

# CITY OF YALE

## YALE SENIOR CENTER

111 N B ST  
YALE, OK 74085

09/11/24  
COA 5964 06/30/2023

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ISSUE DATE: 08/17/24  
REVISIONS:  
NO. DATE BY: DESCRIPTION

DESIGNED: RAS  
DRAWN: ANC  
CHECKED: JLF  
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1 SOUTH BROADWAY, SUITE 200, EDMOND, OK 73034 | 405.259.2000  
COA 5964 06/30/2023

CITY OF YALE  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085  
COVER SHEET

PROJECT NO.: 09334.001

0

### ACC\_ROOM SCHEDULE

ROOM NO	ROOM NAME	FUNCTION OF SPACE	CALC (SQ/FOCC)	OCCUPANT LOAD
			AREA / OCC	
<b>FIRST FLOOR</b>				
<b>ASSEMBLY (A-2)</b>				
101	CORRIDOR	(none)	623 SF / 0	
102	CAFETERIA	ASSEMBLY UNCONCENTRATED (TABLE AND CHAIRS)	1017 SF / 15 NET SF	68
103	KITCHEN	KITCHEN, COMMERCIAL	393 SF / 200 SF	2
104	PANTRY	STORAGE AREAS	123 SF / 300 SF	0
105	MECH	MECHANICAL EQUIPMENT ROOM	113 SF / 300 SF	0
106	WOMENS	(none)	142 SF / 200 SF	1
107	MENS	(none)	142 SF / 200 SF	1
108	OFFICE	BUSINESS AREAS	171 SF / 100 SF	2
<b>ASSEMBLY (A-2): 8</b>				74
<b>ASSEMBLY (A-3)</b>				
109	PARTY ROOM	ASSEMBLY UNCONCENTRATED (TABLE AND CHAIRS)	997 SF / 15 NET SF	66
110	STORAGE	STORAGE AREAS	120 SF / 300 SF	0
<b>ASSEMBLY (A-3): 2</b>				67
<b>FIRST FLOOR: 10</b>				141
<b>TOTALS: 10</b>				141

### BUILDING STATISTICS

AREA @GROSS SQUARE FOOTAGE:

FIRST FLOOR	4259 SF
<b>TOTAL</b>	<b>4259 SF</b>

NUMBER OF STORES: 1

### CODE COMPLIANCE LEGEND

**NOTES:**

- CONTRACTOR SHALL PROVIDE PERMANENT SIGNAGE OR STENCILING WITHIN CEILING PLenum AT ALL FIRE RATED WALLS, SMOKE BARRIERS & SMOKE PARTITIONS. LETTERING SHALL BE AT LEAST 2" IN HEIGHT WITH THE WORKING "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS. REPEAT AT INTERVALS NOT EXCEEDING 30'-0" MEASURED HORIZONTALLY ALONG THE PARTITION WALL.
- SEAL PENETRATIONS IN FIRE RATED SMOKE BARRIERS, FIRE RATED BARRIERS & SMOKE BARRIERS.

### CODE SUMMARY

APPLICABLE CODES	
BUILDING:	2018 IBC
ACCESSIBILITY:	2010 ADA
LIFE SAFETY:	2009 NFPA 101
ENERGY:	2006 IECC
MECHANICAL:	2018 IMC
PLUMBING:	2018 IPC
ELECTRICAL:	2020 NEC
OCCUPANCY GROUP:	A-2 / A-3
TYPE OF CONSTRUCTION:	IIB

HEIGHT AND AREA LIMITS	
MAXIMUM ALLOWED HEIGHT	120'
MAXIMUM ALLOWED AREA	50,000 SF
MIXED USE SEPARATIONS:	2 HR
EXTERIOR WALL OPENING LIMITS:	NA
DRIFTSTOPS:	NA

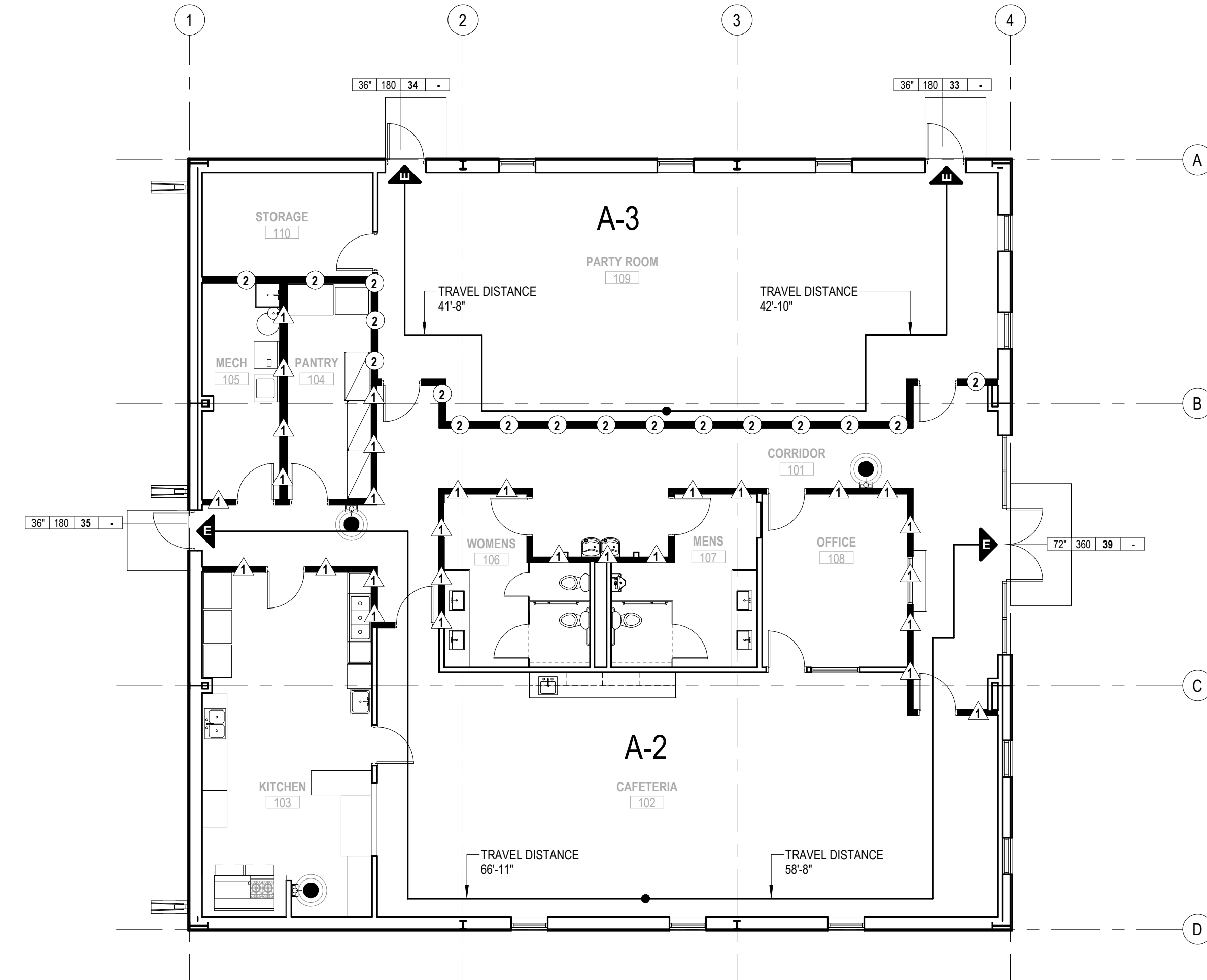
FIRE PROTECTIVE SYSTEMS	
AUTO FIRE SUPPRESSION:	NA
STANDPIPE:	NA
FIRE ALARM SYSTEM:	NFPA 72
AUTO FIRE DETECTION:	NFPA 13
SMOKE DETECTION:	NFPA 72

FIRE RESISTANCE OF STRUCTURAL ELEMENTS	RATING (HOURS)	DESIGN NUMBER
EXTERIOR WALLS		
LOAD BEARING WALLS	0	
NON-LOAD BEARING WALLS	0	
FIRE SEPARATION ASSEMBLIES		
EXITS	0	
SHAFTS / HOISTWAYS	NA	
DWELLING UNIT SEPARATIONS	NA	
INTERIOR LOAD BEARING WALLS, COLUMNS, FRAMING	0	
FLOOR CONSTRUCTION	0	
ROOF CONSTRUCTION	0	
FIRE WALLS	NA	
CALCULATIONS		
DOOR	0.2" / OCC	
STAR	0.3" / OCC	

### PLUMBING FIXTURE REQUIREMENTS

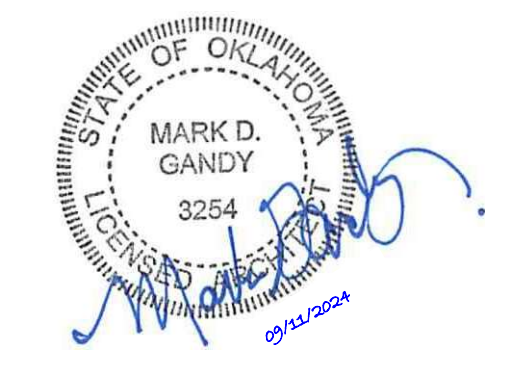
OCC TYPE				
NUMBER OF OCCUPANTS: 141				
MEN		70.5		
WOMEN		70.5		
	WC	LAV	URINALS	TOILET / SHOWER
	1 PER 75	1 PER 200	-	-
MEN - REQUIRED	0.92	0.35	0	-
MEN - PROVIDED	2	2	0	-
WOMEN - REQUIRED	0.92	0.35	-	-
WOMEN - PROVIDED	2	2	-	-
DRINKING FOUNTAINS				
1 PER 500				
REQUIRED	1			
PROVIDED	2			



FIRST FLOOR - CODE REVIEW PLAN  
SCALE: 1/8" = 1'-0"



DESIGNED: RAS  
ISSUE DATE: 08/10/24  
REVISIONS: NO.  
DRAWN: ANC  
CHECKED: JLF  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_



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CITY OF YALE  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085  
ARCHITECTURAL CODE COMPLIANCE

PROJECT NO.: 09334.001

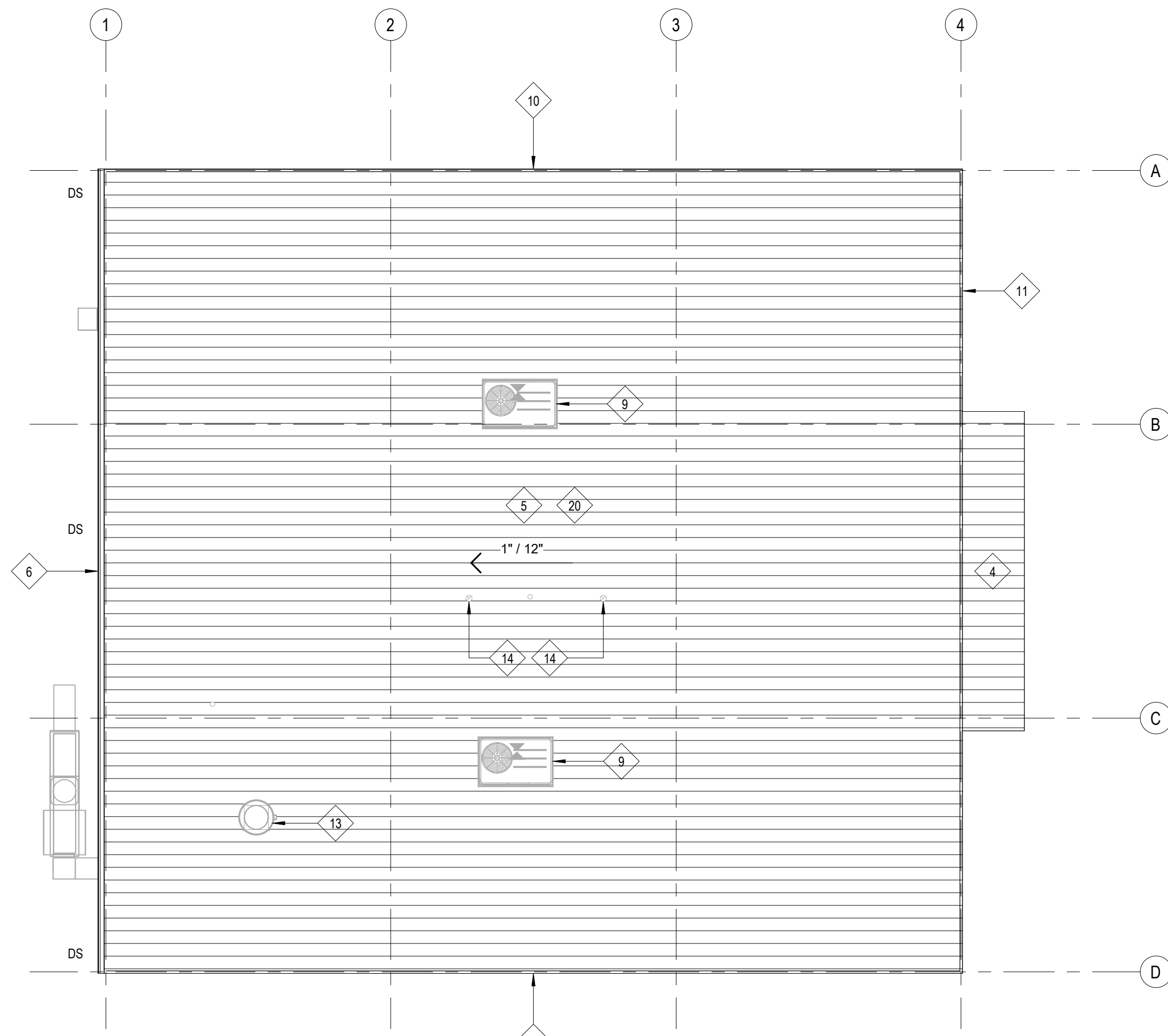
ACC01



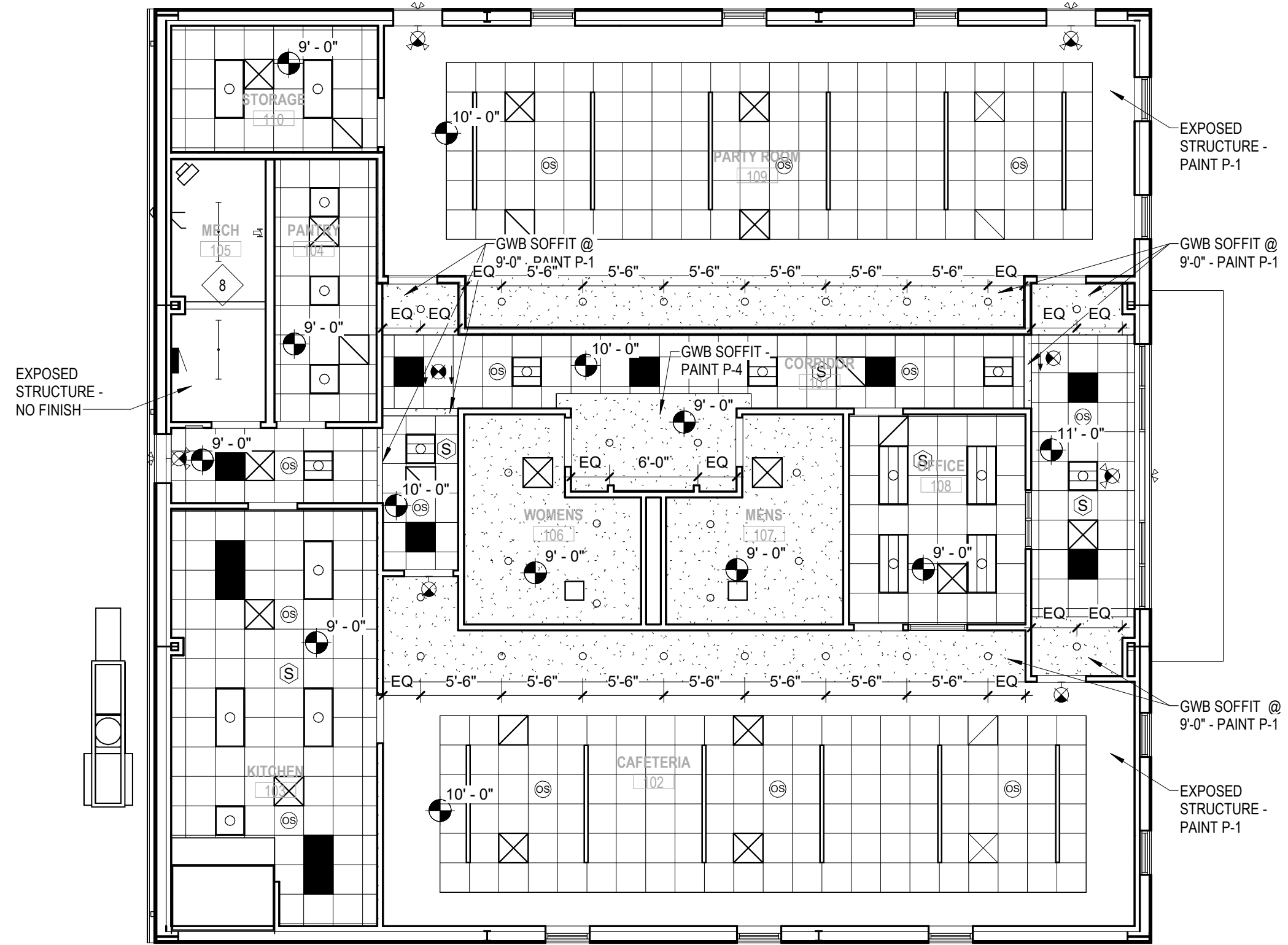




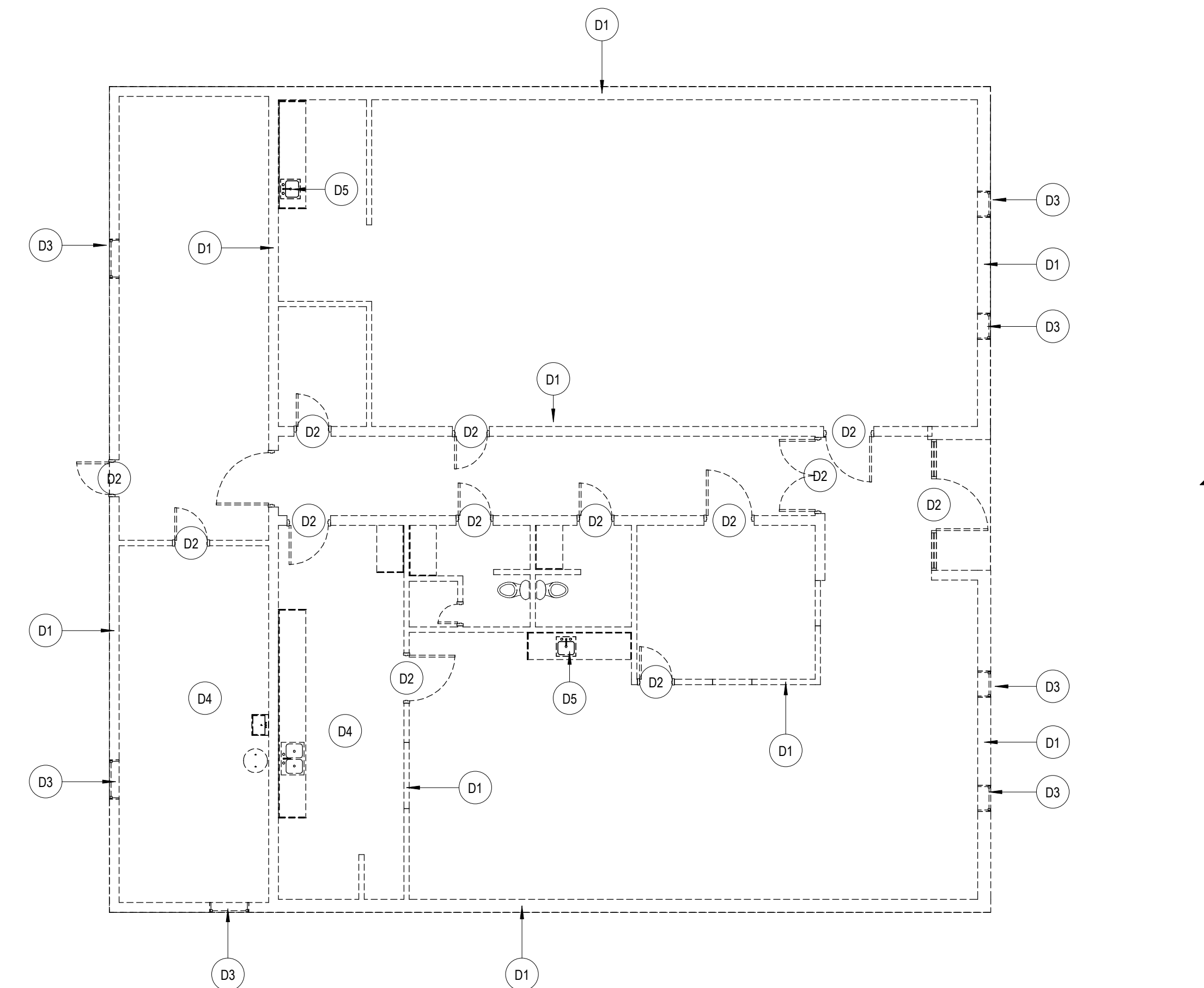




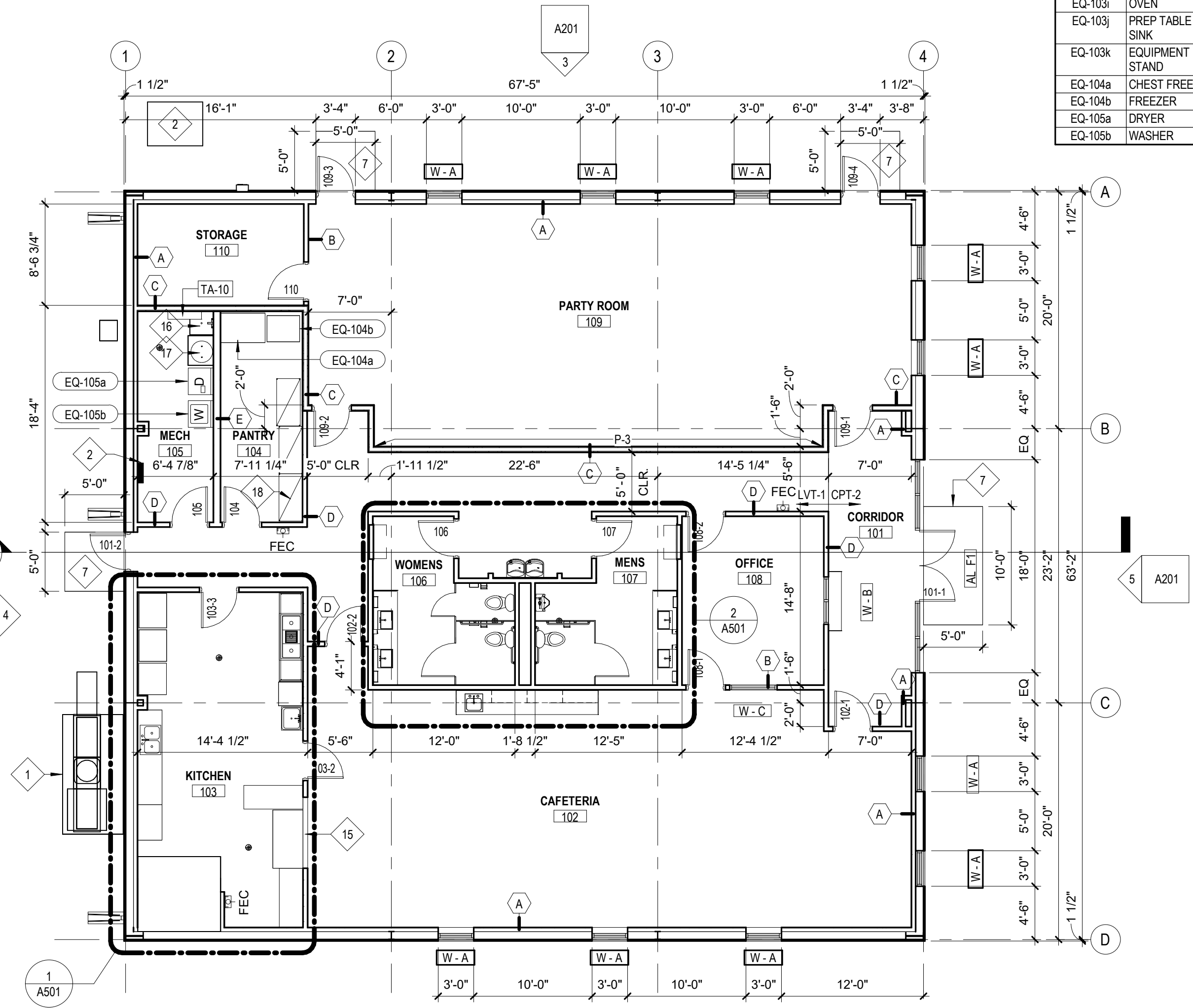
1 ROOF PLAN - COMPOSITE  
SCALE: 1/8" = 1'-0"



