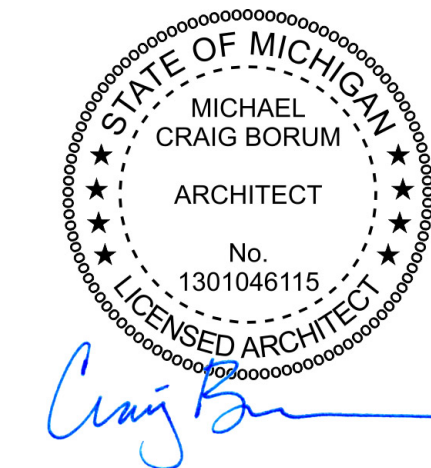


1 SECTION DETAIL - WINDOW SILL  
A5.00 1 1/2" = 1'-0"



Project Name

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Drawing Name

Enlarged Section Details

Drawn By  
YJChecked By  
CBIssue Date  
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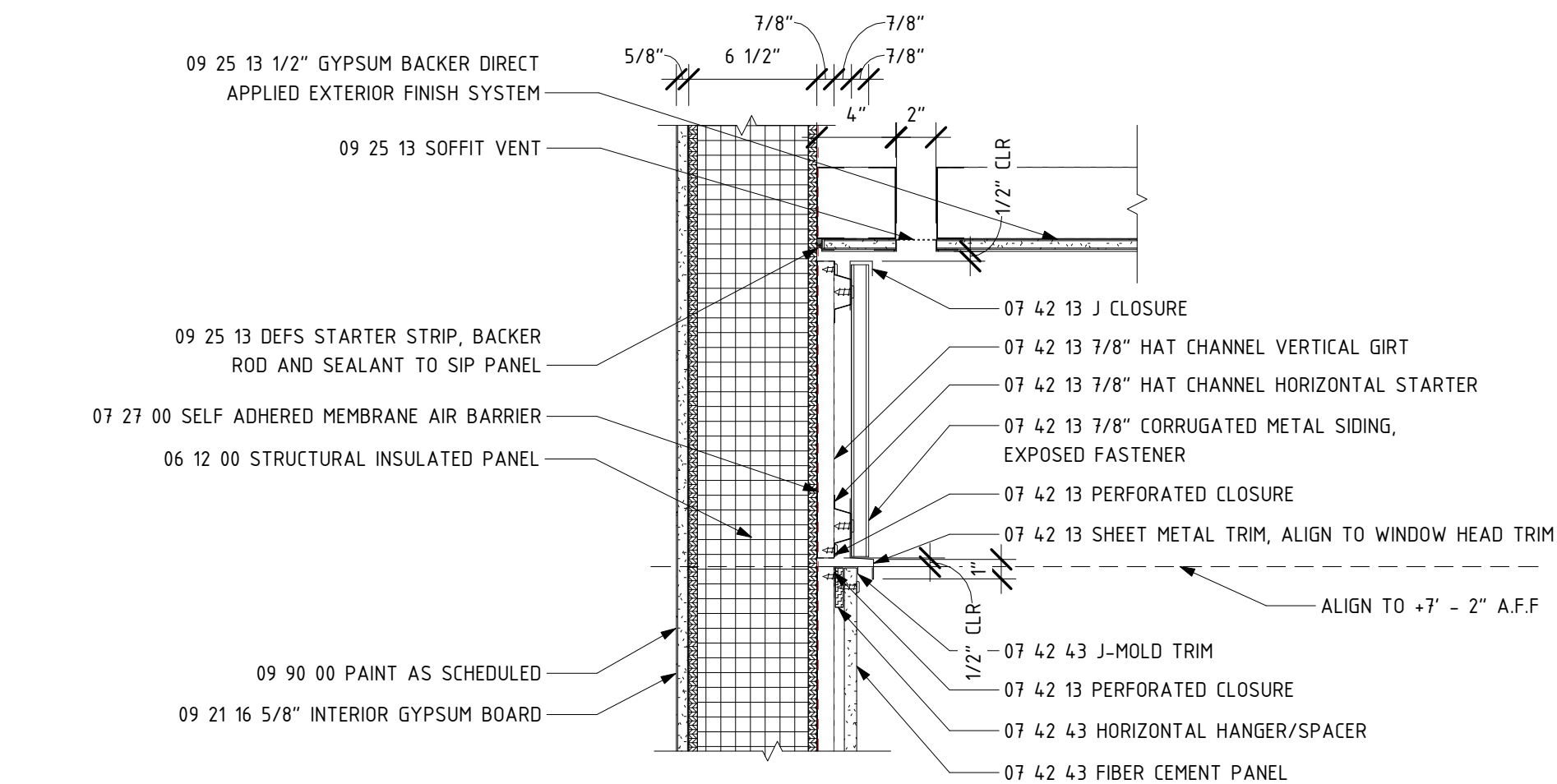
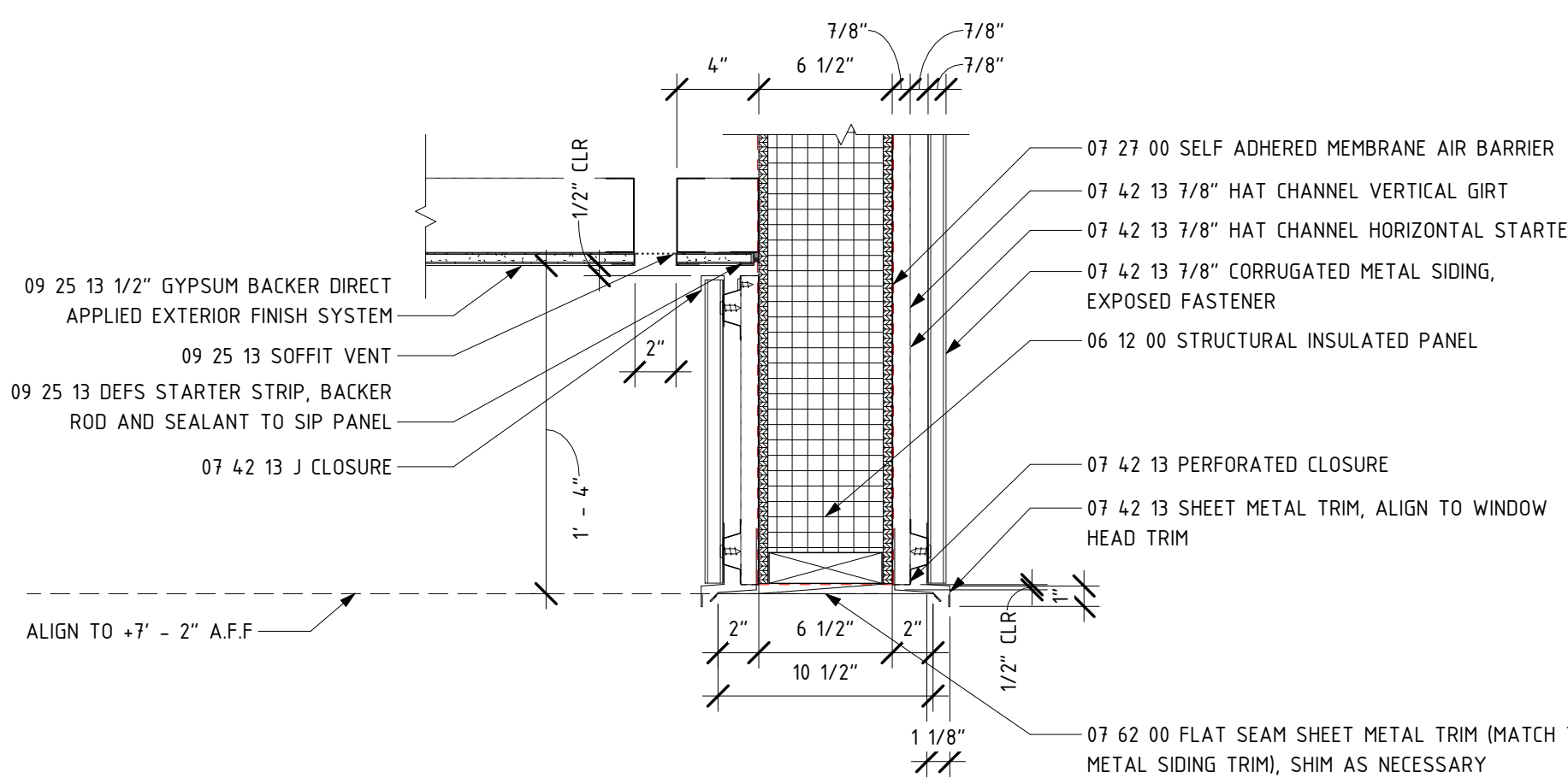
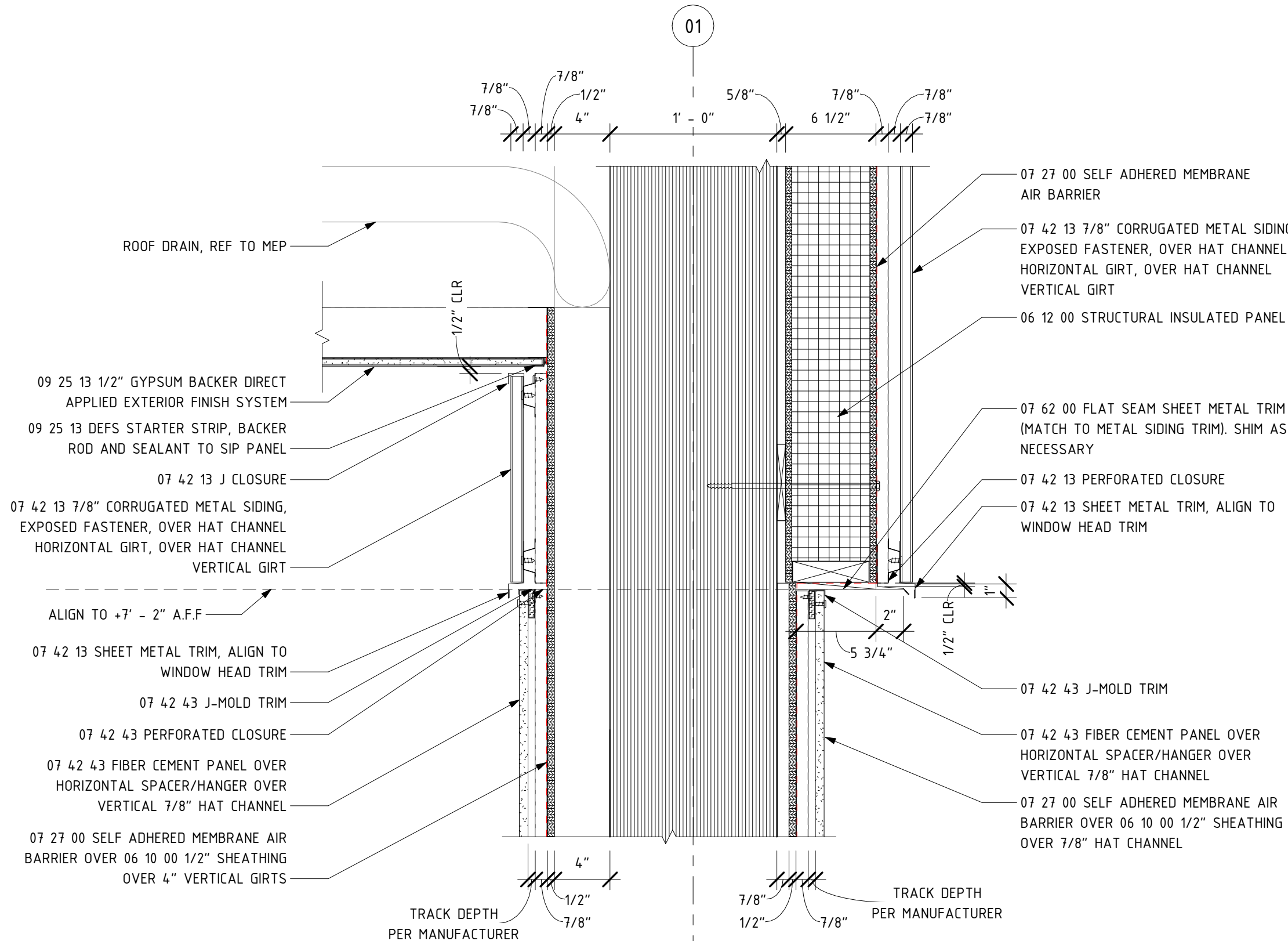
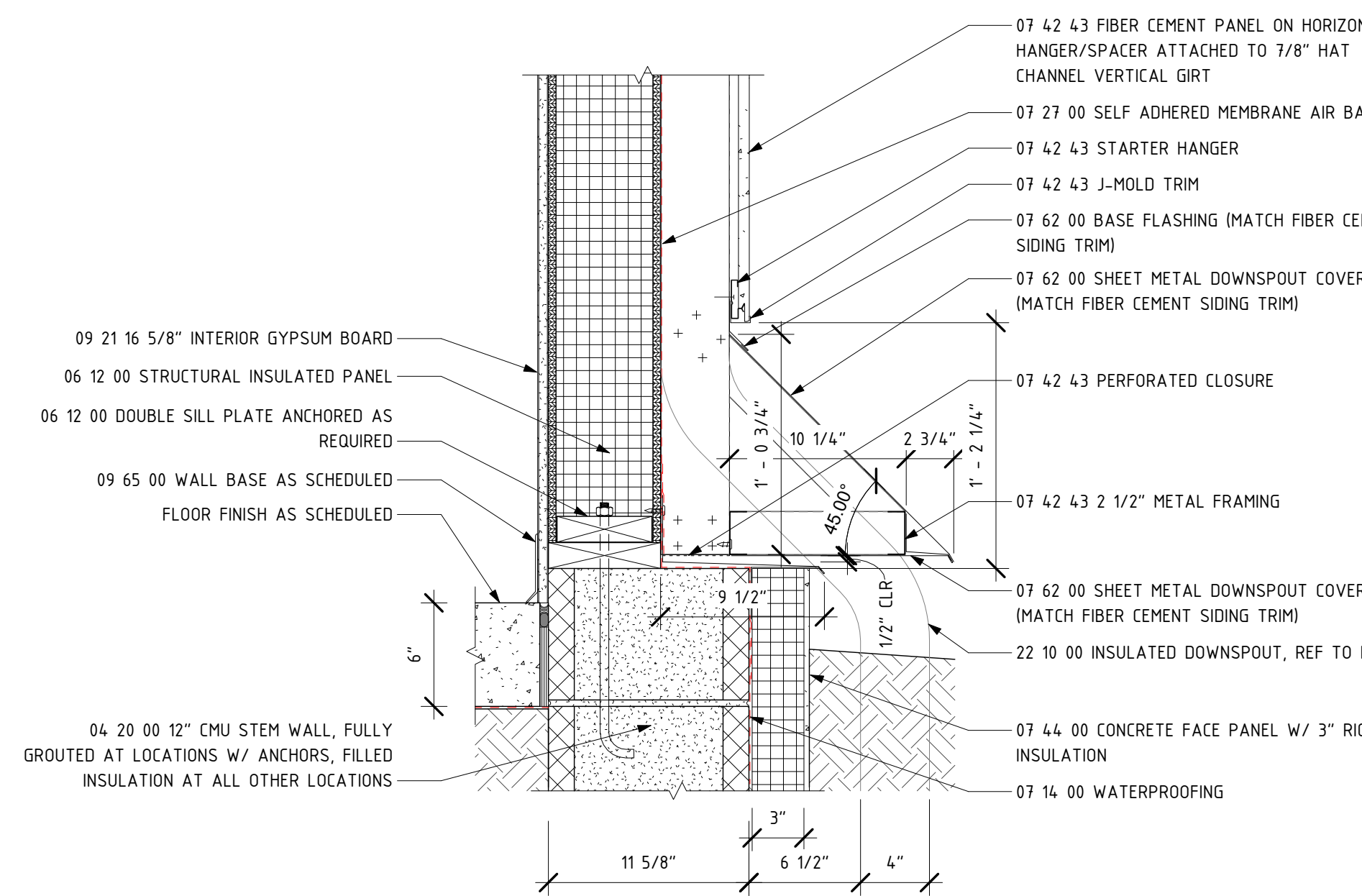
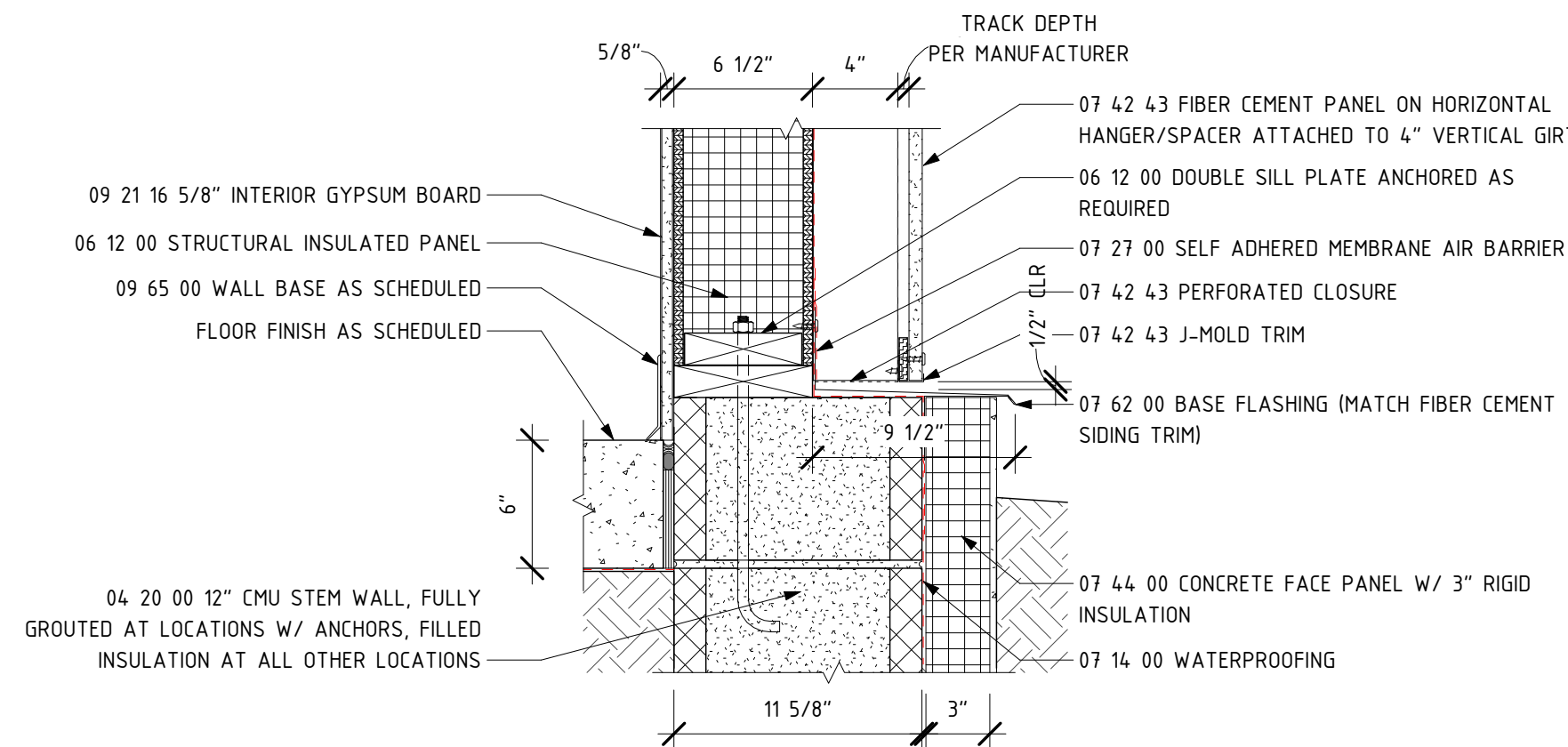
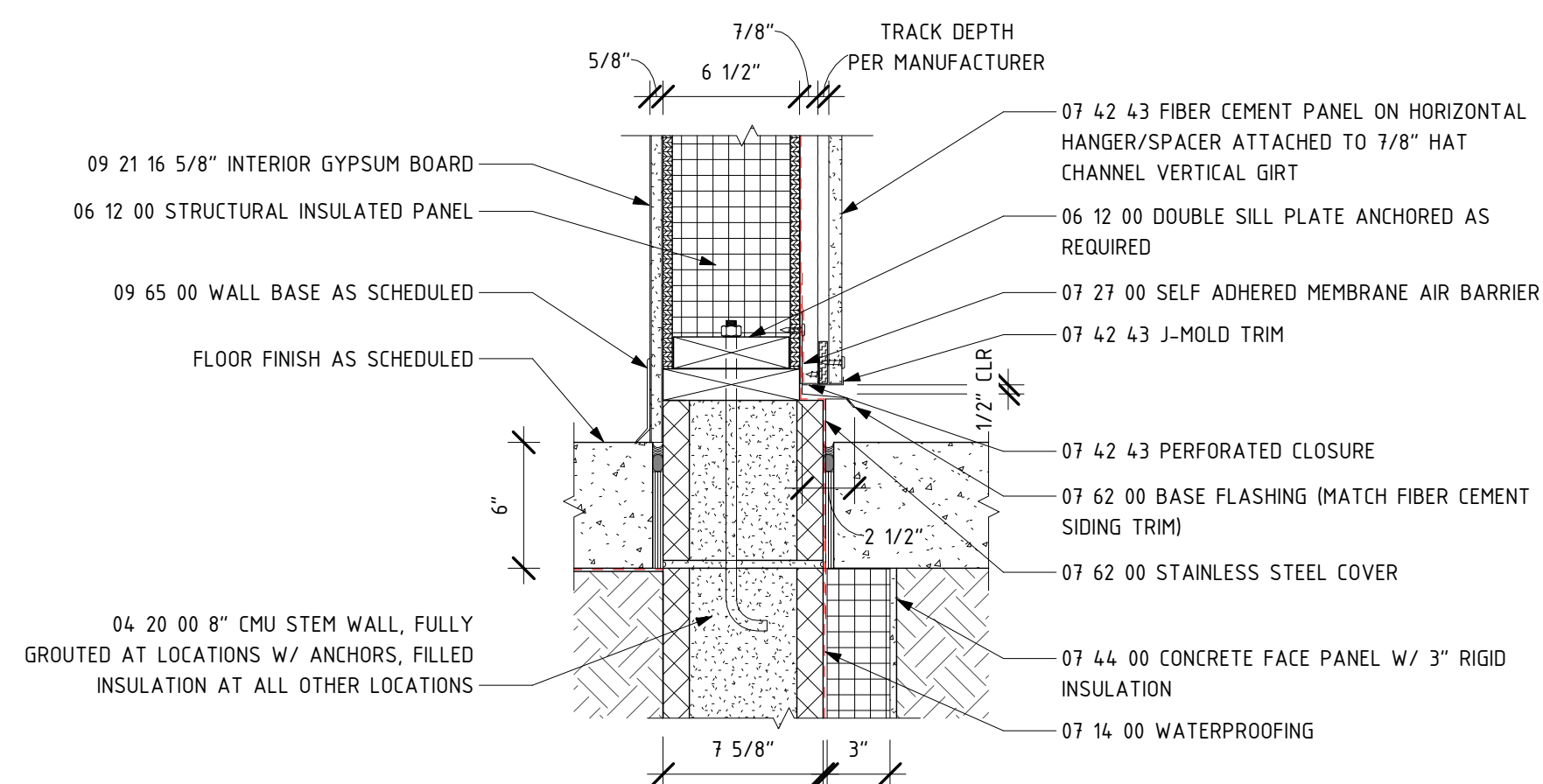
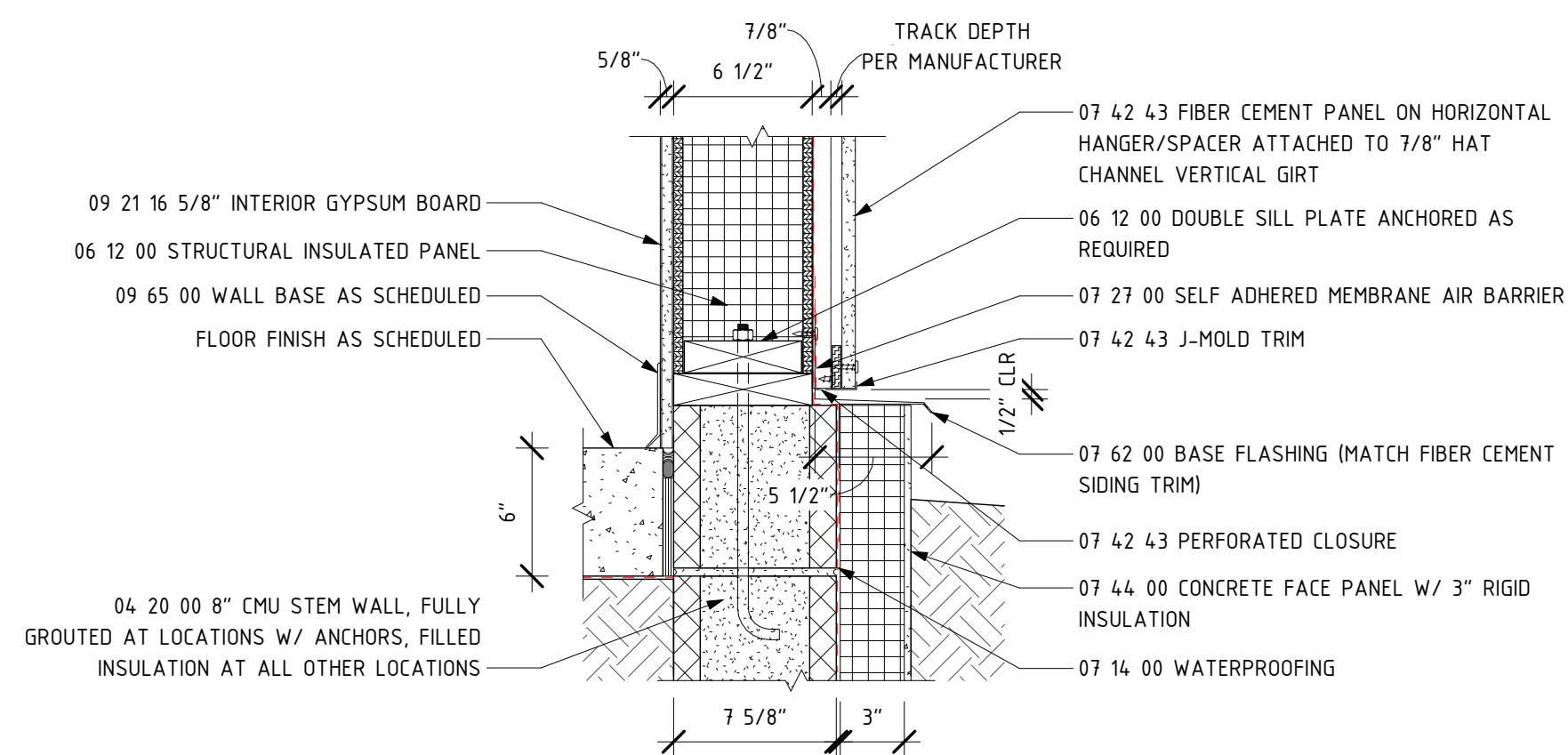
Revisions

Issued for Date

Project No.  
ITB-W-14.78 | P24006

Sheet Number

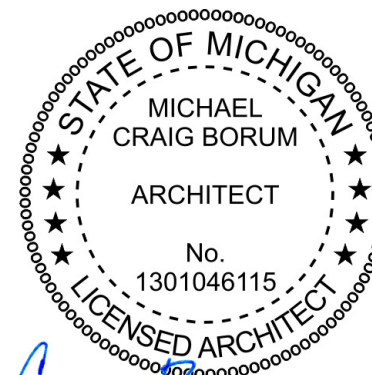
A6.02

**6 | SECTION DETAIL - SIDING TRANSITION**  
A5.00 | 1 1/2" = 1'-0"**5 | SECTION DETAIL - SIDING TRANSITION**  
A4.50 | 1 1/2" = 1'-0"**7 | SECTION DETAIL - SIDING TRANSITION**  
A5.20 | 1 1/2" = 1'-0"**4 | SECTION DETAIL - DOWNSPOUT COVER**  
A5.20 | 1 1/2" = 1'-0"**3 | SECTION DETAIL - SIDING BASE TRIM**  
A5.10 | 1 1/2" = 1'-0"**2 | SECTION DETAIL - SIDING BASE TRIM**  
A5.00 | 1 1/2" = 1'-0"**1 | SECTION DETAIL - SIDING BASE TRIM**  
A5.00 | 1 1/2" = 1'-0"



Project Name

WARREN BRANCH LIBRARY

*Michael Craig Borum*

Drawing Name

Enlarged Section Details

Drawn By  
YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

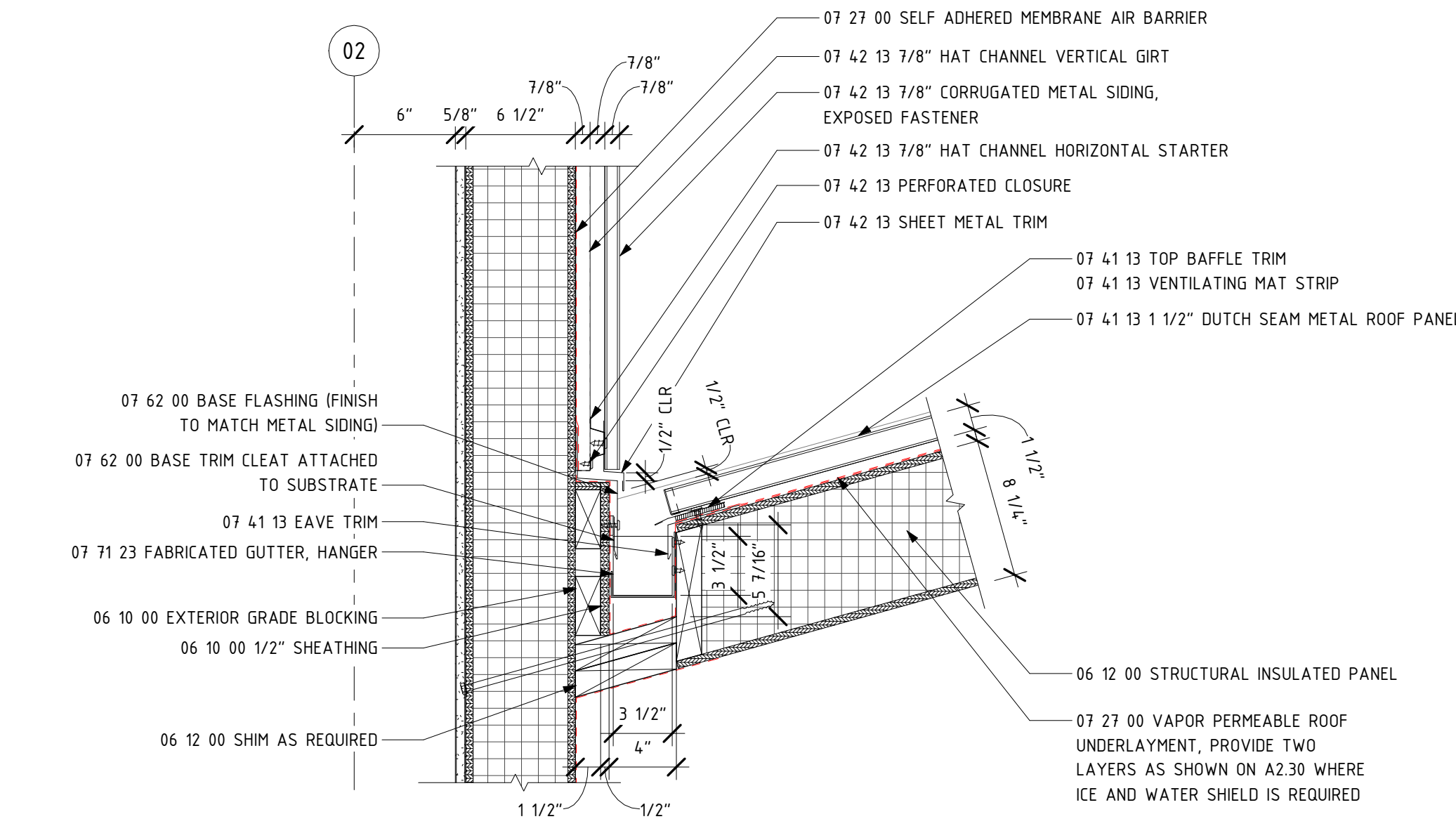
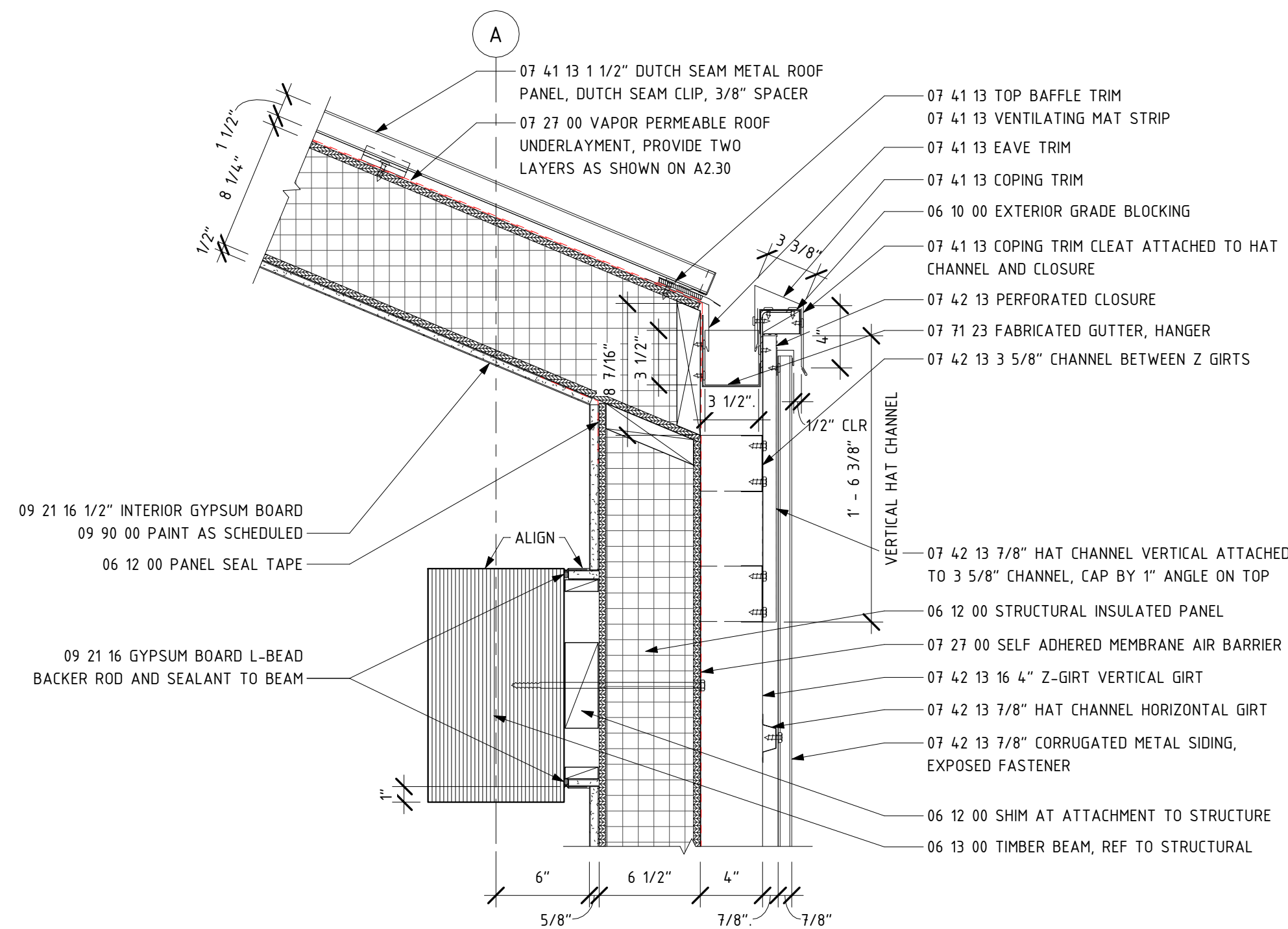
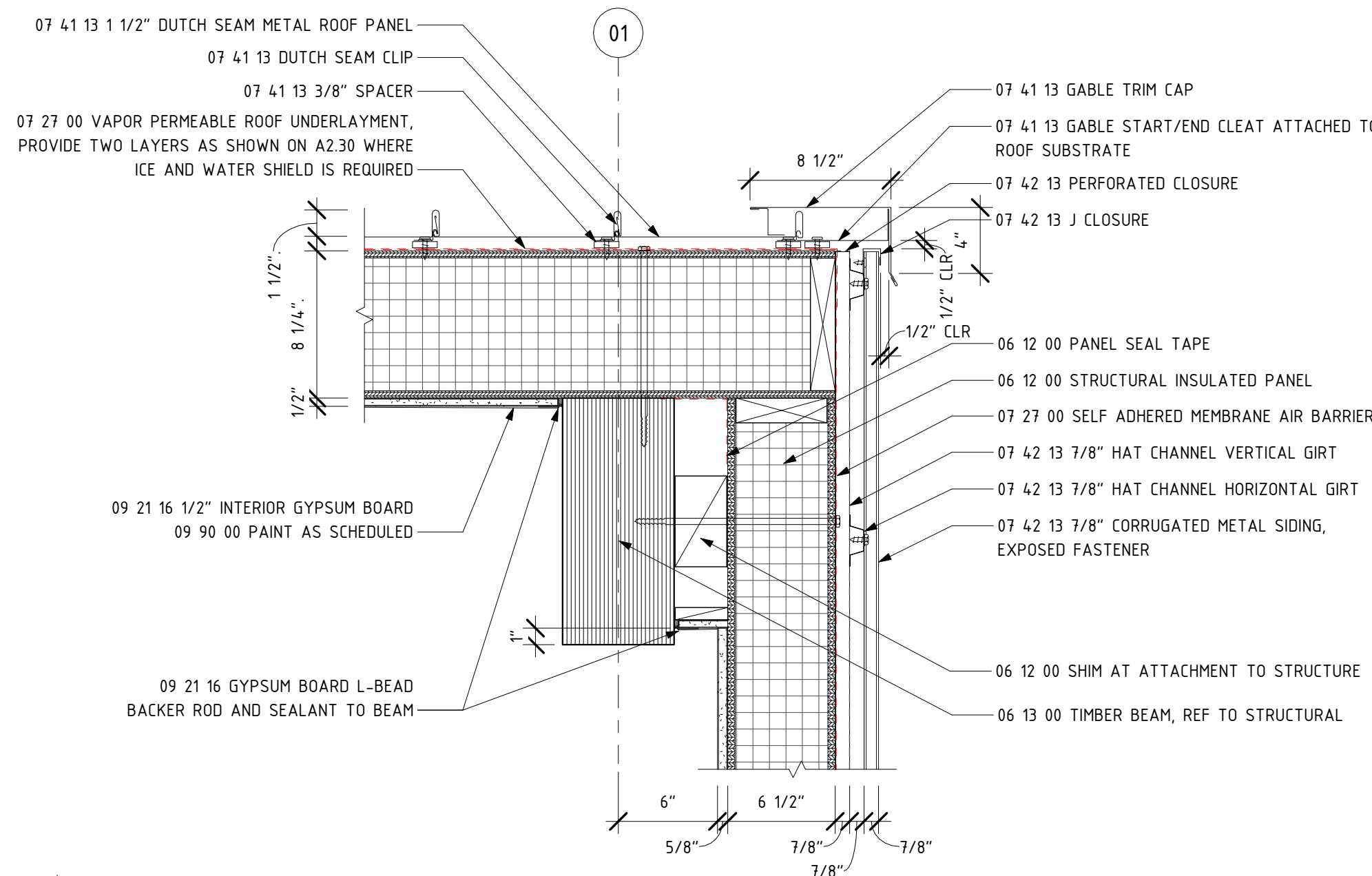
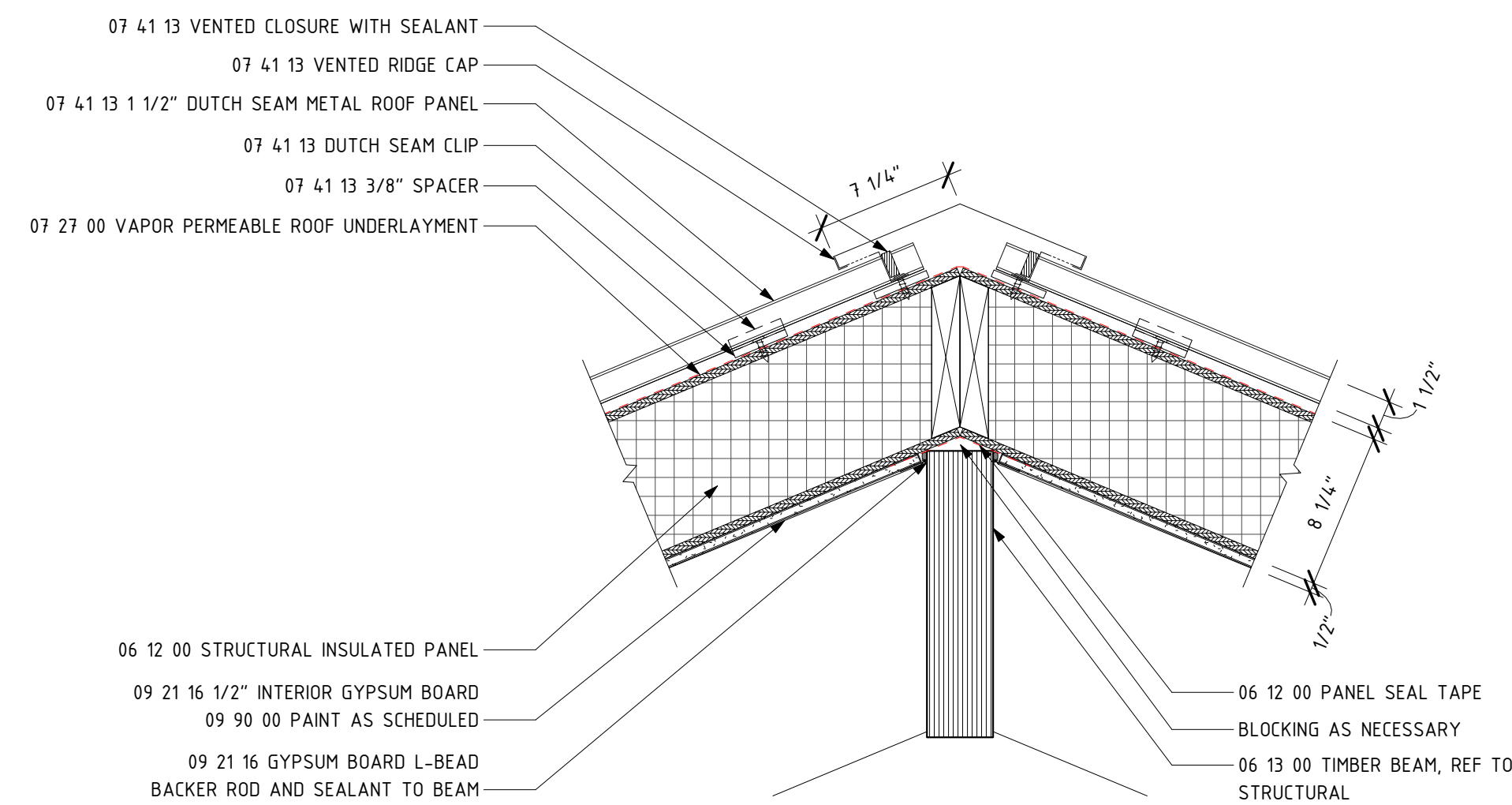
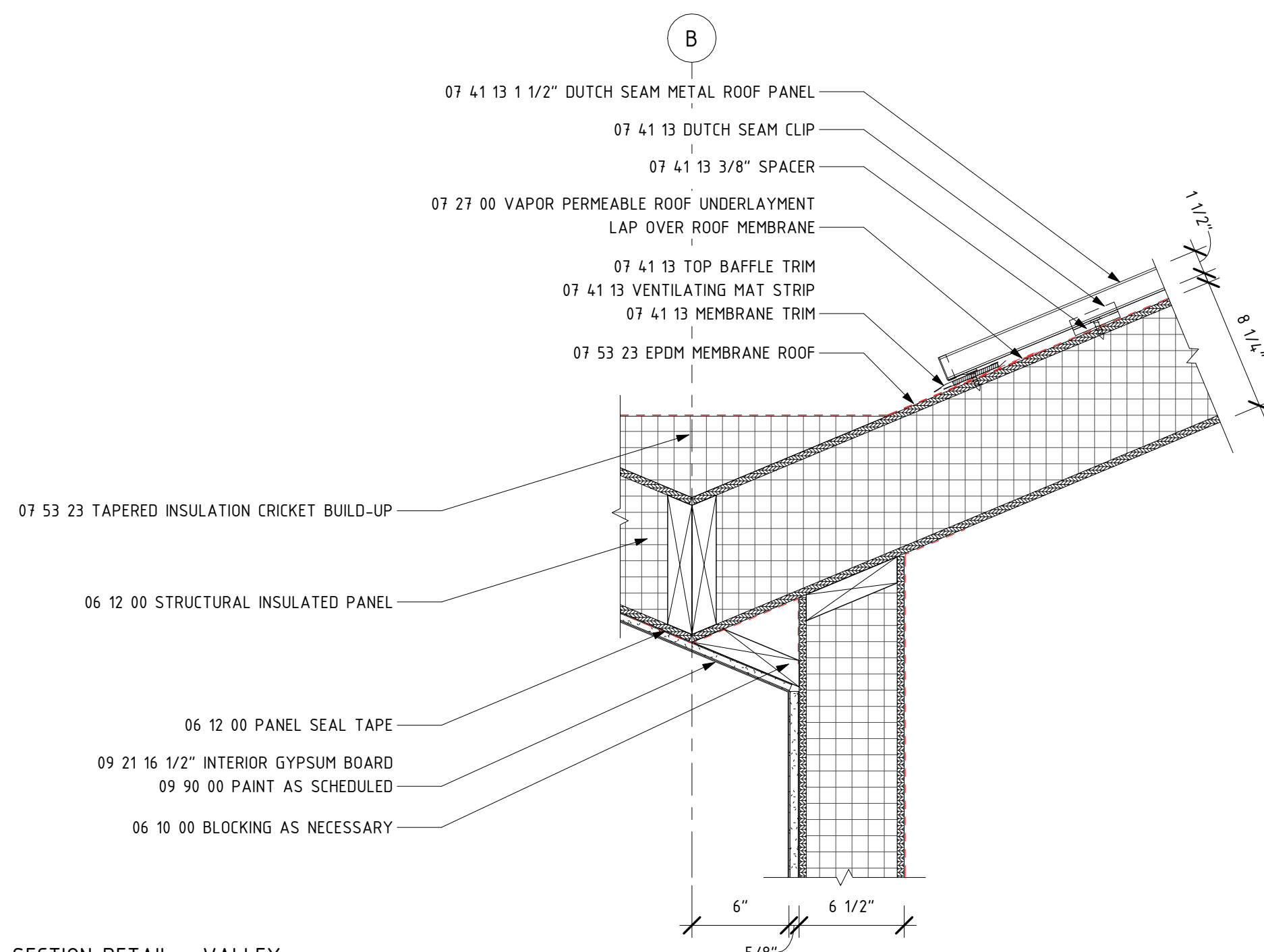
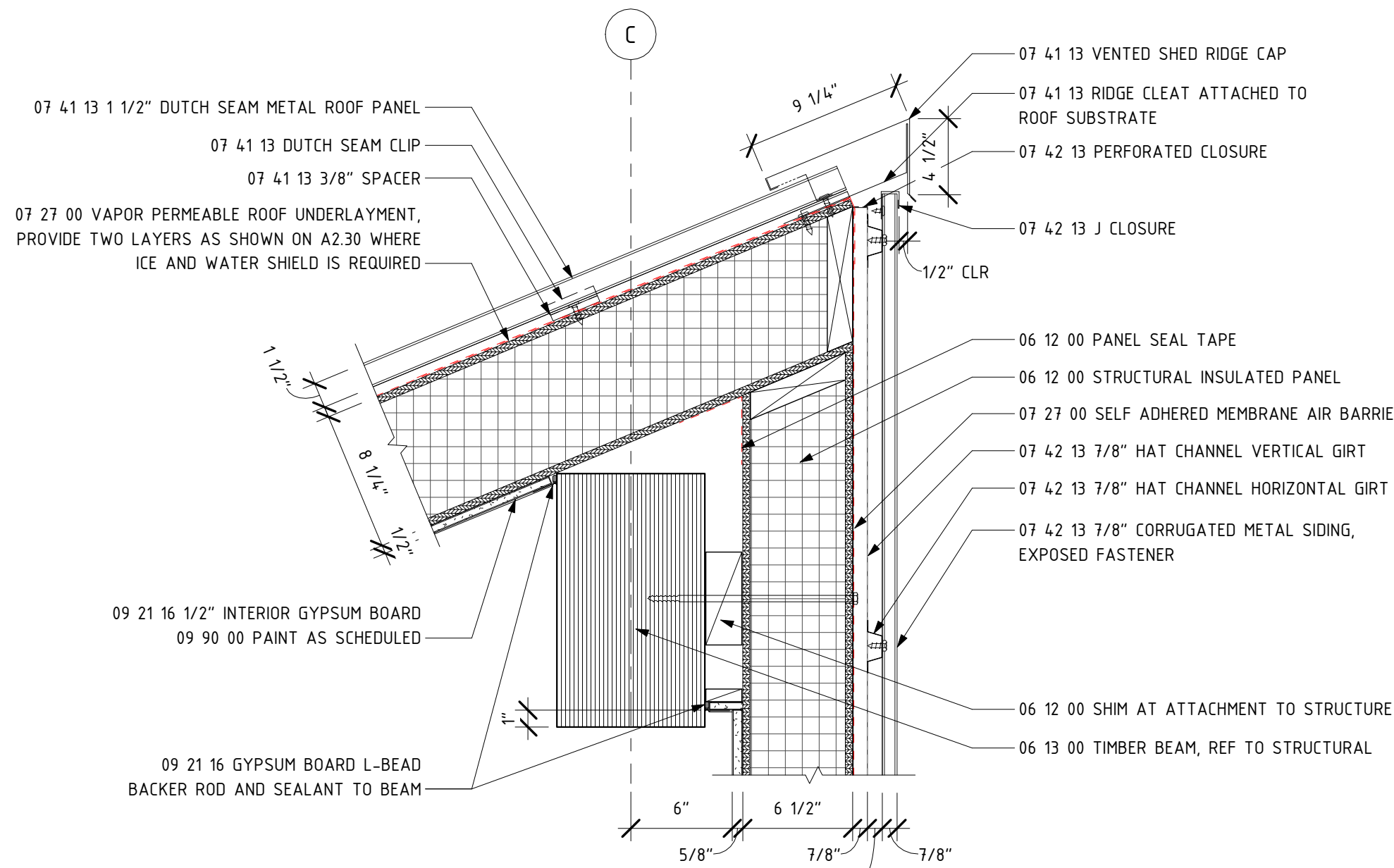
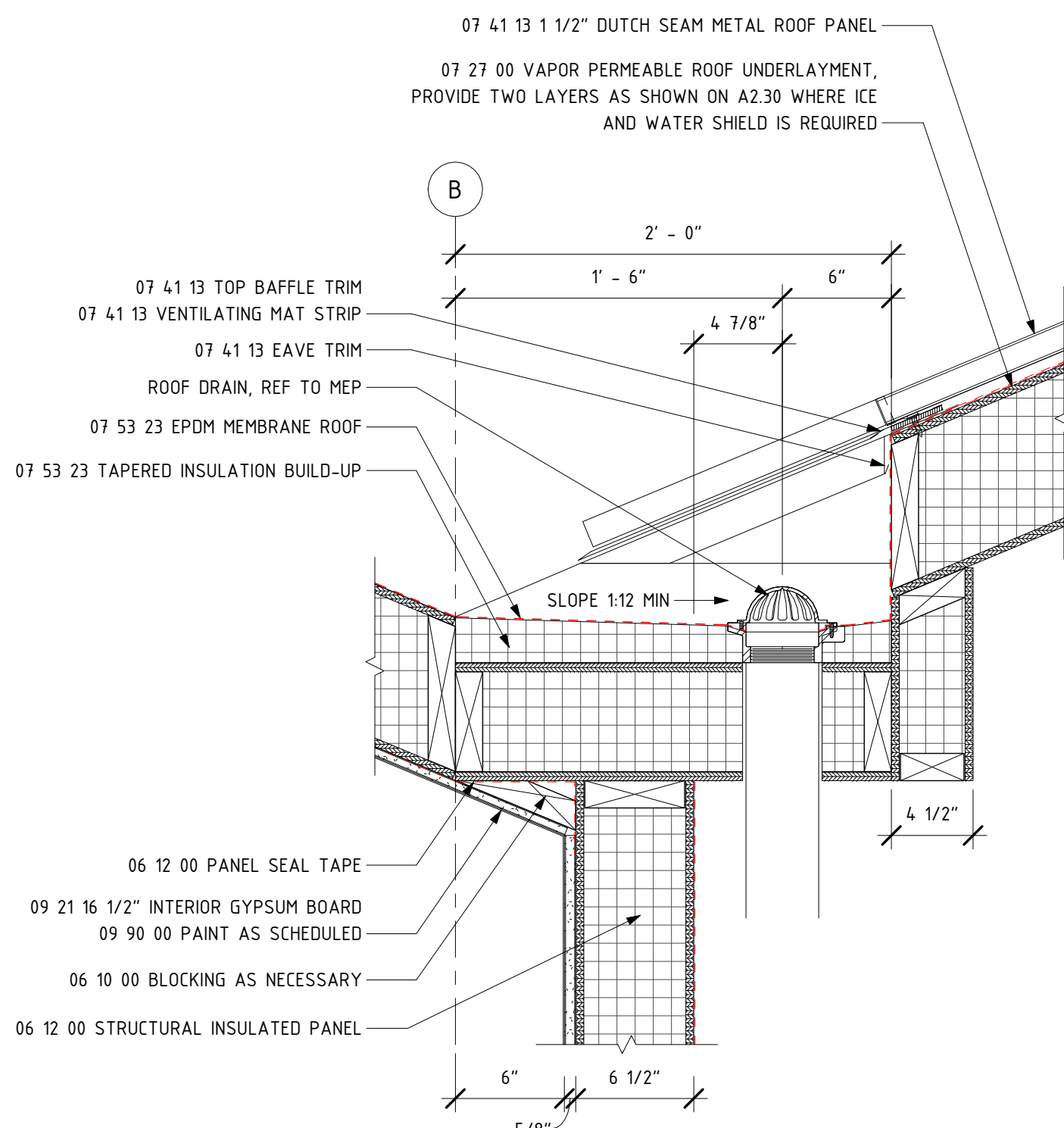
Revisions

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Project No.  
ITB-W-14.78 | P24006

Sheet Number

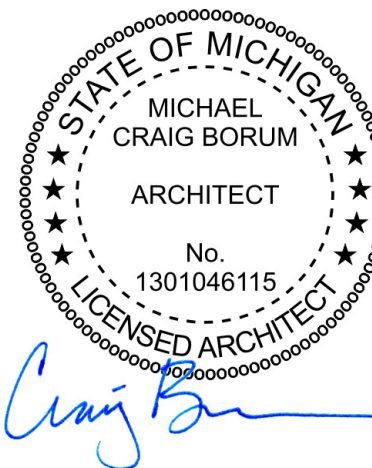
A6.03

6 | SECTION DETAIL - CONCEALED GUTTER  
A5.00 | 1 1/2" = 1'-0"5 | SECTION DETAIL - CONCEALED GUTTER  
A5.10 | 1 1/2" = 1'-0"4 | SECTION DETAIL - SHED RIDGE  
A5.00 | 1 1/2" = 1'-0"3 | SECTION DETAIL - RIDGE  
A4.50 | 1 1/2" = 1'-0"2 | SECTION DETAIL - VALLEY  
A4.50 | 1 1/2" = 1'-0"1 | SECTION DETAIL - SHED RIDGE  
A4.50 | 1 1/2" = 1'-0"7 | SECTION DETAIL - ROOF DRAIN  
A5.20 | 1 1/2" = 1'-0"



Project Name

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Drawing Name

Interior Elevations

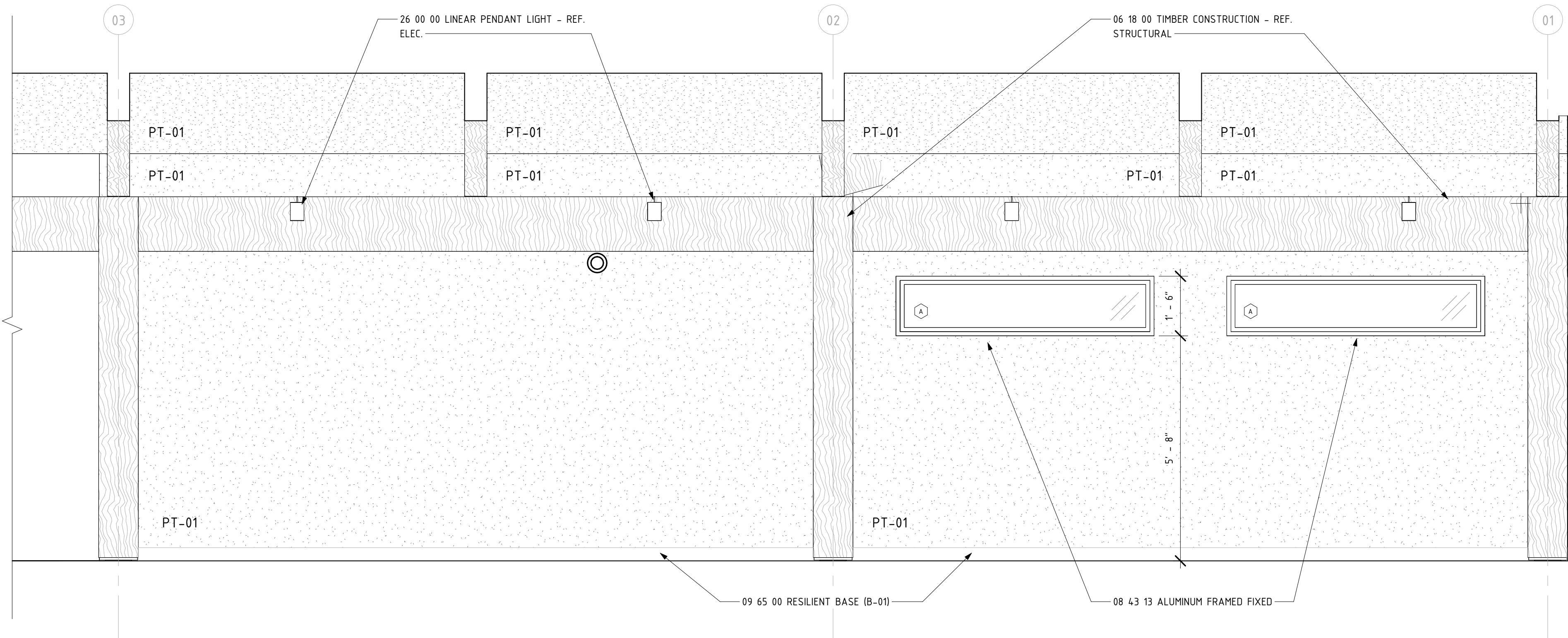
Drawn By  
CGChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

Revisions	
Issued for	Date

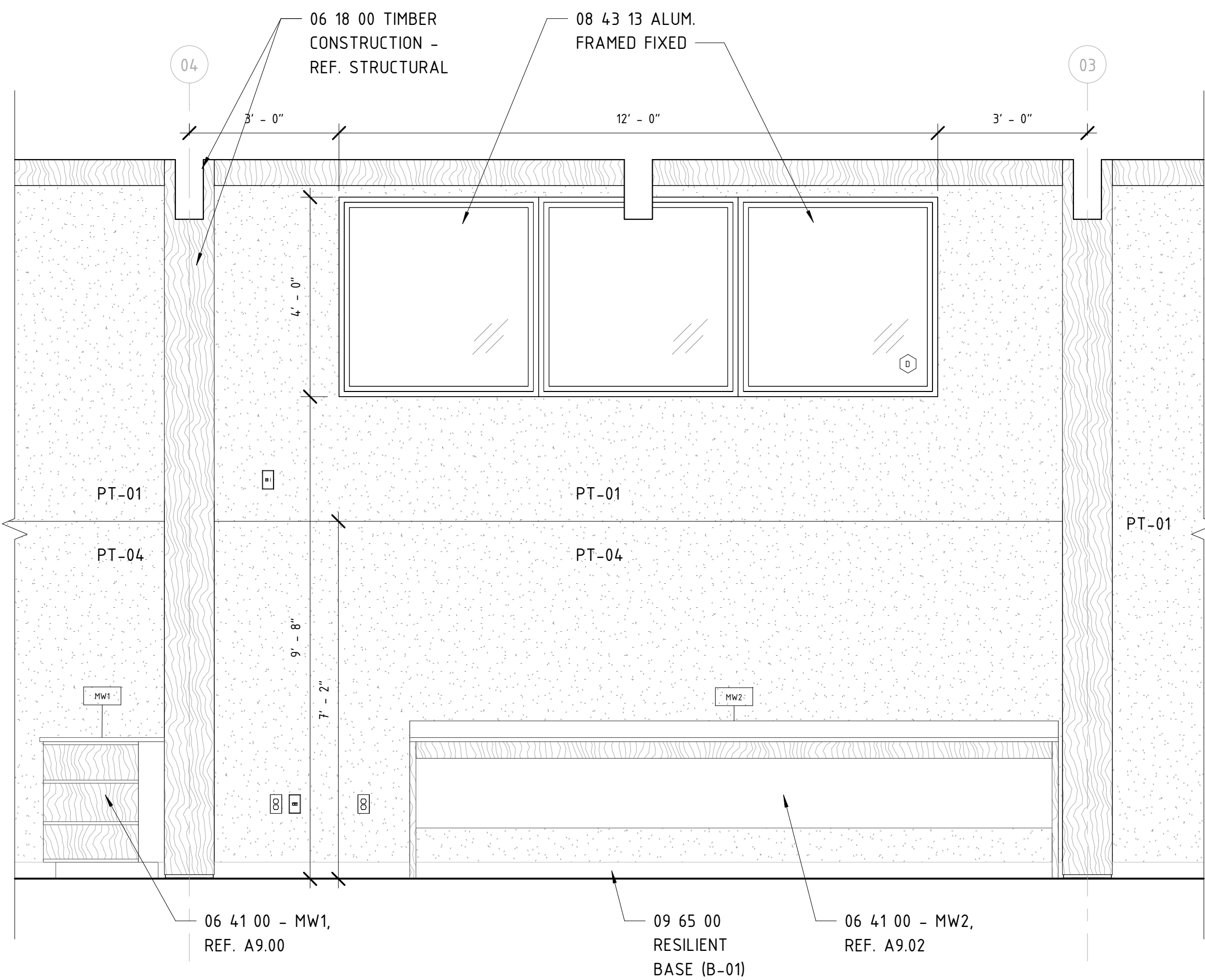
Project No.  
ITB-W-1478 | P24006

Sheet Number

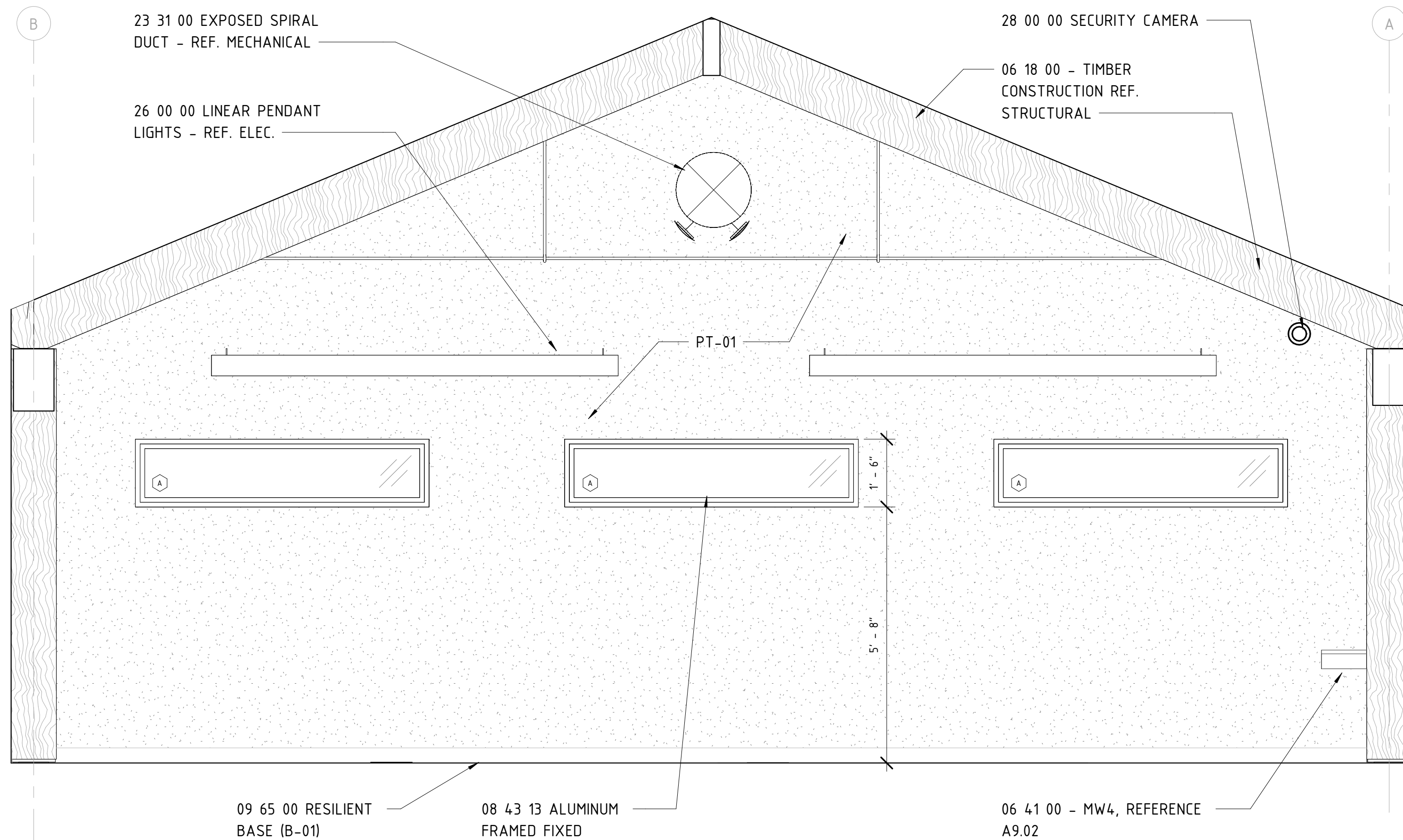
A7.00



3 | INTERIOR ELEVATION  
A2.10 | 1/2" = 1'-0"



2 | INTERIOR ELEVATION  
A2.10 | 1/2" = 1'-0"



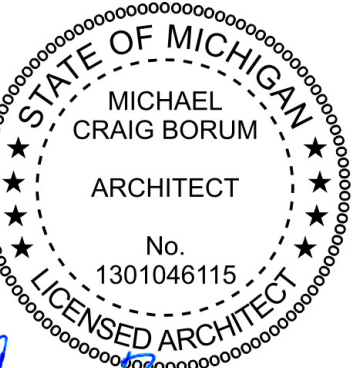
1 | INTERIOR ELEVATION  
A2.10 | 1/2" = 1'-0"



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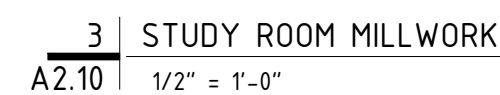
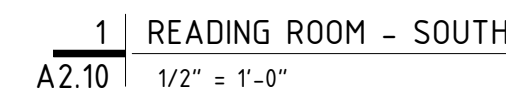


### Interior Elevations

Checked By  
EB

## Revisions

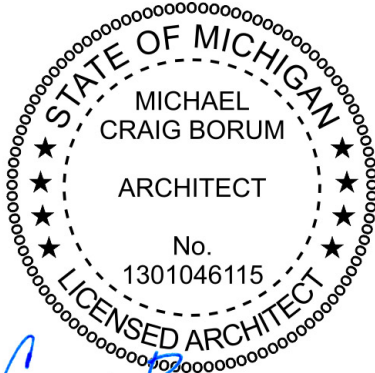
Sheet Number





Project Name

WARREN BRANCH LIBRARY



*Craig Borum*

Drawing Name

Interior Elevations

Drawn By  
CG

Checked By  
CB

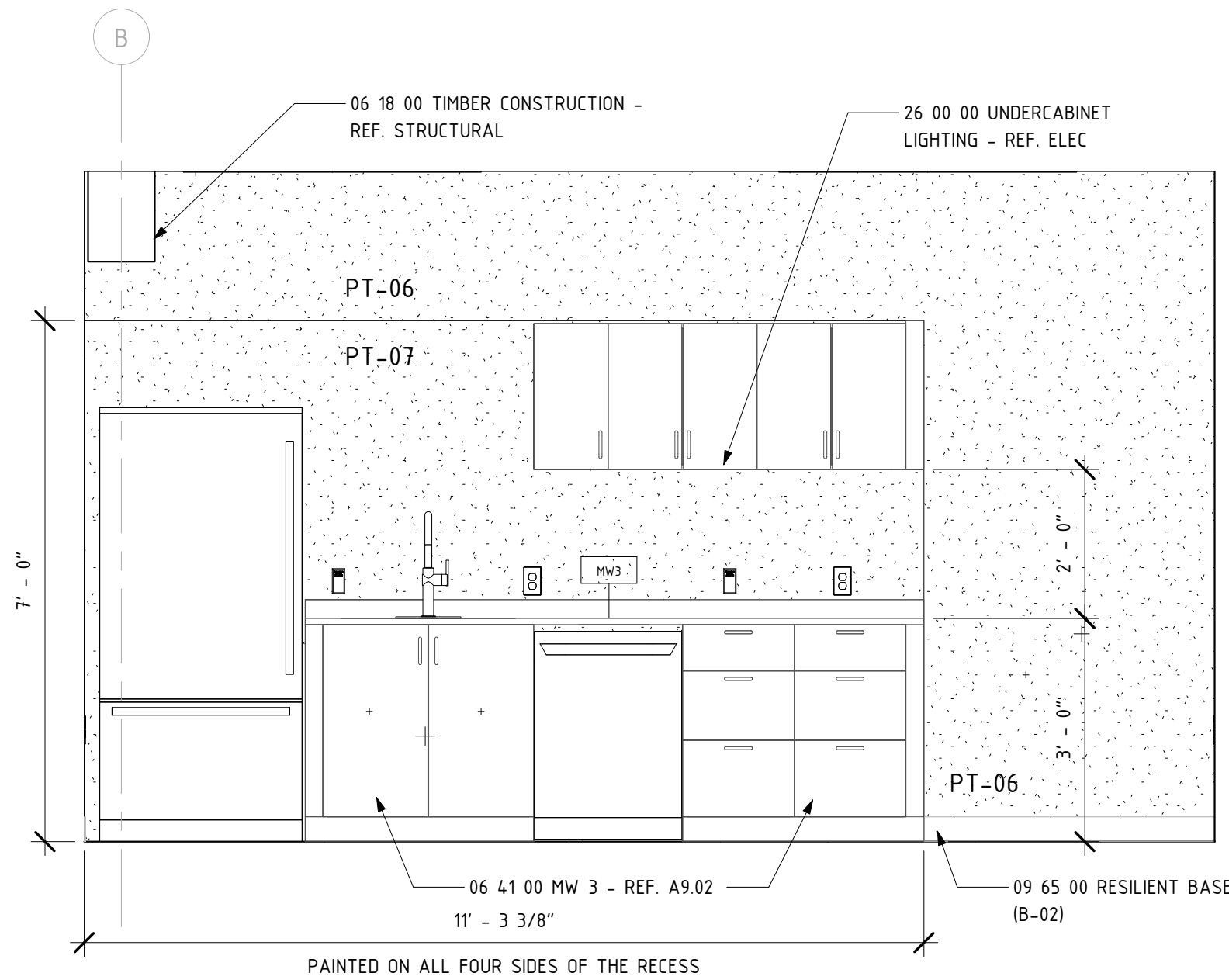
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03/14/25 Permit & Bid Set

Revisions  
Issued for      Date

Project No.  
ITB-W-14.78 | P24006

Sheet Number

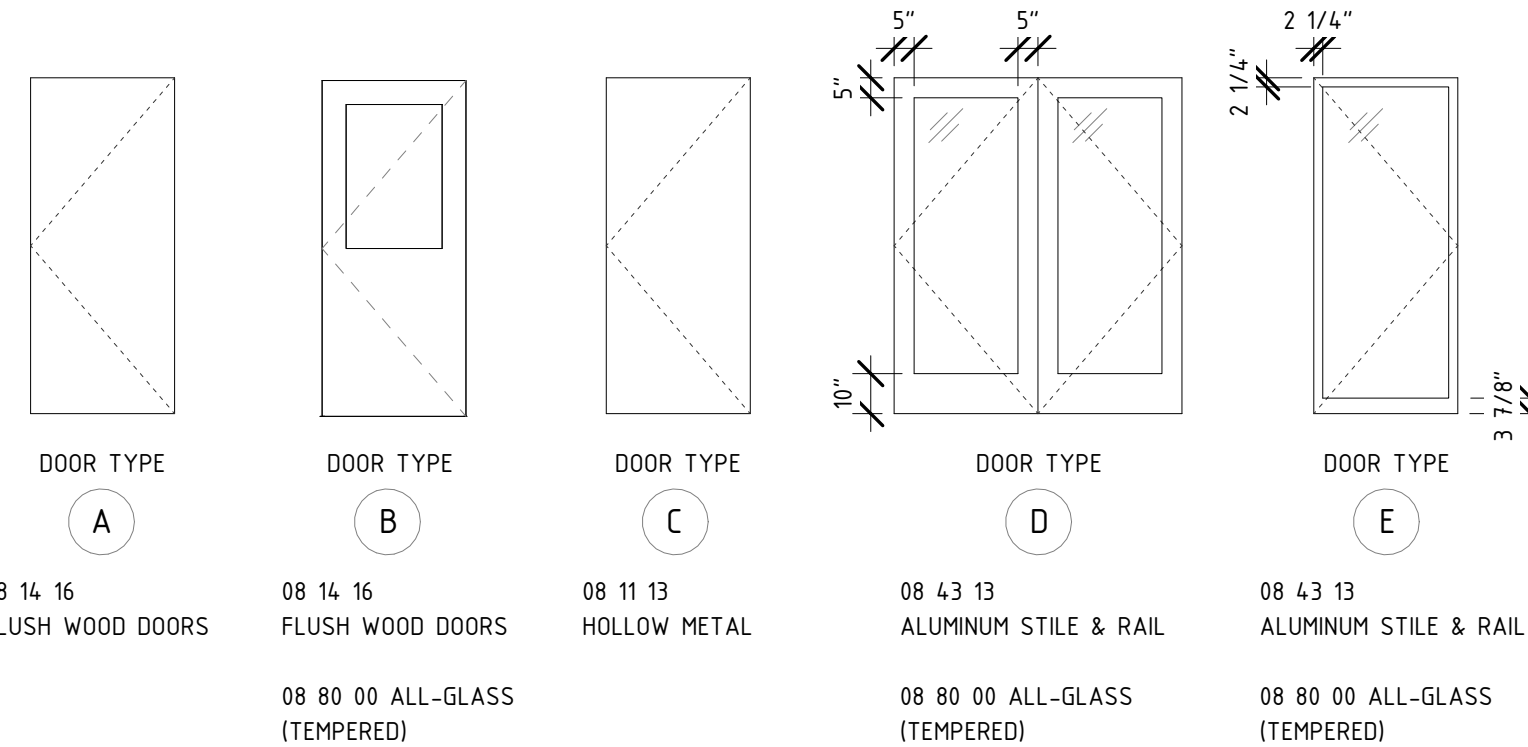
A7.20



1 BREAKROOM  
A2.10 1/2" = 1'-0"

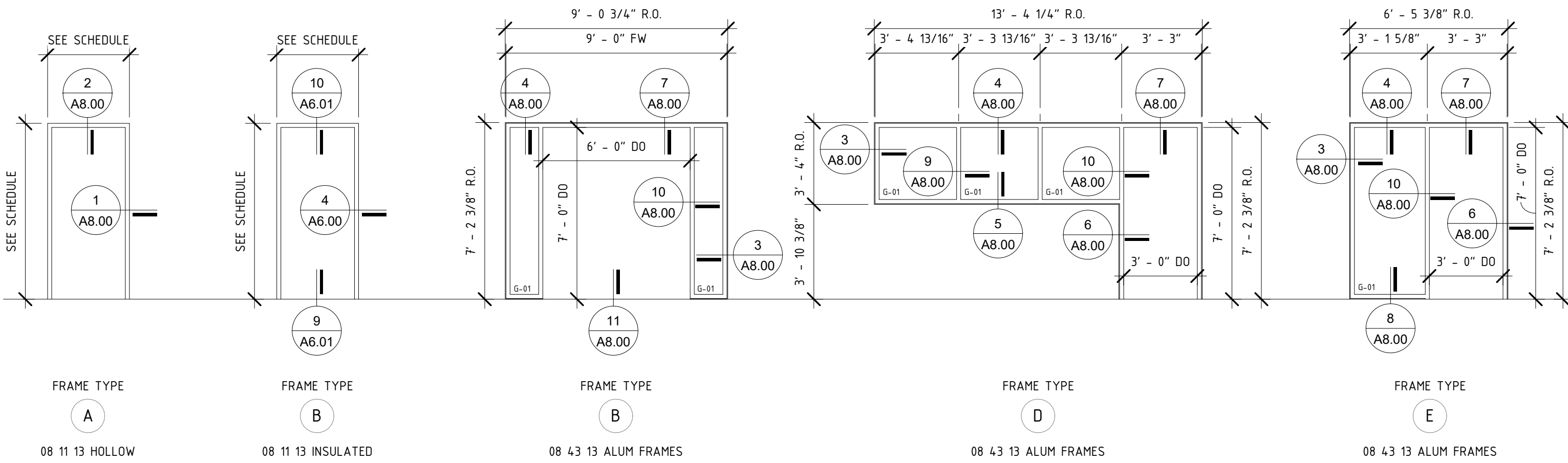


Door Schedule													
DOOR NUMBER	ROUGH OPENING		DOOR SIZE		DOOR			FRAME			HARDWARE	COMMENTS	
	ROUGH HEIGHT	ROUGH WIDTH	HEAD HEIGHT	PANEL WIDTH	TYPE	MATL	FINISH	FRAME TYPE	MATL	FINISH			
100	7'-2"	9'-0"	7'-0"	6'-0"	D	GLAL	ANOD	REF TO A8.05	AL	ANOD	01	GLAZING: IG-02; ADJUST DOOR HEIGHT BASED ON THE THRESHOLD DETAIL	
100C	7'-2"	3'-4"	7'-0"	3'-0"	E	GLAL	ANOD	E	AL	ANOD	04	GLAZING: G-01	
100D	7'-2"	3'-4"	7'-0"	3'-0"	E	GLAL	ANOD	D	AL	ANOD	04	GLAZING: G-01	
100E	7'-2"	3'-4"	7'-0"	3'-0"	B	HM	PTD	A	HM	PTD	03	PT-02 ON EXTERIOR FRAME AND PANEL; PT-03 ON INTERIOR FRAME AND PANEL	
100F	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	06		
100G	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	06		
101	7'-2"	9'-0"	7'-0"	6'-0"	E	GLAL	ANOD	C	AL	ANOD	02	GLAZING: G-01; ADJUST DOOR HEIGHT BASED ON THE THRESHOLD DETAIL	
102	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	05		
102A	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	08		
103	7'-2"	3'-4"	7'-0"	3'-0"	A	WDIGL	STAIN	A	HM	PTD	09	GLAZING: G-01	
103A	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	07		
103B	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	07		
104	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	07		
105	7'-2"	3'-4"	7'-0"	3'-0"	A	WD	STAIN	A	HM	PTD	07		



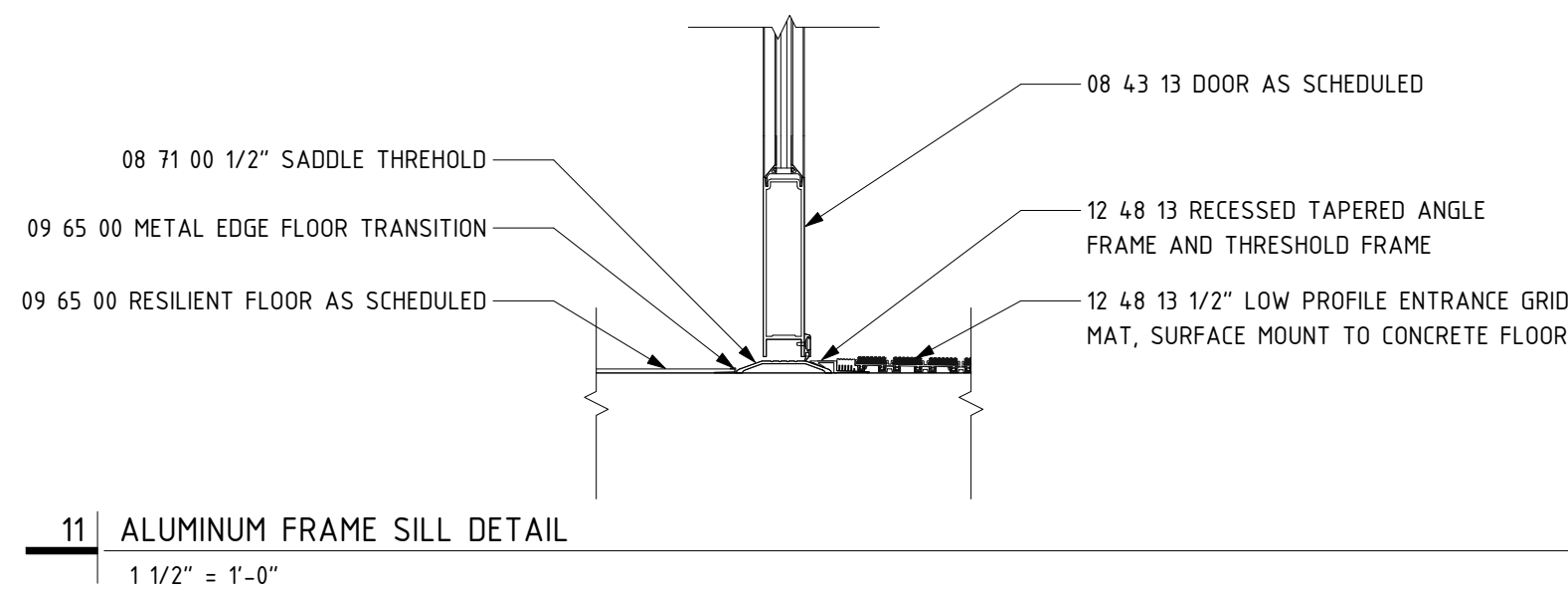
#### Door Types

1/4" = 1'-0"



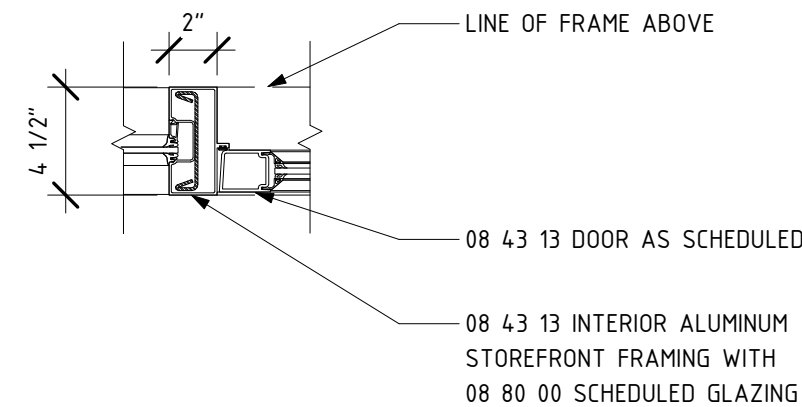
#### Frame Types

1/4" = 1'-0"



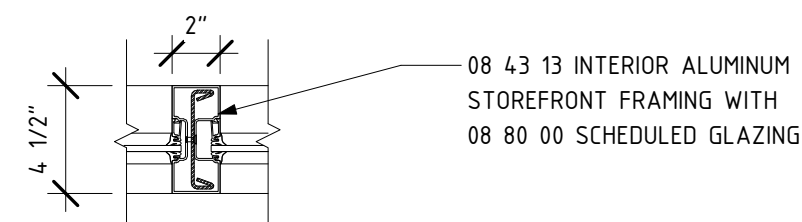
#### 11 | ALUMINUM FRAME SILL DETAIL

1 1/2" = 1'-0"



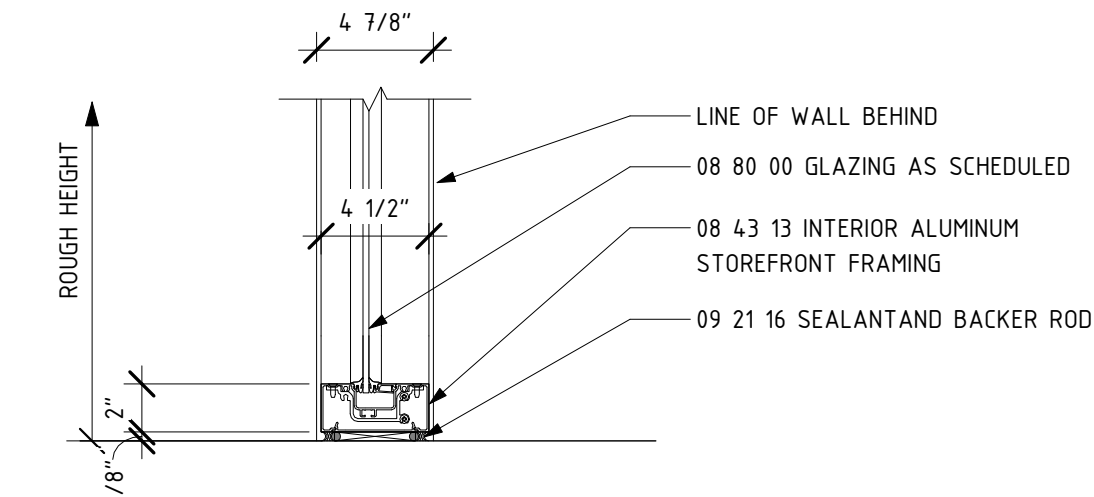
#### 10 | ALUMINUM FRAME JAMB DETAIL

1 1/2" = 1'-0"



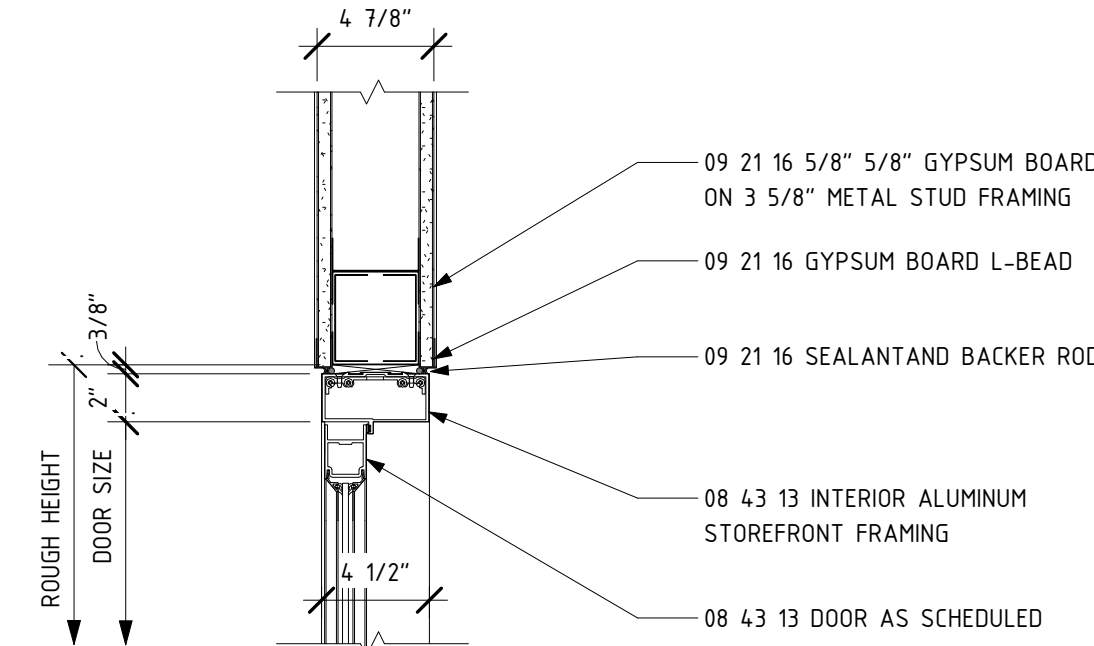
#### 9 | ALUMINUM FRAME JAMB DETAIL

1 1/2" = 1'-0"



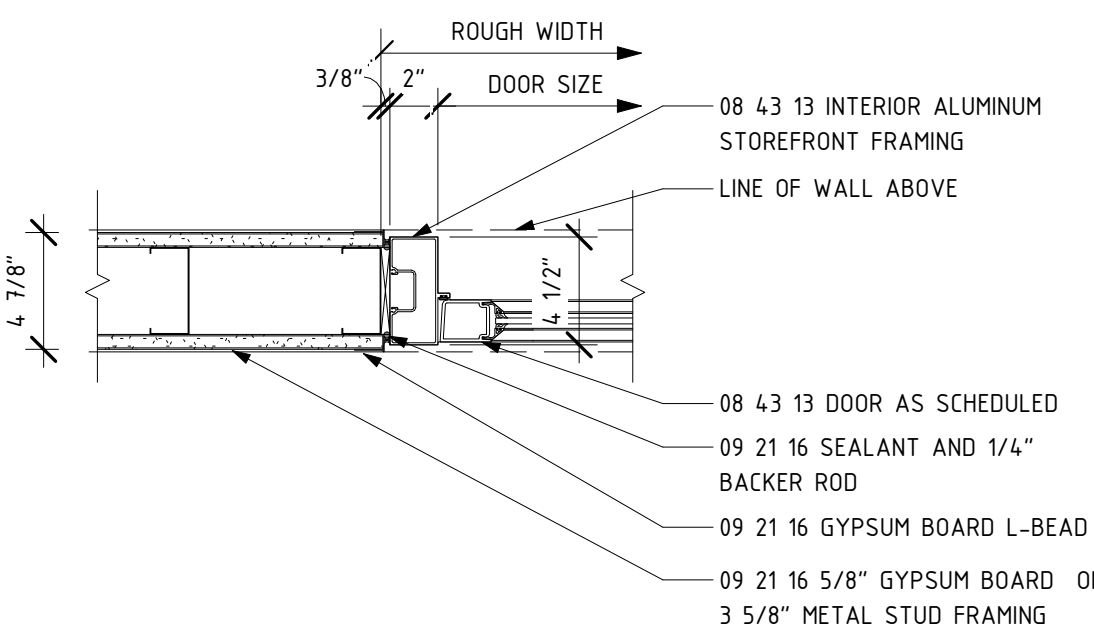
#### 8 | ALUMINUM FRAME SILL DETAIL

1 1/2" = 1'-0"



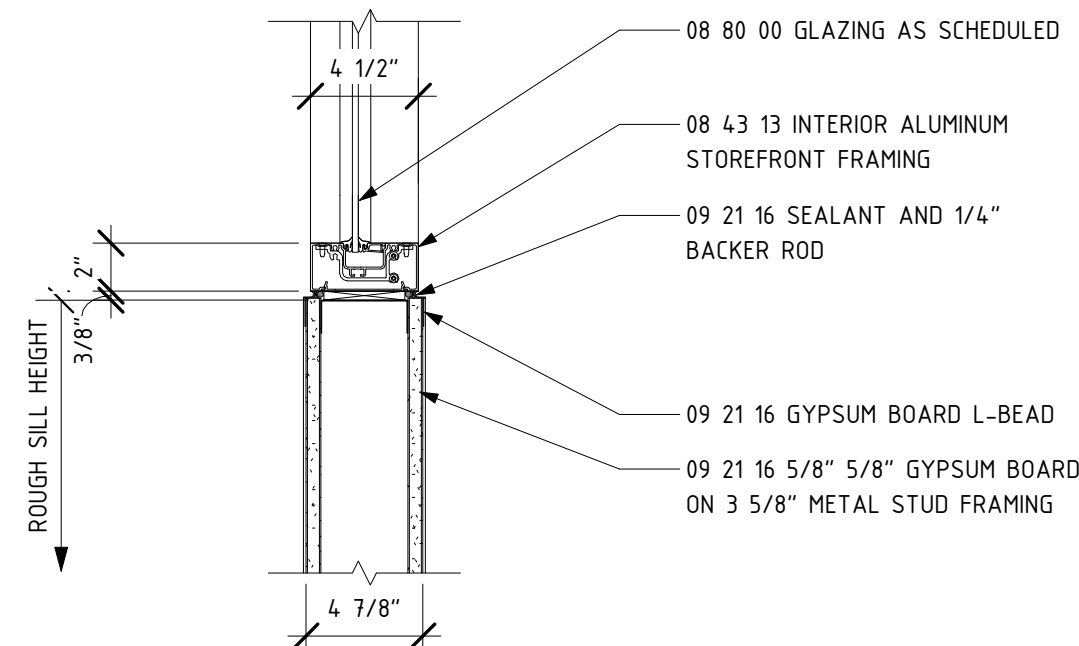
#### 7 | ALUMINUM FRAME HEAD DETAIL

1 1/2" = 1'-0"



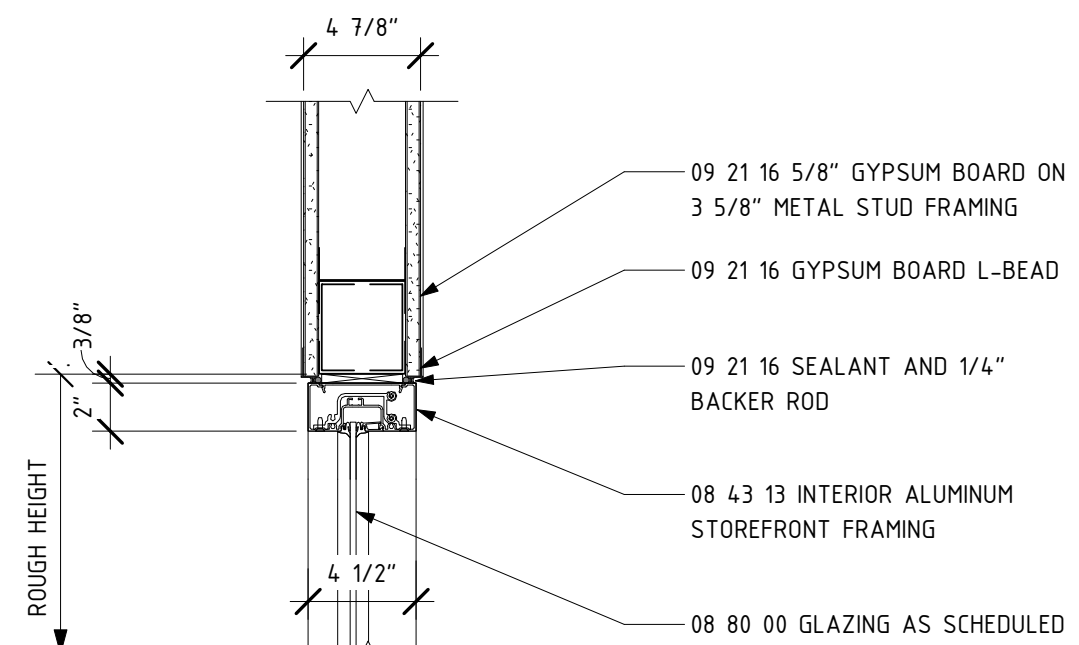
#### 6 | ALUMINUM FRAME JAMB DETAIL

1 1/2" = 1'-0"



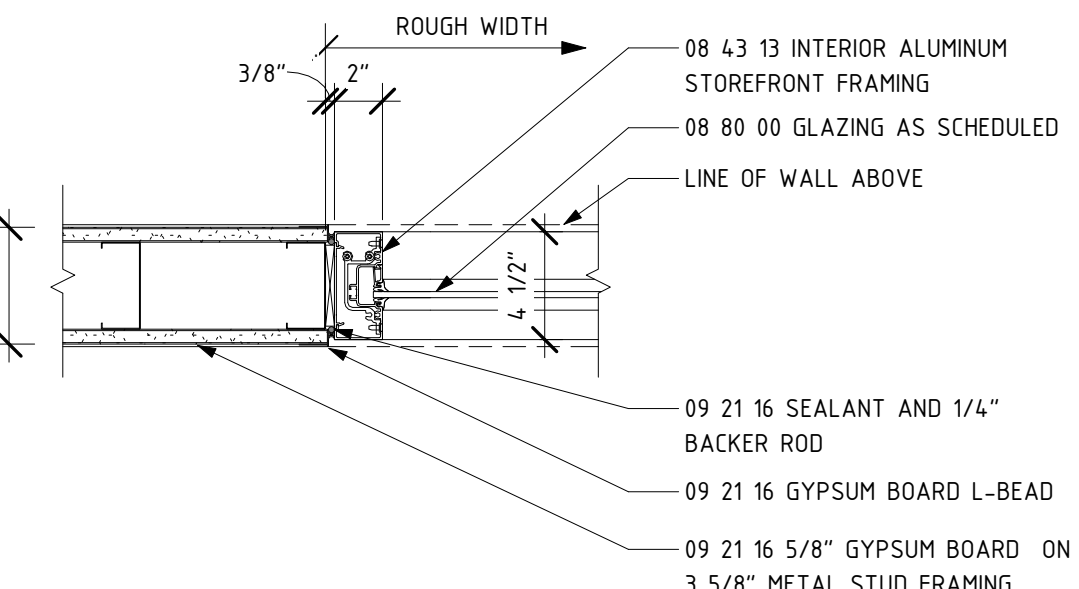
#### 5 | ALUMINUM FRAME SILL DETAIL

1 1/2" = 1'-0"



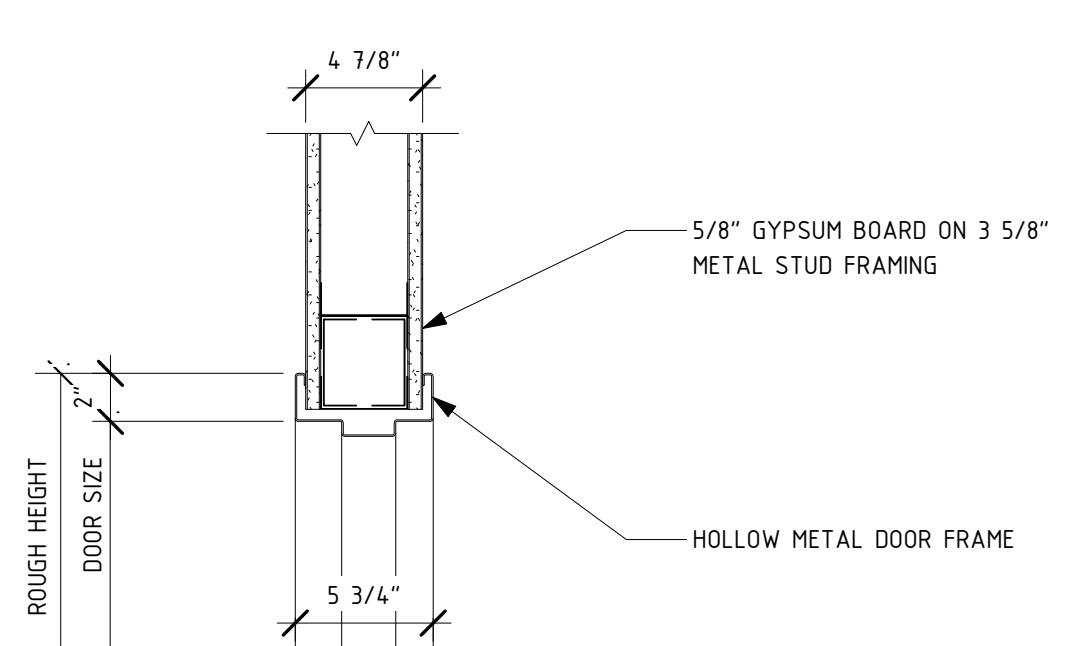
#### 4 | ALUMINUM FRAME HEAD DETAIL

1 1/2" = 1'-0"



