



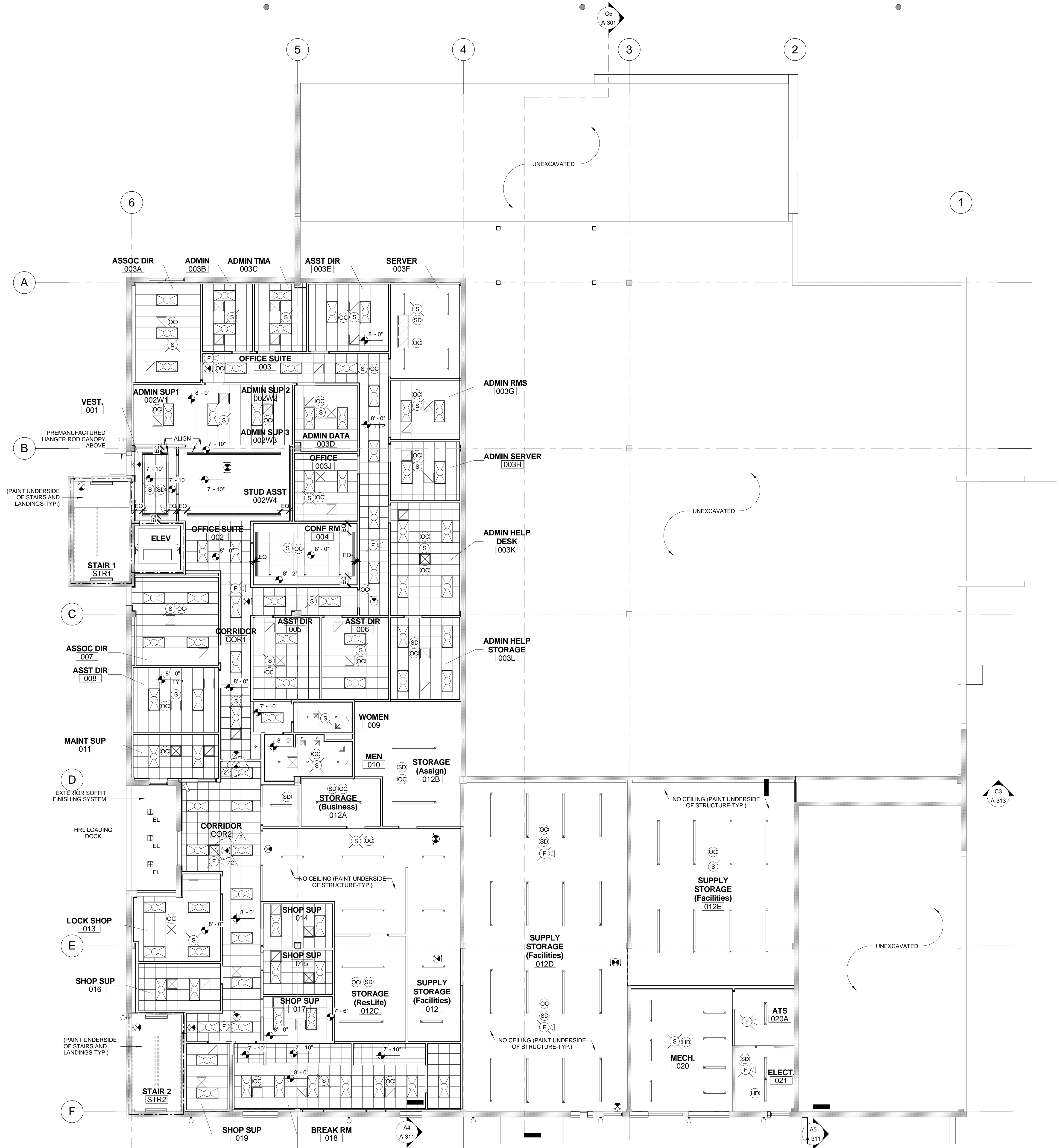


D

C

B

A



A5 LOWER LEVEL REFLECTED CEILING PLAN

1/8" = 1'-0"

REFLECTED CEILING PLAN GENERAL NOTES

1. ALL LEVEL ONE CEILINGS AT 8'-0" AFF U.N.O.
2. ALL LEVEL TWO CEILINGS AT 10'-0" AFF U.N.O.
3. ALL CEILING FIXTURES TO BE CENTERED IN NEW TILES, U.N.O.
4. COORDINATE ALL LIGHTING CONTROL LOCATIONS W/ ARCHITECT.
5. ALL CEILING TILE GRID INTERSECTIONS TO BE MITER CUT.
6. COORDINATE ALL LIGHT FIXTURE AND LOCATIONS WITH ELECTRICAL DRAWINGS

REFLECTED CEILING PLAN LEGEND

- 2X2 ACOUSTICAL PANEL CEILING (ATC); PROVIDE MOISTURE RESISTANT CEILING TILES IN FOOD AREAS
- GYPSUM CEILING OR SOFFIT
- 2X4 RECESS LIGHT FIXTURE WITH LENS COVER
- 2X4 RECESS LIGHT FIXTURE
- LINEAR PENDANT LIGHT FIXTURE
- RECESSED DOWNLIGHT FIXTURE
- STRIP LIGHT FIXTURE
- WALL/SLOT PERIMETER LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- RPS RECESSED PROJECTION SCREEN
- EXTERIOR GRADE SURFACE MOUNTED LIGHT FIXTURE; SEE ELECTRICAL DWGS
- FINISHED CEILING ELEVATION ABOVE FINISHED FLOOR
- 1 HOUR RATED FIRE BARRIER
- 2 HOUR RATED FIRE BARRIER
- SLOT DIFFUSER
- CEILING MOUNTED EXIT SIGN
- WALL MOUNTED EXIT SIGN
- EXTERIOR LIGHT; SEE ELECTRICAL DWGS
- EXTERIOR LIGHT; SEE ELECTRICAL DWGS
- SMOKE DETECTOR; SEE ELECTRICAL DWGS
- OCCUPANCY SENSOR; SEE ELECTRICAL DWGS
- HEAT DETECTOR; SEE ELECTRICAL DWGS
- HORN STROBE; SEE ELECTRICAL DWGS
- STROBE LIGHT; SEE ELECTRICAL DWGS
- CAMERA BY OWNER - CONTRACTOR TO PROVIDE INFRASTRUCTURE. SEE ELECTRICAL DWGS FOR REQUIREMENTS
- PROJECTOR BY OWNER. CONTRACTOR TO PROVIDE INFRASTRUCTURE. SEE ELECTRICAL DWGS.

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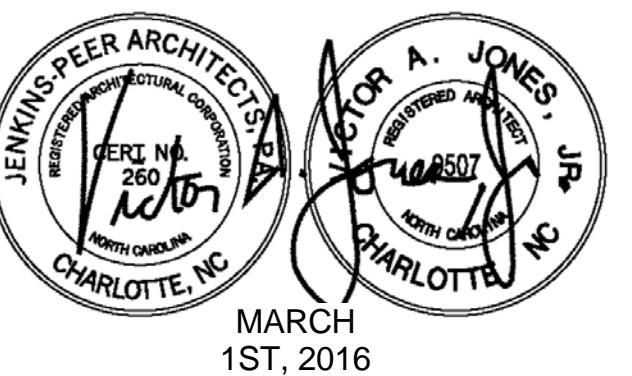
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UNC CHARLOTTE  
RESIDENCE  
DINING HALL  
BUILDING  
RENOVATION  
SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
2	ADDENDUM #2	3/22/16

Project: 15NCC491  
Drawn By:  
Checked By:  
Date: MARCH 1ST, 2016  
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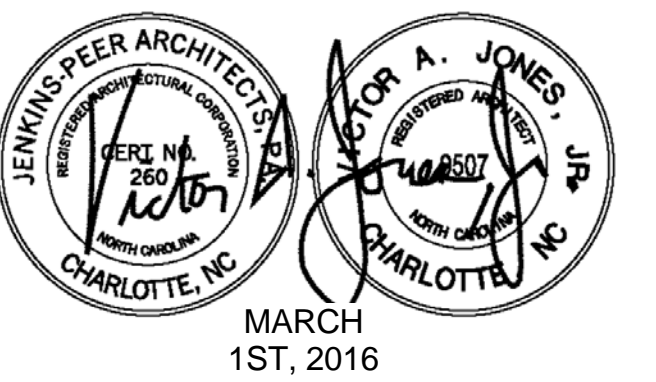
LOWER LEVEL  
REFLECTED  
CEILING PLAN



CONSTRUCTION  
DOCUMENTS

A-121





**UNC CHARLOTTE  
RESIDENCE  
DINING HALL  
BUILDING  
RENOVATION**

TAG	DESCRIPTION	DATE
2	ADDENDUM #2	3/22/16

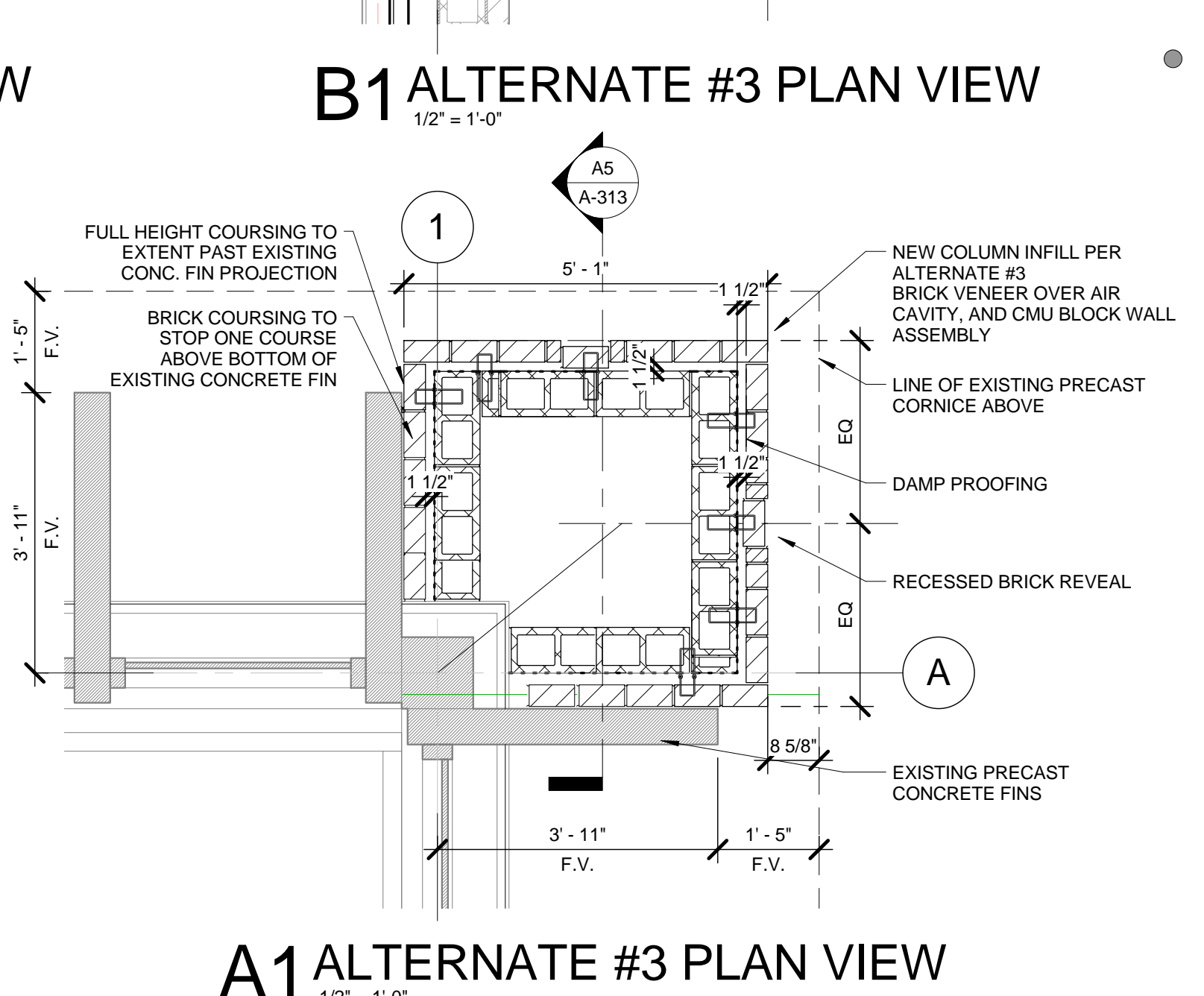
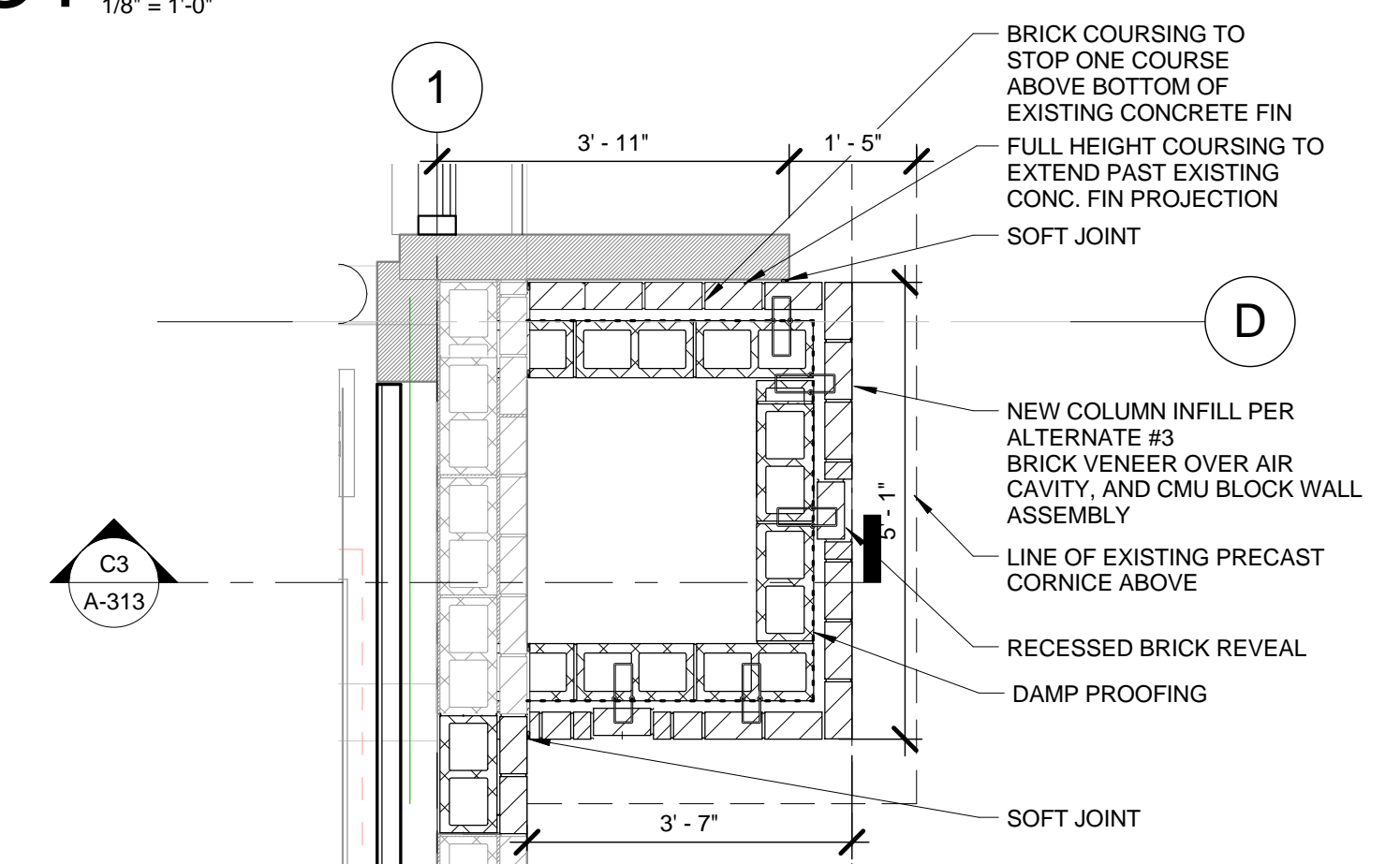
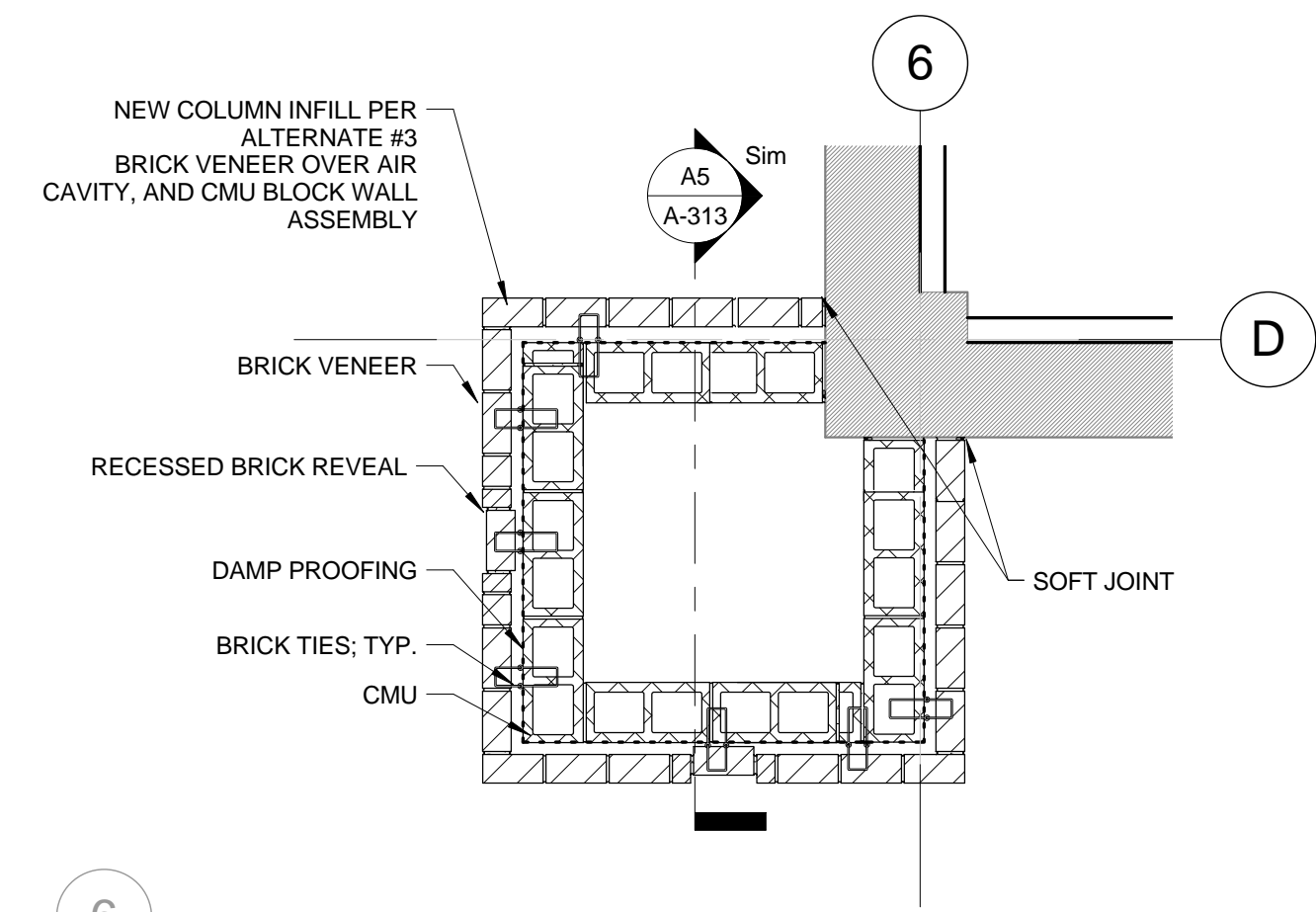
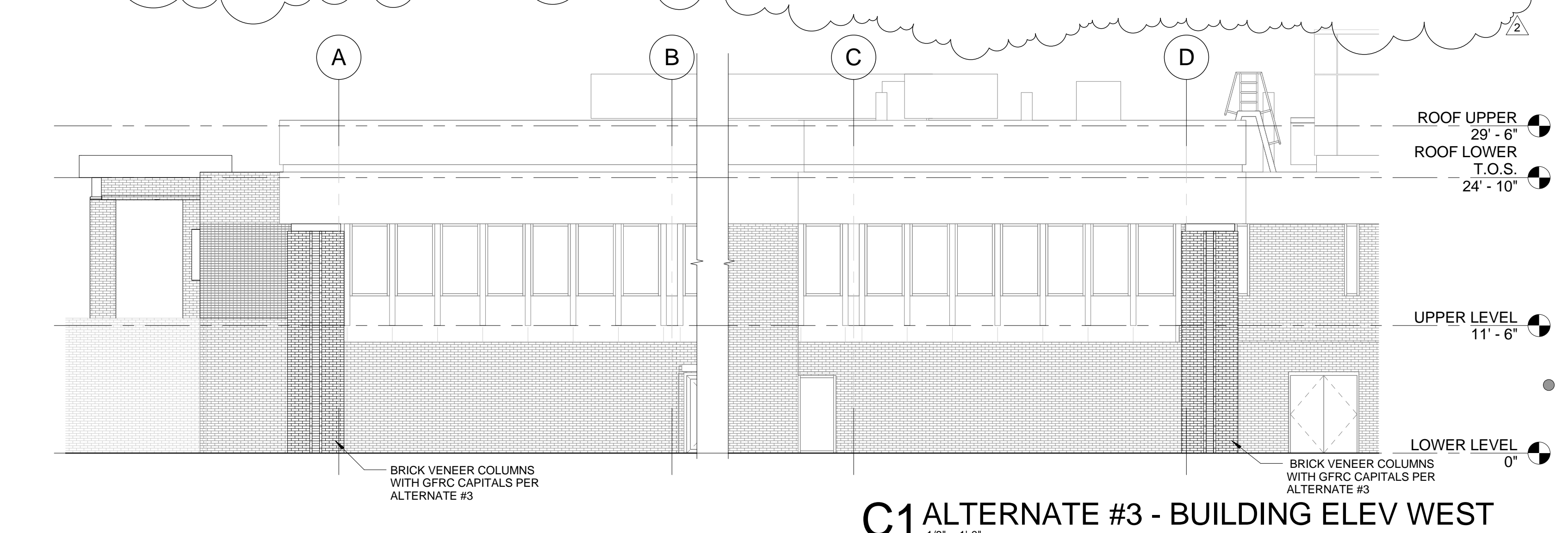
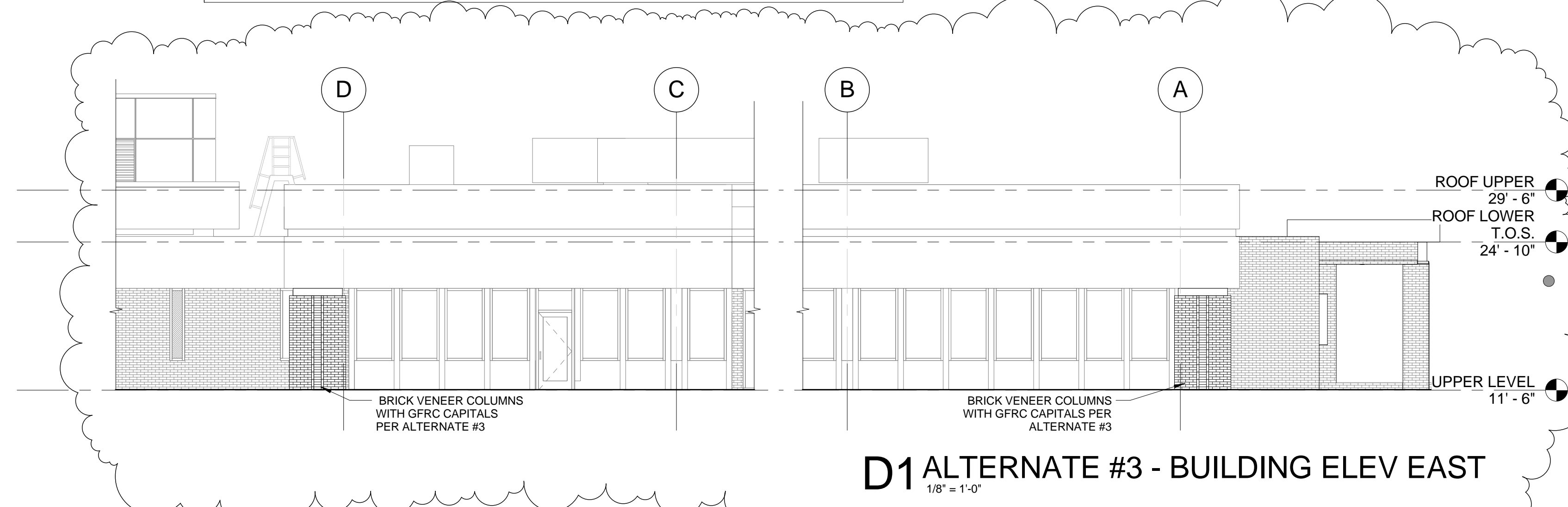
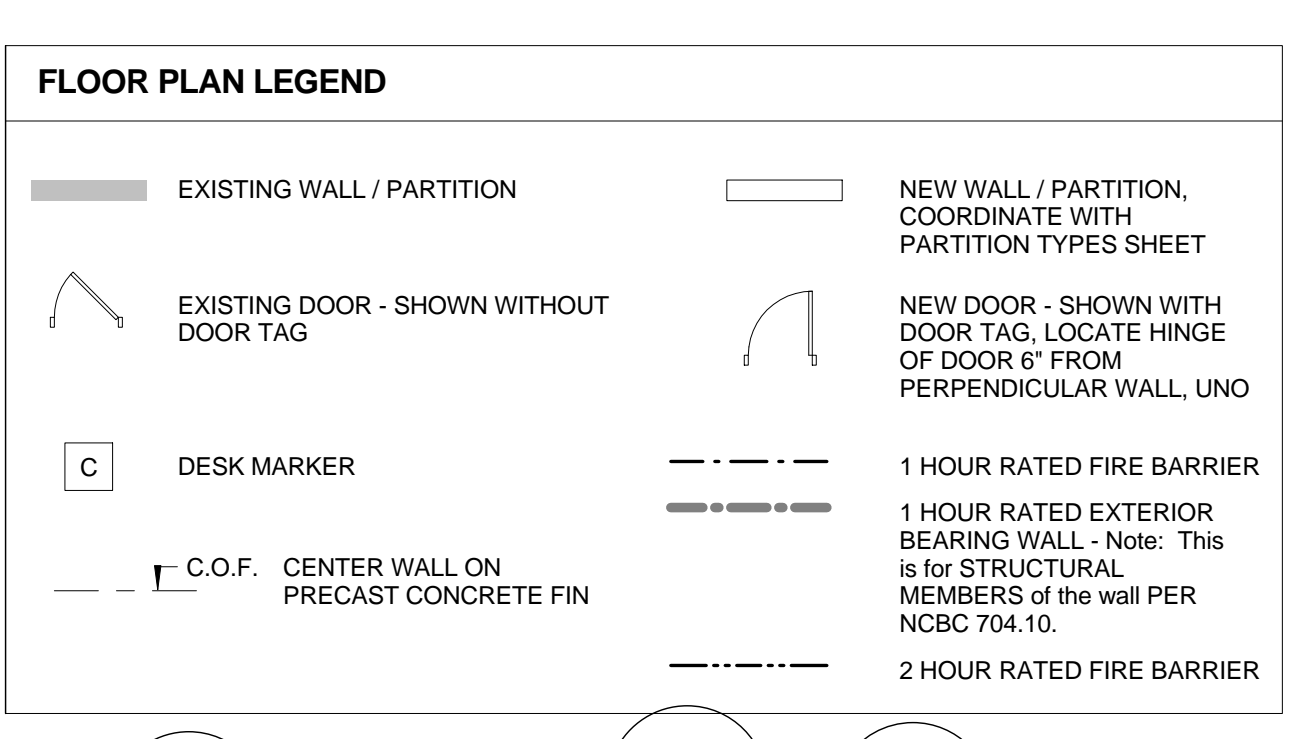
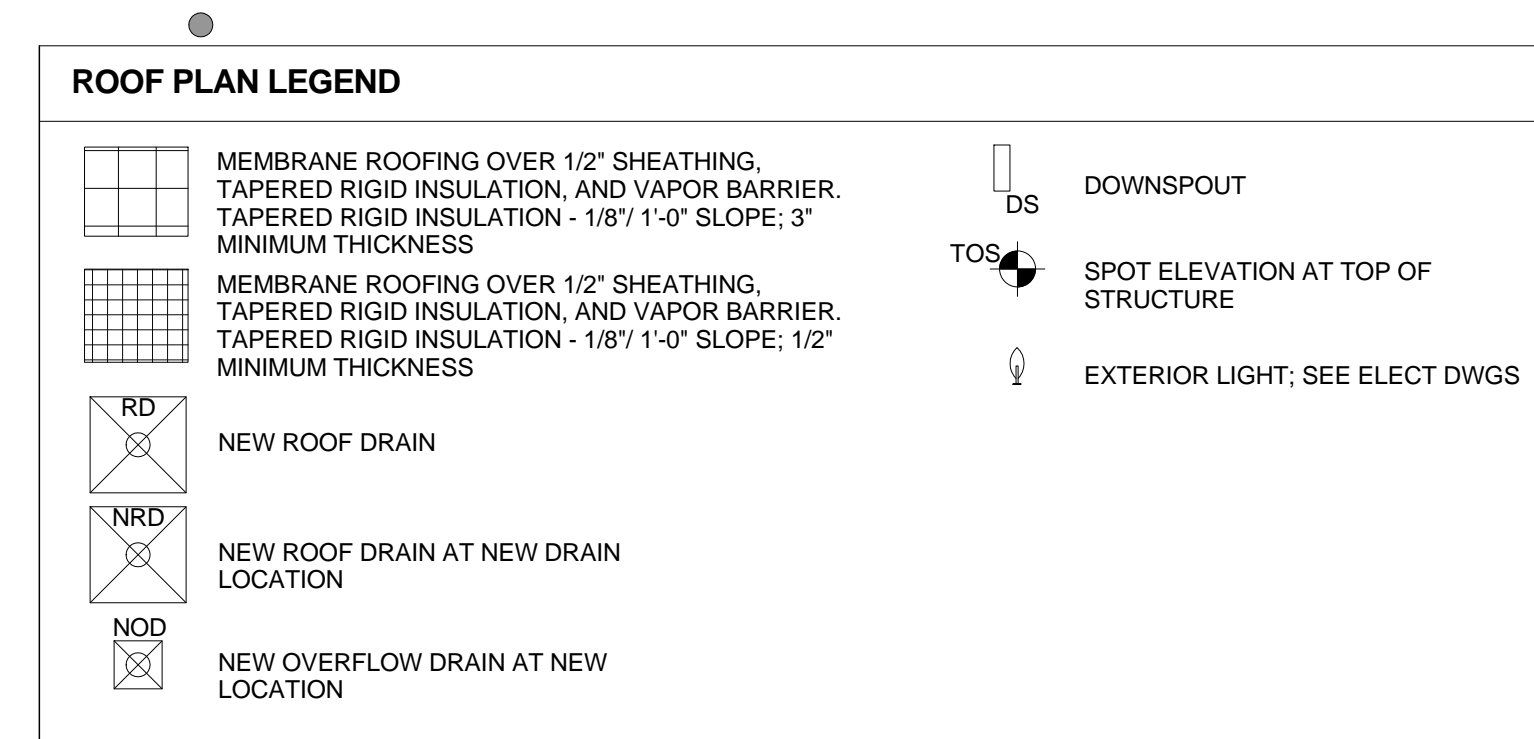
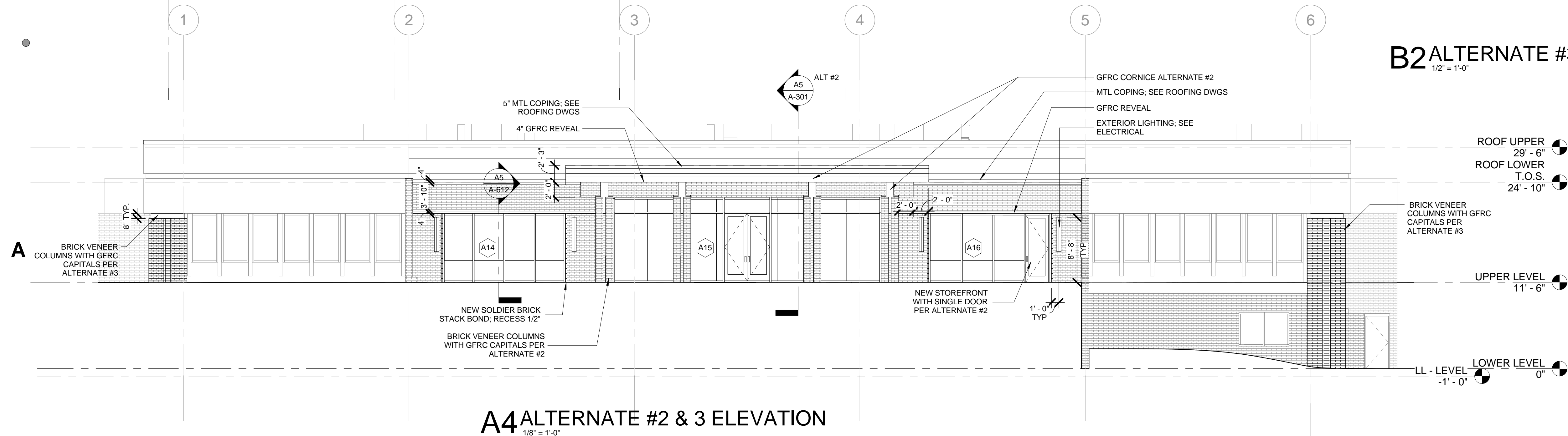
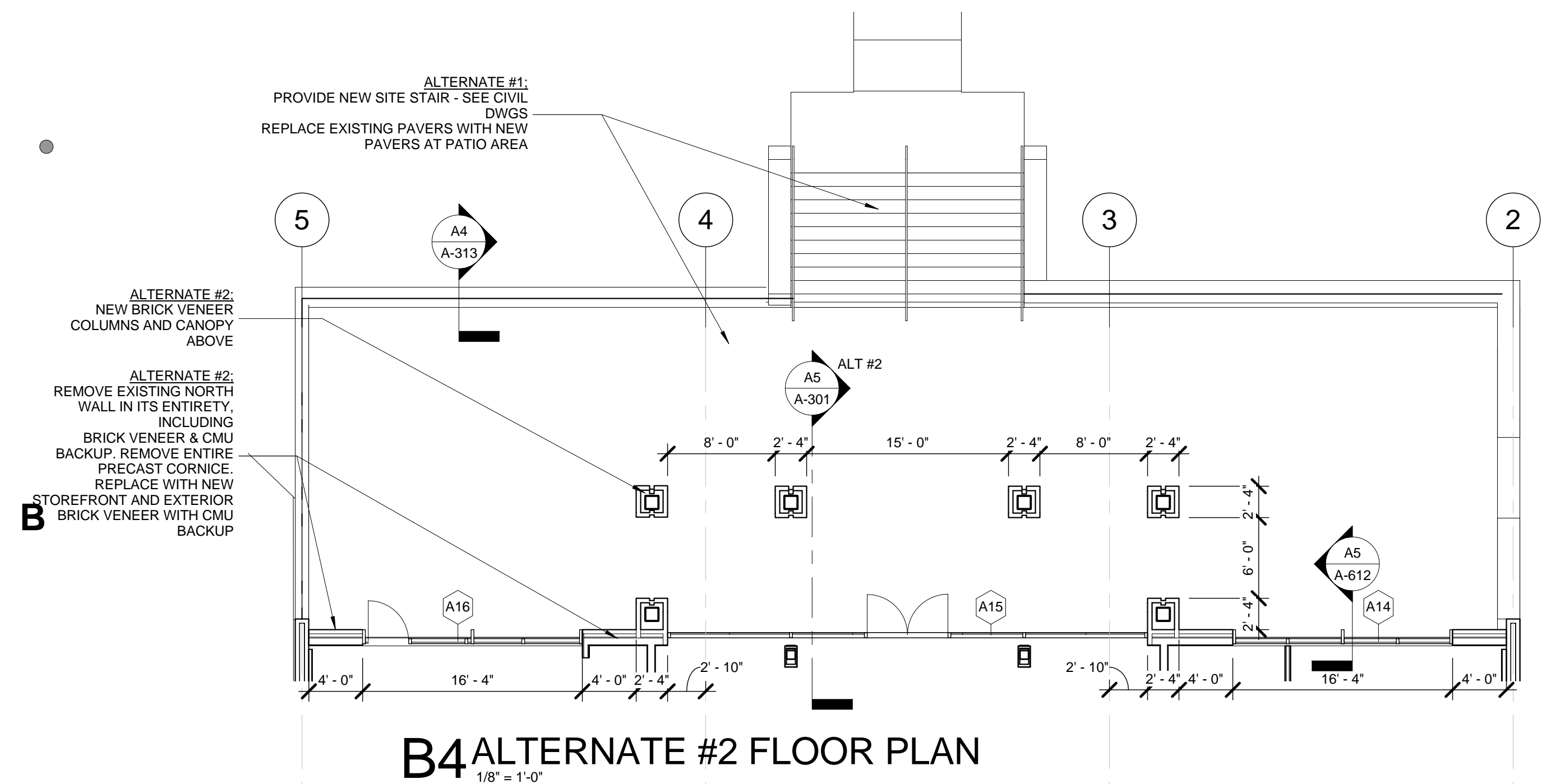
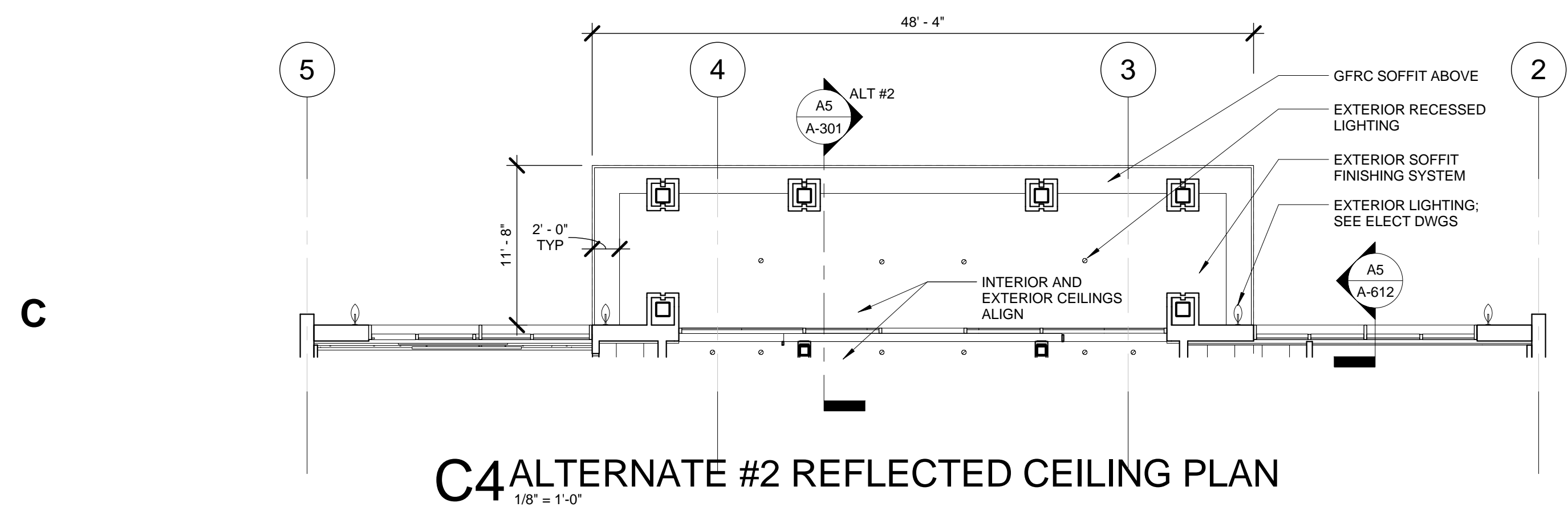
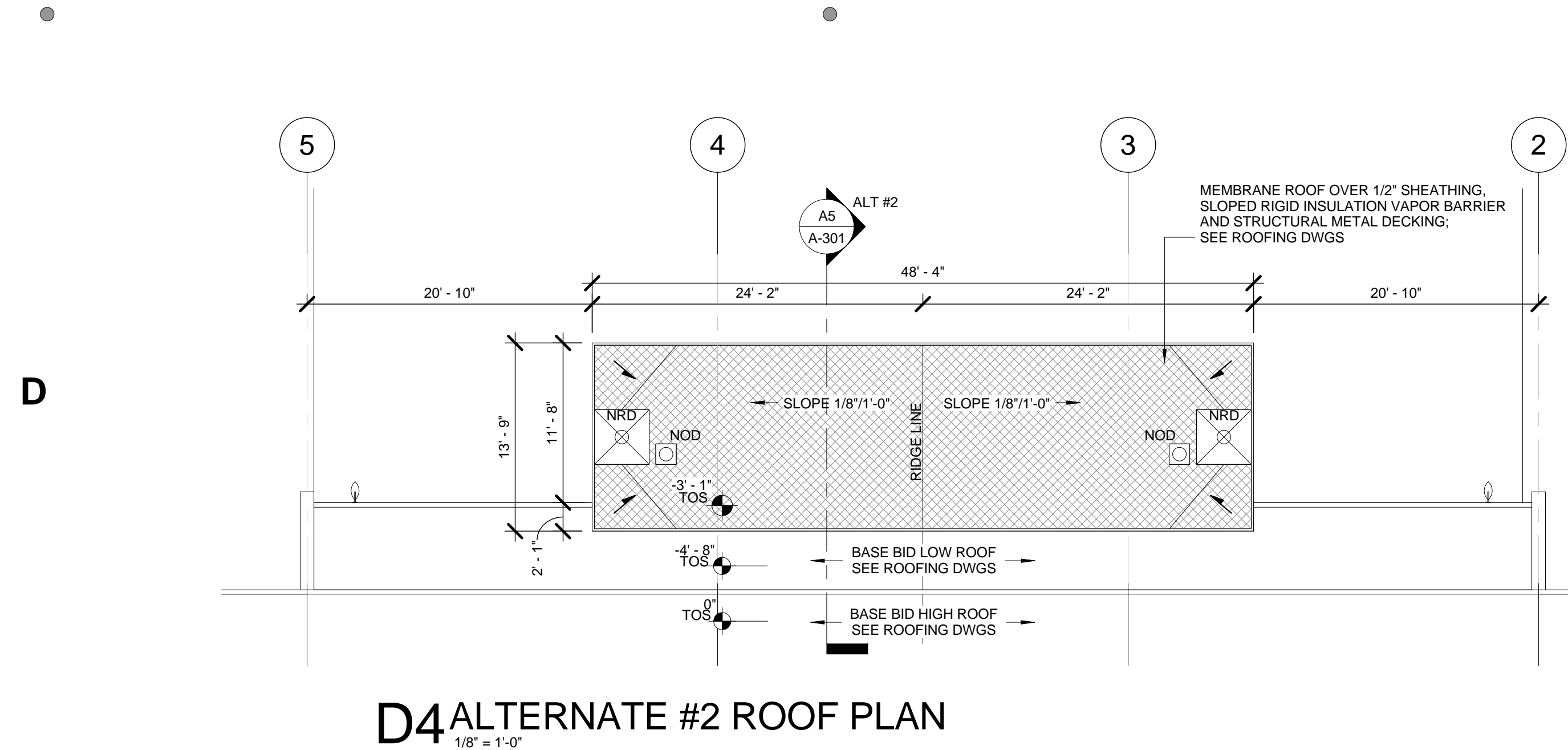
Project: 15NCC491  
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## ALTERNATE PLANS & ELEVATIONS

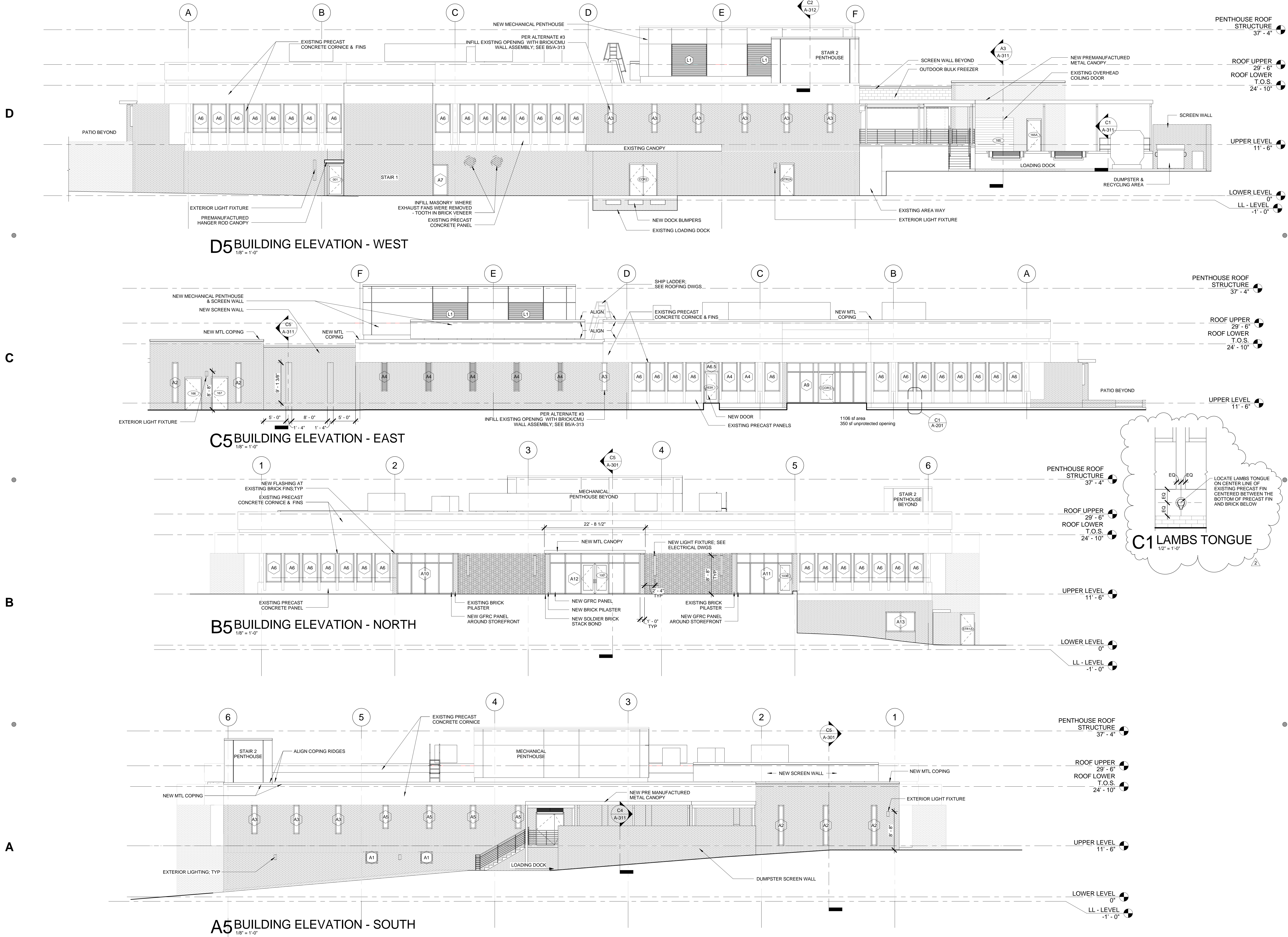


## CONSTRUCTION DOCUMENTS

## A-131







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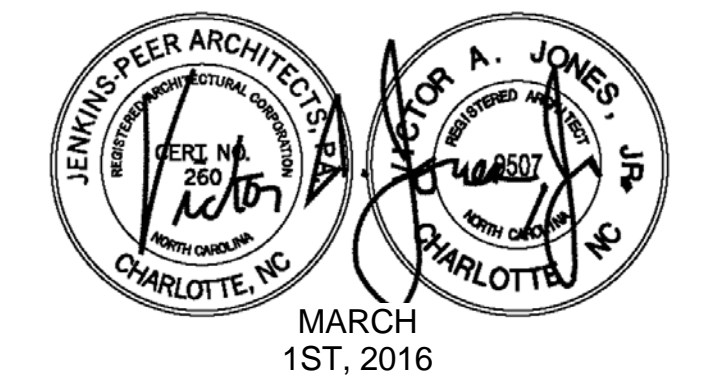
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**UNC CHARLOTTE  
RESIDENCE  
DINING HALL  
BUILDING  
RENOVATION**  
SCO ID #: 14-11273-02A

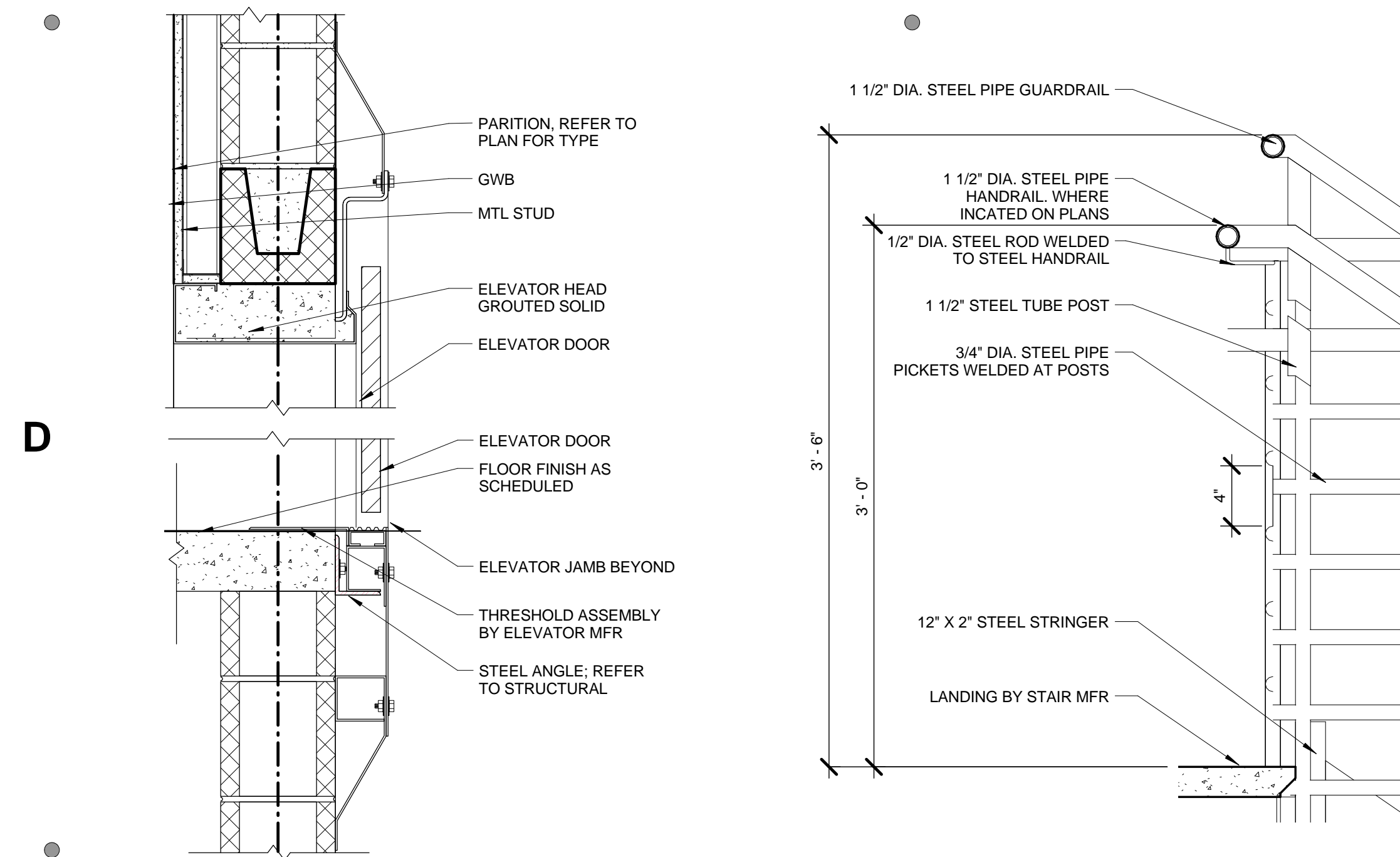
TAG	DESCRIPTION	DATE
2	ADDENDUM #2	3/22/16

