



Application for Plan Review

Application # _____

Reviewed for Fire Code Compliance
 Leslie Jackson
09/29/2023 10:23:31 AM

Date Received: _____ Received by: _____

Name of Project: One lock Storage of Lillington

Physical Address of Project: 1781 N Main St
Lillington NC 27546

Plans Submitted By: Will Cleveneger wcleveneger@roberthighdevelopment.com

Project Phone: (910)-790-9490

Contact Person/Address: Leah Kaminski leah@roberthighdevelopment.com,
324 Greenville Ave
Wilmington NC 28403

Contact Phone: (M) (910)-790-9490 (910)-817-4921 (office-direct)

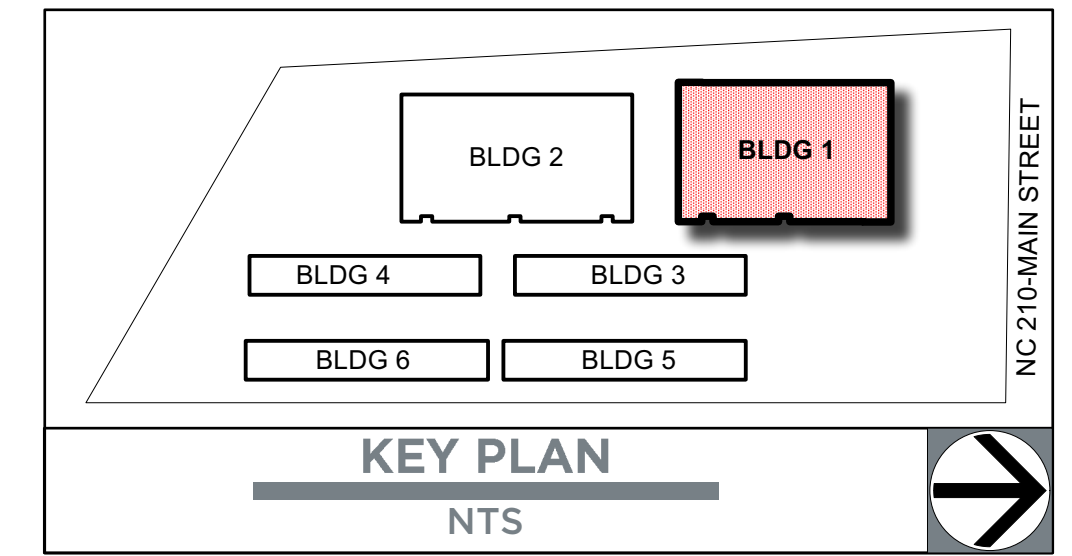
Contractor's Name/Info: Robert High Development
324 Greenville Ave
Wilmington, NC 28403

Contractor's Phone: (910)-790-9490

- **Plans that are submitted will be reviewed as quickly as possible with an average time of review between 7-10 working days.**
- **Status checks may be conducted on plan reviews by visiting the website or by calling the Harnett County Central Permitting Office (910) 893-7525 or the Harnett County Fire Marshal's Office (910) 893-7580.**
- **Approved plans must be picked up from the Central Permitting Office and all fees paid before any required inspections can be conducted.**

LILLINGTON STORAGE

1781 N MAIN STREET, LILLINGTON, NC 27546



5725 CLAYBANK DRIVE, SUITE 101
LILLINGTON, NC 27546
910.793.3433

SCHEDULE OF DRAWINGS

- G1.0 COVER SHEET, GENERAL NOTES & LIFE SAFETY PLAN
- G2.0 APPENDIX B

STRUCTURAL

- S000 COVERSHEET
- S010 DESIGN INFORMATION
- S011 SPECIAL INSPECTIONS
- S100 FOUNDATION PLAN
- S201 PARTITION PLAN
- S202 ROOF FRAMING PLAN
- S203 ROOFING PLAN
- S600 ELEVATIONS
- S800 FOUNDATION AND WALL DETAILS
- S810 DETAILS
- S900 STEEL DETAILS
- S901 ROOFING DETAILS

ARCHITECTURAL

- A1.0 SLAB EDGE PLAN
- A1.1 FLOOR PLAN
- A1.2 ROOF PLAN, SCHEDULES & UNIT MIX
- A1.3 ENLARGED OFFICE PLAN
- A1.4 DESK DETAILS
- A2.0 BUILDING ELEVATIONS
- A3.1 WALL SECTIONS
- A3.2 WALL SECTIONS

CONT. PLUMBING

- P-001 PLUMBING SPECIFICATIONS, LEGEND LOADS AND ABBREVIATIONS
- P-002 PLUMBING SPECIFICATIONS, LEGEND LOADS AND ABBREVIATIONS PLUMBING SCHEDULE AND DETAILS
- P-101 WASTE-VENT PLAN, DOMESTIC WATER PLAN, CONDENSATE DRAIN PLAN WEST-VENT RISER DIAGRAM

MECHANICAL

- M-001 MECHANICAL, SUMMARIES LEGEND AND SPECIFICATIONS
- M-002 MECHANICAL SCHEDULE AND DETAILS
- MH-101 MECHANICAL HVAC PARTIAL FIRST FLOOR PLAN
- MH-102 MECHANICAL HVAC PARTIAL FIRST FLOOR PLAN
- MH-103 MECHANICAL HVAC PARTIAL FIRST FLOOR PLAN
- MH-104 MECHANICAL HVAC PARTIAL FIRST FLOOR PLAN
- MH-104 MECHANICAL HVAC ROOF PLAN

ELECTRICAL

- E-001 ELECTRICAL LEGEND, ABBREVIATION AND LOAD SUMMARY
- E-002 ELECTRICAL GENERAL NOTES
- E-003 ELECTRICAL SPECIFICATIONS
- E-004 ELECTRICAL GENERAL NOTES & LIGHT FIXTURE SCHEDULE
- E-005 ELECTRICAL SPECIFICATIONS
- E-100 ELECTRICAL SITE POWER PLAN
- E-101 ELECTRICAL PARTIAL FIRST FLOOR POWER & LIGHTING PLAN
- E-102 ELECTRICAL PARTIAL FIRST FLOOR POWER & LIGHTING PLAN
- E-103 ELECTRICAL PARTIAL FIRST FLOOR POWER & LIGHTING PLAN
- E-104 ELECTRICAL PARTIAL FIRST FLOOR POWER & LIGHTING PLAN
- E-105 ELECTRICAL POWER PARTIAL ROOF PLAN

FIRE ALARM

- F-001 FIRE ALARM, NOTES DETAILS LEGEND AND RISER DAGRAM
- FA-101 FIRE ALARM FIRST FLOOR PLAN
- FA-102 FIRE ALARM ENLARGED PLAN

General Notes:

Openings:

1. Provide 2" metal frame head, typical at all doors.
2. Hardware to comply with ICC A117.1, 404.2.6, and 404.2.7.
3. Hardware schedule to be provided for review.
4. All rated doors to be provided with smoke and draft control door labeling per NCBC 2018 716.5.7.3, door closing per NCBC 2018 716.5.9, and latch requirements per NCBC 2018 716.5.9.1.
5. Contractor to verify tempered glass. Provide where required by code.

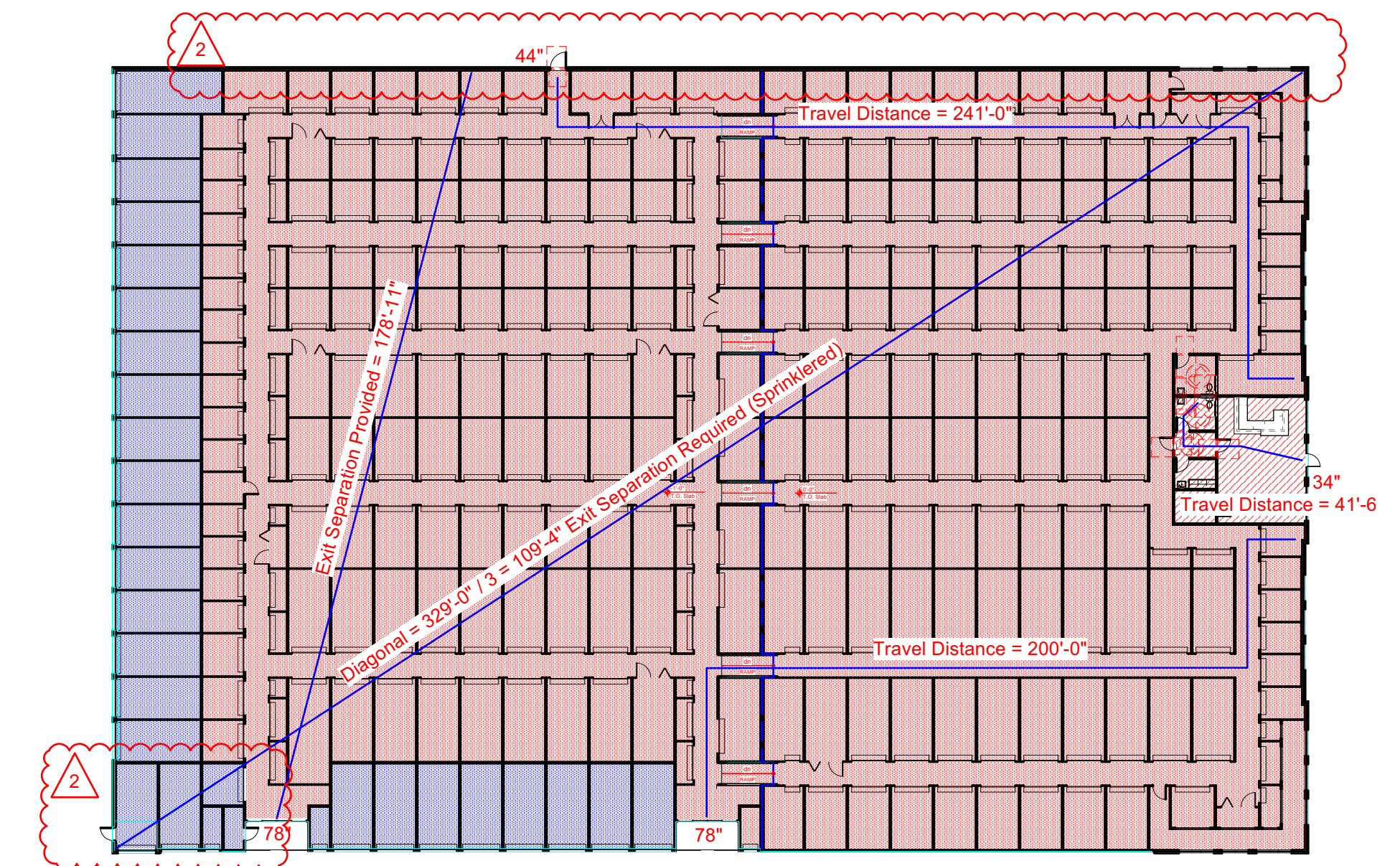
Finishes:

1. All rooms shall have bare concrete, corrugated metal siding at walls, and no ceiling, U.O.N. in a finish schedule.
2. All finishes shall comply with NCBC 2018 803.11.

Specialties:

1. Provide accessible signage conforming to NCBC 2018 1013, 1111, and ANSI 117.1 407, 504, 703.
2. Provide "Sprinkler Riser Room" and "Fire Alarm Control Panel" or "FACP" signage.
3. Provide fire extinguishers and surface mounted cabinets as required by the fire marshal.
4. Provide a Knox Box (3200 series) in accordance with local requirements. Please contact County Departments of Fire.

GENERAL NOTES
G1.03 N/A



Floor Area:
S-1: 49,012/500 = 98 Occupants
B: 907/100 = 9 Occupants

Egress Width:

34" (Clear) Door Provided = 170 Occupant Capacity
44" (Clear) Door Provided = 220 Occupant Capacity
78" (Clear) Door Provided = 390 Occupant Capacity

Occupant Loads per Door:
S-1: 100 occupants / 3 doors = 33 occupants per door
B: 9 occupants / 1 doors = 9 occupants per door

1018.2.2 - Corridor Width: **Not less than 44"** (36" if occupant capacity is less than 50)
1005.2 - Door Encroachment: Door shall not reduce required width by half.
44" required width / 2 = 22" clear req'd
(36" required width / 2 = 18" clear req'd)
(60" provided - 22" = **38" max. allowable door**)

- S-1 (interior heated): 43,277 sq. ft.
- S-1 (unconditioned): 5,735 sq. ft.
- S-1 (sub-total): 49,012 sq. ft.
- B: 907 sq. ft.

Gross Building Square Footage : **49,919 sq. ft.**
(inside face of stud)

Owner acknowledges and agrees that Robert High Development, LLC (RHD) and its architect Cothran Harris Architecture and Engineers (CHAE) have retained all ownership and other rights, title and interests in and to all conceptual, working and final drawings, plans and specifications (collectively, Plans and Specifications) relating to the Project (including without limitation architectural and engineering drawings, plans and specifications), and any and all of its proprietary rights embodied therein or related thereto. Except in connection with the construction, ownership, operation and management of the Project by Owner, this Agreement shall not grant Owner any vested right, title or interest in or to any of the Plans and Specifications or any patents (issued or pending), trademarks, service marks, trade names, copyrights, licenses, licensed or other proprietary, rights of RHD or any such rights granted by third parties or other professionals to RHD.

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LIFE SAFETY PLAN
G1.09 1/32" PROJECT NORTH



LILLINGTON STORAGE
PHASE 1 - BUILDING 1
ROBERT HIGH DEVELOPMENT

COVERSHEET & LIFE SAFETY PLAN
09/19/2022 Plan Check Response
03/07/2023 Plan Check Response
CONSTRUCTION DRAWINGS
OCTOBER 12, 2022

LILLINGTON STORAGE

1781 N MAIN STREET, LILLINGTON, NC 27546



COTHAN HARRIS ARCHITECTURE
5725 CLAYBANK DRIVE, STE. 401
LILLINGTON, NC 27546
910.793.3433

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

Name of Project: Lillington Storage Bldg. 1 (Phase I)
Address: 1781 N Main St. Lillington, NC Zip Code 27546
Owner/Authorized Agent: Robert High Phone # (910) 790-9490 E-Mail roberr@roberthighdevelopment.com
Owned By: Private
Code Enforcement Jurisdiction: County

CONTACT:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	CHA	Cothran Harris	NC 4290	(910)793-2433	charris@cothranharris.com
Civil	Draper Aden Assoc	Andrew Mericle	NC 41595	(919)467-9708	americle@ada.com
Electrical	CBHF Engineers	Jason Famiglietti	NC 35230	(910) 791-4000	jfam@cbhfengineers.com
Fire Alarm	CBHF Engineers	Jason Famiglietti	NC 35230	(910) 791-4000	jfam@cbhfengineers.com
Plumbing	CBHF Engineers	James Benson	NC 10592	(910) 791-4000	jbenson@cbhfengineers.com
Mechanical	CBHF Engineers	James Benson	NC 10592	(910) 791-4000	jbenson@cbhfengineers.com
Sprinkler-Standpipe			()		
Structural	Robert Warr, PE	Robert Warr	NC 32879	(678)310-9191	rwarr@framworkengineering.com
Other			()		

2018 NC BUILDING CODE: New Building

2018 NC EXISTING BUILDING CODE: N/A

CONSTRUCTED: (date) _____ CURRENT OCCUPANCY(S) (Ch. 3): _____
RENOVATED: (date) _____ PROPOSED OCCUPANCY(S) (Ch. 3): _____

OCCUPANCY CATEGORY (Table 1604.5): Current: N/A Proposed: II

BASIC BUILDING DATA

Construction Type: II-B

Sprinklers: Yes NFPA 13

Standpipes: No

Primary Fire District: No

Flood Hazard Area: No

Special Inspections Required: No

Gross Building Area Table			
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
1 st Floor	0 sq.ft	49,919 sq. ft	49,919 sq. ft
TOTAL			49,919 sq. ft

ALLOWABLE AREA

Primary Occupancy Classification(s): Storage - S-1 Business

Accessory Occupancy Classification(s): _____

Incidental Uses (Table 509): _____

Special Uses (Chapter 4 – List Code Sections): _____

Special Provisions: (Chapter 5 – List Code Sections): _____

Mixed Occupancy: Yes

Non-Separated Use (508.3)

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} + \dots \leq 1.00$$

STORY NO.	DESCRIPTION AND USE	(A) BLDG. AREA PER STORY (ACTUAL)	(B) TABLE 506.2 ¹ AREA	(C) AREA FOR FRONTAGE INCREASE ^{1,5}	(D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3}
1 St. Floor	S-1, IIB	49,012 sq. ft	70,000 sq. ft		70,000 sq. ft
1 St. Floor	B, IIB	907 sq. ft	92,000 sq. ft		92,000 sq. ft

¹ Frontage area increases from Section 506.2 are computed thus:

a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)

b. Total Building Perimeter = _____ (P)

c. Ratio (F/P) = _____ (F/P)

d. W = Minimum width of public way = _____ (W)

² Unlimited area applicable under conditions of Section 507.

³ Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).

⁴ The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.

⁵ Frontage increase is based on the un-sprinklered area value in Table 506.2.

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	55'	21'-4"	
Building Height in Stories (Table 504.4)	2	1	

¹ Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED (W/REDUCT ON)				
Structural Frame, including columns, girders, trusses		0					
Bearing Walls	N/A	0 Hr.					
Exterior	N/A	0 Hr.					
North	N/A	0 Hr.					
East	N/A	0 Hr.					
West	N/A	0 Hr.					
South	N/A	0 Hr.					
Interior	N/A	0 Hr.					
Nonbearing Walls and Partitions							
Exterior walls							
North	> 30 Feet	0 Hr.					
East	> 30 Feet	0 Hr.					
West	30 Feet (Assumed property line)	0 Hr.					
South	> 30 Feet	0 Hr.					
Interior walls and partitions		0 Hr.					
Floor Construction		0 Hr.					
Including supporting beams and joists							
Floor Ceiling Assembly		0 Hr.					
Columns Supporting Floors		0 Hr.					
Roof Construction, including supporting beams and joists		0 Hr.					
Roof Ceiling Assembly		0 Hr.					
Columns Supporting Roof		0 Hr.					
Shaft Enclosures - Exit		0 Hr.					
Shaft Enclosures - Other		0 Hr.					
Corridor Separation		0 Hr.					
Occupancy/Fire Barrier Separation		0 Hr.					
Party/Fire Wall Separation		0 Hr.					
Smoke Barrier Separation		0 Hr.					
Smoke Partition		0 Hr.					
Tenant/Dwelling Unit/ Sleeping Unit Separation		0 Hr.					
Incidental Use – Fire Pump Room		0 Hr.					

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North Elevation: > 30 Feet	UP, S	No Limit	N/A
West Elevation: 30 Feet (Assumed property line).	UP, S	No Limit	N/A
South Elevation: > 30 Feet	UP, S	No Limit	N/A
East Elevation: > 30 Feet	UP, S	No Limit	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	Yes
Exit Signs:	Yes
Fire Alarm:	No
Smoke Detection Systems:	No
Carbon Monoxide Detection:	No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G1.09

- Fire and/or smoke rated wall locations (Chapter 7)
- Assumed and real property line locations (if not on the site plan)
- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- Occupant loads for each area
- Exit access travel distances (1017)
- Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- Dead end lengths (1020.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1010.1.10)
- Location of doors with electromagnetic egress locks (1010.1.9.9)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030)
- The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE PARKING

(SECTION 1106)

(SEE CIVIL)

PLUMBING FIXTURE REQUIREMENTS

(TABLE 2902.1)

USE	WATER CLOSETS			URINAL	LAVATORIES			SHOWER /TUB	SERVICE SINK	DRINKING FOUNTAINS	
	MALE	FEMALE	UNISEX		MALE	FEMALE	UNISEX			REGULAR	ACCESSIBLE
Business	9 occupants / 25			0	9 occupants / 40			N/A	n/a		9 occupants
	0.40 T				0.225 L						n/a ^d
S-1	98 occupants/100			0	97 occupants/100			N/A	1SS		N/A
	0.98				0.97L			n/a			N/A
SUBTOTAL	1.38 T				1.2 L						
REQ'D				2T	0			2L	N/A	1SS	n/a ^d

a. Self-service mini-storage facilities are exempt per 2018 NCBC Table 2902.1 – Note M.

b. For business and mercantile occupancies with an occupant load of 25 or fewer, service sinks shall not be required per 2018 NCBC Table 2902.1 – Note O.

c. Where only one toilet facility for each sex is required, two unisex facilities may be substituted per 2018 NCBC 2902.2 exception 5.

d. Drinking fountains shall not be required for an occupant load of 15 or fewer per NCBC 2902.6.

NOTE: PER TABLE 403.1 IN THE 2018 NCPG STORAGE FACILITIES ARE EXEMPT FOR DRINKING FOUNTAIN

SPECIAL APPROVALS

(n/a)

ENERGY SUMMARY

N. C. G. S. 143-138 (B18) EXEMPTS THIS BUILDING FROM CONFORMING TO THE ENERGY CODE. PLEASE LET US KNOW IF YOU HAVE ANY QUESTIONS OR NEED ADDITIONAL INFORMATION.

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
STRUCTURAL DESIGN
(SEE STRUCTURAL)

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
MECHANICAL DESIGN
(SEE MECHANICAL)

2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
ELECTRICAL DESIGN
(SEE ELECTRICAL)

END APPENDIX B

LILLINGTON STORAGE
PHASE I - BUILDING 1
ROBERT HIGH DEVELOPMENT



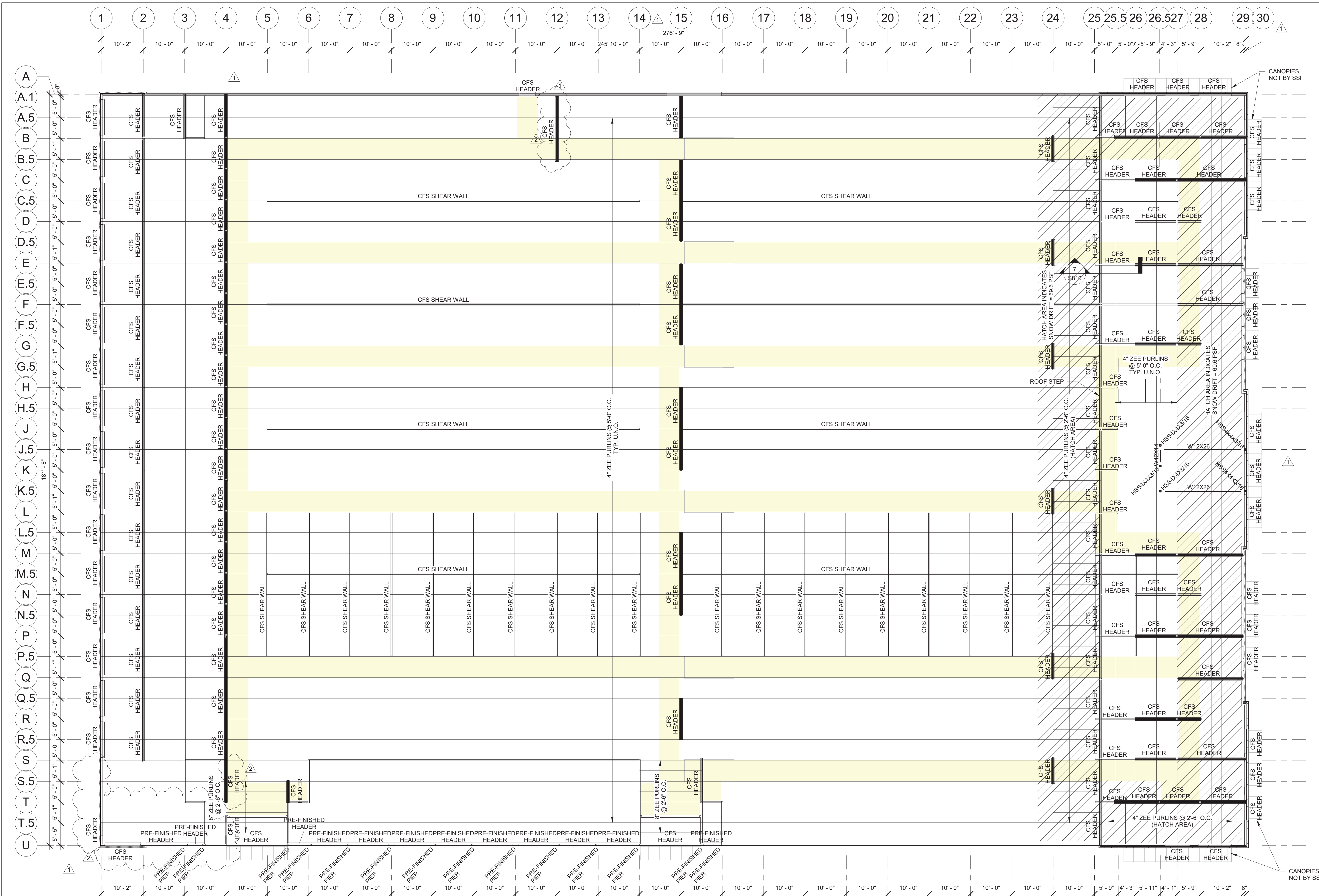
APPENDIX B
09/19/2022 Plan Check Response
CONSTRUCTION DRAWINGS
OCTOBER 12, 2022

G2.0

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1 Roof Framing Plan
3/32" = 1'-0"

Post Plan Notes
Interior Framing: 4" x 2" x 16ga Posts On A 5'-0" x 10'-0" Grid Framing System. (U.N.O.)
 Zee Purlins Every 5'-0" o.c. (U.N.O.)

Exterior Wall Framing:
Brick Veneer/Stucco: 4" x 2 1/2" x 14ga Cee Columns @ 12" o.c. w/ Mid-Span Bracing In 14ga Top & 16ga Bottom Track.
Metal Panel: 4" x 2" x 16ga Cee Columns @ 30" o.c. w/ Mid-Span Bracing In 14ga Top & 16ga Bottom Track.
Metal Panel (Parapet): 4" x 2 1/2" x 16ga @ 30" o.c. w/ Mid-Span Bracing In 14ga Top & 16ga Bottom Track.

Exterior Floor Track - Punch Holes in Floor Track To Match Post Spacing For Wedge Anchors. Place Wedge Anchor 6" From Each End of Track.

Exclusions: Brick Veneer/EIFS
 Exterior Dimensions Are Taken From The Outside Face Of Framing.
 Double Posts Are Dimensioned To Center of Main Post Only. All Other Dimensions Are Center To Center of Posts.
 Hallways Should Have A Clear Dimension Of 5'-5" Between Post (U.N.O.).
 Shaded Areas Indicate Hallways.

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FAX: 770-456-1662

www.storagestructuresinc.com

Rev. #	Revision Date	Revision Description
1	10-12-2022	Plan Check Response
2	03-10-2023	ELEVATION AND PLAN REV.

Robert High Development
LILLINGTON STORAGE
PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC 27546



ROBERT WARR, P.E.
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Robert Warr, PE
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 (678) 310-9191
 rwarr@frameworkengineering.com

Project Number	FE2203556-0
Issue Date	07-14-2022
Drawn By	EM
Checked By	RW
Engineered By	AD

S202

Roof Framing Plan



3807 Hwy 61
Villa Rica, Ga 30180

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1	10-12-2022	Plan Check Response

**Robert High
Development**
**LILLINGTON
STORAGE**
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC 27546



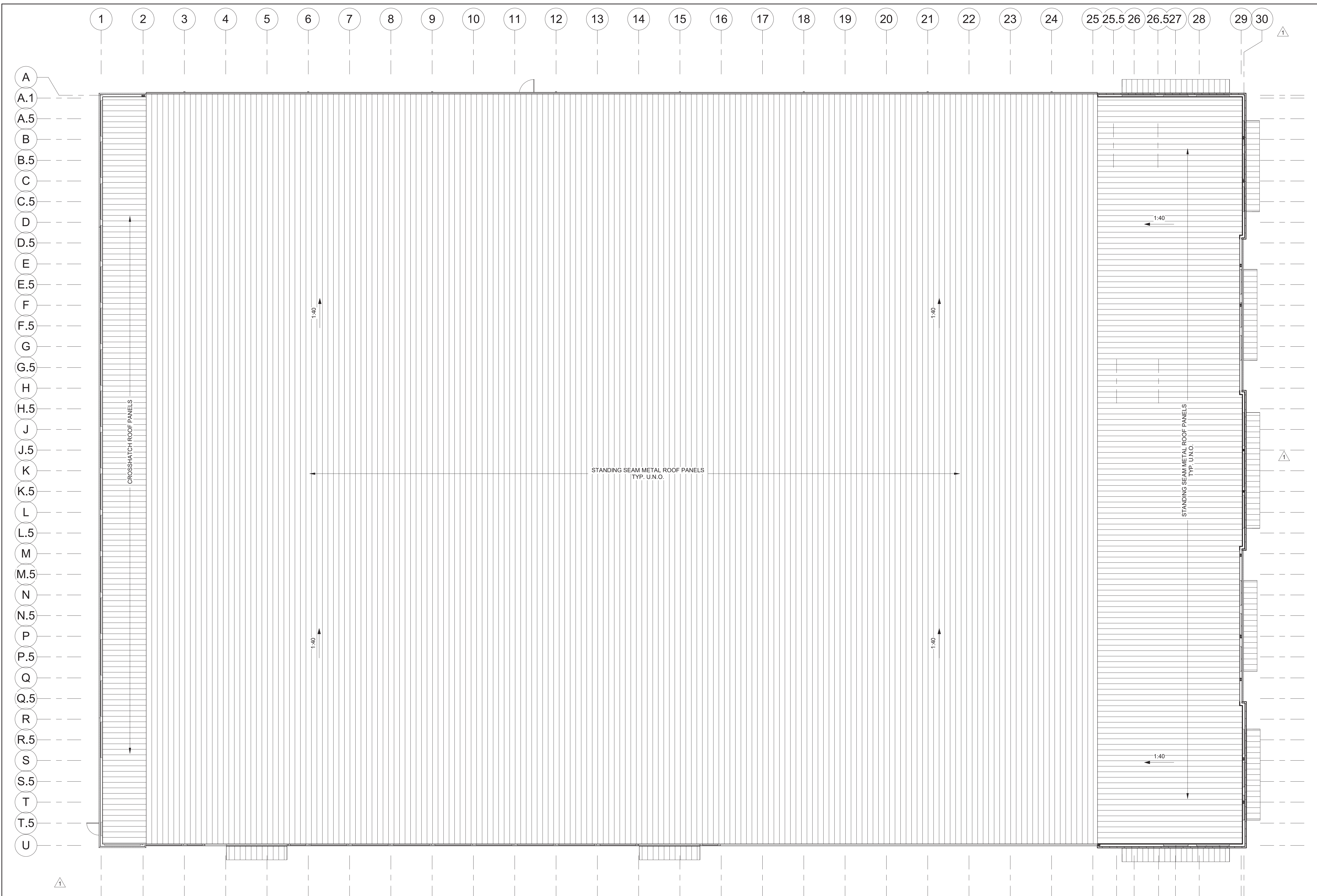
ROBERT WARR, P.E.
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Project Number	FE2203556-0
Issue Date	07-14-2022
Drawn By	EM
Checked By	RW
Engineered By	AD

S203
Roofing Plan

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1 Roofing Plan
3/32" = 1'-0"

Roofing Plan Notes:
18" x 24ga Standing Seam Roof System
'Unpainted' Galvalume Finish



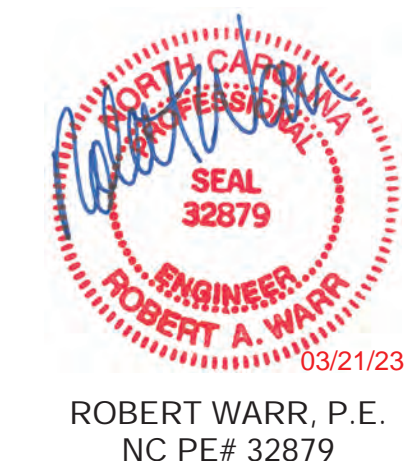
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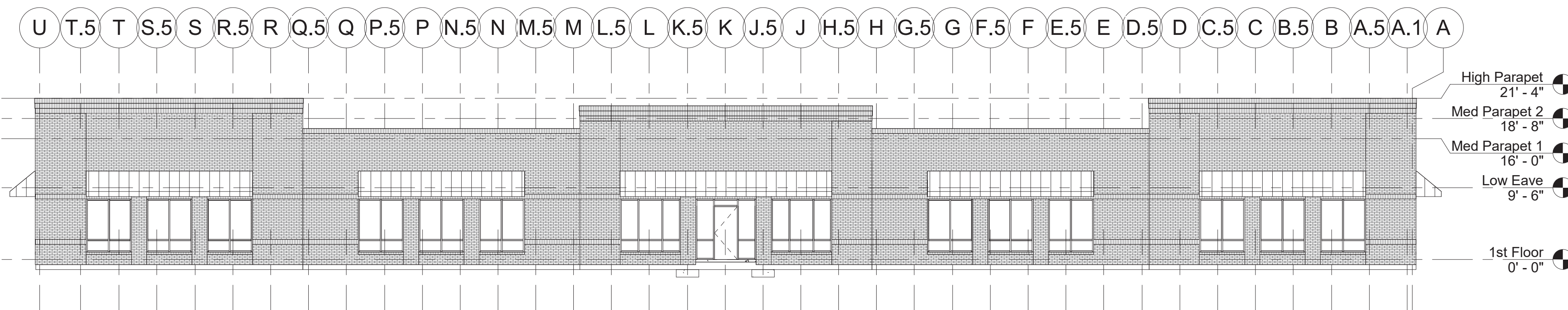


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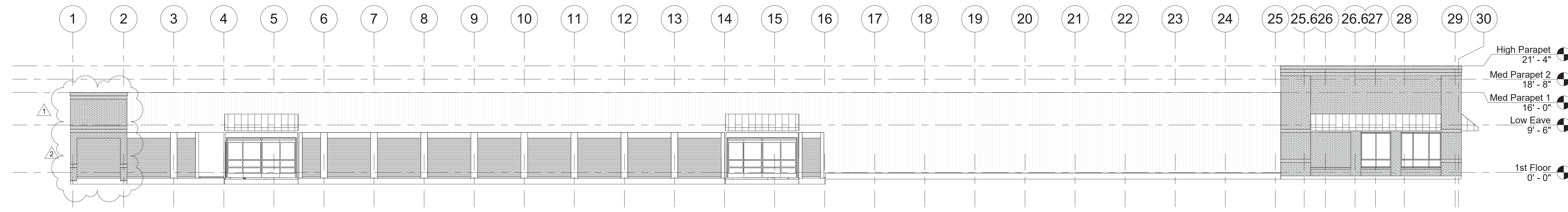
Project Number	FE2203556-0
Issue Date	07-14-2022
Drawn By	EM
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S600
Elevations

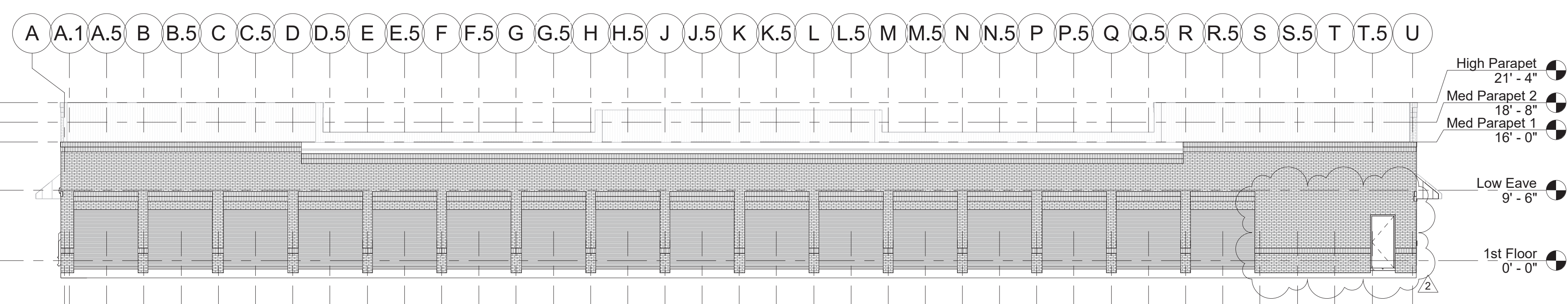
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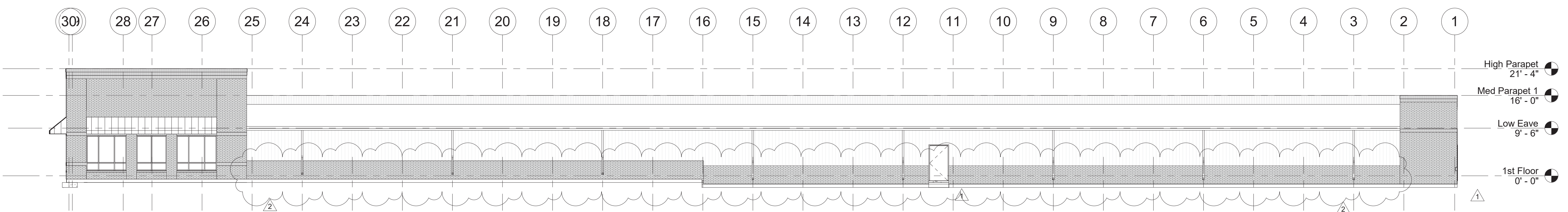
1 East Elevation
3/32" = 1'-0"



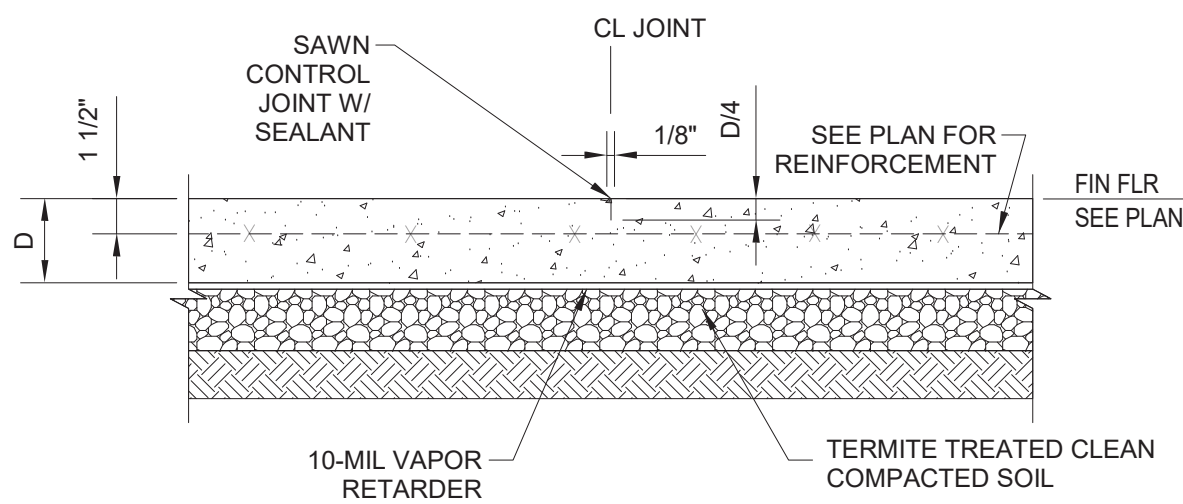
2 South Elevation
3/32" = 1'-0"



3 West Elevation
3/32" = 1'-0"



4 North Elevation
3/32" = 1'-0"

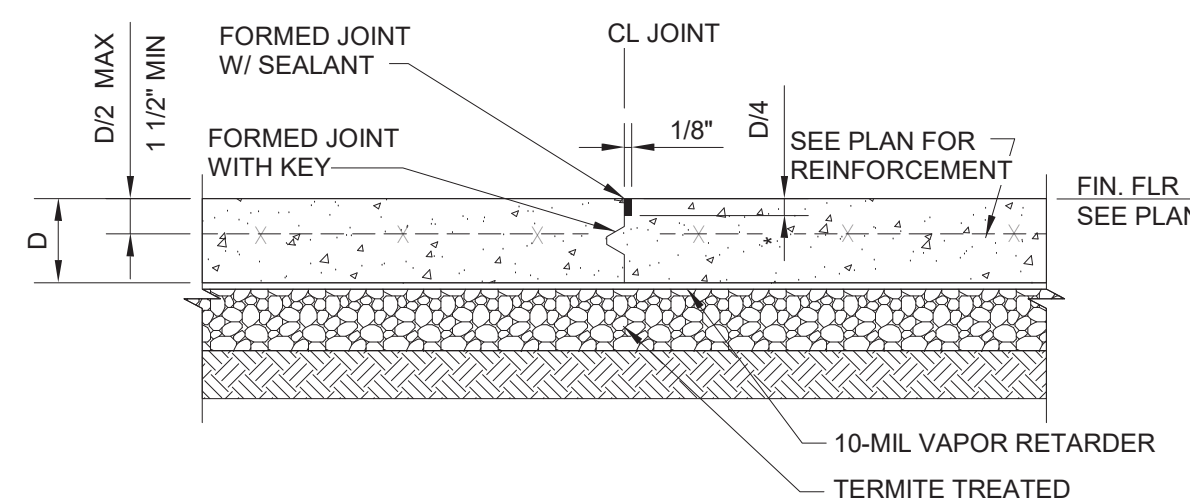


NOTES

1. SEE FOUNDATION PLAN FOR ADDITIONAL SLAB INFORMATION, INCLUDING DEPTH & REINFORCING.
2. SAWCUTTING OF CONTROL JOINTS SHALL BE DONE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIPPING, SPALLING OR TEARING BUT NOT MORE THAN 8 HOURS AFTER CASTING.
3. CONTRACTOR MAY ELECT TO SAWCUT ANY CJ'S AS INDICATED ON PLAN.

SAWCUT CONTROL JOINT

1 TYPICAL SLAB JOINTS
3/4" = 1'-0"

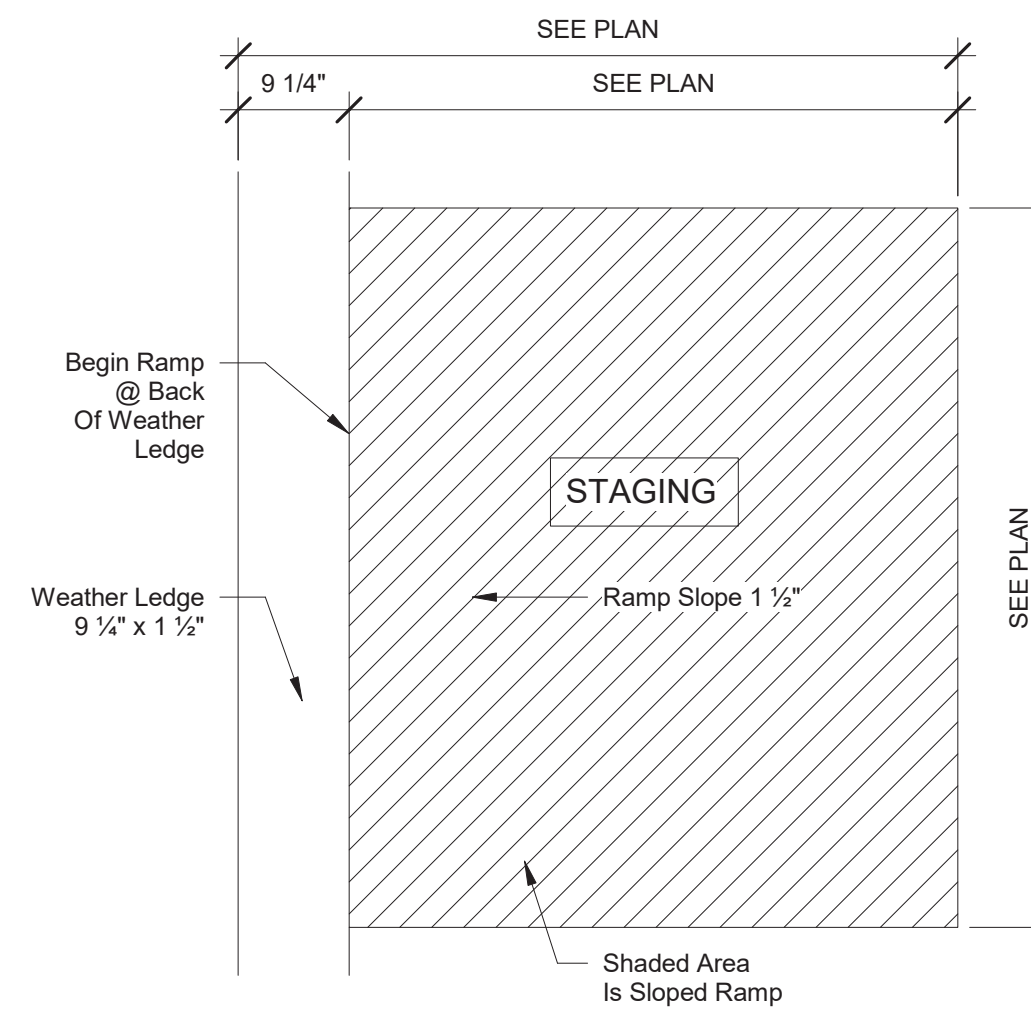


NOTE

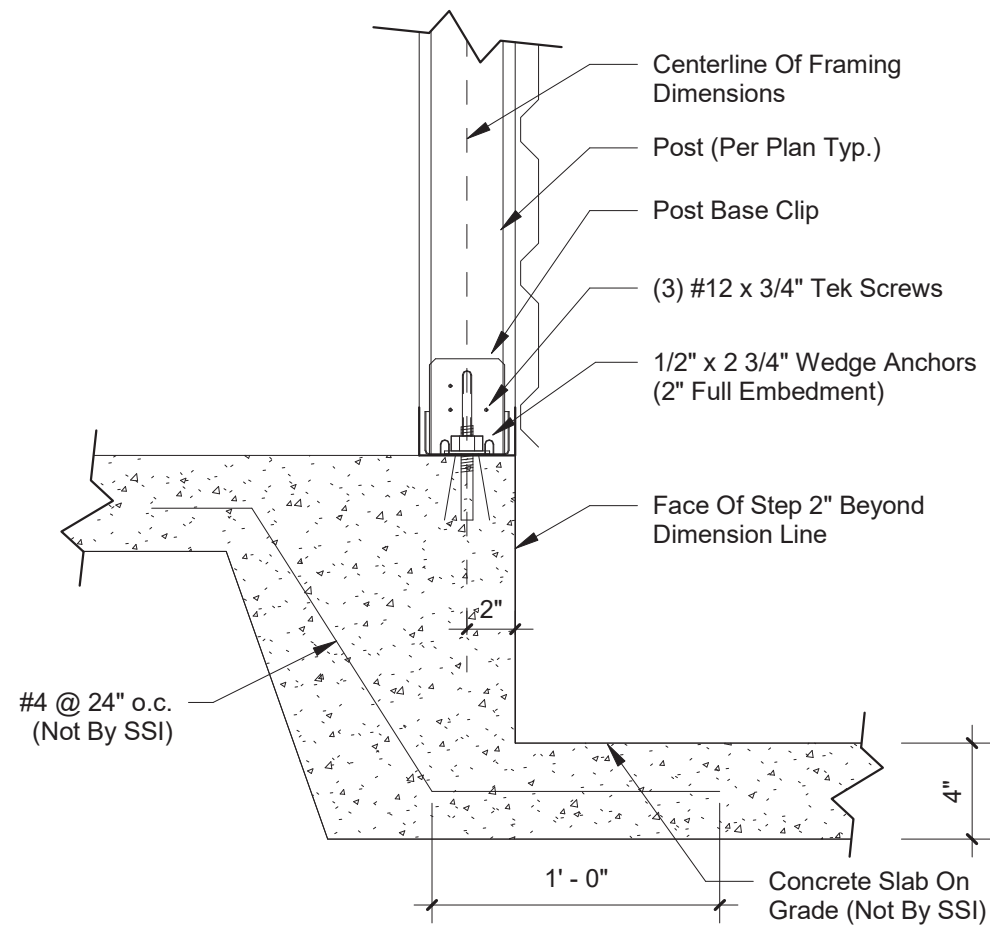
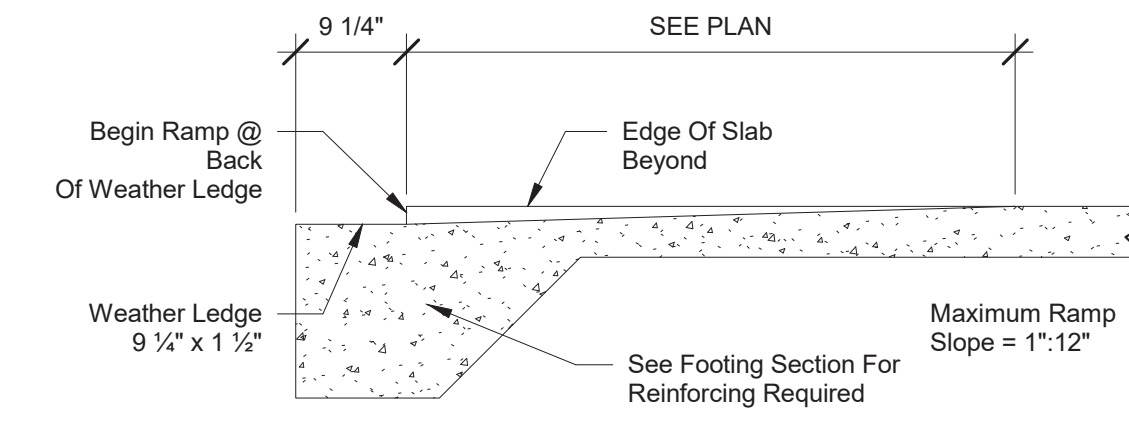
- SEE FOUNDATION PLAN FOR ADDITIONAL SLAB INFORMATION, INCLUDING DEPTH & REINFORCING.

CONSTRUCTION JOINT

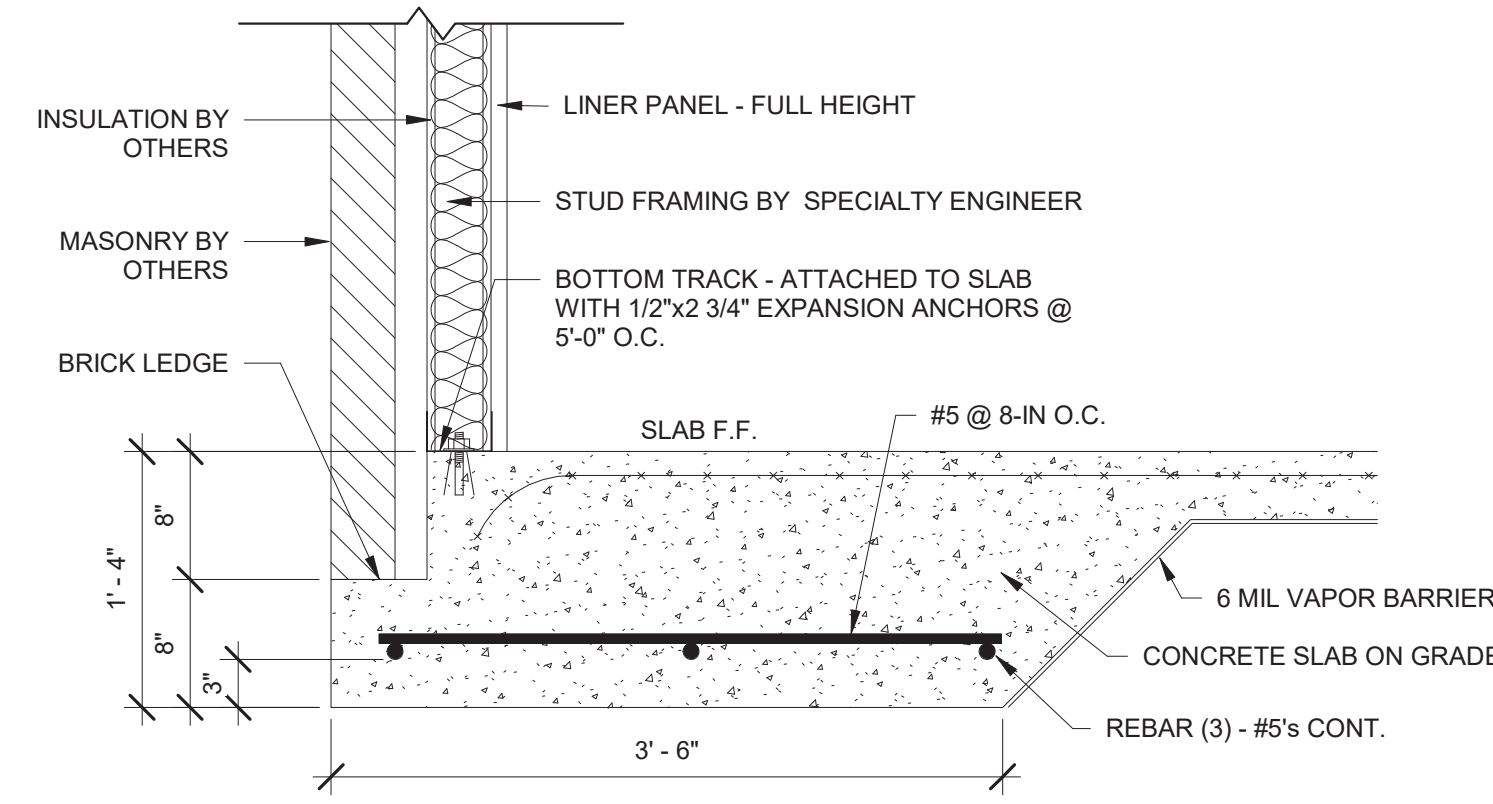
(LOCATE AT EDGE OF ALL POURS AND AT CONTRACTOR'S OPTION)



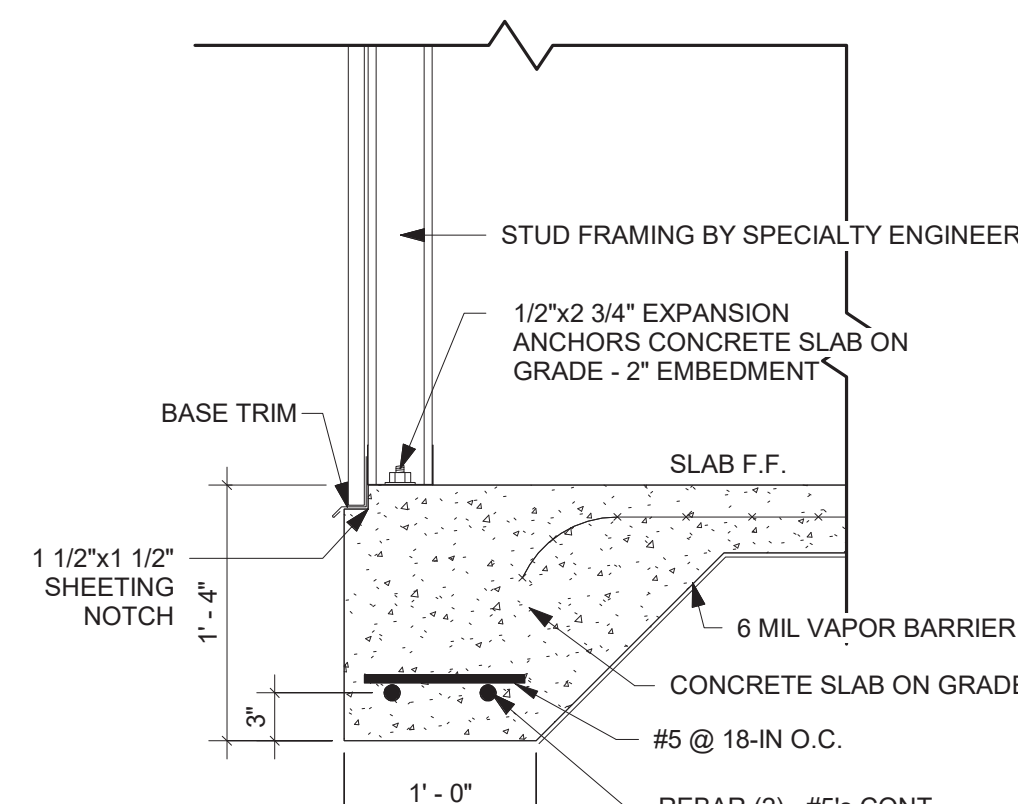
2 Entry Ramp (Weather Ledge)
3/4" = 1'-0"



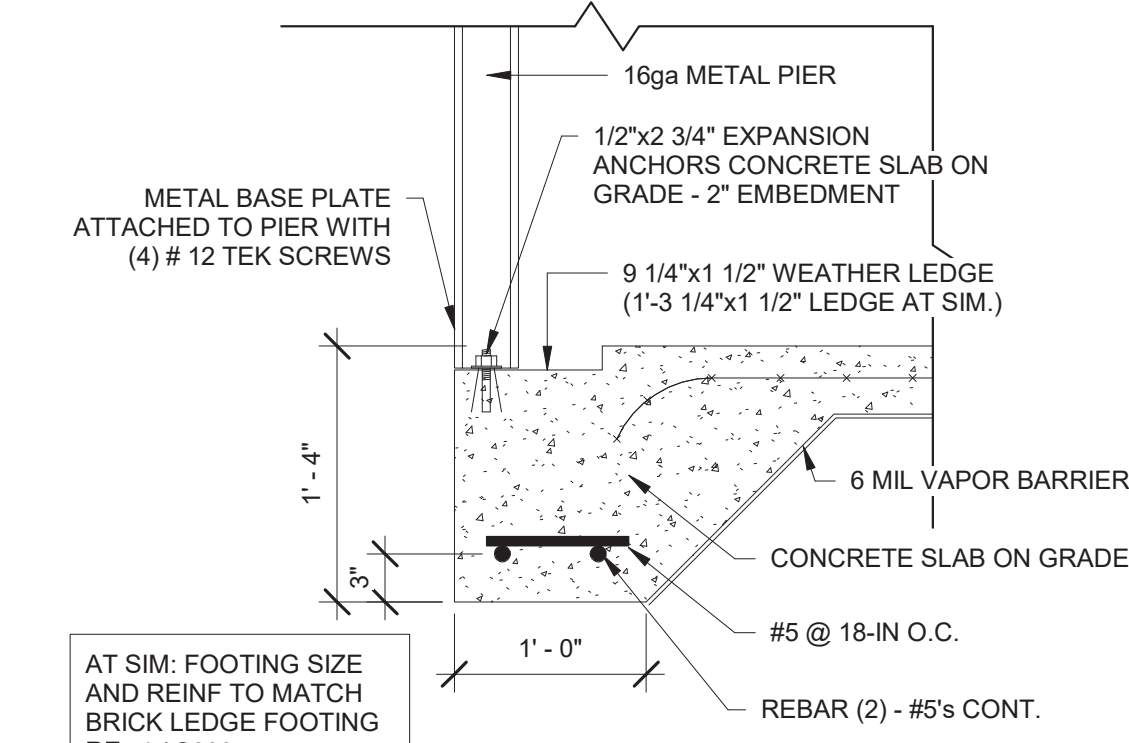
3 Stepdown Design by SSI
1 1/2" = 1'-0"