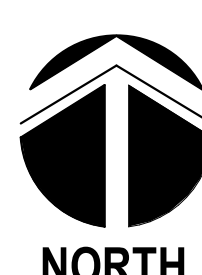
2 REFLECTED CEILING PLAN - FIRST FLOOR  
SCALE: 1/8" = 1'-0"



3 FIRST FLOOR - DEMOLITION  
SCALE: 1/8" = 1'-0"



4 FIRST FLOOR - AREA PLANS  
SCALE: 1/8" = 1'-0"



- REF. DEMO NOTES (OX):**
- D1 REMOVE WALL AND ALL ASSOCIATED COMPONENTS
  - D2 REMOVE DOOR AND ALL ASSOCIATED COMPONENTS
  - D3 REMOVE WINDOW AND ALL ASSOCIATED COMPONENTS
  - D4 SALVAGE ANY EQUIPMENT AND OR FURNISHINGS AND COORDINATE WITH OWNER.
  - D5 REMOVE PLUMBING FIXTURE AND ALL ASSOCIATED COMPONENTS

- REF. NOTES (X):**
- 1 MECH EQUIPMENT REF: MECH
  - 2 ELEC EQUIPMENT REF: ELEC
  - 4 PREFINISHED METAL CANOPY BY MTL BLDG MFG
  - 5 24 GA PREFINISHED STANDING SEAM METAL ROOFING PANELS
  - 6 24 GA PREFINISHED METAL GUTTER & DOWNSPOUTS, SIZED BY MTL BLDG MFG
  - 7 STRUCTURAL STOOP, REF: STRUCT
  - 8 NO CEILING THIS AREA, EXPOSED TO ABOVE
  - 9 ROOF TOP UNIT (RTU) ON ROOF CURB, REF: MECH
  - 10 PREFINISHED METAL RAKE TRIM
  - 11 PREFINISHED METAL EAVE TRIM
  - 13 EXHAUST FAN ON ROOF CURB, REF: MECH
  - 14 ROOFING PENETRATION, REF: MECH / PLUMB FOR DETAIL
  - 15 PROVIDE U-SHAPED STAINLESS STEEL TRIM FLASHING WITH Z' RETURN AT EACH SIDE OF OPENING
  - 16 MOP SINK, REF: PLUMB. INSTALL 48" X 48" FRP AT BOTH WALLS IN CORNER
  - 17 WATER HEATER, REF: PLUMB.
  - 18 EQUIPMENT BY OWNER, TYP. SEE EQUIPMENT SCHEDULE A101
  - 20 R-25 SIMPLE SAVER ROOF INSULATION SYSTEM WITH THERMAL BLOCKS

**TOILET ACCESSORIES (TA-X):**

NUMBER	DESCRIPTION
TA-1	VERTICAL 18" GRAB BAR
TA-2	HORIZONTAL 42" GRAB BAR
TA-3	HORIZONTAL 36" GRAB BAR
TA-4	CHANGING STATION
TA-5	TOILET PAPER DISPENSER (MULTI ROLL)
TA-6	2'-6" X 1'-4" MIRROR
TA-7	SURFACE MOUNTED PAPER TOWEL DISPENSER
TA-8	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL
TA-9	WALL MOUNTED AUTOMATIC SOAP DISPENSER
TA-10	UTILITY SHELF W/ MOP & BROOM HOLDER

**EQUIPMENT SCHEDULE**

EQUIP	EQUIPMENT NAME	ROOM NO	ROOM NAME	PROVIDED BY OWNER	CONTR	INSTALLED BY OWNER	CONTR	CONNECTION BY OWNER	CONTR	EXIST RELOC	REMARKS
EQ-103a	FREEZER	103	KITCHEN	X		X		X		X	
EQ-103b	FREEZER	103	KITCHEN	X		X		X		X	
EQ-103c	FRIDGE	103	KITCHEN	X		X		X		X	
EQ-103d	DISHWASHER	103	KITCHEN	X		X		X		X	
EQ-103f	TABLE	103	KITCHEN	X		X		X		X	
EQ-103g	WARMING TABLE	103	KITCHEN	X		X		X		X	
EQ-103h	TABLE	103	KITCHEN	X		X		X		X	
EQ-103i	OVEN	103	KITCHEN	X		X		X		X	
EQ-103j	PREP TABLE W/ SINK	103	KITCHEN	X		X		X		X	TABCO MODEL# DL-30-96
EQ-103k	EQUIPMENT STAND	103	KITCHEN	X		X		X		X	TABCO MODEL# KSS-243
EQ-104a	CHEST FREEZER	104	PANTRY	X		X		X		X	
EQ-104b	FREEZER	104	PANTRY	X		X		X		X	
EQ-105a	DRYER	105	MECH	X		X		X		X	
EQ-105b	WASHER	105	MECH	X		X		X		X	

**PARTITION TYPES (X-):**

TYPE	WIDTH
A	0' - 4 1/4" 3 5/8" METAL STUD @16" O.C. TO 6' ABOVE CEILING W/ 5/8" GYPSUM WALL BOARD ONE SIDE, CAVITY FILLED W/ SOUND ATTENUATION BATT INSULATION, ACOUSTICAL SEALANT AT PENETRATIONS.
B	0' - 4 7/8" 3 5/8" METAL STUD @16" O.C. TO DECK W/ 5/8" GYPSUM WALL BOARD EACH SIDE, CAVITY FILLED W/ SOUND ATTENUATION BATT INSULATION, ACOUSTICAL SEALANT AT PENETRATIONS.
C	0' - 6 1/8" 2 HR - 3 5/8" METAL STUD @16" O.C. TO DECK W/ TWO LAYERS 5/8" GYPSUM WALL BOARD EACH SIDE, CAVITY FILLED W/ BATT INSULATION, FIRE SEALANT AT PENETRATIONS.
D	0' - 4 7/8" 1 HR - 3 5/8" METAL STUD @16" O.C. TO DECK W/ 5/8" GYPSUM WALL BOARD EACH SIDE, CAVITY FILLED W/ BATT INSULATION, FIRE SEALANT AT PENETRATIONS.
E	0' - 7 1/4" 1 HR - 6" METAL STUD @16" O.C. TO DECK W/ 5/8" GYPSUM WALL BOARD EACH SIDE, CAVITY FILLED W/ BATT INSULATION, FIRE SEALANT AT PENETRATIONS.

ISSUE DATE: 08/10/24  
 REVISIONS: No. DATE BY: DESCRIPTION  
 DESIGNED: RAS  
 DRAWN: ANC  
 CHECKED: JLF  
 STATE OF OKLAHOMA  
 MARK D. GANDY  
 3254  
 08/10/2024

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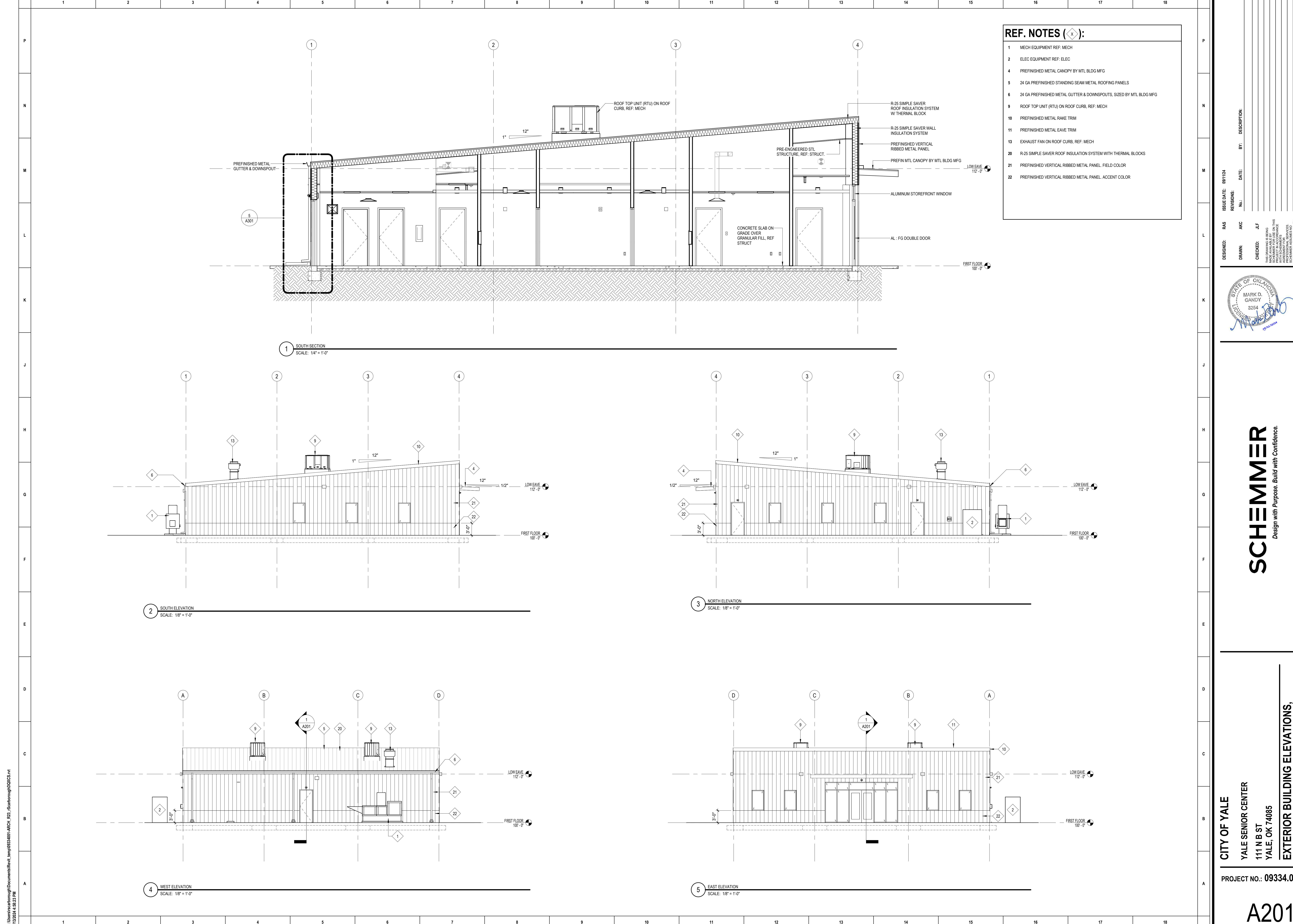
CITY OF YALE  
 YALE SENIOR CENTER  
 111 N B ST  
 YALE, OK 74085

**DEMO & FLOOR PLANS, RCP, ROOF PLAN**

PROJECT NO.: 09334.001

**A101**

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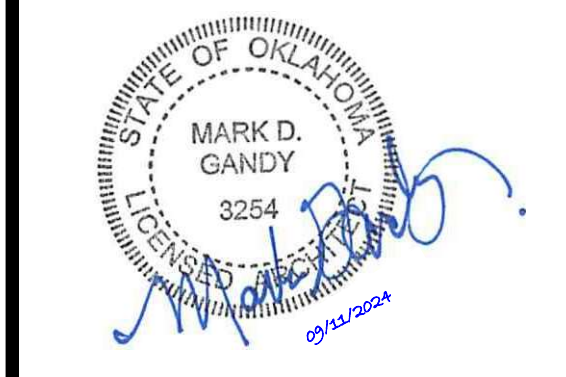


**REF. NOTES (X):**

- MECH EQUIPMENT REF. MECH
- ELEC EQUIPMENT REF. ELEC
- PREFINISHED METAL CANOPY BY MTL BLDG MFG
- 24 GA PREFINISHED STANDING SEAM METAL ROOFING PANELS
- ROOF TOP UNIT (RTU) ON ROOF CURB, REF. MECH
- 24 GA PREFINISHED METAL GUTTER & DOWNSPOUTS, SIZED BY MTL BLDG MFG
- PREFINISHED METAL RAKE TRIM
- PREFINISHED METAL EAVE TRIM
- EXHAUST FAN ON ROOF CURB, REF. MECH
- R-25 SIMPLE SAVER ROOF INSULATION SYSTEM WITH THERMAL BLOCKS
- PREFINISHED VERTICAL RIBBED METAL PANEL, FIELD COLOR
- PREFINISHED VERTICAL RIBBED METAL PANEL, ACCENT COLOR

DESIGNED: RAS  
 DRAWN: ANC  
 CHECKED: JLF

ISSUE DATE: 08/1/24  
 REVISIONS: No.  
 DATE: BY: DESCRIPTION:



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 COA 5964 06/30/2023

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 111 N B ST  
 YALE, OK 74085