Project: 15NCC491  
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**EXTERIOR  
ELEVATIONS**

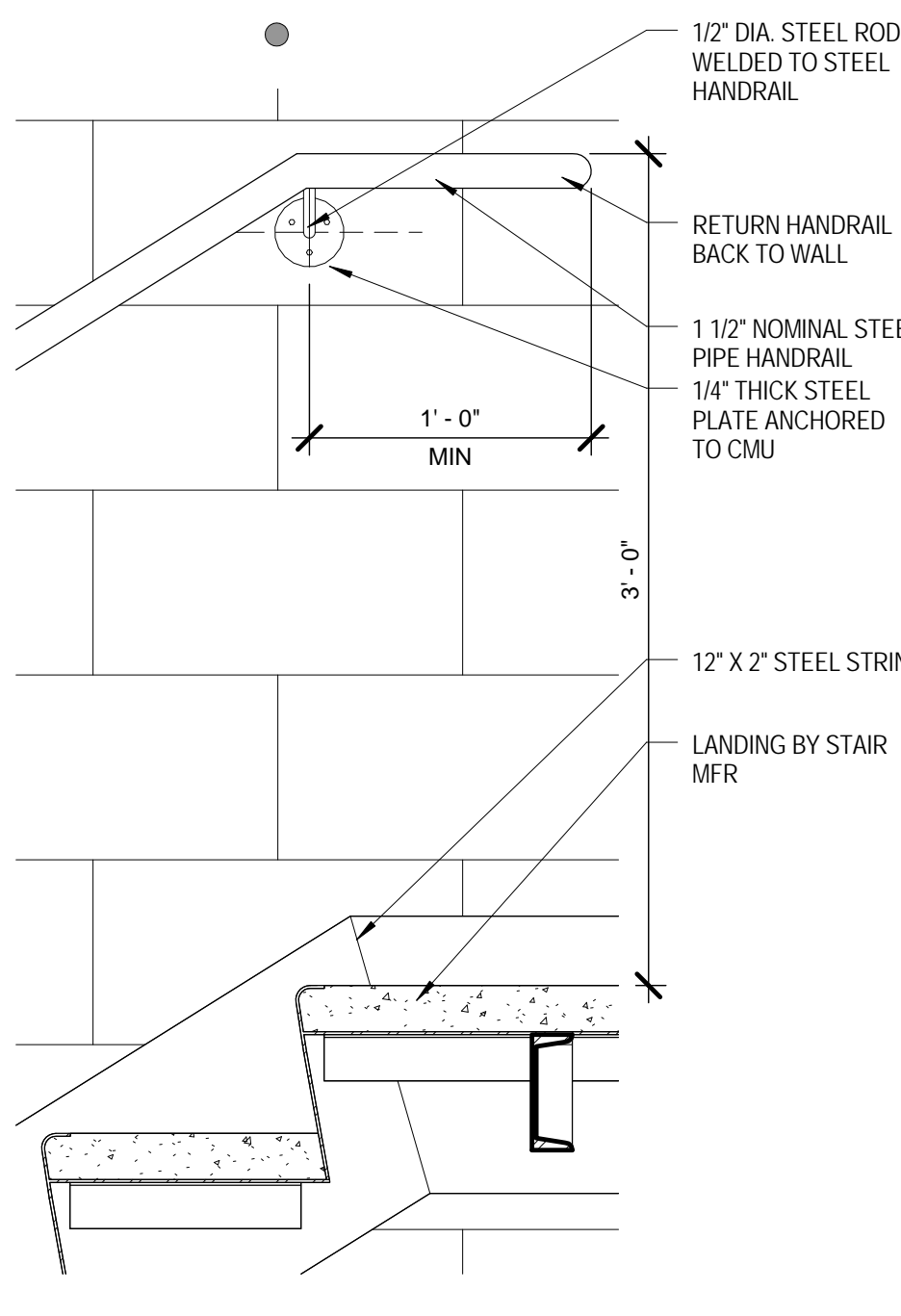
**CONSTRUCTION  
DOCUMENTS**



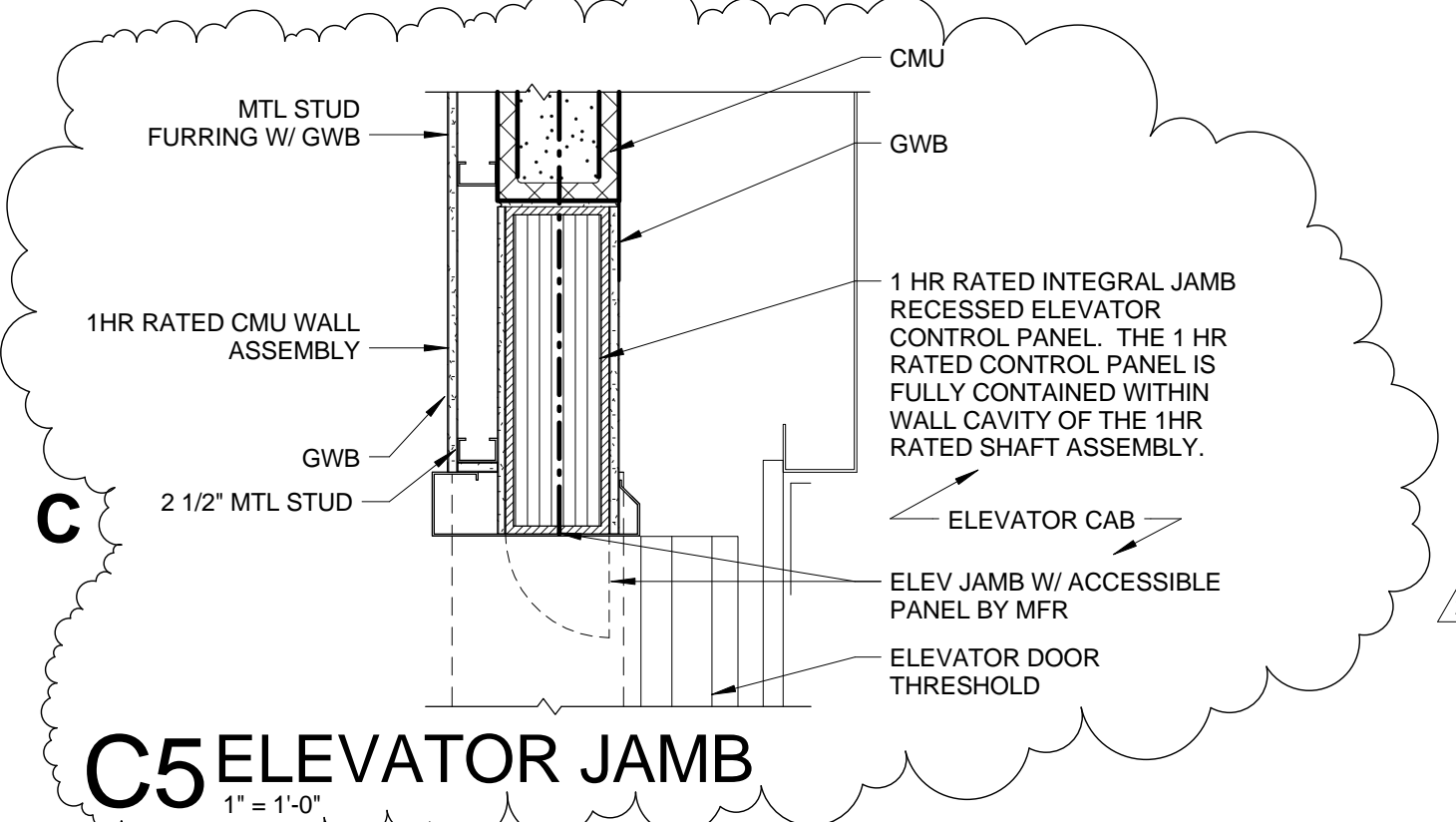


**D6 TYP. ELEV HEAD & SILL DTL**  
1 1/2" = 1'-0"

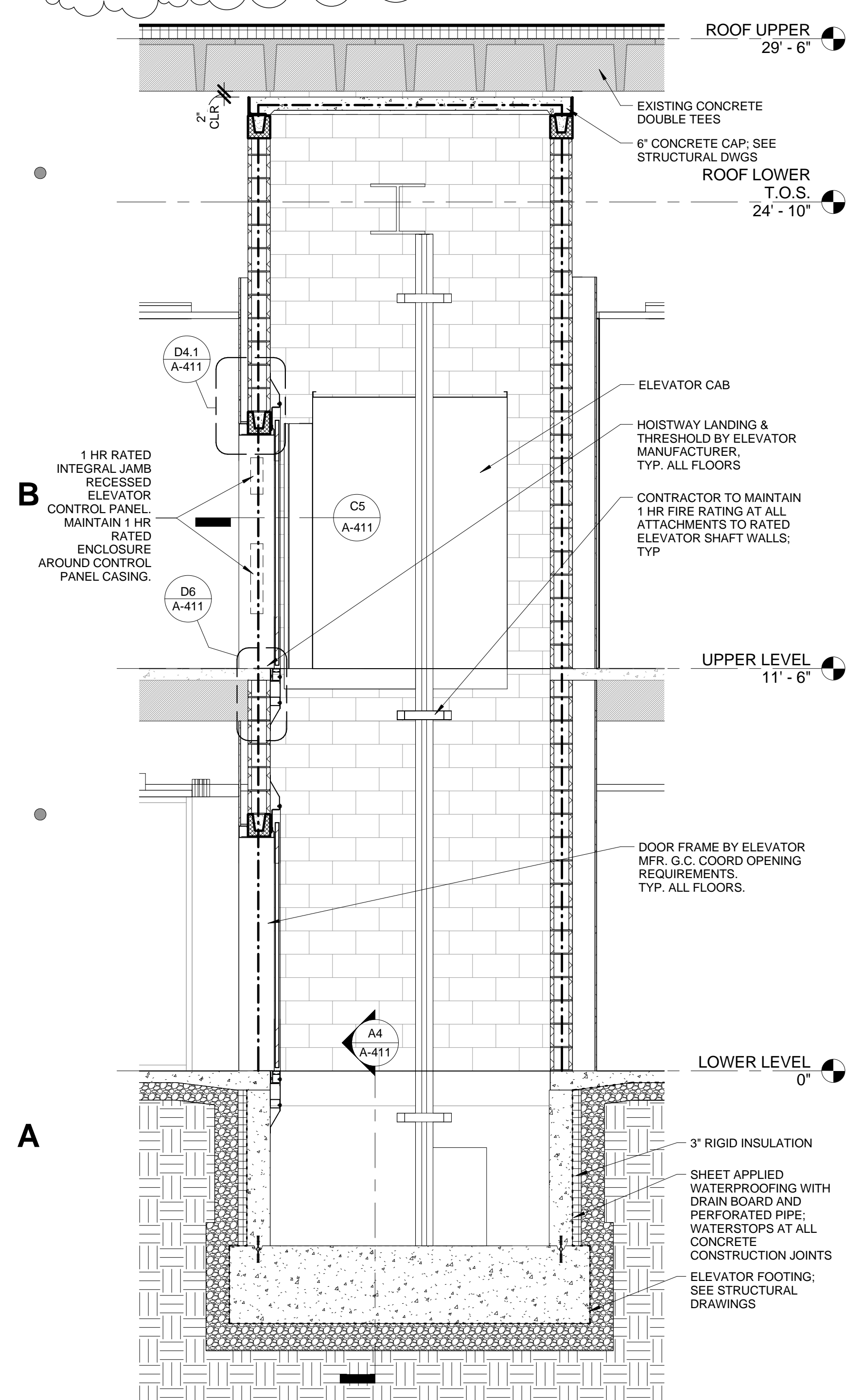
**D5 HANDRAIL - GUARD MOUNTED**  
1 1/2" = 1'-0"



**D4 HANDRAIL DETAIL**  
1 1/2" = 1'-0"

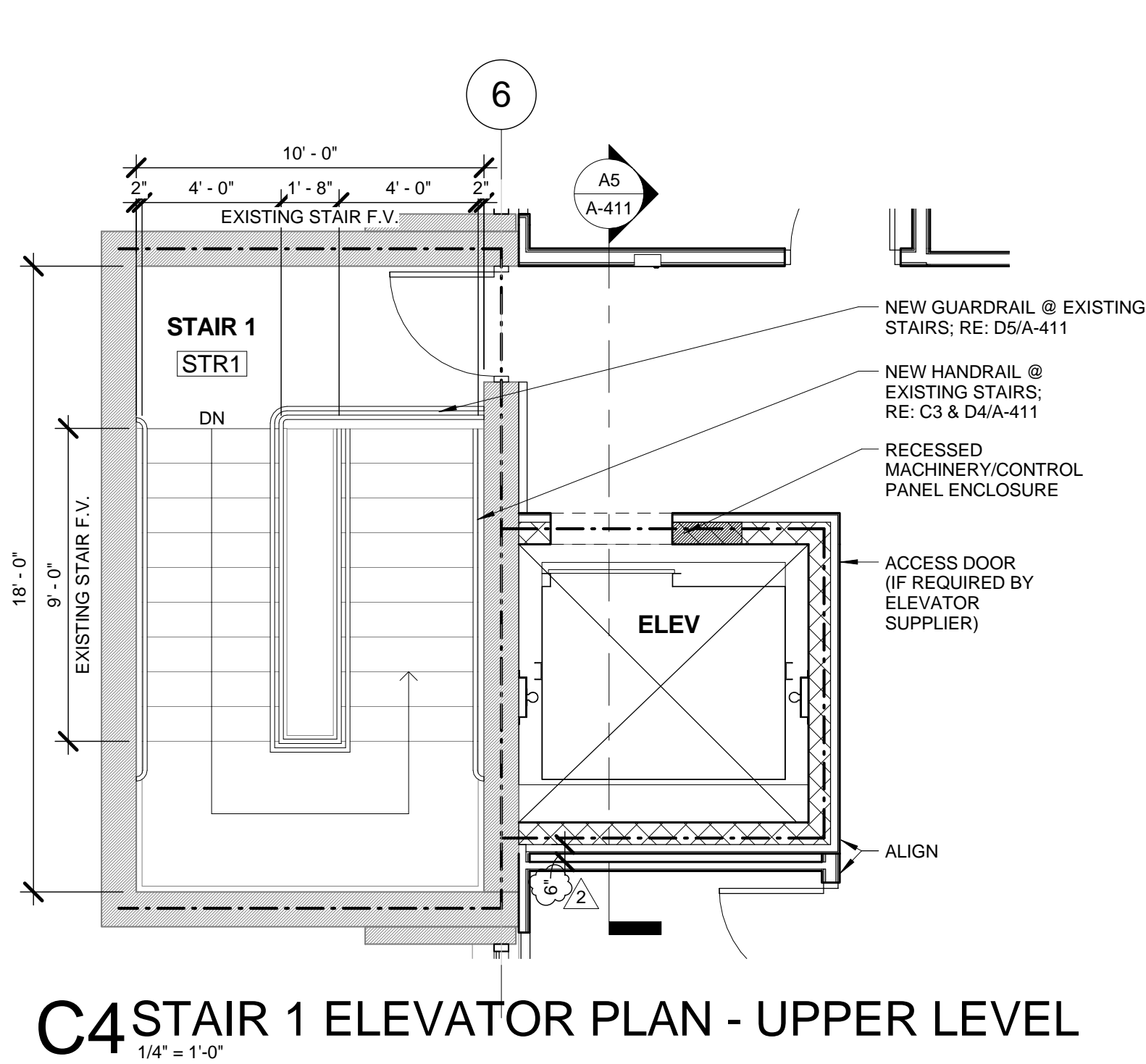


**C5 ELEVATOR JAMB**  
1" = 1'-0"

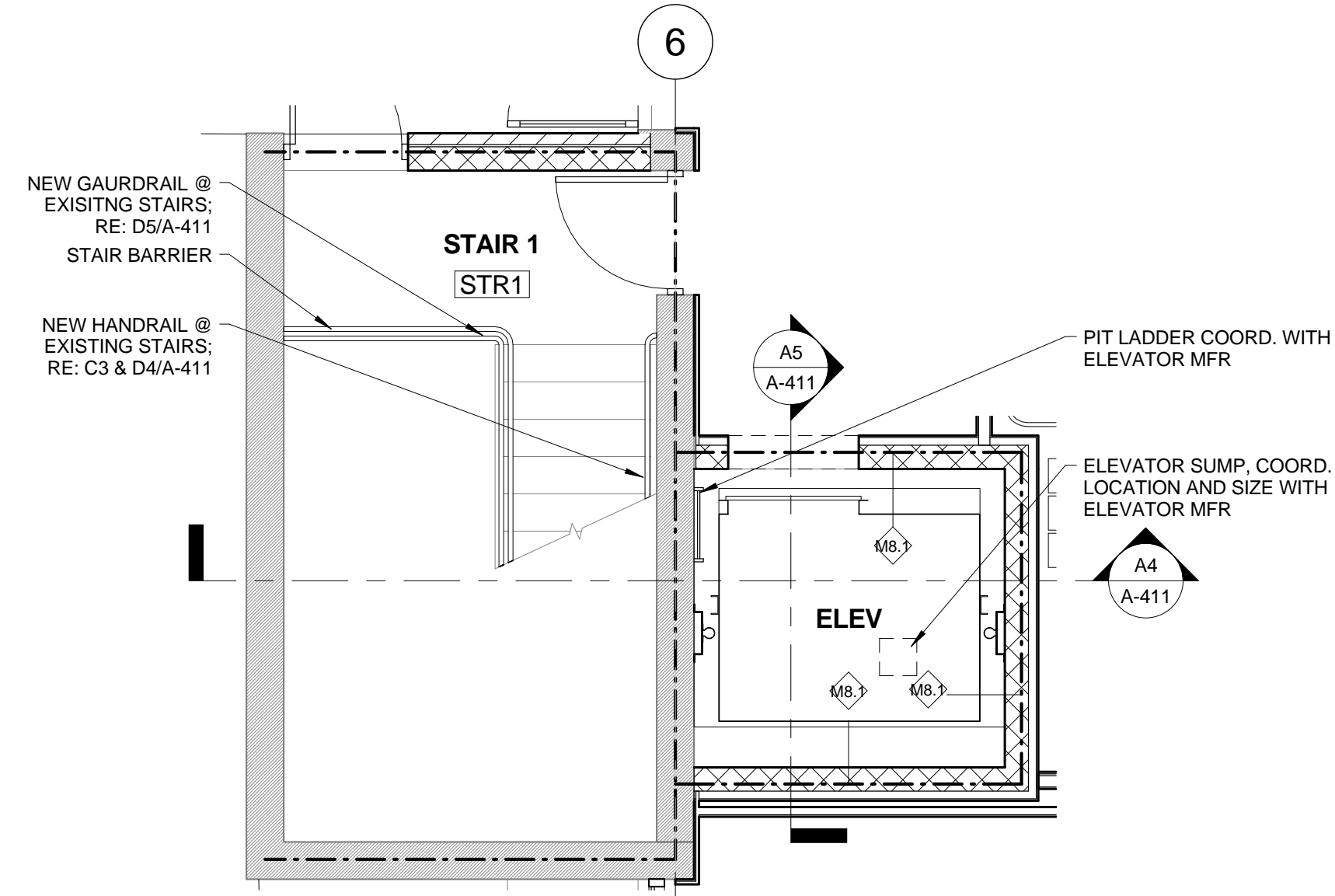


**A5 ELEVATOR SECTION = NS**  
3/8" = 1'-0"

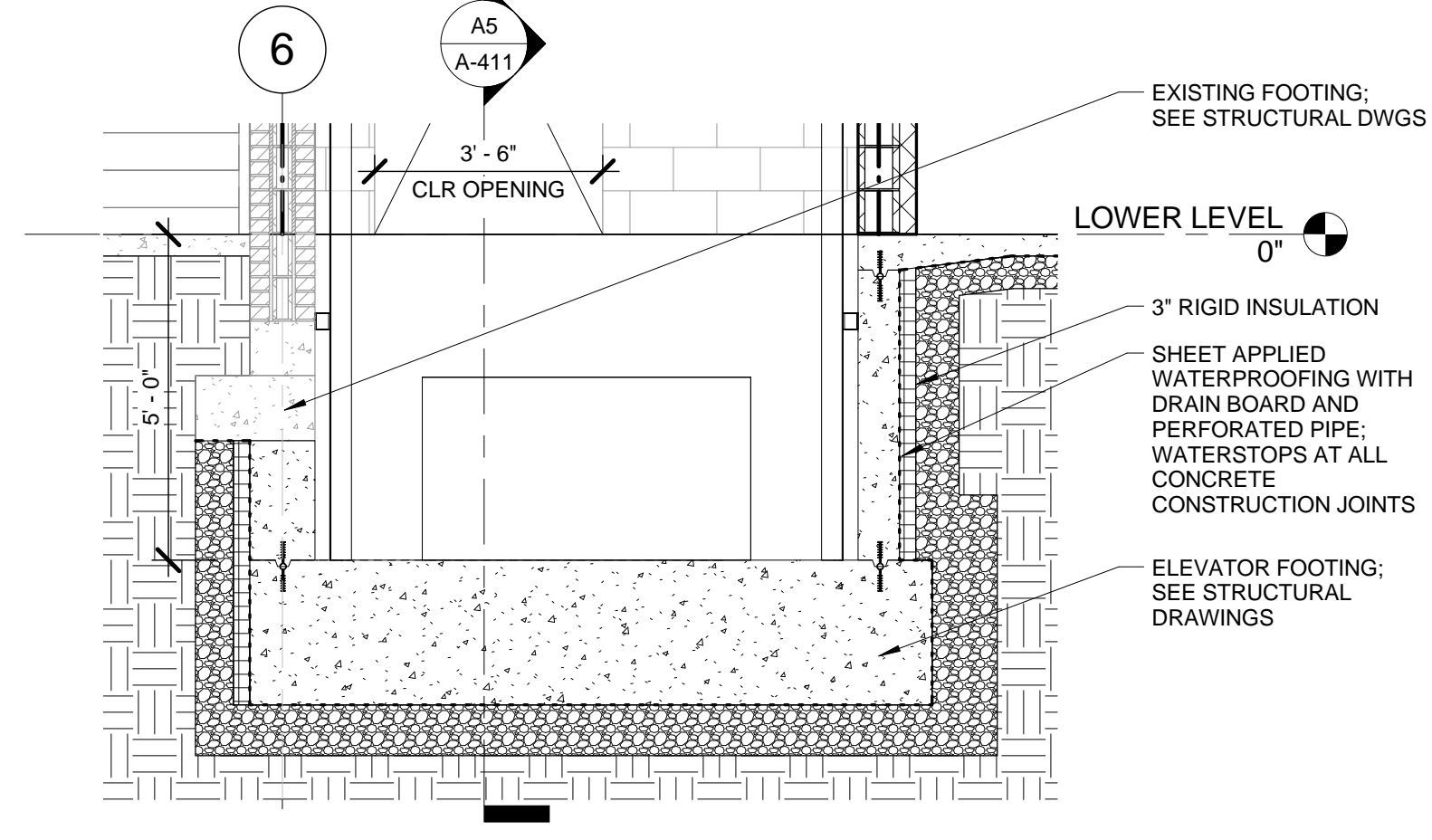
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**C4 STAIR 1 ELEVATOR PLAN - UPPER LEVEL**  
1/4" = 1'-0"

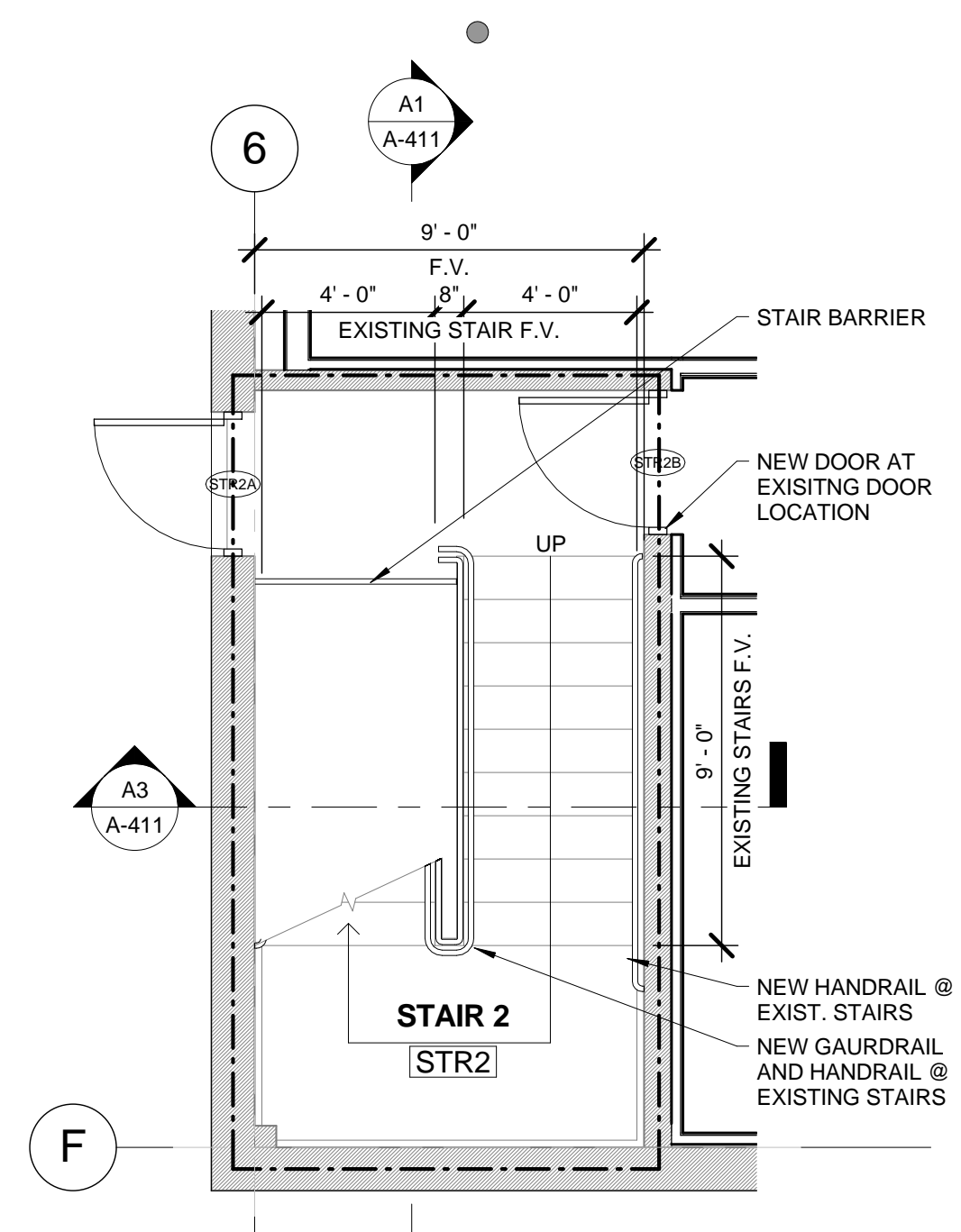


**B4 STAIR 1 / ELEVATOR PLAN - LOWER LEVEL**  
1/4" = 1'-0"

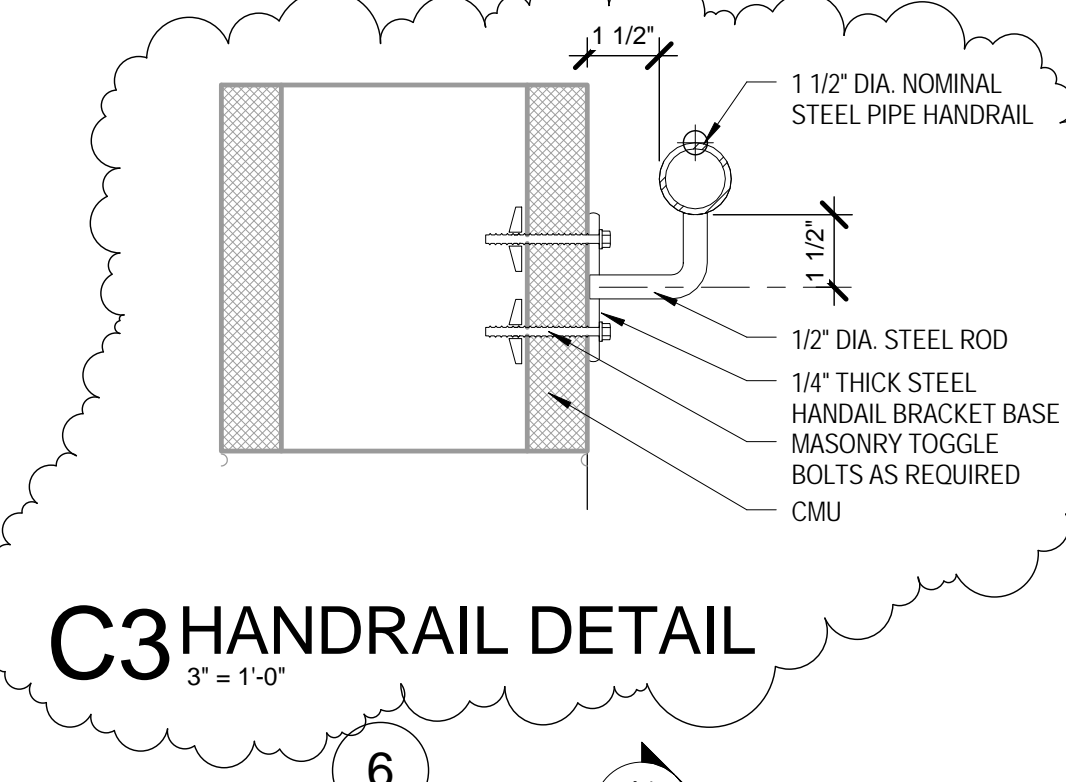


**A4 ELEVATOR PIT - SECTION**  
3/8" = 1'-0"

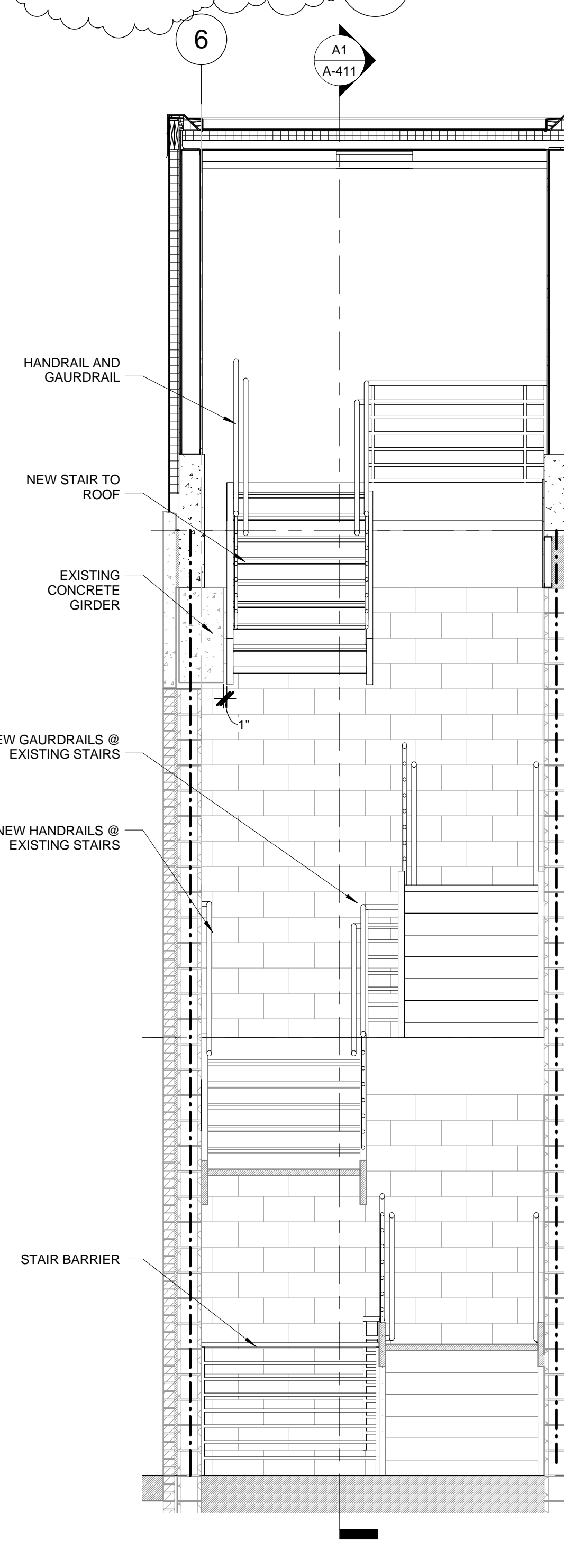
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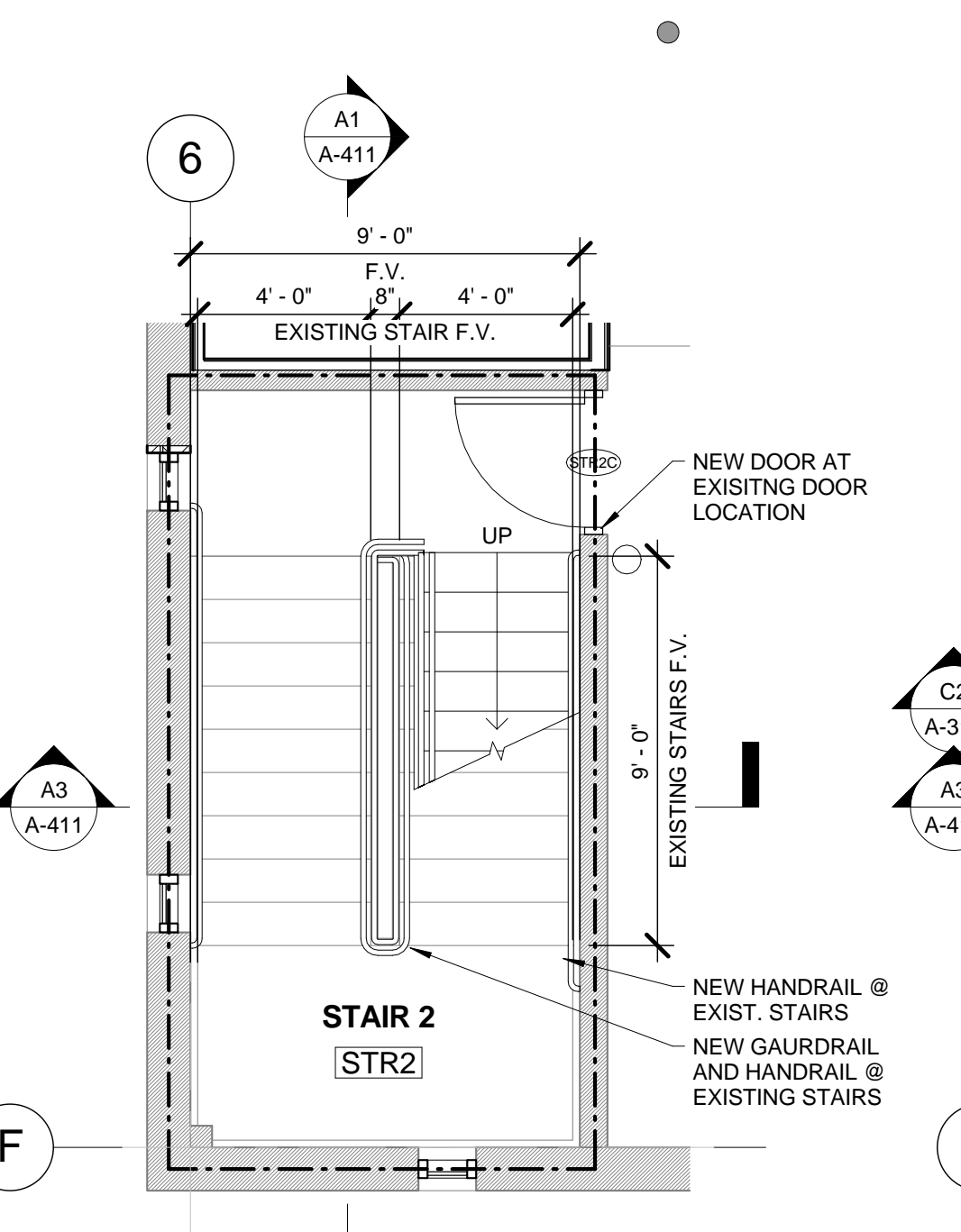
**D3 STAIR 2 PLAN - LOWER LEVEL**  
1/4" = 1'-0"



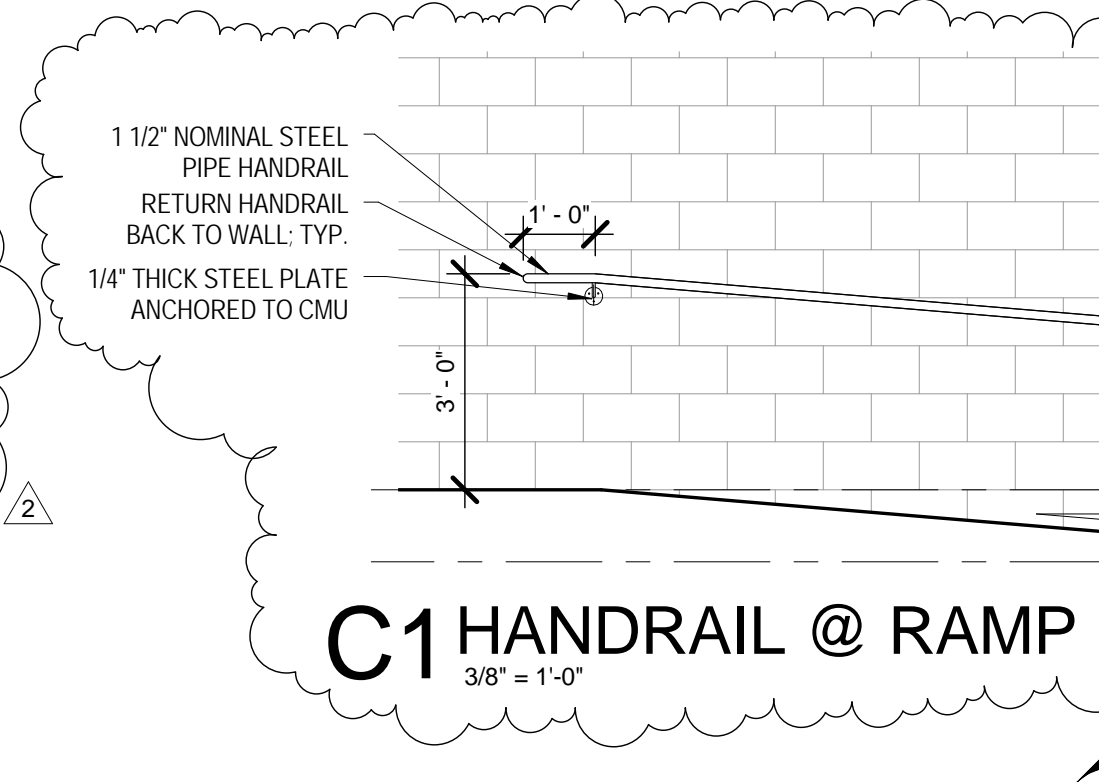
**C3 HANDRAIL DETAIL**  
3" = 1'-0"



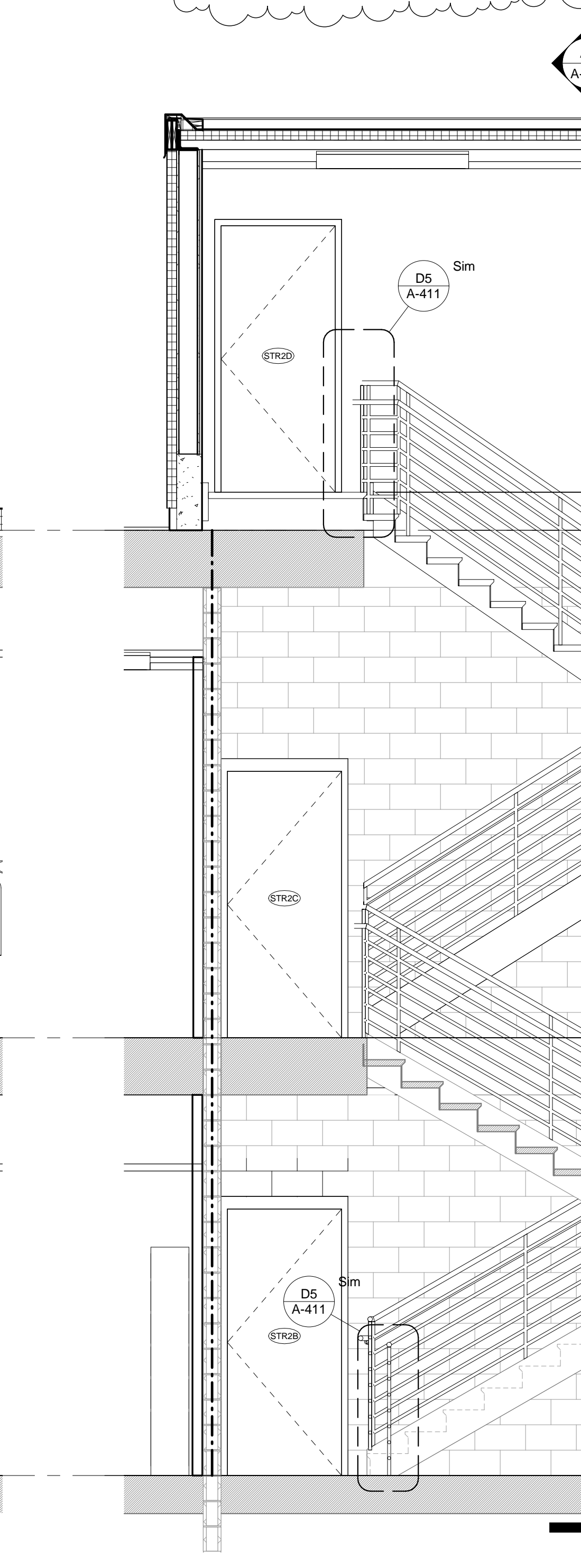
**A3 STAIR 2 SECTION - EW**  
3/8" = 1'-0"



**D2 STAIR 2 PLAN - UPPER LEVEL**  
1/4" = 1'-0"

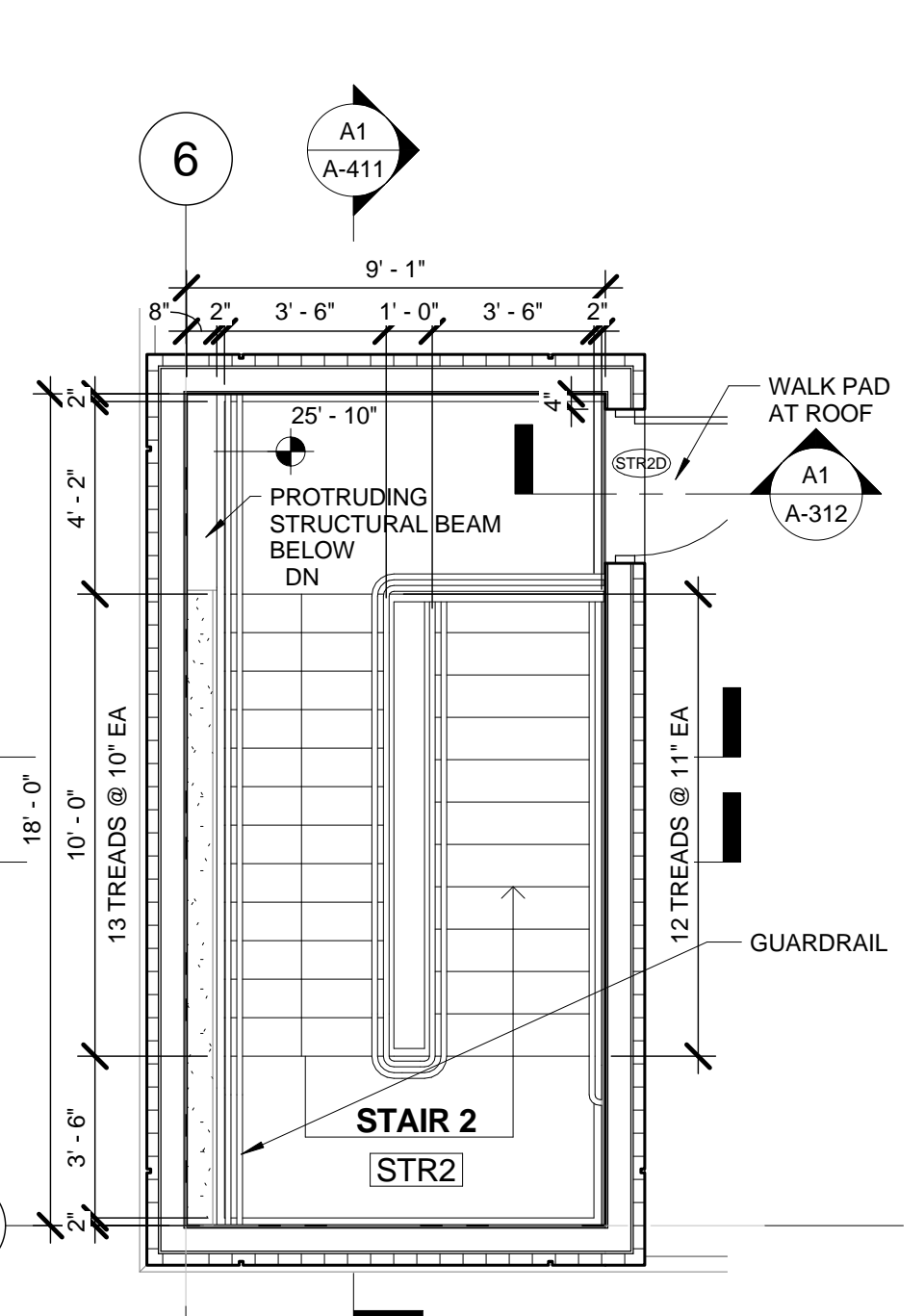


**C1 HANDRAIL @ RAMP**  
3/8" = 1'-0"

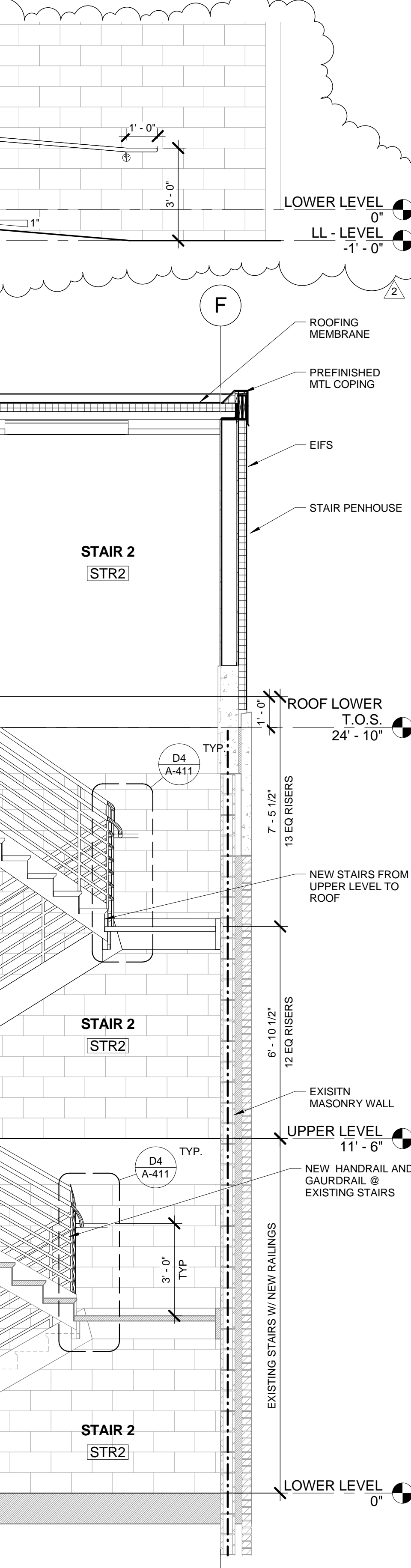


**A1 STAIR 2 SECTION - NS**  
3/8" = 1'-0"

2



**D1 STAIR 2 PLAN - ROOF**  
1/4" = 1'-0"



1

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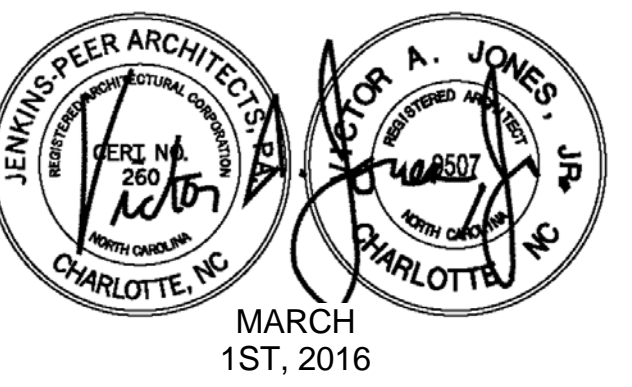
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## UNC CHARLOTTE RESIDENCE DINING HALL BUILDING RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
2	ADDENDUM #2	3/22/16

Project: 15NCC491  
Drawn By:  
Checked By:  
Date: MARCH 1ST, 2016  
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## ENLARGED ELEVATOR / STAIR PLANS & DETAILS