4 TURN DOWN SLAB @ BRICKLEDGE
1" = 1'-0"

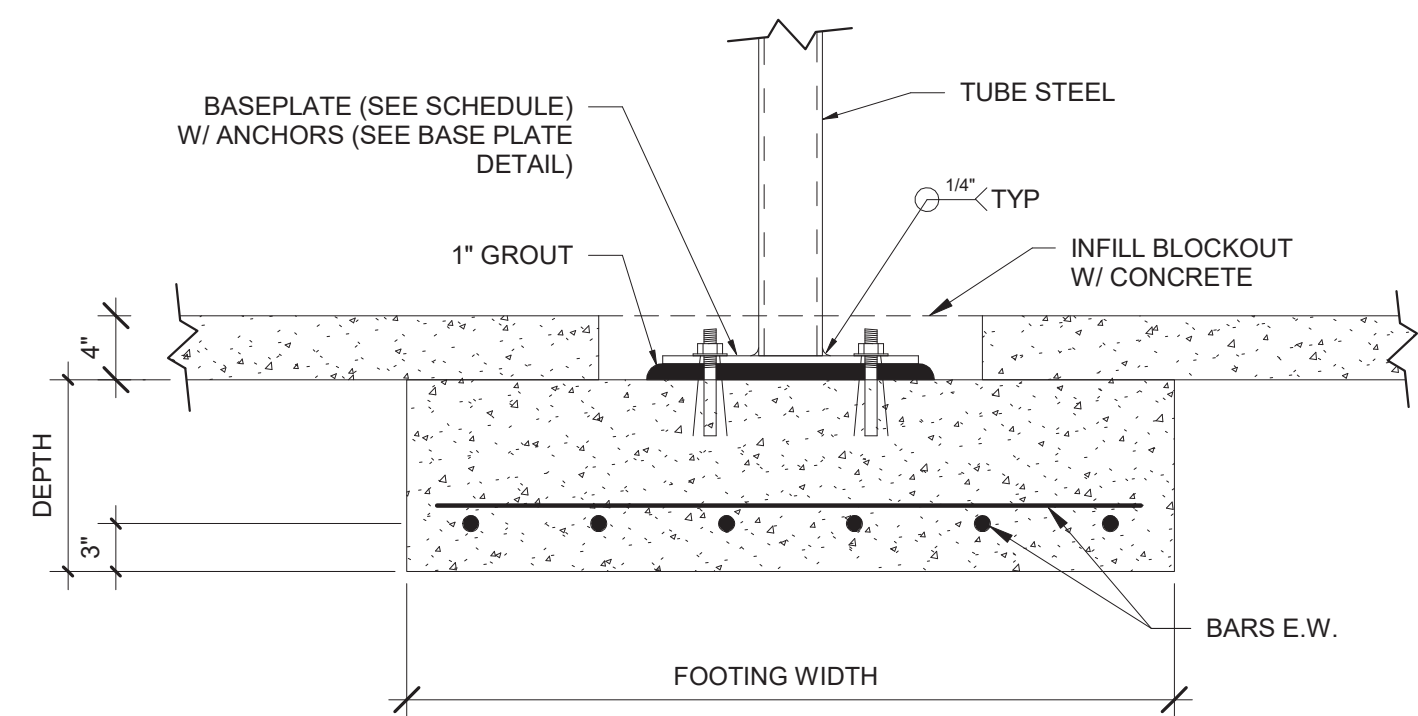


5 TURN DOWN SLAB @ SHEETING NOTCH
1" = 1'-0"

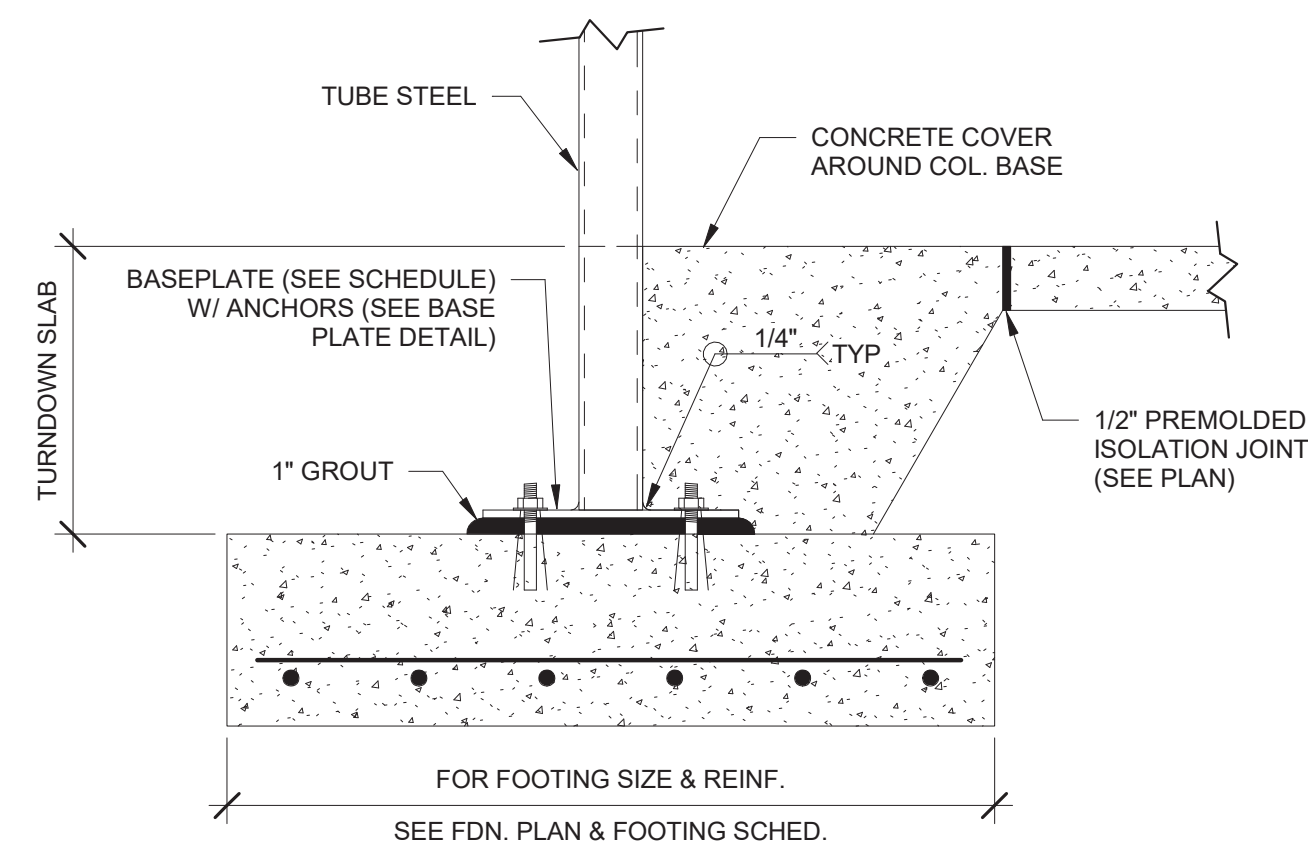


6 TURN DOWN SLAB @ WEATHER LEDGE
1" = 1'-0"

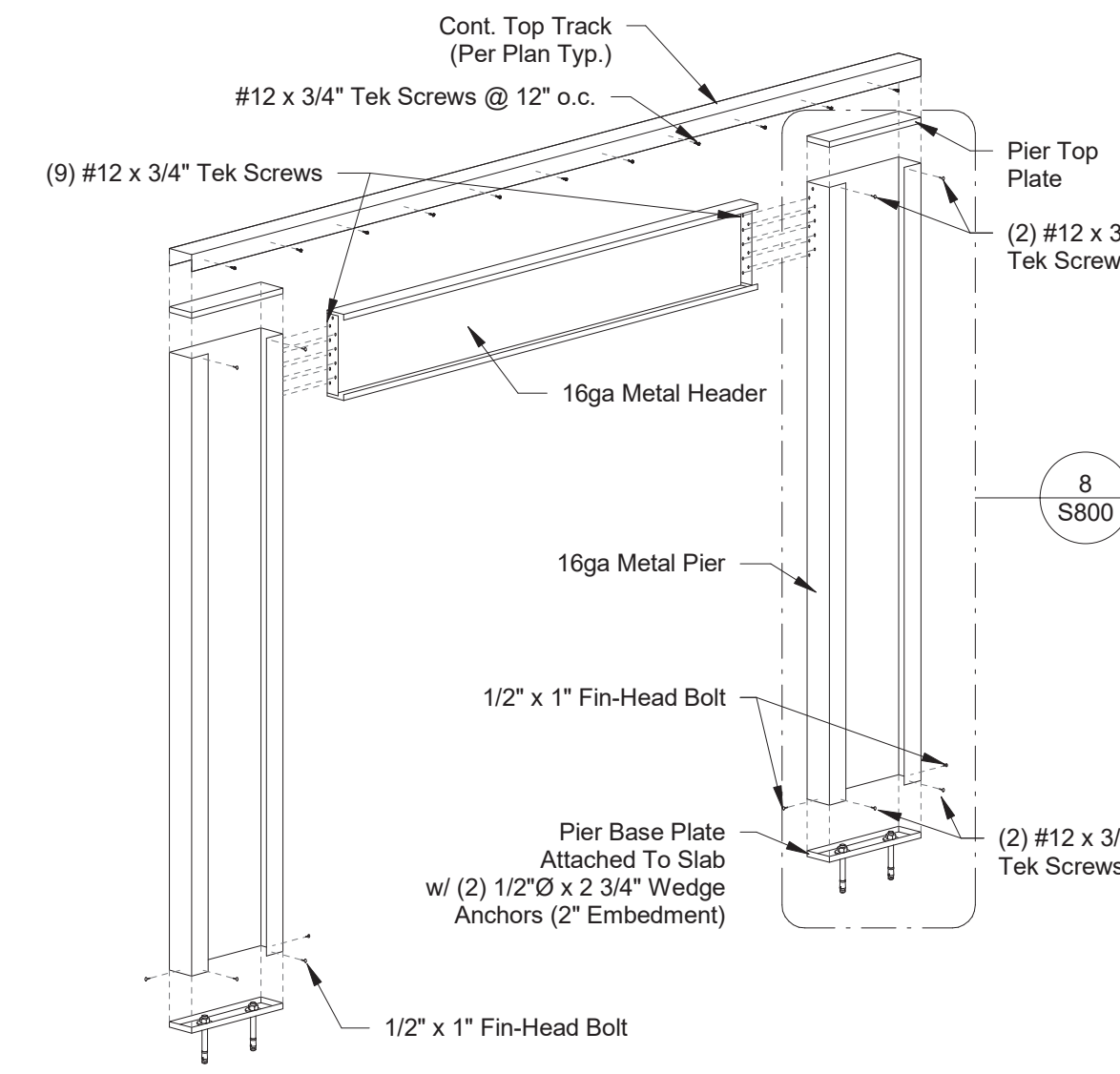
FOOTING SCHEDULE			
1500 PSF ALLOWABLE SOIL BEARING CAPACITY			
MARK	SIZE	REINF. (E.W.)	ALLOWABLE LOAD (KIPS)
F3.0	3'-0" x 3'-0" x 1'-0"	(3) #5	10



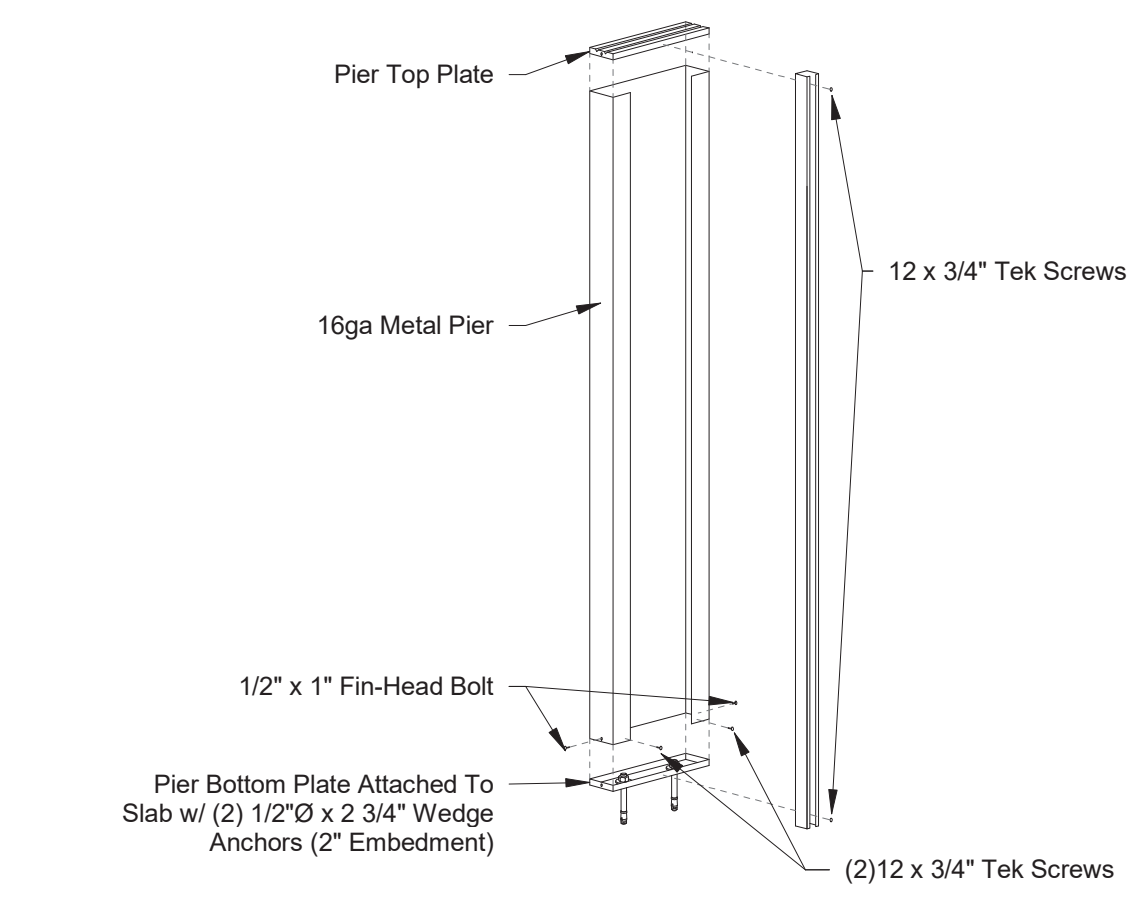
9 Footing @ HSS Columns
1" = 1'-0"



10 Footing @ HSS Columns - E.O.S.
1" = 1'-0"



7 Pier & Header Assembly
3/8" = 1'-0"



8 Pier Assembly Detail
3/8" = 1'-0"

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Rev. #	Revision Date	Revision Description
1	10-12-2022	Plan Check Response

Robert High Development
LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC 27546



ROBERT WARR, P.E.
NC PE# 32879

Robert Warr, PE
3590 Fricks Road
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(678) 310-9191
rwarr@frameworkengineering.com

Project Number	FE2203556-0
Issue Date	07-14-2022
Drawn By	EM
Checked By	RW
Engineered By	AD

S800
Foundation and Wall
Details



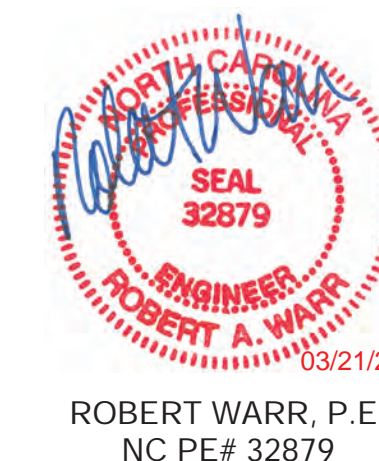
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LILLINGTON, NC 27546

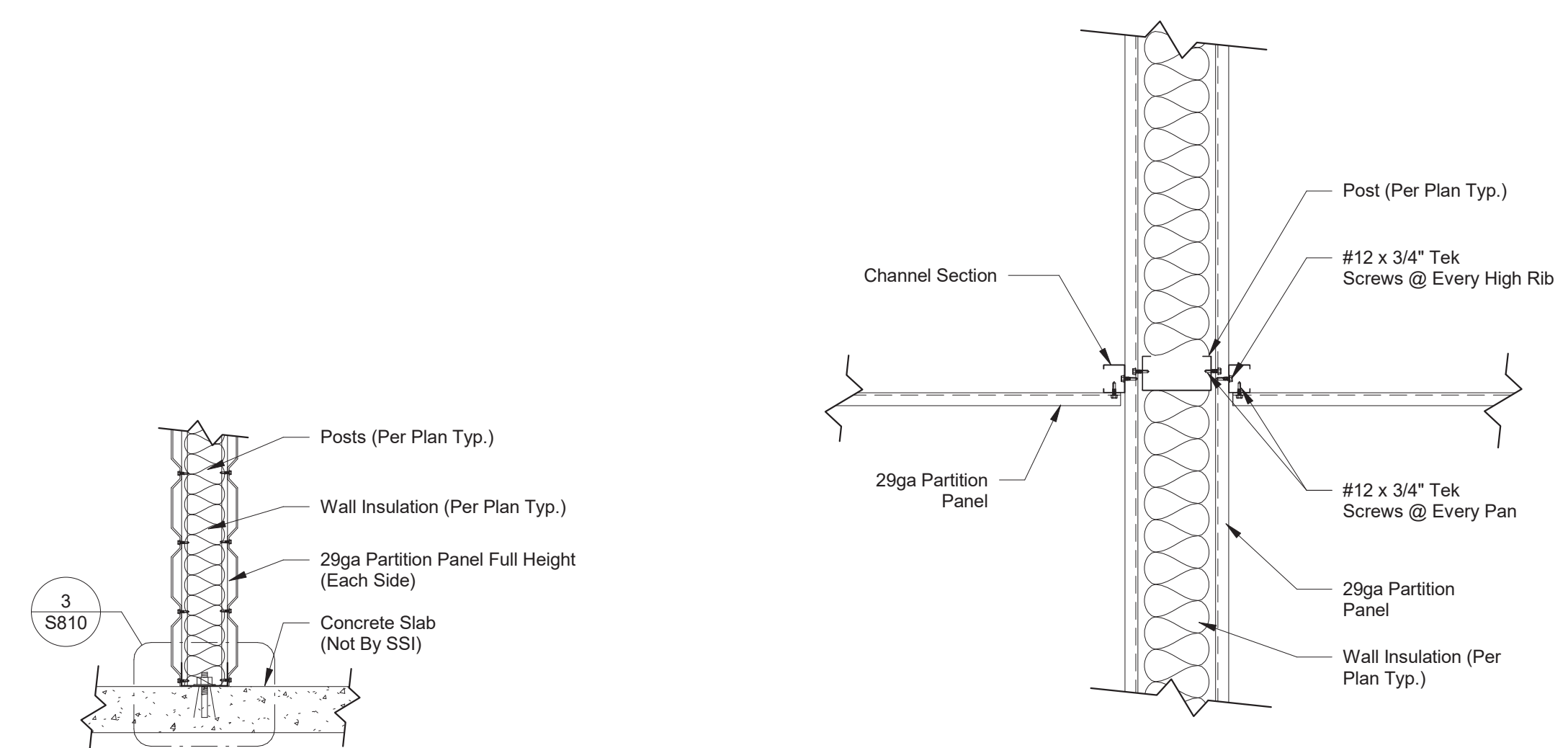


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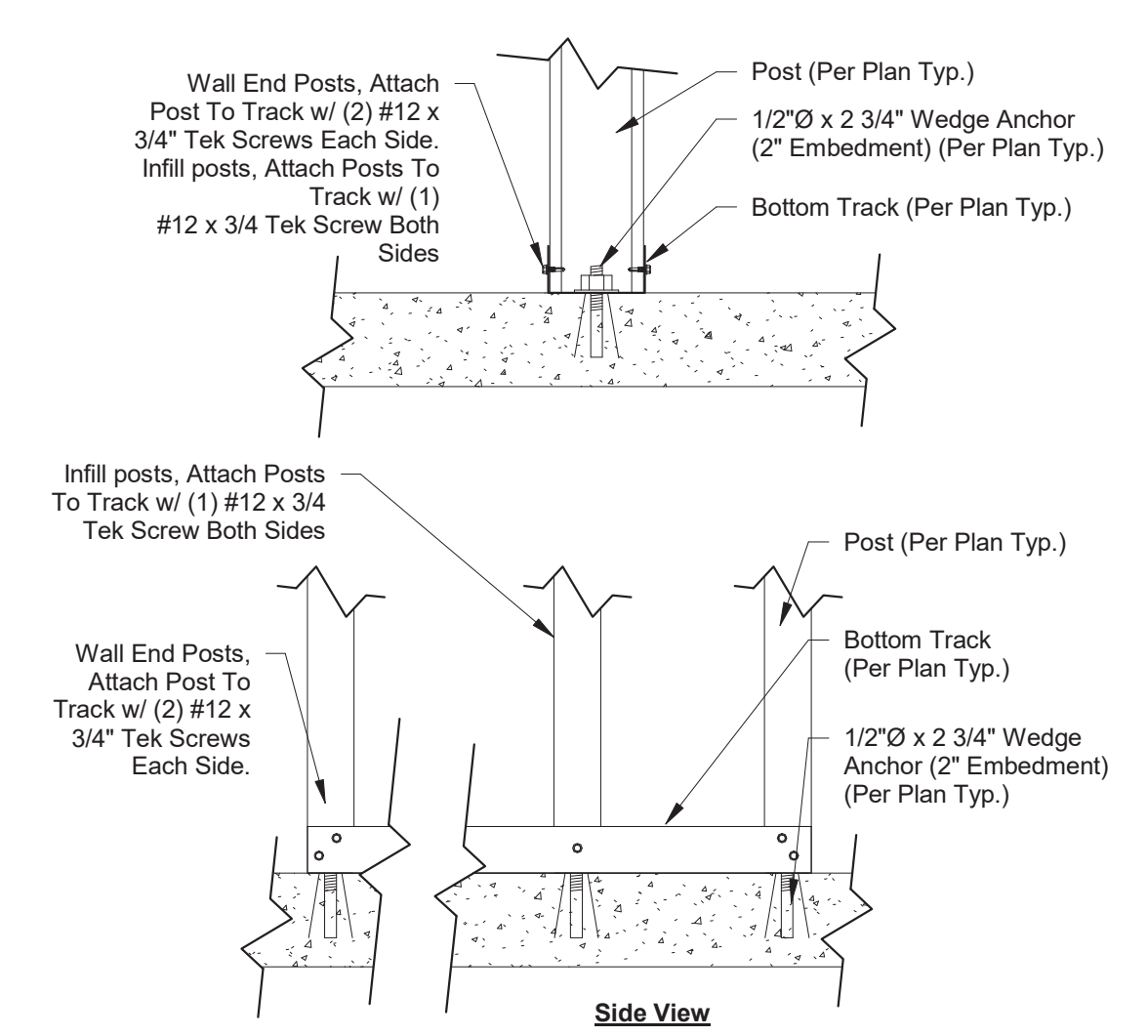
S810
Details

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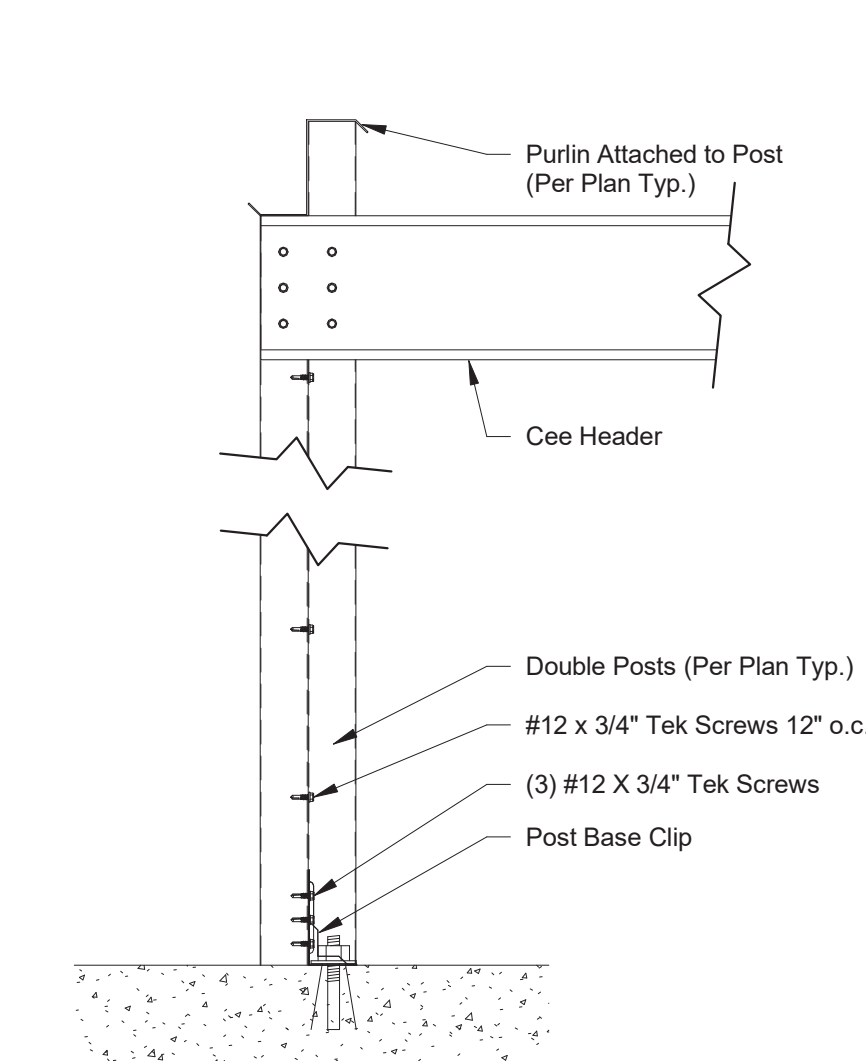


① Insulated Partition
1" = 1'-0"

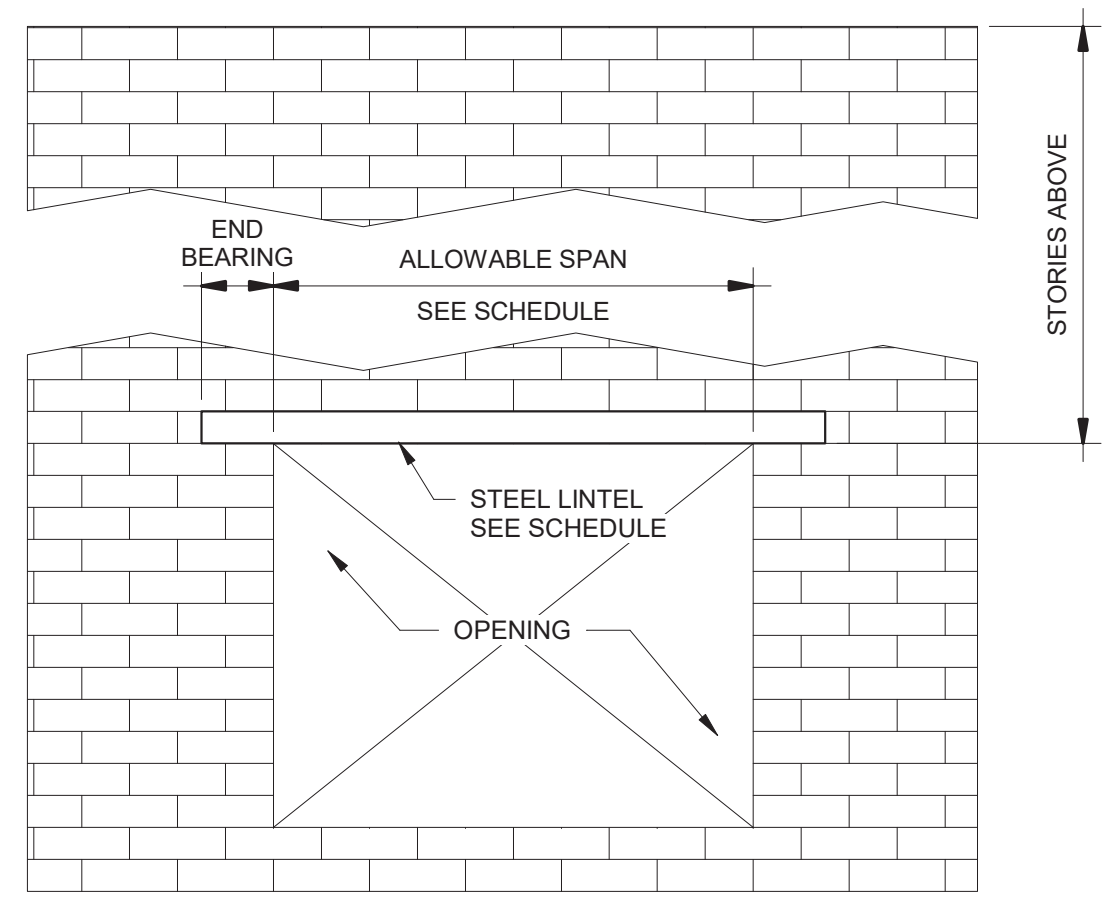
② Insulated Partition Intersection
1 1/2" = 1'-0"



③ Post To Track Detail
1 1/2" = 1'-0"



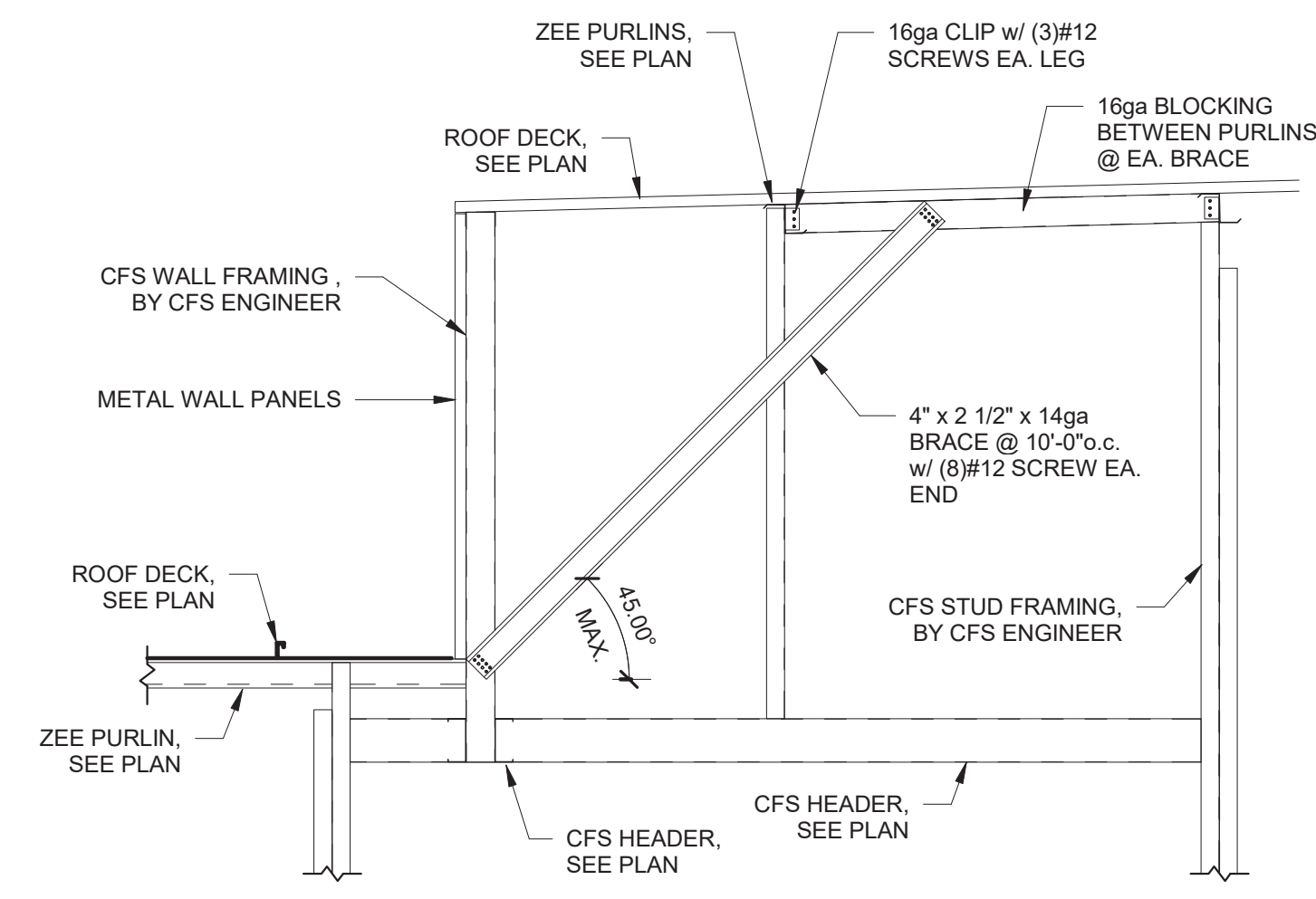
④ Double Post Detail (Single Story & Top Floor)
1 1/2" = 1'-0"



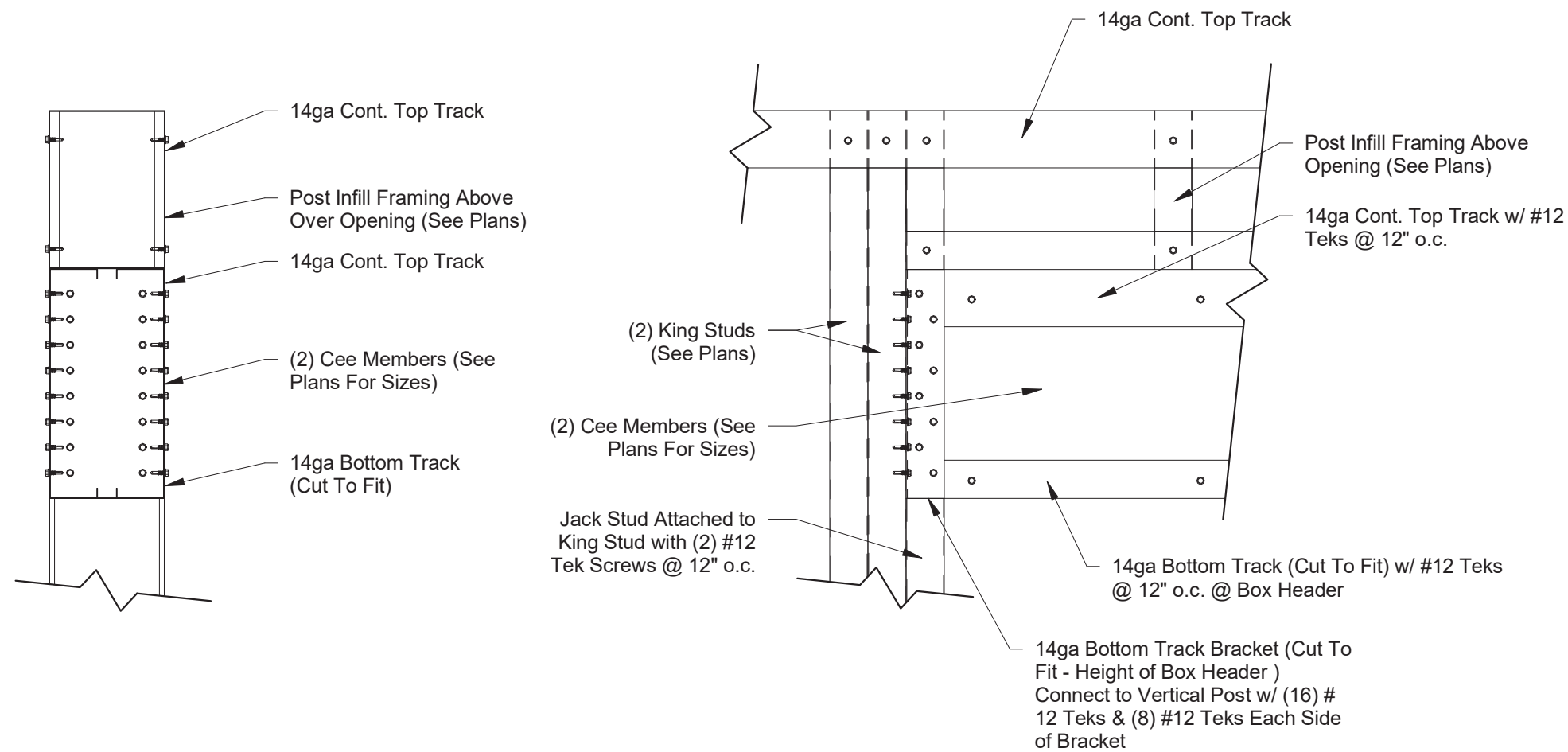
SIZE	ALLOWABLE SPAN		
	UP TO 5'-0" ABOVE	ONE STORY ABOVE	TWO STORIES ABOVE
3x3x1/4	6'-0"	4'-6"	3'-0"
4x3x1/4	8'-0"	6'-0"	4'-6"
5x3.5x5/16	10'-0"	8'-0"	6'-0"
6x3.5x5/16	14'-0"	9'-6"	7'-0"
8x4x1/2	18'-0"	15'-0"	12'-6"

NOTE: LONG LEG SHALL BE PLACED VERTICAL. MINIMUM END BEARING = 6-IN.

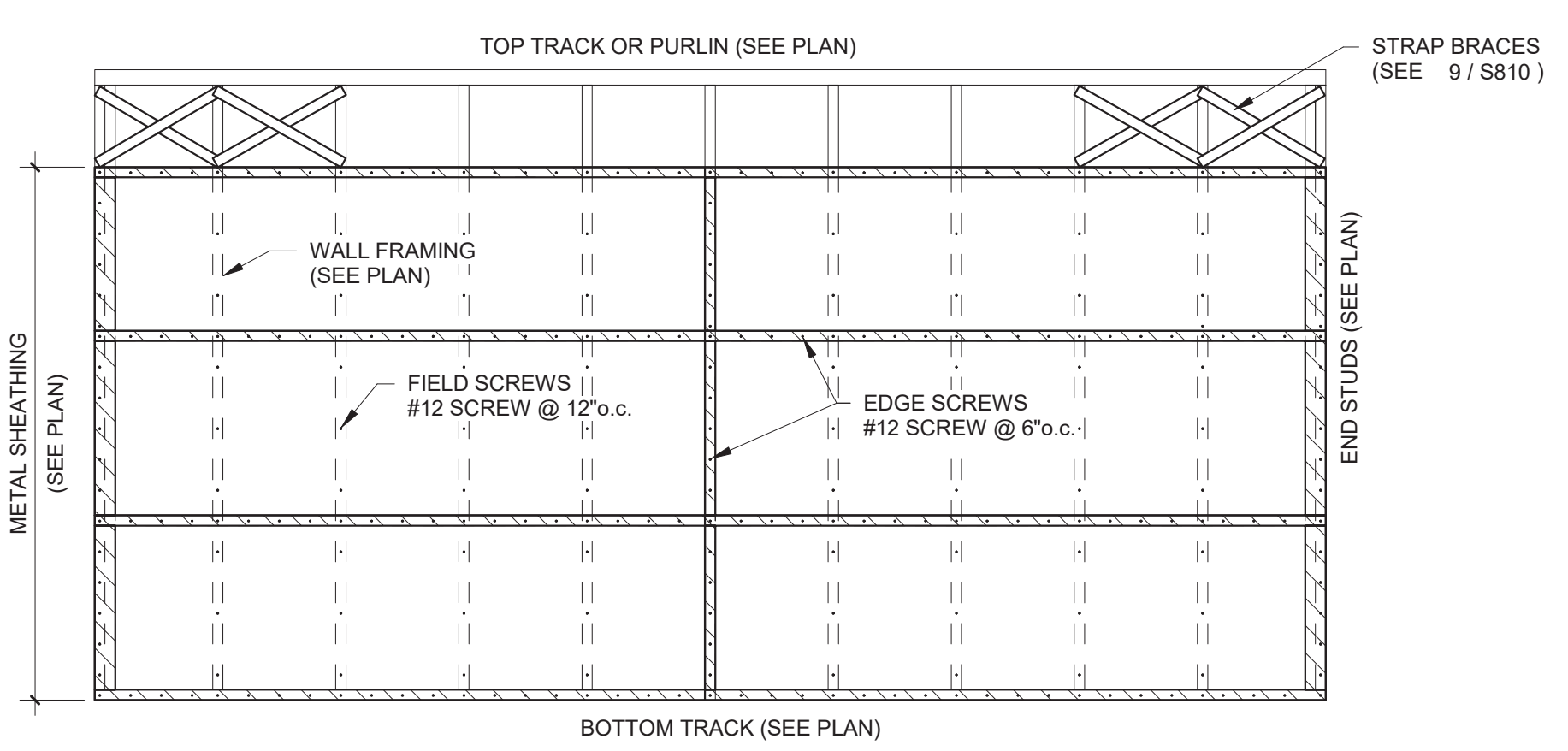
⑥ LOOSE LINTEL SCHEDULE
1 1/2" = 1'-0"



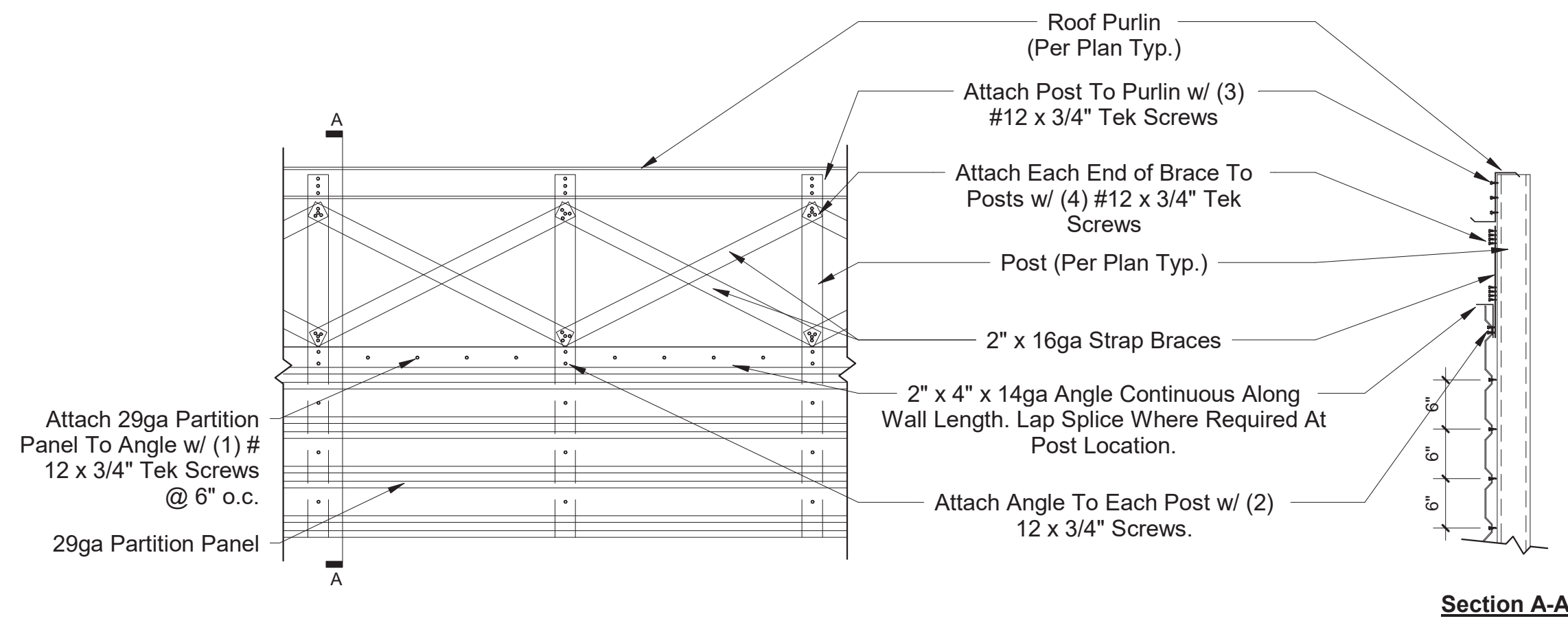
⑦ High Roof Brace to Low Roof
1/2" = 1'-0"



⑤ Box Header Detail
1 1/2" = 1'-0"

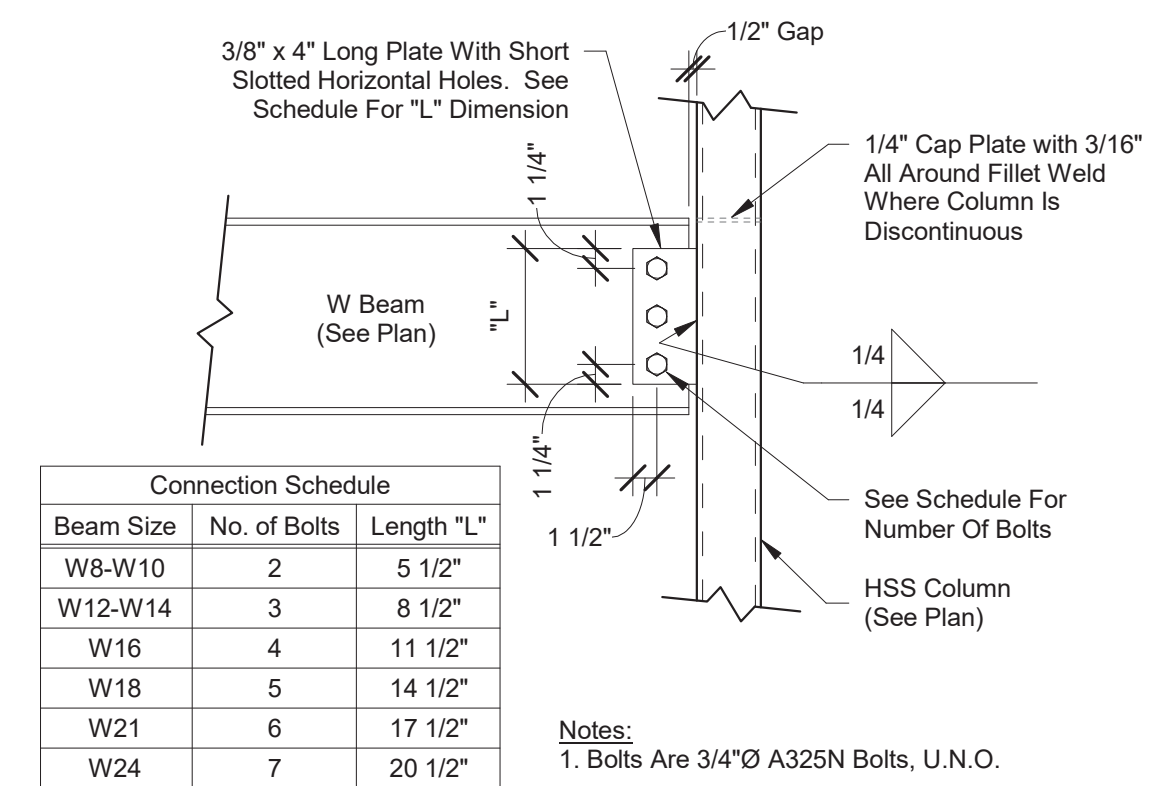


⑧ Shear Wall Attachment
3/8" = 1'-0"

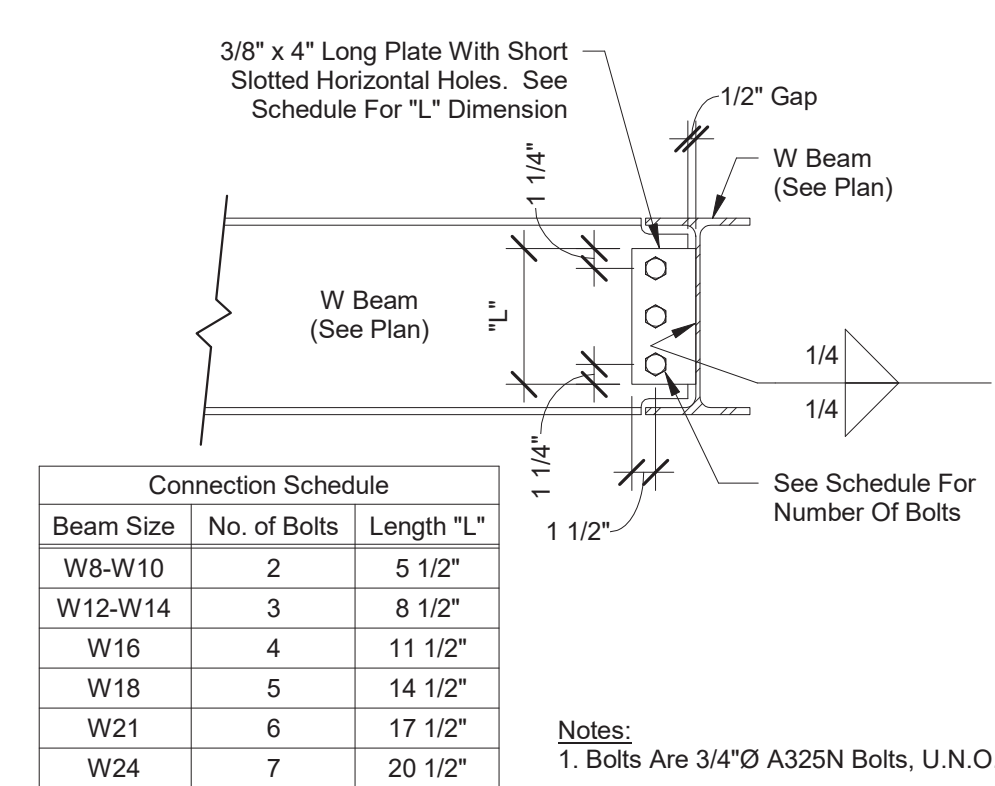


⑨ Shear Wall X-Strap Above Metal Panel (Top Floor)
3/4" = 1'-0"

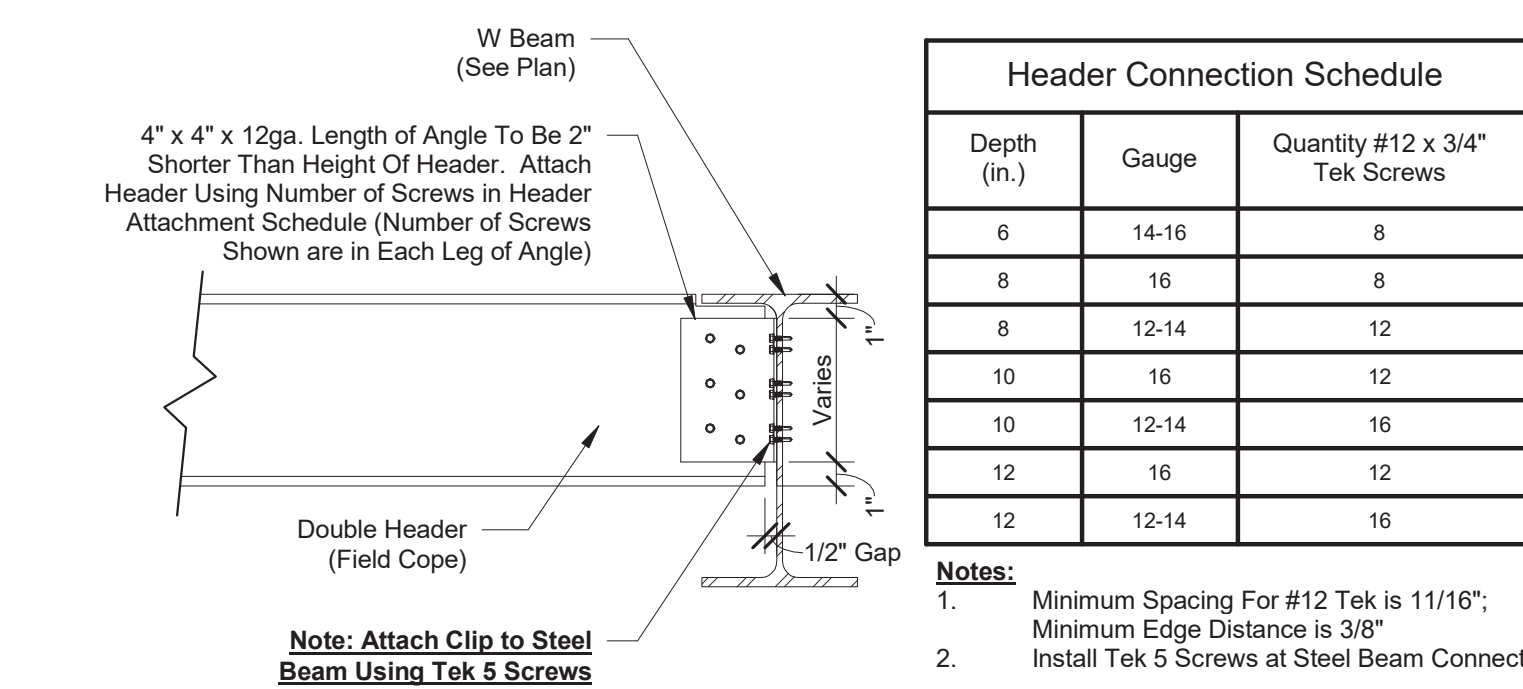
Section A-A



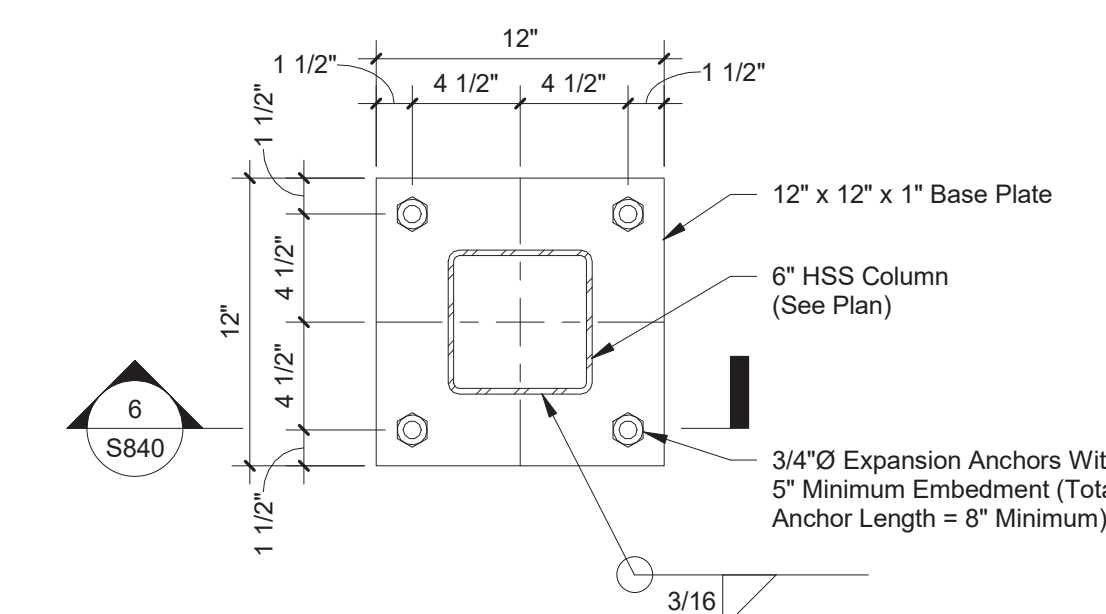
① Beam to HSS Column Connection
1" = 1'-0"



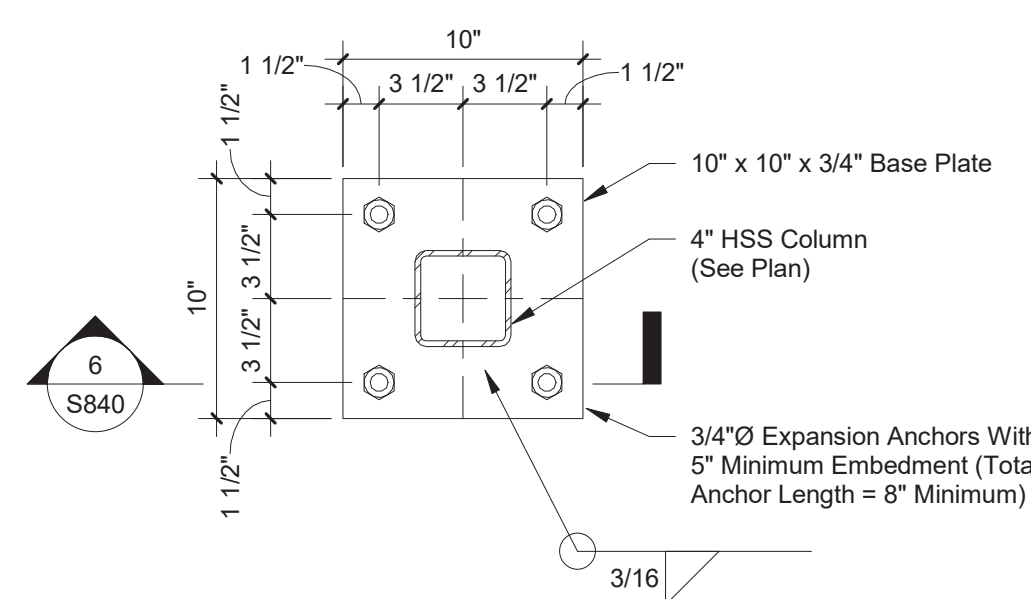
② Beam to Beam Connection
1" = 1'-0"



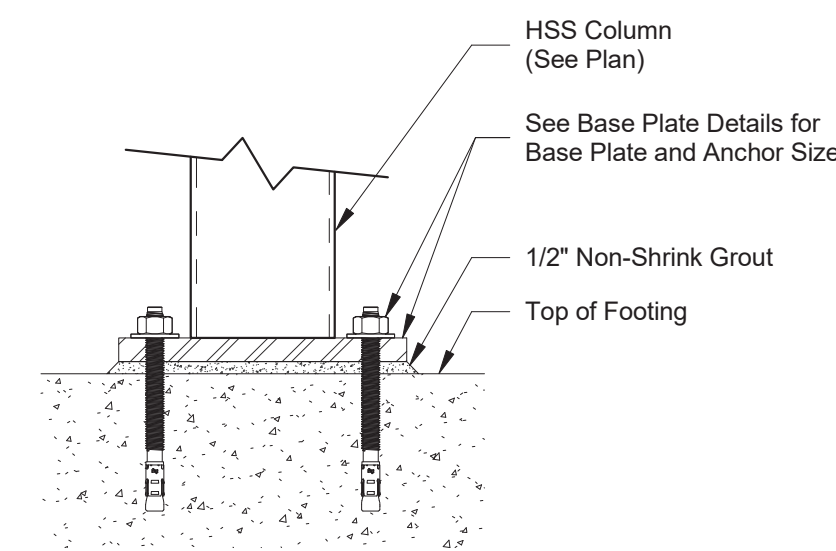
③ Header To Beam Connection
1 1/2" = 1'-0"



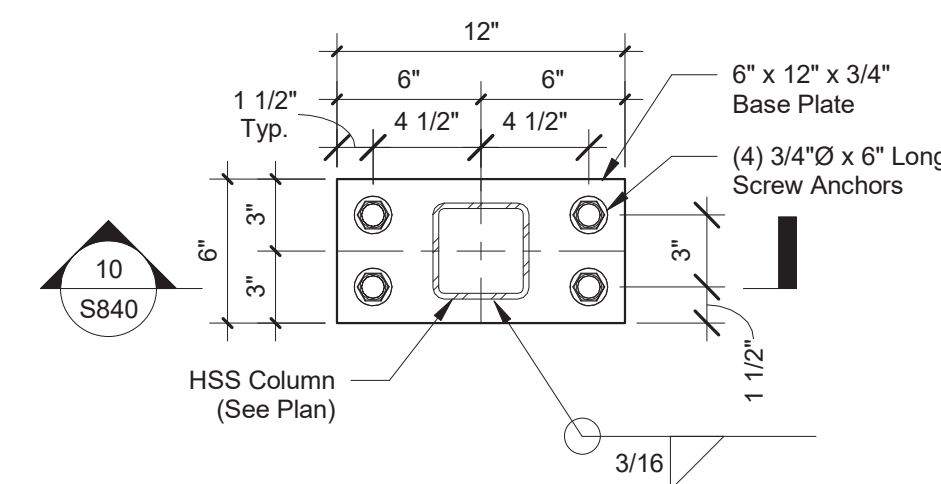
④ 12" x 12" Base Plate
1 1/2" = 1'-0"



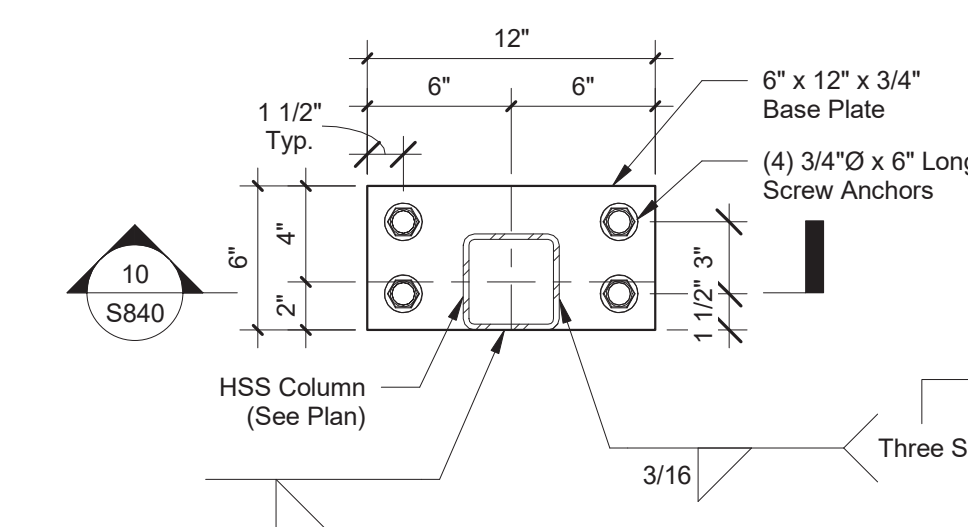
⑤ 10" x 10" Base Plate
1 1/2" = 1'-0"



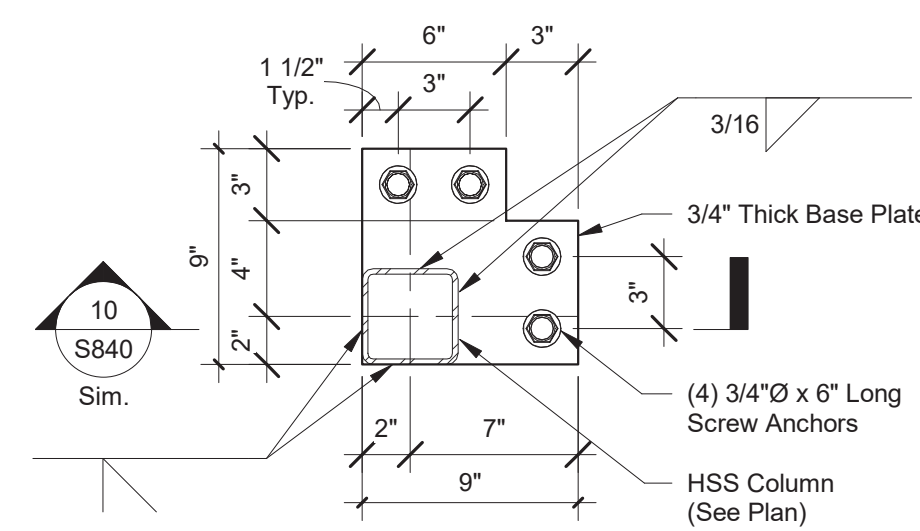
⑥ Grouted Base Plate Assembly
1 1/2" = 1'-0"



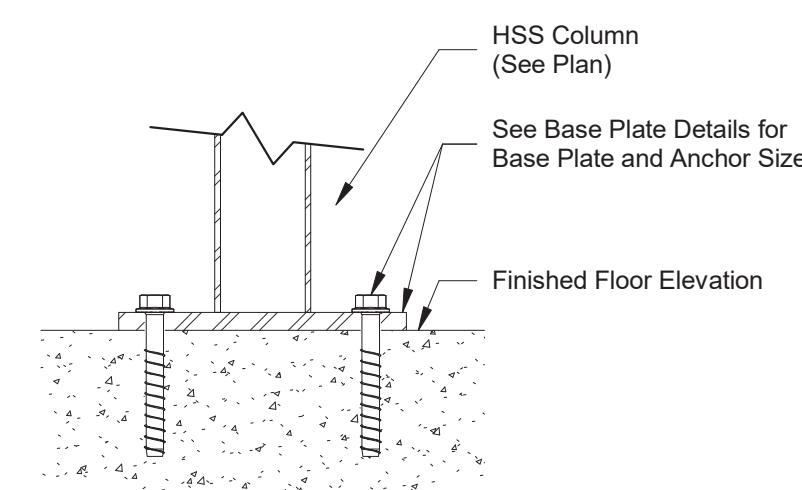
⑦ 6" x 12" Base Plate (HSS Centered)
1 1/2" = 1'-0"



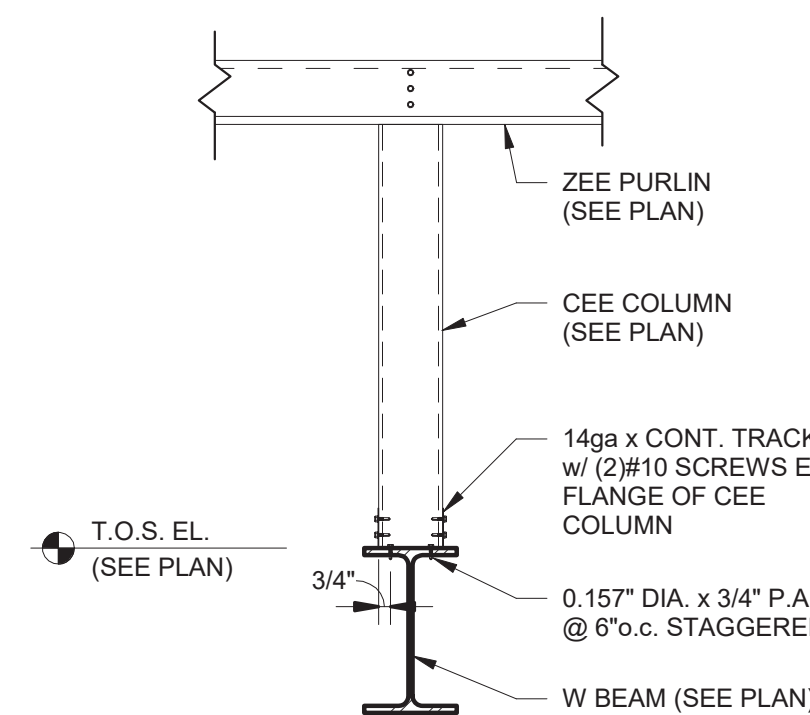
⑧ 6" x 12" Base Plate (HSS Offset)
1 1/2" = 1'-0"



⑨ Base Plate Corner 4-Hole Offset
1 1/2" = 1'-0"



⑩ F.F.E. Base Plate
1 1/2" = 1'-0"



⑪ Purlin Bearing on Beam - Knee Wall
1" = 1'-0"

Header Connection Schedule		
Depth (in.)	Gauge	Quantity #12 x 3/4" Tek Screws
6	14-16	8
8	16	8
8	12-14	12
10	16	12
10	12-14	16
12	16	12
12	12-14	16