**EXTERIOR BUILDING ELEVATIONS,  
 BUILDING CROSS SECTIONS**

PROJECT NO.: 09334.001

**A201**

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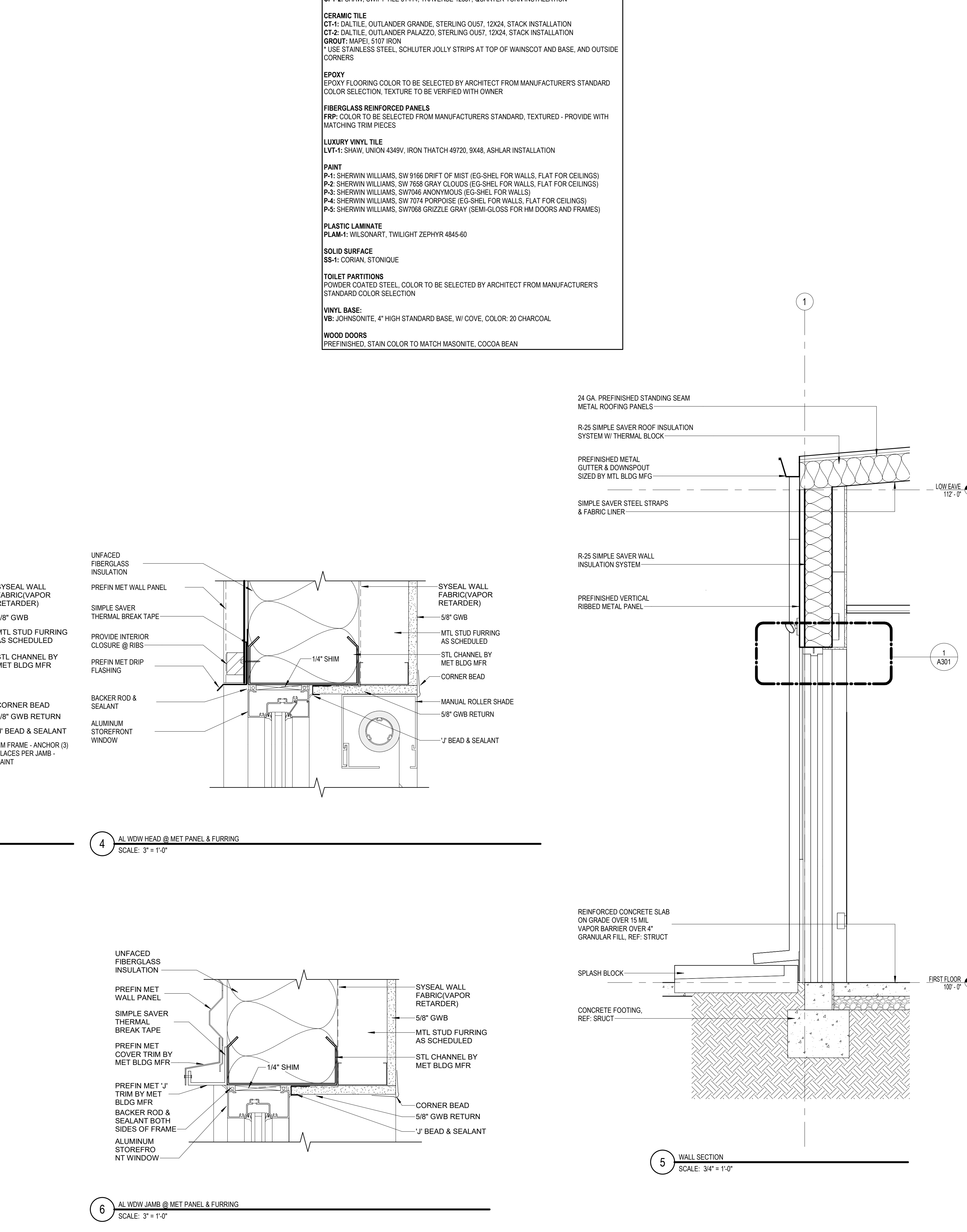
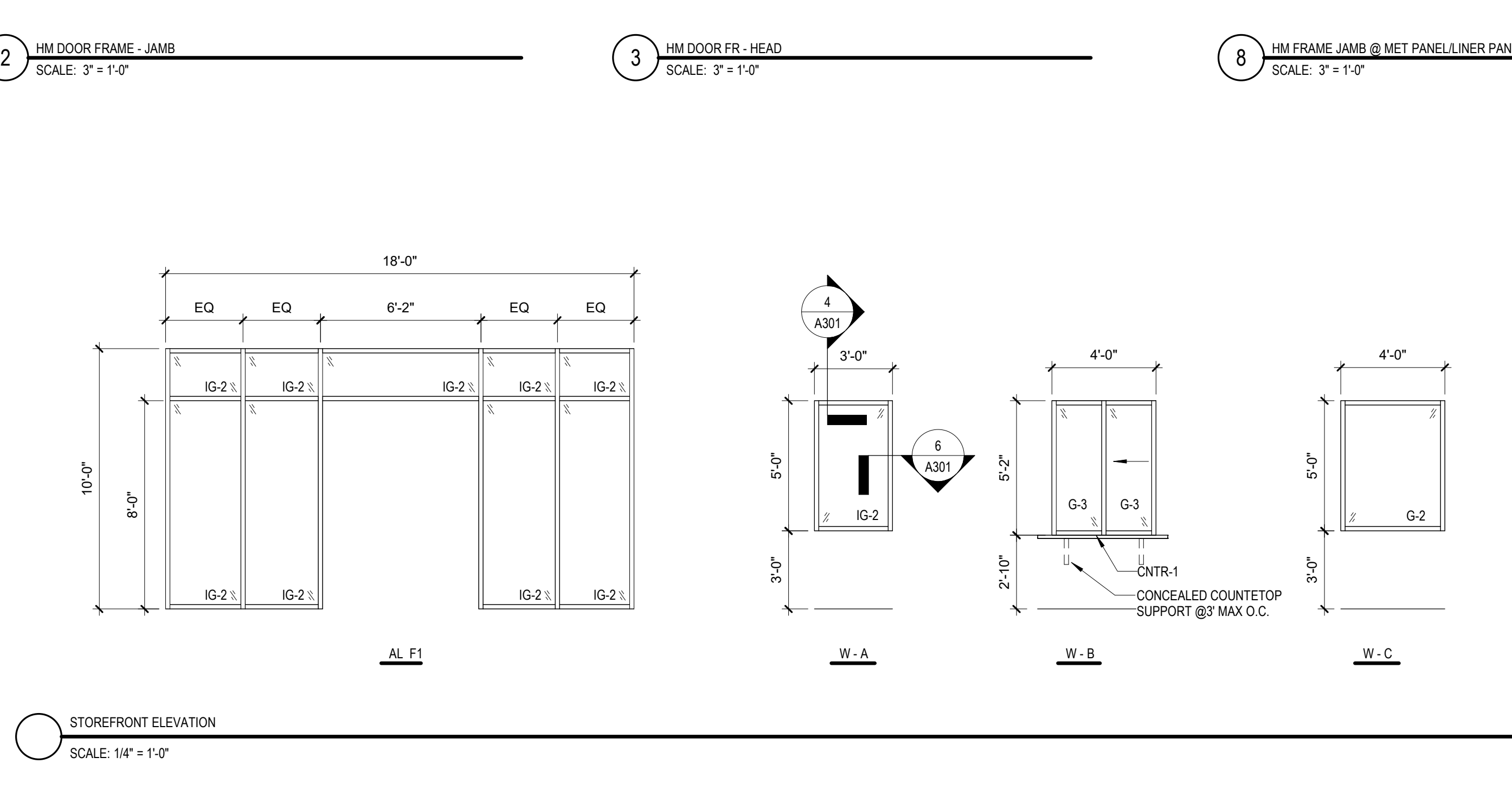
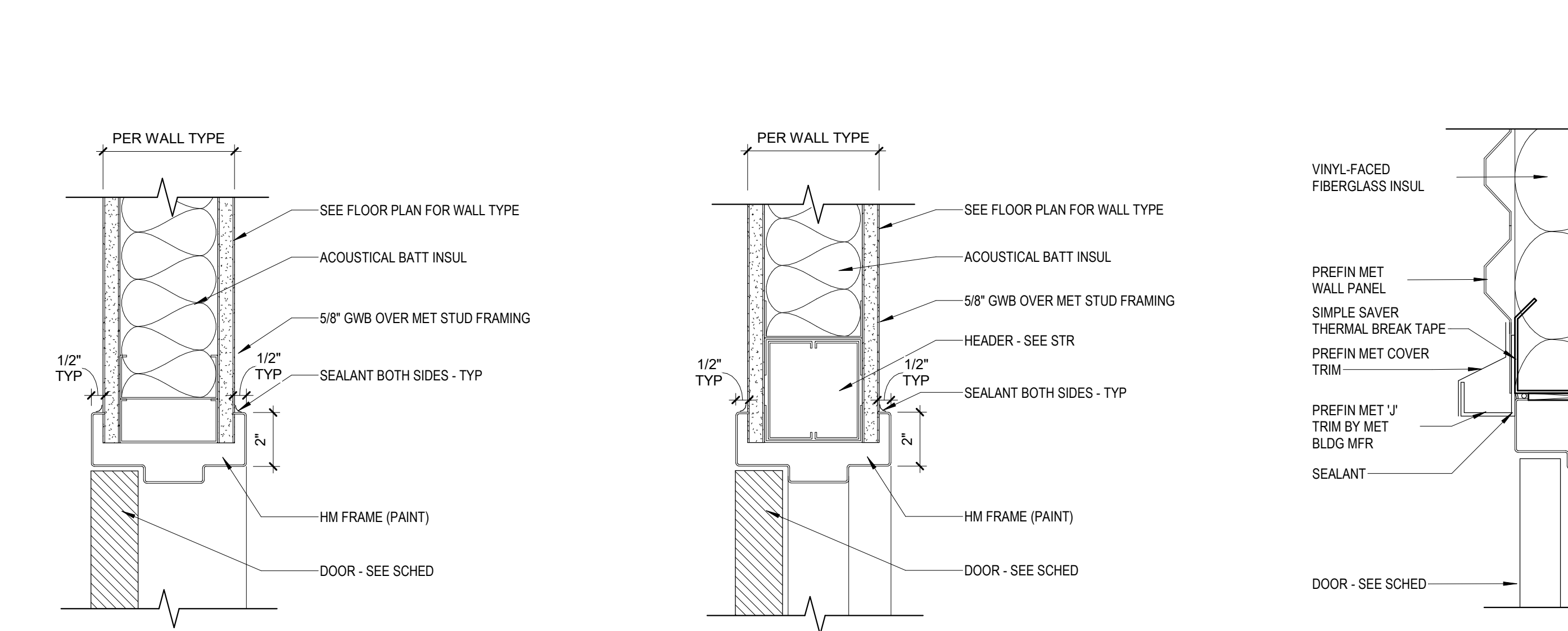
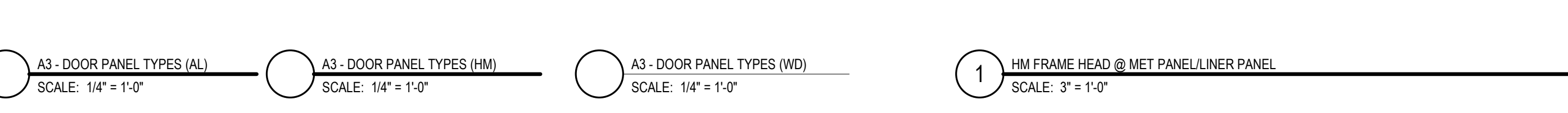
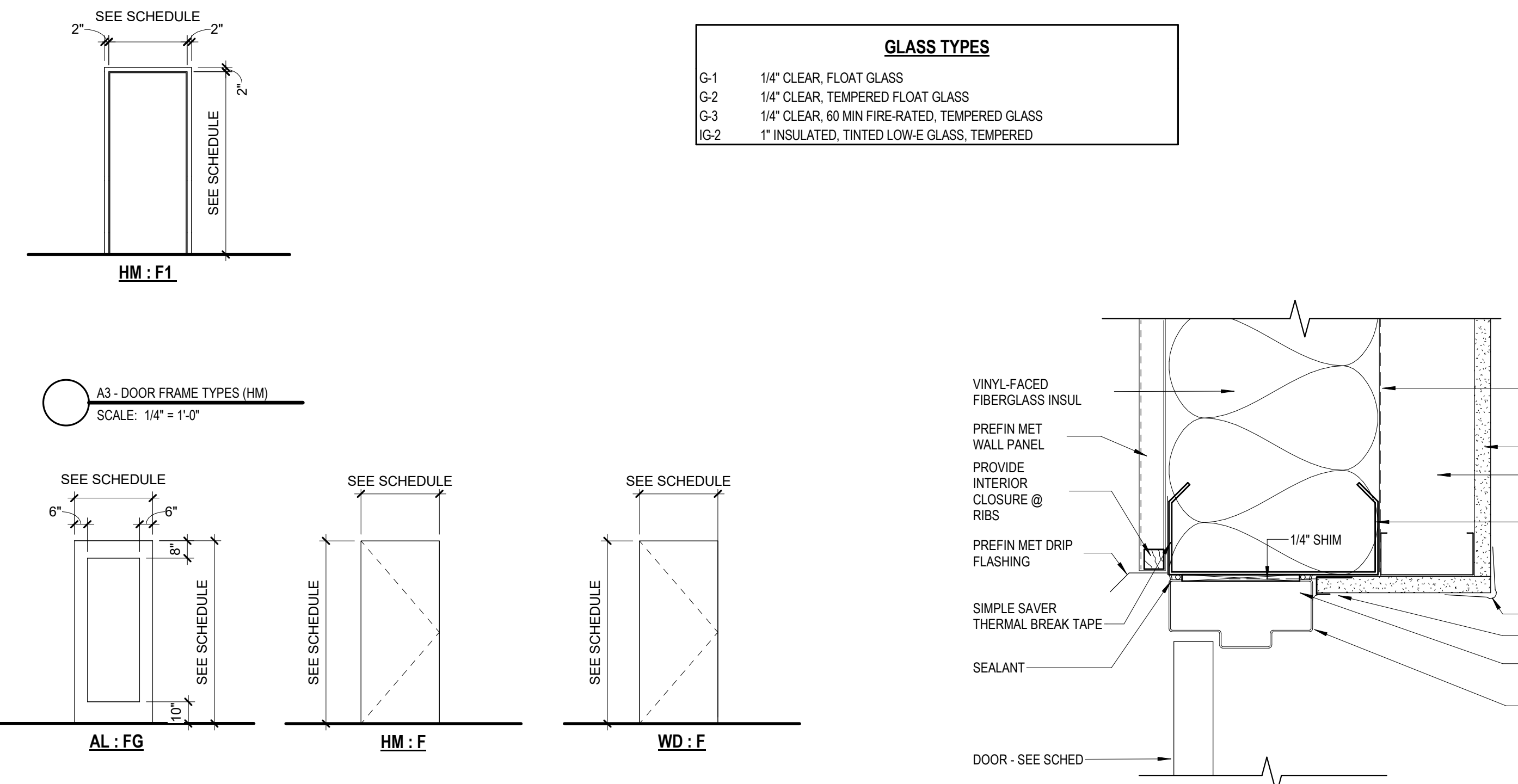
DOOR SCHEDULE															
DOOR NO.	PR	DOOR SIZE		DOOR			FRAME			DETAIL			SET NO	LABEL	REMARKS
		WIDTH	HEIGHT	MATL & TYPE	FINISH	GLASS	MATL & TYPE	FINISH	HEAD	JAMB	HEAD	JAMB			
101-1		3'-0"	8'-0"	AL-FG	--	IG-2	AL-F1	--	1A/301	4A/301	1	--	--	INSULATED	
101-2		3'-0"	8'-0"	HM-F	--	--	HM-F1	--	3A/301	2A/301	4	20 MIN	--		
102-1		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	4	20 MIN	--		
102-2		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	4	20 MIN	--		
103-2		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	11	4	20 MIN		
103-3		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	7	20 MIN	--		
104		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	6	20 MIN	--		
105		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	5	20 MIN	--		
106		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	8	20 MIN	--		
107		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	8	20 MIN	--		
108-1		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	10	20 MIN	--		
108-2		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	6	20 MIN	--		
109-1		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	4	20 MIN	--		
109-2		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	4	20 MIN	--		
109-3		3'-0"	8'-0"	HM-F	--	--	HM-F1	--	1A/301	4A/301	2	--	INSULATED		
109-4		3'-0"	8'-0"	HM-F	--	--	HM-F1	--	1A/301	4A/301	2	--	INSULATED		
110		3'-0"	7'-0"	WD-F	--	--	HM-F1	--	3A/301	2A/301	9	20 MIN	--		

ROOM SCHEDULE																
ROOM NO	ROOM NAME	FLOOR	FLOOR	BASE	HEIGHT	CEILING	NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		REMARKS	
							MATL	FINISH	MATL	FINISH	MATL	FINISH	MATL	FINISH		
101	CORRIDOR	CONC	CPT-2LVT-1	CT-1	VARIES	APC/GWB	APC-1P-1P-4	GWB	P-1	GWB	P-1	GWB	P-1P-4CT-1	GWB	P-1	2,3
102	CAFETERIA	CONC	LVT-1	VB	VARIES	GWB/EXP STR/APC	P-1/APC-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	
103	KITCHEN	CONC	EPOXY	EPOXY	SEE RCP	APC	APC-1	GWB	FRP	GWB	FRP	GWB	FRP	GWB	FRP	4
104	PANTRY	CONC	EPOXY	EPOXY	SEE RCP	APC	APC-1	GWB	FRP	GWB	FRP	GWB	FRP	GWB	FRP	
105	MECH	CONC	SEALED	VB	VARIES	EXP STR	--	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	1
106	WOMENS	CONC	CT-1	CT-1	SEE RCP	GWB	P-1	GWB	P-2	GWB	P-2	GWB	P-2	GWB	P-2	2
107	MENS	CONC	CT-1	CT-1	SEE RCP	GWB	P-1	GWB	P-2	GWB	P-2	GWB	P-2	GWB	P-2	2
108	OFFICE	CONC	CPT-1	VB	SEE RCP	APC	APC-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	
109	PARTY ROOM	CONC	CPT-1	VB	VARIES	GWB/EXP STR/APC	P-1/APC-1	GWB	P-1	GWB	P-1	GWB	P-1P-3	GWB	P-1	5
110	STORAGE	CONC	SEALED	VB	SEE RCP	APC	APC-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	

- GENERAL FINISH NOTES:**
- ALL GYPSUM BOARD SHALL BE FINISHED TO A LEVEL 4 FINISH.
  - GYPSUM WALL BOARD IN RESTROOMS SHALL BE PAINTED WITH AN EPOXY PAINT.
  - ALL HOLLOW METAL DOORS & FRAMES SHALL BE PAINTED P-5
  - ALL WOOD DOORS SHALL BE PREFINISHED.
  - ALL WINDOW SILLS SHALL BE SOLID SURFACE.
  - PROVIDE 6" CERAMIC TILE BASE AT LOCATIONS WITH CERAMIC TILE FLOORING.
  - PROVIDE TRANSITION STRIPS, NOSING AND STAIR RISERS AS NEEDED TO MATCH VINYL BASE.

- MATERIAL SCHEDULE:**
- ACOUSTICAL CEILING**  
 APC-1: ARMSTRONG, DUNE, 2' X 2' X 5/8", WHITE ANGLED TEGULAR EDGE CEILING TILES WITH ARMSTRONG 15/16" PRELUDE XL STANDARD GRID. PROVIDE ARMSTRONG AXIOM 6" TRIM AT CLOUDS.
- CARPET**  
 CPT-1: SHAW, DISPERSE TILE 59576, TRAIN STATION 75557, QUARTER-TURN INSTALLATION  
 CPT-2: SHAW, SWIFT TILE 51414, TRAVERSE 12557, QUARTER-TURN INSTALLATION
- CERAMIC TILE**  
 CT-1: DAL TILE, OUTLANDER GRANDE, STERLING OUS7, 12X24, STACK INSTALLATION  
 CT-2: DAL TILE, OUTLANDER PALAZZO, STERLING OUS7, 12X24, STACK INSTALLATION  
 GROUT: MAPEI 5107 IRON  
 \* USE STAINLESS STEEL SCHLUTER JOLLY STRIPS AT TOP OF WAINSCOT AND BASE, AND OUTSIDE CORNERS
- EPOXY**  
 EPOXY FLOORING COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLOR SELECTION, TEXTURE TO BE VERIFIED WITH OWNER
- FIBERGLASS REINFORCED PANELS**  
 FRP: COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD, TEXTURED - PROVIDE WITH MATCHING TRIM PIECES
- LUXURY VINYL TILE**  
 LVT-1: SHAW, UNION 4349V, IRON THATCH 49720, 9X48, ASHLAR INSTALLATION
- PAINT**  
 P-1: SHERWIN WILLIAMS, SW 9166 DRIFT OF MIST (EG-SHEL FOR WALLS, FLAT FOR CEILING)  
 P-2: SHERWIN WILLIAMS, SW 7658 GRAY CLOUDS (EG-SHEL FOR WALLS, FLAT FOR CEILING)  
 P-3: SHERWIN WILLIAMS, SW7066 ANONYMOUS (EG-SHEL FOR WALLS)  
 P-4: SHERWIN WILLIAMS, SW 7074 PORPOISE (EG-SHEL FOR WALLS, FLAT FOR CEILING)  
 P-5: SHERWIN WILLIAMS, SW7068 GRIZZLE GRAY (SEM-GLOSS FOR HM DOORS AND FRAMES)
- PLASTIC LAMINATE**  
 PLAM-1: WILSONART, TWILIGHT ZEPHYR 4845-60
- SOLID SURFACE**  
 SS-1: CORIAN, STONIQUE
- TOILET PARTITIONS**  
 POWDER COATED STEEL, COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD COLOR SELECTION
- VINYL BASE:**  
 VB: JOHNSONITE, 4" HIGH STANDARD BASE, W/ COVE, COLOR: 20 CHARCOAL
- WOOD DOORS**  
 PREFINISHED, STAIN COLOR TO MATCH MASONITE, COCOA BEAN

- ROOM SCHEDULE NOTES:**
- PROVIDE FRP ON WALLS ADJACENT TO MOP SINK. FRP SHALL BE 4'-0" X 4'-0" AT BOTH WALLS IN CORNER. PROVIDE INSIDE & OUTSIDE TRIM AS REQ'D AT WALLS TO RECEIVE FRP.
  - SEE ELEVATIONS FOR EXTENT OF TILE.
  - SEE REFLECTED CEILING PLAN FOR CEILING FINISH LOCATIONS
  - PROVIDE 6" INTEGRAL EPOXY COVE BASE
  - SEE FLOOR PLAN FOR P-3 LOCATION



DESIGNED: RAS  
 REVISIONS: No.  
 DRAWN: ANC  
 CHECKED: JF  
 DATE: 08/10/24  
 DESCRIPTION: SCHEDULES, DOOR AND WINDOW DETAILS, WALL TYPES

ISSUE DATE: 08/10/24  
 REVISIONS: No.  
 DATE: 08/10/24  
 DESCRIPTION: SCHEDULES, DOOR AND WINDOW DETAILS, WALL TYPES

MARK D. GANDY  
 3254  
 08/10/24

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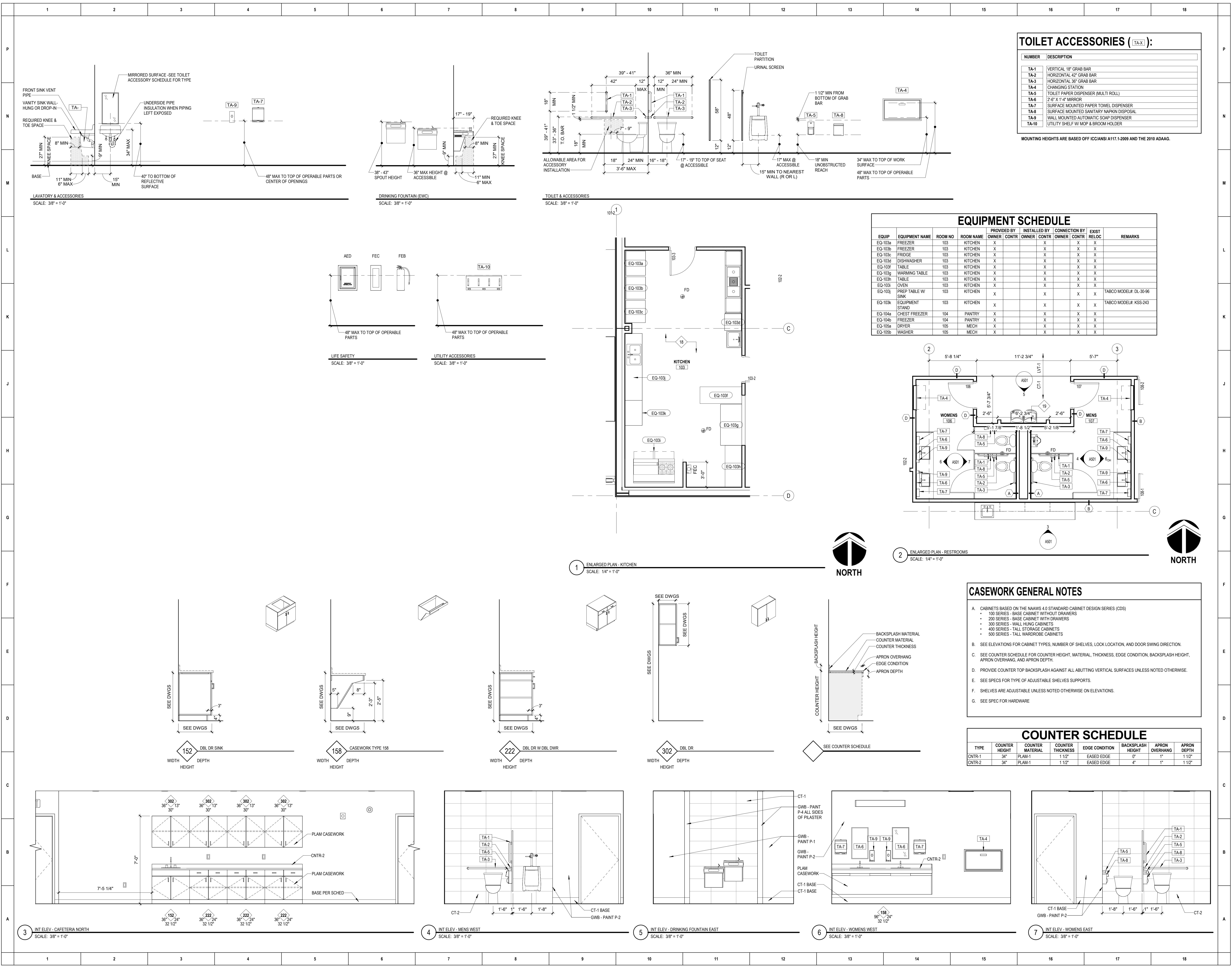
CITY OF YALE  
 YALE SENIOR CENTER  
 111 N B ST  
 YALE, OK 74085

**SCHEDULES, DOOR AND WINDOW DETAILS, WALL TYPES**

PROJECT NO.: 09334.001

**A301**

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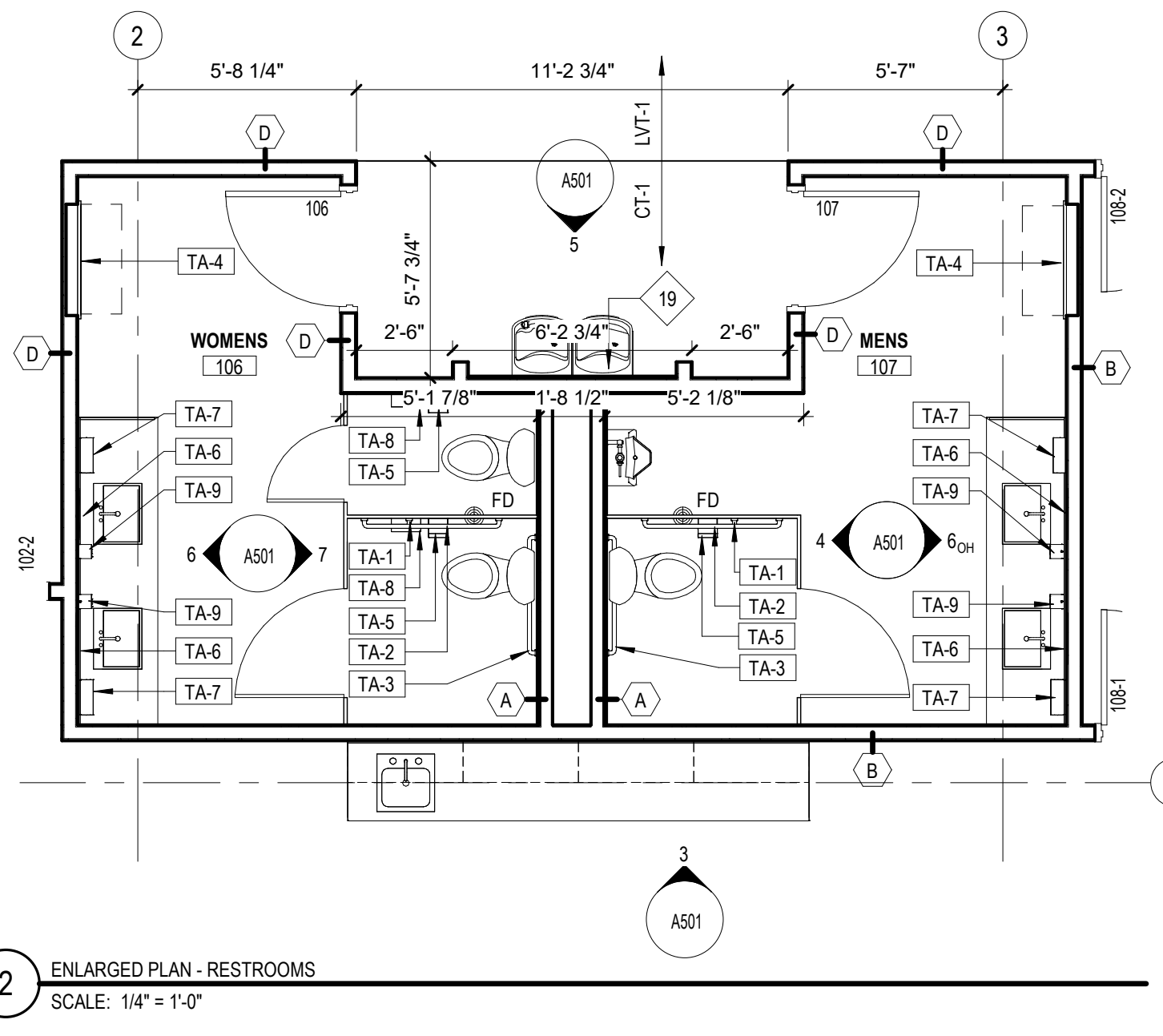
### TOILET ACCESSORIES (TA-X):

NUMBER	DESCRIPTION
TA-1	VERTICAL 18" GRAB BAR
TA-2	HORIZONTAL 42" GRAB BAR
TA-3	HORIZONTAL 36" GRAB BAR
TA-4	CHANGING STATION
TA-5	TOILET PAPER DISPENSER (MULTI ROLL)
TA-6	2'-6" X 1'-4" MIRROR
TA-7	SURFACE MOUNTED PAPER TOWEL DISPENSER
TA-8	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL
TA-9	WALL MOUNTED AUTOMATIC SOAP DISPENSER
TA-10	UTILITY SHELF W/ MOP & BROOM HOLDER

Mounting heights are based off ICC/ANSI A117.1-2009 and the 2010 ADAAG.