## CONSTRUCTION DOCUMENTS

# A-411

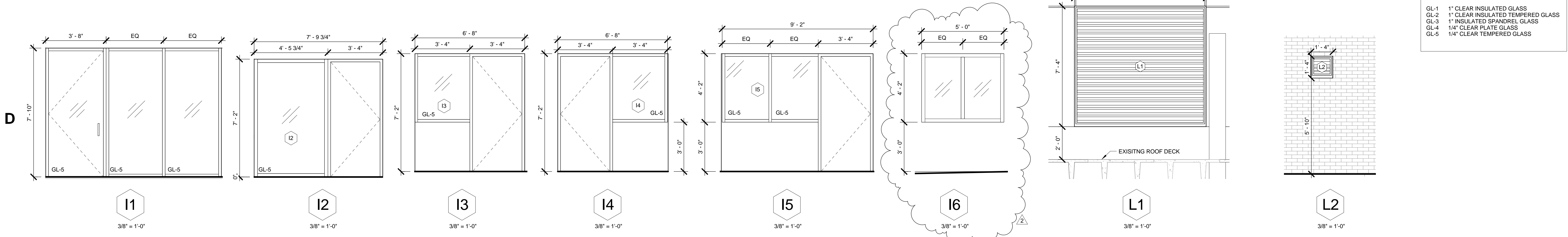


## DOOR SCHEDULE

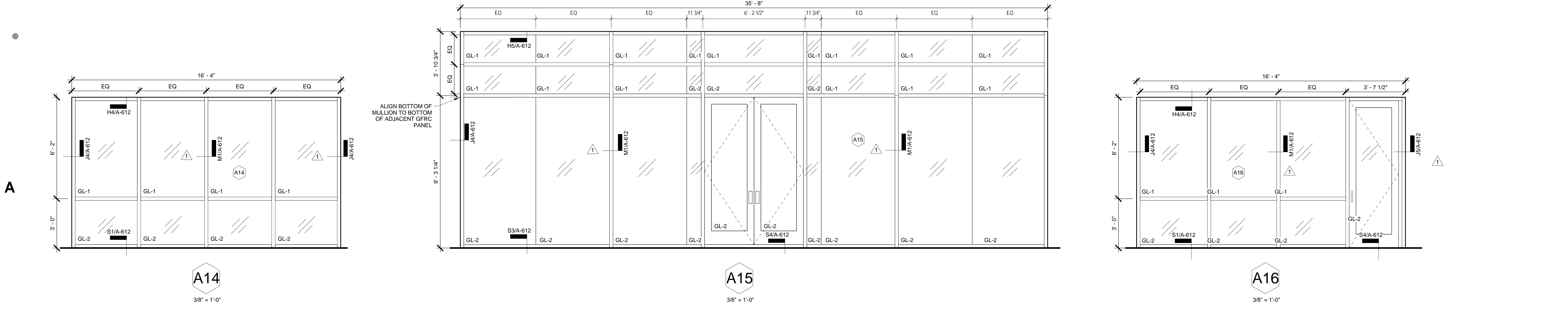
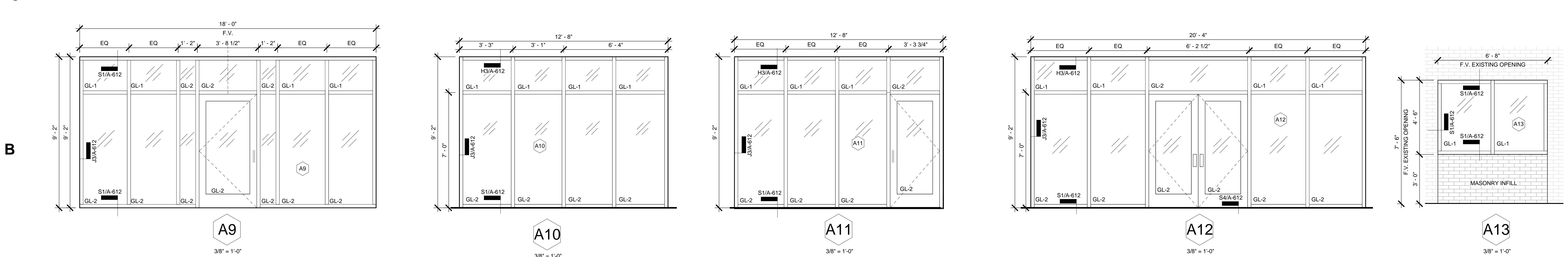
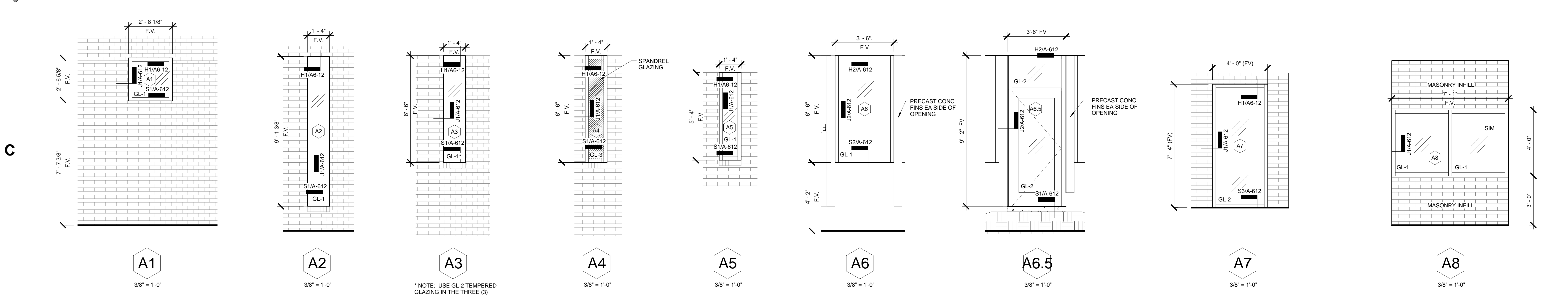
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118	3'- 0"	7'- 0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0

MARK	DOOR				FRAME						FIRE RATING	REMARKS	HW SET #
	WIDTH	SIZE HGT	THK	DOOR MATERIAL	DOOR TYPE	FRAME MATERIAL	FRAME TYPE	HEAD	DETAILS JAMB	SILL			
119	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
120	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
121	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
122	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
123	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
124	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
127	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			24.0
128	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1		3	11.0
129	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T5		2	13.0
130	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T4		2	23.0
131	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T5		2	27.0
132	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			16.0
132A	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			21.0
133	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			17.0
133A	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			16.0
134	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			16.0
134A	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			20.0
135	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
136	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
137	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			15.0
138	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			43.1
139	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			45.0
140	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			43.1
141	3'-0"	7'-0"	1 3/4"	WD	F	HM	F2	H1	J1	T1		3	39.0
142	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
143	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
144	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
145	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
146	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
147	3'-0"	7'-0"	1 3/4"	WD	N1	HM	F1	H1	J1	T1			42.0
148	3'-0"	7'-0"	1 3/4"	WD	G	HM	F1	H1	J1	T1			43.0
148A	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			50.0
149	3'-0"	7'-0"	1 3/4"	WD	F	HM	F1	H1	J1	T1			49.0
150	3'-0"	7'-0"	1 3/4"	WD	G	HM	F4	H1	J1	T1		9	36.0
151	3'-0"	7'-0"	1 3/4"	WD	G 2	HM	F4	H1	J1	T1		9	36.0
152	3'-0"	7'-0"	1 3/4"	HM	F	HM	F1	H1	J1	T1		2	45.1
155	3'-0"	7'-0"	1 3/4"	WD	G 2	HM	F5	H1	J1	T1		9	36.0
160	4'-0"	7'-0"	0"			HM	F1	H1	J1	-		8	-
160A	4'-0"	7'-0"	0"			HM	F1	H1	J1	-		8	-
162	4'-0"	7'-0"	1 3/4"	HM	F	HM	F1	H1	J1	T1			46.0
163	5'-0"	7'-0"	0"			HM	F1	H1	J1	-		8	-
163A	2'-3'-0"	7'-0"	2"	GL/AL	FG	AL	SF	-	-	S4/A-6 12		4	32.0
165	10'-0"	7'-6"	2"	-	-	-	-	-	-	-		1.7	48
165A	3'-0"	7'-0"	1 3/4"	HM	F	HM	F2	H2	-	-			34.0
166	3'-6"	7'-0"	1 3/4"	HM	F	HM	F2	H3	-	-			34.0
167	3'-6"	7'-2"	1 3/4"	HM	F	HM	F2	H3	-	-			34.0
COR1	4'-0"	7'-0"	1 3/4"	WD	G	HM	F1	H1	J1	T1			27.0
COR2	6'-0"	7'-0"	1 3/4"	HM	F2	HM	F2	-	-	-			5.0
COR3	3'-6"	6'-10 3/4"	2"	GL/AL	FG	AL	SF	-	-	S4/A-6 12		4,5	3.0
COR6	3'-6"	7'-0"	1 3/4"	WD	G	HM	F3	H1	J1	T6		3	8.0
COR8	6'-0"	7'-0"	1 3/4"	HM	N2	HM	F2	C6/A311	C6/A31 1			3	33.0
R03	6'-0"	7'-0"	1 3/4"	HM	F2	HM	F1	A1/312	-	-			35.0
STR1A	3'-0"	7'-0"	1 3/4"	HM	F	HM	F2	H2	J2	T6	60 MIN	4	31.0
STR1B	3'-0"	7'-0"	1 3/4"	WD	F	HM	F2	H2	J2	T6	60 MIN		9.0
STR1C	3'-0"	7'-0"	1 3/4"	WD	F	HM	F2	H2	J2	T6	60 MIN		37.0
STR2A	3'-0"	7'-0"	1 3/4"	HM	F	HM	F2	H2	J2	T6		4	4.0
STR2B	3'-0"	7'-0"	1 3/4"	WD	F	HM	F2	H2	J2	T6	60 MIN	4	10.0
STR2C	3'-0"	7'-0"	1 3/4"	WD	F	HM	F2	H2	J2	T6	60 MIN		38
STR2D	3'-0"	7'-0"	1 3/4"	HM	F	HM	F2	H2	J2	T6			34





INTERIOR STOREFRONT / HM FRAMES



EXTERIOR STOREFRONT

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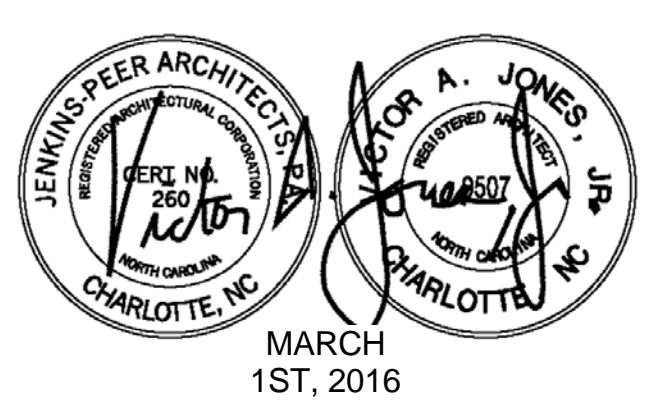
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UNC CHARLOTTE  
RESIDENCE  
DINING HALL  
BUILDING  
RENOVATION  
SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM # 1	3/16/16
2	ADDENDUM #2	3/22/16

Project: 15NCC491  
Drawn By:  
Checked By:  
Date: MARCH 1ST, 2016  
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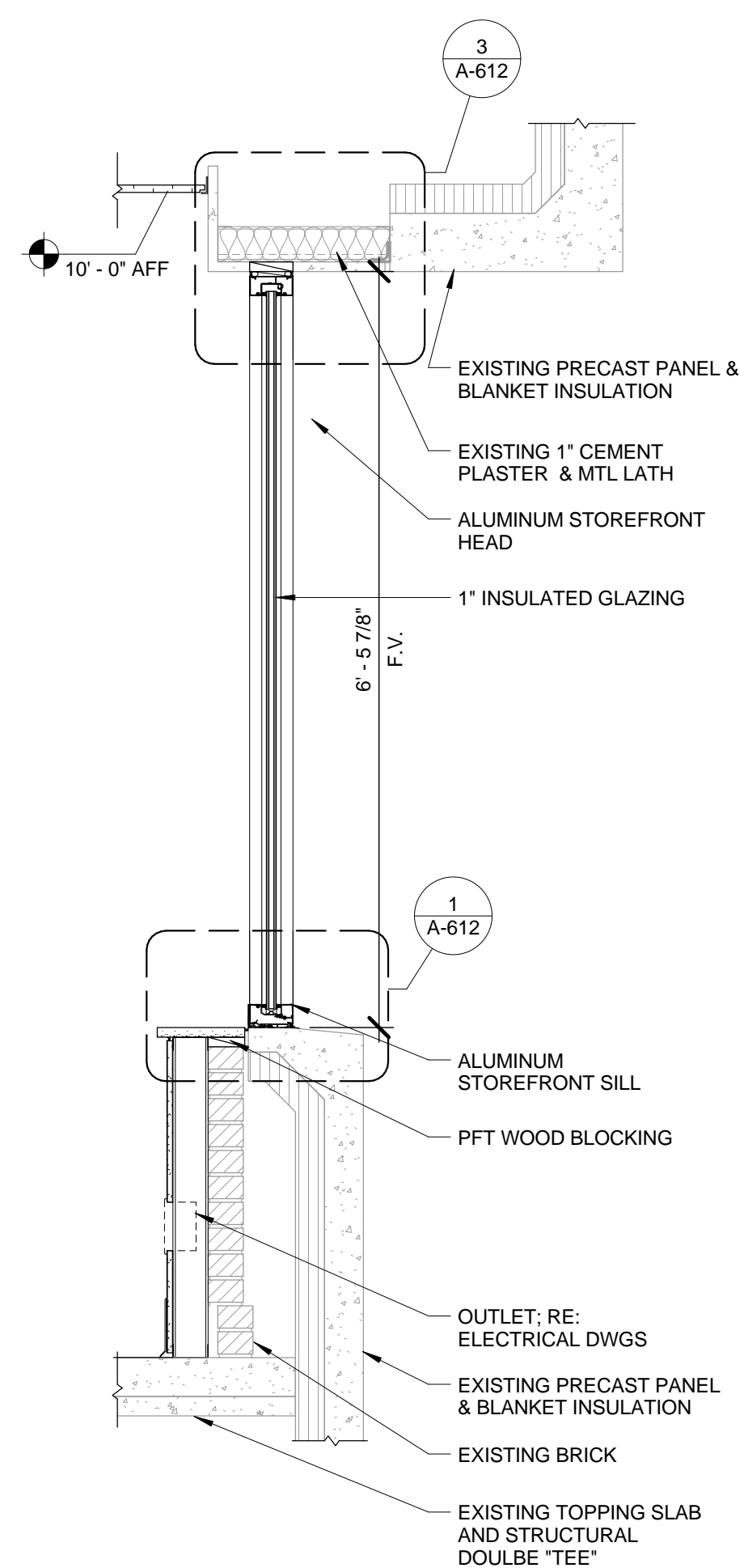
GLAZING &  
LOUVER  
SCHEDULE

CONSTRUCTION  
DOCUMENTS

A-611



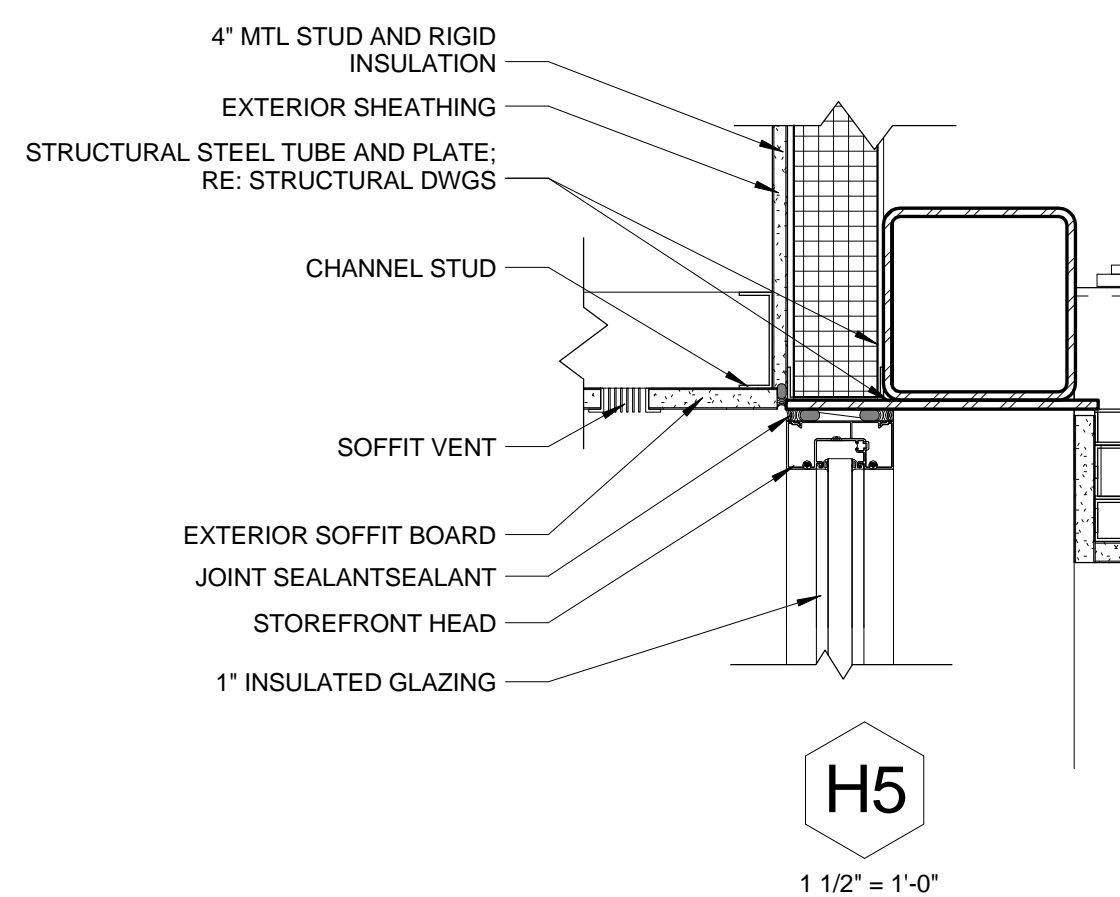
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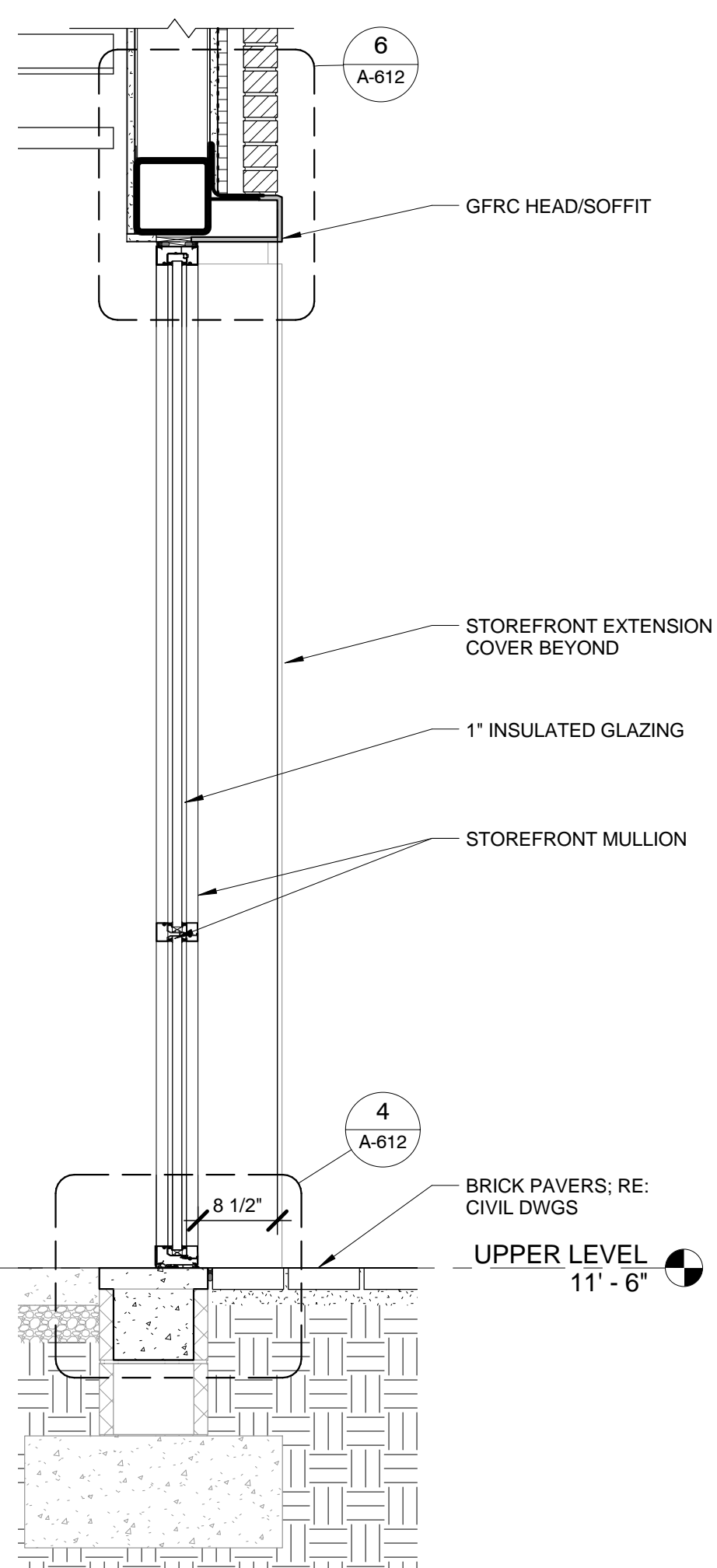
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### D1 STOREFRONT HEAD & SILL - TYPE B

3/4" = 1'-0"



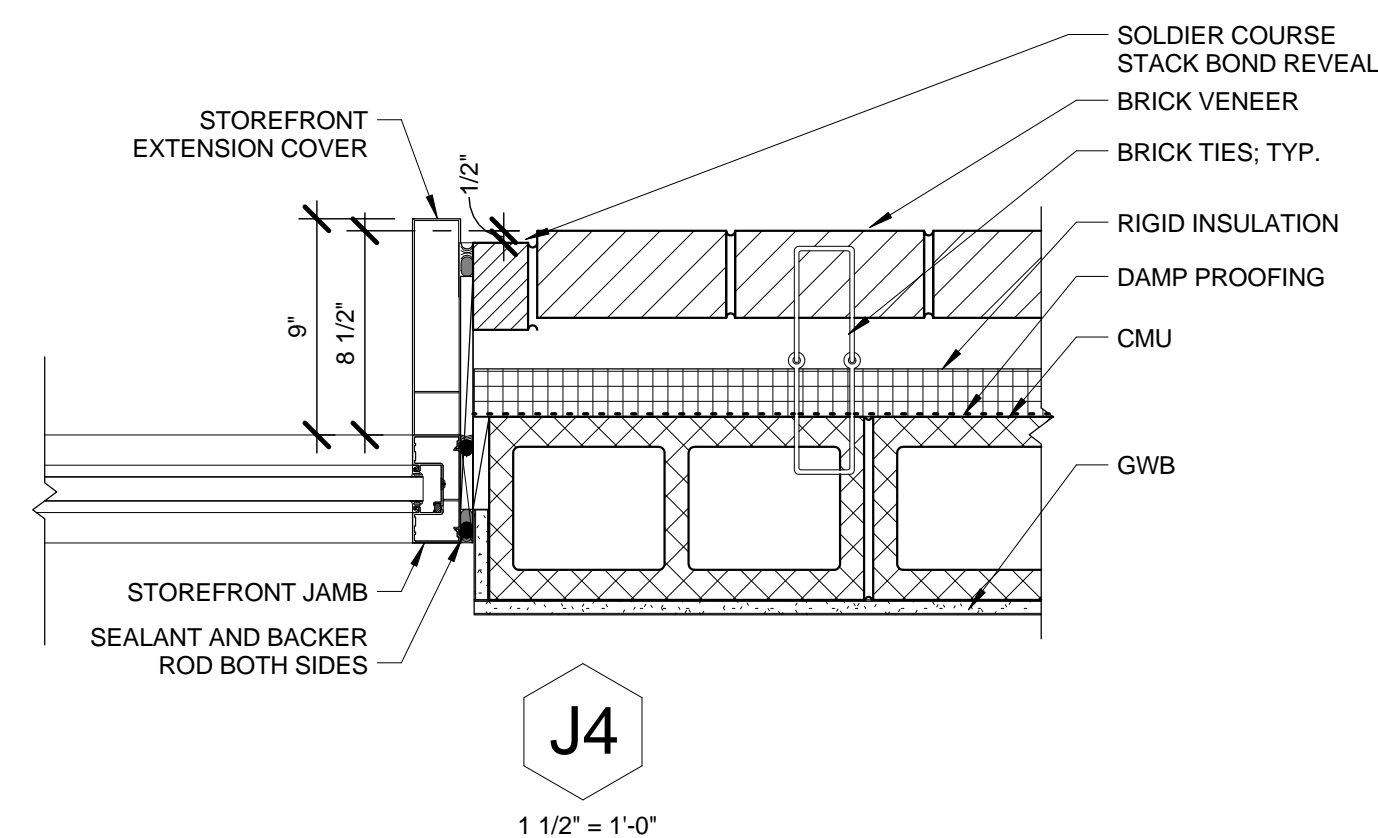
B



### A5 SECTION @ ALTERNATE GLAZING

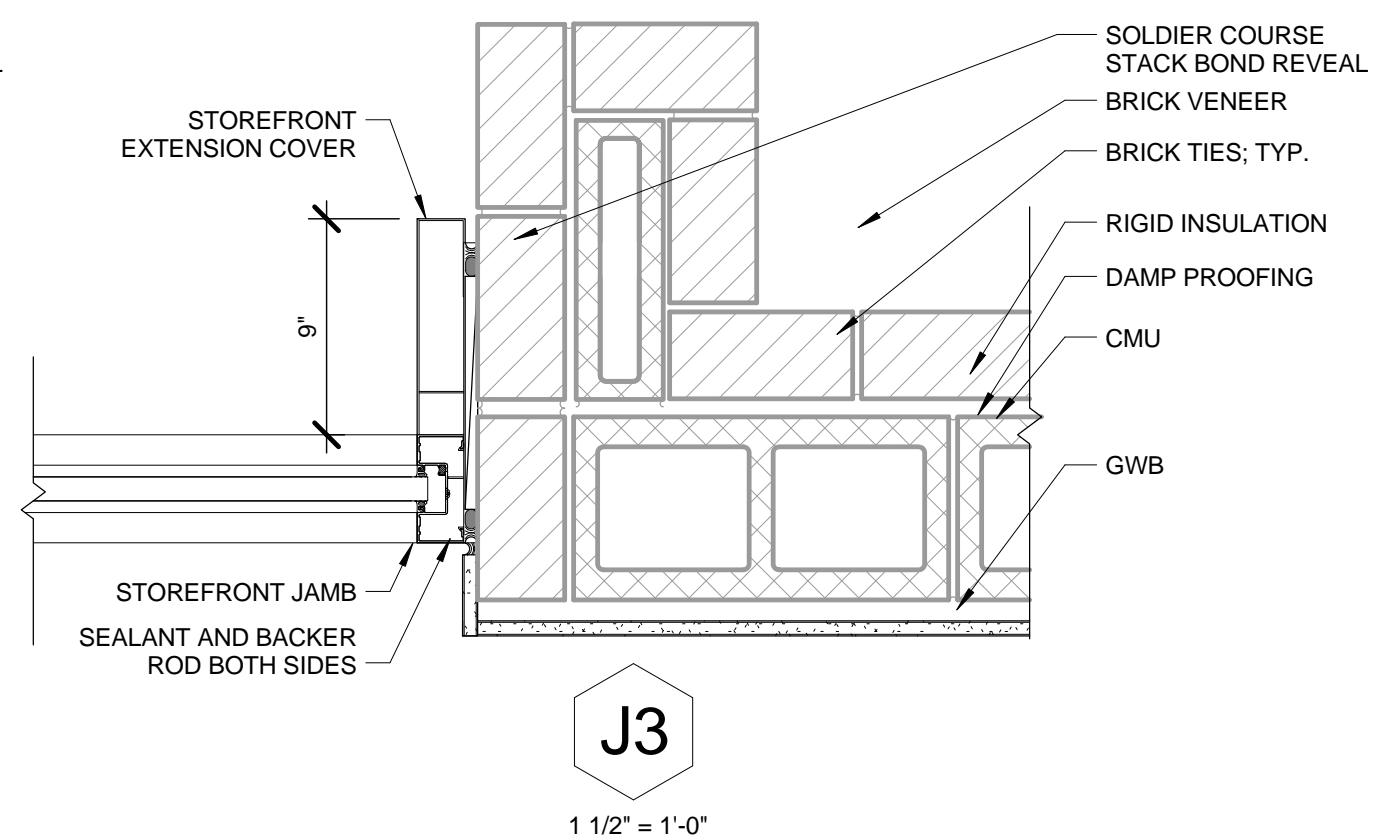
3/4" = 1'-0"

A



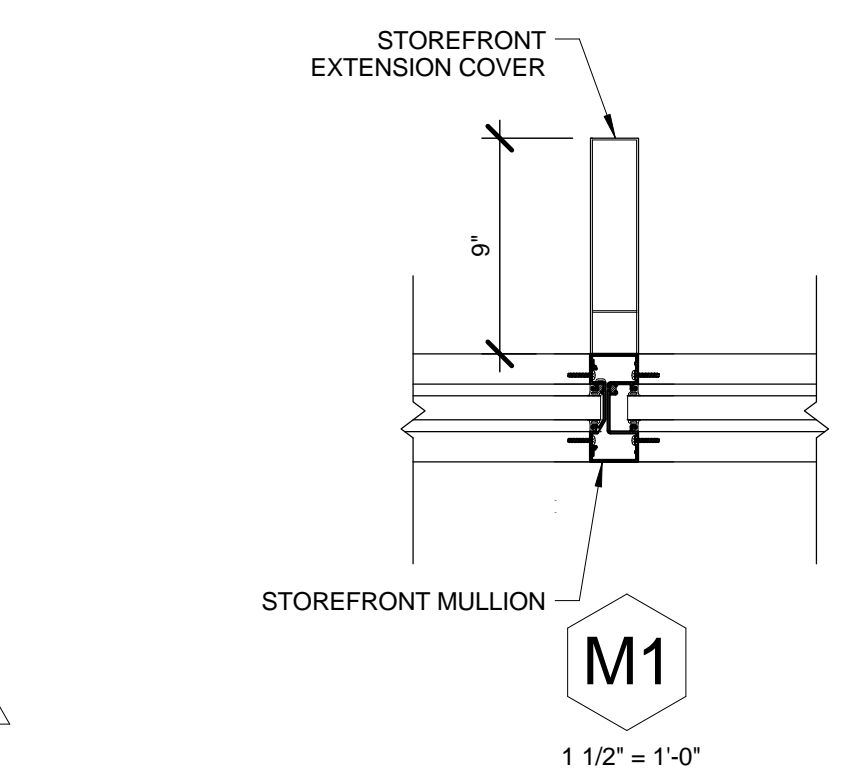
S4

1 1/2" = 1'-0"



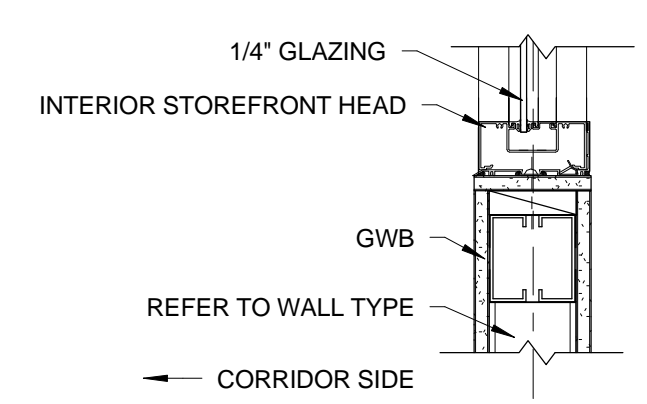
S3

1 1/2" = 1'-0"



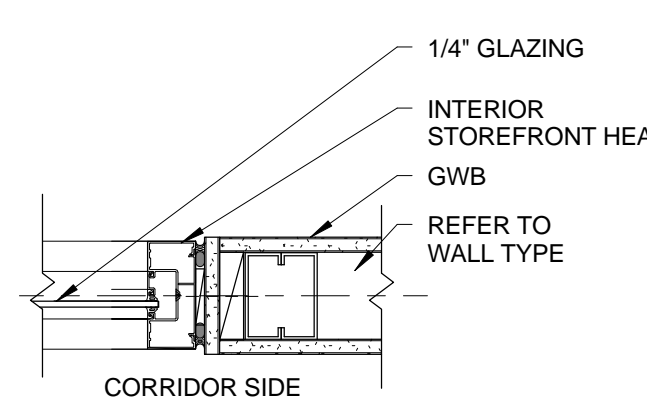
H4

1 1/2" = 1'-0"



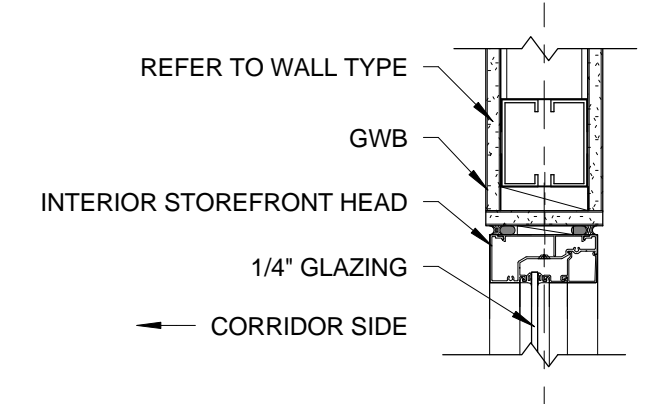
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1 1/2" = 1'-0"



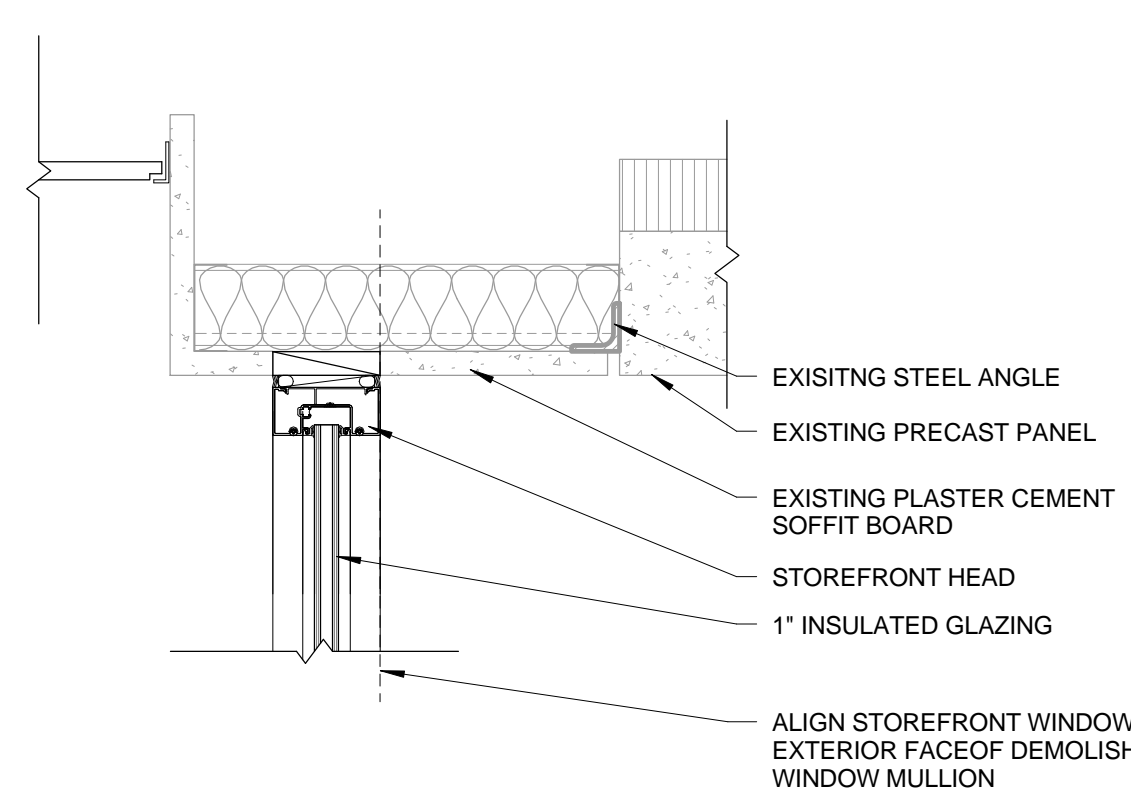
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1 1/2" = 1'-0"



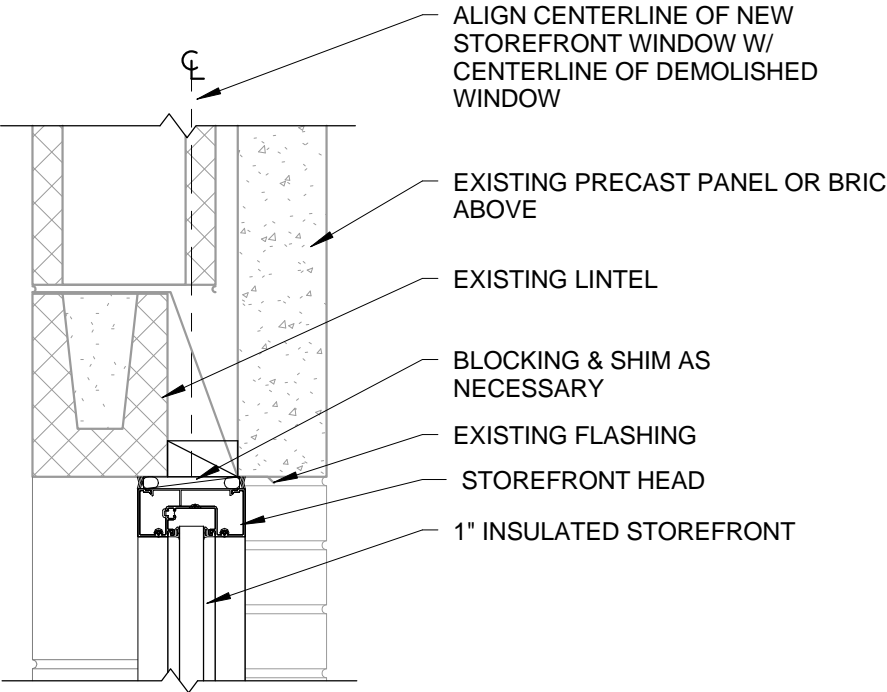
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1 1/2" = 1'-0"



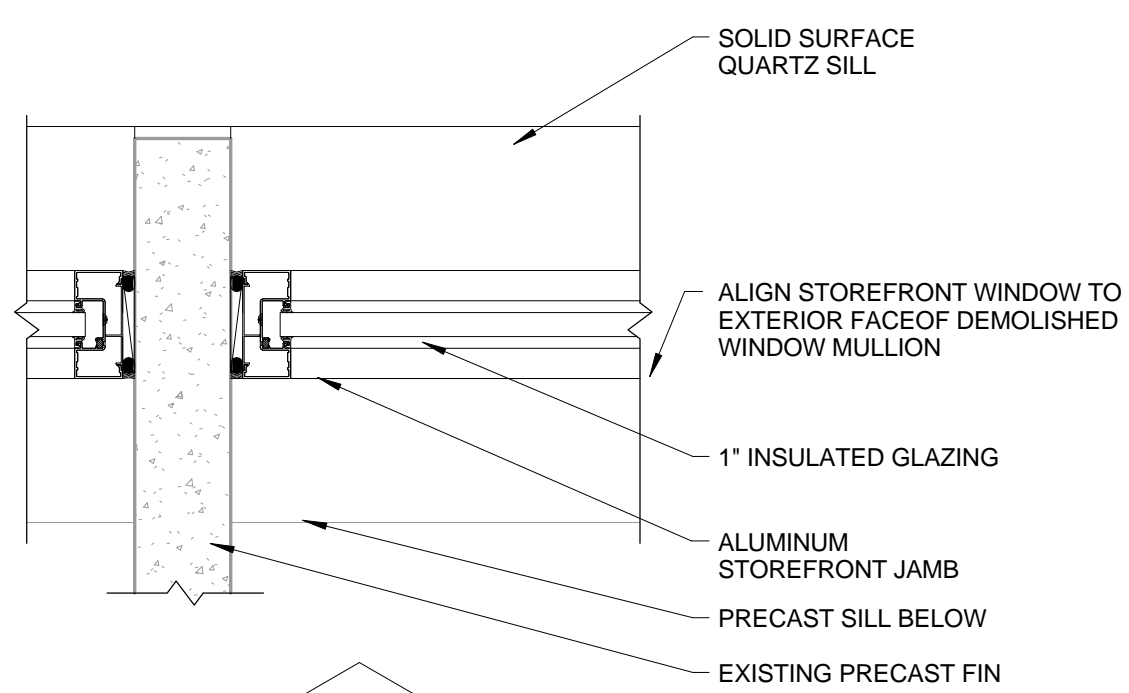
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1 1/2" = 1'-0"



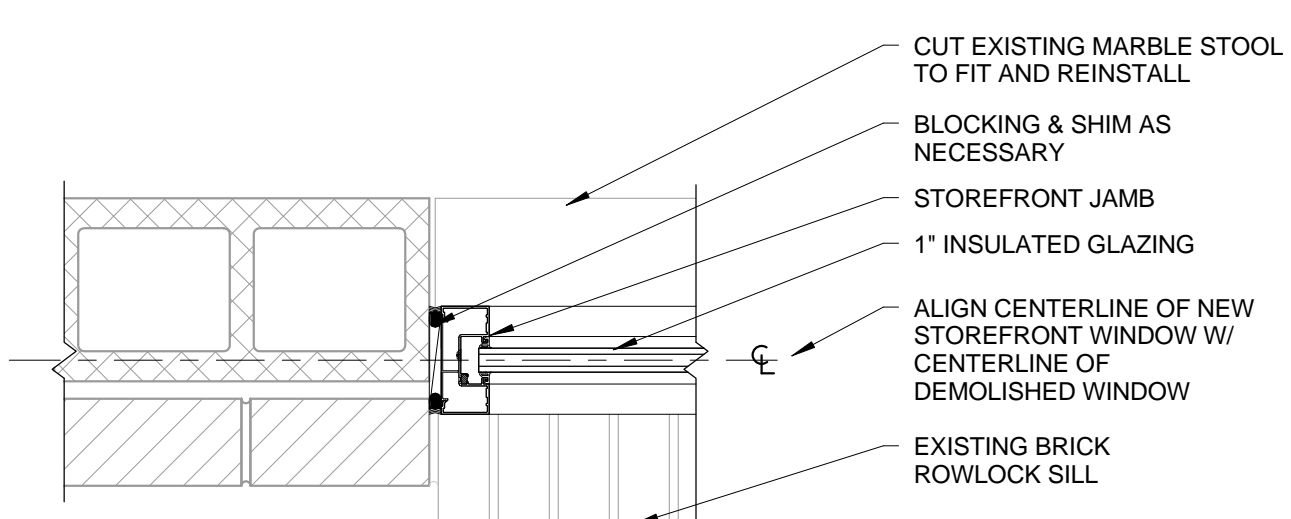
H1

1 1/2" = 1'-0"



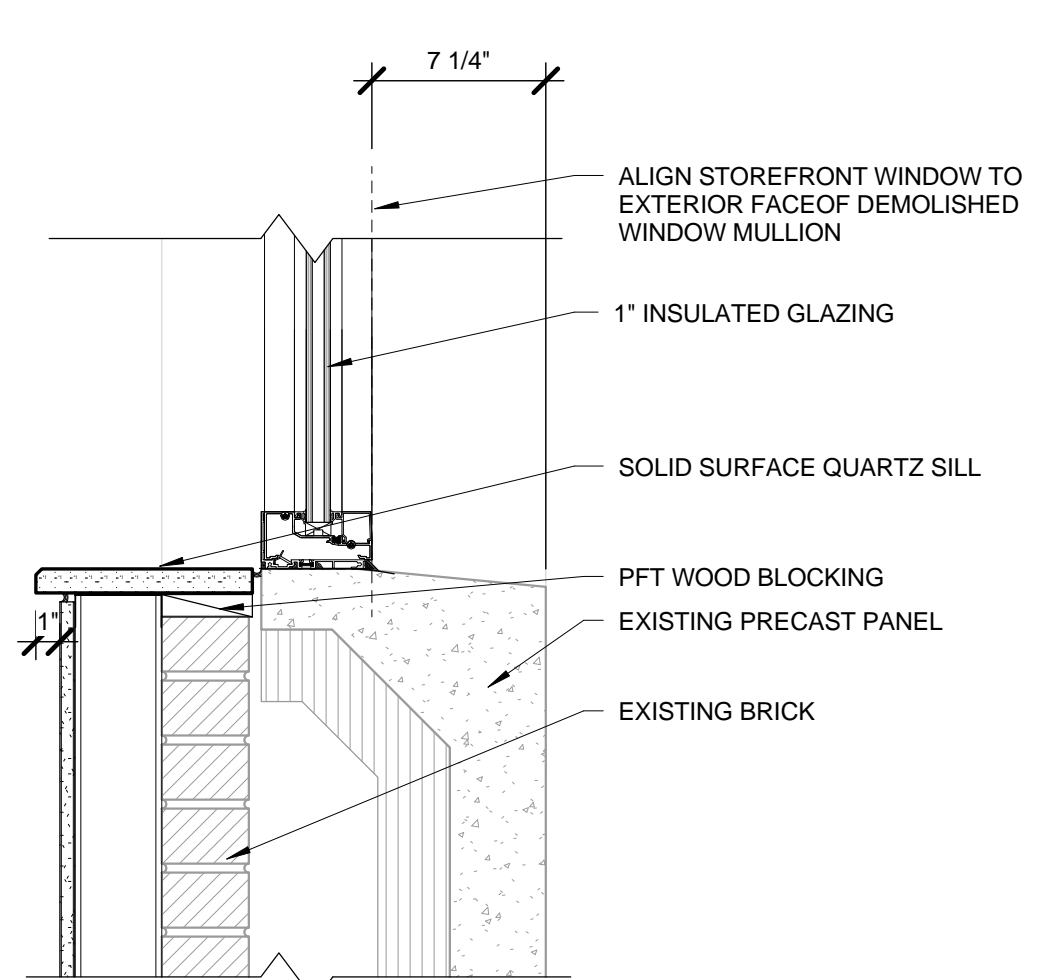
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1 1/2" = 1'-0"



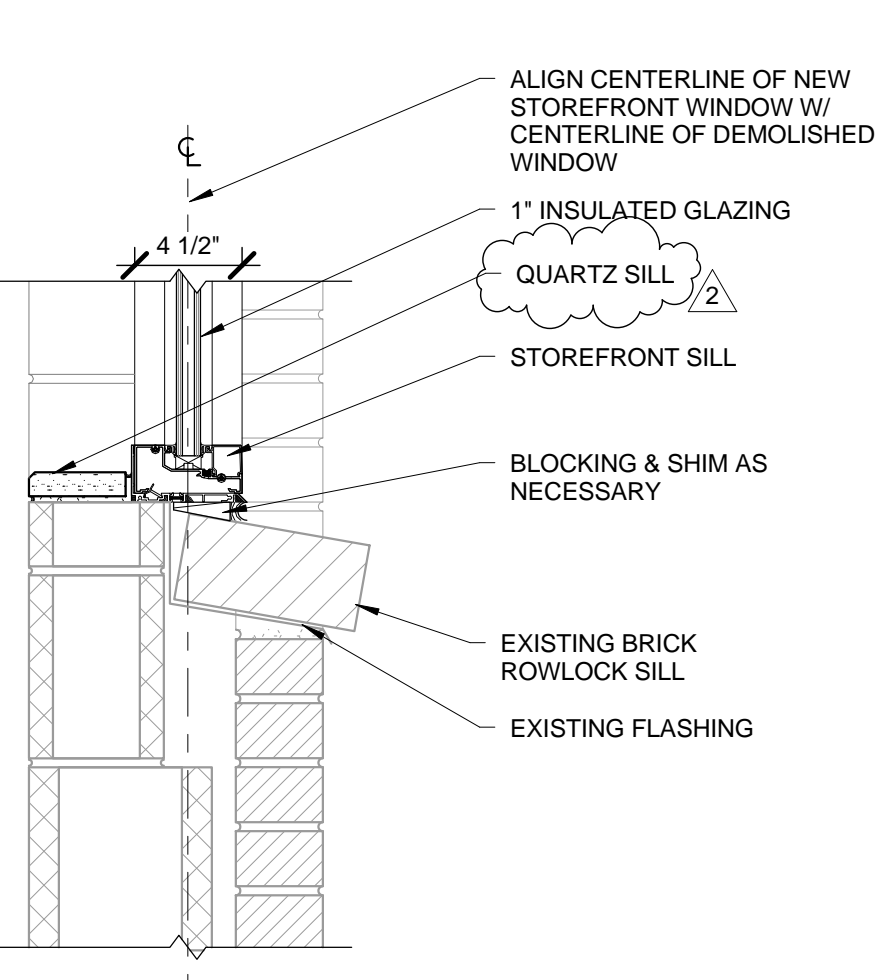
J1

1 1/2" = 1'-0"



S2

1 1/2" = 1'-0"



S1

1 1/2" = 1'-0"

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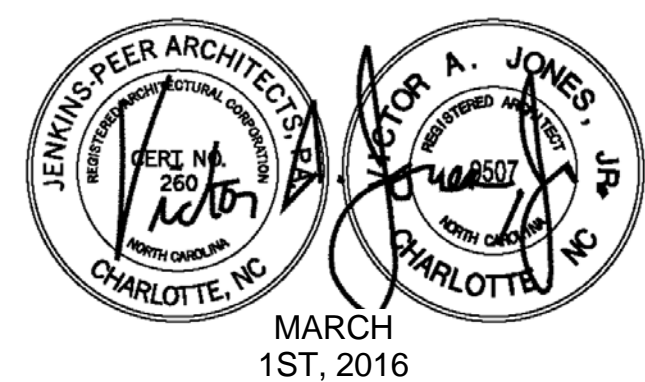
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## UNC CHARLOTTE RESIDENCE DINING HALL BUILDING RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM # 1	3/16/16
2	ADDENDUM # 2	3/22/16