Notes:
 1. Minimum Spacing For #12 Tek is 11/16"; Minimum Edge Distance is 3/8";
 2. Install Tek 5 Screws at Steel Beam Connection



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S840
Steel Details

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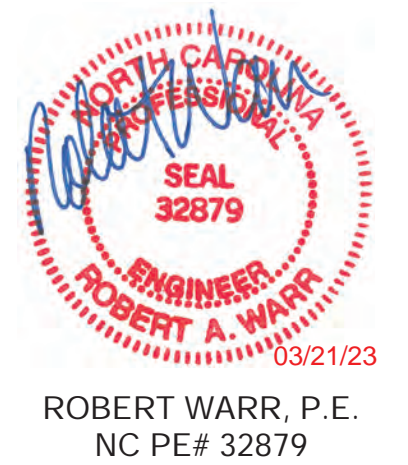
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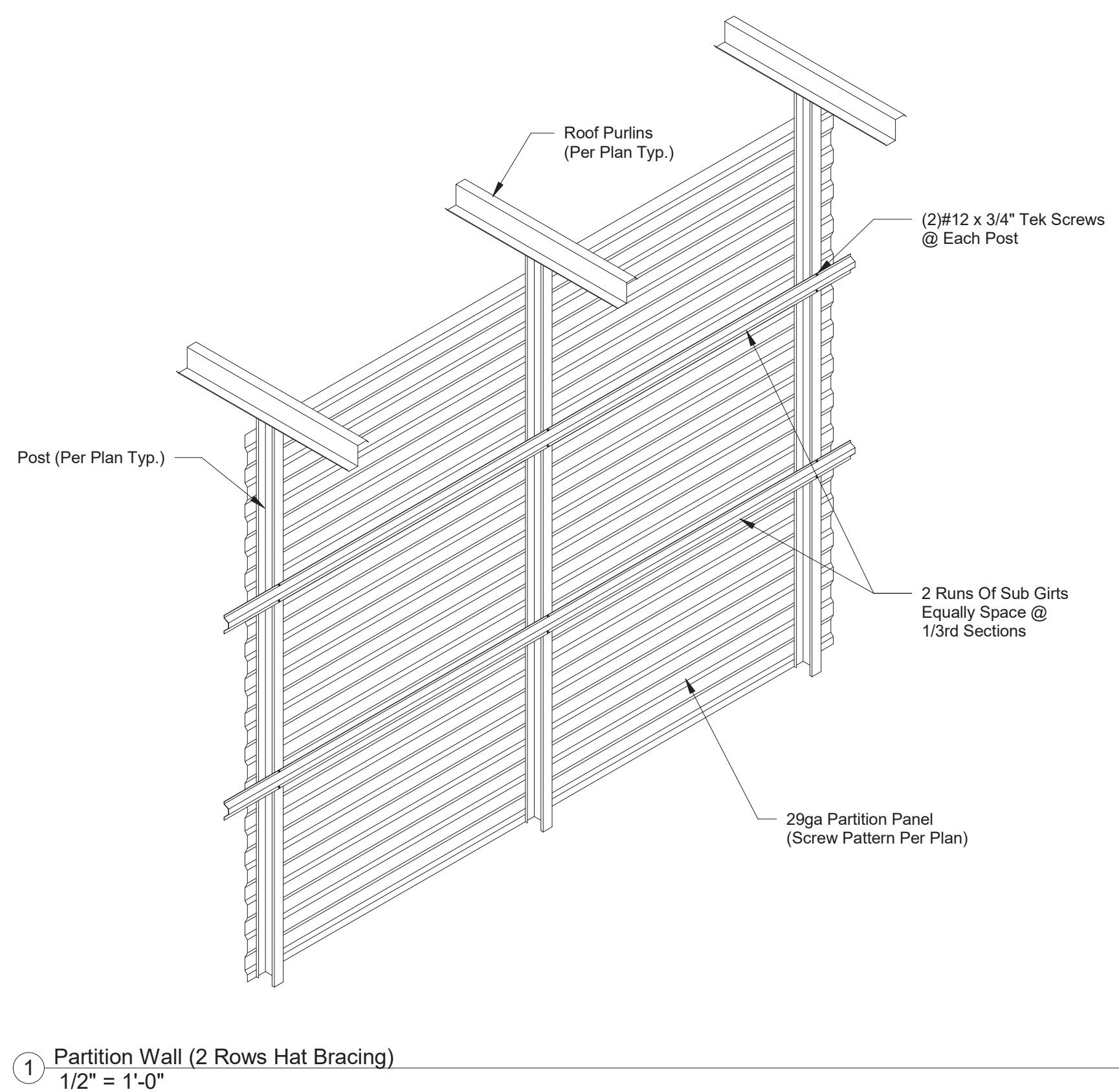
Robert Warr, PE
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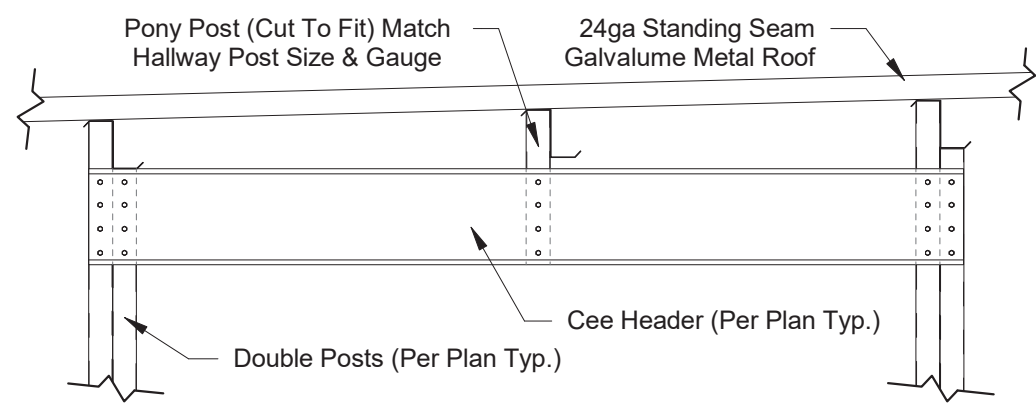
S900

Roofing Details

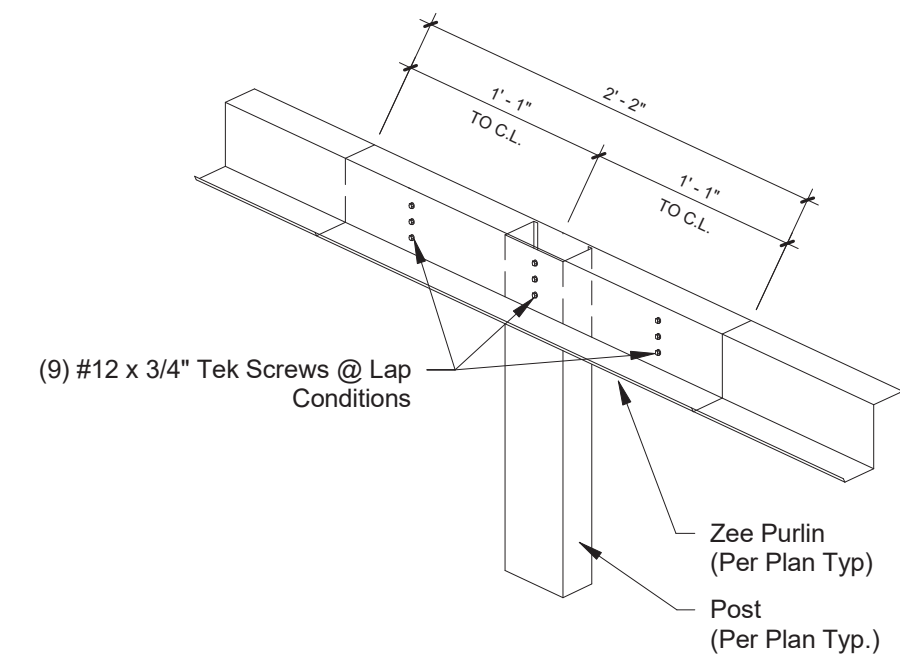
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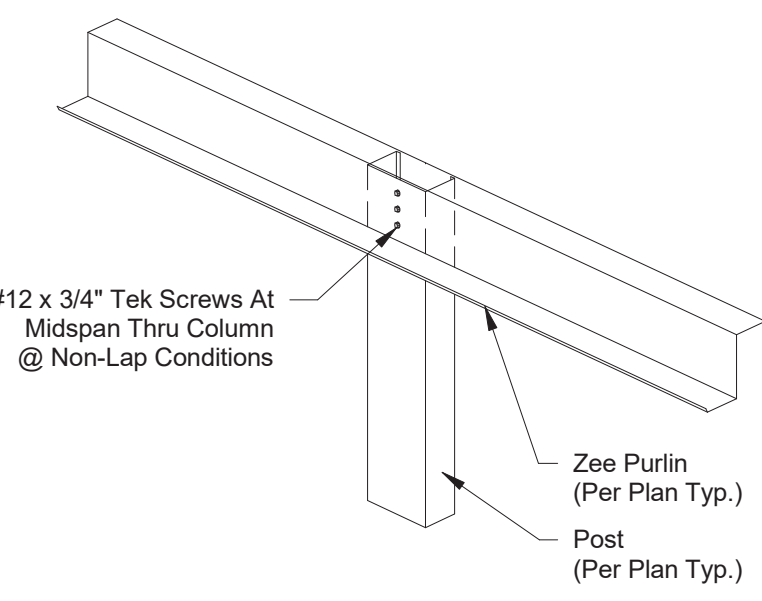
1 Partition Wall (2 Rows Hat Bracing)
1/2" = 1'-0"



2 Pony Post to Purlin
3/4" = 1'-0"

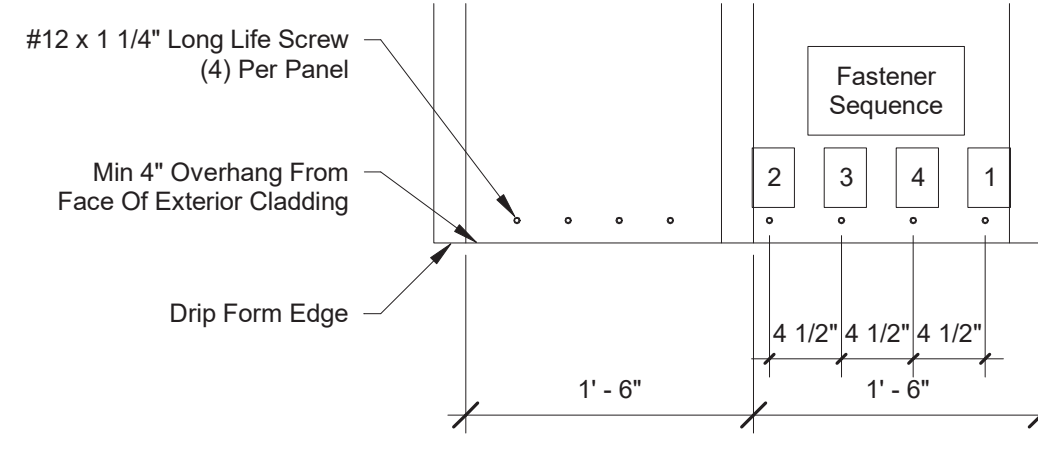


Lap Connection

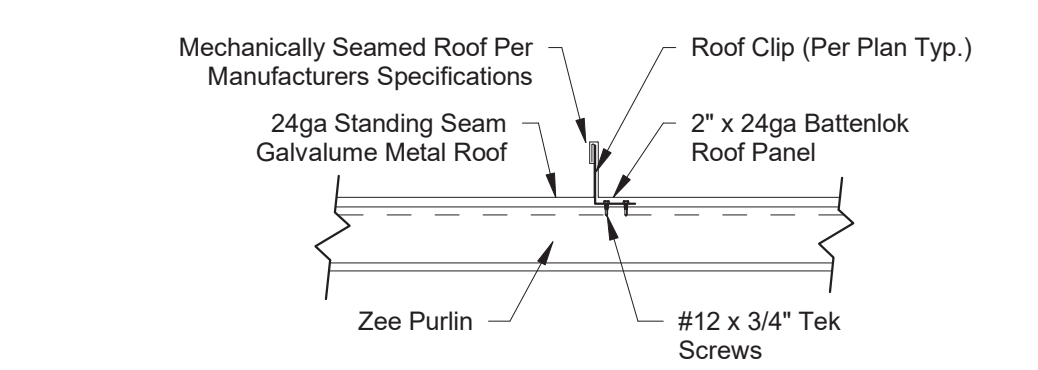


Non-Lap Connection

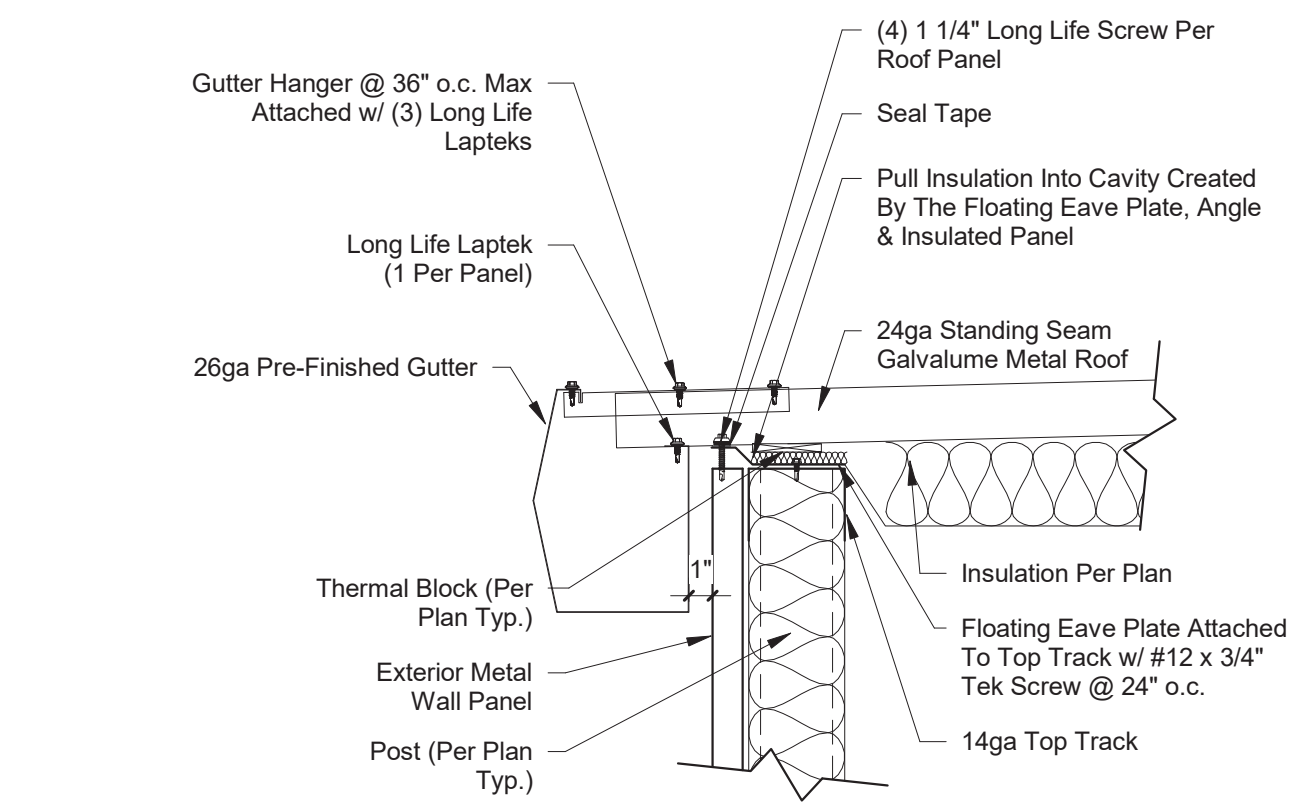
3 Purlin To Post Connection
1" = 1'-0"



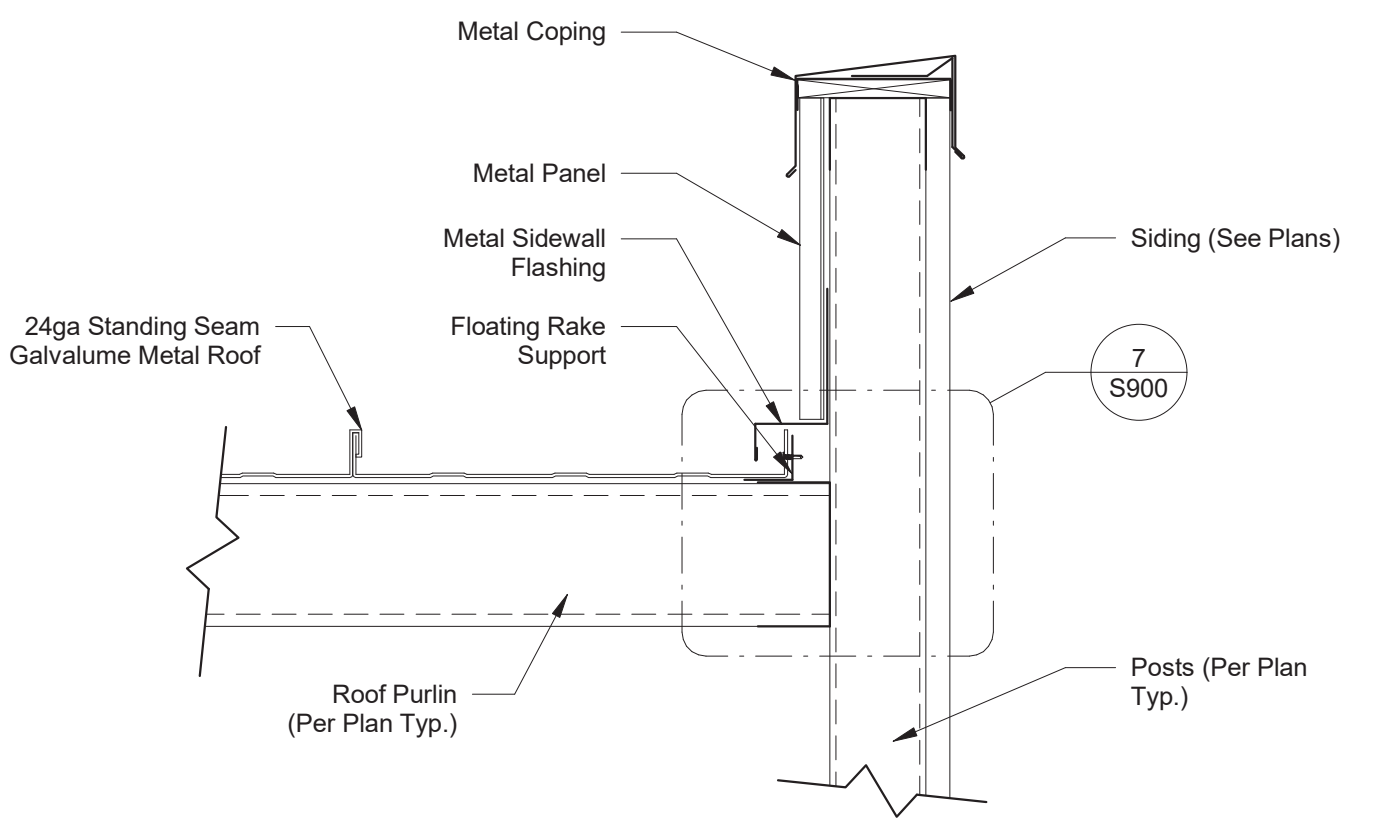
4A Roof Eave (Less than 60°)
1" = 1'-0"



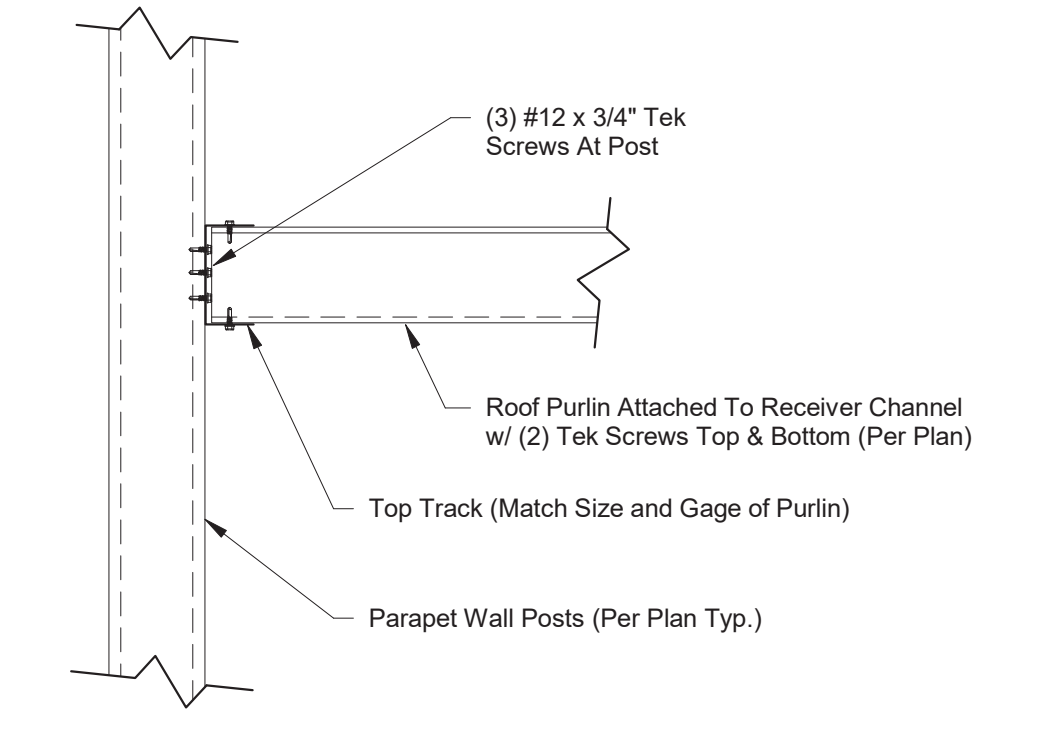
4B Roof Panel Clip - Mechanically Seamed
1" = 1'-0"



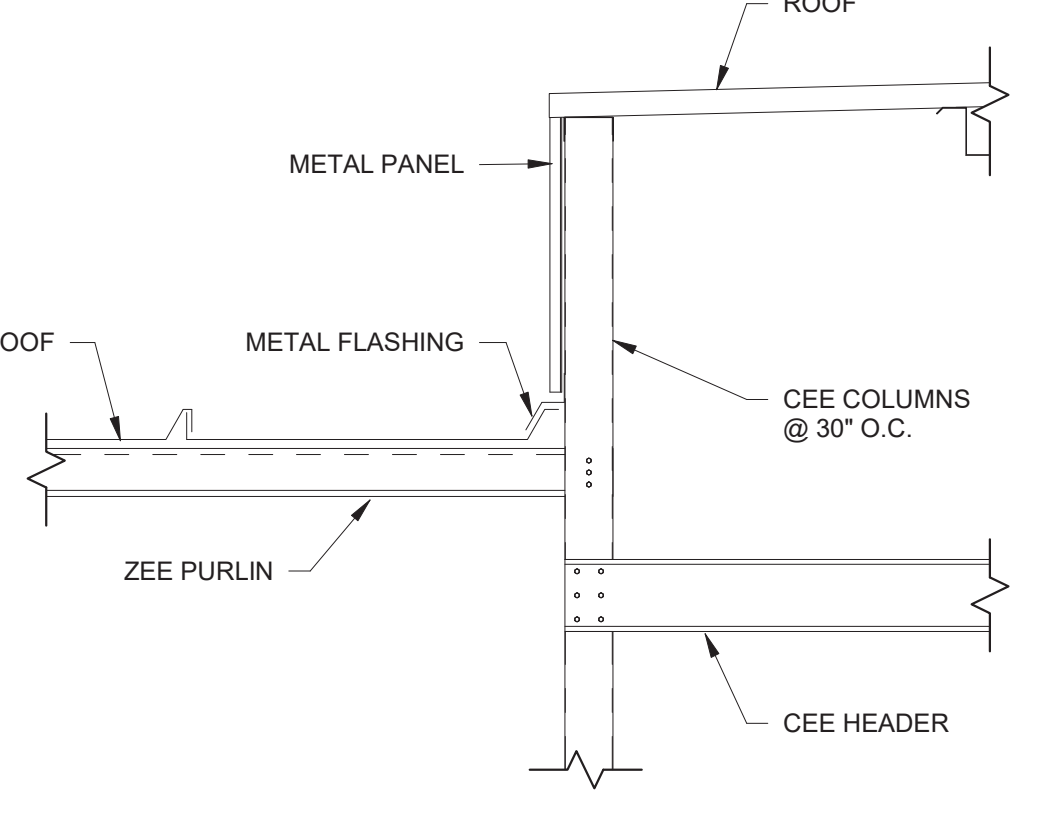
5 Low Eave Installation - Metal Wall Panels
1 1/2" = 1'-0"



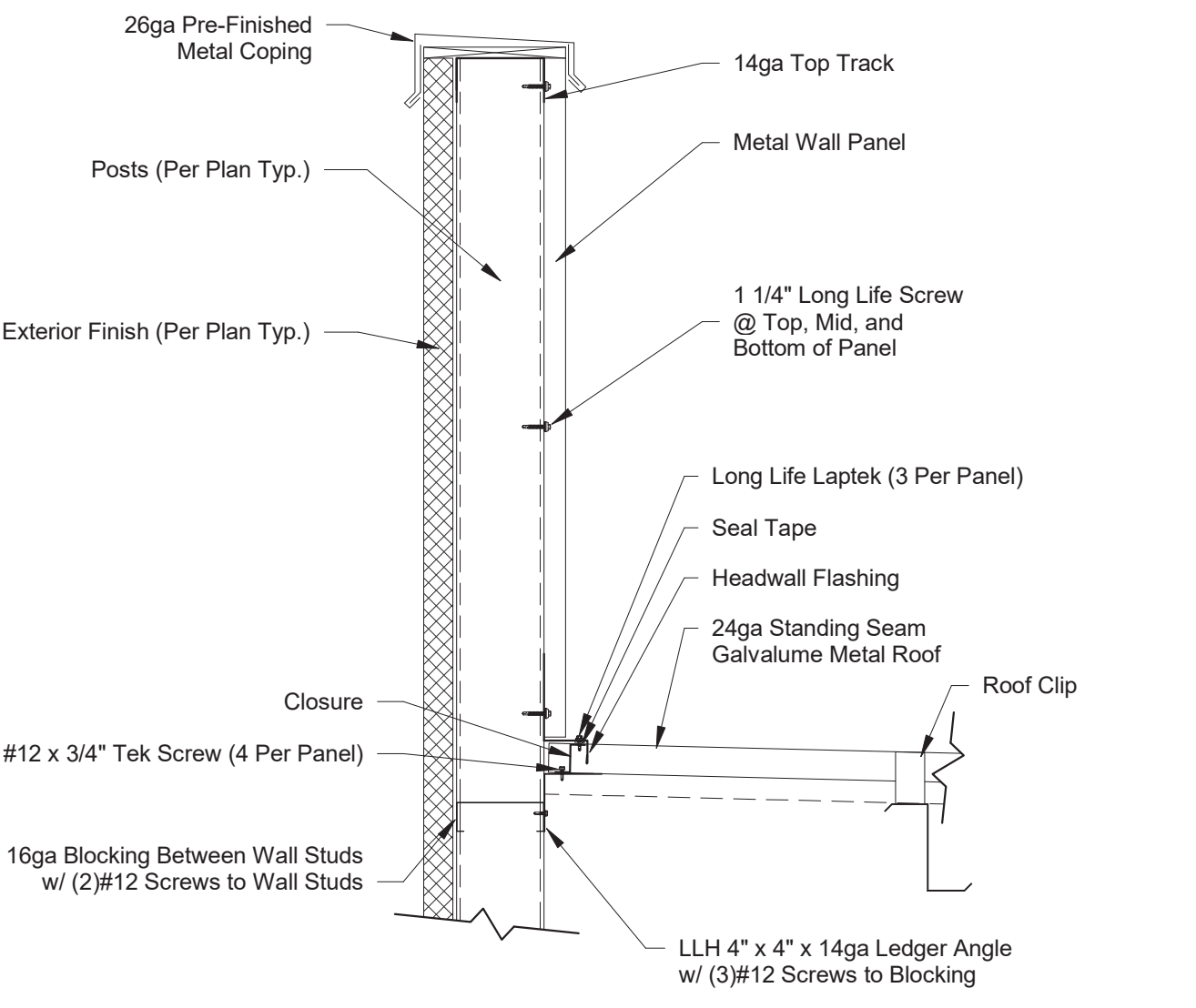
6 Parapet Framing
1 1/2" = 1'-0"



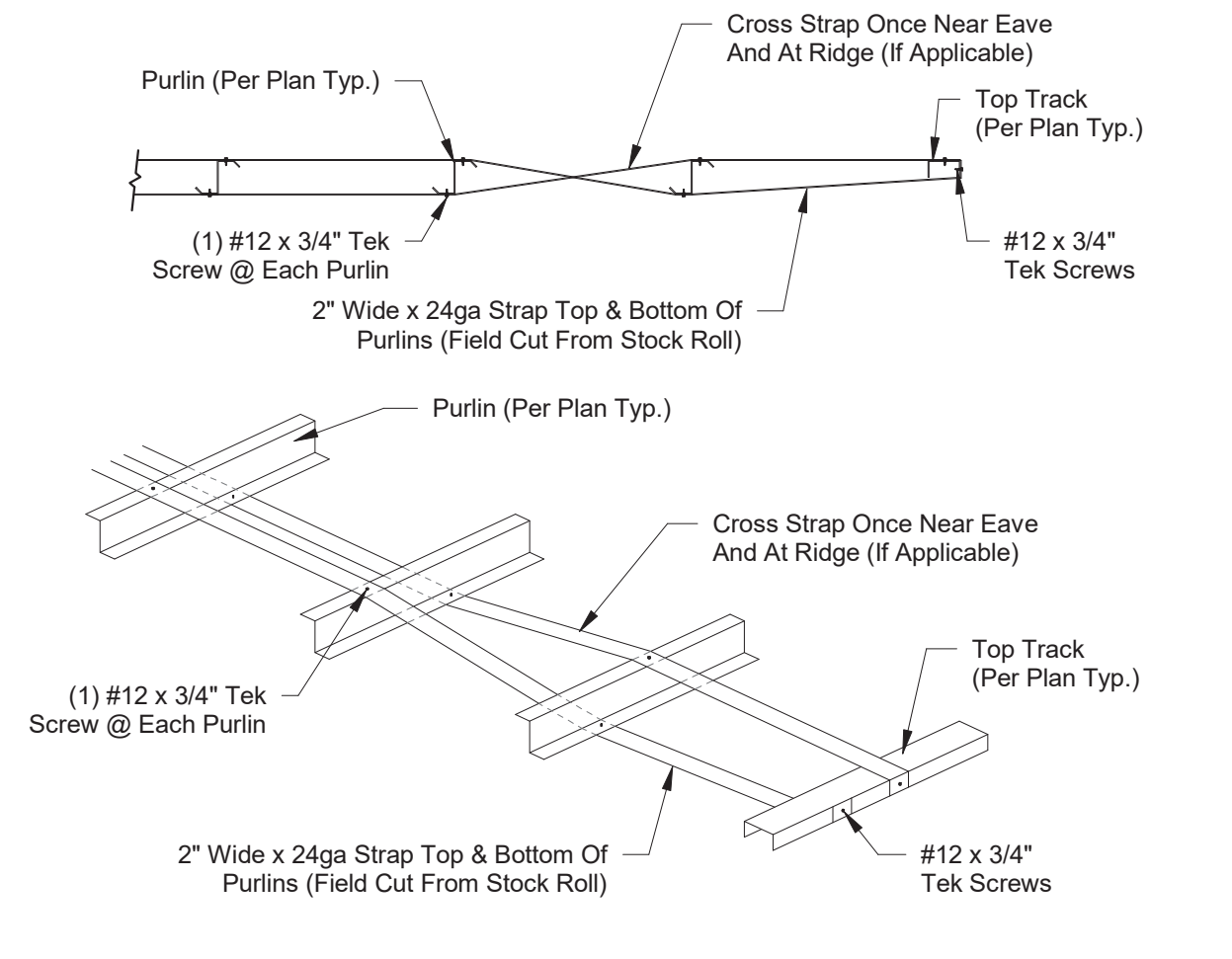
7 Purlin Connection To Parapet End Wall
1 1/2" = 1'-0"



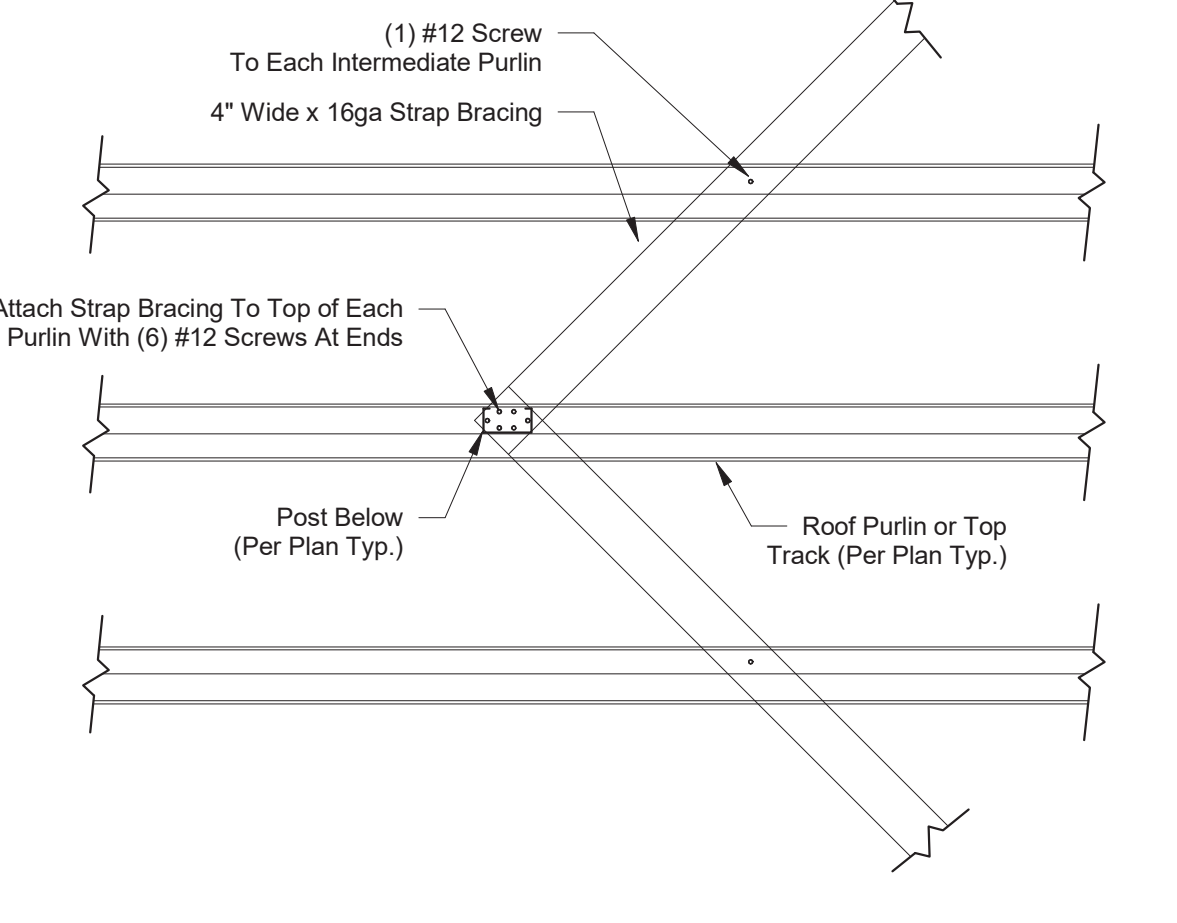
8 Roof Step
3/4" = 1'-0"



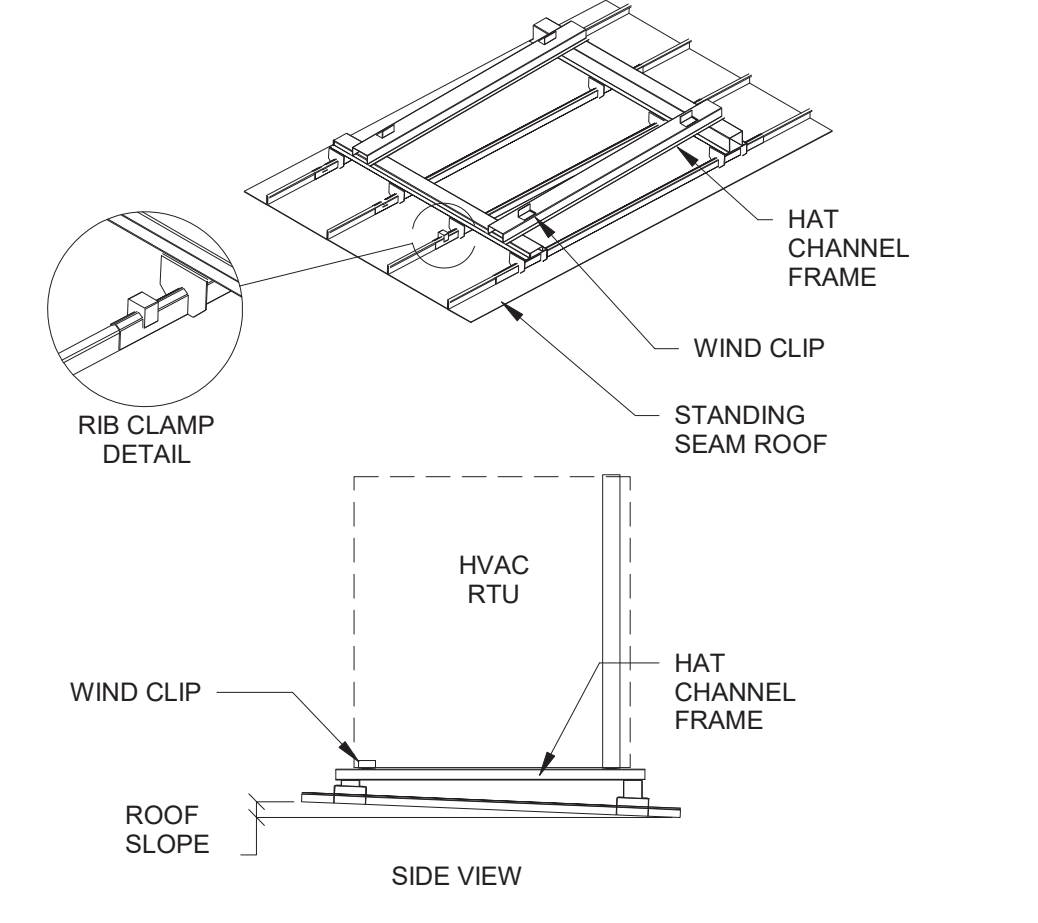
9 Parapet @ High Roof
1" = 1'-0"



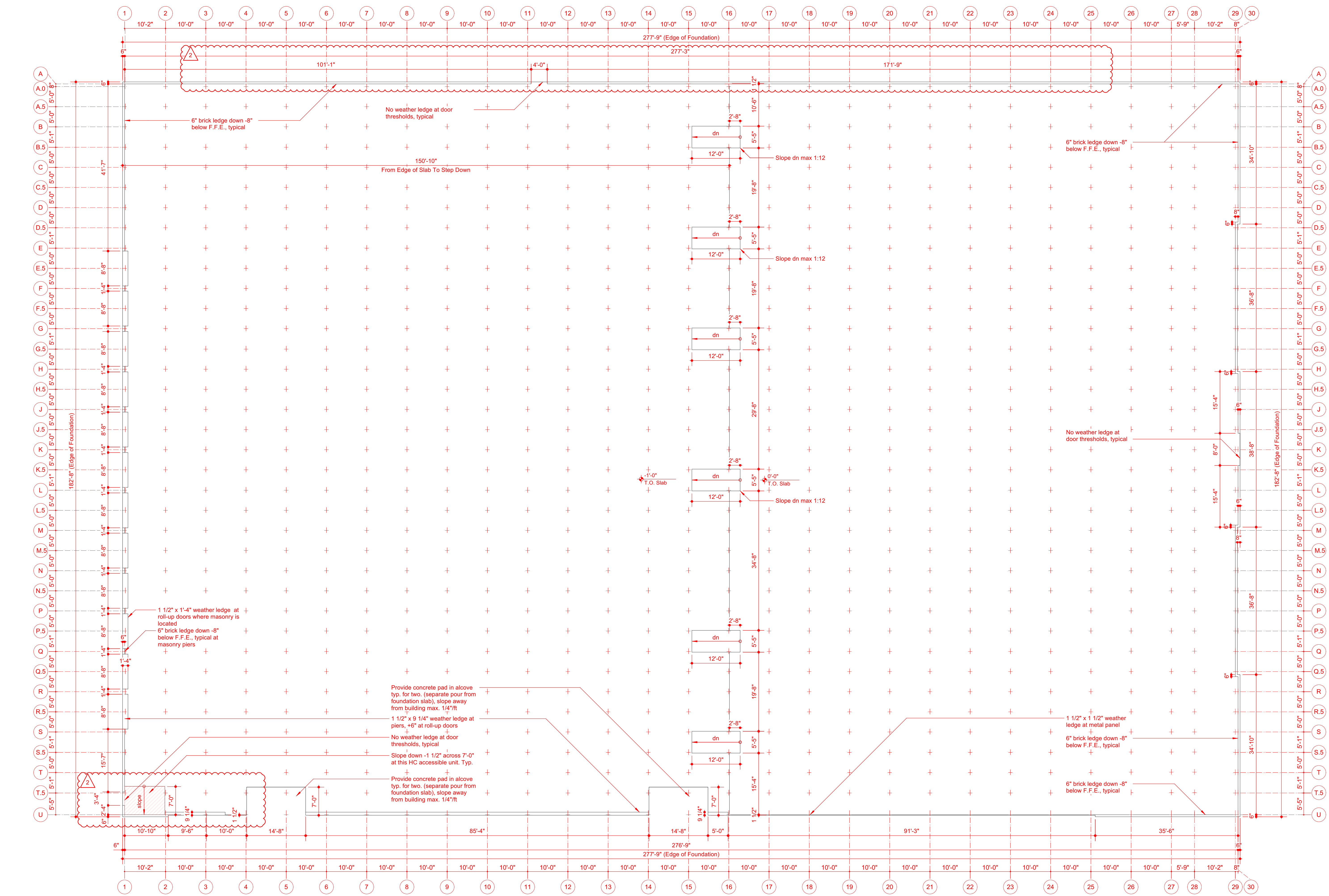
10 Purlin Midbay Strapping @ Non-Structural Pier Condition
1/2" = 1'-0"



11 Roof Strap Bracing
3/4" = 1'-0"

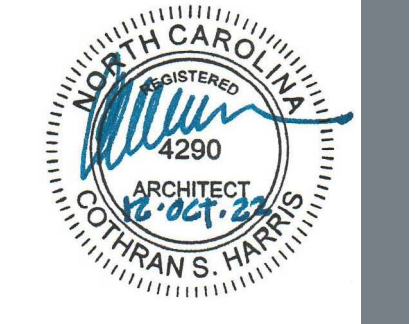


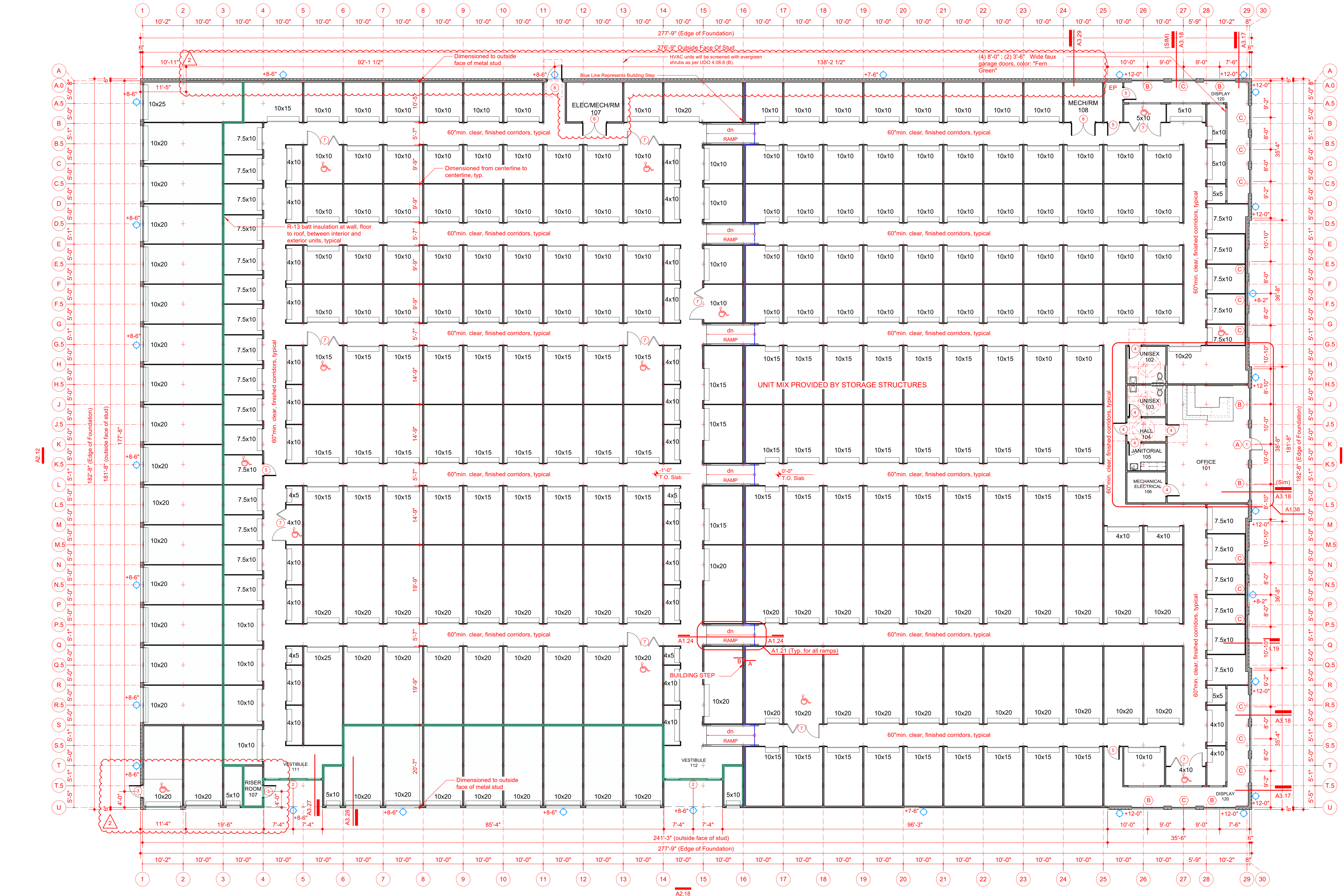
12 HVAC ROOF SUPPORT DETAIL
1" = 1'-0"



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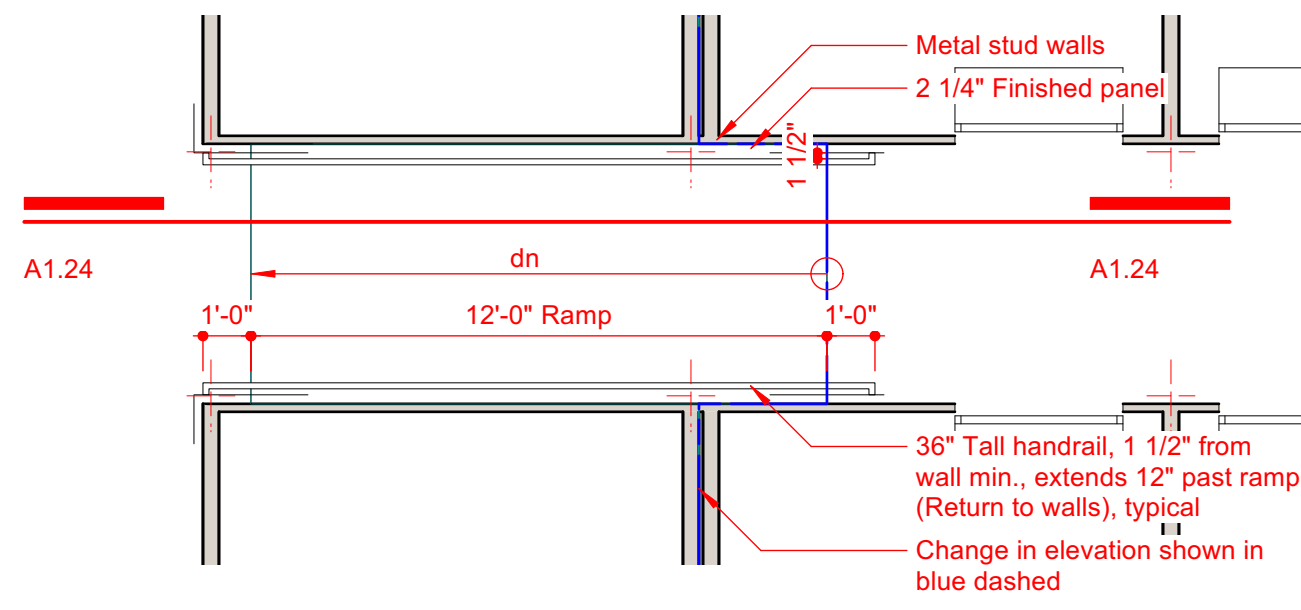
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WALL LEGEND

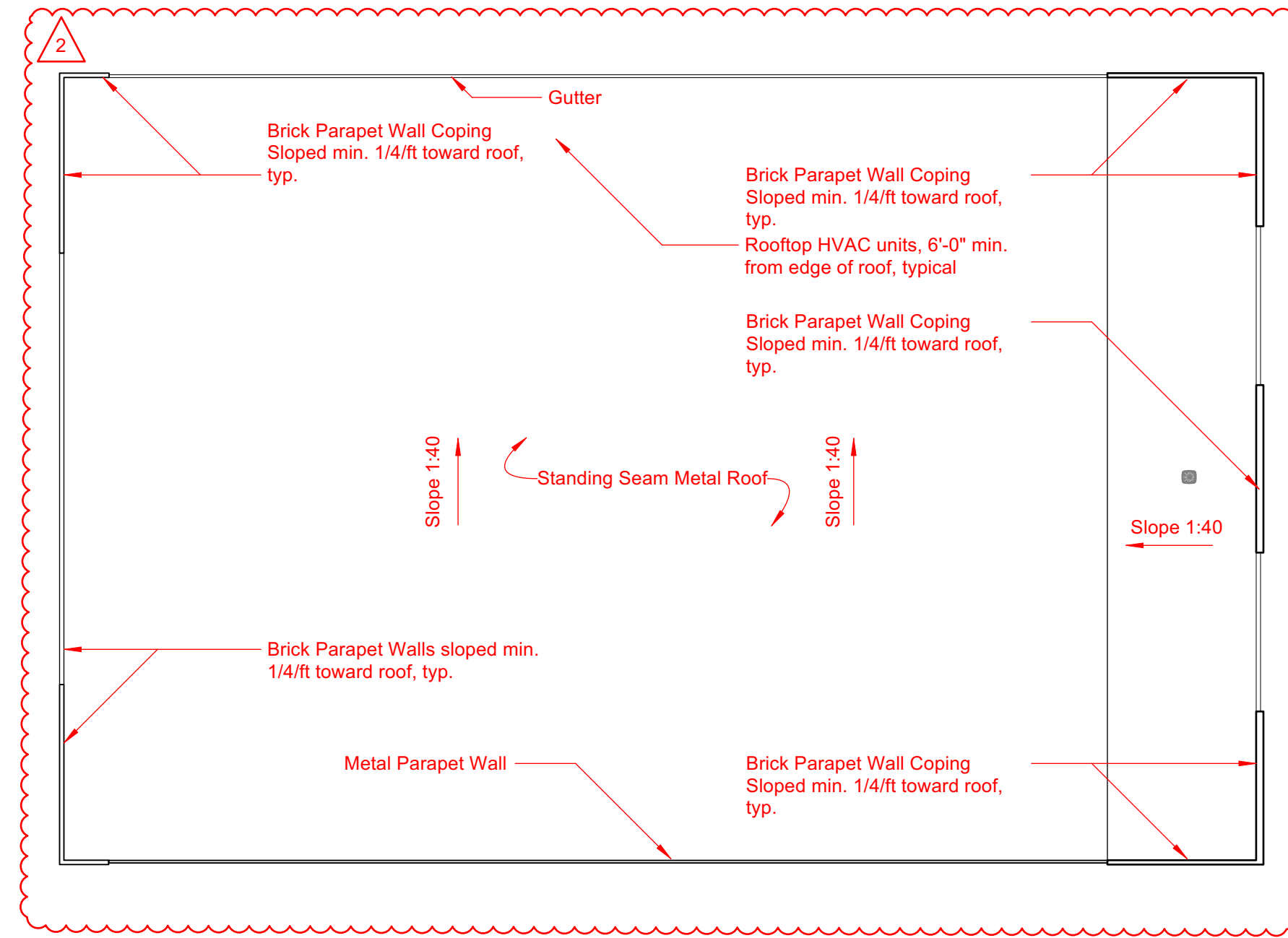
- 2" metal stud wall
- 4" metal stud wall
- 4" metal stud wall with batt insulation
- 4" metal stud wall with brick veneer

NOTE: All exterior walls to be insulated R-13 Min. U.O.N.



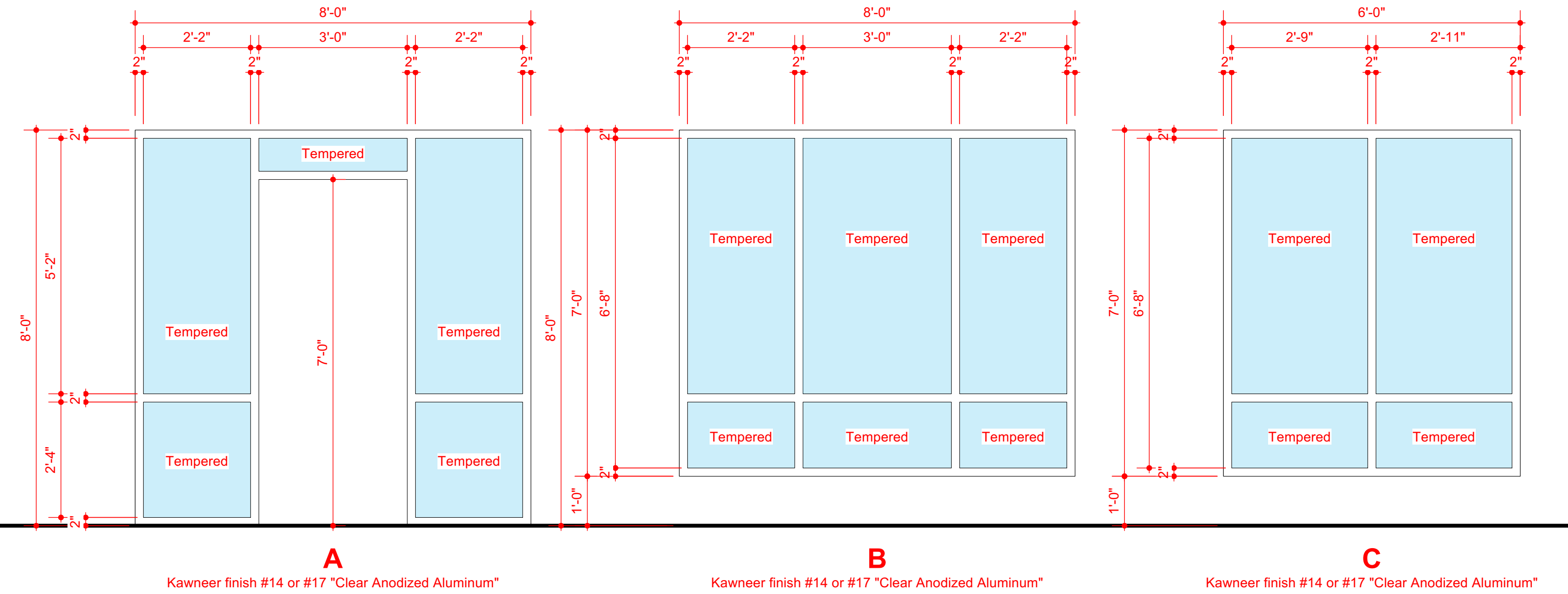
TYPICAL RAMP HANDRAIL DETAIL

A1.24 1/4"



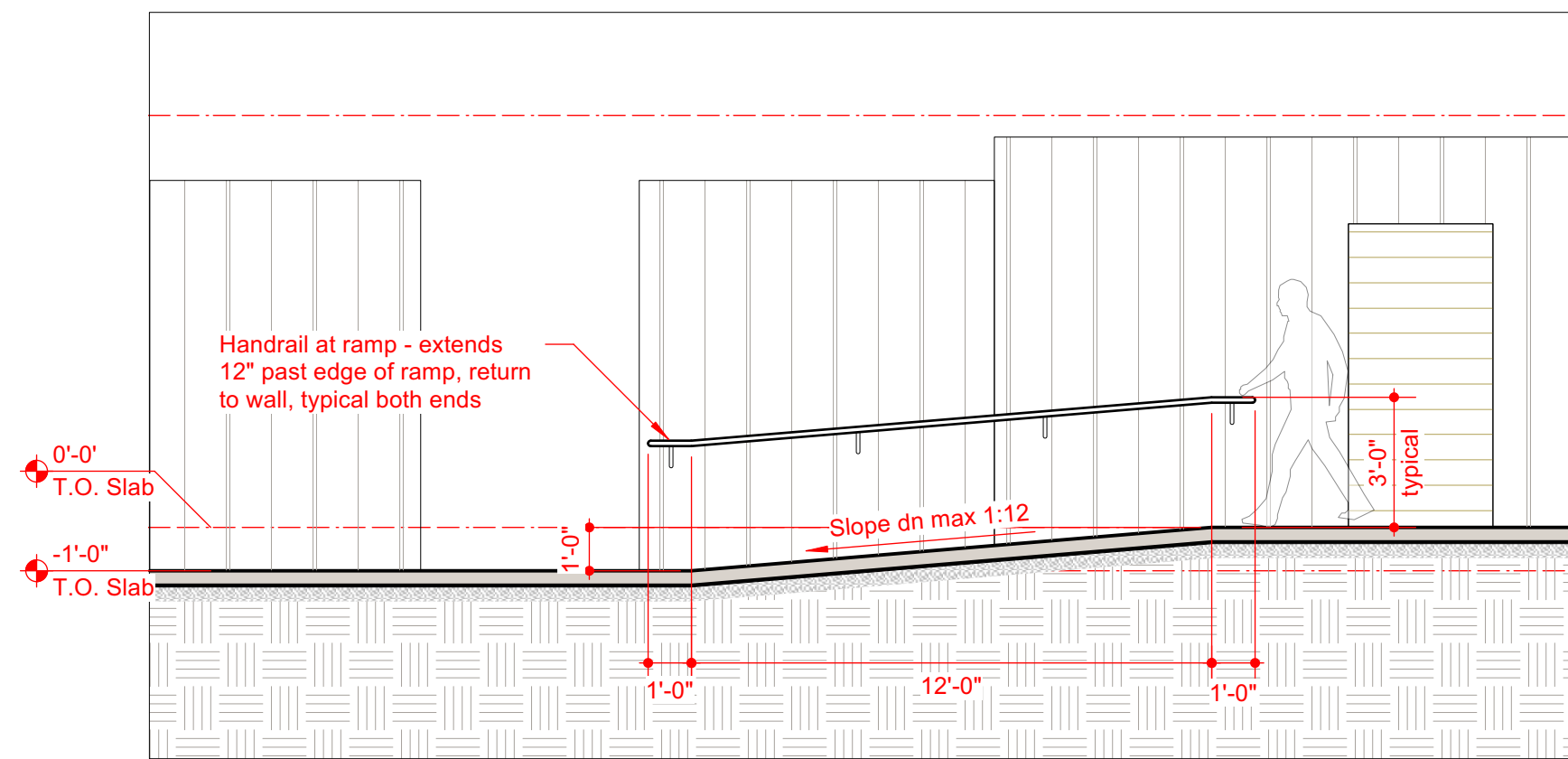
ROOF PLAN

A1.22 1/32"



WINDOW ELEVATIONS

A1.23 1/2"



TYPICAL RAMP HANDRAIL DETAIL

A1.24 1/4"

DOOR SCHEDULE								
Door				Frame		Hardware		Remarks
No.	Size	Elevation	Material	Rating	Elevation	Material	Type	
1	3'-0" x 7'-0"	1	Alum.		1	Alum.	Verify with contractor	Kawneer TriFab451 single swing door
2	14'-0" x 8'-0"	2	Alum.		2	Alum.	Verify with contractor	Gyro Tech Whisper Slide Bi-parting door. Doors to comply with NCBC 1008.1.4.2
3	3'-0" x 7'-0"	3	H.M.		3	H.M.	Verify with contractor	@ Riser room
4	3'-0" x 7'-0"	4	Wood		4	H.M.	Verify with contractor	@ Office
5	2'-6" x 7'-0"	5	S.M.		5	-	ADA lever hardware	@ HC units
6	PAIR 3'-0" x 7'-0"	6	S.M.		6	-	Verify with contractor	@ Mechanical/electrical rooms
7	(2)2'-6" x 7'-0" + 3'-0" x 7'-0"	7	S.M.		7	-	ADA lever hardware	@ HC units
8	3'-8" x 7'-0"	8	H.M.		8	H.M.	ADA lever hardware	@ Exit door

*Door and Window Note - Contractor and Glass Sub-Contractor to verify glass type, minimum U-value, & SHGC. Tempered or impact resistant requirements as required by local code.

WINDOW SCHEDULE					
No.	Brand	Style	Unit Size	Rough Opening	Remarks
A	Kawneer	TriFab 451	8'-0" x 8'-0"	8'-1" x 8'-1"	
B	Kawneer	TriFab 451	8'-0" x 6'-10"	8'-1" x 6'-11"	
C	Kawneer	TriFab 451	6'-0" x 6'-10"	6'-1" x 6'-11"	

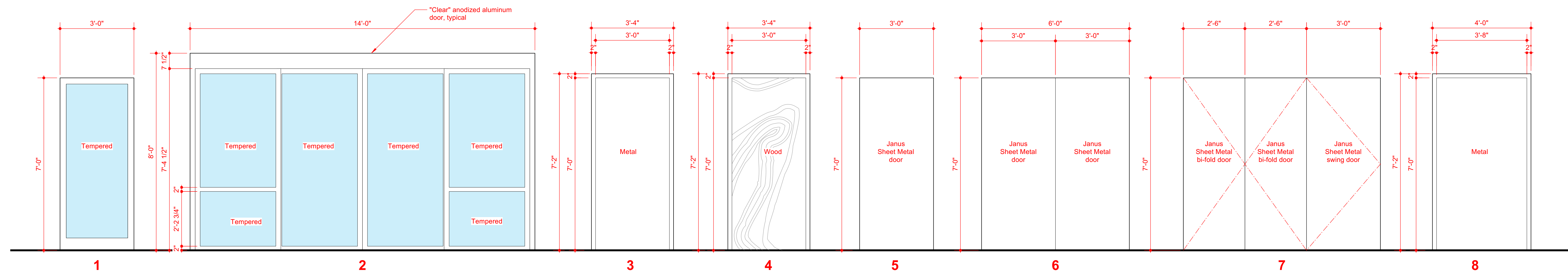
*Door and Window Note - Contractor and Glass Sub-Contractor to verify glass type, minimum U-value, & SHGC. Tempered or impact resistant requirements as required by local code.