### EQUIPMENT SCHEDULE

EQUIP	EQUIPMENT NAME	ROOM NO	ROOM NAME	PROVIDED BY	INSTALLED BY	CONNECTION BY	EXIST	RELOC	REMARKS
EQ-103a	FREEZER	103	KITCHEN	X	X	X	X	X	
EQ-103b	FREEZER	103	KITCHEN	X	X	X	X	X	
EQ-103c	FRIDGE	103	KITCHEN	X	X	X	X	X	
EQ-103d	DISHWASHER	103	KITCHEN	X	X	X	X	X	
EQ-103f	TABLE	103	KITCHEN	X	X	X	X	X	
EQ-103g	WARMING TABLE	103	KITCHEN	X	X	X	X	X	
EQ-103h	TABLE	103	KITCHEN	X	X	X	X	X	
EQ-103i	OVEN	103	KITCHEN	X	X	X	X	X	
EQ-103j	PREP TABLE W/ SINK	103	KITCHEN	X	X	X	X	X	TABCO MODEL# DL-30-96
EQ-103k	EQUIPMENT STAND	103	KITCHEN	X	X	X	X	X	TABCO MODEL# KSS-243
EQ-104a	CHEST FREEZER	104	PANTRY	X	X	X	X	X	
EQ-104b	FREEZER	104	PANTRY	X	X	X	X	X	
EQ-105a	DRYER	105	MECH	X	X	X	X	X	
EQ-105b	WASHER	105	MECH	X	X	X	X	X	



### CASEWORK GENERAL NOTES

- CABINETS BASED ON THE NAAVS 4.0 STANDARD CABINET DESIGN SERIES (CDS)
  - 100 SERIES - BASE CABINET WITHOUT DRAWERS
  - 200 SERIES - BASE CABINET WITH DRAWERS
  - 300 SERIES - WALL HUNG CABINETS
  - 400 SERIES - TALL STORAGE CABINETS
  - 500 SERIES - TALL WARDROBE CABINETS
- SEE ELEVATIONS FOR CABINET TYPES, NUMBER OF SHELVES, LOCK LOCATION, AND DOOR SWING DIRECTION.
- SEE COUNTER SCHEDULE FOR COUNTER HEIGHT, MATERIAL, THICKNESS, EDGE CONDITION, BACKSPLASH HEIGHT, APRON OVERHANG, AND APRON DEPTH.
- PROVIDE COUNTER TOP BACKSPLASH AGAINST ALL ABUTTING VERTICAL SURFACES UNLESS NOTED OTHERWISE.
- SEE SPECS FOR TYPE OF ADJUSTABLE SHELVES SUPPORTS.
- SHELVES ARE ADJUSTABLE UNLESS NOTED OTHERWISE ON ELEVATIONS.
- SEE SPEC FOR HARDWARE

### COUNTER SCHEDULE

TYPE	COUNTER HEIGHT	COUNTER MATERIAL	COUNTER THICKNESS	EDGE CONDITION	BACKSPLASH HEIGHT	APRON OVERHANG	APRON DEPTH
CNTR-1	34"	PLAM-1	1 1/2"	EASED EDGE	0"	1"	1 1/2"
CNTR-2	34"	PLAM-1	1 1/2"	EASED EDGE	4"	1"	1 1/2"

DESIGNED: RAS  
 CHECKED: JLF  
 DRAWN: ANC  
 DATE: 08/10/24  
 BY: DESCRIPTION:

ISSUE DATE: 08/10/24  
 REVISIONS: NO.

THE ENGINEER'S SEAL IS REQUIRED FOR ALL PROFESSIONAL SERVICES PROVIDED BY ANY PARTY. THE ENGINEER'S SEAL IS REQUIRED FOR ALL PROFESSIONAL SERVICES PROVIDED BY ANY PARTY. THE ENGINEER'S SEAL IS REQUIRED FOR ALL PROFESSIONAL SERVICES PROVIDED BY ANY PARTY.

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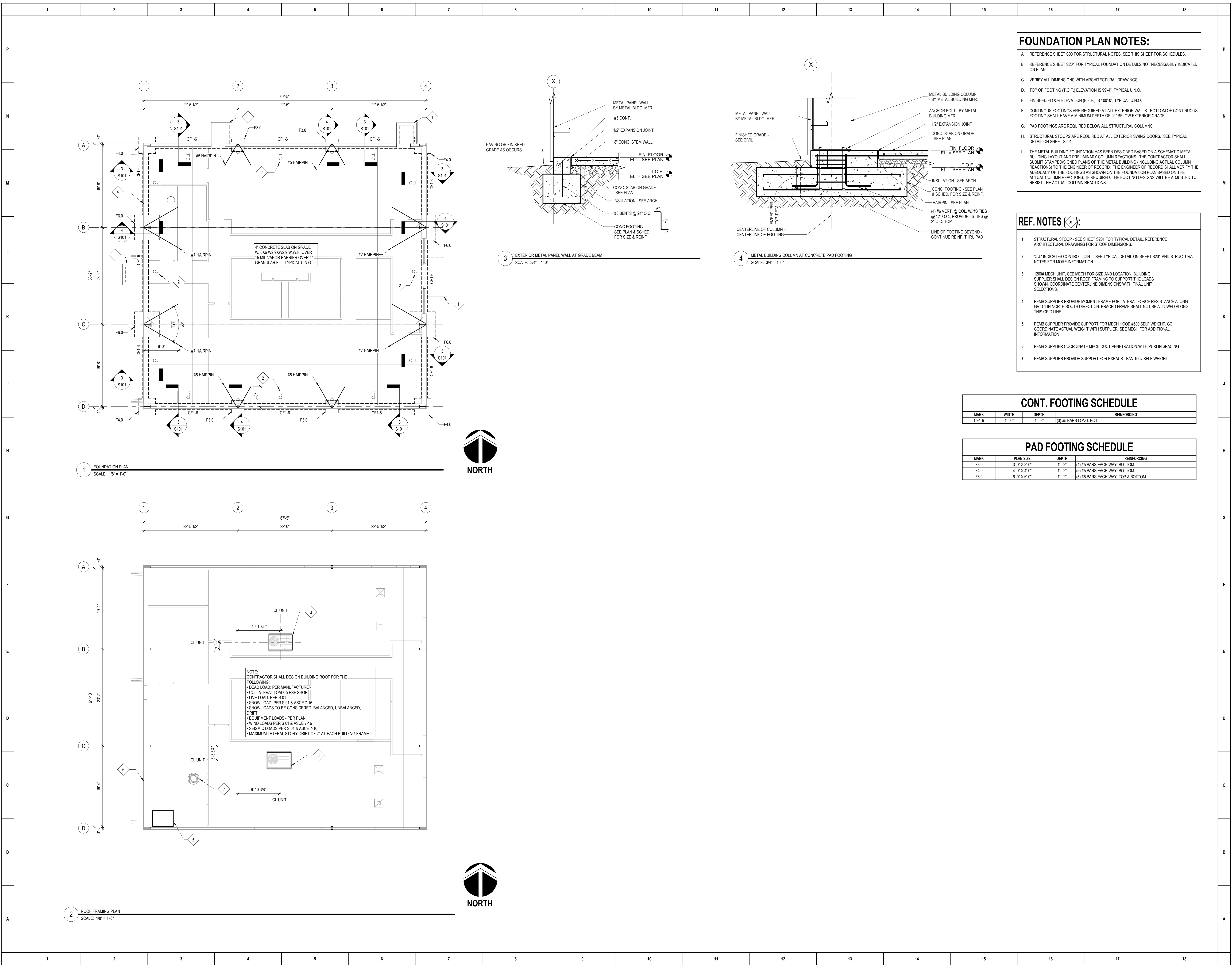
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 YALE, OK 74085

**MOUNTING HEIGHTS, INTERIOR ELEVATIONS AND DETAILS, CASEWORK DETAILS**

PROJECT NO.: 09334.001

**A501**





**FOUNDATION PLAN NOTES:**

- REFERENCE SHEET S00 FOR STRUCTURAL NOTES. SEE THIS SHEET FOR SCHEDULES.
- REFERENCE SHEET S201 FOR TYPICAL FOUNDATION DETAILS NOT NECESSARILY INDICATED ON PLAN.
- VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- TOP OF FOOTING (T.O.F.) ELEVATION IS 99'-4", TYPICAL U.N.O.
- FINISHED FLOOR ELEVATION (F.F.E.) IS 100'-0", TYPICAL U.N.O.
- CONTINUOUS FOOTINGS ARE REQUIRED AT ALL EXTERIOR WALLS. BOTTOM OF CONTINUOUS FOOTING SHALL HAVE A MINIMUM DEPTH OF 20" BELOW EXTERIOR GRADE.
- PAD FOOTINGS ARE REQUIRED BELOW ALL STRUCTURAL COLUMNS.
- STRUCTURAL STOOPS ARE REQUIRED AT ALL EXTERIOR SWING DOORS. SEE TYPICAL DETAIL ON SHEET S201.
- THE METAL BUILDING FOUNDATION HAS BEEN DESIGNED BASED ON A SCHEMATIC METAL BUILDING LAYOUT AND PRELIMINARY COLUMN REACTIONS. THE CONTRACTOR SHALL SUBMIT STAMPED/SIGNED PLANS OF THE METAL BUILDING (INCLUDING ACTUAL COLUMN REACTIONS) TO THE ENGINEER OF RECORD. THE ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE FOOTINGS AS SHOWN ON THE FOUNDATION PLAN BASED ON THE ACTUAL COLUMN REACTIONS. IF REQUIRED, THE FOOTING DESIGNS WILL BE ADJUSTED TO RESIST THE ACTUAL COLUMN REACTIONS.

**REF. NOTES (X):**

- STRUCTURAL STOOP - SEE SHEET S201 FOR TYPICAL DETAIL. REFERENCE ARCHITECTURAL DRAWINGS FOR STOOP DIMENSIONS.
- "C.J." INDICATES CONTROL JOINT - SEE TYPICAL DETAIL ON SHEET S201 AND STRUCTURAL NOTES FOR MORE INFORMATION.
- 1200# MECH UNIT. SEE MECH FOR SIZE AND LOCATION. BUILDING SUPPLIER SHALL DESIGN ROOF FRAMING TO SUPPORT THE LOADS SHOWN. COORDINATE CENTERLINE DIMENSIONS WITH FINAL UNIT SELECTIONS.
- PEMB SUPPLIER PROVIDE MOMENT FRAME FOR LATERAL FORCE RESISTANCE ALONG GRID 1 IN NORTH SOUTH DIRECTION. BRACED FRAME SHALL NOT BE ALLOWED ALONG THIS GRID LINE.
- PEMB SUPPLIER PROVIDE SUPPORT FOR MECH HOOD #600 SELF WEIGHT. GC COORDINATE ACTUAL WEIGHT WITH SUPPLIER. SEE MECH FOR ADDITIONAL INFORMATION.
- PEMB SUPPLIER COORDINATE MECH DUCT PENETRATION WITH PURLIN SPACING.
- PEMB SUPPLIER PROVIDE SUPPORT FOR EXHAUST FAN 100# SELF WEIGHT.

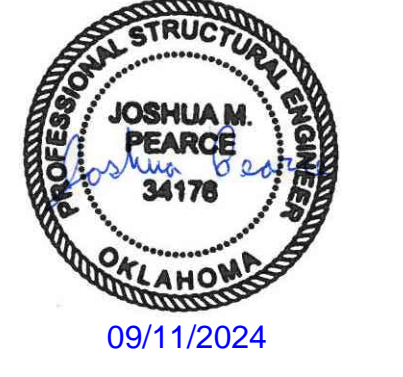
**CONT. FOOTING SCHEDULE**

MARK	WIDTH	DEPTH	REINFORCING
CF1.6	1'-6"	1'-2"	(3) #5 BARS LONG. BOT

**PAD FOOTING SCHEDULE**

MARK	PLAN SIZE	DEPTH	REINFORCING
F3.0	3'-0" X 3'-0"	1'-2"	(4) #5 BARS EACH WAY. BOTTOM
F4.0	4'-0" X 4'-0"	1'-2"	(5) #5 BARS EACH WAY. BOTTOM
F6.0	6'-0" X 6'-0"	1'-2"	(5) #5 BARS EACH WAY. TOP & BOTTOM

DESIGNED:	ISSUE DATE:	REVISIONS:	NO.:	DATE:	BY:	DESCRIPTION:
JMP	08-11-24					
JMP						
KWV						



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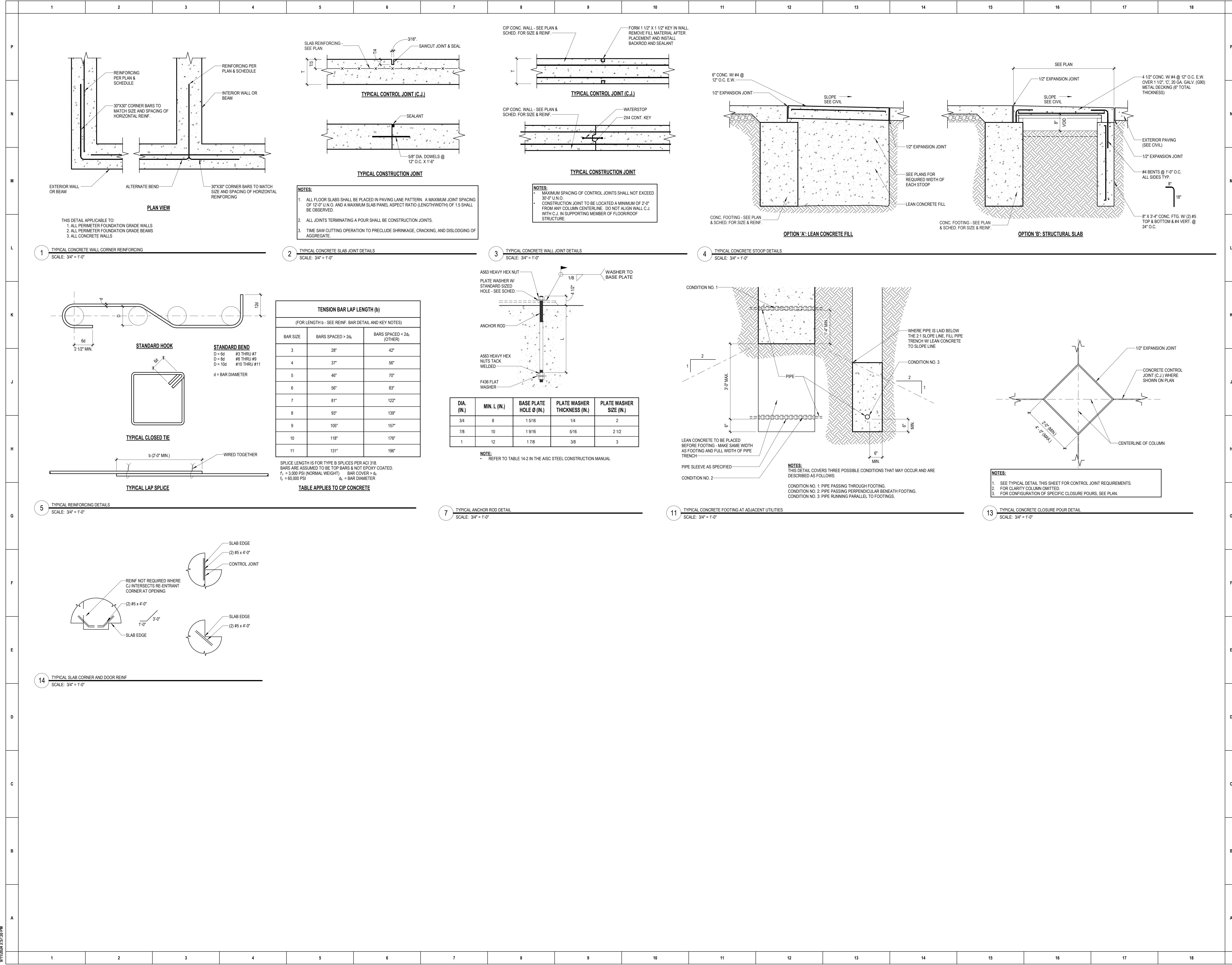
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YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085

**FOUNDATION & ROOF FRAMING PLAN**

PROJECT NO.: 09334.001  
COA: CA5964

**S101**

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**NOTES:**

1. ALL FLOOR SLABS SHALL BE PLACED IN PAVING LANE PATTERN. A MAXIMUM JOINT SPACING OF 12'-0" U.N.O. AND A MAXIMUM SLAB PANEL ASPECT RATIO (LENGTH/WIDTH) OF 1.5 SHALL BE OBSERVED.
2. ALL JOINTS TERMINATING A POUR SHALL BE CONSTRUCTION JOINTS.
3. TIME SAW CUTTING OPERATION TO PRECLUDE SHRINKAGE, CRACKING, AND DISLODGING OF AGGREGATE.

**NOTES:**

- MAXIMUM SPACING OF CONTROL JOINTS SHALL NOT EXCEED 30'-0" U.N.O.
- CONSTRUCTION JOINT TO BE LOCATED A MINIMUM OF 2'-0" FROM ANY COLUMN CENTERLINE. DO NOT ALIGN WALL C.J. WITH C.J. IN SUPPORTING MEMBER OF FLOOR/ROOF STRUCTURE.

TENSION BAR LAP LENGTH (b)		
(FOR LENGTH b - SEE REINF. BAR DETAIL AND KEY NOTES)		
BAR SIZE	BARS SPACED > 2b <sub>s</sub>	BARS SPACED < 2b <sub>s</sub> (OTHER)
3	28"	42"
4	37"	56"
5	46"	70"
6	56"	83"
7	81"	122"
8	93"	139"
9	105"	157"
10	118"	176"
11	131"	196"

SPLICE LENGTH IS FOR TYPE B SPLICES PER ACI 318. BARS ARE ASSUMED TO BE TOP BARS & NOT EPOXY COATED.  
 $f_c = 3,000$  PSI (NORMAL WEIGHT)     $f_s = 60,000$  PSI     $d_b =$  BAR DIAMETER

**TABLE APPLIES TO CIP CONCRETE**

DIA. (IN.)	MIN. L. (IN.)	BASE PLATE HOLE Ø (IN.)	PLATE WASHER THICKNESS (IN.)	PLATE WASHER SIZE (IN.)
3/4	8	1 5/16	1/4	2
7/8	10	1 9/16	5/16	2 1/2
1	12	1 7/8	3/8	3

**NOTE:** REFER TO TABLE 14-2 IN THE AISC STEEL CONSTRUCTION MANUAL

ISSUE DATE: 08-14-24  
 REVISIONS: No.  
 DESIGNED: JMP  
 DRAWN: JMP  
 CHECKED: KRW  
 PROJECT NO.: 09334.001  
 COA: CA5964



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 COA: 5964 06/30/2023

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 YALE SENIOR CENTER  
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TYPICAL FOUNDATION DETAILS

PROJECT NO.: 09334.001  
 COA: CA5964

S201

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SYMBOL LEGEND

Table of plumbing symbols including HVAC Piping, Values, Plumbing Piping, Fire Protection, and Miscellaneous Symbols.

ABBREVIATIONS

Table of abbreviations for various plumbing components and materials.

GENERAL DEMOLITION NOTES

Table of general demolition notes for plumbing fixtures and equipment.

GENERAL NOTES

Table of general notes regarding plumbing installation and code requirements.