Project: 15NCC491  
Drawn By:  
Checked By:  
Date: MARCH 1ST, 2016  
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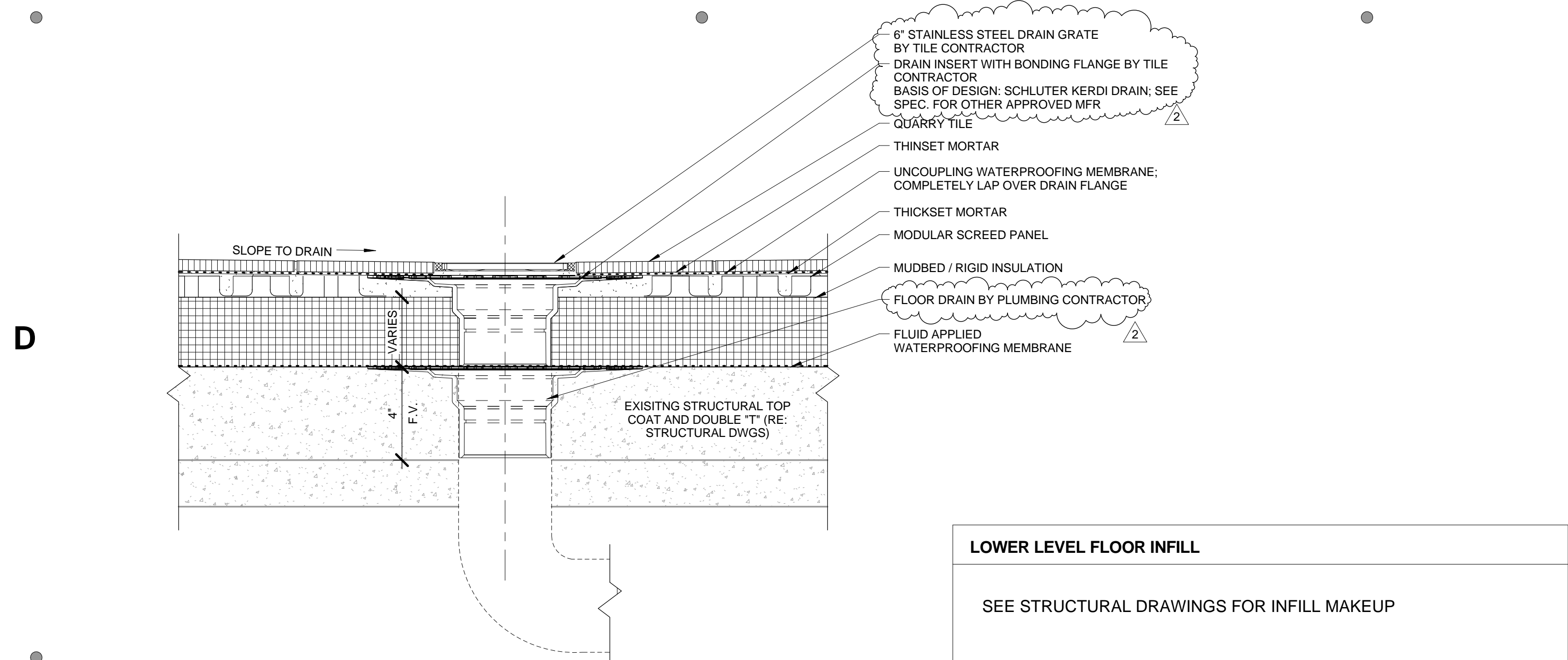
## GLAZING & LOUVER DETAILS



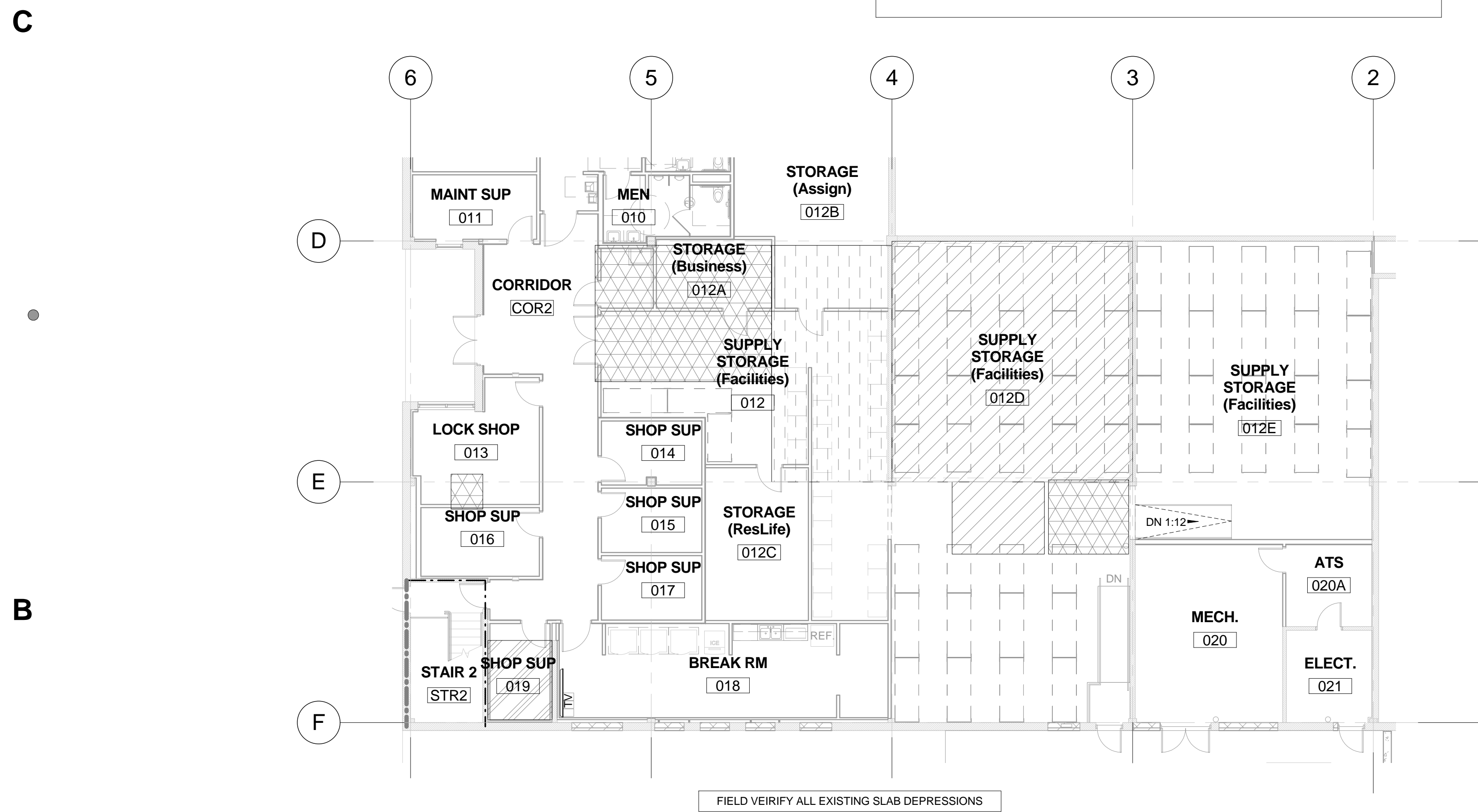
## CONSTRUCTION DOCUMENTS

# A-612

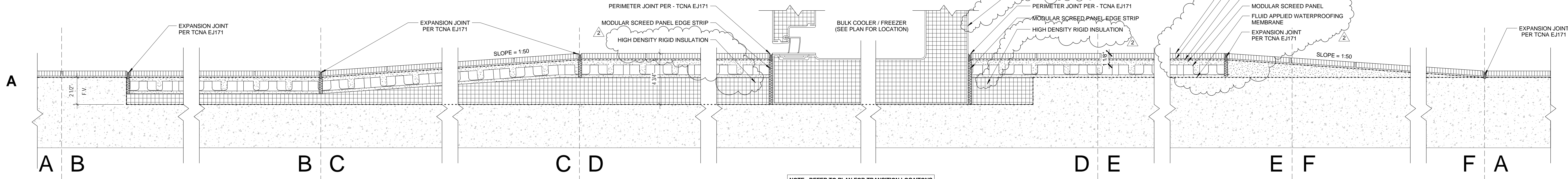




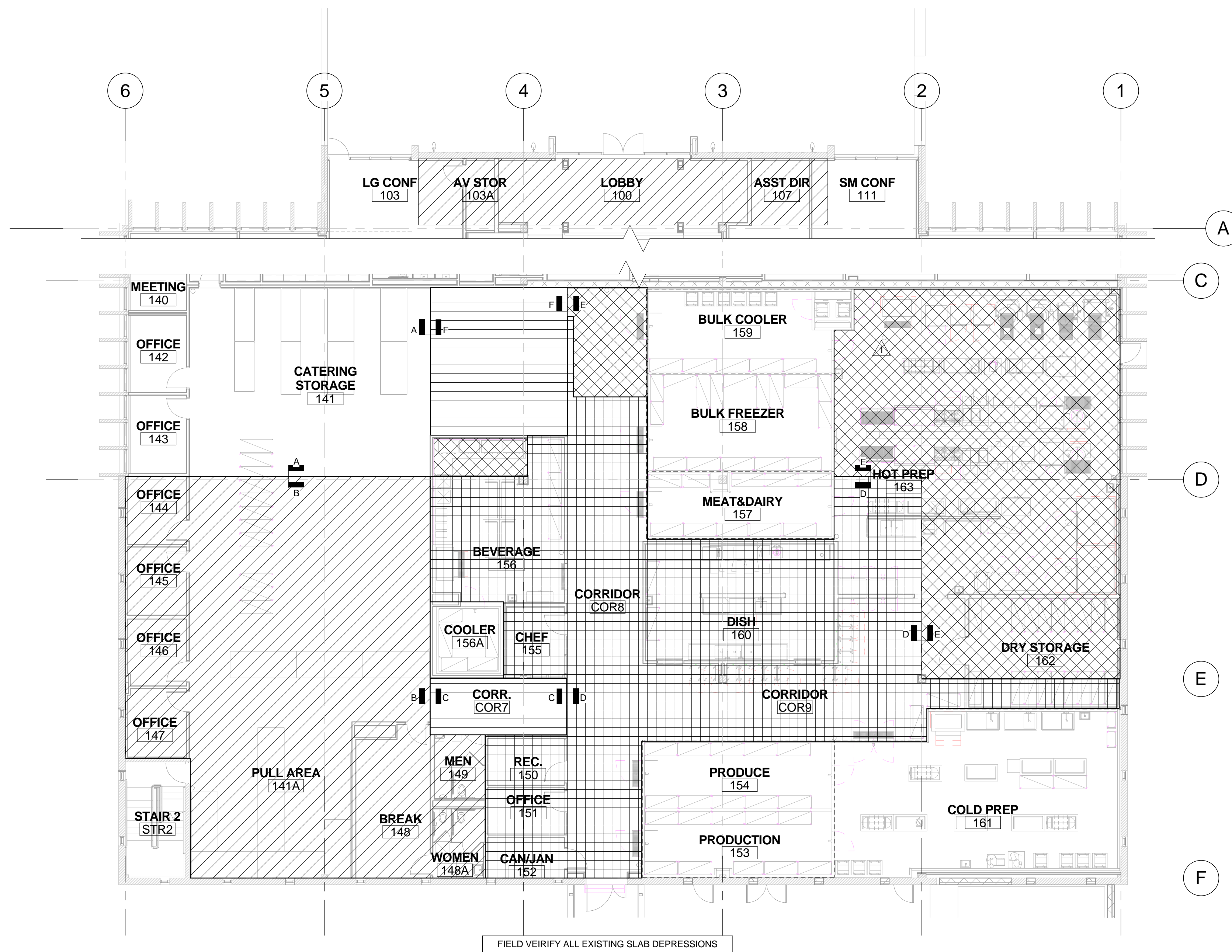
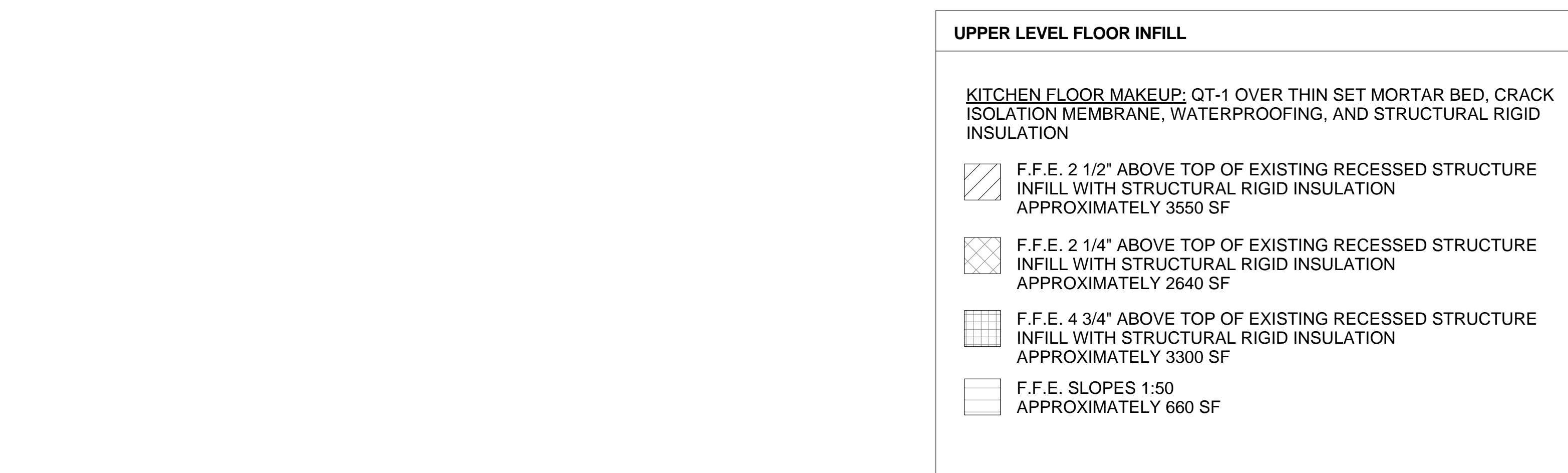
D1 TYP. FLOOR DRAIN  
3" = 1'-0"



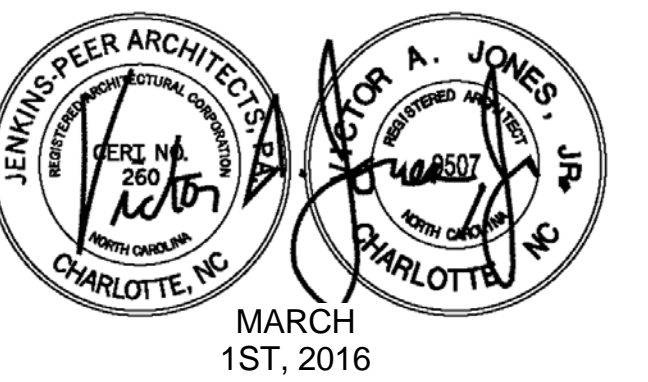
B5 LOWER LEVEL FINISH PLAN  
3/32" = 1'-0"



A1 TILE TRANSITION DETAILS  
3" = 1'-0"



B2 TILE TRANSITION KEY PLAN  
3/32" = 1'-0"



UNC CHARLOTTE  
RESIDENCE  
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BUILDING  
RENOVATION  
SCO ID #: 14-11273-02A

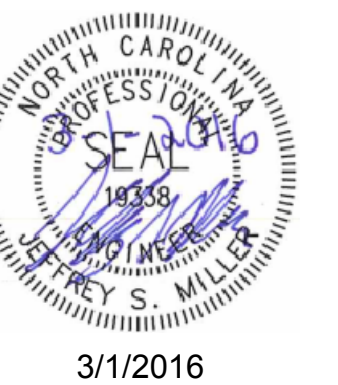
TAG	DESCRIPTION	DATE
1	ADDENDUM # 1	3/16/16
2	ADDENDUM # 2	3/22/16

Project: 15NCC491  
Drawn By:  
Checked By:  
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INFILL PLAN &  
TILE TRANSITION  
DETAILS







# UNC CHARLOTTE RESIDENCE DINING HALL BUILDING RENOVATION

SCO ID #: 14-11273-02A

[illegible]

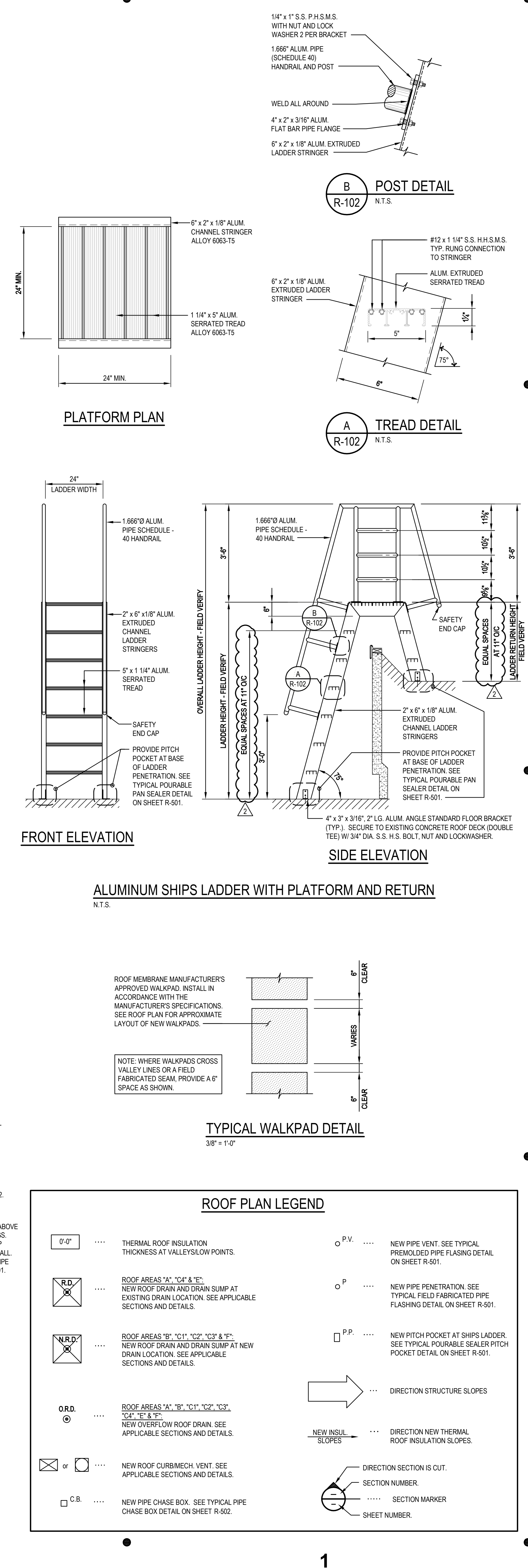
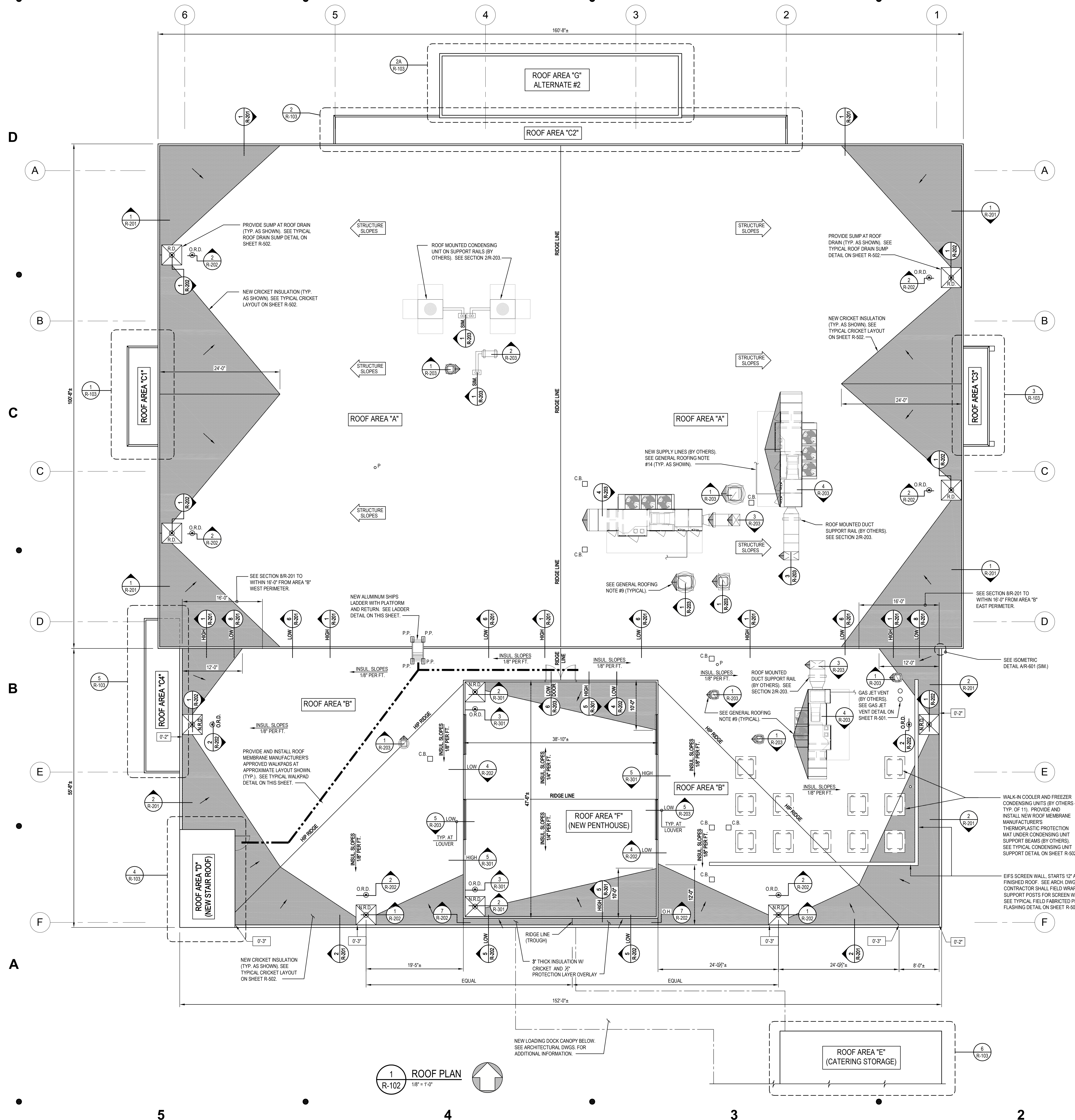
Project: 15NCC491  
 Drawn By: JTH  
 Checked By: RDC  
 Date: MARCH 1, 2016  
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## ROOF PLAN



## CONSTRUCTION DOCUMENTS

# R-102







# UNC CHARLOTTE RESIDENCE DINING HALL BUILDING RENOVATION

**SCO ID #: 14-11273-02A**

TAG	DESCRIPTION	DATE
2	ADDENDUM #2	3/22/16

Project: 15NCC491  
 Drawn By: JTH  
 Checked By: RDC  
 Date: MARCH 1, 2016

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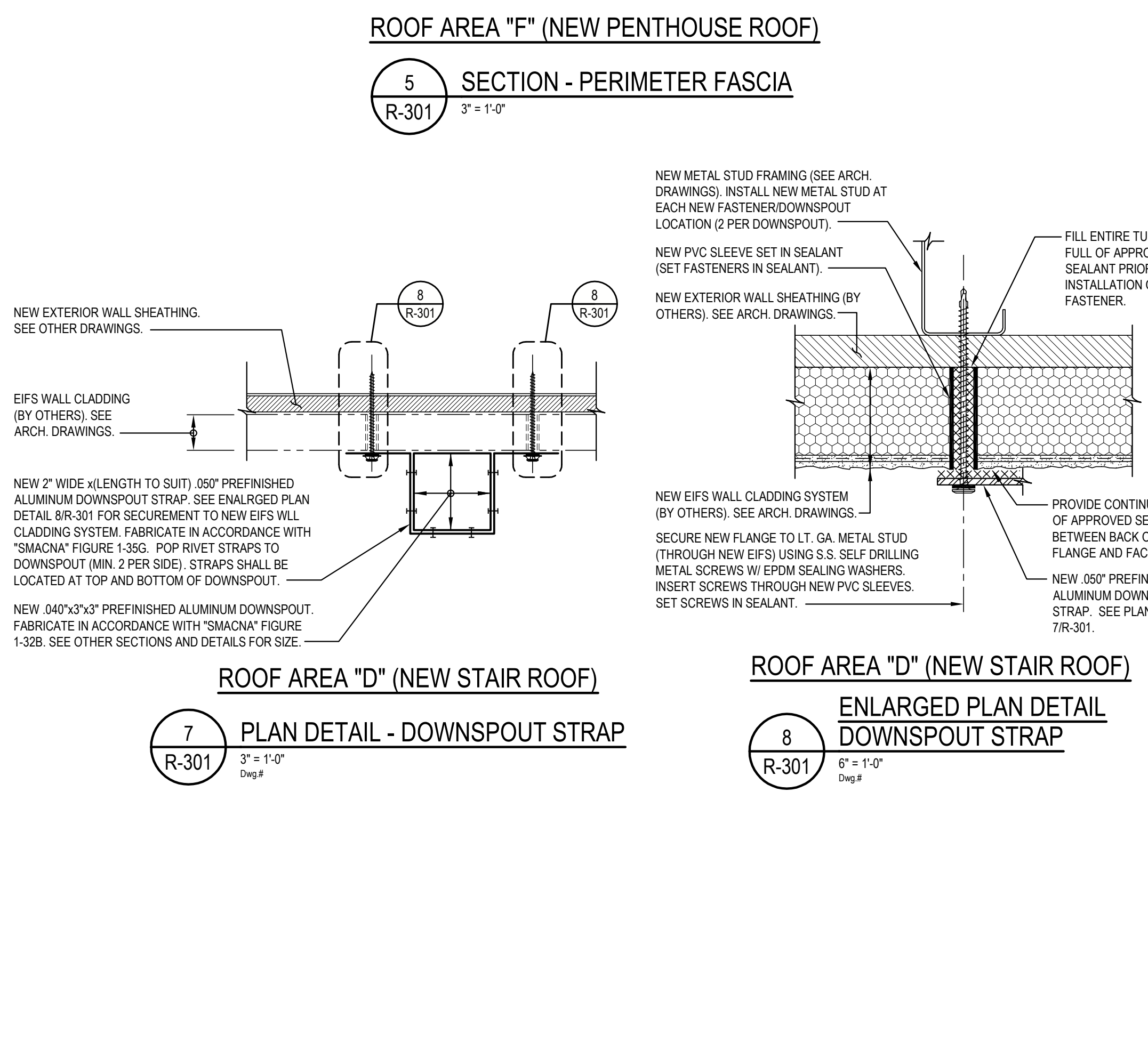
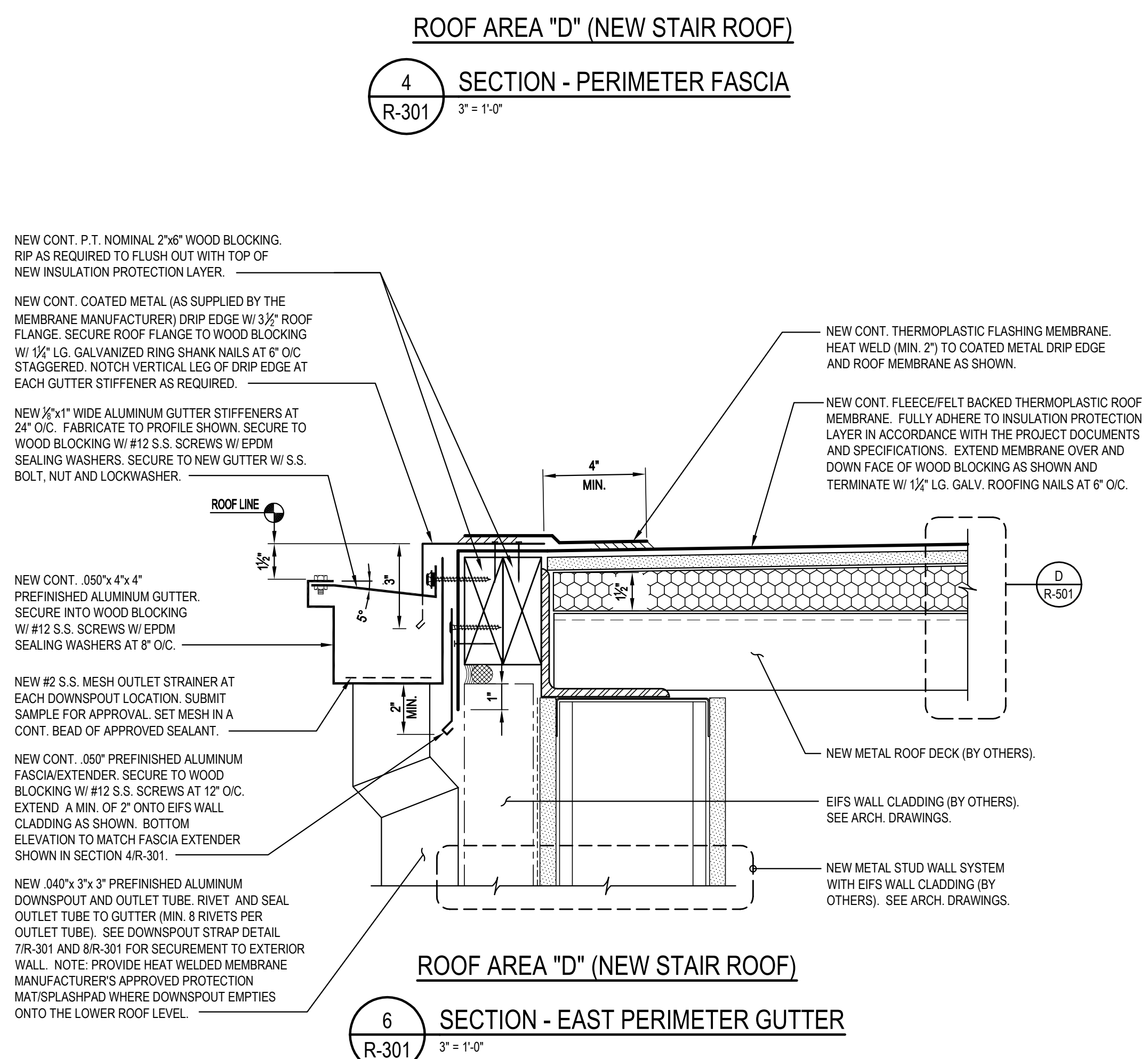
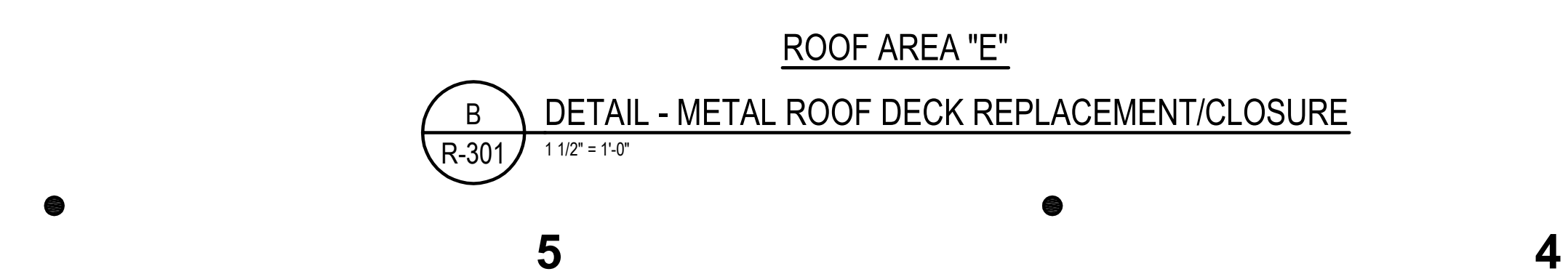
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## ROOF SECTIONS & DETAILS (ROOF AREAS "D", "E" & "F")



# CONSTRUCTION DOCUMENTS

# R-301









D

C

B

A

FOOD SERVICE PLUMBING SCHEDULE											
ITEM NUMBER	QTY	DESCRIPTION	HOT WATE R SIZE	COLD WATER SIZE	INDIRECT WASTE	DIRECT WASTE	GAS		RI HT +AFF	CONN TYPE	REMARKS
							SIZE	INPUT			
8	3	1-Compartment Prep Sink			1 3/4"	0"					
8A	3	8in Faucet With 12in Swing Nozzle	1/2"	1/2"							
9	2	Ice Maker, Water-Cooled		3/8"	0"	1/2"					
9B	1	Ice Maker, Air-Cooled		3/8"	0"	1/2"					
15	1	Soiled Dishtable			1 3/4"	0"					
17	2	Pre-Rinse Unit W/Bracket	0"	0"							-
18	1	Disposer		1/2"		2"					
19	1	Dishwasher W/Dryer	1/2"		2"						May be drained to either side of T-Drain valve. Plug opposite side.
23	1	Pot And Pan Washer	3/4"			1 1/8"					Unit comes with 4'-7" hoses
26	1	3 Compartment Pot Sink	1/2"	1/2"	1 1/2"	0"					
26A	2	8in Faucet With 12in Swing Nozzle	1/2"	1/2"							
31	4	Hand Sink W/Side Splashes & Knee Valve	1/2"	1/2"		2"					
31A	3	Hand Sink Floor Mount	1/2"	1/2"	1"	1"					
32A	1	8in Faucet With 12in Swing Nozzle	1/2"	1/2"							
36	1	Convection Steamer		3/8"	1 1/2"		1"	300000.0 Btu/h			
36A	1	Convection Steamer		3/8"	1 1/2"		1"	300000.0 Btu/h			
37	1	Utility Chase Wall Type	0"	0"	0"	0"	0"	0.0 Btu/h			
38	6	Floor Trough, Anti-Spill				3"					
39A	1	40-Gal. Kettle	1/2"	1/2"			3/4"	140000.0 Btu/h			
39B	1	40-Gal. Kettle	1/2"	1/2"			3/4"	140000.0 Btu/h			
40	1	Tilting Skillet	1/2"	1/2"	1 1/2"		3/4"	200000.0 Btu/h			
40A	1	Tilting Skillet	1/2"	1/2"	1 1/2"		3/4"	125000.0 Btu/h			
41	1	2-Compartment Prep Sink			1 3/4"	0"					
41A	1	8in Faucet With 12in Swing Nozzle	1/2"	1/2"							
46	4	Prep Table W/Sink			1"						
46A	4	8" Deck Faucet with 10" Swing Spout									
49	1	Utility Chase, Island Type	0"	0"	0"	0"	0"	0.0 Btu/h			
52	2	48" Open Burner Range					1"	306000.0 Btu/h			
53	2	Fryer Battery of 2 w/Filter					1"	217500.0 Btu/h			
55	2	Combi Oven-Steamer		3/4"	1 1/2"		3/4"	98000.0 Btu/h			
55A	1	Combi Oven-Steamer		3/4"	1 1/2"		3/4"	266000.0 Btu/h			
59D	1	Blast Chiller-Freezer Insert			3/4"						
63	11	Floor Trough				3"					
66	4	Oven, Roll-In Bake		3/4"	2"						
67	1	Oil Storage Tank									3" drain connection for grease truck hose quick connect

### PLUMBING CONNECTION LEGEND

- HW-HOT WATER, OR CW-COLD WATER
- GAS
- STEAM SUPPLY
- ▷ STEAM RETURN
- WASTE, DIRECT-CONNECTED UNLESS NOTED "OPEN HUB"
- ⊞ FLOOR DRAIN
- ⊞ FLOOR DRAIN WITH ATTACHED FUNNEL
- ⊞ FLOOR SINK WITH HALF GRATE UNLESS NOTED OTHERWISE
- - - FIELD CONNECTIONS
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- FCW — FILTERED COLD WATER
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- AFF — ABOVE FINISHED FLOOR
- DFA — DOWN FROM ABOVE
- BTC — BRANCH TO CONNECTION
- P.C. — PLUMBING CONTRACTOR
- NIC — NOT IN CONTRACT

○ Plumbing Legend  
1/4" = 1'-0"

THIS DRAWING IS FOR REFERENCE ONLY. INTENDED TO PROVIDE INFORMATION TO BE INCLUDED ON THE SEALED ARCHITECTS / ENGINEERS DOCUMENTS. IT IS NOT INTENDED FOR, AND SHOULD NOT BE USED FOR, CONSTRUCTION.

FOOD SERVICE EQUIPMENT CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS & BE RESPONSIBLE FOR FIELD FIT & QUALITY OF WORK. NO ALLOWANCES SHALL BE MADE ON BEHALF OF THE FSE CONTRACTOR FOR ANY ERROR OR NEGLECT ON THEIR PART.

DIMENSIONED DRAWINGS TO BE PROVIDED BY FOOD SERVICE EQUIPMENT CONTRACTOR AFTER AWARD OF CONTRACT DURING CONSTRUCTION PHASE.

○ Disclaimer Note  
1/4" = 1'-0"

### PLUMBING NOTES

- PLUMBING PLANS SHOWS ROUGH-IN AND CONNECTION LOCATIONS WITH CAPACITIES - SEE ROUGH-IN DRAWINGS FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR FOR ACTUAL ROUGH-IN LOCATIONS.
- DIVISION 22 SHALL BE RESPONSIBLE FOR ROUGH-INS AND FINAL CONNECTION TO KITCHEN EQUIPMENT EXCEPT WHERE NOTED.
- ROUGH-INS FOR WATER, WWASTE, FUEL GAS AND STEAM SERVICES SHALL EXTEND 6" (220 MM) BEYOND FINISH WALLS AND ABOVE FINISH FLOORS OR EQUIPMENT PADS - ALL FLOOR PENETRATIONS SHALL BE SEALED WATER TIGHT.
- WATER PRESSURE IN FOOD, SERVICE AND BEVERAGES AREAS SHOULD BE 50 PSIG, (344.752 NM) MAXIMUM - WATER PRESSURE AT DISHWASHERS, BOOSTER HEATERS, GLASS AND UTENSIL WASHERS TO BE 25 PSIG (172.375 MM).
- STEAM PRESSURE FOR FOOD SERVICE EQUIPMENT TO TO BE \_\_\_\_\_ UNLESS INDICATED OTHERWISE ON PLAN.
- DIVISION 22 SHALL FURNISH AND INSTALL ALL NECESSARY VALVES, TRAPS, TAIL PIECES, LINE STRAINERS, PRESSURE REDUCING VALVES AND CONNECT ALL WATER, FUEL GAS, STEAM AND WASTE LINES TO FOOD SERVICE EQUIPMENT. FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE AND DIVISION 22 INSTALL VACUUM BREAKERS.
- DIVISION 22 TO PROVIDE GAS SERVICES AT EQUIPMENT TO MAINTAIN AN 8" WATER COLUMN. FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE GAS PRESSURE REGULATORS AS REQUIRED BY CODE AND A.G.A. FOR INSTALLATION BY DIVISION 22 IN LINE BETWEEN BUILDING SERVICES AND EQUIPMENT.
- DIVISION 22 SHALL INSTALL & CONNECT ALL FAUCETS AND DRAINS FURNISHED WITH FOOD SERVICE AND BEVERAGE EQUIPMENT.
- DIVISION 22 SHALL FURNISH & INSTALL ALL INDIRECT WASTE LINES FROM FOOD SERVICE AND BEVERAGE EQUIPMENT (EXCEPT EVAPORATOR COILS IN COLD STORAGE ROOMS) TO FLOOR SINKS AND INSULATE WASTE LINES FROM ICE BINS, EVAPORATORS AND DRAIN MARIES.
- FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL FIRE SUPPRESSION SYSTEM. FSE CONTRACTOR SHALL FURNISH AND DIVISION 22 SHALL INSTALL NORMALLY OPEN MECHANICALLY ACTIVATED GAS SHUT-OFF VALVE ABOVE SUSPENDED CEILING TILE.
- FLOOR SINKS AND FLOOR TROUGHS SHALL BE INSTALLED FLUSH WITH FINISH FLOOR WITH GRATE COVER AS INDICATED.
- THIS PLUMBING PLAN IS INTENDED TO SHOW DRAINAGE REQUIREMENTS FOR FOODSERVICE EQUIPMENT ONLY. IT IS THE PLUMBING ENGINEER'S RESPONSIBILITY TO CONFIRM DRAIN TYPE, CAPACITY & ELEVATION TO SATISFY LOCAL CODE REQUIREMENTS.
- SEWAGE AND LIQUID WASTES (ROOF DRAINS) ARE TO BE CARRIED TO THE SEWER IN A MANNER THAT PROTECTS THE PREMISES; THE PERSONNEL AND CONTENTS WITHIN THE ESTABLISHMENT FROM CONTAMINATION. THE PLUMBING ENGINEER IS TO DESIGN WASTE PIPING SYSTEMS THAT CONFORM TO LOCAL HEALTH CODE REQUIREMENTS. PARTICULAR ATTENTION NEEDS TO BE GIVEN TO ANY LOCAL REQUIREMENTS PREVENTING WASTE PIPING (EXPOSED OR CONCEALED) FROM BEING ROUTED OVERHEAD IN AREAS USED FOR FOOD STORAGE, PREPARATION, SERVICE, WAREWASHING AND TRANSPORTATION.
- GENERAL PURPOSE AREA DRAINS SHALL BE LOCATED AND SPECIFIED BY THE PLUMBING ENGINEER. THIS IS OF PARTICULAR IMPORTANCE WHEN LOCAL CODES REQUIRE THAT DRAINS ACCEPTING INDIRECT WASTE BE SET ABOVE THE FINISHED FLOOR.
- DIVISION 22 TO RUN WASTES TO GREASE INTERCEPTOR PER LOCAL CODES. GREASE INTERCEPTOR, IF REQUIRED, IS TO BE SIZED AND LOCATED BY THE PLUMBING ENGINEER. WASTE ROUGH-IN FOR DISCHARGE PIPING FROM A SURFACE MOUNTED GREASE INTERCEPTOR IS TO BE DIMENSIONED BY THE PLUMBING ENGINEER.
- DIVISION 22 SHALL INSTALL WATER FILTER SYSTEMS PROVIDED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR TO SERVICE ICE MAKERS, COFFEE MAKERS/URNS, SODA SYSTEMS, STEAMERS, ETC.
- FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE. DIVISION 22 TO INSTALL, QUICK DISCONNECT FLEXIBLE HOSE CONNECTORS FOR FOOD SERVICE & BEVERAGE EQUIPMENT REQUIRING GAS, WATER & STEAM CONNECTIONS. REFER TO FOOD SERVICE PLUMBING SCHEDULE AND CONTRACT DOCUMENTS.
- DIVISION 22 SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING SCHEDULE 40 PIPE AND ALL PLUMBING COMPONENTS FOR WASTE OIL STORAGE SYSTEM BETWEEN THE FRYER PUMP KIT AND STORAGE TANK PIPING KIT, AND THE ASSEMBLY OF FSEC SUPPLIED FRYER AND TANK PIPING KITS.
- FOOD SERVICE EQUIPMENT CONTRACTOR SHALL PROVIDE AND INSTALL ALL COPPER DRAIN LINES FROM COOLER/FREEZER EVAPORATORS TO FLOOR DRAINS/FLOOR SINKS, WITH P-TRAPS OUTSIDE THE WALK-IN WALLS.
- FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE GAS PRESSURE REGULATORS AND GAS SHUT-OFFS WITH EACH GAS OPERATED COOKING UNIT.

Plumbing Notes  
1/4" = 1'-0"

### MECHANICAL/SPECIAL CONDITION NOTES

- MECHANICAL/SPECIAL CONDITIONS PLANS SHOWS ROUGH-IN AND CONNECTION LOCATIONS WITH CAPACITIES - SEE ROUGH-IN DRAWINGS FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR FOR ACTUAL ROUGH-IN LOCATIONS.
- DIVISION 23 SHALL PROVIDE AND INSTALL ALL DUCTWORK, FANS AND FAN STARTERS AND MAKE FINAL CONNECTIONS TO KITCHEN EQUIPMENT EXCEPT WHERE NOTED.
- DIVISION 23 SHALL MAKE ROUGH-INS FOR EXHAUST & MAKE-UP AIR.
- TYPE II HOODS REQUIRE FULLY WELDED DUCTWORK PER CODE.
- TYPE II HOODS AND VENTS ABOVE DISHWASHERS, CONVEYOR & ROLL-IN OVENS, AND OTHER GREASE, STEAM AND VAPOR PRODUCING EQUIPMENT SHALL BE PROVIDED WITH DUCTWORK PER APPLICABLE CODE.
- DIVISION 23 SHALL PROVIDE FIRE EXTINGUISHING FOR TYPE I DUCTS PER CODE.
- FOOD SERVICE EQUIPMENT CONTRACTOR SHALL PROVIDE AND INSTALL ALL EXHAUST HOODS, VAPOR HOODS AND VAPOR DUCTS TO CEILING WITH COLLARS READY FOR FINAL CONNECTIONS BY DIVISION 23.
- GENERAL CONTRACTOR SHALL PROVIDE FLOOR OPENINGS FOR FLOOR TROUGHS, SLAB DEPRESSIONS/PREPARATIONSS FOR WALK-IN COOLER/FREEZER AND PASS-THRU CABINET WALL OPENINGS WHERE NOTED ON FOOD SERVICE ROUGH-IN PLANS.
- FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL FIRE SUPPRESSION SYSTEM. F.S.E. CONTRACTOR SHALL FURNISH & DIVISION 23 SHALL INSTALL NORMALLY OPEN MECHANICALLY ACTIVATED SOLENOID GAS SHUT-OFF VALVE ABOVE SUSPENDED CEILING TILE.

○ Mechanical/Special Colnditions Notes  
1/4" = 1'-0"

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**HERBIN  
DESIGN**

Ralph H. Herbin

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03/21/2016



## UNC CHARLOTTE RESIDENCE DINING HALL BUILDING RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM #2	03/22/16

Project: Project Number

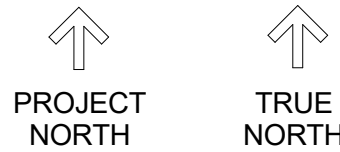
Drawn By:

Checked By:

Date: 03/21/2016

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## Food Service Plumbing Rough-In Schedule



PROJECT  
NORTH



TRUE  
NORTH

## CONSTRUCTION DOCUMENTS

# K-301



D

C

B

A

PRE-ACTION SYSTEM
DOUBLE INTERLOCK SYSTEM
WHERE A PRE-ACTION SYSTEM IS REQUIRED, THE FIRE PROTECTION/SPRINKLER CONTRACTOR SHALL PROVIDE DESIGN, FABRICATION AND INSTALLATION OF A HYDRAULICALLY CALCULATED AUTOMATIC, DOUBLE INTERLOCKED, PRE-ACTION SPRINKLER SYSTEM WHICH WILL MEET ALL THE APPLICABLE REQUIREMENTS OF NFPA 13. FINAL SYSTEM SELECTION AND SPECIFICATION SHALL BE BY THE FIRE PROTECTION/SPRINKLER CONTRACTOR, WITH THE APPROVAL OF THE A/E. THE SYSTEM MUST MEET AND/OR EXCEED THE FOLLOWING REQUIREMENTS:
1. THIS SYSTEM MUST PROVIDE MAXIMUM PROTECTION AGAINST UNINTENTIONAL SPRINKLER SYSTEM DISCHARGE.
2. FOR WATER TO FLOW INTO THE SYSTEM, TWO EVENTS MUST TAKE PLACE: A FIRE PROTECTION DEVICE MUST OPERATE AND THE LOW PRESSURE SWITCH MUST BE ACTIVATED BY THE LOSS OF SYSTEM AIR PRESSURE (INDICATING A SPRINKLER HAS OPENED). THESE TWO SIGNALS MUST BE RECEIVED SIMULTANEOUSLY AT THE RELEASING CONTROL PANEL, SO THAT THE SOLENOID RELEASING VALVE IS ENERGIZED , CAUSING WATER FLOW INTO THE SYSTEM.
3. FIRE PROTECTION DEVICES AND SYSTEM AIR PRESSURE MUST PROVIDE SEPARATE SIGNALS TO A CROSS-ZONED RELEASING CONTROL PANEL.
4. IN THE EVENT THAT THE SYSTEM PIPING IS RUPTURED OR A SPRINKLER HEAD IS ACCIDENTALLY OPENED, ONLY THE LOW PRESSURE SWITCH WILL OPERATE AND AN ALARM WILL SOUND. THE DELUGE VALVE WILL NOT BE RELEASED TO FLOW SINCE THE SOLENOID RELEASING VALVE REMAINS CLOSED DUE TO THE CROSS-ZONED CONTROL PANEL CONFIGURATION.
5. IN THE EVENT THAT A FIRE PROTECTION DEVICE IS FALSELY OPERATED, THE CONTROL PANEL WILL ACTIVATE AND ALARM. THE DELUGE VALVE WILL NOT BE RELEASED TO FLOW WATER SINCE THE SOLENOID VALVE REMAINS CLOSED DUE TO THE CROSS-ZONED CONTROL PANEL CONFIGURATION.
6. ALL SYSTEM COMPONENTS SHALL BE NEW AND BY CURRENT MANUFACTURERS AND SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES.
7. THE ELECTRICAL CONTROL PANELS USED FOR THE AUTOMATIC FIRE DETECTION AND PRE-ACTION FIRE SYSTEM SHALL BE UL/FM LISTED/APPROVED AND PROVIDED BY SPRINKLER CONTRACTOR. THE ELECTRICAL SMOKE AND HEAT DETECTORS AND WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. THE CONTROL PANEL SHALL BE WIRED TO SHUT DOWN THE COMPUTER ROOM HVAC UNITS AND CLOSE DAMPERS WHEN PRE-ACTION SYSTEM IS ACTIVATED. FINAL CONNECTIONS TO RELEASING CONTROL BY SPRINKLER CONTRACTOR.
8. PROVIDE A MANUAL RELEASE STATION WITH PROTECTION AGAINST ACCIDENTAL OPERATION. THE MANUAL RELEASE STATION SHALL NOT BE CONNECTED TO THE DETECTOR CIRCUIT.
9. ALL MATERIALS AND WORKMANSHIP SHALL BE UL/FM APPROVED AND CONFORM TO ALL REQUIREMENTS AS LISTED IN THE LATEST EDITIONS OF THE NFPA STANDARDS.

PRE-ACTION SYSTEM
SEQUENCE OF OPERATION
SYSTEM OPERATION
1. CONTRACTOR SHOULD MAKE SURE THE REMOTE RELEASE CONTROL PANEL SEQUENCE OF OPERATION IS PROGRAMMED TO PERFORM THE FOLLOWING:
A. THE ACTIVATION OF BOTH THE DETECTION CONDITION AND THE OPENING OF AN AUTOMATIC SPRINKLER ARE NECESSARY TO CAUSE THE WATER DISCHARGE.
B. THE ACTIVATION OF AN ELECTRICAL DETECTOR ALONE WILL SOUND AN ALARM AND ACTIVATE ALARM CONTACTS FOR AUXILIARY FUNCTIONS BUT WILL NOT CAUSE THE SYSTEM TO FILL WITH WATER.
C. THE OPENING OF AN AUTOMATIC SPRINKLER OR DAMAGE TO SYSTEM PIPING WITHOUT THE DETECTION CONDITION SATISFIED WILL ACTIVATE THE VERY LOW AIR PRESSURE SWITCH ZONE, SOUND AN ALARM, AND ACTIVATE ALARM CONTACTS FOR AUXILIARY FUNCTIONS BUT WILL NOT CAUSE THE SYSTEM TO FILL WITH WATER.
D. ACTIVATION OF BOTH THE DETECTION CONDITION AND THE OPENING OF AN AUTOMATIC SPRINKLER WILL ACTIVATE THE SOLENOID VALVES, OPEN THE DELUGE VALVE, AND CAUSE WATER TO DISCHARGE. THIS WILL SOUND AN ALARM AND ACTIVATE ALARM AND WATER FLOW CONTACTS FOR AUXILIARY FUNCTIONS.
E. OPERATION OF THE EMERGENCY MANUAL RELEASE WILL DEPRESSURIZE THE PRIMING CHAMBER OF THE DELUGE VALVE, CAUSING THE SYSTEM TO FILL THE PIPING NETWORK WITH WATER, AND ACTIVATE ALARM AND WATER FLOW CONTACTS FOR AUXILIARY FUNCTIONS.
F. IF THE AC POWER FAILS AND THE BATTERY BACKUP POWER EXPIRES BEFORE AN ALARM IS DETECTED, THE PRE-ACTION SYSTEM SHOULD FAIL-SAFE AND FUNCTION AS A DRY PIPE SYSTEM. THE OPENING OF AN AUTOMATIC SPRINKLER OR DAMAGE TO SYSTEM PIPING WILL CAUSE THE SYSTEM TO FILL AND FLOW WATER UNTIL IT IS MANUALLY SHUT-OFF.