WINDOW SCHEDULE

A1.26 1/2"

DOOR SCHEDULE

A1.25 1/2"



DOOR ELEVATIONS

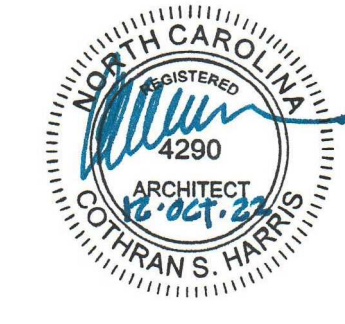
A1.28 1/2"

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 5725 CLAYTON DRIVE, STE. 101
 WILMINGTON, NC 28403
 910.793.3433



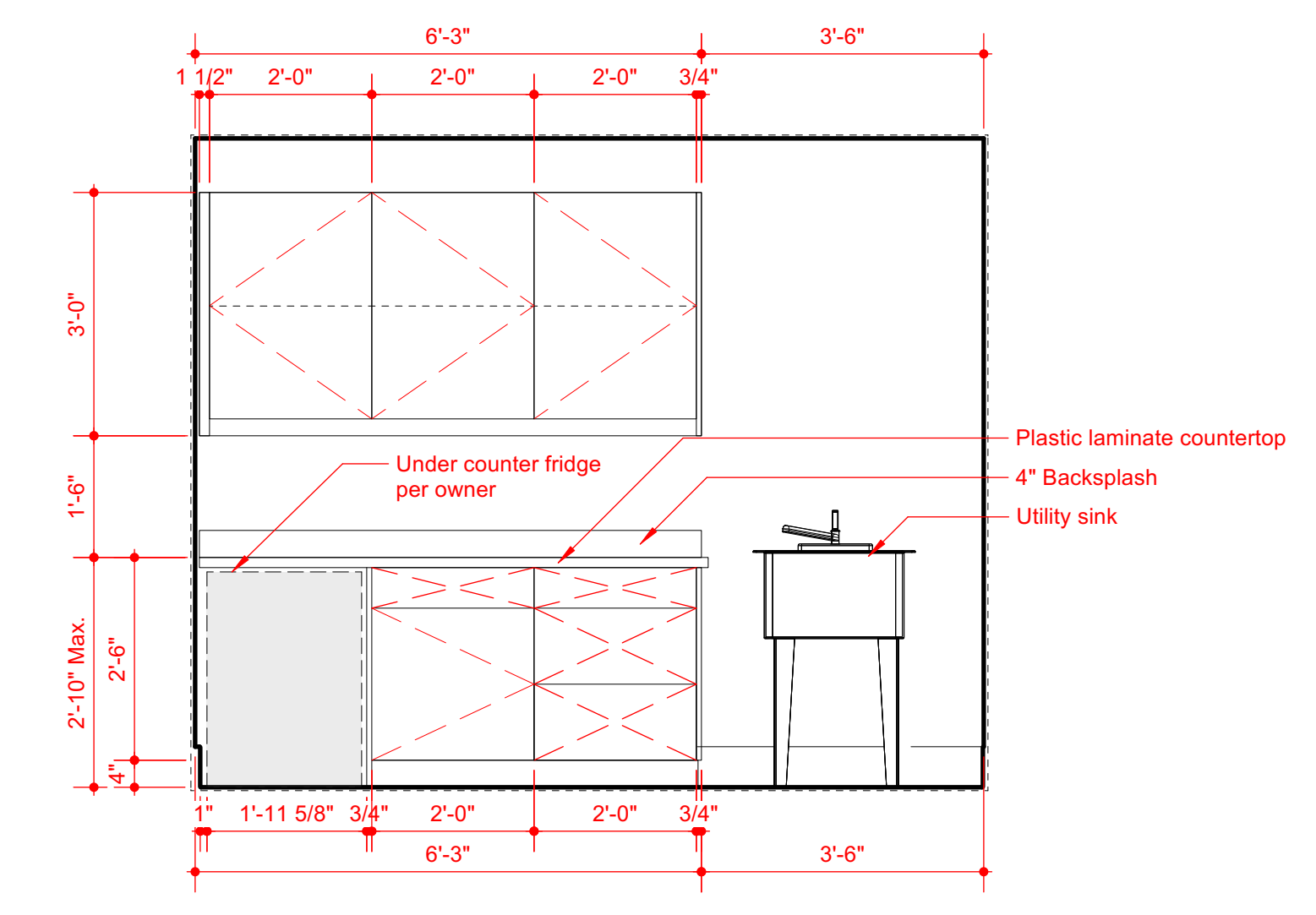
LILLINGTON STORAGE
 PHASE 1 - BUILDING 1
 ROBERT HIGH DEVELOPMENT
 1781 N MAIN STREET,
 LILLINGTON, NC 27546

ENLARGED OFFICE PLAN
 09/19/2022 Plan Check Response
 CONSTRUCTION DRAWINGS
 OCTOBER 12, 2022

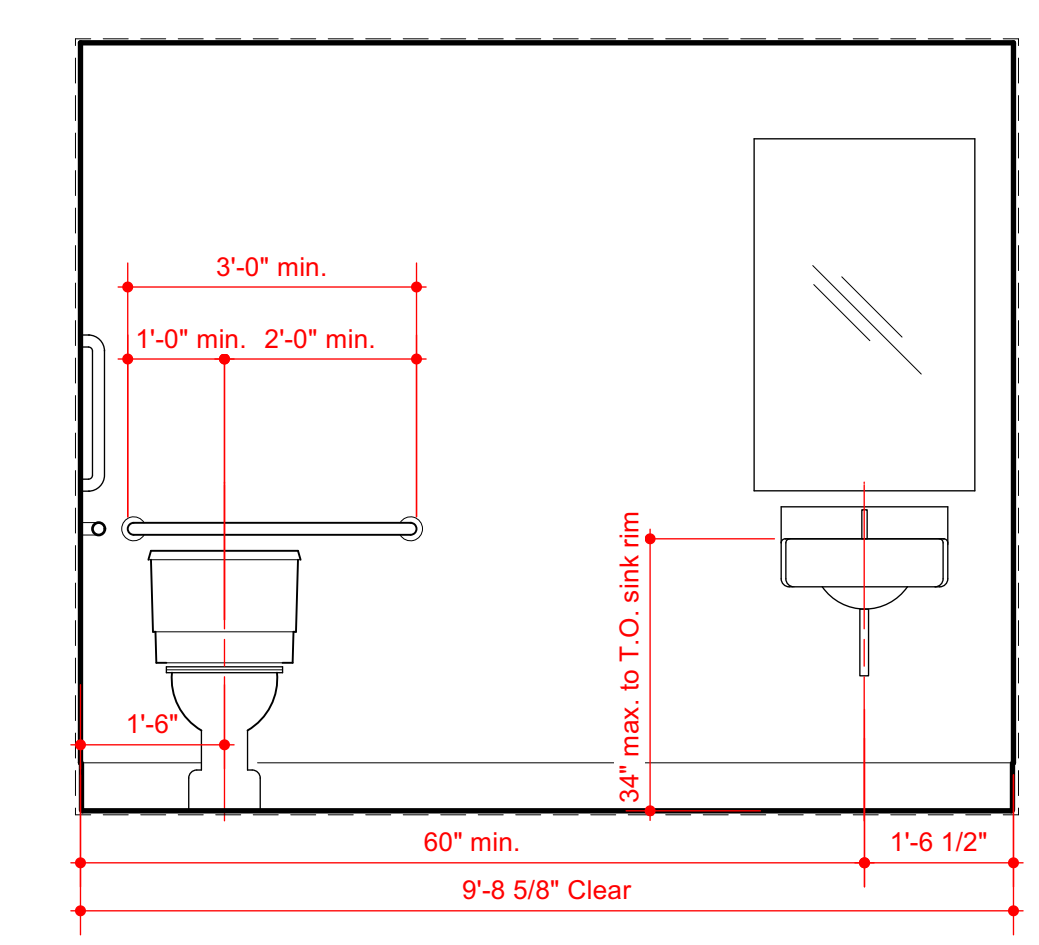
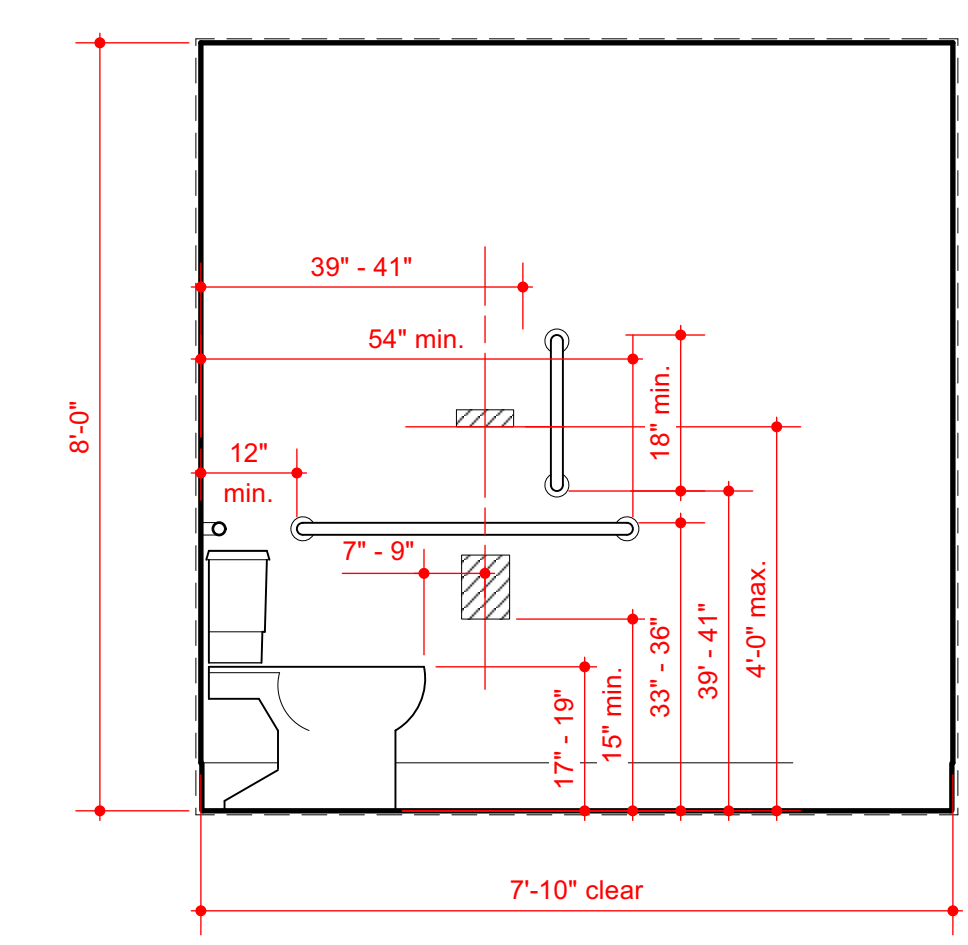
A1.3

No.	FLOOR	BASE	WALLS				CEILING			
			NORTH	SOUTH	EAST	WEST	Material	Height		
101	Office	Concrete	4" Vinyl	Gyp.	Gyp.	Gyp.	Gyp.	ACT	8'-0"	
102	ADA Unisex Bath	Concrete	4" Vinyl	Gyp.	Gyp.	Gyp.	Gyp.	ACT	8'-0"	Epoxy paint (cleanable) surface @ walls
103	ADA Unisex Bath	Concrete	4" Vinyl	Gyp.	Gyp.	Gyp.	Gyp.	ACT	8'-0"	Epoxy paint (cleanable) surface @ walls
104	Hall	Concrete	4" Vinyl	Gyp.	Gyp.	Gyp.	Gyp.	ACT	8'-0"	Epoxy paint (cleanable) surface @ walls
105	Janitorial	Concrete	4" Vinyl	Gyp.	Gyp.	Gyp.	Gyp.	ACT	8'-0"	Epoxy paint (cleanable) surface @ walls
106	Mechanical	Concrete	-	Gyp.	Gyp.	Gyp.	Gyp.	-	-	Unfinished interior Mechanical and Electrical rooms, typ.

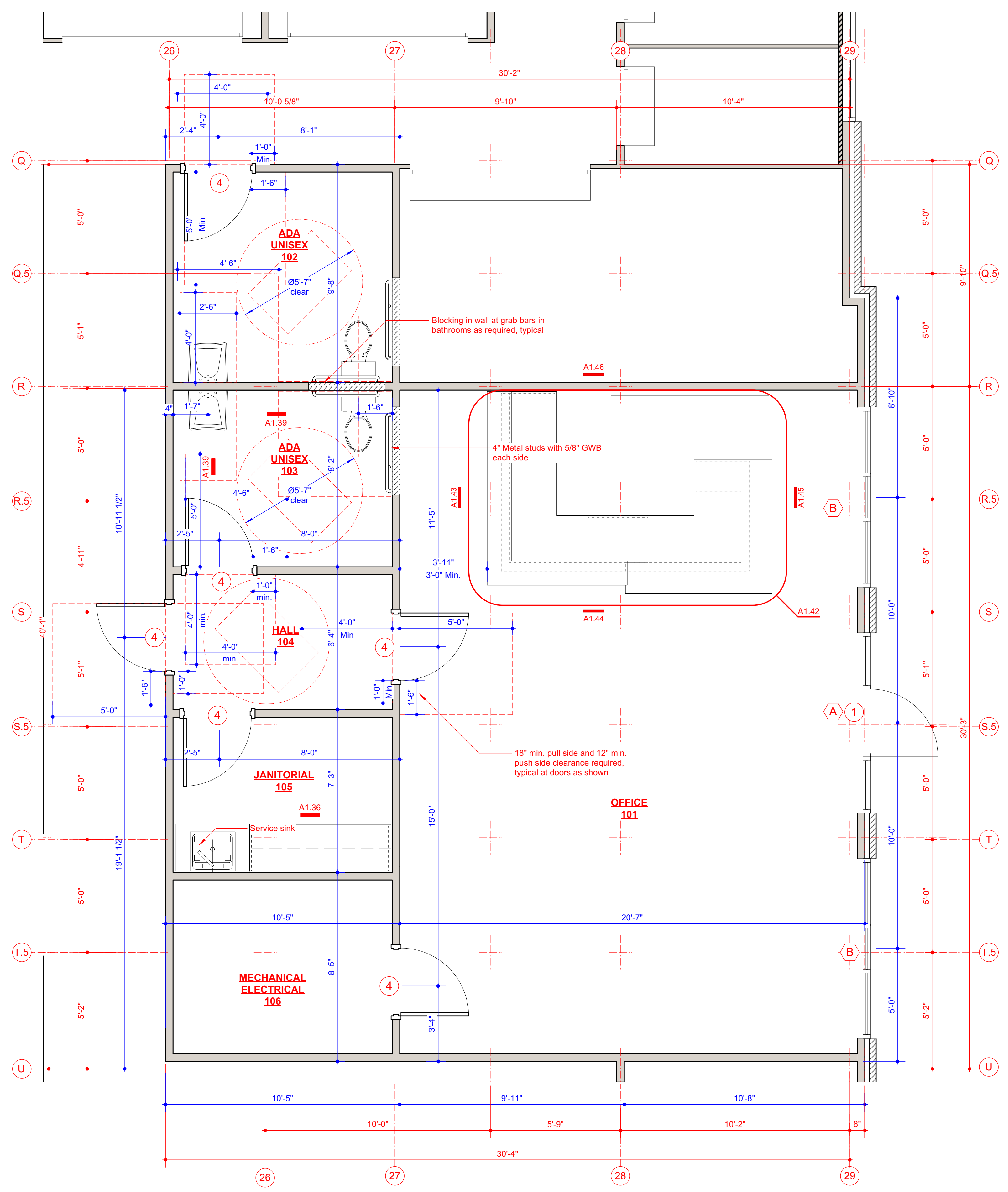
FINISH SCHEDULE
 A1.33 N/A



INT.ELEVATIONS - JANITORIAL
 A1.36 1/2"



INT.ELEVATIONS - UNISEX
 A1.39 1/2"



ENLARGED PLAN - OFFICE
 A1.38 1/2" PROJECT NORTH

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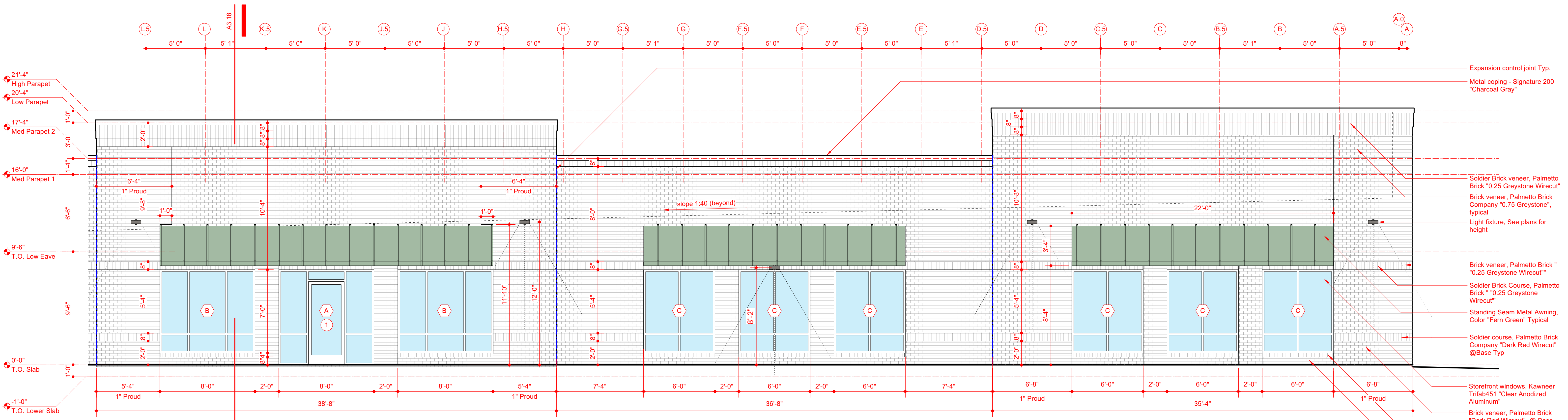


LILLINGTON STORAGE
 PHASE 1 - BUILDING 1
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A2.2

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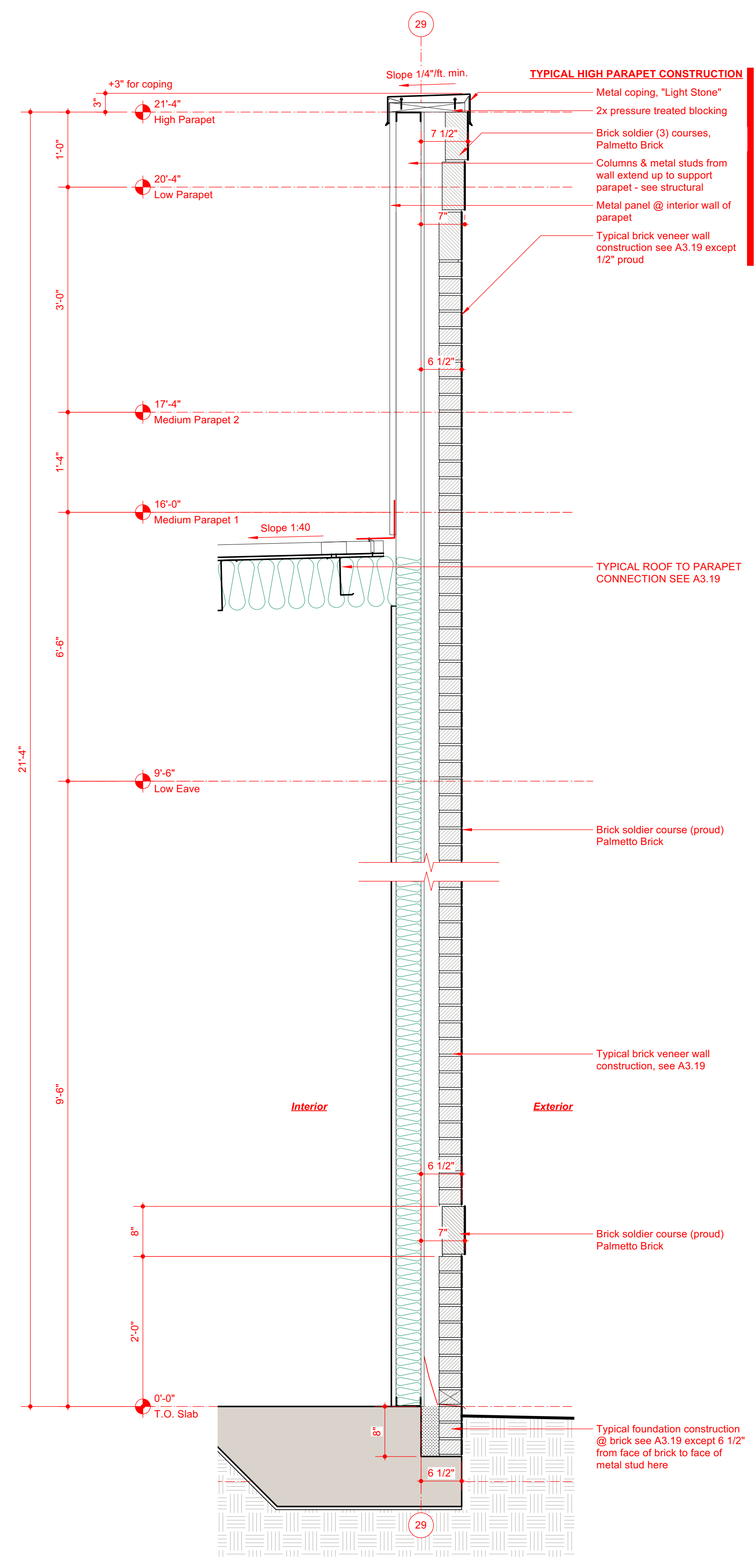
ENLARGED EAST ELEVATION
 A2.22 3/32"

Material Legend	
	Metal Coping - Signature 200 "Charcoal Gray"
	Metal gutter, rake & downspouts - Signature 200 "Lightstone"
	Metal Siding Signature 200 "Koko Koko Brown"
	Brick Soldier Course Palmetto Brick "0.25 Greystone wirecut"
	Palmetto Brick "0.25 Greystone wirecut"
	Brick Soldier Course & Rowlock Palmetto Brick ".75 Greystone"
	Brick Veneer - Palmetto Brick ".75 Greystone"
	Roll-up garage doors Signature 200 "Ash Gray"

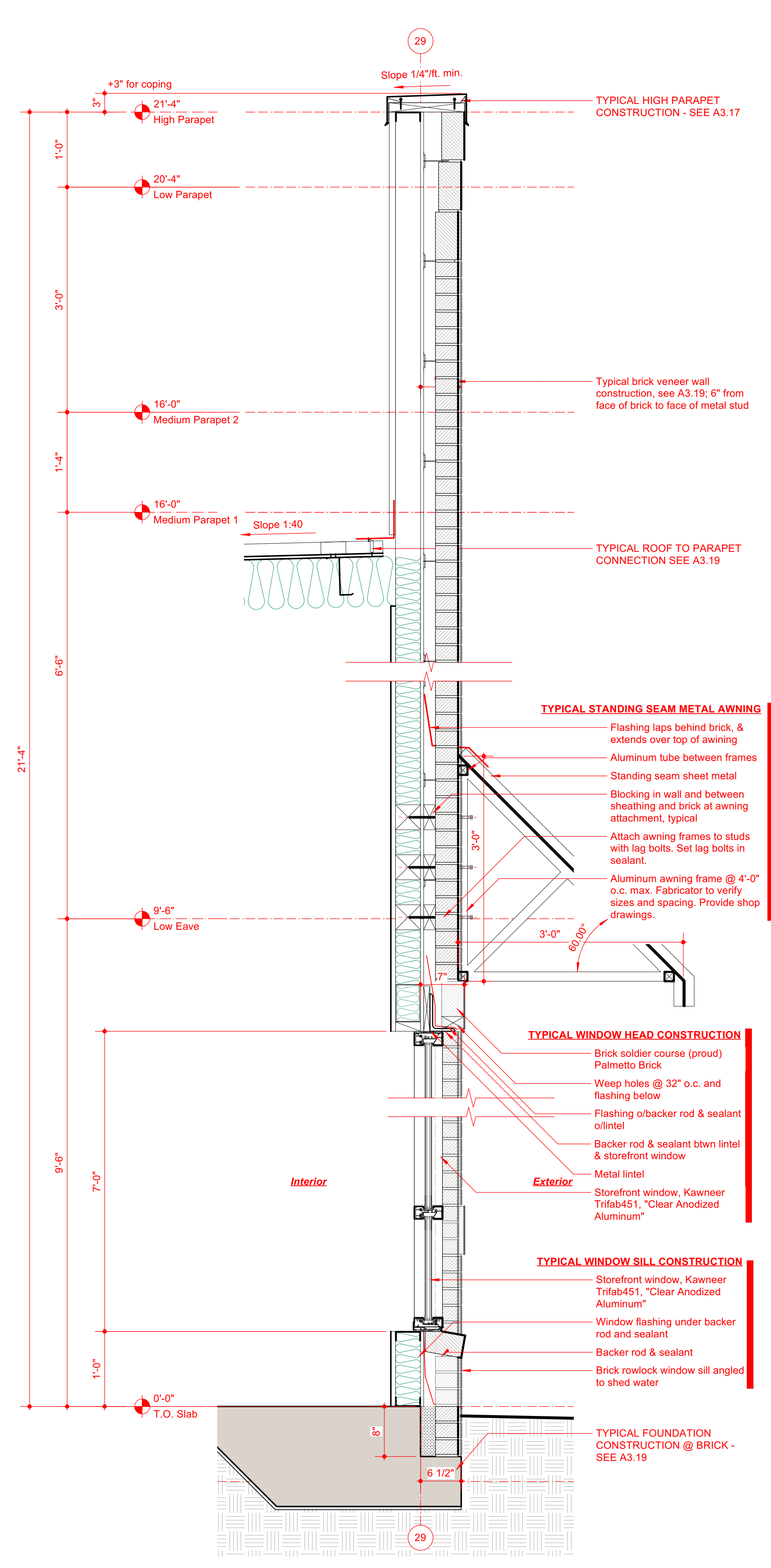
NOTE: Colors on elevations are shown for visual representation



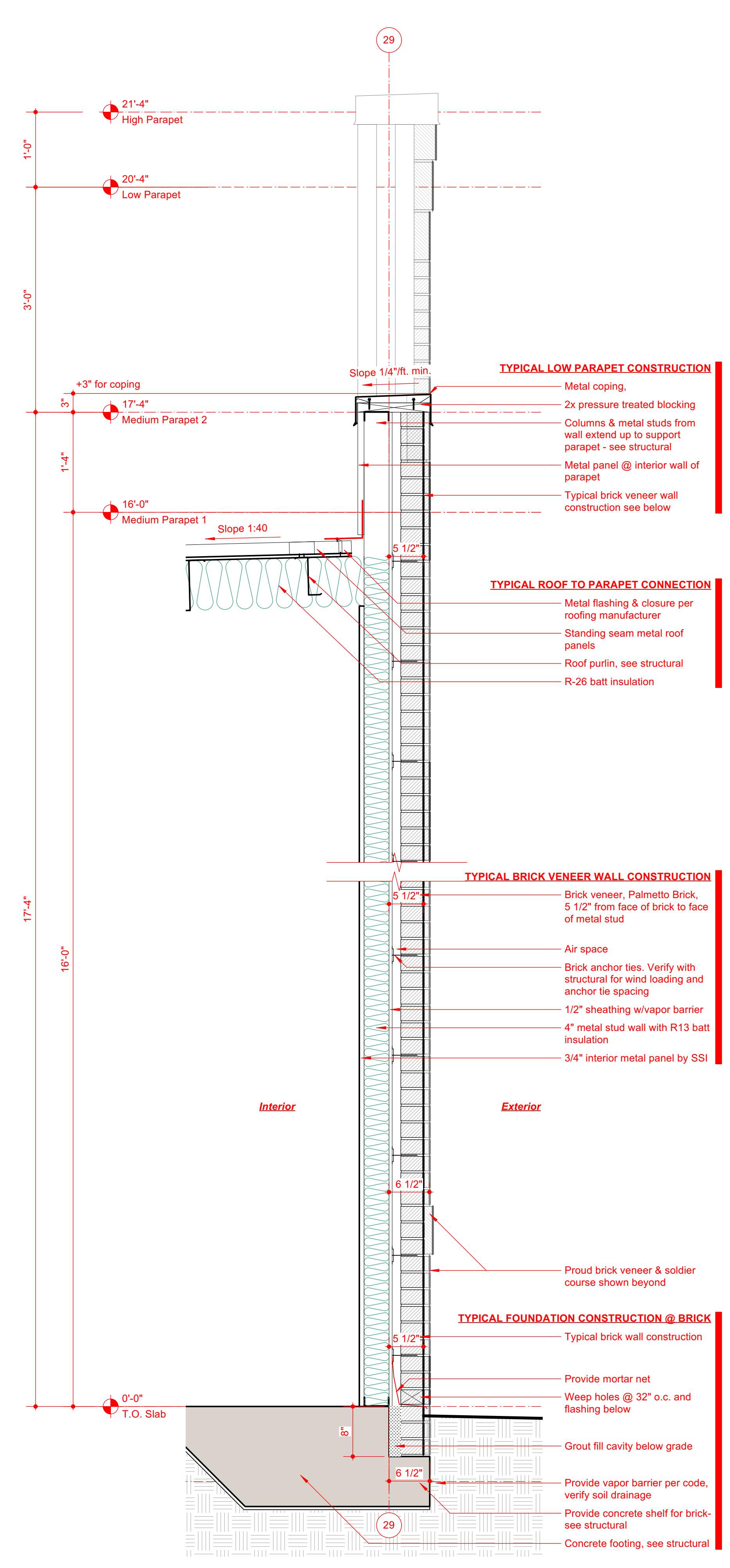
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WALL SECTION HIGH PARAPET
 A3.17 1"



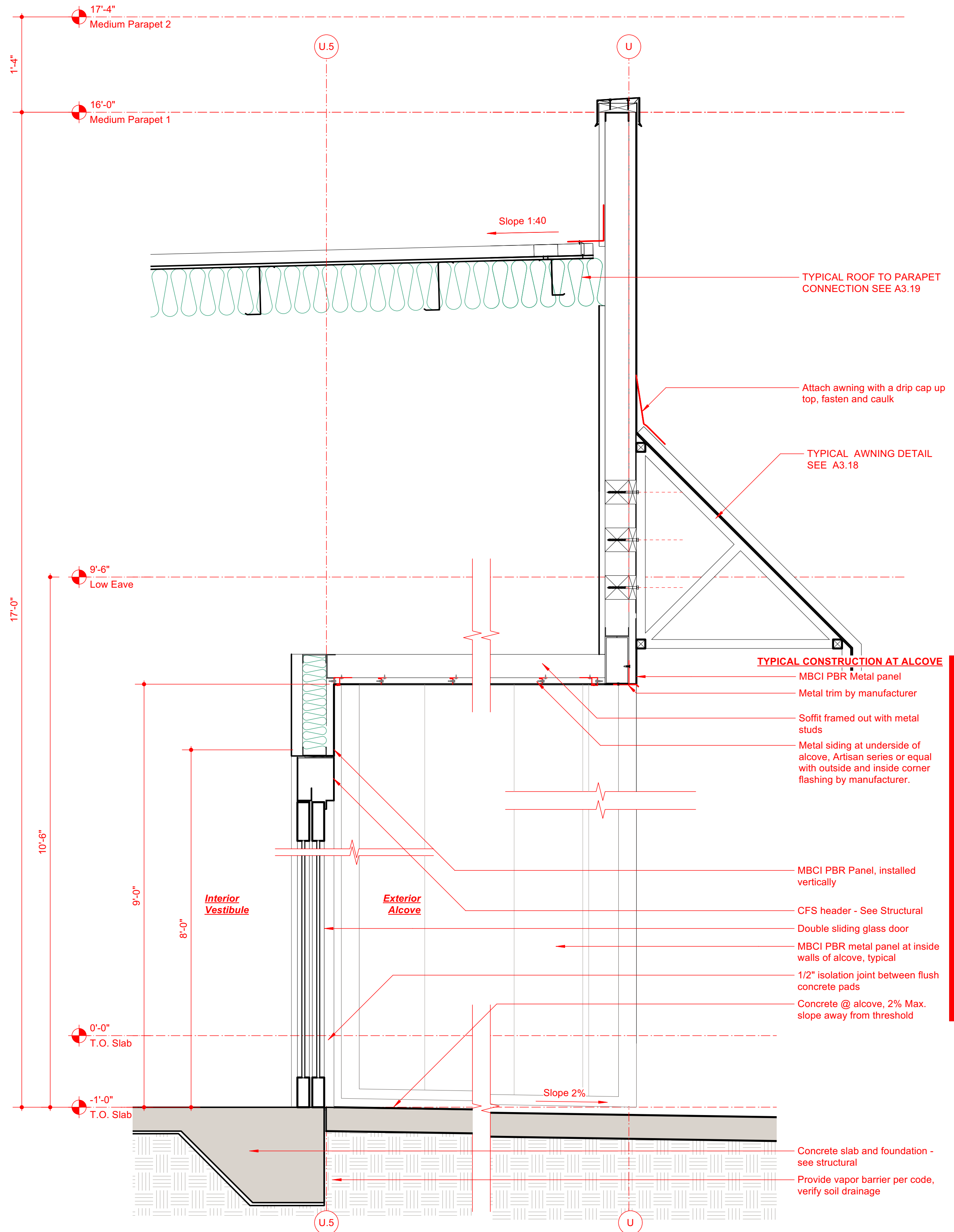
STOREFRONT & AWNING
 A3.18 1"



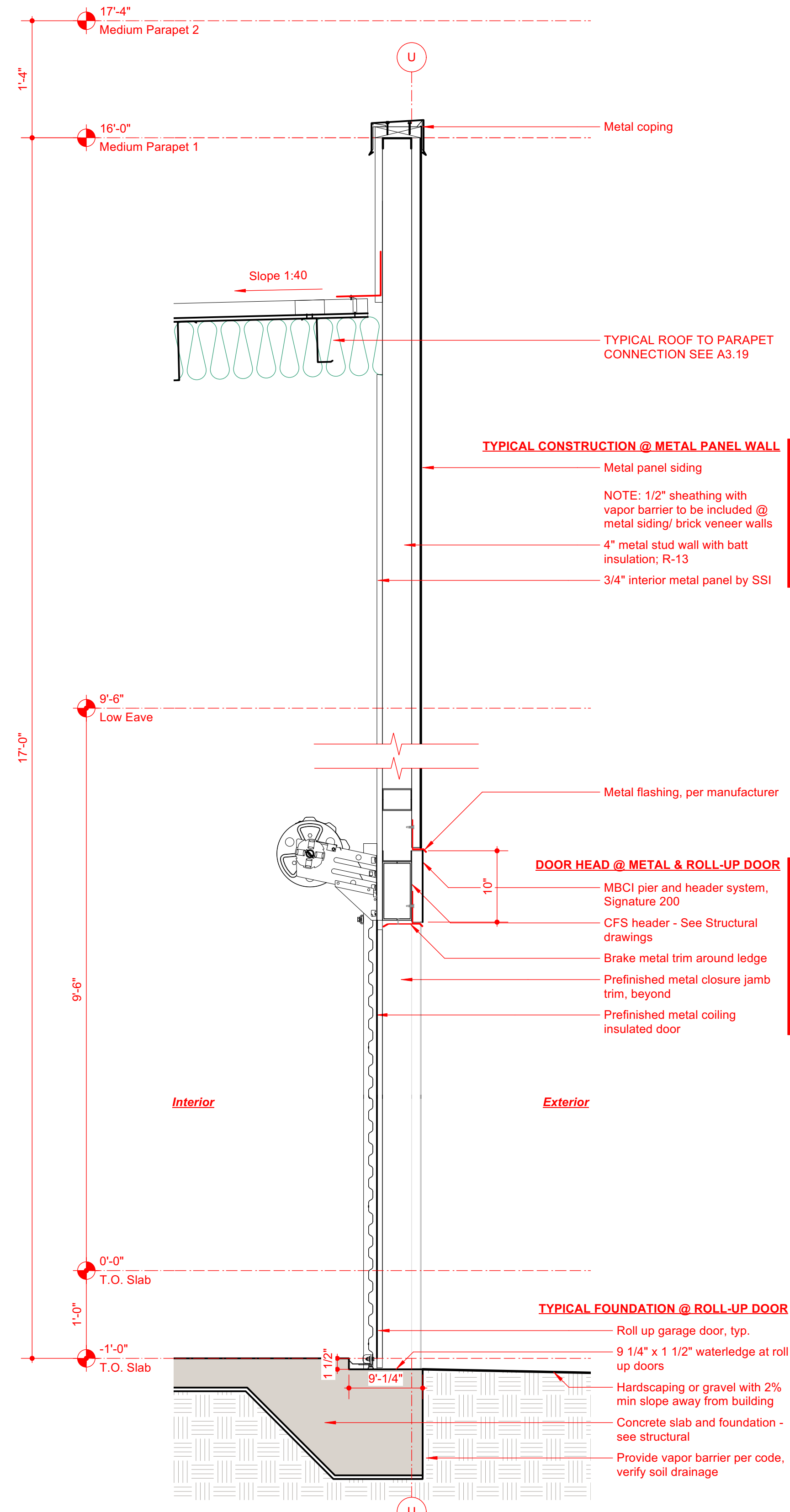
WALL SECTION MED. PARAPET
 A3.19 1"

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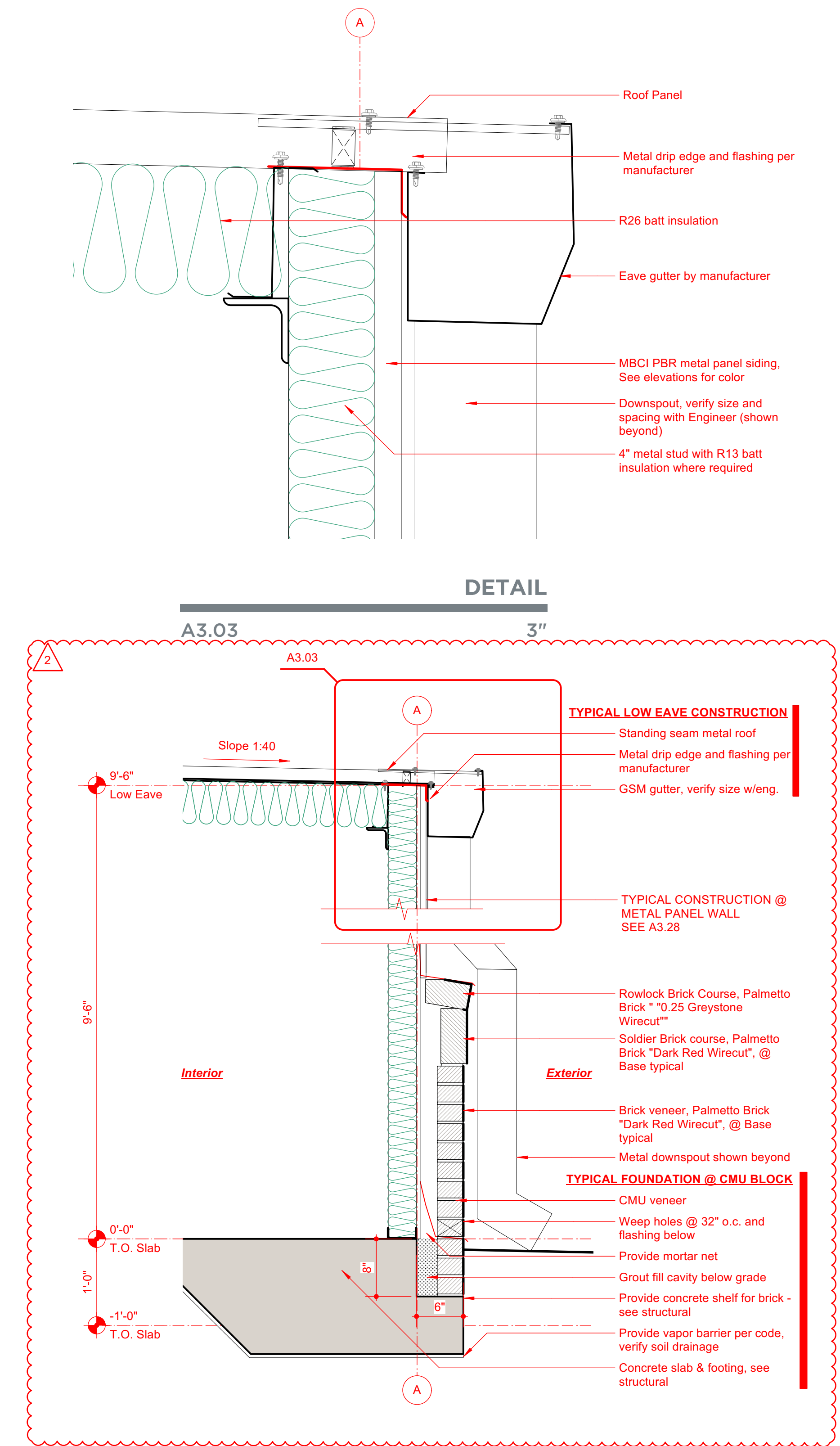
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LOADING VESTIBULE / ALCOVE
A3.27 1"



FOUNDATION @ ROLL-UP DOOR/LOW PARAPET
A3.28 1"



FOUNDATION @ METAL WALL / LOW EAVE
A3.29 1"

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D

C

B

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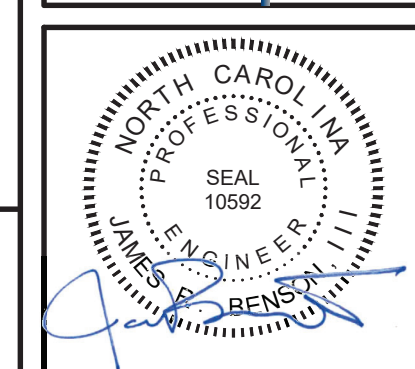
06/20/2024	DATE
0	REVISION
ISSUED FOR CONSTRUCTION	REVISIONS

CBHF
Engineers, PLLC

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910.791.5266
www.cbhfengineers.com

2246 Yaucon Drive
Wilmington, NC 28401

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LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

PLUMBING SPECIFICATIONS, LEGEND LOADS AND ABBREVIATIONS

JOB NO. CBHF-22020 RHD 21-7075	DRAWN: WTB
DESIGNED: WTB	CHECKED: JRB

DRAWING NO.
P-001

REVISION:
0

PLUMBING SPECIFICATIONS

PART 1 -- GENERAL

- 1.1 SCOPE OF WORK: THESE OUTLINE SPECIFICATIONS AND ACCOMPANYING DRAWINGS DESCRIBE SCOPE OF WORK REQUIRED FOR PLUMBING SYSTEMS. LABOR AND MATERIAL SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE, WORKMANLIKE INSTALLATION OF ALL SYSTEMS SHOWN ON DIAGRAMMATIC DRAWINGS AND/OR AS SPECIFIED HEREIN.
- 1.2 CONTRACTOR: THE WORD "CONTRACTOR", "PLUMBING CONTRACTOR", AND "P.C." AS USED HEREIN SHALL MEAN THE PLUMBING INSTALLER UNLESS OTHERWISE QUALIFIED.
- 1.3 DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING PLUMBING SYSTEMS.
- 1.4 CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INSOFAR AS THEY APPLY:
NORTH CAROLINA STATE BUILDING CODE (CODE), LATEST EDITION AND REVISIONS. LOCAL JURISDICTION REQUIREMENTS.
- 1.5 PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- 1.6 SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
- 1.7 PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE GENERAL CONTRACTOR. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
- 1.8 COORDINATION: COORDINATE PLUMBING WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. ARRANGE PLUMBING SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO PIPE FABRICATION AND ADJUST LAYOUT AS REQUIRED. INCLUDE ALL OFFSETS IN PIPING, FITTINGS, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
- 1.9 EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
- 1.10 LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
- 1.11 STORAGE SPACE: CONSULT WITH THE GENERAL CONTRACTOR REGARDING JOB SITE STORAGE FOR PLUMBING MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
- 1.12 CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS.
- 1.13 ELECTRICAL WORK:

A. PERFORM ELECTRICAL WORK FOR PLUMBING EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS. ELECTRICAL WORK FOR PLUMBING EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE PLUMBING CONTRACTOR AS PART OF HIS WORK.

B. ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING PLUMBING EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE PLUMBING CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE DRAWING SCHEDULES SHALL BE BORNE BY THE PLUMBING CONTRACTOR.

C. OWNER FURNISHED EQUIPMENT- OBTAIN EXACT PLUMBING REQUIREMENTS AND ROUGH-IN LOCATIONS FOR OWNER FURNISHED EQUIPMENT. PROVIDE COMPLETE PLUMBING INSTALLATION FOR PROPER OPERATION OF EQUIPMENT.

D. SUBSTITUTIONS: MAJOR FIXTURES, EQUIPMENT, DEVICES, AND SPECIALTIES SHALL BE AS SCHEDULED ON THE DRAWINGS. MANUFACTURERS SHOWN OR NOTED ARE INTENDED FOR REFERENCE AS TO THE QUALITY AND TYPE OF EQUIPMENT DESIRED. COMPARABLE FIXTURES BY OTHER MANUFACTURERS MAY BE ACCEPTED IF, IN THE OPINION OF THE ENGINEER, THE LEVEL OF QUALITY IS EQUIVALENT TO SCHEDULED FIXTURES.

E. EQUIPMENT SUBMITTALS: SUBMIT ONE (1) ELECTRONIC COPY OF DESCRIPTIVE DATA FOR PLUMBING EQUIPMENT AND MATERIALS FOR APPROVAL BY THE GENERAL CONTRACTOR. CLEARLY IDENTIFY ALL ITEMS.

F. OPERATING AND MAINTENANCE MANUALS: SUBMIT TWO COPIES OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL RECORD DRAWINGS, ETC. BIND IN SUITABLE HARD

BACK RING BINDERS, PROPERLY INDEXED, AND DELIVER TO THE OWNER PRIOR TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL "OWNER'S INSTRUCTIONS" AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP LOG FOR THE EQUIPMENT.

RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO GENERAL CONTRACTOR PRIOR TO FINAL INSPECTION.

WARRANTY: WARRANTY THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. REPAIR AND/OR REPLACE ANY PARTS OF THE WORK THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE WARRANTY PERIOD.

NEW BUILDINGS AND CONSTRUCTION:

A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN A NEW BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM ARCHITECTURAL PLANS AND LIMITED COORDINATION FOR THE PURPOSES OF DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.

B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.

C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM GENERAL CONTRACTOR. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.

D. COORDINATE INSTALLATION OF PLUMBING SYSTEMS WITH OTHER BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.

PART 2 -- MATERIALS

GENERAL: ALL PLUMBING MATERIALS SHALL CONFORM TO APPLICABLE CODE REQUIREMENTS. [USE PIPING MATERIALS AND METHODS SUITABLE FOR USE IN RETURN AIR PLENUMS AS APPLICABLE.] UNLESS SPECIFICALLY INDICATED OTHERWISE, PROVIDE ALL NEW MATERIALS.

VALVES:

A. BALL VALVES, 3" AND SMALLER: ASTM B 62, 200 PSI WOG, TWO-PIECE CONSTRUCTION, BRASS BODY, STANDARD PORT, CHROME-PLATED BRASS BALL, REPLACEABLE "TFE" SEATS AND SEALS, VINYL-COVERED HANDLE, SOLDER ENDS.

B. CHECK VALVES, 3" AND SMALLER: MSS-SP-80, 125 PSI CWP, BRONZE BODY, Y-PATTERN, SOLDER ENDS.

HANGERS, SUPPORTS AND ANCHORS:

A. HANGERS, SUPPORTS AND ANCHORS - B-LINE, GRINNELL, PHD OR EQUAL, MANUFACTURED PRODUCTS. USE CLEVIS OR CLAMP HANGERS WITH THREADED ROD SUPPORTS AND SUITABLE FASTENERS TO BUILDING STRUCTURE. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS OR WOOD PLUGS ARE PROHIBITED.

PIPING

A. DOMESTIC WATER PIPING (INTERIOR - ABOVE GROUND, UNDERGROUND): ASTM F441/F441M, CPVC, SCHEDULE 40; CPVC SCHEDULE 40 SOCKET FITTINGS; AND SOLVENT-CEMENTED JOINTS.

B. DRAIN, WASTE & VENT PIPING: ASTM D2665 PVC-DWV W/ PLAIN ENDS, SCHEDULE 40; SOCKET TYPE FITTINGS; PVC SOLVENT-CEMENTED JOINTS (COMBINATION SOLVENT CEMENTS ARE UNACCEPTABLE). NOT TO BE USED IN PLENUMS.

PIPE INSULATION

A. PIPE INSULATION - MANSVILLE, KNAUF, OWENS-CORNING OR EQUAL, ASTM C547 CLASS 1 PREFORMED GLASS FIBER, 10 PCF MAX DENSITY WITH ALL PURPOSE PAPER AND FOIL JACKET.

B. WHERE DOMESTIC WATER PIPING IS EXPOSED TO VIEW, PROVIDE PVC JACKETING W/ PVC ELBOW JACKETS. PROVIDE VAPOR BARRIER ON ALL PIPE INSULATION.

C. INSULATION SCHEDULE:

DOMESTIC HOT AND COLD WATER	THICKNESS
PIPE SIZE <1 INCH	1.0 INCH
1-1/4 THROUGH 2 INCHES	1.5 INCH

ADA INSULATION: TRUBRO OR EQUAL PREFORMED INSULATION COVERS FOR WATER AND WASTE CONNECTIONS UNDER SINKS AND LAVATORIES.

SPECIALTIES:

A. UNIONS - PROVIDE UNIONS TO PERMIT DISASSEMBLY FOR EQUIPMENT SERVICE, REPAIRS, OR REPLACEMENT. PROVIDE DIELECTRIC UNIONS FOR CONNECTIONS BETWEEN DISSIMILAR METALS.

B. ESCUTCHEONS - PROVIDE CHROME PLATED BRASS ESCUTCHEONS ON ALL EXPOSED PIPING PASSING THROUGH WALLS, FLOORS, OR CEILINGS.

BACKFLOW PREVENTERS - PROVIDE VACUUM BREAKER BACKFLOW PREVENTERS ON ALL HOSE OUTLETS AND OTHER LOCATIONS AS REQUIRED BY LOCAL AUTHORITY.

PLUMBING FIXTURES: PROVIDE FIXTURES AS SCHEDULED ON DRAWINGS OR EQUAL INCLUDE ALL OPTIONS AND ACCESSORIES INDICATED OR AS REQUIRED FOR PROPER INSTALLATION.

PART 3 -- EXECUTION

PREPARATION: VERIFY EXISTING CONDITIONS. COMPARE DRAWINGS WITH EXISTING CONDITIONS AND ADJUST INSTALLATION TO SUIT. NOTIFY GENERAL CONTRACTOR OF ANY CONDITIONS WHICH WOULD PREVENT INSTALLATION OF PLUMBING WORK IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

INSTALLATION: INSTALL ALL PLUMBING WORK IN ACCORDANCE WITH CODE.

MANUFACTURER'S RECOMMENDATIONS AND GOOD INDUSTRY PRACTICE. ARRANGE WORK TO ALLOW EASY ACCESS TO EQUIPMENT FOR SERVICE AND MAINTENANCE.

INSTALL PLUMBING PIPING PER ACCEPTED INDUSTRY METHODS. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH WALLS.

PROVIDE ZONE SHUTOFF VALVES FOR WATER SUPPLIES ON BRANCH LINES AS PRESCRIBED BY CODE. LOCATE VALVES SO AS TO BE ACCESSIBLE.

INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, EXCEPT WHERE OTHERWISE INDICATED.

SLOPE WASTE PIPING AT 1/4" FT FOR PIPE SIZES 2-1/2" AND LESS, AND 1/8" FT FOR PIPE SIZES 3" AND LARGER. COORDINATE FINAL CONNECTIONS W/ GENERAL CONTRACTOR.

EXCAVATION - PERFORM ALL EXCAVATION, TRENCHING AND BACKFILLING NECESSARY TO INSTALL PLUMBING WORK. COMPLY WITH CODE. EXCAVATE TRENCHES OF UNIFORM WIDTHS TO PROVIDE A WORKING CLEARANCE ON EACH SIDE OF PIPE. EXCAVATE TRENCH WALLS VERTICALLY FROM TRENCH BOTTOM TO 12" HIGHER THAN TOP OF PIPE. SHAPE TRENCH BOTTOMS TO PROVIDE UNIFORM BEARING AND SUPPORT OF PIPES. SHAPE SUBGRADE TO PROVIDE CONTINUOUS SUPPORT FOR BELLS, JOINTS, AND BARRELS OF PIPES. REMOVE STONES AND SHARP OBJECTS TO AVOID POINT LOADING. SUPPORT PIPE ON UNDISTURBED SUBGRADE. BACKFILL WITH MATERIALS FREE OF PARTICLES LARGER THAN 1 INCH. BACKFILL AND COMPACT IN 12" LAYERS. BACKFILL AND COMPACT IN MANNER WHICH AVOIDS DAMAGE OR DISPLACEMENT.

SUPPORT AND FASTEN ALL ABOVE GROUND HORIZONTAL AND VERTICAL PIPING, EQUIPMENT ETC., SECURELY IN PLACE. SPACE, SECURE AND ADJUST HANGERS WITHOUT DEFLECTION OR SAG.

PROVIDE STEEL SUPPORTS, ANCHORS, FRAMES, BRACING, PLATES, BOLTS, NUTS, WASHERS, RODS, HANGERS, UPPER ATTACHMENTS, ETC., INCIDENTAL TO INSTALLATION OF WORK AS SPECIFIED OR REQUIRED. USE HANGERS COMPATIBLE TO COPPER PIPE WHERE BARE COPPER PIPE IS SUPPORTED.

SUPPORT EQUIPMENT FROM THE STRUCTURE IN AN APPROVED MANNER. NO PORTION OF THE STRUCTURE SHALL BE OVER STRESSED BY THE HANGING OPERATION OR BY THE FINAL SUPPORTS. PROVIDE AUXILIARY STRUCTURAL MEMBERS, SUCH AS 3"x3"x1/4" ANGLES, WHERE REQUIRED BETWEEN MEMBERS OF THE STRUCTURE AND SUPPORT EQUIPMENT OR DEVICE OFF ANGLES. ATTACHMENTS THAT ARE INADEQUATE, IN THE OPINION OF THE GENERAL CONTRACTOR, SHALL BE REPLACED AS DIRECTED.

PIPE SUPPORT SPACING - AS FOLLOWS OR PER CODE IF MORE STRINGENT:

PVC - 4 FT INTERVALS FOR HORIZONTAL AND VERTICAL RUNS
CPVC - 3 FT INTERVALS FOR HORIZONTAL AND VERTICAL RUNS

PROVIDE CLEVIS STYLE HANGERS FOR INDIVIDUAL PIPE RUNS. ARRANGE HANGERS FOR WASTE PIPING SUCH THAT REQUIRED PIPE SLOPE IS MAINTAINED ALONG ENTIRE RUN OF PIPE.

ROUGH-INS - VERIFY FINAL LOCATION FOR ROUGH-INS W/ FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED. DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT. DO NOT SCALE DRAWINGS. COORDINATE CLOSELY WITH G.C.

FLOOR MOUNT WATER CLOSETS - FIRMLY AFFIX FLOOR MOUNTED WATER CLOSETS TO FLOOR AND CAULK TO FLOOR USING WHITE SILICON CAULK.

WALL HUNG FIXTURES - FIRMLY SUPPORT FROM WALL (PROVIDE ADDITIONAL STRUCTURAL SUPPORT AS REQUIRED) AND CAULK TO WALL WITH WHITE SILICONE CAULK.

FIRE RATINGS - WHERE PIPING PENETRATES FIRE-RATED CONSTRUCTION, PROVIDE SUITABLE PROTECTION TO MAINTAIN RATING.

CUTTING & PATCHING - THIS CONTRACTOR IS RESPONSIBLE FOR ANY CUTTING AND PATCHING REQUIRED WHICH IS INCIDENTAL TO THE INSTALLATION OF HIS WORK. CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES NECESSARY FOR PLUMBING INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF THE TRADES INVOLVED. REPAIR CUT SURFACES USING MATERIALS MATCHING SPECIFIED MATERIALS AND METHODS REQUIRED FOR SURFACE.

CLEAN-UP - CONTRACTOR SHALL REMOVE ALL DEBRIS DUE TO THIS WORK AND SHALL REPAIR, CLEAN AND REPLACE ALL DAMAGED OR SOILED SURFACES AS A RESULT OF THIS WORK AT NO ADDITIONAL EXPENSE TO THE OWNER. REMOVAL OF DEBRIS SHALL BE DAILY AS REQUIRED TO MAINTAIN SAFE WORKING CONDITIONS.

PLUMBING ABBREVIATIONS	
(X)	EXISTING
AAV	AIR ADMITTANCE VALVE
A.F.F.	ABOVE FINISHED FLOOR
A.R.C.I.	ACID RESISTANT CAST IRON
ADA	AMERICANS WITH DISABILITIES ACT
BRZ.	BRONZE
BT	BATHTUB
C.I.	CAST IRON
CO	CLEANOUT
CONC.	CONCRETE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DIA.	DIAMETER
E.C.I.	ENAMELED CAST IRON
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GA.	GAUGE
GAL.	GALLON
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWH	GAS-FIRED WATER HEATER
HB	HOSE BIBB
INCL.	INCLUDED
KS	KITCHEN SINK
LAV	LAVATORY
LP	LIQUID PROPANE
MS	MOP SERVICE BASIN
NAT.	NATURAL GAS
NKL	NICKEL
NON SIMULT.	NON SIMULTANEOUS
O.F.L.C.	OPEN FRONT LESS COVER
OB	OUTLET BOX
OC	ON CENTER
ORDL	OVERFLOW ROOF DRAIN LEADER
PC	PLUMBING CONTRACTOR
PRESS. BAL.	PRESSURE BALANCED
RCVY.	RECOVERY
RDL	ROOF DRAIN LEADER
SA	WATER HAMMER ARRESTOR
SH	SHOWER
SK	SINK
SLD.	SLIDE
SS	STAINLESS STEEL
TDH	TOTAL DYNAMIC HEAD
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VC	VITREOUS CHINA
VR	VANDAL RESISTANT
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT

PLUMBING LEGEND	
	CONDENSATE PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER CIRCULATION PIPING
	DOMESTIC HOT WATER PIPING
	FORCE MAIN PIPING
	SANITARY VENT PIPING
	SANITARY WASTE PIPING
	STORM WATER PIPING
	BACKFLOW PREVENTION DEVICE
	BALL VALVE
	CHECK VALVE
	EXTENT OF DEMOLITION
	FLOOR CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
	GATE VALVE
	GATE VALVE IN RISER
	GRADE CLEANOUT
	HOSE BIBB
	PIPE CAP
	PIPE ELBOW
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	PIPE TEE
	PIPE TEE DOWN
	PIPE TEE UP
	SUMP PUMP
	DEMOLITION TAG
	KEYED NOTE
	POINT OF CONNECTION - NEW TO EXISTING
	PRESSURE REDUCING VALVE
	WALL CLEANOUT
	WALL HYDRANT
	WATER HAMMER ARRESTOR

NOTE: NOT ALL ITEMS LISTED MAY BE USED IN THIS PROJECT.