REF. DEMO NOTES

Table of reference demolition notes for specific plumbing fixtures.

REF. NOTES

Table of reference notes for plumbing materials and components.

REFERENCE LEGEND

Table of reference legend symbols for duct size, pipe size, plumbing fixtures, room numbers, equipment numbers, and notes.

PLUMBING SHEET LIST

Table listing plumbing sheet specifications including sheet number, title, and scale.

PLUMBING INFO SHEET

Table of plumbing information including north arrow, title marker, and matchline details.

PLUMBING INFO SHEET

Table of plumbing information including title marker, matchline details, and north arrow.

PLUMBING INFO SHEET

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PLUMBING INFO SHEET

Table of plumbing information including title marker, matchline details, and north arrow.

Vertical sidebar containing project information, logos, and contact details for Schemmer.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P	<b>SECTION 22000—GENERAL PLUMBING REQUIREMENTS</b>			C. Install sleeves for pipes passing through interior partitions. 1. Cut sleeves to length for mounting flush with both surfaces. 2. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation. 3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint.			2.7 MISCELLANEOUS MATERIALS A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized. B. Grout: ASTM C 1107, factory-mixed and packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications. Properties: Nonstaining, noncorrosive, and nonaqueous. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.			4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams. 5. C-Clamps (MSS Type 23): For structural shapes. 6. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge. 7. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams. 8. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads. 9. Linked-Steel Clamps with Links (MSS Type 29): For attaching to bottom of I-beams for heavy loads, with link extensions. 10. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel. 11. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads: a. Light (MSS Type 31): 750 lb (340 kg). b. Medium (MSS Type 32): 1500 lb (680 kg). c. Heavy (MSS Type 33): 3000 lb (1360 kg). 12. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams. 13. Saddles and Shields: Unless otherwise indicated and except as specified in piping system Sections, install the following types: 1. Steel-Pipe-Covering Protection Saddles (MSS Type 39): To fill interior voids with insulation that matches adjoining insulation. 2. Protection Shields (MSS Type 40): Of length recommended in writing by manufacturer to prevent crushing insulation. 3. Thermal-Hanger Shield Inserts: For supporting insulated pipe. M. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections. N. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections. O. Use mechanical-expansion anchors instead of building attachments where required in concrete construction. P. Use pipe positioning systems in pipe spaces behind plumbing fixtures to support supply and waste piping for plumbing fixtures.			G. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer. H. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic. 1. Install insulation continuously through hangers and around anchor attachments. 2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic. 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer. 4. Cover insets with jacket material matching adjacent pipe insulation. Install shields over jacket, anchored to protect jacket from tear or puncture by hanger support, and shield. I. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses. J. Install insulation with factory-applied jackets as follows: 1. Draw jacket tight and smooth. 2. Cover circumferential joints with 3-inch- (75-mm-) wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches (100 mm) o.c. 3. Overlap jacket longitudinal seams at least 1-1/2 inches (38 mm) install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along both edges of strip, spaced 4 inches (100 mm) o.c. For below-ambient services, apply vapor-barrier mastic over staples. 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal. 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings. K. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness. L. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement. M. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches (100 mm) beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.			1. Same size as pipes to be joined. 2. Pressure rating at least equal to pipes to be joined. 3. End connections compatible with pipes to be joined. B. Fitting-Type Transition Couplings: Manufactured piping coupling or specified piping system fitting. C. Sleeve-Type Transition Coupling: AWWA C219. 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: a. Cascade Waterworks Mfg. Co. b. Dresser, Inc. c. Ford Meter Box Company, Inc. (The). d. Jay R. Smith Mfg. Co. e. JCM Industries, Inc. f. Romac Industries, Inc. g. Smith-Blair, Inc. 2.5 DIELECTRIC FITTINGS A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined. B. Dielectric Nipples: 1. Standard: IAPMO PS 66. 2. Electroplated steel nipple complying with ASTM F 1545. 3. Pressure Rating and Temperature: 300 psig (2070 kPa) at 225 deg F (107 deg C). 4. End Connections: Male threaded or grooved. 5. Lining: Inert and noncorrosive, polypropylene.		
N	1.1 DESCRIPTION OF WORK A. This Division includes all labor, materials, equipment, tools, supervision, start-up services, Owner training, etc., including all incidental and related items, necessary to complete installation and successfully test and start up and operate the Plumbing systems indicated on the drawings, and as described in each Section of Division 22000 Specifications. B. All work shall be completed in compliance with local codes, rules, and regulations. In the event that the plans conflict with any rules, regulation, or codes, the rules, regulations, and codes shall govern. Where the plans exceed code requirements, the plans shall govern. C. The Contractor and His Subcontractors shall include all materials, labor, and necessary equipment in His bid.			3.2 SLEEVE AND SLEEVE-SEAL SCHEDULE A. Use sleeves and sleeve seals for the following piping-penetration applications: 1. Exterior Concrete Walls, above grade: a. Piping, all sizes: Galvanized steel pipe sleeve 2. Interior Partitions: a. Piping, all sizes: galvanized steel pipe sleeve END OF SECTION SECTION 22052—VALVES FOR PLUMBING PIPING 1.1 ACTION SUBMITTALS A. Product Data: For each type of valve. 1. Certification that products comply with NSF 61 Annex G.			3.1 HANGER AND SUPPORT INSTALLATION A. Metal Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from the building structure. B. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers. 1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers. 2. Field Fabricate from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M. C. Metal Framing System Installation: Arrange for grouping of parallel runs of piping, and support together on field-assembled metal framing systems. D. Thermal-Hanger Shield Installation: Install in pipe hanger or shield for insulated piping. E. Fastener System Installation: 1. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions. F. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories. G. Equipment Support Installation: Fabricate from welded-structural-steel pipe. H. Install hangers and supports to allow controlled thermal movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units. I. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers. J. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment. K. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping. L. Insulated Piping: 1. Attach clamps and spacers to piping. a. Piping Operating above Ambient Air Temperature: Clamp may project through insulation. b. Piping Operating below Ambient Air Temperature: Use thermal-hanger shield insert with clamp sized to match OD of insulator. c. Do not exceed pipe stress limits allowed by ASME B31.9 for building services piping. 2. Install MSS SP-58, Type 39, protection saddles, if insulation without vapor barrier is indicated. Fill interior voids with insulation that matches adjoining insulation. a. Option: Thermal-hanger shield inserts may be used. Include steel weight-distribution plate for pipe NPS 4 (DN 100) and larger if pipe is installed on rollers. 3. Install MSS SP-58, Type 40, protective shields on cold piping with vapor barrier. Shields shall span an arc of 180 degrees. a. Option: Thermal-hanger shield inserts may be used. Include steel weight-distribution plate for pipe NPS 4 (DN 100) and larger if pipe is installed on rollers of tees. 4. Shield Dimensions for Pipe: Not less than the following: a. NPS 1/4 to NPS 3-1/2 (DN 8 to DN 90L): 12 inches (305 mm) long and 0.048 inch (1.22 mm) thick. 5. Thermal-Hanger Shields: Install with insulation same thickness as piping insulation.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.								
M	1.2 DRAWINGS A. The drawings are generally diagrammatic and show general location and arrangement of equipment, piping, and accessories. The contractor shall provide and install all necessary equipment, fittings, offsets and other components required to adapt to field conditions, interferences, and code requirements to deliver a complete and functional system. B. Deviations from the drawings, with the exception of changes to field conditions, and do not affect system functionality, shall not be made without the written approval of the Engineer. C. Architectural and Structural drawings take precedence in all matters pertaining to the building structure. Plumbing drawings take precedence in all matters pertaining to plumbing work and electrical drawings to electrical work. Where conflicts between trades exist, report conflicts or differences to the Architect and Engineer.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.											
L	1.3 COORDINATION A. The Contractor shall examine the plans and coordinate with other trades for scheduling of work. B. Coordinate all penetrations with architectural and structural trades. C. Refer to architectural plans for exact locations and heights of fixtures. D. Refer to architectural plans for coordination of all ceiling mounted access panels for plumbing equipment that requires access. E. All plumbing equipment and piping located above ceiling shall be installed to preserve ceiling heights listed on architect ceiling plans.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.											
K	1.4 GUARANTEE A. Contractor shall guarantee that all labor, materials and equipment are free from defects. Contractor shall agree to repair or replace any part of their project scope that becomes defective within one year from substantial completion and following final acceptance from the Owner. 1.5 PERMITS AND FEES A. The Contractor shall be responsible for coordinating and obtaining all applicable agency approvals for utility connections and permits. 1.6 ACTION SUBMITTALS A. Provide product submittals for all required specification sections. Submittals shall be submitted in PDF format. B. Contractor shall review and mark with approval stamp before submitting to Architect. 1.7 EQUIPMENT AND MATERIAL MANUFACTURERS A. All equipment shall be provided with normally supplied accessories needed for complete installation. B. All equipment shall be new and shall be standard products from the current manufacturer product line offering. C. If an alternate manufacturer to the basis of design is submitted and approved, the Contractor shall assume all costs required to adapt the system to the submitted piece of equipment, including, but not limited to, piping, sheet metal, electrical work, and building alterations. Alternate equipment shall conform to all space requirements and operating conditions. 1.8 QUALITY ASSURANCE A. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. Description: a. Standard: MSS SP-110. b. CWP Rating: 600 psig (4140 kPa). c. Body Design: Two piece. d. Body Material: Bronze. e. Ends: Threaded and soldered. f. Seats: PTFE. g. Stem: Bronze or brass. h. Ball: Chrome-plated brass. i. Port: Full.											
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I	PART 2—PRODUCTS (NOT USED)			3.1 PROTECTION AND HANDLING OF EQUIPMENT A. The Contractor shall be responsible for ensuring all equipment and materials delivered to the site are protected from theft and damage until time of project turnover to the Owner. B. All plumbing fixtures and piping shall be protected from damage and use after installation. No fixtures shall be used as temporary facilities unless the Contractor has received written permission from the Owner. 3.2 OPERATION AND MAINTENANCE A. Prior to final inspections, the Contractor shall provide training to the Owner on operation, adjustment, and maintenance on all installed equipment. B. The Contractor shall prepare and turnover to the Owner a binder with all operation and maintained manuals for all equipment installed. 3.3 ACCESSIBILITY A. All equipment installed shall fit within the designated space with adequate access for service and maintained and required by the manufacturer. 3.4 CLEANING AND PROTECTION A. Each trade is responsible for maintaining a clean and hazard free work area. B. After each piece of equipment has been installed and tested, each system shall be cleaned and flushed. C. Clean interior of piping. Remove dirt and debris as work progresses. D. Protect sanitary waste, vent piping, and drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work. E. Place caps in ends of uncompleted piping at end of day and when work stops. F. Repair damage to adjacent materials caused by installation of plumbing systems. 3.5 PAINTING A. All exposed plumbing systems in finished areas shall be painted to match surrounding finishes. See architectural plans for finishes. 3.6 FIELD QUALITY CONTROL A. Inspections: 1. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction. 2. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction: a. Rough-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures. b. Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements. 3. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection. 4. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction. 5. Piping and specialties should be considered defective if they do not pass tests and inspections. B. Prepare test and inspection reports. Reports shall be included with final Operation and Maintenance manual provided to owner.			2.2 GENERAL REQUIREMENTS FOR VALVES A. NSF Compliance: NSF 61 Annex G and NSF 372 for valve materials for potable-water service. B. Bronze valves shall be made with dezincification-resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc are not permitted. C. Valve Pressure-Temperature Ratings: Not less than indicated and as required for system pressures and temperatures. D. Valve Sizes: Same as upstream piping unless otherwise indicated. E. Valves in Insulated Piping: 1. Include 2-inch (50-mm) stem extensions. 2. Extended operating handles of nonthermal-conductive material and protective sleeves that allow operation of valves without breaking vapor seals or disturbing insulation. 3. Memory stops that are fully adjustable after insulation is applied. 2.2 BRONZE BALL VALVES A. Bronze Ball Valves, Two-Piece with Full Port, and Bronze or Brass Trim: 1. 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H	PART 3—EXECUTION 3.1 PROTECTION AND HANDLING OF EQUIPMENT A. The Contractor shall be responsible for ensuring all equipment and materials delivered to the site are protected from theft and damage until time of project turnover to the Owner. B. All plumbing fixtures and piping shall be protected from damage and use after installation. No fixtures shall be used as temporary facilities unless the Contractor has received written permission from the Owner. 3.2 OPERATION AND MAINTENANCE A. Prior to final inspections, the Contractor shall provide training to the Owner on operation, adjustment, and maintenance on all installed equipment. B. The Contractor shall prepare and turnover to the Owner a binder with all operation and maintained manuals for all equipment installed. 3.3 ACCESSIBILITY A. All equipment installed shall fit within the designated space with adequate access for service and maintained and required by the manufacturer. 3.4 CLEANING AND PROTECTION A. Each trade is responsible for maintaining a clean and hazard free work area. B. After each piece of equipment has been installed and tested, each system shall be cleaned and flushed. C. Clean interior of piping. Remove dirt and debris as work progresses. D. Protect sanitary waste, vent piping, and drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work. E. Place caps in ends of uncompleted piping at end of day and when work stops. F. Repair damage to adjacent materials caused by installation of plumbing systems. 3.5 PAINTING A. All exposed plumbing systems in finished areas shall be painted to match surrounding finishes. See architectural plans for finishes. 3.6 FIELD QUALITY CONTROL A. Inspections: 1. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction. 2. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction: a. Rough-in Inspection: Arrange for inspection of piping before concealing or closing in after roughing in and before setting fixtures. b. Final Inspection: Arrange for authorities having jurisdiction to observe tests specified in "Piping Tests" Subparagraph below and to ensure compliance with requirements. 3. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection. 4. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction. 5. Piping and specialties should be considered defective if they do not pass tests and inspections. B. Prepare test and inspection reports. Reports shall be included with final Operation and Maintenance manual provided to owner.			3.1 EXAMINATION A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations. Do not attempt to repair defective valves; replace with new valves. 3.2 VALVE INSTALLATION A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown. B. Locate valves for easy access and provide separate support where necessary. C. Install valves in horizontal piping with stem at or above center of pipe. D. Install valves in position to allow full stem movement. 3.3 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: 1. Bronze Valves: May be provided with solder-joint or threaded ends. 2. Bronze ball valves, two-piece with full port and bronze or brass trim. 3.4 DOMESTIC HOT- AND COLD-WATER CHECK VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: Bronze swing check valves with bronze disc, Class 125, with soldered end connections. END OF SECTION SECTION 22052—HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT 1.1 ACTION SUBMITTALS A. Product Data: For each type of product indicated. PART 2—PRODUCTS 2.1 METAL PIPE HANGERS AND SUPPORTS A. Galvanized Steel Pipe Hangers and Supports: 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components. 2. Galvanized Metallic Coatings: Pregalvanized or hot dipped. 3. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping. 4. Hanger Rods: Continuous-thread rod, nuts, and washer made of galvanized steel. B. Copper Pipe Hangers: 1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components. 2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel. 2.2 TRAPEZE PIPE HANGERS A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts. 2.3 METAL FRAMING SYSTEMS A. MFMA Manufacturer Metal Framing Systems: 1. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes. 2. Standard: MFMA-4. 3. Channels: Continuous solid-steel channel with intumed lips. 4. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent sliding along channel. 5. Hanger Rods: Continuous-thread rod, nuts, and washer made of galvanized steel. 6. Metallic Coating: Hot-dipped galvanized. 2.4 THERMAL-HANGER SHIELD INSERTS A. Insulation-Insert Material for Cold Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength and vapor barrier. B. Insulation-Insert Material for Hot Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength. C. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe. D. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe. E. Insert Length: Extend 2 inches (50 mm) beyond sheet metal shield for piping operating below ambient air temperature. 2.5 FASTENER SYSTEMS A. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel anchors, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used. 2.6 EQUIPMENT SUPPORTS A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.			3.1 EXAMINATION A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations. Do not attempt to repair defective valves; replace with new valves. 3.2 VALVE INSTALLATION A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown. B. Locate valves for easy access and provide separate support where necessary. C. Install valves in horizontal piping with stem at or above center of pipe. D. Install valves in position to allow full stem movement. 3.3 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: 1. Bronze Valves: May be provided with solder-joint or threaded ends. 2. Bronze ball valves, two-piece with full port and bronze or brass trim. 3.4 DOMESTIC HOT- AND COLD-WATER CHECK VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: Bronze swing check valves with bronze disc, Class 125, with soldered end connections. END OF SECTION SECTION 22052—HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT 1.1 ACTION SUBMITTALS A. Product Data: For each type of product indicated. PART 2—PRODUCTS 2.1 METAL PIPE HANGERS AND SUPPORTS A. Galvanized Steel Pipe Hangers and Supports: 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components. 2. Galvanized Metallic Coatings: Pregalvanized or hot dipped. 3. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping. 4. Hanger Rods: Continuous-thread rod, nuts, and washer made of galvanized steel. B. Copper Pipe Hangers: 1. 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Insulation-Insert Material for Cold Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength and vapor barrier. B. Insulation-Insert Material for Hot Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength. C. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe. D. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe. E. Insert Length: Extend 2 inches (50 mm) beyond sheet metal shield for piping operating below ambient air temperature. 2.5 FASTENER SYSTEMS A. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel anchors, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used. 2.6 EQUIPMENT SUPPORTS A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.			3.1 EXAMINATION A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations. Do not attempt to repair defective valves; replace with new valves. 3.2 VALVE INSTALLATION A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown. B. Locate valves for easy access and provide separate support where necessary. C. Install valves in horizontal piping with stem at or above center of pipe. D. Install valves in position to allow full stem movement. 3.3 DOMESTIC HOT- AND COLD-WATER VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: 1. Bronze Valves: May be provided with solder-joint or threaded ends. 2. Bronze ball valves, two-piece with full port and bronze or brass trim. 3.4 DOMESTIC HOT- AND COLD-WATER CHECK VALVE SCHEDULE A. Pipe NPS 2 (DN 50) and Smaller: Bronze swing check valves with bronze disc, Class 125, with soldered end connections. END OF SECTION SECTION 22052—HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT 1.1 ACTION SUBMITTALS A. Product Data: For each type of product indicated. PART 2—PRODUCTS 2.1 METAL PIPE HANGERS AND SUPPORTS A. Galvanized Steel Pipe Hangers and Supports: 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components. 2. Galvanized Metallic Coatings: Pregalvanized or hot dipped. 3. Padded Hangers: Hanger with fiberglass or other pipe insulation pad or cushion to support bearing surface of piping. 4. Hanger Rods: Continuous-thread rod, nuts, and washer made of galvanized steel. B. Copper Pipe Hangers: 1. Description: MSS SP-58, Types 1 through 58, copper-coated-steel, factory-fabricated components. 2. Hanger Rods: Continuous-thread rod, nuts, and washer made of copper-coated steel. 2.2 TRAPEZE PIPE HANGERS A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts. 2.3 METAL FRAMING SYSTEMS A. MFMA Manufacturer Metal Framing Systems: 1. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes. 2. Standard: MFMA-4. 3. Channels: Continuous solid-steel channel with intumed lips. 4. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent sliding along channel. 5. Hanger Rods: Continuous-thread rod, nuts, and washer made of galvanized steel. 6. Metallic Coating: Hot-dipped galvanized. 2.4 THERMAL-HANGER SHIELD INSERTS A. Insulation-Insert Material for Cold Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength and vapor barrier. B. Insulation-Insert Material for Hot Piping: ASTM C 591, Type VI, Grade 1 polyisocyanurate with 125-psig (862-kPa) minimum compressive strength. C. For Trapeze or Clamped Systems: Insert and shield shall cover entire circumference of pipe. D. For Clevis or Band Hangers: Insert and shield shall cover lower 180 degrees of pipe. E. Insert Length: Extend 2 inches (50 mm) beyond sheet metal shield for piping operating below ambient air temperature. 2.5 FASTENER SYSTEMS A. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel anchors, for use in hardened portland cement concrete with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used. 2.6 EQUIPMENT SUPPORTS A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.								
G	SECTION 22051—SLEEVE AND SLEEVE SEALS FOR PLUMBING PIPING PART 1—GENERAL 1.1 ACTION SUBMITTALS A. Product Data: For each type of product. PART 2—PRODUCTS 2.1 SLEEVES A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized, with plain ends and integral welded vented collar. B. PVC Pipe Sleeves: ASTM D 1785, Schedule 40. 2.2 GROUT A. Description: Nonshrink, for interior and exterior sealing openings in non-fire-rated walls or floors. B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout. C. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength. D. Packaging: Premixed and factory packaged. PART 3—EXECUTION 3.1 SLEEVE INSTALLATION A. Install sleeves for piping passing through penetrations in floors, partitions, roots, and walls.<																	