FIRE PROTECTION DESIGN CRITERIA							
SYMBOL	OCCUPANCY	TYPE	DESIGN DENSITY (GPM/SF)	HYDRAULIC REMOTE AREA (SF)	MAX. COVERAGE PER SPRINKLER HEAD (SF)	HOSE STREAM INSIDE (GPM) OUTSIDE (GPM)	AREAS OF COVERAGE
LH	LIGHT HAZARD	WET	0.10	1500	225	100	ENTIRE FACILITY, EXCEPT AS NOTED OTHERWISE
OH-1	ORDINARY HAZARD GROUP 1	WET	0.15	1500	130	100	150 KITCHEN AREAS MECHANICAL ROOMS, STORAGE ROOMS, ELECTRICAL ROOMS, JANITORS CLOSETS, ETC.
LH	LIGHT HAZARD	PRE-ACTION	0.15	1950	130	100	150 SERVER ROOM 003F
RELEASING INFORMATION							
THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR THE DESIGN OF THE FIRE PROTECTION SYSTEM ON THIS PROJECT:							
1. NORTH CAROLINA STATE BUILDING CODE - FIRE CODE, 2012 EDITION							
2. NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS - 2013 EDITION							
3. NFPA 20 - STANDARD FOR THE INSTALLATION OF CENTRIFUGAL FIRE PUMPS - 2013 EDITION							
4. NORTH CAROLINA STATE CONSTRUCTION OFFICE - WATER BASED FIRE PROTECTION SYSTEMS GUIDELINES - MARCH 2014							
NOTES:							
1. FIRE PROTECTION WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE ABOVE PUBLICATIONS AS WELL AS WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION INCLUDING THE NC STATE FIRE MARSHAL.							
2. SPRINKLER HEADS SHALL BE SPACED IN ACCORDANCE WITH NFPA 13 AND THE MANUFACTURERS APPROVAL LISTING.							
3. COORDINATE PIPE ROUTING WITH DUCT ROUTING, EQUIPMENT LOCATIONS, ELECTRICAL INSTALLATIONS, AND BUILDING STRUCTURAL MEMBERS. AVOID PENETRATING ANY MAIN STRUCTURAL BEAM. NOTIFY ARCHITECT OF ANY CONFLICTS.							
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING HIS OWN FIRE PROTECTION SYSTEM DESIGN AND SHOP DRAWINGS. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE DATA LISTED ON THIS SHEET AND THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.							
5. SPRINKLERS SHALL BE CENTERED IN CEILING TILES IN AREAS WITH LAY-IN TILES AND VISUALLY ALIGNED IN AREAS WITH SMOOTH CEILINGS. SEE REFLECTED CEILING PLAN FOR PREFERRED LOCATION OF HEADS.							
6. PROVIDE CONCEALED TYPE SPRINKLER HEADS FOR AREAS WITH LAY-IN CEILINGS AND GYPSOBOARD CEILINGS. PROVIDE UPRIGHT SPRINKLER HEADS FOR EXPOSED AREAS. COORDINATE COLOR OF CONCEALED SPRINKLER HEAD COVER-PLATE WITH ARCHITECT.							
7. DURING DESIGN CALCULATIONS, AN ALLOWANCE SHALL BE MADE FOR A 250 GPM (COMBINED INSIDE/OUTSIDE) HOSE STREAM.							
8. FIRE PROTECTION CONTRACTOR SHALL TERMINATE THE HYDRAULIC CALCULATIONS AT THE CITY CONNECTION MINIMUM. INDICATE ON DRAWINGS ALL UNDERGROUND PIPE AND FITTINGS BOTH NEW AND EXISTING.							

FLOW TEST DATA						
DATE	LOCATION	FLOW TEST PERFORMED BY	PRESSURE		FLOW (GPM)	FLOW AT 20 PSI (GPM)
			STATIC (PSI)	RESIDUAL (PSI)		
07/17/2015	PRESSURE HYDRANT: HYDRANT#158602 ON ALUMNI WAY FLOW HYDRANT: #158603 AT INTERSECT OF SANFORD HALL LN AND ALUM WAY	AON FIRE PROTECTION ENGINEERING CORP.	40	34	834	----
FLOW TEST NOTES:						
1. SEE SITE UTILITY PLANS FOR EXACT LOCATION OF FIRE HYDRANTS.						
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A NEW FIRE FLOW TEST ON WHICH TO BASE HIS CALCULATIONS.						
3. PER SCO GUIDELINES, HYDRAULIC CALCULATIONS SHALL INCLUDE A SAFETY FACTOR OF 10 PSI LESS FOR BOTH STATIC AND RESIDUAL PRESSURE, AND A 10% REDUCTION IN AVAILABLE FLOW.						

PUMP SCHEDULE											
SYM	DESCRIPTION	TYPE	CAPACITY		ELECTRICAL DATA				SELECTION BASED ON		REMARKS
			GPM	HEAD (FT)	HP	VOLTS	PH	HZ	MANUFACTURER	MODEL	
FPI	ELECTRIC FIRE PUMP	VERTICAL IN-LINE	500	104	20	480	3	60	A-C FIRE PUMP	SERIES 1580 4x4x7F	1
JPI	JOCKEY PUMP	IN-LINE	10	300	2	480	3	60	GRUNDFOS	CR3-11	2
REMARKS:											
1. PROVIDE SERVICE ENTRANCE RATED WYE DELTA CLOSED FIRE PUMP CONTROLLER WITH SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH.											
2. PROVIDE JOCKEY PUMP CONTROLLER.											

## GROOVED PIPING SYSTEM SPECIFICATIONS

GROOVED PIPING SYSTEM

GROOVED MECHANICAL PIPE COUPLINGS, FITTINGS, VALVES AND OTHER GROOVED COMPONENTS MAY BE USED AS AN OPTION TO WELDING, THREADING OR FLANGED METHODS. ALL GROOVED COMPONENTS SHALL BE OF ONE MANUFACTURER, AND SHALL BE UL LISTED AND/OR FM GLOBAL APPROVED. GROOVED END PRODUCT MANUFACTURER TO BE ISO-9001 CERTIFIED. GROOVED COUPLINGS SHALL MEET THE REQUIREMENTS OF NFPA-13.

PIPE/GROOVED (STANDARD/LIGHTWALL)

CARBON STEEL, A-53B/A-106B - ROLL OR CUT GROOVED-ENDS AS APPROPRIATE TO PIPE MATERIAL, WALL THICKNESS, PRESSURES, SIZE AND METHOD OF JOINING. PIPE ENDS TO BE GROOVED IN ACCORDANCE WITH CURRENT LISTED STANDARDS CONFORMING TO ANSI/AWWA C-606.

MECHANICAL COUPLINGS FOR JOINING CARBON STEEL PIPE

1. MECHANICAL COUPLINGS: MANUFACTURED IN TWO SEGMENTS OF CAST DUCTILE IRON, CONFORMING TO ASTM A-536, GRADE 65-45-12. GASKETS SHALL BE PRESSURE-RESPONSIVE, SYNTHETIC RUBBER, GRADE TO SUIT THE INTENDED SERVICE, CONFORMING TO ASTM D-2000. MECHANICAL COUPLING BOLTS SHALL BE ZINC PLATED (ASTM B-633) HEAT TREATED CARBON STEEL. TRACK HEAD CONFORMING TO PHYSICAL PROPERTIES OF ASTM A-449, MINIMUM TENSILE STRENGTH 110,000 PSI (758450 KPA) AS PROVIDED STANDARD.

- A. RIGID TYPE:
- 1) RIGID JOINTS SHALL BE DESIGNED FOR DIRECT "STAB" INSTALLATION ONTO GROOVED PIPE WITHOUT PRIOR DISASSEMBLY OF THE COUPLING. HOUSINGS SHALL BE CAST WITH OFFSETTING, ANGLE-PATTERN BOLT PADS.
  - 2) STANDARD RIGID JOINTS SHALL BE CAST WITH OFFSETTING, ANGLE-PATTERN BOLT PADS TO PROVIDE SYSTEM RIGIDITY AND SUPPORT AND HANGING IN ACCORDANCE WITH NFPA 13.
2. MECHANICAL COUPLING GASKETS: PRESSURE-RESPONSIVE, SYNTHETIC RUBBER, LISTED FOR USE WITH THE HOUSINGS. FIRE PROTECTION SERVICE TEMPERATURE RANGE GASKET RECOMMENDATION: DRY SYSTEMS, AMBIENT TEMPERATURE: FLUSHSEAL, GRADE EPDM, TYPE A. FREEZER APPLICATIONS -40F TO 0F: FLUSHSEAL, GRADE L. SILICONE WATER/WET SYSTEMS AMBIENT GRADE EPDM, TYPE A.
3. FLANGE ADAPTERS: FOR USE WITH GROOVED END PIPE AND FITTINGS, FOR MATING TO ANSI CLASS 125 / 150 FLANGES.

GROOVED END FITTINGS

FITTINGS SHALL BE CAST OF DUCTILE IRON CONFORMING TO ASTM A-536, GRADE 65-45-12. FORGED STEEL CONFORMING TO ASTM A-234, GRADE WPB 0.375" WALL (9.53 MM WALL), OR FABRICATED FROM STD. WT. CARBON STEEL PIPE CONFORMING TO ASTM A-53, TYPE F, E OR S, GRADE B. FITTINGS PROVIDED WITH AN ALKXYD ENAMEL FINISH OR HOT DIP GALVANIZED TO ASTM A- 153. ZINC ELECTROPLATED FITTINGS AND COUPLINGS CONFORM TO ASTM B633.

BRANCH OUTLETS

1. BOLTED BRANCH OUTLET: BRANCH REDUCTIONS ON 2" THROUGH 8" HEADER PIPING. BOLTED BRANCH OUTLETS SHALL BE MANUFACTURED FROM DUCTILE IRON CONFORMING TO ASTM ASTM A-536, GRADE 65-45-12, WITH SYNTHETIC RUBBER GASKET, AND HEAT TREATED CARBON STEEL ZINC PLATED. BOLTS AND NUTS CONFORMING TO PHYSICAL PROPERTIES OF ASTM A-183.

GROOVED END VALVES

1. BUTTERFLY VALVES: UL/FM GLOBAL APPROVED, 300 PSI (2065 KPA), GROOVED ENDS, POLYPHENYLENE SULFIDE (PPS) COATED DUCTILE IRON BODY (ASTM A-536, GRADE 65-45-12). DUCTILE IRON DISC, SYNTHETIC RUBBER ENCAPSULATED SUITED FOR THE INTENDED SERVICE, WITH INTEGRALLY CAST STEM. COMPLETE WITH WEATHERPROOF ACTUATOR AND PRE-WIRED SUPERVISORY SWITCHES.

NOTE: REFER TO LATEST PUBLISHED VITACULING LITERATURE, BUTTERFLY VALVE MATERIAL SELECTION SECTION, FOR LINER/SEAT AND DISC MATERIAL RECOMMENDATIONS FOR CHEMICAL SERVICE.

2. CHECK VALVES: UL/FM GLOBAL APPROVED.

- A. 2-1/2" THROUGH 3" SIZES SPRING ASSISTED: PPS COATED DUCTILE IRON BODY, ASTM A-536, GRADE 65-45-12, ALUMINUM BRONZE NON-SLAM TILTING DISC, STAINLESS STEEL SPRING AND SHAFT, RUBBER SEAT SUITABLE FOR INTENDED SERVICE, 300 PSI (2065 KPA).
- B. 4" THROUGH 14" SIZES SPRING ASSISTED: BLACK ENAMEL COATED DUCTILE IRON BODY, ASTM A-536, GRADE 65-45-12, ELASTOMER ENCAPSULATED DUCTILE IRON DISC SUITABLE FOR INTENDED SERVICE, STAINLESS STEEL SPRING AND SHAFT, WELDED-IN NICKEL SEAT, 300 PSI (2065 KPA), DESIGNED TO ACCEPT A RISER CHECK KIT.

3. ACTUATED SYSTEM VALVE WITH DELUGE OR PREACTION TRIM: BLACK ENAMEL COATED DUCTILE IRON BODY CONFORMING TO ASTM A-536, GRADE 65-45-12, ALUMINUM BRONZE CLAPPER, LATCH AND PISTON, STAINLESS STEEL SPRING AND SHAFT, EPDM SEAL, AND NITILE SEAT O-RINGS. VALVE INTERNAL PARTS SHALL BE REPLACEABLE WITHOUT REMOVING THE VALVE FROM THE INSTALLED POSITION. VALVE SHALL BE EXTERNALLY RESETTABLE.

SPRINKLER HEADS:

1. DIE-CAST BRASS FRAME, TEFLON ENCAPSULATED BELLEVILLE SPRING SEAL AND FRANGIBLE GLASS BULB. BODY CAST WITH HEX SHAPED WRENCH BOSS. QUICK OR STANDARD RESPONSE TYPE. 1. GUARDS AND ESCUTCHEONS: GUARDS AND ESCUTCHEONS SHALL BE LISTED, SUPPLIED, AND APPROVED FOR USE WITH THE SPRINKLER BY THE SPRINKLER MANUFACTURER.

FIRE PROTECTION LEGEND		
SYMBOL	ABBREVIATION	DESCRIPTION
---	F	FIRE MAIN (ABOVE CEILING)
---	SP	SPRINKLER MAIN OR BRANCH
---	UGM	FIRE SERVICE MAIN (UNDERGROUND)
---	FCV	FLOOR CONTROL VALVE WITH TAMPER SWITCH
---	FS	FLOW SWITCH
---	FDC	FLUSH MOUNTED FIRE DEPT. CONNECTION
---	EB	ELECTRIC BELL

FIRE PROTECTION NOTES	
GENERAL REQUIREMENTS:	
1. PROVIDE DESIGN, FABRICATION AND INSTALLATION OF A HYDRAULICALLY CALCULATED AUTOMATIC SPRINKLER SYSTEM. INCLUDE ALL SERVICES, MATERIALS, LABOR AND EQUIPMENT REQUIRED FOR A COMPLETE WORKING SYSTEM. DESIGN, AND INSTALL SPRINKLER SYSTEM IN FULL COMPLIANCE WITH THE REQUIREMENTS OF THE 2013 EDITION OF NFPA 13, THE OWNER'S INSURANCE UNDERWRITER AND THE LOCAL AUTHORITIES HAVING JURISDICTION.	
2. PROVIDE SHOP DRAWINGS FOR REVIEW BY THE A/E, INCLUDING BUT NOT LIMITED TO ALL REQUIRED ITEMS AS OUTLINED IN NFPA 13 CHAPTER 22 "PLANS AND CALCULATIONS". SHOP DRAWINGS MUST BE PREPARED BY A NICET LEVEL III TECHNICIAN (MINIMUM), INCLUDE DESIGNERS NAME, SIGNATURE AND CERTIFICATE NUMBER.	
3. DESIGN AND HYDRAULICALLY CALCULATE THE SPRINKLER SYSTEM UTILIZING THE INFORMATION INCLUDED HEREON. MEET ALL NFPA 13 STANDARDS WHETHER OR NOT SPECIFICALLY INDICATED WITHIN THESE DOCUMENTS.	
4. OBTAIN CURRENT UP-TO-DATE WATER FLOW TEST INFORMATION BEFORE STARTING THE DESIGN. WATER FLOW TEST DATA OLDER THAN 1 YEAR WILL NOT BE ACCEPTED. FLOW TEST DATA NOTED ON THESE PLANS DOES NOT WAIVE THE CONTRACTOR'S RESPONSIBILITY TO MEET THIS REQUIREMENT.	
5. THE INTENT OF THESE PLANS IS TO PROVIDE INFORMATION TO THE REVIEWING AUTHORITIES THAT THE BUILDING WILL BE PROTECTED BY A SPRINKLER SYSTEM. SPRINKLER SYSTEM LAYOUT INCLUDED WITH THIS SET OF PLANS IS PROVIDED FOR COORDINATION AND AS A REFERENCE ONLY, AND SHALL NOT BE CONSIDERED AN ACTUAL DESIGN OR CONSTRUCTION DOCUMENT.	
6. PRIOR TO THE START OF CONSTRUCTION, SUBMIT EIGHT (8) SETS OF SPRINKLER PLANS, MATERIALS DATA AND HYDRAULIC CALCULATIONS TO THE A/E FOR REVIEW. EACH SET OF PRINTS AND CALCULATIONS SUBMITTED SHALL BEAR APPROVAL STAMPS FROM THE LOCAL FIRE MARSHAL OR FIRE BUREAU CHIEF; THE OWNERS INSURANCE CARRIER REVIEW BOARD AND IF REQUIRED, THE STATE FIRE MARSHAL.	
7. EXAMINE THE CONSTRUCTION DOCUMENTS, INCLUDING ANY SPECIFICATIONS OR PROJECT MANUALS. REVIEW THE JOB CONDITIONS AND VERIFY ALL MEASUREMENTS, DISTANCES, ELEVATIONS, CLEARANCES, PIPE SIZES, ETC. PRIOR TO THE START OF CONSTRUCTION. COORDINATE THE LOCATION OF SPRINKLERS WITH THE ARCHITECTURAL PLANS. ANY CHANGES OR ALTERATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.	
8. AT THE COMPLETION OF THE PROJECT, PROVIDE TO THE OWNER TWO SETS OF RECORD DRAWINGS WHICH CLEARLY SHOW ANY CHANGES AND/OR MODIFICATIONS, ADDITIONS OR DELETIONS TO AND FROM THE CONSTRUCTION DOCUMENTS. AND ALL WORK ADDED TO THE CONTRACT DOCUMENTS, THE SETS SHALL BE REVIEWED BY THE A/E BEFORE TURNING THEM OVER TO THE OWNER.	
9. PROVIDE ALL NECESSARY OFFSETS, RISES OR DROPS IN THE PIPING AND AUXILIARY DRAINS AS REQUIRED BY BUILDING CODES WHETHER OR NOT SHOWN ON THE PLANS.	
10. PROVIDE RECORD DRAWINGS WHICH CLEARLY SHOW ALL UNDERGROUND PIPING DIMENSIONED FROM ANY PERMANENT STRUCTURE, AND ALL WORK ADDED TO THE CONTRACT DOCUMENTS.	
11. WARRANT THE SYSTEM LABOR, MATERIALS AND EQUIPMENT FOR THE AMOUNT OF TIME SPECIFIED IN THE PROJECT MANUAL. IF NO WARRANTY SECTION IS PROVIDED, THEN WARRANT THE SYSTEM LABOR, MATERIAL AND EQUIPMENT FOR A MINIMUM OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. PRIOR TO TURNING THE COMPLETED SYSTEM OVER TO THE OWNER, REVIEW THE INSTALLATION WITH THE A/E AND REPLACE OR REPAIR ANY DEFECTIVE WORKMANSHIP, EQUIPMENT AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.	
12. MAINTAIN THE CLEAR PATH OF EGRESS IN ALL STAIRWELLS WHEN INSTALLING STANDPIPES AND FIRE HOSE VALVES. REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS, DIMENSIONS AND REQUIRED CLEARANCES.	
MATERIALS:	
1. SEE "GROOVED PIPE SYSTEM" SPECIFICATIONS ON THIS SHEET FOR SYSTEM COMPONENTS FOR THE FIRE PROTECTION SYSTEMS ON THIS PROJECT.	
2. PIPE HANGERS: UL-LISTED SWIVEL LOOP TYPE WITH PRE-GALVANIZED CARBON STEEL BAND. HANGER RODS SIZED PER NFPA 13, UL-LISTED STEEL OR MALLEABLE IRON BEAM CLAMPS, UL-LISTED ANCHORS. POWER DRIVEN ANCHORS SHALL NOT BE USED.	
3. ESCUTCHEON PLATES: PROVIDE CHROME PLATED ESCUTCHEON PLATES WHERE PIPES PASS THROUGH FINISHED WALLS, FLOORS, OR CEILING. PROVIDE PRIME COAT PAINTED ESCUTCHEON PLATES WHEREVER PIPES PASS THROUGH THE WALLS, FLOORS, OR CEILINGS IN UNFINISHED EXPOSED AREAS.	
4. TESTING AND FLUSHING: OVERHEAD SPRINKLER PIPING: TESTED FOR A PERIOD OF TWO HOURS AT A HYDROSTATIC PRESSURE OF 200 LBS. AND ALL PIPING, VALVES, HEADS,ETC SHALL BE WATERTIGHT.	

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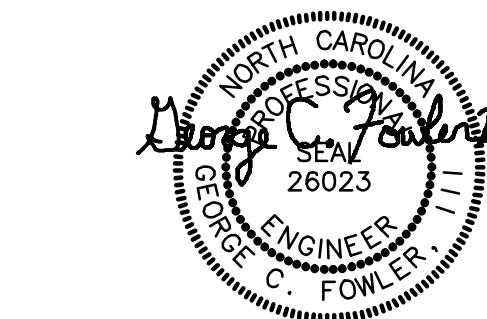
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UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM 1	3/16/16
2	ADDENDUM 2	3/22/16

Project: 15NCC491

Drawn By: DAR

Checked By: DAR

Date: March 1st, 2016

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FIRE  
PROTECTION  
LEGEND  
NOTES AND  
SPECIFICATIONS

CONSTRUCTION  
DOCUMENTS

FP-001

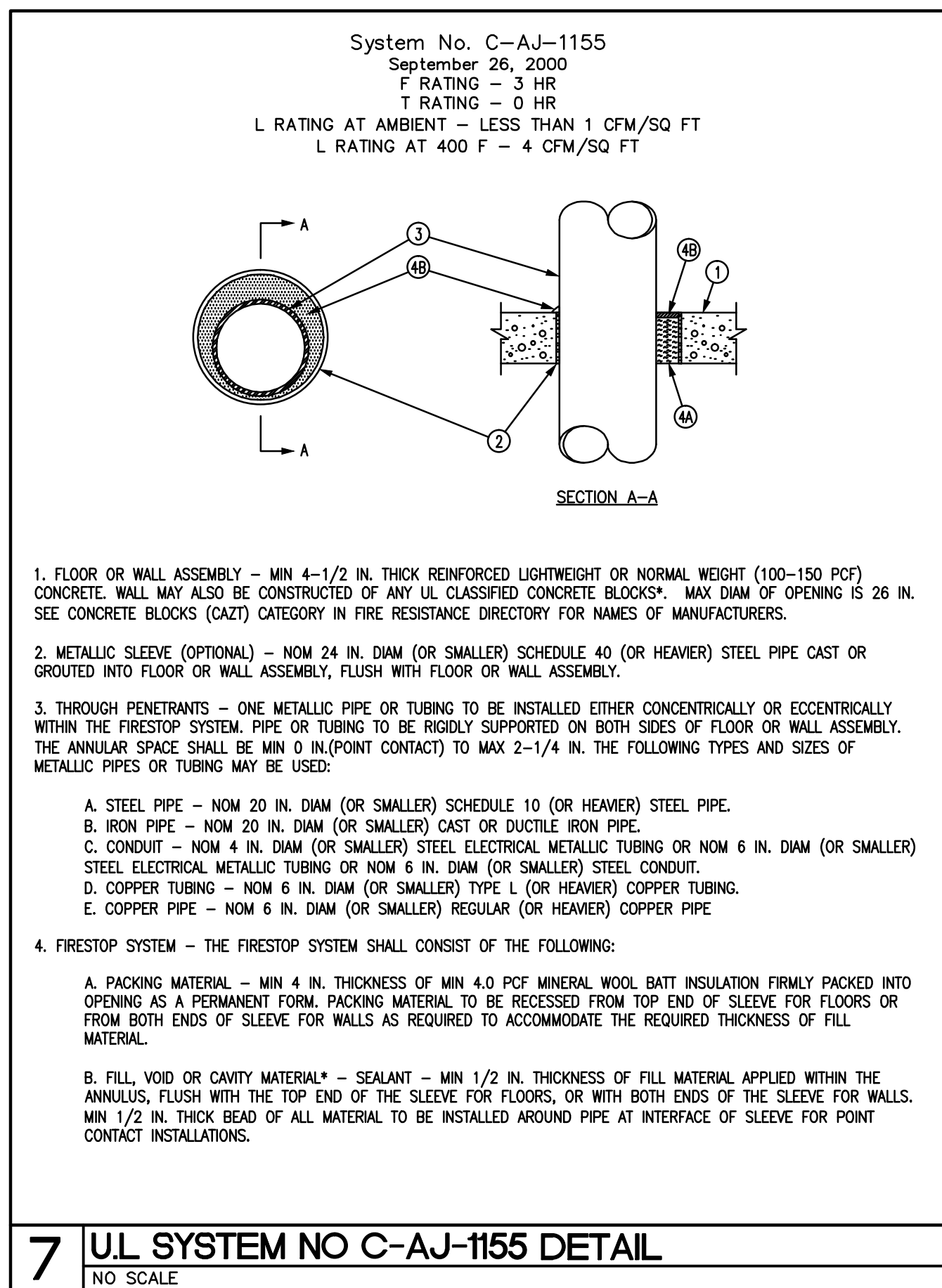
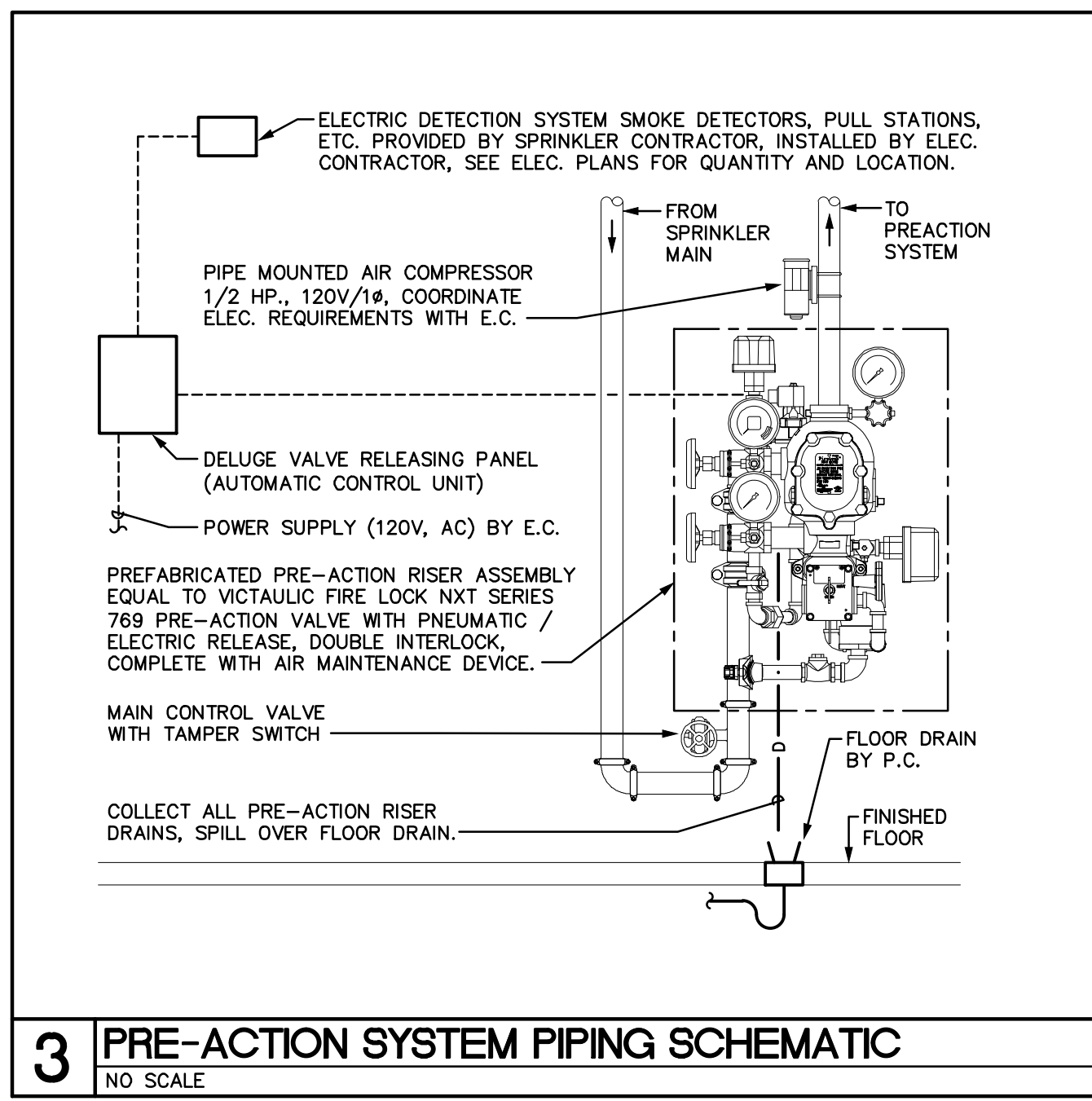
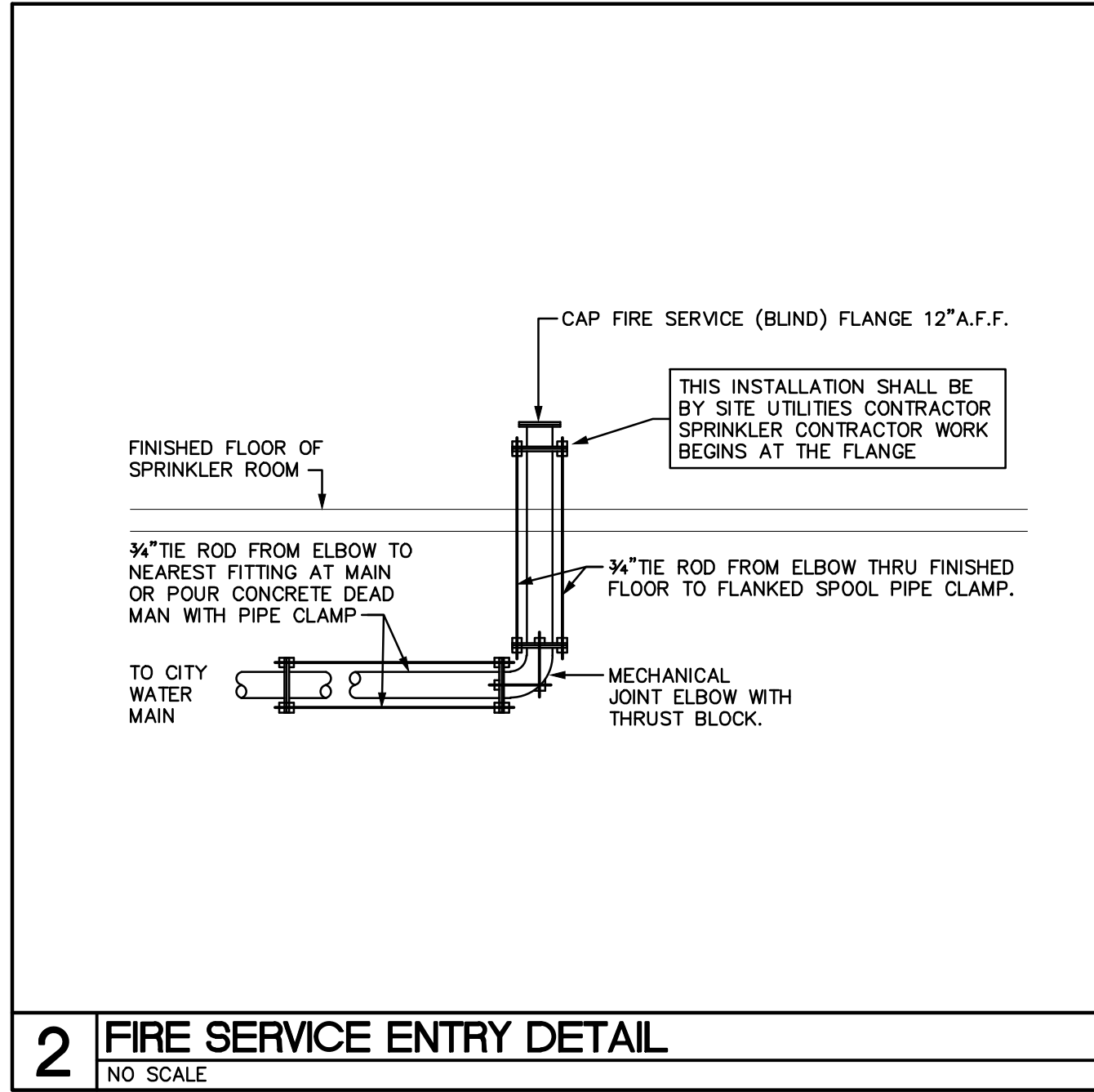
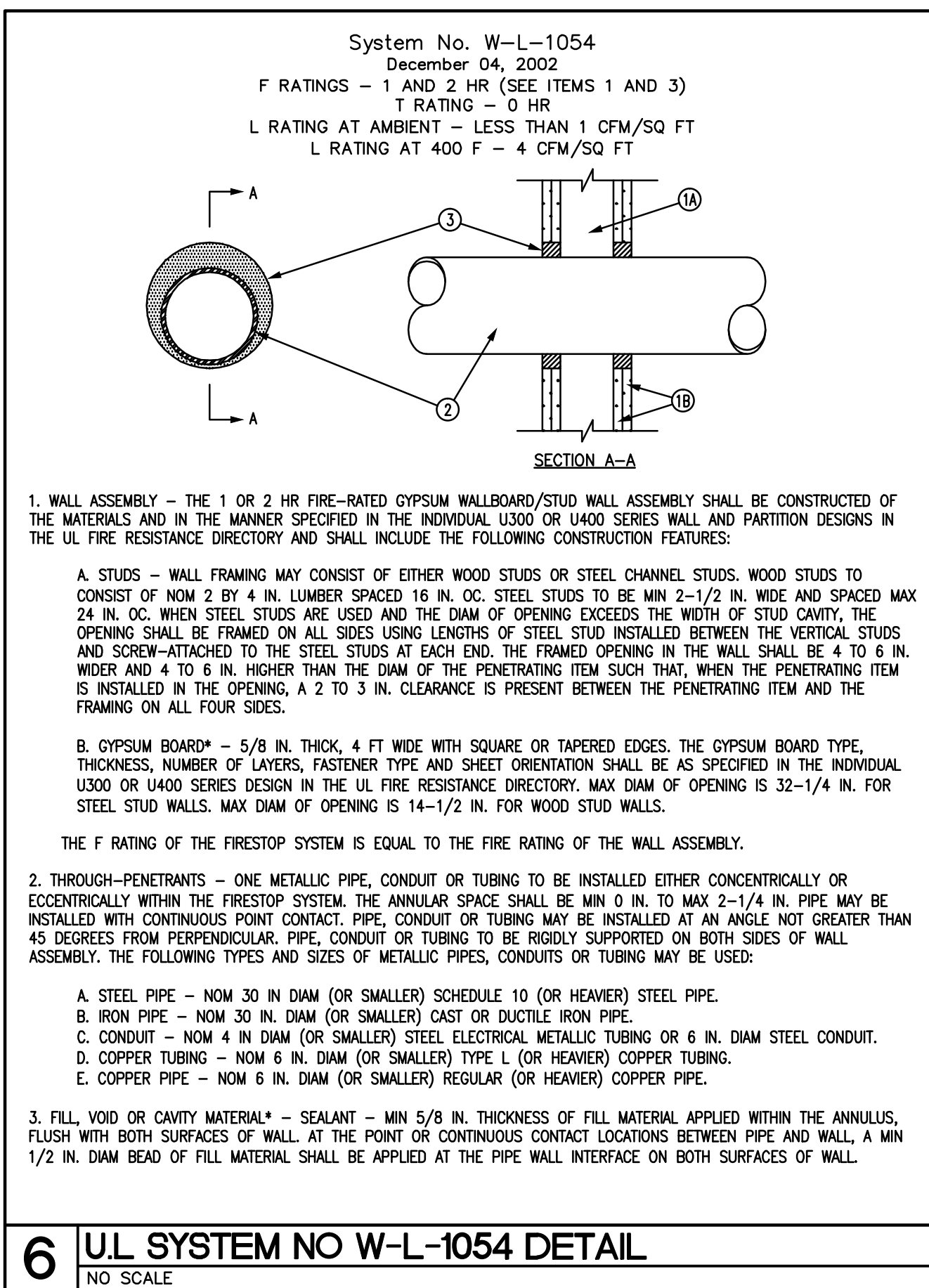
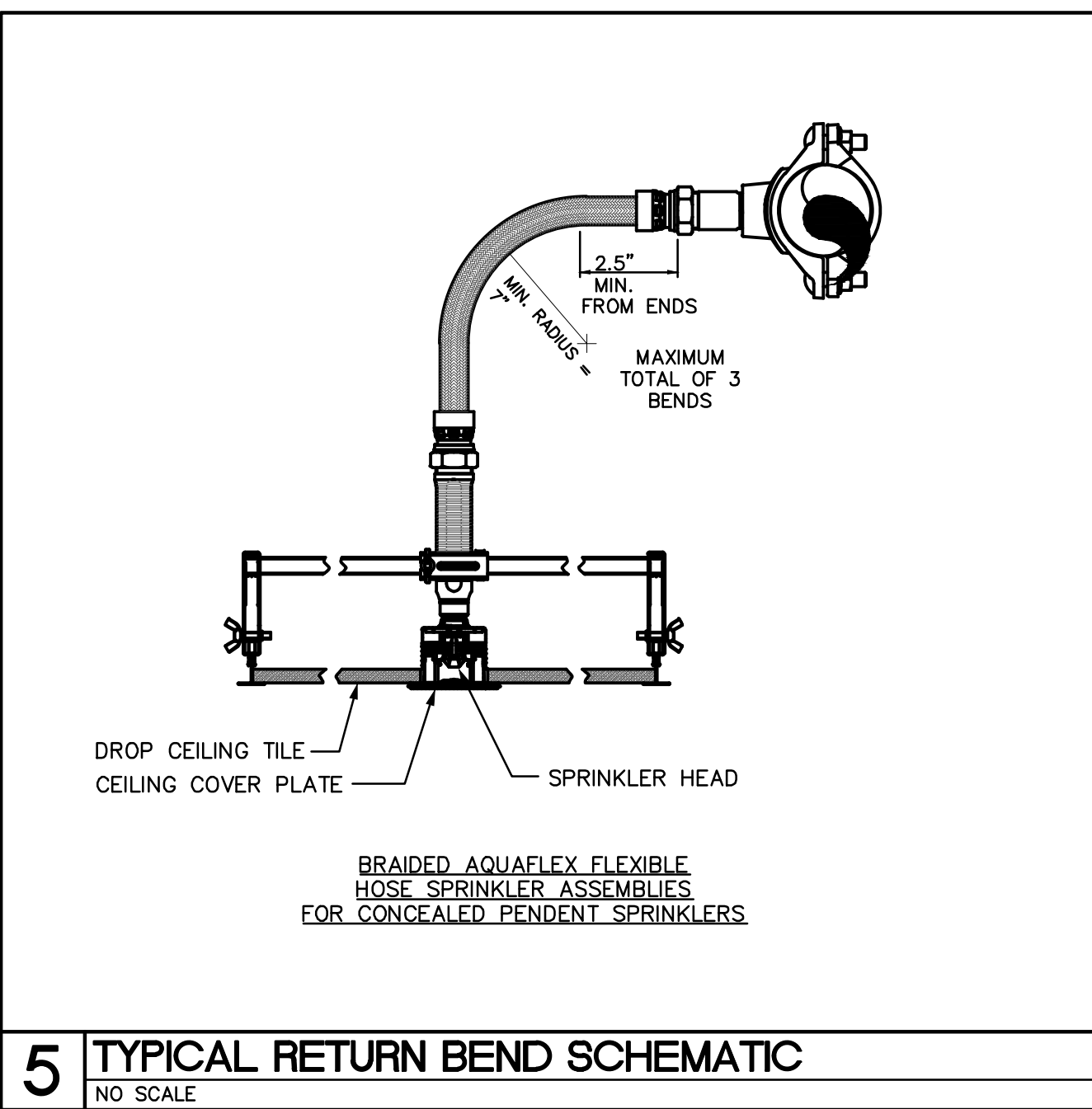
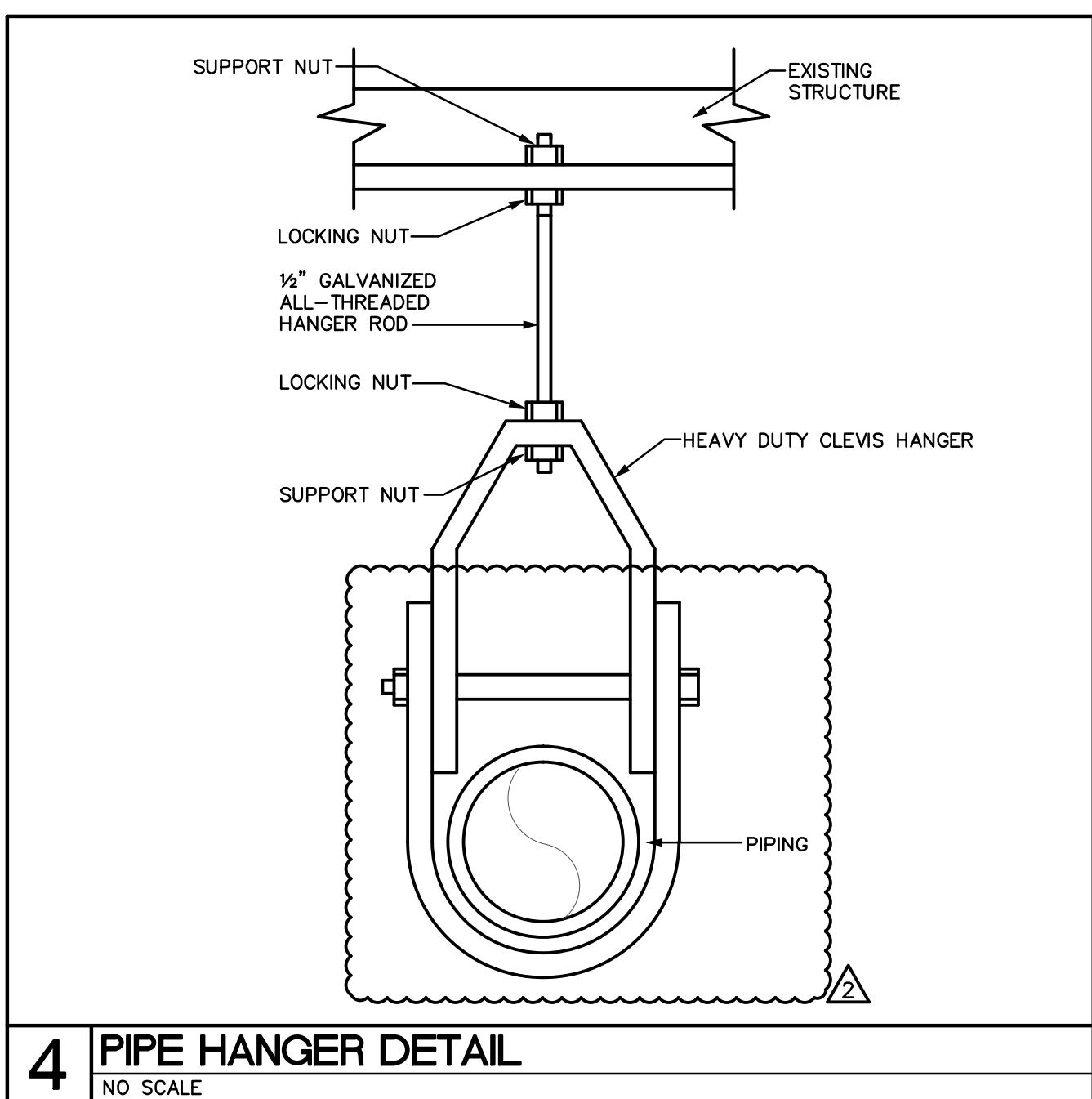
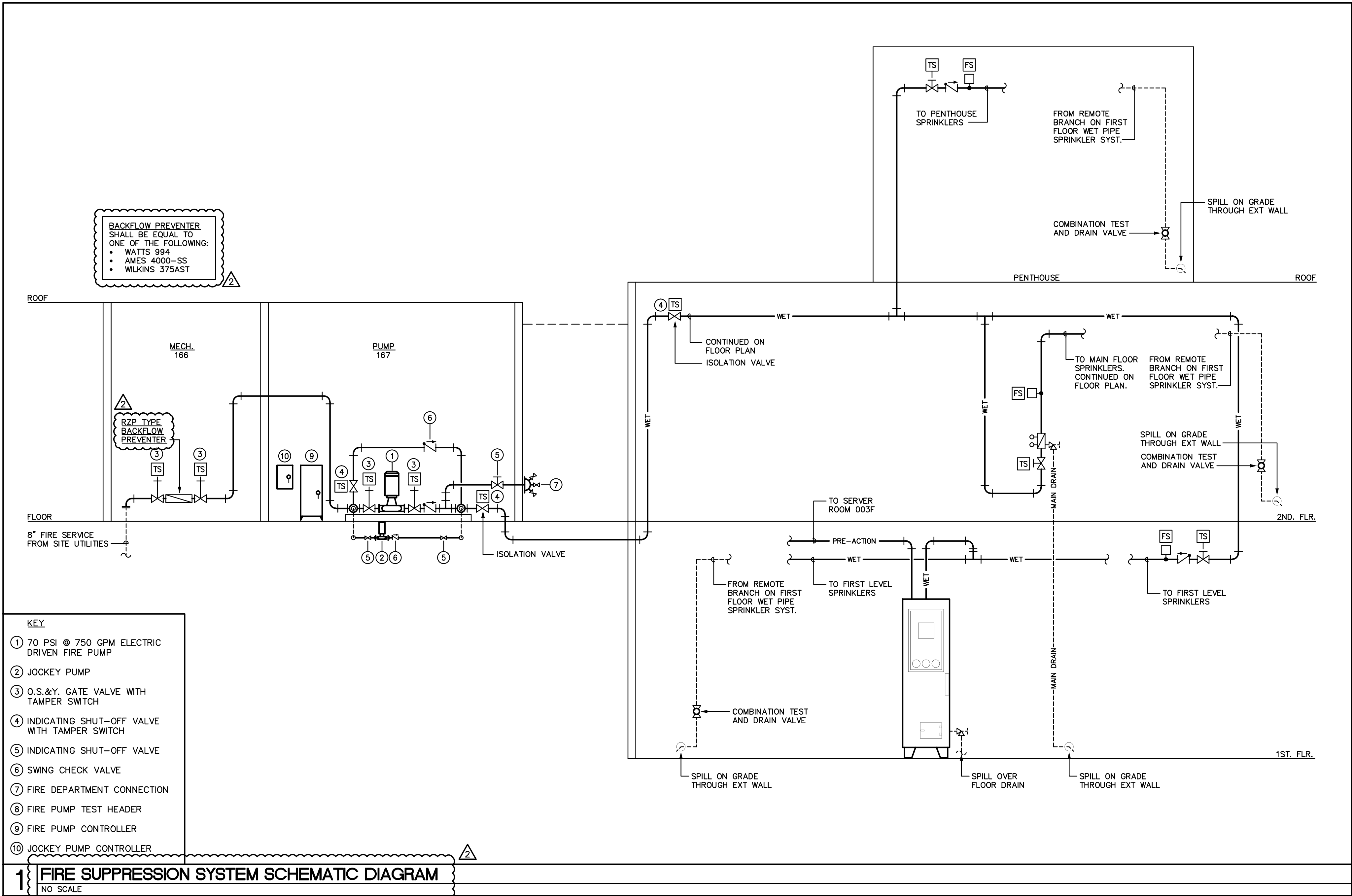


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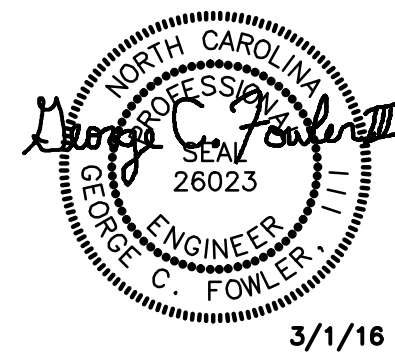
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UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
2	ADDENDUM 2	3/22/16

Project: 15NCC491

Drawn By: DAR

Checked By: DAR

Date: March 1st, 2016

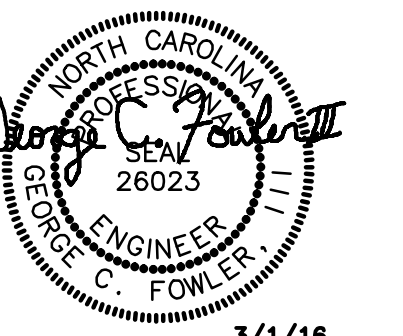
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FIRE  
PROTECTION  
DETAILS

CONSTRUCTION  
DOCUMENTS

FP-002





**UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION**

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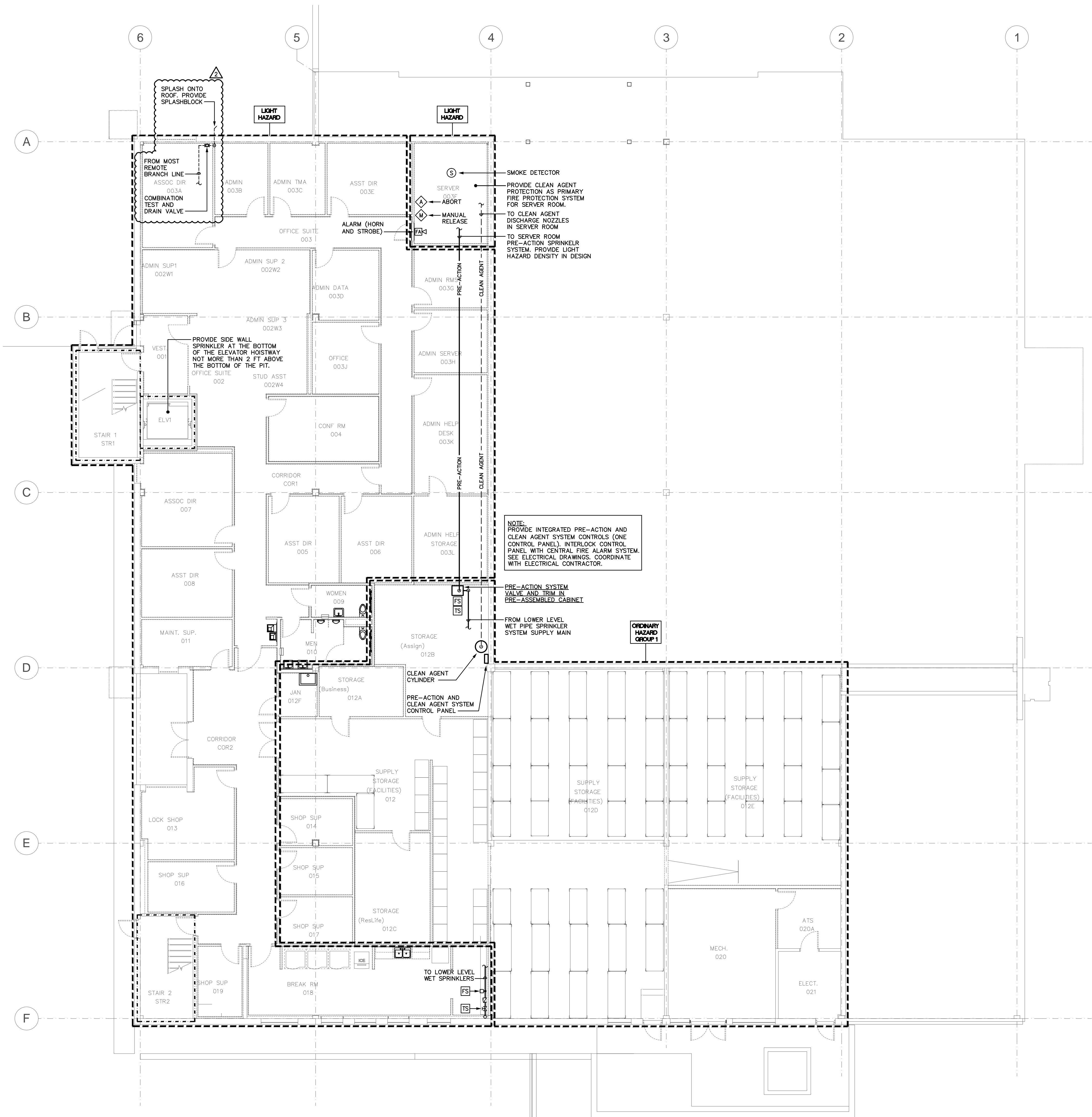
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2	ADDENDUM 2	3/22/16

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# FIRE PROTECTION FIRST LEVEL PLAN NEW WORK

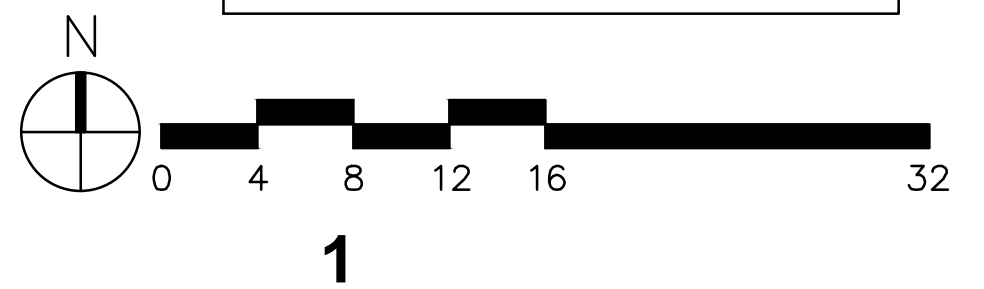
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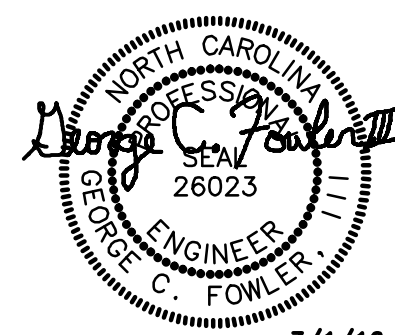


**1 FIRE PROTECTION FIRST LEVEL - NEW WORK**  
1/8" = 1'-0"

<h1>RATED WALL LEGEND</h1>	
	1 HOUR FIRE BARRIER
REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE WALL CONSTRUCTION AND RATING INFORMATION.	