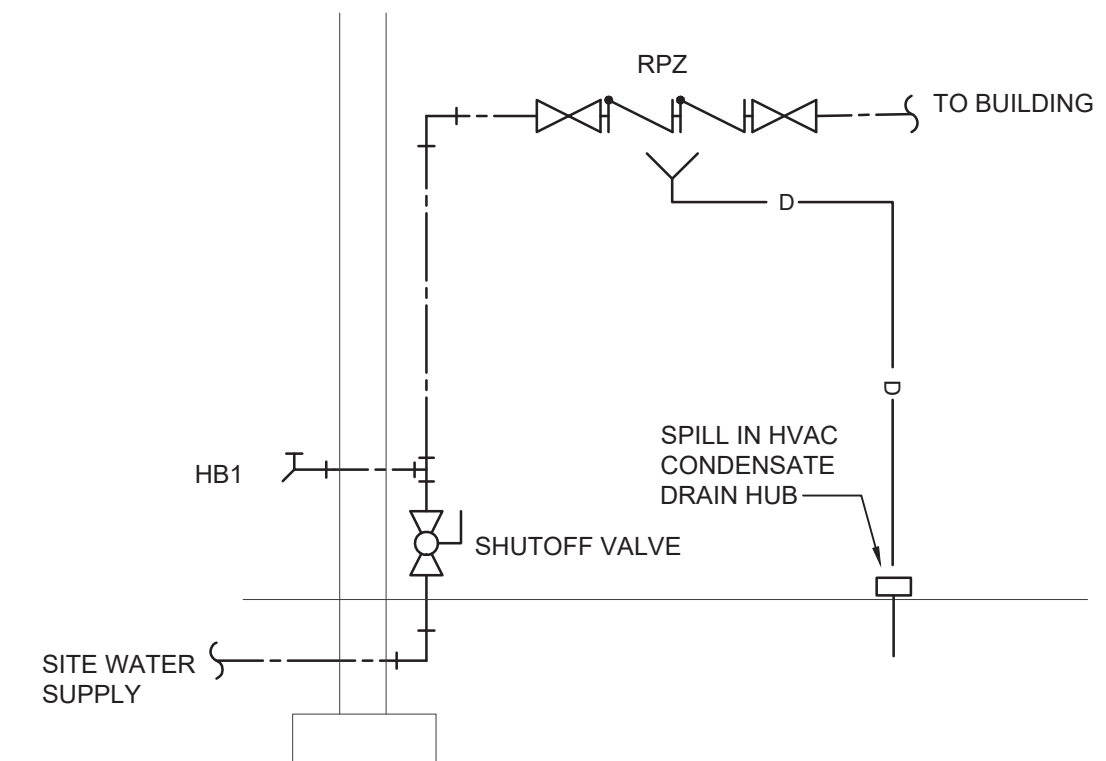
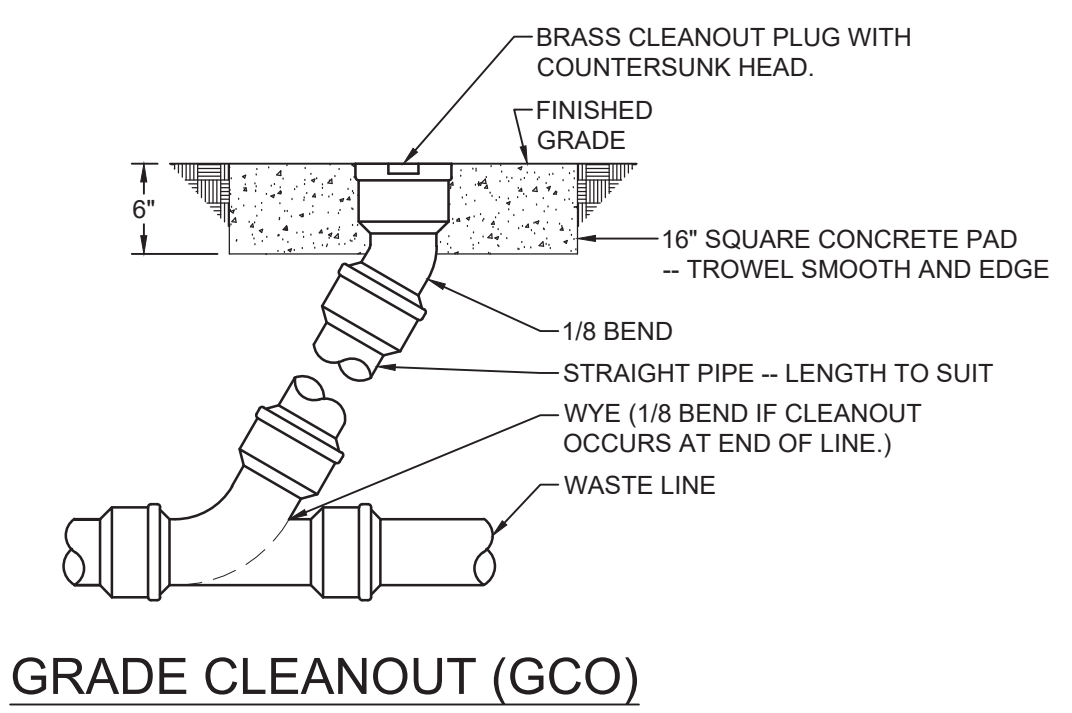
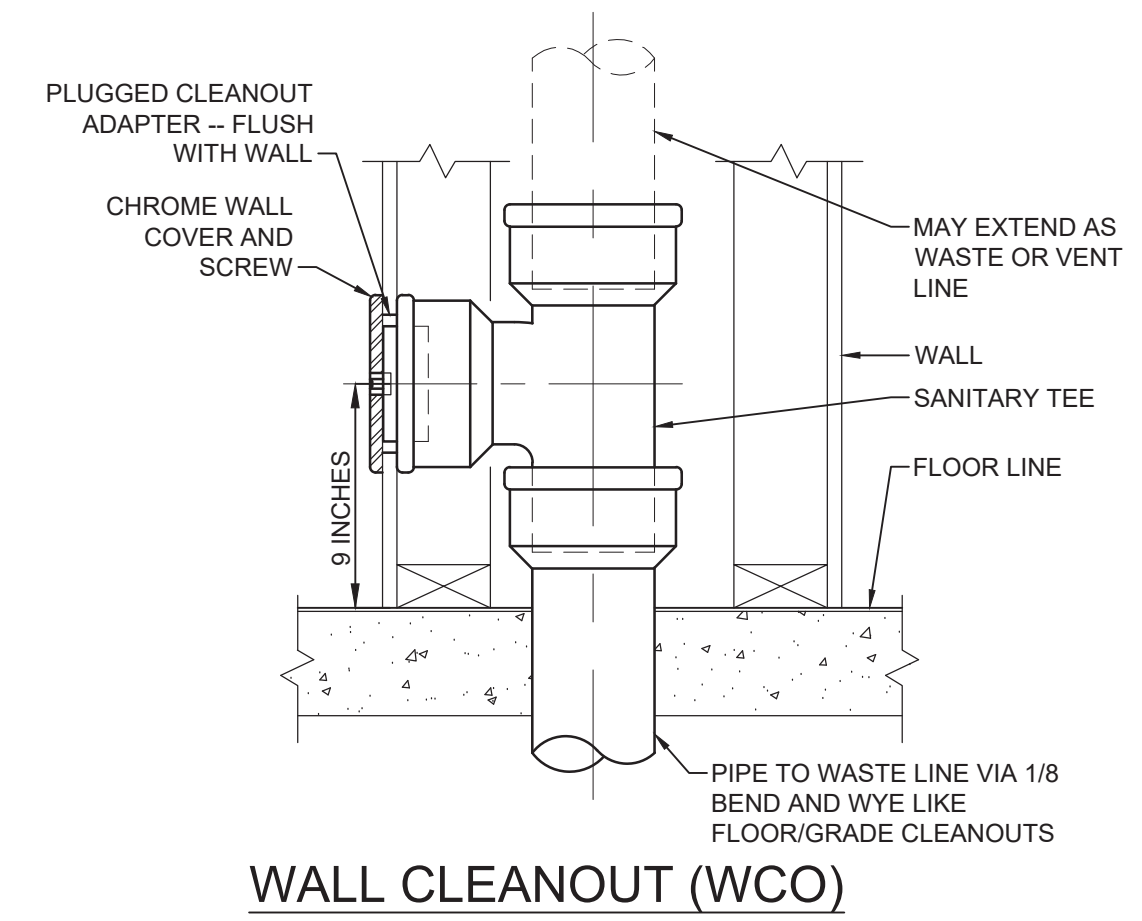
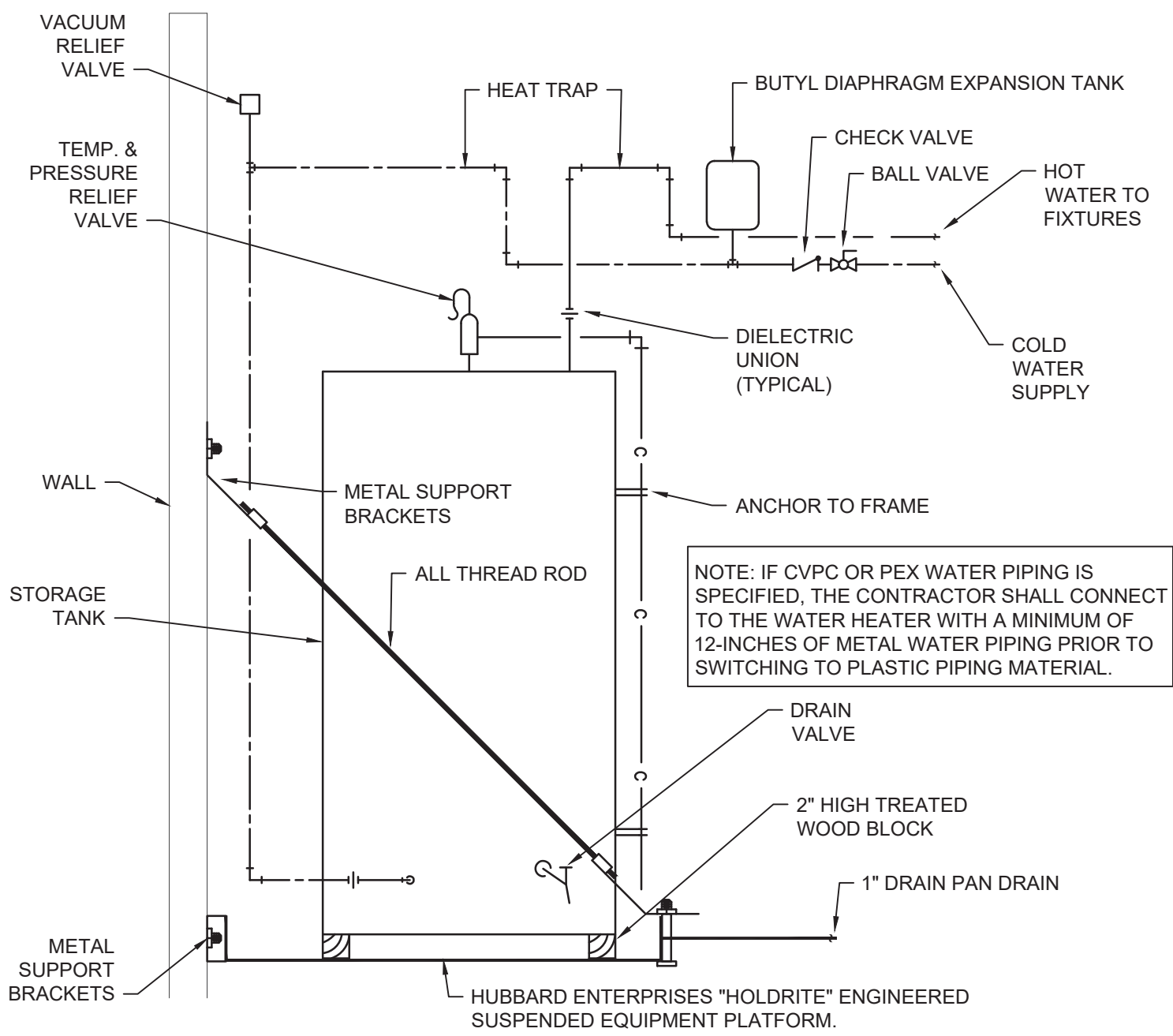
PLUMBING LOADS	
WASTE (DRAINAGE FIXTURE UNITS)	12
WATER	17.5 GPM

NOTE: NOT ALL ITEMS LISTED MAY BE USED IN THIS PROJECT.

PLUMBING FIXTURE SCHEDULE

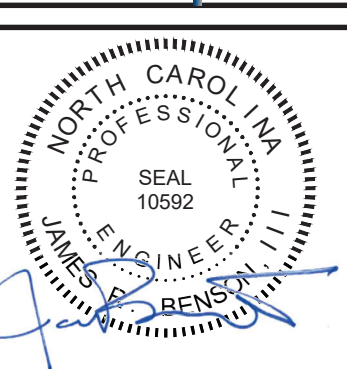
DRAWING CODE	FIXTURE	DESCRIPTION	MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	NOTES	PIPE SIZE			
							DCW	DHW	WASTE	VENT
WC1	TANK TYPE WATER CLOSET, FLOOR MTD, 1.6GPF, ADA	BOWL SEAT	AMERICAN STANDARD OLSONITE	215AA.004 95C	ZURN, KOHLER BEMIS, CHURCH	4,6	1/2"	-	4"	2"
LAV1	LAVATORY WALL HUNG, 0.5GPM, ADA	BOWL FAUCET DRAIN MX VALVE	AMERICAN STANDARD MOEN MCGUIRE CASH ACME	0355.012 8413F05 155A HG-135	ZURN, CRANE ZURN, DELTA DEARBORN, DELTA LEONARD, WATTS	1,2,3,6	1/2"	1/2"	2"	2"
EWH1	TANK TYPE ELECTRIC WATER HEATER, 6 GAL	FIXT EXP TANK	A.O. SMITH	DEL-6 PMC-2	BRADFORD-WHITE, RHEEM	5	3/4"	3/4"	-	-
LS1	FLOOR MOUNT LAUNDRY SINK	SINK FAUCET	FIAT MOEN	FL-1 74998	SWANSTONE, MUSTEE DELTA, ZURN	6,7	1/2"	1/2"	2"	2"
HB1	EXTERIOR HOSE BIBB	FIXT	WOODFORD	19	ZURN, WATTS	-	3/4"	-	-	-
RPZ	BACKFLOW PREVENTER	FIXT	WATTS	LF009	FEBCO, WILKINS	-	-	-	-	-
GCO	GRADE CLEANOUT	FIXT	SIoux CHIEF	877	ZURN, SMITH	-	-	-	MATCH	-
WCO	WALL CLEANOUT	FIXT	SIoux CHIEF	870	ZURN, SMITH	-	-	-	MATCH	-

- NOTES
1. PROVIDE MATCHING WALL HANGER. COORDINATE WITH G.C. FOR WALL REINFORCING.
 2. PROVIDE BRASS 1-1/2" TAILPIECE, CAST BRASS SLIP JOINT P-TRAP WITH CLEANOUT; PROVIDE ADA OFFSET ARRANGEMENT WHERE REQUIRED.
 3. PROVIDE ADA INSULATION KIT
 4. TRIP LEVER OR FLUSH HANDLE TO BE LOCATED ON WIDE SIDE OF STALL OR TOILET ROOM.
 5. FIELD ROUTE 1" DRAIN PAN DRAIN PIPING TO UTILITY SINK
 6. PROVIDE 1/2" IPS X 3/8" OD ANGLE BRASS STOP(S) WITH STAINLESS, BRAIDED RISERS.
 7. PROVIDE INLINE CHECK VALVES FOR WATER SUPPLY LINES.



06/20/2023	DATE
0	ISSUED FOR CONSTRUCTION
0	REVISIONS

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 Wilmington, NC 28401
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 Fax: 910.791.5266
 www.cbhfengineers.com
 NC# P-6066
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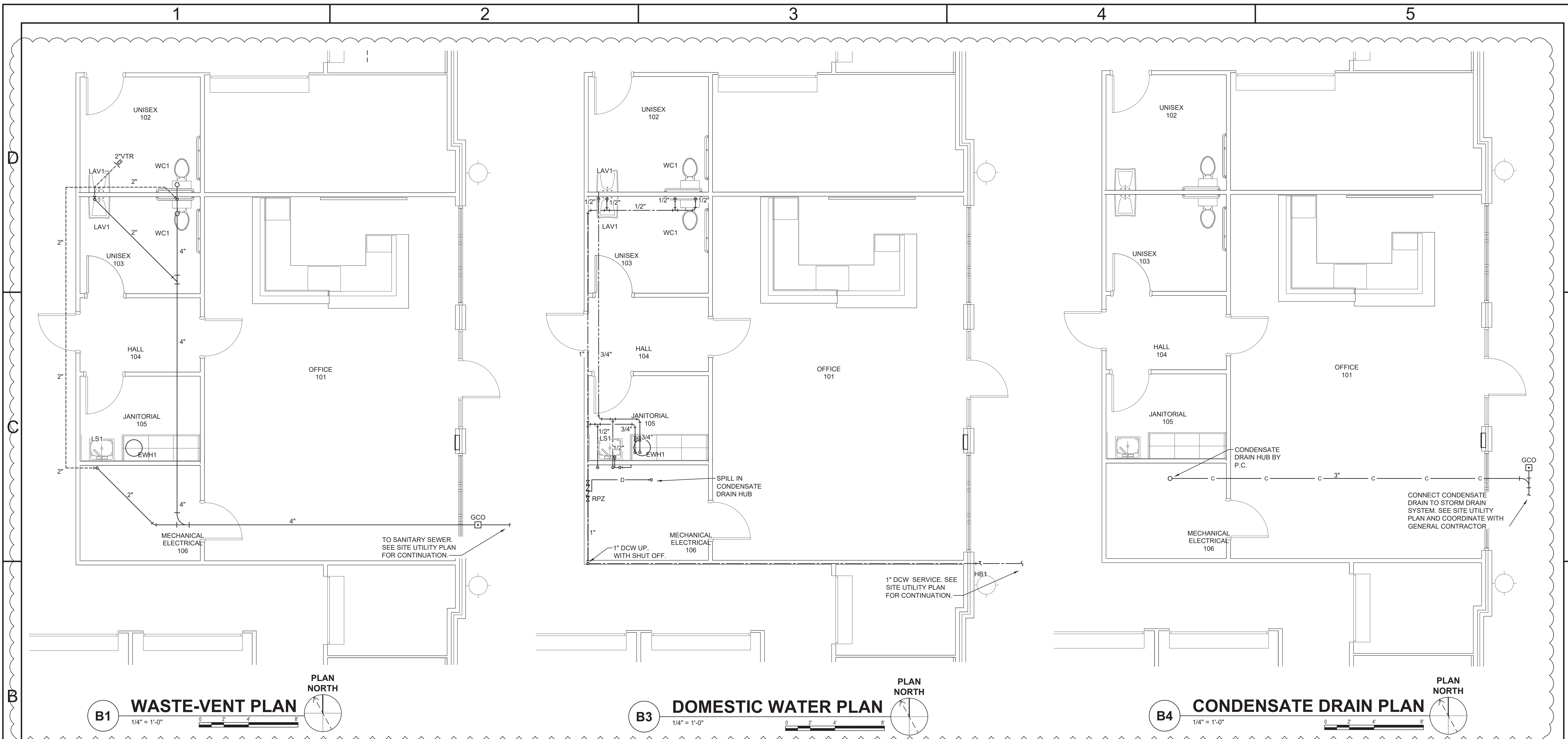
**LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC**

**PLUMBING
 SPECIFICATIONS, LEGEND
 LOADS AND ABBREVIATIONS**

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO:
P-002

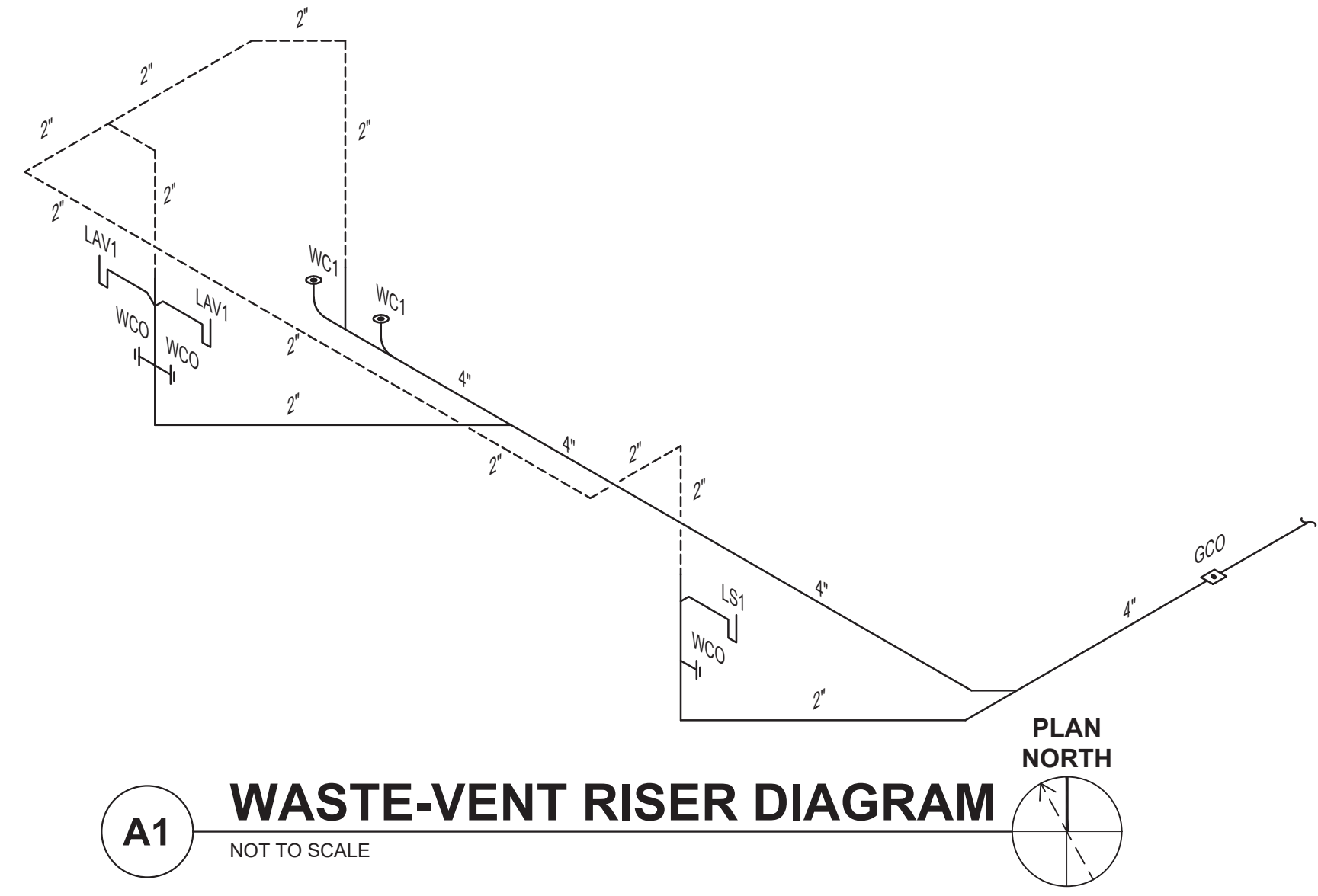
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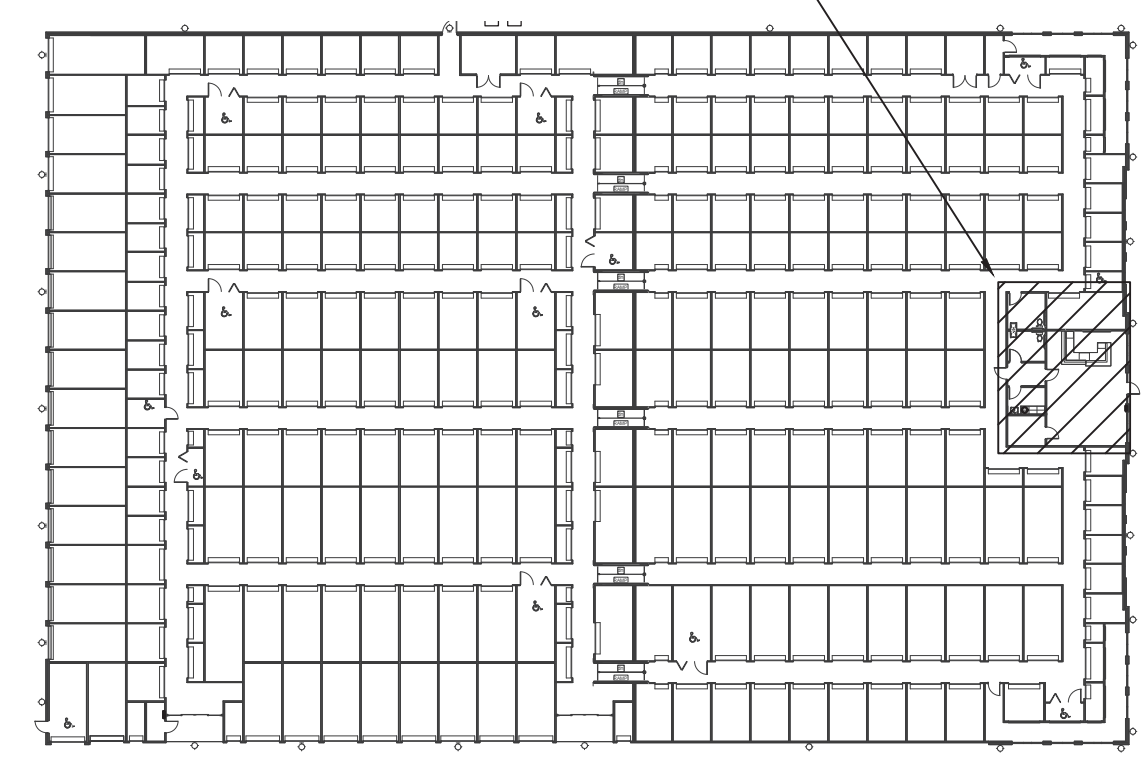
B1 WASTE-VENT PLAN
1/4" = 1'-0"

B3 DOMESTIC WATER PLAN
1/4" = 1'-0"

B4 CONDENSATE DRAIN PLAN
1/4" = 1'-0"



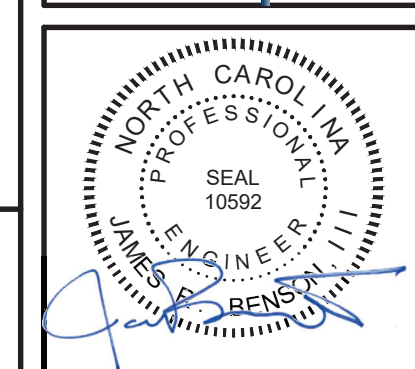
A1 WASTE-VENT RISER DIAGRAM
NOT TO SCALE



A5 KEYPLAN
NOT TO SCALE

Owner: acknowledges and agrees that Robert High Development, LLC (RHD) and CBHF Engineers, PLLC (CBHF) retain all rights in and to the design and specifications for the project including without limitation mechanical, electrical, plumbing and fire alarm engineering drawings, plans and specifications, and any and all of its proprietary rights embodied therein or related thereto. Except in connection with the performance of the project, this agreement shall not be assigned, transferred, or otherwise conveyed in any manner without the prior written consent of CBHF. The Plans and Specifications and any contents of any documents or information embodied therein or relating thereto shall not be used, reproduced or copied, in whole or in part, without the prior, written permission of CBHF and RHD.	10.06.2023
REVISIONS	DATE
1	06.20.2023
0	
REVISIONS	DATE
1	06.20.2023
0	
REVISIONS	DATE

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LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

**WASTE-VENT PLAN, DOMESTIC WATER PLAN
CONDENSATE DRAIN PLAN AND WASTE-VENT
RISER DIAGRAM**

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO:
P-101

REVISION:
1

MECHANICAL SPECIFICATIONS

PART 1 GENERAL

- 1.1 SCOPE OF WORK: THESE DRAWINGS AND SPECIFICATIONS DESCRIBE THE SCOPE OF WORK REQUIRED FOR PROJECT MECHANICAL HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR COMPLETE, FULLY FUNCTIONING MECHANICAL SYSTEMS COMPLYING WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
1.2 CONTRACTOR: THE WORD "CONTRACTOR" AS USED HEREIN SHALL MEAN THE HVAC INSTALLER UNLESS OTHERWISE QUALIFIED.
1.3 DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING HVAC SYSTEMS.
1.4 CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INsofar AS THEY APPLY:
A. NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION AND REVISIONS (CODE)
B. LOCAL JURISDICTION REQUIREMENTS: INCLUDE ALL WORK TO COMPLY WITH CODES WHETHER INDICATED ON DRAWINGS OR NOT. NOTIFY ENGINEER OF DISCREPANCIES BETWEEN DRAWINGS AND CODES PRIOR TO BEGINNING WORK.
1.5 PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
1.6 MANUFACTURER'S RECOMMENDATIONS: INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
1.7 WORKMANSHIP: UTILIZE SKILLED MECHANICS TO OBTAIN A HIGH QUALITY PROFESSIONAL FINISH INSTALLATION WHEN COMPLETED. WORK OF UNACCEPTABLE QUALITY SHALL BE REMOVED AND REWORKED AT NO ADDITIONAL COST. ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND THEIR OPINION WILL BE FINAL. IN ADDITION, ANY EXISTING CONSTRUCTION DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT NO ADDITIONAL COST.
1.8 SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
1.9 PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE OWNER. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
1.10 COORDINATION: COORDINATE MECHANICAL WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. LAYOUT MECHANICAL WORK SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST ARRANGEMENT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
1.11 EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
1.12 LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
1.13 STORAGE SPACE: CONSULT WITH THE OWNER REGARDING JOB SITE STORAGE FOR MECHANICAL MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
1.14 CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS.
1.15 ELECTRICAL WORK
A. PERFORM ELECTRICAL WORK FOR MECHANICAL EQUIPMENT IN COMPLIANCE WITH PROJECT ELECTRICAL REQUIREMENTS. ELECTRICAL WORK FOR MECHANICAL EQUIPMENT NOT SPECIFICALLY INDICATED TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR IN THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AS PART OF HIS WORK.
B. ELECTRICAL DRAWINGS ARE BASED ON ELECTRICAL CHARACTERISTICS INDICATED IN DRAWING MECHANICAL EQUIPMENT SCHEDULES. ANY EQUIPMENT FURNISHED BY THE MECHANICAL CONTRACTOR WHICH DOES NOT MATCH THE ELECTRICAL CHARACTERISTICS INDICATED IN THE DRAWING SCHEDULES SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. ANY ADDITIONAL COSTS FOR ELECTRICAL INSTALLATION REQUIRED FOR EQUIPMENT NOT MATCHING THE DRAWING SCHEDULES SHALL BE BORNE BY THE MECHANICAL CONTRACTOR.
C. LOW VOLTAGE CONTROL WIRING FOR MECHANICAL SYSTEMS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR.

- 1.16 SUBMITTALS: SUBMIT ONE (1) ELECTRONIC COPY OF DESCRIPTIVE DATA FOR MECHANICAL EQUIPMENT AND MATERIALS INCLUDING GRILLES AND DAMPERS FOR APPROVAL BY THE ENGINEER. CLEARLY IDENTIFY ALL ITEMS.
1.17 OPERATING AND MAINTENANCE MANUALS: SUBMIT TWO COPIES OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT, INCLUDING NECESSARY CUT SHEETS, CHARTS, WRITTEN INSTRUCTIONS, WIRING DIAGRAMS, FINAL AS-BUILT DRAWINGS WITH BALANCED AIRFLOWS INDICATED, ETC. BIND IN SUITABLE HARD BACK RING BINDERS, PROPERLY INDEXED, AND DELIVER TO THE OWNER PRIOR TO BUILDING OCCUPANCY. IN ADDITION, AFFIX A FOLDER WITH TYPICAL OWNER'S INSTRUCTIONS AND "MAINTENANCE INFORMATION" INSIDE THE MECHANICAL EQUIPMENT AS APPLICABLE. THE FOLDER SHALL ALSO INCLUDE A COMPLETE STARTUP LOG FOR THE EQUIPMENT.
1.18 RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ENGINEER PRIOR TO FINAL INSPECTION.
1.19 WARRANTY: WARRANTY THE MATERIALS AND WORKMANSHIP COVERED BY THESE DRAWINGS AND SPECIFICATIONS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. REPAIR AND/OR REPLACE ANY PARTS OF ANY SYSTEM THAT MAY PROVE TO BE DEFECTIVE AT NO ADDITIONAL COST TO THE OWNER WITHIN THE WARRANTY PERIOD. PROVIDE 5 YEAR WARRANTY FOR ALL AIR CONDITIONING COMPRESSORS. FURNISH WARRANTY CERTIFICATES FOR ALL MECHANICAL EQUIPMENT. WARRANTY TO COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY OWNER.

PART 2 MATERIALS

- 2.1 EQUIPMENT
A. MODELS AS SCHEDULED ON THE DRAWINGS. MANUFACTURERS INDICATED ARE INTENDED TO ESTABLISH THE QUALITY AND TYPE OF EQUIPMENT DESIRED. COMPARABLE EQUIPMENT WILL BE CONSIDERED FOR APPROVAL BY THE ARCHITECT/ENGINEER

- B. INCLUDE ALL ACCESSORIES INDICATED OR AS RECOMMENDED BY THE MANUFACTURER FOR PROPER OPERATION.
2.2 DUCTWORK
A. DUCT CONSTRUCTION (SINGLE WALL): GALVANIZED STEEL CONSTRUCTED, BRACED, SUPPORTED AND INSTALLED ACCORDING TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS. 1" PRESSURE CLASS. SEAL CLASS A. SEAL USING APPROVED TYPE DUCT SEALING MASTIC OR TAPE DIPPED IN OR BRUSHED WITH ADHESIVE ("HARDCAST" DT-TAPE W/TA-20 ADHESIVE OR "UNITED MCGILL" MTD TAPE W/MTD-20 ADHESIVE). "DUCT TAPE" IS UNACCEPTABLE FOR DUCT SEALING. "DUCT-MATE" OR EQUAL TRANSVERSE JOINT CONNECTION METHODS WILL BE ACCEPTABLE ONLY IF A LETTER FROM THE MANUFACTURER IS PRESENTED TO THE ENGINEER STATING THAT THE CONTRACTOR'S INSTALLATION METHODS ARE APPROVED BY THE MANUFACTURER AND THAT ALL MANUFACTURER'S RECOMMENDATIONS WILL BE FOLLOWED. THERE WILL BE NO EXCEPTIONS TO THIS STIPULATION.
B. DUCT SIZES INDICATED ARE INSIDE FREE AREA DIMENSIONS. DUCT DIMENSIONS SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS USING EQUIVALENT SIZE PER ASHRAE STANDARD. RECTANGULAR OR ROUND DUCTWORK MAY BE USED AT CONTRACTOR OPTION PROVIDED EQUIVALENT SIZE PER ASHRAE STANDARD IS USED.
C. BRANCH DUCTS: PROVIDE MANUFACTURED TAKE-OFF FITTINGS (SPIN-IN FITTINGS) WITH EXTRACTOR AND VOLUME DAMPER WITH LOCKING QUADRANT OPERATOR AND INSULATION GUARD. GENERAL ENVIRONMENT CORPORATION OR EQUAL, FOR ALL BRANCH RUNOUTS TO SUPPLY REGISTERS AND DIFFUSERS. UNLESS OTHERWISE NOTED, MATCH SUPPLY BRANCH DUCT SIZE TO DIFFUSER SIZE.
D. ELBOWS: ALL SQUARE BENDS OR ELBOW FITTINGS SHALL BE FITTED WITH APPROVED TYPE DOUBLE THICKNESS TURNING VANES.
E. FLEXIBLE DUCT: FACTORY INSULATED, R-8, MINIMUM UL 181 CLASS 1. MAXIMUM FLEX DUCT RUNOUT LENGTH NOT TO EXCEED 8' UNLESS OTHERWISE NOTED. INSTALL AND SUPPORT FLEXIBLE DUCTS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
F. FLEXIBLE CONNECTIONS: PROVIDE FLEXIBLE CONNECTOR, VENTFABRICS OR EQUAL, AT ALL MECHANICAL EQUIPMENT CONNECTIONS TO DUCT SYSTEM.

- 2.3 AIR DISTRIBUTION
A. DIFFUSERS AND REGISTERS: MODELS AS SCHEDULED ON THE DRAWINGS. MANUFACTURERS INDICATED ARE INTENDED TO ESTABLISH THE QUALITY AND TYPE OF EQUIPMENT DESIRED. COMPARABLE EQUIPMENT WILL BE CONSIDERED FOR APPROVAL BY THE ENGINEER. INCLUDE FINISH AND ACCESSORIES AS INDICATED.
B. LOUVERS: MODELS AS SCHEDULED ON THE DRAWINGS OR EQUAL.

- 2.4 PIPING
A. REFRIGERANT PIPING: TYPE ACR COPPER WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS. SIZE & INSTALL IN STRICT ACCORDANCE W/ REFRIGERATION EQUIPMENT MANUFACTURER RECOMMENDATIONS.
B. REFRIGERANT ACCESSORIES: PROVIDE FOR EACH REFRIGERANT CIRCUIT:
1. SIGHT GLASS WITH MOISTURE INDICATOR, FILTER DRYER, SOLENOID VALVE AND EXPANSION VALVE.
2. GAUGES, CHARGING VALVES, RELIEF VALVES, LOW LIMIT CONTROLS, AND SPECIALTIES REQUIRED FOR A COMPLETE AND SAFE INSTALLATION.
3. ALL ACCESSORIES AS RECOMMENDED BY THE REFRIGERATION EQUIPMENT MANUFACTURER.
4. VALVES AND SPECIALTIES SHALL BE AS MADE BY MUELLER, HENRY, ALCO, OR EQUAL.
C. CONDENSATE PIPING: SCH 40 PVC W/ SOLVENT WELD JOINTS. PROVIDE TRAP AT COOLING COIL DRAIN CONNECTION. PROVIDE CLEANOUTS AT CHANGE IN DIRECTION. EXTEND CONDENSATE PIPING TO APPROVED DISCHARGE LOCATION.

- 2.5 INSULATION
A. DUCT INSULATION: R-8 MINIMUM, 2" FIBERGLASS BLANKET INSULATION, ASTM C553, TYPE II, 0.75 PCF CLASS F-1, ASTM 84E FLAME SPREAD/SMOKE DEVELOPED RATING LESS THAN 25/50. PROVIDE WITH FACTORY APPLIED ALL-PURPOSE, LAMINATED GLASS-FIBER-REINFORCED, FLAME-RETARDANT KRAFT PAPER AND ALUMINUM FOIL JACKET. INSTALL ON ALL CONCEALED HVAC SUPPLY, RETURN, MAKE-UP AIR DUCTS AND PLENUMS. NOT REQUIRED FOR EXPOSED DUCT IN CONDITIONED STORAGE AREAS.
B. REFRIGERANT PIPING INSULATION: ELASTOMERIC CLOSED CELL PIPE INSULATION, ARMAFLEX AP OR EQUAL, 1/2" THICK. PROTECT ALL EXTERIOR, EXPOSED PIPE INSULATION WITH ARMAFLEX WB FINISH.
C. CONDENSATE DRAIN PIPING INSULATION: ELASTOMERIC CLOSED CELL PIPE INSULATION, ARMAFLEX AP OR EQUAL, 1/2" THICK. PROTECT ALL EXTERIOR, EXPOSED PIPE INSULATION WITH ARMAFLEX WB FINISH.

- 2.6 CONTROLS
A. HEAT PUMP TEMPERATURE CONTROLS: SEE DRAWING SCHEDULES AND DETAILS.
B. TOILET EXHAUST: SEE DRAWING SCHEDULES AND DETAILS.

- 2.7 SUPPORTS
A. HANGERS, SUPPORTS, AND ANCHORS: SUPPORT AND FASTEN ALL DUCTWORK, PIPING, EQUIPMENT, ETC., SECURELY IN PLACE USING APPROVED STEEL HANGERS AND FASTENERS. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS, OR WOOD PLUGS ARE PROHIBITED.
B. INCLUDE STEEL SUPPORTS, ANCHORS, FRAMES, BRACING, PLATES, BOLTS, NUTS, WASHERS, ETC. INCIDENTAL TO INSTALLATION OF WORK.
C. PROVIDE AUXILIARY STRUCTURAL MEMBERS WHERE REQUIRED BETWEEN MEMBERS OF THE STRUCTURE.
2.8 REFRIGERANT: FURNISH A FULL CHARGE OF REFRIGERANT FOR EACH SYSTEM AND MAINTAIN THE CHARGE FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND REPLACE ANY THAT MAY BE LOST (UNLESS LOSS IS DETERMINED TO BE CAUSED BY THE OWNER).

PART 3 EXECUTION

- 3.1 PREPARATION: REVIEW CONSTRUCTION DOCUMENTS AND VERIFY ARRANGEMENT WITH FIELD CONDITIONS. COORDINATE PROPOSED MECHANICAL EQUIPMENT AND SYSTEMS WITH ASSOCIATED WORK OF OTHER TRADES.
3.2 INSTALLATION: INSTALL ALL MECHANICAL WORK IN ACCORDANCE WITH CODE, MANUFACTURER'S RECOMMENDATIONS AND GOOD INDUSTRY PRACTICE. ARRANGE WORK TO ALLOW EASY ACCESS TO EQUIPMENT FOR SERVICE AND MAINTENANCE.
3.3 DUCTWORK: LAYOUT DUCTWORK TO AVOID INTERFERENCES AND MAXIMIZE USABLE SPACE IN THE BUILDING.

- 3.4 PIPING: ROUTE PIPING NEATLY, PARALLEL TO BUILDING WALLS. WHERE REQUIRED, SLOPE PIPING FOR PROPER DRAINAGE.
3.5 DUCT INSULATION: INSTALL BLANKET INSULATION TIGHT AND SMOOTH. OVERLAP JOINTS 3 INCHES. SEAL JOINTS, BREAKS, AND PUNCTURES WITH VAPOR BARRIER COMPOUND.
3.6 PIPING INSULATION: INSTALL INSULATION NEATLY. APPLY ADHESIVE TO BOTH FACES OF JOINT TO OBTAIN FULLY ADHERED, VAPOR TIGHT INSTALLATION. FINISH ALL INSULATION EXPOSED TO WEATHER WITH MANUFACTURE APPROVED WEATHERPROOF COATING.
3.7 CONTROLS: INSTALL AND WIRE ALL CONTROLS COMPLETE TO OBTAIN INTENDED SEQUENCE OF OPERATION.
3.8 HANGERS AND SUPPORTS: HANG AND SUPPORT EQUIPMENT, DUCTS AND PIPING IN A SUBSTANTIAL MANNER FROM THE BUILDING STRUCTURE. SPACE HANGERS IN ACCORDANCE WITH CODE AND SO AS TO AVOID EXCESS DEFLECTION OR SAG. PROVIDE SEISMIC DESIGN HANGERS WHERE REQUIRED. NO PORTION OF THE STRUCTURE SHALL BE OVER STRESSED BY THE HANGING OPERATION OR BY THE FINAL SUPPORTS. ATTACHMENTS DEEMED INADEQUATE BY THE ENGINEER SHALL BE REWORKED AS DIRECTED. PROVIDE VIBRATION ISOLATION FOR MOVING MACHINERY.
3.9 REFRIGERANT PIPING TESTS: PLACE REFRIGERANT PIPING UNDER A TEST PRESSURE USING ANHYDROUS CARBON DIOXIDE OR NITROGEN BEFORE DEHYDRATING WITH A VACUUM PUMP TO A VACUUM OF 26 INCHES HG. SEE CONDENSING UNIT, COMPRESSOR OR COMPRESSOR UNIT NAME PLATE FOR TEST PRESSURES. MAINTAIN VACUUM FOR A MINIMUM OF 24 HOURS. REFRIGERATION COMPRESSOR SHALL NOT BE USED FOR THIS PURPOSE. AFTER SYSTEM IS VACUUM TESTED, CHARGE WITH SYSTEM REFRIGERANT AND LEAK TEST ENTIRE CIRCUIT WITH ELECTRONIC TESTER.

- 3.10 LABELS: LABEL ALL EQUIPMENT AND DEVICES WITH BAKELITE ENGRAVED PLATES SCREWED IN PLACE. "TAPEWRITER" AND ADHESIVE LABELS ARE UNACCEPTABLE.
3.11 START-UP: VERIFY INSTALLATION IS COMPLETE AND READY FOR START-UP. START-UP ALL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING FACTORY CERTIFIED MECHANICS. AFTER START-UP, VERIFY AND DOCUMENT THAT EQUIPMENT IS OPERATING PROPERLY WITHIN MANUFACTURER'S SPECIFIED TOLERANCES.
3.12 TESTING AND BALANCING: BALANCE AIR FLOWS TO OBTAIN AIR QUANTITIES SHOWN ON DRAWINGS. ADJUST DAMPERS FOR ALL AIR OUTLETS AND RECORD VELOMETER READINGS WHICH CORRESPOND TO DESIGN FLOW RATES AT EACH OUTLET. RECORD DESIGN AND FINAL READINGS ON APPROVED FORMS. CONTRACTOR SHALL PROVIDE TECHNICIANS AND MEASURING DEVICES FOR THIS TESTING.
3.13 COMMISSIONING: DEMONSTRATE AND DOCUMENT OPERATION OF ALL MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT. INCLUDE ALL TESTS, TRIAL OPERATIONS, ETC. AS REQUIRED TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. ALL COSTS OF COMMISSIONING SHALL BE BORNE BY THIS CONTRACTOR.
3.14 TRAINING: TRAIN OWNER PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF MECHANICAL SYSTEMS. PROVIDE WRITTEN DOCUMENTATION INCLUDING NAMES OF OWNER PERSONNEL ATTENDING TRAINING.
3.15 CLEAN-UP: CLEAN ALL EQUIPMENT AND DEVICES AND INSTALL NEW FILTERS IN EQUIPMENT IMMEDIATELY PRIOR TO OWNER ACCEPTANCE AND OCCUPANCY.

- 3.16 TESTING AND BALANCING: BALANCE AIR FLOWS TO OBTAIN AIR QUANTITIES SHOWN ON DRAWINGS. ADJUST DAMPERS FOR ALL AIR OUTLETS AND RECORD VELOMETER READINGS WHICH CORRESPOND TO DESIGN FLOW RATES AT EACH OUTLET. RECORD DESIGN AND FINAL READINGS ON APPROVED FORMS. CONTRACTOR SHALL PROVIDE TECHNICIANS AND MEASURING DEVICES FOR THIS TESTING.
3.17 COMMISSIONING: DEMONSTRATE AND DOCUMENT OPERATION OF ALL MECHANICAL SYSTEMS INSTALLED UNDER THIS CONTRACT. INCLUDE ALL TESTS, TRIAL OPERATIONS, ETC. AS REQUIRED TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. ALL COSTS OF COMMISSIONING SHALL BE BORNE BY THIS CONTRACTOR.
3.18 TRAINING: TRAIN OWNER PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF MECHANICAL SYSTEMS. PROVIDE WRITTEN DOCUMENTATION INCLUDING NAMES OF OWNER PERSONNEL ATTENDING TRAINING.
3.19 CLEAN-UP: CLEAN ALL EQUIPMENT AND DEVICES AND INSTALL NEW FILTERS IN EQUIPMENT IMMEDIATELY PRIOR TO OWNER ACCEPTANCE AND OCCUPANCY.

NOTE: NOT ALL ITEMS MAY BE USED IN THIS PROJECT.

Table with 8 columns: SPACE NAME, SUPPLY AIR (CFM), FLOOR AREA (FT²), REQUIRED OUTDOOR AIR (CFM/FT²), OCCUPANCY (PEOPLE), REQUIRED OUTDOOR AIR (CFM/PERSON), AIR DISTRIBUTION EFFECTIVENESS, REQUIRED OUTDOOR AIR (CFM), DELIVERED OUTDOOR AIR (CFM). Rows include 1ST FLOOR OFFICE, STORAGE, and a summary row.

Table with 2 columns: MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT. Rows include CLIMATE ZONE, WINTER DRY BULB, SUMMER DRY BULB, INTERIOR DESIGN CONDITIONS, BUILDING HEATING LOAD, BUILDING COOLING LOAD.

Table with 2 columns: MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT. Rows include CLIMATE ZONE, WINTER DRY BULB, SUMMER DRY BULB, INTERIOR DESIGN CONDITIONS, BUILDING HEATING LOAD, BUILDING COOLING LOAD, MECHANICAL SPACING CONDITIONING SYSTEM, UNITARY, DESCRIPTION OF UNIT, HEATING EFFICIENCY, COOLING EFFICIENCY, SIZE CATEGORY OF UNIT, BOILER, CHILLER, LIST EQUIPMENT EFFICIENCIES.

ENERGY CODE EXEMPTION:
N.C.G.S. 143-138 (b18) EXEMPTS THIS BUILDING FROM CONFORMING TO THE ENERGY CODE. PLEASE CONTACT CBHF WITH ANY QUESTIONS.

MECHANICAL LEGEND table with columns: Symbol, Description. Includes symbols for AH#, CU#, Dh, DAH#, DHP#, Eh, EF#, EUH#, HP#, #, L#, R#, S#, COND., REF., TYP., (X), Duct Diffuser, Thermostat, Humidistat, Duct Smoke Detector, Back Draft Damper, Motorized Damper, Condensate Pump, Condensate Drain, Refrigerant Line Set, Fire Rated Construction (1-HR, 2-HR, 3-HR), Fire Damper.

NOTE: NOT ALL ITEMS MAY BE USED IN THIS PROJECT.

Owner, architect, and engineer information block including names, titles, and contact details for Robert High Development, LLC, RHD, and CBHF Engineers, PLLC.

CBHF Engineers, PLLC logo and contact information: 2248 Yaupon Drive, Wilmington, NC 28401. Phone: 910.791.4000, Fax: 910.791.5266, www.cbhf.com, NC# P-0509.

Professional Engineer Seal for James E. Benson, License No. 16592, State of North Carolina.

Project title block: LILLINGTON STORAGE PHASE I - BUILDING 1, 1781 N MAIN STREET, WILMINGTON, NC. Includes Mechanical Summaries, Legend and Specifications.

Job No: CBHF-22020-RHD-21-7075. Drawn: WTB, Designed: WTB, Checked: JRB.

Drawing No: M-001

Revision: 0

SPLIT SYSTEM HEAT PUMP SCHEDULE

DRAWING CODE (INDOOR / OUTDOOR)	LOCATION	DESIGN BASIS MANUFACTURER	MODEL (INDOOR/OUTDOOR/HEATER)	ALTERNATE APPROVED MANUFACTURERS	ARI COOLING 80/67/95		ARI HEATING 70/47		EFFICIENCIES			INDOOR UNIT				OUTDOOR UNIT				NOTES	ACCESSORIES		
					TOTAL (MBH)	SENS (MBH)	TOTAL (MBH)	SEER (BTU/W)	HSPF (BTU/W)	SA (CFM)	OA (CFM)	ESP (IN H2O)	CAP (KW)	VOLTAGE (V/PH/Hz)	MCA (AMPS)	MOCP (AMPS)	WEIGHT (LBS)	VOLTAGE (V/PH/Hz)	MCA (AMPS)			MOCP (AMPS)	WEIGHT (LBS)
AH1.1 / HP1.1	1ST FLOOR OFFICE / ROOF	RHEEM	RH1T4821/HP1442/RXBH-1724_05	TRANE, YORK	42.5	32.4	39.0	14.0	9	1400	85	0.50	5.4	208/1/60	38.0	40	150	208-230/1/60	24.0	40	201	1	A,B,C,D
AH1.2 / HP1.2	1ST FLOOR STORAGE / ROOF	RHEEM	RH1T6024/HP1460/RXBH-1724_05	TRANE, YORK	56.5	40.8	57.0	14.0	9	1800	NOTE 2	0.70	5.4	208/1/60	40.0	40	167	208-230/1/60	31.0	50	262	1,2	A,B,C
AH1.3 / HP1.3	1ST FLOOR STORAGE / ROOF	RHEEM	RH1T6024/HP1460/RXBH-1724_05	TRANE, YORK	56.5	40.8	57.0	14.0	9	1800	NOTE 2	0.70	5.4	208/1/60	40.0	40	167	208-230/1/60	31.0	50	262	1,2	A,B,C
AH1.4 / HP1.4	1ST FLOOR STORAGE / ROOF	RHEEM	RH1T6024/HP1460/RXBH-1724_05	TRANE, YORK	56.5	40.8	57.0	14.0	9	1800	NOTE 2	0.70	5.4	208/1/60	40.0	40	167	208-230/1/60	31.0	50	262	1,2	A,B,C
AH1.5 / HP1.5	1ST FLOOR STORAGE / ROOF	RHEEM	RH1T6024/HP1460/RXBH-1724_05	TRANE, YORK	56.5	40.8	57.0	14.0	9	1800	NOTE 2	0.70	5.4	208/1/60	40.0	40	167	208-230/1/60	31.0	50	262	1,2	A,B,C

NOTES:
 1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
 2. STORAGE AREA NOT VENTILATED PER NCMC 401, UNOCCUPIED SPACE.

ACCESSORIES:
 A. MATCHING AUTO CHANGE-OVER HEAT-COOL PROGRAMMABLE THERMOSTAT W/ AUX HEAT LOCKOUT ON O/A TEMP & SINGLE POINT POWER CONNECTION FOR AHU.
 B. EXTERNAL FILTER RACK.
 C. MATCHING ENGINEERED ROOF MOUNTING RAILS AND WIND/SEISMIC RESTRAINTS.
 D. MOTORIZED OUTSIDE AIR DAMPER, INTERLOCK TO OPEN ON INDOOR FAN START.

LOUVER SCHEDULE

DRAWING CODE	LOCATION SERVED	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MFRS	TYPE	DESCRIPTION	MATERIAL	LOUVER DEPTH (IN.)	SIZE (W x H) (IN.)	SERVICE	AIRFLOW (CFM)	PERFORMANCE RATINGS FREE AREA (SF)	S.P. LOSS (IN.H2O)	NOTES	ACCESSORIES
L1.1	OFFICE	RUSKIN	ELF15J	VENT PRODUCTS, POTTORFF	FIXED	HORIZONTAL, NONDRAINABLE-BLADE	ALUMINUM	2	16 X 8	INTAKE	140	0.33	0.03	1,2	A
L1.2	OFFICE BATHROOM	RUSKIN	ELF15J	VENT PRODUCTS, POTTORFF	FIXED	HORIZONTAL, NONDRAINABLE-BLADE	ALUMINUM	2	16 X 8	EXHAUST	140	0.33	0.01	1,2	A

NOTES:
 1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
 2. FINISH/COLOR PER ARCHITECT.

ACCESSORIES: A. PROVIDE BIRDSCREEN.

PACKAGED DEHUMIDIFIER SCHEDULE

DRAWING CODE	LOCATION	DESIGN BASIS MFR	MODEL	DEHUMID. CAPACITY @ 80°F/60%RH (PINTS/DAY)	INDOOR SECTION			ELECTRICAL (SINGLE POINT)			WEIGHT (LBS)	NOTES	ACCESSORIES
					SA (CFM)	OA (CFM)	ESP (IN H2O)	VOLTAGE (V/PH/Hz)	MCA (AMPS)	MOCP (AMPS)			
D1.1	1ST FLOOR	ULTRA-AIRE	XT155H	155.0	391	0	-	120/1/60	8.0	15	140	1	A,B
D1.2	1ST FLOOR	ULTRA-AIRE	XT155H	155.0	391	0	-	120/1/60	8.0	15	140	1	A,B

NOTES:
 1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

ACCESSORIES:
 A. OVAL TO ROUND SUPPLY DUCT ADAPTOR.
 B. MATCHING DEH3000 WALL MOUNT HUMIDITY CONTROL.

FAN SCHEDULE

DRAWING CODE	LOCATION	DESIGN BASIS MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	FAN TYPE	SERVICE	AIRFLOW (CFM)	E.S.P. (IN. WG.)	SONES (AMCA)	DRIVE	VOLTAGE (V/PH/Hz)	MOTOR (WATTS)	WEIGHT (LBS)	NOTES	ACCESSORIES
EF1.1	OFFICE BATHROOM	GREENHECK	SP-A110	TWIN CITY, PENNBARRY	CENTRIFUGAL CEILING MOUNT	EXHAUST	70	0.25	0.8	DIRECT	120/1/60	74	18	1,2	A,B
EF1.2	1ST FLOOR BATHROOM	GREENHECK	SP-A110	TWIN CITY, PENNBARRY	CENTRIFUGAL CEILING MOUNT	EXHAUST	70	0.25	0.8	DIRECT	120/1/60	74	18	1,2	A,B

NOTES:
 1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
 2. CONTROL VIA OCCUPANCY SENSOR. SEE ELECTRICAL DRAWINGS.