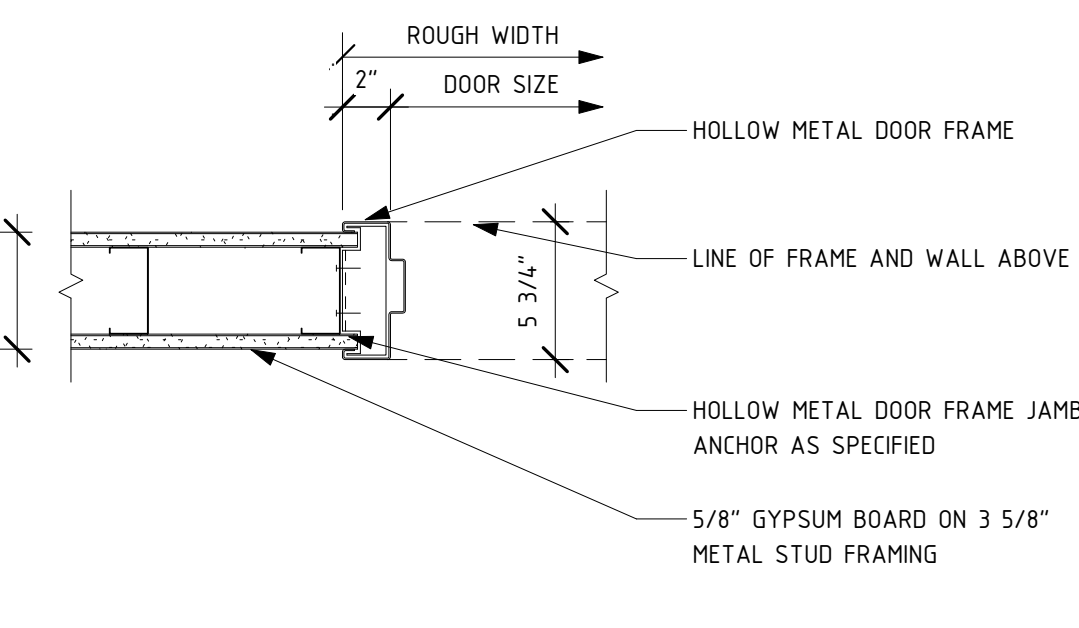
#### 3 | ALUMINUM FRAME JAMB DETAIL

1 1/2" = 1'-0"



#### 2 | HOLLOW METAL GYP BD DOOR FRAME HEAD DETAIL

1 1/2" = 1'-0"



#### 1 | HOLLOW METAL GYP BD DOOR FRAME JAMB DETAIL

1 1/2" = 1'-0"

PLY+

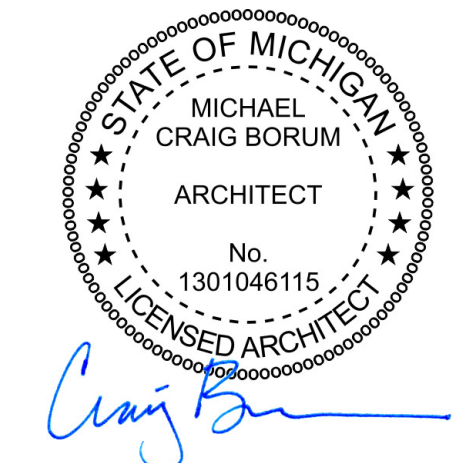
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Project Name

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Drawing Name

Door Schedule

Drawn By

YJ

Checked By

CB

Issue Date

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ITB-W-14.78 | P24006

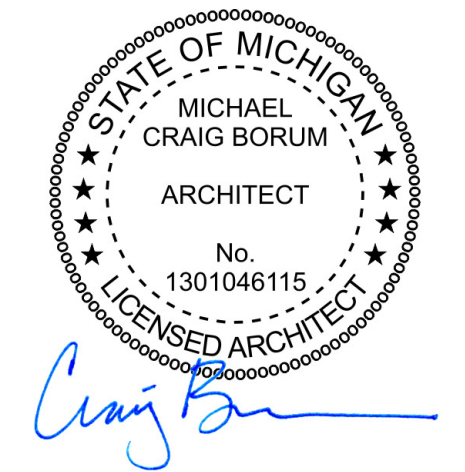
Sheet Number

A8.00



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Exterior Glazing Elevations

Drawn By  
YJ

Checked By  
CB

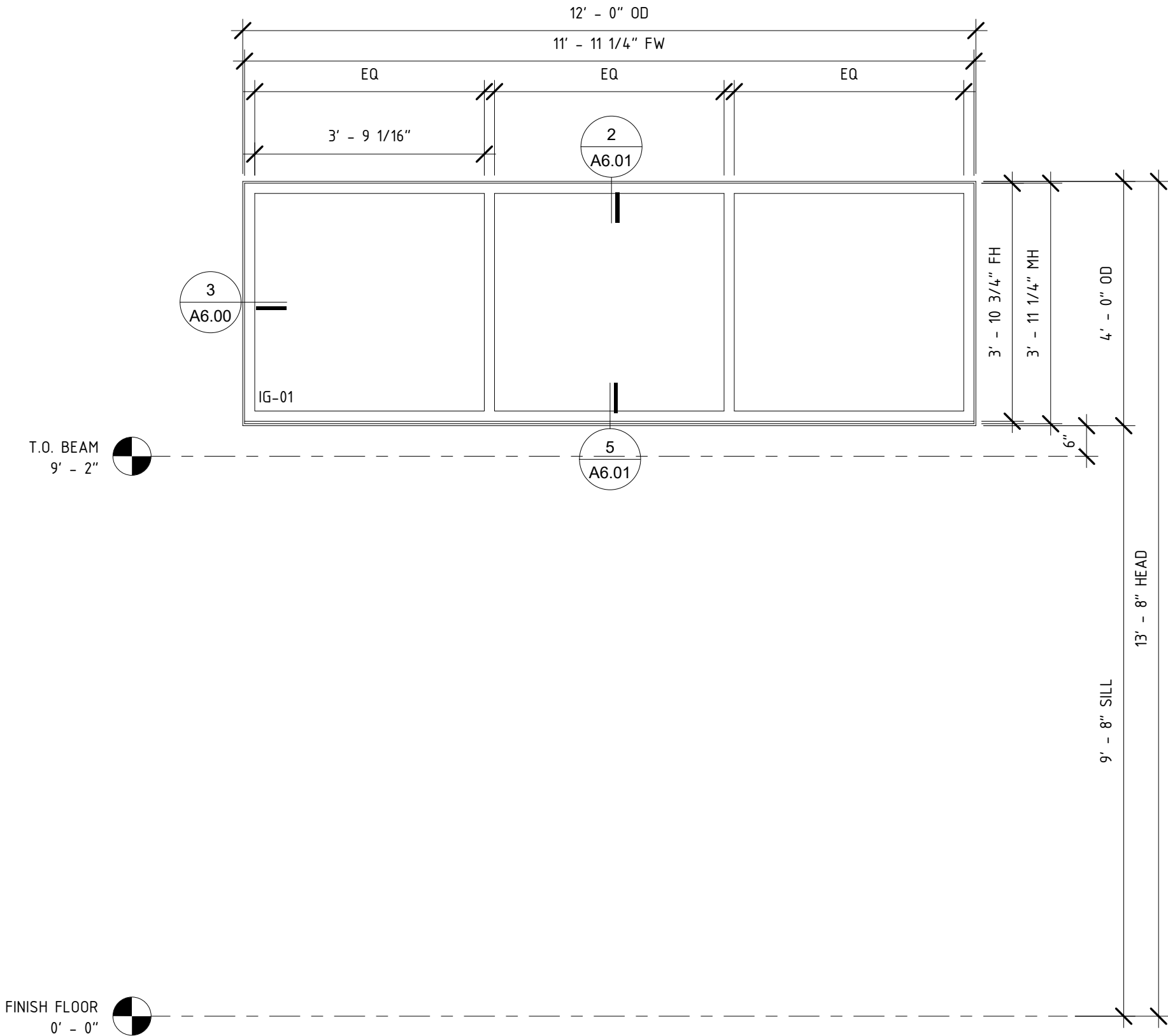
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Issued for      Date

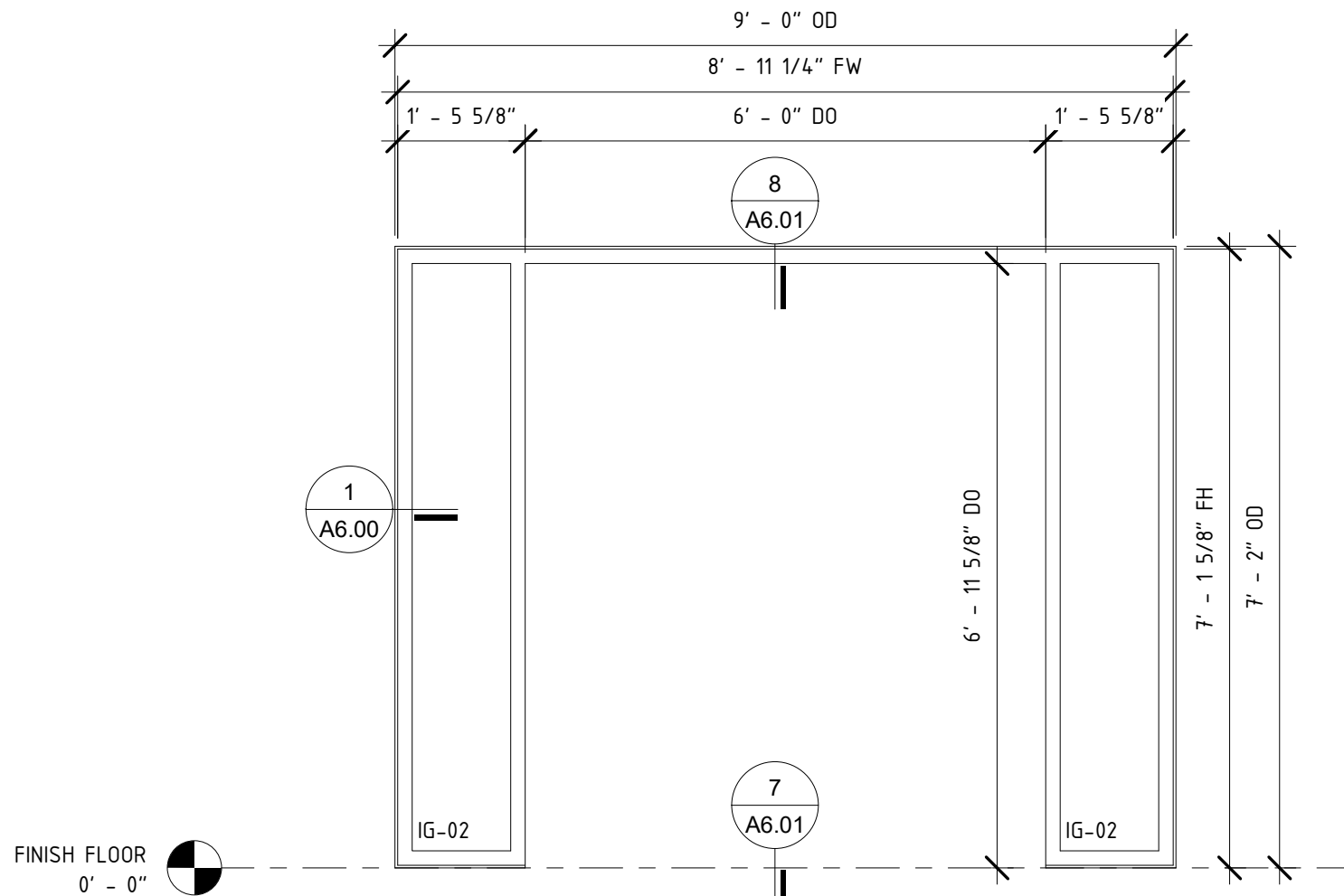
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ITB-W-14.78 | P24006

Sheet Number

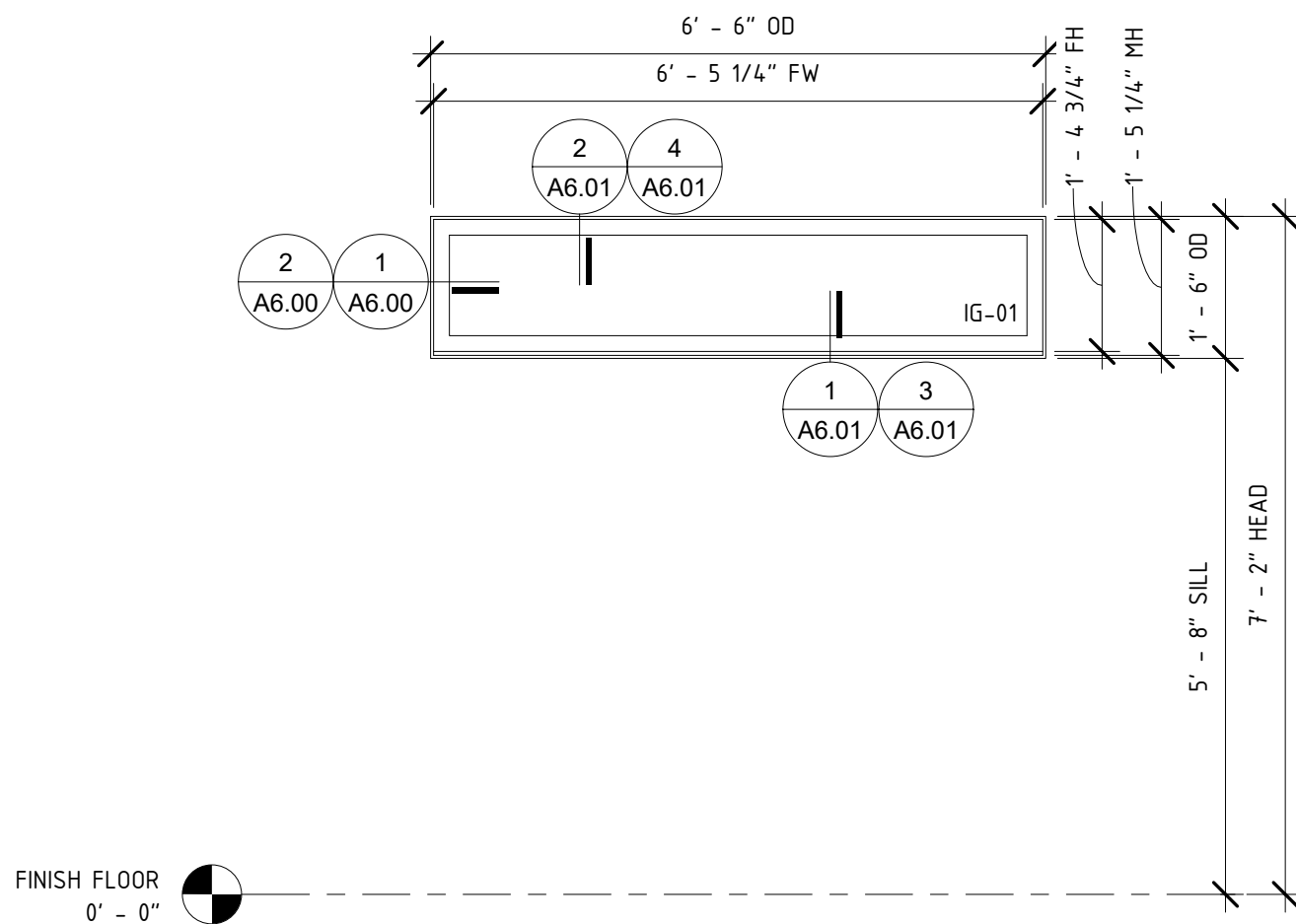
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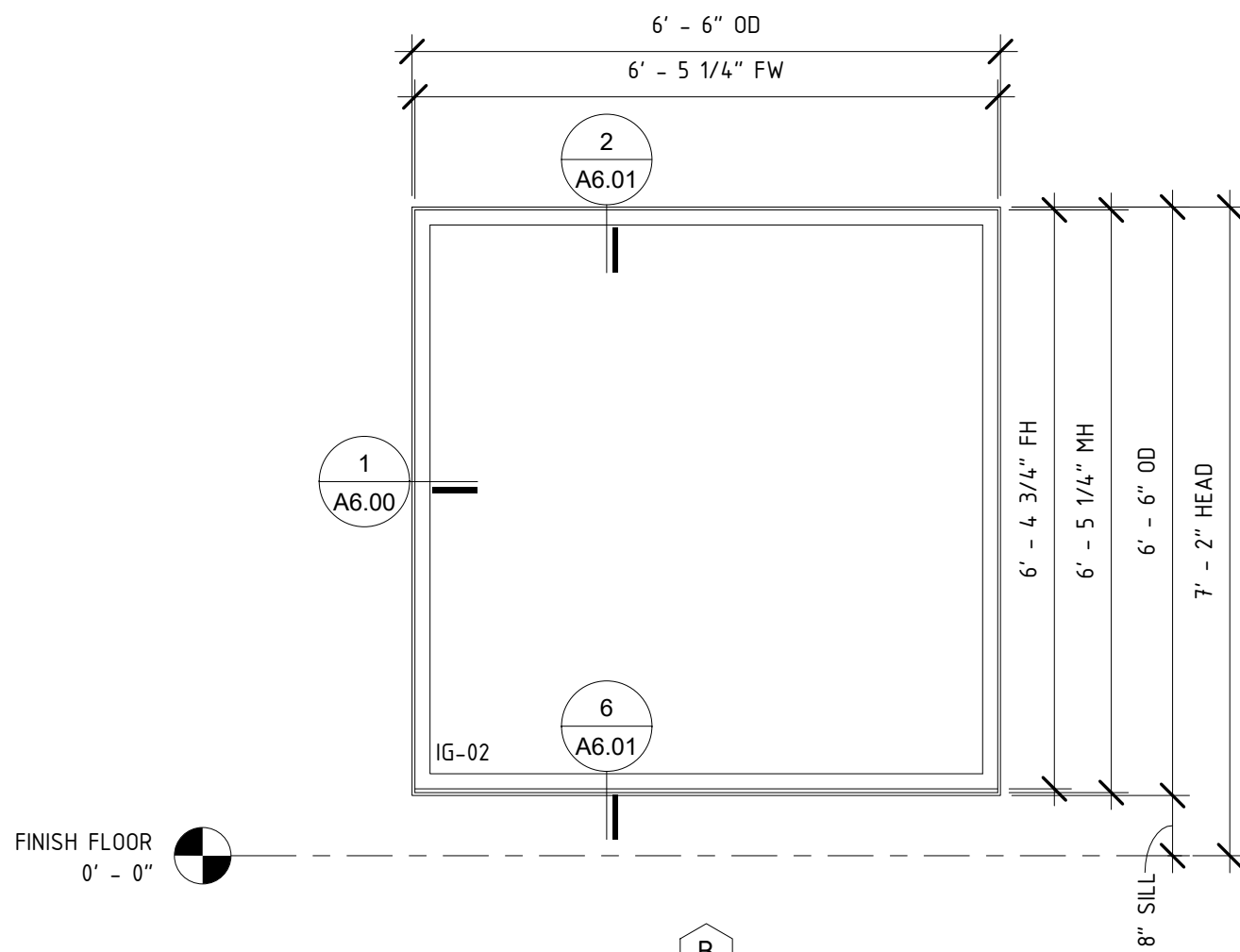
D  
08 43 13 ALUMINUM FRAME STOREFRONT, SCREW SPLINE  
08 80 00 INSULATED GLASS UNIT, IG-01



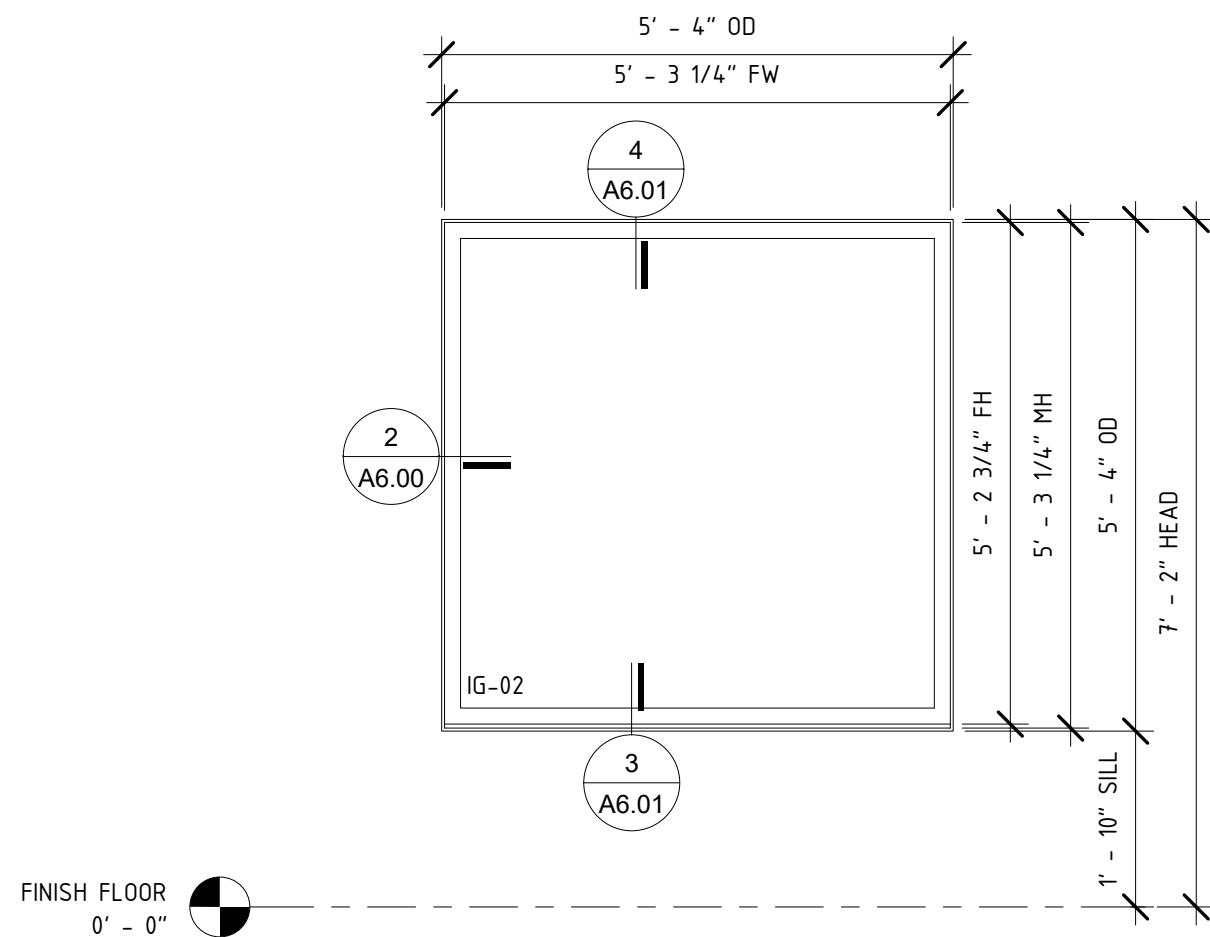
E  
08 43 13 ALUMINUM FRAME STOREFRONT, SCREW SPLINE  
08 43 13 DOUBLE SWING DOOR, REF TO DOOR SCHEDULE  
08 80 00 INSULATED GLASS UNIT, IG-02



A  
08 43 13 ALUMINUM FRAME STOREFRONT, SCREW SPLINE  
08 80 00 INSULATED GLASS UNIT, IG-01



B  
08 43 13 ALUMINUM FRAME STOREFRONT, SCREW SPLINE  
08 80 00 INSULATED GLASS UNIT, IG-02



C  
08 43 13 ALUMINUM FRAME STOREFRONT, SCREW SPLINE  
08 80 00 INSULATED GLASS UNIT, IG-02

EXTERIOR GLAZING TYPES

1/2" = 1'-0"



Schedule- Color Code							
COLOR CODES	PRODUCT / MATERIAL	MANUFACTURER	PRODUCT NAME / NUMBER	COLOR NAME / NUMBER	SIZE	FINISH	NOTES
<b>Ceiling</b>							
AC-01	Acouctial Ceiling Tile	Armstrong	CORTEGA	White	24 X 24		
EXP	Exposed Construction						
GYP	Gypsum Board Ceiling						Painted - Ref. Drawings
<b>Base</b>							
B-01	Resilient Wall Base	Tarkett	1/8" Vinyl Wall base	71 Storm Cloud	4" Tall Cove		
B-02	Resilient Wall Base	Tarkett	1/8" Vinyl Wall base	283 Toast	4" Tall Cove		Main Base   Dark Blue
B-03	Tile Base	Mosa	Global		Cove		Accent Base   Dark Tan Base For Bathrooms
<b>Floor</b>							
FT-01	Floor Tile	Mosa Global	75500	Small speckled turquoise	6 x 6	Smooth (V)	
SL-01	Linoleum	Forbo Marmoleum	3583	Chocolate Blues	sheet		Library Entry   Library of Things
SL-02	Linoleum	Forbo Marmoleum	3594	White Chocolate	sheet		Administration Break   Office
MAT-01	Walk Off Mat	Construction Specialties INC	Peditred	LP G3	ref. drawings	Anod. / 9313 Midnight	Surface mounted
MAT-02	Walk Off Carpet	Construction Specialties INC	DesignStep			Castle Gray	Surface Mounted
CPT-01	Carpet Tile	Interface	Angle Up   Rising Signs	107207 Phosphorous	25 cm x 1 m		Primary Carpet
<b>Paint/Wall</b>							
PT-01	Paint	Benjamin Moore	OC-53	Horizon			Neutral / Reading Room
PT-02	Paint	Benjamin Moore	HC-134	Tarrytown Green			Steel Collar Ties   Porch Soffit
PT-03	Paint	Benjamin Moore	014	Soft Glow			Young Adult + Study Room Back Wall
PT-04	Paint	Benjamin Moore	792	Mystical Blue			Library of Things   Drinking Fountain Wall
PT-05	Paint	Benjamin Moore	1644	Blue Dusk			Reception Back Wall
PT-06	Paint	Benjamin Moore	OC-27	Baltoea Mist			Office   Bathrooms   Breakroom
PT-07	Paint	Benjamin Moore	HC-66	Carmson Red			Young Adult   Study Room Accent   Breakroom Accent
PC-01	Powder Coat			Color Match BM Tarrytown Green			
WT-01	Wall Tile	Mosa Global	75100	Plain Turquoise	6 x 6	Smooth (V)	
<b>Millwork</b>							
SS-01	Solid Surface	Formica	774	Luna Fossil			Entry Desk   Public Workstation
SS-02	Solid Surface	Corian		Aurora			Administration Break Room
SS-03	Solid Surface	Durac	370	Dark Turquoise			Children's Area
PL-01	Plastic Laminate	Abel Laminati	487 SEI				Entry Desk
PL-02	Plastic Laminate	Wilsonart	7986-38	Pasadena Oak			Entry Desk
PL-03	Plastic Laminate	Abel Laminati	437 SEI				Children's Area Millwork
PL-04	Plastic Laminate	Abel Laminati	810 SEI				Administration Break Room Cabinet, Door and Drawer Faces
<b>Specialties</b>							
GR-01	Grout	Tec	929	Charcoal Gray			Bathroom Tile Grout
<b>Exterior</b>							
MTL-Corr	Exterior Wall Panel	ATAS	Corrugated Panel BWC374	Hartford Green	39 1/2"		Corrugated Wall Panel
FB-CMT	Exterior Wall Panel	NICHIHA AWP1818	Modern Series Architectural Block	Tuscan	17-7/8" x 71-9/16"		Fiber Cement Panels
MTL-Standing	Exterior Roof Panel	ATAS	Dutch Seam MRD194	Hartford Green	19 1/4"		Standing Seam Roof Panels with Stiffening Ribs
CONC-01	Concrete					Broom	Porch

Room Finish Schedule					
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
100	READING ROOM	CPT-01	B-01	PT-01	GYP PT-01
100A	VESTIBULE	MAT-01, MAT-02	B-01	PT-01	GYP PT-01
103A	JAN	Concrete	B-02	PT-06	EXP
100G	WC	FT-01	B-03	WT-01, PT-01	GYP PT-01
103	OFFICE	SL-02	B-02	PT-06	AC-01
104	ELEC	Concrete	B-02	PT-06	EXP
102A	WC	FT-01	B-03	WT-01, PT-01	GYP PT-01
102	BREAK	SL-02	B-02	PT-06, PT-07	AC-01
101	INFO	CPT-01	B-01	PT-04, PT-05	GYP PT-01
100C	STUDY	CPT-01	B-01	PT-03, PT-07	AC-01
100D	TEEN ROOM	CPT-01	B-01	PT-03, PT-07	AC-01
105	MECH	Concrete	B-02	PT-06	EXP
100E	HALL	SL-01	B-01	PT-03, PT-07	GYP PT-07
100F	WC	FT-01	B-03	WT-01, PT-01	GYP PT-01
103B	IT ROOM	Concrete	B-02	PT-06	EXP
103C	LIBRARY OF THINGS	SL-01	B-01	PT-04	GYP PT-04
100B	LIBRARY ENTRY	SL-01	B-01	PT-01, PT-04	GYP PT-01

LEGEND:

FINISH PLAN

NOTE: NOT ALL SYMBOLS MAY BE USED

	CARPET 01 CPT-01		WALK OFF MAT MAT-01
	LINOLEUM 01 SL-01		WALK OFF CARPET MAT-02
	LINOLEUM 02 SL-02		CONCRETE
	FLOOR TILE 01 FT-01		

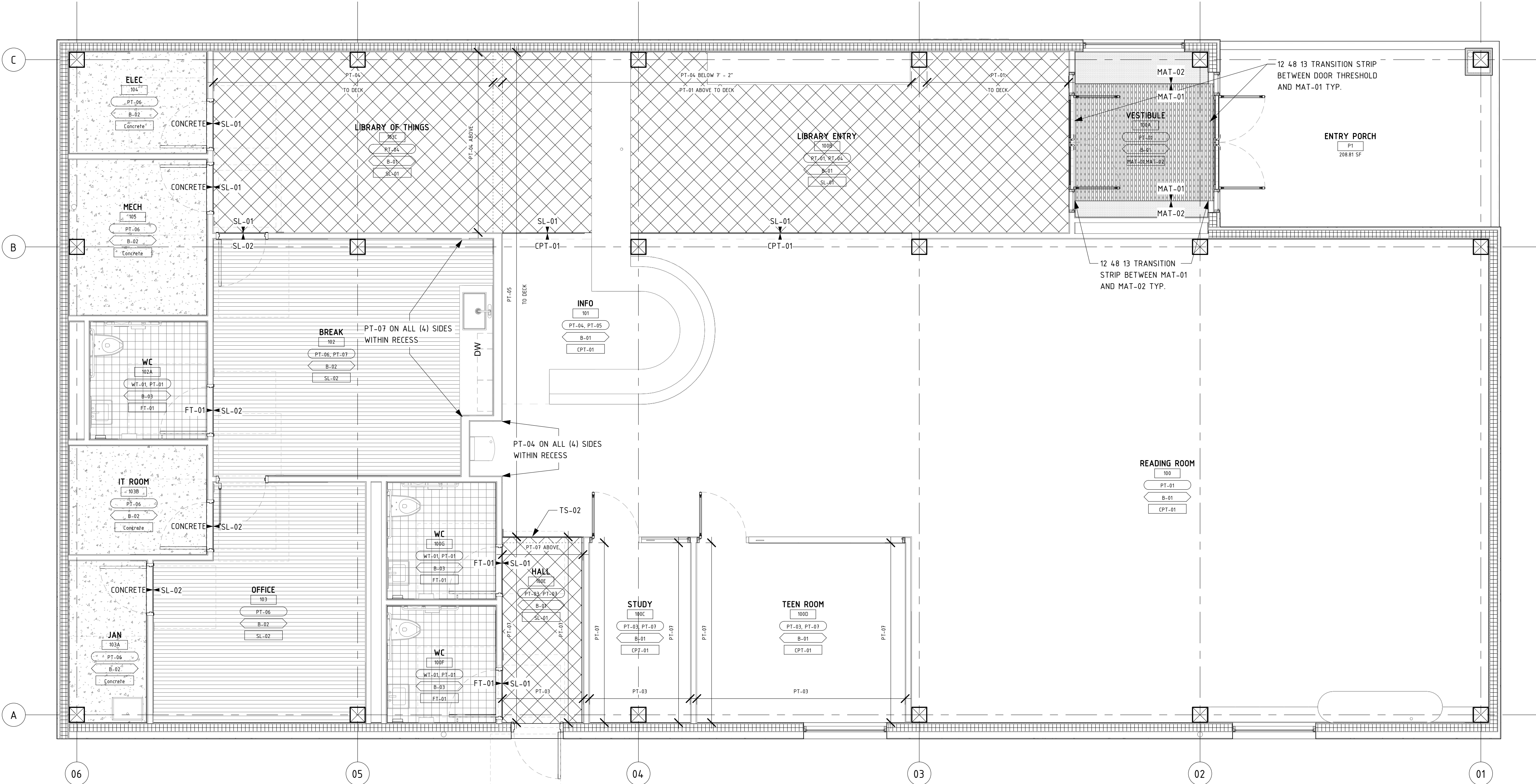
XX-XX ACCENT MATERIAL XX-XX, REFER TO COLOR CODES

ROOM NAME

101	ROOM NAME
101	ROOM NUMBER
XX-XX	WALL FINISH, REFER TO COLOR CODES
XX-XX	BASE, REFER TO COLOR CODES
XX-XX	FLOOR FINISH, REFER TO COLOR CODES

GENERAL NOTES

- REFER TO A7 SERIES INTERIOR ELEVATIONS FOR MATERIAL LOCATION WHERE MULTIPLE FLOOR AND WALL FINISHES ARE INDICATED ON FINISH SCHEDULE.
- REFER TO FINISH PLANS AND ELEVATIONS FOR ADDITIONAL ACCENT FLOORING AND WALL FINISHES.
- REFER TO SPECIFICATION FOR ALL TILE GROUT.
- METAL TRIM TO BE APPLIED TO TILE WHERE TILE DOES NOT EXTEND TO CEILING AND A BULLNOSE PROFILE IS NOT AVAILABLE.
- METAL TRIM TRANSITION TO BE APPLIED AT BASE WHERE TILE AND A DIFFERENT MATERIAL MEET.

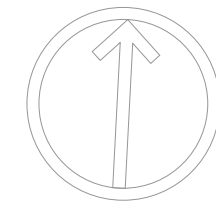


PLY+

architecture, urbanism, design

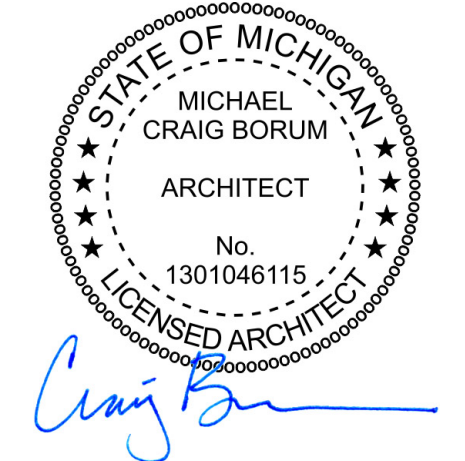
409 1/2 N 4th Ave  
Ann Arbor, Michigan 48104  
USA

Telephone:  
734 827 2238  
www.plyarch.com



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Finish Plan + Schedule

Drawn By  
CG

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

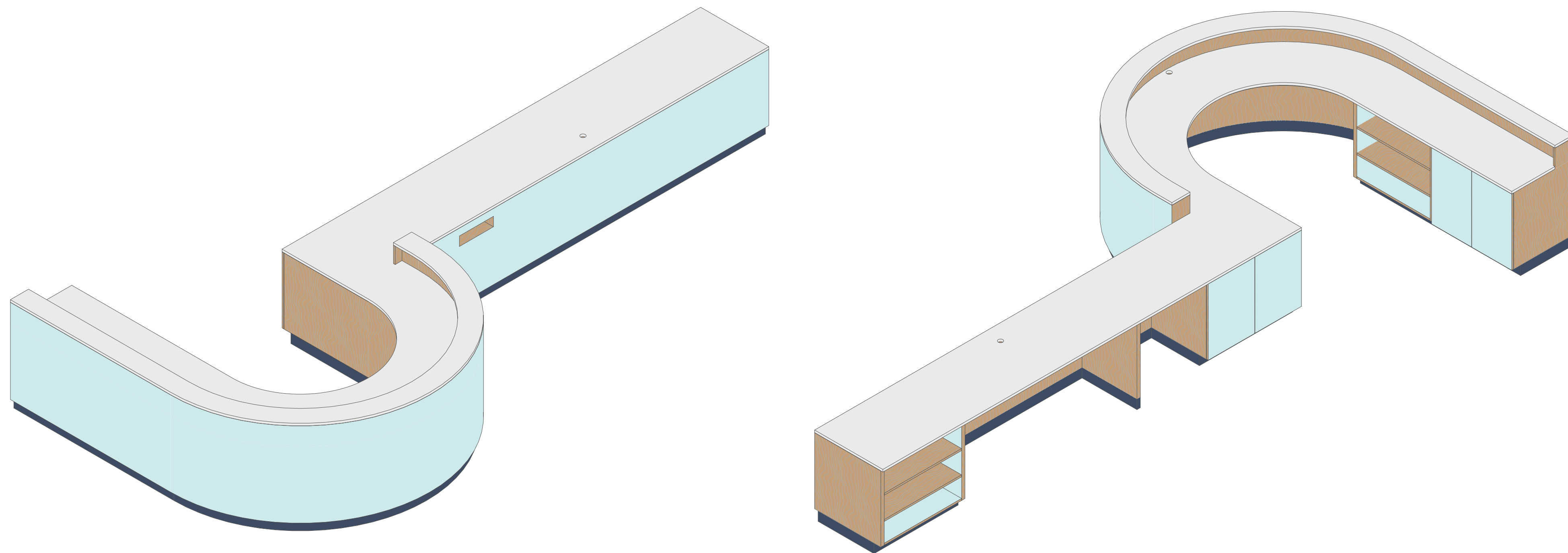
Revisions  
Issued for Date

Project No.  
ITB-W-14.78 | P24006

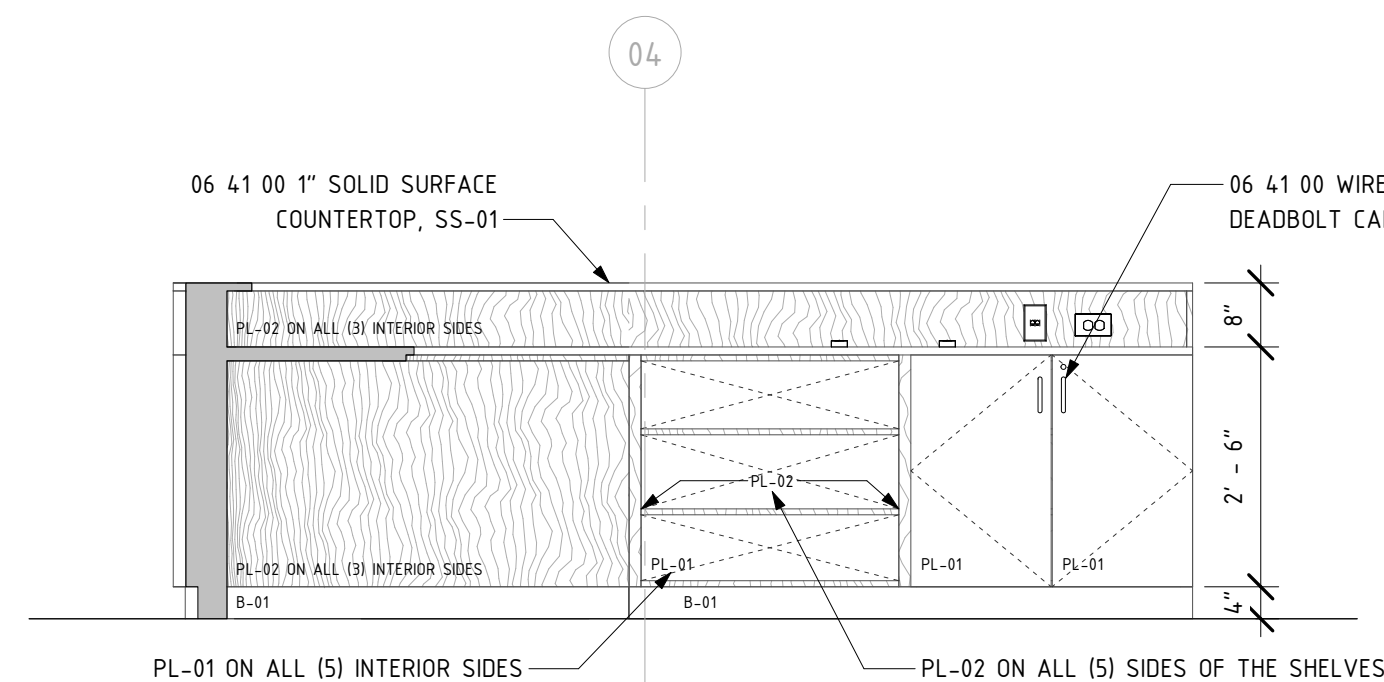
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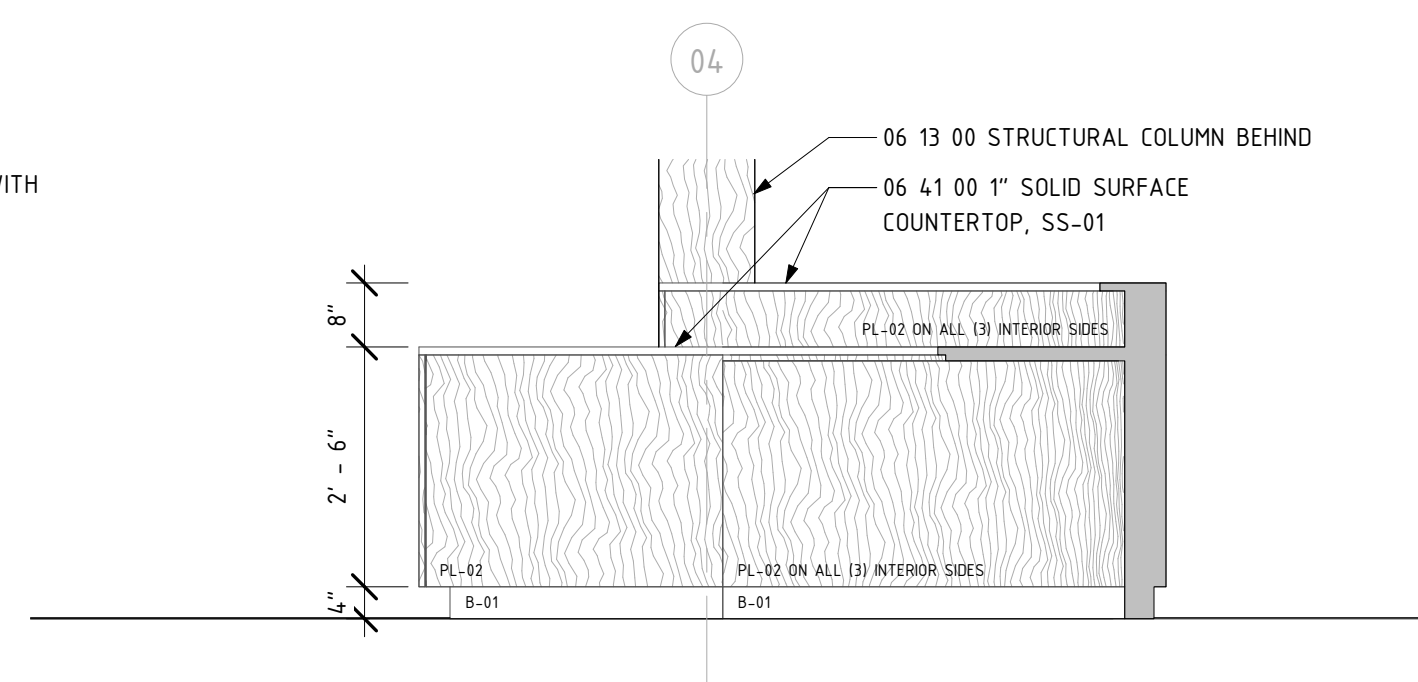
6 MW1 AXONOMETRIC VIEW



5 MW1 INTERIOR ELEVATION

A9.00

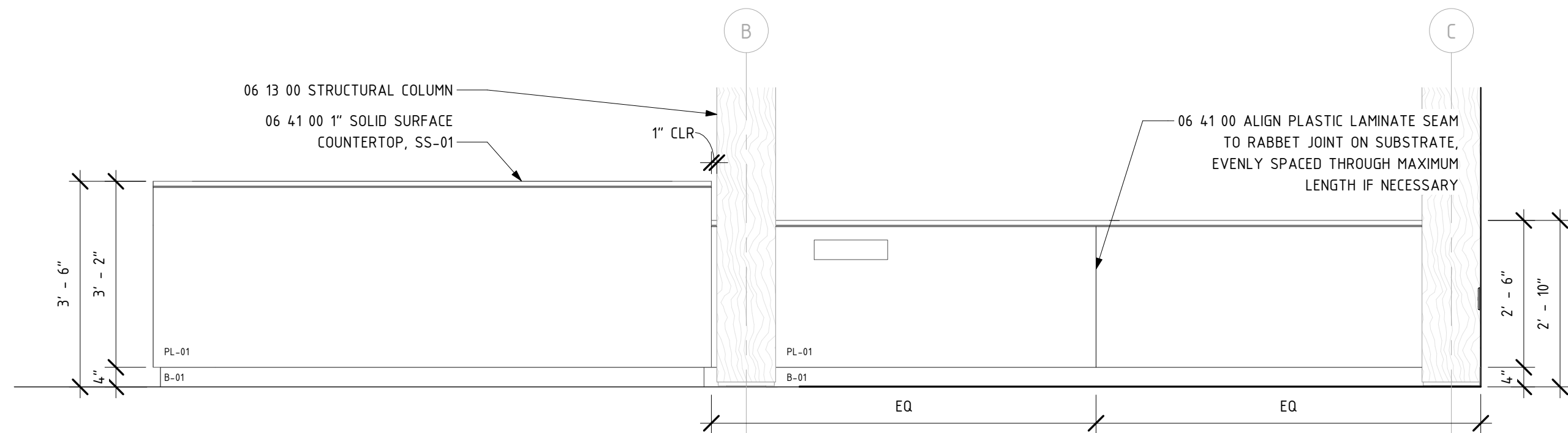
1/2" = 1'-0"



4 MW1 INTERIOR ELEVATION

A9.00

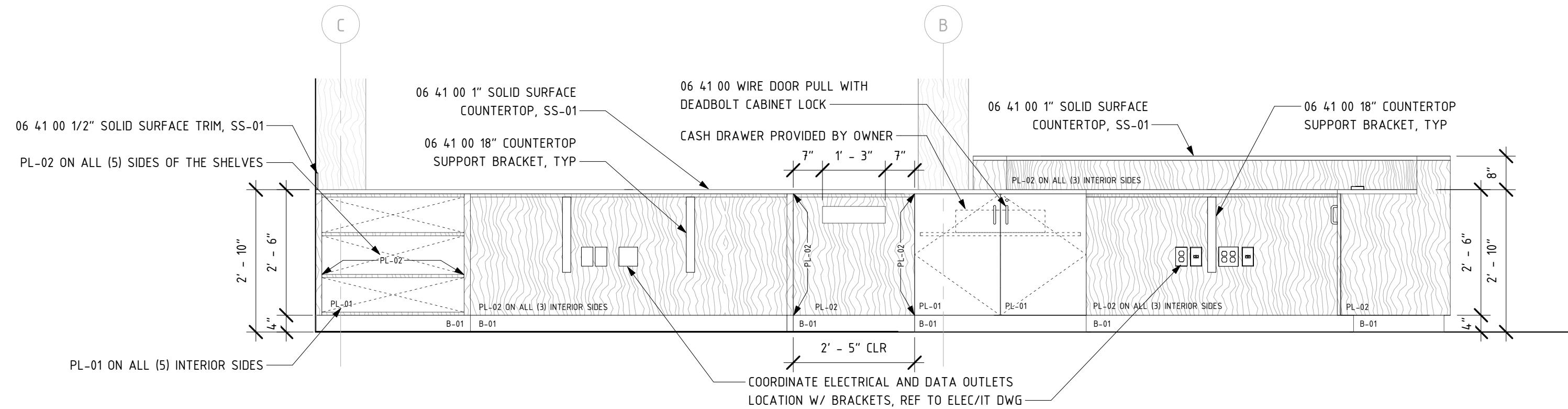
1/2" = 1'-0"



3 MW1 INTERIOR ELEVATION

A9.00

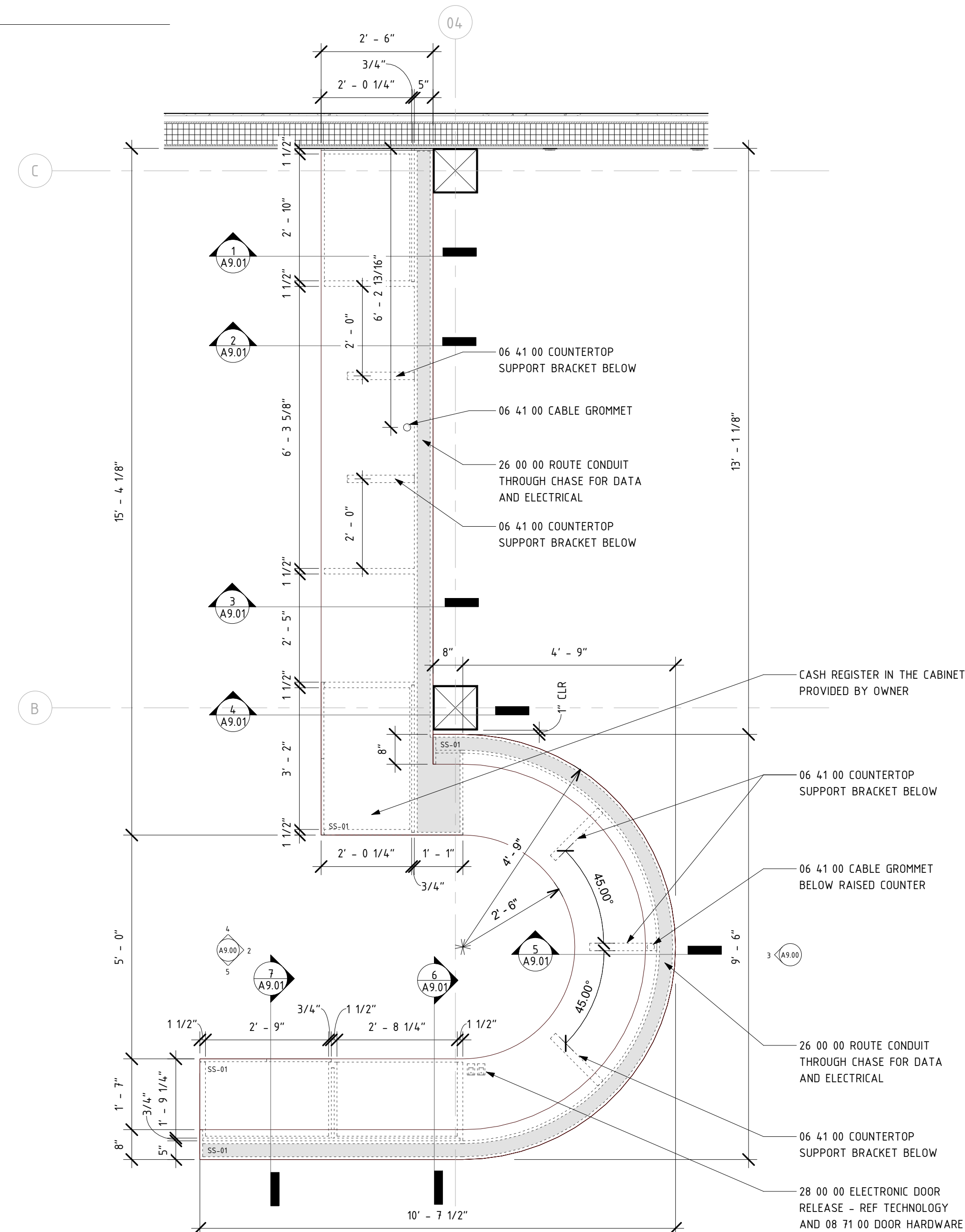
1/2" = 1'-0"



2 MW1 INTERIOR ELEVATION

A9.00

1/2" = 1'-0"



1 MW1 ENLARGED PLAN

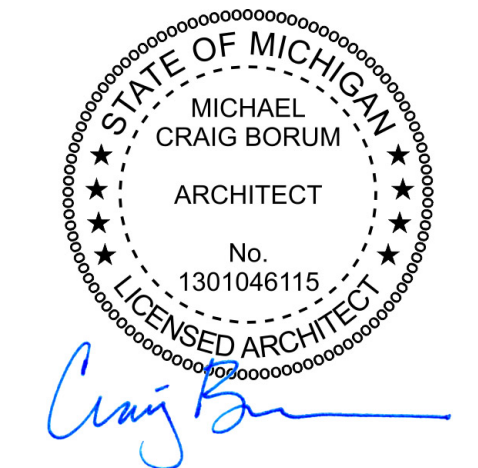
A2.10

1/2" = 1'-0"



Project Name

WARREN BRANCH LIBRARY



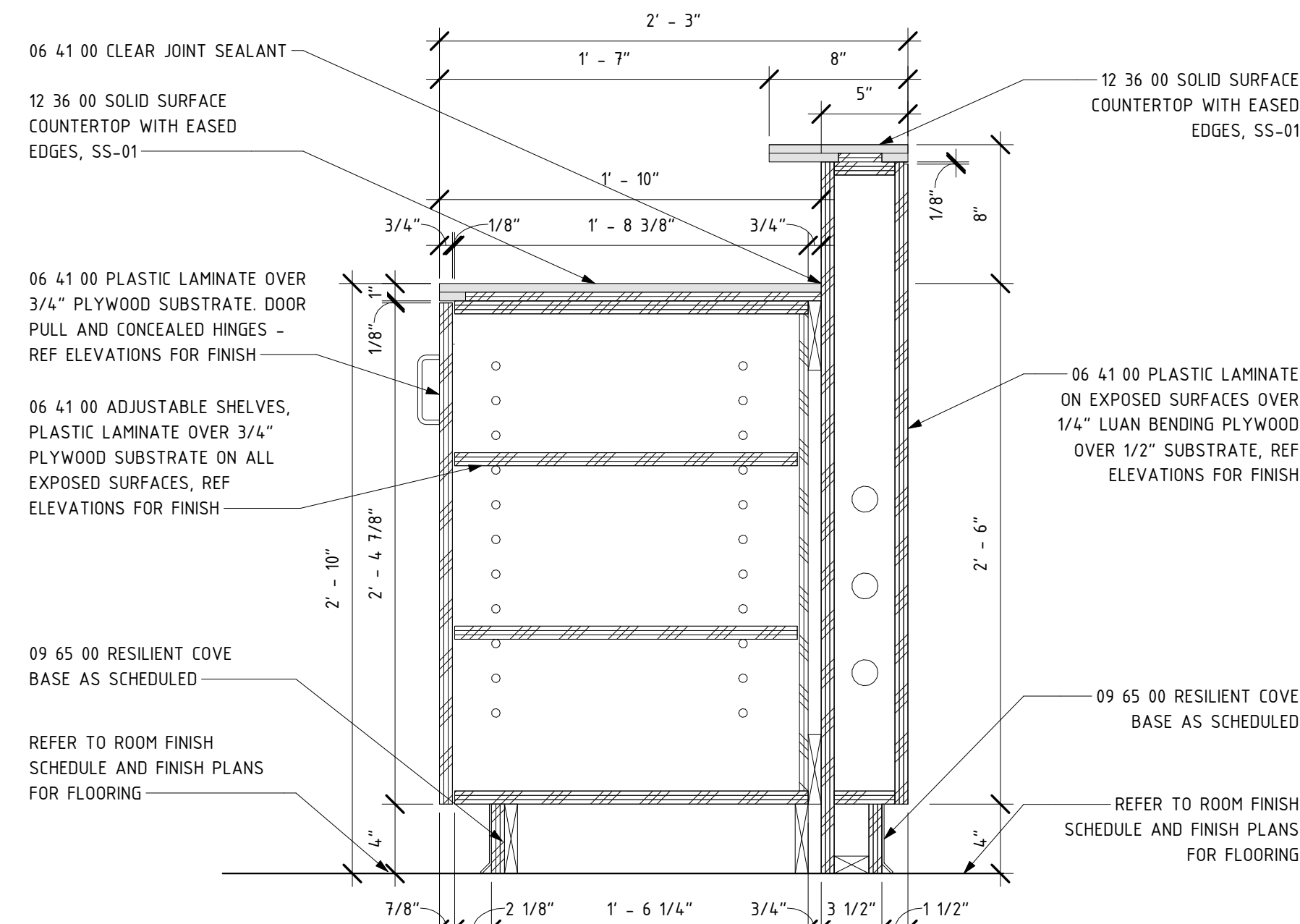
Drawing Name

Interior Millwork

Drawn By  
YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid SetRevisions  
Issued for DateProject No.  
ITB-W-14-78 | P24006

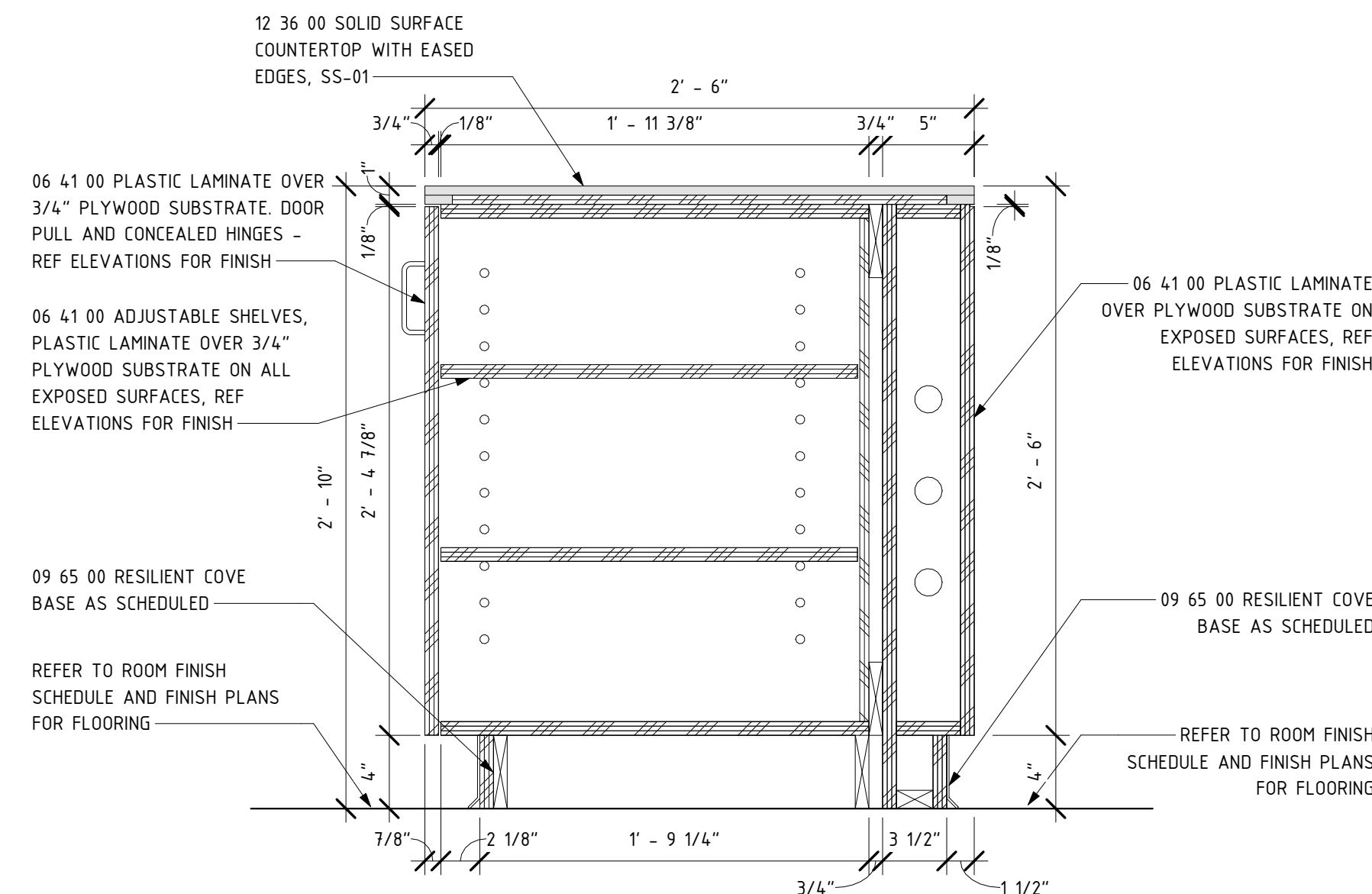
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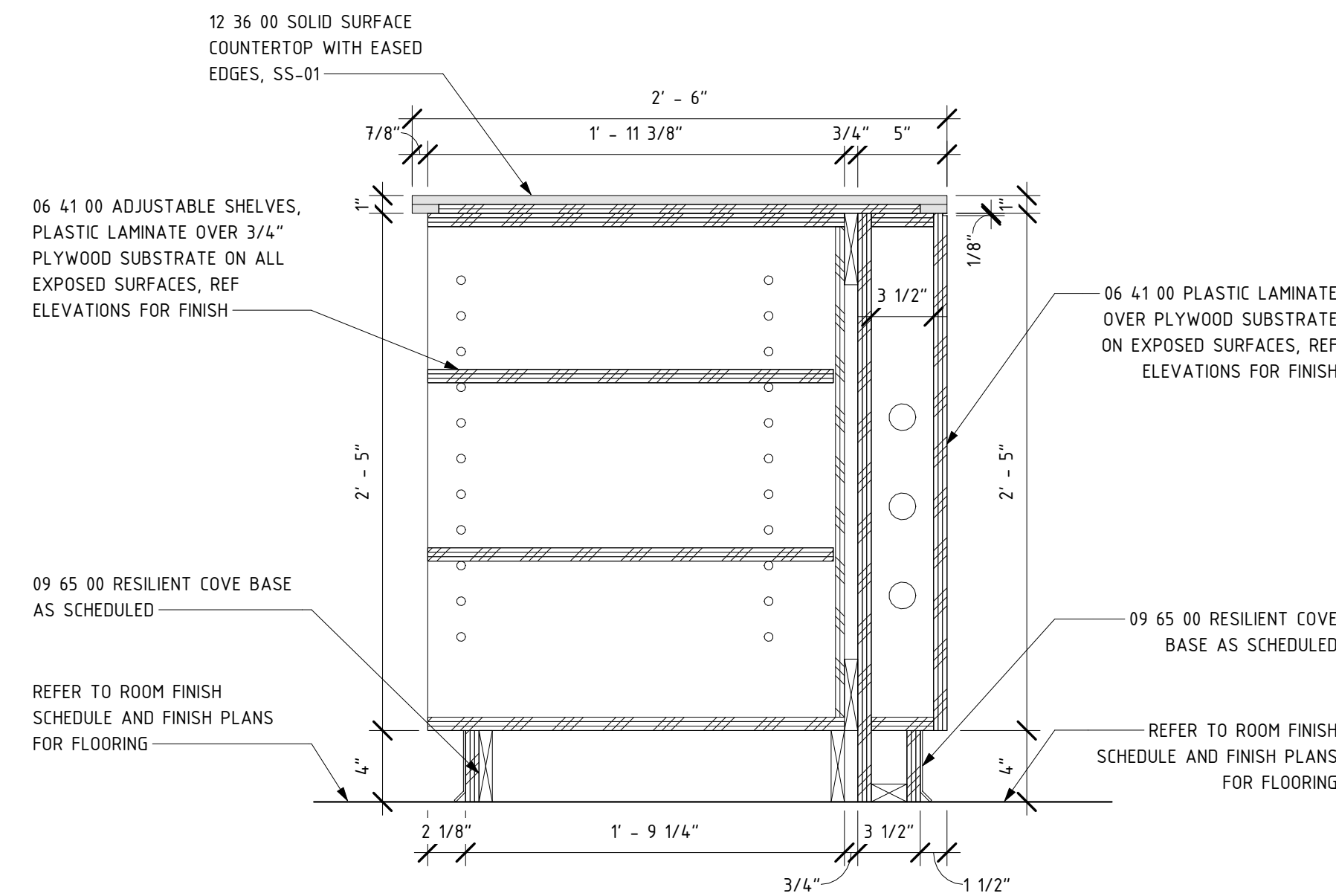
7 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



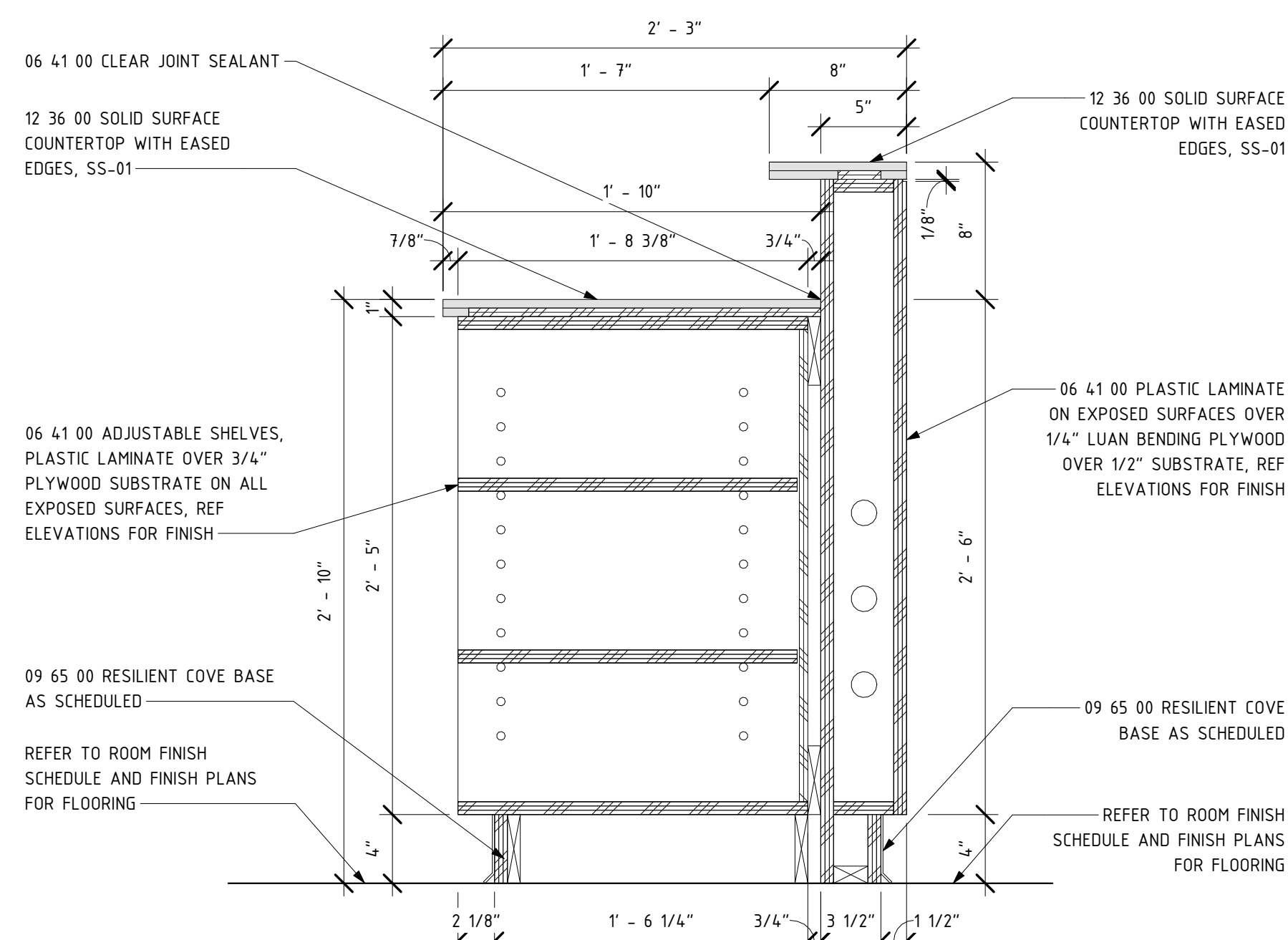
4 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



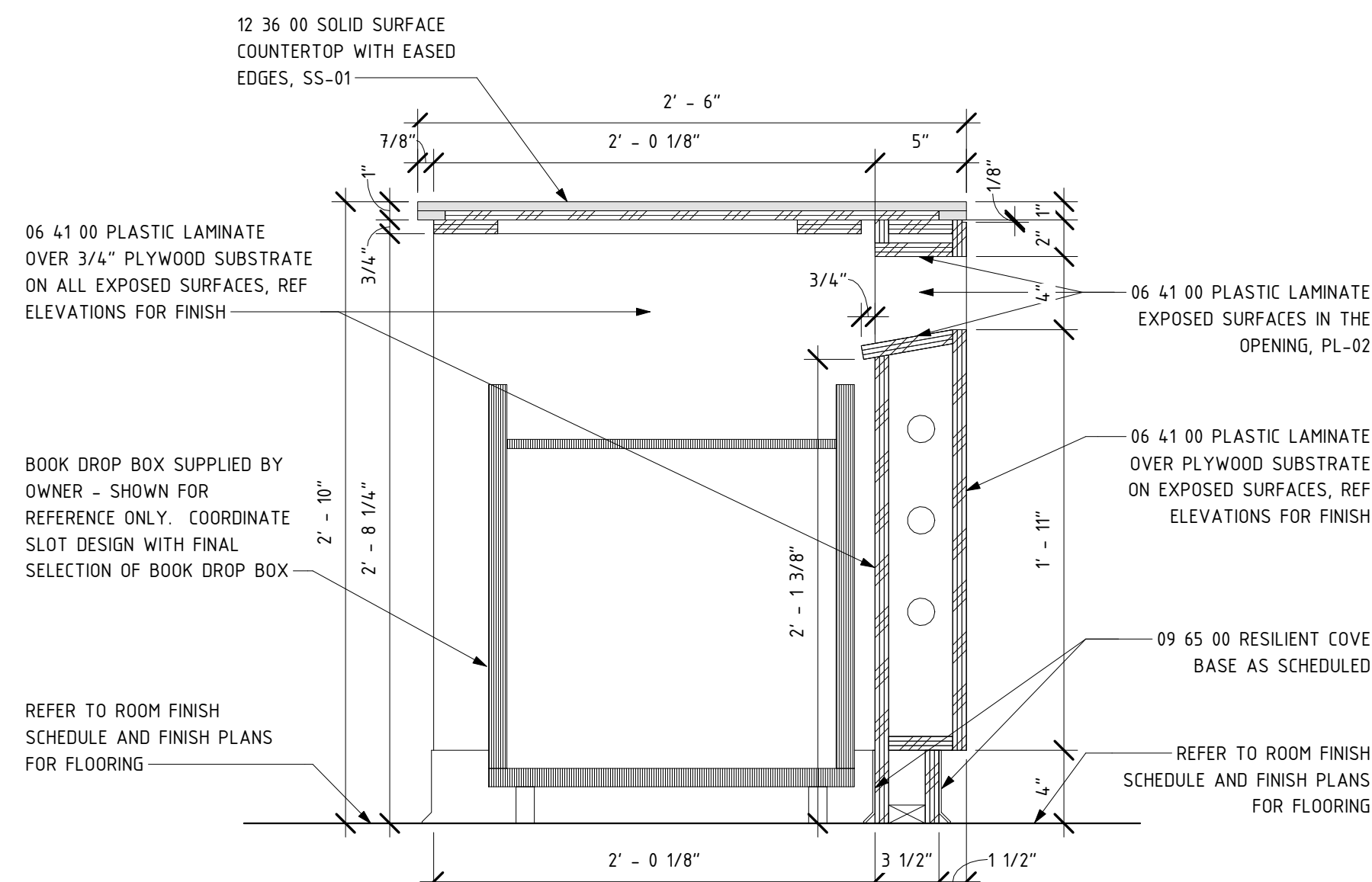
1 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



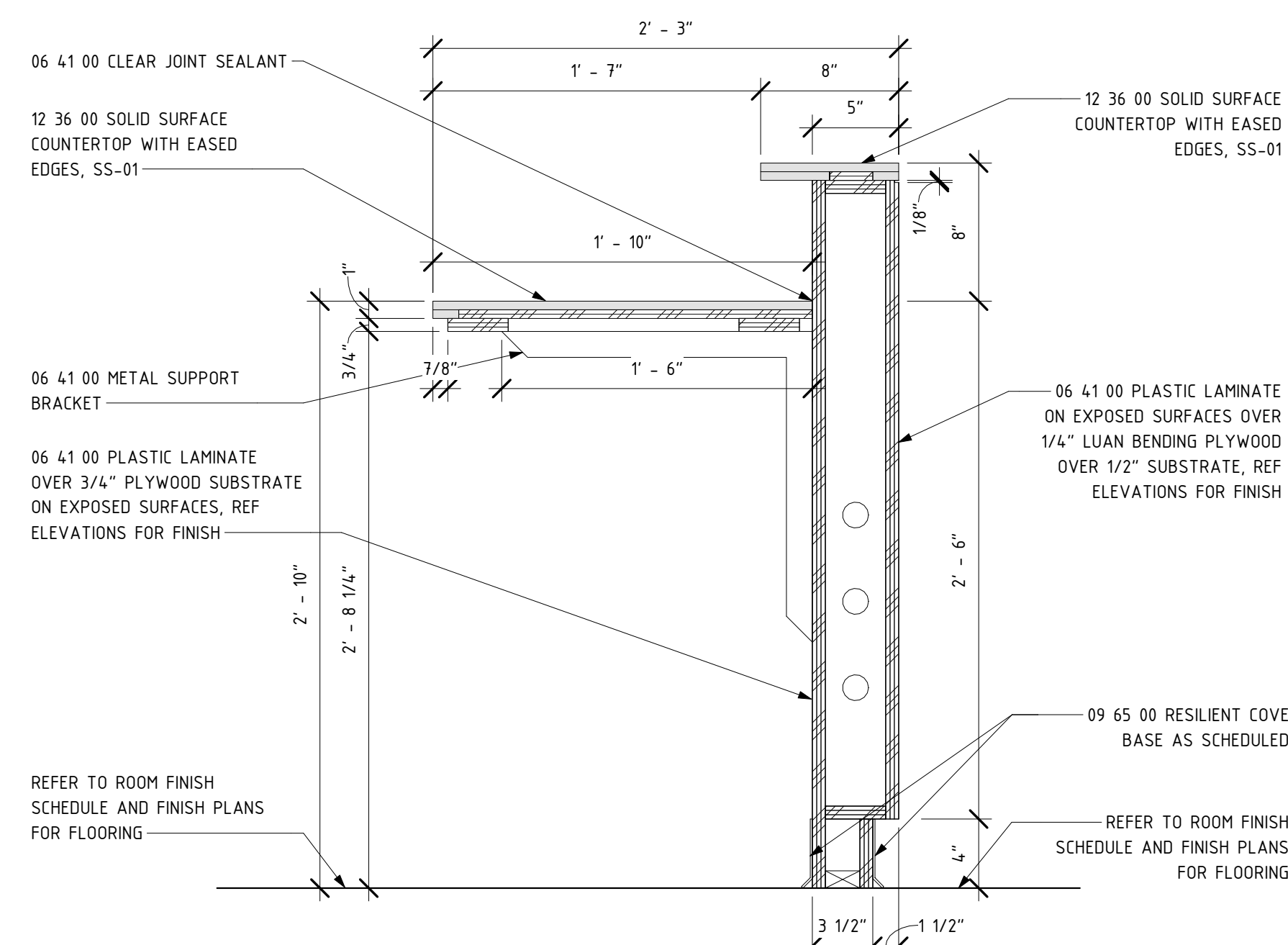
6 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



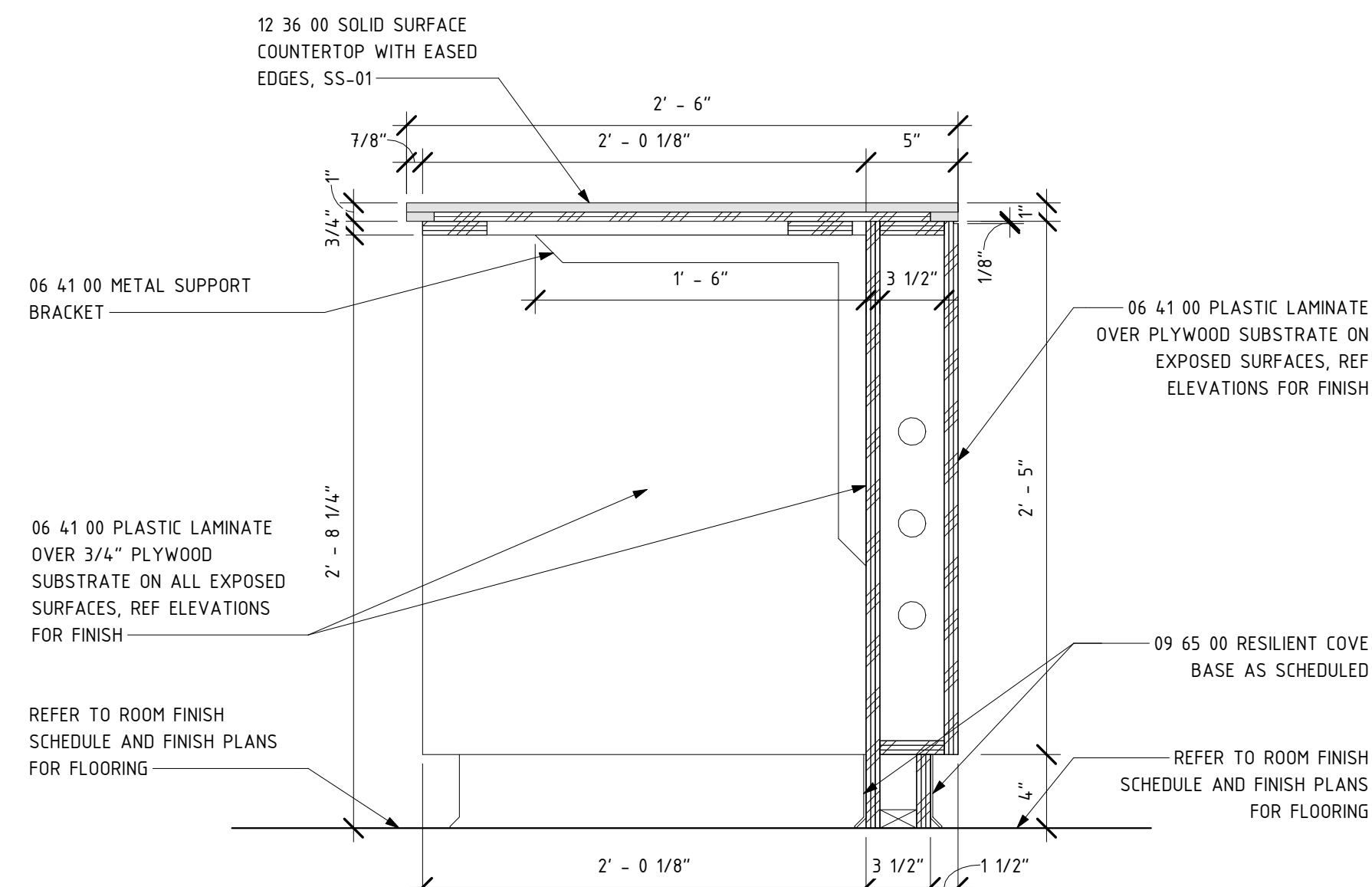
3 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



5 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



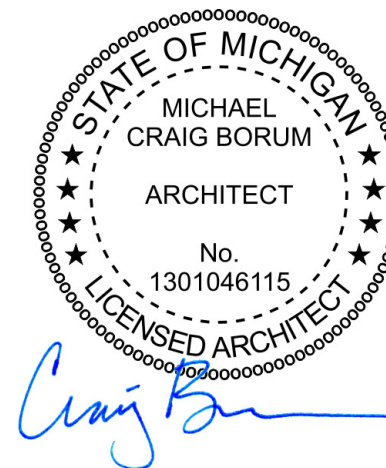
2 | MW1 SECTION

A9.00 | 1 1/2\"/&gt;



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Interior Millwork

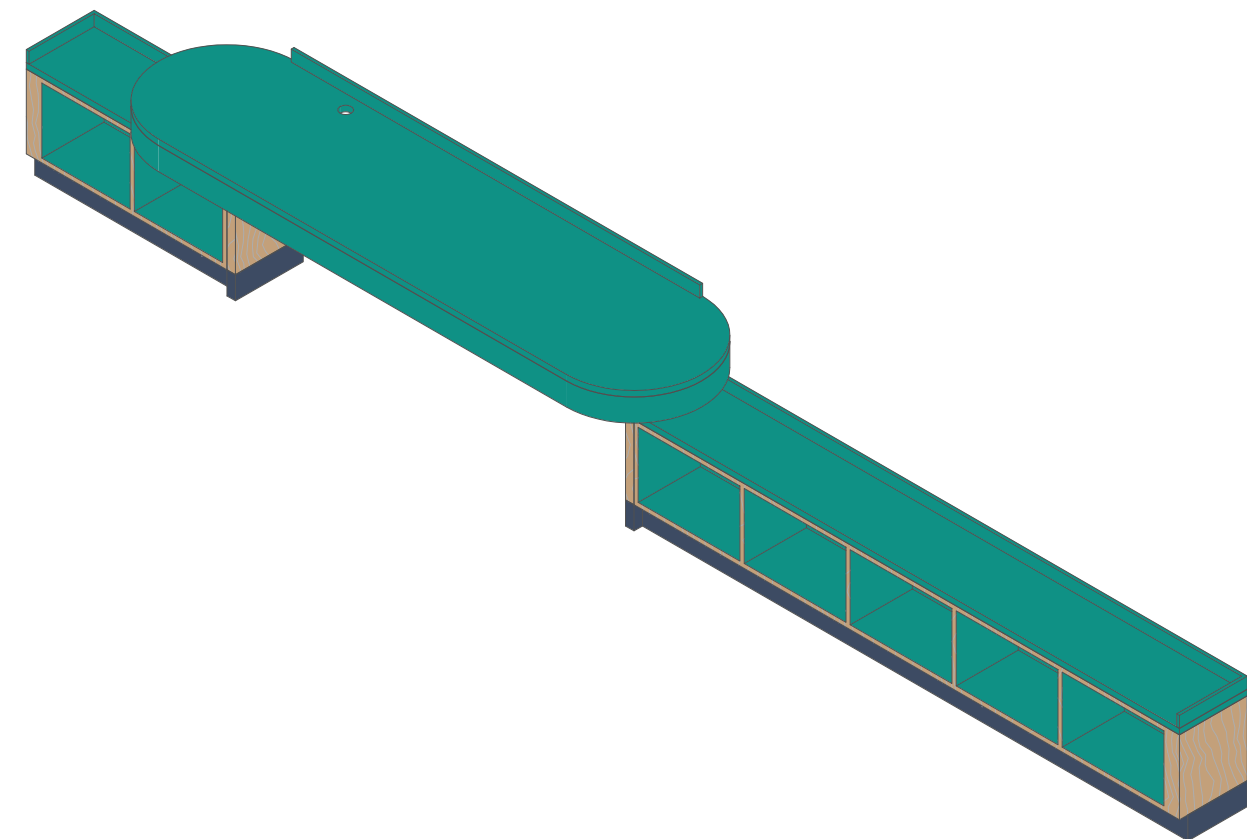
Drawn By  
CG,YJChecked By  
CBIssue Date  
03/14/25 Permit & Bid Set

Revisions	
Issued for	Date

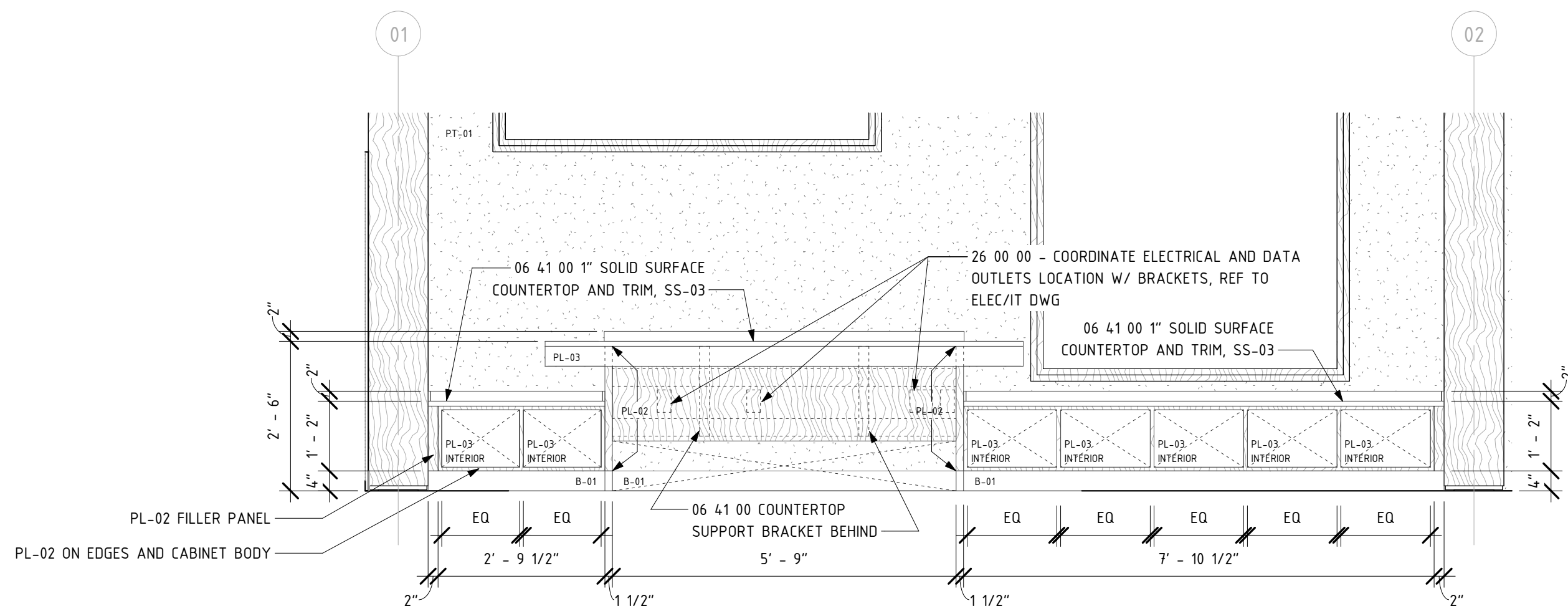
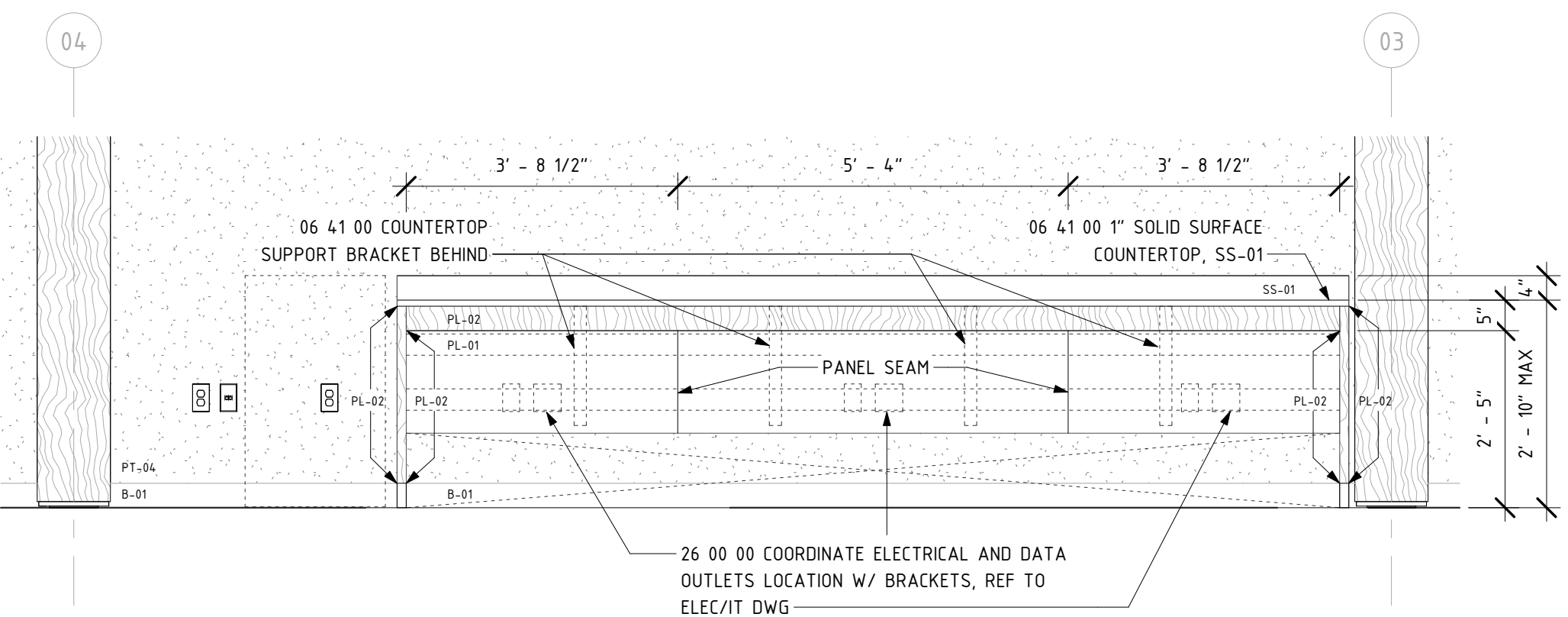
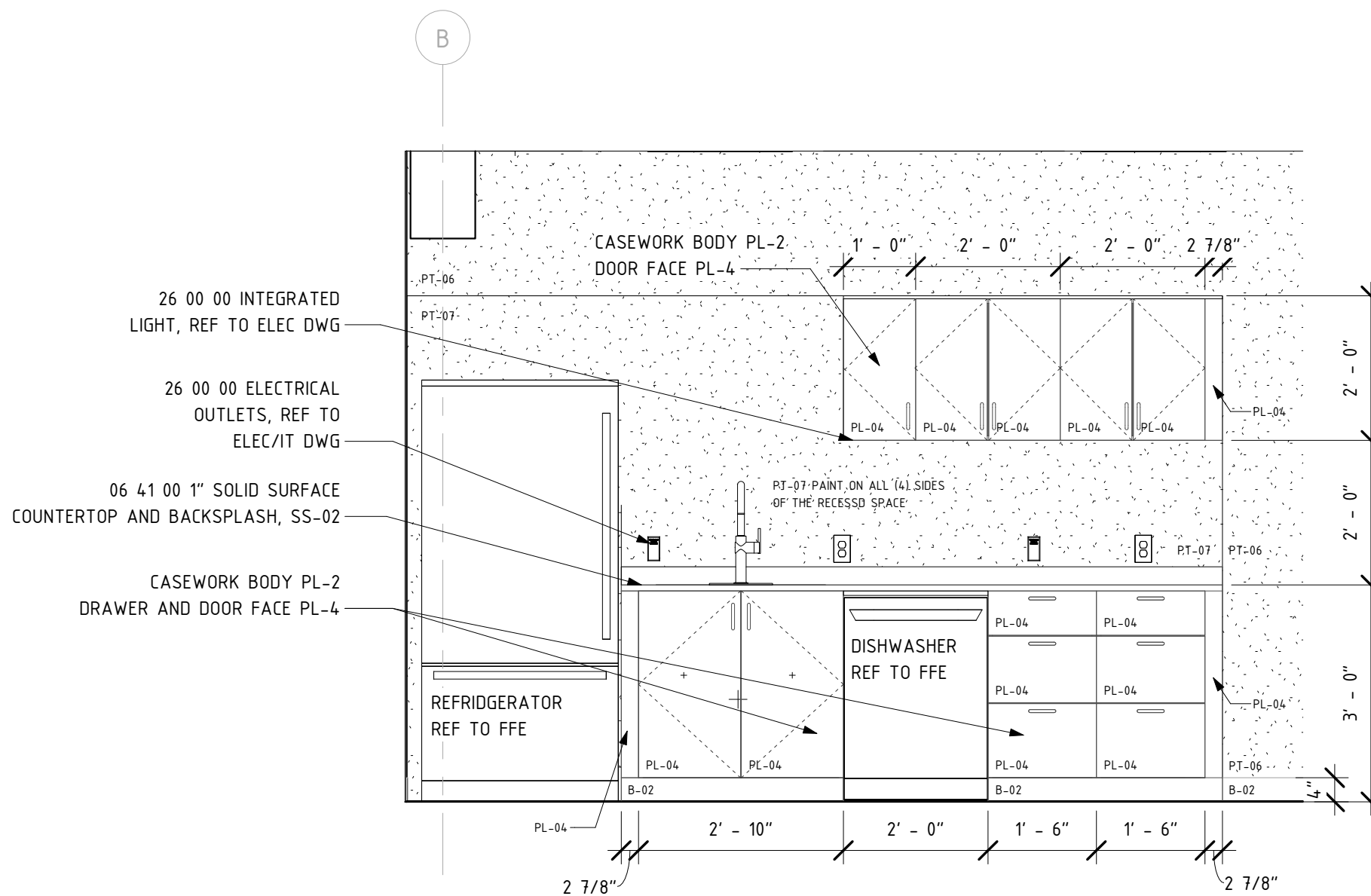
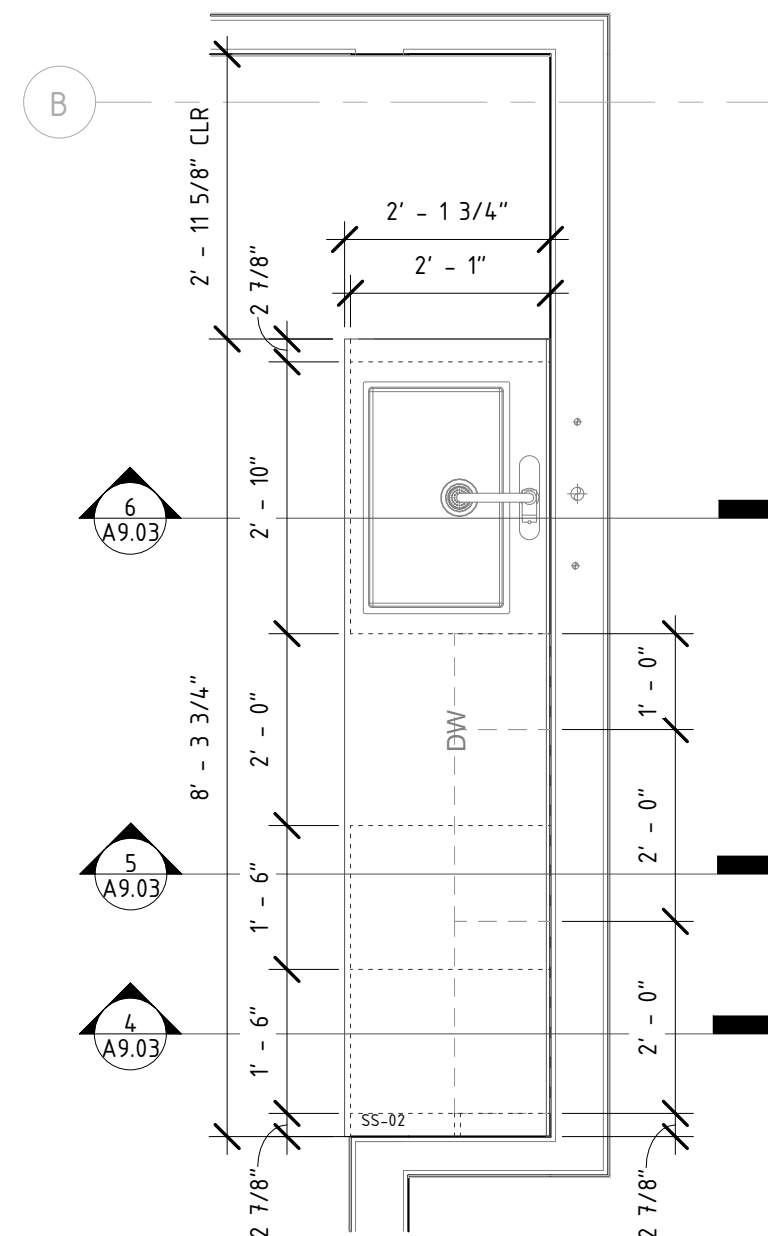
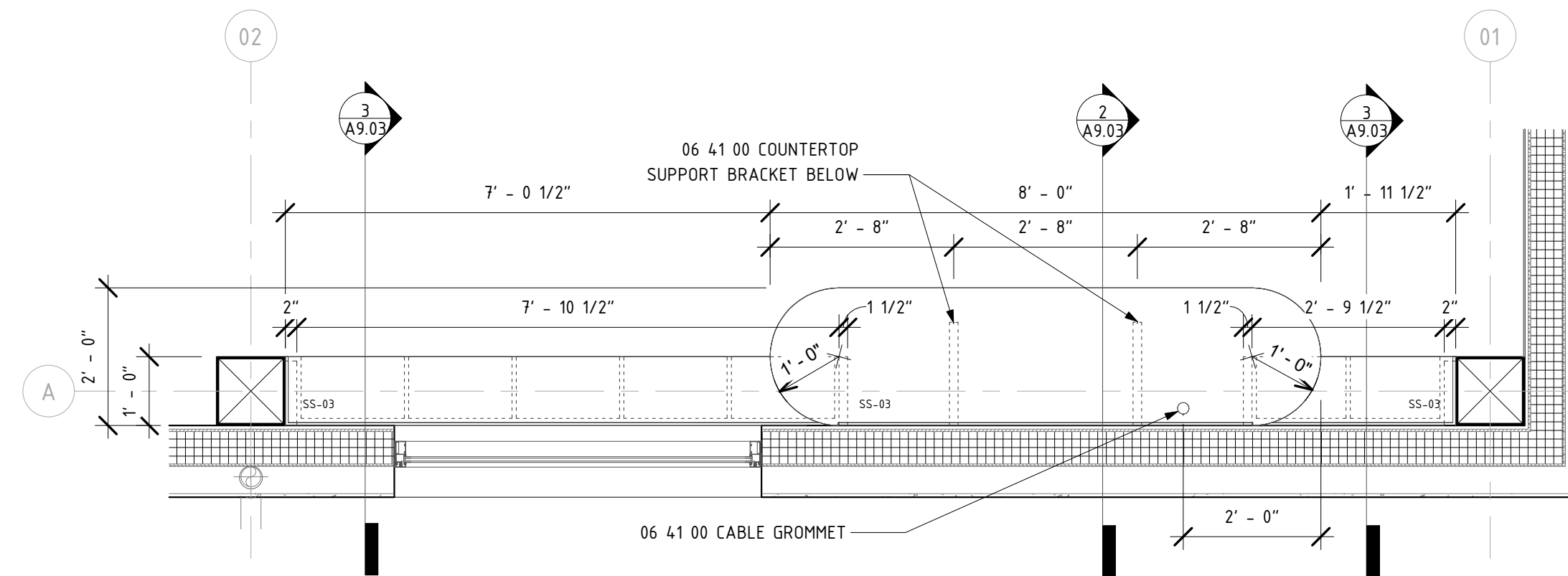
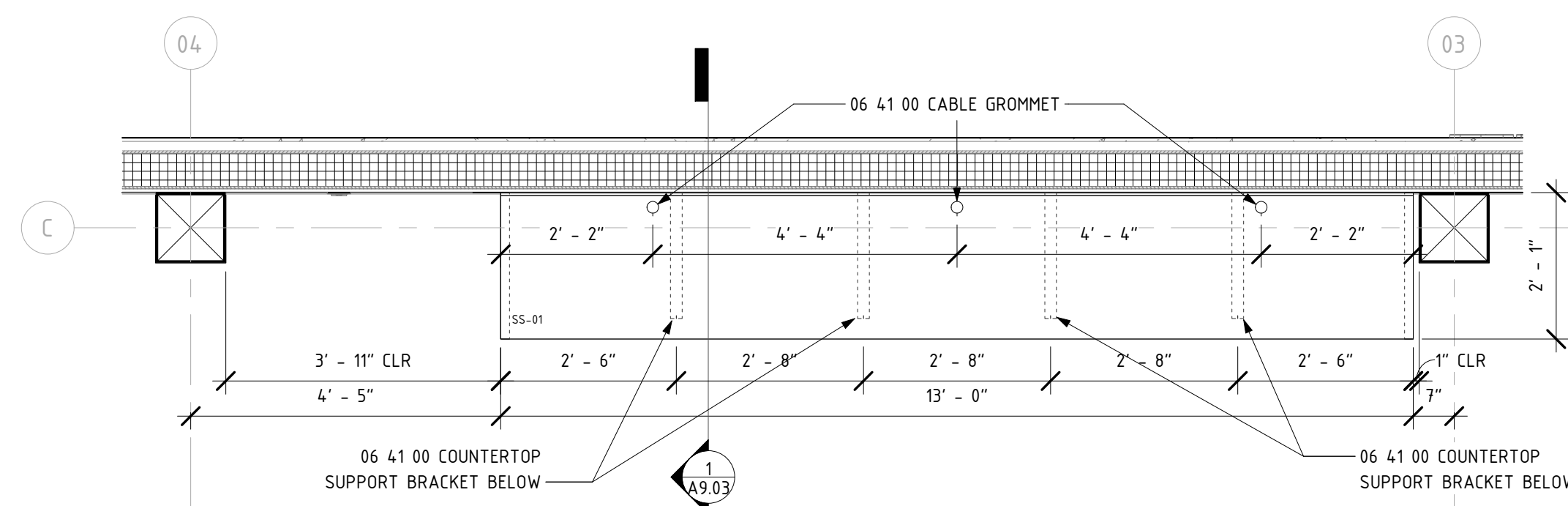
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ITB-W-14.78 | P24006

Sheet Number

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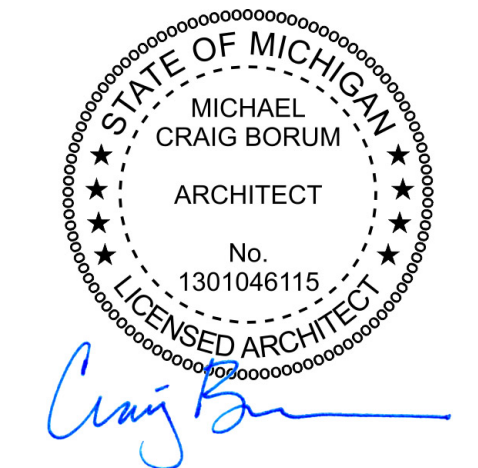
7 | MW4 AXONOMETRIC VIEW

5 | MW4 INTERIOR ELEVATION  
1/2" = 1'-0"4 | MW2 INTERIOR ELEVATION  
1/2" = 1'-0"6 | MW3 ENLARGED INTERIOR ELEVATION  
1/2" = 1'-0"3 | MW3 ENLARGED PLAN  
A2.10 1/2" = 1'-0"2 | MW4 ENLARGED PLAN  
A2.10 1/2" = 1'-0"1 | MW2 ENLARGED PLAN  
A2.10 1/2" = 1'-0"



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Interior Millwork

Drawn By

YJ

Checked By

CB

Issue Date

03/14/25 Permit &amp; Bid Set

Revisions

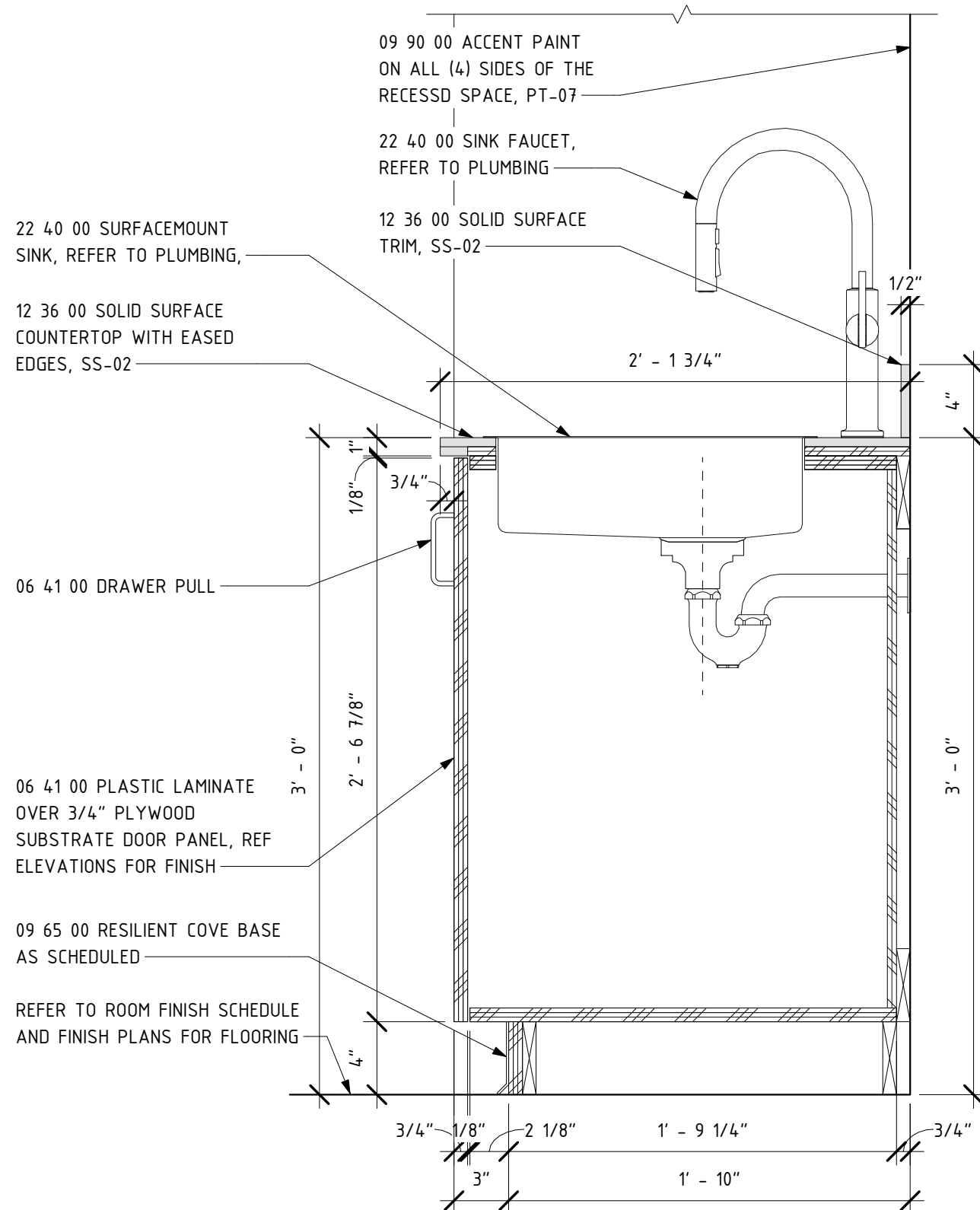
Issued for Date

Project No.