UNC Charlotte  
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HALL BUILDING  
RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
2	ADDENDUM 2	3/22/16

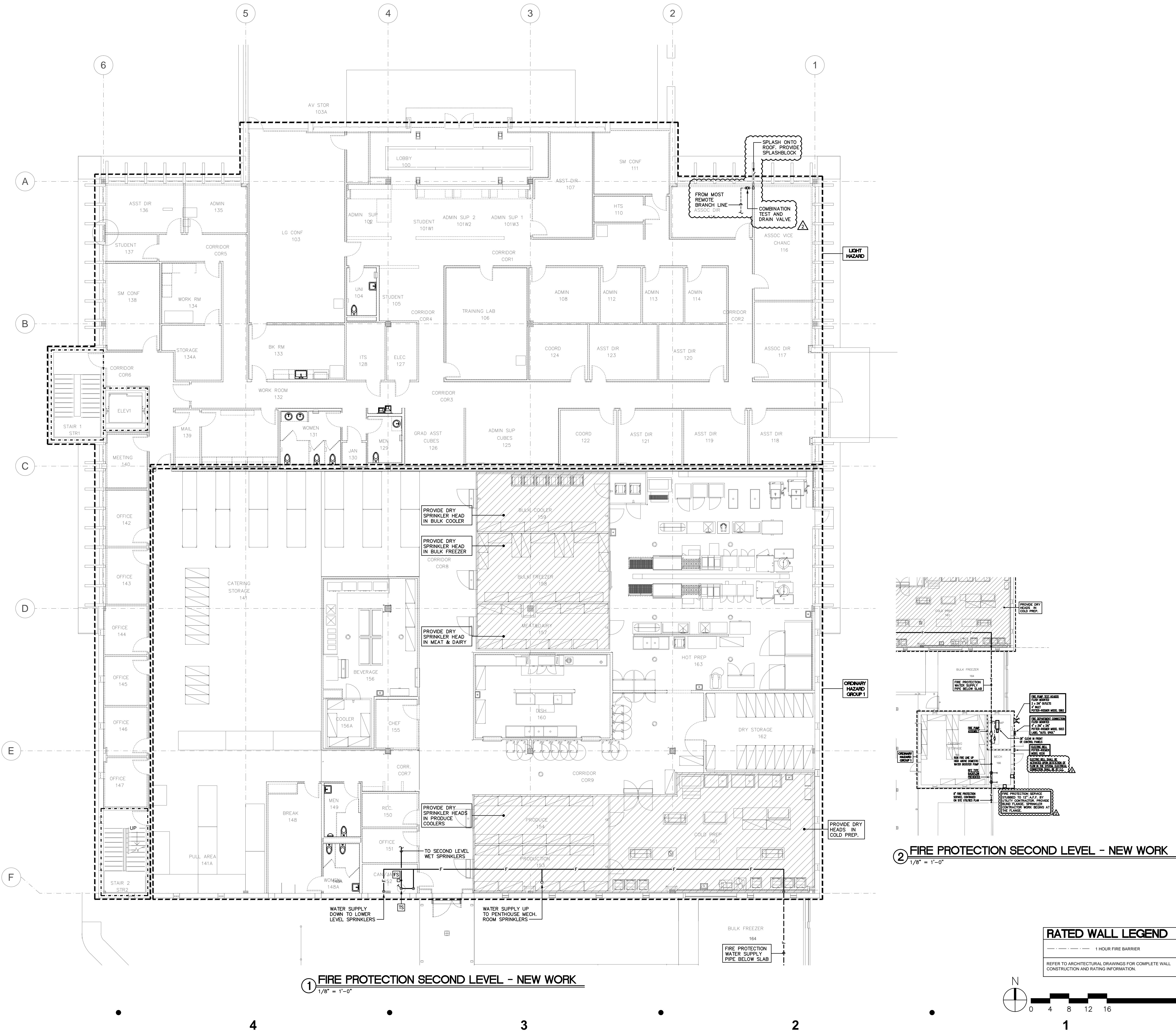
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Date: March 1st, 2016

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FIRE  
PROTECTION  
SECOND  
LEVEL PLAN  
NEW WORK

CONSTRUCTION  
DOCUMENTS

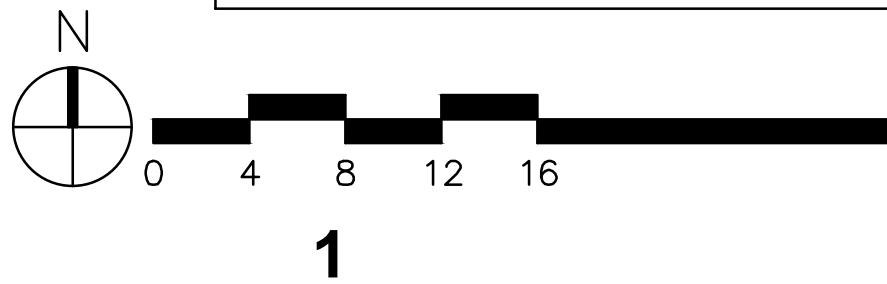
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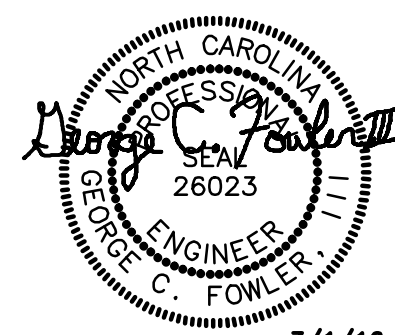
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1/8" = 1'-0"

2 FIRE PROTECTION SECOND LEVEL - NEW WORK  
1/8" = 1'-0"

RATED WALL LEGEND	
---	1 HOUR FIRE BARRIER
REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE WALL CONSTRUCTION AND RATING INFORMATION.	







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RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM 1	3/16/16

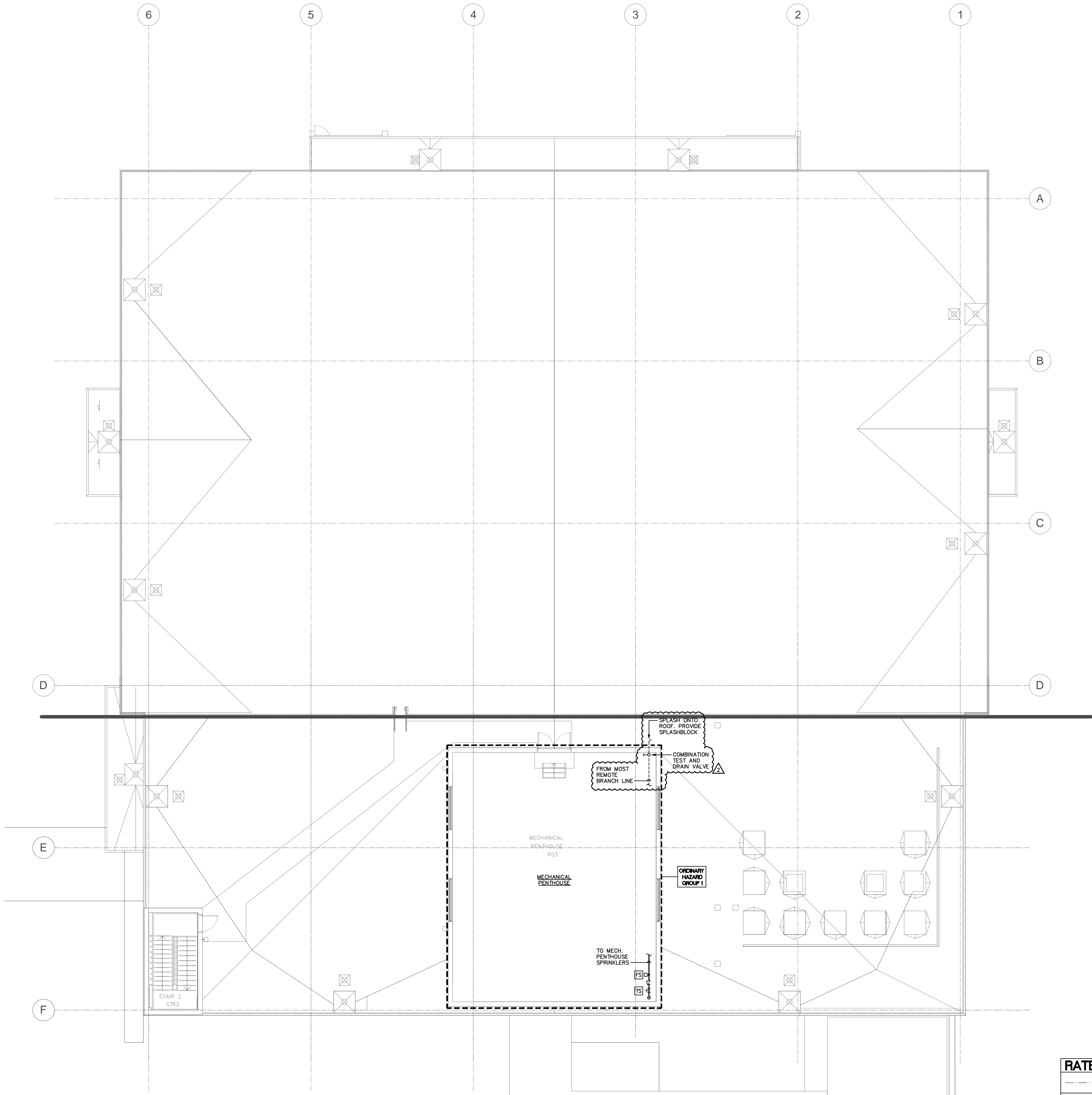
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FIRE  
PROTECTION  
ROOF PLAN  
NEW WORK

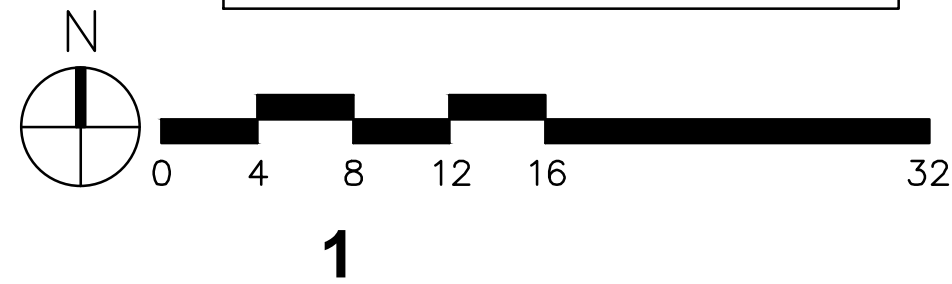
CONSTRUCTION  
DOCUMENTS

FP-103

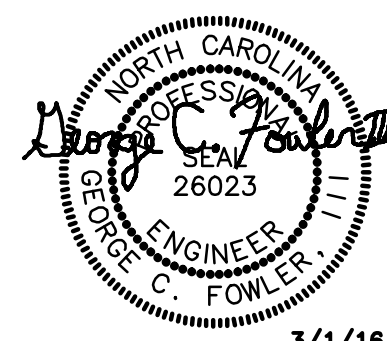


1 FIRE PROTECTION ROOF - NEW WORK  
1/8" = 1'-0"

RATED WALL LEGEND	
---	1 HOUR FIRE BARRIER
REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE WALL CONSTRUCTION AND RATING INFORMATION.	







**UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION**

SCO ID #: 14-11273-02A

[illegible]

Project: 15NCC491

Drawn By: DAR

Checked By: DAR

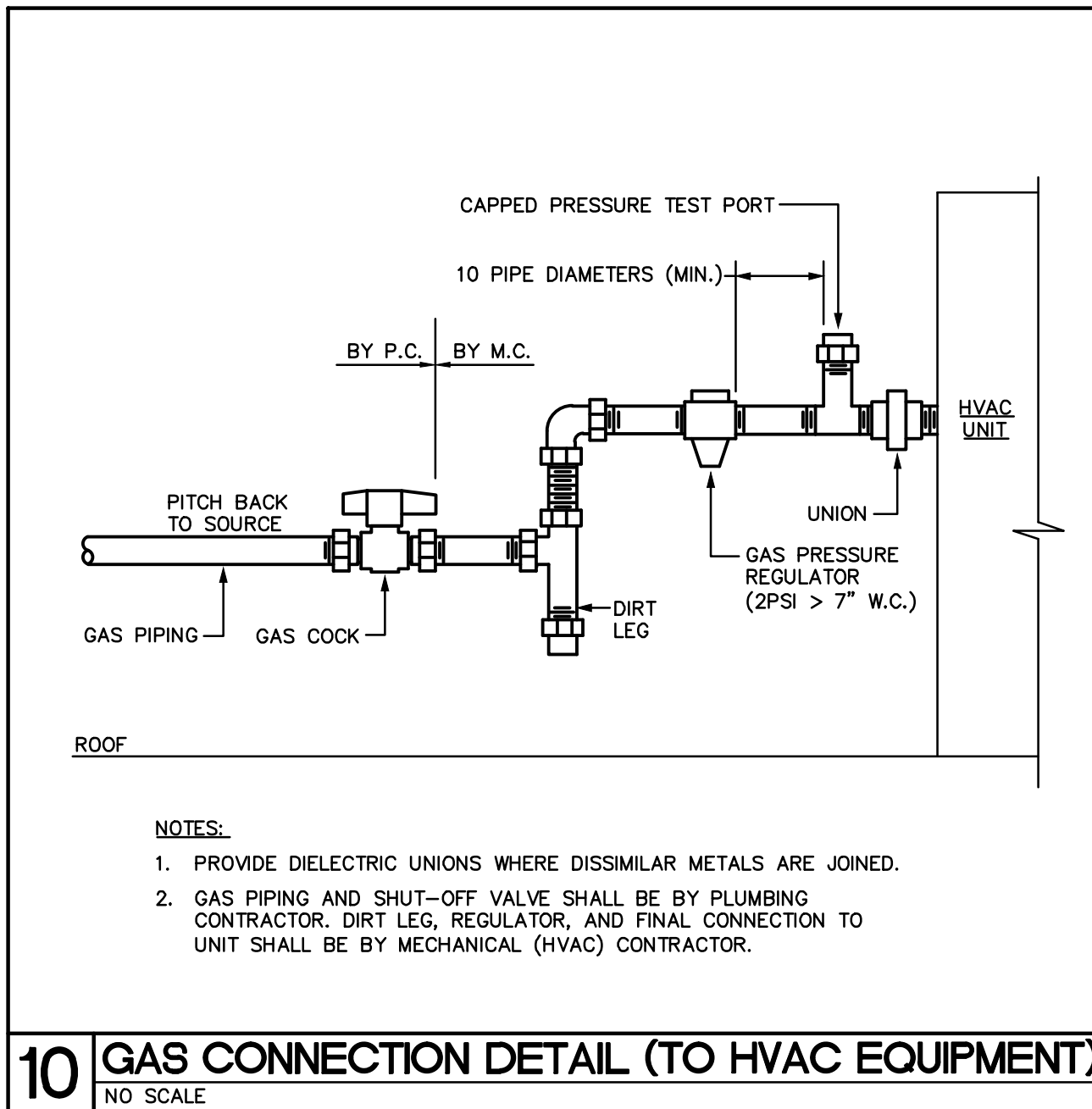
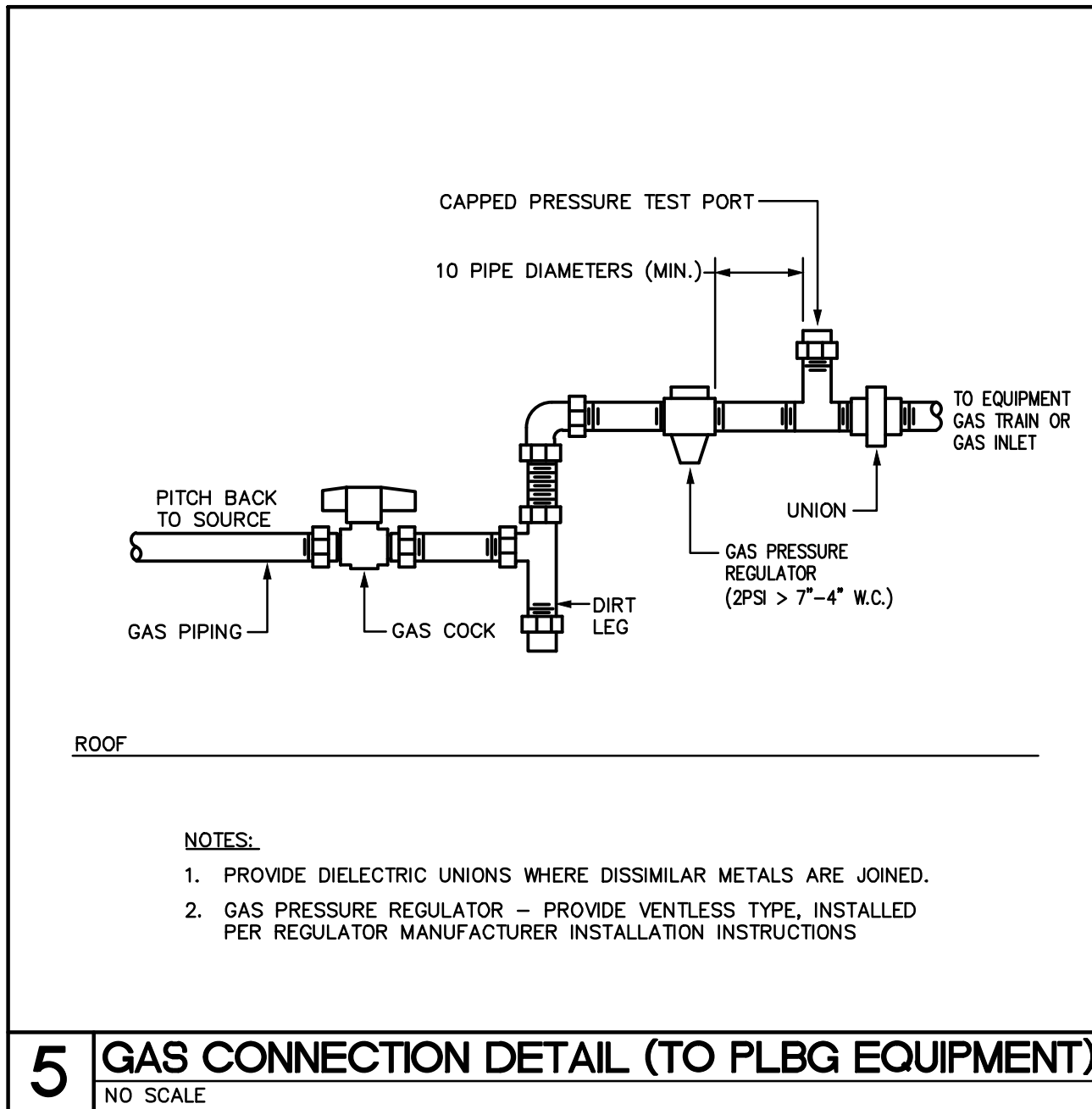
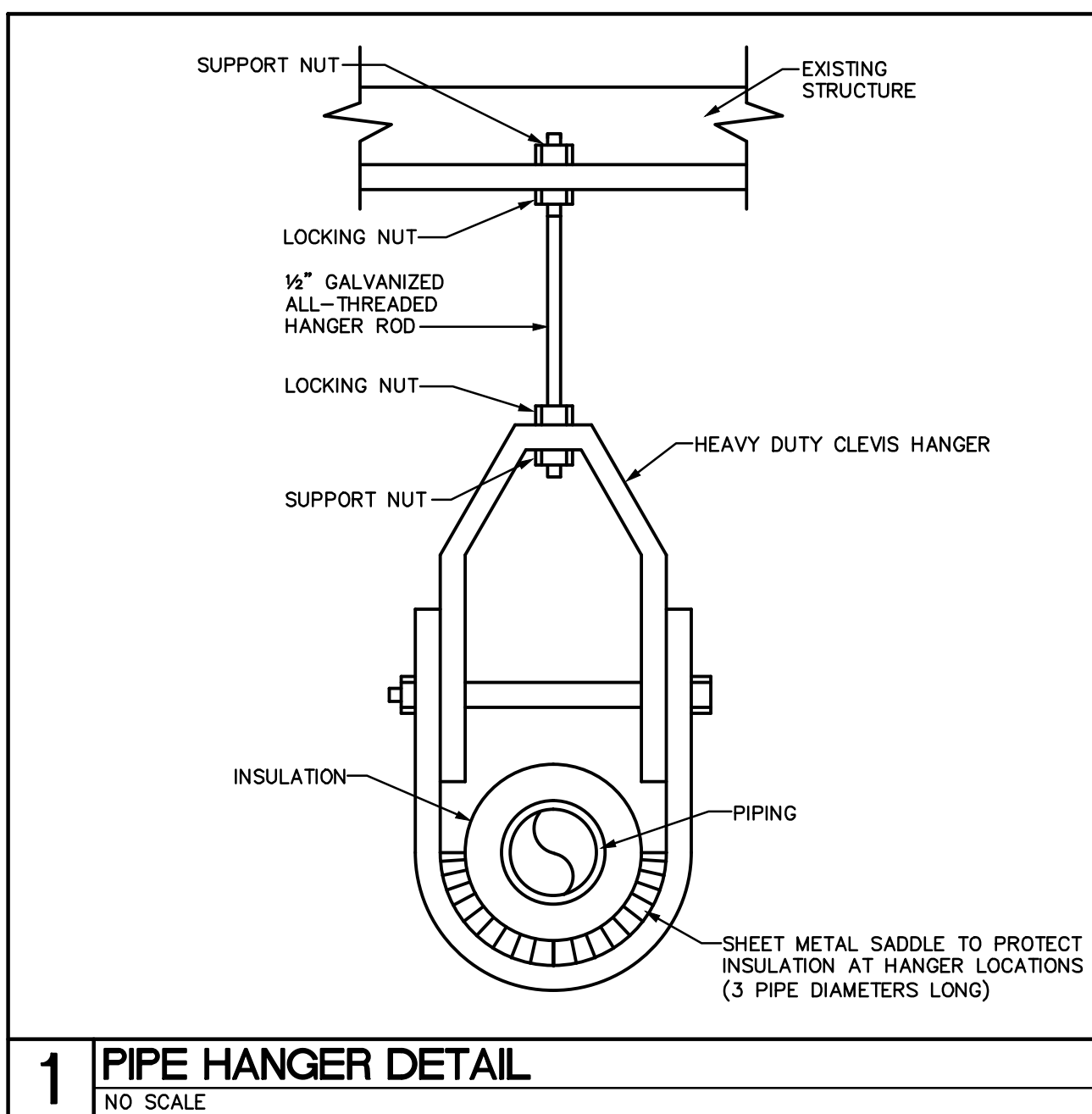
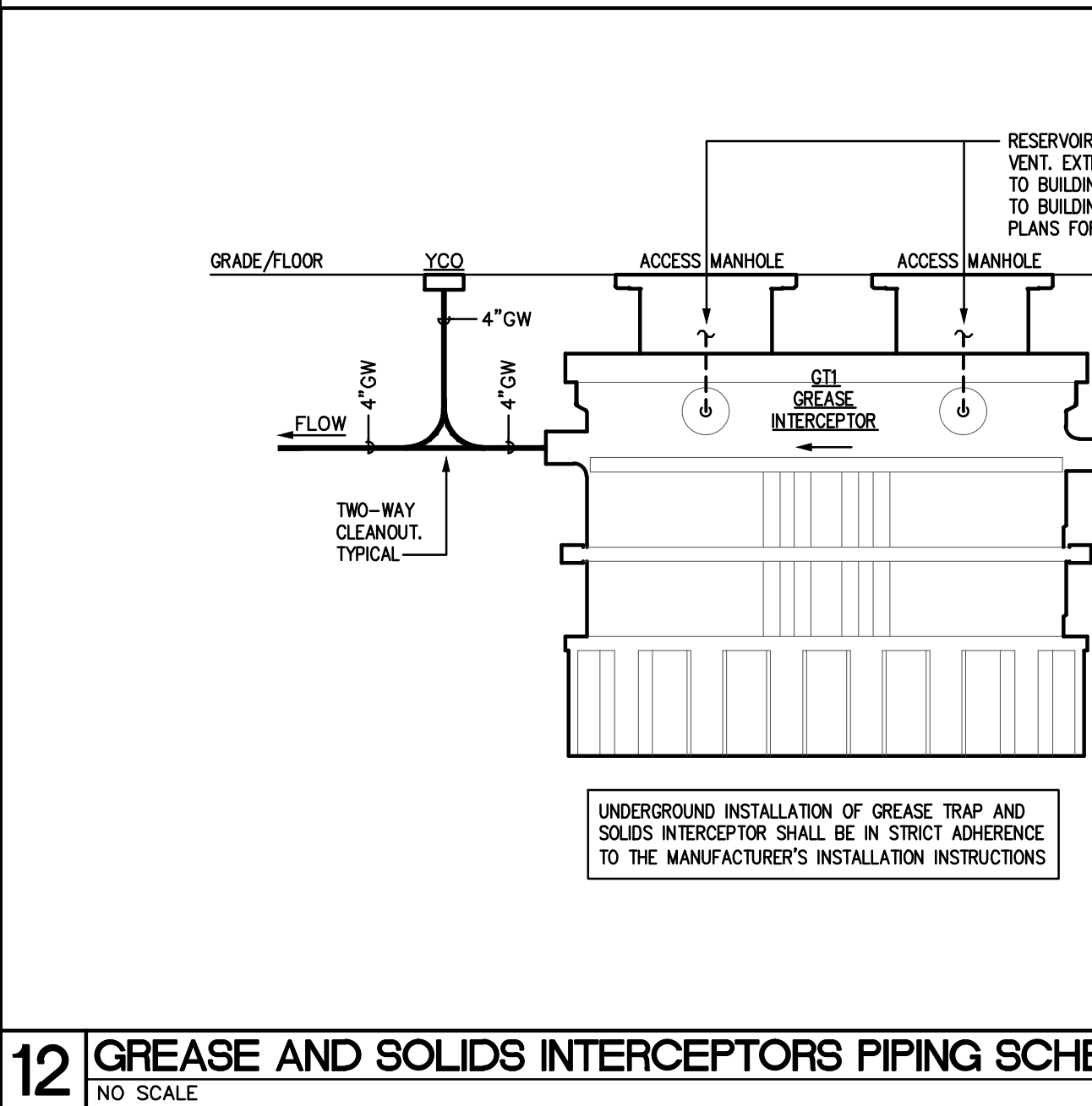
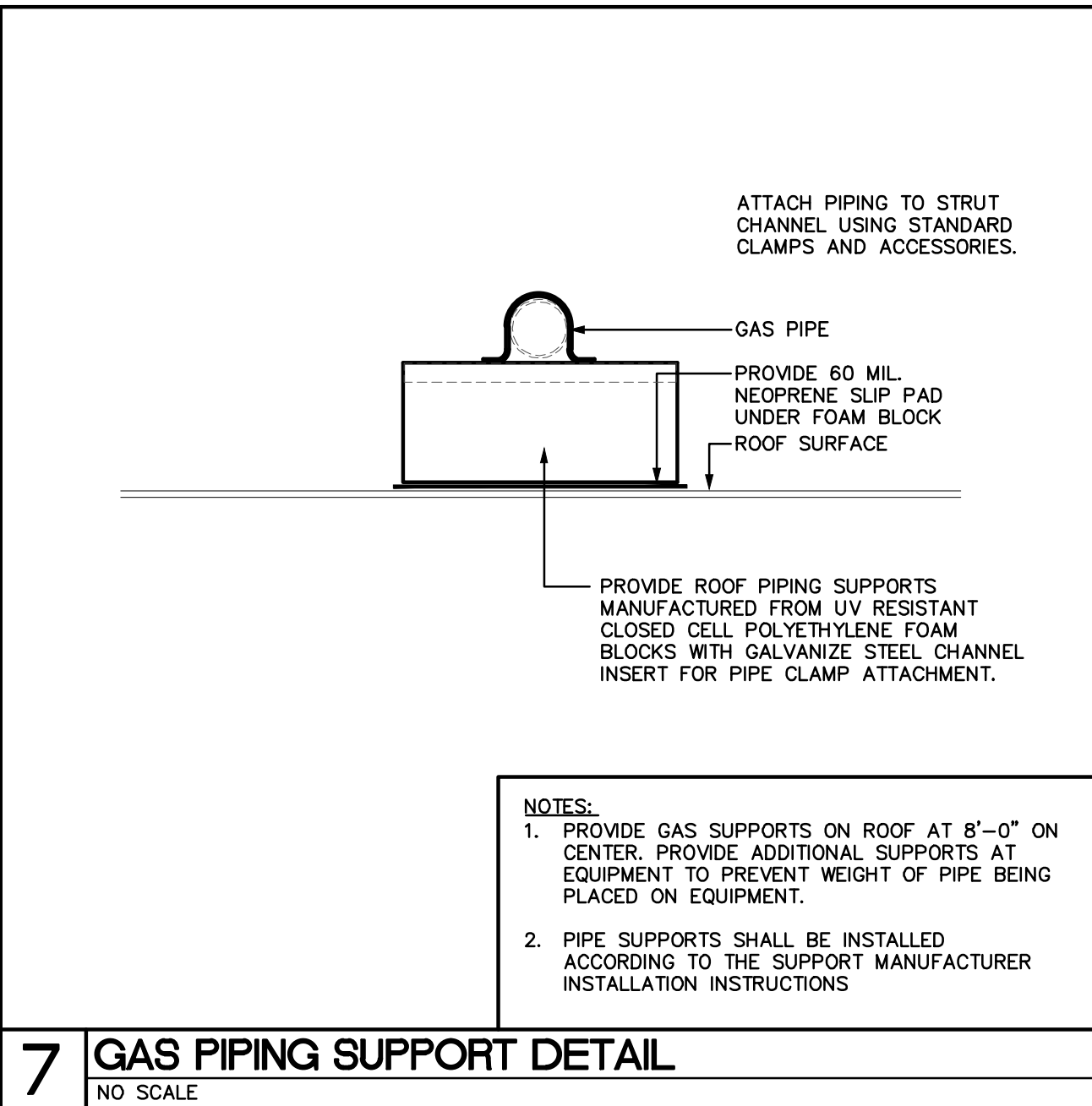
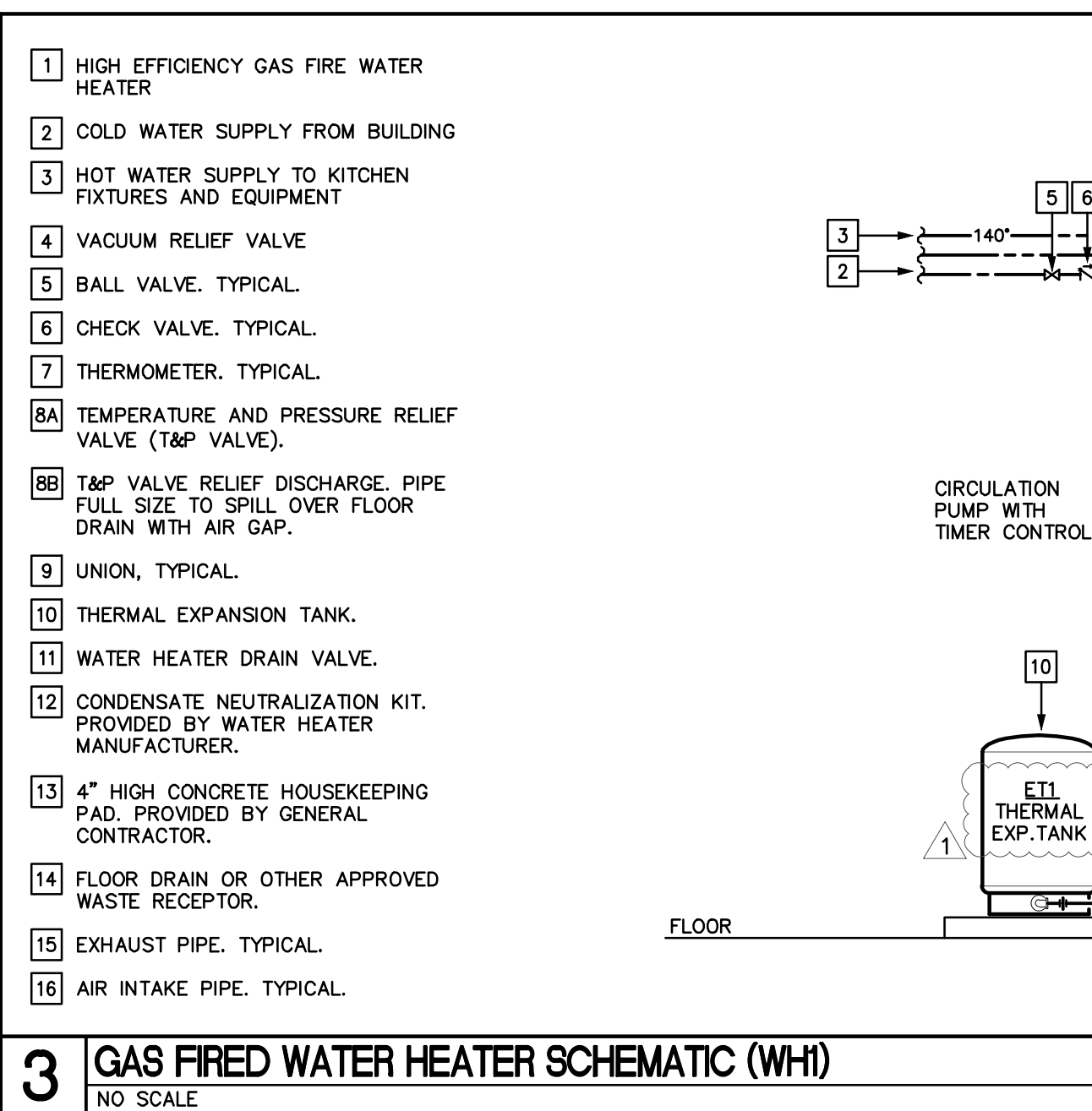
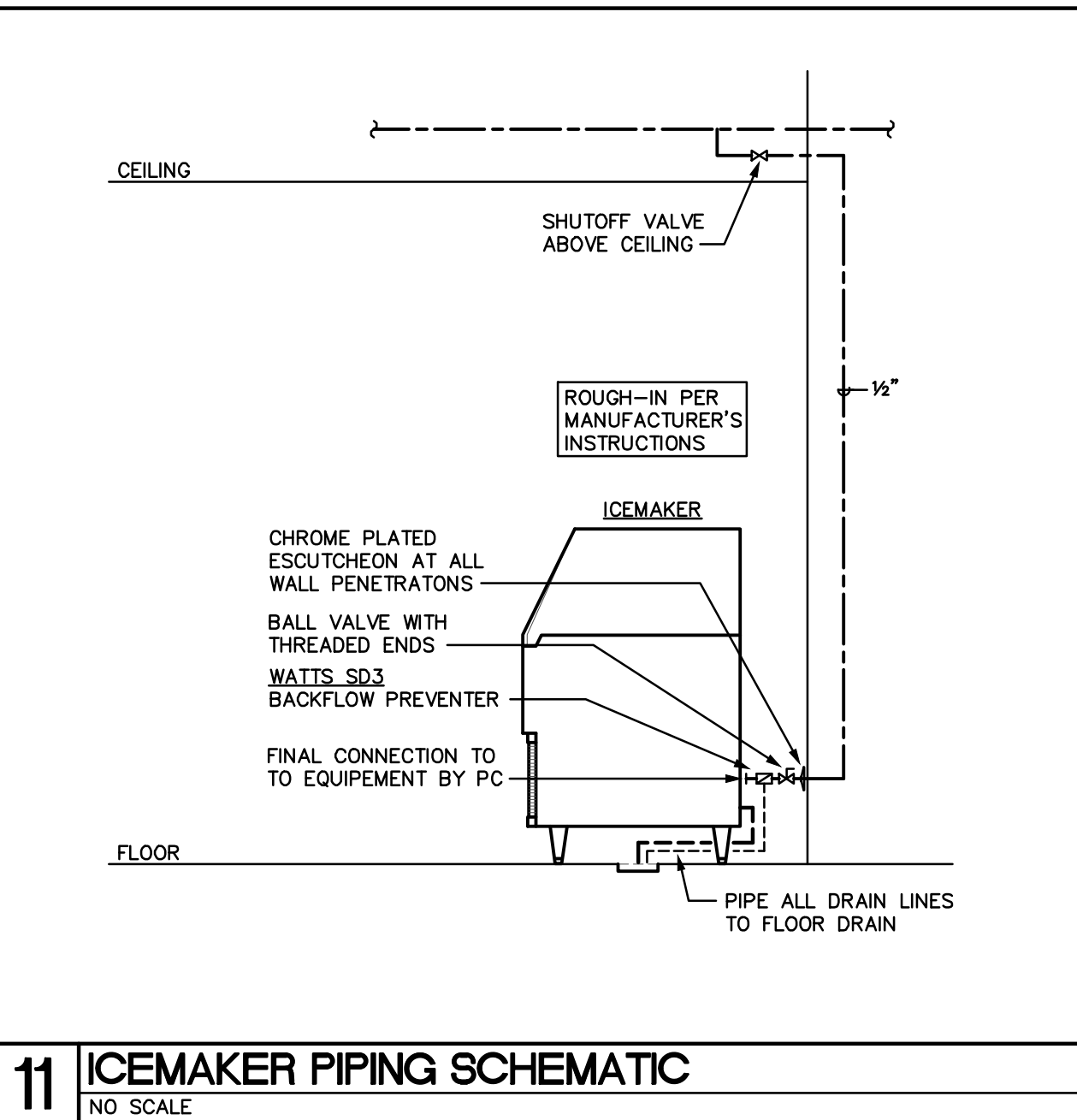
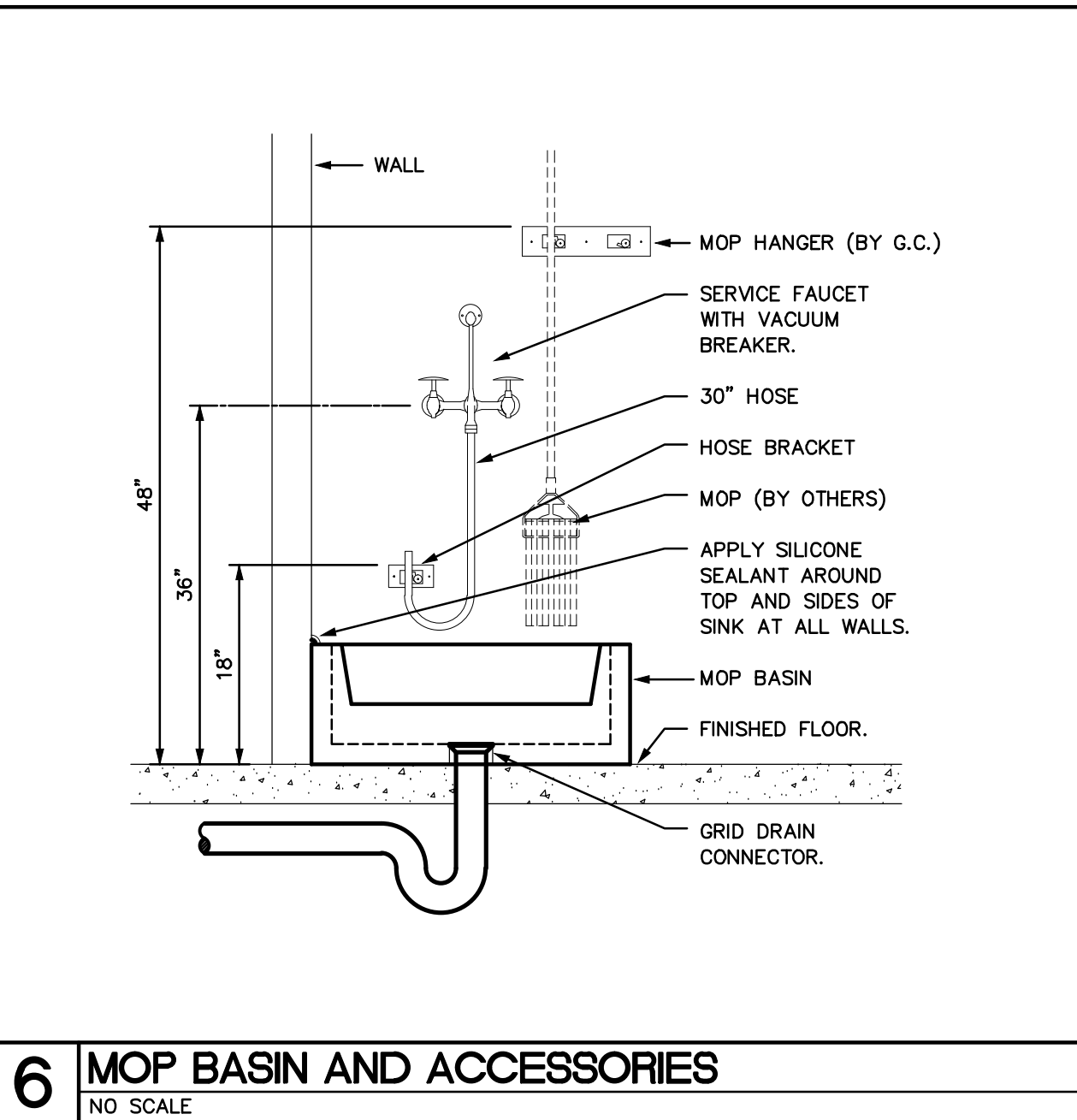
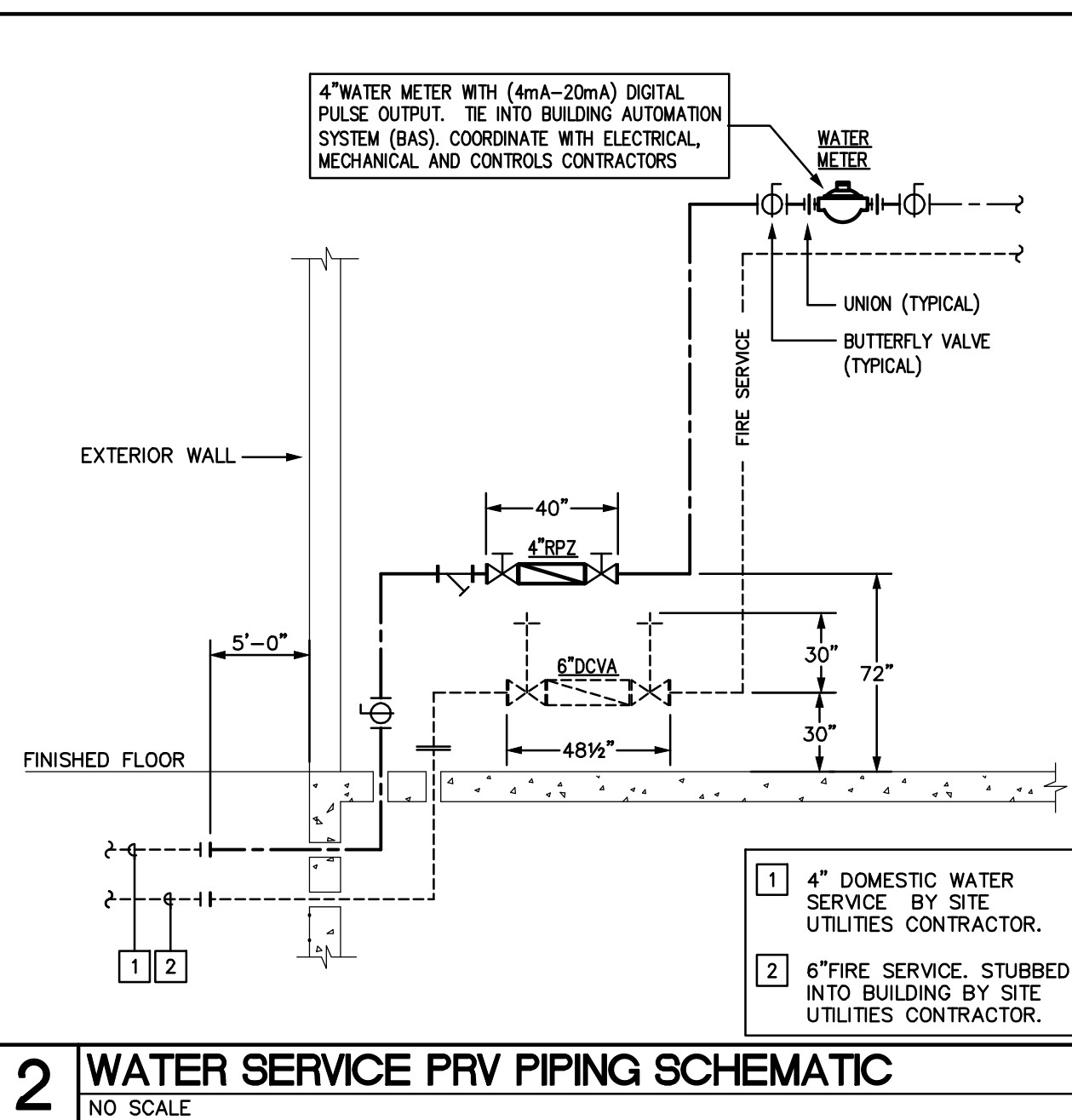
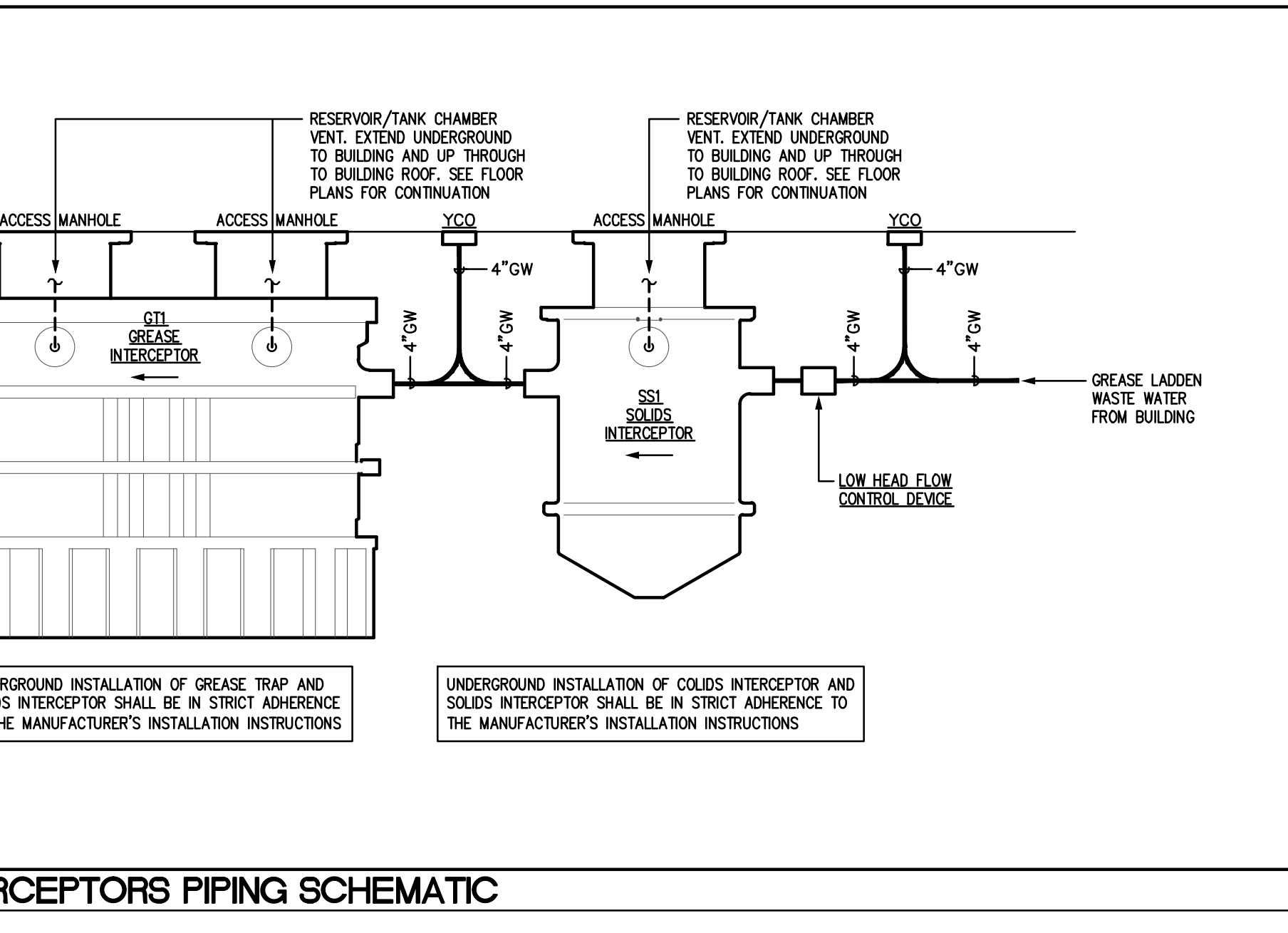
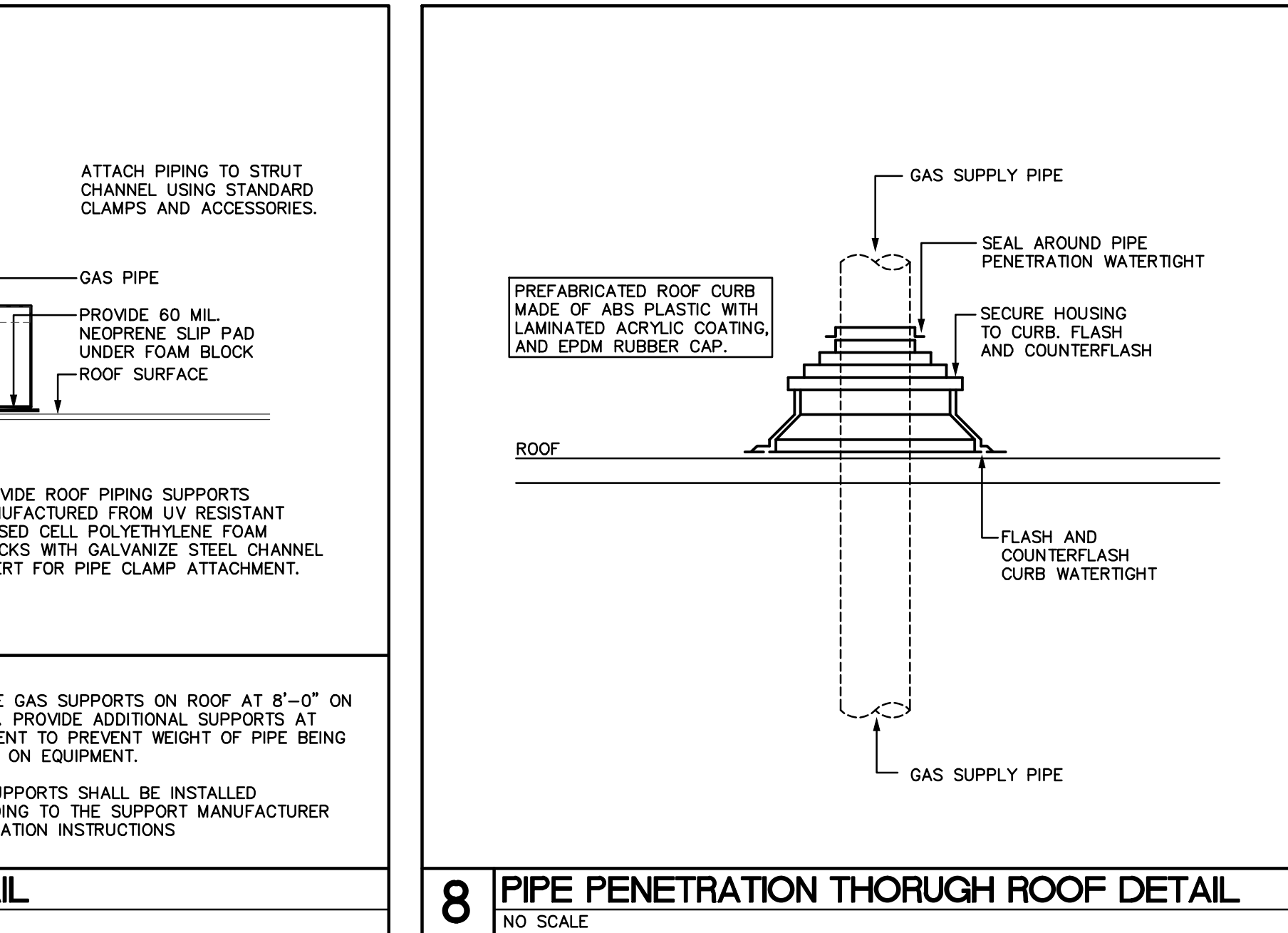
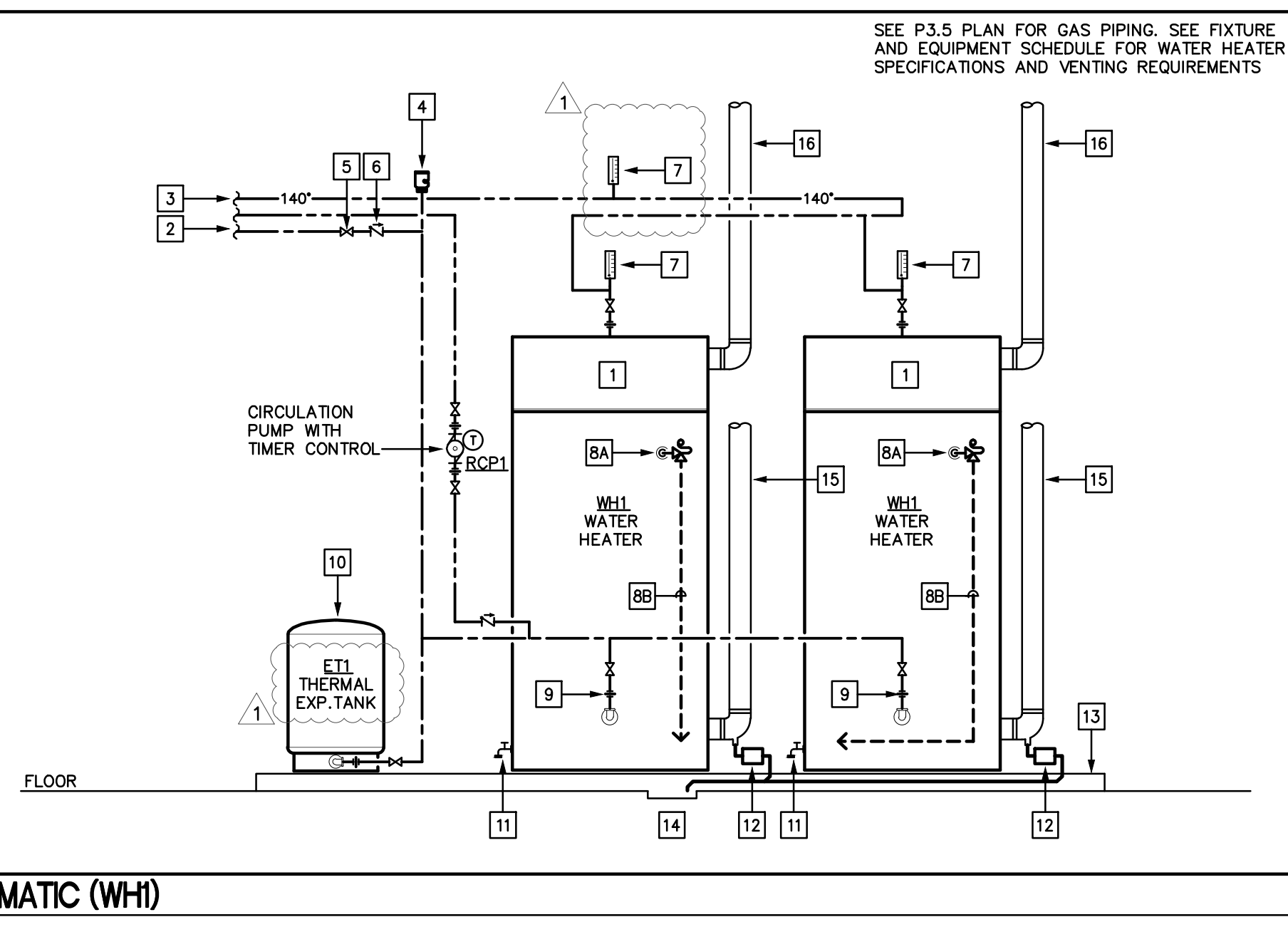
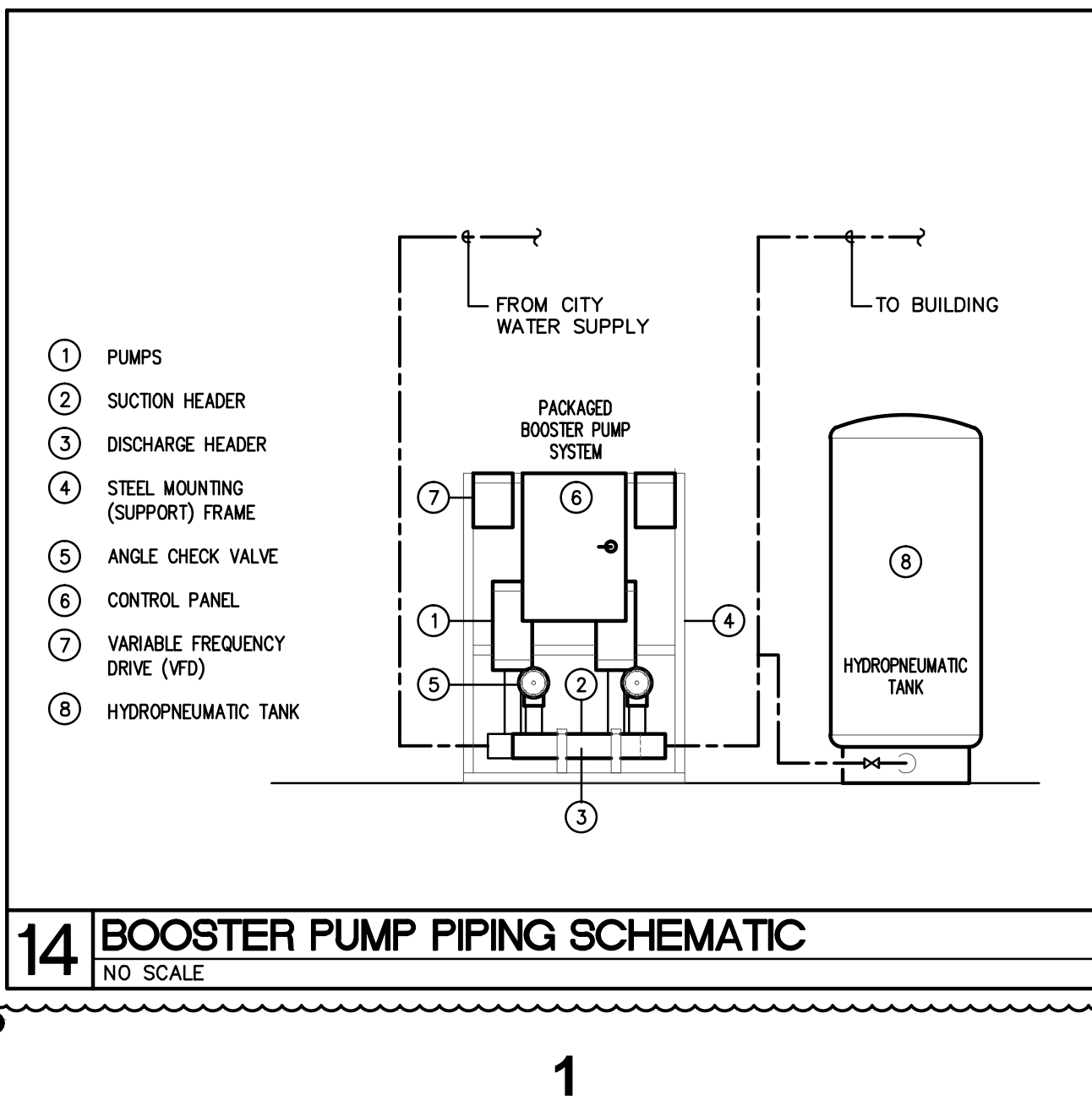
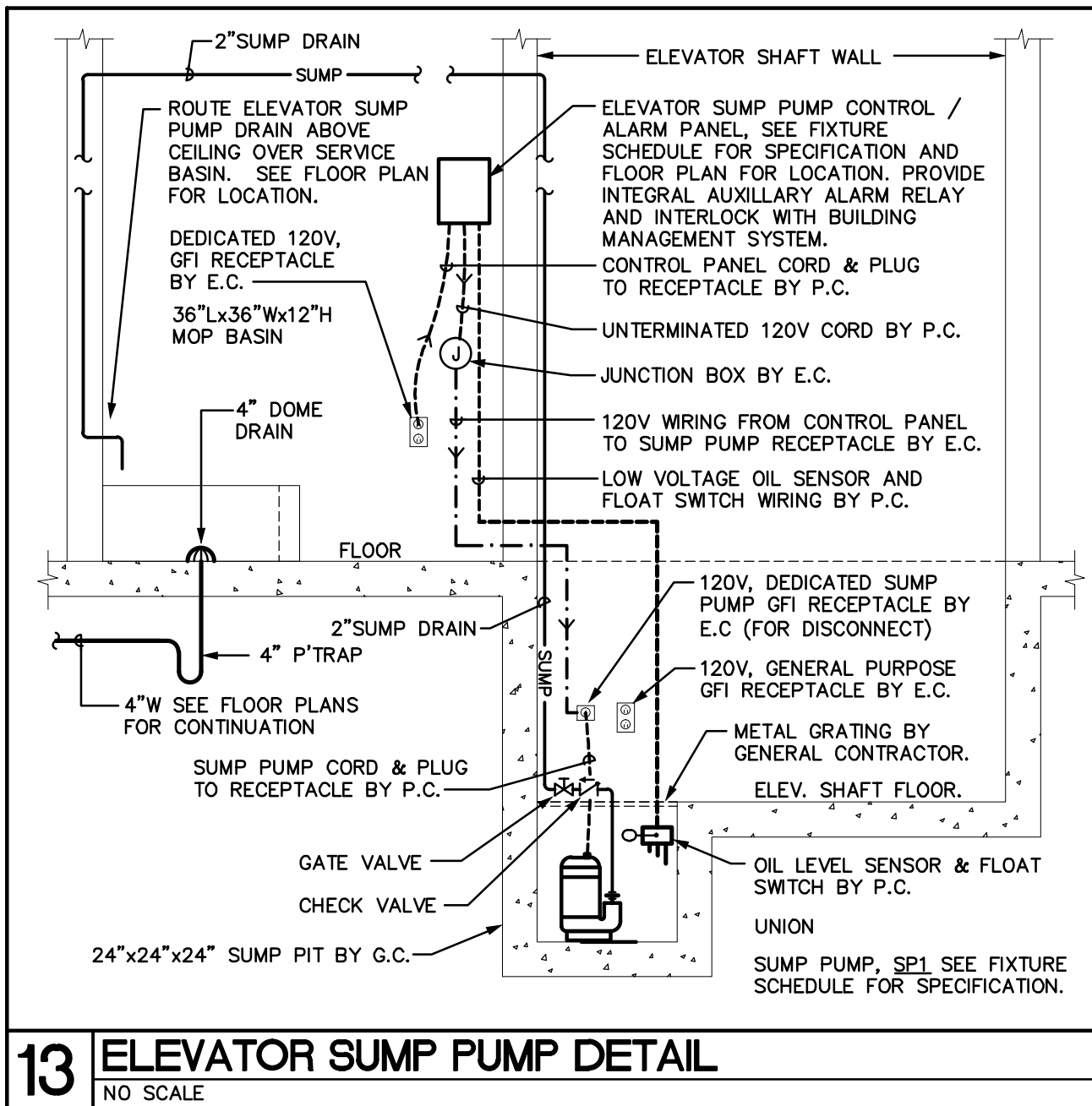
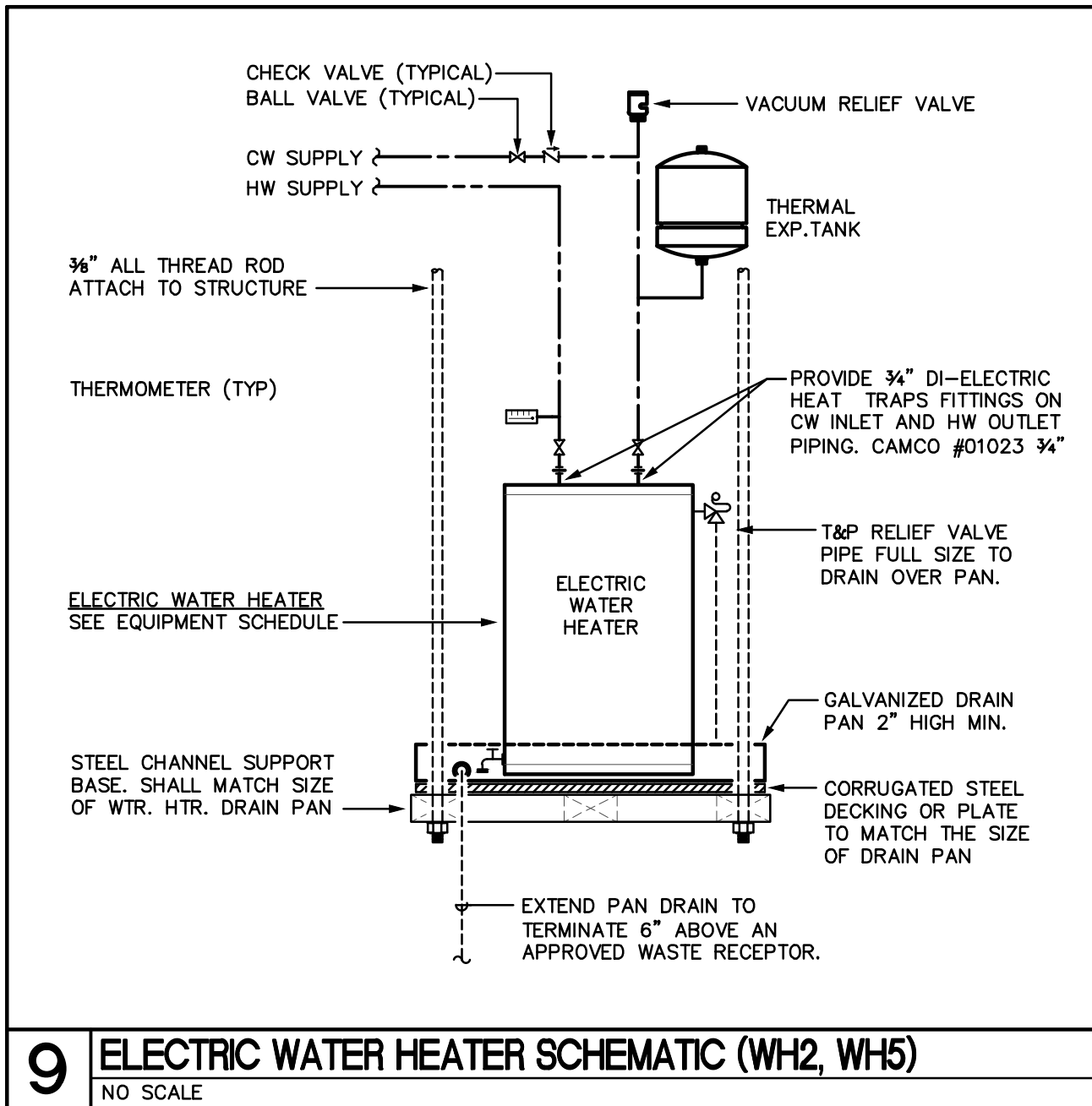
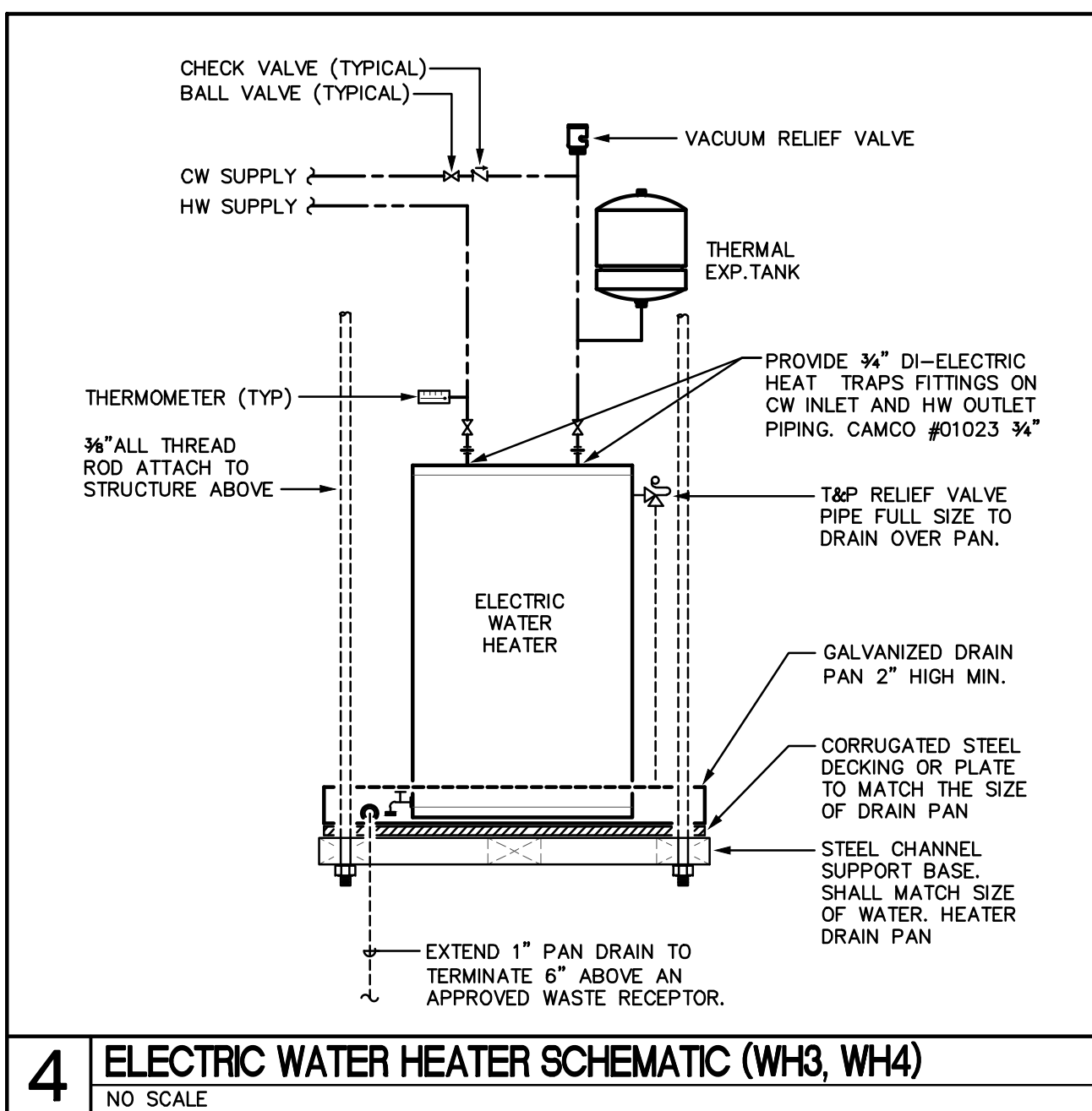
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## PLUMBING DETAILS