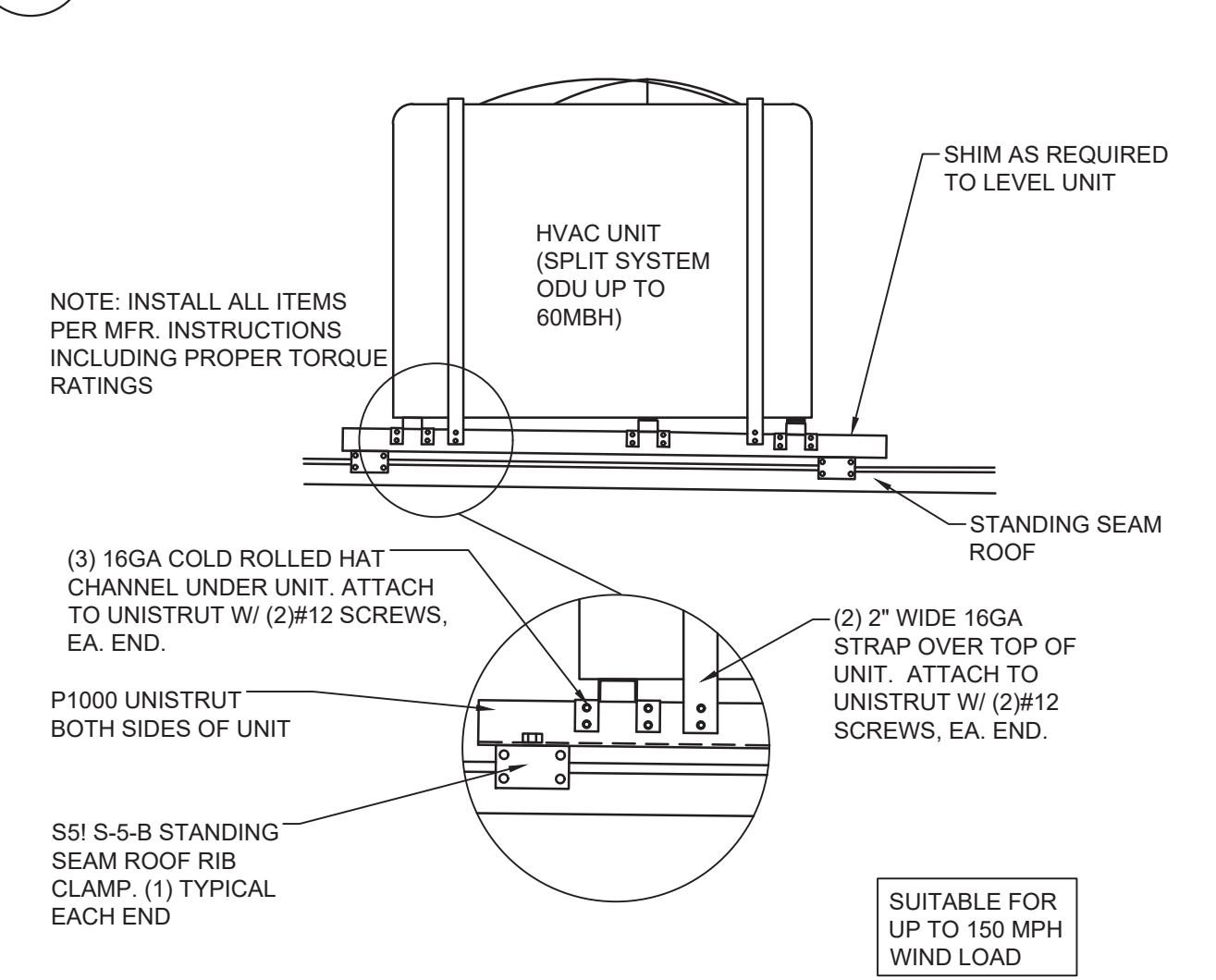
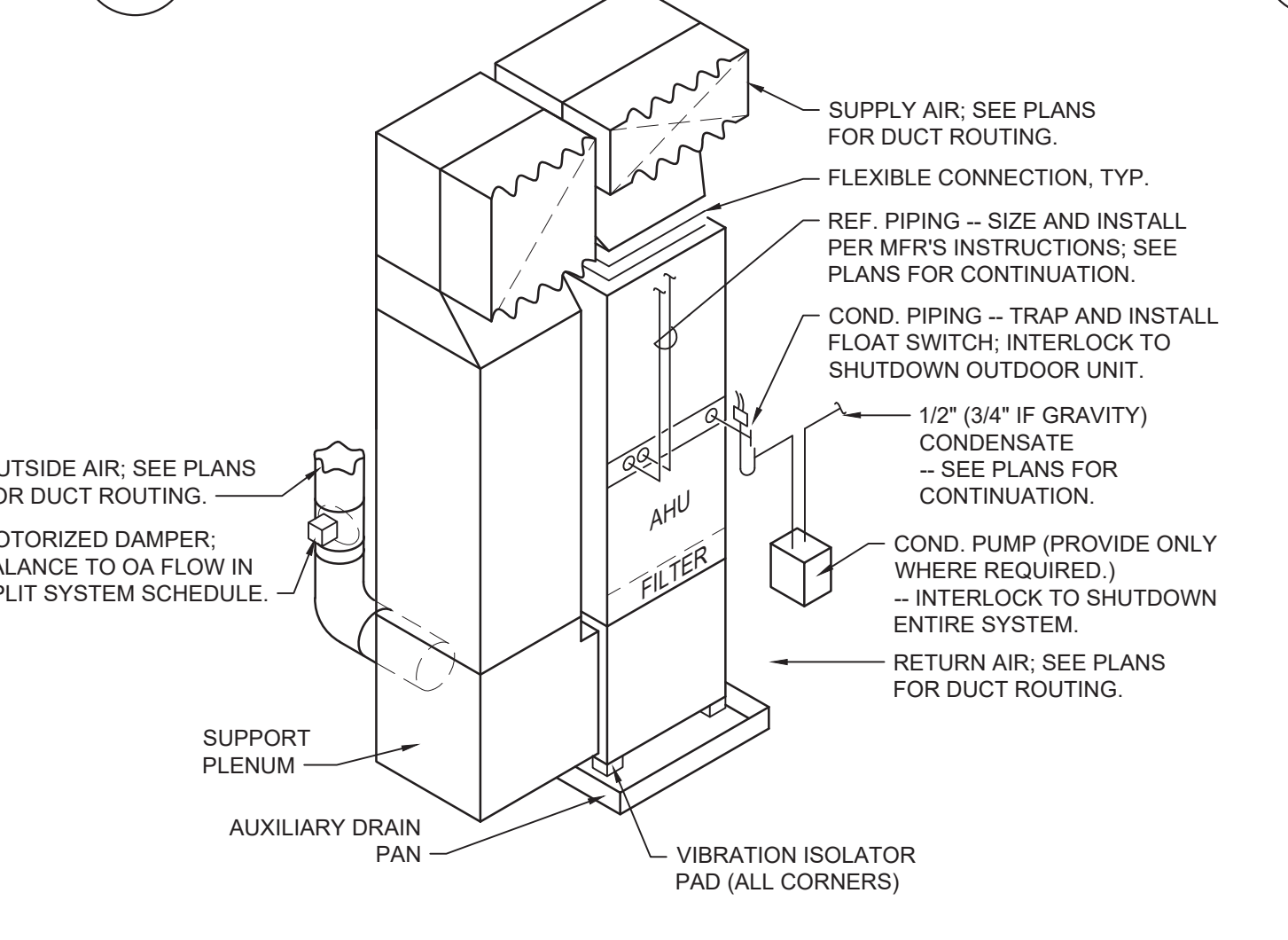
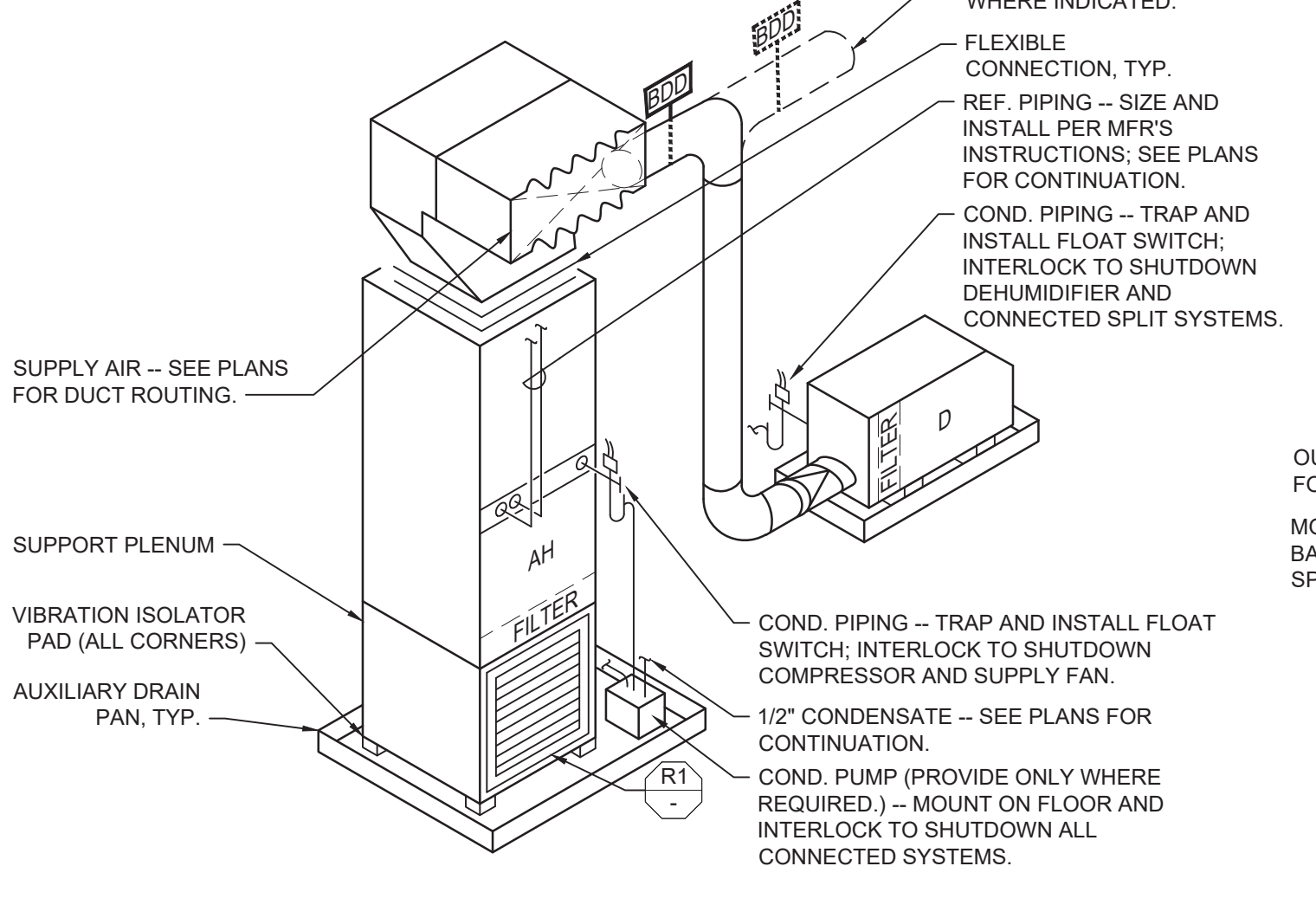
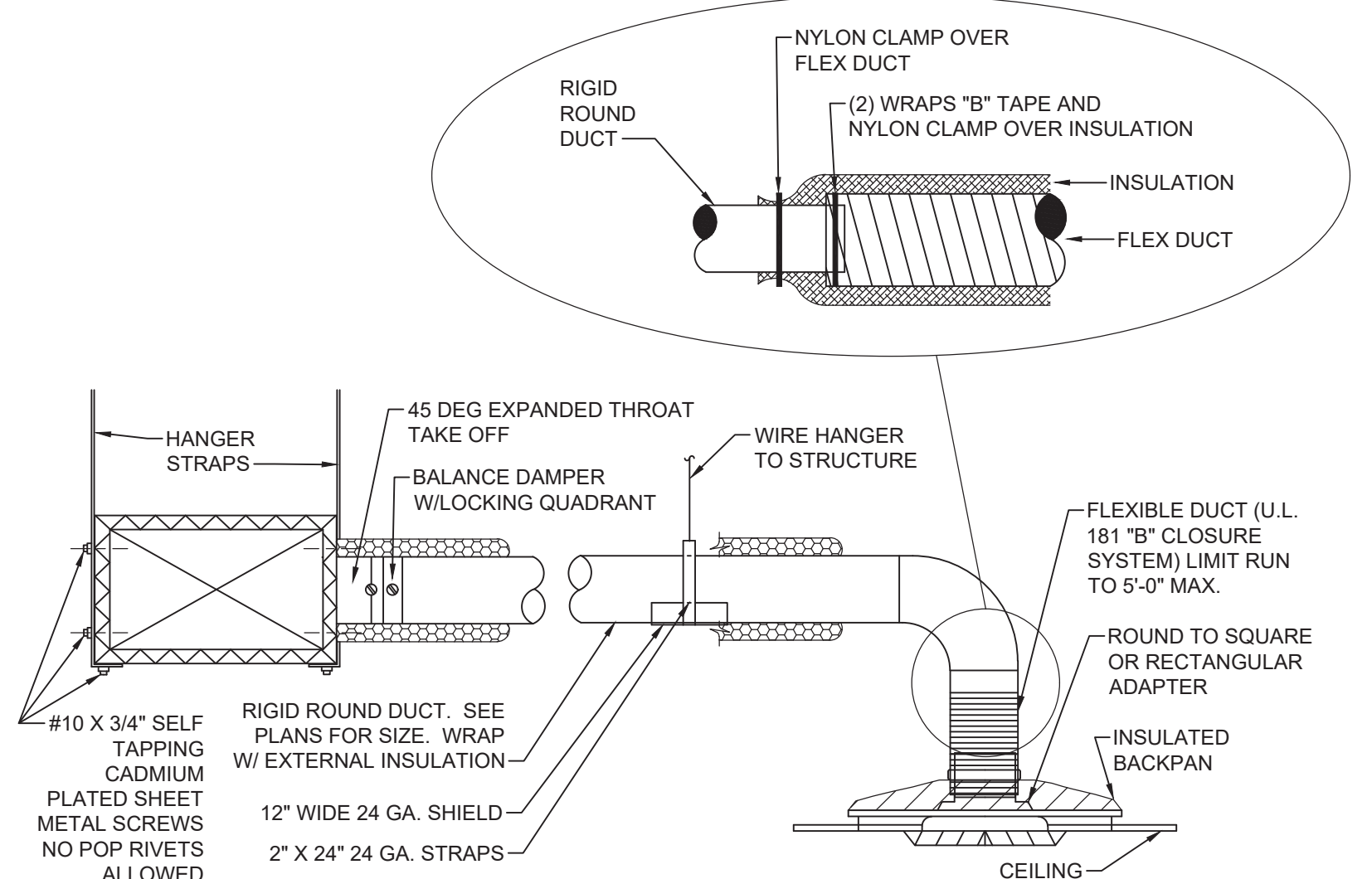
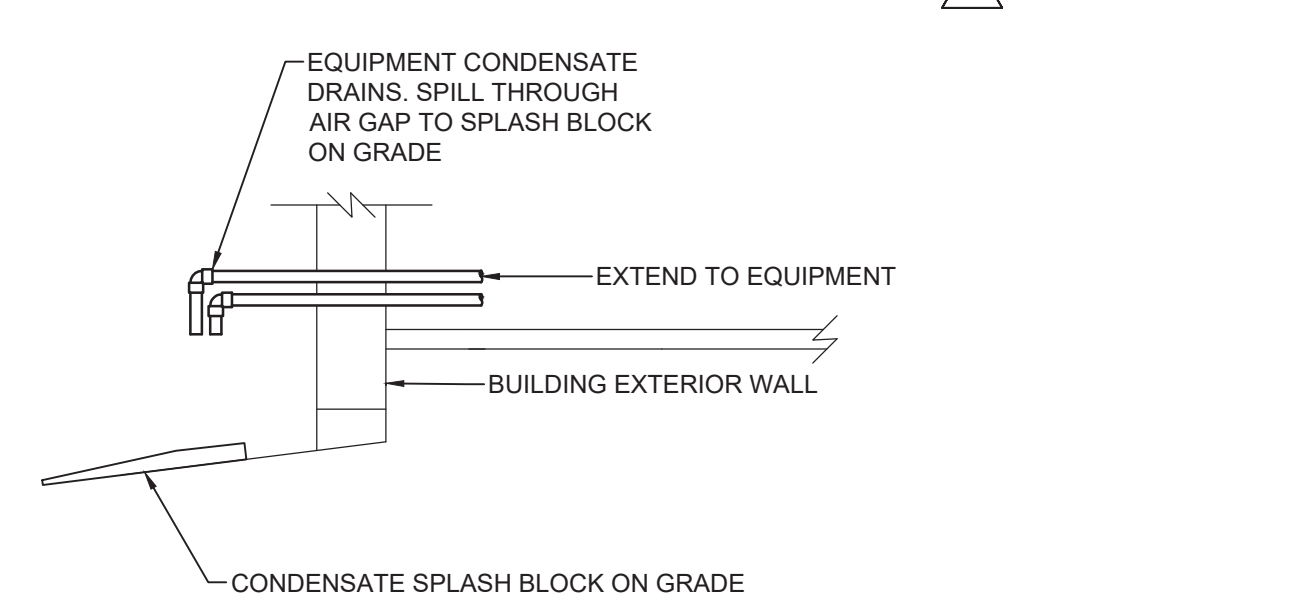
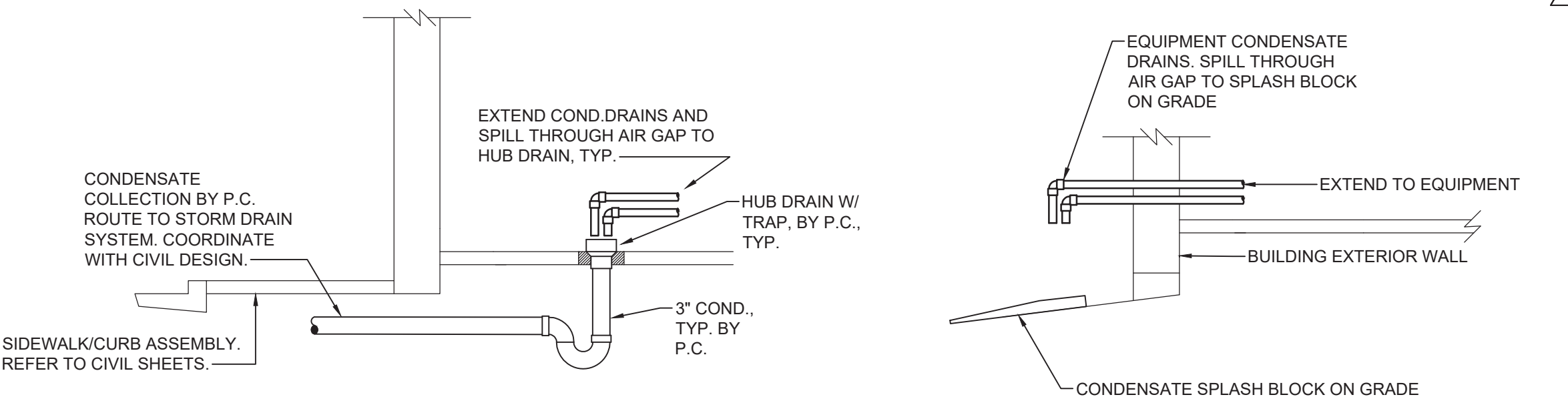
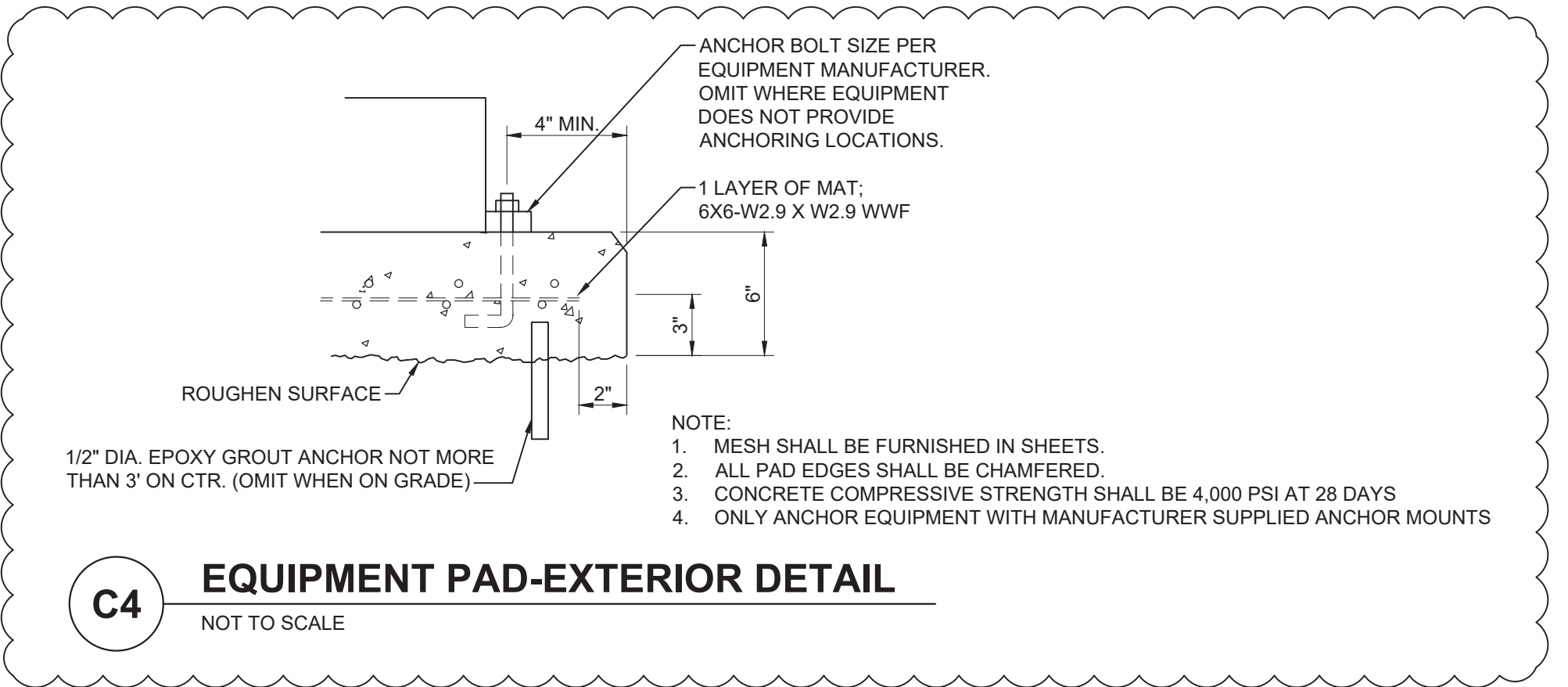
ACCESSORIES:
 A. PROVIDE UNIT MOUNTED SPEED CONTROLLER.
 B. BACKDRAFT DAMPER.

REGISTER AND DIFFUSER SCHEDULE

DRAWING CODE	DESIGN BASIS MFR	MODEL	ALTERNATE APPROVED MFRS	NECK SIZE	SERVICE	STYLE	CONSTRUCTION	MOUNTING	FINISH	NOTES	ACCESSORIES
S1	PRICE	620D	METALAIRES, TITUS	8x4	SUPPLY	REGISTER, DOUBLE DEFLECTION	ALUMINUM	DUCT	BARE	1	A
S2	PRICE	ASCD	METALAIRES, TITUS	60	SUPPLY	2'x2' SQUARE CEILING DIFFUSER	ALUMINUM	T-BAR	WHITE	1	-
S3	PRICE	ASCD	METALAIRES, TITUS	80	SUPPLY	2'x2' SQUARE CEILING DIFFUSER	ALUMINUM	T-BAR	WHITE	1	-
S4	PRICE	620	METALAIRES, TITUS	60	SUPPLY	REGISTER, DOUBLE DEFLECTION	ALUMINUM	WALL SURFACE	WHITE	1	A
R1	PRICE	630	METALAIRES, TITUS	22x22	RETURN	LOUVERED GRILLE	ALUMINUM	DUCT	BARE	1	-
R2	PRICE	630	METALAIRES, TITUS	22x22	RETURN	2'x2' LOUVERED GRILLE	ALUMINUM	WALL SURFACE	WHITE	1	-

NOTES:
 1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

ACCESSORIES: A. PROVIDE INTEGRAL VOLUME DAMPER.



03.13.2023
06.20.2022
Date

REVISIONS

1
ISSUED FOR CONSTRUCTION

CBHF
Engineers, PLLC

2248 Yaupon Drive
Wilmington, NC 28401

Phone: 910.791.4000
Fax: 910.791.5266
www.cbhf.com
NC# P-6506

NORTH CAROLINA
PROFESSIONAL
SEAL
10592

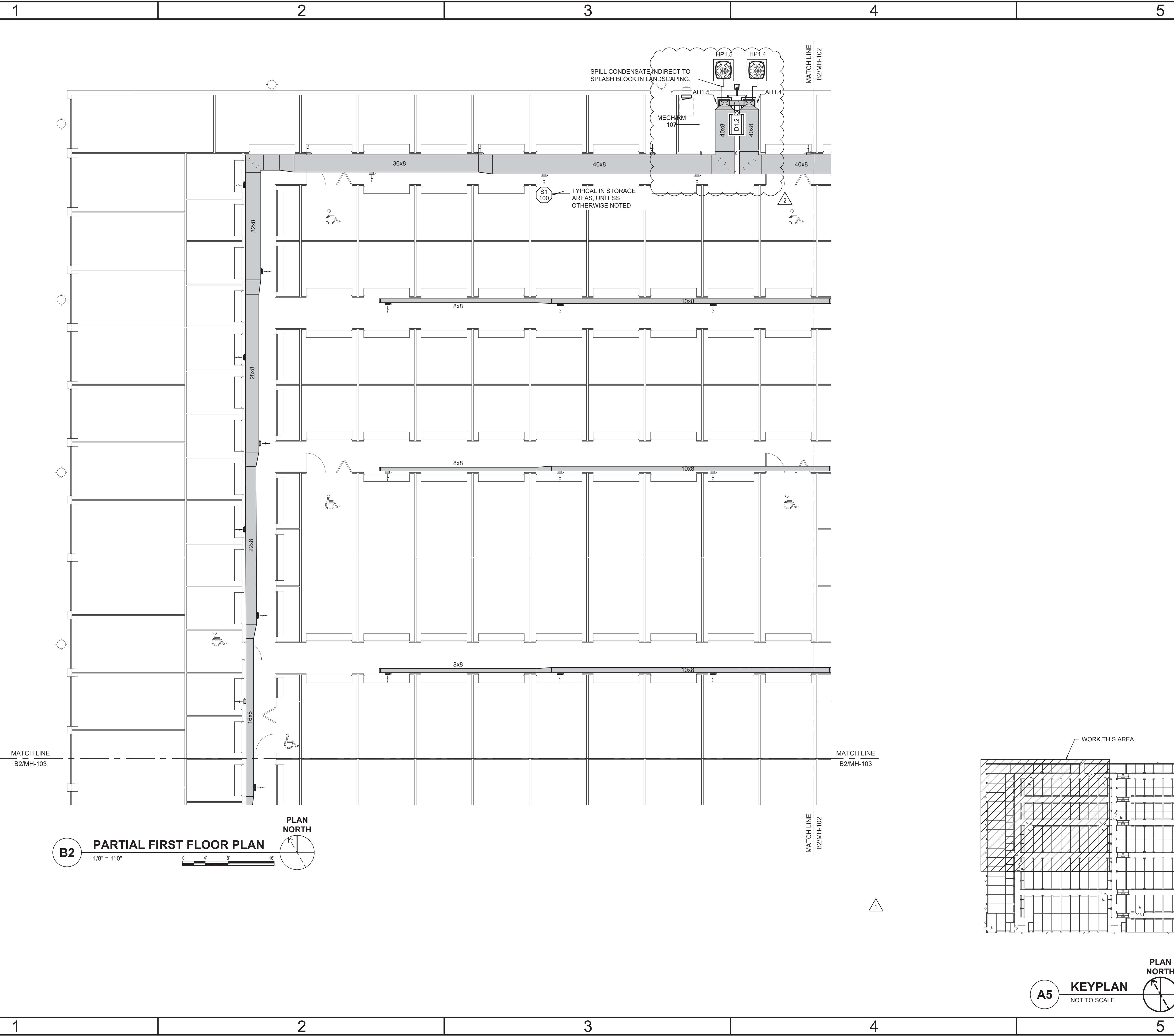
LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

MECHANICAL
SCHEDULES
AND DETAILS

JOB NO: CBHF-22020-RHD-21-7075
DRAWN: WTB
DESIGNED: WTB
CHECKED: JRB

DRAWING NO:
M-002

REVISION:
1



B2 PARTIAL FIRST FLOOR PLAN
 1/8" = 1'-0"
 PLAN NORTH

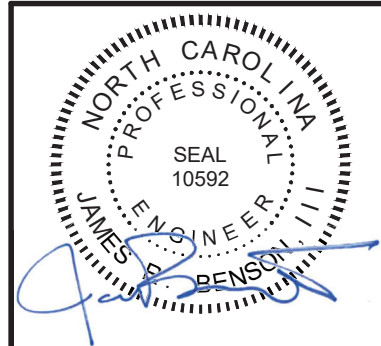
A5 KEYPLAN
 NOT TO SCALE
 PLAN NORTH

Owner acknowledges and agrees that Robert Hgg, Development, LLC (RHD) and CBHF Engineers, PLLC (CBHF) retain all rights in and to the design and specifications for this project including without limitation the design, engineering, drawings, and specifications, and any and all of its proprietary rights embodied therein or related thereto. Except to the extent specifically stated otherwise, the design and specifications are the property of RHD and shall remain the property of RHD. No part of this design, drawings, or specifications shall be used, reproduced or copied, in whole or in part, without the prior, written permission of CBHF and RHD.

Revision No.	Description	Date
1	REVISED PER PLAN UPDATE AND DDU RELOCATION	03.13.2023
2	REVISED PER PLAN UPDATE AND DDU RELOCATION	10.06.2023
0	ISSUED FOR CONSTRUCTION	06.20.2023

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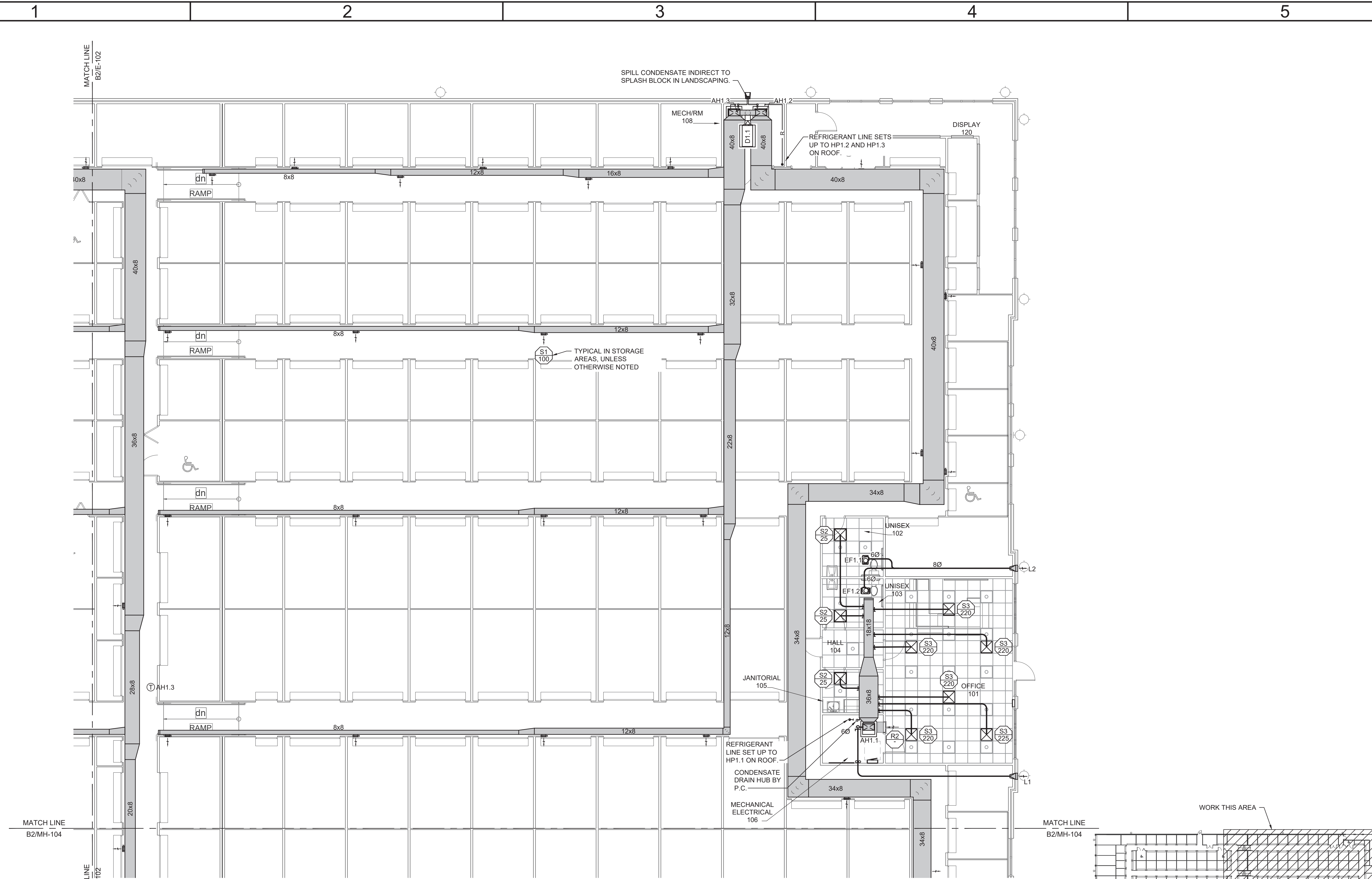
LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC

**MECHANICAL HVAC
 PARTIAL FIRST FLOOR PLAN**

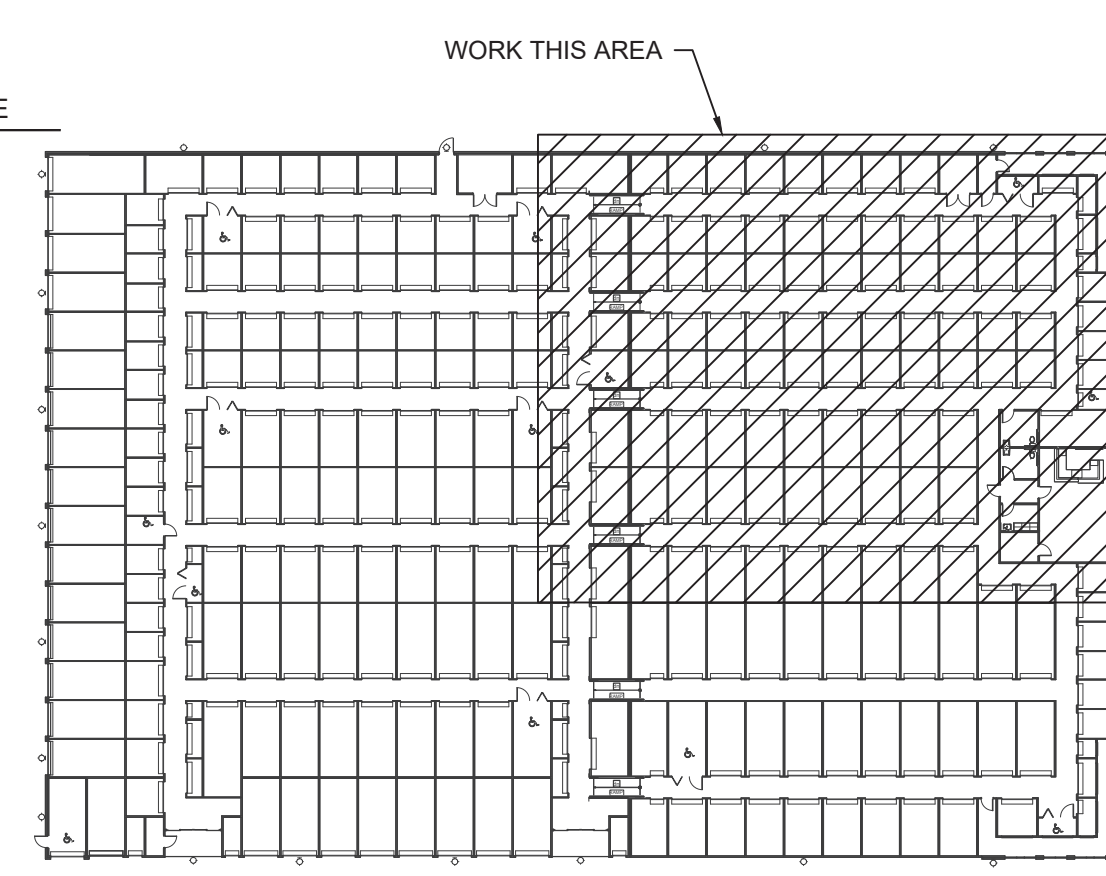
JOB NO.:	CBHF-22020 RHD-21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO.
MH101

REVISION:
 2



B2 PARTIAL FIRST FLOOR PLAN
 1/8" = 1'-0"
 PLAN NORTH

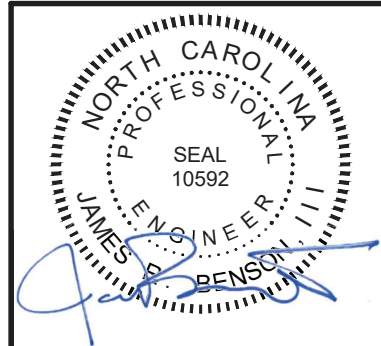


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Revision No.	Description	Date
1	REVISED PER UPDATED FLOOR PLAN	10.06.2023
0	ISSUED FOR CONSTRUCTION	06.20.2023

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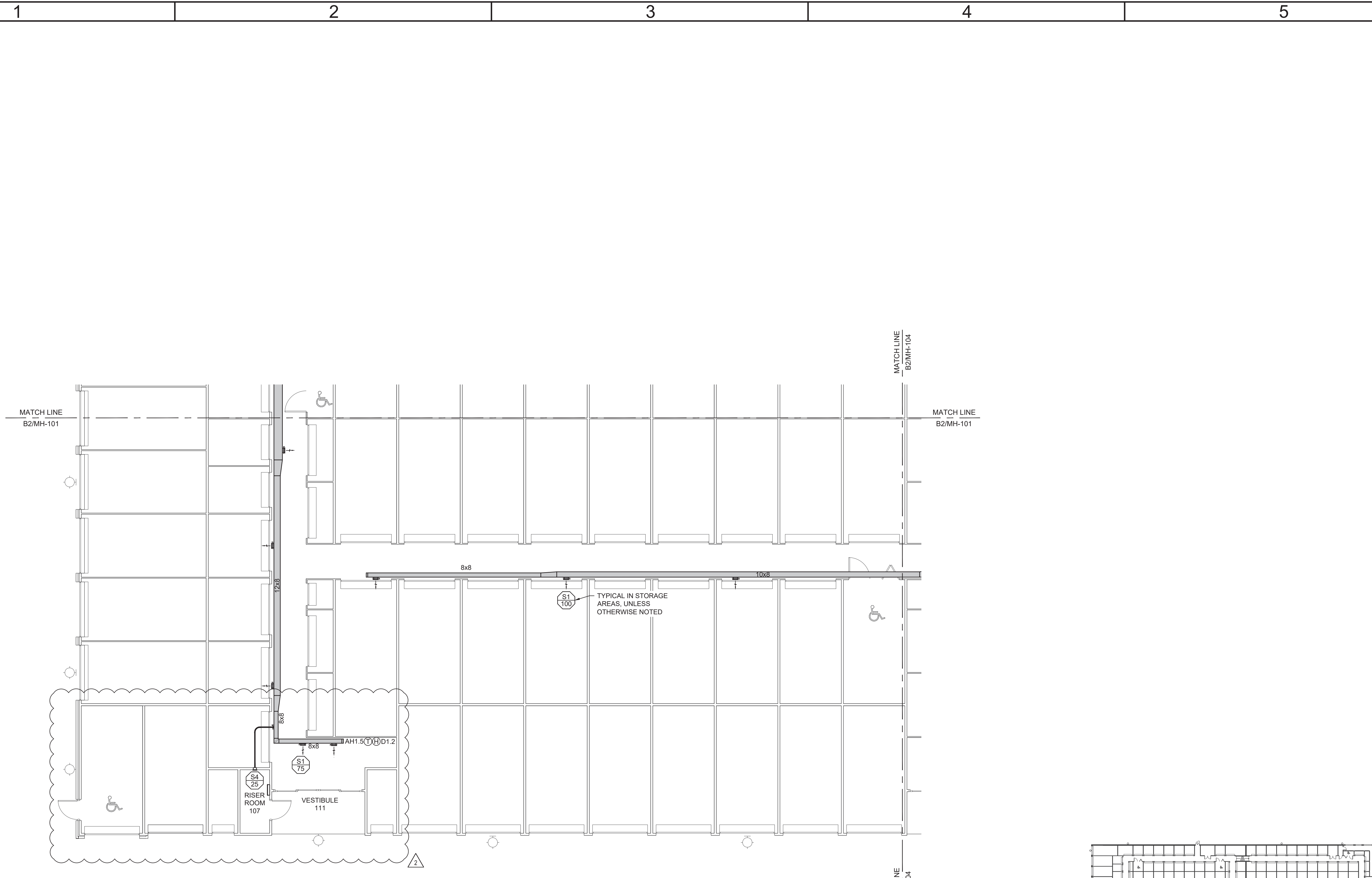


LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
MH102
 PARTIAL FIRST FLOOR PLAN

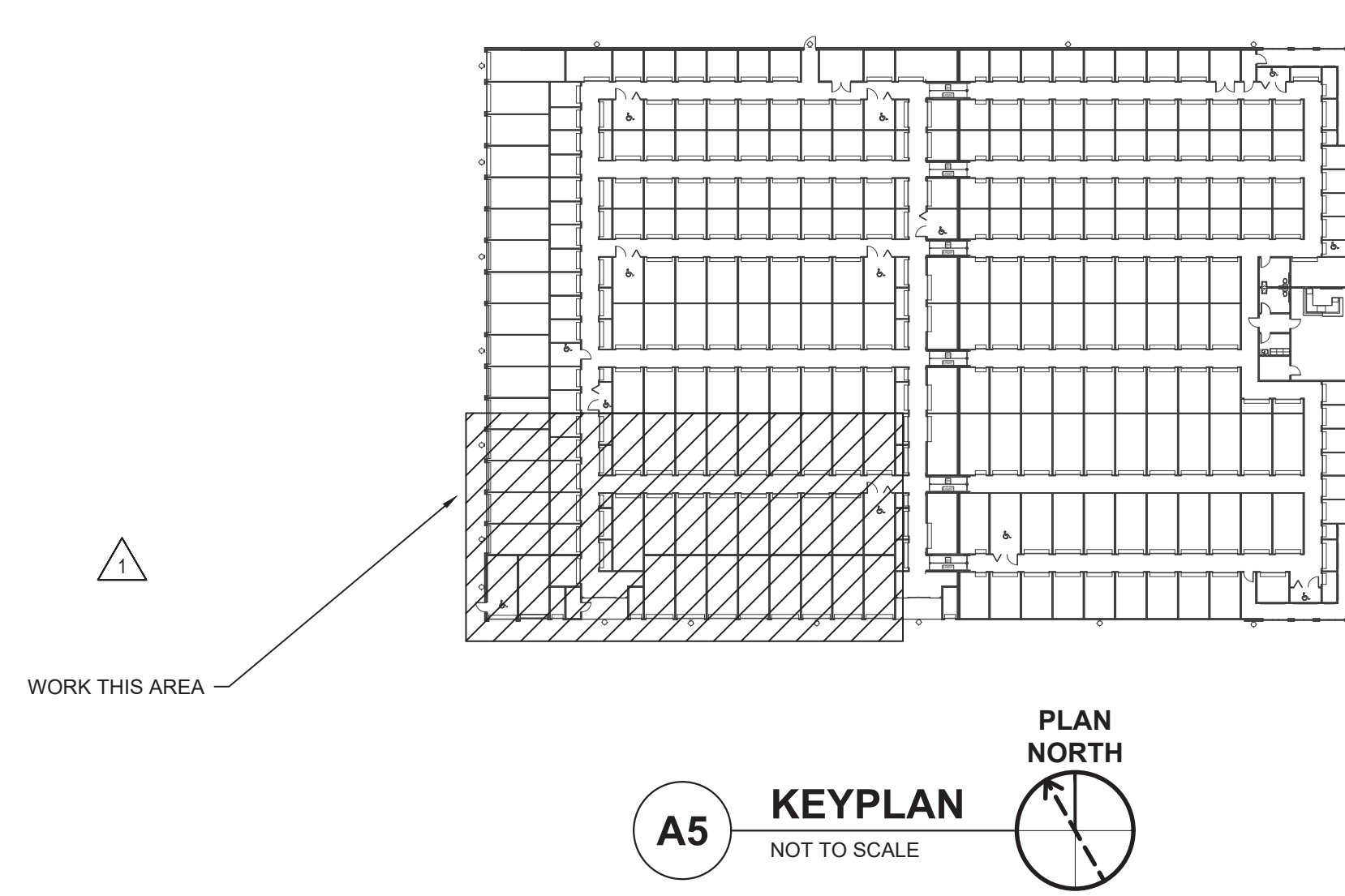
JOB NO.:	CBHF-22020 RHD-21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO.
MH102

REVISION:
 1



B2 PARTIAL FIRST FLOOR PLAN
 1/8" = 1'-0"
 PLAN NORTH

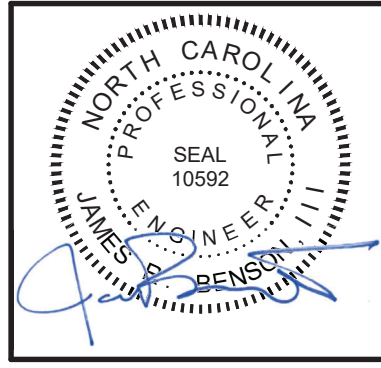


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 PLAN NORTH

Owner acknowledges and agrees that Robert High Development, LLC (RHD) and CBHF Engineers, PLLC (CBHF) retain all rights in and to the design and specifications for the Project including without limitation mechanical, electrical, plumbing and fire alarm engineering drawings, plans and specifications, and any and all of its proprietary rights embodied therein or related thereto. Except in connection with the Project, the design and specifications shall not be used, copied, reproduced, disseminated, or otherwise made available in any form or by any means without the prior written consent of CBHF. The Plans and Specifications and any contents of any documents or information embodied therein or relating thereto shall not be used, reproduced or copied, in whole or in part, without the prior, written permission of CBHF and RHD.

Revision No.	Description	Date
2	REVISED PER PLAN UPDATE AND RDU RELOCATION	03.13.2023
1	REVISED PER UPDATED FLOOR PLAN	10.05.2022
0	ISSUED FOR CONSTRUCTION	06.20.2022

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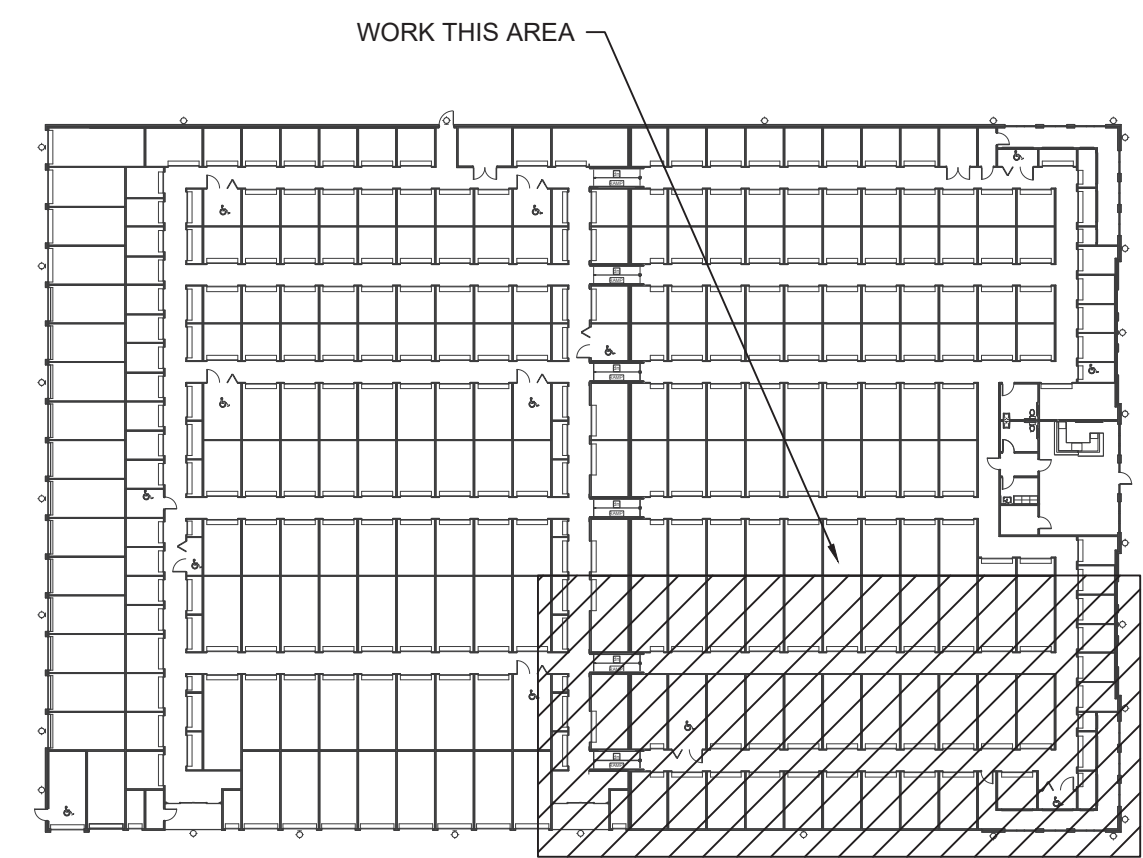
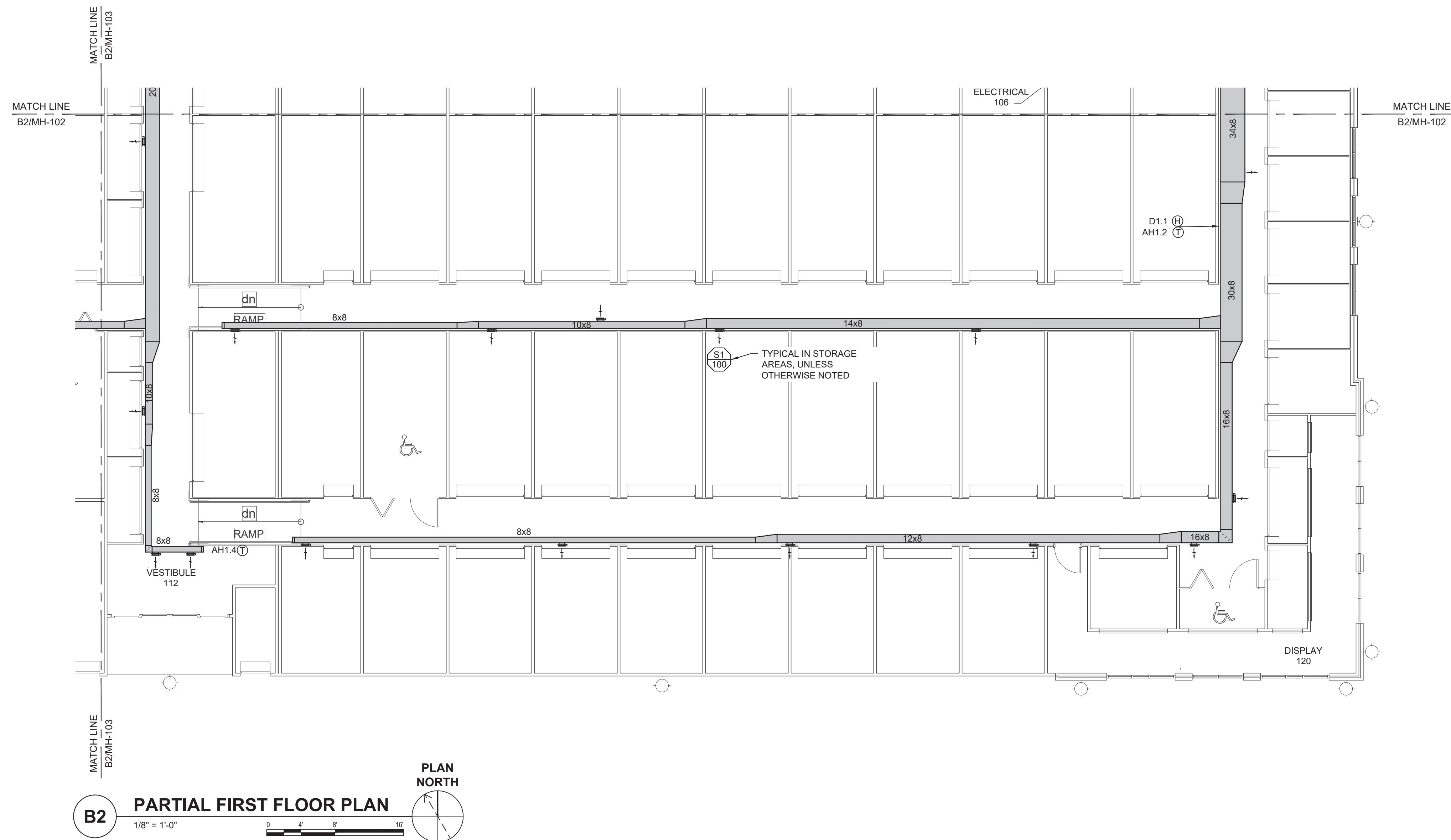


LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
**MECHANICAL HVAC
 PARTIAL FIRST FLOOR PLAN**

JOB NO.:	CBHF-22020 RHD-21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO.
MH103

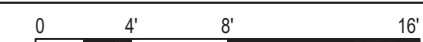
REVISION:
 2



B2

PARTIAL FIRST FLOOR PLAN

1/8" = 1'-0"



A5

KEYPLAN

NOT TO SCALE

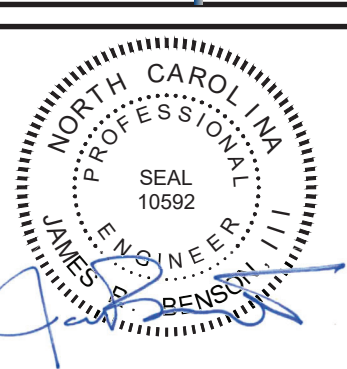


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Revision No.	Description	Date
1	REVISED PER UPDATED FLOOR PLAN	10.06.2023
0	ISSUED FOR CONSTRUCTION	06.20.2023

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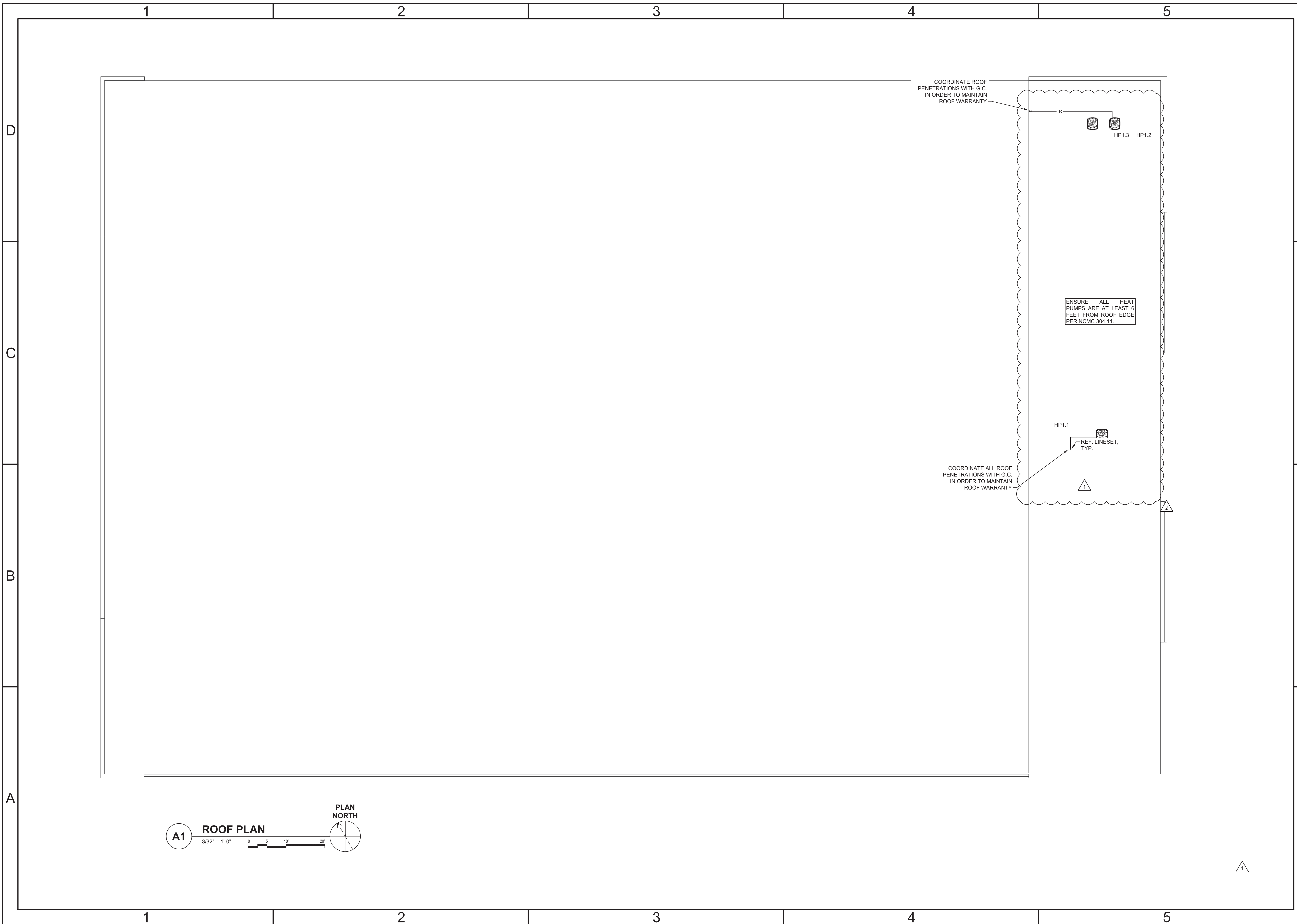
LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

**MECHANICAL HVAC
PARTIAL FIRST FLOOR PLAN**

JOB NO.:	CBHF-22020 RHD-21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO.
MH104

REVISION:
1

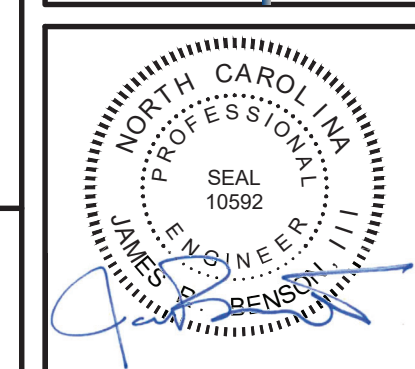


A1 ROOF PLAN
 3/32" = 1'-0"
 0 5 10 20
 PLAN NORTH

Owner acknowledges and agrees that RHD, Development, LLC (RHD) and CBHF Engineers, PLLC (CBHF) retain all rights in and to the design and specifications for the Project including without limitation mechanical, electrical, plumbing and fire alarm engineering drawings, plans and specifications, and any and all of its proprietary rights embodied therein or related thereto. Except in connection with the Project, RHD and CBHF shall not be permitted to disclose, disseminate, copy, reproduce, or otherwise use the design, drawings, plans and specifications for the Project for any other project or purpose without the prior written consent of RHD and CBHF. The Plans and Specifications and any contents of any documents or information embodied therein or relating thereto shall not be used, reproduced or copied, in whole or in part, without the prior, written permission of CBHF and RHD.

Revision No.	Description	Date
2	REVISED PER PLAN UPDATE AND RDU RELOCATION	03.13.2023
1	REVISED PER UPDATED FLOOR PLAN	10.09.2022
0	ISSUED FOR CONSTRUCTION	06.20.2022

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 Wilmington, NC 28401
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 NC# P-0506



LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
**MECHANICAL HVAC
 ROOF PLAN**

JOB NO:	CBHF-22020 RHD-21-7075
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	JRB

DRAWING NO:
MH105

REVISION:
 2

LOAD SUMMARY PANEL P1	
VOLTAGE	PHASE
240	1
LARGEST MOTOR APPROX. AMPS	25 AMPS
LARGEST MOTOR APPROX. AMPS x 25	6 AMPS
HVAC	
AH'S (QTY. 5)	31,296 VA
HP'S (QTY. 5)	28,032 VA
DEHUMIDIFIER (QTY. 2)	1,536 VA
SUB-TOTAL HVAC DEMAND	60,864 VA
SUB-TOTAL HVAC DEMAND	254 AMPS
EQUIPMENT	
HOT BOX BFP	1,500 VA
MOTORIZED DOORS	800 VA
MOTORIZED GATE	1,600 VA
EUH1	1,500 VA
FACP	400 VA
EW1	1,500 VA
SUB-TOTAL EQUIPMENT DEMAND	7,300 VA
SUB-TOTAL EQUIPMENT DEMAND	30 AMPS
ADD FOR LARGEST MOTOR	6 AMPS
TOTAL EQUIPMENT DEMAND	37 AMPS
LIGHTING	
LIGHTS (INTERIOR, BASED ON NEC 220.12)	13,154 VA
LIGHTS (EXTERIOR)	676 VA
SIGN	1,200 VA
TOTAL LIGHTING LOAD	15,030 VA
TOTAL DEMAND FOR LIGHTING	63 AMPS
RECEPTACLES	
RECEPTACLES	7,380 VA
TOTAL DEMAND FOR RECEPTACLES	7,380 VA
TOTAL DEMAND FOR RECEPTACLES	31 AMPS
TOTAL DEMAND BUILDING AMPS	384 AMPS
TOTAL DEMAND BUILDING AMPS	92,062 VA
TOTAL BUILDING CONNECTED LOAD	90,574 VA

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	TYPE 'A' 4FT CHANNEL LIGHT FIXTURE, SUSPENDED OR SURFACE MOUNTED (SEE FIXTURE SCHEDULE)
	TYPE 'B' 2x2 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED (SEE FIXTURE SCHEDULE)
	WALL MOUNTED LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	RECESSED LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	PENDANT LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	POWER & SWITCH LEG
	UNSWITCHED LEG
	CONDUIT, HOME RUN TO PANEL BOARD
	EXIT SIGN, DOUBLE FACE, CEILING MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, CEILING MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN, SINGLE FACE, WALL/END MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN, DOUBLE FACE, WALL/END MOUNTED, ARROW INDICATES DIRECTION. INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, WALL/END MOUNTED, ARROW INDICATES DIRECTION. INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	TYPE 'E' EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTERY BACK-UP, WALL MOUNTED, 'NOT SWITCHED' (SEE FIXTURE SCHEDULE)
	PHOTOCELL, REMOTE MOUNTED, 120V, 10 SECOND TIME DELAY, UL WET LOCATION, RATED FOR 1500 W @ 120 VAC AND 4000 W @ 277 VAC (FOR USE WITH LAMP SOURCE(S) SHOWN)
	SWITCH, SINGLE POLE, 120/277VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL). LOWER CASE LETTER INDICATES FIXTURE SWITCHING (WHEN INDICATED)
	3-WAY SWITCH, 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED
	4-WAY SWITCH 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 360° COVERAGE
	WALL MOUNTED OCCUPANCY SENSOR, 180° COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT
	WALL MOUNTED OCCUPANCY SENSOR, SINGLE BUTTON ON/OFF CONTROL, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.
	DISCONNECT SWITCH, FUSED, HEAVY (GENERAL) DUTY, SIZE AS INDICATED ON DRAWINGS (SIZE AS INDICATED IN THE EQUIPMENT CONNECTION SCHEDULE) ##A = DISCONNECT SIZE / # = NUMBER OF POLES / # = NEMA RATING, ##AF = FUSE SIZE
	ENCLOSED BREAKER, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = BREAKER SIZE / # = NUMBER OF POLES / # = NEMA RATING,
	MANUAL MOTOR STARTER, ELECTRICAL CONTRACTOR SHALL COORDINATE POLES AND SIZE WITH EQUIPMENT ## = AMPERAGE RATING WHEN INDICATED ON DRAWING
	3 UP/STOP/DN PUSHBUTTON CONTROLLER

SYMBOL	DESCRIPTION
	RECESSED DEDICATED/PICTURE/CLOCK SINGLE OUTLET, 120VAC, 20A, MOUNTED AS INDICATED ON DRAWING.
	RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.
	RECEPTACLE, QUADPLEX, 120VAC, 20A MOUNTED 16" AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, QUADPLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.
	RECEPTACLE, DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, DUPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.
	RECEPTACLE, QUADPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A MOUNTED 16" AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, QUADPLEX, GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH.
	RECEPTACLE, DUPLEX, 120VAC, 20A CEILING MOUNTED (LAY-IN / GYPBOARD / SUSPENDED)
	COMBINATION DATA/TELEPHONE OUTLET, MOUNTED 18" AFF UNLESS OTHERWISE NOTED. PROVIDE 1 1/4" CONDUIT TO ABOVE GRID CEILING W/PULL STRINGS. OUTLETS LOCATED BELOW HARD/GYPBOARD CEILINGS, ROUTE 1" CONDUIT BACK TO TELEPHONE BACKBOARD OR SERVER LOCATION.
	JUNCTION BOX - WALL MOUNTED +##" - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (if given)
	1 HOUR RATED FIRE WALL
	2 HOUR RATED FIRE WALL
	3 HOUR RATED FIRE WALL
	HATCHING INDICATES ITEMS TO BE DEMOLISHED. REMOVE DEVICE, EQUIPMENT, FIXTURE INDICATED, CIRCUIT, AND CONDUIT BACK TO SOURCE UNLESS OTHERWISE NOTED.
	DEMOLITION KEY NOTE SYMBOL
	KEY NOTE SYMBOL
	REVISION DELTA
	PANELBOARD, SURFACE OR RECESSED MOUNTED AS SHOWN. SIZE, RATINGS, AND MOUNTING AS INDICATED ON PANEL SCHEDULE. CONTRACTOR IS RESPONSIBLE FOR REQUIRED CLEARANCE IN FRONT OF ELECTRICAL PANEL. SEE NEC TABLE 110.26 WORKING SPACES FOR ADDITIONAL CLEARANCE CONDITIONS.
	TRANSFORMER, SIZE AS INDICATED ON DRAWING
	METER

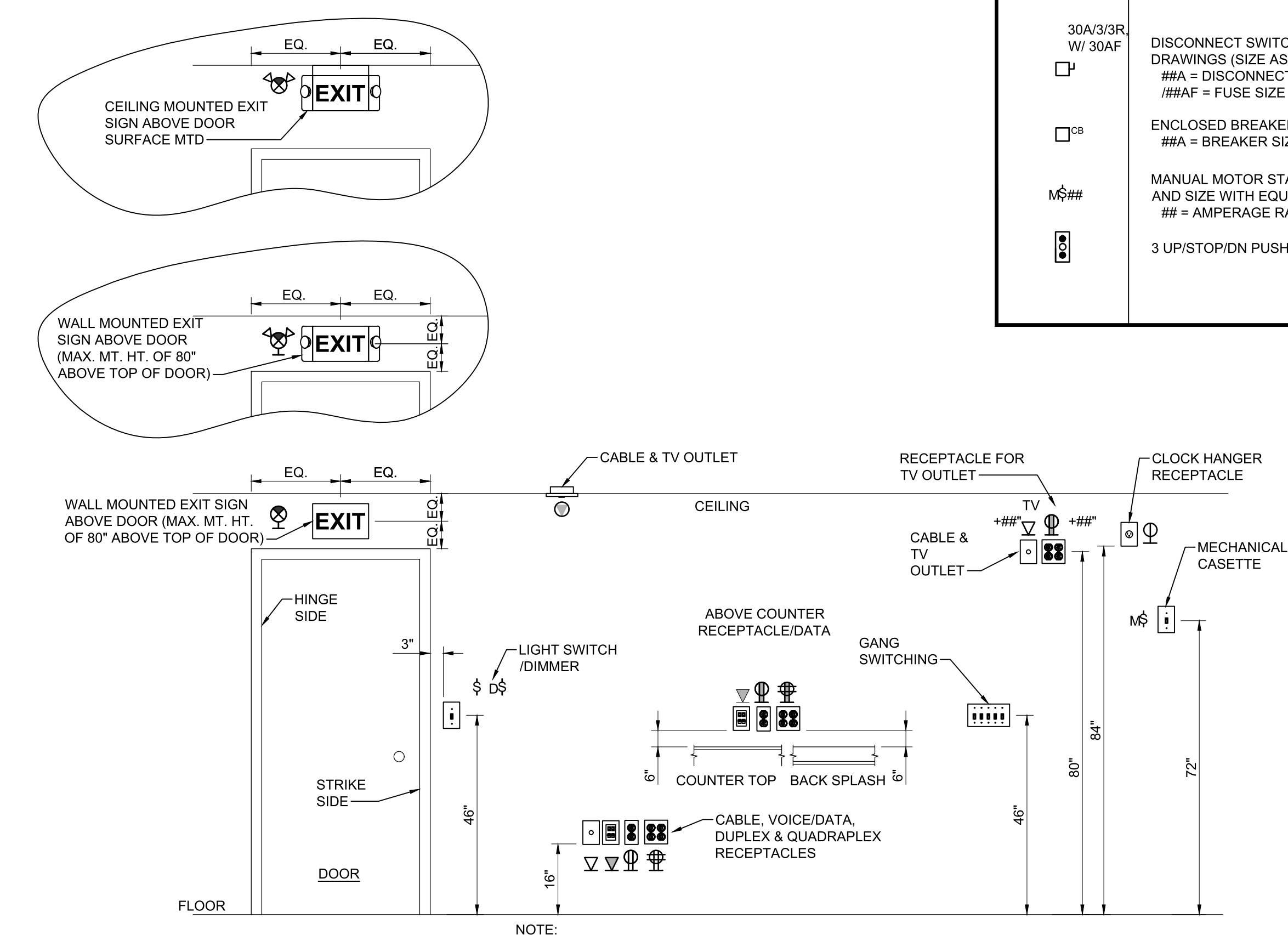
TYPICAL ABBREVIATIONS:	
A, AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
BRKR	BREAKER
C, CND	CONDUIT
CAB	CABINET
CAT	CATALOG
CL	CHLORINE
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CP	CONTROL PANEL
CR	CONTROL RELAY, CORROSION RESISTANT
CS	CONTROL SWITCH
CV	CONTROL VALVE
CT	CURRENT TRANSFORMER
CU	COPPER
EF	EXHAUST FAN
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EW1	ELECTRIC WATER HEATER
EPRF	EXPLOSION PROOF
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FLR	FLOOR
FWE	FURNISHED WITH EQUIPMENT
GEN	GENERATOR
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
Hz	HERTZ
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
JB	JUNCTION BOX
K	THOUSAND
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LP	LIGHTING PANEL, LIGHT POLE LIGHTING
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N, NEUT	NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX, PUSH-BUTTON
PF	POWER FACTOR
PH, φ	PHASE
PNL	PROGRAMMABLE LOGIC CONTROLLER PANEL
PP	PANEL
PT	POTENTIAL TRANSFORMER
PWR	POWER
RECPT, RCP	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RTU	REMOTE TELEMETRY UNIT
SCR	DC MOTOR DRIVE
SH	SHEET
SPEC	SPECIFICATION
SS	SELECTOR SWITCH
SST	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
TEL	TELEPHONE
TFS	TWISTED PAIR SHIELDED
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UGND	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATT
WH	WATT-HOUR
WP	WEATHERPROOF
XFMR	TRANSFORMER

ENERGY CODE EXEMPTION:
N.C.G.S 143-138 (b18) EXEMPTS THIS BUILDING FROM CONFORMING TO THE ENERGY CODE. PLEASE LET US KNOW IF YOU HAVE ANY QUESTIONS OR NEED ADDITIONAL INFORMATION.