ITB-W-14.78 | P24006

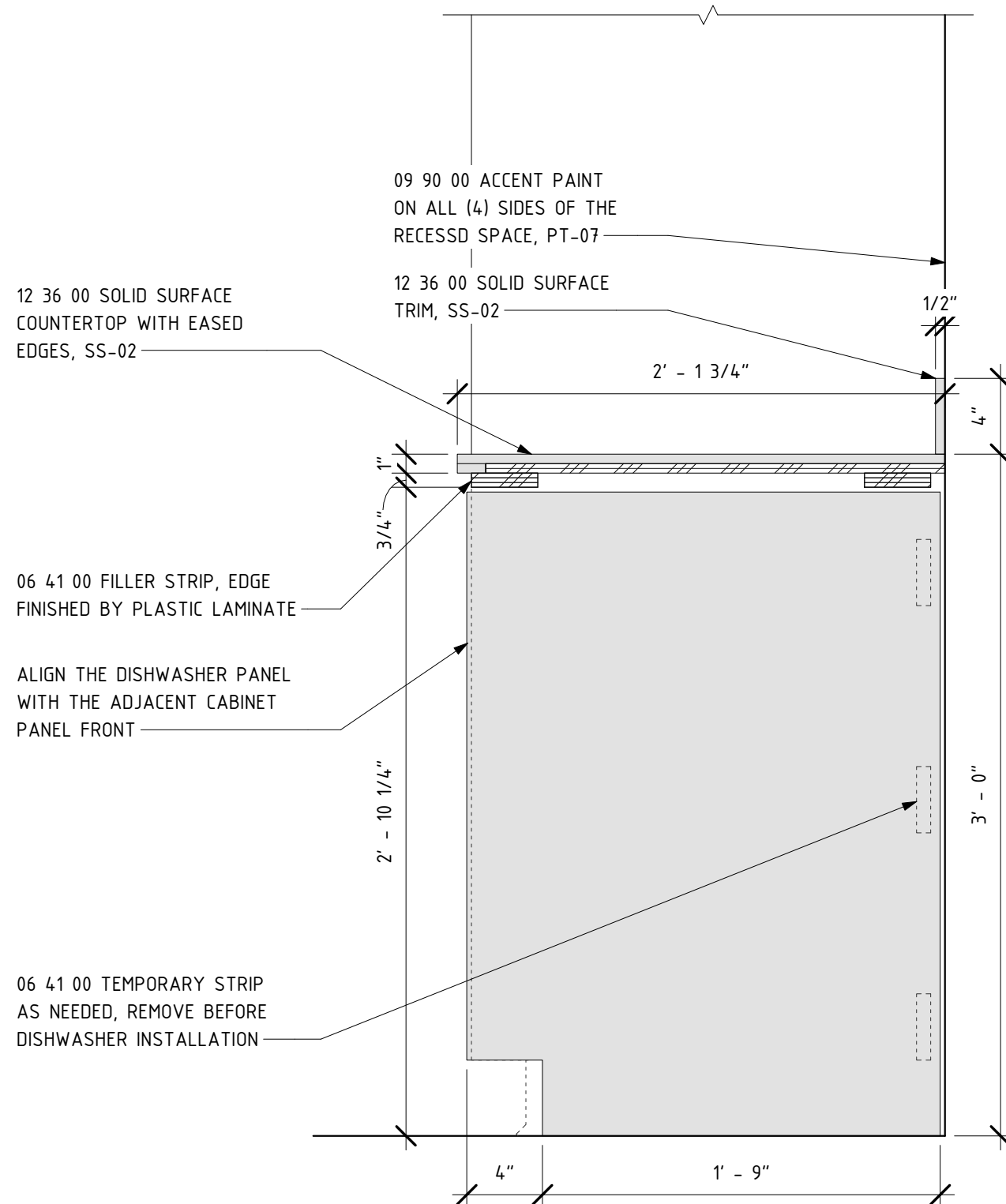
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A9.03



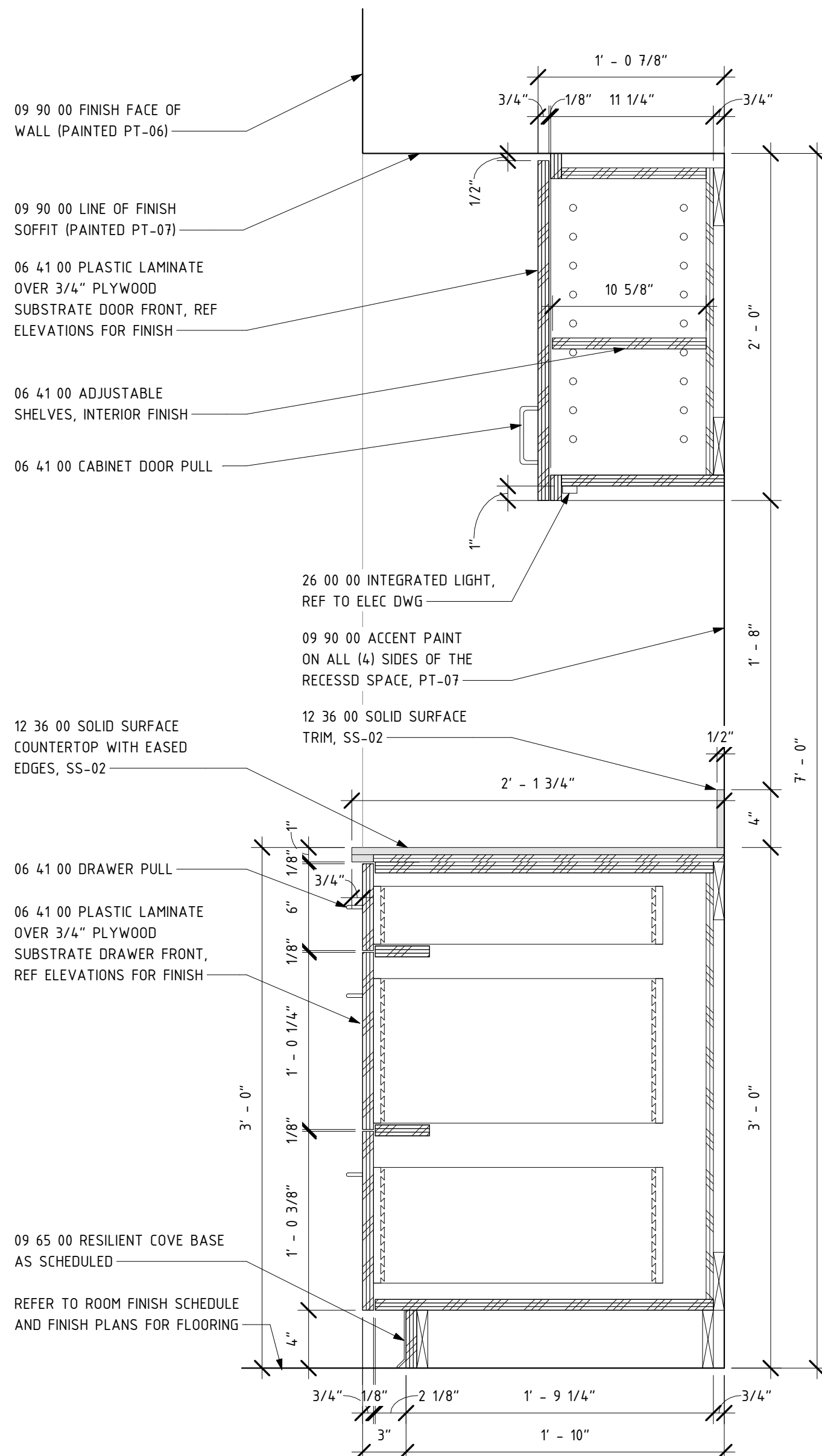
6 | MW3 SECTION

1 1/2" = 1'-0"



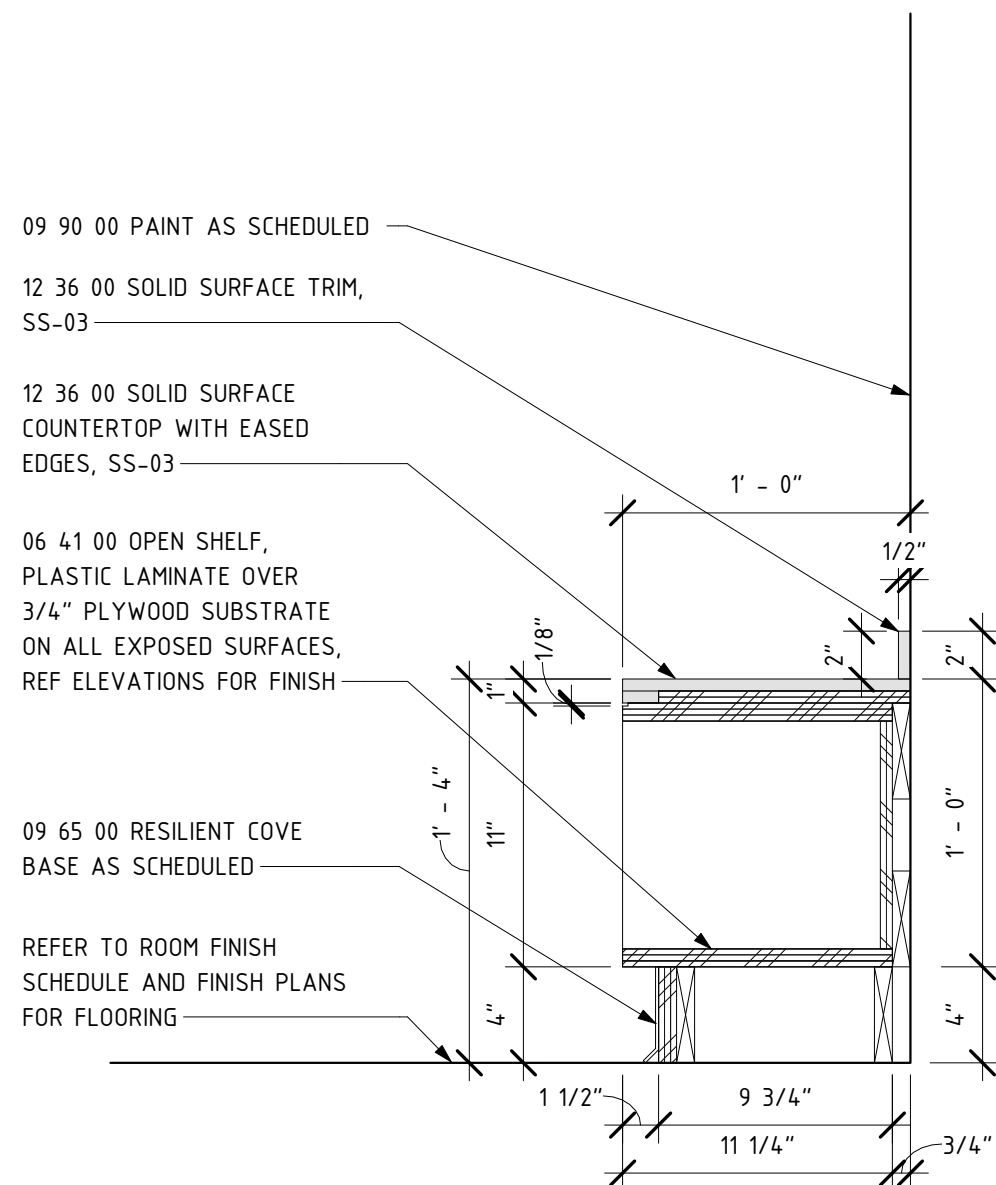
5 | MW3 SECTION

1 1/2" = 1'-0"



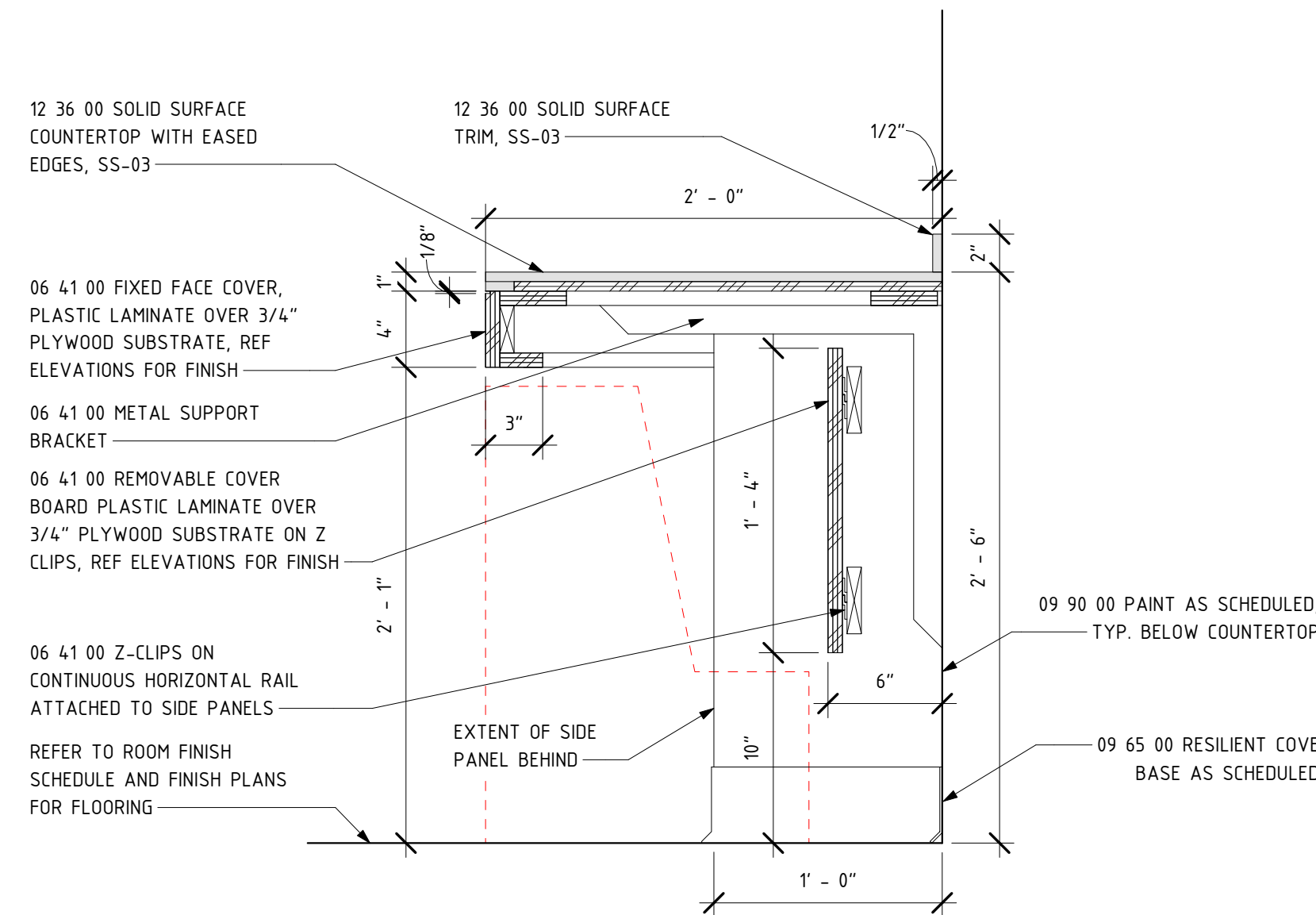
4 | MW3 SECTION

1 1/2" = 1'-0"



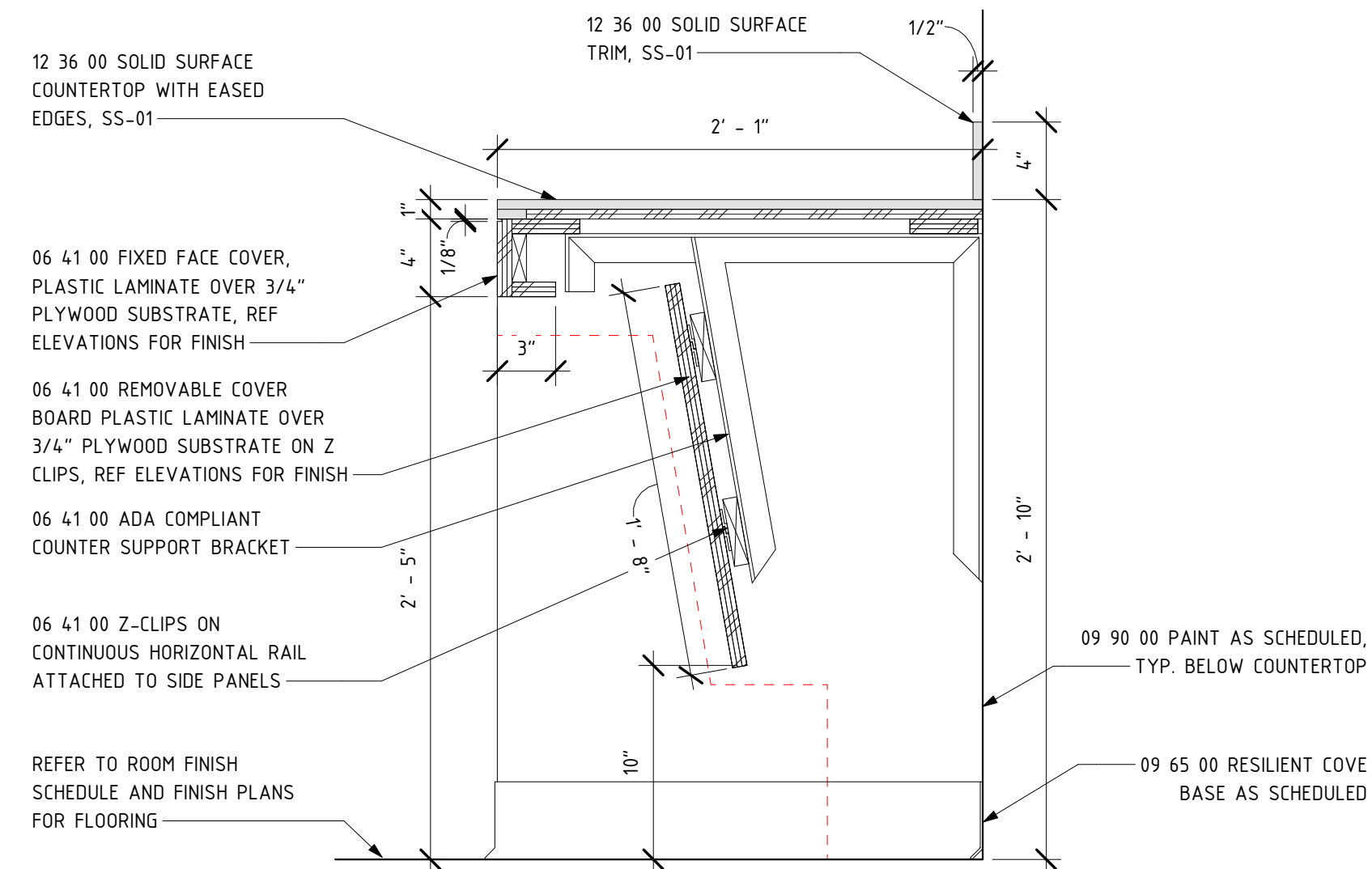
3 | MW4 SECTION

A9.02 | 1 1/2" = 1'-0"



2 | MW4 SECTION

A9.02 | 1 1/2" = 1'-0"



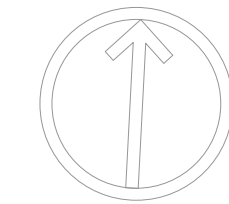
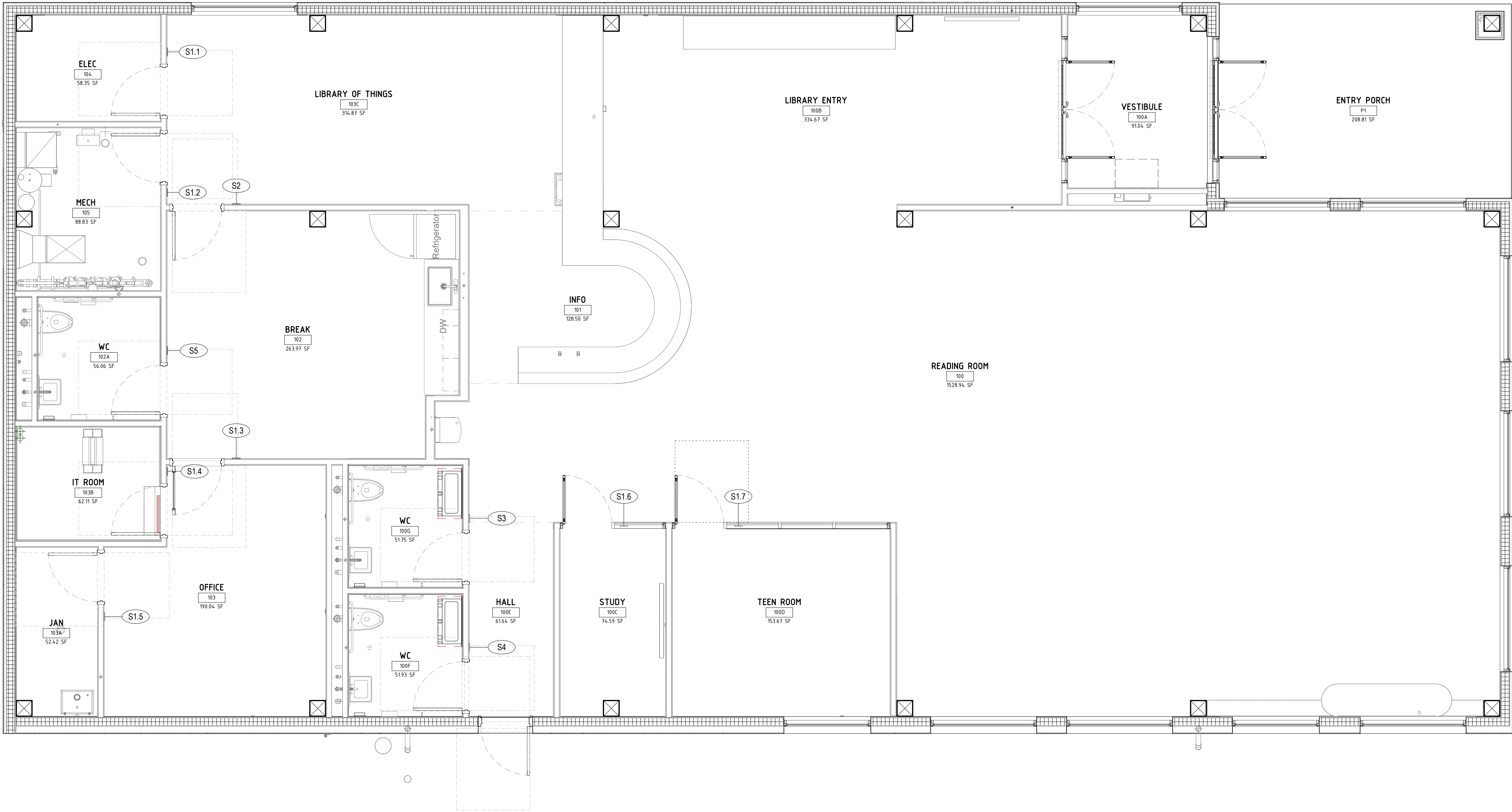
1 | MW2 SECTION

A9.02 | 1 1/2" = 1'-0"



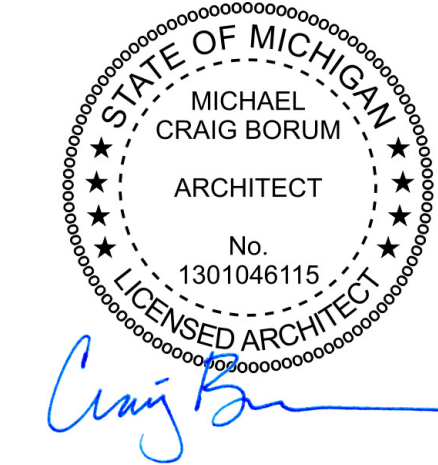
INTERIOR SIGNAGE SCHEDULE					
Assoc. Room Number	Assoc. Room Name	Sign Type/Tag	Mounting Type	Room Name Text*	REMARKS
100G	WC	S3	A	WOMEN	
100F	WC	S4	A	MEN	
102A	WC	S5	A	RESTROOM	
102	BREAK	S2	A	EMPLOYEE AREA	
104	ELEC	S1.1	A	ELECTRICAL ROOM	
105	MECH	S1.2	A	MECHANICAL ROOM	
103A	JAN	S1.5	A	JANITORIAL	
103B	IT ROOM	S1.4	A	IT ROOM	
103	OFFICE	S1.3	A	OFFICE	
100C	STUDY	S1.6	D	STUDY ROOM	
100D	TEEN ROOM	S1.7	D	TEEN ROOM	

\* VERIFY THE ROOM NAME AND NUMBER WITH THE OWNER



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Interior Signage Keyplan

Drawn By  
CS

Checked By  
CB

Issue Date  
03/14/25 Permit & Bid Set

Revisions  
Issued for      Date

Project No.  
ITB-W-14.78 | P24.006

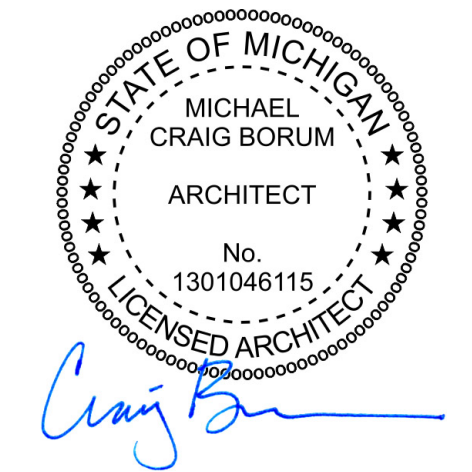
Sheet Number

SG1.00



Project Name

WARREN BRANCH LIBRARY



Drawing Name

Interior Signage

Drawn By  
CS

Checked By  
CB

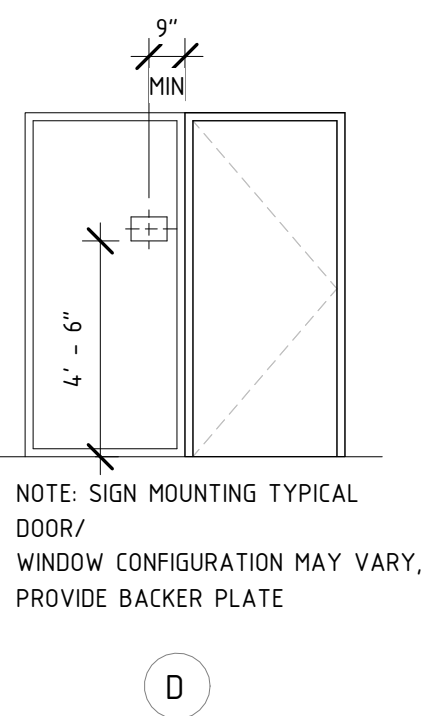
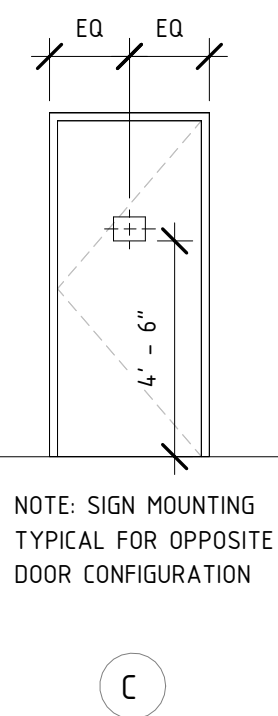
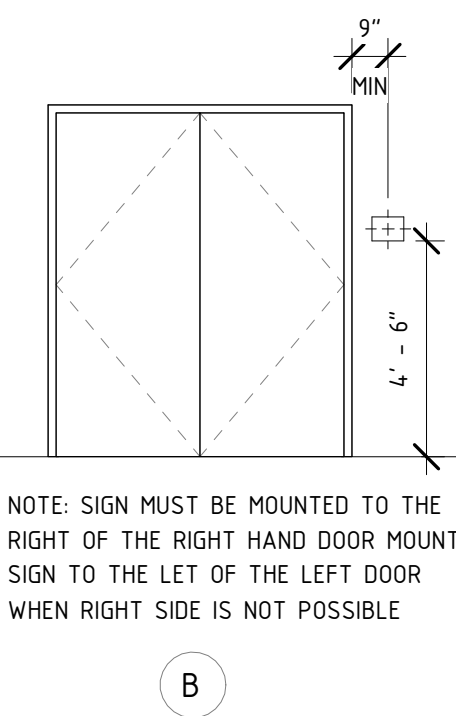
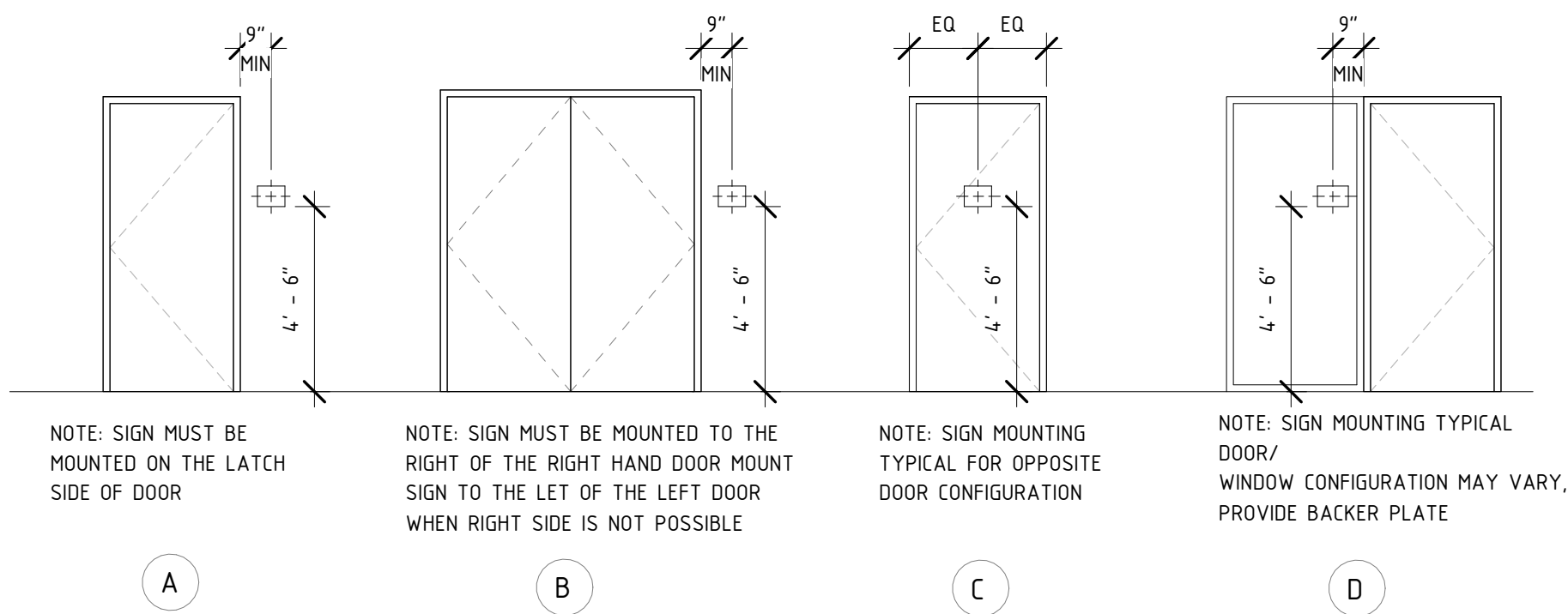
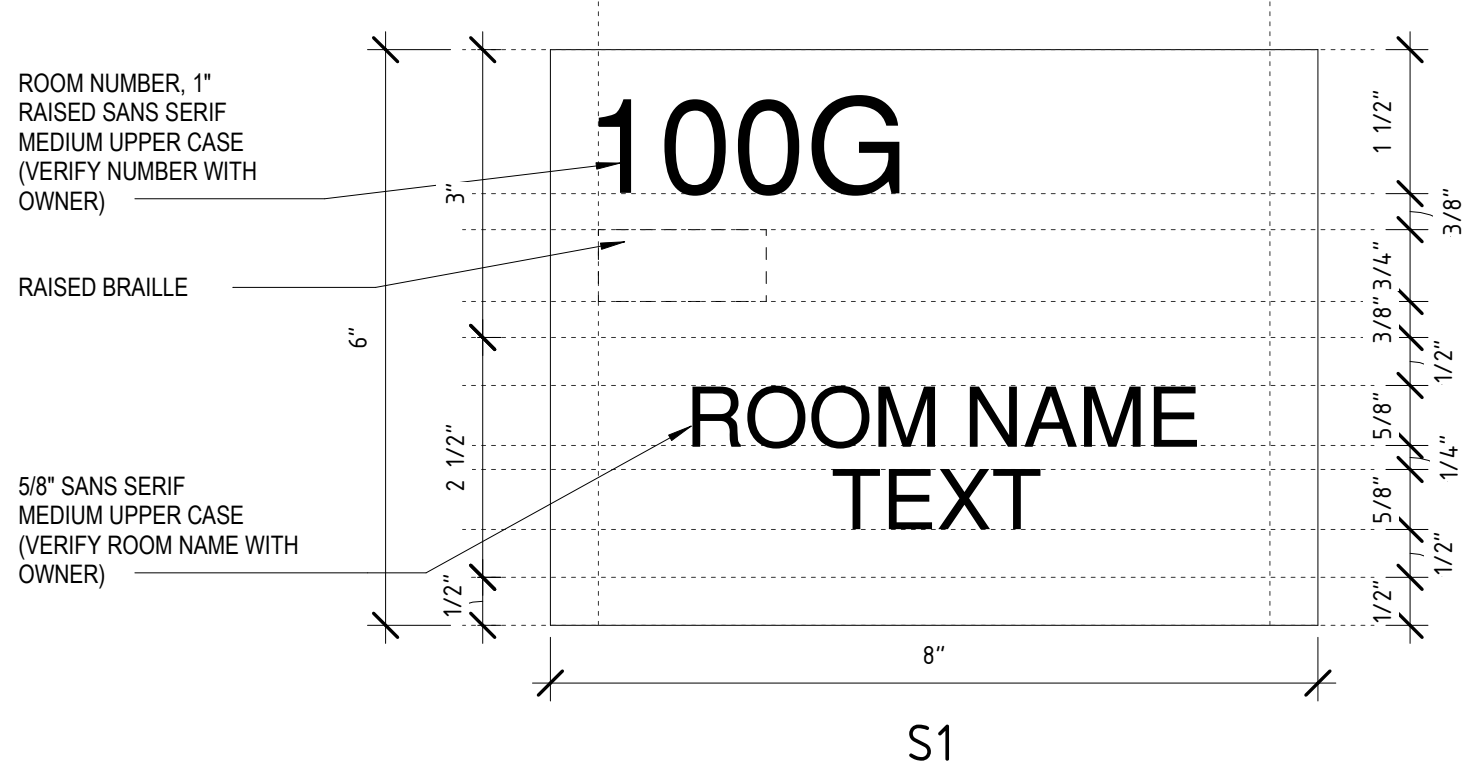
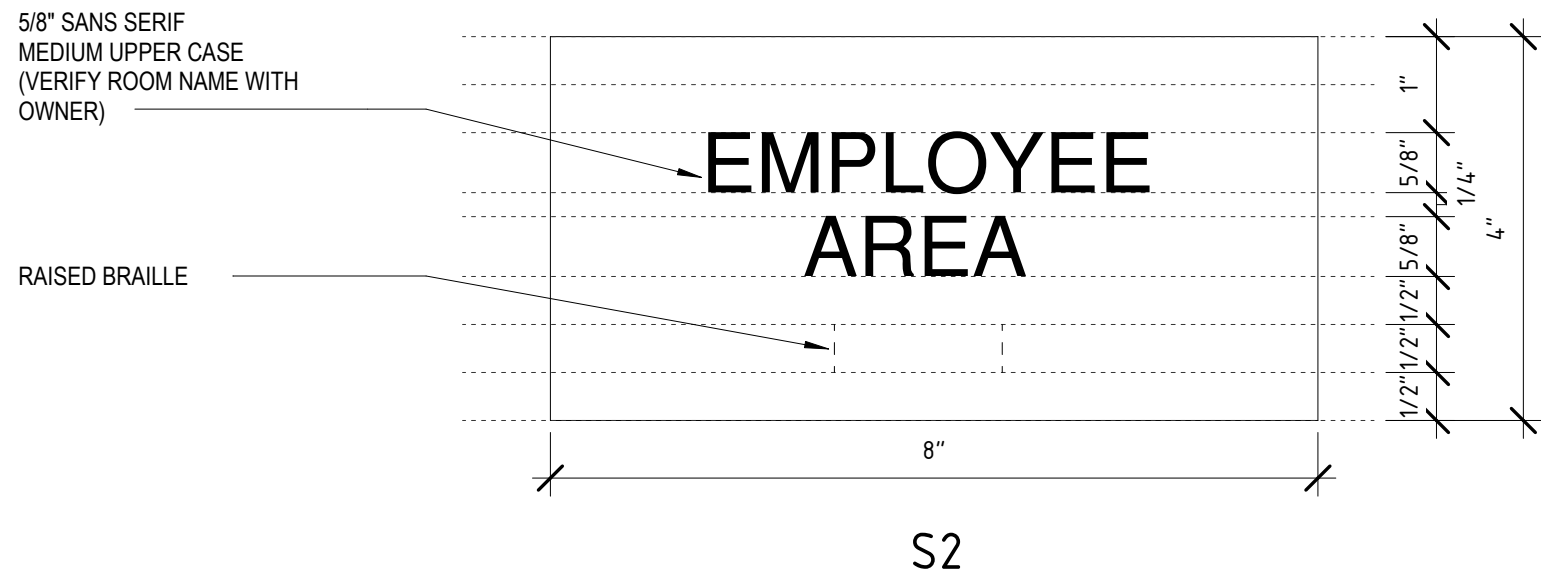
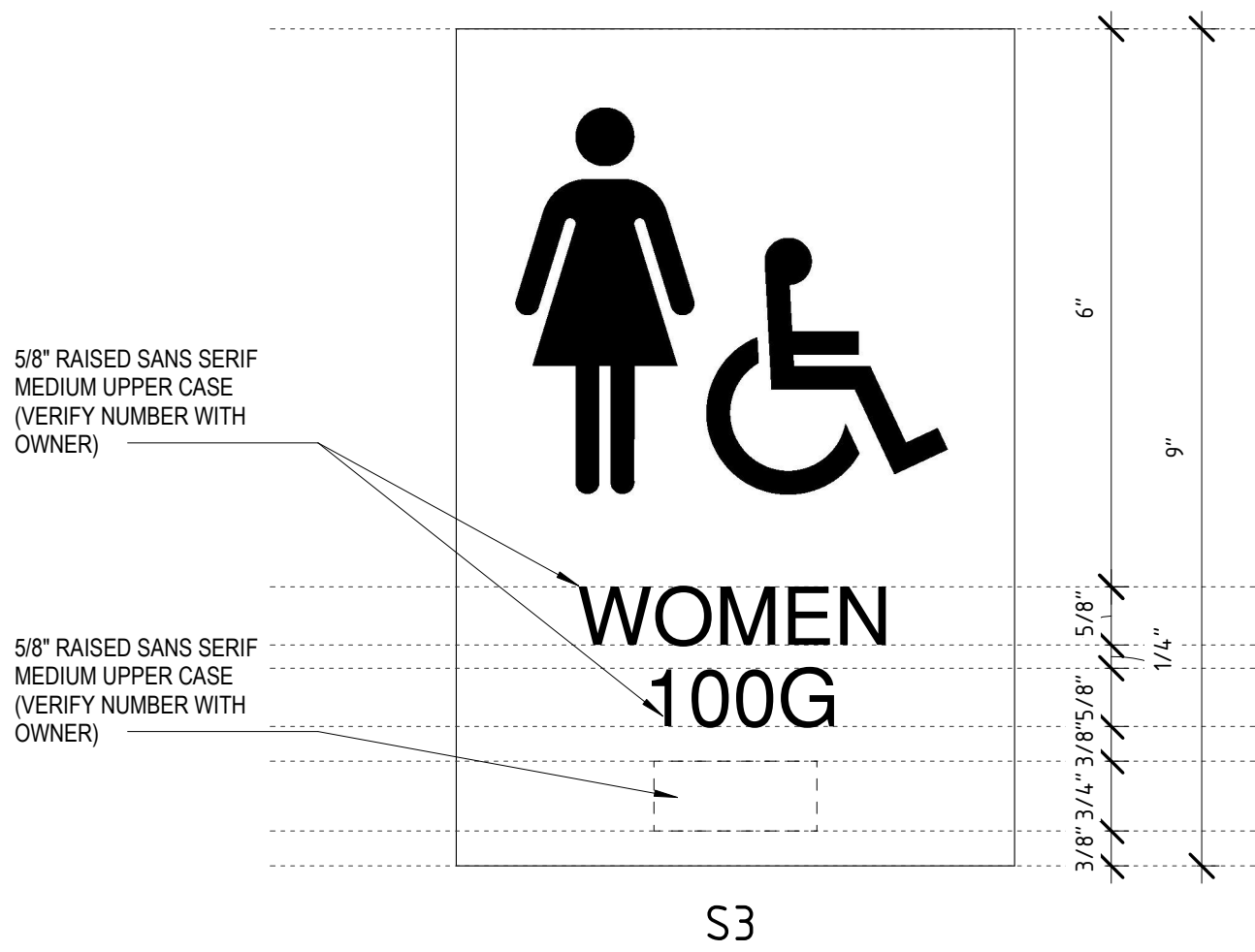
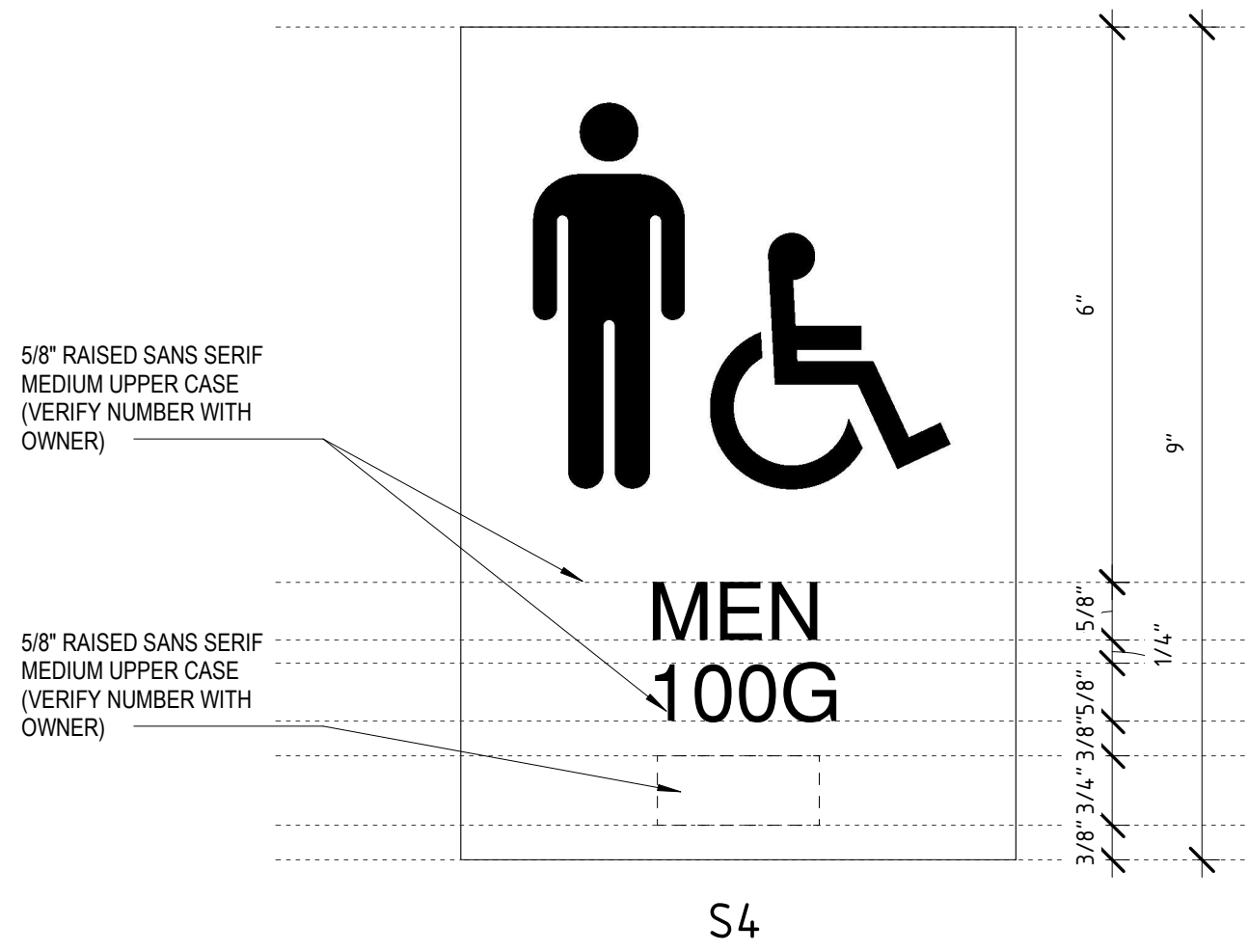
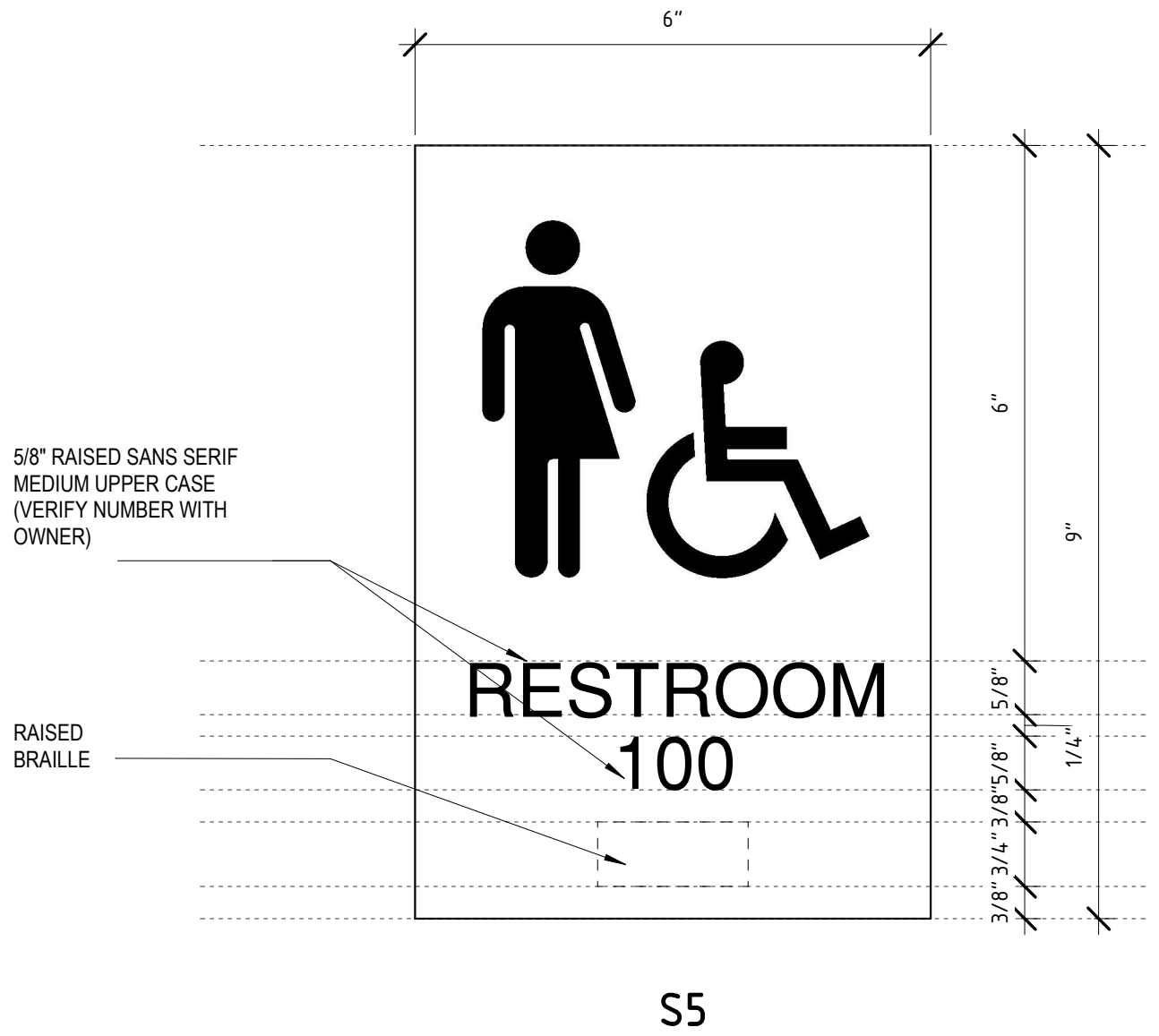
Issue Date  
03/14/25 Permit & Bid Set

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Issued for      Date

Project No.  
ITB-W-1478 | P24006

Sheet Number

SG1.10



Interior Sign Mounting Types

1/4" = 1'-0"

1 | Signage Types

6" = 1'-0"





DESIGN CRITERIA

1. STRUCTURE HAS BEEN DESIGNED TO COMPLY WITH MBC 2015 AND SUBSEQUENT REFERENCE STANDARDS.
- IBC 2015  
ICC 500 2014  
ASCE 7-10  
ACI 318-14  
AISC 360-14  
AISI S100  
AWS D1.1  
TMS 402/602-13
2. RISK CATEGORY: III
3. SUPERIMPOSED LIVE LOADS: LIVE LOAD REDUCTION USED AS ALLOWED PER CODE
- |            |   |   |
|------------|---|---|
| ROOF FLOOR | TYPICAL CORRIDORS, STAIRS & PUBLIC AREAS    | 20 PSF<br>100 PSF   |
|            | MEP ROOMS (SEE MECHANICAL UNITS NOTE BELOW) | REFER TO MECH DWGS  |
|            | OFFICE                                      | 50 PSF  |
|            | LIGHT STORAGE                               | 125 PSF   |
| OTHER      | HANDRAILS                                   | MAX OF 50 PLF HORIZ PLUS 50 PLF VERT OR 200 LBS IN ANY DIRECTION, APPLIED AT TOP OF RAILING |
4. SNOW:
- |                         |   |
|-------------------------|---|
| GROUND SNOW             | 20 PSF                                    |
| SNOW EXPOSURE FACTOR    | 0.9                                       |
| THERMAL FACTOR          | 1.0                                       |
| IMPORTANCE FACTOR       | 1.1                                       |
| FLAT-ROOF SNOW          | 13.9 PSF (BALANCED) 30.9 PSF (UNBALANCED) |
| RAIN-ON-SNOW SURCHARGE  | 5 PSF                                     |
| DESIGN SNOW             | 20 PSF (AT RIDGE) 30.9 PSF (AT VALLEY)    |
| SNOW DRIFT (HIGH POINT) | 59.3 PSF                                  |
5. SEISMIC:
- |                         |         |
|-------------------------|---------|
| SEISMIC DESIGN CATEGORY | B       |
| IMPORTANCE FACTOR       | 1.25    |
| SOIL CLASS              | D       |
| Ss                      | 0.093 g |
| S1                      | 0.046 g |
| Sds                     | 0.099 g |
| Sd1                     | 0.074 g |
- LIGHT-FRAME WALLS WITH SHEAR PANELS OF ALL OTHER MATERIAL
- |                       |       |
|-----------------------|-------|
| ALLOWABLE STORY DRIFT | L/400 |
| R                     | 2     |
| Cd                    | 2     |
| Qo                    | 2 1/2 |
- ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
- SEISMIC RESPONSE COEFFICIENT, Cs 0.062
6. WIND:
- BASIC WIND SPEED VBLT = 120 MPH; VASD = 93 MPH
- EXPOSURE CLASS C
- INTERNAL PRESSURE COEFFICIENT, Cpi ± 0.18
- Cg1
- MAIN WIND FORCE PRESSURE, 26.6 PSF
- STRENGTH LEVEL
- |                            |             |             |              |
|----------------------------|-------------|-------------|--------------|
| ROOF COMPONENTS:           | ZONE 1      | ZONE 2      | ZONE 3       |
| SUPPORT BEAMS (A > 100 SF) | +/-26.1 PSF | +/-36.8 PSF | +/-58.1 PSF  |
| ROOF SHEATHING (A = 50 SF) | +/-26.9 PSF | +/-40.8 PSF | +/-62.9 PSF  |
| DECK FASTENERS (A ≤ 10 SF) | +/-28.8 PSF | +/-50.1 PSF | +/- 74.0 PSF |
- WALL COMPONENTS:
- |            |             |
|------------|-------------|
| ZONE 4     | ZONE 5      |
| A = 200 SF | +/-28.0 PSF |
| A = 50 SF  | +/-35.9 PSF |
| A = 20 SF  | +/-30.8 PSF |
| A ≤ 20 SF  | +/-32.7 PSF |
|            | +/-39.3 PSF |
- C & C NOTES:
- a. THE PRESSURES LISTED ARE IN ACCORDANCE IBC CBC AND ASCE 7, AND THE DESIGN FORCES USED BY THE SUBCONTRACTOR FOR A SPECIFIC APPLICATION ARE THE RESPONSIBILITY OF THE SUBCONTRACTOR.
- b. WIND PRESSURES ARE ULTIMATE DESIGN LEVEL.
- c. SEE ASCE 7 FOR ZONE DEFINITIONS AND EXTENT OF ZONES.
- d. SUBMIT DESIGN CALCULATIONS SIGNED AND SEALED BY A LICENSED ENGINEER IN THE PROJECT'S JURISDICTION FOR ANY DESIRED MODIFICATION TO THE STATED PRESSURES.
7. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY SIP PANELS IN EACH ORTHOGONAL DIRECTION. SEE PLANS FOR LOCATIONS. THE ROOF SIP PANELS SERVE AS HORIZONTAL DIAPHRAGMS DISTRIBUTING THE LATERAL FORCES TO THE VERTICAL LATERAL ELEMENTS WHICH IN TURN CARRY THE LOAD TO THE BUILDING FOUNDATIONS.

GENERAL

1. DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONNEL AND PROPERTY ON AND AROUND THE JOBSITE. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING, GUYS, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES. TEMPORARY BRACING, SHORING, GUYING, ETC. SHALL AVOID EXCESSIVE STRESSES AND HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION. THE STRUCTURE SHOULD NOT BE CONSIDERED STABLE UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. ALL DRAWINGS AND SPECIFICATIONS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION SO A CLARIFICATION CAN BE ISSUED. ANY WORK THAT DEVIATES FROM OR IS PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR THE DESIGN PROFESSIONALS.
3. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING ALLOWABLE CONSTRUCTION LOADS AND FOR DETERMINING SEQUENCES OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE AND SAFETY OF WORKERS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO: FALSEWORK, FORMWORK, STAGING, BRACING, AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE DESIGN PROFESSIONALS SHALL NOT INCLUDE INSPECTION OR APPROVAL OF THE ABOVE ITEMS AND DO NOT IN ANY WAY RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITIES FOR THE ABOVE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND ENSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
4. ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOBSITE PRIOR TO BID SUBMITTAL. START OF SHOP DRAWINGS, START OF CONSTRUCTION, AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, OR CONDITIONS DEVELOP THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.
5. STRUCTURAL SUBSTITUTIONS MAY BE ALLOWED WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. SUPPLIER SHALL PROVIDE SIGNED AND SEALED DESIGN CALCULATIONS OR SUITABLE PRODUCT LITERATURE FOR THE COMPONENTS. ALL PRODUCT SUBSTITUTIONS SHALL INCLUDE A CODE EVALUATION REPORT SPECIFIC TO THE BUILDING CODE LISTED IN THE DESIGN CRITERIA.
6. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL CONSTRUCT THE WORK SO IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DESIGN.
7. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

GENERAL (CONT.)

8. DO NOT SCALE DRAWINGS. PRINTED DIMENSIONS HAVE PRECEDENCE OVER SCALED DRAWINGS AND LARGE-SCALE OVER SMALL-SCALE DRAWINGS. CONTRACTOR TO DETERMINE FINAL DIMENSION WITH ARCHITECT.
9. TYPICAL DETAILS SHALL APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.
10. SEE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR DETAILS. CONDITIONS, PITS, TRENCHES, PADS, DEPRESSIONS, ROOF / FLOOR OPENINGS, TOP OF WALL ELEVATIONS, STAIRS, SLEEVES, ITEMS TO BE EMBEDDED OR ATTACHED TO STRUCTURAL ELEMENTS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, FOR THESE NON-STRUCTURAL ELEMENTS SHOWN ON STRUCTURAL DRAWINGS, THEY ARE FOR GENERAL INFORMATION ONLY.
11. COORDINATE FLOOR FINISH INCLUDING, BUT NOT LIMITED TO THE "FLATNESS" AND "LEVELNESS" REQUIREMENTS, WITH THE FLOOR FINISH CONTRACTOR. PROVIDE UNDERLAYMENT / TOPPING WHERE REQUIRED TO PROVIDE A SURFACE ACCEPTABLE FOR INSTALLATION OF FLOOR FINISHES. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
12. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPE, INSERTS, AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
13. THE EXACT WEIGHTS, DIMENSIONS, AND LOCATIONS OF ALL MECHANICAL UNITS AND ELECTRICAL GEAR SUPPORTED ON STRUCTURAL FRAMING SHALL BE DETERMINED AND COORDINATED BY THE CONTRACTOR PRIOR TO DETAILING THE STRUCTURAL FRAMING SUPPORTING THOSE UNITS. IF THE UNIT WEIGHTS ARE GREATER THAN THE WEIGHTS SHOWN ON THE STRUCTURAL DRAWINGS, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED PRIOR TO DETAILING THE STRUCTURE. UNIT WEIGHTS, DIMENSIONS, AND LOCATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE ONLY AND SHALL NOT BE USED FOR DETAILING THE STRUCTURE.
14. PROVIDE TEMPORARY BLOCKOUTS AND TEMPORARY OPENINGS IN THE STRUCTURE AS REQUIRED TO PERMIT INSTALLATION OF ALL WORK. BLOCKOUTS AND TEMPORARY OPENINGS SHALL BE LOCATED, CONFIGURED, DETAILED, AND FILLED IN A MANNER THAT ALTERS NEITHER THE STRENGTH OF THE STRUCTURAL FRAMING NOR THE STRENGTH OF CONNECTIONS. INFILL ALL BLOCKOUTS AND TEMPORARY OPENINGS USING THE MATERIALS SPECIFIED FOR THE FRAMING AT THE LOCATIONS WHERE THE BLOCKOUTS AND OPENINGS OCCUR. SUBMIT DRAWINGS INDICATING THE LOCATIONS, DIMENSIONS, AND DETAILS OF ALL PROPOSED BLOCKOUTS AND OPENINGS AND DETAILS INDICATING THE MANNER IN WHICH THE BLOCKOUTS AND OPENINGS WILL BE INFILLED.
15. NO HOLES, NOTCHES, BLOCK-OUTS, ETC. ARE ALLOWED IN STRUCTURAL ELEMENTS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
16. PENETRATIONS IN CONCRETE SHALL BE CAST-IN-PLACE AND SHALL NOT BE PERMITTED EXCEPT AS SHOWN IN THE STRUCTURAL DRAWINGS.
17. BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, CONTRACTOR SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH FIELD CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPE OF EQUIPMENT, ETC. THE PROPOSAL SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK.
18. FOR TRENCHES OR EXCAVATIONS FIVE FEET OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, THE CONTRACTOR IS TO OBTAIN THE NECESSARY PERMIT FROM THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY, PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
19. ELEMENTS SUCH AS NON-BEARING PARTITIONS, ETC. ATTACHED TO AND/OR SUPPORTED BY THE STRUCTURE SHALL TAKE INTO ACCOUNT DEFLECTIONS AND OTHER STRUCTURAL MOVEMENTS. THE STRUCTURAL FRAMING WAS DESIGNED TO LIMIT DRIFT AND DEFLECTION OF THE STRUCTURAL SYSTEM TO LESS THAN THE MAXIMUM PERMITTED DEFLECTIONS LISTED IN THE BUILDING CODE. THE CONTRACTOR SHALL COORDINATE THE WORK OF OTHER TRADES TO AVOID THESE DEFLECTIONS AND TO ACCOMMODATE CONSTRUCTION TOLERANCES.
20. TOPS OF ALL MASONRY WALLS SHALL BE CONNECTED TO THE UNDERSIDE OF THE STRUCTURAL FRAMING PER DETAILS PROVIDED ON THE STRUCTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF SUCH WALLS.
21. FIRE PROTECTION FOR ALL STRUCTURAL PARTS SHALL BE PROVIDED AS SPECIFIED BY THE ARCHITECTURAL DRAWINGS. UL FIRE RESISTANCE RATING RESTRAINT CLASSIFICATION AS FOLLOWS:
- a. "PRIMARY STRUCTURAL FRAME", AS DEFINED BY IBC SECTION 202 IS "RESTRAINED" EXCEPT AS INDICATED IN FOLLOWING NOTE.
- b. THE FOLLOWING FRAMING IS "UNRESTRAINED":
- i. FRAMING SUPPORTED BY BEARING WALLS, OTHER THAN CAST-IN-PLACE CONCRETE WALLS, IN END BAYS AND OTHER LOCATIONS WHERE THE END OF THE FRAMING IS NOT ABUTTING FRAMING IN AN ADJACENT BAY.
- ii. HOLLOW CORE SLABS IN END BAYS AND OTHER LOCATIONS WHERE THE END OF THE SLAB IS NOT ABUTTING SLABS IN AN ADJACENT BAY.
- iii. STEEL JOISTS IN END BAYS ON ROOFS SUPPORTING STEEL DECK.
- iv. ALL WOOD CONSTRUCTION.

SUBMITTALS

1. SUBMITTALS ARE:
- a. CONCRETE MIX DESIGNS
- b. MATERIAL PRODUCT DATA FOR STRUCTURAL MATERIALS
- c. CONCRETE AND MASONRY REINFORCING
- d. ENGINEERED LUMBER
- e. HEAVY TIMBER
- f. PANELIZED WALLS FOR WOOD BUILDINGS
- g. STEEL FABRICATION AND MISCELLANEOUS METALS
2. SUBMITTALS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SHALL BE REVIEWED AND SHALL BE STARTING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR AND REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THIS IS COMPLETE. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE DESIGN PROFESSIONALS.
3. SUBMITTALS SHALL BE REVIEWED BY THE DESIGN PROFESSIONALS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. NOTATIONS MADE BY THE DESIGN PROFESSIONALS ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS.
4. FOR ADDITIONAL INFORMATION ON REQUIRED SUBMITTALS, SEE INDIVIDUAL MATERIAL SECTIONS.

DELEGATED DESIGN

1. DELEGATED DESIGNS PER SECTION 107.3.4.1 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONALS AND REVIEWED PRIOR TO INSTALLATION.
2. DELEGATED DESIGNS ARE:
- a. EXCAVATION, SHORING, AND UNDERPINNING
- b. STRUCTURAL STEEL CONNECTIONS
- c. EXTERIOR WALL SYSTEMS
- d. SKYLIGHTS
- e. STAIRS, ACCESS LADDERS, HANDRAILS, GUARDRAILS, AND GRATING
- f. SIP PANELS
3. ALL DELEGATED DESIGNS SHALL BE SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE PROJECT'S JURISDICTION RESPONSIBLE FOR THE PREPARATION OF THESE DOCUMENTS.
4. FAÇADE:
- a. DESIGN AND DETAILING OF THE FAÇADE SYSTEM AND CONNECTIONS TO THE STRUCTURE SHALL TAKE INTO CONSIDERATION THE FOLLOWING MOVEMENTS:
- i. ±1/2" VERTICAL DIFFERENTIAL DEFLECTION OF SLAB EDGES ON ADJACENT FLOORS
- ii. ±1/2" HORIZONTAL DIFFERENTIAL DEFLECTION BETWEEN ADJACENT FLOORS
- iii. DIFFERENTIAL THERMAL EXPANSION / CONTRACTION BETWEEN FAÇADE SYSTEM AND SUPPORTING PRIMARY STRUCTURAL SYSTEM
- iv. THE FAÇADE SHALL NOT BE INSTALLED UNTIL AFTER THE SUPERSTRUCTURE HAS BEEN PLUMBED, ALL FRAMING CONNECTIONS HAVE BEEN INSTALLED, AND ALL SHORES AND RESHORES HAVE BEEN REMOVED.
- v. WHERE STRUCTURAL STEEL HORIZONTAL GIRTS ARE PROVIDED, THOSE GIRTS MAY BE USED ONLY TO RESIST LATERAL LOADS FROM THE FAÇADE. VERTICAL LOADS MAY NOT BE IMPOSED BY THE FAÇADE UPON THE GIRT FRAMING UNLESS THE SECTIONS AND DETAILS ON THE STRUCTURAL DRAWINGS SPECIFICALLY INDICATE THAT FAÇADE GRAVITY LOAD CONNECTIONS MAY BE MADE TO THE GIRTS.

EARTHWORK

1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT NO. 0381-1482 DATED JANUARY 14, 2025 BY Professional Service Industries, Inc. FOLLOW RECOMMENDATIONS IN REPORT FOR ALL FOUNDATION WORK. REPORT IS ON FILE WITH THE ARCHITECT.
2. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE INFORMATION SHOWN ON THE EXISTING BUILDING DRAWINGS. NO NEW GEOTECHNICAL REPORT HAS BEEN PROVIDED BY THE OWNER FOR THIS PROJECT.
3. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE BUILDING CODE ALLOWABLE BEARING PRESSURES. NO NEW GEOTECHNICAL REPORT HAS BEEN PROVIDED BY THE OWNER FOR THIS PROJECT.
4. SOIL PROPERTIES:
- FROST DEPTH 3.5 FT (UNHEATED)
5. SUBGRADE PREPARATION FOR FOOTINGS AND SLABS-ON-GRADE SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND SHALL BE IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE GOVERNING AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL DIRECT QUESTIONS REGARDING THE SUBGRADE PREPARATION REQUIREMENTS TO THE GEOTECHNICAL ENGINEER.
6. A GEOTECHNICAL ENGINEER SHALL BE EMPLOYED TO VERIFY THAT THE PRESUMED ALLOWABLE BEARING PRESSURE WILL BE ACHIEVED PRIOR TO CONSTRUCTION. THAT ENGINEER SHALL DEVELOP AND ENSURE IMPLEMENTATION OF A SITE SUBGRADE PREPARATION PROGRAM AS REQUIRED TO ACHIEVE THE PRESUMED SOIL BEARING PRESSURE. FOOTING AND SLAB-ON-GRADE SUBGRADE PREPARATION SHALL BE IN COMPLIANCE WITH THE APPLICABLE REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
7. ANY TESTS, INSPECTIONS, FIELD OBSERVATIONS, OR APPROVAL FROM THE GEOTECHNICAL ENGINEER SHALL BE PERFORMED PRIOR TO PLACEMENT OF CONCRETE. ALTERATIONS TO SITE PREPARATION OR GRADING SHALL BE REPORTED TO THE GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
8. PROPERTY LINE LOCATIONS INDICATED ON FOUNDATION PLANS ARE APPROXIMATE. SEE ARCHITECTURAL AND/OR SITE DRAWINGS FOR LOCATION OF THE STRUCTURE ON THE SITE.
9. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING / BASEMENT WALLS BEFORE CONCRETE HAS ATTAINED SPECIFIED COMPRESSIVE STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL SUPPORTING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED 7-DAY STRENGTH MINIMUM. BACKFILLING IS NOT PERMITTED FOR FOUNDATION WALLS UNTIL SUPPORTED SLAB TOP AND BOTTOM ARE IN PLACE OR THE WALL IS ADEQUATELY BRACED TO RESIST LATERAL LOADS.
10. CONTRACTOR SHALL PROVIDE DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUNDWATER, OR SEEPAGE. DETAILS OF GROUNDWATER INFORMATION SHALL BE OBTAINED FROM THE GEOTECHNICAL REPORT. IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION, PROCEDURES SHALL BE IMPLEMENTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
11. PROVIDE SHORING WHERE THERE IS INSUFFICIENT SPACE FOR STABLE-SLOPED EMBANKMENTS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEETING, SHORING, ETC. REQUIRED FOR CONSTRUCTION OF THE PROJECT AND SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS, AND UTILITIES. CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE PROJECT'S JURISDICTION.
13. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES SUCH AS CESSPOOLS, CISTERNS, AND FOUNDATIONS. IF ANY SUCH MATERIAL OR STRUCTURES ARE FOUND, ARCHITECT SHALL BE NOTIFIED IMMEDIATELY.
14. ANY REQUIRED IMPORT FILL SHALL HAVE A LOW POTENTIAL FOR EXPANSION AND SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO IMPORTING.
15. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEER'S APPROVAL. BELOW GRADE UTILITY OR PIPE ELEVATIONS, WHERE SHOWN, ARE INDICATED FOR REFERENCE ONLY. REQUIRED ELEVATIONS SHALL BE DETERMINED BY OTHERS AND COORDINATED WITH THE FOUNDATIONS.
16. WHERE GRADE ELEVATIONS ARE APPROXIMATELY EQUAL ON BOTH SIDES OF WALLS, BACKFILL SHALL BE PLACED SO THAT IT IS NOT UNBALANCED BY MORE THAN 2 FEET ON EITHER SIDE.
17. ALL REQUIRED BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE BUILDING AREA SHALL BE COMPLETED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

SHALLOW FOUNDATIONS

1. SEE THE GEOTECHNICAL REPORT FOR SHALLOW FOUNDATION REQUIREMENTS.
2. SHALLOW FOUNDATIONS SHALL HAVE THE FOLLOWING MINIMUM NET ALLOWABLE SERVICE LOAD BEARING PRESSURES:
- |                                |           |
|--------------------------------|-----------|
| NET ALLOWABLE BEARING PRESSURE | 3,000 PSF |
|--------------------------------|-----------|
3. FOUNDATION ELEVATIONS SHOWN INDICATE LOCATIONS WHERE ADEQUATE SOIL BEARING PRESSURE IS ANTICIPATED. IF INADEQUATE BEARING CAPACITY IS ENCOUNTERED, CONTACT STRUCTURAL ENGINEER FOR RESOLUTION. BEARING ELEVATIONS ARE ESTIMATED FROM SOIL BORING DATA INDICATED IN THE GEOTECHNICAL REPORT. DETERMINATION OF FINAL BEARING ELEVATIONS AND FIELD VERIFICATION OF ALLOWABLE BEARING PRESSURE SHALL BE MADE BY AN EXPERIENCED, QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOUNDATIONS.
4. ALL FOUNDATIONS SHALL BEAR BELOW THE FROST DEPTH, OR LOWER WHERE INDICATED ON FOUNDATION PLAN. IN CASE OF CONFLICT, NOTIFY THE DESIGN PROFESSIONALS IN ADVANCE OF ANY CONSTRUCTION TO ALLOW FOR ADJUSTMENT.
5. FOUNDATIONS SHALL BE PLACED ON UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL, AND CLEAN AND FREE OF LOOSE DEBRIS AND STANDING WATER AT TIME OF CONCRETE PLACEMENT.
6. WHERE FOUNDATIONS BEAR ON ROCK, FOUNDATIONS SHALL BEAR ON THAT ROCK OR ON LEAN CONCRETE FILL.
7. NEW FOOTING BEARING ELEVATIONS SHALL MATCH ADJACENT EXISTING FOOTING BEARING ELEVATIONS WHERE OCCURRING UON.
8. THE SLOPE BETWEEN THE LOWER EDGES OF ADJACENT FOOTINGS SHALL NOT EXCEED 45 DEGREES WITH THE HORIZONTAL UON IN THE GEOTECHNICAL REPORT. CONTACT STRUCTURAL ENGINEER WHERE ADEQUATE SLOPE IS NOT ACHIEVED.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE UON.
2. CONCRETE REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:
- |                                     |                  |             |
|-------------------------------------|------------------|-------------|
| REINFORCING STEEL UON               | ASTM A615, GR 60 | Fy = 60KSI  |
| WELDED REINFORCING STEEL            | ASTM A706, GR 60 | Fy = 60 KSI |
| WELDED WIRE REINFORCING             | ASTM A1064       | Fy = 65 KSI |
| HEADED STEEL STUD SHEAR REINFORCING | ASTM A1044       | Fy = 51 KSI |
3. MINIMUM CONCRETE COVER SHALL BE PROVIDED AS FOLLOWS TO THE OUTERMOST REINFORCING BARS:
- | CONCRETE EXPOSURE                                   | MEMBER                                    | REINFORCEMENT                                       | COVER (IN) |
|---|---|---|------------|
| CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND | ALL                                       | ALL   | 3          |
| EXPOSED TO WEATHER OR IN CONTACT WITH GROUND        | ALL                                       | #6 TO #18   | 2          |
| NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND    | SLABS, JOISTS & WALLS                     | #5 AND SMALLER                                      | 1 1/2      |
|   |   | #14 AND #18   | 1 1/2      |
|   |   | #11 AND SMALLER                                     | 3/4        |
|   | BEAMS, COLUMNS, PEDESTALS & TENSION TIES  | PRIMARY REINFORCING STIRRUPS, TIES, SPIRALS & HOOPS | 1 1/2      |
| OTHER   | BOUNDARY ELEMENTS ALL PARKING LEVEL SLABS | TOP BARS  | 1 1/2      |
|   |   | BOTTOM BARS   | 1          |
4. REINFORCING STEEL SHALL BE INSTALLED TO WITHIN THE FOLLOWING TOLERANCES. INDICATED TOLERANCES ARE PER ACI 117, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".
- | ITEM FOR WHICH TOLERANCE IS BEING MEASURED           | PERMITTED TOLERANCE                            |
|--|--|
| CONCRETE COVER FOR SLAB TOP AND BOTTOM BARS          | ±1/4"  |
| COVER FOR OTHER REINFORCING STEEL                    | ±3/8"  |
| SPECIFIED SPACING BETWEEN PARALLEL BARS IN SLAB      | ± (SPECIFIED SPACING/4) BUT NOT TO EXCEED 1"   |
| HORIZONTAL DEVIATION FROM SPECIFIED LOCATION UON     | ±3"  |
| SPACING AND LOCATION OF BEAM STIRRUPS                | ± (BEAM DEPTH IN INCHES/12) x 1"               |
| SPACING AND LOCATION OF COLUMN TIES                  | ± (MINIMUM COLUMN DIMENSION IN INCHES/12) x 1" |
| LOCATION OF ENDS OF BARS PERPENDICULAR TO SLAB EDGES | ±1"  |
- THE ABOVE LIST OF PERMITTED TOLERANCES SHALL BE PROVIDED ON ALL REINFORCING STEEL PLACING DRAWINGS AND ON ALL POST-TENSIONED TENDON PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT PROVIDE THIS LIST OF TOLERANCES WILL BE REJECTED.
5. FIELD BENDING OF REINFORCING STEEL IS NOT PERMITTED UON.
6. WELDING OF REINFORCING STEEL OTHER THAN A706 IS PROHIBITED. WELDING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH AWS D14 OR D1.8.
7. HEADED STUDS AND DEFORMED BAR ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. SUPPORTS AND TIE WIRE FOR COATED REINFORCING SHALL BE PLASTIC PROTECTED. SUPPORTS AND THE WIRE FOR STAINLESS AND GALVANIZED REINFORCING SHALL BE STAINLESS OR GALVANIZED STEEL PROTECTED RESPECTIVELY. SUPPORTS AND TIE WIRE FOR UNCOATING REINFORCING SHALL BE PLAIN WIRE. NO PROTECTION.
9. ALL WELDED WIRE REINFORCING (WWR) SHALL BE LAP SPliced 2 PANELS (1'-0" MIN).
10. SPLICING:
- a. SPLICES IN REINFORCING STEEL SHALL BE MADE ONLY AT THOSE LOCATIONS WHERE SPLICES ARE SHOWN ON THE STRUCTURAL DRAWINGS AND AT THOSE LOCATIONS WHERE SPLICES HAVE BEEN DETAILED ON THE REINFORCING STEEL PLACING DRAWINGS THAT HAVE BEEN REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. ALL SPLICES SHALL BE CLASS B TENSION LAP SPLICES UON.
- b. MECHANICAL SPLICE COUPLERS MAY BE USED INSTEAD OF TENSION LAP SPLICES AT THE CONTRACTOR'S OPTION AT ANY LOCATION. MECHANICAL SPLICE COUPLERS MUST BE USED WHERE SPLICING #14 AND LARGER BARS, INCLUDING WHERE SPLICING #14 AND LARGER BARS TO #11 AND SMALLER BARS. STAGGER MECHANICAL SPLICES IN ADJACENT BARS 30" MINIMUM.
- c. COMPRESSION LAP SPLICES MAY BE USED ONLY AT THOSE LOCATIONS WHERE SUCH SPLICES ARE SPECIFICALLY INDICATED. STAGGER SPLICES WHERE REQUIRED TO PROVIDE 1 1/2" MINIMUM CLEAR SPACING BETWEEN REINFORCING STEEL AT SPLICE LOCATIONS.
11. VERTICAL REINFORCING STEEL IN CONCRETE AND MASONRY WALLS WITH ONE LAYER OF REINFORCING BARS SHALL BE INSTALLED IN THE CENTER OF THE WALL UON.
12. ALL HOOKS SHALL BE STANDARD HOOKS OR STANDARD STIRRUP HOOKS UON. STANDARD STIRRUP HOOKS SHALL HAVE CONTINUOUS BAR AT INSIDE CORNER OF HOOK.
13. STANDARD STIRRUP HOOKS FOR #3, #4, AND #5 BARS SHALL BE PROVIDED IN SLABS LESS THAN 9" THICK.
14. DOWELS SHALL MATCH GRADE, SIZE, SPACING, AND QUANTITY OF LAPPED REINFORCING STEEL UON. EXTEND ALL DOWELS FOR FULL DEPTH OF SUPPORTING ELEMENT AND PROVIDE HOOKS UON. DOWELS SHALL NOT BE POST-INSTALLED INTO FRESH CONCRETE.
15. HEADED DEFORMED BARS MAY ONLY BE USED ON #11 AND SMALLER BARS. THREADED OR FORGED HEADS CAN BE USED AT THE FABRICATOR'S DISCRETION.
16. CUTTING OF REINFORCING STEEL IS PROHIBITED.
17. HEATING OF BARS FOR BENDING IS PROHIBITED.
18. REINFORCING STEEL PLACING DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 315. THE PLACING DRAWINGS SHALL SHOW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE THE REINFORCING STEEL.
19. REINFORCING STEEL SPACINGS ARE CENTER-TO-CENTER DIMENSIONS UON. REINFORCING STEEL SHOWN IN SECTION PERPENDICULAR TO THE CUT ARE CONTINUOUS UON.
20. THE SPACING OF ALL REINFORCING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL DETAILER AND MUST BE INDICATED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE USED TO CLEARLY INDICATE THE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO BE INSTALLED.
21. A LIST OF ALL APPLICABLE REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW SUFFICIENT INFORMATION NEEDED TO PLACE THE REINFORCING STEEL WILL BE REJECTED.
22. CONTRACTOR SHALL NOTIFY THE TESTING AND INSPECTION AGENCY AND STRUCTURAL ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ALL CONCRETE POURS IN ORDER TO PERMIT REINFORCING STEEL REVIEW IF REQUIRED BY THE STRUCTURAL ENGINEER.

STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME
S0.01	Structural General Notes
S0.02	Structural General Notes
S0.03	Structural General Notes
S0.04	Special Inspections
S1.00	Foundation Plan
S1.01	Roof Framing Plan
S3.00	Typical Concrete Details
S3.01	Typical Concrete Details
S6.00	Typical Wood Details
S7.00	Sections and Details
S7.01	Sections and Details
S7.02	Sections and Details
GRAND TOTAL: 12	



CAST-IN-PLACE CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AND ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE UON.
2. CONCRETE MATERIALS SHALL CONFORM TO:
- |                           |                        |
|---------------------------|------------------------|
| PORTLAND LESTONE CEMENT   | ASTM C595, TYPE IL     |
| PORTLAND CEMENT           | ASTM C150, TYPE I      |
| FLY ASH                   | ASTM C618, TYPE C OR F |
| SLAG CEMENT               | ASTM C989              |
| FINE AND COARSE AGGREGATE | ASTM C333              |
| LIGHTWEIGHT AGGREGATE     | ASTM C330              |
| WATER                     | POTABLE                |
| AIR-ENTRAINING ADMIXTURE  | ASTM C260              |
| WATER REDUCING ADMIXTURE  | ASTM C494              |
3. CONCRETE STRENGTHS SHALL CONFORM TO:
- | LOCATION                    | f'cAT28DAYS(Psi) | MAX PERMITTED W/C | EXPOSURE CLASS |
|-----------------------------|------------------|-------------------|----------------|
| ALL FOUNDATION CONCRETE UON | 4000             | 0.45              | F1             |
| SLAB-ON-GRADE UON           | 4000             | 0.55              |                |
| SLAB-ON-GRADE (STOOP)       | 5000             | 0.45              | F1             |
4. AIR ENTRAINMENT:
- a. CONCRETE IN THESE LOCATIONS SHALL BE AIR ENTRAINED WITH THE APPROPRIATE PERCENTAGE AIR CONTENT LISTED IN THE TABLE BELOW AS APPLICABLE FOR THE INDICATED EXPOSURE CLASS AND NOMINAL MAXIMUM AGGREGATE SIZE IN THE CONCRETE MIX. THE REQUIRED AIR CONTENT VALUE MAY BE REDUCED BY 1% FOR ALL CONCRETE WITH COMPRESSIVE STRENGTH GREATER THAN 5000 PSI. THE PERMITTED TOLERANCE ON THE REQUIRED AIR CONTENT IS ±1.5%.
- | NOMINAL MAXIMUM AGGREGATE SIZE | REQUIRED AIR CONTENT PER EXPOSURE CATEGORY |
|--------------------------------|--|
|                                | F1   |
| 3/8"                           | 6%   |
| 1/2"                           | 5.5%                                       |
| 3/4"                           | 5%   |
| 1"                             | 4.5%                                       |
- b. AIR ENTRAINMENT SHALL CONFORM TO UL RATING REQUIREMENTS FOR FIRE RESISTANCE.
5. REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE:
- | CONCRETE ELEMENT                 | REQUIRED NOMINAL MAXIMUM COARSE AGGREGATE SIZE* |
|----------------------------------|---|
| ALL CONCRETE UON                 | 1"  |
| VOIDED FILIGREE SLABS            | 3/4"  |
| TOPPING SLABS LESS THAN 3" THICK | 3/8"  |
- \* SMALLER NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE USED WHERE REQUIRED PER ACI 318.
6. ALL FOUNDATION ELEMENTS SHALL BE CENTERED UNDER WALLS, PIERS, OR COLUMNS UON.
7. "ROUGH JOINTS" ARE JOINTS ROUGHENED TO AN AMPLITUDE OF 1/4" AND FREE AND CLEAN OF LAITANCE. PROVIDE ROUGH JOINTS AT ALL CONSTRUCTION JOINTS UON.
8. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF ALL CONSTRUCTION JOINTS WHERE JOINTS ARE NOT INDICATED ON THE DRAWINGS.
9. CONSTRUCTION JOINTS IN CAST-IN-PLACE CONCRETE SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN. PROPOSED CONSTRUCTION JOINT LOCATIONS SHALL BE SHOWN ON REINFORCING STEEL PLACING DRAWINGS. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS UON. ALL REINFORCING TO BE CONTINUOUS THROUGH JOINTS UON.
10. HORIZONTAL CONSTRUCTION JOINTS THROUGH CAST-IN-PLACE CONCRETE FRAMING ARE NOT PERMITTED EXCEPT WHERE SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS.
11. HORIZONTAL CONSTRUCTION JOINTS AND ALL OTHER HORIZONTAL JOINTS ABUTTING PREVIOUSLY CAST CONCRETE ELEMENTS SHALL BE ROUGH JOINTS UON.
12. CONSTRUCTION JOINTS IN SLAB ON DECK SHALL BE LOCATED AS FOLLOWS:
- a. JOINTS PERPENDICULAR TO THE DECK SPAN SHALL BE LOCATED MIDWAY BETWEEN ADJACENT PARALLEL BEAMS.
- b. JOINTS PARALLEL TO GIRDERS SHALL BE LOCATED 4 FEET AWAY FROM THE GIRDERS.
- c. JOINTS PERPENDICULAR TO GIRDERS SHALL BE LOCATED NO FARTHER THAN 1/2 FROM ONE END OF THE GIRDER WHERE "S" IS THE DIMENSION BETWEEN ADJACENT BEAMS FRAMING TO THE GIRDER.
13. INSTALLATION OF ELECTRICAL CABLE, CONDUIT, AND PIPING IN OR THROUGH CONCRETE COLUMNS AND WALLS IS PROHIBITED UNLESS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. INSTALLATION OF PIPING IN CAST-IN-PLACE CONCRETE IS PROHIBITED UNLESS APPROVED BY STRUCTURAL ENGINEER PRIOR TO INSTALLATION. DRAWINGS SHALL BE SUBMITTED FOR REVIEW SHOWING PROPOSED PLACEMENT OF ELECTRICAL CABLE AND CONDUIT IN SLABS. THOSE DRAWINGS SHALL SHOW SIZES AND DIMENSIONED LOCATIONS OF ALL CABLE AND CONDUIT.
14. ELECTRICAL CABLE AND CONDUIT (HEREAFTER REFERRED TO AS CONDUIT) MAY BE INSTALLED IN POST-TENSIONED CONCRETE SLABS AND IN CONVENTIONALLY REINFORCED CAST-IN-PLACE SLABS SUBJECT TO THE FOLLOWING CONSTRAINTS:
- a. CONDUIT SHALL BE NO LARGER THAN 1 1/2" MAXIMUM OUTSIDE DIAMETER.
- b. PARALLEL CONDUITS SHALL BE INSTALLED IN A SINGLE LAYER AND SHALL BE SPACED NO CLOSER THAN 3".
- c. CONDUIT SHALL BE INSTALLED WITHIN THE MIDDLE THIRD OF THE SLAB DEPTH.
- d. REQUIRED MINIMUM CLEAR COVER BETWEEN TOP OF SLAB AND TOP OF CONDUIT EQUALS 1".
- e. ONLY ONE LAYER OF CONDUIT MAY CROSS OVER ANOTHER LAYER OF CONDUIT AT ANY ONE LOCATION AND CROSSING CONDUIT SHALL OCCUR ONLY WITHIN THE MIDDLE HALF OF A SLAB SPAN, (I.E. - CONDUIT MAY CROSS ONLY WITHIN THE MIDDLE 15 FT OF A 30 FT SPAN.)
- f. CONDUIT SHALL BE INSTALLED NO CLOSER THAN 3 FEET FROM THE FACE OF ANY COLUMN OR SHEAR WALL EXCEPT WHERE PERMITTED PER THE FOLLOWING 2 NOTES.
- g. A GROUP OF UP TO THREE (3) CONDUITS MAY EXIT THE SLAB ADJACENT TO THE FACE OF A COLUMN OR SHEAR WALL PROVIDED THAT THE CONDUITS ARE INSTALLED SO THEY APPROACH THE FACE OF THE COLUMN OR SHEAR WALL IN A DIRECTION PERPENDICULAR TO THE FACE.
- h. CONDUITS MAY PASS THROUGH A SHEAR WALL PROVIDED THE CONDUITS APPROACH THE WALL AND PASS THROUGH THE WALL PERPENDICULAR TO THE FACE OF THE WALL.
- i. LOCATIONS WHERE MULTIPLE CONDUITS EXIST VERTICALLY FROM THE SLAB SHALL BE TREATED AS A MULTIPLE SLAB OPENING AND ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED AROUND THE EFFECTIVE SLAB OPENING AS REQUIRED.
- j. CONDUIT SHALL BE INSTALLED NO CLOSER THAN 3 FEET TO POST-TENSIONED TENDON ANCHORS.
- k. PLACEMENT OF THE SLAB REINFORCING STEEL AND POST-TENSIONED TENDONS TAKES PRECEDENCE OVER PLACEMENT OF CONDUIT. MOVING, SHIFTING, OR REALIGNING OF TENDONS AND REINFORCING STEEL TO FACILITATE CONDUIT INSTALLATION IS NOT PERMITTED.
- l. COORDINATED DRAWINGS SHALL BE SUBMITTED FOR REVIEW SHOWING THE PROPOSED LOCATIONS OF ALL SLAB-EMBEDDED ELECTRICAL CONDUIT. THESE DRAWINGS SHALL SHOW "DRAWN TO SCALE" CONDUIT RUNS, LOCATIONS, AND DIMENSIONS WHERE GROUPED CONDUITS EXIT THE SLABS ALONG WITH LOCATIONS AND DIMENSIONS OF SLAB-EMBEDDED ELECTRICAL BOXES.
- m. INSTALLATION OF CONDUIT IN PARKING LEVEL SLABS AND SLABS EXPOSED TO WEATHER IS NOT PERMITTED.
15. PROVIDE CONTINUOUS BENTONITE WATERSTOPS IN ALL CONSTRUCTION JOINTS IN BELOW GRADE CONCRETE CONSTRUCTION. COORDINATE WATERSTOPS WITH ARCHITECTURAL DRAWINGS.
16. PROJECTING CORNERS OF BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4 INCH CHAMFER UON ON ARCHITECTURAL DRAWINGS.
17. SLOPE SLABS TO DRAINS. SEE ARCHITECTURAL AND MEP DRAWINGS FOR DRAIN LOCATIONS AND SLOPE REQUIREMENTS. SLAB THICKNESSES SHOWN ON DRAWINGS ARE MINIMUMS.

CAST-IN-PLACE CONCRETE (CONT.)

18. NOTIFY THE ARCHITECT 48 HOURS MINIMUM PRIOR TO ALL POURS.
19. CONTRACTOR SHALL SURVEY ALL CONCRETE WORK WITHIN 48 HOURS OF PLACING CONCRETE TO ENSURE PLACEMENT IS IN ACCORDANCE WITH PROJECT REQUIREMENTS.
20. ALL FORMWORK, SHORING, AND RESHORING SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER LICENSED IN THE PROJECTS JURISDICTION. ALL SUBMISSIONS SHALL BE SIGNED AND SEALED.
21. CONCRETE FILL THICKNESS SHOWN ON FRAMING PLANS AND DETAIL SHEETS IS MINIMUM THICKNESS. PROVIDE ALLOWANCES FOR ADDITIONAL CONCRETE FILL REQUIRED TO COMPENSATE FOR BEAM OR DECK DEFLECTIONS AND TO MAINTAIN SURFACE TOLERANCES SPECIFIED.
22. CORING OF CONCRETE IS NOT PERMITTED UNLESS APPROVED BY THE STRUCTURAL ENGINEER. SUBMIT LOCATIONS OF PROPOSED CORES.
23. REINFORCING STEEL SHALL NOT BE DAMAGED WHEN DRILLING CONCRETE.
24. ADHERE TO ACI 305R AND ACI 306R FOR HOT AND COLD WEATHER CONCRETE CONSTRUCTION.
25. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE TESTING AND INSPECTION AGENCY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S. SUBMIT TEST DATA ON EACH PROPOSED MIX FOR REVIEW IN ACCORDANCE WITH THE APPLICABLE CODE. MIX DESIGNS SUBMITTED WITHOUT THE REQUIRED TEST DATA WILL BE RETURNED WITHOUT REVIEW.
26. SUBMIT TEST DATA ON EACH PROPOSED MIX FOR REVIEW IN ACCORDANCE WITH CBC SECTION 1903A AND 1904A.
27. CONTRACTOR SHALL SUBMIT A SINGLE DIMENSIONED AND COORDINATED DRAWING FOR EACH LEVEL, SHOWING THE LOCATIONS OF THE FOLLOWING:
- a. SLAB OPENINGS AND PENETRATIONS
- b. SLEEVES, CAST-IN-PLACE AND POST-INSTALLED FIELD CORED
- c. SLAB-EMBEDDED ELECTRICAL CABLE AND CONDUIT
- d. EMBEDDED PLATES AND ALL OTHER EMBEDDED ITEMS
28. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS, AND DETAILS OF ALL ARCHITECTURAL FEATURES IN THE CONCRETE. SEE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR REQUIREMENTS FOR ALL CONCRETE FINISHES.

STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "DETAILING FOR STEEL CONSTRUCTION" AND FABRICATED AND ERECTED IN ACCORDANCE WITH THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM STANDARDS AS NOTED BELOW:
- |                            |                   |             |
|----------------------------|-------------------|-------------|
| BASE AND CONNECTION PLATES | ASTM A572         | Fy = 50 KSI |
| ANCHOR RODS                | ASTM F1554, GR 55 | Fy = 55 KSI |
| HIGH STRENGTH BOLTS        | ASTM F3125        | Fv = 120KSI |
| HEAVY HEX NUTS             | ASTM A563         |             |
| WASHERS                    | ASTM F436         |             |
3. HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS". SEE DETAILS FOR BOLT SIZE AND MATERIAL AS/CD DESIGNATION.
4. ALL BOLTED CONNECTIONS SHALL BE GRADE A325N BEARING TYPE BOLTS UON. ALL BOLTS SHALL BE INSTALLED TO A MINIMUM "SNUG TIGHT" CONDITION UON.
5. FULLY TENSIONED HIGH STRENGTH BOLTS AND SLIP CRITICAL HIGH STRENGTH BOLTS SHALL USE TENSION-CONTROL "TWIST-OFF" BOLTS OR BE INSTALLED USING THE TURN OF THE NUT METHOD.
6. EXCEPT WHERE DETAILED OTHERWISE, FABRICATOR SHALL SELECT ASD BOLTED (OR WELDED EQUIVALENT) SIMPLE SHEAR CONNECTIONS PER AISC 360 PART 10 TO SUPPORT LOADS INDICATED ON THE STRUCTURAL DRAWINGS. WHEN LOADS ARE NOT SHOWN, CONNECTION SHALL SUPPORT 60% OF THE TOTAL UNIFORM LOAD CAPACITY FOR EACH GIVEN BEAM SIZE AND SPAN AS LISTED IN AISC 360 TABLE 3-6.
7. BEAM REACTIONS GIVEN ON THE CONTRACT DOCUMENTS SHALL SUPERSEDE THE PREVIOUS NOTE. IN NO CASE SHALL THE CONNECTIONS BE DESIGNED FOR AN ASD END REACTION LESS THAN 12 KIPS. BE WELDED OR BOLTED. SHOP CONNECTIONS SHALL BE WELDED UON. WELDS INDICATED WITH A SHOP WELD SYMBOL MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE STRUCTURAL ENGINEER. LOCATIONS OF ALL FIELD WELDS SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS. WELDS SHALL BE DESIGNED TO BE FULLY EQUIVALENT IN STRENGTH TO BOLTED CONNECTIONS DETAILED TO MINIMIZE BENDING IN THE CONNECTION.
8. WELD LENGTHS INDICATED ON THE DRAWINGS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE WELD LENGTH IS NOT SPECIFIED, PROVIDE WELD ALONG ENTIRE INTERSECTION OF THE JOINED PARTS. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM WELD SIZE AS SPECIFIED IN AISC 360, TABLE J2.4.
9. PROVIDE ONE SHOP COAT OF PAINT ON ALL STRUCTURAL STEEL NOT COVERED WITH CONCRETE, FIREPROOFING, MASONRY, OR AT CONTACT SURFACES AT HIGH STRENGTH BOLTS.
10. ALL STEEL EXPOSED TO WEATHER OR AS NOTED ON PLAN SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 G90. ABRADED AREAS TO BE TOUCHED UP WITH COLD GALVANIZING COMPOUND IN ACCORDANCE WITH ASTM A780.
11. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC. FOR MISCELLANEOUS STEEL NOT DETAILED SPECIFICALLY ON THE STRUCTURAL DRAWINGS.
12. GROUT FOR BASE AND BEARING PLATES SHALL BE A NON-SHRINK, NON-METALLIC PRODUCT. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 7000 PSI. INSTALL GROUT PRIOR TO APPLYING SIGNIFICANT LOADING TO MEMBER.
13. ALL WELDING ELECTRODES SHALL BE E70XX UON. WELDING ELECTRODES FOR ASTM A913, GR65 MEMBERS AND THEIR CONNECTIONS SHALL BE E80XX.

ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS)

1. WHERE INDICATED ON THE CONSTRUCTION DOCUMENTS, STEEL MEMBERS AND THEIR CONNECTIONS SHALL BE AESS.
2. SEE ARCHITECTURAL DRAWINGS FOR AESS CATEGORY AND ANY ADDITIONAL REQUIREMENTS. SEE AISC 303, TABLE 10.1 FOR AESS CATEGORY DEFINITIONS.
3. PREPARE, FABRICATE, AND ERECT ALL AESS MEMBERS IN ACCORDANCE WITH AISC 303, SECTION 10.
4. WHERE AESS CATEGORY IS NOT INDICATED ON CONSTRUCTION DOCUMENTS, GENERAL CONTRACTOR TO VERIFY REQUIREMENTS WITH ARCHITECT.

WOOD

1. STRUCTURAL SHEATHING:
- ALL PANELS TO BE PLYWOOD OR OSB UON. PLYWOOD SHALL BE MINIMUM 5 PLY CONSTRUCTION. EACH PANEL SHALL BEAR THE QUALITY TRADEMARK STAMP OF THE AMERICAN PLYWOOD ASSOCIATION (APA) AND SHALL MEET THE REQUIREMENTS OF U.S. PRODUCT STANDARDS PS 1 OR PS 2 FOR WOOD SHEATHING.
3. ALL PANELS SHALL CONFORM TO THE FOLLOWING NOMINAL THICKNESS, SPAN RATING, AND NAILING PATTERN UON.
- | THICKNESS     | SPAN RATING | EDGE NAILING | FIELD NAILING | NAILING AT BEAMS AND COLLECTORS |
|---------------|-------------|--------------|---------------|---------------------------------|
| 3/8"          | 24/0        | 8d@6"        | 8d@12"        | 8d@6"                           |
| 7/16"         | 24/16       | 8d@6"        | 8d@12"        | 8d@6"                           |
| 15/32" (1/2") | 32/16       | 8d@6"        | 8d@12"        | 8d@6"                           |
| 19/32" (5/8") | 32/16       | 10d@6"       | 10d@12"       | 10d@6"                          |
| 3/4" (23/32") | 48/24       | 10d@6"       | 10d@12"       | 10d@6"                          |
| 1"            | 60/48       | 10d@6"       | 10d@12"       | 10d@6"                          |
| 1 1/8"        | 60/48       | 10d@6"       | 10d@12"       | 10d@6"                          |

WOOD (CONT.)

4. ROOF SHEATHING:
- A. 15/32" MINIMUM UON.
- B. PANEL EDGE SUPPORT SHALL BE EITHER TONGUE-AND-GROOVE EDGE, PANEL EDGE CLIP MIDWAY BETWEEN SUPPORTS, OR LUMBER BLOCKING OF 2x4 MINIMUM SIZE.
- C. THICKNESS AND GRADE:
- i. 1/2" 5/8" 3/4", "C-D", EXPOSURE 1
- ii. 1 1/8", STURD-I-FLOOR, EXPOSURE 1
5. FLOOR SHEATHING:
- A. 3/4" MINIMUM UON.
- B. FLOORS SHALL BE NAILED AND GLUED PER APA GLUED FLOOR SYSTEM REQUIREMENTS. THE GLUE SHALL CONFORM TO PERFORMANCE SPECIFICATION ASTM D3498. FOLLOW MANUFACTURER'S SPECIFIC APPLICATION RECOMMENDATIONS.
- C. THICKNESS AND GRADE:
- i. 5/8" 3/4" 7/8", "C-D", EXPOSURE 1
- ii. 5/8" 3/4" 7/8" 1" 1 1/8", STURD-I-FLOOR, EXPOSURE 1
6. WALL SHEATHING:
- A. SEE PLANS AND SCHEDULE FOR SHEAR WALL SHEATHING REQUIREMENTS. FOR OTHER WALL SHEATHING, SEE ARCHITECTURAL DRAWINGS UON.
- B. PROVIDE MINIMUM 2x SOLID BLOCKING AT PANEL EDGES OF SHEAR WALL SHEATHING.
- C. AT SHEAR WALLS, PROVIDE NAILING PER SCHEDULE OR MINIMUM LISTED ABOVE.
7. FASTENING REQUIREMENTS UON:
- A. SHEATHING FASTENERS SHALL BE DRIVEN FLUSH BUT SHALL NOT FRACTURE THE FACE PLY.
- B. HOT-DIP GALVANIZED NAILS SHALL BE USED WHEN NAILING TO PRESSURE-TREATED MEMBERS.
8. PANEL LAYOUT:
- A. LONG DIMENSION OF PANEL TO BE PERPENDICULAR TO FRAMING MEMBERS, EXCEPT PANELS AT WALLS MAY BE INSTALLED WITH LONG DIMENSION PARALLEL TO STUDS UON.
- B. END JOINTS IN ADJACENT RUNS SHALL BE STAGGERED 4 FEET.
- C. MINIMUM PANEL WIDTH SHALL BE 12".
- D. EDGES OF ALL PANELS LESS THAN 24" WIDE SHALL BE BACKED BY BLOCKING OF 2x4 MINIMUM SIZE.
- E. PROVIDE 1/8" GAP AT ALL SHEATHING JOINTS FOR FLOORS AND WALLS UON ON PLAN OR DETAILS.
9. IF SHEATHING PANELS EXHIBIT SWELLING, NAIL HEAD PULL-THROUGH, SOFT SPOTS OR OTHER CONDITIONS REDUCING THE STRUCTURAL CAPACITY, REMOVE AND REPLACE.
10. LUMBER:
11. COMPLY WITH ANSI/AWC NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION.
12. ALL FRAMING LUMBER SHALL BE SPRUCE PINE FIR, GRADED BY WESTERN WOOD PRODUCTS ASSOCIATION, NOTED ALLOWABLE STRESSES ARE MINIMUMS AND FOR NONREPETITIVE USES PRIOR TO ALLOWABLE STRESS INCREASES AND CONFORMING TO THE NDS AS FOLLOWS:
- 2" THICK x 4" TO 6" WIDE (WALL STUD ONLY) NO. 2 Fb = 875 PSI Fv = 135 PSI E = 1,400,000 PSI
- NO. 2 Fb = 875 PSI Fv = 135 PSI E = 1,400,000 PSI
- 2" TO 4" THICK x 6" AND WIDER
- NO. 1 Fb = 900 PSI Fv = 125 PSI E = 1,300,000 PSI
- 5" THICK x 5" AND WIDER
13. ALL LUMBER STRESSES SHOWN ABOVE ARE FOR VISUALLY STRESS-RATED LUMBER USED AT 19% MAXIMUM MOISTURE CONTENT WHEN BUILDING IS ENCLOSED, SINGLE MEMBER USE. ALL LUMBER SHALL BE GRADE MARKED.
14. PROVIDE MINIMUM 1 1/2" JOIST BEARING LENGTH UON.
15. NOTCHING OR DRILLING HOLES IN LUMBER FRAMING MEMBERS MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
16. NOTCHING OR DRILLING HOLES IN MANUFACTURED WOOD PRODUCTS THAT ARE DIFFERENT FROM THE MANUFACTURER'S GUIDELINES MUST BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION PER DETAILED INSTALLATION RECOMMENDATIONS AND GUIDELINES OF THE MANUFACTURER.
18. NAILING INTO THE SIDE FACE OF AN I-JOIST TOP/BOTTOM CHORD IS NOT PERMITTED.
19. PROVIDE SLOPED SEAT HANGERS FOR SLOPING I-JOIST INSTALLATIONS.
20. ALL HANGERS SELECTED SHALL MATCH THE SIZE OF SUPPORTED MEMBER AND SHALL HAVE FULL NAILING AS SHOWN IN THE ICC REPORT.
21. SUBSTITUTIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER AND HAVE ICC APPROVED LOAD CAPACITIES EQUAL TO OR GREATER THAN THE SIMPSON STRONG-TIE CONNECTORS.
22. SEE ARCHITECTURAL DETAILS AND SPECIFICATIONS FOR MATERIAL TYPES AND FINISHES.
23. PROVIDE STANDARD CAMBERS FOR ALL ROOF BEAMS AND PURLINS UON.
24. SEE MANUFACTURER REQUIREMENTS FOR MINIMUM BEARING LENGTHS.
25. FASTENING:
26. ALL NAILS SHALL BE COMMON WIRE NAILS. AT ALL NAILING EXPOSED TO WEATHER OR INSTALLED IN PRESSURE-TREATED WOOD (EXAMPLE: DECKING OR SIDING), USE HOT-DIP GALVANIZED NAILS. USE OF PLASTIC COATING OR CASING NAILS IS NOT ALLOWED. NAIL DESIGNATIONS SHALL MEET THE FOLLOWING LENGTHS AND DIAMETERS:
- A. 6d - 2" x 0.113"
- B. 8d - 2.5" x 0.131"
- C. 10d - 3" x 0.148"
- D. 12d - 3.25" x 0.148"
- E. 16d - 3.5" x 0.162"
- F. 20d - 4" x 0.192"
27. THE NAILING SCHEDULE AND STRUCTURAL DETAILS ARE BASED ON THE USAGE OF "COMMON" WIRE NAILS EXCEPT THAT 16d "SINKER" NAILS (3.25" x 0.148") MAY BE USED WHERE 16d IS SPECIFIED. IF GUN NAILS ARE USED, THE CONTRACTOR SHALL SUBMIT NAIL DATA FOR REVIEW PRIOR TO BEGINNING CONSTRUCTION.
28. THE NUMBER AND SIZE OF NAILS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THE FOLLOWING UON:

CONNECTION	FASTENING
JOIST TO SILL, TOP PLATE OR GIRDER	(3)8d TOENAILS
BRIDGING OR BLOCKING BETWEEN JOISTS OR TRUSSES NOT AT WALL TOP PLATE	(2)8d TOENAILS EACH END OR (2)16d END NAILS
SILL PLATE TO JOIST, RIM JOIST OR BLOCKING	16d@16", FACE NAIL
TOP PLATE TO STUD AND STUD TO SILL	(2)16d END NAILS FOR 2x (3)16d END NAILS FOR 3x
2x STUD TO TOP OR SILL PLATE	(4)8d TOENAILS OR (2)16d END NAILS
3x STUD TO SOLE PLATE	(6) 8d TOENAILS OR (3) 16d END NAILS
STUD TO STUD	16d@24", FACE NAIL
DOUBLE TOP PLATES	16d@16", FACE NAIL
DOUBLE TOP PLATES, LAP SPLICE	(12)16d EACH SIDE OF SPLICE
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	(3)8d TOENAILS
RIM JOIST TO TOP PLATE OR FRAMING BELOW	8d@6", TOENAIL
JOIST TO RIM JOIST	(3)16d END NAILS
TOP PLATE LAPS AT CORNERS AND INTERSECTIONS	(2)16d FACE NAILS
BUILT-UP HEADER	16d@16" ALONG EACH EDGE
CEILING JOIST TO TOP PLATE	(4)8d TOENAIL
CONTINUOUS HEADER TO STUD	(4)8d TOENAIL
CEILING JOIST, LAPS OVER PARTITIONS	(3)16d FACE NAILS
CEILING JOISTS TO PARALLEL RAFTERS	SEE TABLE 2308 7.3.1
RAFTER OR ROOF TRUSS TO PLATE	(3)10d TOENAILS
BUILT-UP CORNER STUDS	16d@24"
BUILT-UP GIRDERS AND BEAMS, 2x LUMBER LAYERS	20d@32", FACE NAIL ALONG T&B, STAGGERED OPPOSITE SIDES AND (2)20d AT ENDS AND AT EACH SPLICE
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d@16", FACE NAIL
MULTI-PLY LAMINATED VENEER LUMBER (LVL)	SEE MANUFACTURER'S DATA

WOOD (CONT.)

29. PILOT HOLES SHALL BE PROVIDED FOR ALL NAILS 20d AND LARGER. PILOT HOLES SHALL HAVE A DIAMETER OF APPROXIMATELY 75% OF THE NAIL SHANK DIAMETER.
30. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION AND THE APPROVAL OF THE DESIGN PROFESSIONALS.
31. CONTRACTOR TO AVOID SPLITTING WOOD MEMBERS DURING FASTENER INSTALLATION. NAIL HEADS SHOULD BE DRIVEN NO GREATER THAN 1/16" BELOW WOOD SURFACE.
32. ALL BOLTED WOOD CONNECTIONS SHALL BE MADE WITH A307 BOLTS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME UON. BOLT HOLES SHALL BE 1/32" TO 1/16" LARGER THAN THE BOLT. FORBID DRIVING OF BOLTS IS NOT ALLOWED. RETIGHTEN ALL BOLTS BEFORE CONCEALING CONNECTION.
33. USE STANDARD CUT WASHERS BETWEEN THE BOLTS HEADS, BOLT NUTS, AND LAG SCREW HEADS AND WOOD FRAMING UON.
34. ALL WOOD CONNECTIONS MADE WITH LAG SCREWS SHALL BE MADE WITH SCREWS CONFORMING TO THE REQUIREMENTS OF THE CURRENT VERSION OF ANSI/ASME. LEAD HOLES FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH AS THE LENGTH OF UNTHREADED SHANK. THE LEAD HOLE SHALL HAVE A DIAMETER EQUAL TO 60-75% OF THE SHANK DIAMETER. LAG SCREWS SHALL BE ENTIRELY INSTALLED BY TURNING WITH A WRENCH.
35. DETAILS ARE SHOWN WITH SIMPSON STRONG-TIE CONNECTORS AS BASIS OF DESIGN. NAILING SHALL BE PER ICC RESEARCH RECOMMENDATIONS TO ACHIEVE FULL ICC APPROVED LOADS. THE MAXIMUM GAP BETWEEN END OF JOIST AND FACE OF SUPPORTING MEMBER SHALL BE 1/8". WHERE THERE ARE CONNECTOR NAILING ALTERNATIVES LISTED IN THE MANUFACTURER'S CATALOG, THE NAILING PROVIDING THE HIGHEST LOAD CAPACITY SHALL BE USED UON.
36. HANGERS OR CONNECTORS IN CONTACT WITH PRESSURE-TREATED MEMBERS SHALL HAVE ZMAX COATING.
37. GENERAL CONSTRUCTION REQUIREMENTS:
38. FOUNDATION PLATES ON CONCRETE SHALL BE PRESSURE-TREATED LUMBER, NO. 2 GRADE MINIMUM. SILL SHALL BE ANCHORED TO CONCRETE WITH 5/8"x4 1/2" EMBEDMENT GALVANIZED SCREW ANCHORS SPACED @ 48" MAXIMUM. THERE SHALL BE A MINIMUM OF THREE SCREW ANCHORS PER SILL PLATE PIECE WITH ONE ANCHOR LOCATED WITHIN 8" OF EACH END OF EACH PIECE. THERE SHALL BE NO SILL PLATE SPLICE UNDER ANY POST OR TRIMMER/KING STUDS.
39. METAL FRAMING CONNECTORS NOTED ON THE DRAWINGS USE SIMPSON STRONG-TIE AS BASIS OF DESIGN UON. SUBSTITUTIONS OF ALTERNATE MANUFACTURERS WILL BE ACCEPTABLE AS LONG AS LOAD CAPACITIES ARE MET OR EXCEEDED AND ARE SUBSTANTIATED BY AN ICC REPORT.
40. FRAMING PLANS INDICATE GENERAL LAYOUT AND DIMENSIONAL CONTROL ONLY. SEE SHOP DRAWINGS FOR ENGINEERING AND ERECTION.
41. SOLID-SAWN LUMBER BEAMS, RAFTERS, AND JOISTS SHALL HAVE LATERAL SUPPORT PREVENTING ROTATION OR DISPLACEMENT PER THE TYPICAL DETAILS.
42. ALL LUMBER SHALL BE MILL SIZED AND SURFACED ON FOUR SIDES AND SHALL BE STRAIGHT STOCK, FREE FROM WARP OR CUP, AND SINGLE LENGTH PIECES UON.
43. ALL ROUGH CARPENTRY SHALL PRODUCE JOINTS TRUE, TIGHT, AND WELL NAILED WITH MEMBERS ASSEMBLED IN ACCORDANCE WITH THE DRAWINGS AND ALL PERTINENT BUILDING CODES. THE SHIMMING OF SILLS, JOISTS, SHORT STUDS, TRIMMERS, HEADERS, OR OTHER FRAMING MEMBERS SHALL NOT BE PERMITTED. ALL WALLS AND PARTITIONS SHALL BE STRAIGHT, PLUMB, AND ACCURATELY LOCATED. CAREFULLY SELECT ALL STRUCTURAL MEMBERS SO KNOTS AND OBVIOUS MINOR DEFECTS WILL NOT INTERFERE WITH MAKING SOUND CONNECTIONS.
44. STUD FRAMING BELOW BEAMS, HEADERS, OR GIRDER TRUSSES TO BE CONTINUOUS TO THE FOUNDATION. CONTINUE POST OR STUDS TO THE FOUNDATION. INFILL FRAMING BETWEEN FLOOR TRUSSES OR JOISTS IS TO MATCH SIZE AND NUMBER OF STUDS ABOVE.
45. INFILL FRAMING BEHIND HOLDOWN STRAPS AT FLOOR TRUSSES OR JOISTS SHALL MATCH KING STUDS OR POST AT END OF SHEAR WALL ABOVE.
46. INSTALL ALL BLOCKING AS REQUIRED TO SUPPORT ALL REQUIRED FINISHES AND EQUIPMENT. PROVIDE 2x FIRE BLOCKING TO CUT OFF ALL CONCEALED DRAFT OPENINGS, BOTH VERTICAL AND HORIZONTAL, BETWEEN CEILING AND FLOOR AREAS. VERIFY ALL REQUIRED BLOCKING WITH ARCHITECTURAL DRAWINGS AND LOCAL BUILDING OFFICIAL.
47. ALL LUMBER AND PRODUCTS SHALL BE HANDLED AND STORED TO PREVENT MARRING AND MOISTURE ABSORPTION. NO DIRECT CONTACT WITH THE GROUND IS PERMITTED.
48. PROTECTION AGAINST DECAY AND TERMITES:
- A. ALL LUMBER, WHEN IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESERVATIVE-TREATED WOOD IN ACCORDANCE WITH AWPA UC1. BOTTOM OF SILLS AT EXTERIOR WALLS SHALL NOT BE LESS THAN 8" ABOVE OUTSIDE GRADE EXCEPT WHERE GRADE IS PAVED OVER FOR 18" MINIMUM WIDTH AND DRAINING AWAY FROM THE BUILDING. FOR THAT CONDITION, SILL MAY BE 2" ABOVE.
- B. EXTERIOR COLUMNS AND POSTS: IN AREAS EXPOSED TO WATER SPLASH AND EXTERIOR CONDITIONS, COLUMN/POST SHALL BE SUPPORTED BY A METAL CONNECTOR AND BE TREATED IN ACCORDANCE WITH AWPA UC3.
- C. STRUCTURAL SUPPORTS OF BALCONIES, PORCHES, OR SIMILAR APPURTENANCES: WHEN MEMBERS ARE EXPOSED TO THE WEATHER WITHOUT ADEQUATE ROOF PROTECTION PREVENTING WATER ACCUMULATION, THEY SHALL BE TREATED WOOD IN ACCORDANCE WITH AWPA UC3.
- D. MOISTURE CONTENT: WHEN WOOD IS PRESSURE TREATED WITH A WATERBORNE PRESERVATIVE AND LOCATED IN ENCLOSED SPACES WHERE DRYING IN SERVICE CANNOT READILY OCCUR, SUCH WOOD SHALL BE AT A MOISTURE CONTENT OF 19% OR LESS BEFORE BEING COVERED.
- E. USE AWPA UC4 AT ALL WOOD IN CONTACT WITH SOIL.
49. NOTCHES AND BORED HOLE PENETRATIONS IN WOOD STUD WALLS SHALL CONFORM TO SECTION 2308 OF THE BUILDING CODE AND TYPICAL DETAIL, WHICHEVER IS MORE RESTRICTIVE.
50. ALL APPLICABLE FRAMING STANDARDS OR GRADING RULES SPECIFIED SHALL BE IDENTIFIED BY THE GRADE MARK OR A CERTIFICATE OF INSPECTION BY AN APPROVED AGENCY. ALL LUMBER AND PLYWOOD REQUIRED TO BE TREATED WOOD SHALL BE IDENTIFIED BY THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY WHICH MAINTAINS CONTINUED SUPERVISION, TESTING, AND INSPECTION OVER THE QUALITY OF THE PRODUCT.
51. WALL STUD CONSTRUCTION IS DESIGNED TO BE BRACED BY THE WALL SHEATHING (WOOD STRUCTURAL PANEL OR GYPSUM BOARD). CONTRACTOR TO PROVIDE TEMPORARY BRACING, AS REQUIRED, UNTIL SHEATHING IS INSTALLED.
52. ALL DRYWALL, WINDOWS, EXTERIOR CLADDING, MEP, ETC. SHALL BE ARCHITECTURALLY DETAILLED AND CONSTRUCTED BY THE CONTRACTOR TO ACCOMMODATE ESTIMATED VERTICAL MOVEMENT DUE TO CRUSHING, SHRINKAGE, AND CONSTRUCTION GAPS. STRUCTURAL ENGINEER SHALL NOT BE HELD LIABLE FOR ANY POST-CONSTRUCTION REMEDIATION REQUIRED AS A RESULT OF DIFFERENTIAL MOVEMENT.

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HEAVY TIMBER

1. ALL HEAVY TIMBER FRAMING SHALL BY DOUGLAS FIR LARCH, GRADED BY WESTERN WOOD PRODUCTS ASSOCIATION. NOTED ALLOWABLE STRESSES ARE MINIMUMS AND FOR NONREPETITIVE USES PRIOR TO ALLOWABLE STRESS INCREASES AND CONFORMING TO THE NDS AS FOLLOWS:  
  
NO. 1 ALL TIMBER 5" THICK x 5" AND WIDER AND SHALL BE DRY SERVICE CONDITION WITH MOISTURE CONTENT LESS THAN 16% (RF-KD) RADIO FREQUENCY KILN DRIED  
BENDING STRENGTH, F<sub>b</sub> 1350 PSI  
SHEAR STRENGTH, F<sub>v</sub> 170 PSI  
AXIAL STRENGTH, F<sub>c</sub> 925 PSI  
COMPRESSION PERPENDICULAR TO GRAIN, F<sub>c</sub> 625 PSI  
perp  
MODULUS OF ELASTICITY, E 1,600,000 PSI

GLUED-LAMINATED CONSTRUCTION

1. MATERIALS, MANUFACTURE, AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH ANSIIA/ITC STANDARD A190.1, ASTM D3737, AND AITC 117.  
2. LUMBER FOR LAMINATING SHALL COMPLY WITH THE FOLLOWING:  
  
SPECIES SPF  
COMBINATION SYMBOL 24F – E/SPF1  
LAYUP BALANCED  
EXTREME FIBER BENDING, TENSION 2,400 PSI  
EXTREME FIBER BENDING, COMPRESSION 2,400 PSI  
HORIZONTAL SHEAR 215 PSI  
MODULUS OF ELASTICITY, E 1,600,000 PSI  
3. THE MAXIMUM MOISTURE CONTENT OF THE WOOD AT THE TIME OF GLUING SHALL NOT EXCEED 16% FOR PROJECTS LOCATED IN COASTAL AREAS, 12% FOR PROJECTS LOCATED IN INTERIOR VALLEYS, OR 10% FOR PROJECTS LOCATED IN DESERT AREAS, WITH THE GEOGRAPHICAL AREAS AS DETERMINED BY THE AREA HAVING JURISDICTION. MOISTURE CONTENT OF THE WOOD FOR MEMBERS EXPOSED TO DIRECT SUNLIGHT IN THE FINISHED STRUCTURE SHALL NOT EXCEED 10% AT THE TIME OF GLUING. THE MINIMUM MOISTURE CONTENT SHALL NOT BE LESS THAN 7%. THE RANGE OF MOISTURE CONTENT OF LAMINATIONS ASSEMBLED INTO A SINGLE MEMBER SHALL NOT EXCEED 5% AT THE TIME OF GLUING.  
4. THOSE PORTIONS OF GLUED-LAMINATED TIMBERS WHICH FORM THE STRUCTURAL SUPPORTS FOR THE BUILDING AND ARE EXPOSED TO WEATHER AND NOT PROPERLY PROTECTED BY A ROOF, EAVES, OVERHANGS, OR SIMILAR COVERING SHALL BE TREATED WITH AN APPROVED PRESERVATIVE.  
5. ADHESIVES SHALL MEET THE REQUIREMENTS OF ASTM D2559 FOR WET SERVICE CONDITION. TEMPERATURE OF LUMBER IN SERVICE SHALL NOT EXCEED 150°F.  
6. A COAT OF END SEALER SHALL BE APPLIED TO THE ENDS OF ALL MEMBERS AS SOON AS PRACTICAL AFTER END TRIMMING. SURFACES OF THE MEMBERS SHALL BE SEALED WITH A PENETRATING SEALER.  
7. MEMBERS SHALL BE PROTECTED DURING CONSTRUCTION.  
8. EACH MEMBER SHALL BE STAMPED WITH A QUALITY MARK AND AN IDENTIFYING MARK INDICATING SPECIES OF LUMBER, GRADE, TYPE OF GLUE, EXTREMES OF MOISTURE CONTENT, AND COMBINATION SYMBOL INDICATING CONFORMANCE WITH THE ABOVE NOTED PRODUCT STANDARD.  
9. ALL GLUED-LAMINATED TIMBER SHALL BE CONTINUOUSLY INSPECTED DURING FABRICATION BY A GLUE FABRICATION INSPECTOR. INSTALLATION OF ALL TIMBER CONNECTORS SHALL BE INSPECTED BY A QUALIFIED INSPECTOR.  
10. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION.  
11. LAMINATED WOOD SUPPLIER SHALL FURNISH ALL CONNECTION HANGERS AND HARDWARE.  
12. ALL WOOD-TO-WOOD AND WOOD-TO-STEEL CONNECTIONS NOT SPECIFICALLY DETAILED ON THE CONTRACT DOCUMENTS SHALL BE DESIGNED BY THE STRUCTURAL WOOD SUPPLIER AND COORDINATED WITH THE STRUCTURAL STEEL SUPPLIER.  
13. ALL ERECTION BRACING SHALL BE DESIGNED BY THE FABRICATOR'S ENGINEER LICENSED IN THE PROJECT'S JURISDICTION.

POST-INSTALLED ANCHORS

1. BASIS OF DESIGN ANCHORS:  

INSTALLATION CONDITION	ANCHOR TYPE
EXPANSION ANCHORS INTO CONCRETE	SIMPSON STRONG-BOLT 2 (ESR-3037)
SCREW ANCHORS > 1/4"Ø INTO CONCRETE	SIMPSON TITEN HD (ESR-2713)
ADHESIVE ANCHORS INTO CONCRETE, NEW AND EXISTING	SIMPSON SET-3G w/ GR55 THREADED ROD (ESR-4057) FOR ALL ADHESIVE ANCHORS, HOLES SHALL BE HAMMER DRILLED AND HOLES MAY BE DRY OR WATER SATURATED
EXPANSION ANCHORS INTO GROUTED CMU	SIMPSON STRONG-BOLT 2 (APMO UES ER-240)
SCREW ANCHORS > 1/4"Ø INTO GROUTED CMU	SIMPSON TITEN HD (ESR-1056)
SCREW ANCHORS ≤ 1/4"Ø INTO CONCRETE OR GROUTED CMU	SIMPSON TITEN TURBO (CONCRETE: IAPMO UES ER-712) (MASONRY: IAPMO UES ER-716)
ADHESIVE ANCHORS IN GROUTED CMU OR SOLID BRICK	SIMPSON SET-3G w/ GR55 THREADED ROD (ESR-4844)
ADHESIVE ANCHORS INTO HOLLOW CMU, BRICK OR MULTI-WYTHE BRICK WALLS	SIMPSON SET-XP w/ GR55 THREADED ROD (ESR-4844)
POWDER-ACTUATED FASTENERS (PAF's) IN CONCRETE	SIMPSON PDPA (ESR-2138)

  
2. ALTERNATIVE ANCHORS MAY BE USED IF APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE PROJECT'S JURISDICTION VERIFYING PROPOSED ALTERNATIVE ANCHORS WILL PROVIDE THE SAME OR GREATER LOAD-CARRYING CAPACITY AS THE SPECIFIED ANCHORS. THE CONTRACTOR SHALL SUBMIT EVALUATION REPORTS. EACH ANCHOR CONFIGURATION SHALL BE EVALUATED AND COMPARED TO THE SPECIFIED ANCHOR.  
3. CRACKED CONCRETE IS ASSUMED FOR ALL ANCHORAGE DESIGN CONDITIONS UNLESS IT CAN BE DEMONSTRATED THROUGH ENGINEERING ANALYSIS THAT THE CONCRETE REMAINS UNCRACKED DURING THE GOVERNING ULTIMATE LOAD STATE.  
4. POST-INSTALLED ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.  
5. THE CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR EACH SPECIFIED ANCHOR TYPE. THE STRUCTURAL ENGINEER SHALL RECEIVE DOCUMENTATION VERIFYING ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE BEEN TRAINED PRIOR TO COMMENCEMENT OF INSTALLING ANCHORS.  
6. INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPROVED CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR EQUIVALENT. THE ACCEPTABILITY OF CERTIFICATIONS OTHER THAN THE ACI/CRSI ADHESIVE INSTALLER CERTIFICATION WILL BE DETERMINED BY THE STRUCTURAL ENGINEER.  
7. CONCRETE SHALL HAVE ACHIEVED DESIGN STRENGTH PRIOR TO INSTALLING POST-INSTALLED ANCHORS. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE THAT HAS CURED FOR A MINIMUM OF 21 DAYS.  
8. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE OR MASONRY. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.  
9. POST-INSTALLED ANCHORS AND DOWELS SHALL BE INSTALLED IN A MANNER THAT DOES NOT DAMAGE REINFORCING STEEL, CONDUIT OR OTHER EMBEDDED ITEMS. REINFORCING STEEL SHALL BE LOCATED BY NON-DESTRUCTIVE MEANS PRIOR TO DRILLING HOLES. PLATES AND BRACKETS THROUGH WHICH ANCHORS WILL BE INSTALLED SHALL NOT BE FABRICATED UNTIL AFTER REINFORCING STEEL IS LOCATED AND ANCHOR LOCATIONS ARE ADJUSTED. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER TO OBTAIN ALTERNATIVE ANCHOR LAYOUT WHERE ANCHORS MUST BE RELOCATED TO AVOID INTERFERENCE WITH REINFORCING STEEL.  
10. ADHESIVE ANCHORING SYSTEMS ARE PERMITTED TO BE USED FOR INSTALLATION OF REINFORCING STEEL INTO EXISTING CONCRETE ONLY WHERE SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS OR WITH APPROVAL FROM THE STRUCTURAL ENGINEER. LOCATIONS WHERE REINFORCING STEEL WAS INCORRECTLY PLACED OR MISSED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.  
11. WHERE POST-INSTALLED MECHANICAL ANCHOR EMBEDMENT DEPTHS ARE SPECIFIED, THOSE DEPTHS ARE THE REQUIRED MINIMUM NOMINAL EMBEDMENT DEPTHS. WHERE MECHANICAL ANCHOR EMBEDMENT DEPTHS ARE NOT INDICATED, THE ANCHORS SHALL BE INSTALLED TO THE MAXIMUM EMBEDMENT DEPTH NOTED IN THE MANUFACTURER'S PRODUCT TECHNICAL GUIDE.  
12. ADHESIVE ANCHORS SHALL BE INSTALLED WITH A MINIMUM 6" EMBEDMENT DEPTH UON.  
13. QUALIFICATION OF ANCHORS SHALL INCLUDE THE TESTING AND EVALUATION OF ANCHORS BY AN INDEPENDENT TESTING AND EVALUATION AGENCY ACCREDITED UNDER ISO/IEC 17025 CONFORMING TO THE REQUIREMENTS OF ISO/IEC 17011. THE INTERNATIONAL CODE COUNCIL EVALUATION SERVICE (ICC-ES) SHALL SERVE AS THE DEFAULT TESTING AGENCY UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.  
14. THE ICC EVALUATION SERVICE REPORT (ESR) SHALL BE IN CONFORMANCE WITH THE ICC-ES CRITERIA AS INDICATED.  
15. ANCHORAGE OF NONSTRUCTURAL DESIGNATED SEISMIC SYSTEMS WITH SEISMIC QUALIFICATIONS IN ACCORDANCE WITH ASCE 7 SECTION 13.2.2 SHALL CONFORM TO THE CERTIFICATE OF COMPLIANCE FOR THE DESIGNATED SYSTEM.

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TESTING, INSPECTIONS, AND OBSERVATIONS

1. THE STRUCTURAL ENGINEER DOES NOT PROVIDE INSPECTIONS OF CONSTRUCTION. STRUCTURAL ENGINEER MAY MAKE PERIODIC OBSERVATIONS OF THE CONSTRUCTION. SUCH OBSERVATIONS SHALL NOT REPLACE REQUIRED INSPECTIONS BY THE GOVERNING AUTHORITIES OR SERVE AS "SPECIAL INSPECTIONS" AS MAY BE REQUIRED BY CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.
2. SEE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS OR SPECIFICATIONS FOR TESTING AND INSPECTION REQUIREMENTS OF NON-STRUCTURAL COMPONENTS.
3. DUTIES OF THE INSPECTION AGENCY PER IBC CHAPTER 17:

a. SUBMIT A PROPOSED TESTING AND INSPECTION PROGRAM TO THE OWNER, THE ARCHITECT AND THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO COMMENCEMENT OF WORK.

b. PERFORM ALL TESTING AND INSPECTION REQUIRED PER APPROVED TESTING AND INSPECTION PROGRAM.

c. FURNISH INSPECTION REPORT TO THE BUILDING OFFICIAL, THE OWNER, THE ARCHITECT, STRUCTURAL ENGINEER AND THE GENERAL CONTRACTOR. THE REPORTS SHALL BE COMPLETED AND FURNISHED WITHIN 48 HOURS OF INSPECTED WORK.

d. SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTION AGENCY'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
4. SPECIAL INSPECTIONS AND TESTS ARE REQUIRED FOR MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN CHAPTER 17 OF THE IBC OR IN STANDARDS REFERENCED BY THE IBC. THESE ITEMS INCLUDE:

a. POST-INSTALLED ANCHORS - INSPECTION
5. THE FOLLOWING WORK SHALL BE INSPECTED BY THE SPECIAL INSPECTOR UNLESS SPECIFICALLY WAIVED BY THE BUILDING OFFICIAL.

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
CONCRETE CONSTRUCTION				
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT		X	ACI 318: CH 20, 25.2, 25.3, 26.2.1-26.6.3	1908.4
2. MATERIAL IDENTIFICATION OF REINFORCING (TYPE/GRADE)		X	AISC 341: TABLE J9.1	
3. REINFORCING STEEL HAS NOT BEEN REBENT IN THE FIELD		X	AISC 341: TABLE J9.1	
4. REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED		X	AISC 341: TABLE J9.1	
5. REINFORCING STEEL CLEARANCES HAVE BEEN PROVIDED		X	AISC 341: TABLE J9.1	
6. COMPOSITE STEEL MEMBERS HAVE REQUIRED SIZE		X	AISC 341: TABLE J9.1	
7. REINFORCING BAR WELDING: <div>a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706</div>		X	AWS D1.4	
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		X	ACI 318: 26.6.4	
c. INSPECTS ALL OTHER WELDS	X			
8. INSPECT ANCHORS CAST IN CONCRETE		X	ACI 318: 17.8.2	
9. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: <div>a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS</div>	X		ACI 318: 17.8.2.4	
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a		X	ACI 318: 17.8.2	
10. VERIFY USE OF REQUIRED DESIGN MIX		X	ACI 318: CH 19, 26.4.2, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
11. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X		ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1907.10
12. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		ACI 318: 26.5	1908.6, 1908.7, 1908.8
13. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X	ACI 318: 26.5.3-26.5.5	1908.9
14. INSPECT PRESTRESSED CONCRETE FOR: <div>a. APPLICATION OF PRESTRESSING FORCES; AND</div>	X		ACI 318: 26.11.2	
b. GROUTING OF BONDED PRESTRESSING TENDONS	X			
15. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	X		ACI 318: 26.9	
16. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		X	ACI 318: 26.11.2	
17. INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		X	ACI 318: 26.11.2(b)	

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
WOOD FRAMING				
1. PREFABRICATED WOOD STRUCTURAL ELEMENTS		X		1704.2.5
a. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER: <div>i. TEMPORARY AND PERMANENT INSTALLATION RESTRAINT/BRACING</div>		X		1705.5.3
2. HIGH-LOAD DIAPHRAGMS: <div>a. SHEATHING GRADE AND THICKNESS</div>		X		1705.5.1
b. MEMBER SIZES AT ADJOINING PANEL EDGES		X		1705.5.1
c. DIAPHRAGM NAILING		X		1705.5.1
3. LATERAL FORCE RESISTING SYSTEM (SHEAR WALLS, DIAPHRAGMS, DRAG STRUTS, BRACES, AND HOLDDOWNS, WHERE FASTENER SPACING AT PANEL EDGES IS 4" OR LESS): <div>a. GLUING OF ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM</div>	X			1705.12.1, 1705.13.2
b. NAILING, BOLTING, ANCHORING AND OTHER FASTENING TO OTHER ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM		X		1705.12.1, 1705.13.2

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
MASS TIMBER CONSTRUCTION				
4. INSPECTION OF ANCHOR AND CONNECTIONS OF MASS TIMBER CONSTRUCTION TO TIMBER DEEP FOUNDATION SYSTEMS		X		TABLE 1705.5.3
5. INSPECT ERECTION OF MASS TIMBER CONSTRUCTION		X		TABLE 1705.5.3
6. INSPECTION OF CONNECTIONS WHERE INSTALLATION METHODS ARE REQUIRED TO MEET DESIGN LOADS: <div>a. THREADED FASTENERS:<div>i. VERIFY USE OF PROPER INSTALLATION EQUIPMENT</div></div>		X		TABLE 1705.5.3
ii. VERIFY USE OF PREDRILLED HOLES WHERE REQUIRED		X		TABLE 1705.5.3
iii. INSPECT SCREWS, INCLUDING DIAMETER, LENGTH, HEAD TYPE, SPACING, INSTALLATION ANGLE AND DEPTH		X		TABLE 1705.5.3
b. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION TO RESIST SUSTAINED TENSION LOADS	X			TABLE 1705.5.3
c. ADHESIVE ANCHORS NOT DEFINED IN PRECEDING CELL		X		TABLE 1705.5.3
d. BOLTED CONNECTIONS		X		TABLE 1705.5.3
e. CONCEALED CONNECTIONS		X		TABLE 1705.5.3

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	MATERIAL STD REFERENCE	IBC REFERENCE
SOILS				
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X		
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X		
3. PERFORM CLASSIFICATIONS AND TESTING OF COMPACTED FILL MATERIAL		X		
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X			
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X		

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## GENERAL CONCRETE SHEET NOTES:

1. TOP OF SLAB EL = (0'-0") UON.
2. EXTERIOR T.O. FOOTING EL = (-2'-6") UON.
3. INTERIOR T.O. FOOTING EL = (-2'-6") UON.
4. EXTERIOR T.O. WALL EL = (-2'-6") UON.
5. TOP OF PIER EL = (-0'-8") UON.
6. BF# INDICATES BRACE FRAME ELEVATION. SEE FRAME ELEVATIONS.
7. SEE GENERAL NOTES AND TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
8. CONTRACTOR VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
9. SEE ARCHITECTURAL DRAWINGS FOR SLAB CONTOURS, VALLEYS AND RIDGES, FLOOR DRAINS, CURBS, ETC.
10. CONTRACTOR TO VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FOOTING ELEVATIONS AS REQUIRED TO ALLOW MECHANICAL PIPE TO PASS OVER FOOTING.
11. PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECHANICAL PIPES PENETRATE WALL. VERIFY LOCATIONS WITH MECHANICAL DRAWINGS.
12. DESIGNATIONS:  
SW-X 6.5" SIP SHEAR WALLS. REFER TO SHEET S6.00 FOR LOADING DIAGRAM.

## GENERAL REBAR SHEET NOTES:

1. 'T' SHOWN WITH BAR SIZE INDICATES TOP BARS.
2. 'B' SHOWN WITH BAR SIZE INDICATES BOTTOM BARS.
3. LENGTHS CALLED OUT FOR HOOKED BARS ARE THE STRAIGHT PORTION OF THE BAR AND DOES NOT INCLUDE THE LENGTH OF THE STANDARD HOOK.
4. PROVIDE SLAB DOWELS AT ALL CMU WALLS. SEE TYPICAL CMU WALL DETAILS.

## WOOD COLUMN SCHEDULE

MARK	MEMBER SIZE	REMARKS
P-1	12"x12" GLULAM WOOD POST	-

## CONTINUOUS FOOTING SCHEDULE

MARK	WIDTH	DEPTH	REINFORCING		REMARKS
			LONG DIRECTION	SHORT DIRECTION	
CF1.8	1'-8"	1'-6"	(3) #5 CONT. T&B		

## FOOTING SCHEDULE

MARK	LENGTH	WIDTH	DEPTH	REINFORCING		REMARKS
				LONG DIRECTION	SHORT DIRECTION	
F3.5	3'-6"	3'-6"	1'-6"	(4) #6	(4) #6	
F4.0	4'-0"	4'-0"	1'-6"	(5) #6	(5) #6	
F4.5	4'-6"	4'-6"	1'-6"	(5) #6	(5) #6	
F5.0	5'-0"	5'-0"	1'-6"	(6) #6 T&B	(6) #6 T&B	

## CONCRETE PIER SCHED

MARK	DIMENSIONS	VERT REINF	TIES
CP-1	16"x16"	(4) #8	#3@12" OC MAX.

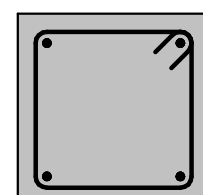
## NOTES:

1. LOCATE TOP TIE 2" CLEAR BELOW TOP OF PIER. PROVIDE (4) ADDITIONAL TIES @ 4" BELOW TOP TIE. INSTALL BOTTOM TIE 6" MAX ABOVE TOP OF FOOTING/FOUNDATION.
2. ALTERNATE THE LOCATION OF CORNER HOOKS ON CLOSED TIES AROUND THE PERIMETER OF THE PIER BETWEEN ADJACENT CORNERS ON SUCCESSIVE SETS OF TIES.
3. ALTERNATE THE LOCATION OF THE 90° AND 135° HOOKS ON SUCCESSIVE SETS OF TIES.

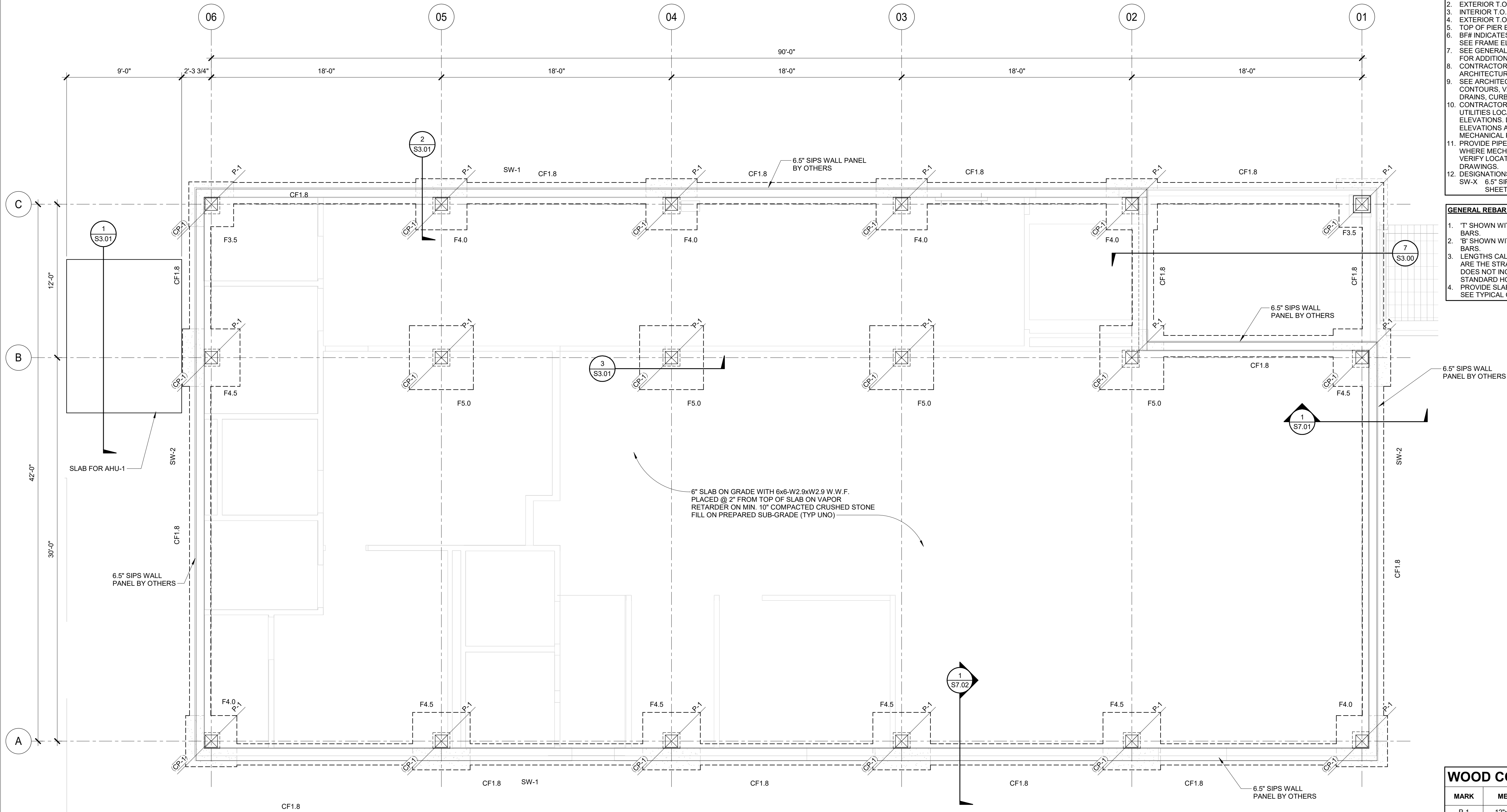


## 1 FOUNDATION PLAN

1/4" = 1'-0"



4 BARS





## ROOF FRAMING NOTES:

- SEE ARCHITECTURAL DRAWINGS FOR WALL AND OPENING LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR T.O. TOP PLATE/TRUSS BEARING ELEVATION UON.
- SIP PANEL MANUFACTURER TO COORDINATE ALL OPENINGS WITH MECHANICAL. PROVIDE FRAMING AS REQUIRED.
- CONTRACTOR TO VERIFY ALL MECHANICAL EQUIPMENT, DRAINS, DUCT SIZES, AND LOCATIONS PRIOR TO PREPARING SHOP DRAWINGS AND FABRICATING MATERIALS. CONTRACTOR TO COORDINATE ANY CHANGES WITH THE SIPS SUPPLIER AND STRUCTURAL ENGINEER.
- DESIGNATIONS:  
RD-1 8.25" SIPS PANEL BY OTHERS  
T-1 1" DIA. STAILESS STEEL COLLAR TIE ROD.

- REFERENCE DRAWINGS  
S0.01, S0.02 & S0.03 GENERAL  
STRUCTURAL NOTES  
S0.04 SPECIAL INSPECTION SCHEDULES

## WOOD BEAM SCHEDULE

MARK	MEMBER SIZE	REMARKS
B-1	6.75"x13.75" GLULAM BEAM	-
B-2	8.75"x15" GLULAM BEAM	-
B-3	10.75"x16.5" GLULAM BEAM	-
B-4	3.5"x15.125" GLULAM BEAM	-
B-5	6.75"x16.5" GLULAM BEAM	-

Project Name

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Drawing Name

Roof Framing Plan

Drawn By

KN

Checked By

KA

Issue Date

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Revisions

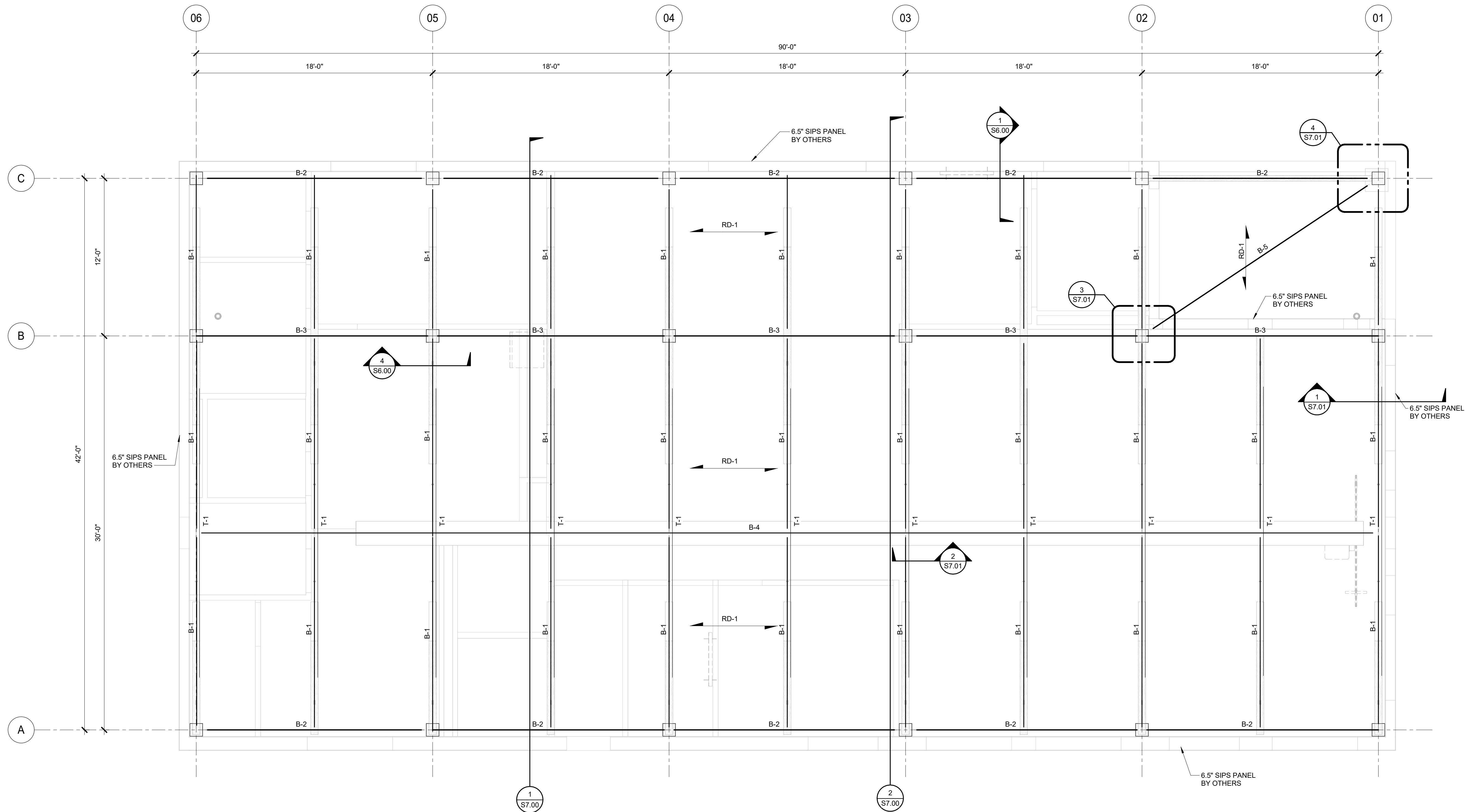
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S1.01

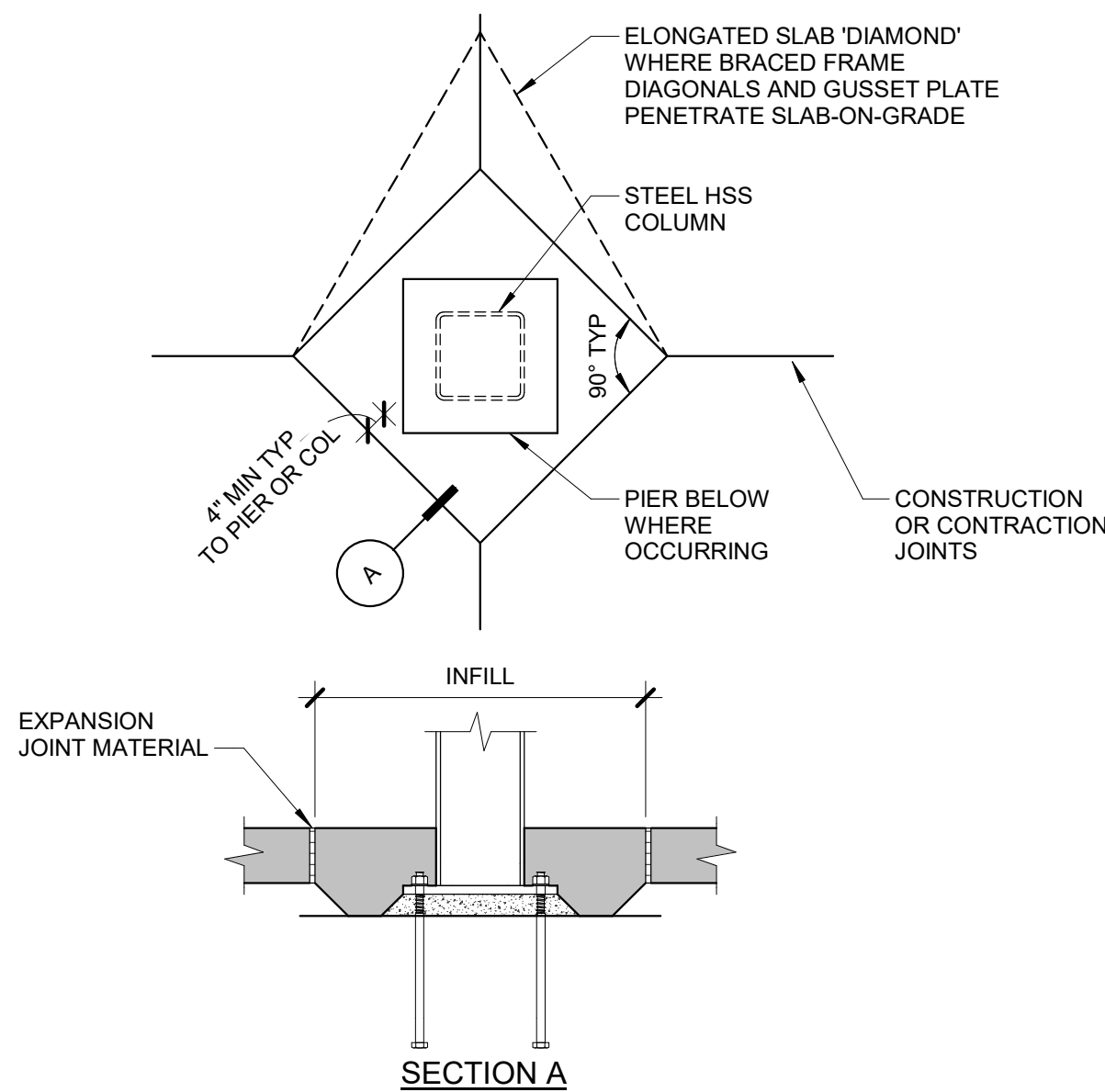


1

## ROOF FRAMING PLAN

1/4" = 1'-0"

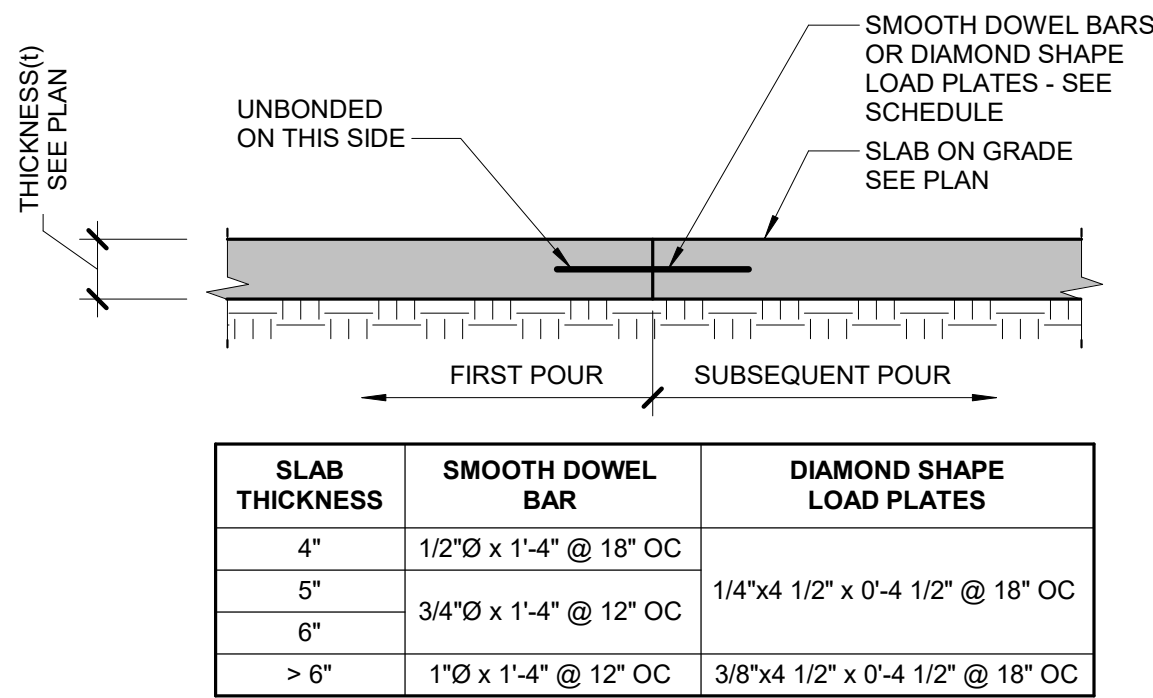




## SLAB-ON-GRADE JOINTS AT COLUMN

1

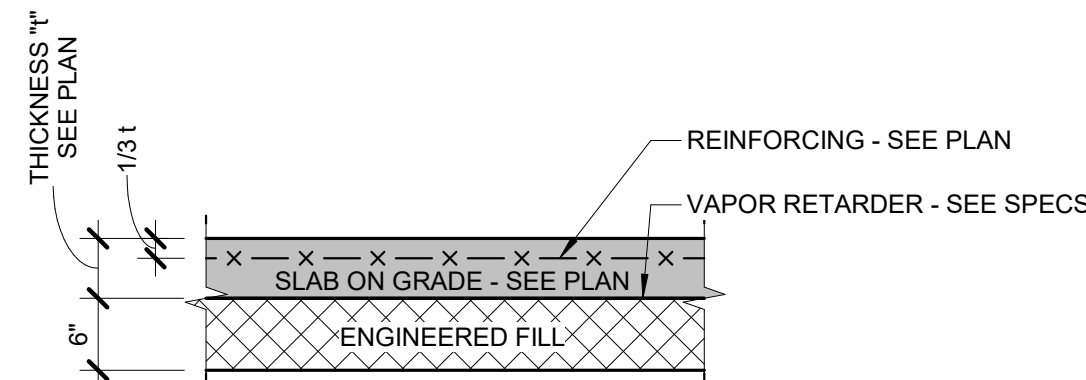
3/4" = 1'-0"



## TYPICAL CONSTRUCTION JOINT

2

3/4" = 1'-0"



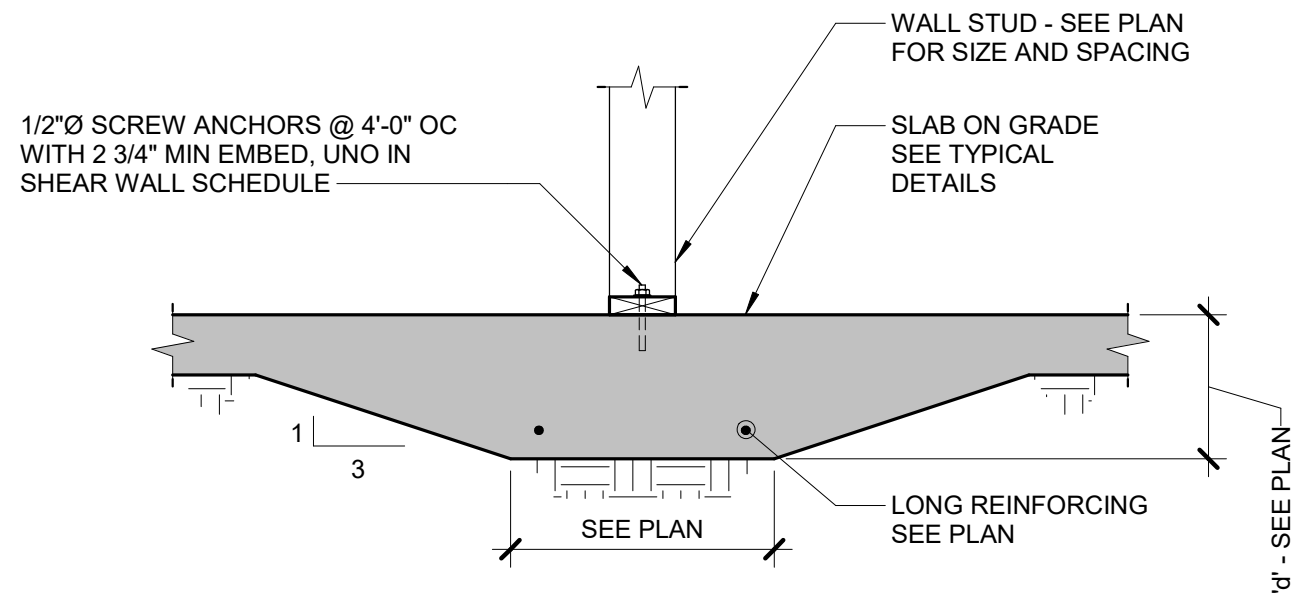
### NOTES:

- REFERENCE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.
- COMPACT ALL FILL MATERIAL TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D1557.
- VAPOR RETARDER TO MEET ASTM E1745, CLASS A AND BE NOT LESS THAN 15 MILS THICK.

## TYPICAL SLAB SECTION

3

3/4" = 1'-0"



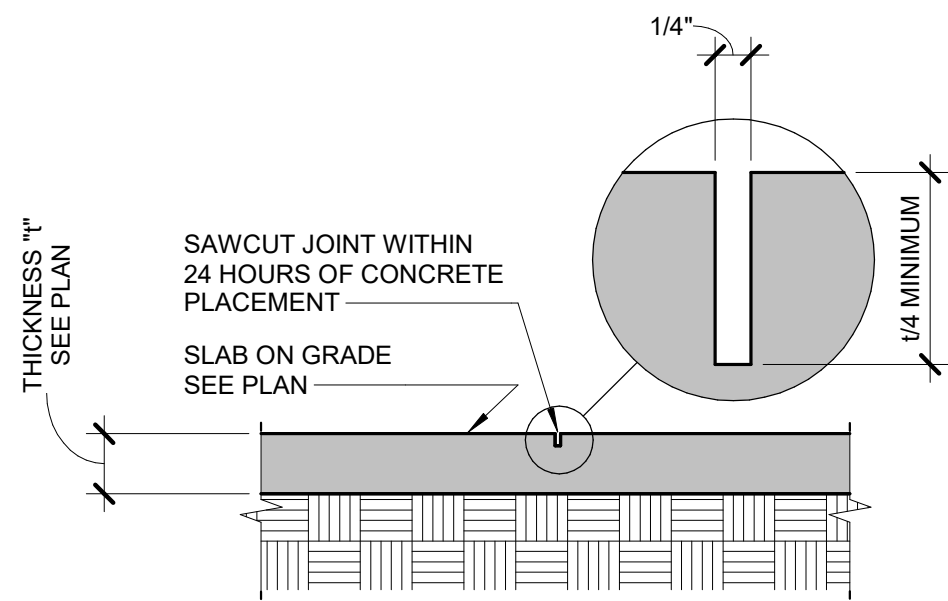
### NOTES:

- CENTER THICKENED SLAB ABOUT WALL. SEE ARCHITECTURAL DRAWINGS FOR WALL LOCATIONS.
- PROVIDE CORNER DOWELS AT INTERSECTIONS OF THICKENED SLABS - SEE

## INTERIOR BEARING/SHEAR WALL AT THICKENED SLAB

4

3/4" = 1'-0"



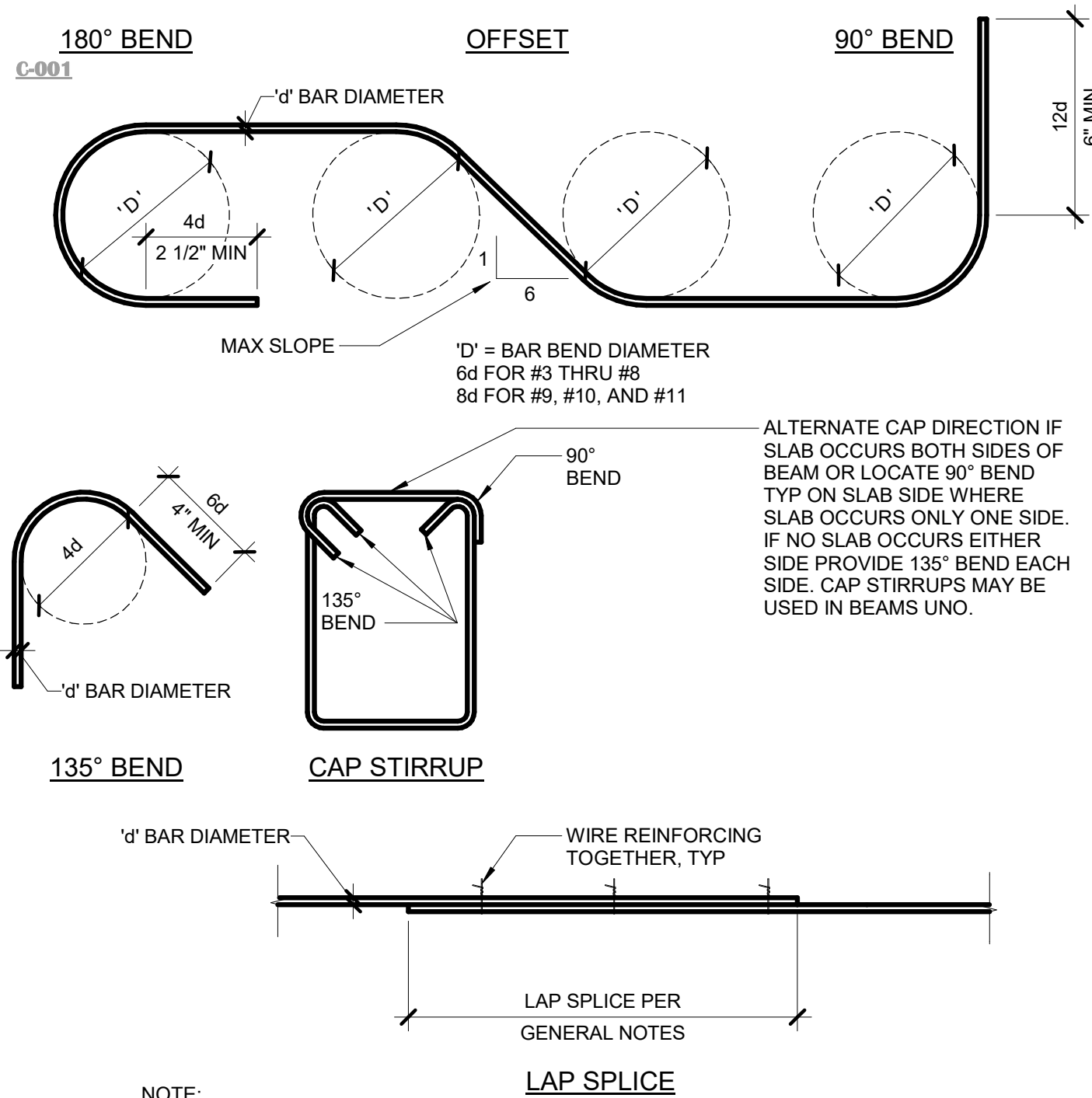
### NOTES:

- SEE CAST-IN-PLACE CONCRETE GENERAL NOTES CONCERNING LOCATION OF JOINTS.
- CONTRACTOR MUST OBTAIN WRITTEN APPROVAL PRIOR TO POURING CONCRETE FOR ALL CONSTRUCTION AND/OR CONTROL JOINTS.
- SLAB-ON-GRADE IS A STRUCTURAL DIAPHRAGM AND PART OF LATERAL FORCE RESISTING SYSTEM.

## TYPICAL CONTROL JOINT

5

3/4" = 1'-0"



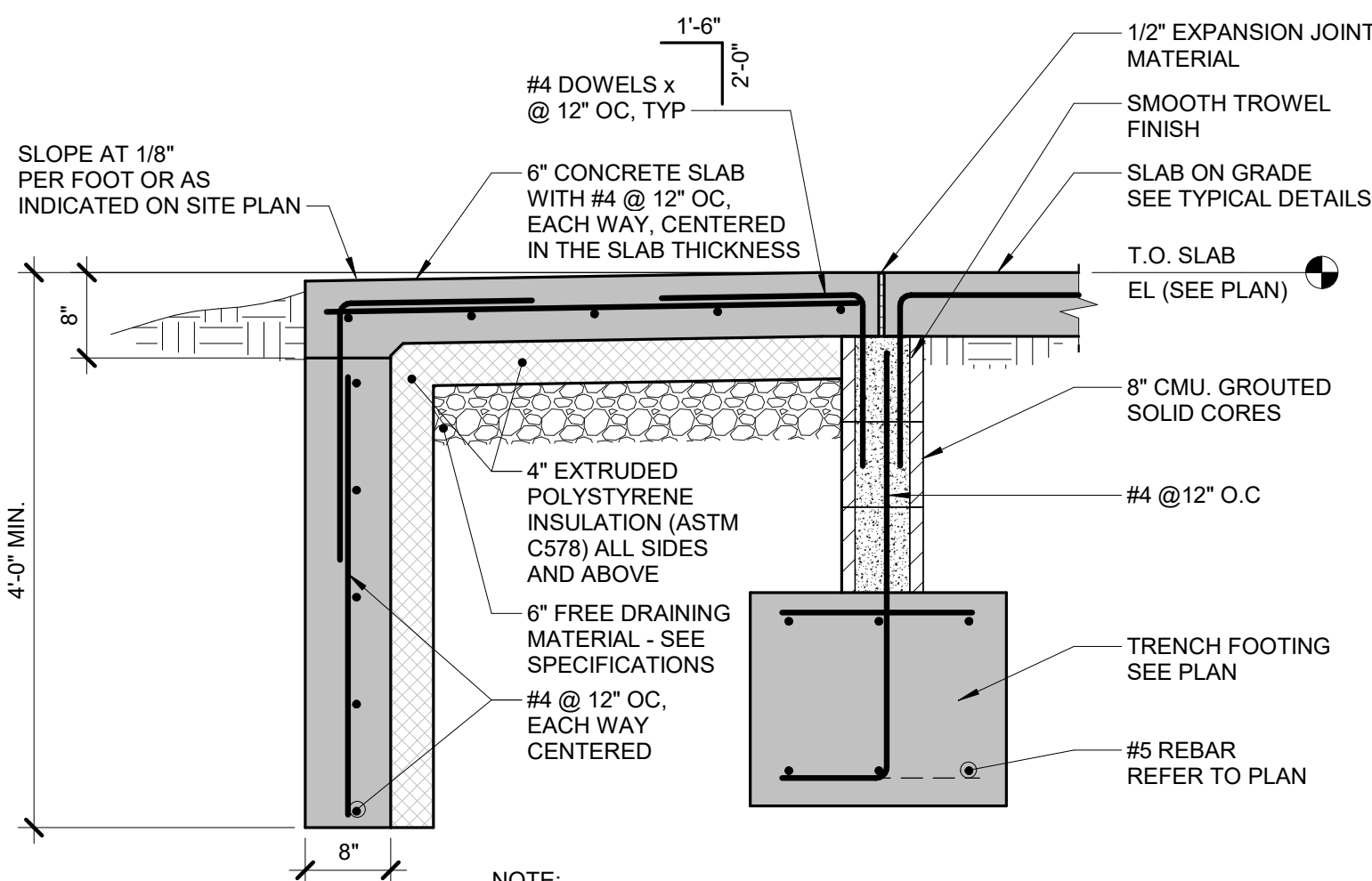
### NOTE:

- ALL HOOKS, BENDS AND LAPS SHALL BE AS INDICATED UNLESS SPECIFICALLY NOTED ON DETAIL. FOR LIGHTWEIGHT CONCRETE, MULTIPLY VALUE FROM THE GENERAL NOTES TABLE BY 1.18.

## TYPICAL REINFORCING DETAILS

6

3/4" = 1'-0"



### NOTE:

- SEE ARCHITECTURAL DRAWINGS FOR EXACT STOOP LAYOUT AND LOCATIONS.

## TYPICAL STOOP DETAIL

7

3/4" = 1'-0"

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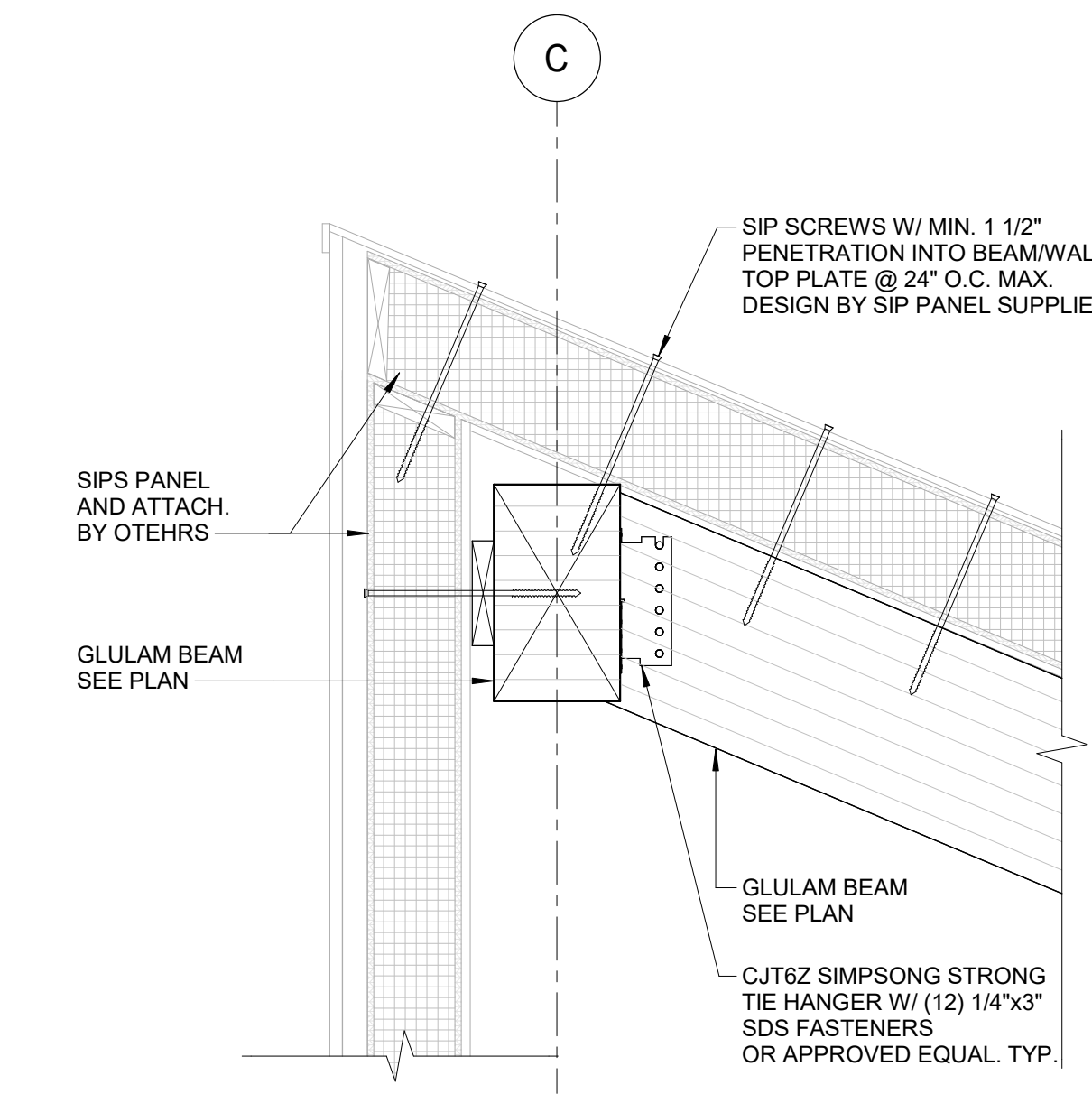
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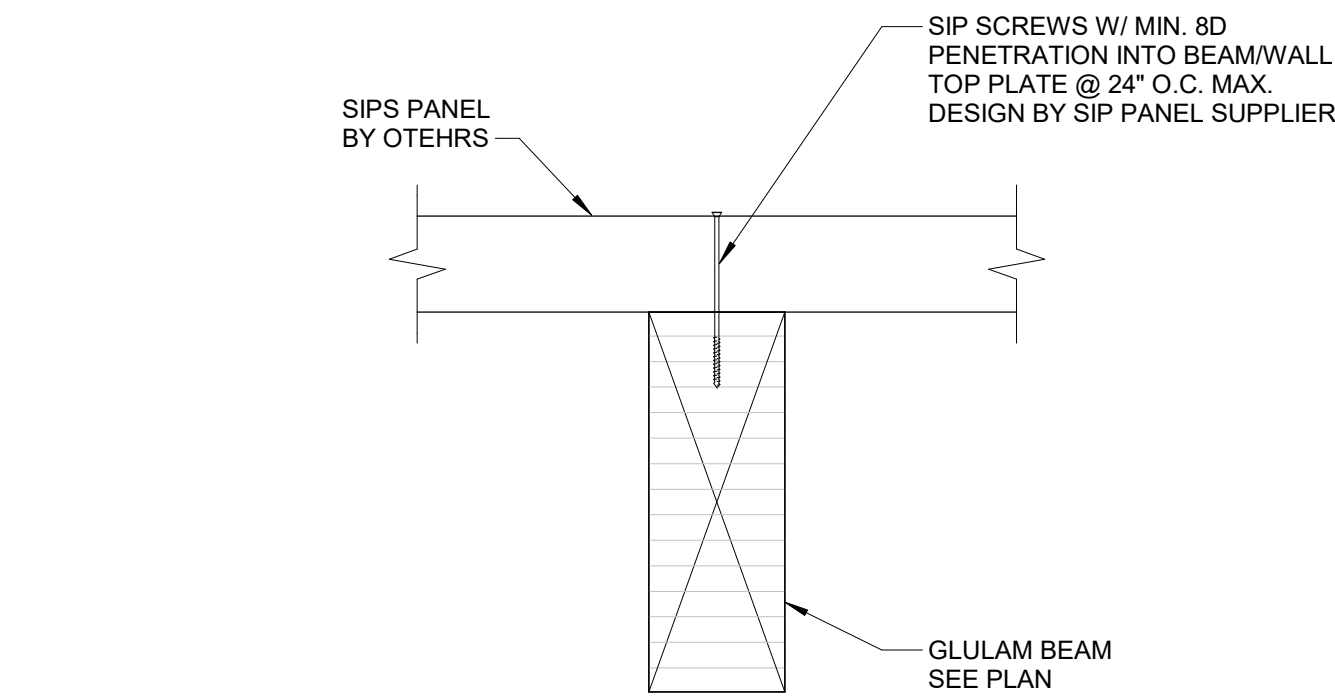




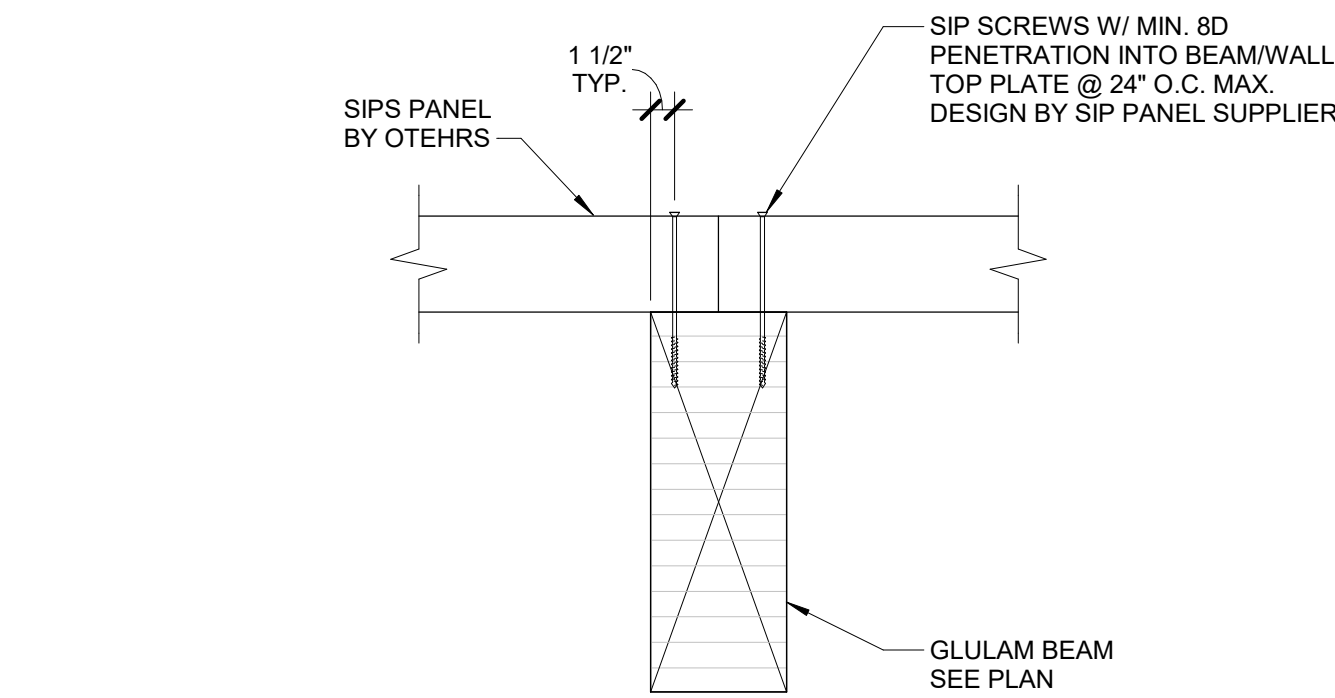




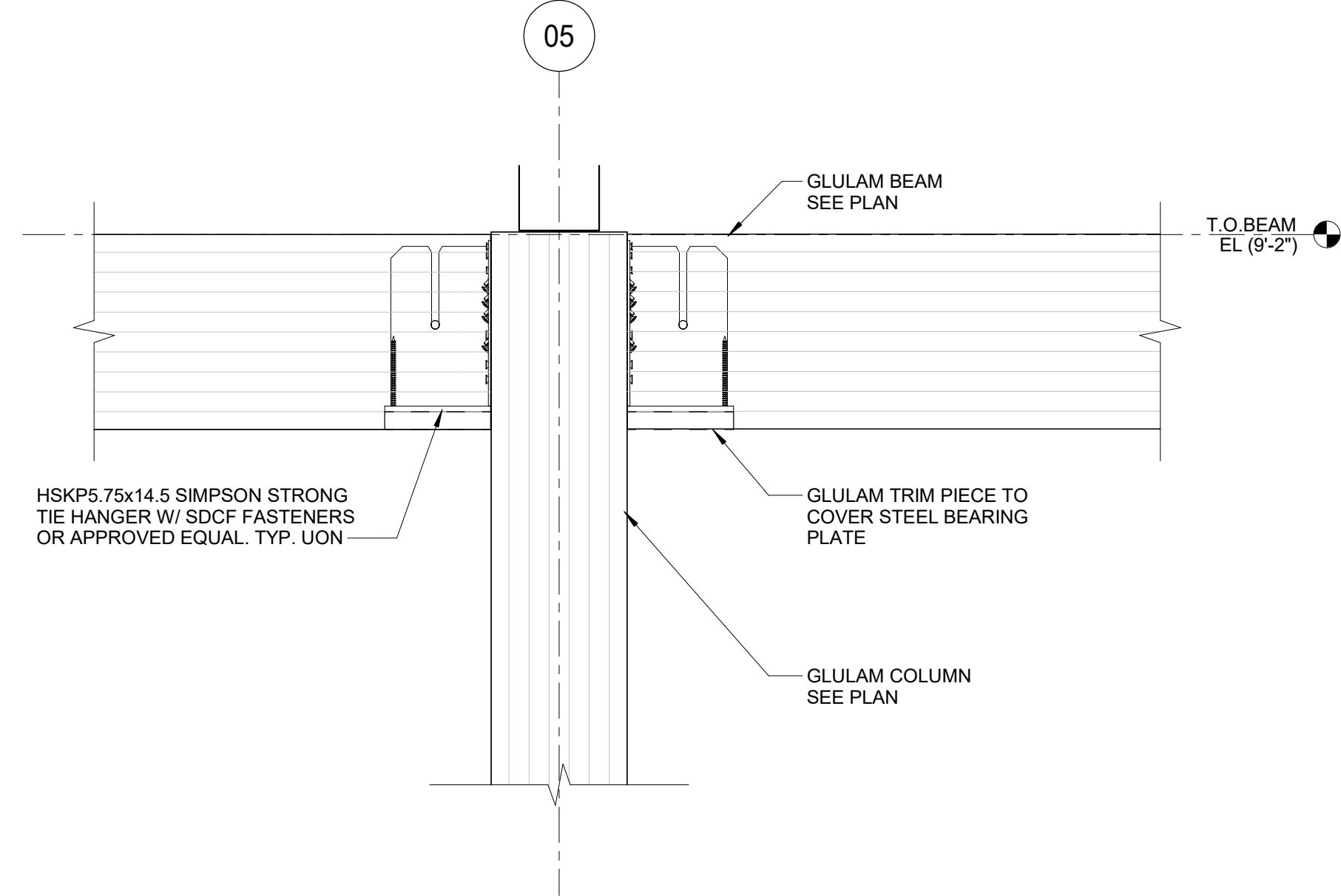
**1 BEAM-TO-BEAM CONNECTION**  
1" = 1'-0"



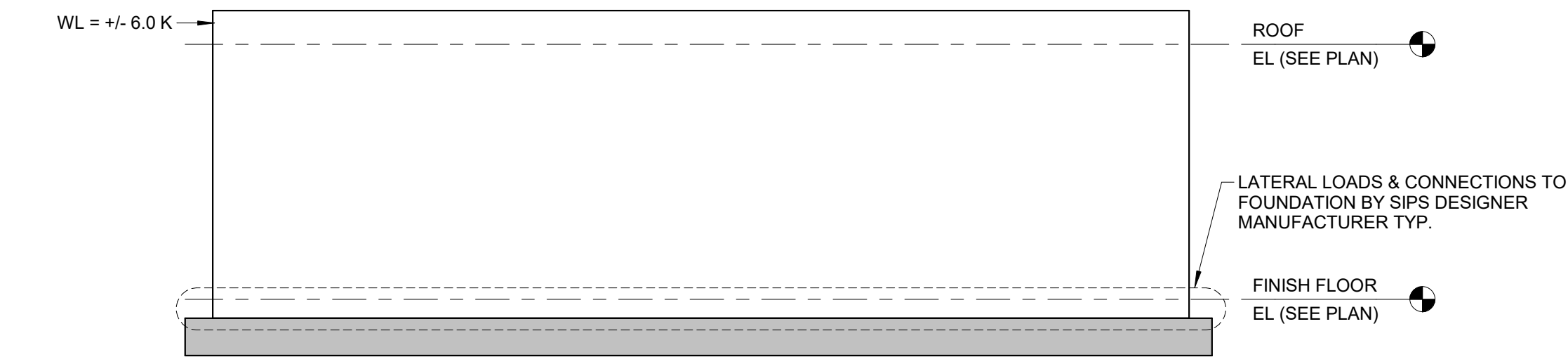
**2 SIP PANEL AT BEAM SUPPORT**  
1" = 1'-0"



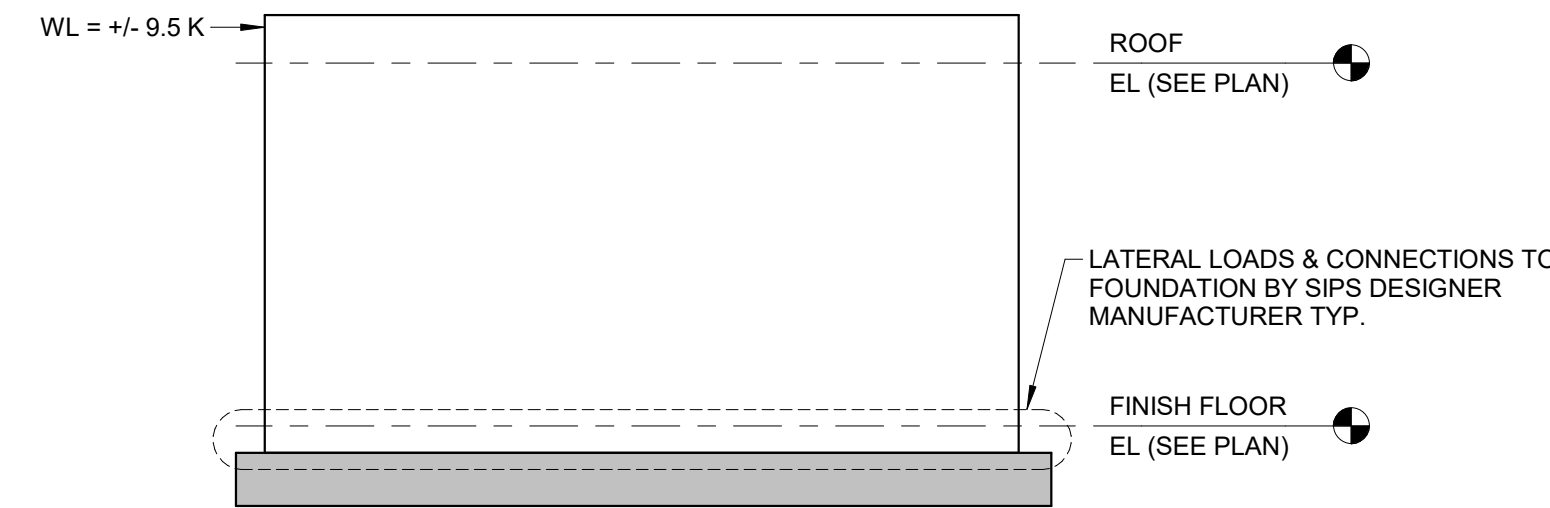
**3 SIP PANEL JOINT AT BEAM SUPPORT**  
1" = 1'-0"



**4 GLULAM GIRDER TO COLUMN CONNECTION**  
1" = 1'-0"



**SW-1**



**SW-2**

**SIP PANEL NOTES:**

1. FRAMING AROUND OPENINGS, HEADERS & SIPS CONNECTION TO THE WOODEN COLUMNS AND BEAM FRAMING BY SIPS DESIGNER/MANUFACTURER, TYP.
2. REFER TO ARCH. DRAWINGS FOR EXACT DIMENSIONS AND ELEVATIONS.
3. SIP PANEL MANUF. TO SUBMIT SIGNED AND SEAL DESIGN CALCULATION/SHOP DRAWINGS FOR ALL PANELS (REFER TO GENERAL NOTES).
4. REFER TO ARCH/MEP DRAWINGS FOR LOCATION/SIZE OF OPENINGS.
5. ALL SIP PANELS AND ATTACHEMENTS TO WOODEN FRAMING SHALL BE DESIGNED TO RESIST GRAVITY LOADS, LATERAL LOADS IN ACCORDANCE WITH THE C&C WIND LOADS AS PER THE GENERAL NOTES AND WIND UPLIFT FORCES (15 PSF MIN.). REFER TO THE ABOVE LOADING DIAGRAM FOR MINIMUM LATERAL FORCE REQUIREMENTS.
6. ALL PANELS SHALL BE DESIGNED TO LIMIT THE TOTAL HORIZONTAL DRIFT TO L/400 MAXIMUM UNDER THE MAXIMUM LATERAL LOADS.

**5 SIP SHEAR WALL PANEL LOADING DIAGRAM**  
3/4" = 1'-0"

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**S6.00**



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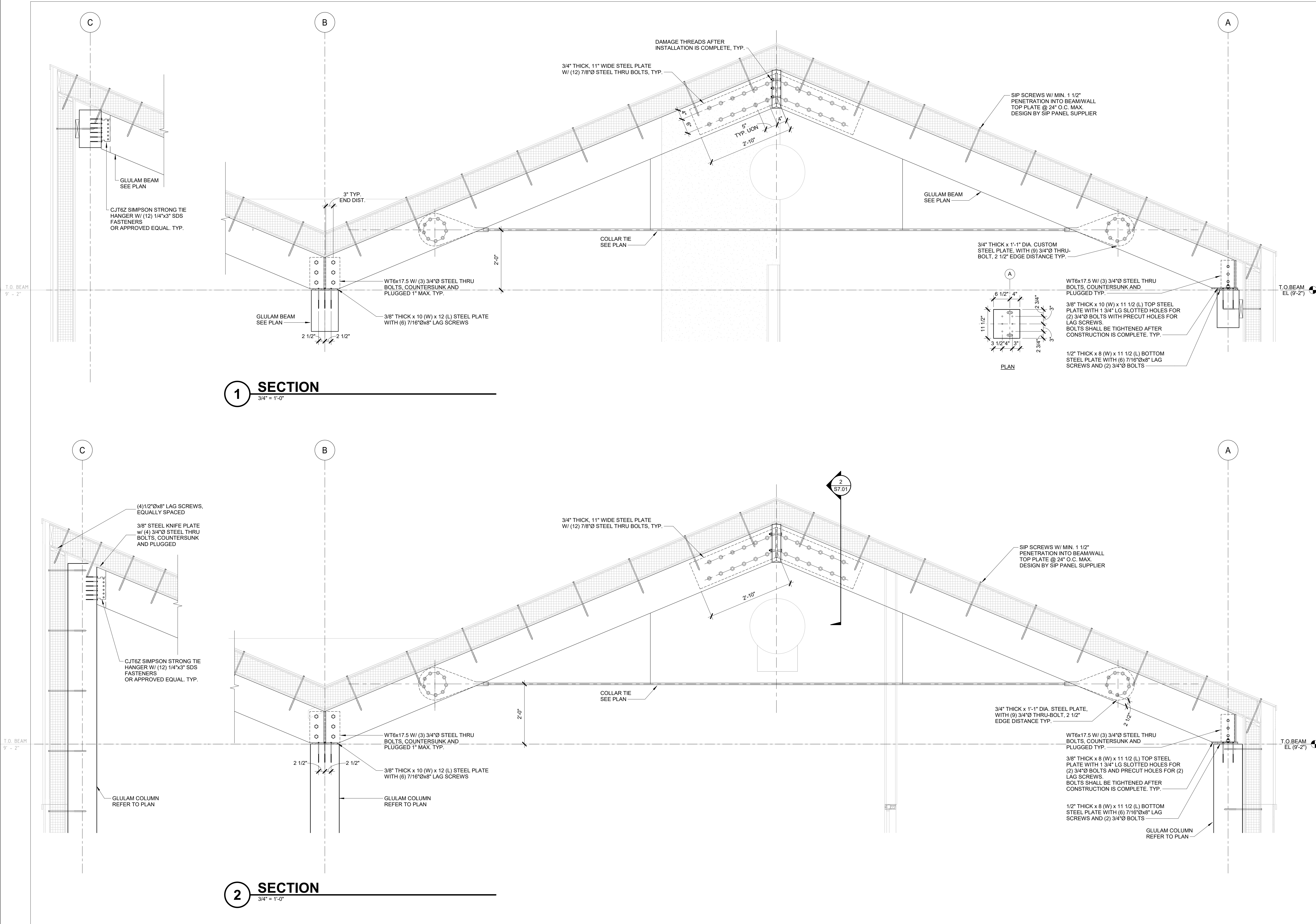
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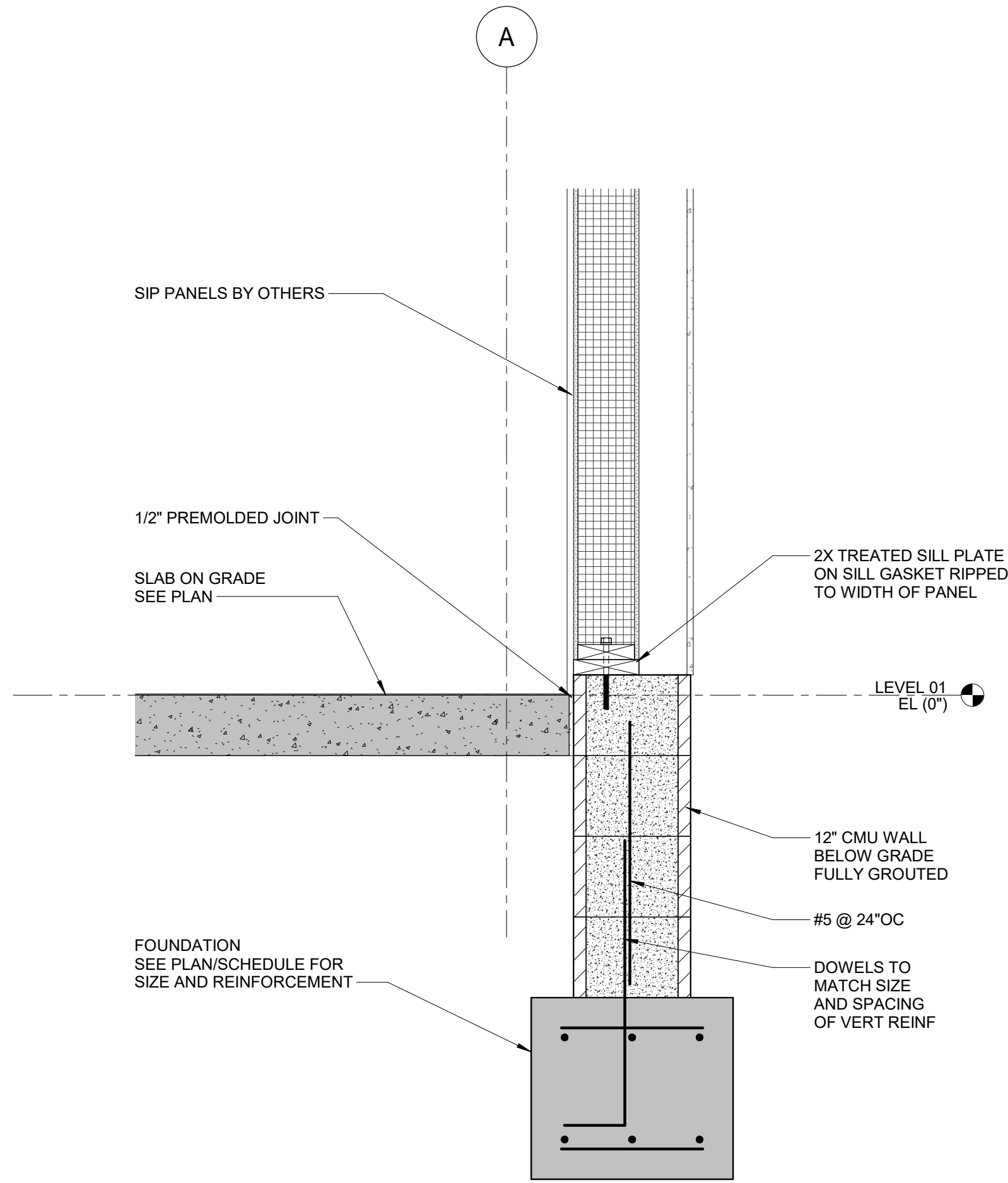


7.01



**1 SECTION**  
1" = 1'-0"





**1 SECTION**  
1" = 1'-0"

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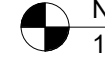

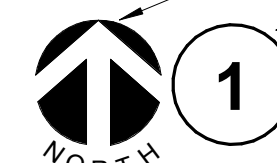
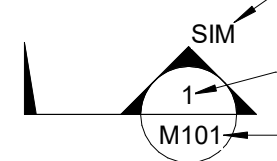

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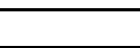





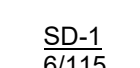

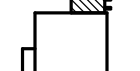
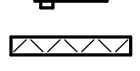
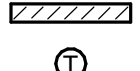

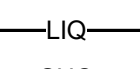
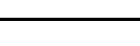


**S7.02**



HVAC ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
C	COMMON
CO	CLEANOUT
DN	DOWN
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
MV	MIXING VALVE
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
PS	PRESSURE SWITCH
SCCR	SHORT CIRCUIT CURRENT RATING
TAB	TERMINAL AIR BOX
TD	TRANSFER DUCT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

VIEW KEY	
 NAME 10'-0"	 LEVEL NAME HEIGHT ABOVE PROJECT 0'-0"
 INDICATES DIRECTION OF TRUE NORTH PLAN OR DETAIL NUMBER PLAN OR DETAIL NAME 1/8" = 1'-0" PLAN OR DETAIL SCALE	
 INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS DETAIL REFERRED TO BY SECTION CUT SHEET DETAIL IS LOCATED ON T101	
<b>LINE TYPE AND TAG KEY:</b> NEW WORK BY THIS CONTRACTOR (WIDE LINE) ----- NEW ----- EXISTING TO BE REMOVED (SHORT DASHED PATTERN) ----- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN) EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE) ----- EXISTING ----- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN) ----- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN) HALFTONING DOES NOT MODIFY SCOPE. 'TAG'-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING <u>TAG-1</u> UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST  INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL	

CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

HVAC SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
	FLEXIBLE DUCT
	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM
	TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
	FAN POWERED TERMINAL AIR BOX w/REHEAT COIL (REFER TO SCHEDULE)
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
	THERMOSTAT/SENSOR
	TEMPERATURE SENSOR (DUCT MOUNTED)
	DRAIN
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION

### TAB POST-CONSTRUCTION NOTES:

- AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
- TAB CONTRACTOR SHALL COMPILER AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
- THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

### PIPING GENERAL NOTES:

- PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.
- INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

DUCT ABBREVIATION KEY	
ABBR.	DESCRIPTION
EA	EXHAUST AIR
RA1	RETURN AIR Type 1
RA2	RETURN AIR Type 2
RA3	RETURN AIR Type 3
SA1	SUPPLY AIR Type 1
SA2	SUPPLY AIR Type 2
SA3	SUPPLY AIR Type 3
SA4	SUPPLY AIR Type 4

### VENTILATION GENERAL NOTES:

- UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN 6 FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07" W.C. PER 100' OF DUCTWORK.
- UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
- ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
- PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.

### MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFF-SETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
- DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/GREATER NUMBER SHALL GOVERN.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
- ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
- SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
- WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
- EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
- DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
- MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
- PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT EXCEPT WHERE PAD EXTENSION WOULD INTERFERE WITH WORKING SPACE AT EQUIPMENT CONTROL PANELS AND ELECTRICAL PANELS.
- DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

### MECHANICAL DESIGN CONDITIONS:

**DESIGN CONDITIONS:** BASED ON WEATHER DATA FOR: DETROIT, MICHIGAN  
**SUMMER:** 88.2°F DRY BULB, 72.1°F WET BULB  
**WINTER:** -10°F DRY BULB

#### TYPICAL ROOM SETPOINTS:

**SUMMER DESIGN:** 72°F DRY BULB, NO HUMIDITY REQUIREMENT  
**WINTER DESIGN:** 72°F DRY BULB, NO HUMIDITY REQUIREMENT  
**SUMMER SETBACK:** 72°F DRY BULB, NO HUMIDITY REQUIREMENT  
**WINTER SETBACK:** 72°F DRY BULB, NO HUMIDITY REQUIREMENT

REFER TO CONTROL DIAGRAMS FOR ROOM SPECIFICS.

### HVAC SHEET INDEX

M000	HVAC COVERSHEET
M201	LEVEL 01 PLAN - HVAC
M400	HVAC DETAILS
M401	HVAC DETAILS
M500	HVAC DIAGRAMS
M501	HVAC DIAGRAMS
M600	HVAC SCHEDULES
M601	HVAC SCHEDULES
GRAND TOTAL: 8	

DUCTWORK APPLICATION SCHEDULE1						
NOTES: 1. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. 2. REFER TO DRAWINGS FOR THE SHAPE OF DUCTWORK. 3. THE APPLICATION COLUMN, AS NOTED BELOW, SHALL TAKE PRECEDENCE OVER THE DRAWINGS UNLESS OTHERWISE NOTED.						
ABBR.	SYSTEM	APPLICATION	MATERIAL	PRESS. CLASS	SEAL CLASS	INSULATION
						TYPE THICK PLACE
EA	EXHAUST AIR	FROM AIR TERMINALS TO EXHAUST FAN	SINGLE WALL, GALVANIZED STEEL	NEG. 2"	A	NONE - -
RA1	RETURN AIR Type 1	FROM BUILDING ENTRANCE TO PLENUM	SINGLE WALL, GALVANIZED STEEL	NEG. 2"	A	NONE - -
RA2	RETURN AIR Type 2	FROM TERMINAL EQUIPMENT TO PLENUM	SINGLE WALL, GALVANIZED STEEL	NEG. 2"	A	C (FibGla) 1 1/2" LINER
RA3	RETURN AIR Type 3	FROM AHU RETURN FAN TO BUILDING ENTRANCE (OUTDOOR INSTALLATION)	SINGLE WALL, PHENOLIC	NEG. 2"	A	NOT FIELD APPLIED.
SA1	SUPPLY AIR Type 1	FROM BUILDING ENTRANCE TO TERMINAL EQUIPMENT	SINGLE WALL, GALVANIZED STEEL	POS. 3"	A	A (FibGla) 1 1/2" WRAP
SA2	SUPPLY AIR Type 2	FROM TERMINAL EQUIPMENT TO AIR TERMINAL	SINGLE WALL, GALVANIZED STEEL	POS. 2"	A	C (FibGla) 1 1/2" LINER
SA3	SUPPLY AIR Type 3	FROM AHU SUPPLY FAN TO BUILDING ENTRANCE (OUTDOOR INSTALLATION)	SINGLE WALL, PHENOLIC	POS. 3"	A	NOT FIELD APPLIED.
SA4	SUPPLY AIR Type 4	FROM TERMINAL EQUIPMENT TO AIR TERMINAL	DOUBLE WALL SPIRAL, GALVANIZED STEEL	POS. 2"	A	E (FibGla) 1 1/2" -

### PIPE INSULATION SCHEDULE (HVAC)

GENERAL NOTES:  
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS.  
2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC.  
3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.

SYMBOL	PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE < 1"	NOTES
23 PIPING - COOLING WATER				
DPP	DRAIN - PIPING	A (GlsFbr), B (Elasto), C (CelGla)	1/2"	APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER) COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
23 PIPING - REFRIGERANT				
LIQ	REFRIGERANT LIQUID	B (Elasto), C (CelGla)	1"	
SUC	REFRIGERANT SUCTION	B (Elasto), C (CelGla)	1/2"	

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Drawing Name

HVAC COVERSHEET

Drawn By

JJS

Checked By

SWM

Issue Date

03/14/25 Permit & Bid Set

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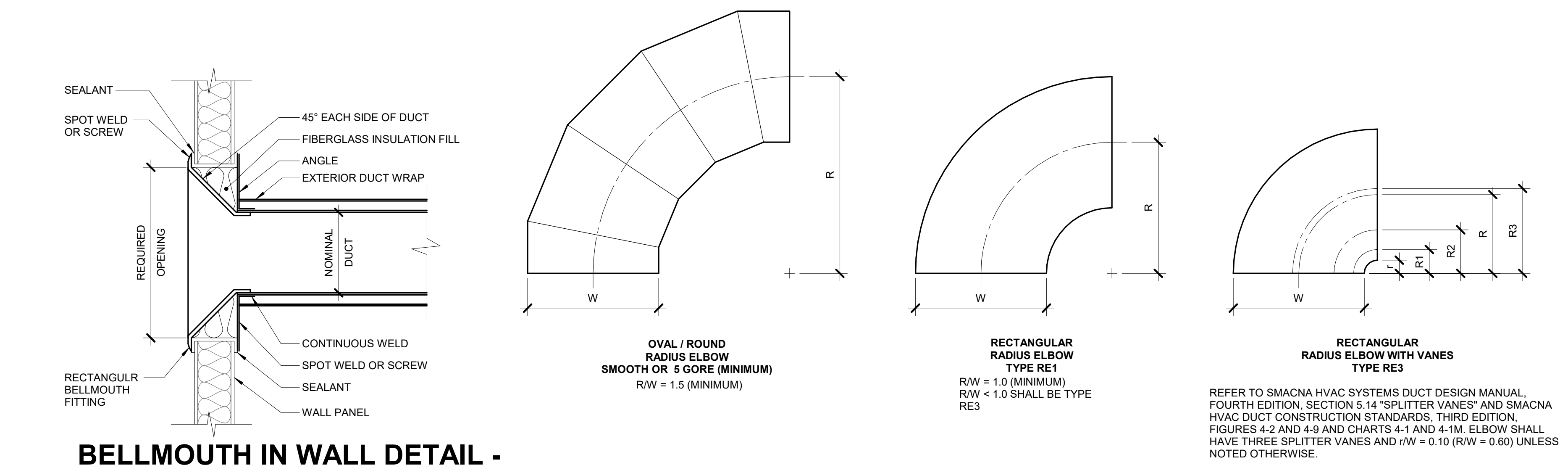
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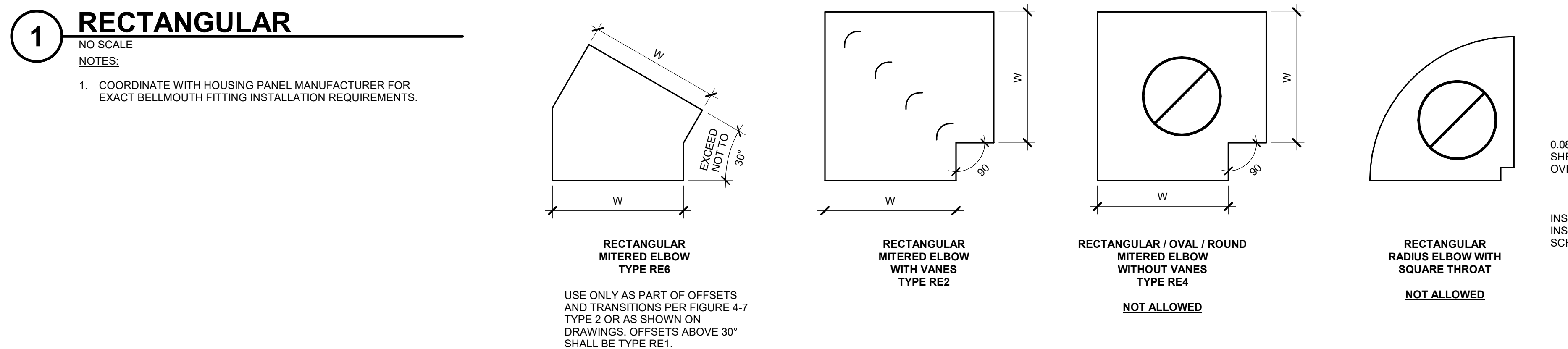




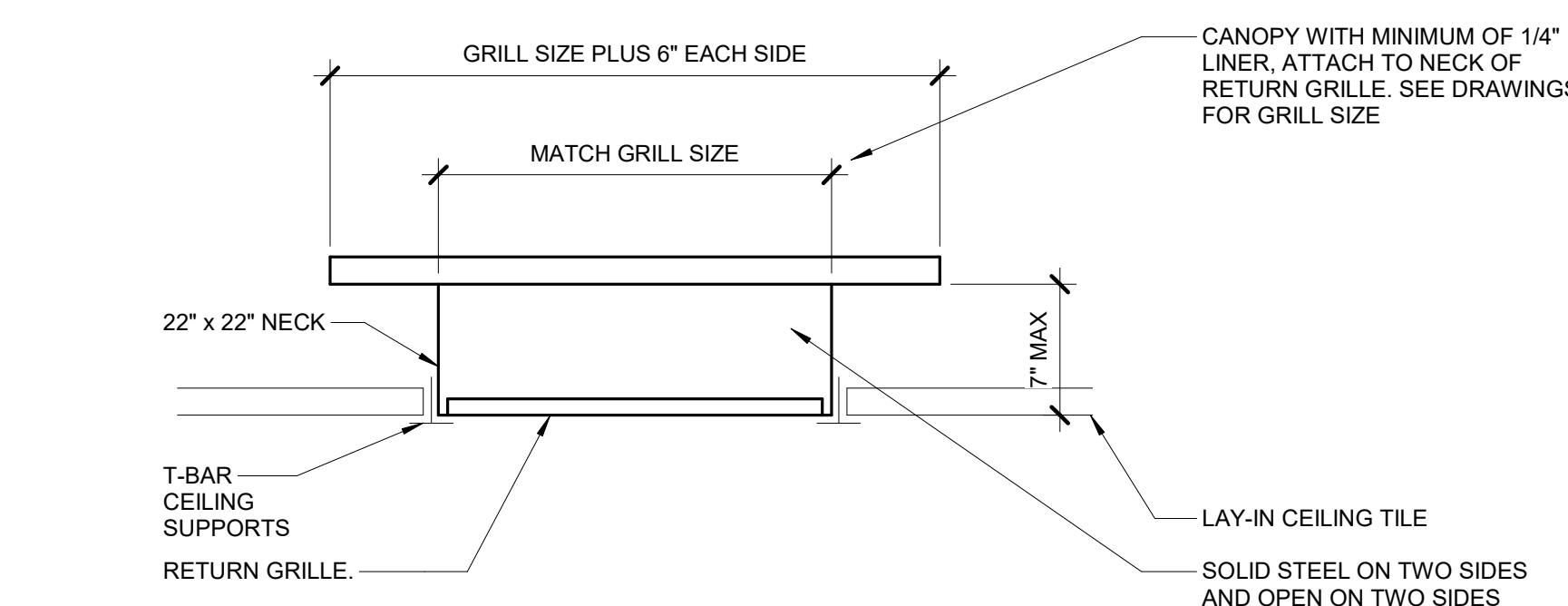




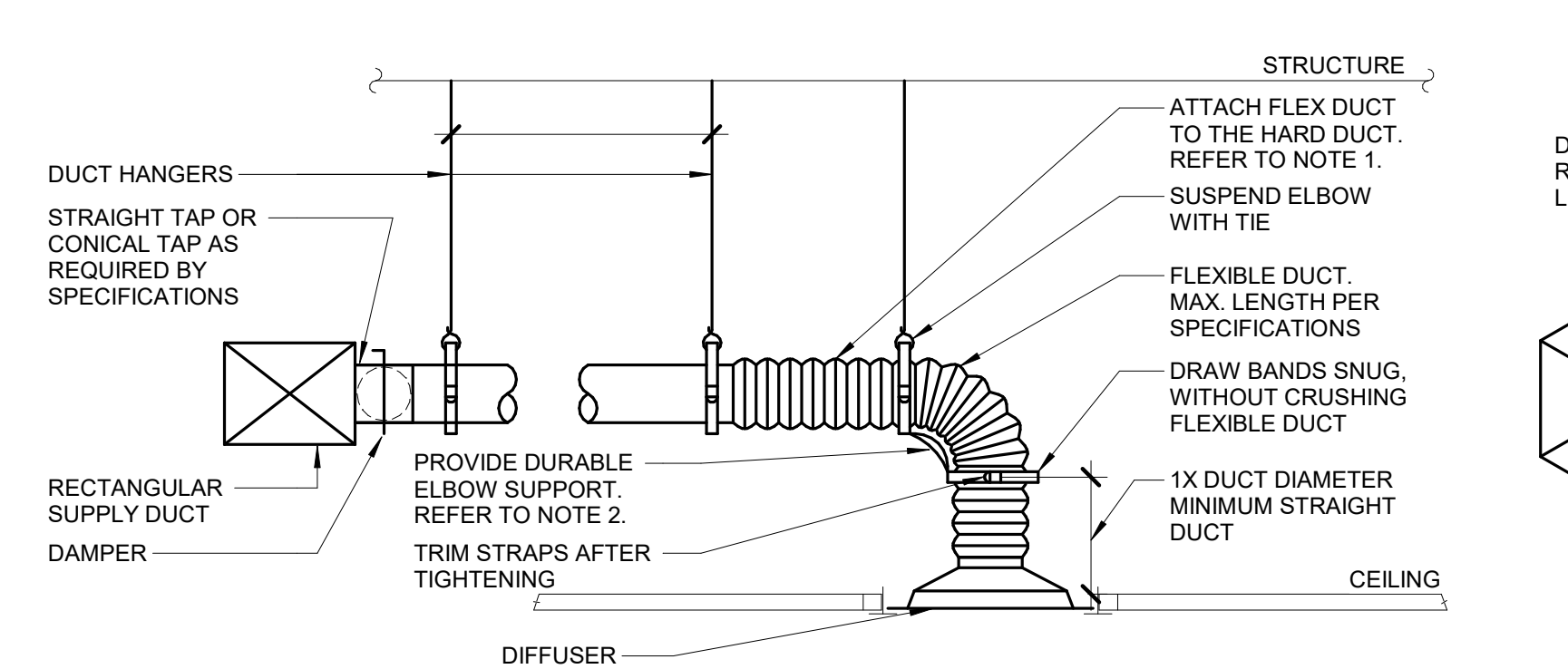
# 1 BELLMOUTH IN WALL DETAIL - RECTANGULAR NO SCALE NOTES: 1. COORDINATE WITH HOUSING PANEL MANUFACTURER FOR EXACT BELLMOUTH FITTING INSTALLATION REQUIREMENTS.



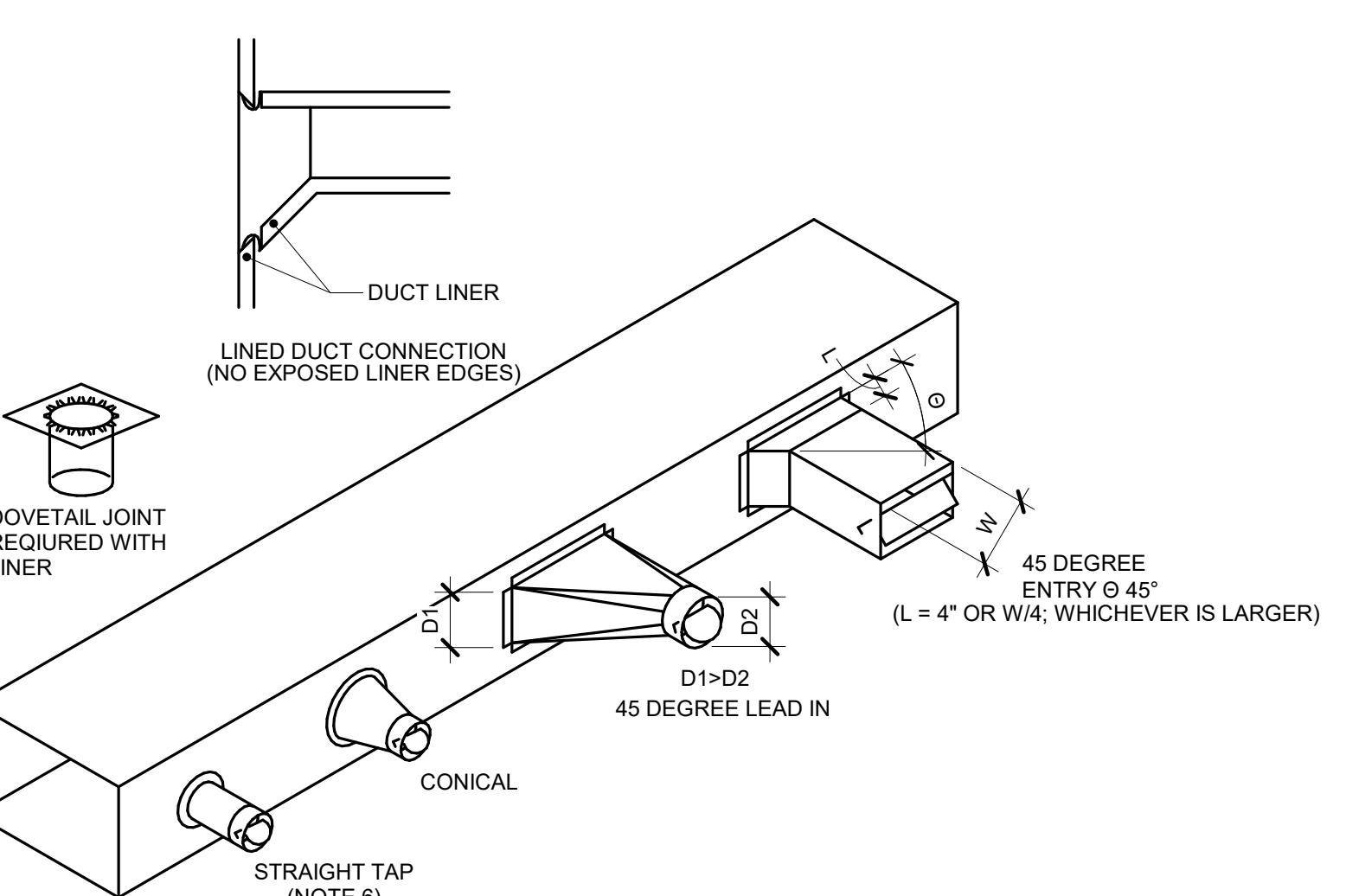
# 2 DUCT - ELBOW CONSTRUCTION NO SCALE NOTES: 1. BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT. 2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. 3. DEFAULT ELBOW SHALL BE TYPE "RE1". 4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.



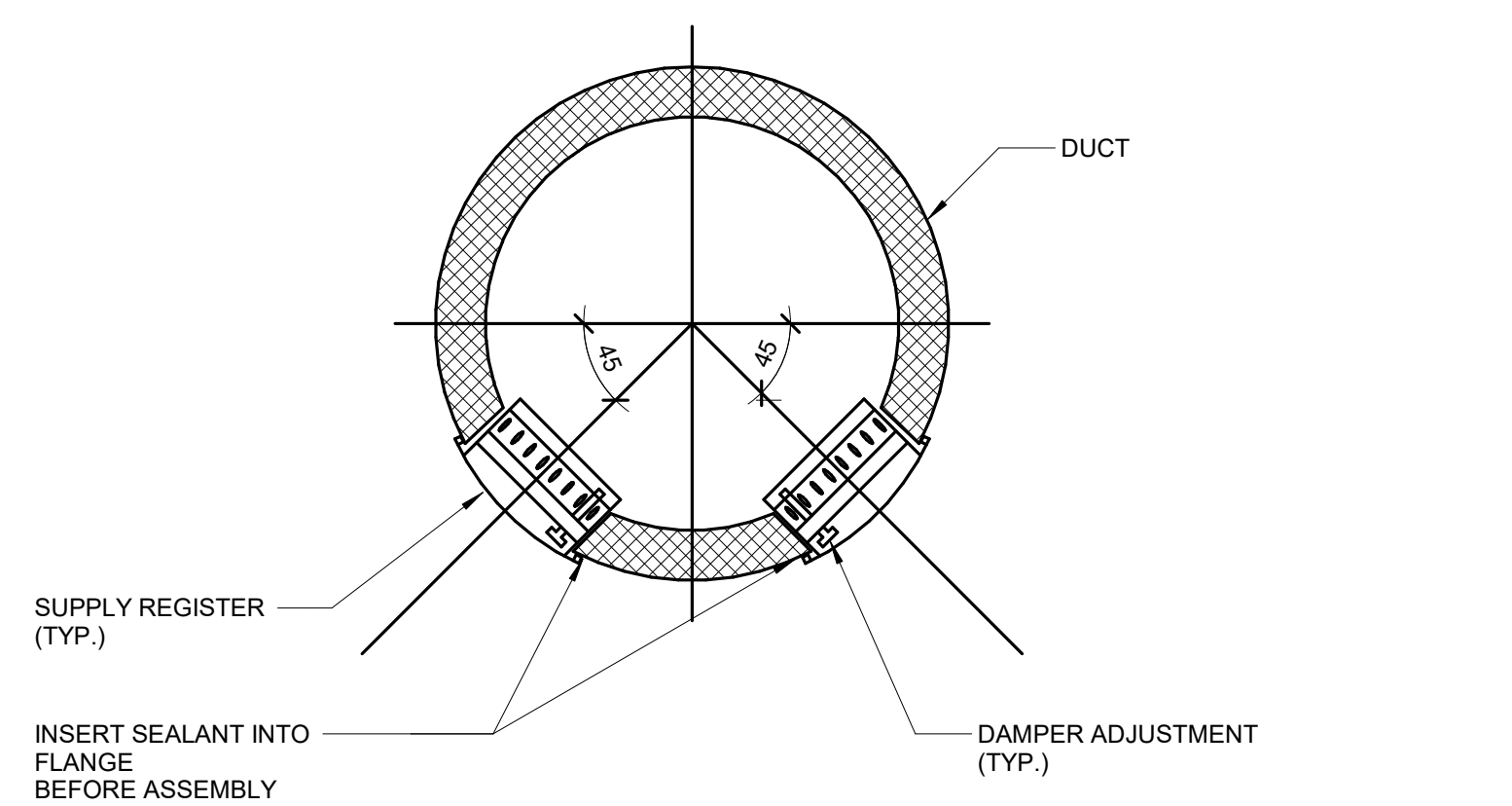
# 4 AIR TERMINAL - CEILING RETURN CANOPY NO SCALE NOTES: 1. BASIS OF DESIGN FOR RETURN AIR CANOPY IS PRICE MODEL RAC. 2. THIS DETAIL APPLIES TO ALL RG-1.



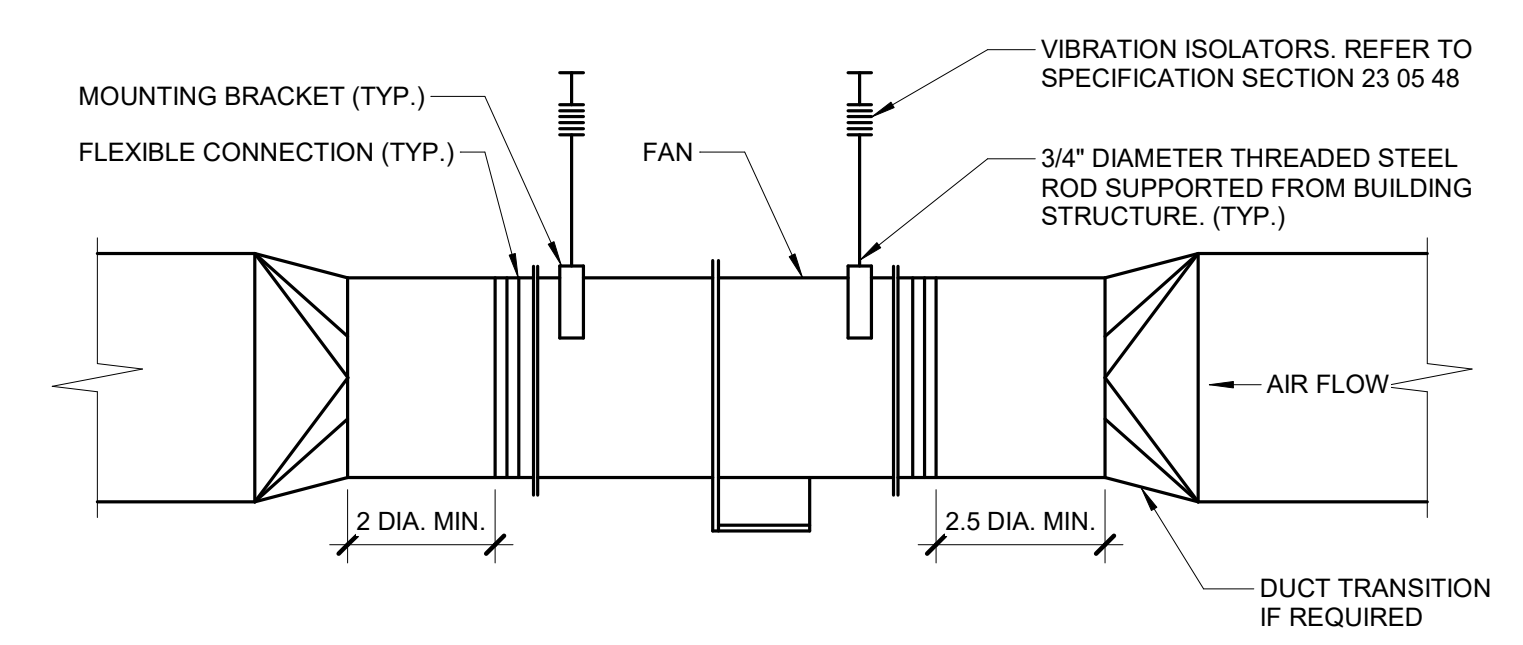
# 6 DIFFUSER CONNECTION DETAIL (W/ RADIUS FORMING ELBOW) NO SCALE NOTES: 1. TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS, ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING. 2. DURABLE ELBOW SUPPORT ACCEPTABLE MANUFACTURER AND MODEL: HART AND COOLEY - SMARTFLOW, THERMAFLEX - FLEXFLOW, TITUS - FLEXRIGHT, OR APPROVED EQUAL.



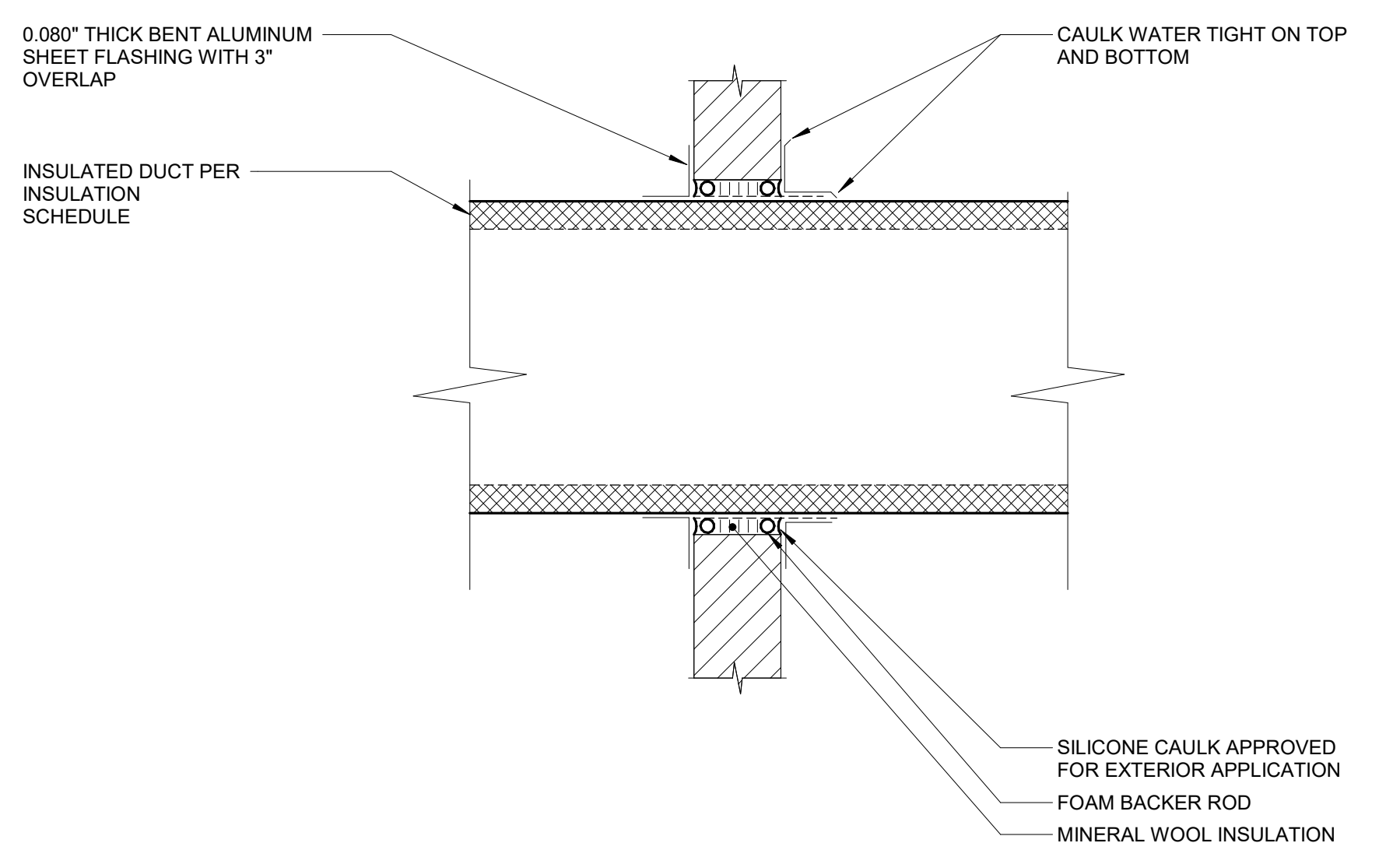
# 7 DUCT - BRANCH CONNECTIONS NO SCALE NOTES: 1. DO NOT USE CONNECTIONS WITH SCOOPS. 2. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS AND SEAL SUITABLY FOR THE PRESSURE CLASS. 3. ADDITIONAL MECHANICAL FASTENERS ARE REQUIRED FOR 4" W.G. AND OVER. 4. REFER TO SPECIFICATIONS FOR VOLUME DAMPER REQUIREMENTS. 5. OPENINGS SHALL BE CUT ACCURATELY (SHAPE AND SIZE). 6. STRAIGHT TAPS ONLY ALLOWED DOWNSTREAM OF TERMINAL AIR BOX OR LOW PRESSURE (<2"W.G. PRESSURE CLASS)



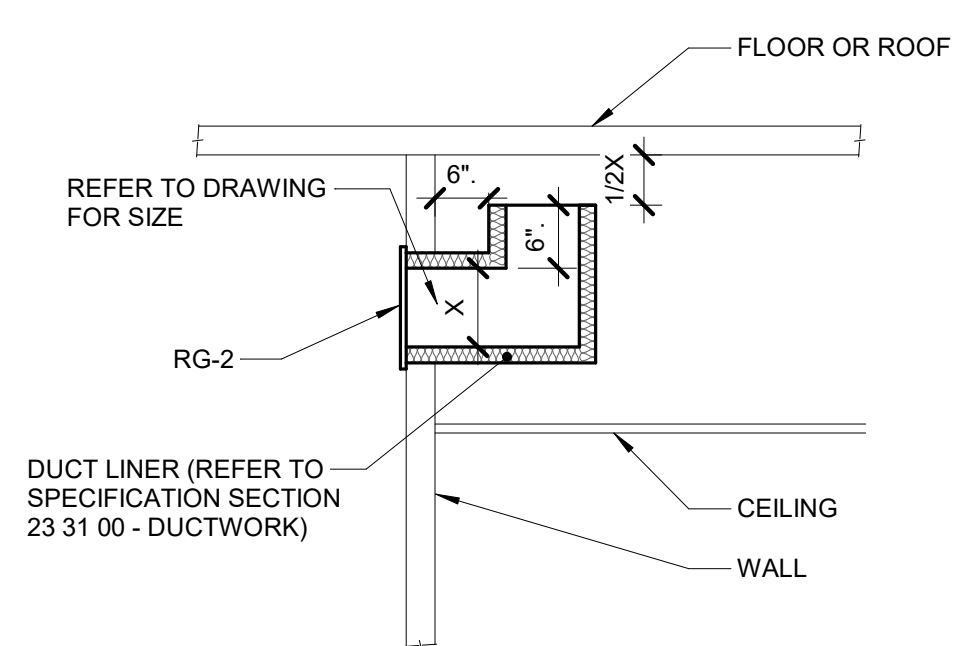
# 8 AIR TERMINAL - SUPPLY REGISTER ROUND INSET NO SCALE



# 3 FAN - IN-LINE EXHAUST NO SCALE



# 5 WALL PENETRATION - EXTERIOR - DUCT NO SCALE



# 9 TRANSFER DUCT - ELBOW END NO SCALE





Project Name

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Drawing Name

HVAC DETAILS

Drawn By

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SWM

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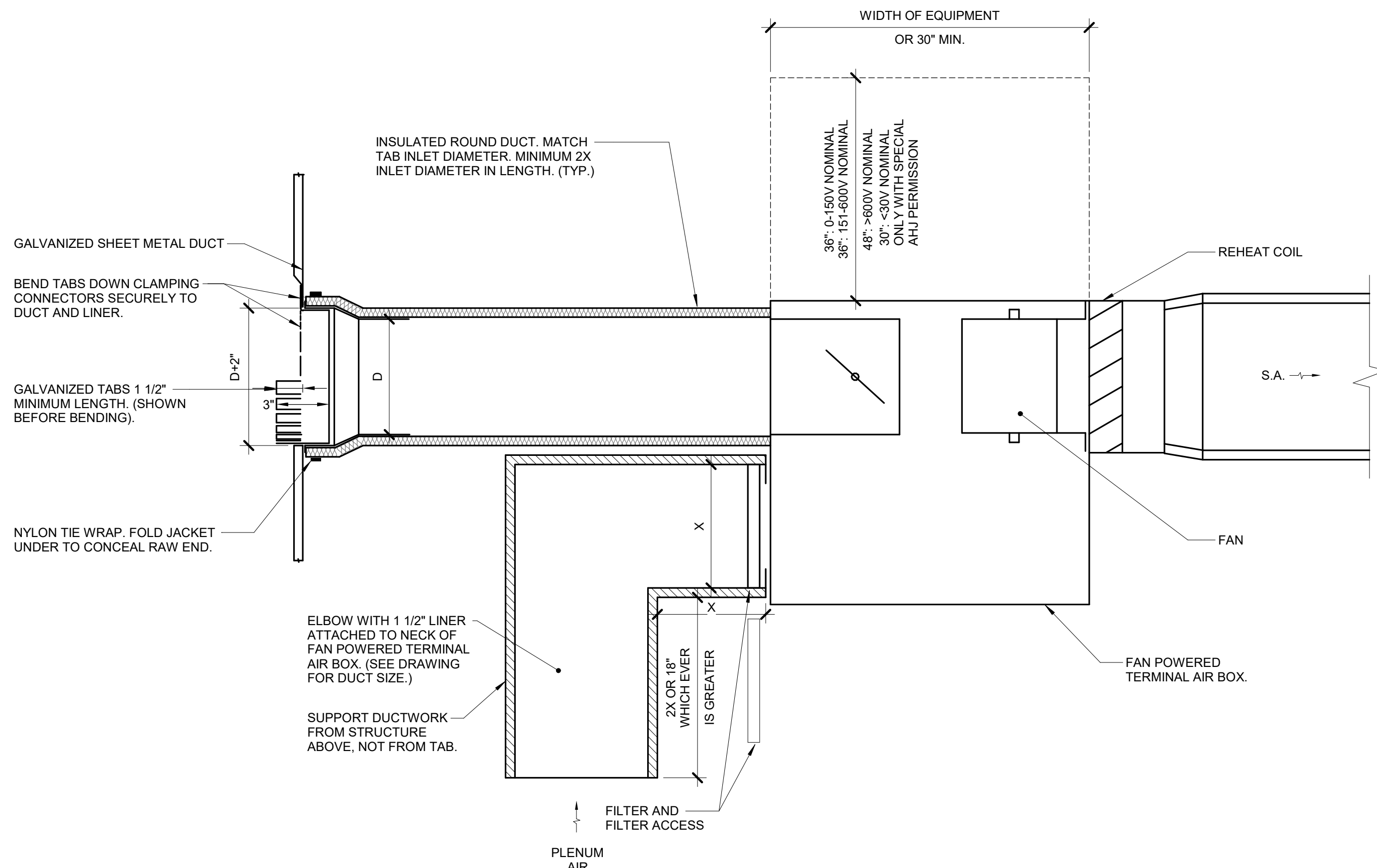
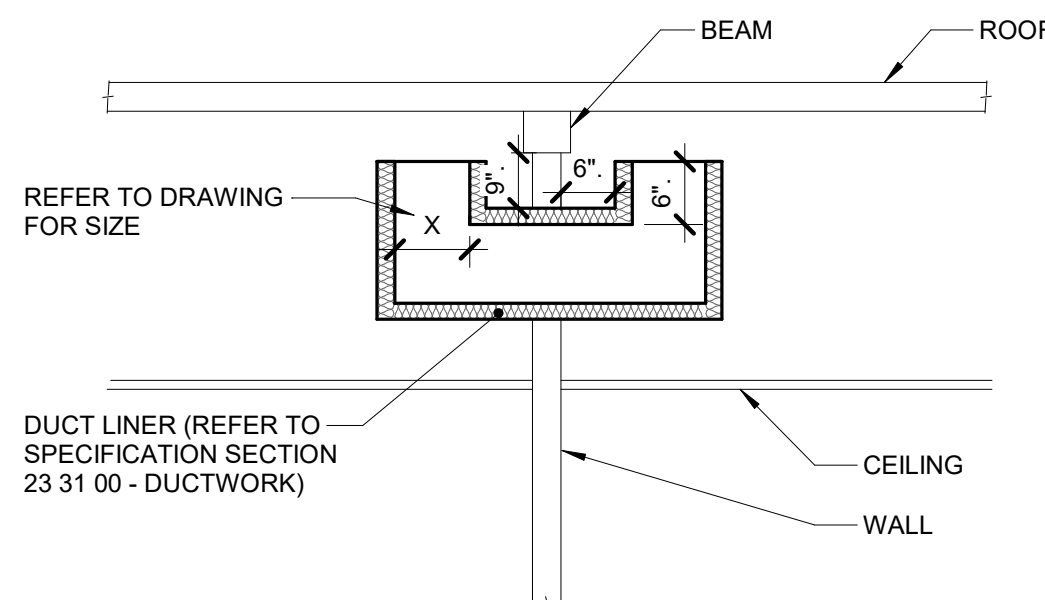
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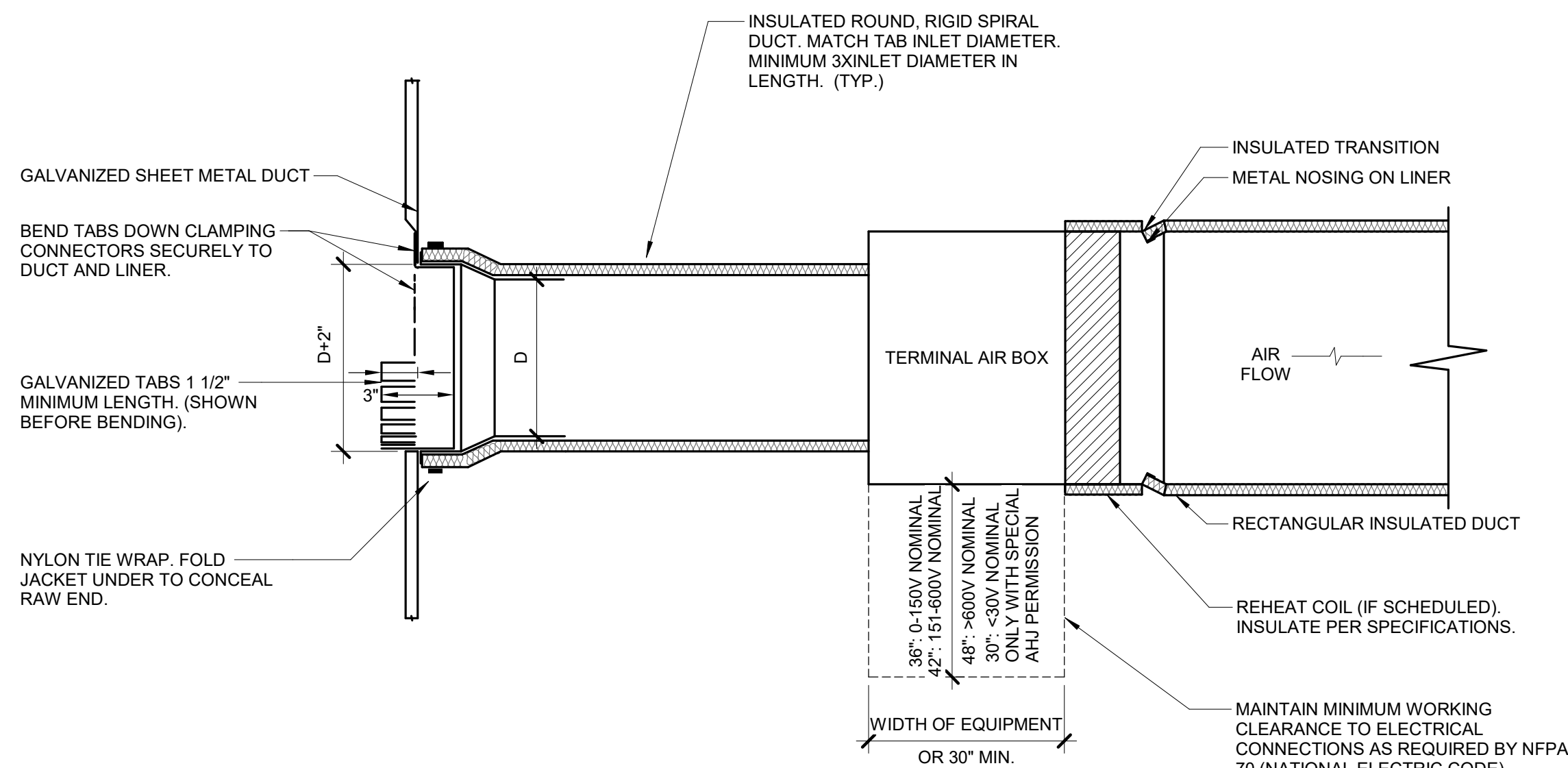
# 1 TRANSFER DUCT - ELBOW ENDS

NO SCALE



# 2 TERMINAL AIR BOX - FAN POWERED SERIES - LINED W/O FLEX

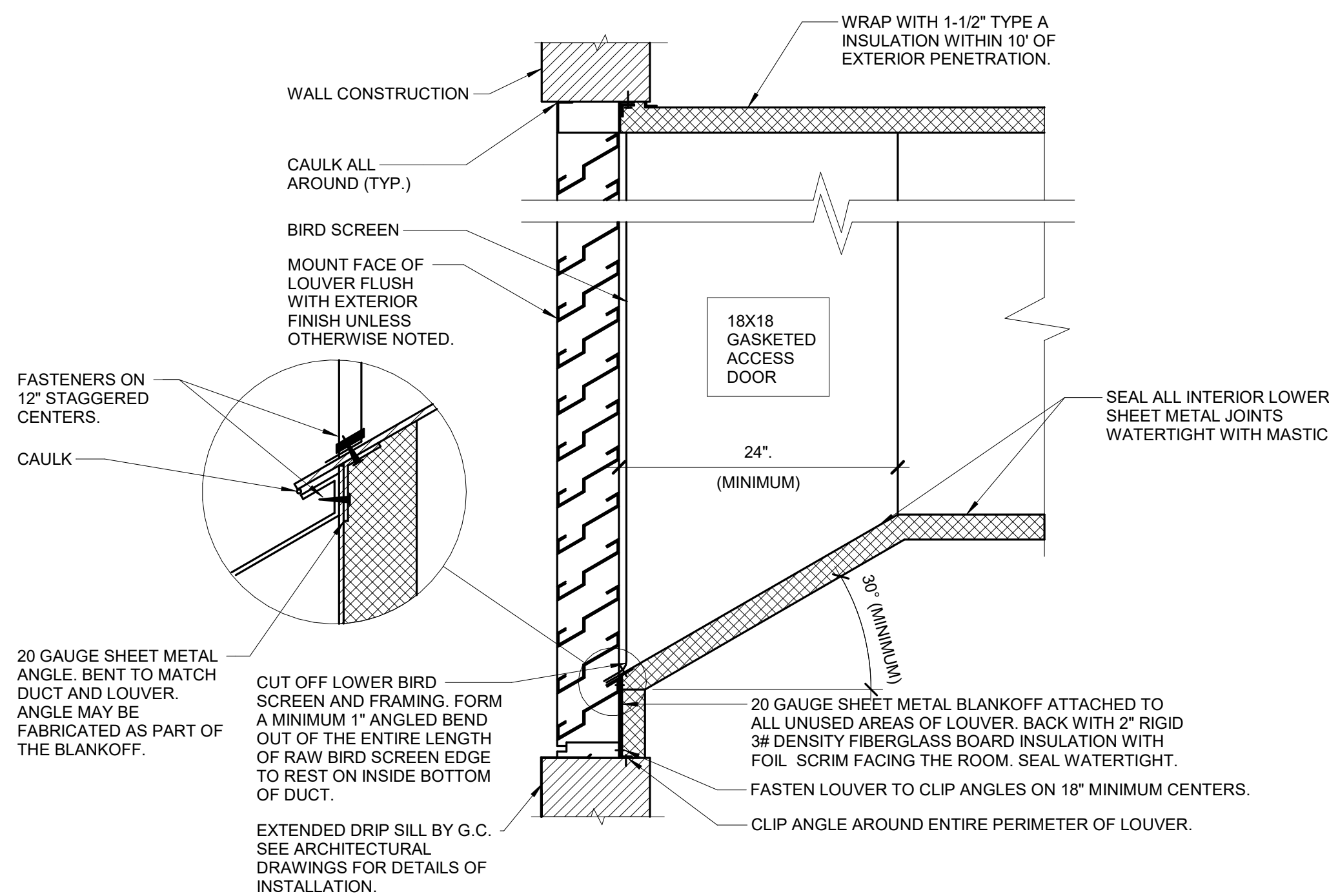
NO SCALE

**NOTES:**

1. THIS DETAIL APPLIES ONLY TO TAPS OFF LINED DUCTS.
2. THIS DETAIL APPLIES TO TERMINAL AIR BOXES WITH ROUND INLETS AND RECTANGULAR OUTLETS.
3. DUCT LEADING TO TAB INLET MUST BE STRAIGHT FOR 3.0 DIAMETERS UPSTREAM.

# 3 TERMINAL AIR BOX - SINGLE DUCT - LINED W/O FLEX

NO SCALE

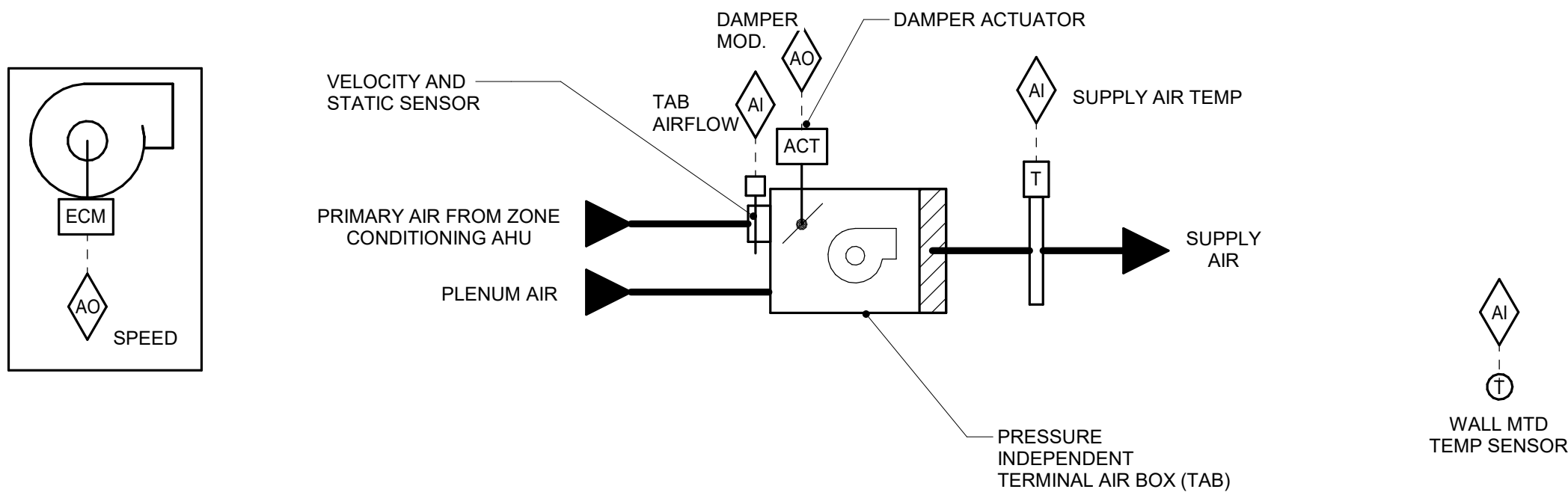
**NOTES:**

1. SEAL ALL JOINTS ON BOTTOM INTERIOR SURFACE OF DUCT WITHIN 6'-0" OF THE LOUVER WATER TIGHT.
2. MOUNT BOTTOM OF INTAKE LOUVERS AT LEAST 40" ABOVE GRADE OR ROOF ELEVATION TO MINIMIZE CHANGES OF SNOW DRIFTING INTO THE LOUVER.
3. CAULK SHEETMETAL SCREWS WHERE THEY PENETRATE METAL.

# 4 LOUVER INSTALLATION

NO SCALE



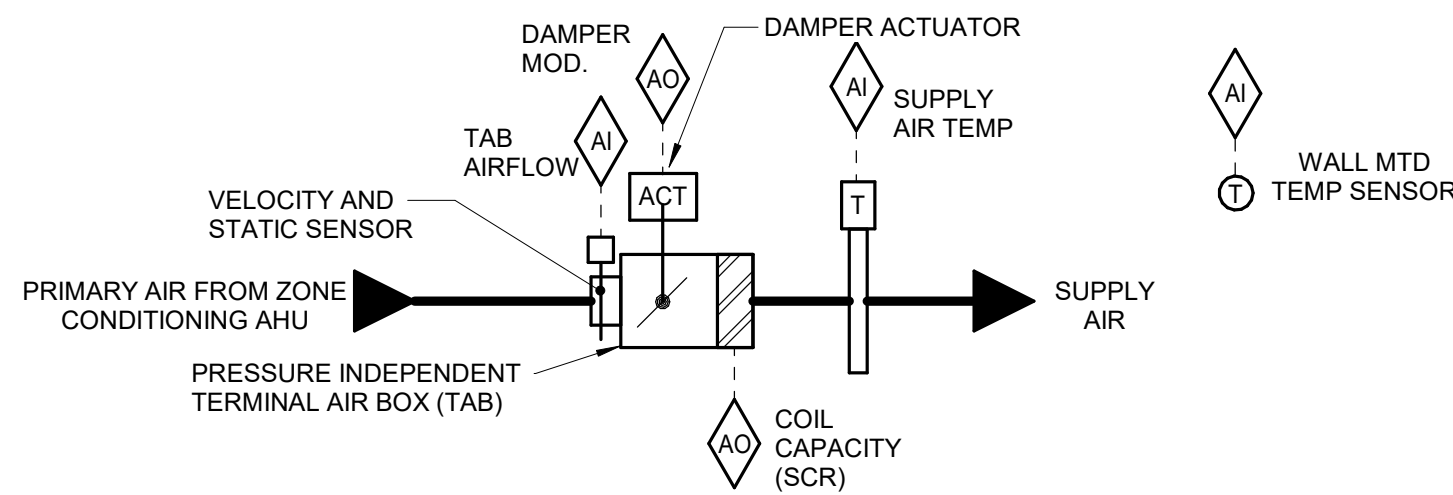


#### SEQUENCE OF OPERATION:

- FMCS TAB CONTROLLER SHALL ENERGIZE THE FAN TO RUN CONTINUOUSLY WHENEVER THE CORRESPONDING AHU IS OPERATING.
- FMCS TAB CONTROLLER SHALL MODULATE THE TAB DAMPER AND TAB ELECTRIC REHEAT COIL TO MAINTAIN SPACE TEMPERATURE OF 72°F (ADJ.) WITH 5°F (ADJ.) DEAD BAND BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SEE DRAWINGS FOR TEMPERATURE SENSOR REQUIREMENTS. SPACES WITH ADJUSTABLE THERMOSTATS WILL ALLOW A +/- 3°F (ADJ.) OFFSET FROM THE DDC SETPOINT.
- AT FULL COOLING, THE TAB SHALL BE OPEN TO MAXIMUM CFM POSITION. THE REHEAT COIL SHALL BE DE-ENERGIZED.
- UPON A FALL IN SPACE TEMPERATURE, THE TAB SHALL MODULATE CLOSED UNTIL SPACE SETPOINT IS MAINTAINED, OR UNTIL IT REACHES ITS MINIMUM SCHEDULED CFM POSITION PER THE TAB SCHEDULE. THE REHEAT COIL SHALL BE ENERGIZED.
- UPON A FURTHER FALL IN SPACE TEMPERATURE, THE REHEAT COIL SHALL MODULATE OPEN TO MAINTAIN SPACE SETPOINT UNTIL.
- THE FMCS SHALL UTILIZE OUTPUT FROM ALL TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

#### ALARMS, INTERLOCKS & SAFETIES:

- SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT.
- IF THE AIR FLOW SWITCH DOES NOT PROVE OPERATION, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE.
- IF THE HIGH TEMPERATURE SAFETY DEVICE EXCEEDS MANUFACTURER'S SETPOINT, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE.
- WHEN FIRE ALARM CONTROL PANEL INDICATES AN ALARM CONDITION AT THE AHU SERVING FAN POWERED BOXES, ALL FAN POWERED BOX SUPPLY FANS SHALL STOP.

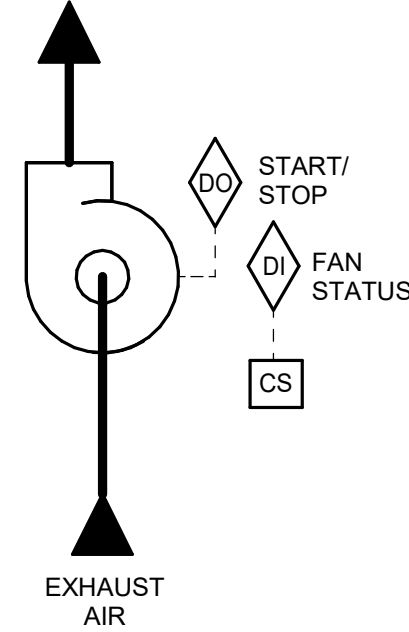


#### SEQUENCE OF OPERATION:

- FMCS TAB CONTROLLER SHALL MODULATE THE TAB DAMPER AND TAB ELECTRIC REHEAT COIL TO MAINTAIN SPACE TEMPERATURE OF 72°F (ADJ.) WITH 5°F (ADJ.) DEAD BAND BASED ON A SIGNAL FROM A WALL MOUNTED TEMPERATURE SENSOR. SEE DRAWINGS FOR TEMPERATURE SENSOR REQUIREMENTS. SPACES WITH ADJUSTABLE THERMOSTATS WILL ALLOW A +/- 3°F (ADJ.) OFFSET FROM THE DDC SETPOINT.
- AT FULL COOLING, THE TAB SHALL BE OPEN TO MAXIMUM CFM POSITION. THE REHEAT COIL SHALL BE DE-ENERGIZED.
- UPON A FALL IN SPACE TEMPERATURE, THE TAB SHALL MODULATE CLOSED UNTIL SPACE SETPOINT IS MAINTAINED, OR UNTIL IT REACHES ITS MINIMUM SCHEDULED CFM POSITION PER THE TAB SCHEDULE. THE REHEAT COIL SHALL REMAIN DE-ENERGIZED.
- UPON A FURTHER FALL IN SPACE TEMPERATURE, THE ELECTRIC REHEAT COIL AND TAB SHALL MODULATE OPEN IN UNISON TO MAINTAIN SPACE SETPOINT UNTIL TAB AIR FLOW REACHES ITS MAXIMUM HEATING SETTING.
- THE FMCS SHALL UTILIZE OUTPUT FROM ALL TERMINAL AIR BOX POSITIONS TO RESET THE SUPPLY DUCT DIFFERENTIAL STATIC PRESSURE.

#### ALARMS, INTERLOCKS & SAFETIES:

- SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE SPACE TEMPERATURE IS MORE THAN 10°F (ADJ.) ABOVE OR BELOW SETPOINT.
- IF THE HIGH TEMPERATURE SAFETY DEVICE EXCEEDS MANUFACTURER'S SETPOINT, AN ALARM SHALL BE SENT TO THE OPERATOR INTERFACE.



SEQUENCE OF OPERATION:  
EXHAUST FAN SHALL BE INTERLOCKED TO RUN CONTINUOUSLY WHEN RESPECTIVE AHU IS OPERATING.

## 1 TAB CONTROL SERIES FAN POWERED - W/ ELECTRIC REHEAT - FPB-A

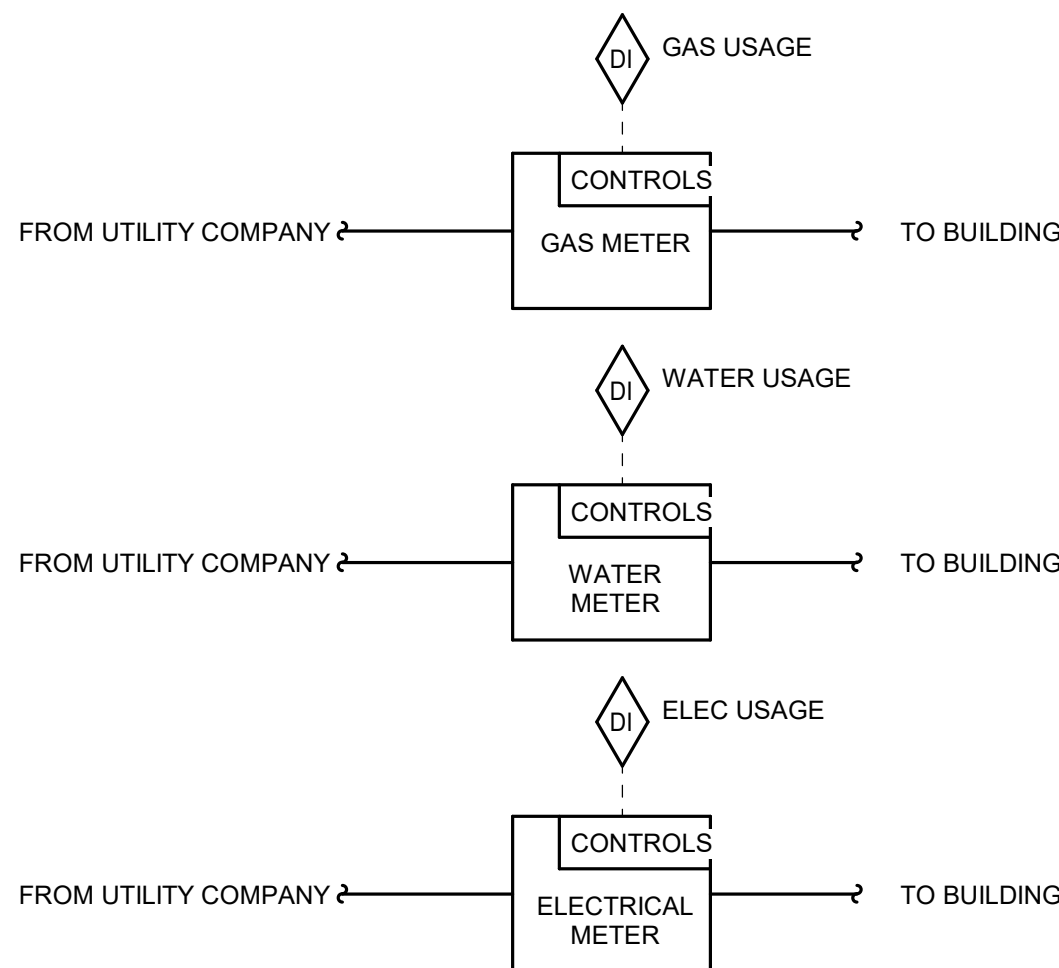
NO SCALE

## 2 TAB CONTROL W/ ELECTRIC REHEAT - TAB-A

NO SCALE

## 3 FAN - INTERLOCK WITH AHU

NO SCALE



#### SEQUENCE OF OPERATION:

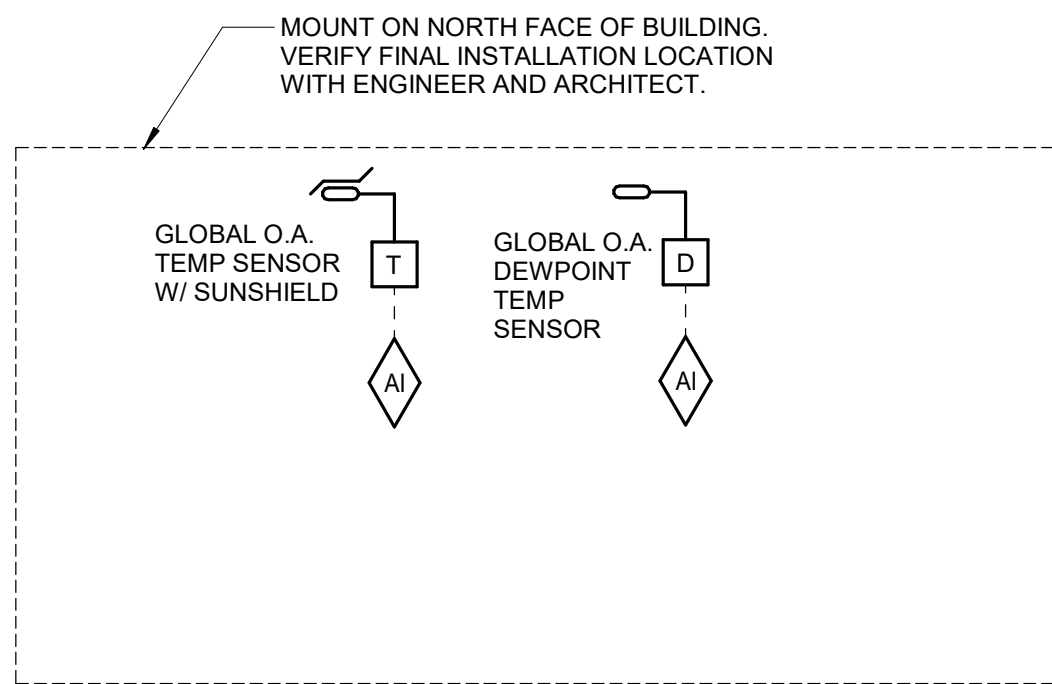
GENERAL:  
THE UTILITIES ARE METERED THROUGH THE DDC VIA THE FMCS.

#### UTILITY METERING CONTROL:

- GAS METERING:**  
THE TCC SHALL CONNECT THE FMCS TO THE GAS METER TO PROVIDE GAS CONSUMPTION INFORMATION.
- WATER METERING:**  
THE TCC SHALL CONNECT THE FMCS TO THE WATER METER TO PROVIDE WATER USAGE INFORMATION.
- ELECTRIC METERING:**  
THE TCC SHALL CONNECT THE FMCS TO THE ELECTRICAL METER FOR ELECTRICAL USAGE INFORMATION.

#### UTILITY METERING REPORT GENERATION:

- FMCS SHALL MONITOR THE FOLLOWING POINTS ON 5 MINUTE (ADJ.) INTERVALS WITHIN A SINGLE TREND. THE TREND SHALL RUN FOR A 14-DAY (ADJ.) DURATION AT WHICH POINT THE NEWEST VALUES SHALL OVERWRITE THE OLDEST VALUES.
  - DATE
  - TIME
  - GLOBAL OUTSIDE AIR TEMP. (°F)
  - GLOBAL OUTSIDE AIR DEWPOINT TEMP. (°F)
  - GAS USE (THERMS)
  - WATER USE (GALLONS)
  - ELECTRICAL USE (KW)
- THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN EITHER TABULAR OR GRAPHICAL FORM ON THE FMCS OPERATOR INTERFACE.
- TRENDING REQUIREMENTS:
  - DIGITAL POINTS: RECORD EVERY CHANGE OF ACTION WITH CORRESPONDING TIME STAMP FOR POINTS LISTED.
  - ANALOG POINTS: RECORD EVERY 15 MINUTES (ADJ.) WITH CORRESPONDING TIME STAMP FOR POINTS LISTED.
- THIS INFORMATION SHALL BE STORED TO A MEMORY LOCATION ON THE FMCS OPERATOR WORKSTATION THAT IS MAINTAINED FOR A PERIOD OF ONE YEAR.



#### GLOBAL REFERENCE POINTS

##### SEQUENCE OF OPERATION:

- PROVIDE GLOBAL O.A. DRY-BULB TEMPERATURE, GLOBAL O.A. DEWPOINT TEMPERATURE, GLOBAL CARBON DIOXIDE, OUTSIDE AIR REFERENCE PRESSURE, AND RELATIVE HUMIDITY TRANSMITTERS.

- GLOBAL SENSORS SHALL CONTINUOUSLY UPDATE FMCS FOR USE IN CONTROLLING MECHANICAL EQUIPMENT AS REQUIRED IN SEQUENCES OF OPERATION

##### OUTSIDE AIR REFERENCE DRY BULB TEMPERATURE

- LOCATE ON THE EXTERIOR NORTH SIDE OF THE BUILDING LOCATION MUST BE SHADED AWAY FROM ANY HEAT SOURCE. LOCATION TO BE DETERMINED PER MANUFACTURER'S RECOMMENDATIONS AND ARCHITECT/ENGINEER'S APPROVAL

- CONTRACTOR SHALL PRIME AND PAINT THE DEVICE ENCLOSURE COLOR SELECTION BY ARCHITECT/ENGINEER.

##### OUTSIDE AIR REFERENCE [HUMIDITY]DEWPOINT:

- LOCATE ON THE EXTERIOR OF THE BUILDING LOCATION TO BE DETERMINED PER MANUFACTURER'S RECOMMENDATIONS AND ARCHITECT/ENGINEER'S APPROVAL

- CONTRACTOR SHALL PRIME AND PAINT THE DEVICE ENCLOSURE COLOR SELECTION BY ARCHITECT

## 4 UTILITY METERING CONTROL

NO SCALE

## 5 GLOBAL REFERENCE POINTS

NO SCALE

## 6 IT ROOM TEMPERATURE MONITORING

NO SCALE

#### SEQUENCE OF OPERATION:

- ALL TERMINAL AIR BOXES SHALL INCORPORATE A NIGHT SETBACK SEQUENCE.
- TAB NIGHT SETBACK SHALL BE INITIATED VIA THE FMCS BASED ON THE FOLLOWING TIME SCHEDULE:
  - OCCUPIED MODE START: 6:00 AM (ADJ.) UNOCCUPIED MODE START: 9:00 PM (ADJ.)
- AT THE START OF OCCUPIED MODE, FMCS SHALL ESTABLISH THE MIN. CFM SETPOINTS OF ALL TAB TO BE EQUAL TO THE MIN. CFM VALUE SCHEDULED IN THE TAB SCHEDULE AND SHALL ESTABLISH THE ROOM TEMP SETPOINT IN ACCORDANCE WITH THE TAB SEQUENCES OF OPERATION (THIS SHEET).
- AT THE START OF UNOCCUPIED MODE, FMCS SHALL ESTABLISH THE MIN. CFM SETPOINT OF ALL TAB TO BE EQUAL TO ZERO (0) CFM AND SHALL ESTABLISH THE ROOM TEMP SETPOINTS OF: COOLING SETPOINT = 85°F (ADJ.) HEATING SETPOINT = 55°F (ADJ.)
- PROVIDE NIGHT SETBACK OVERRIDE BUTTON WHERE INDICATED ON THE DRAWINGS. WHEN BUTTON IS DEPRESSED, FMCS SHALL SWITCH ALL TAB INTO OCCUPIED MODE FOR A 2 HOUR (ADJ.) TIME PERIOD. AT THE END OF THE TIME PERIOD, FMCS SHALL SWITCH ALL TAB BACK TO UNOCCUPIED MODE.

## 7 TAB NIGHT SETBACK CONTROL

NO SCALE

#### TERMINAL AIR BOX REPORT & DUCT MOUNTED REHEAT COIL GENERATION:

DDC FMCS SHALL BE PROGRAMMED TO GENERATE THE FOLLOWING REPORT BASED ON A MANUAL COMMAND FROM THE DDC FMCS WORKSTATION BY CLICKING ON A GRAPHICAL BUTTON. UPON INITIATING COMMAND THE DDC FMCS SHALL COMPILER A REPORT AS FOLLOWS:

TAB/COIL	AIRFLOW(CFM)	DMPR POS	VALVE POS	SUP AIR TEMP	ROOM TEMP	ROOM SETPOINT
SYMBOL	MAX/ACTUAL/MIN	(% OPEN)	(% OPEN)	(DEG. F)	(DEG. F)	(DEG. F)
***	***	85%	10%	65.2	73.6	72.0
***	***	80%	60%	75.1	71.1	72.0

WHEREAS THE SAMPLE REPORT ABOVE SHOWS ONLY A COUPLE TAB/COILS, THE FINAL PROGRAMMED REPORT SHALL LIST ALL TABS/COILS SERVED BY A SINGLE AHU.

AFTER THE REPORT PRINTS OUT ALL TAB/HEATING COIL DATA, THE DDC FMCS SHALL AUTOMATICALLY TOTAL ALL THE INDIVIDUAL TAB AIRFLOW TO A SINGLE VALUE.

AFTER PRINTING THE SUM OF THE TAB/HEATING COIL AIRFLOW CFM, THE DDC FMCS SHALL THEN AUTOMATICALLY PRINT OUT THE AIR HANDLER REPORT FOR THE AHU WHICH SERVES THE TABS/HEATING COILS LISTED IN THE REPORT.

DDC FMCS SHALL ALLOW THE DDC FMCS OPERATOR TO ISSUE A SINGLE COMMAND THAT WILL AUTOMATICALLY CHANGE THE LOCAL SETPOINT FOR EACH TAB SERVED BY A AHU TO A SINGLE VALUE (E.G. A SINGLE COMMAND WILL SET ALL TABS/HEATING COILS SERVED BY AHU-A TO 80°F).

## 8 TERMINAL AIR BOX REPORT GENERATION

NO SCALE

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Project Name

WARREN BRANCH LIBRARY



Drawing Name

HVAC DIAGRAMS

Drawn By

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Checked By

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Revisions

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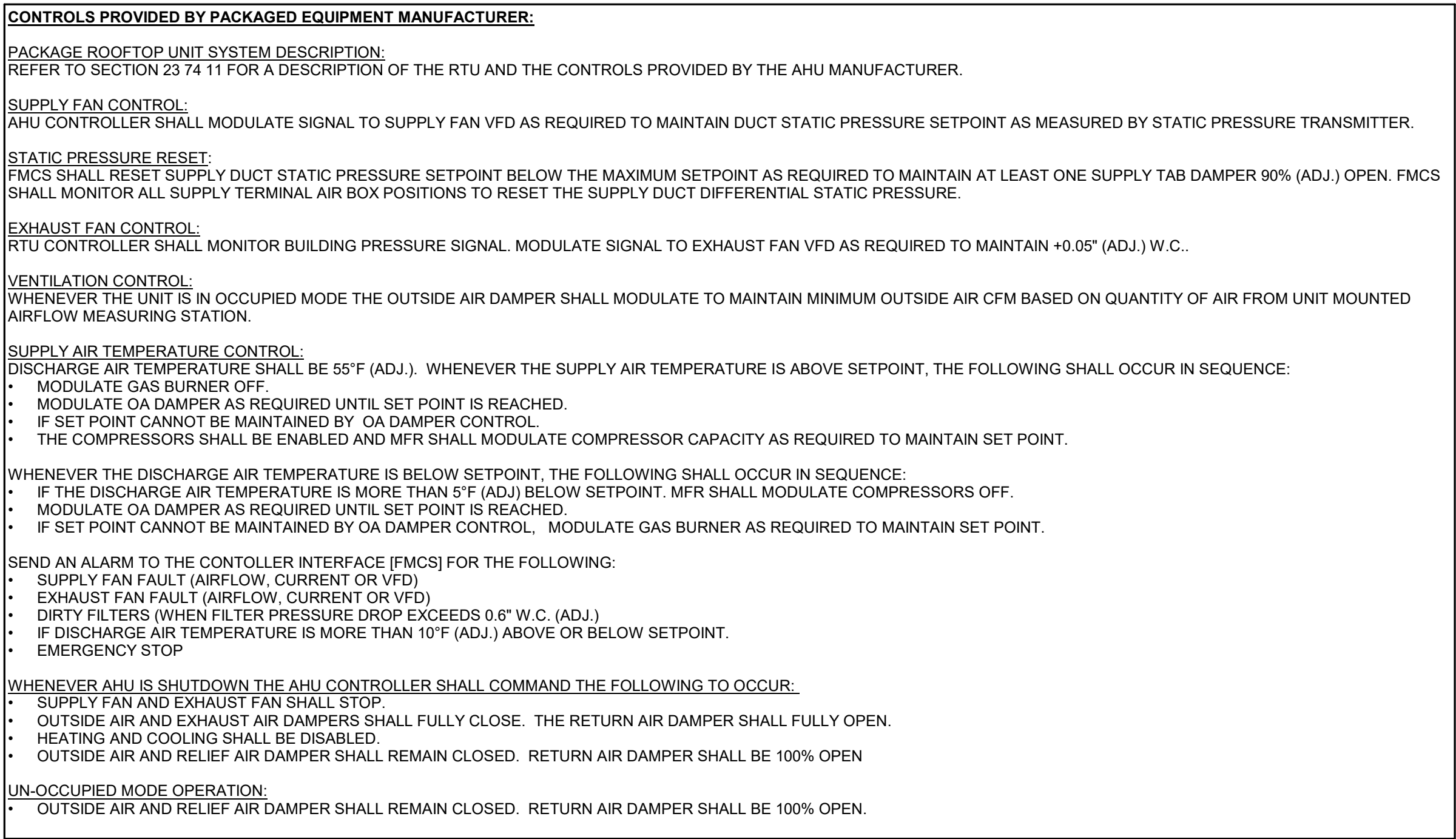
Project No.

P24006

Sheet Number

M500





EXTERNAL CONTROLS PROVIDED BY CONTROLS CONTRACTOR AND WIRED TO FMCS:

- 2
- STATIC SWITCH
- RETURN TEMPERATURE SENSOR
- HUMIDITY SENSOR
- DUCT SMOKE DETECTOR
- DUCT SMOKE DETECTOR INTERLOCK

**NOTES:**

- 1. INTERLOCK EXHAUST FAN OPERATION THROUGH THE FMCS WITH RESPECTIVE AHU IN ACCORDANCE WITH AHU SEQUENCE OF OPERATION.**

# M501







AIR TERMINAL SCHEDULE

NOTES:  
1.CONTRACTOR SHALL DETERMINE PROPER BORDER TYPE TO MATCH CEILING CONSTRUCTION.  
2.REFER TO DRAWINGS FOR NECK SIZE. ALL BRANCH DUCTWORK TO AIR TERMINALS SHALL BE NECK SIZE UNLESS NOTED OTHERWISE.  
3.REFER TO 4/M400 FOR PLENUM RETURN GRILLE DETAIL.  
4.COORDINATE COLOR SELECTION WITH ARCHITECT.  
5.SPIRAL MOUNTED, FRONT BLADES PARALLEL TO SHORT DIMENSION. INSTALL WITH VOLUME DAMPER.

TAG NAME	FACE SIZE (IN.) (NOTE 2)	TYPE	BORDER (NOTE 1)	MATERIAL	FINISH	VOLUME DAMPER REQUIRED	MANUFACTURER	MODEL	NOTES
CD-1	24x24	PANEL FACE	LAY-IN	STEEL	WHITE	NO	PRICE	SPD	NOTES 1, 2
CD-2	12x12	PANEL FACE	LAY-IN	STEEL	WHITE	NO	PRICE	SPD	NOTES 1, 2
EG-1	12x12	PERFORATED FACE	LAY-IN	STEEL	WHITE	NO	PRICE	PDDR	NOTES 1, 2
EG-2	INLET *2	35 DEGREE DEFLECTION	1 1/4"	STEEL	WHITE	NO	PRICE	90	NOTE 4
RG-1	24x24	PERFORATED FACE	LAY-IN	STEEL	WHITE	NO	PRICE	PDDR	NOTES 1, 3, 4
RG-2	SEE DWG	35 DEGREE DEFLECTION	SURFACE MOUNT	STEEL	NOTE 4	NO	PRICE	530	NOTE 4
SG-1	INLET *2	DOUBLE DEFLECTION	1 1/4"	STEEL	NOTE 4	YES	PRICE	SDG	NOTES 2, 4, 5
SG-2	INLET *2	SINGLE DEFLECTION	1 1/4"	STEEL	WHITE	NO	PRICE	520	NOTES 2, 4

DUCT SILENCER SCHEDULE

NOTES:  
1.PRESSURE DROP VALUES LISTED ARE PER ASTM E477-99 TEST PROCEDURE AND DO NOT INCLUDE SYSTEM EFFECTS.  
2.WITH FIBERGLASS CLOTH SEPARATING MEDIA FROM AIRSTREAM.  
3.SILENCER SHALL BE CONSTRUCTED TO KEEP THE BREAKOUT NOISE CONTRIBUTION TO THE AFFECTED ROOM BELOW 40 Dba. SILENCER SHALL BE FACTORY MANUFACTURED AND ALL EXPOSED SURFACES SHALL BE SHEETMETAL (EXCEPT FOR SPECIFIED EXTERNAL DUCT INSULATION FOR UNITS THAT DO REQUIRE DUAL-WALL CONSTRUCTION.)

TAG NAME	AREA SERVED	CFM	VELOCITY	MAX. S.P. DROP IN. W.C. (NOTE 1)	ACOUSTICAL PERFORMANCE AT +1000 FPM																DIMENSIONS (INCHES)			WEIGHT	MANUFACTURER	MODEL	NOTES
					MINIMUM DYNAMIC INSERTION LOSS IN DB								MAXIMUM ALLOWABLE GENERATED NOISE IN DB RE 10 <sup>-12</sup> WATTS														
					OCTAVE BAND CENTER FREQUENCY								OCTAVE BAND CENTER FREQUENCY														
					63	125	250	500	1000	2000	4000	8000	63	125	250	500	1000	2000	4000	8000	LENGTH	DIAMETER					
DS-1	FPB-1	1900	880	0.08	5	8	17	30	47	46	40	28	37	25	20	21	20	18	10	10	36	20	83	PRICE NOISE CONTROL	CS	NOTE 1,2,3	
DS-2	FPB-2	1800	810	0.07	5	8	17	30	47	46	40	28	35	25	20	19	18	16	10	10	36	20	83	PRICE NOISE CONTROL	CS	NOTE 1,2,3	

MOTOR OPERATED DAMPER SCHEDULE

NOTES:  
1.COORDINATE DAMPER ACTUATOR LOCATION AND MOUNTING REQUIREMENTS WITH TEMPERATURE CONTROL CONTRACTOR.

TAG NAME	SIZE	CFM		BLADE CONFIGURATION	BLADE ORIENTATION	ACTUATOR TYPE (NOTE 1)	ACTUATOR STYLE	POWER FAILURE POSITION	POSITIVE POSITION FEEDBACK REQUIRED	NOTES
	DIAMETER	MAX.	MIN.							
MOD-1	12	435	0	OPPOSED	VERTICAL	ELECTRIC	TWO POSITION	NORMALLY CLOSED (NC)	No	

LOUVER SCHEDULE

NOTES:  
1.FINISH TYPES: TYPE 1 - MILL FINISH. TYPE 2 - 204-R1 SATIN ANODIZED. TYPE 3 - BAKED ENAMEL FINISH ON PRETREATED PRIME PAINT. STANDARD COLOR - SELECTION BY ARCHITECT. TYPE 4 - BAKED EPOXY FINISH ON PRIME COATED METAL. STANDARD COLOR - SELECTION BY ARCHITECT. TYPE 5 - DURANODIC BRONZE - LIGHT, MEDIUM, DARK. TYPE 6 - PVDF (KYNAR 500, HYLAR 5000, OR DURANAR). STANDARD COLOR - SELECTION BY ARCHITECT.

TAG NAME	CFM	SIZE (INCHES)		FREE AREA VELOCITY	S.P. IN. W.C.	FINISH (NOTE 1)	MANUFACTURER	MODEL
		WIDTH	HEIGHT					
L-1	435	24	18	663	0.08	TYPE 1	GREENHECK	EHH-401

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


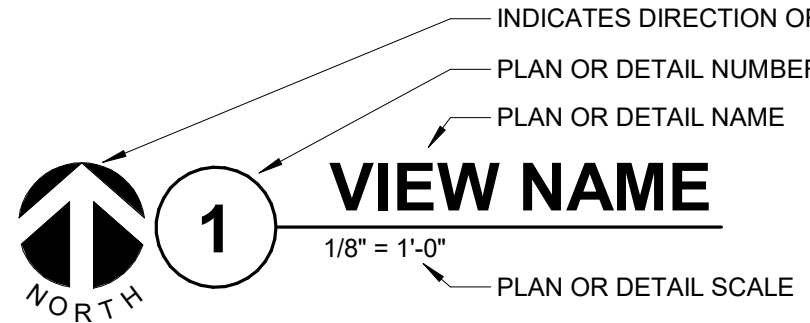
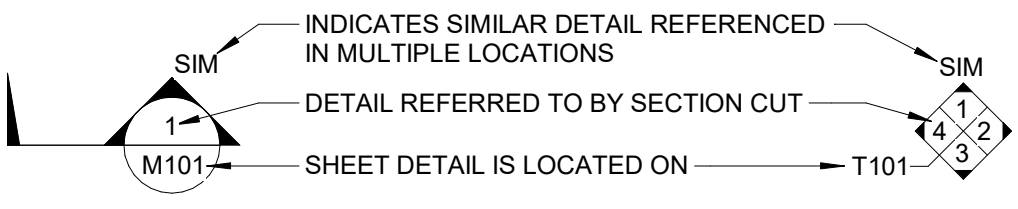

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










VIEW KEY	
 NAME 10'-0"  HEIGHT ABOVE PROJECT 0'-0"	 KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL.
 <p>INDICATES DIRECTION OF TRUE NORTH PLAN OR DETAIL NUMBER PLAN OR DETAIL NAME 1/8" = 1'-0" PLAN OR DETAIL SCALE</p>	
 <p>INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS DETAIL REFERRED TO BY SECTION CUT SHEET DETAIL IS LOCATED ON</p>	
<p><b>LINE TYPE AND TAG KEY:</b></p> <p>NEW WORK BY THIS CONTRACTOR (WIDE LINE) ----- NEW ----- EXISTING TO BE REMOVED (SHORT DASHED PATTERN) ----- NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)</p> <p>EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE) ----- EXISTING ----- EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN) ----- EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)</p> <p>HALFTONING DOES NOT MODIFY SCOPE.</p> <p>*TAG-'E' TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING</p> <p><u>TAG-1</u> UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST</p> <p> INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL</p>	

### CONDUIT INSTALLATION SCHEDULE

THE FOLLOWING SCHEDULE SHALL BE ADHERED TO UNLESS THEY CONSTITUTE A VIOLATION OF APPLICABLE CODES OR ARE NOTED OTHERWISE ON THE DRAWINGS. THE INSTALLATION OF RMC CONDUIT WILL BE PERMITTED IN PLACE OF ALL CONDUIT SPECIFIED IN THIS SCHEDULE. REFER TO CONDUIT AND BOXES SPECIFICATION 26 05 33 FOR ADDITIONAL INFORMATION.

INSTALLATION TYPE	RMC	EMT	PVC	PVC CONCRETE ENCASED
FEEDERS: SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, MOTOR CONTROL CENTERS, ETC.		X		
BRANCH CIRCUITS: LIGHTING, RECEPTACLES, CONTROLS, ETC.		X		
MECHANICAL EQUIPMENT FEEDERS: PUMPS, CHILLERS, AIR HANDLING UNITS, ETC.		X		
FLOOR MOUNTED EQUIPMENT FEEDERS: PUMPS, ETC. (INCLUDE NO MORE THAN 6 FEET OF LFMC TO PUMP)		X		
CONTROLS (LIGHTING, POWER, BUILDING AUTOMATION, ETC.)		X		
WET AND DAMP LOCATIONS: (CONDUIT, BOXES, FITTINGS, INSTALLED AND EQUIPPED TO PREVENT WATER ENTRY)	X			
INTERIOR LOCATIONS WITH FINISHED CEILING AND WALLS: CONCEALED IN WALLS AND ABOVE FINISHED CEILINGS		X		
INTERIOR LOCATIONS WITHOUT FINISHED CEILINGS: CONCEALED IN WALL, EXPOSED ABOVE CEILINGS		X		
UNDERGROUND / SLABS ON GRADE (IN OR UNDER SLABS ON GRADE)				
WITHIN 5' FROM THE PERIMETER OF THE BUILDING	X		X	
WITHIN 5' FROM THE PERIMETER OF THE BUILDING WHEN PASSING THROUGH THE PERIMETER OF THE BUILDING FOUNDATION:	X			X
UNDERGROUND SITE CONDUITS:				
WITHIN 5' FROM THE PERIMETER OF A BUILDING FOUNDATION	X			X
5' OR GREATER FROM THE PERIMETER OF A BUILDING FOUNDATION	X		X	
UNDER ROADS, DRIVES, AND VEHICLE TRAVELED WAYS. WHEN HDPE DIRECTIONAL BORING IS ALLOWED: PROVIDE PRESSURIZED GROUT			X	X
DUCTBANKS (REFER TO DUCTBANK DETAILS WHEN APPLICABLE)				
REINFORCING SHALL CONSIST OF ONE-HALF INCH DEFORMED BARS SPACED 12 INCHES ON CENTER, PARALLELING THE DUCTS ON BOTTOM. WITH ONE-HALF INCH DEFORMED TIE BARS SPACED TWELVE INCHES ON CENTERS.				X
BARS SHALL OVERLAP 40 DIAMETERS AND SHALL EXTEND 5' BEYOND ROADS, DRIVES, TRAVELED WAYS, ETC.				X
PROVIDE MINIMUM 3" CONCRETE COVER ON ALL SIDES OF REINFORCING.				X
ENTIRE DUCTBANK SHALL BE INSTALLED ON PRECAST CONCRETE PAVERS ON 3' CENTERS.				X
DEFINITIONS:				
CONCRETE ENCASEMENT: CONDUIT WITH A MINIMUM OF 3" THICKNESS BETWEEN THE SURFACE OF THE CONCRETE AND THE NEAREST CONDUIT. CONCRETE TO BE DOWELED INTO THE FOUNDATION.				

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	ECONN	26 05 33	ELECTRICAL CONNECTION
	JB	26 05 33	JUNCTION BOX
	FB-#	26 27 26	FLOOR BOX
	PANEL '###'	26 24 16	PANELBOARD - SURFACE MOUNT
	MX-#/CS-#	26 24 19 26 28 16	SURFACE OR RECESS MOUNTED MANUAL SWITCH / COMBINATION STARTER. REFER TO DISC/STA SCHEDULE.
			UTILITY TRANSFORMER
	PP	26 27 26	PUSH PAD
	REC-DUP	26 27 26	DUPLEX RECEPTACLE, 125V
	REC-DUP-GFI	26 27 26	DUPLEX GFI RECEPTACLE, 125V
	REC-DUP-WP	26 27 26	DUPLEX GFI WEATHERPROOF RECEPTACLE 125V
	REC-TAMP	26 27 26	DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-TAMP-GFI	26 27 26	GFI DUPLEX RECEPTACLE, TAMPER RESISTANT, 125V
	REC-USB	26 27 26	DUPLEX RECEPTACLE, USB CHARGING
	REC-TAMP-QUAD	26 27 26	QUAD RECEPTACLE, TAMPER RESISTANT, 125V
	REC-QUAD	26 27 26	QUAD RECEPTACLE, 125V
		26 20 00	ELECTRIC METER

### RECEPTACLE SUBSCRIPT KEY:

#### DEVICE KEY:

DEVICE 

# = MOUNTING (IF APPLICABLE)  
1 = CIRCUIT NUMBER

\*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: A / 1

#### ELECTRICAL MOUNTING SUBSCRIPT KEY:

A MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH  
H MOUNT ORIENTED HORIZONTALLY  
M MOUNT IN MODULAR FURNITURE  
W WEATHERPROOF WIRING DEVICE, NEMA 3R WHILE-IN-USE COVER, WR LISTED

### ELECTRICAL ABBREVIATION KEY

ABBR:	DESCRIPTION:
ABV	ABOVE
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BC	BELOW COUNTER
C	CONDUIT (BRANCH CIRCUIT OR FEEDER CONTEXT)
CO	CONDUIT AND BOX ROUGH-IN ONLY (ROUGH-IN ONLY)
EG	EQUIPMENT GROUND
EGC	EQUIPMENT GROUNDING CONDUCTOR
HOA	HAND/OFF/AUTO
NEMA #	NEMA RATING
SM	SURFACE MOUNTED
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED

### EQUIPMENT ABBREVIATION KEY

ABBR:	DESCRIPTION:
GD	GARBAGE DISPOSAL
DOOR	DOOR OPERATOR, ELECTRIC
DW	DISHWASHER
EWG	ELECTRIC WATER COOLER
MW	MICROWAVE
PP	PUSH PAD AUTOMATIC DOOR OPERATOR (REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATION)
REF	REFRIGERATOR
SIGN	DEDICATED SIGNAGE CIRCUIT
TV	TELEVISION - MONITOR - DISPLAY
COIN	PAYMENT METHOD MACHINE
HT	HEAT TRACE

### ELECTRICAL EQUIPMENT TAGS

TAG:	DESCRIPTION:	RELATED SPECIFICATION:
MDP-#	MAIN DISTRIBUTION PANEL	26 24 16
HH-#	HANDHOLE	26 05 33
INV-#	LIGHTING INVERTER	26 52 00
MC-#	EXTERIOR MOUNTED METERING CABINET	26 20 00
MX-#	MANUAL SWITCH, REFER TO DISCONNECT AND STARTER SCHEDULE	26 24 19

### ELECTRICAL INSTALLATION NOTES:

- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS.
- EMERGENCY LIGHTING INVERTER WIRING FOR FEEDERS AND BRANCH CIRCUITS SHALL BE ROUTED IN SEPARATE RACEWAY. JUNCTION BOXES, PULL BOXES, AND CABINETS, WIRING FOR EACH BRANCH SHALL BE INDEPENDENT FROM OTHER BRANCHES, INCLUDING THE NORMAL BRANCH.
- FLUSH MOUNT ALL LIGHTING CONTROL DEVICES AT +42" FROM FLOOR (CENTERLINE DIMENSION). EXCEPT WHERE OTHERWISE NOTED.
- FLUSH MOUNT ALL DUPLEX RECEPTACLES AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED. MOUNT EXTERIOR LOCATED RECEPTACLES WITH WHILE-IN-USE COVERS AT +20" FROM FINISHED GRADE (CENTER DIMENSIONS) TO MAINTAIN INSTALLATION ADA COMPLIANCE.
- CONNECTION FOR ELECTRIC WATER COOLERS (EWC) SHALL BE A GFI RECEPTACLE LOCATED DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED.
- CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND EQUIPMENT WITH LUMINAIRES AND CEILING DIFFUSERS. CENTER ALL DEVICES IN CEILING TILE PATTERN. OCCUPANCY/VACANCY SENSORS SHALL BE LOCATED NO CLOSER THAN 3 FEET TO AN AIR SUPPLY DIFFUSER OR RETURN GRILLE.
- CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- ELECTRICAL EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF, OPERATION OF, AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL EQUIPMENT, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER ELECTRICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES, OTHER THAN SPRINKLERS.
- ELECTRICAL IDENTIFICATION. REFER TO SPECIFICATION SECTION 26 05 53 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

### CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

### ELECTRICAL SHEET INDEX

E000	ELECTRICAL COVERSHEET
E001	ELECTRICAL LIGHTING COVERSHEET
E100	LEVEL 01 SITE PLAN - ELECTRICAL
E201	LEVEL 01 PLAN - LIGHTING
E211	LEVEL 01 PLAN - POWER
E400	ELECTRICAL DETAILS
E401	ELECTRICAL DETAILS
E402	ELECTRICAL DETAILS
E500	ELECTRICAL DIAGRAMS
E600	ELECTRICAL SCHEDULES
E601	ELECTRICAL SCHEDULES
E700	ELECTRICAL PANEL SCHEDULES
GRAND TOTAL: 12	

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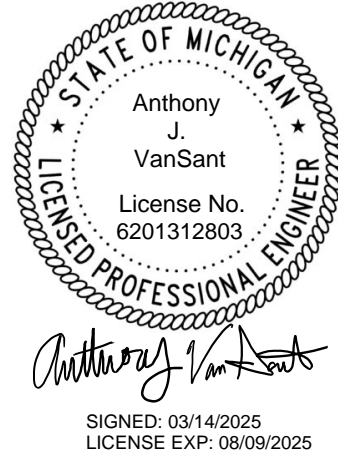
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E000



Project Name

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ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	SW-LS-PC	26 09 33	EXTERIOR PHOTOCELL
 ##	SW-OC-D	26 09 33	OCCUPANCY SENSOR - CEILING MOUNTED SUBSCRIPTS: BLANK = DUAL TECHNOLOGY
 ##	SW-VC-D	26 09 33	VACANCY SENSOR - CEILING MOUNTED SUBSCRIPTS: BLANK = DUAL TECHNOLOGY
 ##	SW-#B	26 09 33	LIGHTING CONTROL STATION - DEFAULT DIMMED CONTROL - # DEFINES MINIMUM QUANTITY OF CONTROL BUTTONS, PLUS OFF, REFER TO LIGHTING SEQUENCE OF OPERATIONS WHEN NOT DEFINED. SUBSCRIPTS: BLANK = DIMMING CONTROL S = SWITCHED CONTROL W = WIRELESS WITH BATTERY # = UNIQUE ID WHEN APPLICABLE
	LCPR-1	26 09 33	LIGHTING CONTROL PANEL/RACK/CABINET - ROOM BASED
 ##	SW-1P SW-O	26 09 33	SWITCH SUBSCRIPTS: BLANK = SINGLE POLE O = DUAL TECHNOLOGY OCCUPANCY SENSOR WITH WALL SWITCH

ELECTRICAL SYMBOL LIST			
SYMBOL:	TAG:	SPEC SECTION:	DESCRIPTION:
	REFER TO LUMINAIRE SCHEDULE		LINEAR LUMINAIRES
			TROFFER
			DOWNLIGHT LUMINAIRE
			INDUSTRIAL LUMINAIRE
			WALL BRACKET LUMINAIRE
			POLE MOUNTED LUMINAIRE
			SINGLE FACE EXIT SIGN
			DOUBLE FACE EXIT SIGN
			WALL/CEILING EMERGENCY EXIT SIGN
			EMERGENCY UNIT

LUMINAIRE SHADING KEY	
	NORMAL BRANCH LUMINAIRE
	EMERGENCY INVERTER BRANCH LUMINAIRE
SHADED LUMINAIRE OR DEVICE INDICATES LUMINAIRE OR DEVICE IS CONNECTED TO AN EMERGENCY CIRCUIT.	