## CONSTRUCTION DOCUMENTS

# P-002





D

C

B

A

FOOD SERVICE PLUMBING CONNECTION SCHEDULE										
THIS SCHEDULE IS PROVIDE FOR REFERENCE ONLY. REFER TO FOOD SERVICE DRAWINGS FOR ACTUAL CONNECTION SIZES AND REQUIREMENTS.										
ITEM NUMBER	QTY	DESCRIPTION	HOT WATER SIZE	COLD WATER SIZE	INDIRECT WASTE	DIRECT WASTE	GAS SIZE		REMARKS	
							SIZE	INPUT		
8	3	1-COMPARTMENT PREP SINK			1 3/4"	0"				
8A	3	8IN FAUCET WITH 12IN SWING NOZZLE	1/2"	1/2"						
9	2	ICE MAKER, WATER-COOLED		1/2"	0"	1/2"				
9B	1	ICE MAKER, AIR-COOLED		1/2"	0"	1/2"				
15	1	SOLED DISHTABLE			1 3/4"	0"				
17	2	PRE-RINSE UNIT W/BRACKET								
18	1	DISPOSER		1/2"		2"				
19	1	DISHWASHER WITH DRYER	1/2"		2"				MAY BE DRAINED TO EITHER SIDE OF T-DRAIN VALVE. PLUG OPPOSITE SIDE.	
23	1	POT AND PAN WASHER	3/4"		1 1/2"				UNIT COMES WITH 4"-7" HOSES	
26	1	3 COMPARTMENT POT SINK	1/2"	1/2"	1 1/2"	0"				
26A	2	8IN FAUCET WITH 12IN SWING NOZZLE	1/2"	1/2"						
31	4	HAND SINK W/SIDE SPLASHES & KNEE VALVE	1/2"	1/2"		2"				
31A	3	HAND SINK FLOOR MOUNT	1/2"	1/2"	1"	1"				
32A	1	8IN FAUCET WITH 12IN SWING NOZZLE	1/2"	1/2"						
36	1	CONVECTION STEAMER		1/2"	1 1/2"		1"	300000.0 Btu/h		
36A	1	CONVECTION STEAMER		1/2"	1 1/2"		1"	300000.0 Btu/h		
38	6	FLOOR TROUGH, ANTI-SPILL				3"				
39A	1	40-GAL KETTLE	1/2"	1/2"			3/4"	140000.0 Btu/h		
39B	1	40-GAL KETTLE	1/2"	1/2"			3/4"	140000.0 Btu/h		
40	1	TILTING SKILLET	1/2"	1/2"	1 1/2"		3/4"	200000.0 Btu/h		
40A	1	TILTING SKILLET	1/2"	1/2"	1 1/2"		3/4"	125000.0 Btu/h		
41	1	2-COMPARTMENT PREP SINK				0"				
41A	1	8IN FAUCET WITH 12IN SWING NOZZLE	1/2"	1/2"						
46	4	PREP TABLE W/SINK			1"					
46A	4	8" DECK FAUCET WITH 10" SWING SPOUT								
52	2	48" OPEN BURNER RANGE					1"	306000.0 Btu/h	GAS CONNECTION 6"+/-1" FROM RIGHT SIDE	
53	2	FRYER BATTERY OF 2 W/FILTER					1"	217500.0 Btu/h		
55	2	COMBI OVEN-STEAMER		3/4"	1 1/2"		3/4"	99000.0 Btu/h		
55A	1	COMBI OVEN-STEAMER		3/4"	1 1/2"		3/4"	266000.0 Btu/h		
63	11	FLOOR TROUGH, ANTI-SPILL				2"				
66	4	OVEN, ROLL-IN BAKE		3/4"	2"					
67	1	OIL STORAGE TANK							3" DRAIN CONNECTION FOR GREASE TRUCK HOSE. QUICK CONNECT	

NOTES:  
1. KITCHEN EQUIPMENT AND FAUCETS SHALL BE PROVIDED BY THE FOOD SERVICE EQUIPMENT SUPPLIER AND FINAL CONNECTIONS SHALL BE MADE BY THE PLUMBING CONTRACTOR.  
2. PLUMBING CONTRACTOR AND FOOD SERVICE EQUIPMENT SUPPLIER SHALL COORDINATE INSTALLATION OF KITCHEN EQUIPMENT.

SHOCK ARRESTOR TABLE				
DRAWING SYMBOL	FIXTURE UNITS	PDI WH201 STANDARD DESIGNATION	ARRESTOR SIZE	APPROVED MANUFACTURERS
SA-A	1-11	A	1/2"	-- SIOUX CHIEF -- WATTS -- PPP INC.
SA-B	12-32	B	3/4"	
SA-C	33-60	C	1"	
SA-D	61-113	D	1 1/4"	REMARKS
SA-E	114-154	E	1 1/2"	INSTALL SHOCK ARRESTORS PER PDI WH201 GUIDELINES
SA-F	155-330	F	2"	

WATER HEATER SCHEDULE									
SYM.	DESCRIPTION	STORAGE (GALLONS)	GAS BURNER DATA			FLUE SIZE	SELECTION BASED ON		REMARKS
			INLET PRESS. (N. W.C.)	BTU/HR INPUT	GPH RECOVERY @ 100° RISE		MANUFACTURER	MODEL	
WH1	GAS FIRED WATER HEATER	100	8	199,900	230	4" CPVC	A.O. SMITH	BTH-100	1,2,3,4,5,6,7

REMARKS:  
1. EQUIVALENT MANUFACTURERS: A.O. SMITH, BRADFORD WHITE.  
2. ELECTRICAL REQUIREMENTS: 120V, 15 AMP BREAKER.  
3. WATER HEATER SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE 90.1.  
4. PROVIDE HEATER WITH ACID NEUTRALIZATION KIT FOR CONDENSATE.  
5. INSTALL DIRECT VENT PIPING WITH CONCENTRIC VENT SIDEWALL. OUTLET PER MANUFACTURERS DIRECTIONS. CPVC PIPING OR STAINLESS STEEL SHALL BE USED FOR VENT PIPING MATERIAL.  
6. SET WATER HEATER TEMPERATURE AT 140°F.  
7. CARBON MONOXIDE DETECTOR IN ADJACENT TO GAS FIRED EQUIPMENT PROVIDE BY MECHANICAL CONTRACTOR.

WATER HEATER SCHEDULE										
SYM.	DESCRIPTION	STORAGE (GALLONS)	GPH RECOVERY @ 80° RISE	ELECTRICAL DATA				SELECTION BASED ON		REMARKS
				KW	VOLTS	PHASE	HERTZ	MANUFACTURER	MODEL	
WH2	ELECTRIC WATER HEATER	6	8	1.5	277	1	60	A.O. SMITH	DEL-6	1,2,3,4
WH3	ELECTRIC WATER HEATER	20	15	3.0	277	1	60	A.O. SMITH	DEL-20	1,2,3,4
WH4	ELECTRIC WATER HEATER	20	15	3.0	277	1	60	A.O. SMITH	DEL-20	1,2,3,4
WH5	ELECTRIC WATER HEATER	6	8	1.5	277	1	60	A.O. SMITH	DEL-6	1,2,3,4
REMARKS:										
1. EQUIVALENT MANUFACTURERS: A.O. SMITH, LOCHINVAR, BRADFORD-WHITE.				3. COORDINATE ELECTRICAL DISCONNECT REQUIREMENTS WITH E.C.						
2. WATER HEATER SHALL MEET OR EXCEED THE REQUIREMENTS OF ASHRAE 90.1.				4. WATER HEATER TEMPERATURE SETTING 120°F.						

EXPANSION TANK SCHEDULE							
SYM.	DESCRIPTION	VOLUME (GALLONS)	DIAMETER (INCHES)	HEIGHT (INCHES)	SELECTION BASED ON		REMARKS
					MANUFACTURER	MODEL	
ET1	BLADDER TYPE EXPANSION TANK	10.3	15"	19"	AMTROL	ST-25V	1
ET2	BLADDER TYPE EXPANSION TANK	2.0	8"	13"	AMTROL	ST-5	1
ET3	BLADDER TYPE EXPANSION TANK	2.0	8"	13"	AMTROL	ST-5	1
ET4	BLADDER TYPE EXPANSION TANK	2.0	8"	13"	AMTROL	ST-5	1
ET5	BLADDER TYPE EXPANSION TANK	2.0	8"	13"	AMTROL	ST-5	1
REMARKS:							
1. EQUIVALENT MANUFACTURERS: <u>AMTROL</u> , <u>BELL &amp; GOSSETT</u> , <u>WESSELS COMPANY</u> .							

PUMP SCHEDULE											
SYM	DESCRIPTION	TYPE	CAPACITY		ELECTRICAL DATA			SELECTION BASED ON		REMARKS	
			GPM	HEAD (FT)	HP	VOLTS	PH	HZ	MANUFACTURER		MODEL
RCPE1	HW RECIRC PUMP - 140"	IN-LINE	7	20	1/12	120	1	60	BELL & GOSSETT	PL-30	1,2,3
SEL1	ELEVATOR SUMP PUMP	SUBMERSIBLE	50	20	1/2	120	1	60	LITTLE GIANT	14EH-CIM	4,5,6,7
BP1	DUPLIX VARIABLE SPEED WATER BOOSTER PACKAGE	END SUCTION	100 EACH	50	3 HP EACH	480	3	60	HY-FAB	MVP-630	8
REMARKS:											
1. EQUIVALENT MANUFACTURERS: <u>LITTLE GIANT, GRUNDFOS, TACO</u> 2. PUMP SHALL BE ALL BRONZE CONSTRUCTION. 3. PUMP SHALL BE CONTROLLED BY MEANS OF BOTH AN AQUASTAT AND TIMER. COORDINATE ELECTRICAL DISCONNECT WITH E.C. 4. PROVIDE BACKWATER CHECK VALVE AND SHUT-OFF VALVE ON DISCHARGE LINE. 5. PROVIDE PUMP WITH PLUG AND CORD. 6. PROVIDE OIL DETECTION SYSTEM, CONTROL PANEL WITH REMOTE AUDIBLE AND VISUAL ALARMS. OIL DETECTION SYSTEM SHALL BE EQUAL TO ALDERON IND. 7162 WITH AUXILIARY ALARM RELAY. 7. EQUIVALENT MANUFACTURERS: OIL MINDER, WEL. 8. PROVIDE BOOSTER PUMP PACKAGE WITH 40 GALLON HYDRO-PNEUMATIC TANK.											

INTERCEPTOR SCHEDULE								
SYM.	DESCRIPTION	INLET/ OUTLET SIZE	FLOW RATE (GPM)	CAPACITY		SELECTION BASED ON		REMARKS
				WATER (GALLONS)	GREASE (POUNDS)	MANUFACTURER	MODEL	
GI1	GREASE INTERCEPTOR	4	150	274	248	THERMACO	TZ-1826	1,2,3,4
SSI	SOLIDS INTERCEPTOR	4	150	-	-	THERMACO	TSS-95-ECA	1,2,3,4

REMARKS:

1. SEE GREASE INTERCEPTOR BASIS OF DESIGN, THIS SHEET.

2. EQUIVALENT MANUFACTURERS: THERMACO, PROCEPTOR, SCHIER.

3. PROVIDE EXTENSION RING(S) AS REQUIRED TO BRING INLET/TOP UP TO BE FLUSH GRADE.

4. UNDERGROUND INSTALLATION OF SOLIDS INTERCEPTOR AND GREASE INTERCEPTORS SHALL BE IN AS DIRECTED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, PROVIDE SUPPORT CONCRETE BASE AND/OR SURROUNDINGS IF INDICATED.

MIXING VALVE SCHEDULE								
SYM.	DESCRIPTION	MAXIMUM GPM	MINIMUM GPM	PRESSURE LOSS	LEAVING WATER TEMP. (°F)	SELECTION BASED ON		REMARKS
						MANUFACTURER	MODEL	
MXV1	THERMOSTATIC MIXING VALVE	1.0	0.25	—	110	LEONARD	170-LF	1,2,3
REMARKS:								
1. EQUIVALENT MANUFACTURERS: LEONARD VALVE, LAWLOR, POWERS.								
2. ASSE 1070, ASSE 1017 LISTED.								
3. PROVIDE MXV1 AT ALL LAVATORIES AND HANDSINKS LOCATED IN CATERING SPACE.								

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE									
SYM.	DESCRIPTION	CONNECTIONS (IN.)				SPECIFICATION			REMARKS
		W	V	CW	HW				
P1	WATER CLOSET, HET, ELONGATED BOWL, WALL HUNG, FLUSH VALVE, 1.28 GPF	4"	2"	1 1/4"	-	FIXTURE: AMERICAN STD. 3351.101 "AFWALL" SEAT: CHURCH 9500CT FLUSH VALVE: SLOAN ROYAL 111-1.28 SMO MATERIAL: VITREOUS CHINA COLOR: WHITE CARRIER: JAY R. SMITH 0210-0220 SERIES			SEAT HEIGHT 15" AFF
P1A	WATER CLOSET, HET, ADA COMPLIANT ELONGATED BOWL, WALL HUNG, FLUSH VALVE, 1.28 GPF	4"	2"	1 1/4"	-	FIXTURE: AMERICAN STD. 3351.101 "AFWALL" SEAT: CHURCH 9500CT FLUSH VALVE: SLOAN ROYAL 111-1.28 SMO MATERIAL: VITREOUS CHINA COLOR: WHITE CARRIER: JAY R. SMITH 0210-0220 SERIES			SEAT HEIGHT 17"-19" AFF PROVIDE FLUSH VALVE LEVER ON WIDE SIDE OF STALL
P2	URNAL, HEU WALL MOUNTED FLUSH VALVE, 0.125 GPF	2"	1 1/4"	3/4"	-	FIXTURE: AMERICAN STD. 6590.001 "WASHBROOK" FLUSH VALVE: SLOAN ROYAL 186-0.128 SMO COLOR: WHITE MATERIAL: VITREOUS CHINA CARRIER: JAY R. SMITH 0615 SERIES			FIXTURE UP HEIGHT 24" AFF
P2A	URNAL, HEU ADA COMPLIANT WALL MOUNTED FLUSH VALVE, 0.125 GPF	2"	1 1/4"	3/4"	-	FIXTURE: AMERICAN STD. 6590.001 "WASHBROOK" FLUSH VALVE: SLOAN ROYAL 186-0.128 SMO COLOR: WHITE MATERIAL: VITREOUS CHINA CARRIER: JAY R. SMITH 0615 SERIES			FIXTURE UP HEIGHT 17" AFF
P3A	LAVATORY, ADA COMPLIANT 20 1/2" x 21 1/4" WALL HUNG WITH SHROUD 0.5 GPM BATTERY OPERATED SENSOR FAUCET	2"	1 1/4"	1/2"	1/2"	FIXTURE: AMERICAN STD. 0954.004EC "MURRO" FIXTURE SHROUD: AMERICAN STD. 0059.020EC GRID DRAIN: MCGUIRE 155A GRID STRAINER FAUCET: SLOAN EAF-720 P-TRAP: MCGUIRE 8902 1 1/4" x 1 1/4" STOPS: MCGUIRE 175-LK			SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT.
P3B	LAVATORY, ADA COMPLIANT 21 1/2" x 15 1/4" UNDERMOUNTED 0.5 GPM BATTERY OPERATED SENSOR FAUCET	2"	1 1/4"	1/2"	1/2"	FIXTURE: AMERICAN STD. 0614.000 "STUDIO" GRID DRAIN: MCGUIRE 155A GRID STRAINER FAUCET: SLOAN EAF-720 P-TRAP: MCGUIRE 8902 1 1/4" x 1 1/4" STOPS: MCGUIRE 175-LK			SEE NOTE 1 BELOW. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE 0.5 GPM AERATOR
P4A	WATER COOLER (FILTERED) ADA COMPLIANT WITH BOTTLE FILLER HIGH/LOW DOUBLE BOWL W/INT. GLAD STEEL FINISH WALL MOUNTED	2"	1 1/4"	1/2"	-	FIXTURE: ELKAY LZSTLBSLS2K P-TRAP: MCGUIRE 8902 1 1/4" x 1 1/4" ELECTRICAL: 370 WATTS, 115V, 1ø			SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT.
P5A	S.S. SINK ADA COMPLIANT 33 1/2" x 22" W x 6.0"D, DOUBLE 18 GAUGE STAINLESS STEEL SELF RIMMING, COUNTER MOUNTED FAUCET WITH 1.5 GPM AERATOR	2"	1 1/4"	1/2"	1 1/4"	FIXTURE: ELKAY LRAD332260 FAUCET: MOEN 8701 (9" SWING SPOUT) STRAINER: MCGUIRE 161 (BASKET) P-TRAP: MCGUIRE 8902 1 1/4" x 1 1/4" STOPS: MCGUIRE 175-LK			SEE NOTE 1 BELOW. PROVIDE WATER AND WASTE CONNECTIONS FOR ADJACENT DISHWASHER.
P7	MOP SINK, TERRAZZO 28" x 18" x 12"D WITH DROP FRONT AND STAINLESS STEEL THRESHOLD CAP	3"	1 1/4"	3/4"	3/4"	BASIN: FIAT TSBOR-1100 DRAIN: FIAT 1433-BE FAUCET: FIAT 830-AA ACCESSORIES: 839-AA HOSE & BRACKET ACCESSORIES: 889-CC MOP HANGER			
P8	CAN WASH, TERRAZZO 36" x 36" W x 12"D WITH DROP FRONT AND STAINLESS STEEL THRESHOLD CAP	3"	1 1/4"	1/2"	1 1/4"	BASIN: FIAT FAUCET: FIAT 830-AA DRAIN: 3" STAINLESS STEEL SLOTTED P-TRAP, 3" CAST IRON, DEEP SEAL			
SA-	SHOCK ARRESTOR SIZES A THRU F SEE FLOOR PLAN FOR SIZE	-	-	SEE DWG	-	EQUIPMENT: SIOUX CHIEF 650 SERIES SEE SHOCK ARRESTOR TABLE THIS SHEET			PROVIDE ACCESS DOOR FOR CONCEALED INSTALLATIONS
CS-	CIRCUIT SETTER, SIZES 1/4" THRU 2" SEE FLOOR PLAN FOR SIZE	-	-	SEE DWG	-	EQUIPMENT: CIRCUIT SOLVER CS SERIES 110 DEGREE MODEL, NSF 61 CERTIFIED			PROVIDE ACCESS DOOR FOR CONCEALED INSTALLATIONS
HBI	WALL HYDRANT, EXTERIOR, EXPOSED NON-FREEZE, AUTOMATIC DRAINING, VACUUM BREAKER	-	-	3/4"	-	EQUIPMENT: WOODFORD 65EP LOOSE KEY			MOUNT 18" AFF.
HB2	HOSE BIBB, INTERIOR, EXPOSED, AUTOMATIC DRAINING, ANTI-SIPHON VACUUM BREAKER	-	-	3/4"	-	EQUIPMENT: WOODFORD 24 WHEEL HANDLE			MOUNT 24" AFF.
HB3	ROOFTOP HYDRANT NON-FREEZE, AUTOMATIC DRAINING, VACUUM BREAKER	-	-	1"	-	EQUIPMENT: MAPA MPH-24FP: 24/9 FINISH: STAINLESS STEEL			
ECQ	FLOOR CLEANOUT CAST IRON BODY ADJUSTABLE TOP	SEE DWG	-	-	-	CLEANOUT: JAY R. SMITH 4020 SERIES OUTLET: NO-HUB PLUG: ABS, IRON OR BRONZE WITH GASKET SEAL COVER: ROUND, NICKEL, BRONZE			
WCQ	WALL CLEANOUT CAST IRON CLEANOUT TEE COUNTERSINK PLUG STAINLESS STEEL ACCESS COVER	SEE DWG	-	-	-	CLEANOUT: JAY R. SMITH 4630Y SERIES OUTLET: NO-HUB, BOTH ENDS PLUG: IRON OR BRONZE PLUG WITH GASKET SEAL			
YCQ	YARD CLEANOUT ADJUSTABLE, CAST IRON BODY, COATED CAST IRON TOP	SEE DWG	-	-	-	CLEANOUT: JAY R. SMITH 4050 SERIES OUTLET: NO-HUB PLUG: ABS, IRON OR BRONZE WITH GASKET SEAL COVER: CAST IRON, HEAVY DUTY			SET IN CONCRETE PAD 18"W x 18"L x 6" THICK
CQ	END OF LINE PLUG CLEANOUT CAST IRON TAPERED FERRULE CAST BRONZE THREADED PLUG	-	-	-	-	CLEANOUT: JAY R. SMITH 4422 (LESS COVER)			
ED1	FLOOR DRAIN CAST IRON BODY ADJUSTABLE TOP	SEE DWG	-	-	-	DRAIN: JAY R. SMITH 2005 SERIES STRAINER: 6" DIAMETER, TYPE A, NICKEL BRONZE P-TRAP: DEEP SEAL (MATCH DRAIN SIZE)			SEE NOTE 2 BELOW
ED2	FLOOR DRAIN CAST IRON BODY ADJUSTABLE TOP	SEE DWG	-	-	-	DRAIN: JAY R. SMITH 2005 SERIES STRAINER: 7" DIA. TYPE -F3Z, NICKEL BRONZE P-TRAP: DEEP SEAL (MATCH DRAIN SIZE)			SEE NOTE 2 BELOW
ED3	FLOOR DRAIN CAST IRON BODY SEDIMENT BUCKET CAST IRON COVER	SEE DWG	-	-	-	DRAIN: JAY R. SMITH 2110 STRAINER: 8" DIAMETER, SLOTTED, CAST IRON P-TRAP: DEEP SEAL (MATCH DRAIN SIZE)			SEE NOTE 2 BELOW
ES1	FLOOR SINK 12" x 12" x 6" STAINLESS STEEL BODY AND GRATE	SEE DWG	-	-	-	DRAIN: JAY R. SMITH STRAINER: 12"x12" STAINLESS STEEL (TYPE 304) P-TRAP: DEEP SEAL (MATCH DRAIN SIZE)			SEE KITCHEN EQUIP. PLANS FOR GRATE CONFIGURATION (QUARTER, HALF, FULL)
BD1	PRIMARY ROOF DRAIN CAST IRON BODY, SUMP RECEIVER GRAVEL STOP AND ALUMINUM DOME	SEE DWG	-	-	-	DRAIN: JAY R. SMITH WITH DECK PLATE AND ADJUSTABLE EXTENTION			SEE PLANS FOR SIZE
BD2	SECONDARY ROOF DRAIN CAST IRON BODY, SUMP RECEIVER GRAVEL STOP AND ALUMINUM DOME	SEE DWG	-	-	-	DRAIN: JAY R. SMITH WITH DECK PLATE, ADJUSTABLE EXTENTION, AND 4" HIGH WATER DAM			SET WATER DAM ELEVATION 3" ABOVE THE ADJACENT FINISHED ROOF ELEVATION.
QNL	DOWNSPOUT NOZZLE CAST BRONZE BODY CAST BRONZE FLANGE	SEE DWG	-	-	-	NOZZLE: JAY R. SMITH 1770 SERIES			MOUNT 18" ABOVE FINISHED GRADE, PROVIDE WITH BIRD SCREEN OPTION.
BEF1	BACKFLOW PREVENTER STAINLESS STEEL 1/2" FM BUTTERFLY VALVES	-	-	-	1/2"	EQUIPMENT: AMES C480-BPS			
BEF2	BACKFLOW PREVENTER COPPER ALLOY LEAD FREE	-	-	-	1 1/4"	EQUIPMENT: AMES LF4000B			
DM1	DOMESTIC WATER METER TURBINE TYPE NSF 61 COMPLIANT	-	-	-	2"	METER: BADGER RECORDALL 200 SERIES			PROVIDE METER WITH BAS CONNECTION CAPABILITY

NOTES:  
1. PROVIDE PRE-MANUFACTURED INSULATION KIT FOR EXPOSED TRIM UNDER SINK.  
2. PROVIDE AUTOMATIC TRAP-PRIMER CONNECTION PORT AND 1/2" COPPER LINE TO FLOOR DRAIN FROM TRAP PRIMER.  
3. MANUFACTURERS LISTED ON PLUMBING FIXTURE AND EQUIPMENT SCHEDULE REPRESENT BASIS OF DESIGN PRODUCTS. REFER TO DIVISION 22 SPECIFICATIONS SECTIONS FOR ACCEPTABLE MANUFACTURER LISTINGS.