RADIO COVERAGE NOTE:
EMERGENCY RESPONDER RADIO COVERAGE REQUIREMENTS SECTION 510 OF THE NFPA FIRE CODE, 2018 EDITION REQUIRES THAT NEW BUILDINGS SHALL HAVE A TEST CONDUCTED TO VERIFY RADIO COVERAGE AND IF REQUIRED SHALL INSTALL EQUIPMENT TO MEET REQUIRED RADIO SIGNAL STRENGTHS. SYSTEM SHALL BE P25 COMPLIANT. A COPY OF PROOF OF COMPLIANCE SHALL BE PROVIDED PRIOR TO CERTIFICATE OF OCCUPANCY.

BDA PROJECT NOTES IN TESTING AND INSTALLATION SEQUENCING

- A PRELIMINARY SITE SURVEY IS NEEDED TO DETERMINE THE EXISTING dBm SIGNAL STRENGTH.
- A MORE DETAILED SURVEY WILL MAP THE BUILDING ONCE THE BUILDING IS SUBSTANTIALLY COMPLETED.
- THE NEXT SIGNAL STRENGTH SURVEY WILL COMPLY WITH THE 2018 NCF, 510.5.3 AND NFPA 72, 24.5.2.1 (2013 EDITION)
- EACH FLOOR SHALL BE DIVIDED INTO 20 (APPROXIMATELY) EQUAL TEST AREAS. THE WORST CASE SIGNAL STRENGTH READING SHALL BE RECORDED. PROVIDE 90 PERCENT FLOOR AREA RADIO COVERAGE.
- CRITICAL AREAS, IF PRESENT, SHALL BE SURVEYED SEPARATE FROM THE EQUAL TEST AREAS:
--- EXIT PASSAGEWAYS
--- AHU MAY REQUIRE ADDITIONAL LOCATIONS.
--- CRITICAL AREAS SHALL BE PROVIDED WITH 99 PERCENT RADIO COVERAGE.
- THE MINIMUM SIGNAL STRENGTH OF -95 dBm IS REQUIRED.



A1 ELECTRICAL DEVICES - MOUNTING HEIGHT DETAIL
NOT TO SCALE

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NC# P-0606

LILLINGTON STORAGE PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

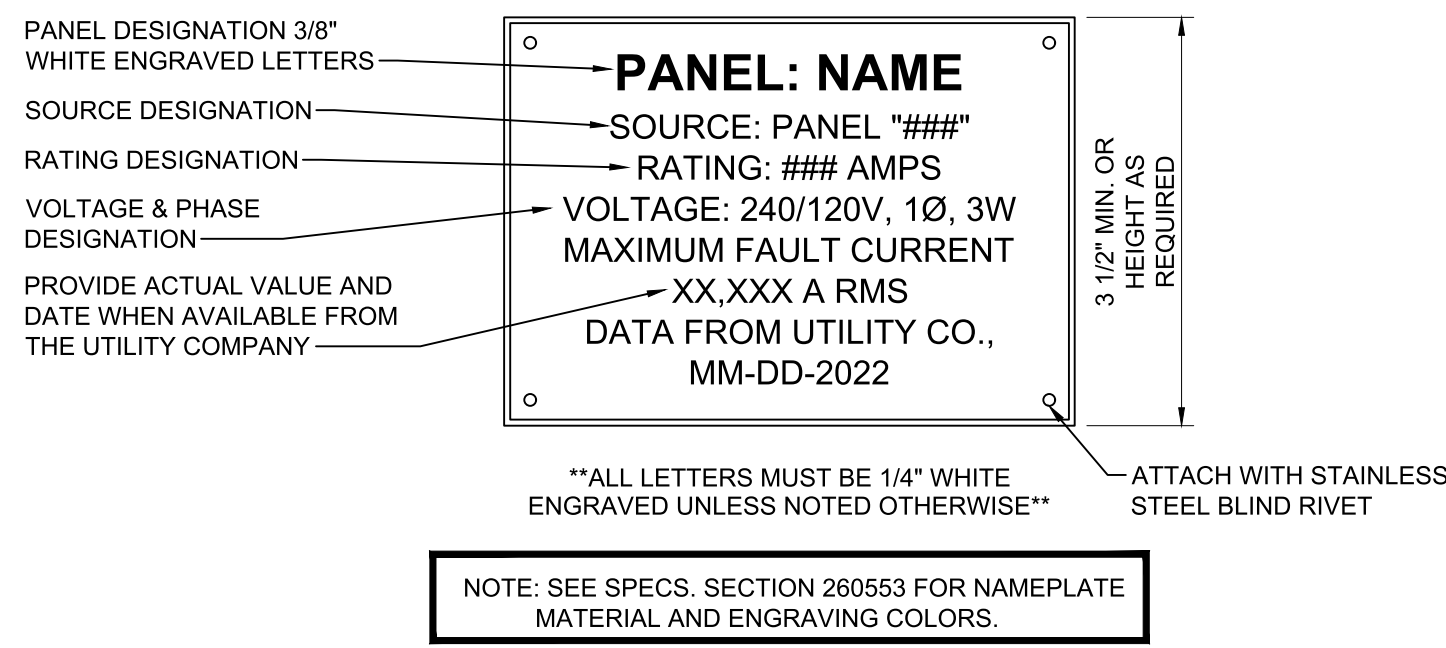
ELECTRICAL LEGEND, ABBREVIATIONS, AND LOAD SUMMARIES

JOB NO: CBHF-22020 RHD 21-7075
DRAWN: RRD
DESIGNED: RRD
CHECKED: JPF

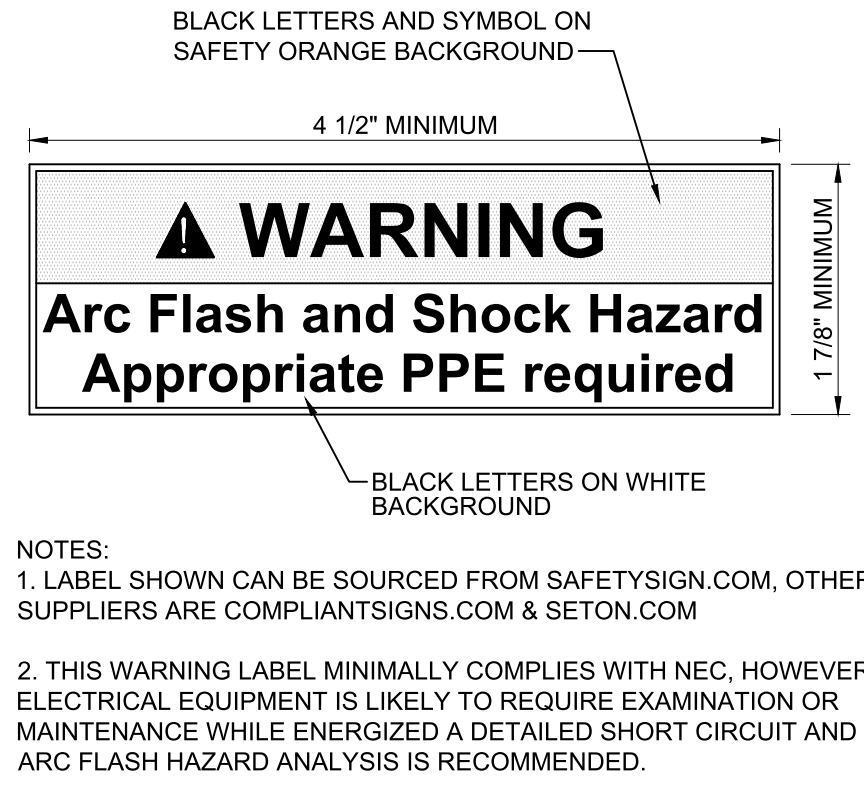
DRAWING NO: **E-001**

REVISION: 0

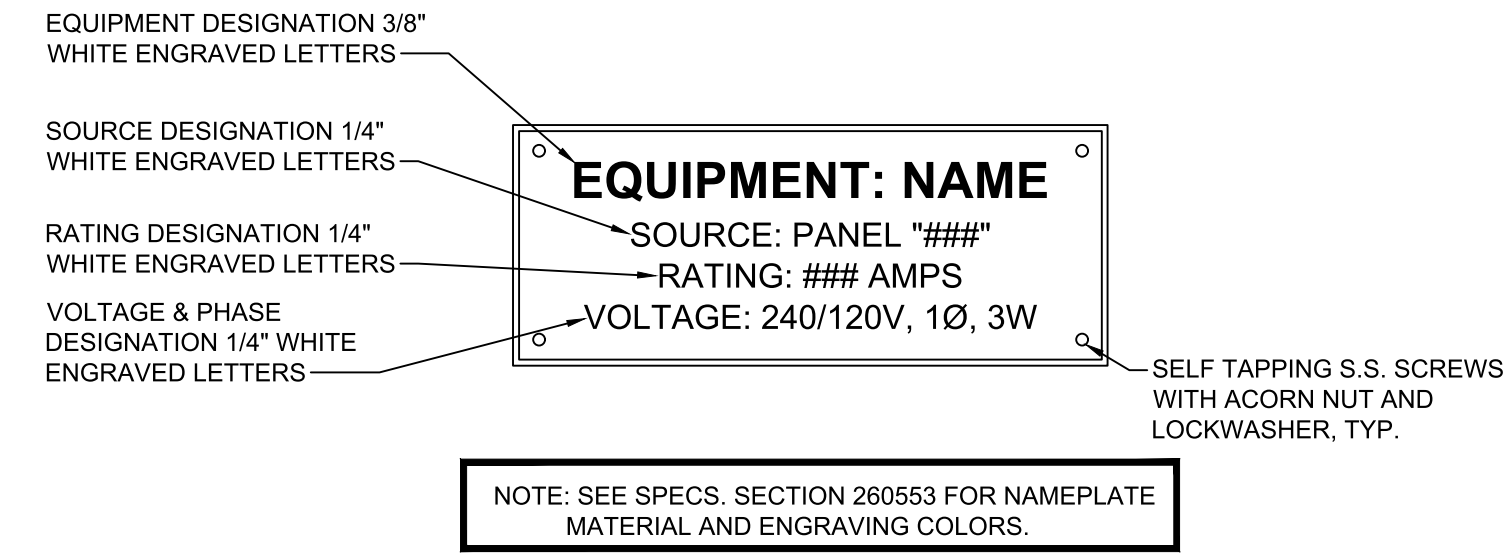
ISSUED FOR CONSTRUCTION: 06/20/2022
DATE:



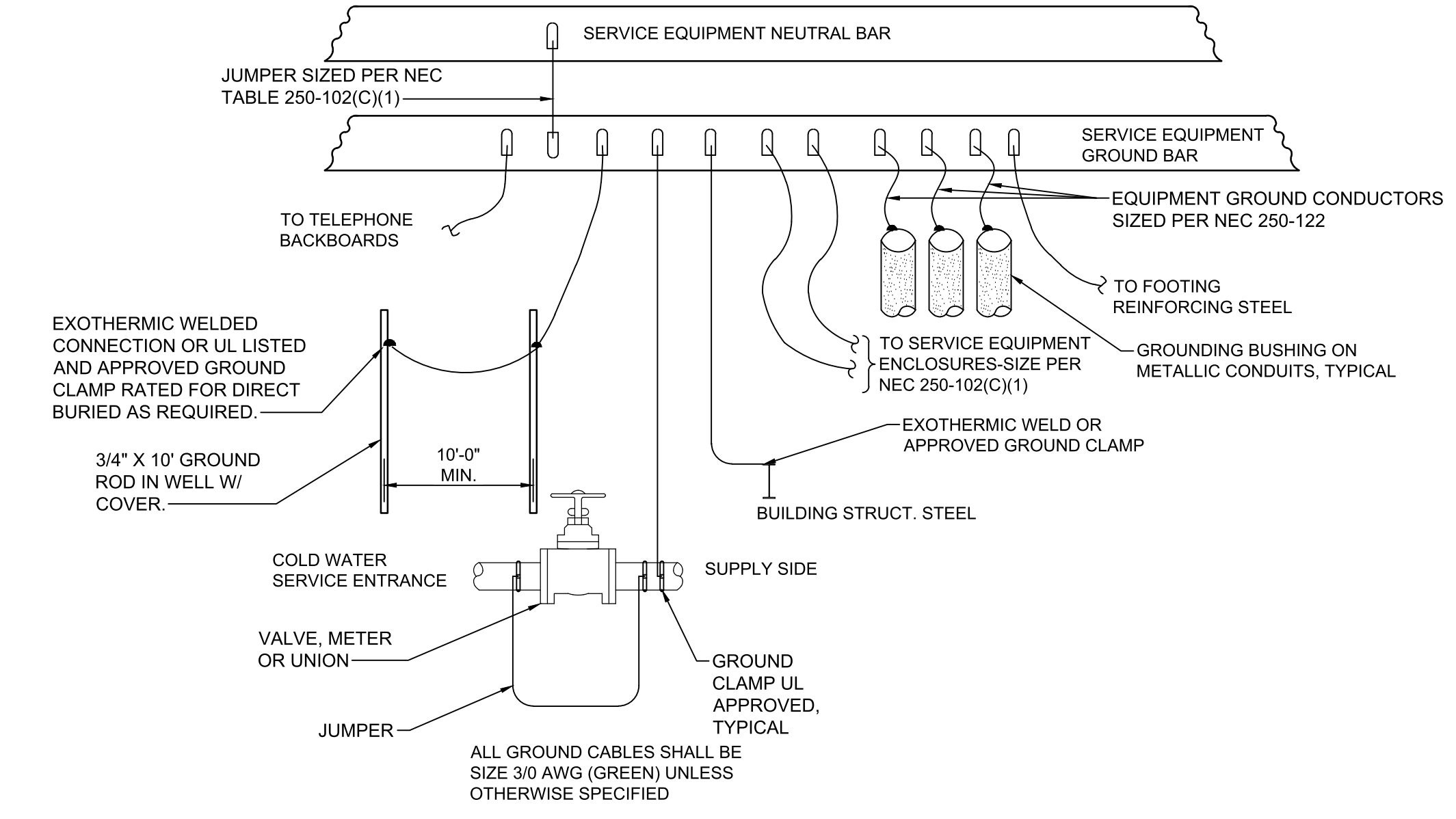
D1 TYPICAL PANELBOARD NAMEPLATE DETAIL
NOT TO SCALE



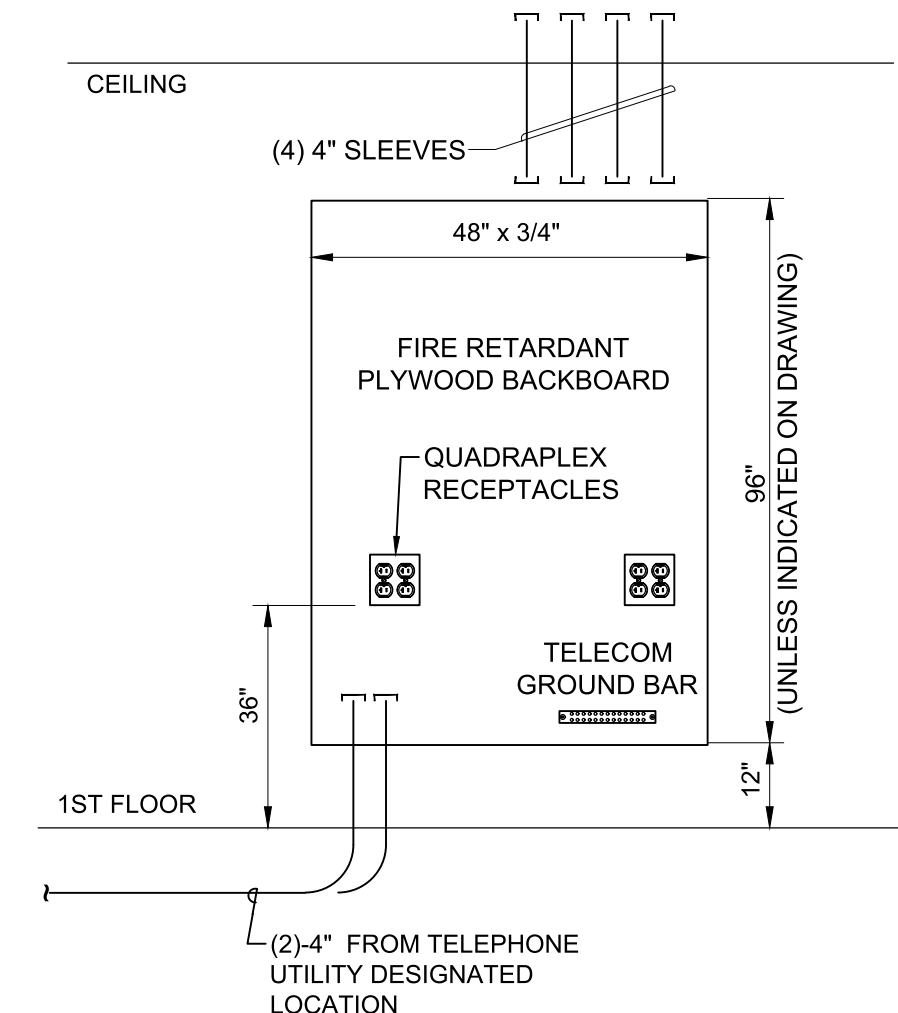
D2 ELECTRICAL EQUIPMENT WARNING LABEL DETAIL
NOT TO SCALE



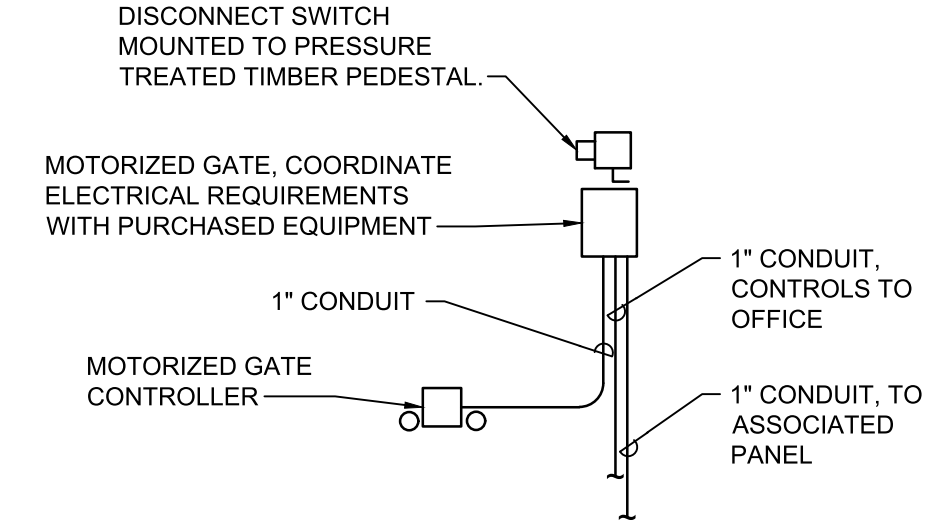
D4 TYPICAL EQUIPMENT NAMEPLATE DETAIL
NOT TO SCALE



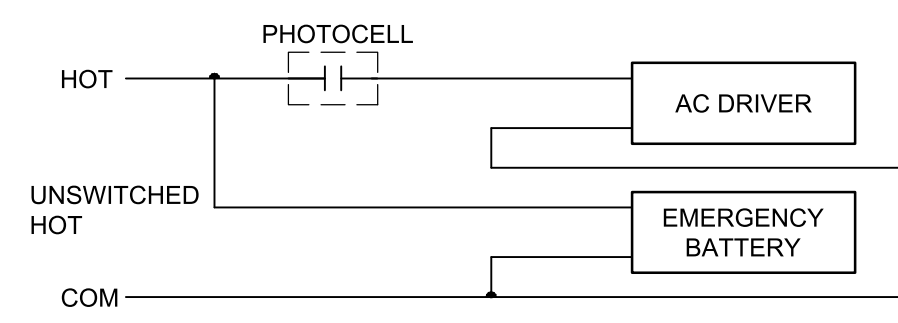
B1 SERVICE GROUNDING DETAIL
NOT TO SCALE



B3 TELECOM BACKBOARD DETAIL
NOT TO SCALE



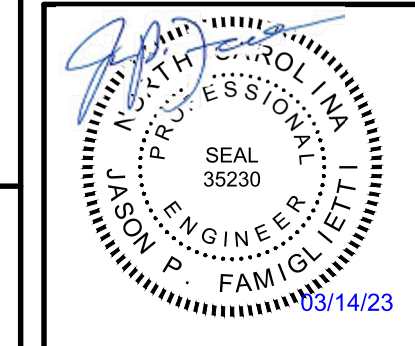
D4 TYPICAL MOTORIZED GATE DETAIL
NOT TO SCALE



B4 WIRING DIAGRAM - EXTERIOR FIXTURE TYPE "G1 & J"
NOT TO SCALE

DATE	06/20/2022
ISSUED FOR CONSTRUCTION	DATE
REVISION NO.	0
REVISIONS	REVISIONS

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LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC
**ELECTRICAL
GENERAL NOTES**

JOB NO.	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

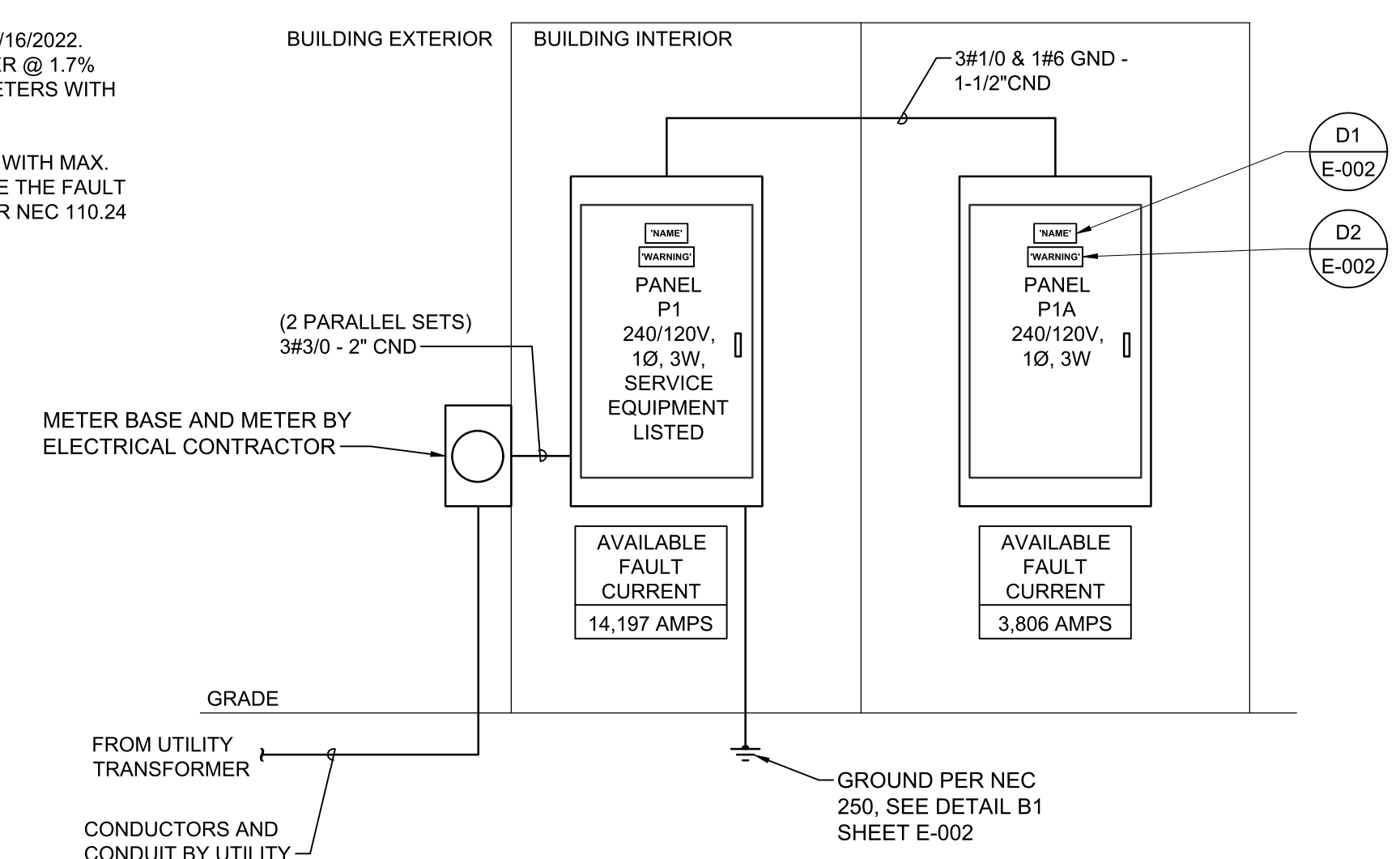
DRAWING NO.
E-002

REVISION:
0

PANEL P1										SERVICE EQUIPMENT LISTED																	
TYPE: NEMA 1 LOAD CENTER										240 MOUNT: FEED:		120 SURFACE: BOTTOM		V.		1 PH.		3 WIRE		PROVIDE IF CHECKED:		XX		EQUIP. GND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS			
LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED
AH1.2 (NOTE 1)	3,168	35/2	1	6,144		2	50/2	2,976	HP1.2 (NOTE 1)																		
AH1.3 (NOTE 1)	3,168	35/2	5	6,144		6	50/2	2,976	HP1.3 (NOTE 1)																		
AH1.4 (NOTE 1)	3,168	35/2	9	6,144		10	50/2	2,976	HP1.4 (NOTE 1)																		
AH1.5 (NOTE 1)	3,168	35/2	13	6,144		14	50/2	2,976	HP1.5 (NOTE 1)																		
D1.1 (NOTE 1)	768	20/1	17	1,488		18	20/1	470	RECS: MECH CLOSETS & ROOF																		
D1.2 (NOTE 1)	768	20/1	19	1,488		20	20/1	SPARE																			
SPARE		20/1	21	946		22	20/1	LTG: CORRIDOR																			
SPARE		20/1	23	1,075		24	20/1	1,075	LTG: CORRIDOR																		
FACP (NOTE 2)	400	20/1	25	1,312		26	20/1	912	LTG: ELEC. MECH RM, CORRIDOR																		
REC: RISER ROOM	180	20/1	27	1,384		28	20/1	1,204	LTG: CORRIDOR																		
SPARE		20/1	29	1,032		30	20/1	1,032	LTG: CORRIDOR																		
SPARE		20/1	31	206		32	20/1	206	LTG: EXTERIOR																		
SPARE		20/1	33			34	20/1		SPARE																		
SPARE		20/1	35			36	20/1		SPARE																		
SPARE		20/1	37			38	20/1		SPARE																		
SPARE		20/1	39			40	150/3	13,492	PANEL P1A																		
SPARE		20/1	41			42		13,110																			
NOTE:										42,464										41,501		TOTAL V. AMPS		400		A. BUS (COPPER)	
1. HVAC & REFRIG. EQUIP. SHALL USE TYPE HACR BREAKERS.										354										340		CONN. AMPS		400		A. MAIN CIRCUIT BREAKER	
2. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 780.41																											

PANEL P1A										SERVICE EQUIPMENT LISTED																	
TYPE: NEMA 1 LOAD CENTER										240 MOUNT: FEED:		120 SURFACE: BOTTOM		V.		1 PH.		3 WIRE		PROVIDE IF CHECKED:		XX		EQUIP. GND BUS NEUTRAL BUS GUTTER TAPS SUB-FEED LUGS			
LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED	LOAD VA	CKT BKR	CKT #	A	B	CKT #	CKT BKR	LOAD VA	LOAD SERVED
AH1.1 (NOTE 1)	2,976	35/2	1	3,516		2	20/1	540	RECS: MECH CLOSET AND EXTERIOR																		
HP1.1 (NOTE 1)	2,112	35/2	5	2,472		6	20/1	360	RECS: TELEPHONE BACKBOARD																		
LTG: OFFICE	505	20/1	9	1,045		10	20/1	540	RECS: OFFICE																		
LTG: CORRIDOR	902	20/1	11	1,622		12	20/1	720	RECS: OFFICE																		
LTG: CORRIDOR & UNITS	1,049	20/1	13	1,769		14	20/1	720	RECS: OFFICE DESK																		
LTG: CORRIDOR & UNITS	1,140	20/1	15	1,860		16	20/1	720	RECS: TELEVISIONS																		
LTG: EXTERIOR	470	20/1	17	470		18	20/1	SPARE																			
MOTORIZED DOORS	800	20/1	19	1,160		20	20/1	360	RECS: SHOW WINDOWS																		
SPARE		20/1	21	180		22	20/1	180	RECS: JANITOR																		
SPARE		20/1	23	180		24	20/1	180	RECS: JANITOR																		
SPARE		20/1	25	360		26	20/1	360	RECS: JANITOR																		
SPARE		20/1	27	1,500		28	20/1	1,500	EW1																		
SPARE		20/1	29	1,200		30	20/1	1,200	SIGN																		
SPARE		20/1	31	180		32	20/1	180	REC: ELEC/MECH CLOSET																		
SPARE		20/1	33	180		34	20/1	180	REC: ELEC/MECH CLOSET																		
SPARE		20/1	35			36	20/1		SPARE																		
SPARE		20/1	37			38	20/1		SPARE																		
SPARE		20/1	39			40	30/2	800	MOTORIZED GATE																		
HOT BOX BFP	1,500	20/1	41	2,300		42		800																			
NOTE:										13,492										13,110		TOTAL V. AMPS		150		A. BUS (COPPER)	
1. HVAC & REFRIG. EQUIP. SHALL USE TYPE HACR BREAKERS.										112										109		CONN. AMPS		150		A. MAIN CIRCUIT BREAKER	

- NOTE:
- SHORT CIRCUIT CALCULATION COMPLETED ON 06/16/2022. BASED ON A 100KVA PAD MOUNTED TRANSFORMER @ 1.7% IMPEDANCE, AND 2.4 X/R. VERIFY ACTUAL PARAMETERS WITH UTILITY COMPANY PRIOR TO INSTALLATION
 - SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED WITH MAX. AVAILABLE FAULT CURRENT, INCLUDING THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED, PER NEC 110.24

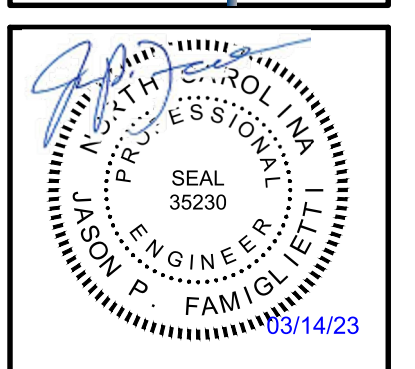


A2 RISER DIAGRAM
NOT TO SCALE

03.13.2023	DATE
06.20.2022	DATE
1	REVISIONS
1	ISSUED FOR CONSTRUCTION
0	REVISIONS

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Wilmington, NC 28401
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NC# P-0206



LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

ELECTRICAL SPECIFICATIONS

JOB NO: CBHF-22020 RHD 21-7075	
DRAWN: RRD	
DESIGNED: RRD	
CHECKED: JPF	

DRAWING NO:
E-003

REVISION:
1

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER/SERIES	NOM. SIZE	TEMP(°K)	LAMPS	VOLTS	DELIVERED LUMENS	WATTS	COLOR	MOUNTING HEIGHT	BALLAST/ DRIVER	REMARKS
A	LED STRIP FIXTURE 4'	METALUX SLSTP SERIES OR APPROVED EQUAL	4'	4000K	LEDs	120	4760	43	N/A	APPROX 8'-6"	LED DRIVER	5
B	LAY-IN FLAT PANEL FIXTURE 2'X2' SELECTABLE LUMEN AND KELVIN	LITHONIA LIGHTING CPANL SERIES OR APPROVED EQUAL	2'x2'	4000	LEDs	120	2750	21	N/A	RECESSED	LED DRIVER	5
C	SELF CONTAINED SURFACE MOUNTED FIXTURE WITH INTEGRAL OCCUPANCY SENSOR	LEVITON 9864-LED OR APPROVED EQUAL	N/A	4000	LEDs	120	800	9	WHITE	APPROX 8'-0"	LED DRIVER	6
E	EMERGENCY LIGHTING FIXTURE, 2 HEAD, WHITE THERMOPLASTIC HOUSING, 90 MIN BATTERY BACKUP	LITHONIA LIGHTING ELM4L SERIES OR APPROVED EQUAL	N/A	N/A	LEDs 3W EA. HEAD	120	536	14	WHITE	APPROX 8'-0"	LED DRIVER	8
F1	WALL MOUNTED EXTERIOR LED	HUBBELL SG SERIES OR APPROVED EQUAL	N/A	4000	LEDs	120	2263	21	DARK BRONZE	REFER TO ARCH. PLANS	LED DRIVER	3, 5
G1	WALL MOUNTED EXTERIOR LED FIXTURE WITH EMERGENCY 90 MINUTE BATTERY	HUBBELL COMPASS CUSO OR APPROVED EQUAL	N/A	4000	LEDs	120	1600 AC 600 EM	17	DARK BRONZE	REFER TO ARCH. PLANS	LED DRIVER	3, 5, 6
J	6" LED DOWNLIGHT FIXTURE WITH BATTERY BACKUP	LITHONIA LIGHTING LDN6 1500 EL-ELR OR APPROVED EQUAL	N/A	4000	LEDs	120	1,500	26	WHITE	RECESSED	LED DRIVER	3, 5, 6
X	EXIT SIGN - RED LETTERS WHITE THERMOPLASTIC HOUSING, 90 MINUTE BATTERY BACKUP	LITHONIA LIGHTING LQM SERIES OR APPROVED EQUAL	N/A	N/A	LED	120		5	WHITE	REFER TO DETAIL A1/E-001	LED DRIVER	
X1	COMBINATION EXIT SIGN/ EMERGENCY LIGHT, RED LETTERS, THERMOPLASTIC HOUSING, 2 HEAD FIXTURE WITH 90 MINUTE BATTERY	LITHONIA LIGHTING LHQM SERIES OR APPROVED EQUAL	N/A	N/A	LED	120		5	WHITE	REFER TO DETAIL A1/E-001	LED DRIVER	3

REMARKS:

- BI-LEVEL SWITCHING
- DAMP LOCATION
- WET LOCATION
- WIREGUARD
- LED REQUIRED SURGE PROTECTION
- VERIFY FINAL MOUNTING HEIGHT WITH ARCHITECT
- FINAL COLOR SELECTION BY ARCHITECT
- EMERGENCY FIXTURE SHALL PROVIDE AT LEAST 1 FC AVERAGE/0.1 FC MIN WITH AT LEAST 30FT SPACING BETWEEN UNITS.

GENERAL NOTES:

- THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.
- DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY/SCHEDULING ISSUES.
- NO SUBSTITUTIONS WILL BE ALLOWED DUE TO THE LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.
- ALL EXPEDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS.
- FIXTURES TO BE INSTALLED IN CEILINGS INDICATED ON THE ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH THE CEILING SURFACE SHALL BE IC RATED BY MANUFACTURER.
- LIGHTING FIXTURES SHALL MEET THE AESTHETICS, DESCRIPTION AND SPECIFICATIONS, SUBSTITUTIONS SHALL INCLUDE PT. BY PT. CALCULATIONS.
- LIGHTING FIXTURES, AS SPECIFIED, HAVE BEEN SO SELECTED TO ACHIEVE REQUIRED/DESIRED FOOTCANDLE LEVELS IN THEIR RESPECTIVE AREA. HENCE SPECIFIC FIXTURE CHARACTERISTICS WHICH MAY CREATE PARTICULAR ILLUMINATION RESULTS ARE ESSENTIAL. ANY DEVIATIONS FROM SPECIFIED FIXTURES SHALL DEEM THE SUBMITTING AGENT AND CONTRACTORS RESPONSIBLE IN PROVIDING SUCH DEVIATION FOR THE ARCHITECT/ENGINEER AND OWNER TO MAKE AN INFORMED DECISION.
- SUBSTITUTIONS APPROVED BY THE ENGINEER PRIOR TO BID ARE ACCEPTABLE AS LONG AS THEY ARE EQUAL TO THE FIXTURE SPECIFIED, UNLESS OTHERWISE NOTED. THIS INCLUDES LENS, COLORS, REFLECTORS, PHOTOMETRICS, HOUSING MATERIAL, FINISHES, ETC. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER WITH CUT SHEETS FOR APPROVAL. SUBSTITUTE FIXTURES SHALL BE PRICED WITH THE SPECIFIED FIXTURE AND LISTED SEPARATELY SO THE ARCHITECT, ENGINEER AND OWNER CAN MAKE AN INFORMED DECISION
- ANY FIXTURE WITH THE TEXT "NL" ADJACENT TO IT SHALL INDICATE THAT THAT FIXTURE IS A NIGHT LIGHT (24HR LIGHT). THE FIXTURE SHALL BE CONNECTED TO THE UNSWITCHED HOT LEG OF THE INDICATED CIRCUIT.
- ALL EXIT AND EMERGENCY FIXTURES SHALL COMPLY WITH NCSBC STANDARDS AND HAVE AUTOMATIC TESTING DEVICES.
- LED MODULES SHALL BE REPLACEABLE.
- SEE SPECIFICATIONS SECTIONS 265100 AND 265200 FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL GENERAL NOTES:

- THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF THE PROJECT SPECIFICATIONS.
- UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
- TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS, BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE ELECTRICAL UTILITY COMPANY AS REQUIRED.
- THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
- ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
- THE DRAWINGS INDICATE THE NUMBER OF BRANCH CIRCUIT HOMERUN PHASE CONDUCTORS VIA ARROWHEADS. PROVIDE NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
- SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.
- ALL EXTERIOR WIRING DEVICES, BOXES, ETC. SHALL BE WEATHERPROOF. LIGHTING FIXTURES SHALL BE APPROPRIATELY RATED AND LISTED FOR THE ENVIRONMENT.
- RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKE/TIGHT.
- RACEWAYS PENETRATING RATED FLOOR, CEILING OR WALL ASSEMBLIES SHALL BE PROPERLY SEALED IN ACCORDANCE WITH THE CORRESPONDING UNDERWRITERS LABORATORIES (OR OTHER APPROVED THIRD PARTY TESTING AGENCY) APPROVED AND LISTED FIRESTOPPING MATERIALS AND MANUFACTURER APPROVED INSTALLATION TECHNIQUES COMPLYING WITH ALL APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR IDENTIFICATION OF RATED WALLS AND CEILINGS.
- ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE.
- INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.
- PROVIDE AND PLACE ALL SLEEVES FOR CONDUITS PENETRATING WALLS, FLOORS, PARTITIONS, ETC. LOCATE ALL NECESSARY SLOTS FOR ELECTRICAL WORK AND FORM BEFORE CONCRETE IS POURED.
- PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.
- ALL MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.
- SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.
- CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACOUSTICAL CEILING TILE.
- EXCAVATION AND TRENCHING REQUIRED FOR THE INSTALLATION OF ELECTRICAL POWER AND TELECOMMUNICATIONS RACEWAYS SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF DIVISION 26 OF THE PROJECT SPECIFICATIONS.
- PRIOR TO TRENCHING IN ANY AREA, THE CONTRACTOR SHALL CONTACT ELECTRICAL, COMMUNICATIONS/DATA/FIBER, CABLE TELEVISION, GAS AND WATER UTILITY PROVIDERS AND HAVE ALL UTILITIES IN THE AREA IDENTIFIED. DAMAGE TO ANY UNDERGROUND UTILITIES OR STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
- ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED BY UNDERGROUND LINE MARKING TAPE LOCATED DIRECTLY ABOVE THE RACEWAY AT 6 TO 8 INCHES BELOW FINISHED GRADE. SEE SPECIFICATIONS SECTION 260553.
- FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.
- CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C. CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.
- DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN EVERY DETAIL. IN THE CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLASTERING OR MASONRY HAS BEEN COMPLETED.
- WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 1/2" MINIMUM RACEWAY.
- USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 50 FEET, I.E., #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET.
- PROVIDE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL IN ACCORDANCE WITH THE NEC INCLUDING ALL ELECTRIC WATER COOLERS, EXTERIOR RECEPTACLES AND RECEPTACLES IN AREAS SUBJECT TO POSSIBLE WET CONDITIONS. ALL RECEPTACLES INSTALLED WITHIN 6 FEET OF A SINK SHALL BE GFI PROTECTED.
- CONNECT BATTERY PACK TYPE EMERGENCY AND EXIT LIGHTING FIXTURES TO THE UNSWITCHED LIGHTING CIRCUIT SERVING THE SPACE LIGHTED BY THE EMERGENCY AND EXIT FIXTURES. THESE CONNECTIONS ARE INTENTIONALLY NOT SHOWN TO MAINTAIN DRAWING FOR CLARITY.
- ADJACENT SWITCHES SHALL BE GANGED.
- COORDINATE LOCATIONS OF PLUMBING, MECHANICAL, ELEVATOR, AND OF OWNER-PROVIDED EQUIPMENT WITH THE RESPECTIVE CONTRACTORS AND VENDORS AND THE OWNER BEFORE ROUGH-IN. ADJUST LIGHTING FIXTURES, RECEPTACLES AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT.
- BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT.
- ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.
- UNLESS SPECIFICALLY NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS. VERIFY THE TYPE OF FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING AND GENERAL CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT, EVEN IF THE ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.
- THE MECHANICAL AND PLUMBING CONTRACTORS SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL MOUNT STARTERS FURNISHED BY THE MECHANICAL AND PLUMBING CONTRACTORS. THE ELECTRICAL CONTRACTOR PROVIDE ALL SAFETY SWITCHES, WIRING AND CONNECTIONS TO LINE SIDE AND LOAD SIDE OF STARTERS AND SAFETY SWITCHES COMPLETE TO MECHANICAL EQUIPMENT. FOR RESISTANCE TYPE LOADS WHERE STARTERS OR CONTACTORS ARE NOT REQUIRED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING AND CONNECTIONS COMPLETE TO EQUIPMENT. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL PROVIDE ALL CONTROL WIRING AND CONNECTIONS AND DEVICES FOR THEIR EQUIPMENT.
- LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR, IF ARRANGEMENT DIFFERS FROM THAT SHOWN ON THE DRAWINGS. PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES.
- COORDINATION WITH THE UTILITY COMPANY IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL DISTRIBUTION EQUIPMENT (PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, ETC.) SHALL, AS A MINIMUM, BE PROVIDED WITH SHORT CIRCUIT WITHSTAND AND INTERRUPTING RATINGS AS SHOWN IN THE DRAWINGS. COORDINATE ACTUAL FAULT CURRENT AVAILABLE WITH THE SERVING UTILITY COMPANY AND ADJUST RATINGS AS APPROPRIATE. PROVIDE DEVICES WITH CURRENT LIMITING CHARACTERISTICS AS REQUIRED TO SAFELY FUNCTION AND PROTECT THE DISTRIBUTION SYSTEM.
- TELECOMMUNICATIONS AND DATA CABLES WILL BE PROVIDED AND INSTALLED BY THE OWNER. LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH IN ALL EMPTY CONDUITS.
- PROVIDE TELEPHONE, CABLE TELEVISION, FIBER AND DATA SERVICE ENTRANCE CONDUIT IN SIZES AND LOCATIONS AS REQUIRED BY THE OWNER AND THE SERVICE UTILITIES. LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH IN ALL EMPTY CONDUITS.
- DO NOT INSTALL SMOKE DETECTORS WITHIN 3 FEET OF SUPPLY AIR DIFFUSERS OR RETURN GRILLES. PROVIDE FLEX CONDUIT CONNECTION TO SMOKE AND HEAT DETECTORS OF ADEQUATE LENGTH TO ALLOW HORIZONTAL ADJUSTMENT OF FOUR FEET FROM POSITION INDICATED ON DRAWINGS.
- SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
- MC CABLE ONLY ALLOWED WHERE IT CAN BE CONCEALED.
- JUNCTION BOXES INSTALLED IN STORAGE UNIT WALLS SHALL BE RECESSED. SURFACE MOUNTED NOT ALLOWED WHERE MEANS OF CONCEALING EXISTS.

Owner, architect and engineer shall retain the right to reject any or all of the above items without obligation to return them. The Contractor shall be responsible for obtaining all necessary permits, licenses, and approvals for the work shown on these drawings. The Contractor shall be responsible for obtaining all necessary permits, licenses, and approvals for the work shown on these drawings. The Contractor shall be responsible for obtaining all necessary permits, licenses, and approvals for the work shown on these drawings.

06/20/2022
DATE

ISSUED FOR CONSTRUCTION
REVISIONS

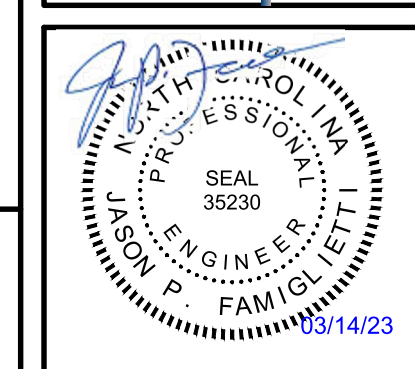
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REVISIONS

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NC# P-0606

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LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

ELECTRICAL
GENERAL NOTES AND LIGHT FIXTURE SCHEDULE

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

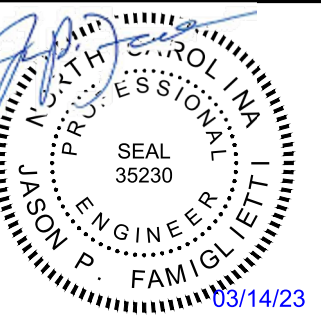
DRAWING NO:
E-004

REVISION:
0

ELECTRICAL SPECIFICATIONS:

Table with 5 columns containing detailed electrical specifications for general electrical, grounding, raceways, panelboards, and wiring devices.

CBHF Engineers, PLLC logo and contact information including address (2248 Yaucon Drive), phone (910.791.4000), fax (910.791.5266), and website (www.cbhfengineers.com).

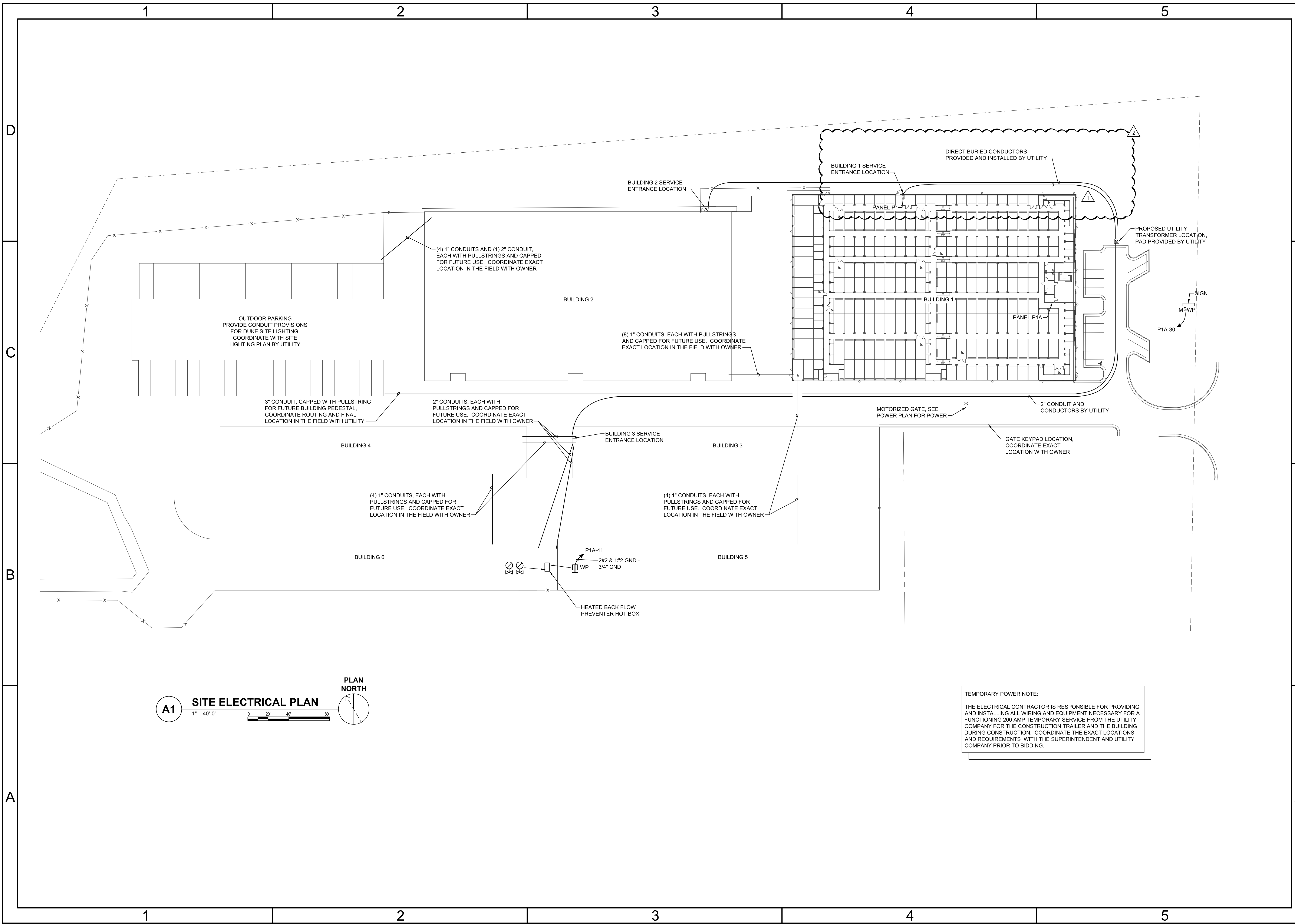


Address: LILLINGTON STORAGE PHASE I - BUILDING 1, 1781 N MAIN STREET, LILLINGTON, NC

Project identification: JOB NO: CBHF-22020-RHD-21-7075, DRAWING: RRD, DESIGNED: RRD, CHECKED: JFF.

DRAWING NO: E-005

REVISION: 0



A1 SITE ELECTRICAL PLAN
 1" = 40'-0"
 0 20' 40' 80'
 PLAN NORTH

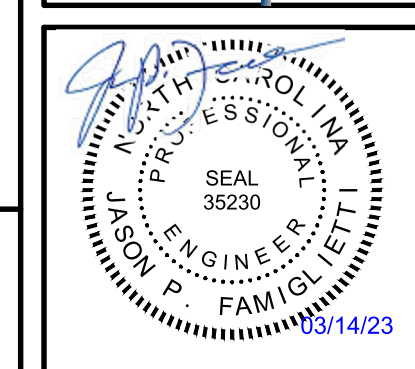
TEMPORARY POWER NOTE:
 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL WIRING AND EQUIPMENT NECESSARY FOR A FUNCTIONING 200 AMP TEMPORARY SERVICE FROM THE UTILITY COMPANY FOR THE CONSTRUCTION TRAILER AND THE BUILDING DURING CONSTRUCTION. COORDINATE THE EXACT LOCATIONS AND REQUIREMENTS WITH THE SUPERINTENDENT AND UTILITY COMPANY PRIOR TO BIDDING.

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REVISIONS	DATE
2	06.13.2023
1	06.06.2023
0	06.20.2022

REVISIONS

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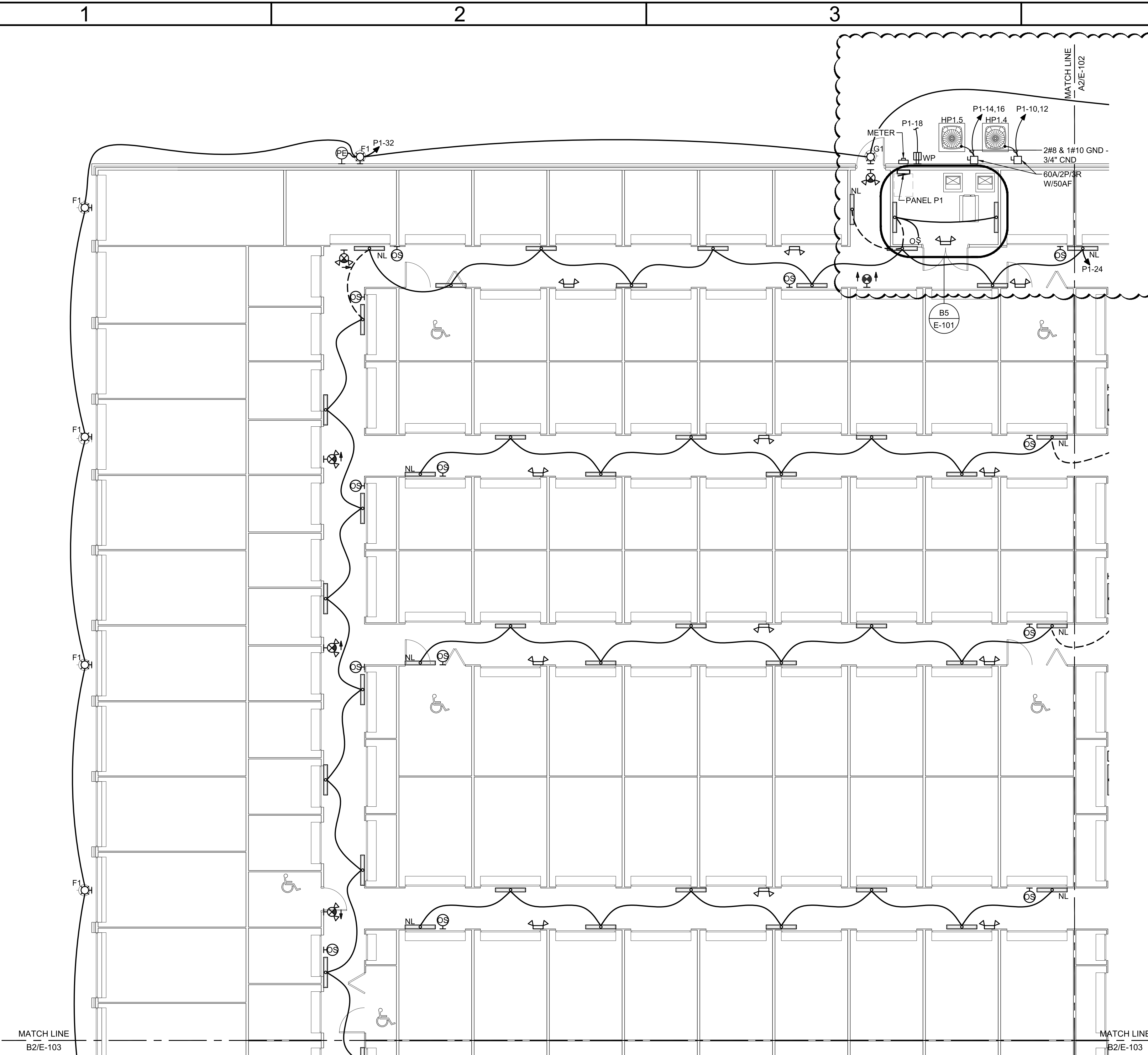


LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
**ELECTRICAL
 SITE POWER PLAN**

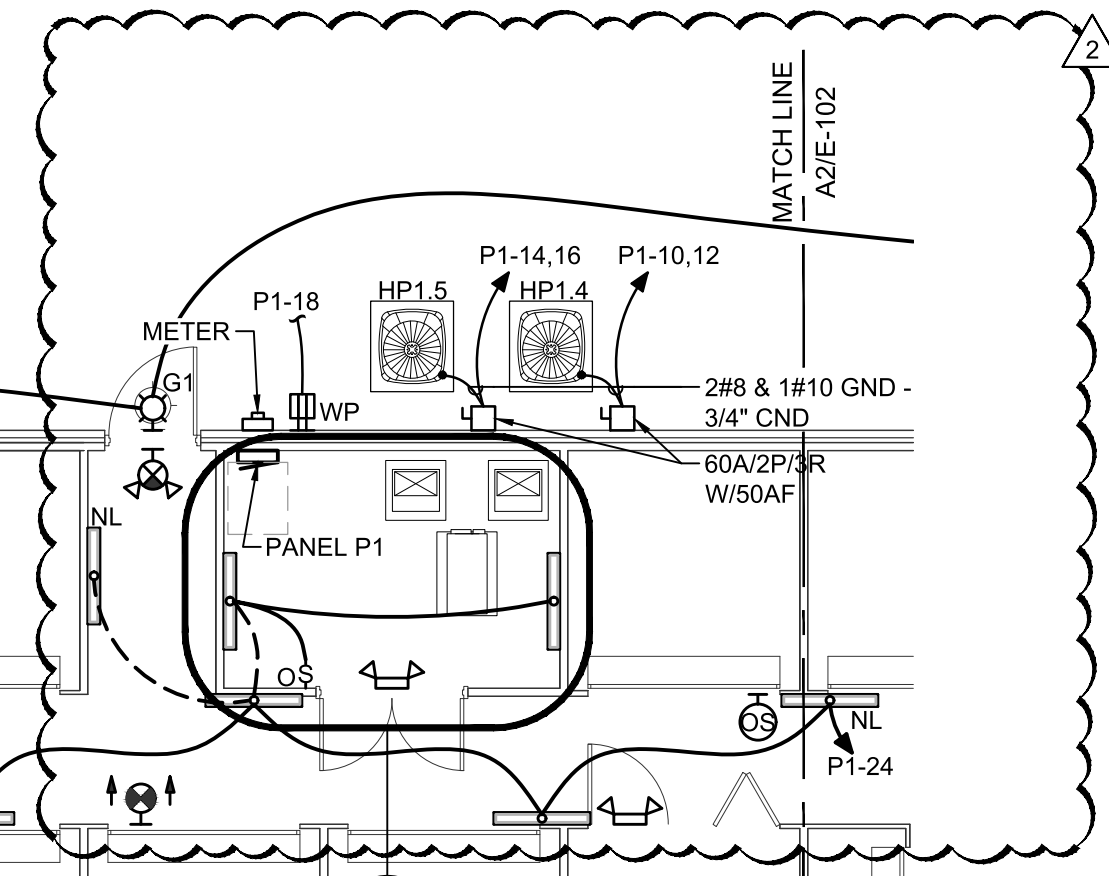
JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

DRAWING NO:
E-100

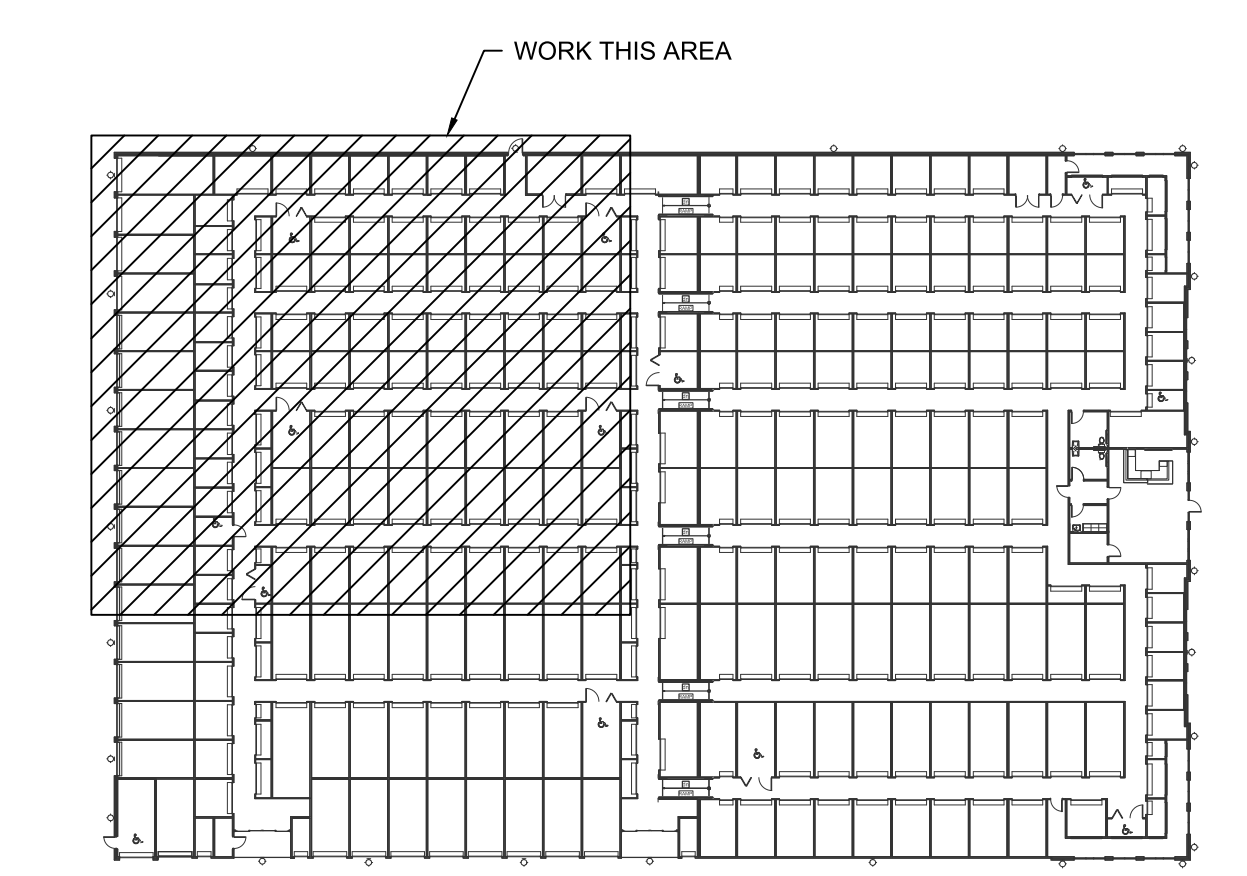
REVISION:
 2



A2 PARTIAL POWER AND LIGHTING PLAN
 1/8" = 1'-0"
 0 4' 8' 16'
 PLAN NORTH



B5 ENLARGED MECH/ELEC CLOSET POWER PLAN
 1/4" = 1'-0"
 0 2' 4' 8'

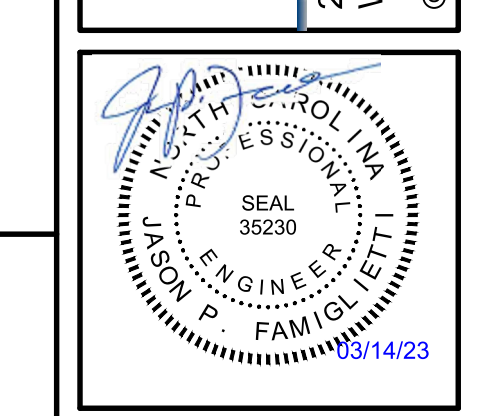


A5 KEYPLAN
 NOT TO SCALE
 PLAN NORTH

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REVISION	DATE	DESCRIPTION
2	06.13.2023	REVISED PER UPDATED FLOOR PLAN
1	10.06.2022	REVISED PER UPDATED FLOOR PLAN
0	06.20.2022	ISSUED FOR CONSTRUCTION