LUMINAIRE CIRCUIT AND CONTROL KEY	
	F1 = FIXTURE TAG 1 = SWITCH DESIGNATION "SE" INDICATES LUMINAIRE IS SWITCHED/CONTROLLED DURING NORMAL OPERATION AND OPERATES FROM EMERGENCY CIRCUIT UPON LOSS OF POWER.
	*IF LABEL IS ORIENTED HORIZONTALLY A SLASH WILL SEPARATE THIS INFORMATION. EX: F1 / 1 / a / NL

LIGHTING SYSTEM DESCRIPTION KEY:	
THE DESIGN DOCUMENTS DESCRIBE THE OPERATIONAL PERFORMANCE REQUIREMENTS OF THE LIGHTING CONTROL SYSTEM. THE PROJECT MAY REQUIRE ONE OR MORE LIGHTING CONTROL STRATEGIES FOR THE PROJECT. REFER TO THE ELECTRICAL SYMBOL KEY, SPECIFICATION SECTION 26 09 33 LIGHTING CONTROL SYSTEMS, AND THE DRAWINGS TO DETERMINE THE DESIGN APPLICATION FOR EACH SPACE. THE POTENTIAL STRATEGIES ARE AS FOLLOWS:	
1. <u>STANDALONE LIGHTING CONTROL DEVICES</u> : INDEPENDENT (STANDALONE) DEVICES TRADITIONALLY OPERATING AT LINE OR LOW VOLTAGE. FIELD CONFIGURABLE WITH OTHER STANDALONE DEVICES TO PROVIDE AN OVERALL LIGHTING CONTROL SYSTEM.	
2. <u>ROOM BASED LIGHTING CONTROLS</u> : INTEGRATED SYSTEM COMPRISED OF SWITCH STATIONS, SENSORS, ROOM CONTROLLERS, CONTROL PANELS, AND ACCESSORIES OPERATING AT LINE AND/OR LOW VOLTAGE, CONFIGURED AS AN INTEGRATED OVERALL 'INTELLIGENT' LIGHTING CONTROL SYSTEM. LIGHTING CONTROL ZONES AND POWER CIRCUITS COMMONLY ALIGN.	
LIGHTING CONTROL SYSTEM DESIGNATION: THE FOLLOWING KEY MAY BE USED AS AN EXAMPLE TO DETERMINE THE DESIGNATED LIGHTING CONTROL SYSTEM FOR EACH SPACE. REFER TO ELECTRICAL COVERSHEET FOR ELECTRICAL SYMBOLS LIST AND DEVICE SPECIFICATION TAG. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.	
1. <u>STANDALONE LIGHTING CONTROL DEVICES</u> : CONTROL STATION COMMONLY DEFINED BY AN ALPHA CHARACTER WITH SUBSCRIPTS.	
A. EXAMPLE SYMBOL "S", SPECIFICATION TAG "SW-1P", DESCRIPTION "SWITCH- SINGLE POLE SWITCH".	
B. EXAMPLE CONTROL DESIGNATION: a, b, c (WHEN REQUIRED TO CLARIFY DESIGN INTENT).	
C. SINGLE POLE LIGHT SWITCH "SA" CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" WITHIN THE SAME SPACE.	
D. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG (L#-##) FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL REQUIREMENTS.	
 LUMINAIRE      CONTROL	
2. <u>ROOM BASED LIGHTING CONTROLS</u> : CONTROL STATION COMMONLY DEFINED BY A RECTANGLE SYMBOL.	
A. EXAMPLE CONTROL STATION: SYMBOL "#B", TAGGED "SW-#B", DESCRIPTION "LIGHTING CONTROL STATION".	
B. EXAMPLE PANEL/RACK/CABINET: TAGGED "LCPR#", DESCRIPTION "ROOM BASED LIGHTING CONTROL PANEL/RACK/CABINET".	
C. EXAMPLE CONTROL DESIGNATIONS: a, b, c	
D. LIGHTING CONTROL STATION "#B" a,b CONTROLS LUMINAIRES WITH THE SUBSCRIPT "a" AND "b" WITHIN THE SAME SPACE	
E. REFER TO THE LIGHT CONTROL SEQUENCE OF OPERATION TAG (L#-##) FOR A COMPLETE DESCRIPTION OF THE LIGHTING CONTROL AND PRE-PROGRAMMED SCENE SELECTION REQUIREMENTS.	
 LUMINAIRE LUMINAIRE CONTROL	

LIGHTING CONTROL NOTES:

LIGHTING CONTROL NOTES:

{L#-##} INDICATES THE LIGHTING SEQUENCE OF OPERATION FOR THE SPACE. REFER TO THE LIGHTING SEQUENCE OF OPERATION MATRIX ON SHEET E600.

{#B} LIGHTING CONTROL STATION. THE "B" INDICATES THE MINIMUM QUANTITY OF ZONES/SCENES AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. THE LIGHTING CONTROL STATION SHALL PROVIDE SEPARATE ON AND OFF AS WELL AS RAISE AND LOWER BUTTON(S). PRESS AND HOLD BUTTONS FOR DIMMING ARE NOT ACCEPTABLE. CONTROL SHALL BE CAPABLE OF DIMMING UP/DOWN AND SWITCHING AS DEFINED IN THE LIGHTING SEQUENCE OF OPERATIONS. REFER TO DRAWINGS AND LUMINAIRE SUBSCRIPTS TO DETERMINE IF A ROOM BASED CONTROLLER (a, b, c SUBSCRIPTS) OR NETWORK CONTROL SYSTEM (z1, z2, z3) IS REQUIRED.

{z##} INDICATES ZONING AND REFLECTS A LIGHTING CONTROL GROUP. PROVIDE RELAYS AS REQUIRED TO ALLOW LUMINAIRES WITHIN THE DEFINED ZONE TO FUNCTION TOGETHER.

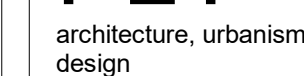
LIGHTING CONTROL SUBSCRIPTS:

1. LOWER CASE ALPHA SUBSCRIPTS "a, b, c" INDICATE LINE VOLTAGE OR ROOM BASED LIGHTING CONTROL SYSTEMS. REFER TO DRAWINGS TO DETERMINE IF LINE VOLTAGE CONTROL (S, S3, S4, ETC) OR (#B) ROOM BASED CONTROLLER SYSTEM (#B) IS REQUIRED.

EMERGENCY LIGHTING OVERRIDE CONTROL (UL924 AND UL1008): LIGHTING CONTROL EQUIPMENT COUPLED WITH REMOTE EMERGENCY POWER SOURCES (EXTERNAL TO THE LUMINAIRE) REQUIRE ALCR (UL924) OR BCELTS (UL1008) DEVICES FOR EMERGENCY (LIFE SAFETY) COMPLIANCE. AN EMERGENCY LIGHTING CONTROL BYPASS IS REQUIRED FOR EVERY INDIVIDUAL LIGHTING CONTROL ZONE CIRCUIT BUT NOT SHOWN ON THE PLANS. REFER TO THIS SPECIFICATION FOR ALCR AND BCELTS DESCRIPTIONS. REFER TO THE SEQUENCE OF OPERATION LIGHTING CONTROL DESCRIPTIONS ON THE PLANS FOR ADDITIONAL REQUIREMENTS.

REFER TO SHEET E600 FOR LUMINAIRE SCHEDULE





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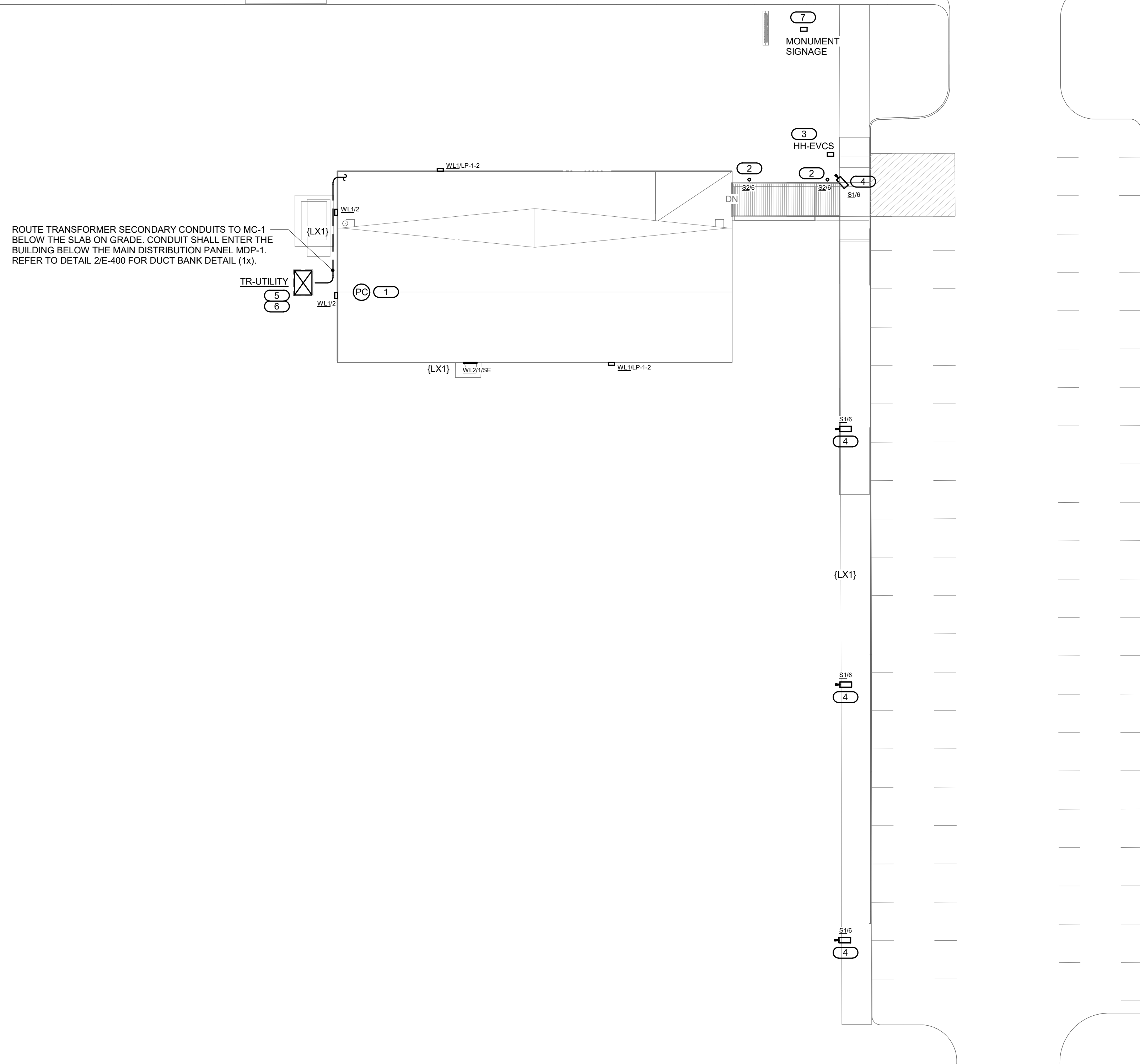
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## LEVEL 01 SITE PLAN - ELECTRICAL

$$\frac{1}{16}'' = 1'-0''$$


#### SHEET NOTES:

1. COORDINATE LOCATIONS OF LIGHT POLES WITH CIVIL DRAWINGS.
2. ALL EGRESS LIGHT AND EXIT SIGN LIGHTING CIRCUITS CORRESPOND TO INVERTER PANEL INV-1, UNLESS NOTED OTHERWISE.
3. ALL NORMAL LIGHTING CIRCUITS IN THIS AREA CORRESPOND TO PANEL LP-1, UNLESS NOTED OTHERWISE.
4. MOUNT WL1 LIGHT FIXTURES +114" ABOVE GRADE, UNLESS NOTED OTHERWISE.

## KEYNOTES: #

1. MOUNT PHOTOCELL AT THE ROOF PEAK, FACING NORTH.
2. REFER TO 1/E400 FOR BOLLARD BASE DETAIL.
3. FUTURE ELECTRIC VEHICLE CHARGING STATION. ROUTE TWO (2) 3/4" CONDUITS WITH PULLSTRINGS FROM HANDHOLE TO MDP-1. REFER TO 1/E401 FOR HANDHOLE DETAIL.
4. REFER TO 5/E402 FOR POLE BASE DETAIL.
5. PROVIDE NEW DTE TRANSFORMER PAD PER DTE REQUIREMENTS. REFER TO 3/E401 FOR TRANSFORMER DETAIL.
6. PROVIDE GROUND GRID AT THIS LOCATION. REFER TO 4E-401 FOR GROUND GRID DETAIL.
7. FUTURE MONUMENT SIGNAGE. ROUTE ONE (1) 1" CONDUIT WITH PULLSTRING TO LP-1.



SHEET NOTES:

1. ALL EGRESS LIGHTS AND EXIT SIGNS LIGHTING CIRCUITS CORRESPOND TO INVERTER PANEL INV-1, UNLESS NOTED OTHERWISE.
2. ALL NORMAL LIGHTING CIRCUITS IN THIS AREA CORRESPOND TO PANEL LP-1, UNLESS NOTED OTHERWISE.
3. MC CABLE INSTALLATION SHALL BE ALLOWED IN STRUCTURAL INSULATED PANELS WHEN INSTALLATION OF CONDUIT IS NOT VIABLE.

KEYNOTES: (#)

1. COORDINATE EXACT LUMINAIRE AND SENSOR INSTALLATION LOCATION WITH THE I.T. CABLE TRAY AND I.T. RACK.
2. FIXTURE F9 SHALL BE MOUNTED TO THE BACK SIDE OF THE BUILDING SIGNAGE LETTERING. COORDINATE WITH G.C. FOR EXACT LOCATION AND TOTAL FIXTURE LENGTH

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LICENSE EXP: 08/09/2025

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Drawing Name  
LEVEL 01 PLAN -  
LIGHTING

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1

## LEVEL 01 PLAN - LIGHTING

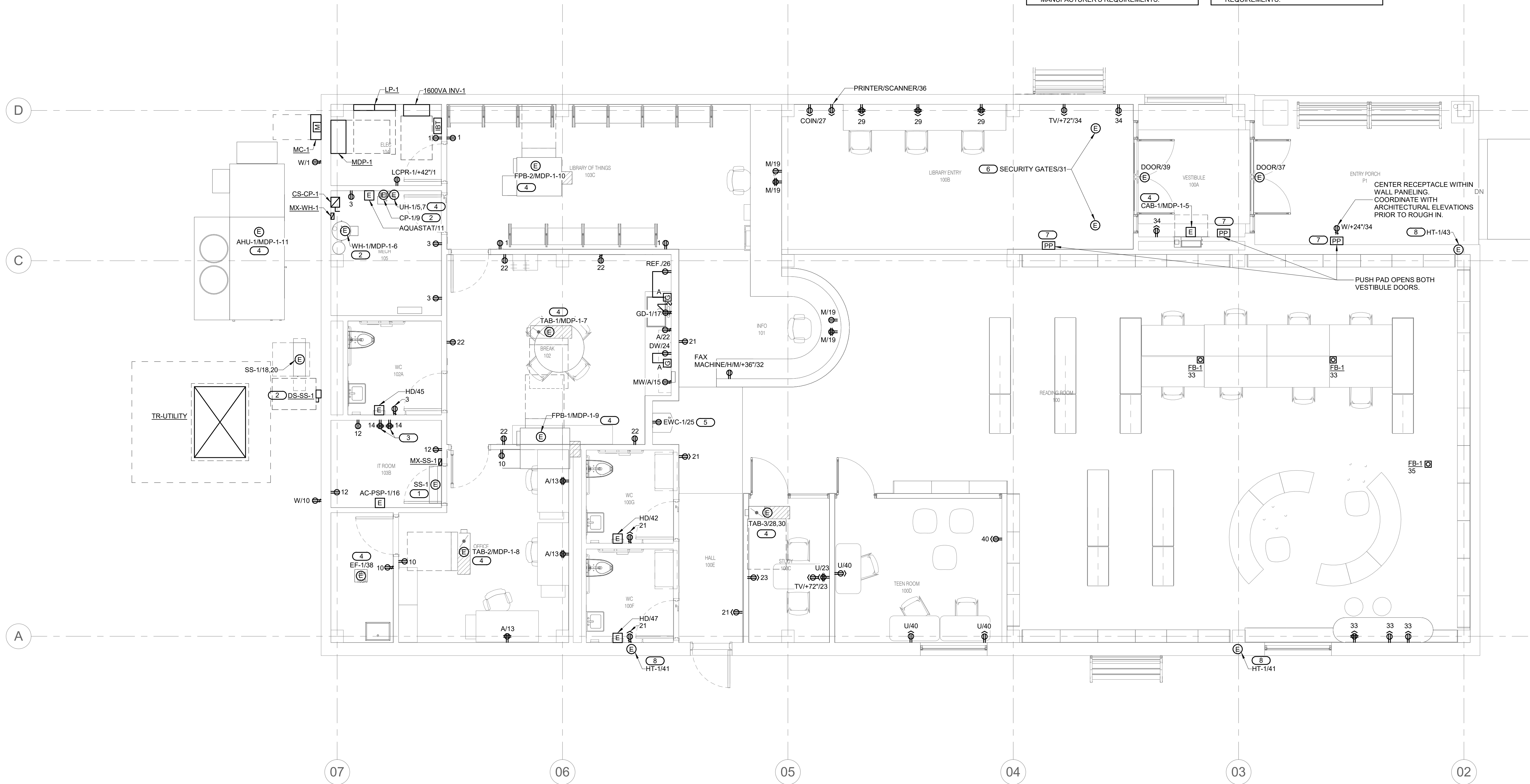
$1/4'' = 1'-0''$

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P24006

Sheet Number

E201





- KEYNOTES: (#)**
1. INDOOR SPLIT UNIT IS POWERED BY THE OUTDOOR UNIT. PROVIDE A 3/4" CONDUIT FROM OUTDOOR UNIT TO INDOOR UNIT. ROUTING PATH TO FOLLOW THE REFRIGERANT PIPING PATH.
  2. COORDINATE DISCONNECT/STARTER LOCATION WITH MECHANICAL CONTRACTOR TO PREVENT BLOCKING ACCESS TO EQUIPMENT.
  3. INSTALL RECEPTACLES ON THE BACK SIDE OF THE RACK. COORDINATE EXACT LOCATION WITH FINAL RACK LOCATIONS.
  4. DISCONNECT/STARTER SHALL BE PROVIDED BY MANUFACTURER AND INSTALLED BY ELECTRICAL CONTRACTOR.
  5. RECEPTACLE SHALL BE INSTALLED WITHIN EWC ENCLOSURE. COORDINATE WITH P.C. PRIOR TO ROUGH IN.
  6. STUB UP CONDUIT SERVING THE SECURITY GATES FROM THE SLAB BENEATH. COORDINATE CONDUIT INSTALLATION PER MANUFACTURER'S REQUIREMENTS.

- KEYNOTES: (#)**
7. AUTOMATIC DOOR OPERATOR SUPPLIED AND INSTALLED BY OTHERS. WIRED BY E.C. PROVIDE JUNCTION BOXES AT 42" FOR PUSH PAD DEVICES SUPPLIED BY OTHERS. COORDINATE PUSH PAD LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. PROVIDE AND INSTALL CABLING IN 3/4" CONDUIT BETWEEN PUSH PADS AND DOOR OPERATOR. COORDINATE FINAL WIRING REQUIREMENTS WITH APPROVED MANUFACTURER'S SHOP DRAWINGS. COORDINATE INSTALLATION WITH G.C.
  8. PROVIDE HEAT TRACE ON MECHANICAL PIPING WHERE INDICATED ON THE MECHANICAL PLANS. REFER TO MECHANICAL PLANS FOR QUANTITIES AND LENGTH OF PIPES REQUIRING THE TRACING. PROVIDE LINE SENSOR AT EACH HT-1 LOCATION TO TURN ON HEAT TRACING WHEN TEMPERATURE IS LESS THAN 32 DEGREES FAHRENHEIT. INSTALL HEAT TRACING PER THE MANUFACTURER'S REQUIREMENTS.

- SHEET NOTES:**
1. UNLESS OTHERWISE NOTED, ALL DEVICES ARE SERVED FROM PANEL LP-1.
  2. MC CABLE INSTALLATION SHALL BE ALLOWED IN STRUCTURAL INSULATED PANELS WHEN INSTALLATION OF CONDUIT IS NOT VIABLE.

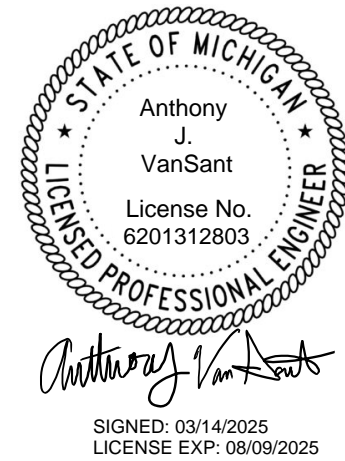
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LEVEL 01 PLAN -  
POWER

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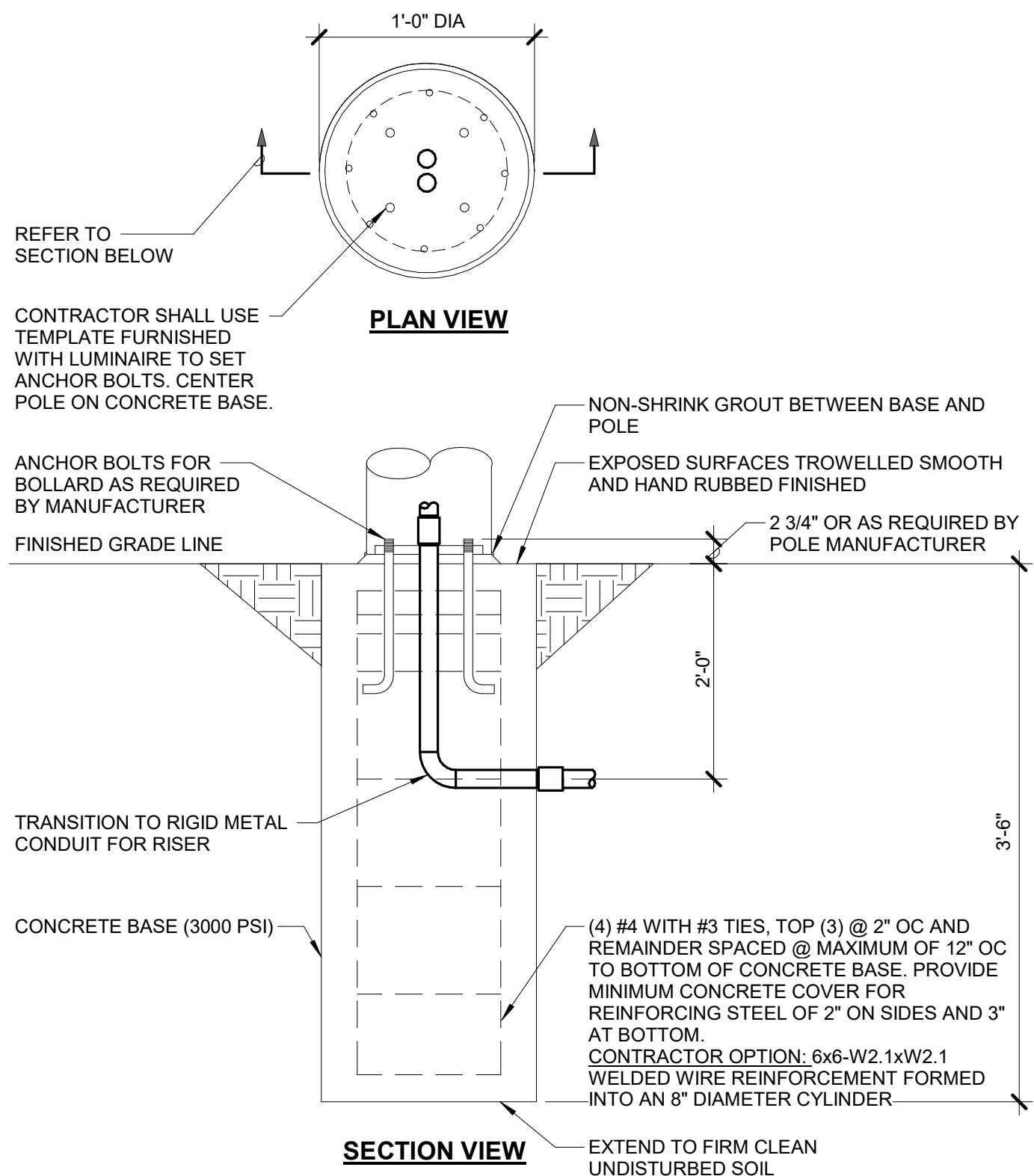
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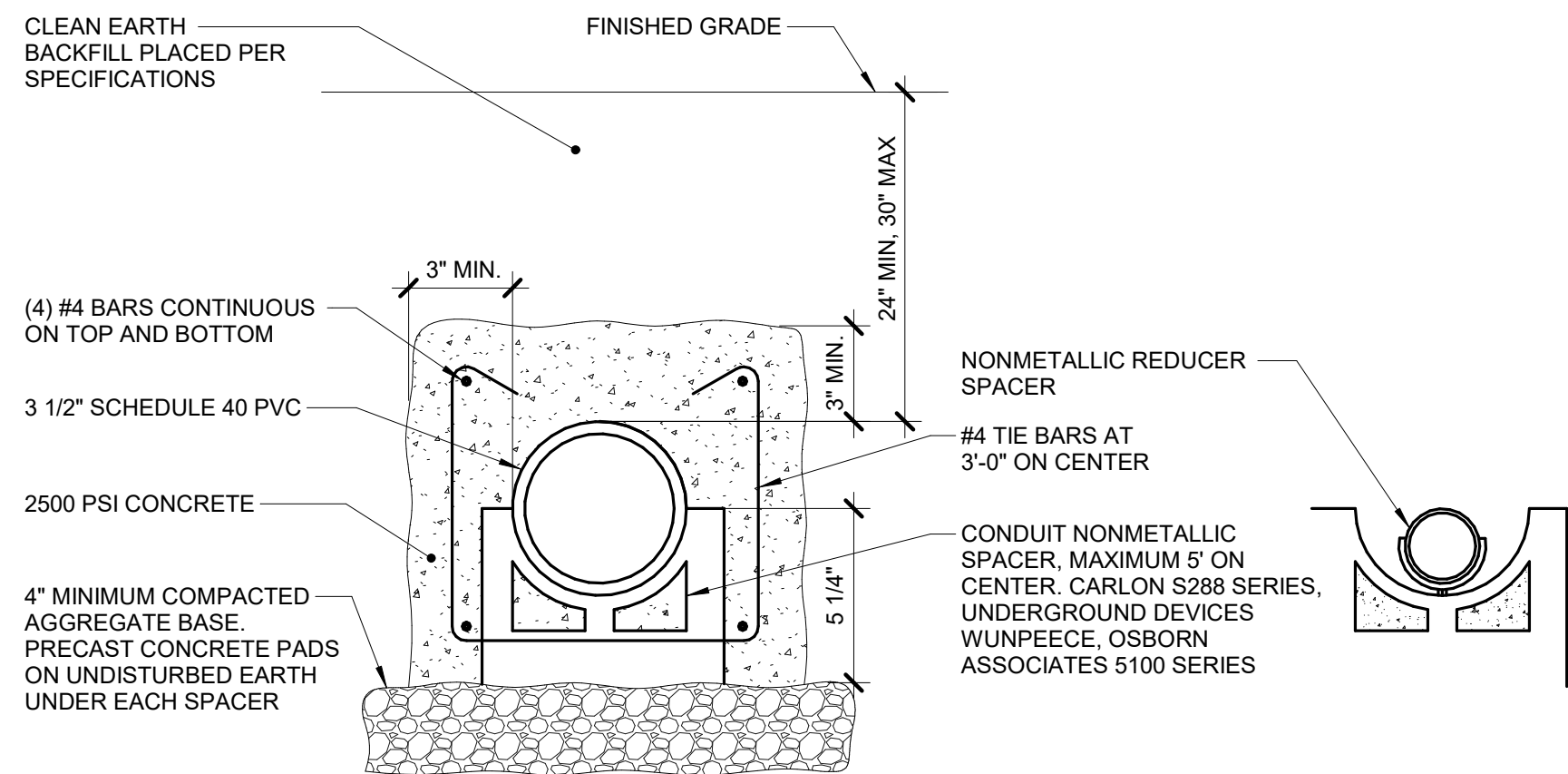
P24006

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E211

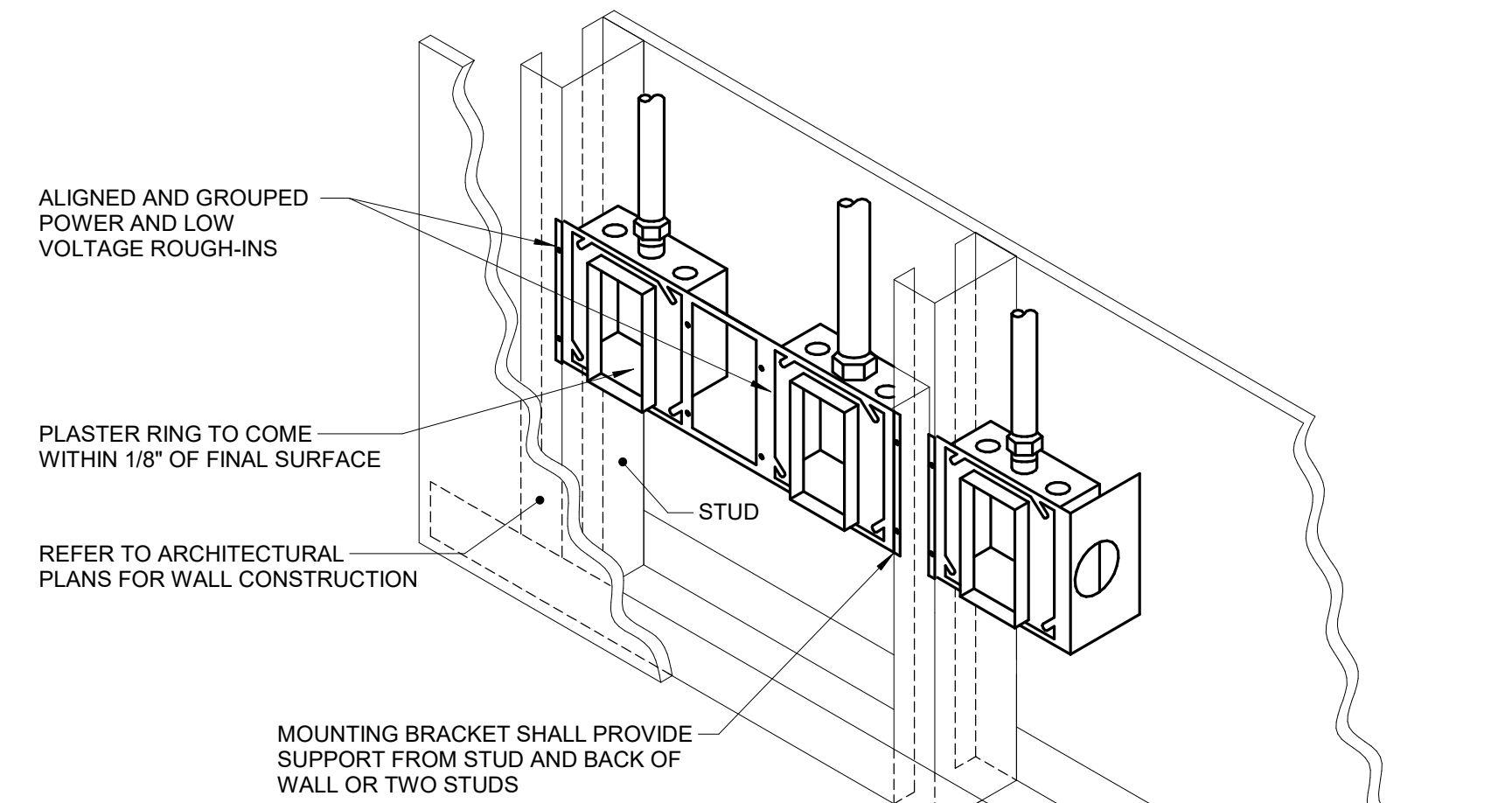


1 BOLLARD BASE DETAIL  
NO SCALE



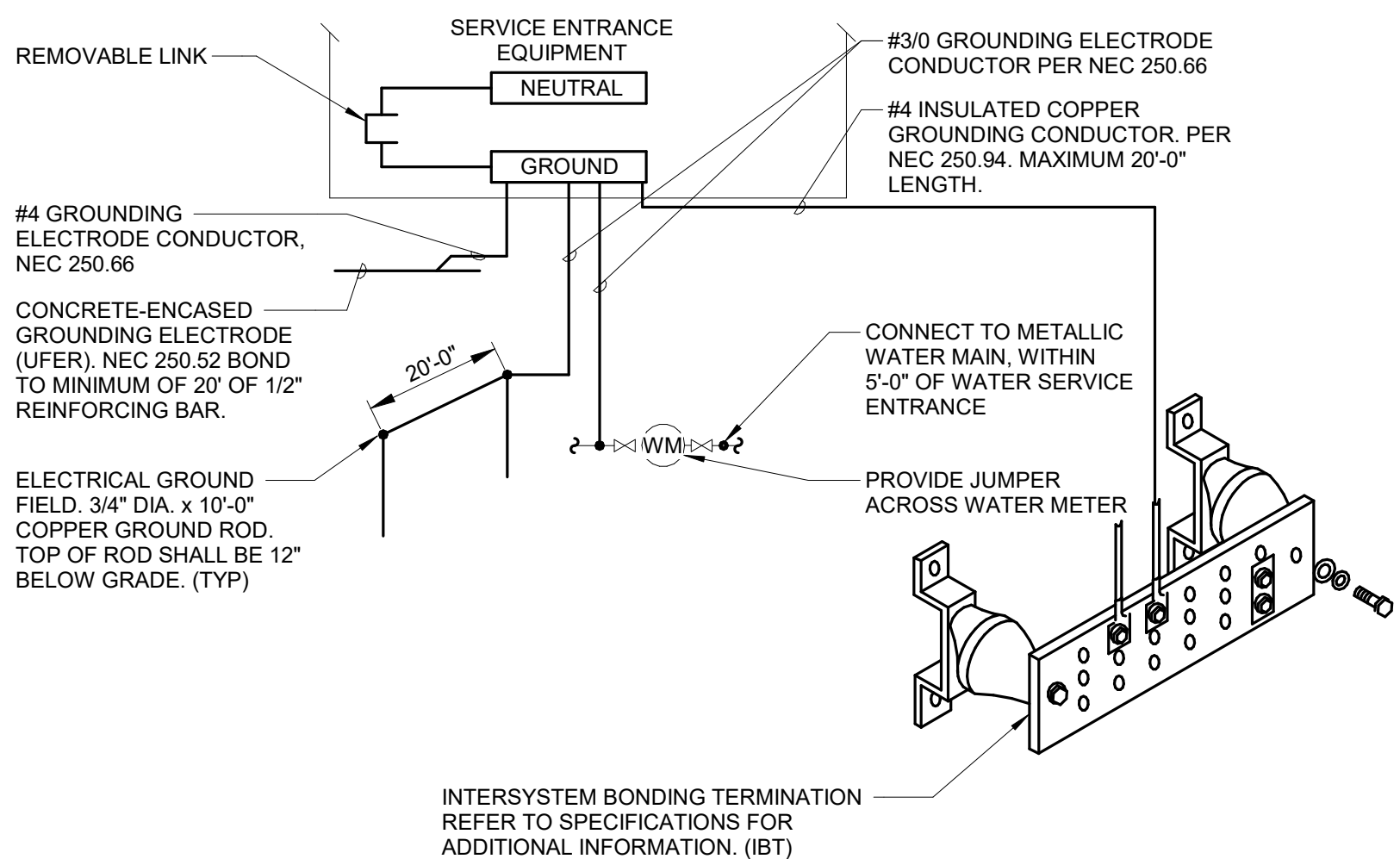
- NOTES:
1. INSTALL 2000 lb TENSILE STRENGTH BRAIDED POLYPROPYLENE PULL CORD IN ALL CONDUITS.
  2. TRENCHING AND BACKFILL ACCORDING TO SPECIFICATIONS.
  3. MINIMUM OF 4'-0" CLEAR BETWEEN ADJACENT DUCTBANKS.
  4. DOWEL ENDS OF DUCTBANK TO FOUNDATION OR MANHOLE WITH A MINIMUM OF (4) #4 DOWELS.

2 DUCT BANK DETAIL (1x)  
NO SCALE



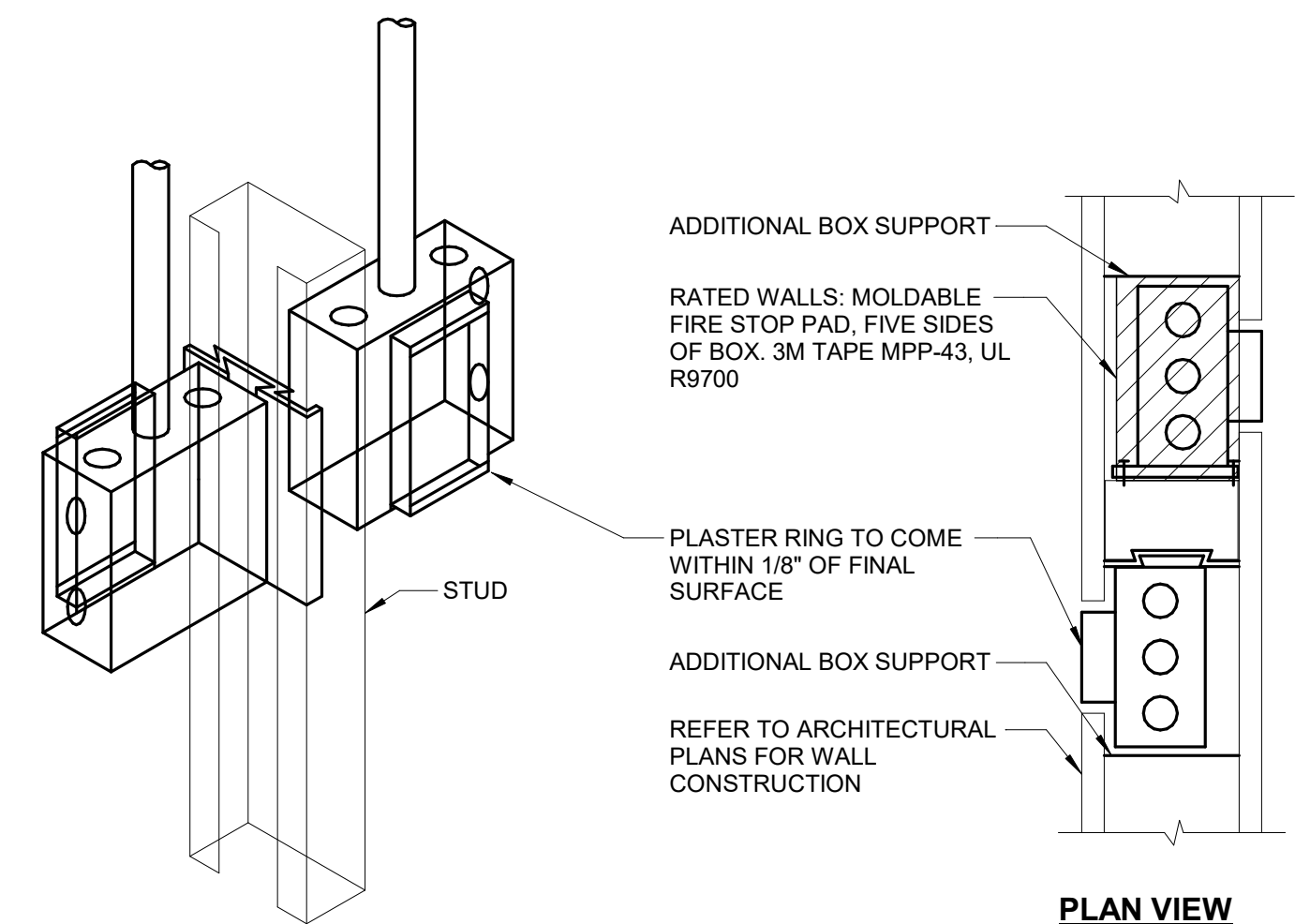
- NOTES:
1. THE INTENT OF THE DETAIL IS TO ALIGN AND GROUP DEVICE ROUGH-INS FOR POWER AND LOW VOLTAGE TECHNOLOGY SYSTEMS, SOLIDLY MOUNTED AND THE SURFACE OF THE TRIM IS EITHER FLUSH WITH THE WALL SURFACE OR WITHIN 1/8" OF THE WALL SURFACE. JUNCTION BOXES LARGER THAN 4" SQUARE SHALL BE MOUNTED IN A MANNER THAT IS SIMILAR TO THE SYSTEM NOTED ABOVE OR ACHIEVES THE SAME RESULTS.
  2. PLASTER RINGS DEPTH SHALL BE 1/8" DEEPER THAN THE GYP BOARD APPLIED TO THE WALL. PLASTER RING SHALL BE 3/4" FOR USE WITH 5/8" GYP BOARD.
  3. METAL STUD-TO-STUD MOUNTING BRACKETS FOR MULTIPLE BOXES BETWEEN STUD. ERICO CADDY RBS## SERIES, EATON B-LINE BB SERIES, OR EQUAL.
  4. MOUNTING SUPPORT BRACKETS SIZES FOR SINGLE BOXES IN A STUD CAVITY SHALL MATCH THE STUD DEPTH. ERICO CADDY H## SERIES, EATON B-LINE BB## SERIES, OR EQUAL.
  5. WHERE RECEPTACLE AND TECHNOLOGY DEVICES ARE SHOWN SERVING A COMMON COMPUTER OR EQUIPMENT, OR SHOWN IN SIMILAR LOCATIONS ON THE DRAWINGS THE DEVICES SHALL BE INSTALLED IN THE SAME STUD CAVITY WITH MOUNTING BRACKETS OR ALIGNED ON OPPOSITE SIDES OF A COMMON STUD WITH SEPARATE SUPPORT.

3 BACKBOX MOUNTING DETAIL  
NO SCALE



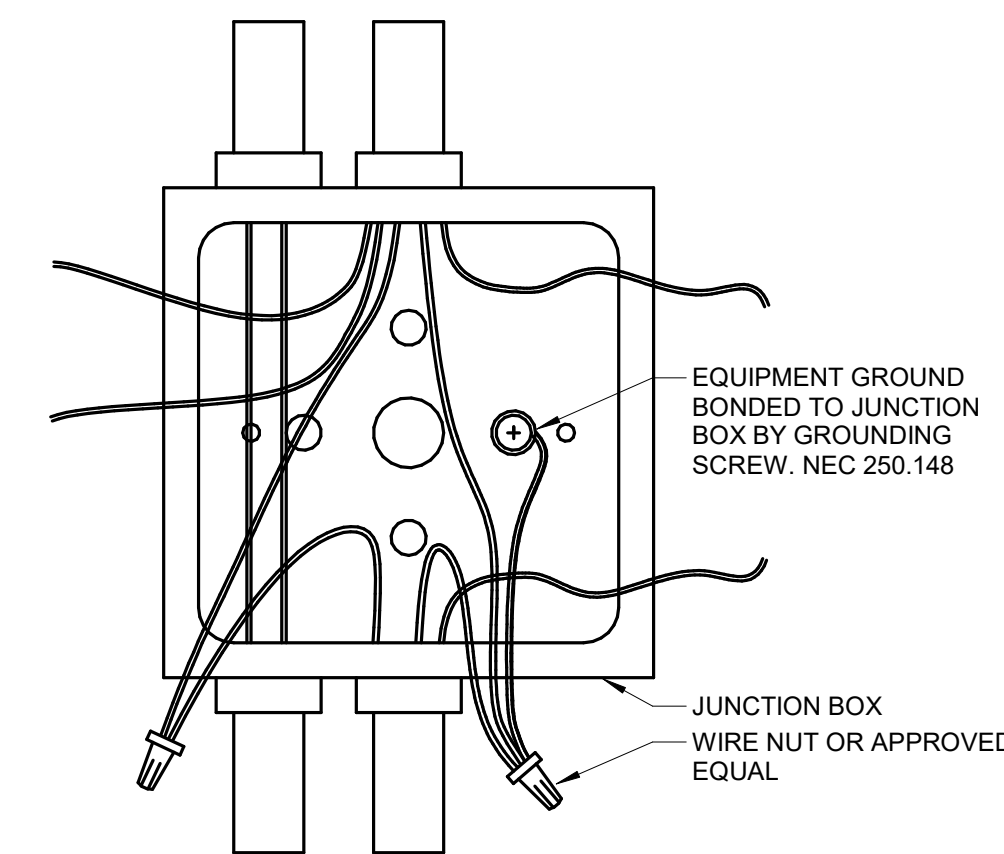
- NOTES:
1. REFER TO SPECIFICATION SECTION 26 05 26 GROUNDING AND BONDING

4 SERVICE ENTRANCE GROUNDING ELECTRODE SYSTEM DETAIL  
NO SCALE



- NOTES:
1. HORIZONTAL CONDUIT CONNECTION BETWEEN BOXES LESS THAN 2'-0" NOT PERMITTED. SEE SPECIFICATIONS AND DRAWING NOTES FOR ADDITIONAL SPACE REQUIREMENTS BETWEEN DEVICES.

5 SIDE BY SIDE DEVICE OPENINGS  
NO SCALE



6 JUNCTION BOX GROUNDING DETAIL  
NO SCALE

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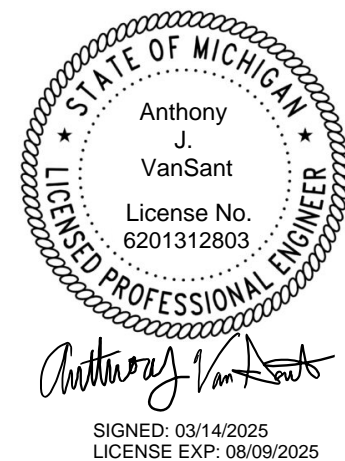
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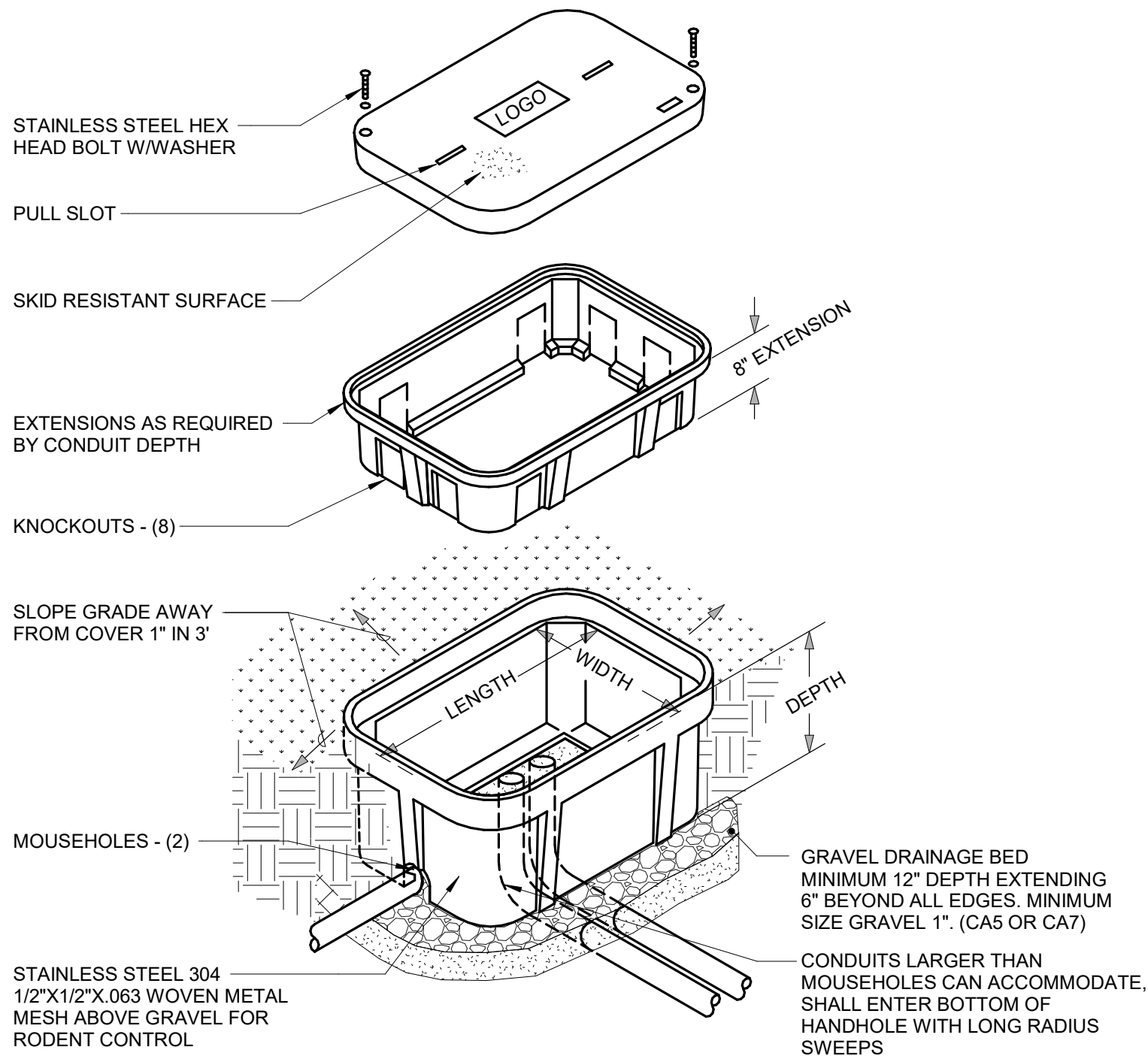
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E400

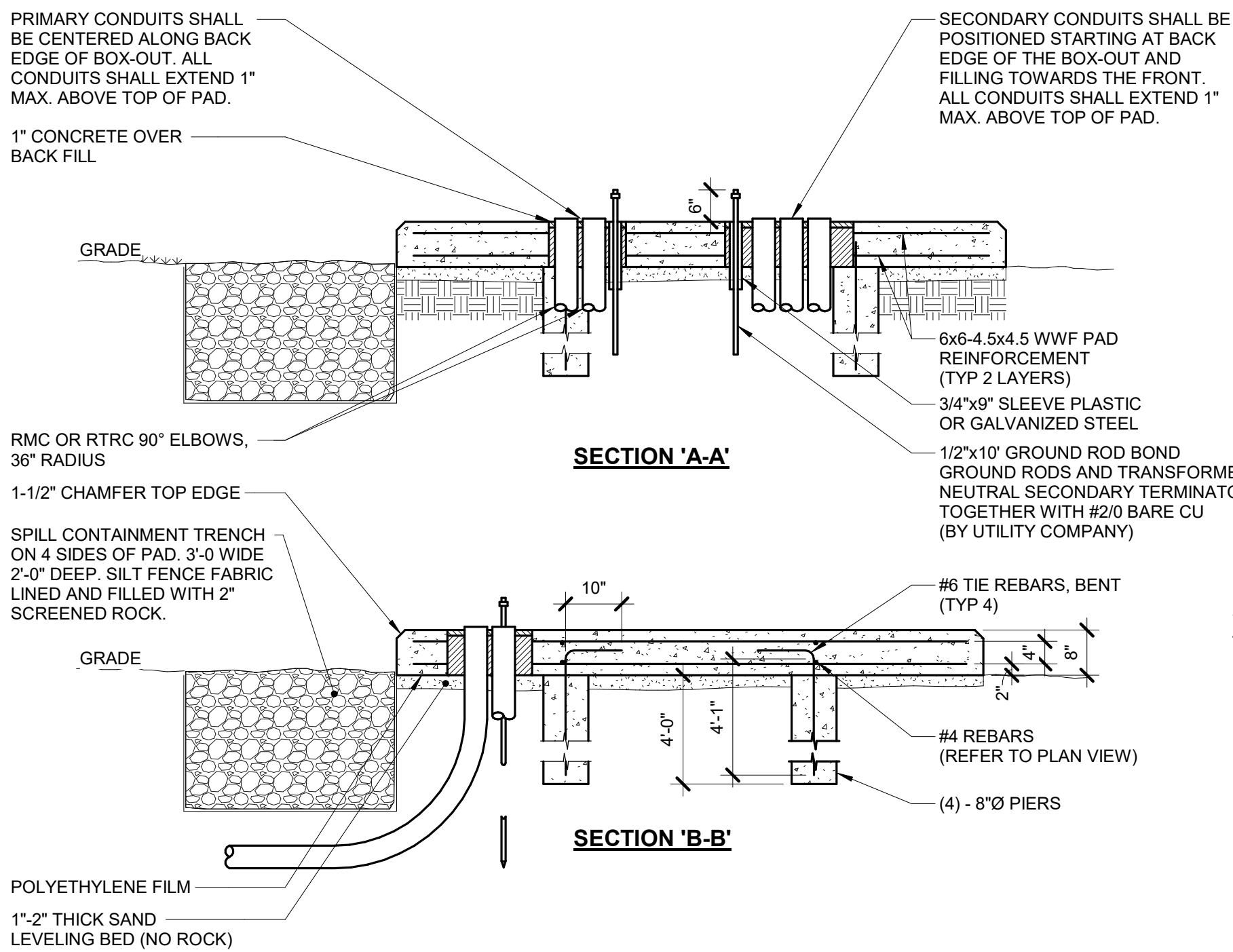




NOTES:

1. ALL DIMENSIONS ARE NOMINAL INSIDE CLEARANCES.
2. ANY SPLICES OR DEVICES IN HANDHOLE SHALL BE SUBMERGIBLE.
3. SEAL ALL CONDUIT ENDS WITH DUCTSEAL.

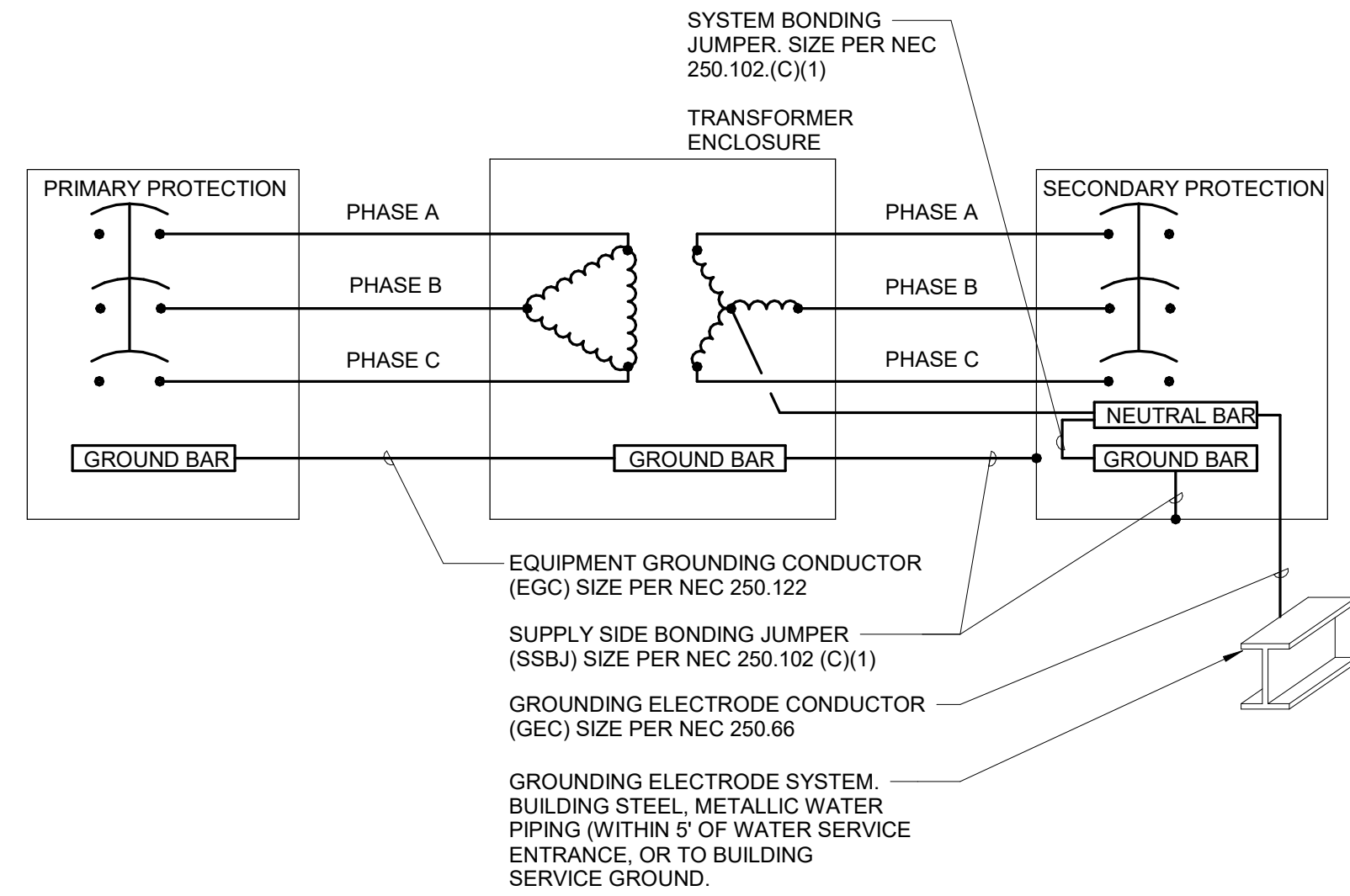
1 EXTERIOR HANDHOLE DETAIL  
NO SCALE



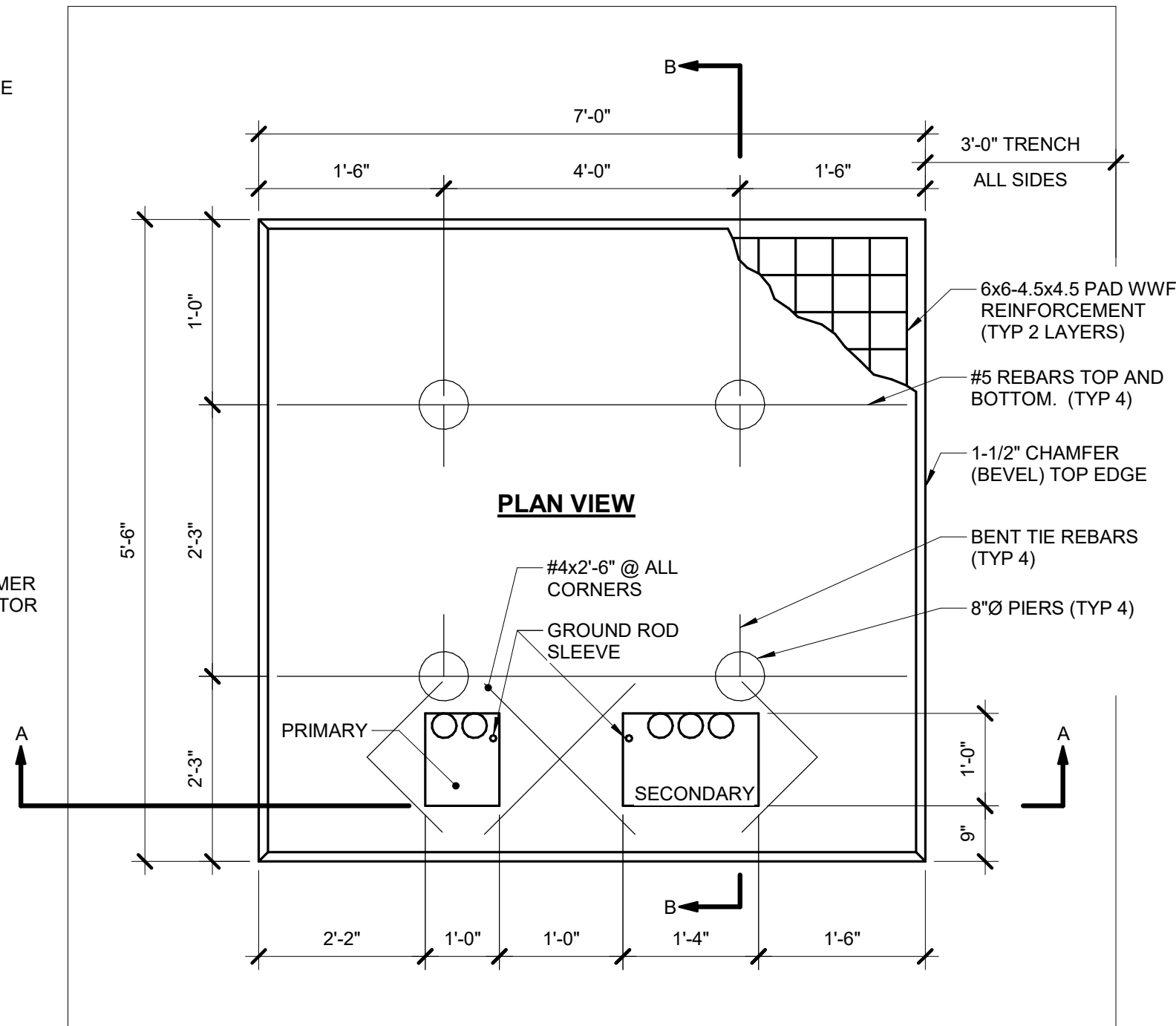
NOTES:

1. CONCRETE:  $f_c \geq 3500$  PSI AT 28 DAYS.
2. REINFORCING STEEL: ASTM A 615-60.
3. 6x6-4.5x4.5 WELDED WIRE FABRIC (WWF): ASTM A 185.
4. SOIL:  $\geq 95$  PERCENT PROCTOR DENSITY OR 55 PSI PBV.
5. GENERAL CONTRACTOR TO PROVIDE TRANSFORMER PAD AS SHOWN. E.C. TO COORDINATE CONDUIT ROUGH-IN WITH G.C.
6. VERIFY FINAL REQUIREMENTS AND DIMENSIONS WITH UTILITY COMPANY.

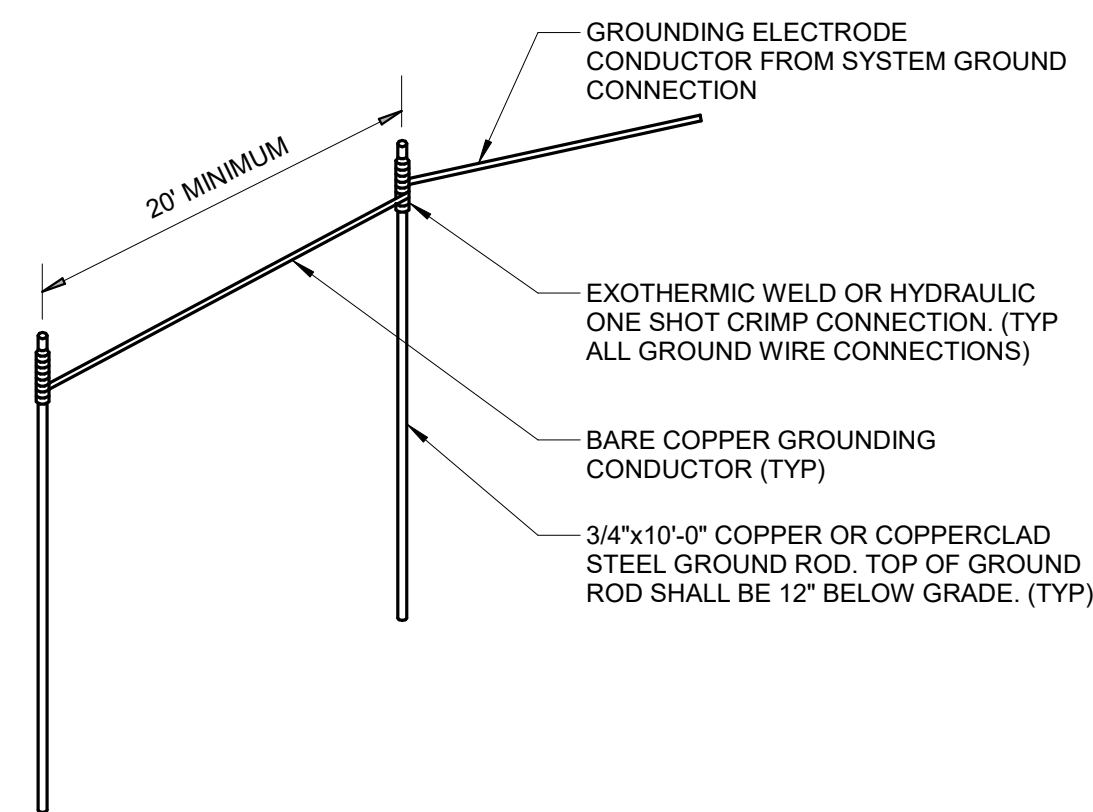
3 TRANSFORMER PAD DETAIL (75-150 KVA)  
NO SCALE



2 TRANSFORMER WIRING DETAIL  
NO SCALE



4 GROUND GRID DETAIL  
NO SCALE



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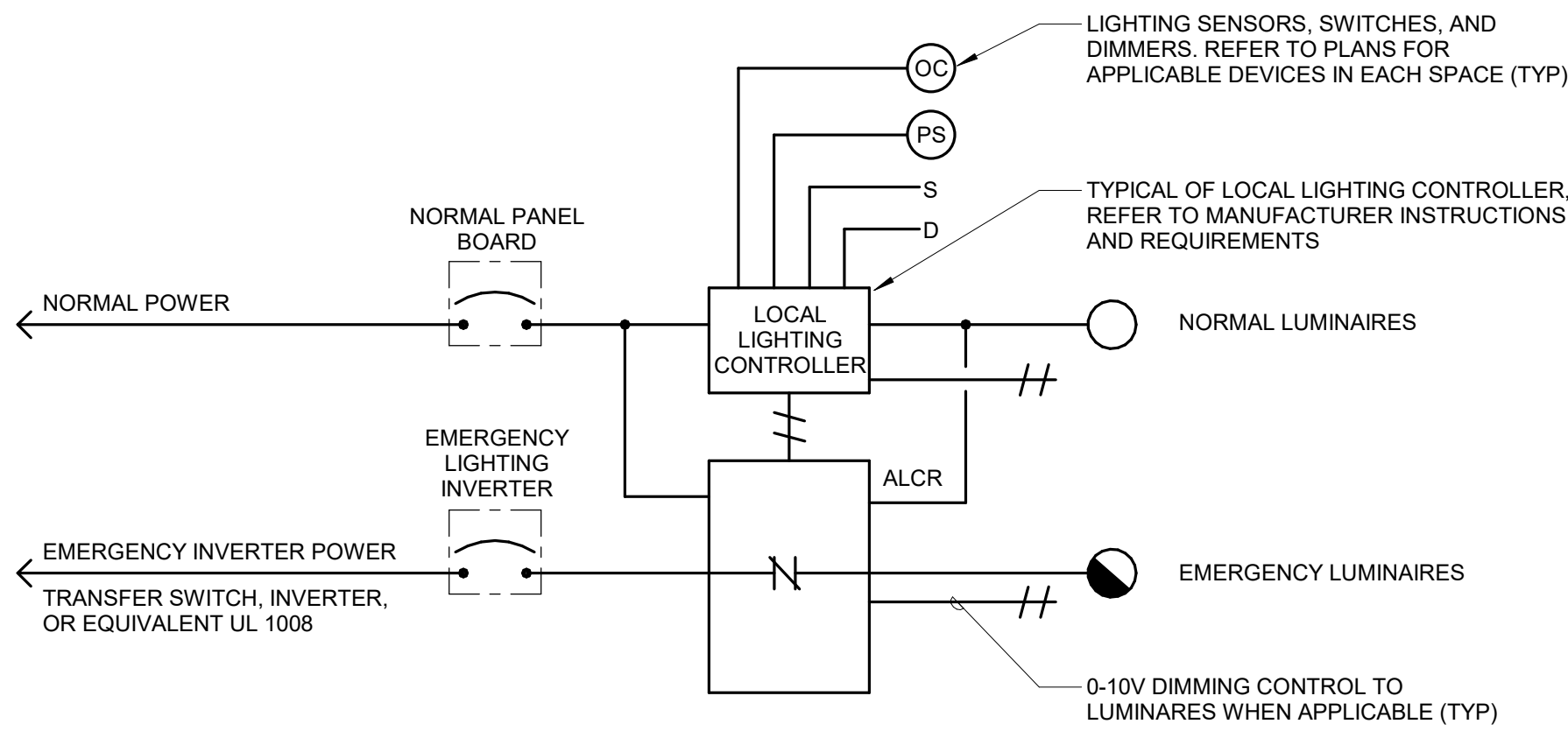
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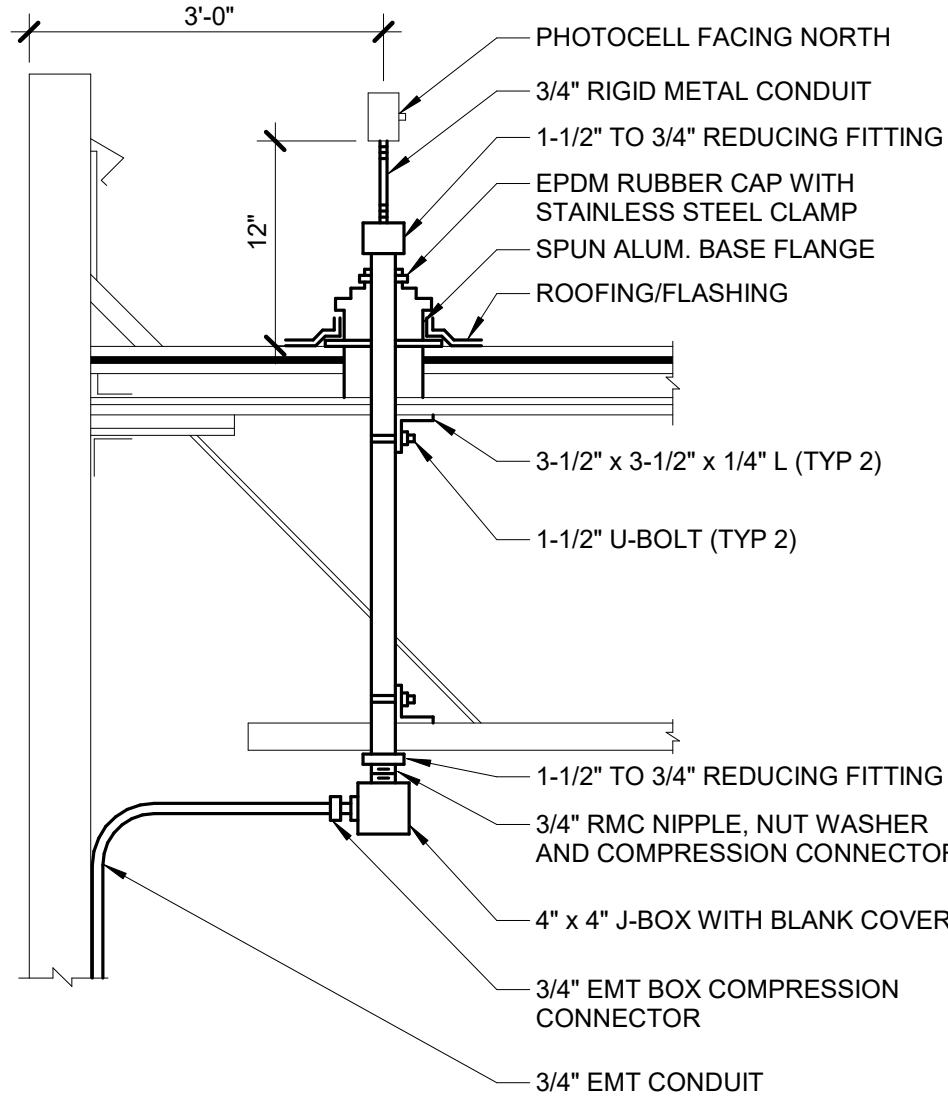
E401



- NOTES:
1. THE ALCR RELAY DIAGRAM IS INTENDED TO CONVEY INTENDED OPERATION AND SPECIFICALLY DOES NOT INDICATE QUANTITIES, ALL DEVICES, WIRING, AND CONNECTIONS REQUIRED. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND REQUIREMENTS.
  2. MOUNT LOCAL LIGHTING CONTROLLERS ABOVE FINISHED CEILING NEAR ROOM ENTRANCE. IN A CORRIDOR, MOUNT NEAR ONE END OF CORRIDOR AND ADJACENT TO FIRST SENSOR OR CONTROL DEVICE.
  3. MOUNT ALCR ADJACENT TO LIGHTING CONTROLLER ABOVE ACCESSIBLE FINISHED CEILING.

## 1 AUTOMATIC LOAD CONTROL RELAY DIAGRAM (ALCR)

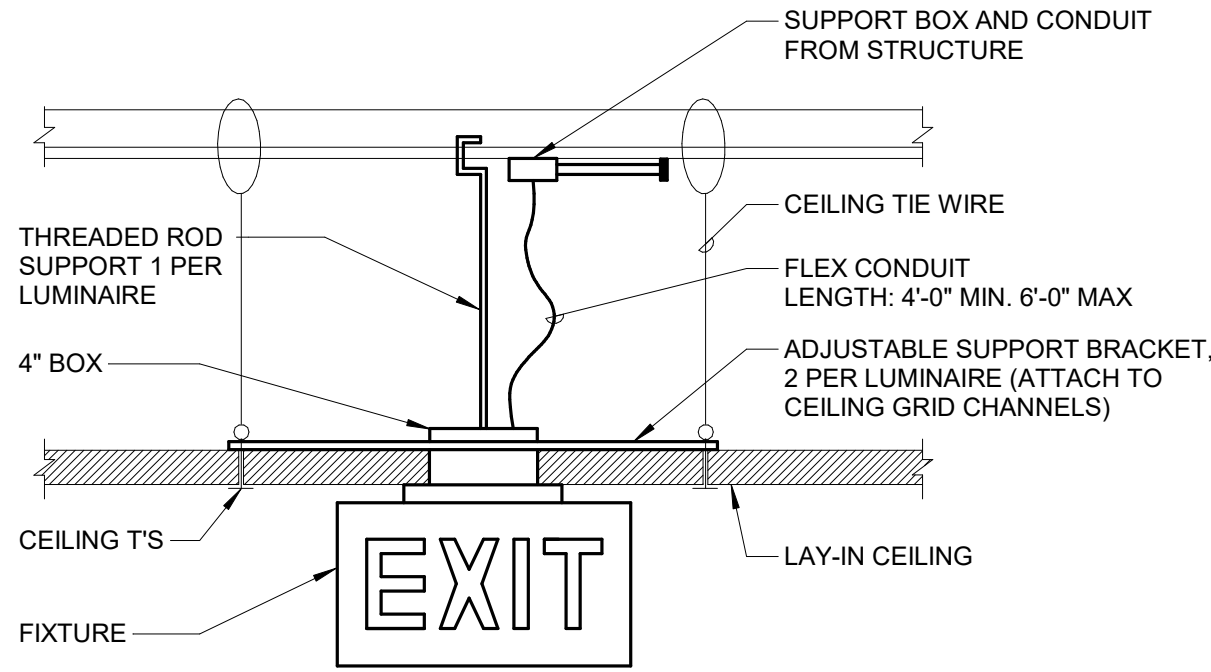
NO SCALE



- NOTES:
1. STRUCTURAL DETAIL SHOWN IS TO BE REPRESENTATIVE ONLY. REFER TO ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR ACTUAL CONDITIONS ON THIS PROJECT.

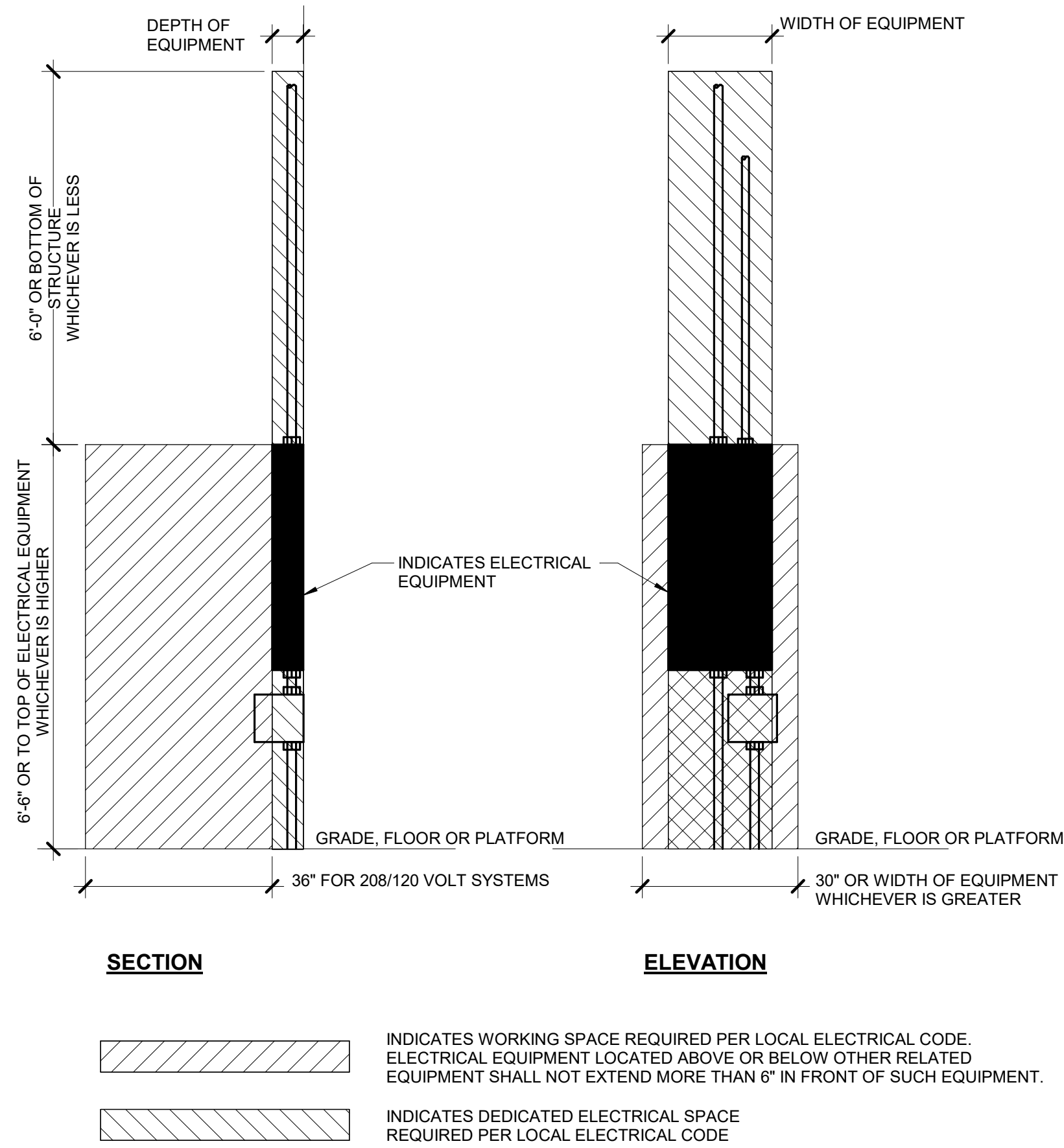
## 2 PHOTOCELL MOUNTING DETAIL

NO SCALE



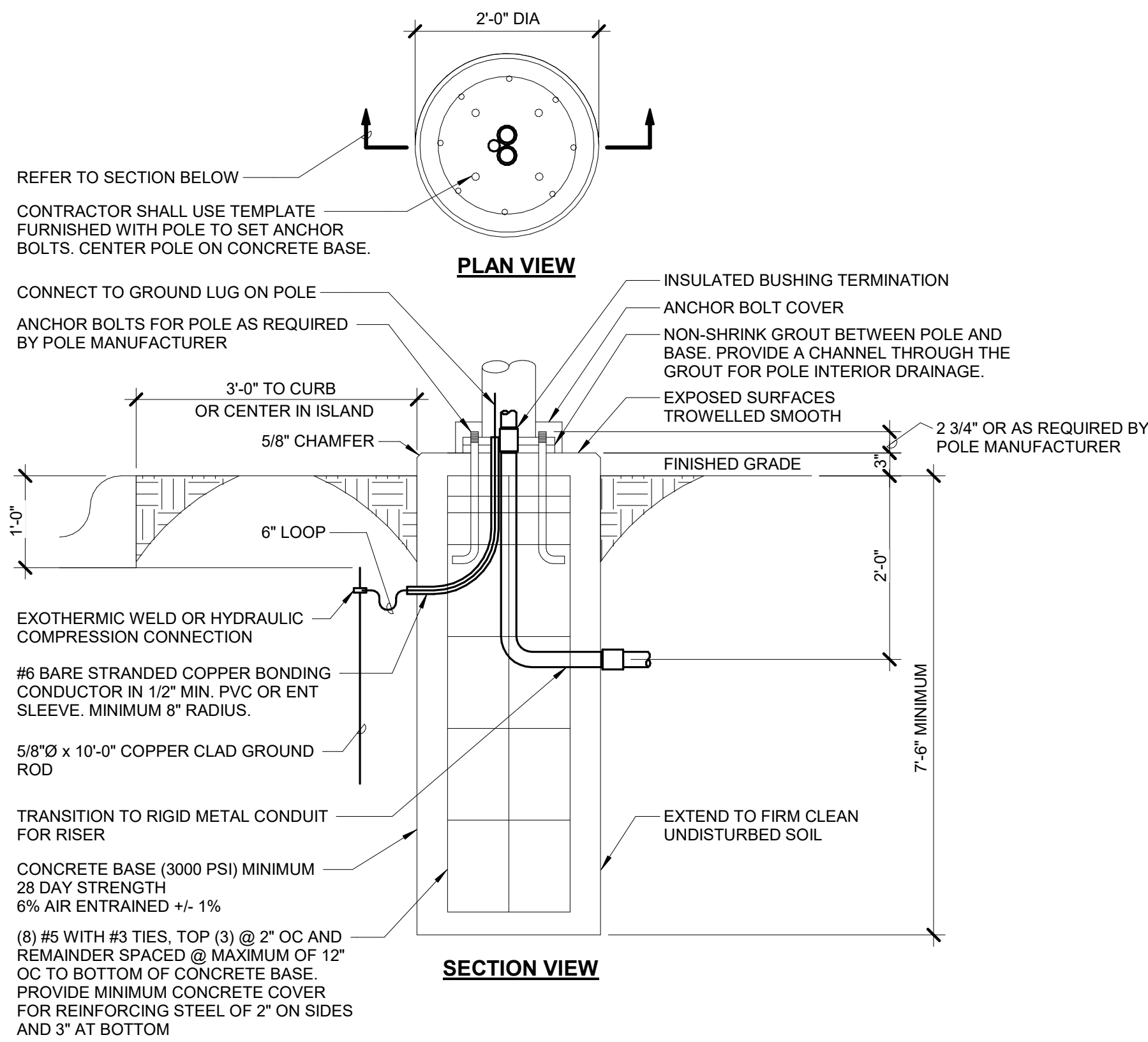
## 3 EXIT SIGN MOUNTING DETAIL

NO SCALE



## 4 PANELBOARD EQUIPMENT CLEARANCES

NO SCALE



## 5 POLE BASE DETAIL

NO SCALE

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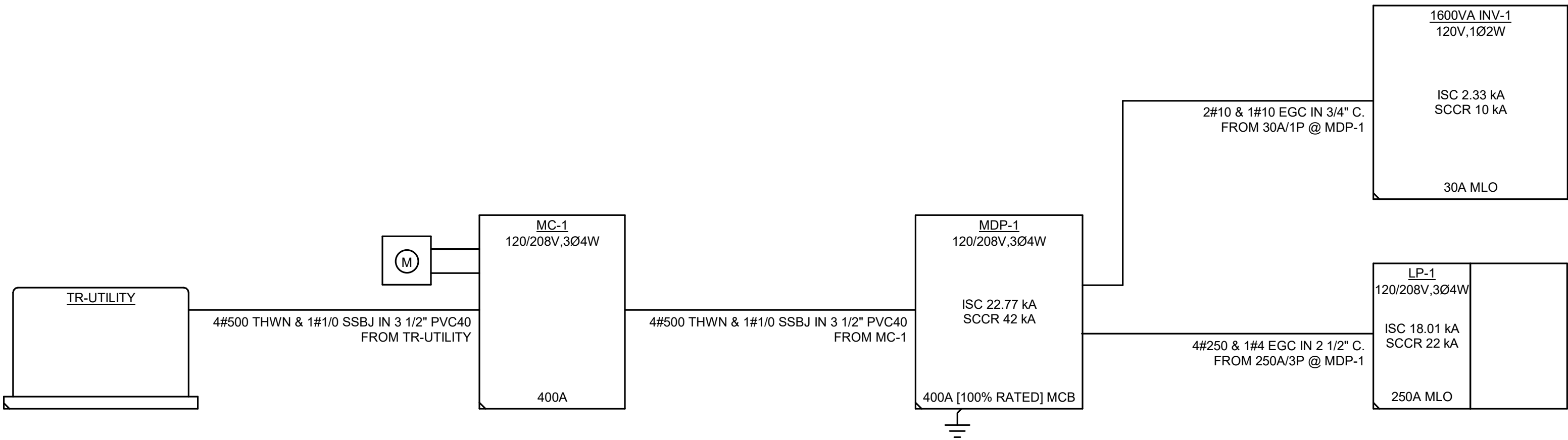
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P24006

Sheet Number

E402





# 1 ELECTRICAL RISER DIAGRAM NO SCALE

## ELECTRICAL - RISER DIAGRAM NOTES:

- THE RISER DIAGRAM IS INTENDED TO CONVEY THE COMPONENTS OF THE ELECTRICAL DISTRIBUTION SYSTEM. REFER TO ELECTRICAL DRAWINGS, DETAILS, DISTRIBUTION / PANEL / EQUIPMENT / EQUIPMENT CONNECTION SCHEDULES, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- SHORT CIRCUIT CURRENT RATINGS (SCCR) FOR EQUIPMENT ARE MINIMUM REQUIREMENTS FOR BUSS BRACING AND DEVICE RATING. ALL EQUIPMENT SHALL BE FULLY RATED UNLESS SPECIFICALLY NOTED AS SERIES RATED.
- THE BASIS OF DESIGN: THE CONTRACTOR SHALL BE RESPONSIBLE FOR DERATING AND SIZING CONDUCTORS AND CONDUITS TO EQUAL OR EXCEED AMPACITY OF THE BASIS OF DESIGN CIRCUITS WHEN ALTERNATIVE METHODS OR MATERIALS OTHER THAN THE BASIS OF DESIGN ARE APPLIED.
  - RACEWAY: EMT UNLESS OTHERWISE NOTED
  - FEEDER CHARACTERISTICS: ALL CURRENT CARRYING CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE. CONDUCTOR SIZES ARE BASED ON AMERICAN WIRE GAUGE AWG AND KCMIL THOUSANDS OF CIRCULAR MIL. REFER TO SPECIFICATION SECTION 25 05 13 WIRE AND CABLE FOR ADDITIONAL INFORMATION
  - GROUNDING AND BONDING CONDUCTORS SHALL BE COPPER.
  - CONDUCTORS (MOTORS): COPPER
  - CONDUCTOR LENGTHS LISTED IN RISER DIAGRAMS AND SCHEDULES ARE FOR ENGINEERING CALCULATIONS AND SHALL NOT BE USED FOR BIDDING PURPOSES.
  - [BLANK] OR [CU] INDICATES COPPER CONDUCTOR
  - [CI] INDICATES CIRCUIT INTEGRITY CIRCUIT. FEEDER ROUTED OUTSIDE BUILDING OR 2 HOUR FIRE RATED
- PROVIDE GROUNDING ELECTRODE AND BONDING SYSTEM PER CODE REQUIREMENTS. PROVIDE THE FOLLOWING MINIMUM CONNECTIONS AND COMPONENTS. REFER TO SPECIFICATION SECTION 26 05 26 GROUNDING AND BONDING AND DETAILS WHEN APPLICABLE:
  - ELECTRICAL GROUND FIELD
  - CONCRETE-ENCASED GROUNDING ELECTRODE (UFER)
  - METALLIC WATER MAIN
  - INTERSYSTEM BONDING TERMINAL [IBT]
  - GROUND RING ENCIRCLING STRUCTURE
- DRY TYPE TRANSFORMER AND SEPARATELY DERIVED SYSTEMS. PROVIDE GROUNDING ELECTRODE CONDUCTOR FOR SEPARATELY DERIVED SYSTEM. ROUTE TO STRUCTURAL BUILDING STEEL WHEN AVAILABLE. OTHERWISE ROUTE TO MAIN GROUNDING ELECTRODE SYSTEM.
- PROVIDE O.Z. GEDNEY OR EQUAL GROUND BUSHING FOR ALL SERVICE AND FEEDER RACEWAYS BONDED TO GROUND BUS WITH CONDUCTOR SIZED TO MAXIMUM FEEDER GROUND CAPACITY
- CONDUCTORS AND GROUND SIZES ON THE LINE AND LOAD SIDES OF ALL DISCONNECT SWITCHES SHALL BE IDENTICAL UNLESS NOTED OTHERWISE.
- REFER TO COVER SHEET FOR ADDITIONAL EQUIPMENT TAG INFORMATION (SPD-#, M-#, ETC).
- REFER TO GROUNDING ELECTRODE SYSTEM AND BONDING DETAILS
  - EGC – EQUIPMENT GROUNDING CONDUCTOR
  - GEC – GROUNDING ELECTRODE CONDUCTOR
  - SSBJ – SUPPLY SIDE BONDING JUMPER
- CIRCUIT BREAKER CHARACTERISTICS AND ACCESSORIES:
  - [CB] INDICATES CIRCUIT BREAKER
  - [FU] INDICATES FUSED SWITCH
  - [NF] INDICATES NON-FUSED SWITCH
  - [MLO] INDICATES MAIN LUG ONLY
  - [MCB] INDICATES MAIN CIRCUIT BREAKER
  - [100% RATED] INDICATES INSULATED CASE BREAKER RATED FOR FULL CONTINUOUS CAPACITY OF CIRCUIT BREAKER NAMEPLATE
  - [GF] INDICATES GROUND FAULT RELAY
  - [SHUNT] INDICATES SHUNT TRIP BREAKER

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P24006

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E500

LED LUMINAIRE SCHEDULE

<b>(DESC) DOOR:</b> FA - FLAT ALUMINUM FS - FLAT STEEL RA - REGRESSED ALUMINUM RS - REGRESSED STEEL <b>FINISH:</b> PAF - PAINT AFTER FABRICATION CFSA - COLOR-FINISH SELECTION BY ARCHITECT		<b>DISTRIBUTION:</b> II - ANSI/IES TYPE 2 DISTRIBUTION III - ANSI/IES TYPE 3 DISTRIBUTION IV - ANSI/IES TYPE 4 DISTRIBUTION V - ANSI/IES TYPE 5 DISTRIBUTION	<b>BEAMWIDTH:</b> NSP - VERY NARROW SPOT SP - SPOT MD - MEDIUM WD - WIDE VWD - VERY WIDE WW - WALL WASH	<b>(L/L) LENS/LOUVER:</b> A - .125" ACRYLIC B - BAFFLE/LOUVER C - CLEAR ALZAK F - FROSTED ACRYLIC G - TEMPERED GLASS K - KSH12 .125" ACRYLIC	K19 - KSH19 .156" ACRYLIC M - MATTE DIFFUSE CLEAR N - NONE P - POLYCARBONATE R - HIGH IMPACT DR ACRYLIC SS - SEMI-SPECULAR CLEAR O - OTHER (SEE DESCRIPTION) [DESIGN SPECIFIC BLANKS]
<b>(MTG) MOUNTING:</b> CL - CEILING SURFACE CV - COVE FR - FLANGED RECESSED P - PERIMETER PL - POLE		RE - RECESSED SP - SUSPENDED SU - SURFACE UC - UNDER CABINET WL - WALL O - OTHER (SEE DESCRIPTION)	<b>(WATT) PER:</b> FIX - FIXTURE, FT - FOOT, LAMP <b>(TYPE) LED</b> LED - LIGHT EMITTING DIODE RGBW - COLOR CHANGING + WHITE TLED - TUBULAR LED LAMP OLED - ORGANIC LED DLED - DYNAMIC TUNABLE LED		
<b>(TYPE) DRIVER:</b> 0-10V - 0-10V DIMMING DALI - DIGITAL ADDRESSABLE DMX - DIGITAL MULTIPLEX		EB - ELECTRONIC ELV - ELECTRONIC LOW VOLTAGE EM - EMERGENCY BATTERY	HL - HIGH/LOW (100%/50%) STEP DIM LINE - LINE VOLTAGE DIMMING ML - MULT-LEVEL SWITCHING	MV - MULTI-VOLTAGE ELECTRONIC REM - REMOTE O - OTHER (SEE DESCRIPTION)	
CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.					
VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE MOUNTING AND TRIM REQUIREMENTS PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER. CONFIRM ALL COLORS AND FINISHES OF ALL LUMINAIRE COMPONENTS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER. UNLESS INDICATED ON LIGHTING PLANS OR BELOW, REFER TO ARCHITECTURAL AND INTERIOR DESIGN ELEVATIONS, SECTIONS AND DETAILS FOR ALL SUSPENDED AND WALL MOUNTED LUMINAIRE MOUNTING HEIGHTS.					
REFER TO SPECIFICATION SECTIONS LED LIGHTING 26 51 19 AND EMERGENCY LIGHTING INVERTER 26 52 15 FOR ADDITIONAL INFORMATION AND REQUIREMENTS. INTERIOR CORRELATED COLOR TEMPERATURE 3500 K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 90, UNLESS NOTED OTHERWISE. EXTERIOR CORRELATED COLOR TEMPERATURE 4000 K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 70, UNLESS NOTED OTHERWISE.					

ITEM	DESCRIPTION	L/L	MTG	DIMENSIONS				WATT			LED		DRIVER		
				L	W	H	DIA.	ANSI WATTS	PER	TYPE	QTY	DELIVERED LUMENS (MIN)	VOLTS	TYPE	MANUFACTURER AND MODEL
F9	PIXEL CONTROL WET LOCATION LINELED TAPE LIGHT, 3000°K COLOR TEMPERATURE. PROVIDE WITH EXTERIOR RATED DRIVER.	O	O	11'-9 3/256"	2"	2"		5	FT	LED	1	152 LUMENS/FT	120	0-10V	DIODELED VALENT MODALIGHT ACOLYTE
S1	POLE MOUNTED PARKING LOT SINGLE LUMINAIRE WITH LED LAMPS, DIE-CAST ALUMINUM HOUSING, WEATHER-TIGHT HOUSING WITH INTEGRAL FACTORY PREWIRED DRIVERS, INDIVIDUAL PRECISION-MOLDED LENS ASSEMBLIES FOR TYPE 2 MEDIUM DISTRIBUTION, P5 FORWARD OPTICS, U.L. WET LISTED, DARK BRONZE CORROSION RESISTANT POWDER COAT FINISH.	O	P	2'-9"	1'-3"	3"		138	FIX	LED	1	15700 LUMENS	120	0-10V	ACUITY DSX1 LED P5 40K 70CRI T2M MVOLT LSI MIRADA MCGRAW EDISON GLEON
S2	EXTERIOR DIA-CAST ALUMINUM BOLLARD WITH RIGHT ANGLE POSITION TOWER, 24" HIGH, IMPACT RESISTANT CLEAR POLYCARBONATE DIFFUSER LENS, IP66 WET LOCATIONS, DARK BRONZE FINISH, 4000°K COLOR TEMPERATURE.	O	O			3'-6"	8"	15	FIX	LED	1	844 LUMENS	120	0-10V	FC OUTDOOR LIGHTING FCBT690S COOPER LUMIERE EON 303 LUMINIS BELLEVUE SOLERA SOX-BLD
WL1	EXTERIOR LED WALL PACK, SHARP CUTOFF DISTRIBUTION, TYPE IV OPTIC, ALUMINUM HOUSING, FINISH TO BE SELECTED BY THE ARCHITECT, WET LISTED.	O	WL	1'-5"	6"	8"		25	FIX	LED	1	3500 LUMENS	120	0-10V	LITHONIA WST-LED LUMARK WP WAL-PAK ACUITY WDGE
WL2	EXTERIOR MULLION LIGHT, POLYCARBONATE DIFFUSER, ETL LISTED FOR WET LOCATION MOUNTING 4' ABOVE GRADE. FINISH TO BE SELECTED BY ARCHITECT, 4000°K COLOR TEMPERATURE. MOUNT ON DOOR MULLIONS.	O	WL	3'-1 1/4"	2 1/2"	2 1/2"		40	FIX	LED	1	2700 LUMENS	120	0-10V	VISA LIGHTING OW2480 PASSAGE STARFIRE MDX1 ISOLITE ODLM

LIGHTING SEQUENCE OF OPERATION

GENERAL REQUIREMENTS: 1. WHEN 'SWITCH' IS NOT PROVIDED, THE WALL CONTROL DEVICE SHALL CONTROL ALL LIGHTS WITHIN THE ROOM. 2. THE LIGHTING CONTROL SYSTEM SHALL MEET THE REQUIREMENTS OF 2015 MICHIGAN ENERGY CODE. 3. OCCUPANCY/VACANCY SENSOR SHALL BE INSTALLED INTEGRAL TO WALL CONTROL DEVICE WHERE CEILING MOUNTED SENSORS ARE NOT SHOWN ON DRAWINGS, BUT THE 'SWITCH ID' FOR THE SPACE REQUIRES OCCUPANCY/VACANCY CONTROL. 4. WHERE EGRESS LIGHTS ARE SHOWN AS SWITCHED EMERGENCY 'SE' AND HAVE COMMON SWITCHING WITH THE OTHER LIGHTS IN THE ROOM, THEY SHALL BE PROVIDED WITH A U.L. 924 DEVICE TO TURN THE LIGHTS ON TO 100% UPON THE LOSS OF NORMAL POWER. 5. WHERE MULTIPLE SWITCH IDS ARE PROVIDED FOR A SINGLE SWITCH LOCATION THAT LOCATION SHALL CONTROL ALL ZONES AS INDICATED. PROVIDE MULTIPLE SWITCHES OR MULTI-BUTTON SWITCHES AS REQUIRED TO PROVIDE CONTROL OF EACH ZONE AS REQUIRED PER THE LIGHTING SEQUENCE OF OPERATIONS FOR THAT ZONE.	
PLAN ID	LIGHTING SWITCHED
{LD1}	SEQUENCE: MANUAL DIMMING WITH VACANCY CONTROL.  ON: LIGHTS ARE TURNED ON MANUALLY BY USING WALL CONTROL DEVICE.  ADJUST: DIMMABLE LIGHTS ARE RAISED/LOWERED USING WALL CONTROL DEVICE.  OFF: LIGHTS ARE TURNED OFF MANUALLY BY USING THE WALL CONTROL DEVICE OR AUTOMATICALLY AFTER SPACE HAS BEEN VACATED FOR 20 MINUTES.
{LD2}	SEQUENCE: MANUAL DIMMING WITH OCCUPANCY CONTROL TO 50%.  ON: LIGHTS ARE TURNED ON MANUALLY BY USING WALL CONTROL DEVICE OR AUTOMATICALLY TO 50% LUMEN OUTPUT WHEN THE OCCUPANCY SENSOR(S) ARE ACTIVATED (BOTH TECHNOLOGIES ARE ACTIVATED). LIGHTS SHALL REMAIN ON WHILE EITHER TECHNOLOGY IS ACTIVATED.  ADJUST: DIMMABLE LIGHTS ARE RAISED/LOWERED USING WALL CONTROL DEVICE. LIGHTS ARE DIMMED TO 10% AFTER NO MOTION OF 18 MINUTES. LIGHTS RETURN TO 50% UPON DETECTION OF MOTION WITHIN THE NEXT 2 MINUTES.  OFF: LIGHTS ARE TURNED OFF MANUALLY BY USING THE WALL CONTROL DEVICE OR AUTOMATICALLY AFTER SPACE HAS BEEN VACATED FOR 20 MINUTES.
{LS1}	SEQUENCE: MANUAL SWITCHING WITH VACANCY CONTROL.  ON: LIGHTS ARE TURNED ON MANUALLY BY USING WALL CONTROL DEVICE.  OFF: LIGHTS ARE TURNED OFF MANUALLY BY USING THE WALL CONTROL DEVICE OR AUTOMATICALLY AFTER SPACE HAS BEEN VACATED FOR 20 MINUTES.
{LS2}	SEQUENCE: MANUAL SWITCHING WITH OCCUPANCY CONTROL.  ON: LIGHTS ARE TURNED ON MANUALLY BY USING WALL CONTROL DEVICE OR AUTOMATICALLY WHEN THE OCCUPANCY SENSOR(S) ARE ACTIVATED (BOTH TECHNOLOGIES ARE ACTIVATED). LIGHTS SHALL REMAIN ON WHILE EITHER TECHNOLOGY IS ACTIVATED.  OFF: LIGHTS ARE TURNED OFF MANUALLY BY USING THE WALL CONTROL DEVICE OR AUTOMATICALLY AFTER SPACE HAS BEEN VACATED FOR 20 MINUTES.
{LS3}	SEQUENCE: MANUAL SWITCHING WITH NO AUTOMATIC CONTROL.  ON: LIGHTS ARE TURNED ON MANUALLY BY USING WALL CONTROL DEVICE.  OFF: LIGHTS ARE TURNED OFF MANUALLY BY USING THE WALL CONTROL DEVICE.
{LX1}	SEQUENCE: EXTERIOR CANOPY AND SITE LIGHTING CONTROLS. ALL EXTERIOR LIGHTS SHALL BE ROUTED THROUGH THE ASTRONOMICAL TIME CLOCK IN THE LIGHTING CONTROL PANEL, LCPR-1, AND PHOTOCELL.  ON: LIGHTS SHALL TURN ON AT DUSK UPON SENSING LESS THAN 5 FOOT CANDLES AT THE PHOTOCELL SENSOR.  ADJUST: LIGHTS (EXCEPT MONUMENT AND BUILDING SIGN) SHALL DIM TO 50% 1 HOUR AFTER BUILDING CLOSES.  OFF: LIGHTS SHALL TURN OFF AT DAWN UPON SENSING MORE THAN 5 FOOT CANDLES AT THE PHOTOCELL SENSOR.
{TL1}	SEQUENCE: TIME CLOCK CONTROL  ON: LIGHTS ARE TURNED ON GLOBALLY BY TIME CLOCK AND LOCALLY BY CONTROLS IN THE AREA. OVERRIDE SWITCH NOTED ON THE DRAWINGS SHALL SIGNAL THE LIGHTS TO TURN ON FOR A 20 MINUTE OVERRIDE PERIOD WHEN LIGHTS ARE SCHEDULED TO BE OFF AND SHALL NOT FUNCTION WHEN LIGHTS ARE SCHEDULED TO BE ON.  OFF: LIGHTS ARE TURNED OFF GLOBALLY BY TIME CLOCK, OR AFTER OVERRIDE PERIOD.