	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
P		b. Crane Plumbing, L.L.C. c. Kohler Co. d. Sloan Valve Company. 2. See plans for exact requirements. 2.4 URINAL FLUSHOMETER VALVES A. Flushometer Valves: 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or equal: a. Sloan Valve Company. b. Zum Industries, L.L.C. 2. See Plans for exact requirements		3.2 INSTALLATION A. Install lavatories level and plumb according to roughing-in drawings. B. Install supports, affixed to building substrate, for wall-mounted lavatories. C. Install accessible wall-mounted lavatories at handicapped/elderly mounting height for people with disabilities or the elderly, according to ICC/ANSI A117.1. D. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. E. Seal joints between lavatories and counters and walls using sanitary-type, one-part, mildew-resistant silicone sealant.																	
N		<b>PART 3—EXECUTION</b> 3.1 INSTALLATION A. Water-Closet Installation: 1. Install level and plumb according to roughing-in drawings. 2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate. B. Urinal Installation: 1. Install urinals level and plumb according to roughing-in drawings. 2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports. 3. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC/ANSI A117.1. C. Support Installation: 1. Install supports, affixed to building substrate, for floor-mounted fixtures. 2. Use carrier supports with waste-fitting assembly and seal. 3. Install wall-mounted, back-outlet supports with waste-fitting assembly and waste-fitting seals for wall mounted fixtures; and affix to building substrate. D. Flushometer-Valve Installation: 1. Install flushometer-valve, water-supply fitting on each supply to each fixture. 2. Attach supply piping to supports or substrate within pipe spaces behind fixtures. 3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet. 4. Install actuators in locations that are easy for people with disabilities to reach. E. Install toilet seats on water closets. F. Wall Flange and Escutcheon Installation: 1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork. 2. Install deep-pattern escutcheons if required to conceal protruding fittings. G. Joint Sealing: 1. Seal joints between fixtures and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant. 2. Match sealant color to fixture color.		3.3 CONNECTIONS A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures. B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping." C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."																	
M				3.4 ADJUSTING A. Operate and adjust lavatories and controls. Replace damaged and malfunctioning lavatories, fittings, and controls. B. Adjust water pressure at faucets to produce proper flow. C. Install fresh batteries in battery-powered, electronic-sensor mechanisms. 3.5 CLEANING AND PROTECTION A. After completing installation of lavatories, inspect and repair damaged finishes. B. Clean lavatories, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. C. Provide protective covering for installed lavatories and fittings. D. Do not allow use of lavatories for temporary facilities unless approved in writing by Owner.																	
L				<b>END OF SECTION</b> <b>SECTION 224716—PRESSURE WATER COOLERS</b> <b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each type of pressure water cooler. 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes. 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. <b>PART 2—PRODUCTS</b> 2.1 PRESSURE WATER COOLERS A. Pressure Water Coolers. 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following: a. Elkay Manufacturing Co. b. Halsey Taylor. c. Haws Corporation. 2. See plans for exact requirements.																	
K				<b>PART 3—EXECUTION</b> 3.1 EXAMINATION A. Examine roughing-in for water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation. B. Examine walls and floors for suitable conditions where fixtures will be installed. C. Proceed with installation only after unsatisfactory conditions have been corrected. 3.2 INSTALLATION A. Install fixtures level and plumb according to roughing-in drawings. For fixtures indicated for children, install at height required by authorities having jurisdiction. B. Install off-the-floor carrier supports, affixed to building substrate, for wall-mounted fixtures. C. Install mounting frames, affixed to building construction, and attach recessed, pressure water coolers to mounting frames. D. Install water-supply piping with shutoff valve on supply to each fixture to be connected to domestic-water distribution piping. Use ball valves. Install valves in locations where they can be easily reached for operation. E. Install trap and waste piping on drain outlet of each fixture to be connected to sanitary drainage system. F. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons where required to conceal protruding fittings. G. Seal joints between fixtures and walls using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. 3.3 CONNECTIONS A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures. B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping." C. Install ball shutoff valve on water supply to each fixture. Install valve upstream from filter for water cooler. Comply with valve requirements specified in Section 220523 "Valves for Plumbing Piping." D. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping." 3.4 ADJUSTING A. Adjust fixture flow regulators for proper flow and stream height. B. Adjust pressure water-cooler temperature settings. 3.5 CLEANING A. After installing fixture, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish. B. Clean fixtures, on completion of installation, according to manufacturer's written instructions. C. Provide protective covering for installed fixtures. D. Do not allow use of fixtures for temporary facilities unless approved in writing by Owner.																	
J				<b>END OF SECTION</b> <b>SECTION 224216—COMMERCIAL LAVATORIES AND SINKS</b> <b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each type of product. <b>PART 2—PRODUCTS</b> 2.1 VITREOUS-CHINA, COUNTER-MOUNTED LAVATORIES A. Lavatory: Vitreous china, counter mounted. 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or equal: a. American Standard. b. Crane Plumbing, L.L.C. c. Kohler Co. d. TOTO USA, INC. e. Zum Industries, L.L.C. 2. Fixture: See fixture schedule on plan for individual fixture requirements. 3. Faucet: See fixture schedule on plan for individual fixture requirements. 2.2 STAINLESS STEEL, WALL-MOUNTED SINK A. Sink: Stainless steel, wall mounted, with back. 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following, or equal: a. American Standard. b. Elkay c. Kohler Co. d. Sloan Valve Company. e. Zum Industries, L.L.C. 2. Fixture: See fixture schedule on plan for individual fixture requirements. 3. Faucet: See fixture schedule on plan for individual fixture requirements. 4. Support: Type II, concealed-arm lavatory carrier. 5. Lavatory Mounting Height: See fixture schedule for mounting height. 2.3 SERVICE BASINS A. Service Basins: Plastic, floor mounted. 1. Fixture: See fixture schedule on plan for individual fixture requirements. 2. Mounting: On floor and flush to wall. 3. Faucet: See fixture schedule on plan for individual fixture requirements. 2.4 SOLID-BRASS, MANUALLY OPERATED FAUCETS B. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water. C. Lavatory Faucets: See fixture schedule on plan for individual fixture requirements. 2.6 SUPPORTS A. Type II Lavatory Carrier. 1. Standard: ASME A112.6.1M. 2.7 SUPPLY FITTINGS A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water. B. Standard: ASME A112.18.1/CSA B125.1. C. Supply Piping: Chrome-plated-brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated-brass or stainless-steel wall flange. D. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping. E. Operation: Wheel handle. F. Risers: 1. NPS 1/2 (DN 15). 2. ASME A112.18.6, braided- or corrugated-stainless-steel, flexible hose riser. 2.8 WASTE FITTINGS A. Standard: ASME A112.18.2/CSA B125.2. B. Drain and Trap: See fixture schedule on plan.																	
H				<b>END OF SECTION</b> <b>PART 3—EXECUTION</b> 3.1 EXAMINATION A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before lavatory installation. B. Examine counters and walls for suitable conditions where lavatories will be installed. C. Proceed with installation only after unsatisfactory conditions have been corrected.																	
G																					
F																					
E																					
D																					
C																					
B																					
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DESIGNED: MLB  
DRAWN: MLB  
CHECKED: JJK

ISSUE DATE: 08/17/24  
REVISIONS: No.  
DATE: BY: DESCRIPTION:

THIS DRAWING BEING  
FORWARDED FOR THE  
RECORD TO THE  
CITY OF YALE, I HEREBY  
CERTIFY THAT I AM A  
LICENSED PROFESSIONAL  
ENGINEER IN THE STATE  
OF OKLAHOMA AND I  
AM THE AUTHOR OF THE  
DRAWING.



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COA-6864 06/30/2023

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CITY OF YALE  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085

**SHEET SPECIFICATIONS - PLUMBING**

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PROJECT NO.: 09334.001  
COA: CA5964

**P 03**

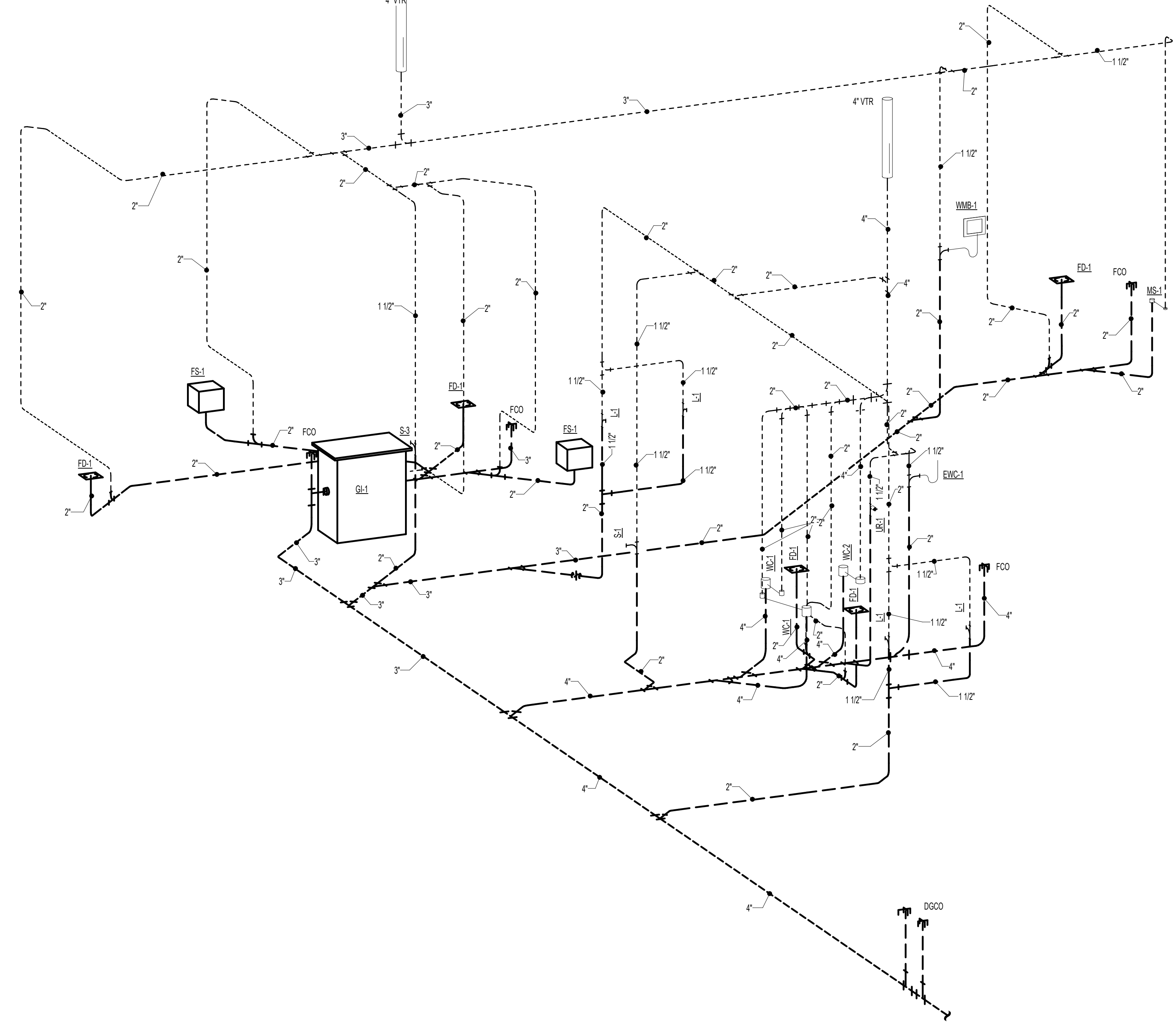
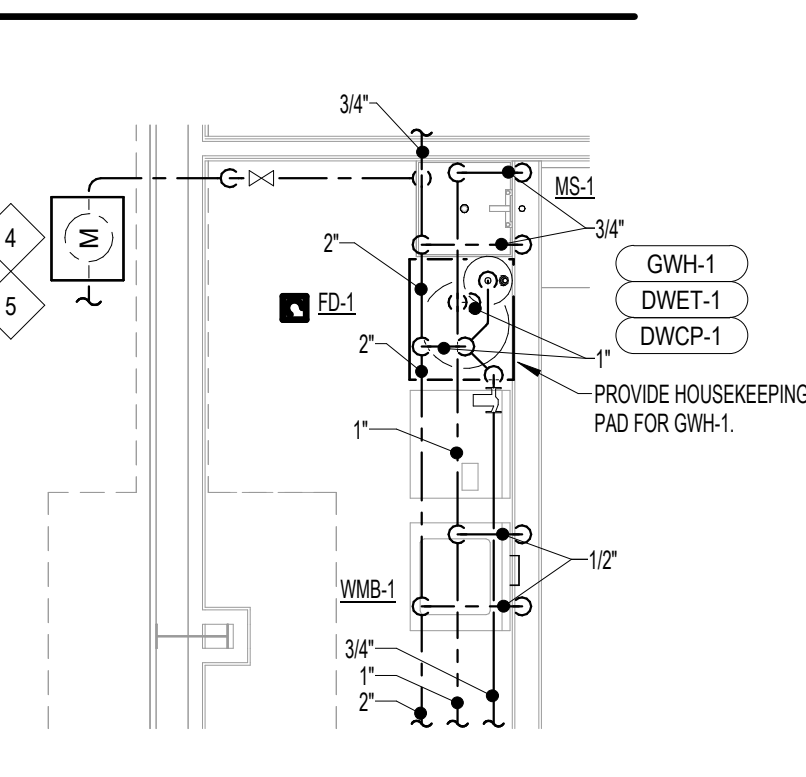
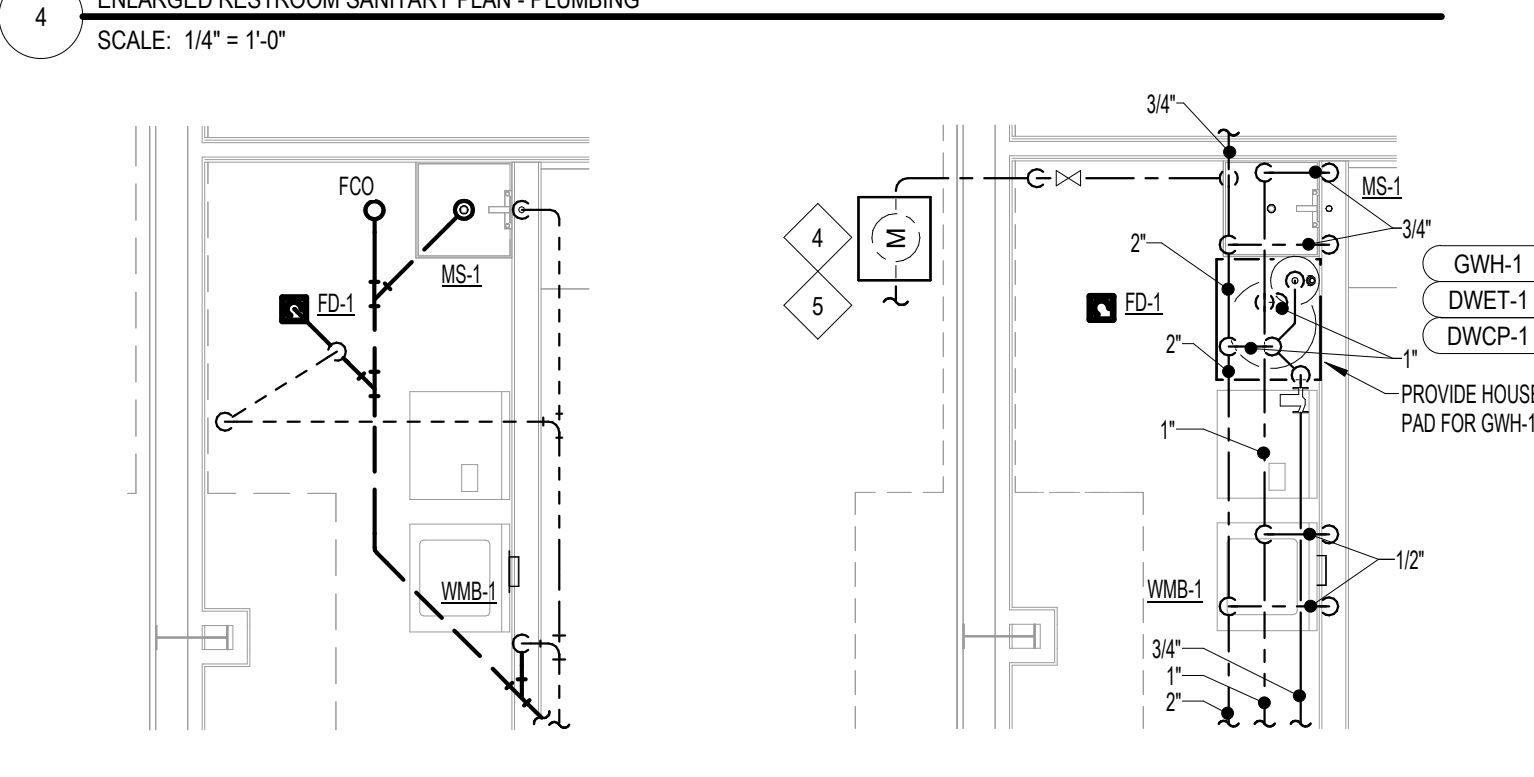
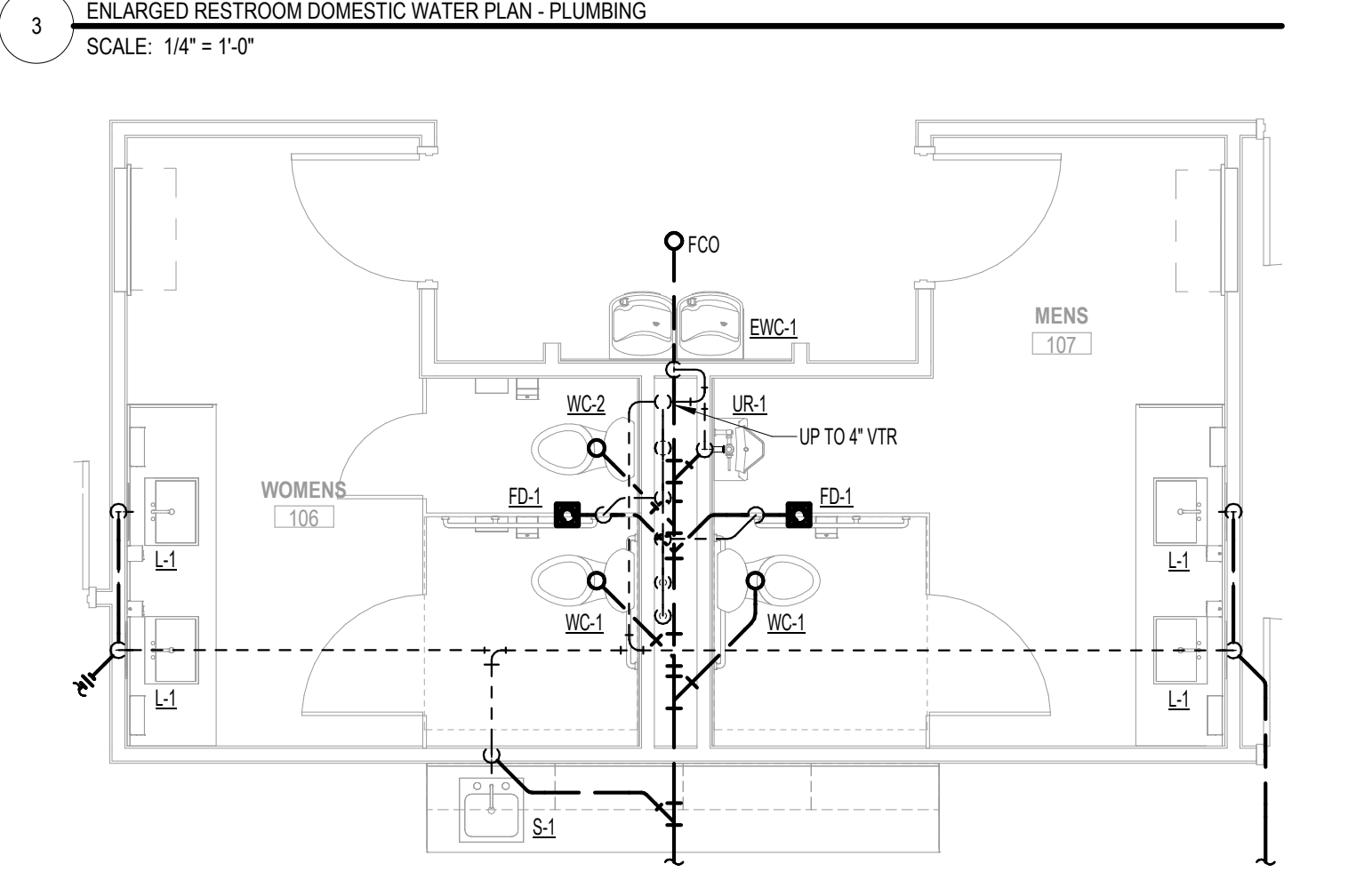
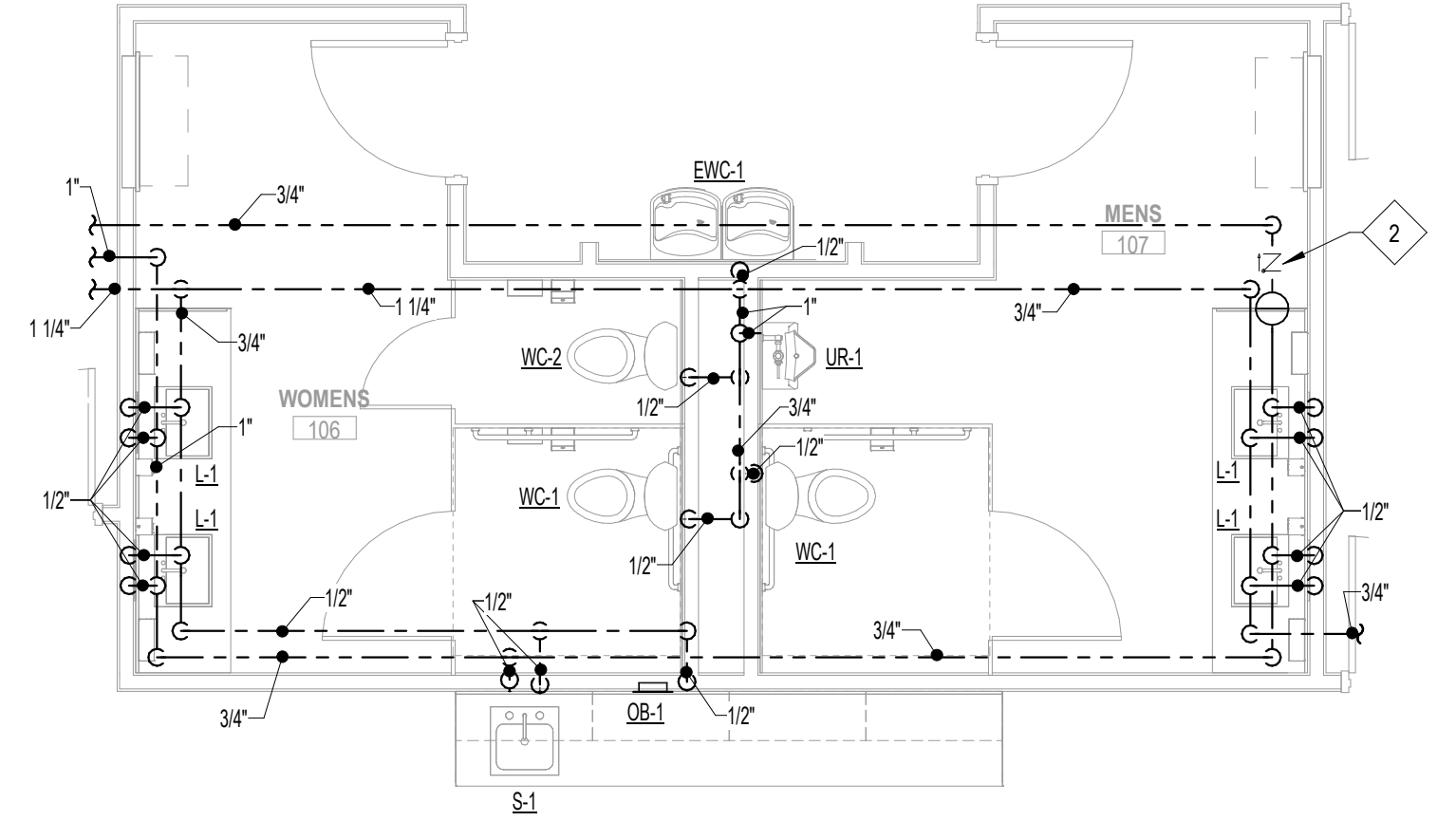
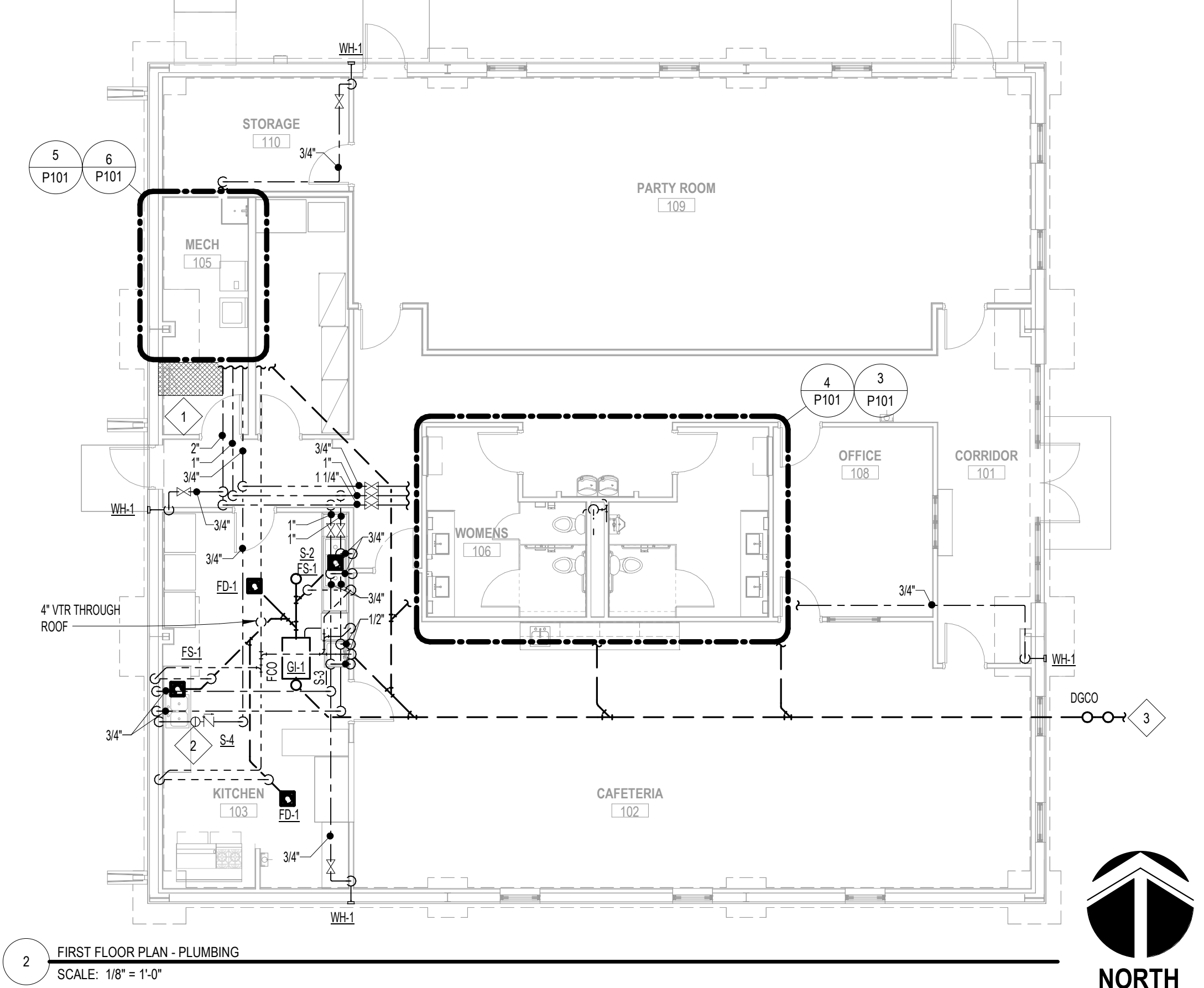
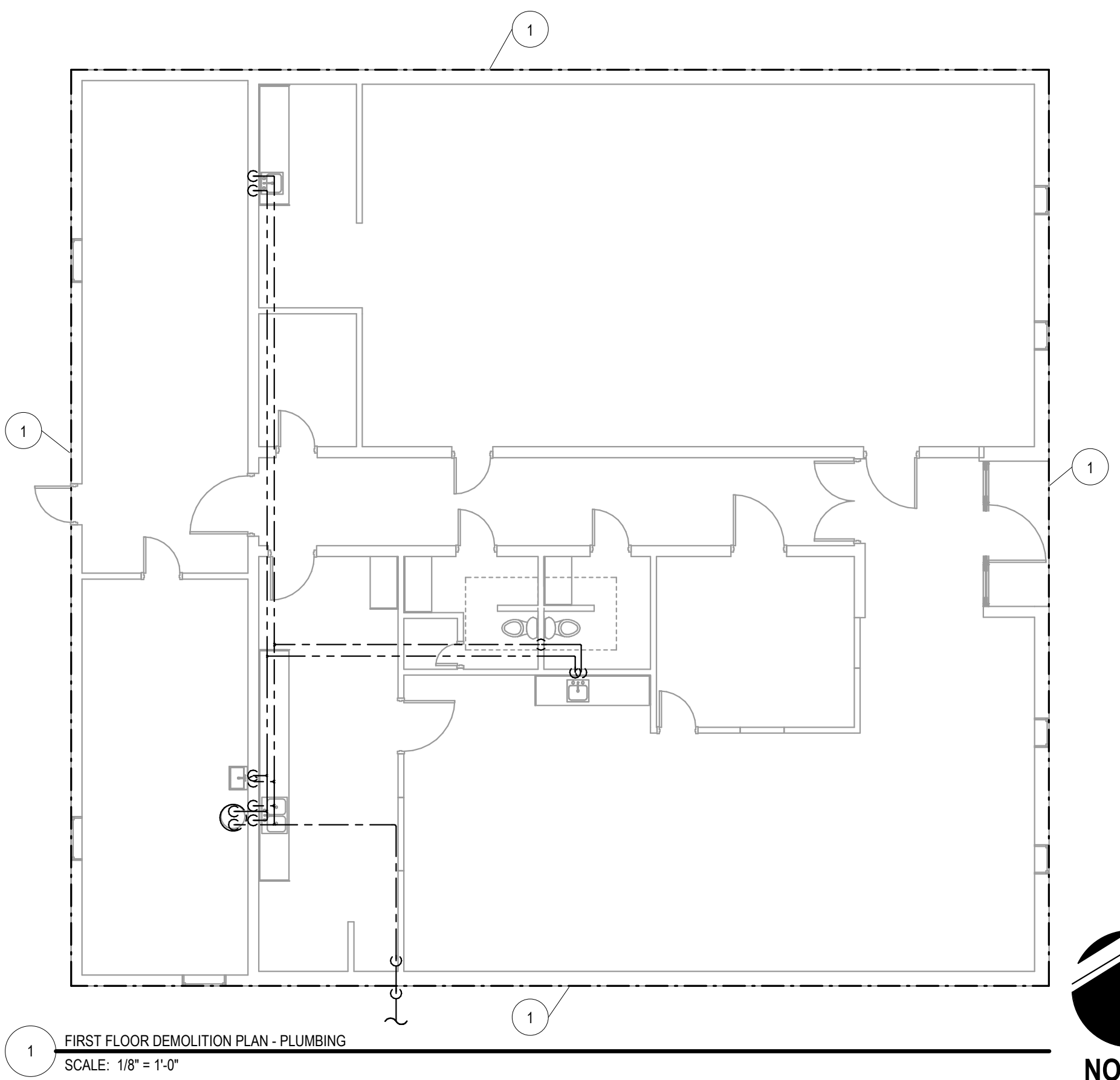
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**REF. DEMO NOTES (X):**