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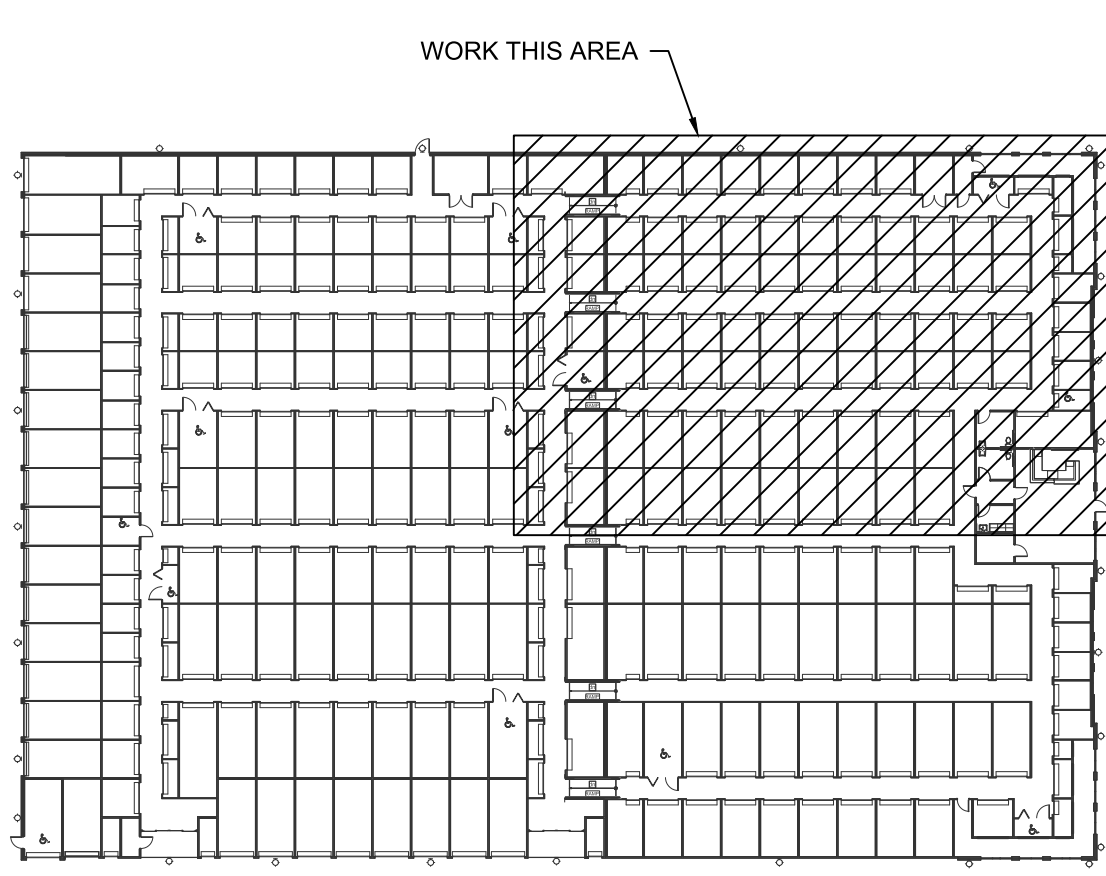
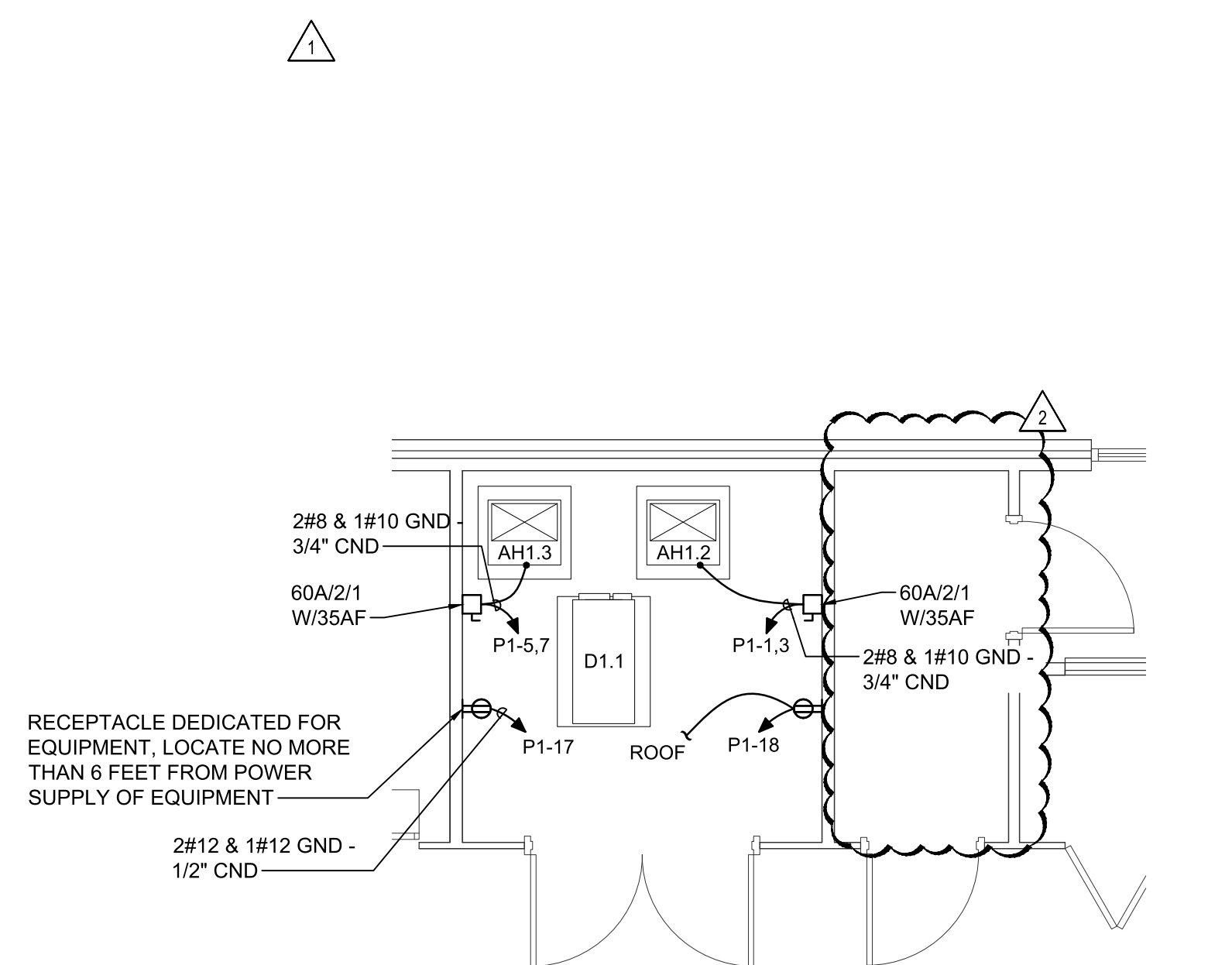
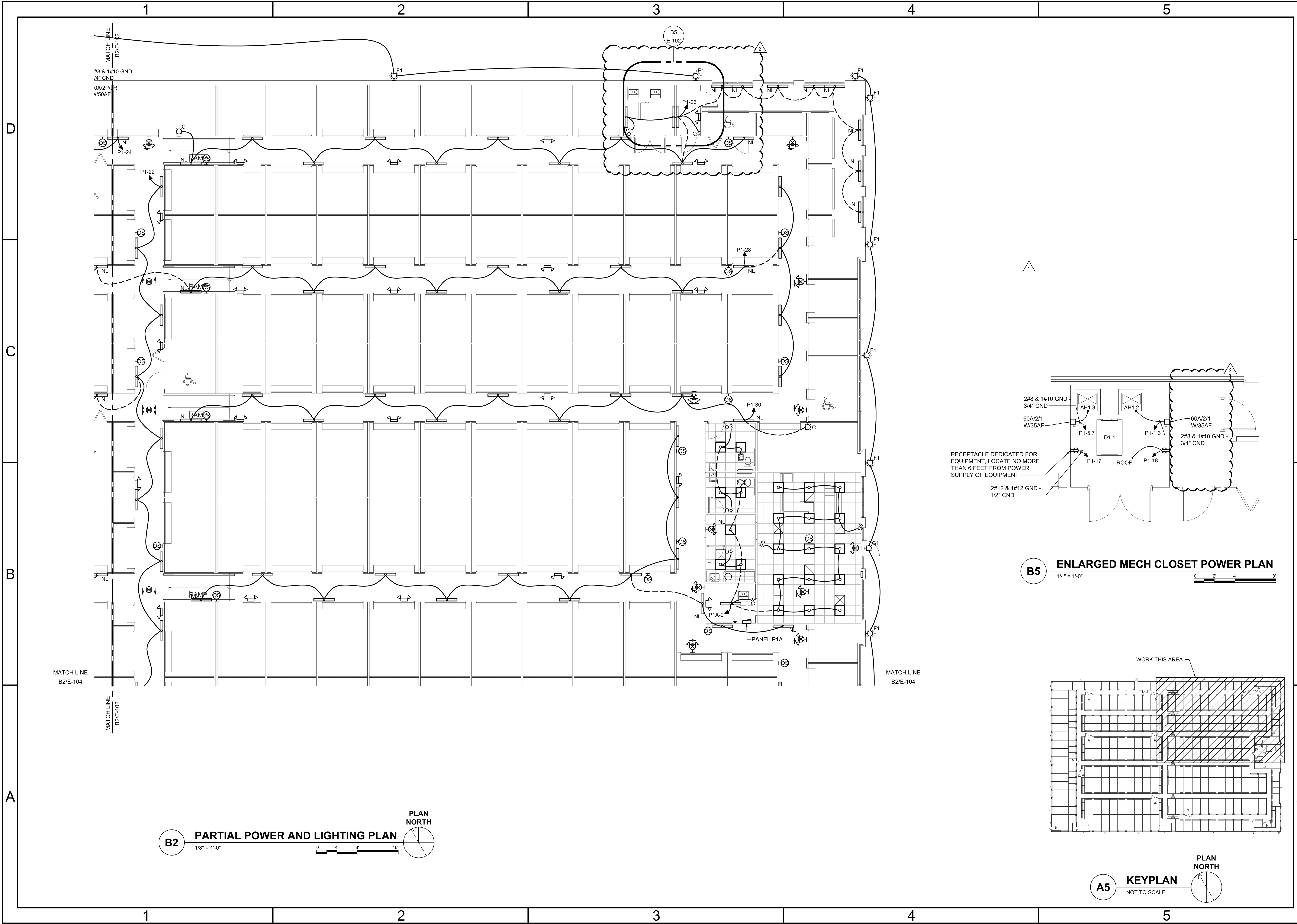


LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
ELECTRICAL
 PARTIAL FIRST FLOOR POWER AND LIGHTING PLAN

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

DRAWING NO:
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REVISION:	2
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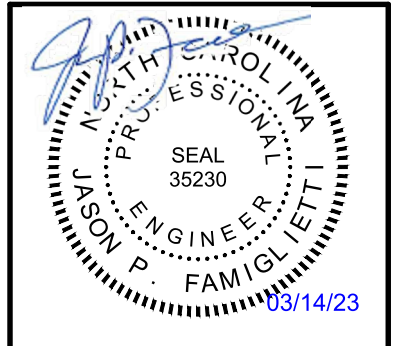
REVISION	DATE	DESCRIPTION
2	03.13.2023	REVISED PER UPDATED FLOOR PLAN
1	10.05.2022	REVISED PER UPDATED FLOOR PLAN
0	06.20.2022	ISSUED FOR CONSTRUCTION

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Engineers, PLLC

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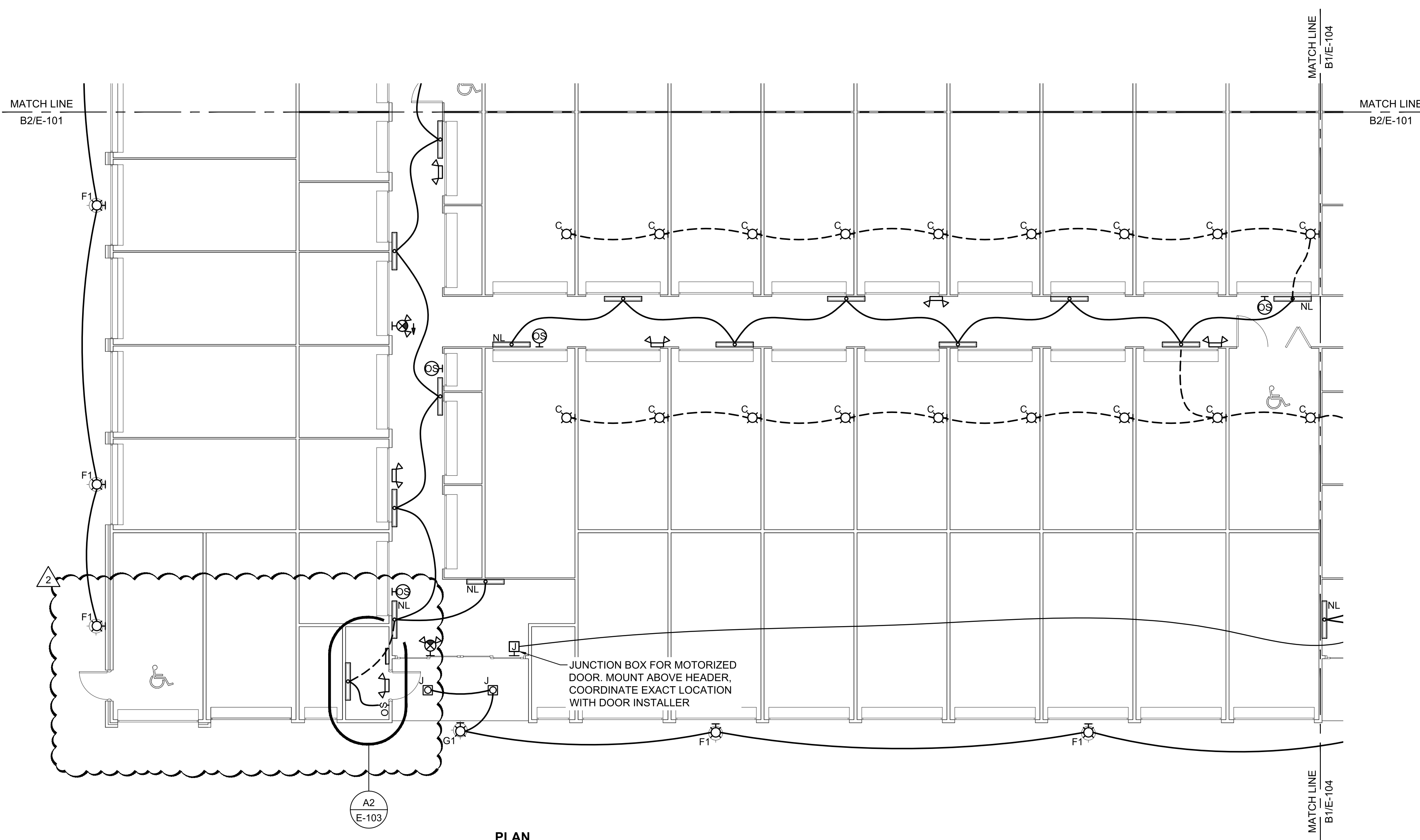
LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

ELECTRICAL
PARTIAL FIRST FLOOR POWER AND LIGHTING PLAN

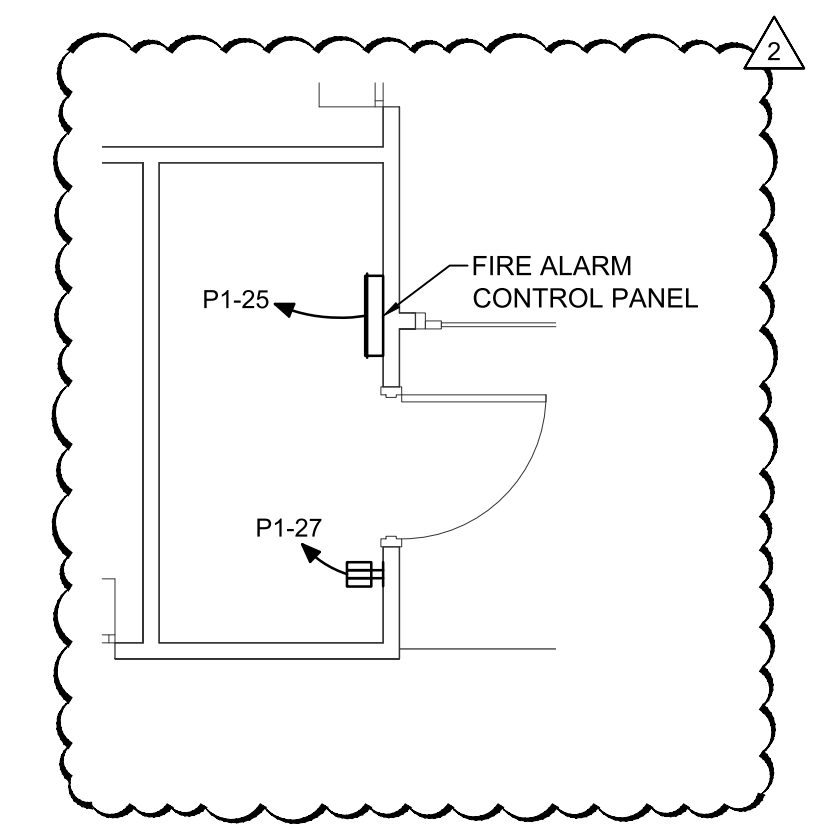
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DRAWING NO:
E-102

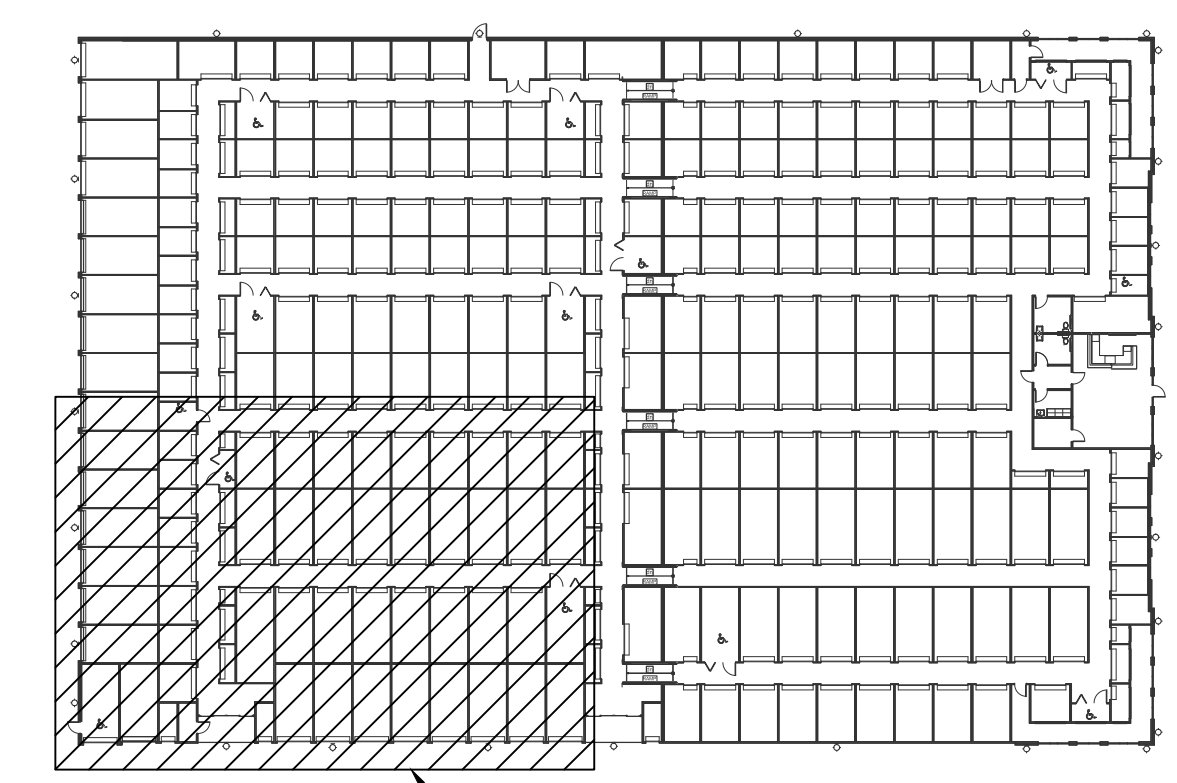
REVISION:
2



B2 PARTIAL POWER AND LIGHTING PLAN
 1/8" = 1'-0"
 0 4' 8' 16'
 PLAN NORTH



A2 ENLARGED RISER ROOM POWER PLAN
 1/4" = 1'-0"
 0 2' 4' 8'



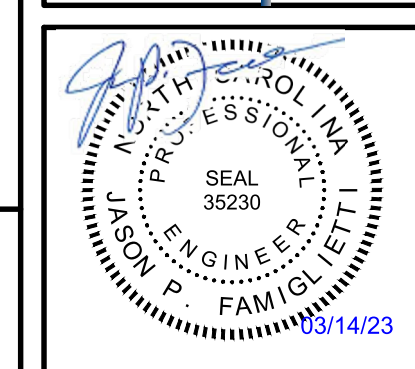
A5 KEYPLAN
 NOT TO SCALE
 PLAN NORTH

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0	06.20.2022

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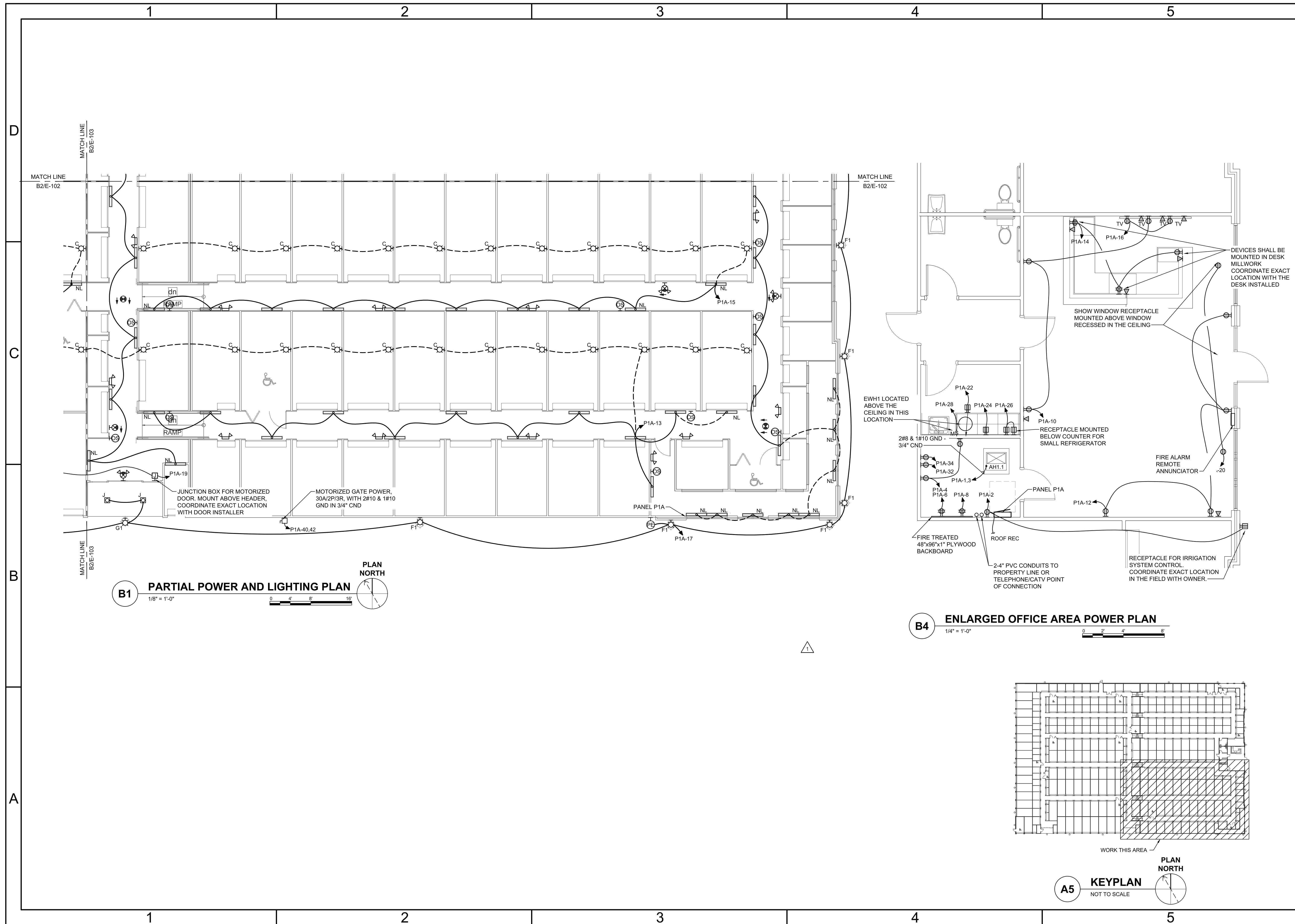
LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC

ELECTRICAL
 PARTIAL FIRST FLOOR POWER AND LIGHTING PLAN

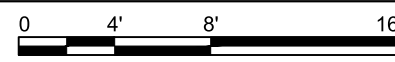
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DESIGNED:	RRD
CHECKED:	JPF

DRAWING NO:
E-103

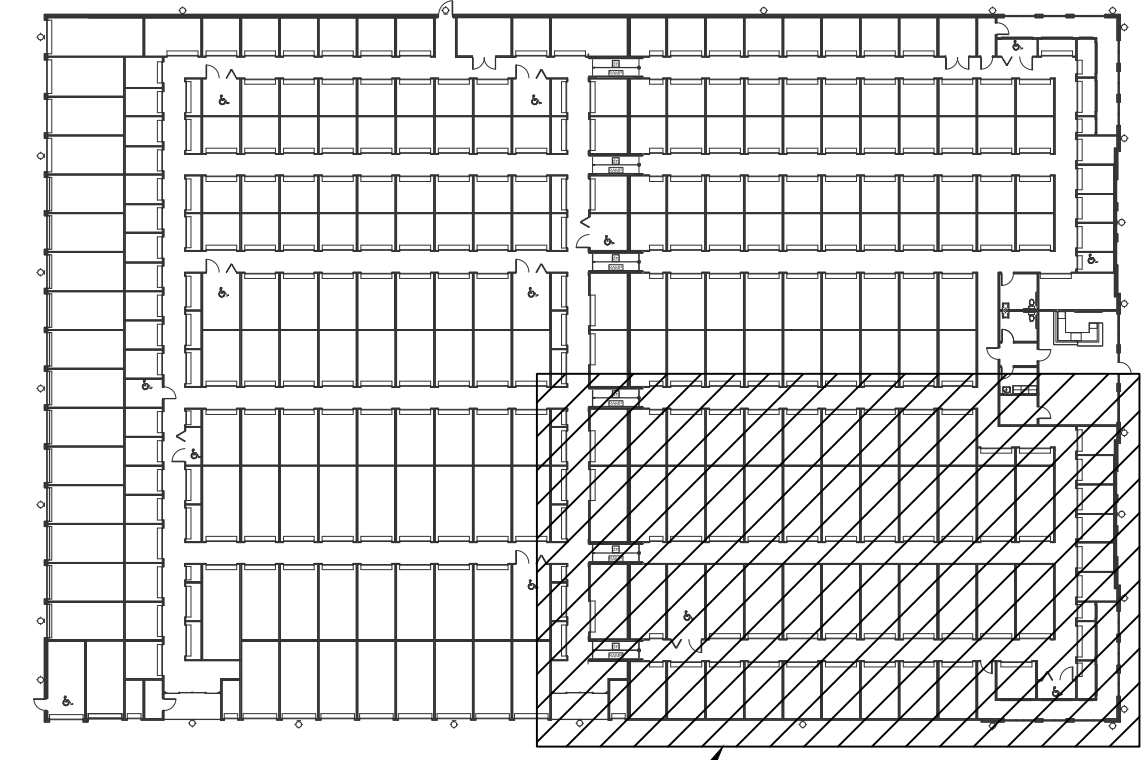
REVISION:
 2



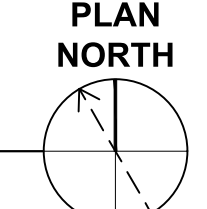
B1 PARTIAL POWER AND LIGHTING PLAN
1/8" = 1'-0"



B4 ENLARGED OFFICE AREA POWER PLAN
1/4" = 1'-0"

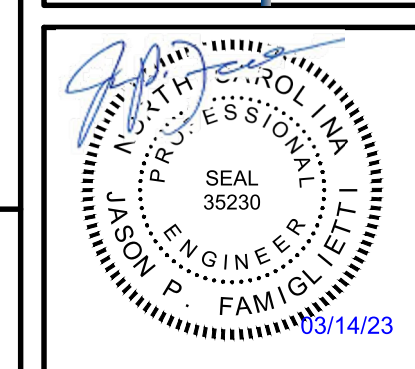


A5 KEYPLAN
NOT TO SCALE



10.06.2023	DATE
06.20.2023	DATE
ISSUED FOR CONSTRUCTION	REVISIONS
1	0
REVISION NO.	REVISIONS

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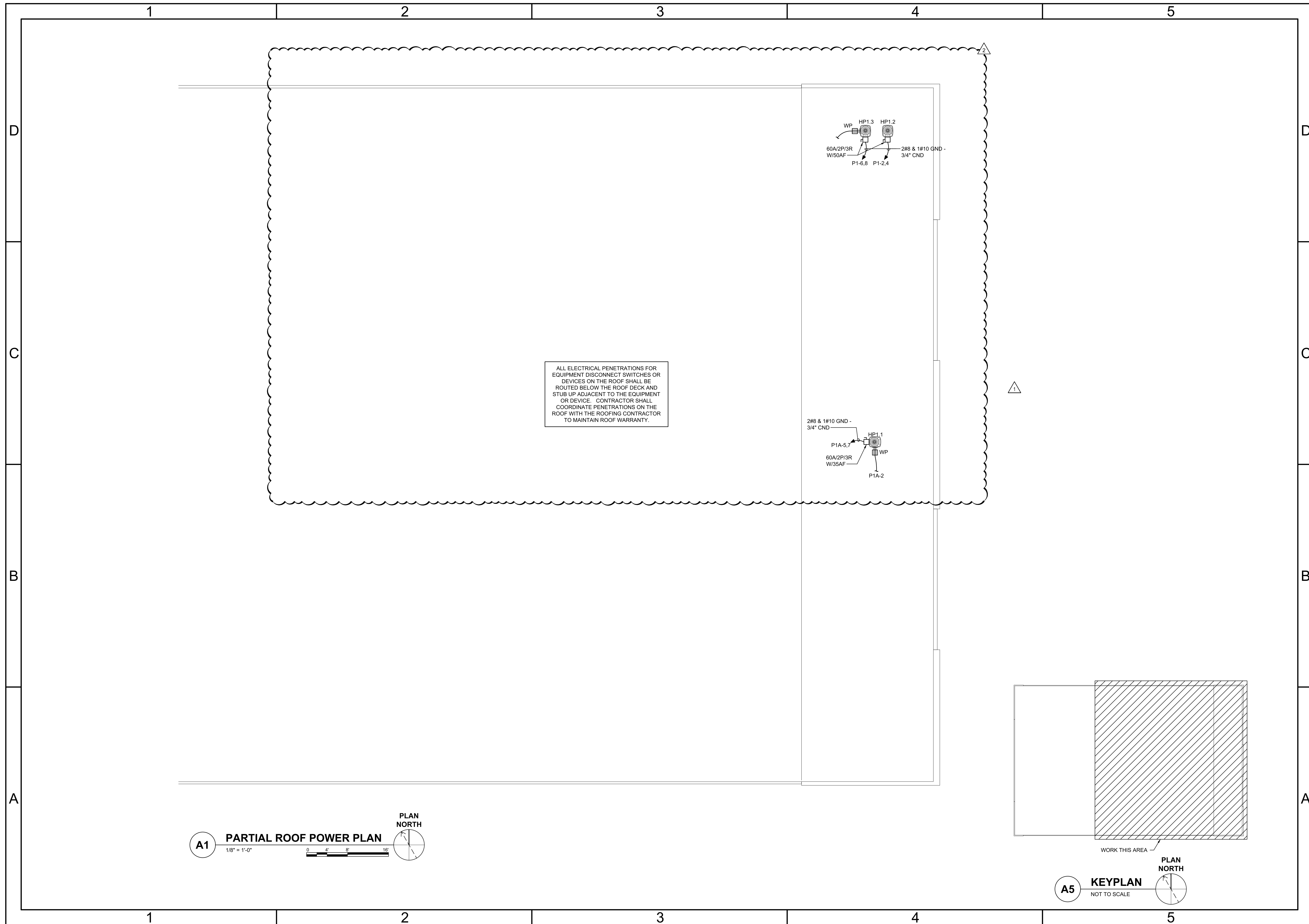


LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC
ELECTRICAL
PARTIAL FIRST FLOOR POWER AND LIGHTING PLAN

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
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CHECKED:	JPF

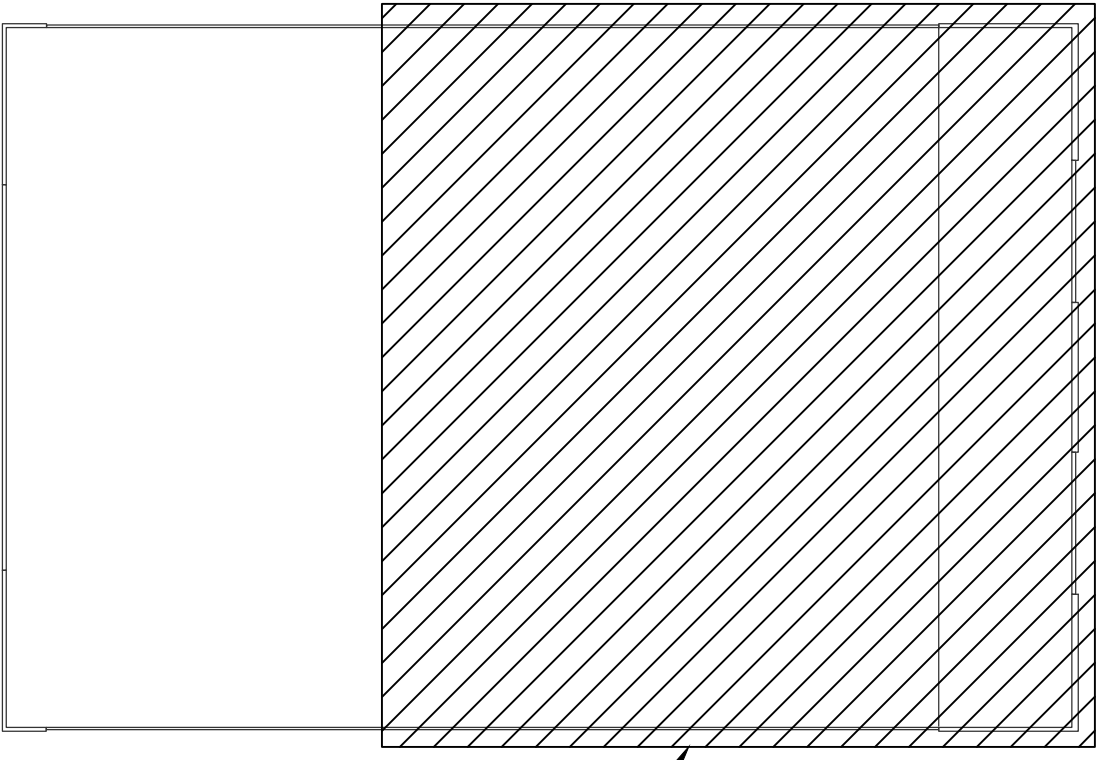
DRAWING NO:
E-104

REVISION:
1



ALL ELECTRICAL PENETRATIONS FOR EQUIPMENT DISCONNECT SWITCHES OR DEVICES ON THE ROOF SHALL BE ROUTED BELOW THE ROOF DECK AND STUB UP ADJACENT TO THE EQUIPMENT OR DEVICE. CONTRACTOR SHALL COORDINATE PENETRATIONS ON THE ROOF WITH THE ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.

A1 PARTIAL ROOF POWER PLAN
 1/8" = 1'-0"
 0 4 8 16
 PLAN NORTH

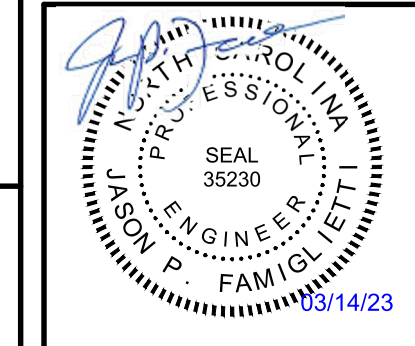


A5 KEYPLAN
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 PLAN NORTH

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REVISION NO.	DESCRIPTION	DATE
2	REVISED PER UPDATED FLOOR PLAN	03.13.2023
1	REVISED PER UPDATED FLOOR PLAN	10.05.2022
0	ISSUED FOR CONSTRUCTION	06.20.2022

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LILLINGTON STORAGE
 PHASE I - BUILDING 1
 1781 N MAIN STREET
 LILLINGTON, NC
**ELECTRICAL POWER
 PARTIAL ROOF PLAN**

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

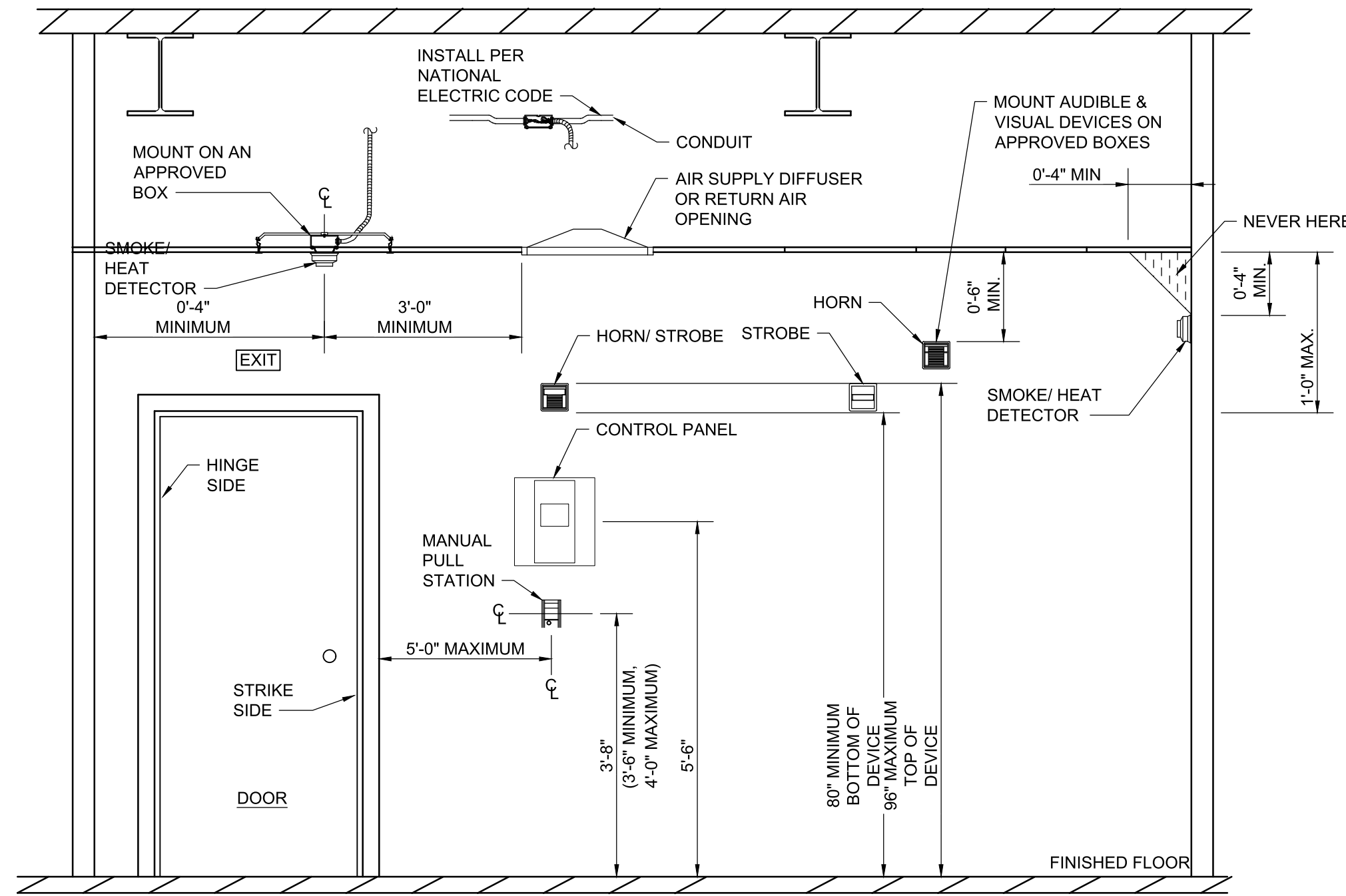
DRAWING NO:
E-105

REVISION:
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FIRE SPRINKLER MONITORING LEGEND

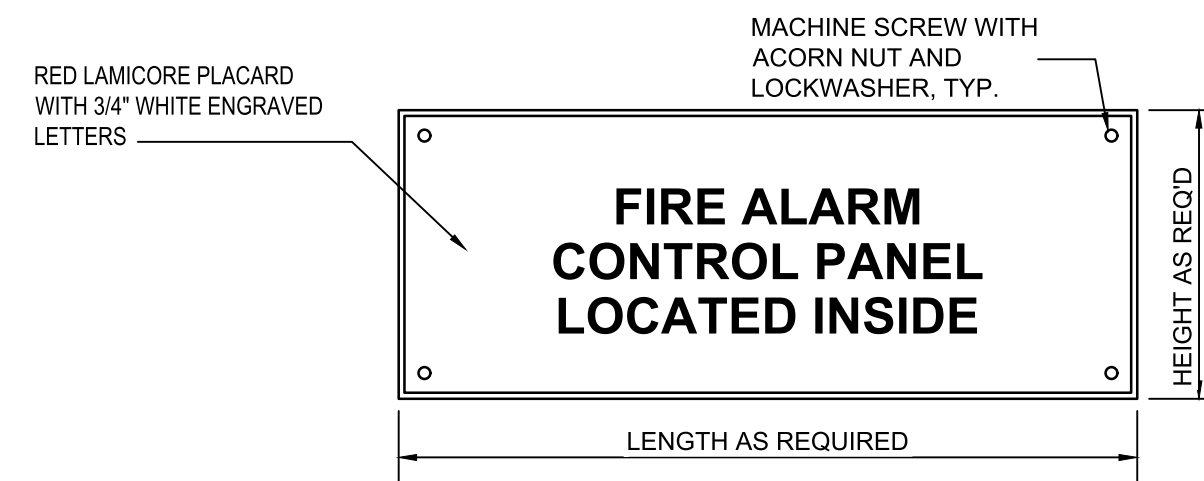
SYMBOL	DESCRIPTION
	FIRE ALARM MANUAL STATION, 48" AFF
	SMOKE DETECTOR, CEILING MOUNTED
	WATER FLOW ALARM
	SPRINKLER TAMPER SWITCH
	SPRINKLER FLOW SWITCH
	FIRE ALARM SYSTEM CONTROL MODULE
	FIRE ALARM SYSTEM MONITOR MODULE
	ISOLATION MODULE
	FIRE ALARM CONTROL PANEL (FACP)
	FIRE ALARM REMOTE ANNUNCIATOR PANEL

(SYMBOLS SHOWN FOR REFERENCE ONLY AND MAY NOT IMPLY CONTRACTUAL REQUIREMENTS)



NOTE:
DETAIL SHOWN FOR REFERENCE ONLY, NOT ALL DEVICES ARE INDICATED ON PLANS.

C2 FIRE SPRINKLER MONITORING DEVICES - MOUNTING HEIGHT DETAIL
NOT TO SCALE



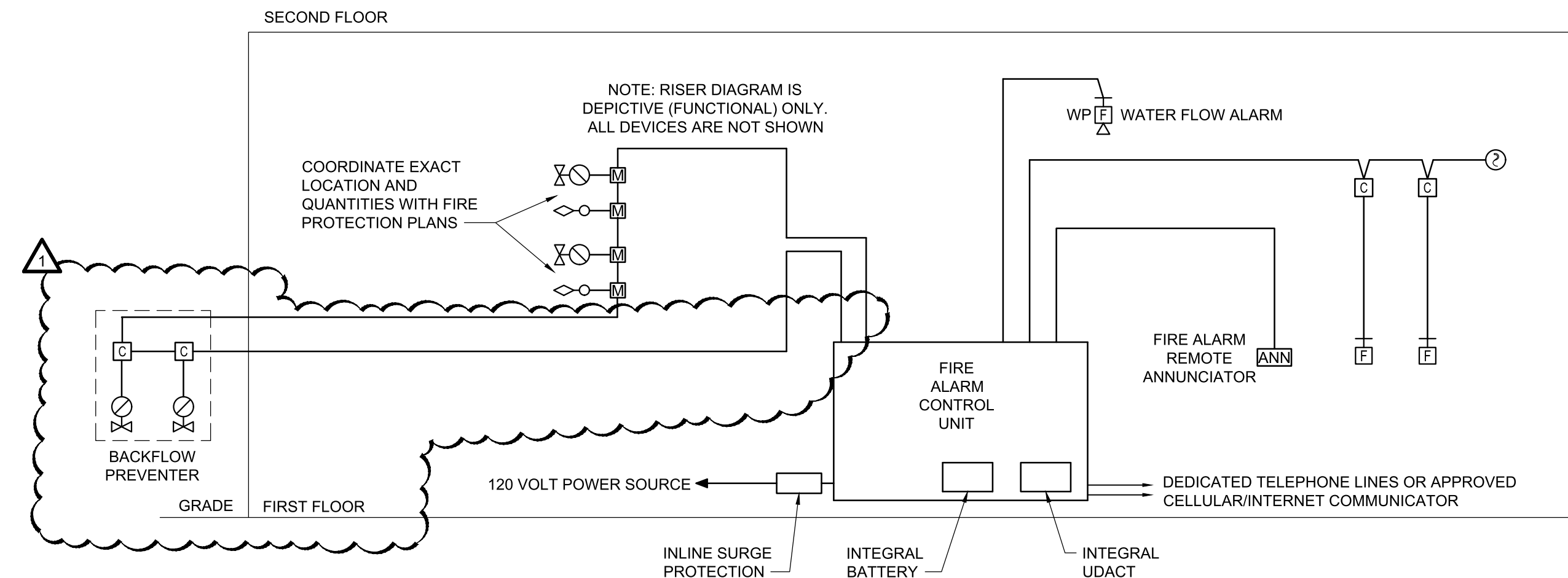
B3 FACP PLACARD DETAIL
NOT TO SCALE

FIRE SPRINKLER MONITORING SYSTEM (SPECIFICATION/NOTES)

- AS A MINIMUM THE FIRE SPRINKLER MONITORING SYSTEM SHALL INCLUDE DETECTORS, PANEL AND SPRINKLER MONITORING WITH FIRE RATED CABLE. THE FIRE SPRINKLER MONITORING SYSTEM SHALL MEET NFPA REQUIREMENTS, THE NATIONAL ELECTRICAL CODE, THE STATE CODES, AND THE LOCAL BUILDING CODES.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CABLE, MATERIALS AND EQUIPMENT AS SHOWN ON THE DRAWINGS/HEREIN SPECIFIED. ALL SYSTEM COMPONENTS SPECIFIED HEREIN, AS WELL AS THEIR INSTALLATION, SHALL COMPLY WITH APPLICABLE STANDARDS OF THE NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION, AND LOCAL CODES HAVING AUTHORITY. ALL EQUIPMENT SHALL BE UL LISTED FOR FIRE ALARM SYSTEM USE.
- THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INSTALLED AND CONNECTED UNDER THE DIRECTION AND SUPERVISION OF A MANUFACTURER'S REPRESENTATIVE. UPON COMPLETION OF INSTALLATION, THE MANUFACTURER'S REPRESENTATIVE SHALL PERFORM ALL OPERATIONAL TESTS AND ADJUSTMENTS AND CERTIFY IN WRITING THAT THE SYSTEM IS PROPERLY INSTALLED AND FUNCTIONS AS SPECIFIED.
- ALL WIRING SHALL BE SYSTEM OR UL LISTED FIRE RATED CABLE AND COLOR CODED TO ALLOW EASE OF IDENTIFICATION OF THE DIFFERENT CIRCUITRY REQUIRED FOR THE SYSTEM. NO CIRCUIT SHALL CHANGE COLOR AT ANY POINT END TO END.
- THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE SUPERVISION OF FINAL SYSTEM PANEL CONNECTIONS, PERFORM A COMPLETE FUNCTIONAL TEST OF THE SYSTEM, AND A WRITTEN REPORT TO THE CONTRACTOR ATTESTING THE PROPER OPERATION OF THE COMPLETED SYSTEM.
- THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR THE ALARM SYSTEM, ALONG WITH OTHER FORMS OR CERTIFICATE REQUIRED BY THE LOCAL JURISDICTION.

SYSTEM OPERATION

- THE OPERATION OF ANY OTHER SYSTEM ALARM INDICATOR, SHALL CAUSE ALL ALARM SIGNALS, BOTH AUDIBLE AND VISUAL TO ENERGIZE.
- THE DEVICE FROM WHICH THE ALARM ORIGINATED SHALL BE INDICATED AT THE CONTROL PANEL, BOTH AUDIBLY AND VISUALLY. THE APPROPRIATE ALARM LED SHALL PULSE AND SHALL BE ILLUMINATED CONTINUOUSLY AFTER IT HAS BEEN ACKNOWLEDGED AT THE CONTROL PANEL.
- FIRE SPRINKLER MONITORING SYSTEM SHALL USE A 120 VOLT POWER SOURCE WITH BATTERY BACK-UP. FIRE SPRINKLER MONITORING SYSTEM SHALL BE 24 VOLT.
- THE SYSTEM SHALL BE A MONITORED SYSTEM.
- EQUIPMENT SHALL CONSIST OF THE FOLLOWING:
 - MASTER FIRE SPRINKLER MONITORING CONTROL PANEL WITH BATTERY BACK-UP.
 - MANUAL STATIONS: MANUAL STATIONS SHALL BE CONSTRUCTED OF HIGH IMPACT, RED LEXAN WITH RAISED LETTERING. MANUAL STATIONS SHALL BE LOCATED NOT MORE THAN FOUR FEET ABOVE THE FINISHED FLOOR TO THE CENTER OF THE BOX. STATIONS SHALL BE LOCATED NOT MORE THAN FIVE FEET FROM EACH DESIGNATED EXIT-WAY AND THE TRAVEL DISTANCE SHALL NOT EXCEED 200 FEET.
 - SMOKE DETECTOR: PROVIDE SOLID STATE PHOTO ELECTRIC TYPE WITH TWO WIRE OPERATION AND 360° SMOKE ENTRY FOR FACP.
 - DUCT MOUNTED SMOKE DETECTORS: NFPA 72, ANALOG/INTELLIGENT/ADDRESSABLE PHOTOELECTRIC TYPE WITH REMOTE ALARM INDICATING LIGHT, DUCT SAMPLING TUBES EXTENDING WIDTH OF DUCT, AND VISUAL INDICATION OF DETECTOR ACTUATION, IN DUCT-MOUNTED HOUSING.
- PROVIDE FIRE ALARM CONTROL PANEL FOR SPRINKLER MONITORING.
- IN THE EVENT OF A VALVE CLOSURE THAT ACTIVATES A TAMPER SWITCH, THE TROUBLE SIGNALS (BOTH AUDIBLE AND VISUAL) SHALL ACTIVATE AT THE CONTROL PANEL. IN ADDITION, THE ASSOCIATED CIRCUIT TROUBLE LED SHALL ILLUMINATE TO INDICATE THE TAMPER SWITCH CLOSURE, BY MEANS OF A SILENCING SWITCH, IT SHALL BE POSSIBLE TO TEMPORARILY SILENCE THE AUDIBLE ALARM, THE AUDIBLE ALARM SHALL REACTIVATE AUTOMATICALLY ON A PERIODIC BASIS UNTIL THE SYSTEM IS CORRECTED. IT SHALL NOT BE POSSIBLE TO EXTINGUISH THE TROUBLE LIGHT UNTIL THE SYSTEM IS CORRECTED.
- ALL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH N.E.C., NFPA 72, ALL STATE AND LOCAL REQUIREMENTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- SLEEVE AND SEAL ALL PENETRATIONS THROUGH FIRE WALLS.
- WIRING SHALL BE A MINIMUM OF NO. 14 AWG UNLESS OTHERWISE NOTED.
- ALL WORK PERFORMED AND ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE.
- PROVIDE (1) 2" CONDUIT FOR A DEDICATED PHONE LINE FOR FIRE PROTECTION DIALER AND BACKUP LINE FROM EXTERIOR CABINET TO FACP.
- ALL FIRE SPRINKLER MONITORING SYSTEM WORK AND DEVICES SHALL BE INSTALLED AND TERMINATED BY A NICET LEVEL 2 FIRE ALARM TECHNICIAN.



A4 FIRE SPRINKLER MONITORING RISER DIAGRAM
NOT TO SCALE

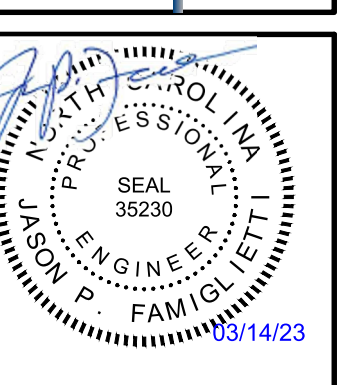
03.13.2023	REVISION
06.20.2022	DATE
1	ISSUED FOR CONSTRUCTION
0	REVISIONS

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LILLINGTON STORAGE
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1781 N MAIN STREET
LILLINGTON, NC

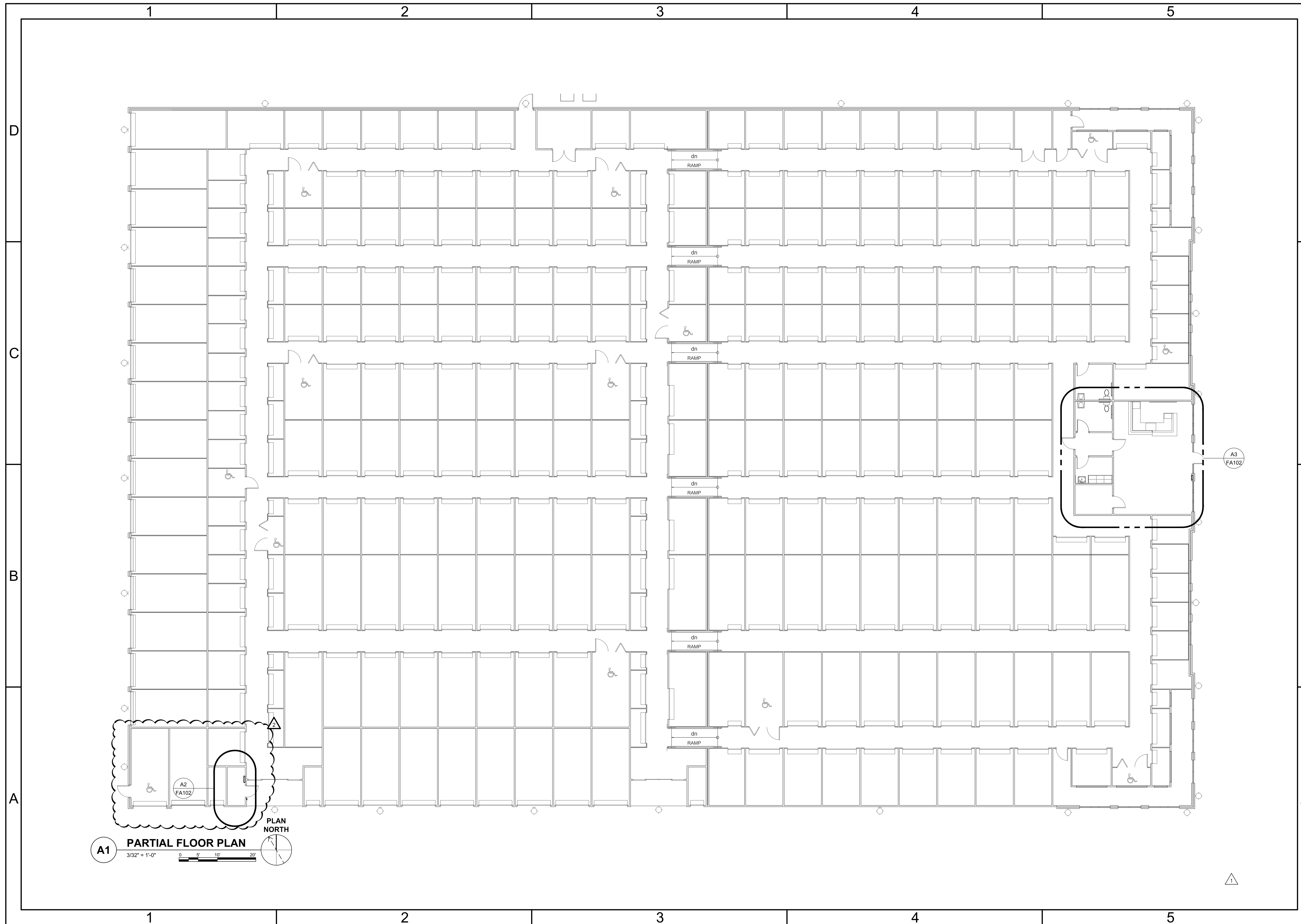
FIRE ALARM
NOTES, DETAILS, LEGEND,
AND RISER DIAGRAM

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RDD
DESIGNED:	RDD
CHECKED:	JPF

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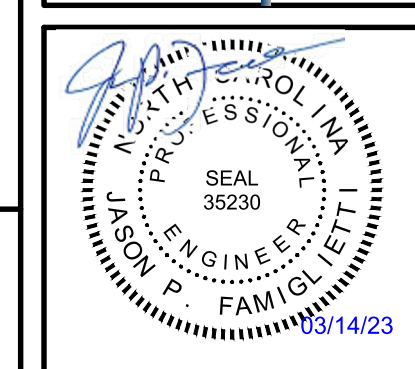
REVISION	DATE
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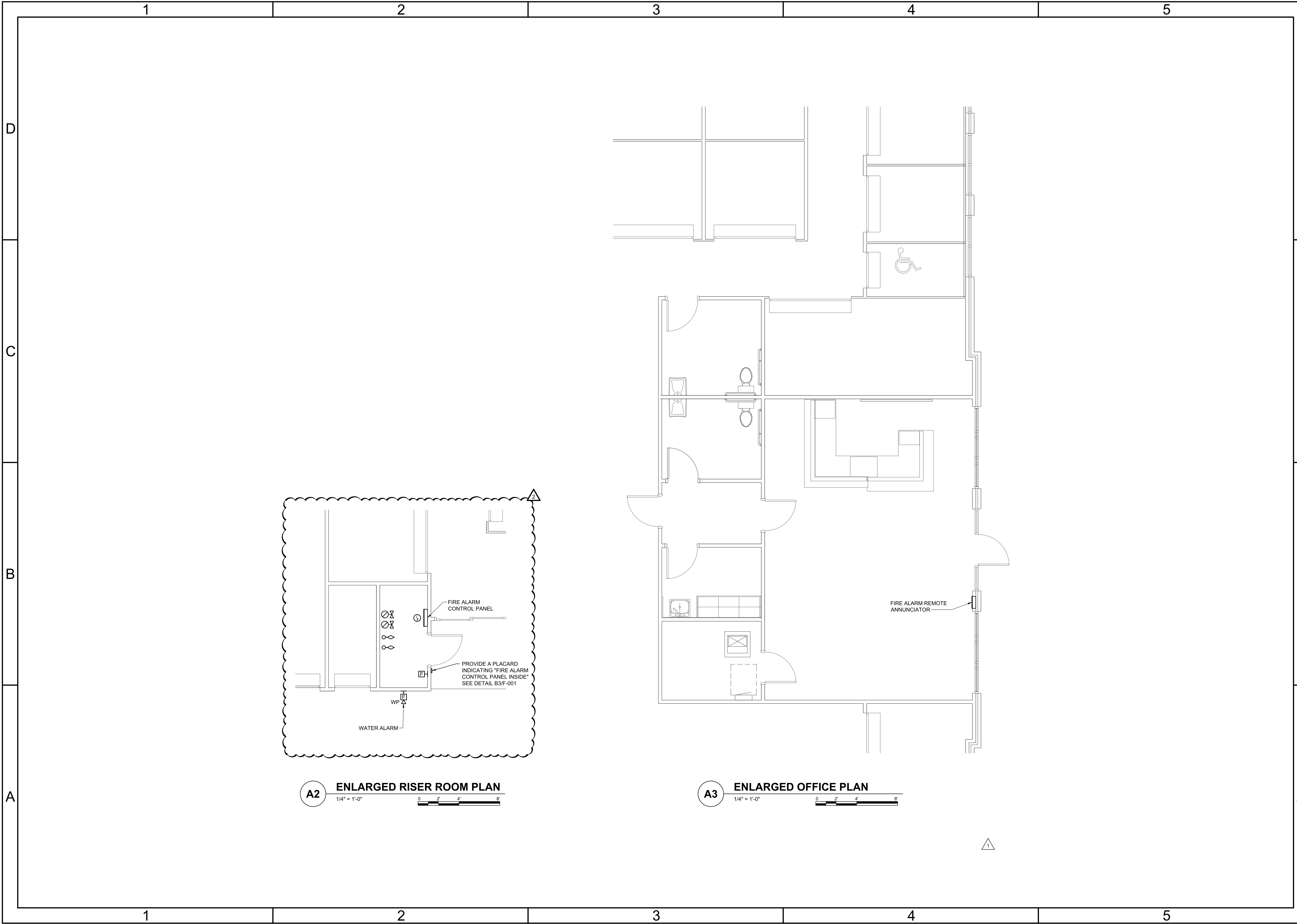
LILLINGTON STORAGE
PHASE I - BUILDING 1
1781 N MAIN STREET
LILLINGTON, NC

**FIRE ALARM
FIRST FLOOR PLAN**

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

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REVISION:
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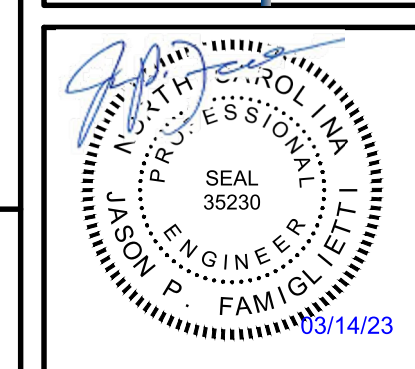
A2 ENLARGED RISER ROOM PLAN
 1/4" = 1'-0"
 0 2' 4' 8'

A3 ENLARGED OFFICE PLAN
 1/4" = 1'-0"
 0 2' 4' 8'

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Revision No.	1	ISSUED FOR CONSTRUCTION	06/20/2023
Revision No.	2	REVISED PER UPDATED FLOOR PLAN	06/13/2023
Revision No.	0	REVISED PER UPDATED FLOOR PLAN	10/06/2022

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LILLINGTON STORAGE
 PHASE I - BUILDING 1
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 LILLINGTON, NC
**FIRE ALARM
 ENLARGED PLANS**

JOB NO:	CBHF-22020 RHD 21-7075
DRAWN:	RRD
DESIGNED:	RRD
CHECKED:	JPF

DRAWING NO:
FA102

REVISION:
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