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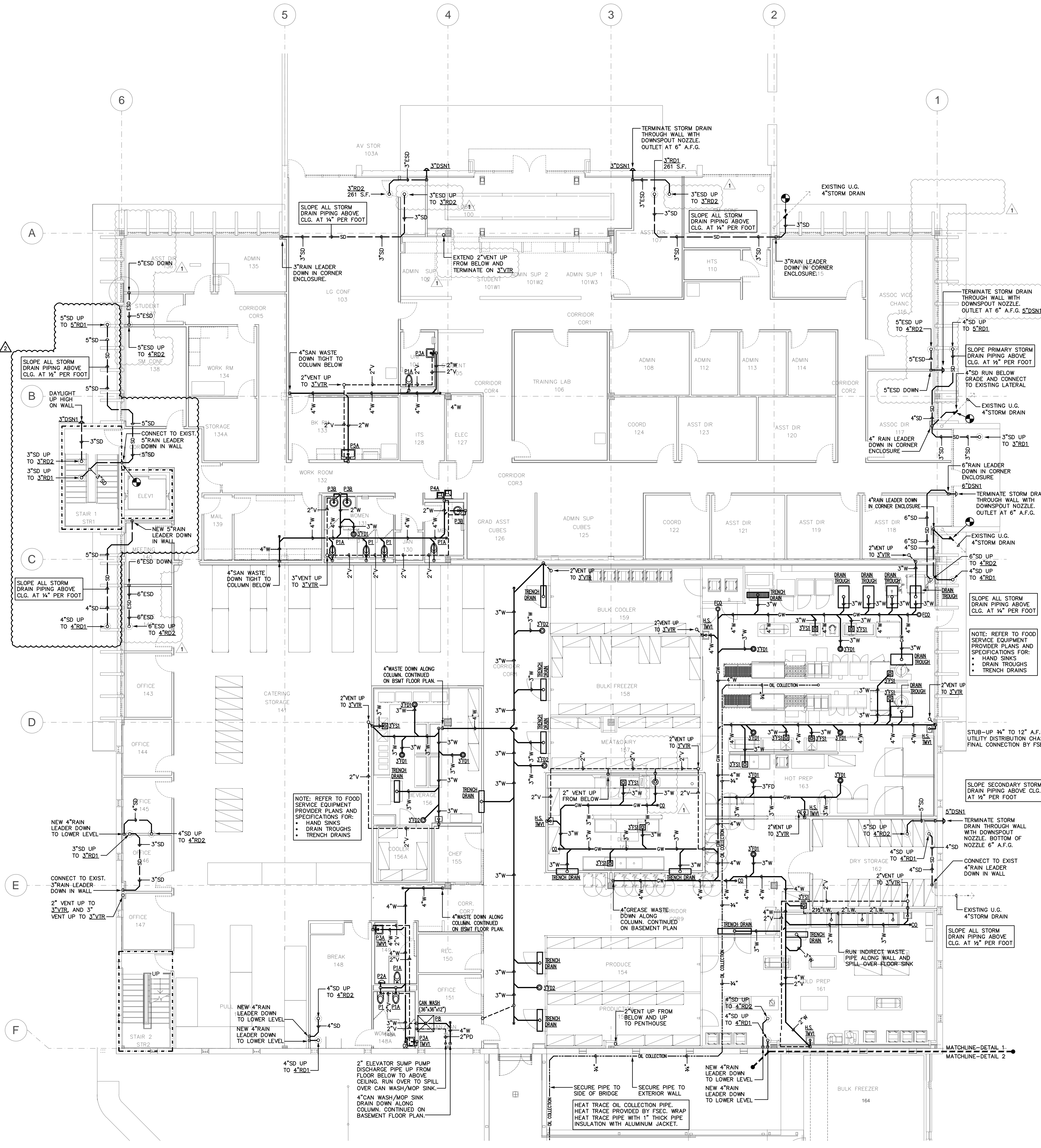


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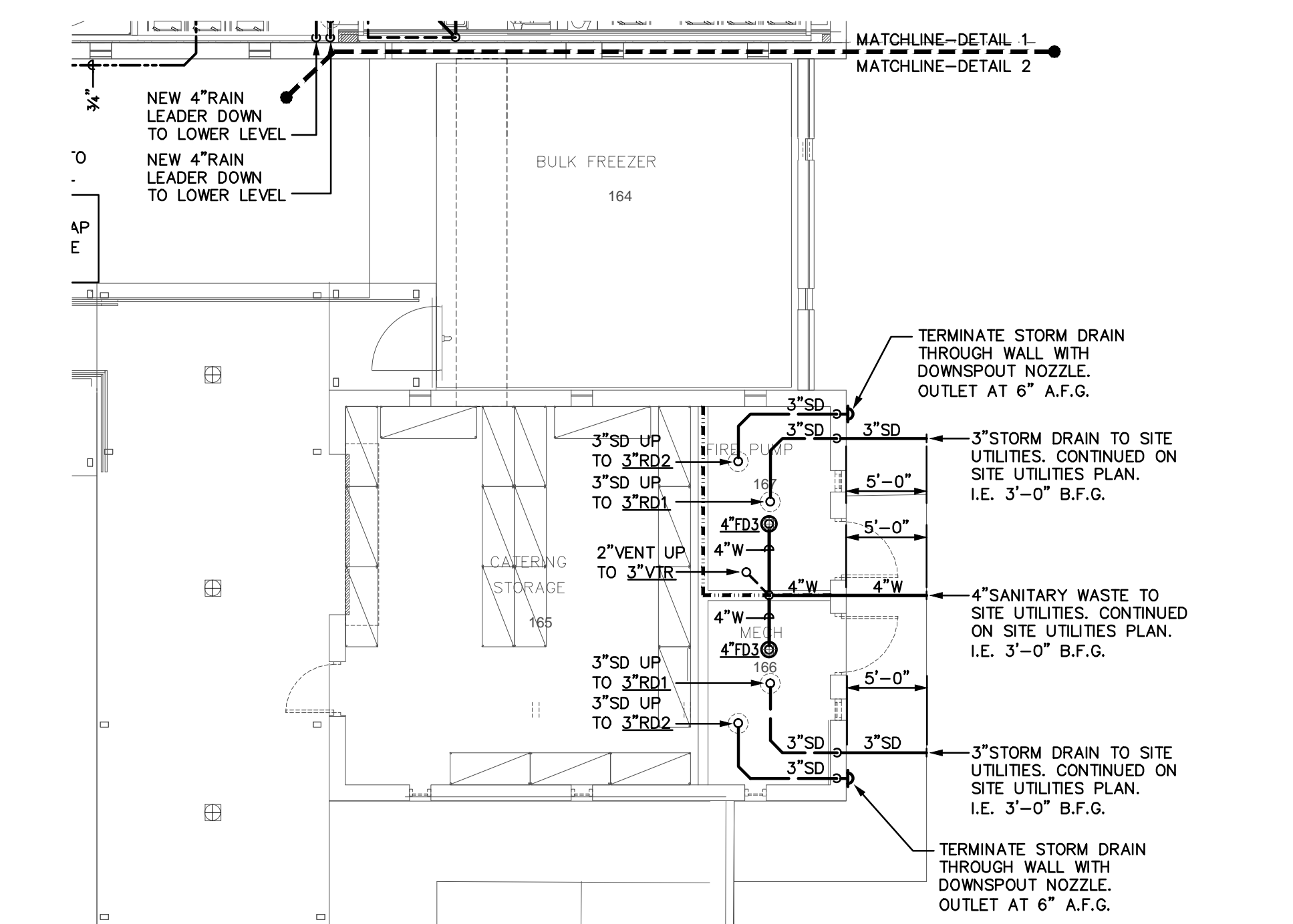
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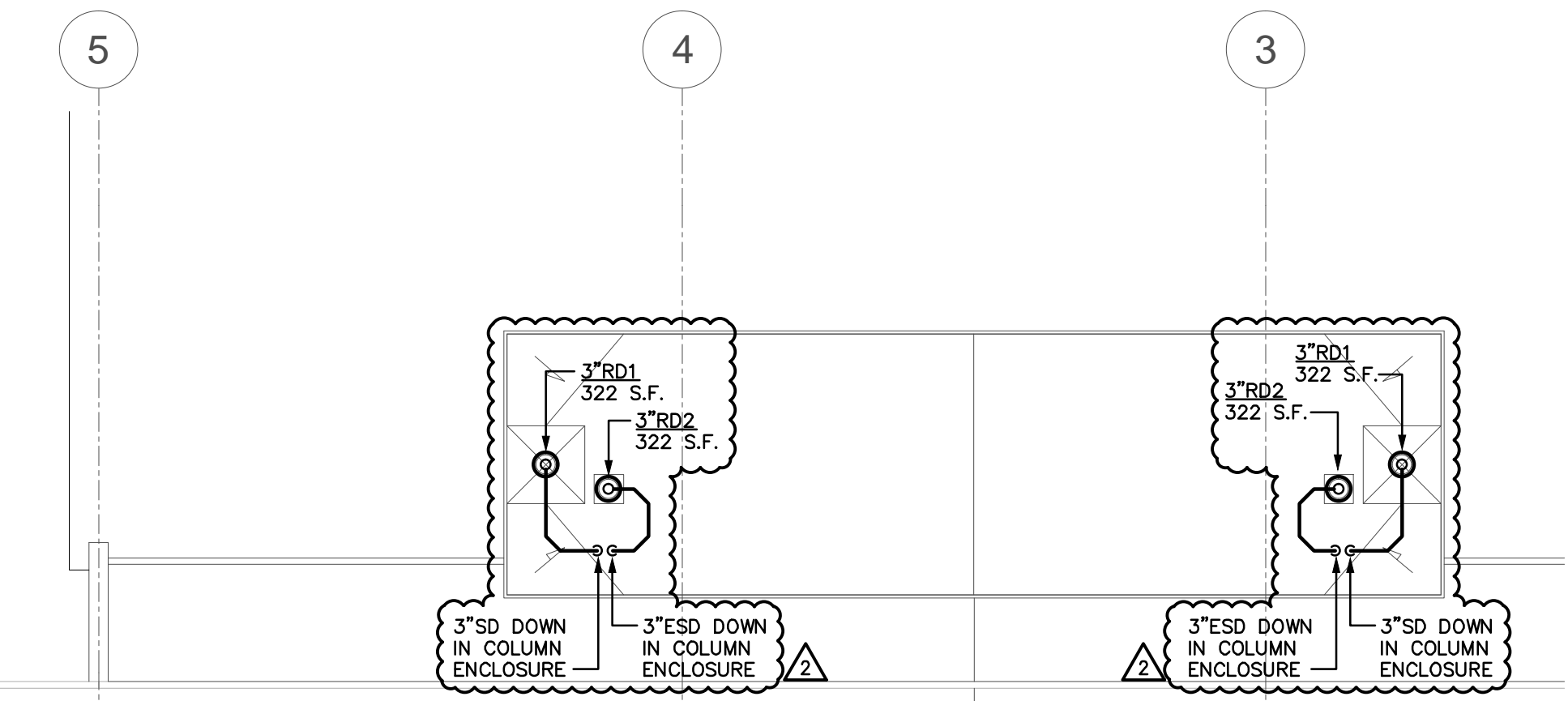
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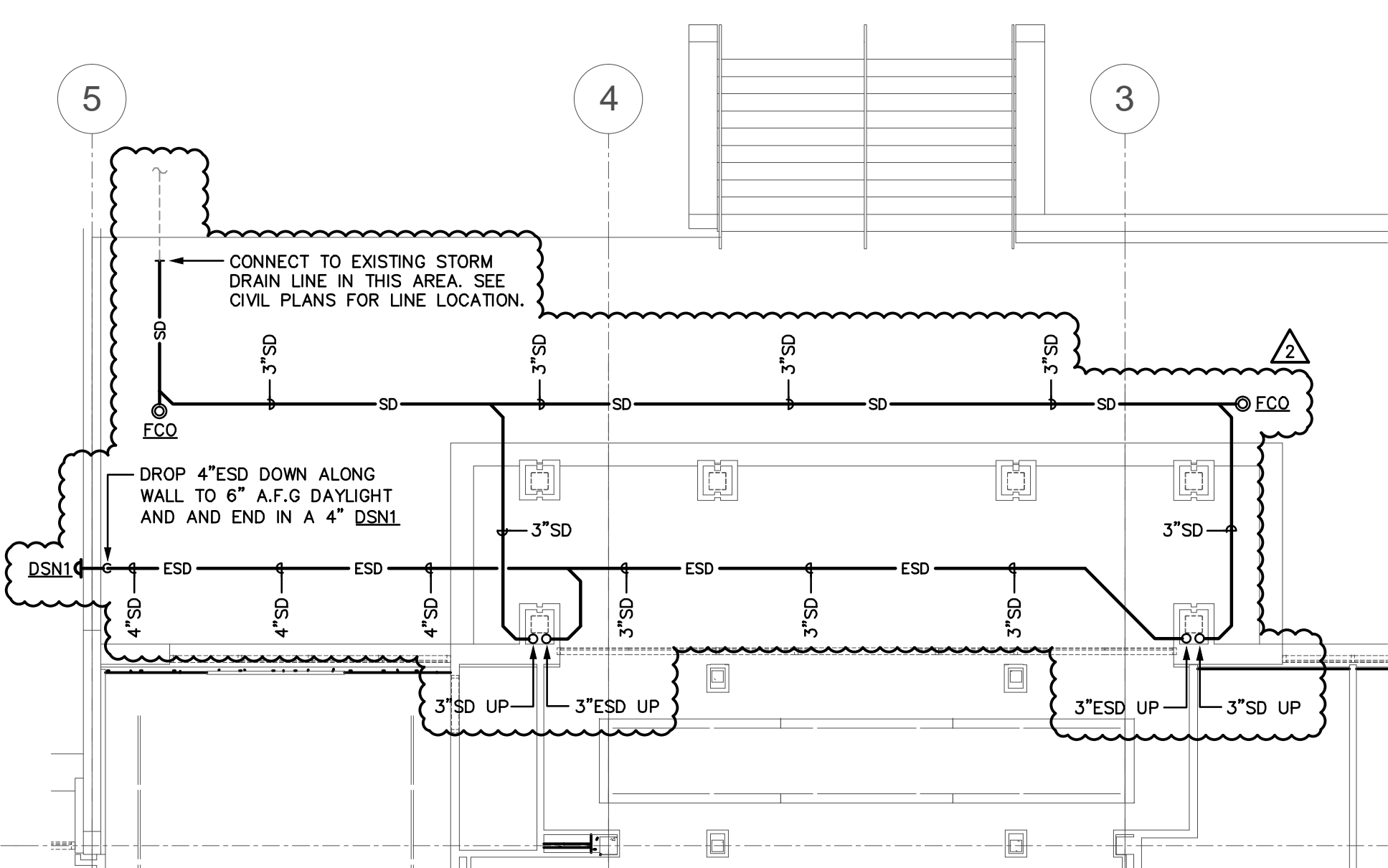
1 PLUMBING SECOND LEVEL - NEW WORK  
1/8" = 1'-0"



2 PLUMBING SECOND LEVEL - NEW WORK  
1/8" = 1'-0"

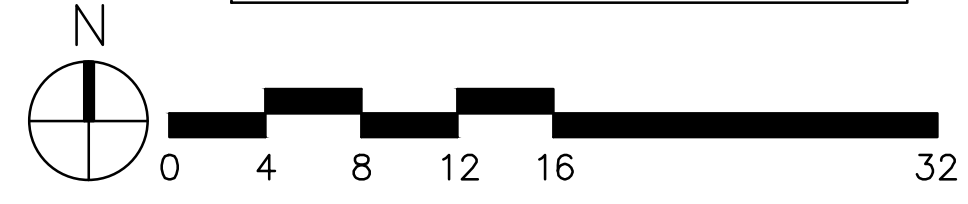


3 ALTERNATE 2 NEW ENTRANCE CANOPY ROOF PLAN  
1/8" = 1'-0"



4 ALTERNATE 2 NEW ENTRANCE CANOPY FLOOR PLAN  
1/8" = 1'-0"

RATED WALL LEGEND	
---	1 HOUR FIRE BARRIER
REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE WALL CONSTRUCTION AND RATING INFORMATION.	



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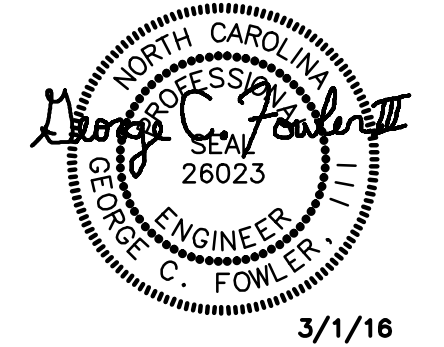
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UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM 1	3/16/16
2	ADDENDUM 2	3/22/16

Project: 15NCC491  
Drawn By: CAH / CP  
Checked By: RVA  
Date: March 1st, 2016

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PLUMBING  
SECOND  
LEVEL PLAN  
NEW WORK

CONSTRUCTION  
DOCUMENTS

P-202



D

VARIABLE VOLUME AIR HANDLING UNIT SCHEDULE (CHILLED WATER COOLING WITH HOT WATER HEAT)

UNIT NUMBER	LOCATION	AREA SERVED	SUPPLY FAN		RETURN FAN		OCCUPIED MIN. OUTSIDE AIRFLOW (CFM)	DESIGN OUTSIDE AIRFLOW (CFM)	PREHEAT COIL						COOLING COIL						ELECTRICAL DATA				MANUFACTURER & MODEL NO.				
			AIR FLOW (CFM)	E.S.P. (IN. H <sub>2</sub> O)	AIR FLOW (CFM)	E.S.P. (IN. H <sub>2</sub> O)			TOTAL CAPACITY	GPM	RUNOUT SIZE	E.W.T. (°F)	L.W.T. (°F)	MAX. P.D.	MAX. S.P.	TOTAL CAPACITY	SENSIBLE CAPACITY	GPM	RUNOUT SIZE	E.W.T. (°F)	L.W.T. (°F)	MAX. P.D.	MAX. S.P.	SUPPLY FAN (H.P.)		RETURN FAN (H.P.)	VOLTS	PHASE	Hz
AHU-1	PENTHOUSE	ADMIN	14,750	2.50"	11,750	1.25"	2,650	3,000	250,000	17	1.5"	180	150	5'	0.14"	585,660	410,580	75	2"	43	59	10'	0.9"	20	7.5	460	3	60	DAIKIN CAH 030
AHU-2	PENTHOUSE	KITCHEN	13,550	2.50"	9,550* MAX 5,180* OPERATING	1.25"	3,375	8,370	320,000	16	1.5"	180	140	5'	0.10"	678,450	493,850	85	3"	43	59	10.9'	0.95"	15	7.5	460	3	60	DAIKIN CAH 030

- NOTES:
- AHU-1 COOLING COIL CAPACITY IS BASED ON 80° F. D.B./67° F. W.B. E.A.T. AND 54.2° F. D.B./53.9° F. W.B. L.A.T. / AHU-2 COOLING COIL CAPACITY IS BASED ON 88° F. D.B./70° F. W.B. E.A.T. AND 54.2° F. D.B./54.0° F. W.B. L.A.T.
  - MAXIMUM FACE VELOCITY OF COOLING COILS SHALL BE 500 FPM.
  - HEATING COIL CAPACITY IS BASED ON 40° F. E.A.T. (TYPICAL WITH RETURN AIR MIXED) THE TOTAL CAPACITY INCLUDES MAXIMUM CAPACITY REQUIRED FOR MAX OUTSIDE AIRFLOW AND NO RETURN AIRFLOW AT DESIGN WINTER CONDITIONS
  - ALL UNITS SHALL HAVE A FACTORY INSTALLED 8" HIGH BASE RAIL. MOUNT AHU ON 6" HOUSEKEEPING PADS.
  - CONTRACTOR SHALL INSTALL NEW BELTS AND A NEW SET OF MERV 8 PLEATED FILTERS AT SUBSTANTIAL COMPLETION, AND PROVIDE SPARE SETS OF BELTS AND FILTERS TO THE OWNER.
  - UNITS SHALL BE DOUBLE-WALL AHU CONSTRUCTION, BELT DRIVE PLENUM SUPPLY FAN WITH VARIABLE SPEED DRIVE, (SOLID STATE ENTHALPY CONTROL) VAV CONTROLS, SUPPLY FAN MOTOR SPRING-TYPE VIBRATION ISOLATORS, ALL NON-LOW VOLTAGE ELECTRICAL WIRING IN METALLIC RACEWAY, DUCT MOUNTED STATIC PRESSURE CONTROLLER, NEMA PREMIUM EFFICIENCY FAN MOTORS, EXTENDED SUPPLY FAN DISCHARGE PLENUM SECTION, STANDARD FILTERS (MERV 8), DOUBLE SLOPED STAINLESS STEEL DRAIN PAN, RESETTABLE CIRCUIT BREAKERS, CONTROL PANEL WITH DISPLAY, BAS CONTROLS INTERFACE MODULE, MARINE TYPE LIGHTS IN EACH SECTION WIRED BACK TO A COMMON SWITCH. ALL ACCESS DOORS SHALL BE HINGED DOORS WITH "TOOL-LESS" ENTRY.
  - ALL UNITS SHALL BE U.L. LABELED
  - PROVIDE EACH UNIT WITH A PHOTO-ELECTRIC TYPE SMOKE DETECTOR, INSTALLED IN THE RETURN DUCT WIRED TO SHUT DOWN THE UNIT UPON ACTIVATION. SMOKE DETECTOR SHALL BE SUPPLIED, WIRED FOR INTERFACE WITH FIRE ALARM SYSTEM AND UNIT SHUTDOWN BY THE ELECTRICAL CONTRACTOR. SMOKE DETECTOR SHALL BE INSTALLED IN THE RETURN DUCT BY THE MECHANICAL CONTRACTOR.
  - SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - PROVIDE EQUIPMENT MOUNTED DUPLEX GFI SERVICE RECEPTACLE IN WEATHER TIGHT "WHILE IN USE" COVER
  - VFD SHALL BE PROVIDED BY UNIT MANUFACTURER AND SHALL BE FACTORY WIRED TO CONTROL BOX MOUNTED ON EXTERIOR OF UNIT.
  - UNIT CONDENSATE DRAIN PAN SHALL SLOPE IN TWO DIRECTIONS AND SHALL COMPLY WITH ASHRAE 62.1 TO PROVIDE COMPLETE DRAINAGE OF CONDENSATE (NO STANDING WATER).
  - PROVIDE DRAIN PAN CONSTRUCTION DETAILS WITH UNIT SHOP DRAWING. (COOLING COILS WITH SHEET METAL BOTTOM PANELS WITH WEEP HOLES OR SLOTS ARE NOT ACCEPTABLE). DRAIN PIPING SHALL BE TYPE "L" HARD DRAWN COPPER PIPE AND FITTINGS.
  - \* - RETURN FAN SHALL BE SELECTED FOR MAX AIRFLOW FOR OPERATION WHEN HOODS ARE NOT IN USE. NOTED OPERATING AIRFLOW IS FOR WHEN ALL KITCHEN HOODS ARE OPERATING

PUMP SCHEDULE

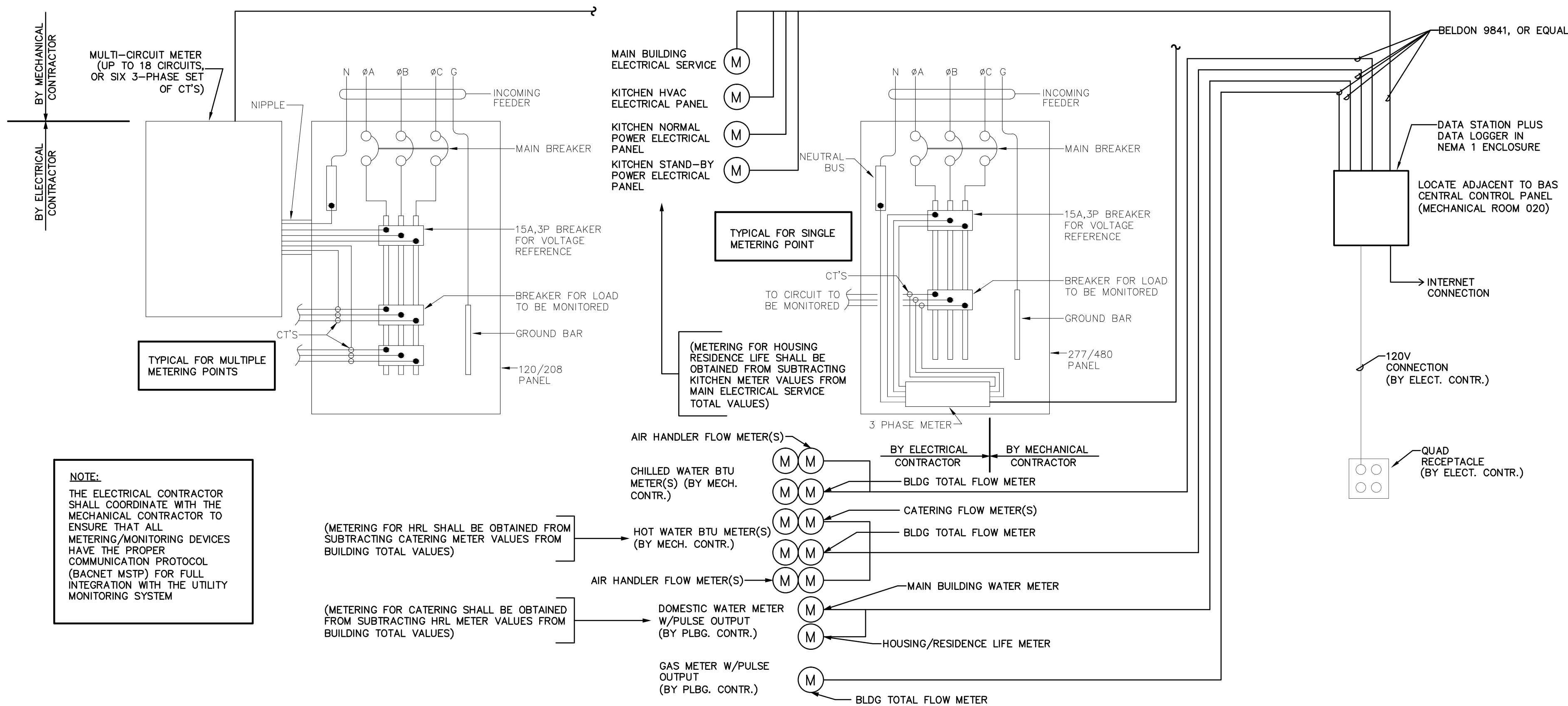
SYMBOL	SERVICE	GPM	HEAD	ELECTRICAL				MANUFACTURER
				R.P.M.	H.P.	VOLTAGE	VFD	BAG MODEL
P-1	CHILLED WATER	235	60	1750	7.5	460/3/60	YES	E - 1510 2.5BB
P-2	CHILLED WATER	235	60	1750	7.5	460/3/60	YES	E - 1510 2.5BB
P-3	HOT WATER	105	60	1750	5	460/3/60	YES	E - 1510 2BD
P-4	HOT WATER	105	60	1750	5	460/3/60	YES	E - 1510 2BD
P-5	HOT WATER PREHEAT AHU-1	17	20	1725	1/3	277/1/60	NO	SERIES E90 - 1.25AAB
P-6	HOT WATER PREHEAT AHU-2	16	20	1725	1/3	277/1/60	NO	SERIES E90 - 1.25AAB

- NOTES:
- ALL PUMPS SHALL BE FURNISHED WITH TEFC PREMIUM EFFICIENCY MOTORS PER EPACT REQUIREMENTS.
  - ALL BASE MOUNTED PUMPS SHALL BE FURNISHED WITH SUCTION DIFFUSER.
  - ALL PUMPS SHALL BE SELECTED AT NON-OVERLOADING CONDITIONS FOR THE MOTOR PROVIDED
  - PROVIDE FULLY ENCAPSULATING SHAFT GUARDS FOR ALL BASE MOUNTED PUMPS
  - VFDs SHALL BE PROVIDED WITH GROUNDING RINGS & MANUAL BYPASS
  - PROVIDE SUCTION INDUCER ON INLET OF BOILER FEED MULTISTAGE PUMP FOR LOW NPSH.

UTILITY MONITORING SYSTEM NOTES

- SYSTEM DESCRIPTION:
- THE UTILITY RESOURCE MONITORING SYSTEM IS PROVIDED BY THE MECHANICAL CONTRACTOR. METERS AND MONITORING DEVICES ARE PROVIDED AS NOTED BELOW. THE INTENT OF THE SYSTEM IS TO CONSTANTLY MEASURE AND DISPLAY THE ENERGY (ELECTRICAL AND NATURAL GAS) AND WATER (DOMESTIC, CHILLED WATER, AND HOT WATER) BEING CONSUMED BY THE BUILDING. THE INFORMATION SHALL BE MADE PUBLIC VIA THE INTERNET AND VIA UNC'S EXISTING UTILITY MONITORING DASHBOARD SYSTEM. PERISCOPE BY ACTVELOX. THE SYSTEM INTEGRATOR (CONTROLS CONTRACTOR) IS RESPONSIBLE FOR PROVIDING TRENDS FOR INTEGRATION INTO PERISCOPE. THE SYSTEM INTEGRATOR WILL PROVIDE AN ENERGY/UTILITY DASHBOARD FOR PROJECT USING PERISCOPE. ALL ELECTRICAL CIRCUITS FOR MONITORING ELECTRICITY ARE SHOWN ON THE ELECTRICAL PANEL SCHEDULES.
- MECHANICAL GENERAL NOTES:
- PROVIDE METERS TO COLLECT ELECTRICAL POWER, WATER, NATURAL GAS, CHILLED WATER, AND HOT WATER USAGE.
  - CONNECT METERS(S) TO ENERGY DATA LOGGER USING RS-485 SHIELDED TWISTED PAIR WIRE (LIMIT OF 32 METERS PER DATA LOGGER), OR UTILIZE THE EXISTING POWER LINES VIA A CARRIER SYSTEM.
  - CONNECT ENERGY DATA LOGGER TO OWNER PROVIDED INTERNET CONNECTION.
  - SEE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ITEMS TO BE METERED. PROVIDE METERS AND DATA LOGGERS AND CONTROL WIRING FOR A COMPLETE SYSTEM
  - DASH BOARD SHALL BE PROVIDED ON OWNER'S EXISTING SYSTEM, PERISCOPE BY ACTVELOX.
  - PROVIDE STARTUP, VERIFICATION AND TESTING SERVICES TO VERIFY PROPER OPERATION OF ENERGY REPORTING.
  - PROVIDE OWNER TRAINING, MINIMUM OF 8 HOURS.
  - PROVIDE A COMPLETE, TURNKEY METERING SYSTEM.
  - METERS MUST BE CAPABLE OF BEING CONNECTED AS INTENDED ON THESE DRAWINGS OR BACNET.
  - DATA LOGGER BY RED LION, TRIDUM JACE, ECHOLON SMARTSERVER, OR EQUAL.
  - PROVIDE THREE YEARS OF DATA STORAGE IN 15 MINUTE INTERVALS.
  - LOCAL DISPLAY IS REQUIRED FOR ALL METERS FOR VERIFICATION.
  - CONNECT TO PULSE TYPE METERS FOR WATER AND GAS. WATER AND GAS METERS SHALL INCLUDE TOTAL USAGE (GALLONS OR CUBIC FEET) AS WELL AS DEMAND (GALLONS/HOUR OR CUBIC FEET/HOUR).
  - CONTRACTOR SHALL VERIFY EACH METER WITH A HANDHELD RMS MULTI-METER. INCLUDE DOCUMENTATION WITH POINTS LIST TO OWNER.

B



A

UTILITY MONITORING DETAIL

NOT TO SCALE

FAN SCHEDULE

SYMBOL	LOCATION	TYPE	CFM	APPROX. S.P.	DRIVE	FAN RPM	ELECTRICAL DATA			MANUFACTURER	ACCESSORIES	CONTROLS
							VFD	H.P.	MODE			
F-1	ELECT ROOM 231	INLINE	500	0.25"	BELT	1125	NO	1/4	--	277/1/60	BSO-90-4	A,D,E,F,G,K,L 2
F-2	--	DOWNBLAST	450	0.40"	BELT	1242	NO	1/4	--	277/1/60	GB-081-6	A,F,G,H,L,L 1
F-3	--	DOWNBLAST	750	0.40"	BELT	1325	NO	1/4	--	277/1/60	GB-091-6	A,F,G,H,L,L 1
KEF-1	ROOF	UPBLAST	5100	0.75"	BELT	1143	NO	2	--	460/3/60	CUBE-200-20	A,F,H,J,K,M 3
KEF-2	ROOF	UPBLAST	8460	0.75"	BELT	686	NO	3	--	460/3/60	CUBE-300-30	A,F,H,J,K,M 3
KEF-3	ROOF	UPBLAST	8460	0.75"	BELT	686	NO	3	--	460/3/60	CUBE-300-30	A,F,H,J,K,M 3
KEF-4	ROOF	UPBLAST	650	0.50"	BELT	1836	NO	1/3	--	120/1/60	CUBE-101HP-4	A,F,H,K 3
KEF-6	ROOF	UPBLAST	2400	0.75"	BELT	1145	NO	1	--	460/3/60	CUBE-161	A,F,H,J,K,M 3

DMFE-1	ROOF	UPBLAST	600	0.50"	BELT	1780	NO	1/3	--	120/1/60	CUBE-101HP-4	A,F,H,J,K,L 4
KSF-1	ROOF	MUA	4100	0.50"	BELT	714	NO	2	35	460/3/60	IGX-115-H22	NOTE 9,10,A,G,H,N 3
KSF-2	ROOF	MUA	6850	0.50"	BELT	690	NO	3	50	460/3/60	IGX-118-H32	NOTE 9,10,A,G,H,N 3
KSF-3	ROOF	MUA	6850	0.50"	BELT	690	NO	3	50	460/3/60	IGX-118-H32	NOTE 9,10,A,G,H,N 3

- ACCESSORIES
- A: DISCONNECT SWITCH  
B: BACKDRAFT DAMPER  
C: ACOUSTICAL LINING
- D: HANGING BRACKETS WITH VIBRATION ISOLATION  
E: BELT GUARD  
F: EXTENDED LUBE LINES
- G: MAGNETIC STARTER WITH AUXILIARY CONTACTS  
H: PREFAB. ROOF CURB  
I: BIRDSCREEN
- J: GREASE TRAP  
K: INLET GUARD  
L: BACKDRAFT DAMPER
- M: UL LISTED FOR GREASE  
N: WEATHER HOOD, ALUMINUM FILTER, INLET DAMPER

- CONTROLS
- 1: CONTROLLED BY BUILDING AUTOMATION SYSTEM  
2: ROOM THERMOSTAT  
3: INTERLOCK WITH ASSOCIATED KITCHEN HOOD
- 4: INTERLOCK WITH DISHWASHER OPERATION  
5: MANUAL SWITCH

- NOTES:
- ALL FANS SHALL BE U.L. LISTED AND LABELED AND SHALL BE AMCA CERTIFIED FOR SOUND AND AIR FLOW. ALL FANS INSTALLED INSIDE, ABOVE, OR ADJACENT TO OCCUPIED SPACES SHALL HAVE A MAXIMUM 9.0 INLET SOME LEVEL.
  - ALL FANS SHALL BE SUPPLIED BY ONE MANUFACTURER UNLESS NOTED OTHERWISE.
  - MECHANICAL CONTRACTOR SHALL PROVIDE MAGNETIC STARTER WITH AUXILIARY CONTACTS AS REQUIRED.
  - INSTALL INLINE FANS TIGHT TO BOTTOM OF STRUCTURE.
  - BACKDRAFT DAMPER ON KITCHEN SUPPLY FANS SHALL BE MOTORIZED.
  - ALL KITCHEN EXHAUST FANS SHALL BE PROVIDED WITH NON-STICK COATED WHEEL (TEFLON).
  - KITCHEN SUPPLY FAN(S) (KSF) INDICATED S.P. IS EXTERNAL STATIC ON SUPPLY SIDE ONLY, ALL OTHER FAN(S) INDICATED S.P. IS APPROX. TOTAL STATIC.
  - ALL FANS SHALL BE INTEGRATED INTO NEW BAS TO MONITOR FAN STATUSES.
  - GAS HEATER INFO:  
KSE-1 4 STAGE GAS HEATER - 350 MBH - TEMP RISE 63.2°F  
KSE-2 4 STAGE GAS HEATER - 600 MBH - TEMP RISE 64.9°F  
KSE-3 4 STAGE GAS HEATER - 600 MBH - TEMP RISE 64.9°F
  - PACKAGED DX INFO: (R-410A)  
KSE-1 2- SCROLL COMPRESSORS, TOTAL CAP-138.9 MBH, SENS CAP-84.0 MBH  
KSE-2 2- SCROLL COMPRESSORS, TOTAL CAP-205.9 MBH, SENS CAP-128.8 MBH  
KSE-3 2- SCROLL COMPRESSORS, TOTAL CAP-205.9 MBH, SENS CAP-128.8 MBH

HORIZONTAL FAN COIL UNIT SCHEDULE

SYMBOL	CFM	E.S.P.	COOLING COIL				HEATING COIL				MOTOR (ELECTRICAL DATA)		MFR. - TRANS. RCH	UNIT SIZE
			TC (BTUH)	SHC (BTUH)	GPM	RUNOUT	BTUH	GPM	RUNOUT	HP	VOLTAGE			
FCU-1	750	0.40"	24,000	16,800	4.0	1"	30,000	1.5	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-08
FCU-2a	900	0.40"	30,000	21,000	5.0	1"	43,000	2.2	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-10
FCU-3a	750	0.40"	30,000	21,000	5.0	1"	43,000	2.2	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-10
FCU-4a	1100	0.40"	36,000	25,200	6.0	1"	48,000	2.4	3/4"	1/2	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-12
FCU-5	1000	0.40"	30,000	21,000	5.0	1"	43,000	2.2	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-10
FCU-6	800	0.40"	24,000	16,800	4.0	1"	30,000	1.5	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-08
FCU-7	900	0.40"	30,000	21,000	5.0	1"	43,000	2.2	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-10
FCU-8	900	0.40"	30,000	21,000	5.0	1"	43,000	2.2	3/4"	1/3	277/1/60		HORIZONTAL EXPOSED CABINET	SIZE-10

- NOTES:
- COOLING CAPACITIES ARE BASED ON 43° F. ENTERING WATER AND 80°/67° F. ENTERING AIR.
  - HEATING CAPACITIES ARE BASED ON 180° F. ENTERING WATER AND 65° F. ENTERING AIR.
  - UNITS SHALL BE FURNISHED WITH FILTER RACK AND 1" FILTERS. HOT WATER HEATING COIL AND CHILLED WATER COOLING COIL, AS NOTED.
  - PROVIDE NON FUSED INTEGRAL DISCONNECT SWITCH MOUNTED ON UNIT
  - DISCHARGE AIR TEMPERATURE SENSORS AND CONTROL VALVES, ROOM THERMOSTAT, FCU CONTROLLER AND BACNET INTERFACE MODULE SHALL BE FURNISHED BY THE CONTROLS CONTRACTOR
  - HEATING COIL SHALL BE PROVIDED DOWNSTREAM OF COOLING COIL IN REHEAT POSITION
  - CONTROLS CONTRACTOR SHALL PROVIDE INDIVIDUAL CONTROL POWER TRANSFORMER FOR EACH UNIT.
  - UNIT PRIMARY DRAIN PAN SHALL SLOPE IN TWO DIRECTIONS AND SHALL COMPLY WITH ASHRAE 62.1 TO PROVIDE COMPLETE DRAINAGE OF CONDENSATE. PROVIDE DRAIN PAN CONSTRUCTION DETAILS WITH FAN COIL UNIT SHOP DRAWING. (COOLING COILS WITH SHEET METAL BOTTOM PANELS WITH WEEP HOLES OR SLOTS ARE NOT ACCEPTABLE). SECONDARY DRAIN PAN SHALL HAVE OVERFLOW SAFETY SWITCH (FLOAT SWITCH BY FCU MANUFACTURER). ACTIVATION OF FLOAT SWITCH SHALL SHUT DOWN UNIT, CLOSE CHILLED WATER VALVE AND GENERATE AN ALARM THROUGH THE BAS.
  - PROVIDE 2-WAY MODULATING CHILLED & HOT WATER CONTROL VALVES
  - PROVIDE UNIT WITH SUPPLY DUCT FLANGE FOR DUCTWORK CONNECTION
  - PROVIDE UNIT WITH RETURN PLENUM CONNECTION AND FILTER RACK

HOT WATER CABINET UNIT HEATER SCHEDULE

SYMBOL	LOCATION	CFM	GPM	BTUH	WPD	MOTOR		MANUFACTURER	ACCESSORIES	
						R.P.M.	WATTS	VOLTAGE		MCQUAY
HCU-1	STAIR-1	400	2.2	33,200	4.4	928	80	120/1/60	FHVC-04	A,B
HCU-2	STAIR-2	400	2.2	33,200	4.4	928	80	120/1/60	FHVC-04	A,B

- NOTES:
- HEATING CAPACITY BASED ON 65° F. E.A.T., 180° F. E.W.T.
  - MAXIMUM WATER PRESSURE DROP SHALL BE 5'.
  - SEE PLANS FOR TYPE OF THERMOSTAT REQUIRED (WALL MOUNTED) PROVIDE VENTILATED, LOCKABLE CLEAR PLASTIC COVER
  - UNITS SHALL BE RECESSED WALL TYPE WITH TRIM FACE PANEL KIT, MOUNT BOTTOM OF UNIT 12" A.F.F.
- ACCESSORIES
- A: DISCONNECT SWITCH  
B: BUILT-IN THERMOSTAT

CRAC UNITS

- DESIGN CONDITIONS: 75° F. D.B., 45% R.H.
- CRAC-1A2 LIEBERT MODEL PX018H-1/2 (DOWNFLOW WITH FRONT DISCHARGE)
- 2,800 CFM @ 0.20" E.S.P.; 60,400 BTUH TC; 60,400 BTUH SHC; ELECTRIC REHEAT - 2-STAGE, 13.6 KW; 46,400 BTUH; SUPPLY FAN - 5 H.P., R-410A; PROVIDE OPTION FLOOR LEVEL FRONT AND SIDE DISCHARGE GRILLE (REFER TO PLAN FOR ORIENTATION REQUIREMENTS)
- ELECTRICAL DATA: 460/3/60, 29.3 FLA, 35.6 WSA, 40 OPD.
- CU-1A2 LIEBERT MODEL MCM-040
- ELECTRICAL DATA: 460/3/60, 1.4 FLA, 1.8 WSA, 15 OPD.
- FURNISH ALL UNIT(S) WITH: ICOM FACTORY CONTROLS WITH LARGE GRAPHICS DISPLAY, LOCKING DISCONNECT SWITCH, FIRESTAT, SMOKE DETECTOR, RETURN AIR TEMPERATURE AND HUMIDITY SENSORS, HIGH EFFICIENCY FILTERS (MERV-8), FILTER CLOG DETECTION ALARM, CONDENSATE PUMP, INTELLISLOT COMM CARD, LIQU-TEC-460 ZONE LEAK DETECTION SYSTEM
- NOTES:
- ALL UNITS SHALL BE U.L. LISTED AND LABELED.
  - PROVIDE ICOM MICROPROCESSOR BASED CONTROL MODULE.
  - CAPACITIES ARE BASED ON 100° AMBIENT TEMPERATURE
  - UNITS SHALL BE FULLY INTEGRATED WITH THE BAS, UNIT OPERATION SHALL BE PER THE SEQUENCE OF OPERATION.

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UNC Charlotte  
RESIDENCE DINING  
HALL BUILDING  
RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM 01	3/16/16
2	ADDENDUM 02	3/22/16

Project: 15NCC491  
Drawn By: CAH/CP  
Checked By: RVA  
Date: March 1st, 2016  
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MECHANICAL  
SCHEDULES

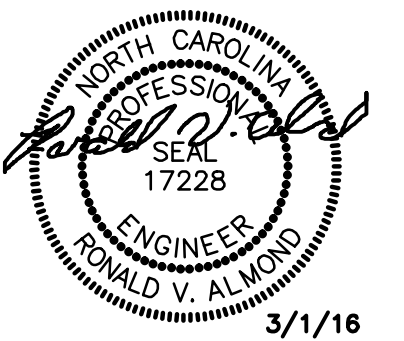
CONSTRUCTION  
DOCUMENTS

M-002









## UNC Charlotte RESIDENCE DINING HALL BUILDING RENOVATION

SCO ID #: 14-11273-02A

TAG	DESCRIPTION	DATE
1	ADDENDUM 01	3/16/16
2	ADDENDUM 02	3/22/16

Project: 15NCC491  
Drawn By: CAH / CP  
Checked By: RVA  
Date: March 1st, 2016  
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## MECHANICAL UPPER LEVEL PLAN NEW WORK

24x12	24x12	24x12	24x12	24x12	24x12	24x12	24x12	24x12	24x12
1500CFM	1500CFM	1500CFM	1500CFM	1500CFM	1500CFM	1500CFM	1500CFM	1500CFM	1500CFM
HOOD-6	HOOD-5	HOOD-4							

10x12	10x12	10x12	10x12
1280CFM	1280CFM	1280CFM	1280CFM
HOOD-7	HOOD-8		

10x11
650CFM
HOOD-9

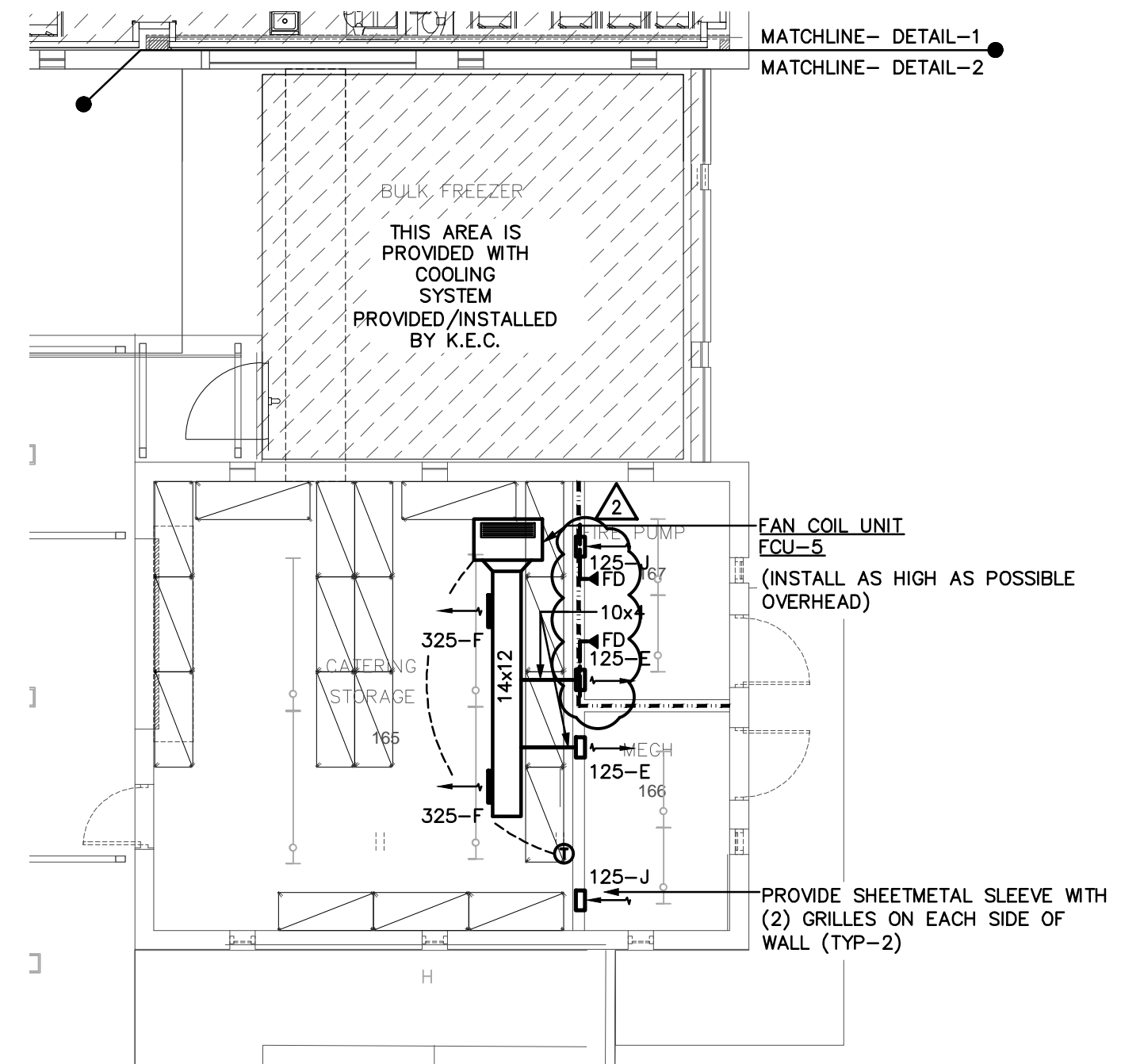
### ③ KITCHEN HOOD CONNECTION PLAN

1/8" = 1'-0"

EQUIPMENT	EXHAUST	MAKE-UP	OUTSIDE AIR
KITCHEN HOOD (1,2,3)	8460	6850	---
KITCHEN HOOD (4,5,6)	8460	6850	---
KITCHEN HOOD (7,8)	5100	4100	---
KITCHEN HOOD (9)	650	0	---
DISHWASHER HOOD	600	---	---
OVEN-1	1200	---	---
OVEN-2	1200	---	---
AHU-2	---	---	8,370
TOTALS	25,670	26,170	
NET PRESSURE SUPPLIED TO KITCHEN AREA: 500 CFM (POSITIVE)			

ALL KITCHEN HOODS SHALL BE PROVIDED AND INSTALLED BY THE KITCHEN EQUIPMENT CONTRACTOR (K.E.C.). MECHANICAL CONTRACTOR SHALL PROVIDE ALL EXHAUST AND MAKE UP AIR DUCTWORK AND MAKE FINAL CONNECTIONS TO HOODS. PROVIDE TRANSITIONS AS REQUIRED FOR CONNECTIONS.

INDIVIDUAL KITCHEN HOOD MUA/EXHAUST OUTLETS SHALL BE PROVIDED WITH SLIDING GATE BALANCING DAMPERS FOR BALANCING PURPOSES (BY K.E.C.) (TYP.)

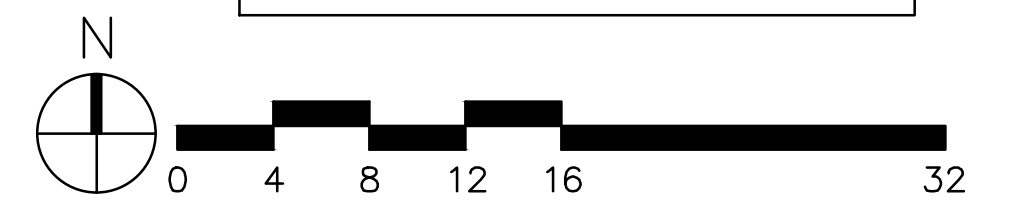


### ② MECHANICAL UPPER LEVEL - NEW WORK

1/8" = 1'-0"

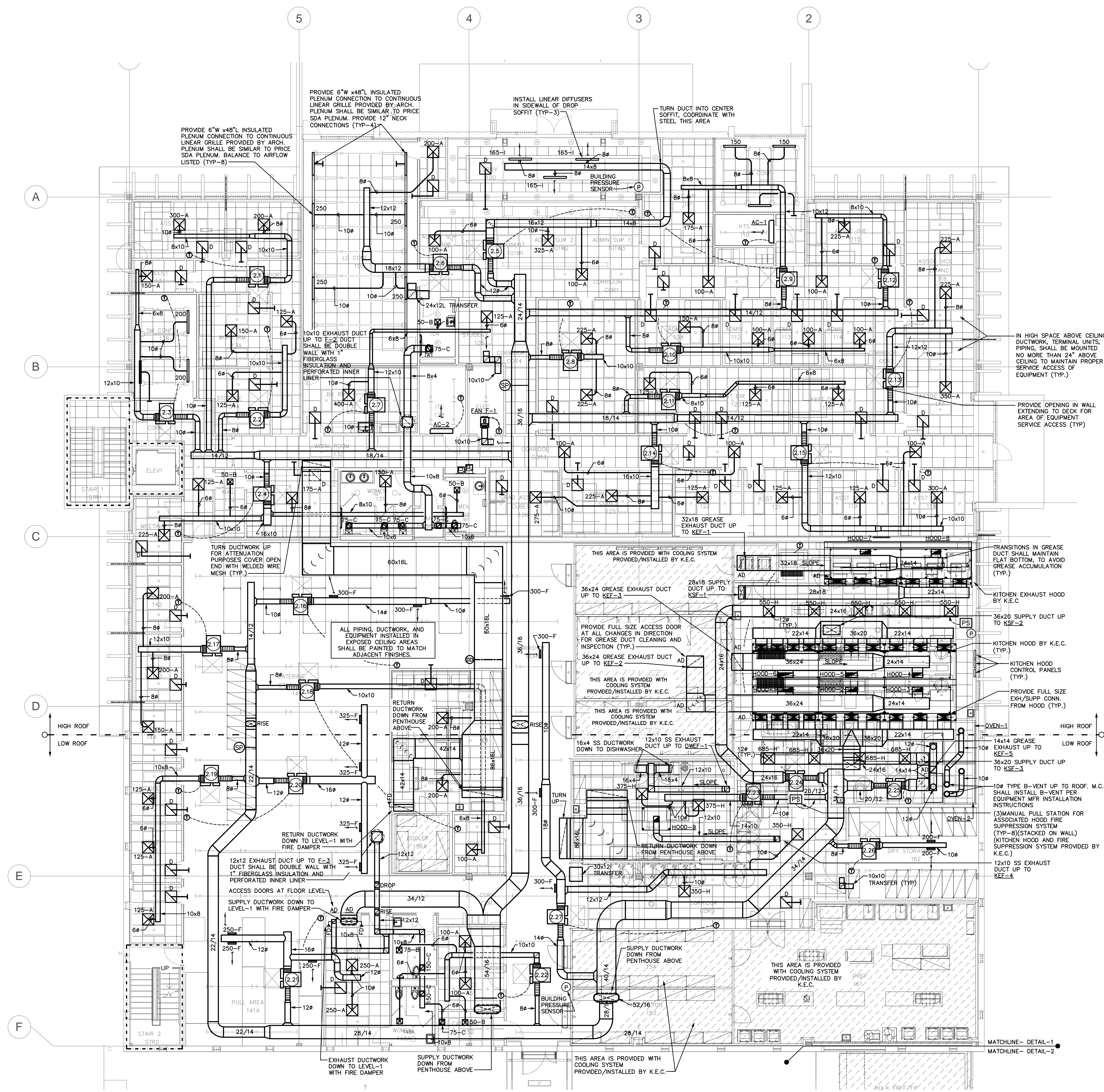
#### RATED WALL LEGEND

1 HOUR FIRE BARRIER  
REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE WALL CONSTRUCTION AND RATING INFORMATION.



## CONSTRUCTION DOCUMENTS

# M-202



### ① MECHANICAL UPPER LEVEL - NEW WORK

1/8" = 1'-0"