- 1 REMOVE EXISTING PLUMBING IN ITS ENTIRETY. REMOVE SANITARY BACK TO MAIN. REMOVE DOMESTIC COLD WATER BACK TO CITY SHUT-OFF. PREPARE SITE FOR NEW CONSTRUCTION.

**REF. NOTES (◇):**

- 1 THIS SPACE IS RESERVED FOR ELECTRICAL EQUIPMENT. NO PIPING OR DUCTWORK SHALL PASS BELOW, ABOVE, OR AROUND ELECTRICAL EQUIPMENT. PROVIDE CODE REQUIRED MINIMUM CLEARANCE ABOVE ELECTRICAL EQUIPMENT ACCESS SPACE.
- 2 BALANCE AND CHECK VALVE. SET TO 25 GPM.
- 3 4" SANITARY. CONNECT TO CITY SEWER MAIN.
- 4 THIS SPACE IS RESERVED FOR DOMESTIC WATER SERVICE AND METER. SEE WATER SERVICE PIPING DETAIL.
- 5 2" DOMESTIC COLD WATER. CONNECT TO CITY SERVICE. PROVIDE CITY SHUT-OFF VALVE.



DESIGNED:	MLB	ISSUE DATE:	08/17/24
DRAWN:	MLB	REVISIONS:	NO.
CHECKED:	JEK	DATE:	
BY:		DESCRIPTION:	



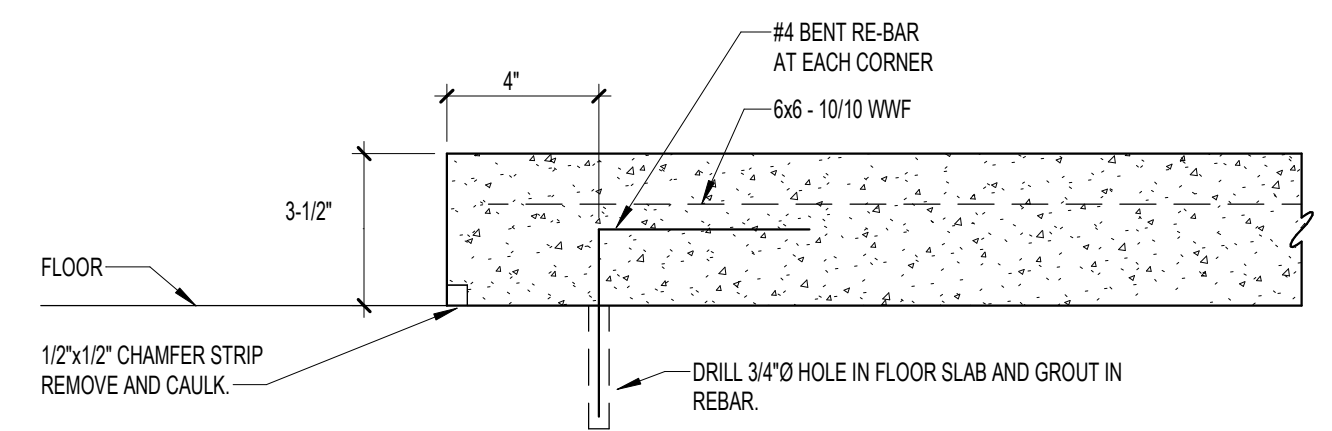
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COA: 5964 06/30/2023

**CITY OF YALE**  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085  
**FLOOR PLAN - PLUMBING**

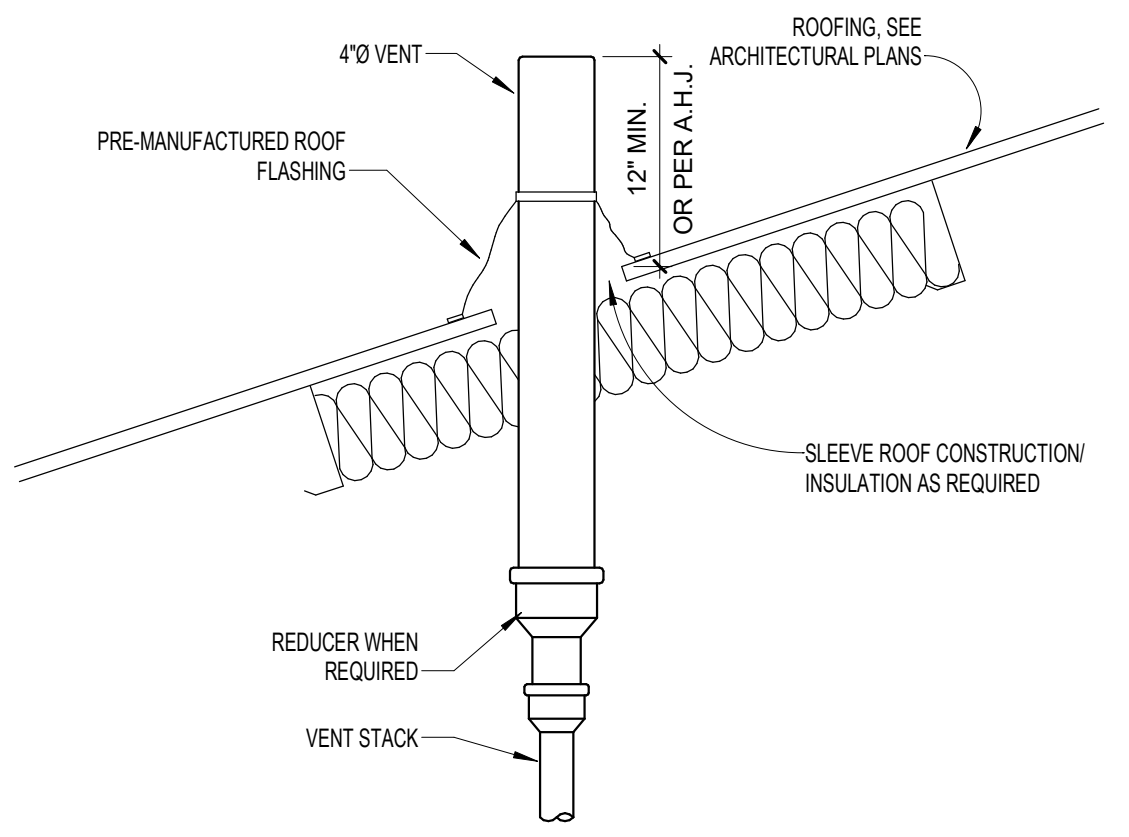
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COA: CA5964

**P101**

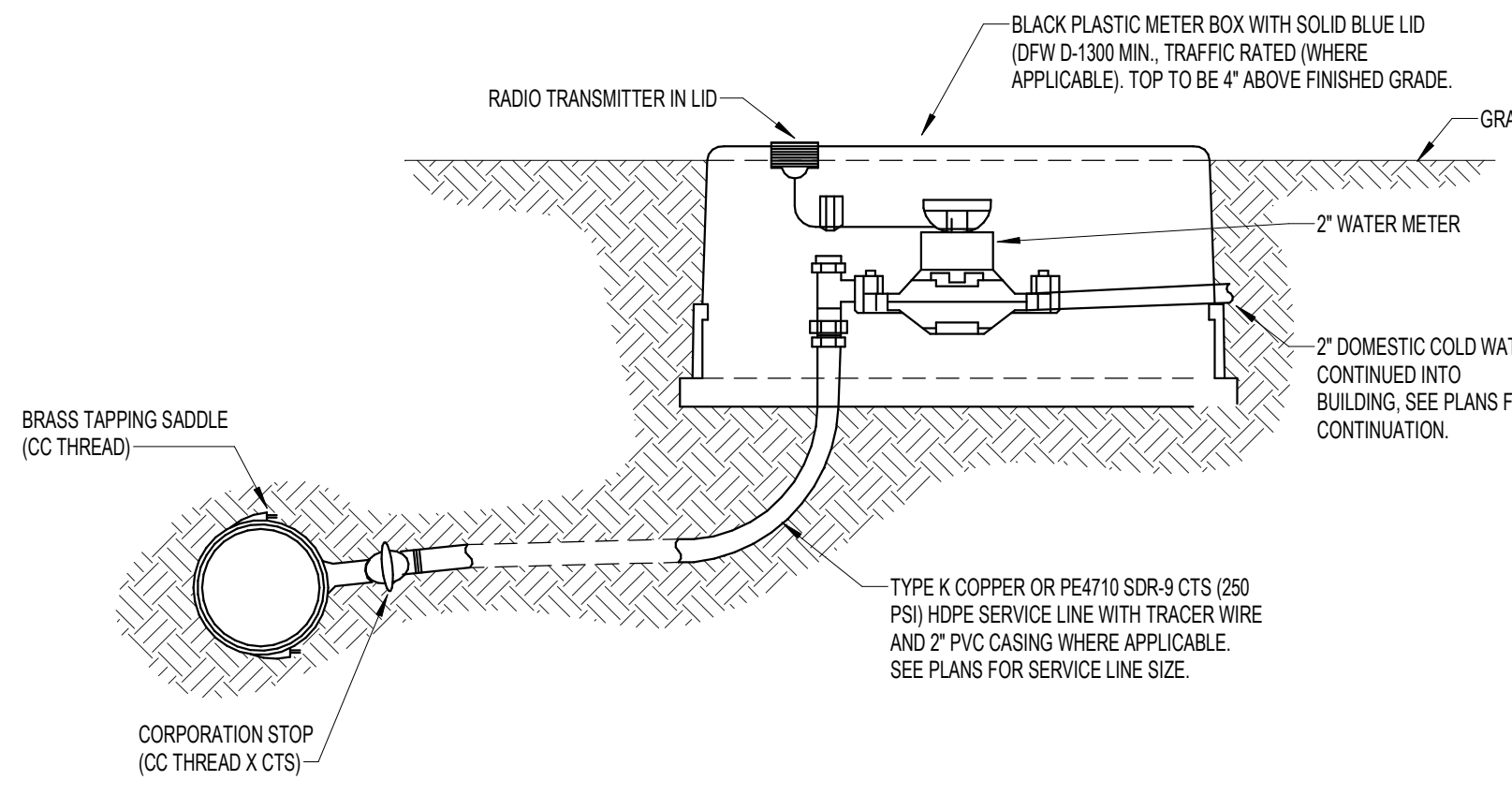


- NOTES**
- INSTALL NEW HOUSEKEEPING PADS AS INDICATED ON PLANS. VERIFY DIMENSIONS WITH EQUIPMENT SIZES.
  - VERIFY SIZE AND LOCATION OF EQUIPMENT ANCHOR BOLTS.
  - PROVIDE DOVEL RODS 1/8" ON CENTER AROUND FULL PERIMETER OF PAD IF LONG DIMENSION IS GREATER THAN 72".
  - CONCRETE TO BE RATED FOR 4000 PSI.