LED LUMINAIRE SCHEDULE

<b>(DESC) DOOR:</b> FA - FLAT ALUMINUM FS - FLAT STEEL RA - REGRESSED ALUMINUM RS - REGRESSED STEEL <b>FINISH:</b> PAF - PAINT AFTER FABRICATION CFSA - COLOR-FINISH SELECTION BY ARCHITECT		<b>DISTRIBUTION:</b> II - ANSI/IES TYPE 2 DISTRIBUTION III - ANSI/IES TYPE 3 DISTRIBUTION IV - ANSI/IES TYPE 4 DISTRIBUTION V - ANSI/IES TYPE 5 DISTRIBUTION	<b>BEAMWIDTH:</b> NSP - VERY NARROW SPOT SP - SPOT MD - MEDIUM WD - WIDE VWD - VERY WIDE WW - WALL WASH	<b>(L/L) LENS/LOUVER:</b> A - .125" ACRYLIC B - BAFFLE/LOUVER C - CLEAR ALZAK F - FROSTED ACRYLIC G - TEMPERED GLASS K - KSH12 .125" ACRYLIC	K19 - KSH19 .156" ACRYLIC M - MATTE DIFFUSE CLEAR N - NONE P - POLYCARBONATE R - HIGH IMPACT DR ACRYLIC SS - SEMI-SPECULAR CLEAR O - OTHER (SEE DESCRIPTION) [DESIGN SPECIFIC BLANKS]
<b>(MTG) MOUNTING:</b> CL - CEILING SURFACE CV - COVE FR - FLANGED RECESSED P - PERIMETER PL - POLE		RE - RECESSED SP - SUSPENDED SU - SURFACE UC - UNDER CABINET WL - WALL O - OTHER (SEE DESCRIPTION)	<b>(WATT) PER:</b> FIX - FIXTURE, FT - FOOT, LAMP <b>(TYPE) LED</b> LED - LIGHT EMITTING DIODE RGBW - COLOR CHANGING + WHITE TLED - TUBULAR LED LAMP OLED - ORGANIC LED DLED - DYNAMIC TUNABLE LED		
<b>(TYPE) DRIVER:</b> 0-10V - 0-10V DIMMING DALI - DIGITAL ADDRESSABLE DMX - DIGITAL MULTIPLEX		EB - ELECTRONIC ELV - ELECTRONIC LOW VOLTAGE EM - EMERGENCY BATTERY	HL - HIGH/LOW (100%/50%) STEP DIM LINE - LINE VOLTAGE DIMMING ML - MULT-LEVEL SWITCHING	MV - MULTI-VOLTAGE ELECTRONIC REM - REMOTE O - OTHER (SEE DESCRIPTION)	
CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.					
VERIFY AND COORDINATE ALL CEILING TYPES WITH LUMINAIRE MOUNTING AND TRIM REQUIREMENTS PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER. CONFIRM ALL COLORS AND FINISHES OF ALL LUMINAIRE COMPONENTS WITH ARCHITECT AND INTERIOR DESIGNER PRIOR TO THE RELEASE OF THE LUMINAIRE ORDER. UNLESS INDICATED ON LIGHTING PLANS OR BELOW, REFER TO ARCHITECTURAL AND INTERIOR DESIGN ELEVATIONS, SECTIONS AND DETAILS FOR ALL SUSPENDED AND WALL MOUNTED LUMINAIRE MOUNTING HEIGHTS.					
REFER TO SPECIFICATION SECTIONS LED LIGHTING 26 51 19 AND EMERGENCY LIGHTING INVERTER 26 52 15 FOR ADDITIONAL INFORMATION AND REQUIREMENTS. INTERIOR CORRELATED COLOR TEMPERATURE 3500 K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 90, UNLESS NOTED OTHERWISE. EXTERIOR CORRELATED COLOR TEMPERATURE 4000 K, COLOR RENDERING INDEX (CRI) AT OR ABOVE 70, UNLESS NOTED OTHERWISE.					

ITEM	DESCRIPTION	L/L	MTG	DIMENSIONS				WATT			LED		DRIVER		
				L	W	H	DIA.	ANSI WATTS	PER	TYPE	QTY	DELIVERED LUMENS (MIN)	VOLTS	TYPE	MANUFACTURER AND MODEL
EX1	EDGE-LIT SINGLE-FACE EXIT SIGN, EXTRUDED BRUSHED ALUMINUM FINISH WITH MIRROR LENS, RED LETTERS, UNIVERSAL ARROWS/MOUNTING.	O	<varies >	1'-1"	2"	9"		3	FIX	LED	1	L.E.D.	120	EB	LITHONIA LRP CHLORIDE CE SURE-LITES SCX
EX2	EDGE-LIT DOUBLE-FACE EXIT SIGN, EXTRUDED BRUSHED ALUMINUM FINISH WITH MIRROR LENS, RED LETTERS, UNIVERSAL ARROWS/MOUNTING.	O	CL	1'-1"	2"	9"		3	FIX	LED	1	L.E.D.	120	EB	LITHONIA LRP CHLORIDE CE SURE-LITES SCX
F1A	2'X4' RECESSED LED PERFORATED CENTER BASKET, MATTE SATIN WHITE FINISH, STEEL REFLECTOR AND HOUSING.	N	RE	4'-0"	2'-0"	5 1/2"		43	FIX	LED	1	4000 LUMENS	120	0-10V	FOCAL POINT LUNA 2x4 LSI INDUSTRIES PEAK EFFICIENCY PEC METALUX OVATION
F1B	2'X4' RECESSED LED PERFORATED CENTER BASKET, MATTE SATIN WHITE FINISH, STEEL REFLECTOR AND HOUSING.	N	RE	4'-0"	2'-0"	5 1/2"		48	FIX	LED	1	4500 LUMENS	120	0-10V	FOCAL POINT LUNA 2x4 LSI INDUSTRIES PEAK EFFICIENCY PEC METALUX OVATION
F2A	6" ROUND REFLECTOR RECESSED DOWNLIGHT, ROUND TYPE TRIM, SEMI-SPECULAR FINISH	O	RE		9 1/2"	6"		11	FIX	LED	1	1000 LUMENS	120	0-10V	FOCAL POINT FLC6D METALUX LD6 LIGHTOLIER C6L PRESCOLITE LTR-6RD
F2B	6" ROUND REFLECTOR RECESSED DOWNLIGHT, ROUND TYPE TRIM, SEMI-SPECULAR FINISH	O	RE		9 1/2"	6"		17	FIX	LED	1	1500 LUMENS	120	0-10V	FOCAL POINT FLC6D METALUX LD6 LIGHTOLIER C6L PRESCOLITE LTR-6RD
F2C	6" ROUND REFLECTOR RECESSED DOWNLIGHT, ROUND TYPE TRIM, SEMI-SPECULAR FINISH, WET LISTED.	O	RE		9 1/2"	6"		11	FIX	LED	1	1000 LUMENS	120	0-10V	FOCAL POINT FLC6D METALUX LD6 LIGHTOLIER C6L PRESCOLITE LTR-6RD
F3A	4' SUSPENDED INDUSTRIAL FIXTURE WITH FROSTED LENS. FIXTURE SHALL BE SUSPENDED USING AIR CRAFT CABLE.	F	SP	4'-0"	2 1/8"	4 1/4"	0"	25	FIX	LED	1	3000 LUMENS	120	0-10V	METALUX SNLED LITHONIA ZL1N DAYBRITE CFI FSS WILLIAMS 75S
F3B	4' SUSPENDED INDUSTRIAL FIXTURE WITH FROSTED LENS. FIXTURE SHALL BE SUSPENDED USING AIR CRAFT CABLE.	F	SP	4'-0"	2 1/8"	4 1/4"	0"	46	FIX	LED	1	5000 LUMENS	120	0-10V	METALUX SNLED LITHONIA ZL1N DAYBRITE CFI FSS WILLIAMS 75S
F4A	2" SUSPENDED DIRECT/INDIRECT LINEAR LED WITH INTEGRAL OC SENSORS, ALUMINUM HOUSING, FROSTED ACRYLIC FLUSH LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	F	SP	9'-0"	4 1/8"	5 1/2"		15	FT	LED	1	1000 LUMENS/FT DOWN 625 LUMENS/FT UP	120	0-10V	FOCAL POINT SEEM FSM2BS LUMENWERX LED VIA 2 AXIS SCULPT LITE CONTROL 2L LEDALITE TRUGROOVE
F4B	2" SUSPENDED DIRECT/INDIRECT LINEAR LED WITH INTEGRAL OC SENSORS, ALUMINUM HOUSING, FROSTED ACRYLIC FLUSH LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	F	SP	6'-0"	4 1/8"	5 1/2"		15	FT	LED	1	1000 LUMENS/FT DOWN 625 LUMENS/FT UP	120	0-10V	FOCAL POINT SEEM FSM2BS LUMENWERX LED VIA 2 AXIS SCULPT LITE CONTROL 2L LEDALITE TRUGROOVE
F4C	2" SUSPENDED DIRECT/INDIRECT LINEAR LED, ALUMINUM HOUSING, FROSTED ACRYLIC FLUSH LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	F	SP	6'-0"	4 1/8"	5 1/2"		15	FT	LED	1	1000 LUMENS/FT DOWN 625 LUMENS/FT UP	120	0-10V	FOCAL POINT SEEM FSM2BS LUMENWERX LED VIA 2 AXIS SCULPT LITE CONTROL 2L LEDALITE TRUGROOVE
F4D	2" SUSPENDED DIRECT LINEAR LED WITH INTEGRAL OC SENSORS, ALUMINUM HOUSING, FROSTED ACRYLIC FLUSH LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	F	SP	6'-0"	4 1/8"	5 1/2"		7	FT	LED	1	875 LUMENS/FT	120	0-10V	FOCAL POINT SEEM FSM2LS LUMENWERX LED VIA 2 AXIS SCULPT LITE CONTROL 2L LEDALITE TRUGROOVE
F5	2.5" APERTURE CURVED SUSPENDED DIRECT LED LUMINAIRE, ALUMINUM HOUSING, FROSTED ACRYLIC FLUSH LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	O	SP		6"	6'-0"		30	FIX	LED	1	125 LUMENS/FT	120	0-10V	FOCAL POINT SEEM FSS2S PMC ARCX AXIS SKETCH 2 PENDANT
F6	6" RECESSED LINEAR LED LUMINAIRE 2" APERTURE, FROSTED ACRYLIC LENS. REFER TO ARCHITECTURAL PLANS FOR EXACT LENGTHS. COORDINATE FINISH WITH ARCHITECT. PROVIDE WITH ALL REQUIRED MOUNTING HARDWARE.	F	RE	6'-0"	4 1/4"	5 1/2"		8	FT	LED	1	875 LUMENS/FT	120	0-10V	FOCAL POINT SEEM FSM2L LUMENWERX LED VIA 2 AXIS SCULPT LITE CONTROL 2L LEDALITE TRUGROOVE
F7	24" ARCHITECTURAL WALL MOUNTED RECTANGULAR VANITY LUMINAIRE. COORDINATE WITH ARCHITECT ELEVATIONS FOR MOUNTING HEIGHT.	O	WL	1'-11"	4 1/2"	4"		10	FIX	LED	1	900 LUMENS	120	0-10V	EUREKA - 3531-23-LED LBL - BA906 AFX TAD EUROFASE 32122
F8	STATIC WHITE SERIES 2 RIBBON/LYTE 3.0 TAPE LIGHT, EXTRUDED ALUMINUM HOUSING WITH FROSTED LENS.	O	RE	5'-0"	4"	1"		3	FT	LED	1	411 LUMENS/FT	120	0-10V	ACOLYTE RB 90 SWS220 MODALIGHT DIOELED

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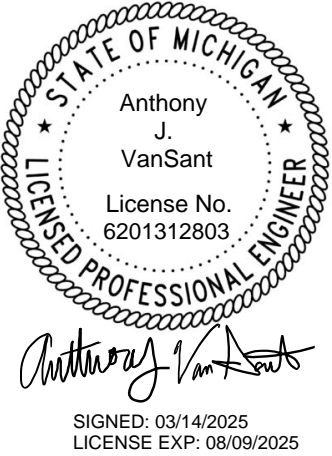
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Project Name

WARREN BRANCH LIBRARY



Drawing Name

ELECTRICAL SCHEDULES

Drawn By  
ALL/CVS

Checked By  
MKD

Issue Date  
03/14/25 Permit & Bid Set

Revisions  
Issued for      Date

Project No.  
P24006

Sheet Number

E600



DISCONNECT AND STARTER SCHEDULE

NOTE: ALL DISCONNECTS (EXCEPT MANUAL STARTERS) SHALL BE HEAVY DUTY TYPE.										
DISCONNECT TYPE:				ACCESSORIES & OPTIONS						
FU - FUSED				SA - STANDARD ACCESSORIES (INCLUDES * ITEMS)				PF - PHASE LOSS PROTECTION (5 HP OR GREATER, 3 PHASE...		
NF - NON-FUSED				*CT - CONTROL TRANSFORMER, FUSED 120V				TO - MELTING THERMAL OVERLOADS (1 PHASE)		
CB - CIRCUIT BREAKER				*EO - ELECTRONIC OVERLOAD (3 PHASE MOTORS)				TS - 2 SPEED SELECTOR SWITCH IN DOOR		
				*HA - HAND-OFF-AUTO IN DOOR				GP - GREEN (OFF) PILOT LIGHT IN DOOR		
STARTER TYPE:				*RP - RED (RUN) PILOT LIGHT IN DOOR				FA - 4-CONVERTIBLE AUXILIARY CONTACTS		
FV - FULL VOLTAGE				*TA - TWO CONVERTIBLE AUXILIARY CONTACTS				EI - ELECTRICAL INTERLOCK (2)N.O. & (2)N.C.		
YD - WYE - DELTA				S/N - INSULATED NEUTRAL ASSEMBLY				SS - START-STOP PUSHBUTTON IN DOOR		
RE - REVERSING								HL - HANDLE PADLOCK HASP		
TW - 2 SPEED, 2 WINDING										
SW - 2 SPEED, 1 WINDING										
RV - REDUCED VOLTAGE AUTOXFMR										
SS - SOLID STATE										
MS - MANUAL STARTER										
MX - MANUAL SWITCH										
FS - FUSED SWITCH										
AMS-ASSEMBLED MOTOR STARTER										
ITEM	DISCONNECT TYPE & RATING			VOLTAGE	POLES	STARTER		ENCLOSURE	REQUIRED ACCESSORIES & OPTIONS	COMMENTS
	TYPE	RATING	TRIP RATING			NEMA SIZE	TYPE			
MX-SS-1		30		120	1	0	MX	NEMA 1		
MX-WH-1		30		208	2	0	MX	NEMA 1		
DS-SS-1	NF	30		208	3			NEMA 3R		
CS-CP-1	NF	30		120	1	0	FV	NEMA 1	SA	

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architecture, urbanism,  
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SIGNED: 03/14/2025  
LICENSE EXP: 08/09/2025

Drawing Name

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MKD

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Project No.  
P24006

Sheet Number

E601





NAME

10'-0"

HEIGHT ABOVE PROJECT 0'-0"

1

KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL.

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

1/8" = 1'-0"

PLAN OR DETAIL SCALE

VIEW NAME

1

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

1

DETAIL REFERRED TO BY SECTION CUT

M101

SHEET DETAIL IS LOCATED ON

4

2

3

T101

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)

NEW

EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

EXISTING

EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

'TAG'-E

TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG-1

UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

PLUMBING SLOPE REQUIREMENTS:	
BASED ON PLUMBING CODE: MICHIGAN PLUMBING CODE 2021	
INTERIOR: SANITARY WASTE:	≤2'-1/2"ø=1/4" PER FOOT ≥3"ø = 1/8" PER FOOT
STORM (GRAVITY): CONDENSATE AND INDIRECT DRAINAGE:	1/8" PER FOOT
SANITARY VENT:	NO SPECIFIC PITCH, PITCH TO FIXTURES
DOMESTIC WATER:	NO SPECIFIC PITCH, PITCH TO FIXTURES

### PIPE INSULATION SCHEDULE (PLUMBING)

GENERAL NOTES:  
1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS.  
2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC.  
3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.  
4. PROVIDE RIGID INSERT AT HANGERS, PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS). SEE SPEC. FOR MORE DETAILS.

SYMBOL	PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE			NOTES
			< 1"	1" TO < 1.5"	1.5" TO < 4"	
22 PLUMBING - STORM						
ST	STORM DRAINAGE	A (GlsFbr), B (Elasto)	1/2"	1/2"	1/2"	APPLY INSULATION ONLY TO ABOVE GROUND PIPING.
22 PLUMBING - WASTE						
SAN	SANITARY DRAINAGE	A (GlsFbr), B (Elasto)	1/2"	1/2"	1"	APPLY INSULATION ONLY TO FLOOR DRAIN BODY, P-TRAP AND 10' DOWNSTREAM AT LOW TEMP DRAIN DISCHARGE (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
V	VENT	A (GlsFbr), B (Elasto)	1/2"	1/2"	1"	APPLY INSULATION ONLY WITHIN 10' OF EXTERIOR PENETRATION
22 PLUMBING - WATER						
CW	COLD WATER - POTABLE	A (GlsFbr), B (Elasto)	1/2"	1/2"	1"	
HW	HOT WATER - POTABLE	A (GlsFbr), B (Elasto)	1"	1"	1 1/2"	
HWC	HOT WATER CIRCULATING - POTABLE	A (GlsFbr), B (Elasto)	1"	1"	1 1/2"	
W	SERVICE WATER - POTABLE	A (GlsFbr), B (Elasto)	1/2"	1/2"	1"	

PLUMBING SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
—CW—	COLD WATER - POTABLE
—D—	DRAIN
—G—	NATURAL GAS
—HW—	HOT WATER - POTABLE
—HWC—	HOT WATER CIRCULATING - POTABLE
—SAN—	SANITARY DRAINAGE
—ST(1,000)—	STORM DRAINAGE (ROOF SQUARE FOOTAGE)
—V—	VENT
—W—	SERVICE WATER - POTABLE
—>—	PIPE CONTINUATION
—>—	PIPE CAP
—>—	PIPE DOWN
—>—	PIPE UP OR UP/DOWN
—>—	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
—>—	PITCH PIPE IN DIRECTION
—>—	DIRECTION OF FLOW IN PIPE
—>—	ROUTE TO DRAIN
RD-1 6"(1000)	ROOF DRAIN PROPERTIES SYMBOL SIZE (ROOF SQ. FT.)
— —	DIELECTRIC CONNECTION
— —	UNION/FLANGE
— —	SHUTOFF VALVE NORMALLY OPEN
— —	SHUTOFF VALVE NORMALLY CLOSED
— —	BALANCING VALVE (NUMBER INDICATES GPM)
— —	CHECK VALVE
— —	BACKFLOW PREVENTER
— —	SAFETY/RELIEF VALVE
— —	SAFETY RELIEF VALVE W/ DRIP PAN ELBOW
— —	VACUUM BREAKER
— —	PRESSURE GAUGE (FURNISHED WITH BALL VALVE)
— —	PRESSURE SENSOR (FURNISHED WITH BALL VALVE)
— —	THERMOMETER WITH WELL (DIAL TYPE)
— —	THERMOMETER WITH WELL (FILLED TYPE)
— —	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
— —	PRESSURE REDUCING VALVE (LIQUID/GAS)
— —	PUMP
— —	METER
— —	AIR ADMITTANCE VALVE

PLUMBING ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
CI	CAST IRON
CO	CLEANOUT
DF	DRINKING FOUNTAIN
DI	DUCTILE IRON
DN	DOWN
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FM	FLOW METER
FS	FLOOR SINK
GD	GARBAGE DISPOSER
HB	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
L or LAV	LAVATORY
MB	MOP BASIN
MV	MIXING VALVE
NIC	NOT IN CONTRACT
RD	ROOF DRAIN
SCCR	SHORT CIRCUIT CURRENT RATING
SK	SINK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TP	TYPICAL
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER
WM	WATER METER
UB	UTILITY BOX
UON	UNLESS OTHERWISE NOTED
YCO	YARD CLEANOUT

### PLUMBING ROUGH-IN SCHEDULE

NOTES: (APPLIES TO ALL PLUMBING FIXTURES LISTED BELOW)  
1) SIZES SHOWN ARE MINIMUMS. LARGER SIZES SHOWN ON THE DRAWING SHALL DICTATE THE ROUGH-IN SIZE.  
2) SANITARY RISERS UP IN WALL TO FIXTURES SHALL BE A MINIMUM OF 2".  
3) DOMESTIC WATER BRANCH PIPING OUTSIDE OF THE WALL/CHASE SHALL BE A MINIMUM OF 3/4" UNLESS NOTED OTHERWISE. ONLY THE FINAL RISE-DROP SHALL BE SMALLER.  
4) FINAL SANITARY SIZE SHALL MATCH P-TRAP SIZE (REFER TO MATERIAL LIST).

TAG NAME	DESCRIPTION	COLD WATER	HOT WATER	SANITARY	VENT
FD-1	FLOOR DRAIN	-	-	2"	1 1/2"
FS-1	FLOOR SINK	-	-	4"	2"
HB-1	HOSE BIBB - FREEZE PROOF	3/4"	-	-	-
L-1	LAVATORY	1/2"	1/2"	1 1/2"	1 1/2"
MB-1	MOP BASIN	3/4"	3/4"	3"	1 1/2"
SK-1	SINK	1/2"	1/2"	1 1/2"	1 1/2"
UB-1	UTILITY BOX (DISHWASHER)	-	3/4"	-	-
WC-1	WATER CLOSET	1 1/2"	-	4"	2"

### PLUMBING SHEET INDEX

P000	PLUMBING COVERSHEET
P200	UNDERFLOOR PLAN - PLUMBING
P201	LEVEL 01 PLAN - PLUMBING
P400	PLUMBING DETAILS
P500	PLUMBING DIAGRAMS
P600	PLUMBING SCHEDULES
GRAND TOTAL: 6	

### PLUMBING GENERAL NOTES:

- THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR SHALL VERIFY QUANTITIES AND FURNISH ALL MATERIALS REQUIRED FOR FULLY OPERATIONAL SYSTEMS, WHETHER SPECIFIED OR NOT.
- CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR A COMPLETE DESCRIPTION OF MATERIAL ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL TAKES PRECEDENCE OVER THE CATALOG NUMBER. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN.
- CONTRACTOR SHALL VERIFY THAT FIXTURES SUPPLIED ARE APPROVED PER ALL APPLICABLE STATE, LOCAL AND GOVERNING AUTHORITIES.
- ALL FIXTURES SHALL CONFORM TO FEDERAL ACT 5.3874
- REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZES OF BRANCH PIPES TO PLUMBING FIXTURES.

### MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
- CATALOG AND MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR AND TO INDICATE THE QUALITY REQUIRED. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE DESCRIPTION OF MATERIAL SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS BEFORE ORDERING. THE DESCRIPTION OF THE MATERIAL AND SCHEDULED PERFORMANCE TAKES PRECEDENCE OVER THE MODEL NUMBER. THE FIRST MANUFACTURER SCHEDULED IS THE BASIS OF DESIGN.
- DETERMINATION OF QUANTITIES OF MATERIAL AND EQUIPMENT REQUIRED SHALL BE MADE BY THE CONTRACTOR FROM THE DOCUMENTS. WHERE MATERIAL AND/OR QUANTITY DISCREPANCIES ARISE BETWEEN DRAWINGS, SCHEDULES AND/OR SPECIFICATIONS, THE HIGHER QUALITY/ GREATER NUMBER SHALL GOVERN.
- DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
- COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.
- REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
- ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
- EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIO/VISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
- IN AREAS WITH DRYWALL, CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
- SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
- CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
- WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERMETER TO BE WATERTIGHT!
- EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
- DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
- MAINTAIN A MINIMUM WORKING CLEARANCE OF 3'-6" IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING MAINTENANCE, INSPECTION, AND TESTING INCLUDING BUT NOT LIMITED TO PANELS, DISTRIBUTION PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, TRANSFORMERS, EQUIPMENT DISCONNECTS AND STARTERS.
- MAINTAIN THE DEDICATED ELECTRICAL EQUIPMENT SPACE DEFINED BY THE WIDTH / DEPTH OF ELECTRICAL EQUIPMENT MEASURED FROM THE FLOOR TO A HEIGHT 6'-0" ABOVE THE EQUIPMENT OR THE STRUCTURAL CEILING, WHICHEVER IS LOWER. SYSTEMS FOREIGN TO THE ELECTRICAL DISTRIBUTION SYSTEM ARE NOT ALLOWED IN THE DEDICATED ELECTRICAL SPACE INCLUDING: DUCTWORK, PIPING, ETC.
- PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT EXCEPT WHERE PAD EXTENSION WOULD INTERFERE WITH WORKING SPACE AT EQUIPMENT CONTROL PANELS AND ELECTRICAL PANELS.
- DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO METAL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON METAL DECK). THIS 25 LBS. LOAD AND 2'-0" SPACING INCLUDE ADJACENT ELECTRICAL AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING OFF STEEL FRAMING SHALL BE ADDED. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

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Project Name

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Drawing Name

PLUMBING COVERSHEET

Drawn By

JJS

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Revisions

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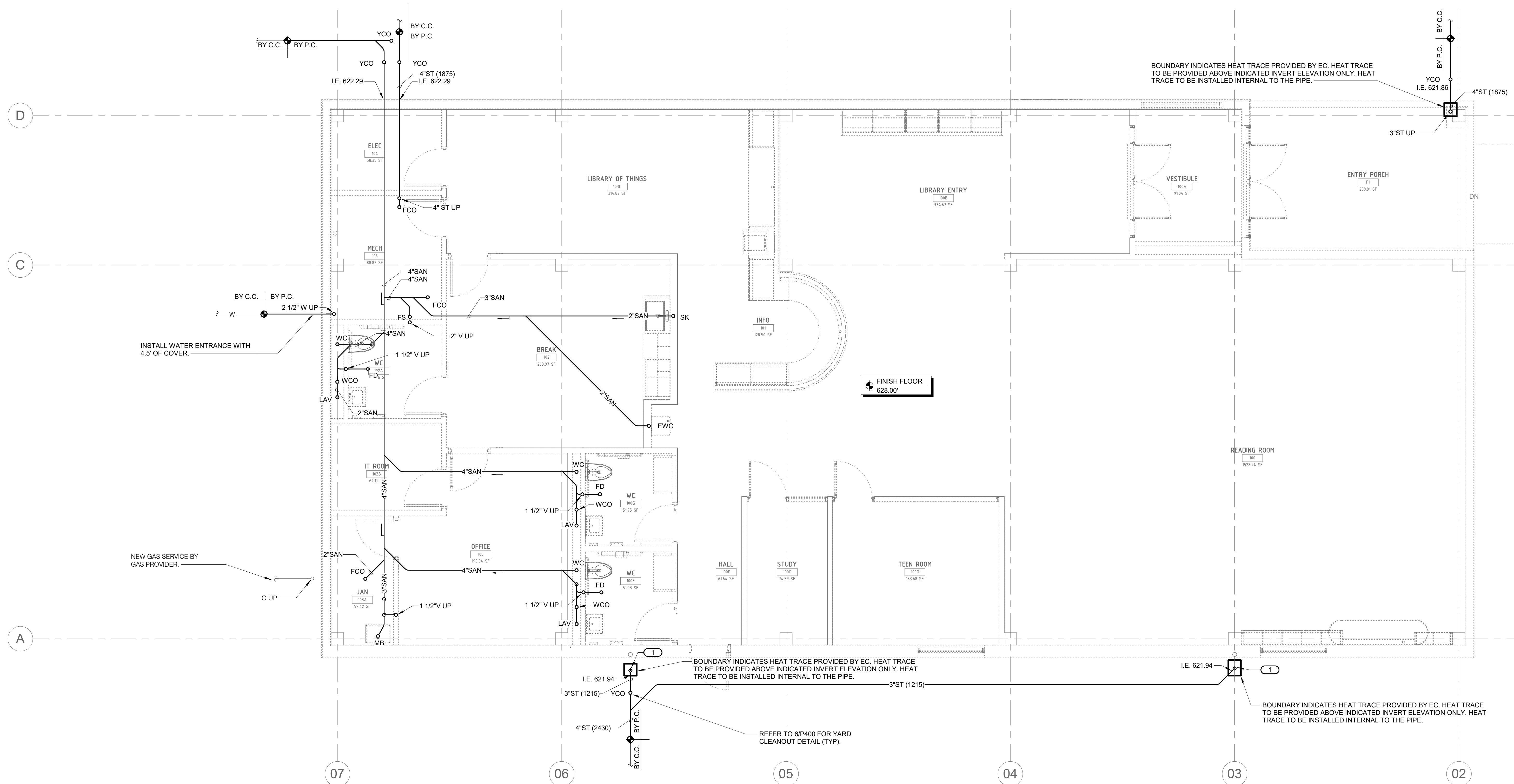
P24006

Sheet Number

P000

## KEYNOTES:

1. STORM PIPING TO GUTTERS BY OTHERS.  
REFER TO ARCHITECTURAL DRAWINGS.



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UNDERFLOOR PLAN -  
PLUMBING

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P200



Project Name

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Drawing Name

LEVEL 01 PLAN -  
PLUMBING

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P24006

Sheet Number

P201

## KEYNOTES:

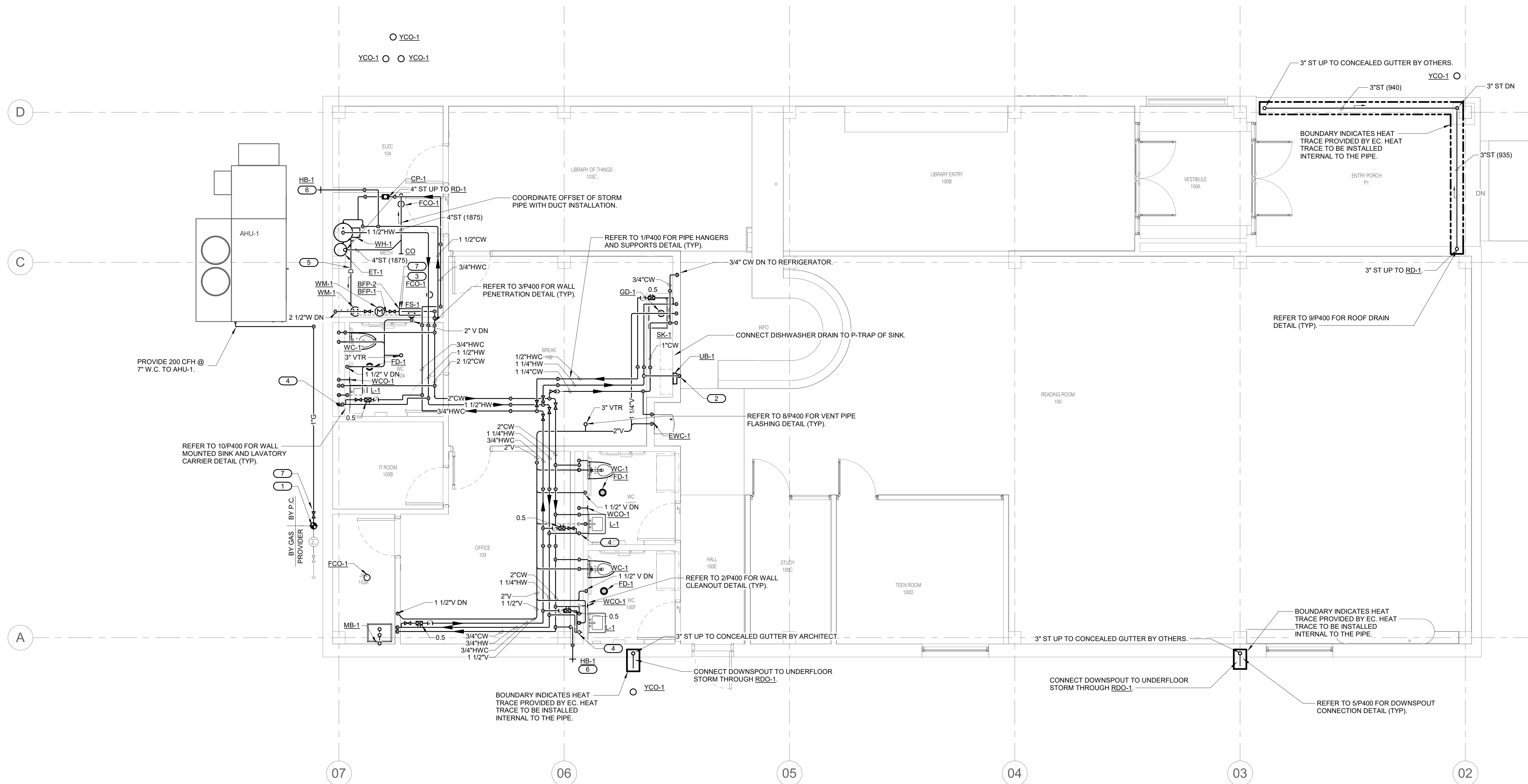
5. ROUTE DRAIN LINE FROM WATER HEATER TO FLOOR SINK. SIZE PER MANUFACTURER'S REQUIREMENTS.
6. INSTALL HOSE BIBB INSIDE CONCEALED LOCKABLE WALL BOX. COORDINATE WITH CM FOR INSTALLATION OF WALL BOX INSIDE STRUCTURALLY INSULATED PANEL.
7. PROVIDE FLOW MEASUREMENT DEVICES TO ENABLE OWNER METERING OF NATURAL GAS AND DOMESTIC WATER SERVICES (BUILDING AND IRRIGATION). REFER TO 23 09 00 AND MECHANICAL DRAWINGS.

## KEYNOTES:

1. GAS PROVIDER TO FURNISH AND INSTALL NEW GAS SERVICE WITH METER AND REGULATING VALVE BASED ON BUILDING DEMAND OF 200 CFH AND 6" W.C. PRESSURE OF NATURAL GAS. PROVIDE CONCRETE PADS AND BOLLARDS PER GAS PROVIDER'S RECOMMENDATIONS. P.C. TO FURNISH AND INSTALL ALL PIPING DOWNSTREAM OF UTILITY METER AND PAINT ALL EXTERIOR PIPING PER COLOR SELECTION BY ARCHITECT.
2. UTILITY BOX TO SERVE DISHWASHER.
3. PROVIDE SEPERATE BACKFLOW PREVENTOR AND WATER METER FOR IRRIGATION SERVICE. REFER TO P500 FOR INSTALLATION ARRANGEMENT. COORDINATE WITH IRRIGATION CONTRACTOR FOR EXACT LINE SIZE. BACKFLOW PREVENTER SHALL MATCH LINE SIZE.
4. DROP HWC DOWN WALL TO PROVIDE CONTINUALLY CIRCULATED HOT WATER DIRECTLY TO ALL HAND WASHING LAVATORIES. REFER TO 4/P400 FOR DETAIL.

## SHEET NOTES:

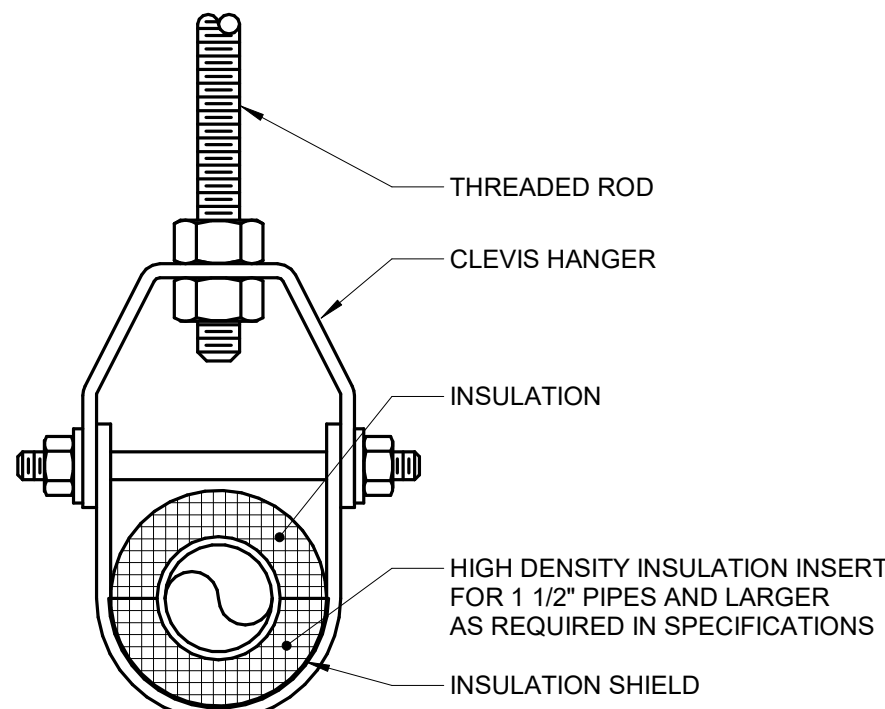
1. INSTALL WATER HAMMER ARRESTOR WHA-1 IN ALL LOCATIONS REQUIRED BY 7/P400.



1

LEVEL 01 PLAN - PLUMBING

1/4" = 1'-0"



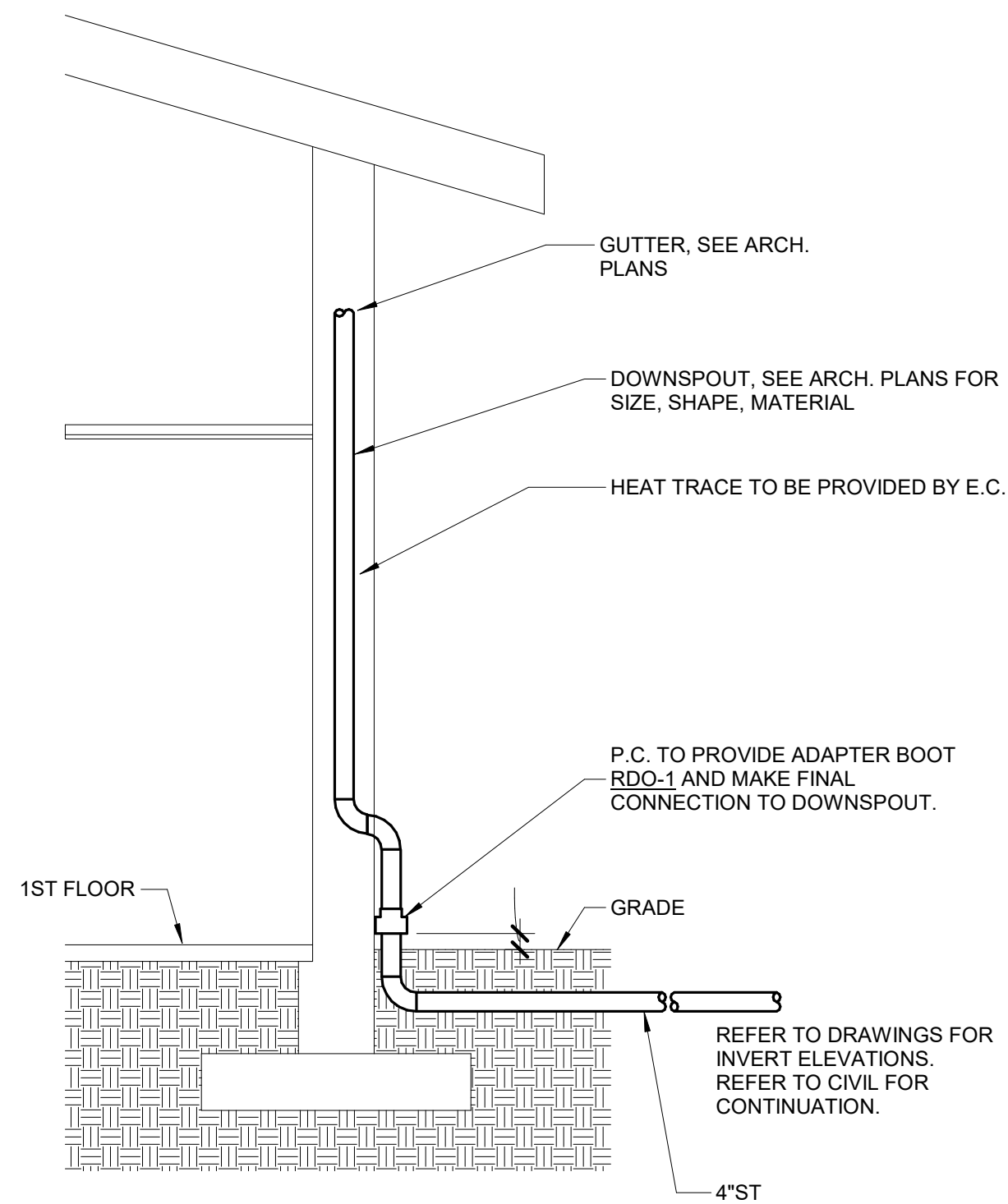
INSULATED COLD PIPE HANGER

## 1 PIPE - HANGERS AND SUPPORTS

NO SCALE

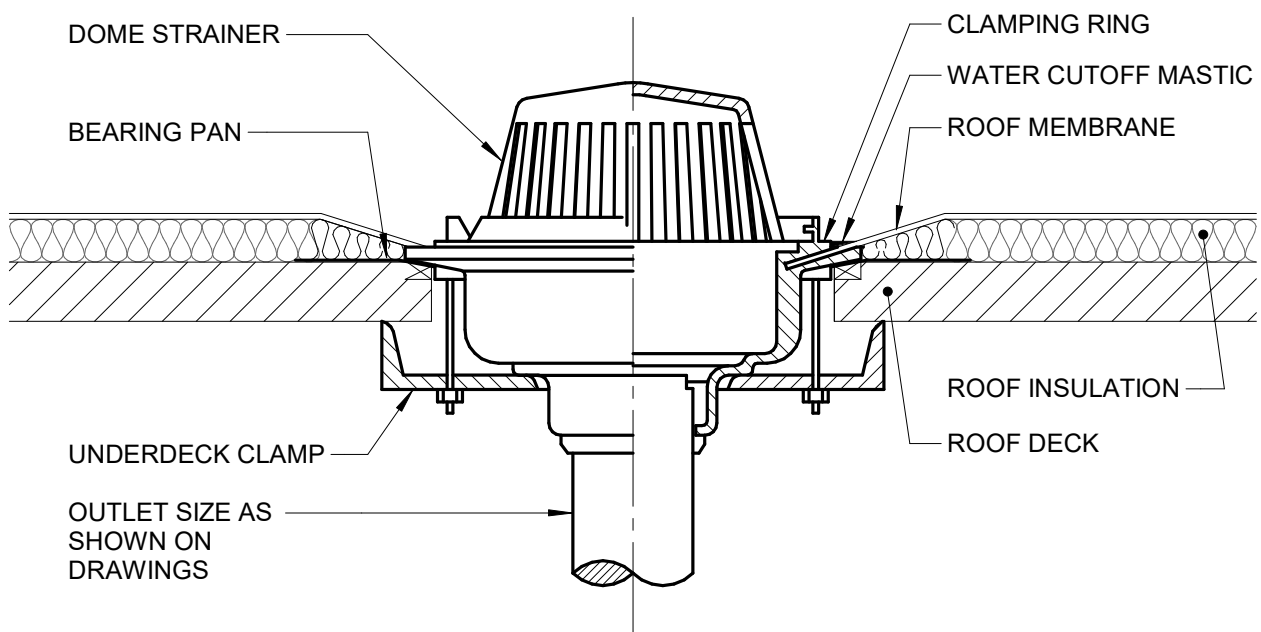
### NOTES:

1. REFER TO SPECIFICATION SECTIONS 22 05 29 & 22 07 19.



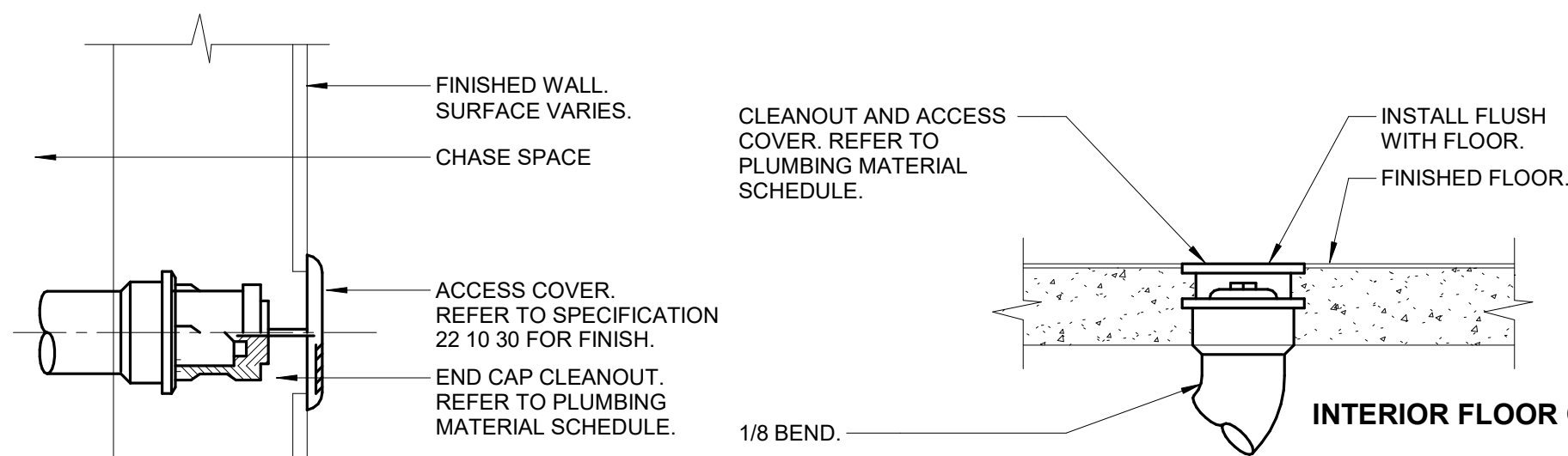
## 5 DOWNSPOUT CONNECTION

NO SCALE



## 9 ROOF DRAIN

NO SCALE



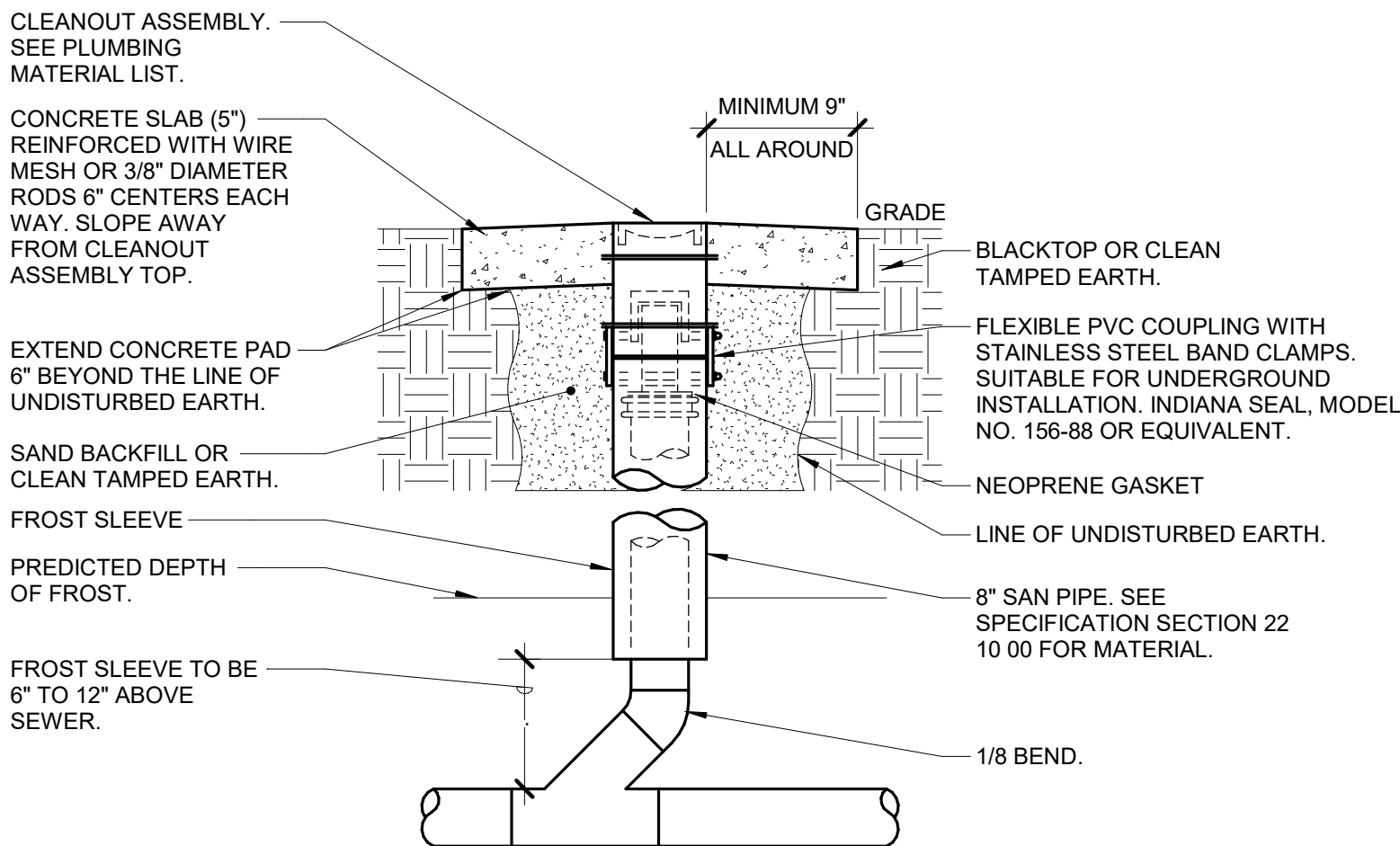
END CAP CLEANOUT

## 2 WALL CLEAN OUT DETAIL

NO SCALE

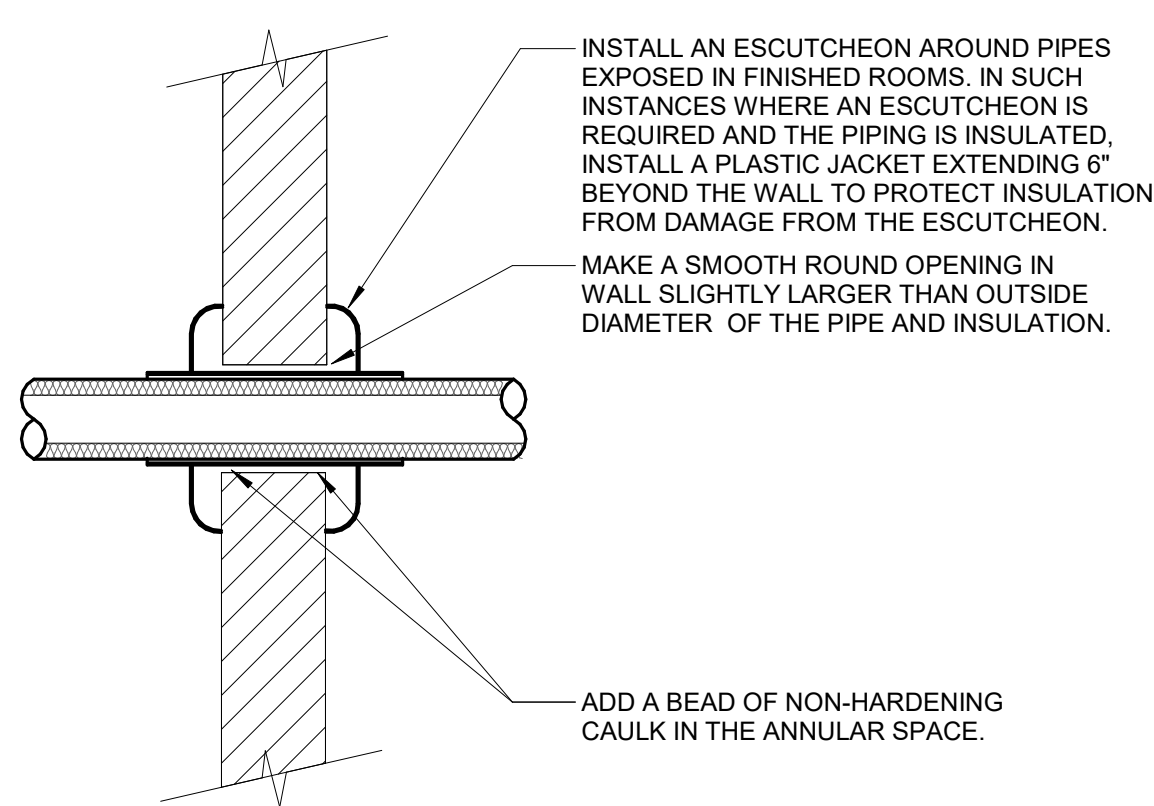
### NOTE:

1. CLEANOUTS SHALL BE PROVIDE PER SPECIFICATION SECTION 22 10 30 AND THE APPLICABLE CODE.
2. SPECIFICATION 22 10 30 SHALL BE FOLLOWED WHEN IT EXCEEDS THE CODE MINIMUM REQUIREMENTS.
3. HUB AND SPIGOT PIPE JOINT SYSTEM IS SHOWN AS AN EXAMPLE. REFER TO SECTION 22 10 00 FOR PIPE JOINING METHOD SPECIFIC TO PROJECT AND SYSTEM.



## 6 YARD CLEANOUT

NO SCALE



## 3 WALL PENETRATION - NON-FIRE RATED

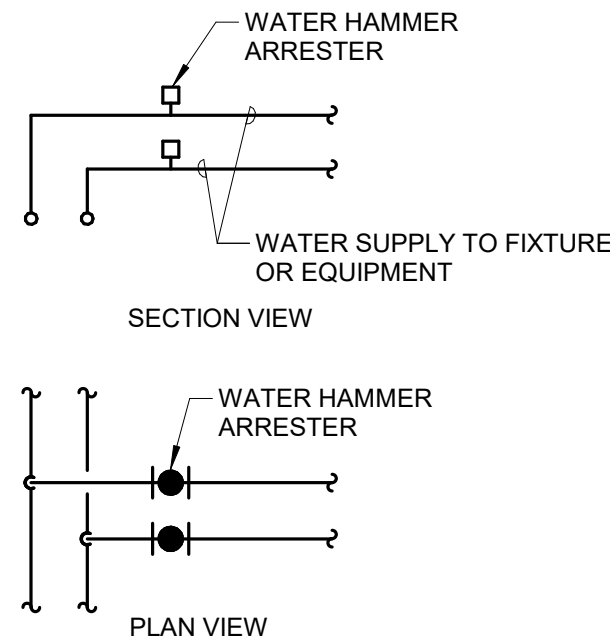
NO SCALE

### NOTES:

1. THIS DETAIL APPLIES TO ALL PIPES. THE INTENTION IS TO CONTINUE THE INSULATION AND VAPOR BARRIER THROUGH ALL PENETRATIONS. PERMIT THERMAL EXPANSION WITHOUT DAMAGING INSULATION, AND TO SEAL AIRTIGHT AROUND INSULATED AND UNINSULATED PIPES FOR NOISE TRANSMISSION CONTROL.
2. SEE SPECIFICATION SECTION 22 05 29 FOR ADDITIONAL INFORMATION.
3. FLOOR OPENINGS ARE SIMILAR. SEE SPECIFICATION SECTION 22 05 29 FOR DIFFERENCES BETWEEN FLOOR AND WALL PENETRATIONS.

PROVIDE WATER HAMMER ARRESTER (WHA-1) AT ALL PLUMBING FIXTURES FOR HW AND CW CONNECTIONS. REFER TO PLUMBING MATERIAL LIST FOR WATER HAMMER ARRESTER DESCRIPTION.

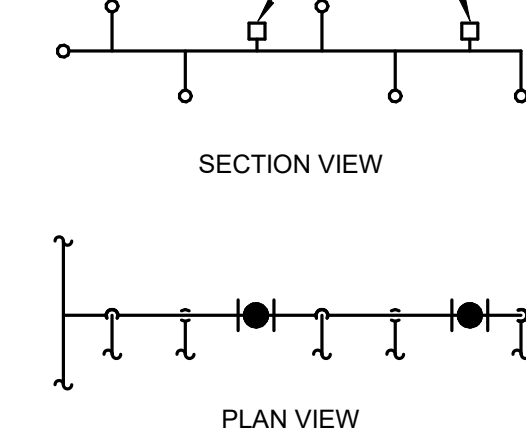
### SINGLE / DOUBLE FIXTURE



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60

### MULTIPLE FIXTURES

IF HORIZONTAL BRANCH IS LESS THAN 20'-0" PROVIDE ONE WHA AT THE END OF LINE. IF BRANCH IS GREATER THAN 20'-0" PROVIDE ANOTHER WHA IN MIDDLE, EACH SIZED FOR HALF THE FIXTURE UNITS.

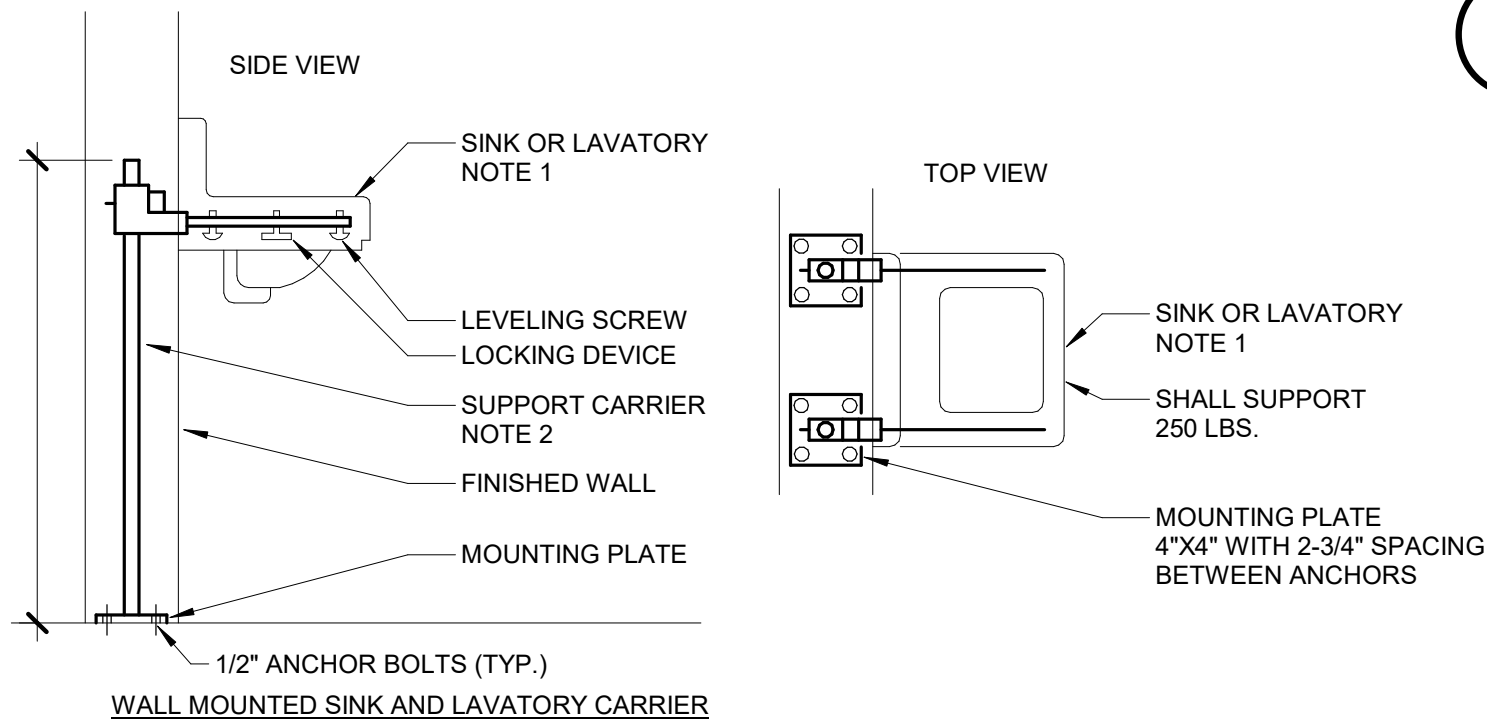


FIXTURE UNIT CALCULATION		
FIXTURE	COLD	HOT
WATER CLOSET (F.V.)	10	--
LAVATORY	1.5	1.5
JANITOR'S SINK	3	3
DRINKING FOUNTAIN	2	-
KITCHEN SINK	2	2
ICE MAKER / BEVERAGE	1	-

INSTALL WHA'S PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE WHA AS SHOWN PER THE TABLES ABOVE. PROVIDE ACCESSIBILITY TO WHA WITH ACCESS PANEL OR INSTALL ABOVE ACCESSIBLE CEILING.

## 7 WATER HAMMER LOCATION AND SCHEDULE

NO SCALE

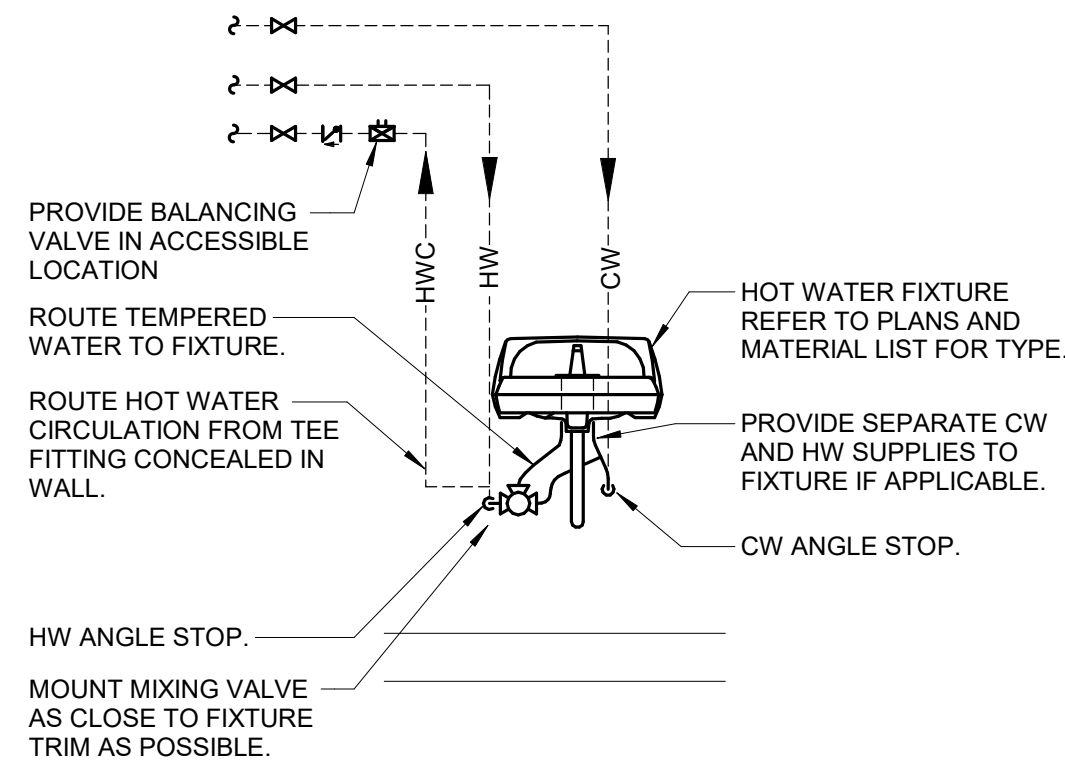


### NOTES:

1. REFER TO PLUMBING MATERIAL LIST FOR SINK OR LAVATORY INFORMATION AS WELL AS FIXTURE MOUNTING HEIGHT.
2. REFER TO SPECIFICATION SECTION 22 40 00 - PLUMBING FIXTURES FOR CARRIER INFORMATION. INSTALL PER MANUFACTURER INSTALLATION INSTRUCTIONS.
3. CONCRETE ANCHOR BOLTS: 1/2" DIA. HILTI KB-T2 WITH 2" MINIMUM EMBED (ICC ESR-1917)

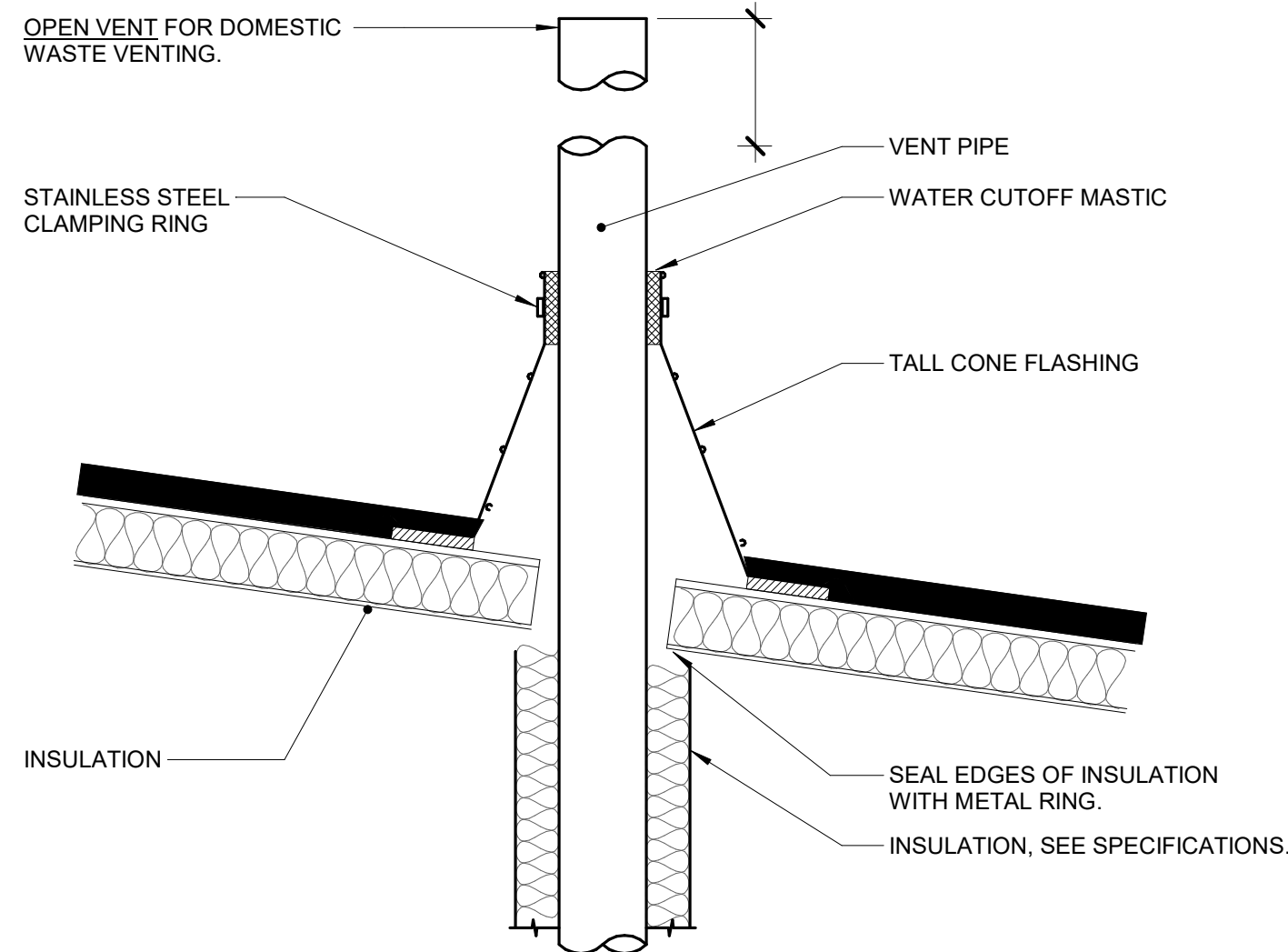
## 10 WALL MOUNTED SINK AND LAVATORY CARRIER

NO SCALE



## 4 LAVATORY MIXING VALVE

NO SCALE



### NOTES:

1. VENT PIPE SHALL BE A MINIMUM OF 3" DIAMETER UNLESS NOTED LARGER ON FLOOR PLANS. INCREASERS, IF REQUIRED TO TRANSITION TO THE LARGER VTR SIZE, MUST BE INSTALLED AT LEAST 12 INCHES BELOW THE THERMAL ENVELOPE OF THE BUILDING.

## 8 VENT PIPE FLASHING

NO SCALE

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PLUMBING DETAILS

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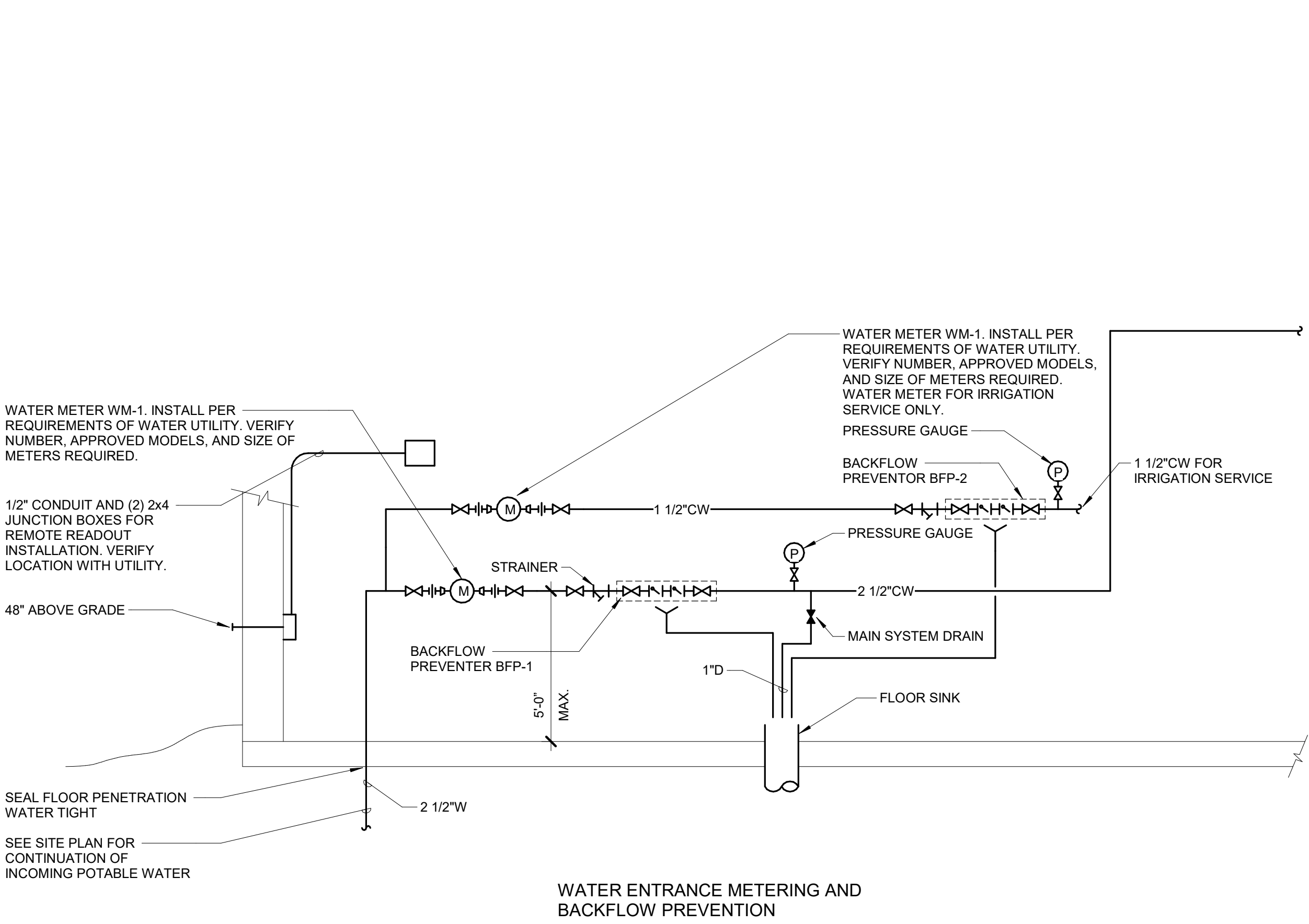
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P24006

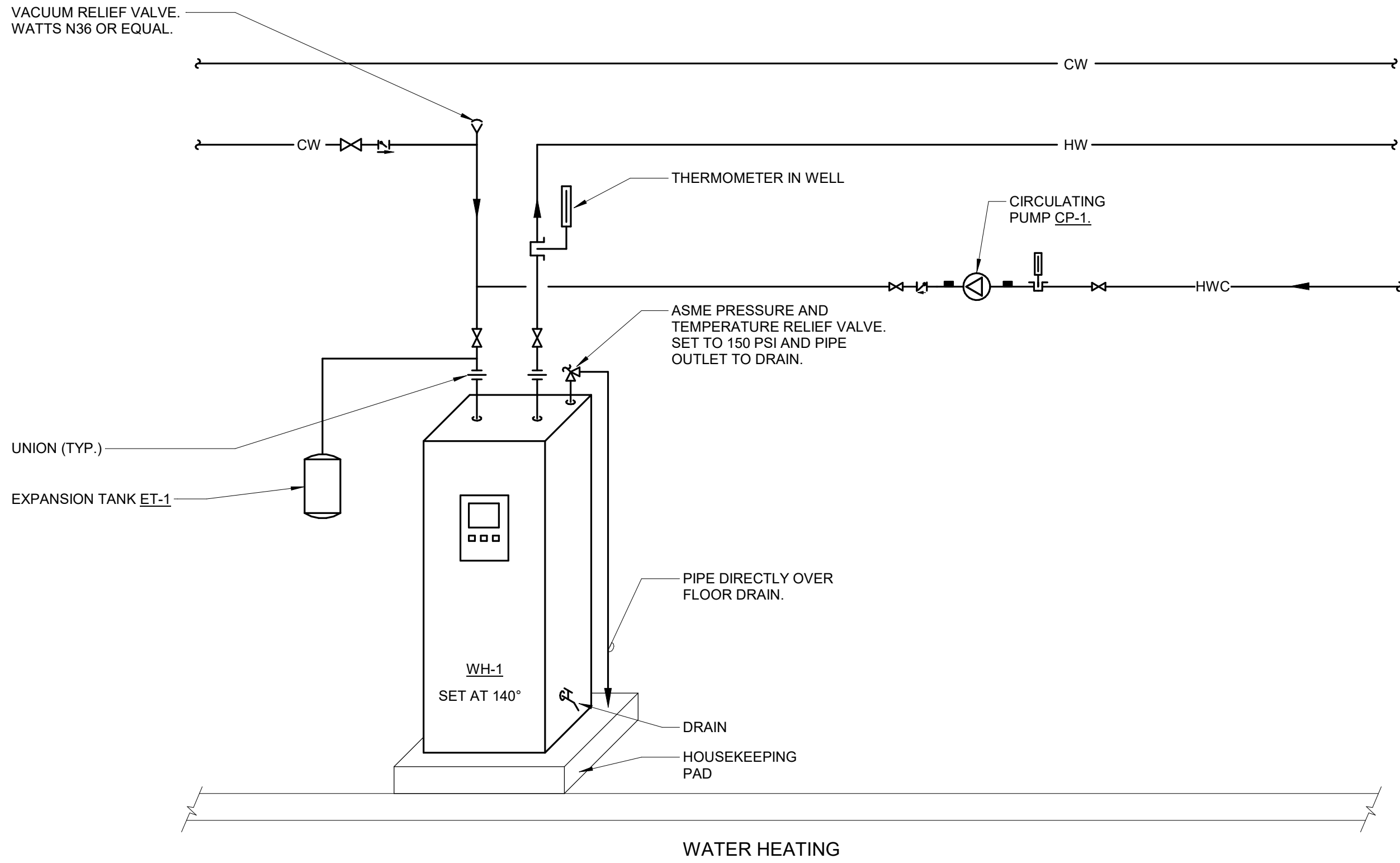
Sheet Number

P400





1 DOMESTIC WATER FLOW DIAGRAM  
NO SCALE



PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
BFP-1	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, STAINLESS STEEL CONSTRUCTION, SIZE SAME AS PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, GATE STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED.  MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	WATTS (957), APOLLO (RPLF4A), ZURN WILKINS (375AST), MIFAB (BEECO BARRACUDA 40 FRP SS)
BFP-2	BACK FLOW PREVENTER - REDUCED PRESSURE ZONE, LEAD FREE BRONZE CONSTRUCTION, SIZE SAME AS PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, BALL STYLE SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, RATED FOR 175 PSI AT 33°F TO 140°F, 15 PSI (MAXIMUM) PRESSURE DROP AT 10 FPS, FACTORY TESTED, ALL PARTS TO BE SERVICEABLE WITHOUT REMOVING UNIT FROM LINE, APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013, IAPMO AND SBCCI LISTED.  MOUNT WITHIN 60" OF FINISHED FLOOR. ROUTE DRAIN PIPE FROM AIR GAP FITTING TO FLOOR DRAIN. PROVIDE AND INSTALL BRONZE OR EPOXY COATED STRAINER UPSTREAM OF EACH UNIT AND ADDITIONAL VALVE UPSTREAM OF EACH STRAINER. FLOW PRESSURE DROP CURVES SHALL BE SUBMITTED.	APOLLO (RPLF4A), WATTS (LF919), ZURN WILKINS (975XL2)
CP-1	CIRCULATING PUMP - LEAD FREE BRONZE CONSTRUCTION, PERMANENTLY LUBRICATED SEALED BEARINGS, MECHANICAL SEAL, OIL LUBRICATED, OPEN DRIP-PROOF NON OVERLOADING MOTOR WITH THERMAL OVERLOAD PROTECTION, FLANGED CONNECTIONS, RATED FOR 125 PSIG AT 225°F, UL LISTED.  5 GPM @ 10 FEET OF HEAD. MOTOR 3300 RPM.  AQUASTAT - LINE VOLTAGE, ADJUSTABLE SETTING OF 90-180°F WITH STRAP-ON REMOTE SENSOR BULB, UL LISTED. PROVIDE WITH TRANSFORMER IF REQUIRED. INSTALL PER MANUFACTURERS INSTRUCTIONS.  ELECTRICAL REQUIREMENTS - HARD-WIRE	PUMP - B&G (PL SERIES), TACO (OO SERIES), GRUNDFOS (UP SERIES)  AQUASTAT - HONEYWELL WHITE-RODGERS, JOHNSON CONTROLS, SAME AS PUMP MANUFACTURER
ET-1	EXPANSION TANK - WELDED STEEL CONSTRUCTION, GUARANTEED AIRTIGHT AND LEAKPROOF, STAINLESS STEEL SYSTEM CONNECTION, HEAVY DUTY BUTYL DIAPHRAGM AND RIGID POLYPROPYLENE LINER MECHANICALLY BONDED TO TANK TO PROVIDE A 100% NON-CORROSIVE WATER RESERVOIR, DIAPHRAGM AND LINER SHALL BE APPROVED FOR USE IN POTABLE WATER SYSTEMS, ALL WETTED COMPONENTS OF FDA APPROVED MATERIALS. PROVIDE STANDARD SCHRADER AIR VALVE FOR FIELD CHARGING. TANK SHALL COMPLY WITH FEDERAL ACT S.3874.  STATIC SYSTEM PRESSURE 60 PSI MAXIMUM TANK DESIGN PRESSURE 150 PSI MINIMUM TANK VOLUME TO BE 2 GALLONS MINIMUM ACCEPTING VOLUME TO BE 2 GALLONS  TANK SHALL HAVE A WORKING TEMPERATURE OF 200°F AND A WORKING PRESSURE OF 150 PSIG. FACTORY PRE-CHARGED FOR SHIPPING. FIELD CHARGE TANK TO MATCH FIELD VERIFIED STATIC SYSTEM PRESSURE.	EXPANSION TANK - AMTROL (THERM-X-TROL), B&G (PT), FLEXTRON (FTT), WATTS (PLT), WESSELS (T)
EW-C-1	ELECTRIC WATER COOLER - SINGLE STATION, WALL HUNG, 18 GAUGE STAINLESS STEEL CABINET AND NON-SPLASH BASIN WITH STAINLESS STEEL FINISH, STREAM PROJECTOR WITH PROTECTIVE HOOD, PUSH BAR OR LEVER OPERATING CONTROLS ON FRONT AND BOTH SIDES, BUILT-IN FLOW REGULATOR, PLASTIC P-TRAP ASSEMBLY, ADJUSTABLE THERMOSTAT, MOUNTING ACCESSORIES, TANK DRAIN AND ANGLE STOPS, HERMETIC COMPRESSOR TO OPERATE ON R-32/454B REFRIGERANT, COMPLIANT TO LATEST ANSI A117.1 AND ADA STANDARDS. UNIT SHALL COMPLY WITH FEDERAL ACT S.3874.  BOTTLE FILLING STATION - UNIT MOUNTED, STAINLESS STEEL CONSTRUCTION AND FINISH, INTEGRAL DRAIN OR DISCHARGE WATER TO BOWL BELOW, SENSOR OPERATED, WITH AUTOMATIC SHUTOFF, REPLACEABLE LEAD-CHLORINE-TASTE-ODOR WATER FILTER, BOTTLE COUNTER, FILTER REPLACEMENT INDICATOR.  UNIT SHALL PROVIDE 8.0 GPH OF WATER FROM 80°F TO 50°F AT 90°F AMBIENT. WATER SYSTEM SHALL BE OF LEAD FREE CONSTRUCTION. TANK SHALL BE TESTED TO 125 PSIG.  ORIFICE SHALL BE AT 36" (MAXIMUM) ABOVE FINISHED FLOOR. BOTTOM OF APRON SHALL BE AT 27" ABOVE FINISHED FLOOR IN COMPLIANCE WITH LATEST ADA STANDARDS.  ELECTRICAL REQUIREMENTS - CORD AND PLUG, PLAIN RECEPTACLE MOUNTED WITHIN EWC LOWER ENCLOSURE, GFCI BREAKER.	ELECTRIC WATER COOLER -ELKAY (LZS8)
FCO-1	FLOOR CLEANOUT - ADJUSTABLE, CAST IRON HOUSING, ANCHOR FLANGE, TAPERED THREAD PLUG, SECURED NICKEL BRONZE TOP. TOP STYLE SHALL MATCH FLOOR FINISH AS FOLLOWS:  UNFINISHED FLOOR - ROUND SOLID SCORIATED TOP TILE OR TERRAZZO - ROUND RECESSED TOP CARPET - ROUND TOP WITH CARPET FLANGE.	ZURN (Z1400), JOSAM (55000), MIFAB (C1100), SMITH (4000), WADE (6000), WATTS (CO-200)
FD-1	FLOOR DRAIN - CAST IRON BODY, NICKEL BRONZE ADJUSTABLE TOP, 6" ROUND, 2" BOTTOM OUTLET, FLASHING COLLAR, SURFACE MEMBRANE CLAMP.  TRAP SEAL - 2" PLASTIC HOUSING WITH FLEXIBLE DIAPHRAGM, SEALING GASKETS, RECLOSERS AND SEALS WHEN DISCHARGE IS COMPLETED, ASSE 1072.	FLOOR DRAIN - ZURN (Z-415), SMITH (2005), WADE (1100), JOSAM (30000), WATTS (FD-100), MIFAB (F1100), SUN (FD1000)
FS-1	FLOOR SINK - CAST IRON BODY, NICKEL BRONZE RIM AND GRATE, 8" ROUND, 4" BOTTOM OUTLET, SHALLOW RECEPTOR WITH STAINLESS STEEL MESH STRAINER, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP.	ZURN (Z1970), SMITH (3021), WADE (8000), JOSAM (49500), MIFAB (FS1750)
GD-1	GARBAGE DISPOSER - CONTINUOUS FEED UNIT, SINGLE DIRECTION, CORROSION PROTECTION SHIELD, SERVICE WRENCH, GALVANIZED STEEL GRINDING ELEMENTS, OVERLOAD PROTECTION WITH RESET, 1 YEAR WARRANTY.  ELECTRICAL REQUIREMENTS - CORD AND PLUG	IN-SINK-ERATOR (BADGER 5), WASTE KING (L-1001)
HB-1	HOSE BIBB - FREEZELESS WALL HYDRANT, BRASS VALVE BODY AND SEAT, STANDARD FINISH, NON-FERROUS METAL STEM, AUTOMATIC DRAINING, VACUUM BREAKER, 3/4" MALE HOSE THREAD, WALL CLAMP, CONCEALED IN FLUSH MOUNTED LOCKABLE WALL BOX, KEY OPERATED, ASSE 1019 OR 1052 LISTED AND APPROVED.  VERIFY NUMBER OF KEY OPERATORS TO BE PROVIDED WITH OWNER. BOX COVER AND HYDRANT SHALL USE A COMMON KEY. MOUNT AT 18" ABOVE GRADE UNLESS NOTED OTHERWISE ON DRAWINGS. COORDINATE WITH CM FOR INSTALLATION OF HOSE BIBB IN LOCK BOX INSIDE STRUCTURALLY INSULATED PANEL.	PRIER (C-634BX), WOODFORD (B67), ZURN (Z1300), WATTS (HY-725), MIFAB (MHY-20), SMITH (5509QT), WADE (8700)
L-1	LAVATORY - ACCESSIBLE, WALL MOUNTED, WHITE VITREOUS CHINA, 19"x17", 4" HIGH CONTOURED BACKSPLASH, THREE FAUCET HOLES, DRILLED FOR CONCEALED ARM CARRIER.  LAVATORY TRIM - TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, CONVENTIONAL SPOUT WITH AERATOR FLOW OUTLET, SINGLE WING HANDLES AT 8" CENTERS, CERAMIC DISC CARTRIDGE, PERFORATED GRID STRAINER WITH 1-1/4" 17 GAUGE TAILPIECE.  MAXIMUM FLOW TO BE 0.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STAND. A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874, PROVIDE RESTRICTIVE DEVICE AS REQUIRED.  INSULATION KIT - PRE-MANUFACTURED FOR P-TRAP, STOP VALVES AND SUPPLY LINES.  ACCESSORIES - QUARTER-TURN 3/8" CHROME PLATED HEAVY BRASS ANGLE SUPPLY LOOSE KEY STOPS, CHROME PLATED SOFT COPPER SUPPLY LINES, DRAIN AND OFFSET TAILPIECE, 1-1/4" 17 GAUGE CAST BRASS P-TRAP, SUPPORT CARRIER.  MOUNT LAVATORY WITH SUPPORT CARRIER BOLTED SECURELY TO FLOOR. TOP OF RIM SHALL BE AT 34" ABOVE FLOOR IN COMPLIANCE WITH LATEST ADA STANDARD. PROVIDE 29" MINIMUM CLEARANCE FROM FLOOR TO BOTTOM OF APRON IN COMPLIANCE WITH LATEST ANSI A117.1 AND ADA STANDARDS. ARMAFLEX WITH TAPE IS NOT ACCEPTABLE IN LIEU OF INSULATION KIT.  PROVIDE WITH MV-1.	LAVATORY - KOHLER (K-2863), AMERICAN STANDARD (0356.915), SLOAN, TOTO, ZURN  LAVATORY TRIM - DELTA (26C3235), AMERICAN STANDARD (6802F15.000), CHICAGO FAUCET (404), KOHLER (K-7443), MOEN (8224), SPEAKMAN (SC-3042), T&S BRASS (B-2990), ZURN (Z831R3-XL)  INSULATION KIT - TRUEBRO (LAV-GUARD), BROCAR PRODUCTS (TRAP WRAP), MCQUIRE (PROWRAP), PLUMBEREX (PRO-EXTREME)

PLUMBING MATERIAL LIST

TAG NAME	DESCRIPTION	MANUFACTURER AND MODEL
MB-1	MOP BASIN - PRECAST TERRAZZO, 36"x24"x12", STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET, CONTINUOUS STAINLESS STEEL CAP ON ALL EDGES.  TRIM - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WING HANDLES, 1/4 TURN CERAMIC DISC CARTRIDGE, 3/4" HOSE THREAD SPOUT WITH ASSE 1053 RATED INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, CHECK STOPS OR INLINE CHECK VALVES TO PREVENT THERMAL CROSSOVER. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874.  ACCESSORIES - MOP HANGER, HOSE AND HOSE BRACKET, TRAP	MOP BASIN - FIAT (TSB), ACORN (TSH), CREATIVE INDUSTRIES (MC), WILLIAMS (SB) TRIM - DELTA (28C2383), AMERICAN STANDARD (8344.012), CHICAGO FAUCETS (897-CP), MOEN (8124), SPEAKMAN (SC-5812), SYMMONS (S-2490), ZURN (Z841M1-XL) VACUUM BREAKER - WATTS (8A), OR APPROVED EQUAL
MV-1	MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, THREADED INLETS, TAMPER RESISTANT SETPOINT, 3/8" COMPRESSION INLETS AND OUTLETS, COLD WATER BYPASS IF USED WITH MIXING FAUCET.  0.5 GPM OUTPUT. UNIT TO MIX 140 DEGREE F HOT WATER SUPPLY AND 40 DEGREE F COLD WATER SUPPLY FOR 110 DEGREE F OUTLET.  UNIT SHALL BE ASSE 1070 LISTED AND APPROVED. VALVE SHALL COMPLY WITH FEDERAL ACT S.3874.	WATTS (LFUSG-B), LEONARD (1700-LF), LAWLER (TMM-1070T), ACORN CONTROLS (S1770), APOLLO (34DLF), POWERS (LFE480), SLOAN (MIX-135-A), SYMMONS (8210CK), WILKINS (ZW3870XL1)
MV-2	MIXING VALVE - POINT-OF-USE ANTI-SCALD THERMOSTATIC MIXING VALVE FOR TEMPERED WATER CONTROL, ALL BRONZE/BRASS CONSTRUCTION, ROUGH FINISH, THREADED INLETS, TAMPER RESISTANT SETPOINT, 3/8" COMPRESSION INLETS AND OUTLETS, COLD WATER BYPASS IF USED WITH MIXING FAUCET.  2.2 GPM OUTPUT. UNIT TO MIX 140 DEGREE F HOT WATER SUPPLY AND 40 DEGREE F COLD WATER SUPPLY FOR 110 DEGREE F OUTLET.  UNIT SHALL BE ASSE 1070 LISTED AND APPROVED. VALVE SHALL COMPLY WITH FEDERAL ACT S.3874.	WATTS (LFUSG-B), LEONARD (1700-LF), LAWLER (TMM-1070T), ACORN CONTROLS (S1770), APOLLO (34DLF), POWERS (LFE480), SLOAN (MIX-135-A), SYMMONS (8210CK), WILKINS (ZW3870XL1)
RD-1	ROOF DRAIN - CAST IRON BODY, PLAIN BRONZE DOME, 4-1/2" ROUND, BOTTOM OUTLET, FLASHING CLAMP, GRAVEL STOP, UNDERDECK CLAMP, BEARING PAN, ADJUSTABLE EXTENSION TO MATCH INSULATION THICKNESS, OUTLET SIZE OF 3".	ZURN (Z-180 SERIES)
RDO-1	ROOF DRAIN OUTLET - CUSTOM DOWNSPOUT CONNECTOR, PVC BODY, OUTLET SIZE TO MATCH PIPE DIAMETER.	FERNCO (UDSC-6C)
SK-1	SINK - ACCESSIBLE, UNDERMOUNT, SINGLE COMPARTMENT, 16 GAUGE TYPE 304 STAINLESS STEEL, 28" (SIDE-TO-SIDE) x 18 5/16" (FRONT-TO-BACK) OVERALL SIZE, 29" x 18 5/16" x 5 1/2" DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2" DIAMETER DRAIN OUTLET LOCATION OFF-CENTERED REAR IN BOWL, REMOVABLE TYPE 304 STAINLESS STEEL BASKET STRAINER WITH NEOPRENE STOPPER.  SINK TRIM - SINGLE HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, NOMINAL 10" HIGH-RISE SWING SPOUT, CERAMIC CARTRIDGE, NOMINAL 8" REACH, PULL DOWN SPRAY HOSE WITH AERATOR STREAM / SPRAY SELECTOR, LEVER HANDLE.  MAXIMUM FLOW TO BE 1.5 GPM IN COMPLIANCE WITH ENERGY POLICY ACT OF 2005 AND ASME/ANSI STANDARD A112.18.1M. FAUCET SHALL COMPLY WITH FEDERAL ACT S.3874, PROVIDE RESTRICTIVE DEVICE AND ESCUTCHEON PLATE AS REQUIRED.  ACCESSORIES - 1-1/2" 17 GAUGE CHROME-PLATED BRASS TAILPIECE AND P-TRAP, QUARTER-TURN BALL VALVE TYPE 3/8" CHROME-PLATED BRASS ANGLE SUPPLIES WITH LOOSE KEY STOPS, CHROME-PLATED SOFT COPPER OR FLEXIBLE STAINLESS STEEL SUPPLY LINES.  PROVIDE WITH MV-2.	SINK - KOHLER (K-33156), ELKAY (ELJHADLKAD18), JUST (US-ADAU-ADA-36-FS), FRANKÉ (UCS), ACORN-SINKS (SUADA)  SINK TRIM - KOHLER (K-22972), DELTA (9159T-AR-DST), AMERICAN STANDARD (4265.300), CHICAGO FAUCET (434-ABCP), ELKAY (LK6000), GERBER (D454058), MOEN (7594C), SYMMONS (S-2302-PD)
UB-1	UTILITY BOX - UNPAINTED GALVANIZED STEEL OR WHITE PAINTED STEEL ENCLOSURE, MATCHING FACEPLATE, ANGLE VALVE WITH 1/4" COMPRESSION OUTLET, INTREGAL WATER HAMMER ARRESTOR, PROVIDE A 6 FOOT STAINLESS STEEL FLEXIBLE HOSE FOR CONNECTION TO EQUIPMENT.	GUY GRAY (BIM875AB), OATEY (39140 WITH 38686 FACEPLATE)
WC-1	WATER CLOSET - ACCESSIBLE, WALL MOUNTED, FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, WATER SAVING, ELONGATED BOWL, 1-1/2" TOP SPUD.  FLUSH VALVE - EXPOSED, SENSOR OPERATION, BATTERY POWERED, 1.6 GALLONS PER FLUSH, 11-1/2" ROUGH-IN, CHROME PLATED, 1" I.P.S. SCREWDRIVER STOP-CHECK VALVE WITH VANDAL RESISTANT CAP, HIGH BACK PRESSURE VACUUM BREAKER, ADJUSTABLE TAILPIECE, SPUD COUPLING AND FLANGE, WALL FLANGE WITH SET SCREW, MECHANICAL OVER-RIDE BUTTON, CHLORAMINE RESISTANT MATERIALS, ADA COMPLIANT, 3 YEAR WARRANTY.  SEAT - WHITE, EXTRA HEAVY, OPEN FRONT, INJECTION MOLDED SOLID PLASTIC, SELF-SUSTAINING HINGE, STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS.  CONTRACTOR OPTION: COMBINATION WATER CLOSET/FLUSH VALVE PACKAGED SYSTEM BY AMERICAN STANDARD, KOHLER, SLOAN, OR ZURN  ACCESSORIES - WATER CLOSET SUPPORT CARRIER RATED FOR 500 LBS.  MOUNT WATER CLOSET WITH CARRIER BOLTED SECURELY TO FLOOR. TOP OF SEAT SHALL BE AT 17"-19" ABOVE FINISHED FLOOR (VERIFY EXACT MOUNTING HEIGHT WITH MANUFACTURER). FLUSH HANDLE SHALL BE LOCATED ON THE WIDE SIDE OF THE TOILET STALL AND BE AT 12" (MAXIMUM) ABOVE BOWL RIM AND OPERATE WITH NO GREATER THAN 5 LB FORCE IN COMPLIANCE WITH LATEST ADA STANDARDS. VERIFY EQUIPMENT REQUIREMENTS AND ROUGH-IN LOCATIONS.	WATER CLOSET - AMERICAN STANDARD (2257.101), GERBER (25-030), KOHLER (K-84325), SLOAN (ST-2053), TOTO (C1708), ZURN (Z5610)  FLUSH VALVE - ZURN (ZER6000AV-SM-WS1), SLOAN (111-1.65FSM), AMERICAN STANDARD (6865161.002 OR 6047SM.161), HYDROTEK (HB-8000C), MOEN (8310), KOHLER (K-10957-SV-CP), TOTO (TET1GA32HCP), AMTC (AEF-801-CT-16)  SEAT - BEMIS (1665SSCT), CHURCH (9500C), BENEKE (533), KOHLER (K-4666-C), OLSONITE (95), CENTOCO (5505TSCC5S-001), BEMIS (3155SSCT), CHURCH (3155C), BENEKE (533PC), OLSONITE (95), SAME AS WATER CLOSET MANUFACTURER
WCO-1	WALL CLEANOUT - END CAP, CAST IRON ACCESS BODY, GAS AND WATERTIGHT BRONZE OR BRASS THREADED PLUG, ROUND STAINLESS STEEL ACCESS COVER, EXTENDED MACHINE SCREW.	ZURN (Z-1441), SMITH (4422), WADE (W-8480-R/8560), JOSAM (58600-CO), WATTS (CO-380-RD), MIFAB (C1450-RD)
WH-1	WATER HEATER - ELECTRIC, VERTICAL, METAL CABINET, BAKED ENAMEL FINISH, GLASS-LINED WELDED STEEL TANK, 150 PSI WORKING PRESSURE, FIBERGLASS OR FOAM INSULATION, BRASS WATER CONNECTIONS AND DRAIN VALVE, ASME APPROVED T&P RELIEF VALVE, MAGNESIUM ANODE ROD, LOW WATT DENSITY IMMERSION ELEMENTS, AUTOMATIC THERMOSTAT WITH EXTERNAL ADJUSTMENT, HIGH TEMPERATURE CUTOFF SWITCH, ENCLOSED CONTROLS AND ELECTRICAL JUNCTION BOX, 1-YEAR WARRANTY, UL LISTED, COMPLIANT TO NAECA, ASHRAE 90.1 AND ASHRAE 90A.  19 GALLON CAPACITY, 4 KW HEATING ELEMENT, 16 GPH RECOVERY AT 100°F RISE.  ELECTRICAL REQUIREMENTS - HARD-WIRED.  SET WATER TEMPERATURE AT 140°F.	WATER HEATER - BOCK (LCE SERIES), A.O. SMITH (EJC-20), AMERICAN (E61), BRADFORD WHITE (M-1), RHEEM (81VP), RUUD (PEP), STATE (P6), HTP (EV)
WHA-1	WATER HAMMER ARRESTOR - PISTON TYPE, PRE-CHARGED WITH 60 PSIG AIR, LEAD FREE, COPPER BODY, BRASS OR HIGH HEAT POLY-PROPYLENE PISTON WITH DUAL EPDM O-RING SEALS LUBRICATED WITH FDA APPROVED SILICONE LUBRICANT. PDI CERTIFIED, A.S.S.E. 1010 APPROVED FOR SEALED WALL INSTALLATION, RATED FOR 33-60 FIXTURE UNITS.  INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	WATTS (LF15M2-DR), SIOUX CHIEF (650 SERIES), MIFAB (MWH), PPP (SC SERIES), ZURN WILKINS (Z50XL), JR SMITH (5201-5250), WADE (WPS-100), JOSAM (75000-S)
WM-1	WATER METER - NUTATING DISC TYPE, LEAD FREE BRONZE CONSTRUCTION, LINE SIZE, TOP READING CUMULATIVE DIAL WITH FACE PLATE CAP AND REMOTE READOUT, AWWA COMPLIANT.  PROVIDE STRAINER, TEST PORT AND FULL SIZE BYPASS WITH LOCKABLE VALVE. PROVIDE PER UTILITY COMPANY'S REQUIREMENTS.	NEPTUNE (T-10), BADGER, HERSEY
YCO-1	YARD CLEANOUT - ROUND, DURA-COATED CAST IRON, SIZE AS LISTED ON DRAWINGS, DOUBLE FLANGED HOUSING, HEAVY DUTY SECURED SCORIATED DURA-COATED CAST IRON COVER, LIFTING DEVICE, BRONZE CLEANOUT PLUG WITH GAS/WATER-TIGHT SEAL.	ZURN (Z1474), SMITH (4261), WADE (8401), JOSAM (58680), WATTS (CO-300-MF), MIFAB (C1300-MF)

PLUMBING (WITH POWER) MATERIAL LIST

TAG NAME	# OF STAGES	ELECTRICAL										CONTROLLER/ STARTER
		TOTAL (QTY* KW)	HP (NOTE E)	FLA	VOLTAGE	PHASES	DISCONNECT		BY (NOTE A)	TYPE (NOTE B)	BY (NOTE A)	TYPE (NOTE C)
CP-1			0.17	0	120	1	EC	NF	EC			FV
EW-C-1			0.2	0	120	1				PLUG		
GD-1			0.5	6.3	120	1				PLUG		
WH-1	1	4	0	0	208	1	EC	NF				

PLY+

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Project Name

WARREN BRANCH LIBRARY



Drawing Name

PLUMBING SCHEDULES

Drawn By

JJS

Checked By

SWM

Issue Date

03/14/25 Permit & Bid Set

Revisions

Issued for Date

Project No.

P24006

Sheet Number

P600



NAME

LEVEL NAME

10'-0"

HEIGHT ABOVE PROJECT 0'-0"

1

KEYNOTE: INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

VIEW NAME

1/8" = 1'-0"

PLAN OR DETAIL SCALE

SIM

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

DETAIL REFERRED TO BY SECTION CUT

1

M101

4

T101

3

2

LINE TYPE AND TAG KEY:

NEW WORK BY THIS CONTRACTOR (WIDE LINE)

NEW

EXISTING TO BE REMOVED (SHORT DASHED PATTERN)

NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)

EXISTING

EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)

EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)

HALFTONING DOES NOT MODIFY SCOPE.

TAG-E

TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING

TAG-1

UNDERLINED TAG INDICATES OBJECT IS IN-SCOPE. IF NEW, ADDITIONAL INFORMATION IS AVAILABLE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST

INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
A.V.C.	AUDIO/VISUAL CONTRACTOR
C.C.	CIVIL CONTRACTOR
C.M.	CONSTRUCTION MANAGER
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

TECHNOLOGY ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BFC	BELOW FINISHED CEILING
C	CONDUIT
DE	DELAYED EGRESS
DPDT	DOUBLE POLE DOUBLE THROW
FOV	FIELD OF VIEW
J-BOX	JUNCTION BOX
POE	POWER OVER ETHERNET
PTZ	PAN TILT ZOOM
SIM	SIMILAR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
+#	MOUNTING HEIGHT ABOVE FINISHED FLOOR
EF-#	ENTRANCE FACILITY
MC-#	MAIN CROSS-CONNECT
TR-#	TELECOMMUNICATION ROOM

TECHNOLOGY SYMBOL LIST			
SYMBOL	TAG	EQUIPMENT LIST ABBREVIATION	DESCRIPTION
			CONTROLLED SECURITY SCHEME SCHEDULE IDENTIFIER
		AC-R1-W	SECURITY CREDENTIAL READER (WALL) - ROUGH-IN ONLY
	DR1	AC-DR1-S	SECURITY ELECTRONIC DOOR RELEASE (SURFACE) - ROUGH-IN ONLY
	C1-WAP	SC-IO-C	INFORMATION OUTLET (CEILING)
	C1	SC-IO-F	INFORMATION OUTLET CONNECTION IN FLOOR BOX
	C1	SC-IO-W	INFORMATION OUTLET (WALL)
	C1-WAP	SC-IO-W	INFORMATION OUTLET (WALL)
	C2	SC-IO-W	INFORMATION OUTLET (WALL)
	CM-1	VS-CM-1	VIDEO SURVEILLANCE CAMERA (WALL/VERTICAL SURFACE) - ROUGH-IN ONLY
	CM-1	VS-CM-1	VIDEO SURVEILLANCE CAMERA (WALL/VERTICAL SURFACE) - ROUGH-IN ONLY

PATHWAY SYMBOL LIST:	
SYMBOL	DESCRIPTION
	LADDER RACK
	CONDUIT
	CONDUIT DOWN
	CONDUIT UP OR UP/DOWN
	CONDUIT SLEEVE
	CONTINUATION

### TECHNOLOGY SYMBOL LIST GENERAL NOTES:

- "C#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION. REFER TO INFORMATION OUTLET SCHEDULE ON T500 FOR ADDITIONAL INFORMATION.
- REFER TO CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE ON T402 FOR ADDITIONAL INFORMATION.
- "CM-#" ON FLOOR PLANS INDICATES CAMERA TYPE AND IS ASSOCIATED WITH THE CORRESPONDING "VS-CM-#" EQUIPMENT SCHEDULE ABBREVIATION. "##-##" SUBSCRIPT INDICATES FLOOR NUMBER-CAMERA NUMBER. REFER TO INDIVIDUAL CAMERA REQUIREMENT SCHEDULE FOR ADDITIONAL INFORMATION.

SUGGESTED MATRIX OF RESPONSIBILITY				
ITEM:	SHOWN ON:	FURNISHED BY:	INSTALLED BY:	NOTES:
TECHNOLOGY ROUGH-IN, REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR DEFINITION	T-SERIES	E.C.	E.C.	3. 4.
INFORMATION OUTLET FACEPLATES, JACKS, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
CONDUIT SLEEVES (WHEN SHOWN ON DRAWINGS)	T-SERIES	E.C.	E.C.	
CONDUIT SLEEVES (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	T.C.	2. 4.
TELECOMMUNICATION SYSTEMS ROUGH-IN	T-SERIES	E.C.	E.C.	1.
TELECOMMUNICATION EQUIPMENT, CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
LADDER RACK	T-SERIES	T.C.	T.C.	5.
GROUNDING LUGS ON TECHNOLOGY EQUIPMENT	T-SERIES	T.C.	E.C.	6.
BONDING SYSTEM FOR TECHNOLOGY SYSTEM, REFER TO SPECIFICATION SECTION 27 05 26 FOR DEFINITION	T-SERIES	E.C.	E.C.	7. 8.
CONNECTION OF TECHNOLOGY BONDING SYSTEM TO THE ELECTRICAL GROUND SYSTEM	T-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (+120V OR GREATER)	E-SERIES	E.C.	E.C.	
LINE VOLTAGE POWER (NOT SHOWN BUT REQUIRED FOR PROPER INSTALLATION OF SYSTEM)	N/A	T.C.	E.C.	2. 4.
LINE VOLTAGE POWER FOR DOOR HARDWARE POWER SUPPLIES	ARCH SPEC	E.C.	E.C.	
CABLE HANGERS AND SUPPORTS OR OTHER CABLE ROUTING METHODS (OTHER THAN CONDUIT AND CABLE TRAY)	T-SERIES	T.C.	T.C.	5.
TECHNOLOGY SERVICE ENTRANCE CONDUITS, HANDHOLES, AND MANHOLES	T-SERIES	E.C.	E.C.	
SECURITY ACCESS CONTROL CABLING, TERMINATIONS, AND EQUIPMENT	T-SERIES	OWNER	OWNER	
SECURITY VIDEO SURVEILLANCE CABLING, AND TERMINATIONS	T-SERIES	T.C.	T.C.	
SECURITY VIDEO SURVEILLANCE EQUIPMENT INSTALLATION, PROGRAMMING, AND TESTING	T-SERIES	OWNER	OWNER	
SECURITY SYSTEMS ROUGH-IN	T-SERIES	E.C.	E.C.	

### SUGGESTED MATRIX OF RESPONSIBILITY NOTES

- LOCATIONS OF TELECOMMUNICATIONS ROUGH-INS SHALL BE INDICATED BY THE INFORMATION OUTLET SYMBOLS ON THE DRAWINGS. REFER TO THE TECHNOLOGY SYMBOL LIST FOR ADDITIONAL INFORMATION.
- BASED ON THE INHERENT DIFFERENCES IN PRODUCTS FROM VARIOUS MANUFACTURERS, ALL REQUIRED EQUIPMENT MAY NOT BE SHOWN ON THE DRAWINGS FOR ALL ACCEPTABLE MANUFACTURERS.
- INCLUDES BACKBOXES AND CONDUIT REQUIRED FOR THE TECHNOLOGY SYSTEMS INSTALLATION. THE E.C. SHALL BASE THE BID ON THE BASIS OF DESIGN SHOWN ON THE CONTRACT DOCUMENTS.
- ALL CHANGES TO THE SLEEVES, BACKBOXES, CONDUITS, AND POWER REQUIRED BECAUSE OF THE T.C.'S SELECTION OF AN ALTERNATE ACCEPTABLE MANUFACTURER OR FROM SYSTEM CONFIGURATIONS THAT ARE LEFT TO THE CHOICE OF THE CONTRACTOR SHALL BE INCLUDED IN THE T.C.'S BID. THIS BID SHALL INCLUDE INSTALLATION BY A LICENSED ELECTRICIAN.
- UNLESS TRADE RULES DICTATE OTHERWISE.
- FURNISHED AS PART OF THE EQUIPMENT WHEN POSSIBLE, OR FURNISHED TO THE E.C. FOR INSTALLATION IN THE FIELD.
- INCLUDES ALL CONDUCTORS, GROUND BARS, AND TERMINATIONS FOR THE COMPLETE BONDING SYSTEM REQUIRED BY THE SPECIFICATIONS.
- REFER TO ELECTRICAL DRAWINGS FOR LOCATIONS OF PANELS AND SWITCHBOARDS SHOWN IN THE TECHNOLOGY BONDING RISER DIAGRAM AND TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

TELECOM ROOM REFERENCES		
TELECOM ROOM	DETAIL / SHEET REFERENCE	FLOOR PLAN REFERENCE
TR-1	T300	T201

TECHNOLOGY SHEET INDEX	
T000	TECHNOLOGY COVERSHEET
T100	TECHNOLOGY SITE PLAN
T201	LEVEL 01 PLAN - TECHNOLOGY
T300	TECHNOLOGY ENLARGEMENT
T400	TECHNOLOGY DETAILS AND DIAGRAMS
T401	TECHNOLOGY DETAILS AND DIAGRAMS
T402	TECHNOLOGY DETAILS AND DIAGRAMS
T403	TECHNOLOGY DETAILS AND DIAGRAMS
T500	TECHNOLOGY SCHEDULES
GRAND TOTAL: 9	

### TECHNOLOGY GENERAL NOTES:

- ###-###-# INDICATES TECHNOLOGY EQUIPMENT SCHEDULE ITEM LABELED AS "EQUIPMENT LIST ABBREVIATION"
- REFER TO TECHNOLOGY EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR FULL DESCRIPTIONS AND MANUFACTURERS OF ALL DEVICES.

TECHNOLOGY MOUNTING SUBSCRIPT KEY:

- A MOUNT AT +6" TO CENTERLINE ABOVE COUNTER OR BACKSPLASH
- H MOUNT ORIENTED HORIZONTALLY
- L MOUNT IN CASEWORK
- M MOUNT IN MODULAR FURNITURE
- S MOUNT IN SURFACE RACEWAY

A SLASH IS USED BETWEEN TWO SUBSCRIPTS, E.G., A/H.

- REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ITEMS.
- REFER TO DIAGRAMS ON SHEETS: T400, T401, AND T402.

### TECHNOLOGY INSTALLATION NOTES:

- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAILS ON THIS PAGE FOR ADDITIONAL INFORMATION.
- CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
- BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS, AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL TELECOMMUNICATIONS INSTALLATION, ADJUST OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TELECOMMUNICATION DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO DIVISION 07 FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.
- THE TECHNOLOGY CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF THE CEILINGS, CEILING TILES, AND CEILING GRID ASSOCIATED WITH THE AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
- ALL LADDER RACK SIZES ARE AS DEFINED ON THE DRAWINGS. REFER TO SPECIFICATION SECTION 27 05 28 FOR APPROVED MANUFACTURERS AND INSTALLATION REQUIREMENTS.
- EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO THE WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH. NTD: EDIT TO MATCH SCOPE

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COVERSHEET

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P24006

Sheet Number

T000

INSTALL ABOVE COUNTER DEVICE AT 48" ABOVE FINISHED FLOOR.

INSTALL ABOVE COUNTER DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 18" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 44" ABOVE FINISHED FLOOR.

INSTALL DEVICE AT 42" ABOVE FINISHED FLOOR.

ADA GUIDELINES - FRONT ACCESS

ADA GUIDELINES - SIDE ACCESS

### ADA STANDARDS FOR ACCESSIBLE DESIGN

IMEG

263 SHUMAN BOULEVARD  
SUITE 500  
MARETTEVILLE, IL 60563  
P: 630.527.2320

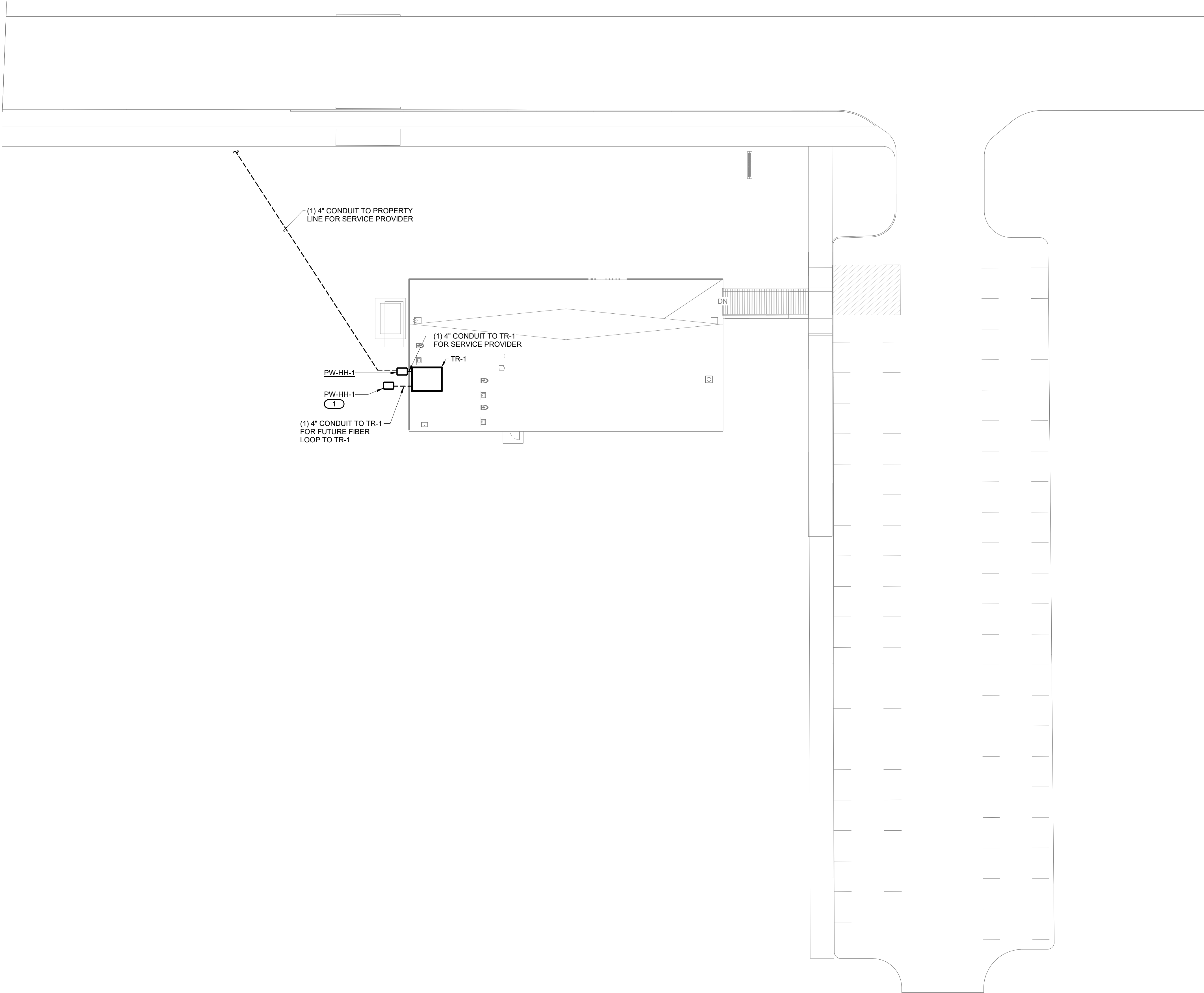
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**KEYNOTES:** C #

1. HANDHOLE RESERVED FOR USE ON FUTURE FIBER LOOP CONNECTION. INSTALL AT A MINIMUM OF 6' FROM BUILDING EXTERIOR.

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**TECHNOLOGY SITE PLAN**

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Project No.

**P24006**

Sheet Number


**T100**



**1**

**LEVEL 01 SITE PLAN - TECHNOLOGY**

1/16" = 1'-0"



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0

1

2

3

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LEVEL 01 PLAN -  
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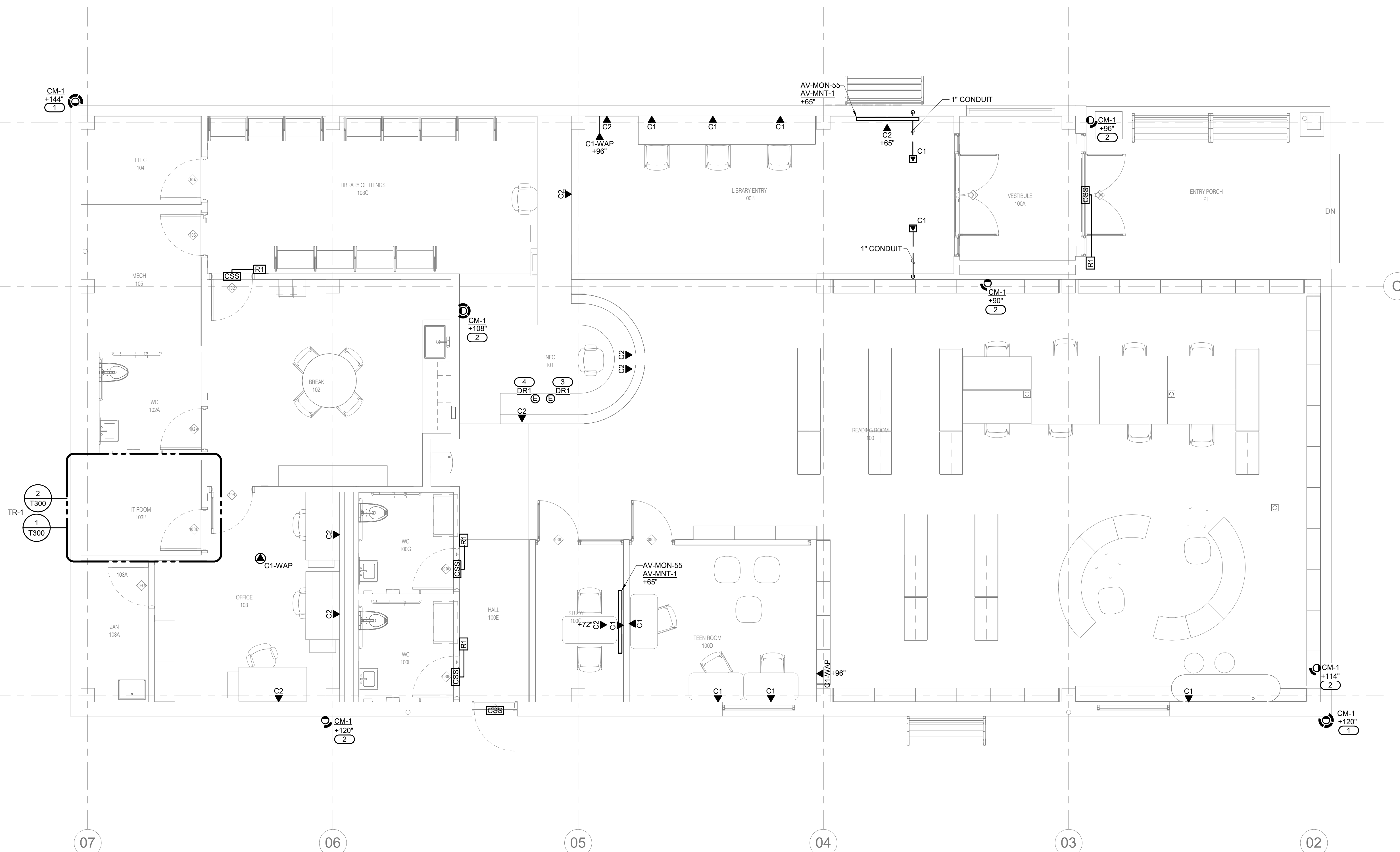
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P24006

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T201



# 1 LEVEL 01 PLAN - TECHNOLOGY



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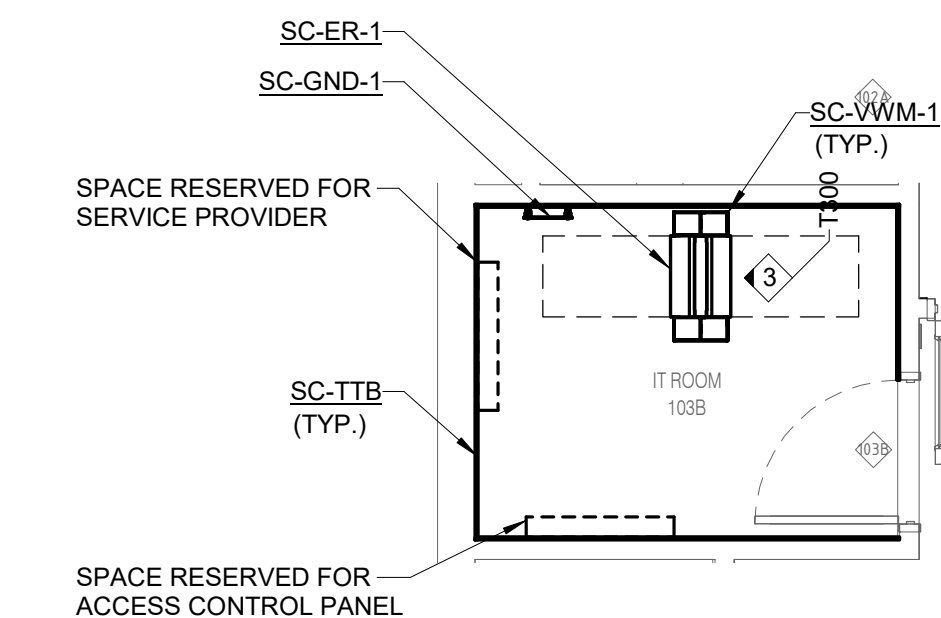
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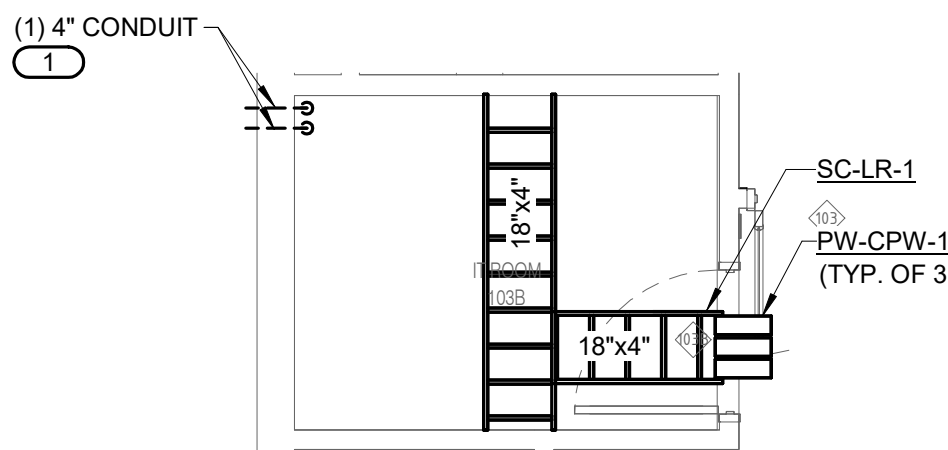
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Sheet Number

T300

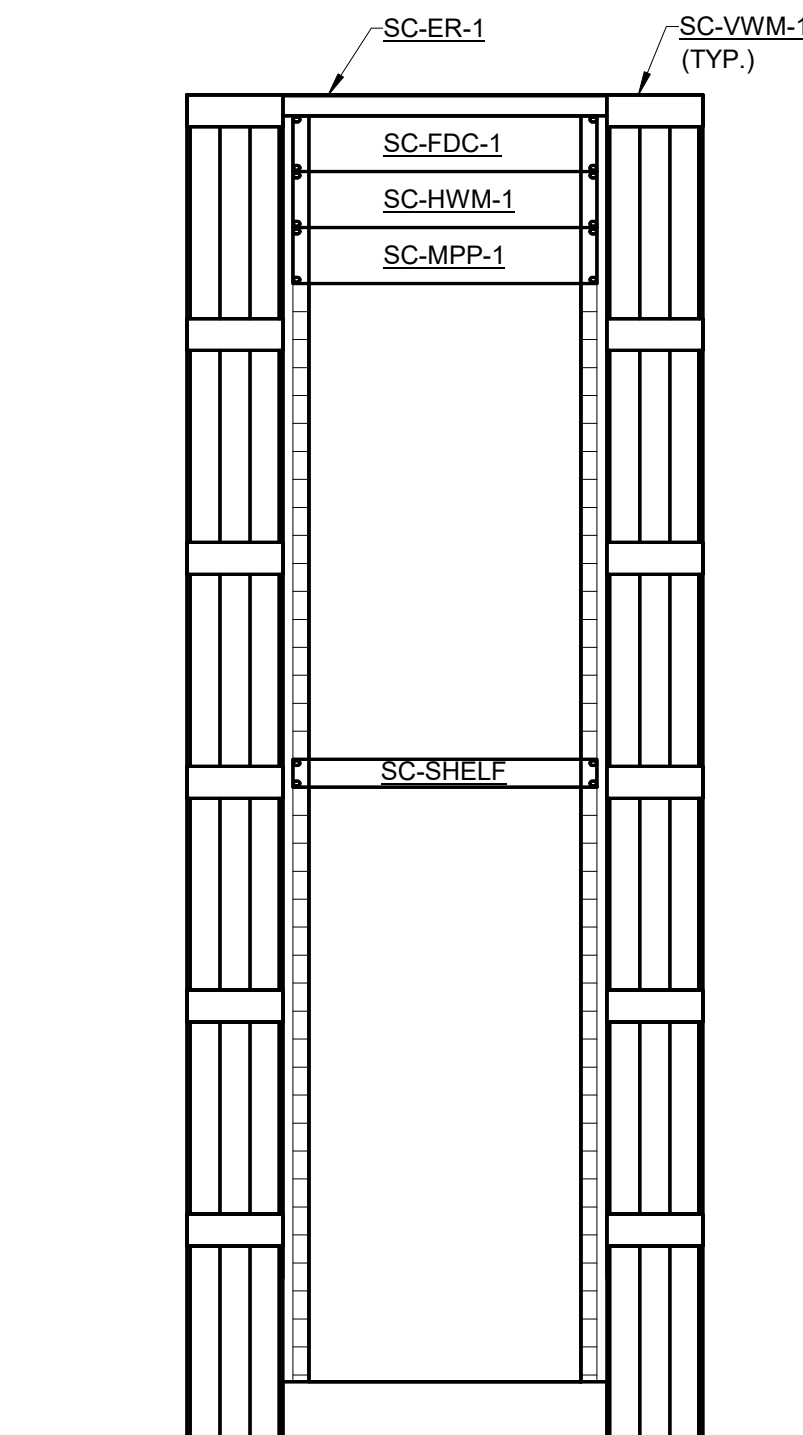


**1 EQUIPMENT ROOM LAYOUT - TR-1**  
1/4" = 1'-0"

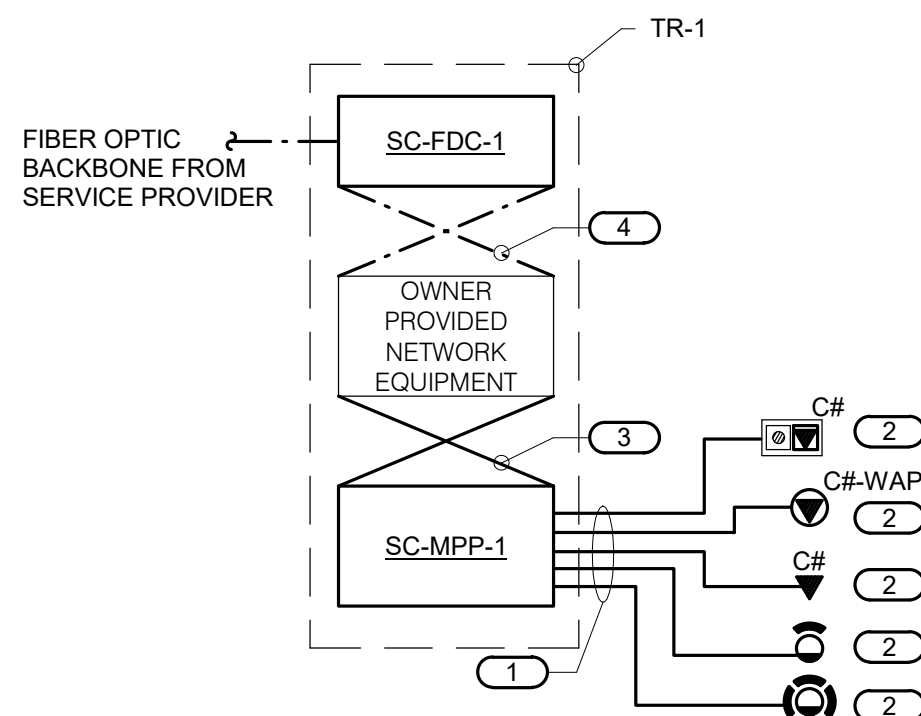


**2 PATHWAY ROOM LAYOUT -TR-1**  
1/4" = 1'-0"  
KEYNOTES: C#

1. REFER TO SHEET T100 FOR ADDITIONAL INFORMATION.



**3 EQUIPMENT RACK ELEVATION - TR-1**  
1" = 1'-0"



NOTES:

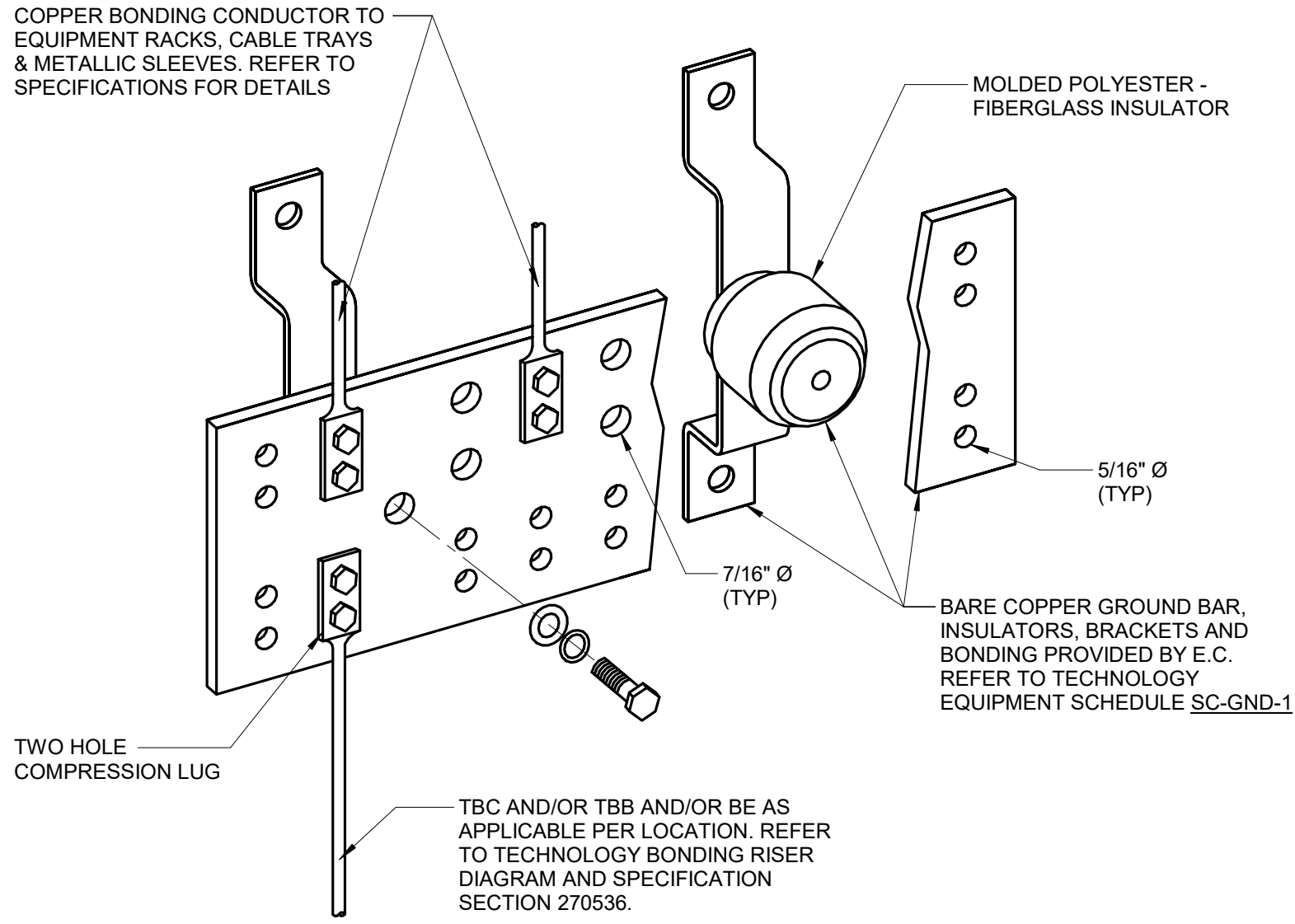
1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS SHOWN. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CABLE TYPE. ALL INFORMATION OUTLETS ARE TYPICAL OF THE OUTLETS IN THE AREA SHOWN. REFER TO FLOOR PLANS FOR MORE SPECIFIC ROUTING AND QUANTITY INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. REFER TO T500 FOR GENERAL TECHNOLOGY EQUIPMENT SCHEDULE.

KEYNOTES: C#

1. 23 GAUGE, 4-PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR CABLE. SEE SPECIFICATIONS.
2. REFER TO INFORMATION OUTLET SCHEDULE ON T500 AND THE FLOOR PLANS FOR QUANTITY OF CABLES AND JACKS TO BE INSTALLED AT EACH INFORMATION OUTLET.
3. RJ-45 TO RJ-45 CATEGORY CAT 6 UTP PATCH CORD. SEE SPECIFICATIONS.
4. FIBER PATCH CORD. SEE SPECIFICATIONS.

**4 CONNECTIVITY RISER DIAGRAM**  
NO SCALE

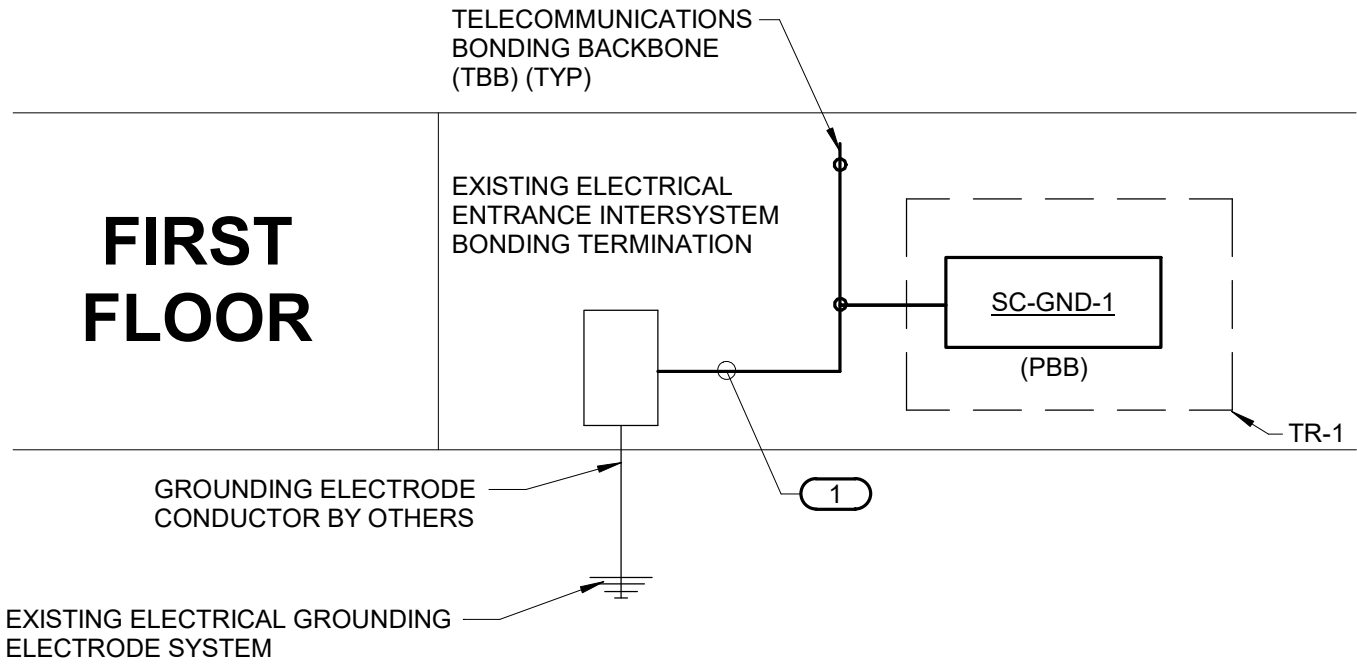




NOTES:

1. REFER TO TECHNOLOGY EQUIPMENT SCHEDULE SC-GND-1 FOR MINIMUM DIMENSION REQUIREMENTS.
2. REFER TO 3/400 FOR TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.

1 BONDING BUS BAR DETAIL  
NO SCALE



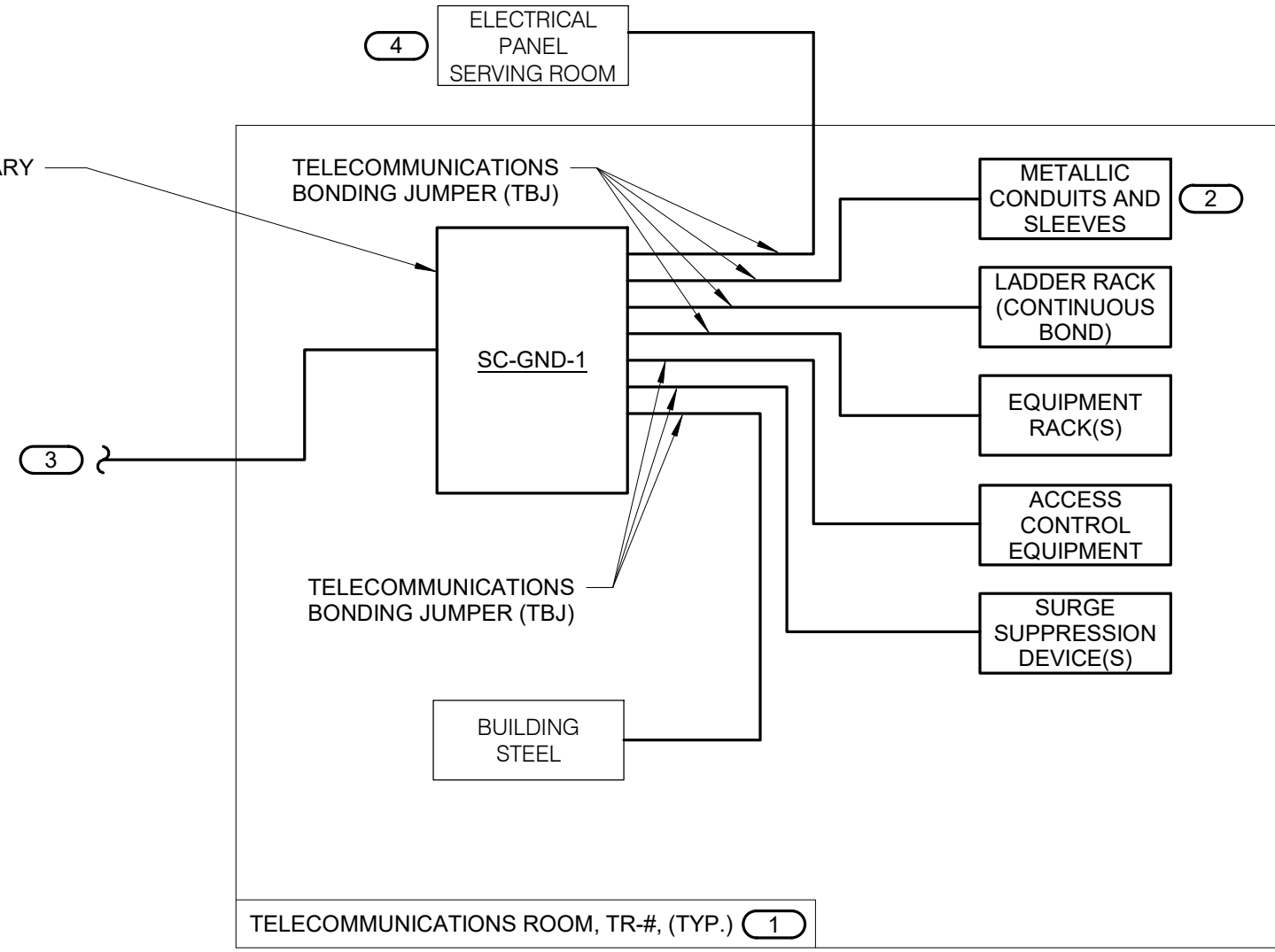
NOTES:

1. THIS RISER IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS RISER IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND MORE SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. TELECOM BONDING BACKBONE SHALL BE PROVIDED PER BONDING CONDUCTOR SIZING SCHEDULE.
3. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE [PLENUM RATED] COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR). REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.
5. SC-GND-1 IS THE PRIMARY BONDING BUSBAR (PBB) WHICH CONNECTS TO THE (TBC) AND CONNECTS ALL SECONDARY BONDING BUSBAR (SBB) VIA THE (BBC).
6. REFER TO FOR TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM.
7. REFER TO TELECOM ROOM REFERENCES SCHEDULE FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION.

KEYNOTES: (#)

1. TELECOMMUNICATIONS BONDING CONDUCTOR (TBC). TBC SHALL BE THE SAME SIZE AS THE TBB OR LARGER. REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING REQUIREMENTS.

BONDING CONDUCTOR SIZING SCHEDULE	
CONDUCTOR LENGTH IN FEET	MINIMUM ACCEPTABLE SIZE - AWG
LESS THAN 13'	6
14' - 20'	4
21' - 26'	3
27' - 33'	2
34' - 41'	1
42' - 52'	1/0
53' - 66'	2/0
67' - 84'	3/0
85' - 105'	4/0
106' - 125'	250 kcmil
126' - 150'	300 kcmil
151' - 175'	350 kcmil
176' - 250'	500 kcmil
251' - 300'	600 kcmil
GREATER THAN 301'	750 kcmil



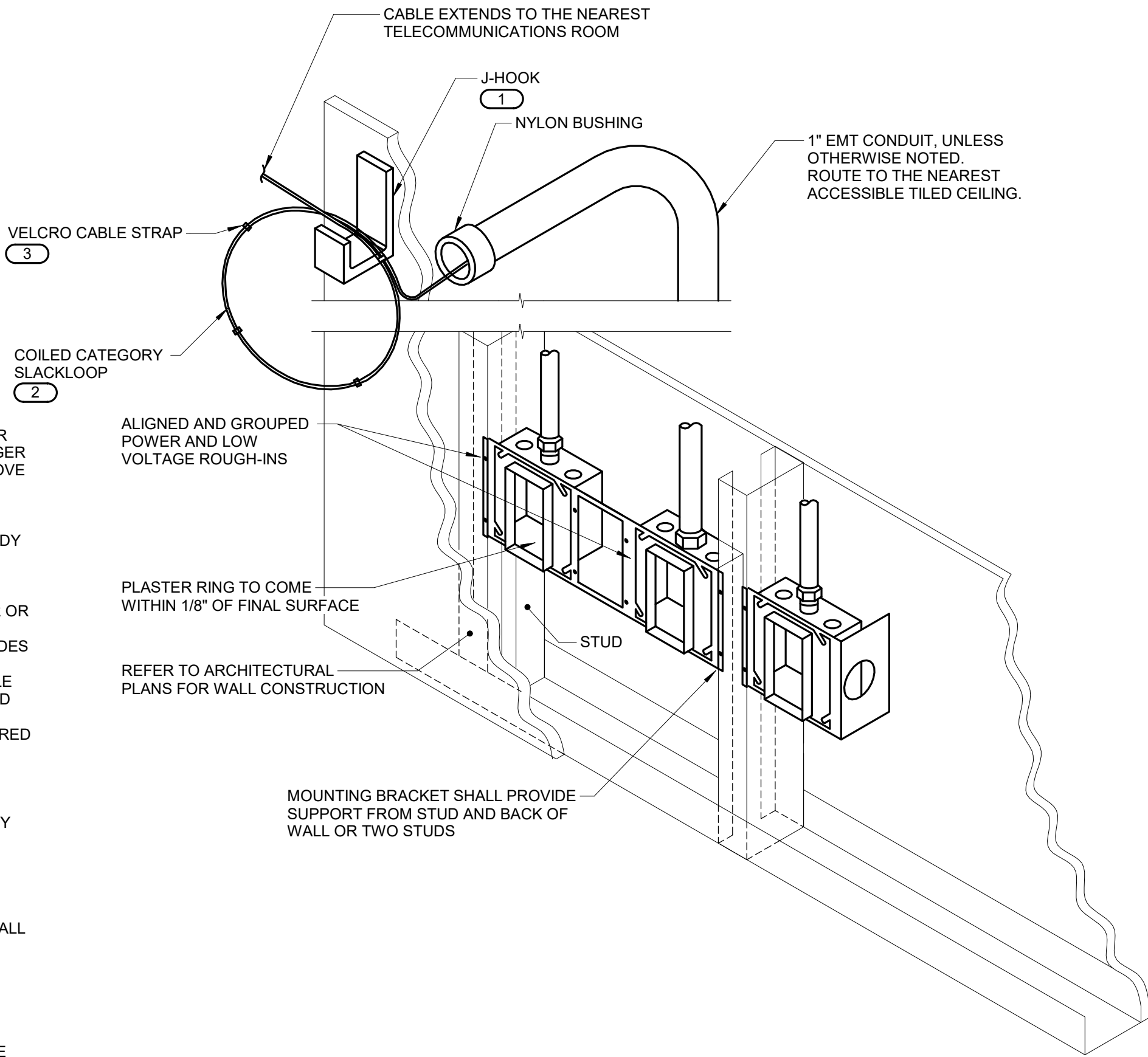
NOTES:

1. THIS FLOW DIAGRAM IS DIAGRAMMATIC AND MAY NOT SHOW ACTUAL ROUTING OR QUANTITIES OF MATERIALS. THIS FLOW DIAGRAM IS SHOWN FOR CLARIFICATION OF CONNECTION LOCATIONS AND CONDUCTOR TYPE. ALL CONNECTIONS AND SYSTEM DEVICES SHOWN ARE TYPICAL AND NOT REPRESENTATIVE OF ACTUAL PROJECT QUANTITIES. REFER TO FLOOR PLANS AND ENLARGED FLOOR PLANS FOR ACTUAL QUANTITIES AND LOCATIONS OF DEVICES AND SPECIFIC ROUTING INFORMATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. ALL CONDUCTORS IN THE TECHNOLOGY BONDING SYSTEM SHALL BE [PLENUM RATED] COPPER (GREEN OR MARKED WITH A DISTINCTIVE GREEN COLOR). REFER TO BONDING CONDUCTOR SIZING SCHEDULE FOR SIZING CRITERIA FOR CONDUCTORS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. ALL BONDING CONDUCTORS AND BONDING JUMPERS SHALL BE CONNECTED BY COMPRESSION LUGS, EXOTHERMIC WELDING, OR IRREVERSIBLE COMPRESSION CONNECTORS. SOLDER IS NOT AN ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED TO CONNECT COMMUNICATIONS BONDING CONDUCTORS TO EQUIPMENT. WHERE NECESSARY, REMOVE PAINT AND/OR USE PAINT-PIERCING WASHERS TO PROVIDE PROPER ELECTRICAL BOND AT ALL CONNECTIONS.

KEYNOTES: (#)

1. REFER TO TELECOM ROOM REFERENCES SCHEDULE FOR TELECOMMUNICATIONS ROOM NUMBER AND LOCATION INFORMATION.
2. INCLUDES HORIZONTAL AND VERTICAL CONDUIT SLEEVES FOR TECHNOLOGY CABLING.
3. TELECOMMUNICATIONS BONDING BACKBONE (TBB). REFER TO TELECOMMUNICATIONS BONDING RISER DIAGRAM.
4. REFER TO ELECTRICAL DRAWINGS FOR LOCATION.

3 TYPICAL TELECOM ROOM BONDING FLOW DIAGRAM  
NO SCALE



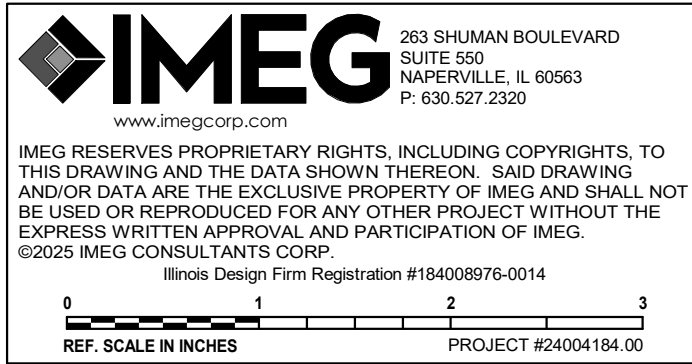
NOTES:

1. THE INTENT OF THE DETAIL IS TO ALIGN AND GROUP DEVICE ROUGH-INS FOR POWER AND LOW VOLTAGE TECHNOLOGY SYSTEMS. SOLIDLY MOUNTED AND THE SURFACE OF THE TRIM IS EITHER FLUSH WITH THE WALL SURFACE OR WITHIN 1/8" OF THE WALL SURFACE. JUNCTION BOXES LARGER THAN 4" SQUARE SHALL BE MOUNTED IN A MANNER THAT IS SIMILAR TO THE SYSTEM NOTED ABOVE OR ACHIEVES THE SAME RESULTS.
2. PLASTER RINGS DEPTH SHALL BE 1/8" DEEPER THAN THE GYP BOARD APPLIED TO THE WALL. PLASTER RING SHALL BE 3/4" FOR USE WITH 5/8" GYP BOARD.
3. METAL STUD-TO-STUD MOUNTING BRACKETS FOR MULTIPLE BOXES BETWEEN STUD. ERICO CADDY RBS## SERIES, EATON B-LINE BB SERIES, OR EQUAL.
4. MOUNTING SUPPORT BRACKETS SIZES FOR SINGLE BOXES IN A STUD CAVITY SHALL MATCH THE STUD DEPTH. ERICO CADDY H## SERIES, EATON B-LINE BB## SERIES, OR EQUAL.
5. WHERE RECEPTACLE AND TECHNOLOGY DEVICES ARE SHOWN SERVING A COMMON COMPUTER OR EQUIPMENT, OR SHOWN IN SIMILAR LOCATIONS ON THE DRAWINGS THE DEVICES SHALL BE INSTALLED IN THE SAME STUD CAVITY WITH MOUNTING BRACKETS OR ALIGNED ON OPPOSITE SIDES OF A COMMON STUD WITH SEPARATE SUPPORT.
6. TERMINATE CONDUIT STUB ORIENTED HORIZONTALLY AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE. CONDUIT RUN SHALL NOT CONTAIN MORE THAN 180 DEGREES OF BEND BETWEEN ACCESSIBLE JUNCTION BOXES OR BETWEEN JUNCTION BOX AND END OF CONDUIT.
7. WHERE CONDUIT STUB IS LOCATED IN A ROOM WITH AN ACCESSIBLE CEILING AND IS NOT REQUIRED TO RUN TO CABLE ROUTE LOCATED OUTSIDE THE ROOM, STUB MUST TERMINATE ABOVE THE ACCESSIBLE CEILING WITH A 90-DEGREE BEND AT THE TOP ORIENTED IN TO THE ROOM AT THE HEIGHT OF THE ASSOCIATED CABLE TRAY OR J-HOOK ROUTE IN THE ROOM.
8. ALL STUBS MUST BE FITTED WITH A NYLON BUSHING ON EACH END OF THE CONDUIT.
9. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR TECHNOLOGY ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.

KEYNOTES: (#)

1. MOUNT A DEDICATED J-HOOK TO THE NEAREST CEILING SUBSTRUCTURE, COLUMN, JOIST, OR WALL ABOVE THE CEILING AS SHOWN ON THE DRAWINGS. PROVIDE THE PROPER SUPPORT WHEN HANGING FROM THE CEILING SUBSTRUCTURE OR COLUMN WALL OR JOIST. REFER TO SPECIFICATION SECTION 27 05 28 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SECTION 27 15 00 FOR SLACKLOOP LENGTH. MAINTAIN THE MANUFACTURERS BEND RADIUS FOR SLACKLOOP SIZE.
3. PROVIDE AND INSTALL A VELCRO CABLE STRAP ON THE SLACKLOOP APPROXIMATELY EVERY 6" ALONG THE SLACKLOOP. FOR SLACKLOOPS GREATER THAN 3' A MINIMUM OF (4) STRAPS WILL BE INSTALLED.

4 TECHNOLOGY ROUGH-IN TO J-HOOK DETAIL  
NO SCALE



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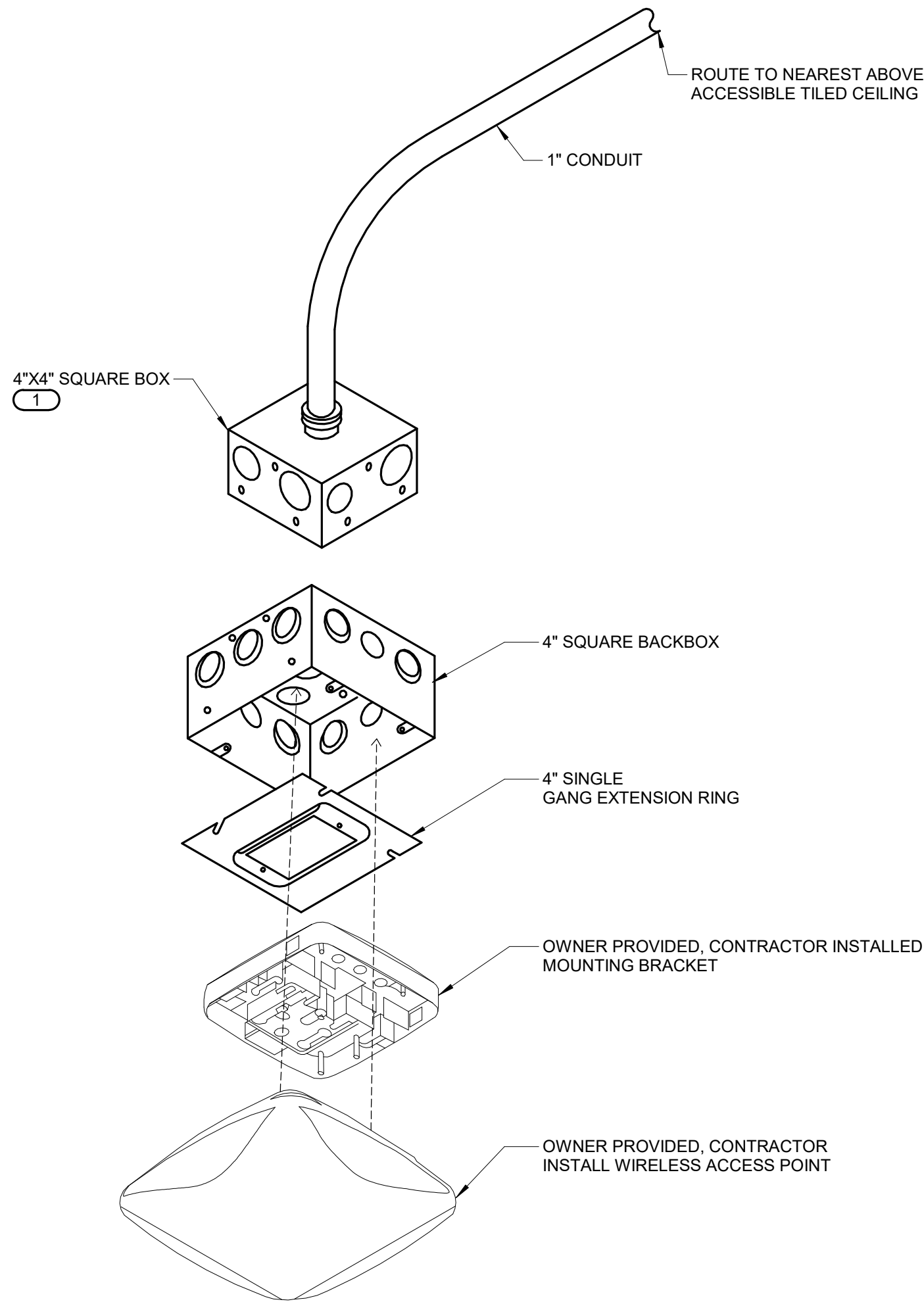
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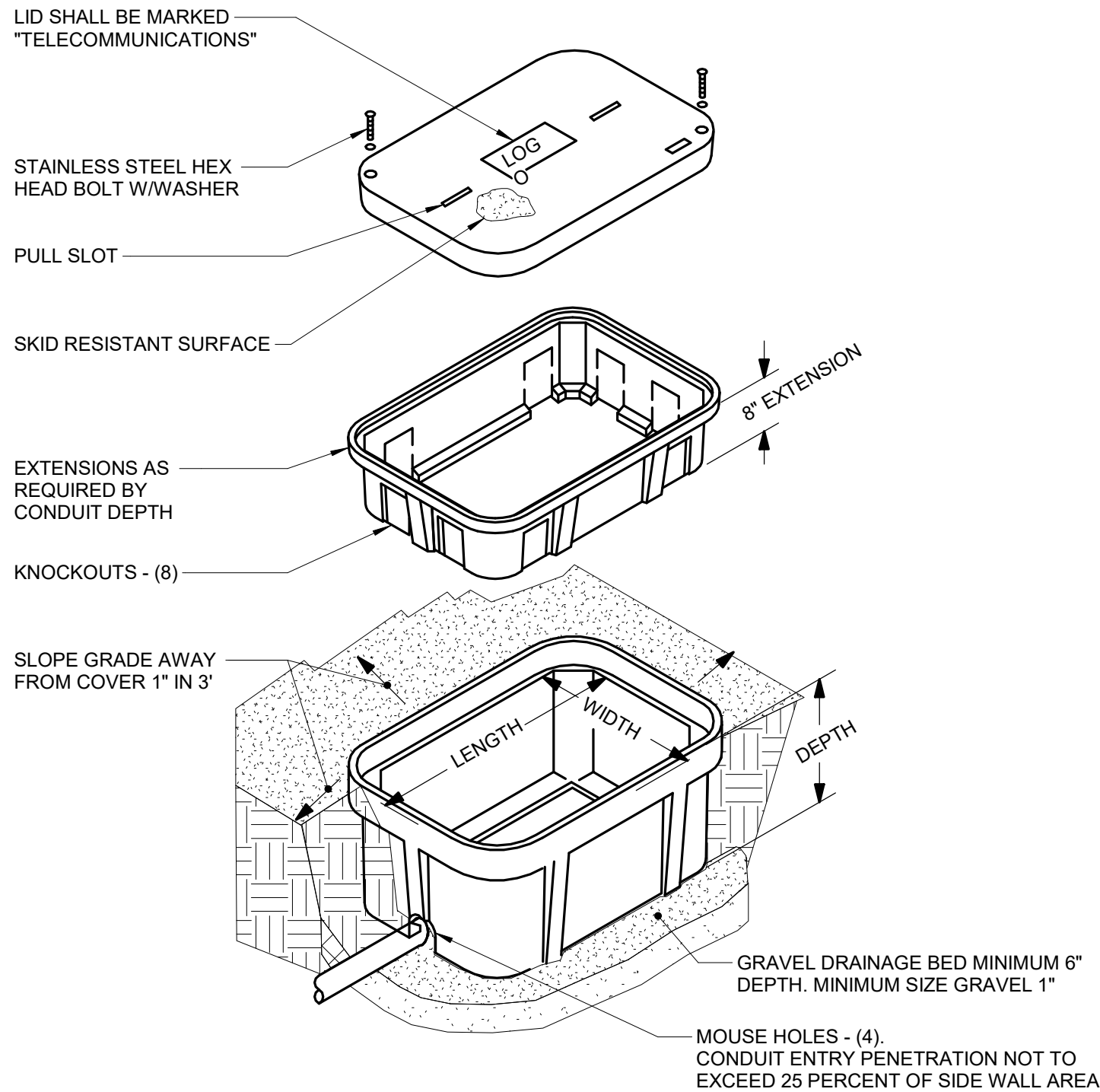
T400



- NOTES:
- INDEPENDENTLY SUPPORT ROUGH-IN FROM STRUCTURE.
- KEYNOTES: #
- STUB VERTICAL CONDUIT 10" MINIMUM FROM HORIZONTAL CONDUIT. COORDINATE STUB LENGTH WITH OWNER PRIOR TO ROUGH-IN.

### 1 WIRELESS ACCESS POINT ROUGH-IN/MOUNTING DETAIL (CEILING)

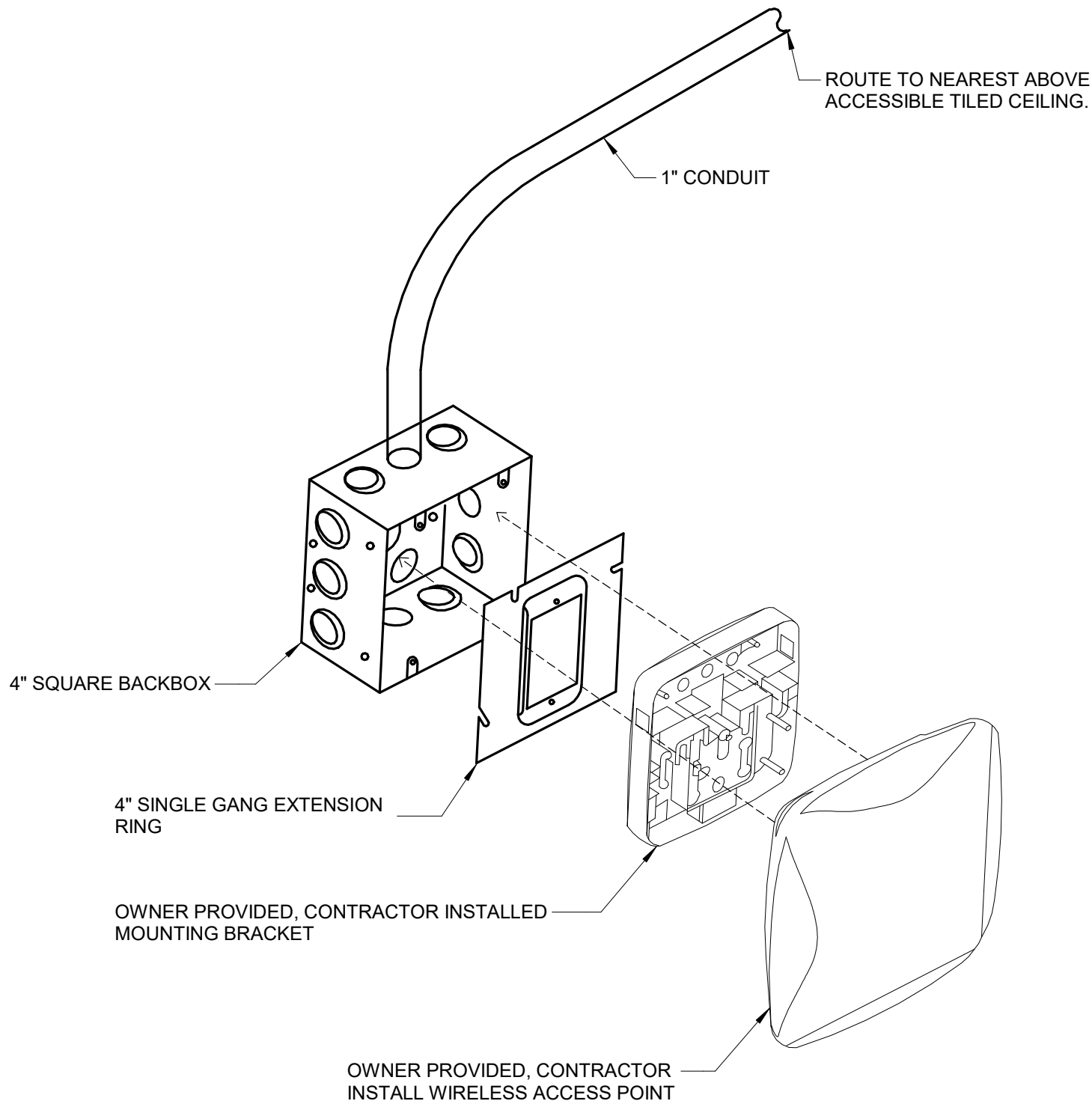
NO SCALE



- NOTES:
- ALL DIMENSIONS ARE NOMINAL INSIDE CLEARANCES.
  - ANY SPLICES OR DEVICES IN HANDHOLE SHALL BE SUBMERGIBLE.

### 3 EXTERIOR HAND HOLE DETAIL

NO SCALE



- NOTES:
- INDEPENDENTLY SUPPORT ROUGH-IN FROM STRUCTURE.

### 2 WIRELESS ACCESS POINT ROUGH-IN/MOUNTING DETAIL (WALL)

NO SCALE

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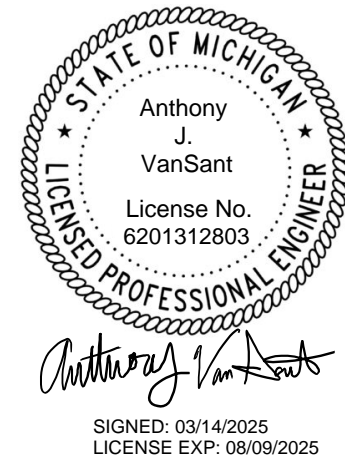
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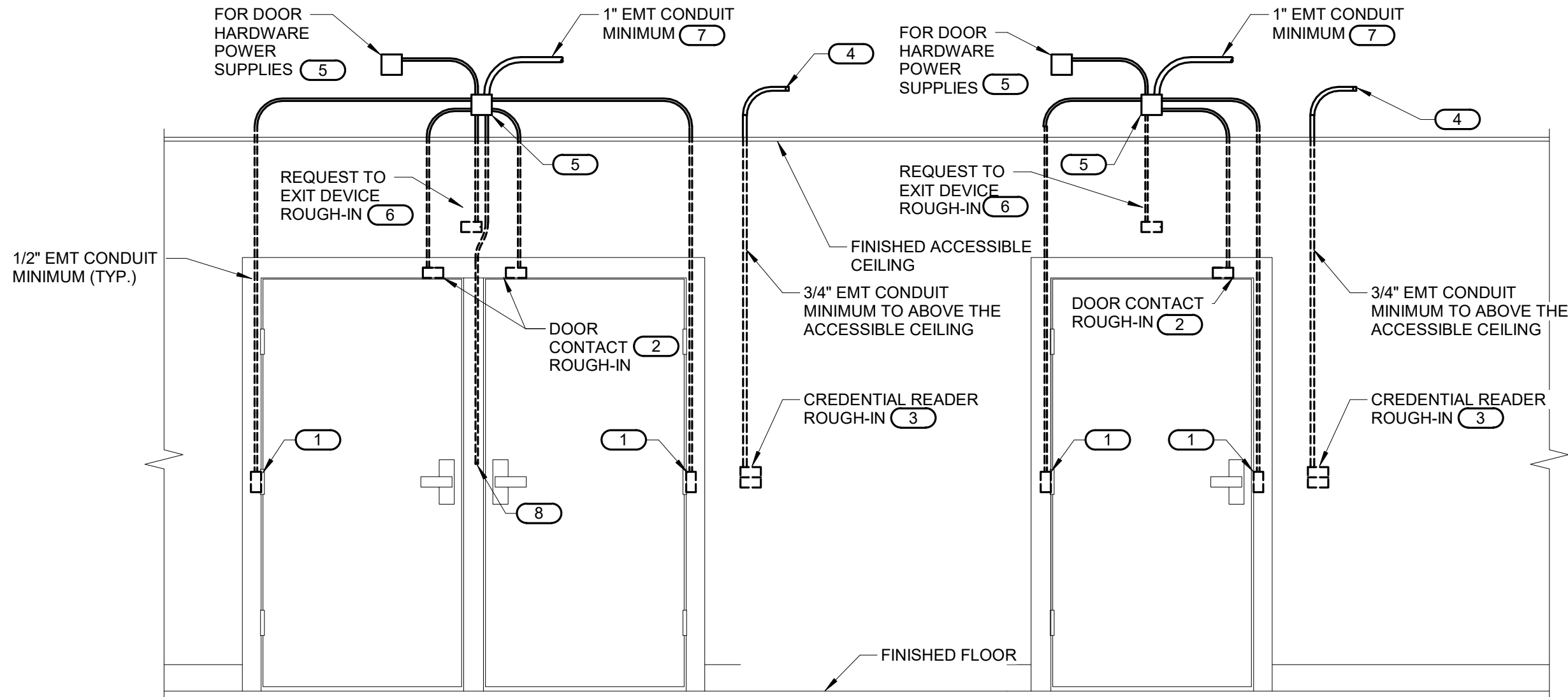
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Sheet Number

T401





DOOR FRAME ROUGH-IN DIAGRAM  
(ALL DOUBLE DOORS WITH OR WITHOUT MULLION)

NOTES:

- CONFIGURATIONS SHOWN IN THE DETAIL ABOVE ARE DIAGRAMMATIC, INTENDED TO DESCRIBE THE CONTROLLED SECURITY SCHEME ROUGH-IN REQUIREMENTS OF THE DOORS. DETAILS ABOVE MAY NOT ACCURATELY REPRESENT DOOR SIZE, DOOR SWING, DOOR HARDWARE, OR DOOR FUNCTIONALITY. REFER TO ARCHITECTURAL DOOR HARDWARE SCHEDULE, DOOR HARDWARE GROUPS AND DOOR HARDWARE SPECIFICATIONS FOR COMPLETE INFORMATION. MIRROR THE DETAIL AS REQUIRED.
- ROUGH IN SHOWN IN THE DETAIL ABOVE REPRESENTS THE MINIMUM REQUIREMENTS FOR ALL CONTROLLED SECURITY SYSTEM DEVICES AND CABLING UNLESS OTHERWISE NOTED. COORDINATE EXACT REQUIREMENTS WITH SELECTED DOOR MATERIALS, DOOR HARDWARE, AND CONTROLLED SECURITY DEVICES AND CABLING PRIOR TO INSTALLATION.
- ALL CABLING IN WALLS AND WHERE EXPOSED ON VERTICAL SURFACES SHALL BE INSTALLED IN EMT CONDUIT OR SURFACE MOUNT RACEWAY. CABLING ROUTED HORIZONTALLY ABOVE THE ACCESSIBLE TILED CEILING MAY BE INSTALLED FREE-AIR CABLING PROPERLY RATED FOR THE CEILING ENVIRONMENT.
- THE ELECTRICAL OR SECURITY CONTRACTOR SHALL NOT MODIFY ANY FIRE RATED DOOR AND/OR DOOR FRAME. REFER TO THE ARCHITECTURAL DOOR SCHEDULE, DOOR HARDWARE SCHEDULE, AND DOOR HARDWARE SPECIFICATION FOR ADDITIONAL INFORMATION. MODIFICATION TO ANY FIRE RATED DOOR AND/OR FRAME WILL REQUIRE A RE-CERTIFICATION OF THE DOOR AND FRAME WITH THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
- INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR ALL CONTROLLED SECURITY SCHEME ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- REFER TO THE CONTROLLED SECURITY SCHEME SCHEDULE ON T402 FOR ADDITIONAL INFORMATION.
- INSTALLATION SHALL INCLUDE ALL POWER REQUIRED FOR SYSTEM OPERATION INCLUDING +120VAC. REFER TO THE SUGGESTED MATRIX OF SCOPE RESPONSIBILITY FOR ADDITIONAL INFORMATION.

KEYNOTES: (#)

- PROVIDE JUNCTION BOXES IN THE DOOR FRAME WHERE SHOWN ON THIS DETAIL. ROUGH-IN SHALL BE PROVIDED WHETHER THE CURRENT SECURITY SCHEME UTILIZES THEM OR NOT. ALL CONDUITS SHALL BE EMT CONDUIT UNLESS OTHERWISE NOTED. FLEXIBLE CONDUIT OF ANY TYPE WILL NOT BE ACCEPTED. COORDINATE INSTALLATION WITH ON-SITE DOOR FRAME INSTALLATION CONTRACTOR.
- ALL DOOR POSITION SWITCHES ARE REQUIRED TO BE RECESSED UNLESS OTHERWISE NOTED. ELECTRIC HINGE MONITORS ARE NOT AN ACCEPTABLE REPLACEMENT FOR THE RECESSED DOOR POSITION SWITCH.
- 4" SQUARE BACKBOX WITH SINGLE GANG PLASTER RING. PROVIDE 2 1/2" DEEP MASONRY BOX WHERE APPLICABLE. REFER TO FLOOR PLAN(S) FOR ACTUAL CREDENTIAL READER TYPE AND ROUGH-IN LOCATIONS.
- CONDUIT SHALL ROUTE FROM THE CREDENTIAL READER TO THE SECURED SIDE OF THE DOOR. CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.
- MOUNT A MINIMUM 4" SQUARE 2-1/8" DEEP JUNCTION BOX WITH BLANK COVER PLATE ON THE SECURED SIDE OF THE DOOR ABOVE ACCESSIBLE CEILING. INSTALLING CONTRACTOR SHALL SIZE THE JUNCTION BOXES PER SYSTEM INSTALLATION REQUIREMENTS AND APPLICABLE CODES. MAINTAIN ACCESS TO THE JUNCTION BOX.
- PROVIDE A HORIZONTALLY MOUNTED SINGLE GANG BACKBOX FOR THE REQUEST TO EXIT SENSOR. REFER TO THE CONTROLLED SECURITY SCHEME SCHEDULE ON T402 FOR DOORS THAT REQUIRE THIS ROUGH-IN.
- CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE TILED CEILING. PROVIDE A NYLON BUSHING ON CONDUIT END.
- CONDUIT INSTALLED IN PERMANENT MULLIONS ONLY. REFER TO THE ARCHITECTURAL DOOR SCHEDULE AND DOOR HARDWARE GROUPS FOR LOCATIONS THAT REQUIRE THIS ROUGH-IN. PROVIDE A NYLON BUSHING ON THE CONDUIT END.

1


CONTROLLED SECURITY SCHEME DOOR ROUGH-IN DETAIL

NO SCALE

CONTROLLED SECURITY SCHEME (CSS) TYPE SCHEDULE

- ELECTRONIC DOOR HARDWARE SUCH AS ELECTRIC STRIKES, ELECTRIC LATCH RETRACTION, ETC. SHALL BE PROVIDED AND INSTALLED BY OTHERS.
- REFER TO THE TECHNOLOGY EQUIPMENT SCHEDULE FOR CREDENTIAL READER TYPE INFORMATION.

DOOR #		• 
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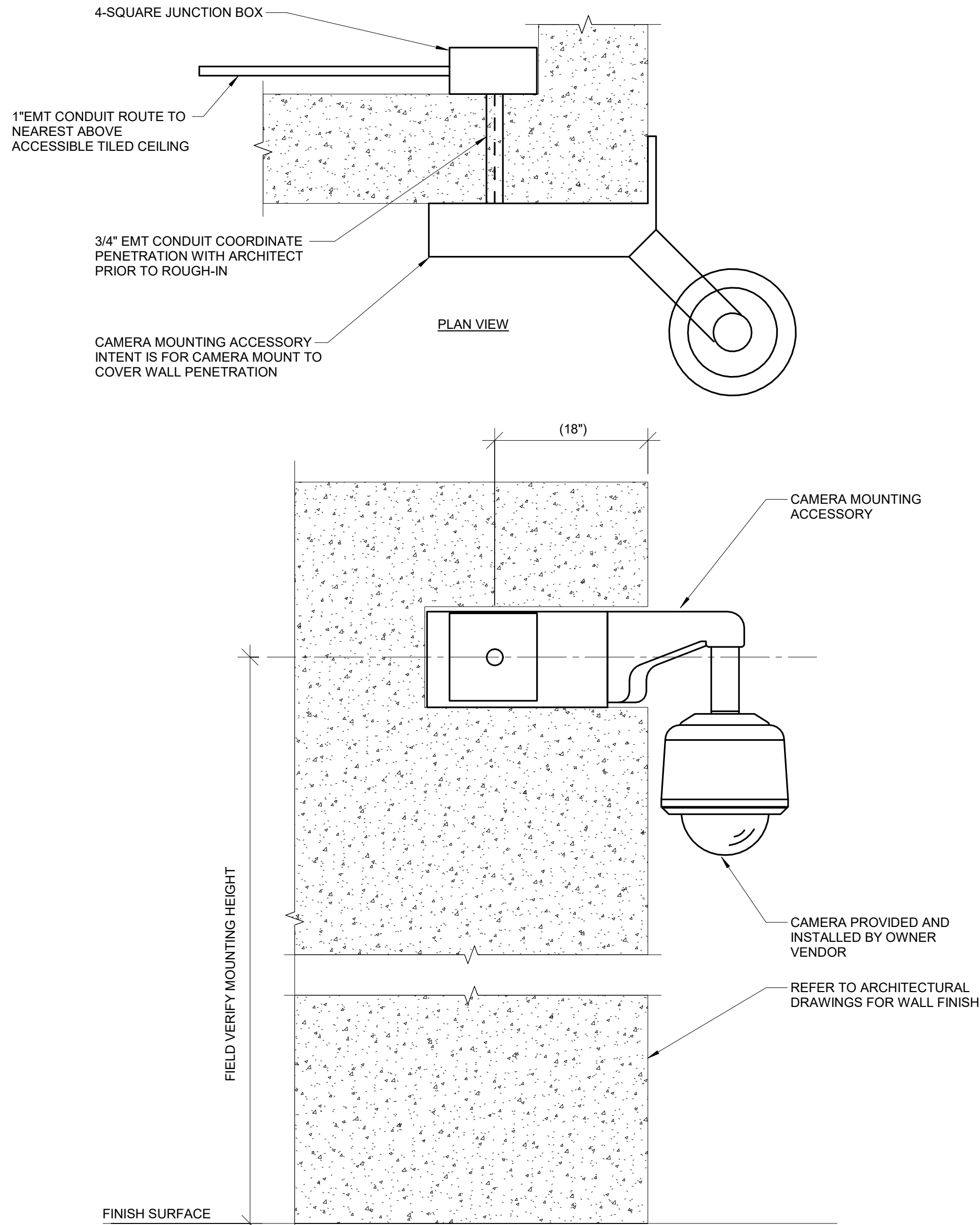
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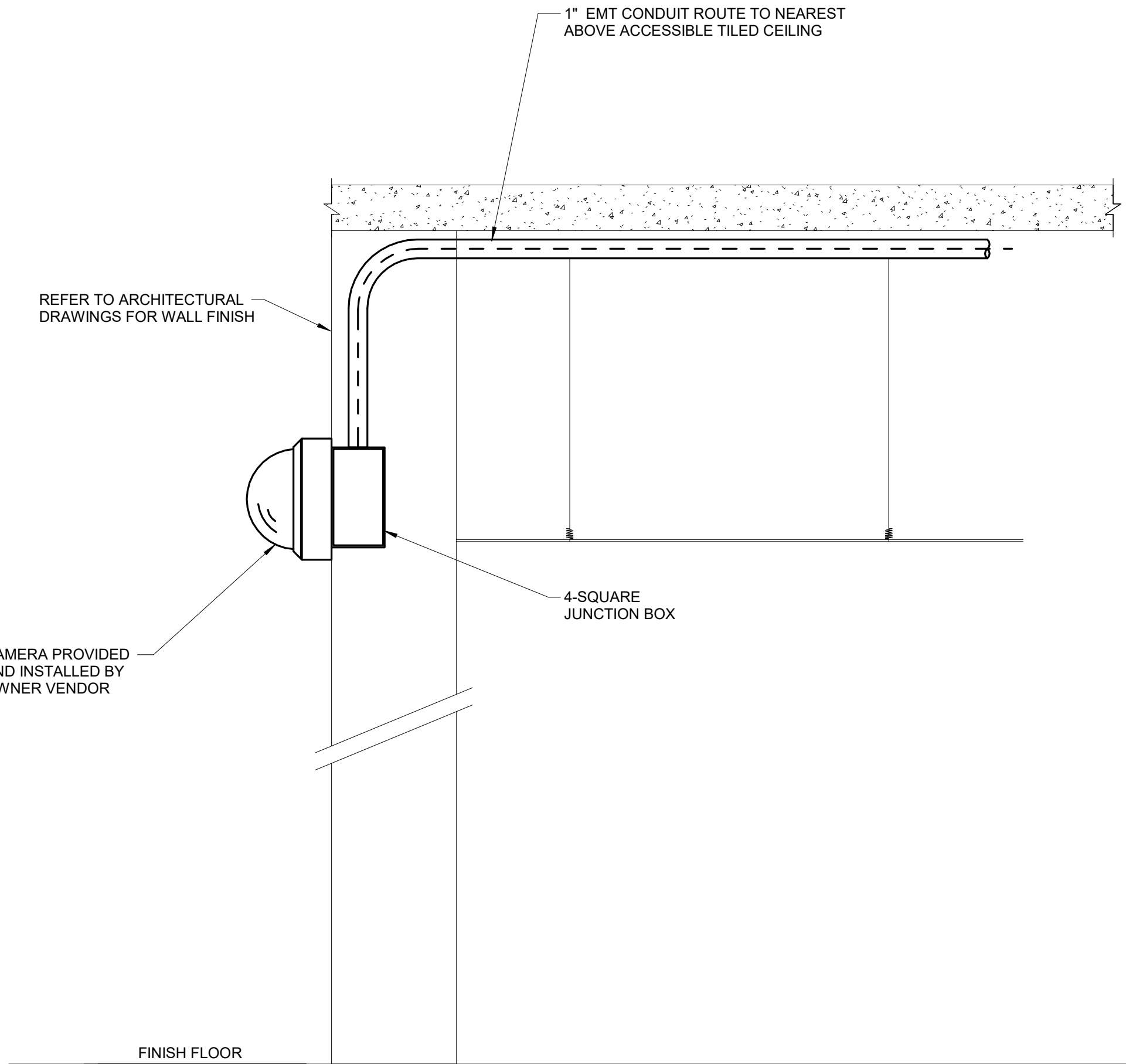
T402



NOTES:

1. COORDINATE EXACT LOCATION ON SITE WITH WORK BY OTHER TRADES TO ENSURE DESIRED VIEWING AREA AND SERVICE ACCESS AFTER COMPLETION OF PROJECT AND TO MINIMIZE ANY POSSIBLE DAMAGE TO INSTALLED CAMERA OR ASSOCIATED CABLING.
2. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR CAMERA ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.
3. PROVIDE CAMERA MOUNTING ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION FROM THE SAME MANUFACTURER OF THE CAMERA AND APPROVED BY THE MANUFACTURER FOR USE WITH THE SPECIFIC MODEL NUMBER OF CAMERA INSTALLED.
4. SEAL WALL MOUNT BASE PLATE TO FACADE TO PREVENT WATER INFILTRATION.

1 CORNER CAMERA MOUNT AND ROUGH-IN DETAIL  
NO SCALE



NOTES:

1. COORDINATE EXACT LOCATION ON SITE WITH WORK BY OTHER TRADES TO ENSURE DESIRED VIEWING AREA AND SERVICE ACCESS AFTER COMPLETION OF PROJECT AND TO MINIMIZE ANY POSSIBLE DAMAGE TO INSTALLED CAMERA OR ASSOCIATED CABLING.
2. INSTALLING CONTRACTOR SHALL FURNISH AND INSTALL FIRESTOP MATERIALS FOR CAMERA ROUGH-INS PER PROJECT REQUIREMENTS. REFER TO SPECIFICATIONS FOR FIRESTOP REQUIREMENTS.
3. PROVIDE CAMERA MOUNTING ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION FROM THE SAME MANUFACTURER OF THE CAMERA AND APPROVED BY THE MANUFACTURER FOR USE WITH THE SPECIFIC MODEL NUMBER OF CAMERA INSTALLED.

2 INTERIOR WALL CAMERA MOUNT AND ROUGH-IN DETAIL  
NO SCALE

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T403



TECHNOLOGY EQUIPMENT SCHEDULE		
THE EQUIPMENT LIST ABBREVIATIONS AND THE TECHNOLOGY EQUIPMENT SCHEDULE ARE FOR THE CONVENIENCE OF THE CONTRACTOR. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF QUANTITIES AND SHALL FURNISH ALL MATERIAL REQUIRED, WHETHER SPECIFIED OR NOT, TO PRODUCE A SATISFACTORY WORKING SYSTEM.		
CATALOG NUMBERS ARE NOT TO BE CONSIDERED COMPLETE BUT ARE GIVEN ONLY TO AID THE CONTRACTOR IN THE SEARCH FOR MATERIAL. NO MATERIAL SHALL BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. EACH CONTRACTOR SHALL FIRST READ THE COMPLETE DESCRIPTION OF THE MATERIAL ON THESE DRAWINGS AND SPECIFICATIONS. THE FIRST MANUFACTURER LISTED IS THE BASIS OF DESIGN. "STANDARD COLOR" INDICATES FACTORY FINISH AVAILABLE AT NO ADDITIONAL CHARGE.		
EQUIPMENT LIST ABBREVIATION	EQUIPMENT LIST DESCRIPTION	MANUFACTURER AND MODEL
AC-DR1-S	OWNER VENDOR PROVIDED DOOR RELEASE.	OWNER VENDOR PROVIDED AND INSTALLED
	PROVIDE 4" SQUARE BACKBOX WITH SINGLE-GANG REDUCER RING WITH (1) 3/4" CONDUIT TO THE NEAREST ACCESSIBLE CEILING.	
AC-R1-W	OWNER VENDOR PROVIDED CREDENTIAL READER.	OWNER VENDOR PROVIDED AND INSTALLED
	PROVIDE 4" SQUARE BACKBOX WITH SINGLE-GANG REDUCER RING WITH (1) 3/4" CONDUIT TO THE NEAREST ACCESSIBLE CEILING IN SUPPORT OF CABLING TO CREDENTIAL READER. REFER TO DETAIL ON T-402 FOR CONDUIT INFORMATION.	
AV-MNT-1	TILTING WALL MOUNT. TILTS: +2 TO -12. FITS SCREEN SIZE 37" TO 85", 17.4 ADJUSTABLE LATERAL SHIFT, MANUAL HEIGHT ADJUSTMENT 1", MAXIMUM WEIGHT: 200 LBS. DIMENSION 18.25" H X 34.75" W X 2"D.	CHIEF LTM1U  PREMIER PEERLESS  OR PRE-APPROVED EQUAL
AV-MON-55	55" LED FLAT PANEL DISPLAY, 4K RESOLUTION, 3 X HDMI INPUTS, ETHERNET PORT, USB PORT, BUILT IN TUNER, OPTICAL OUTPUT, CEC CONTROL, BUILT IN SPEAKERS, POWER REQUIREMENTS: 110-120 VAC, DIMENSIONS: 48.6"Wx28.1"Hx2.3"D. WEIGHT: 30.9lbs.	LG 55UR340C9 SAMSUNG SHARP/NEC  OR PRE-APPROVED EQUAL
PW-CPW-1	STI EZ PATH SERIES 44 FIRE RATED DESIGNED FOR NEW OR EXISTING CABLE INSTALLATIONS THROUGH UPTO 10" THICK WALLS OR FLOORS. THE EZ PATH SERIES 44 PATHWAY HOLDS UPTO 210 CAT 6 CABLES.	STI EZ PATH SERIES 44  OR PRE-APPROVED EQUAL
PW-HH-1	HANDHOLE COMPOSITE POLYMER CONCRETE BODY AND COVER. STAINLESS STEEL HARDWARE BOLTED NON-SKID COVER RATED FOR 15,000LB. DESIGN LOAD OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC. STACK UNITS TO ACHIEVE DEPTH SHOWN ON PLANS. UNITS IN LANDSCAPED AREAS SHALL BE GREEN IN COLOR. "COMMUNICATIONS" LOGO ON HANHOLE COVER. CONTRACTOR SHALL FIELD VERIFY QUANTITY AND LOCATIONS.  REFER TO 3/T401 FOR DETAIL. PW-HH-1 = 24"WX24"L.	HUBBELL/QUAZITE PG2424BB24 PG2424HA00  CARSON INDUSTRIES ARMORCAST HIGHLINE PRODUCTS SYNERTECH  OR PRE-APPROVED EQUAL
SC-ER-1	STANDARD 19" EQUIPMENT RACK, 84"H X 19"W X 15"D. FEATURING PASS-THRU HOLES ON FRONT AND SIDES FOR CABLE MANAGEMENT (HUBBELL VS76H), DURABLE BLACK POWDER COAT FINISH, MEETS EIA-310-E REQUIREMENT AND PROVIDES (45) 19" X 1.75" MOUNTING SPACES.  PROVIDE WITH TOP CENTER WATERFALL, TOP CHANNEL PATHWAY FOR LADDER RACK, AND ANY ADDITIONAL HARDWARE FOR COMPLETE INSTALLATION. REFER TO SPECIFICATIONS SECTION 27 11 00 FOR ADDITIONAL INFORMATION.	HUBBELL HPW84RR19  OR PRE-APPROVED EQUAL
SC-FDC-1	OPTICAL FIBER DISTRIBUTION CABINET. 72 FIBER MINIMUM CAPACITY, FRONT LOCKING DOOR, SLIDE OUT RAILS TO FACILITATE FRONT ACCESS, JUMPER TROUGHS IN CONNECTOR PANELS TO REDUCE MOUNTING SPACE. REQUIRES (2) 1.75" RACK MOUNTING SPACES.  PROVIDE WITH CLAMP AND GROUNDING KIT, COUPLING PANEL(S), SC CONNECTOR, COUPLINGS, JUMPERS, AND REAR MOUNTED CLOSET HOUSING PANEL(S). REFER TO SPECIFICATIONS SECTION 27 13 00 FOR ADDITIONAL INFORMATION.	HUBBELL FCR2U6SP  OR PRE-APPROVED EQUAL
SC-GND-1	WALL MOUNT GROUND BAR, 4"H X 12"L X 1/4" D COPPER, ELECTRICALLY ISOLATED BY INSULATORS INTEGRAL TO MOUNTING BRACKERS. PROVIDE UNIT CONFIGURATED WITH SIXTEEN (16) SETS OF 5/16" HOLES SPACED 5/8" ON CENTER TO ACCOMMODATE "A" SPACED TWO-HOLE COMPRESSION LUGS AND THREE (3) SETS OF 7/16" HOLES SPACED 1" ON CENTER TO ACCOMMODATE "C" SPACED TWO-HOLE COMPRESSION LUGS. ANSI/EIA/TIA-607 AND BICSI COMPLIANT. UL LISTED	CHATSWORTH PRODUCTS 40153-012  OR PRE-APPROVED EQUAL
SC-HWM-1	HORIZONTAL WIRE MANAGEMENT, 3" X 3" RIGID FRONT FINGERS WITH FLEXIBLE RETENTION TABS, 2" X 5" FLEXIBLE REAR FINGERS. REMOVABLE FRONT COVER HINGES 180 UP OR DOWN. INTEGRAL BEND RADIUS CONTROL. PASS THROUGH HOLES ALLOW FRONT TO REAR CABLING. REQUIRES (2) 1.75" MOUNTING SPACES.	HUBBELL HC219CE3N  OR PRE-APPROVED EQUAL
SC-IO-C	INFORMATION OUTLET, CEILING MOUNT, 1-PORT SURFACE BOX AS INDICATED ON DRAWINGS.  " # " INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION.  INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO ACCESSIBLE TILED CEILING AND TERMINATE WITH A NYLON BUSHIN UNLESS NOTED OTHERWISE.	COVERPLATE: HUBBELL IFP12 SERIES  JACK: HUBBELL HXJ6 SERIES  OR PRE-APPROVED EQUAL
SC-IO-F	INFORMATION OUTLET, FLOORBOX OR POKE-THROUGH MOUNT, 2 - PORT COVERPLATE AS INDICATED ON DRAWINGS AND INFORMATION OUTLET SCHEDULE. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION.  " # " INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS.  INSTALL INFORMATION OUTLET IN E.C. PROVIDED FLOOR BOX. COORDINATE ADDITIONAL MOUNTING REQUIREMENTS WITH E.C. PROVIDE (1) 1" EMT CONDUIT TO THE NEAREST ACCESSIBLE TILED CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.	FACEPLATE: HUBBELL IFP12OW  JACK: HUBBELL HXJ6 SERIES  OR PRE-APPROVED EQUAL
SC-IO-W	INFORMATION OUTLET, WALL MOUNT, 2-PORT COVERPLATE AS INDICATED ON DRAWINGS.  "#" INDICATES INFORMATION OUTLET FACEPLATE CONFIGURATION AS INDICATED ON THE PLANS. REFER TO INFORMATION OUTLET SCHEDULE FOR PIN CONFIGURATION.  INSTALL INFORMATION OUTLET IN A 4" SQUARE BACKBOX WITH A SINGLE GANG PLASTER RING. INSTALL A 1" EMT CONDUIT TO ABOVE ACCESSIBLE TILED CEILING. PROVIDE REMOVABLE BLANK INSERTS FOR UNUSED PORTS.	FACEPLATE: HUBBELL IFP12OW  JACK: HUBBELL HXJ6 SERIES  OR PRE-APPROVED EQUAL
SC-LR-1	LADDER RACK. 18" W TUBULAR STEEL CONSTRUCTION, RUST RESISTANT BLACK ENAMEL FINISH, U.L. LISTED. PROVIDE COMPLETE WITH ALL NECESSARY ADAPTERS, SUPPORT HARDWARE, AND FUTTINGS, TO INCLUDE RADIUS DROPS. REMOVE SHARP BURRS FROM LADDER RACK AND REPAINT ALL AREAS THAT HAVE BEEN FIELD MODIFIED, CUT, OR EXPOSED.	CPI 10250-718  OR PRE-APPROVED EQUAL
SC-MPP-1	MODULAR PATCH PANEL 48 MODULAR RJ-45 TERMINATIONS, MOUNTS DIRECTLY TO EIA/TIA STANDARD 19" RELAY RACK, PORT IDENTIFICATION NUMBERS, PROVIDED WITH COLOR CODING AND LABEL HOLDER KITS, U.L. LISTED. REQUIRES (2) 1.75" MOUNTING SPACES.	HUBBELL CAT 6: HP648  OR PRE-APPROVED EQUAL
SC-SHELF	1 RU RACK MOUNTED SHELF, SOLID BOTTOM, BLACK.	MIDDLE ATLANTIC U1  OR PRE-APPROVED EQUAL
SC-TTB	TELECOMMUNICATIONS TERMINAL BOARD, 4'X8'X3/4" A-C GRADE FIRE-RATED PLYWOOD. EXPOSED SIDE SHALL BE SMOOTH. MOUNT VERTICALLY WITH TOP OF PLYWOOD AT 8'-6" AFF. IN THE EVENT THE MANUFACTURER'S RATING STAMP IS NOT VISIBLE ON THE SMOOTH SIDE, THE CONTRACTOR SHALL PROVIDE A LAMINATED LETTER FROM THE MANUFACTURER OR SUPPLIER CERTIFYING THAT THE PLYWOOD IS FIRE-RATED AND ATTACH THE LETTER WITH A PICTURE OF THE RATING STAMP. TO THE PLYWOOD, FIRE RATED PLYWOOD SHALL NOT BE PAINTED OR TREATED WITH ANY TYPE OF SEALANT THAT WOULD LESSEN THE INTEGRITY OF THE FIRE RATING.	*
SC-VWM-1	DOUBLE SIDED VERTICAL WIRE MANAGER, 7'H X 6"W X 12.5"D. REMOVABLE FRONT COVER HINGES ON LEFT OR RIGHT. SPOOLS FOR INTEGRAL BEND RADIUS CONTROL.	HUBBELL VS76H  OR PRE-APPROVED EQUAL
VS-CM-1	OWNER VENDOR PROVIDED SECURITY CAMERA.  REFER TO SHEET T403 FOR ROUGH-IN REQUIREMENTS.  INFORMATION OUTLET FOR CAMERA SHALL BE FURNISHED AND INSTALLED BY DIV 27. CABLING SHALL BE TERMINATED IN AN RJ-45 JACK AND INSTALLED IN A 1-PORT SURFACE MOUNT BOX. REFER TO SC-IO-C AND THE INFORMATION OUTLET SCHEDULE FOR ADDITIONAL INFORMATION.	OWNER VENDOR PROVIDED AND INSTALLED

INFORMATION OUTLET SCHEDULE

SINGLE GANG WALLPLATES

2-Port Faceplate

IDENTIFICATION

1

2

IDENTIFICATION

REFER TO SPECIFICATIONS FOR IDENTIFICATION REQUIREMENTS (TYP.)

NUMBER INDICATES FACEPLATE POSITION (TYP.)

ANSI/TIA/EIA T568B PIN/PAIR ASSIGNMENT

PAIR 3

PAIR 2

PAIR 1

PAIR 4

1

2

3

4

5

6

7

8

W D O V B S R W B G W B R N

NOTES:

1. PROVIDE REMOVABLE BLANK INSERT(S) FOR ALL UNUSED PORTS.

2. REFER TO SPECIFICATIONS SECTION 27 05 53 FOR ADDITIONAL INFORMATION ON LABELING REQUIREMENTS.

3. ALL RJ45 DATA OR VOICE JACK LISTED ON EACH FACEPLATE PORT REPRESENTS DATA CABLING TO THE TELECOM ROOM. ALL DATA CABLING SHALL MATCH RJ45 TERMINATION PERFORMANCE SPECIFIED. REFER TO SECTION 27 15 00 FOR ADDITIONAL INFORMATION.

SCHEDULE NOTES:


1. LOCATION OF OWNER PROVIDED/CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE A 20' SLACK COIL AT THE NEAREST CABLE SUPPORT FOR POSSIBLE RELOCATION AFTER WIRELESS SURVEY.

LEGEND

DATA

CAT 6 RJ-45

CONFIGURATION	FACEPLATE PORTS	FACEPLATE PORT IDENTIFICATION						NOTES
		POSITION 1 JACK TYPE	POSITION 2 JACK TYPE	POSITION 3 JACK TYPE	POSITION 4 JACK TYPE	POSITION 5 JACK TYPE	POSITION 6 JACK TYPE	
C1	1	DATA						
C1-WAP	1	DATA						1.
C2	2	DATA	DATA					
CM-1	1	DATA						



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