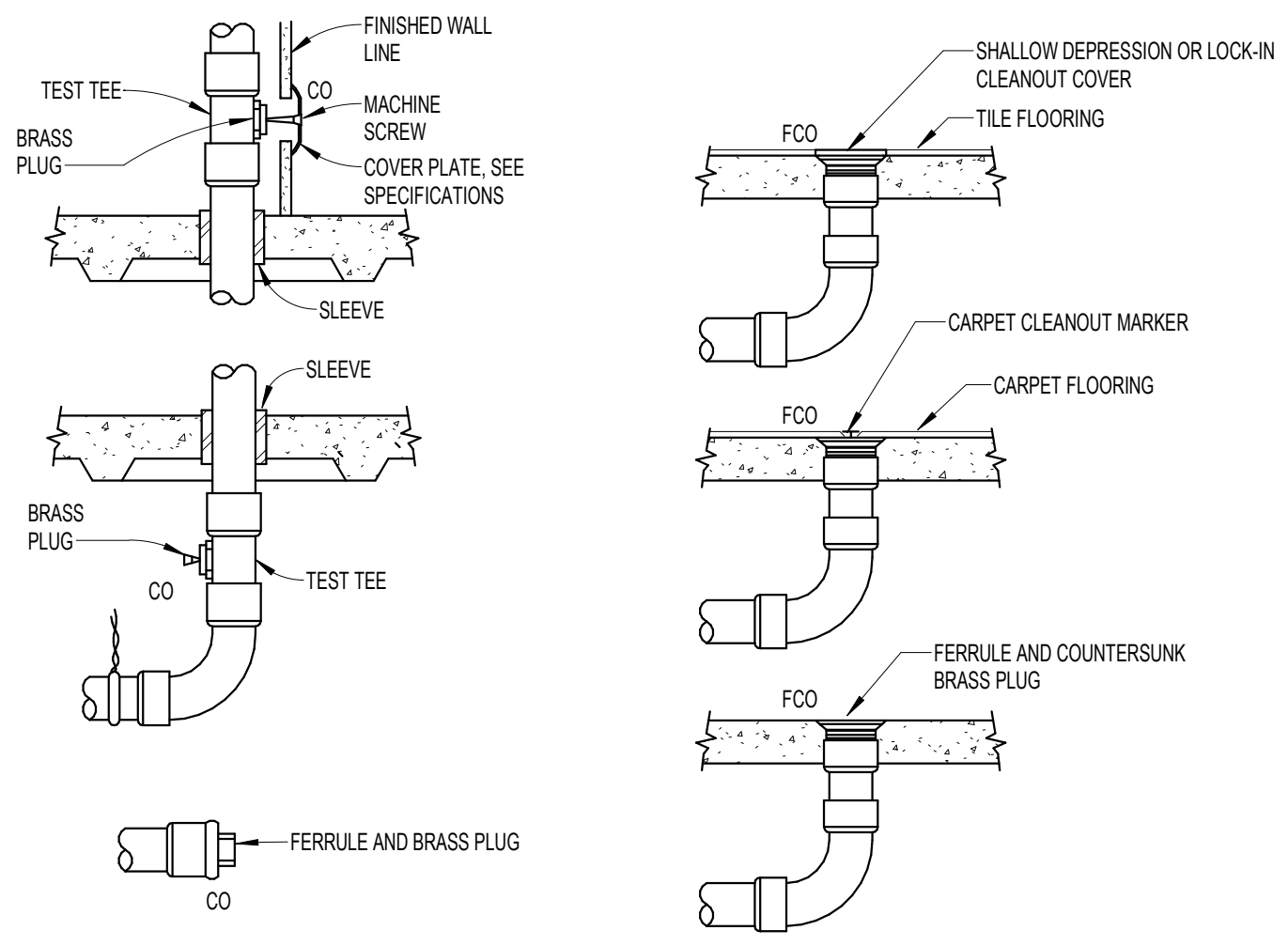
1 HOUSEKEEPING PAD DETAIL  
SCALE: NOT TO SCALE



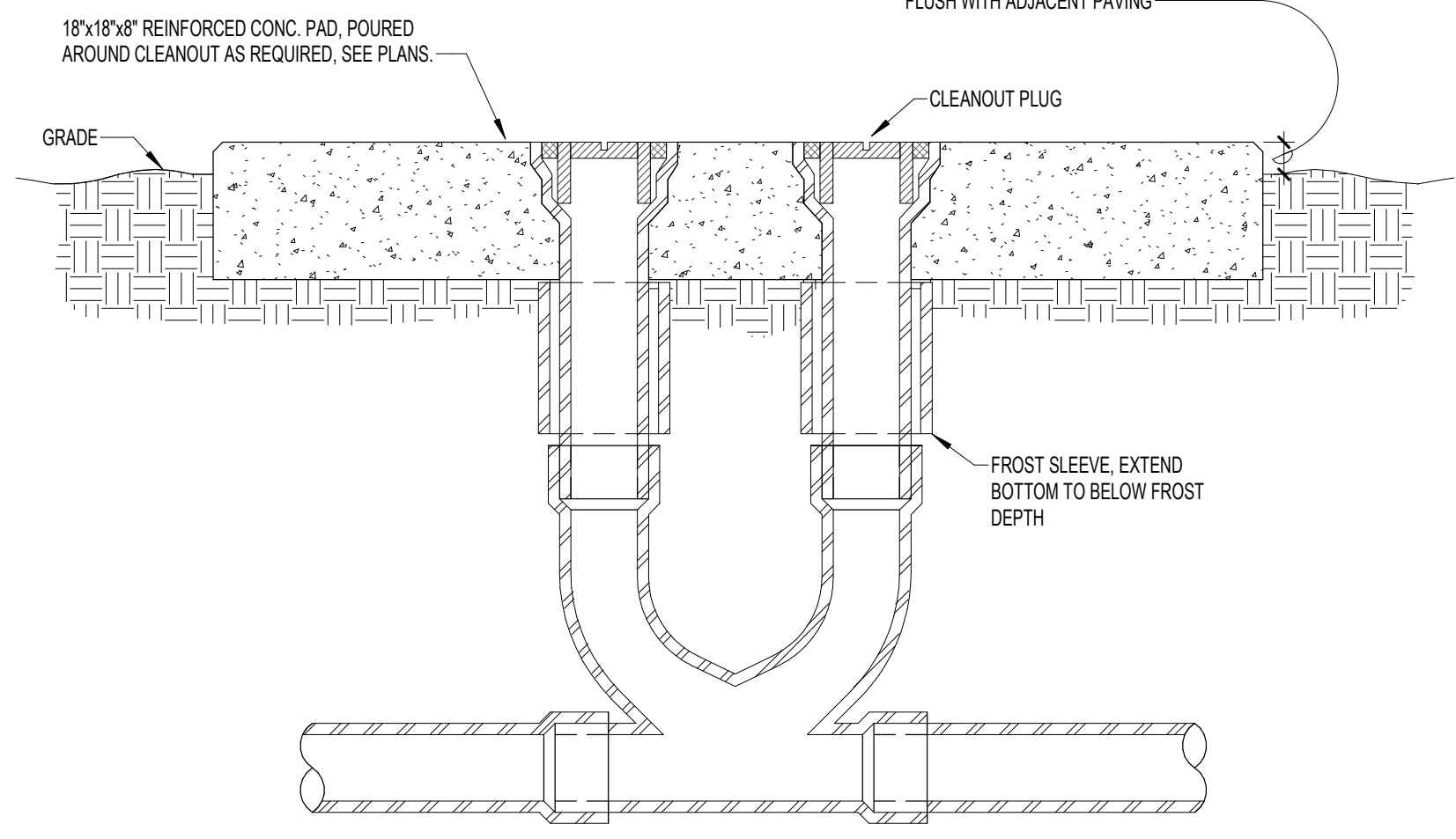
3 SLOPED ROOF VENT PIPING DETAIL  
SCALE: NOT TO SCALE



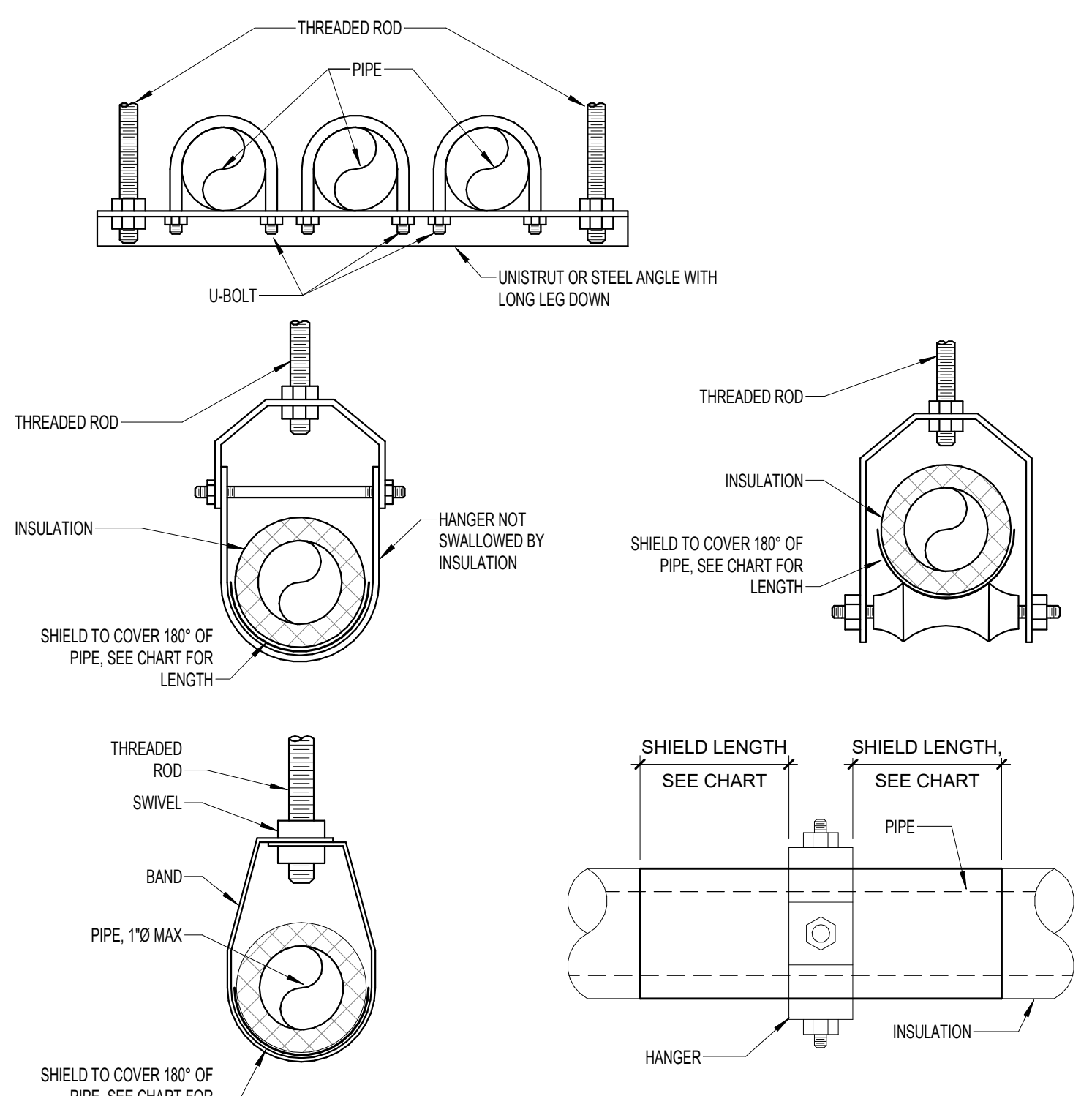
2 DOMESTIC WATER SERVICE PIPING SCHEMATIC  
SCALE: NOT TO SCALE



4 TYPICAL CLEANOUT DETAIL  
SCALE: NOT TO SCALE



5 DOUBLE GRADE CLEANOUT DETAIL  
SCALE: NOT TO SCALE

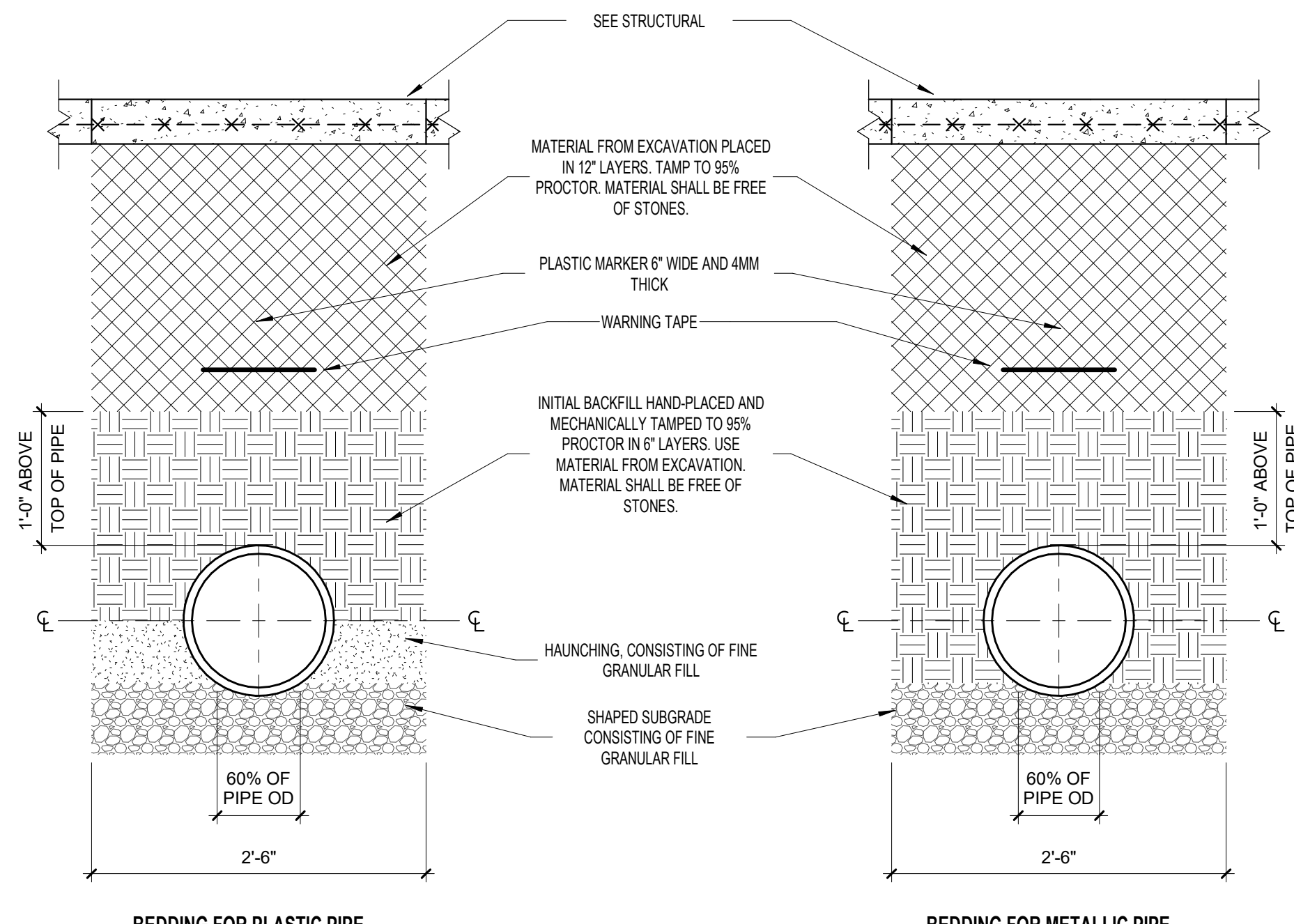


**SHIELD LENGTH FOR PIPE - NOT LESS THAN THE FOLLOWING:**

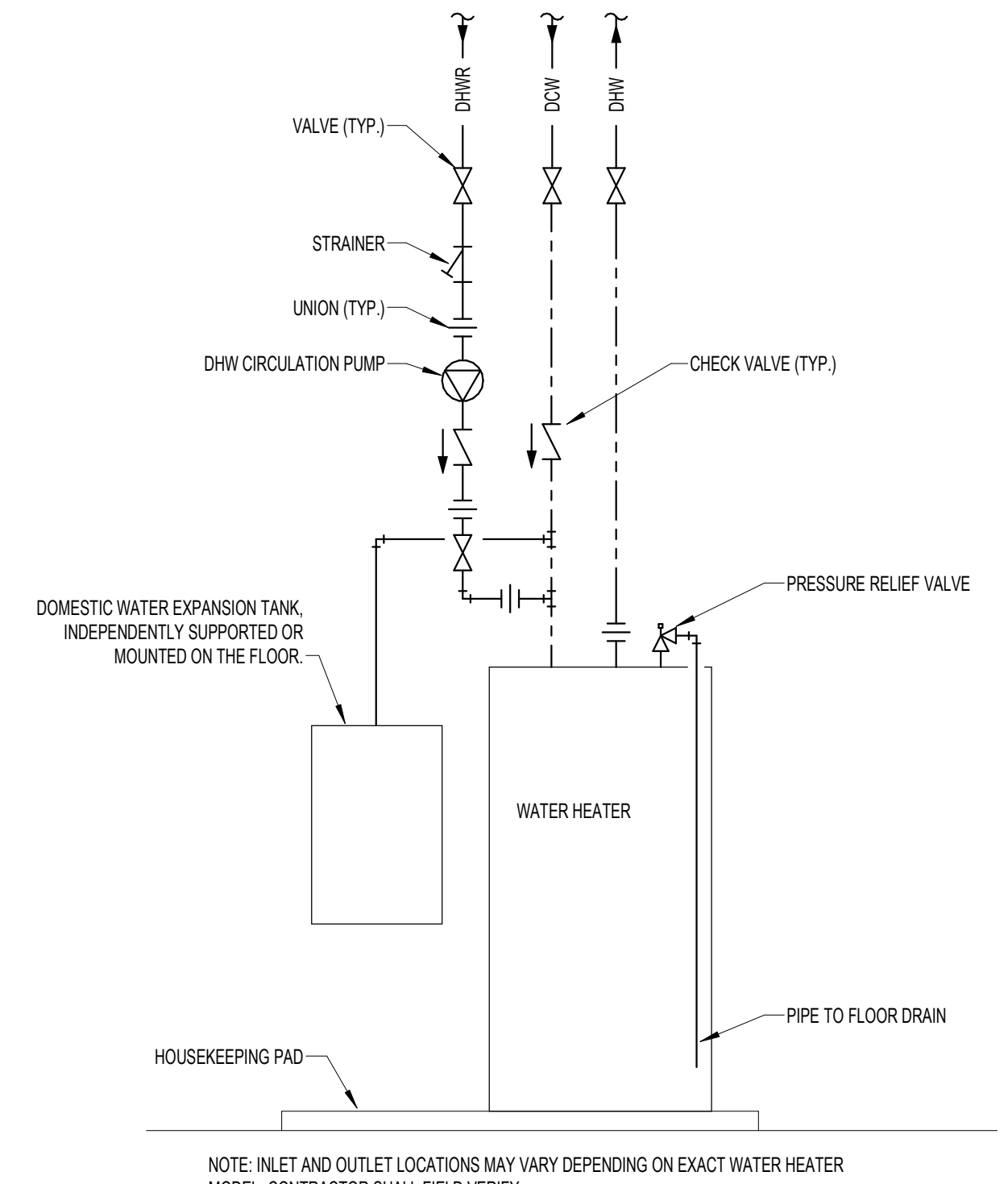
a. NPS 1/4" TO 3/4"	12" LONG AND 3/8" THICK
b. NPS 1/2"	12" LONG AND 1/2" THICK
c. NPS 3/4"	18" LONG AND 3/8" THICK
d. NPS 1" TO 1 1/2"	24" LONG AND 1/2" THICK
e. NPS 1 1/2" TO 2"	24" LONG AND 3/4" THICK

- NOTE:**
- PIPES NPS 8" AND LARGER: INCLUDE WOOD OR REINFORCED CALCIUM-SILICATE-INSULATION INSERTS OF LENGTH AT LEAST AS LONG AS PROTECTIVE SHIELD.
  - THERMAL-HANGER SHIELDS: INSTALL WITH INSULATION SAME THICKNESS AS PIPING INSULATION.

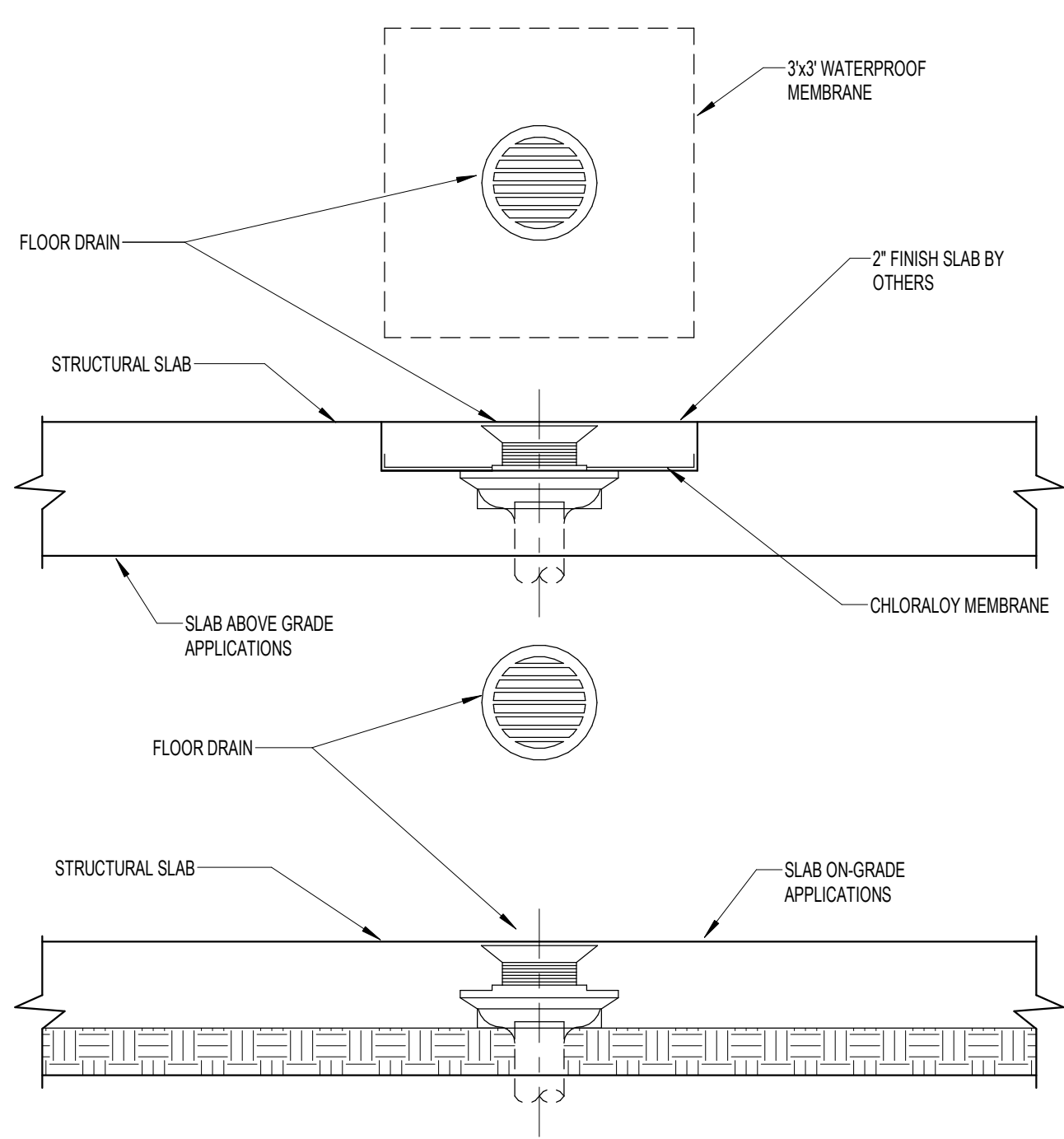
7 PIPE HANGER DETAIL  
SCALE: NOT TO SCALE



8 BEDDING FOR SANITARY PIPING  
SCALE: NOT TO SCALE



9 DOMESTIC WATER HEATER PIPING DETAIL  
SCALE: NOT TO SCALE



10 FLOOR DRAIN DETAIL  
SCALE: NOT TO SCALE

**CIRCULATION PUMP SCHEDULE**

MARK	LOCATION	SERVES	TYPE	FLOW GPM	HEAD FT WG	ELECTRICAL DATA					MANUFACTURER AND MODEL NUMBER	REMARKS
						MOP	MAR	VOLTS	PH	HZ		
DWCP-1	MECH 105	GWH-1	INLINE	0.5	0.83	44	0.54	120	1	60	TACO D08E1LC EOM	1

**NOTES:** 1. PROVIDE WITH AQUA-STAT AND 7-DAY PROGRAMMABLE TIMER.

**GAS-FIRED WATER HEATER SCHEDULE**

MARK	LOCATION	FUEL TYPE	INPUT RATING (MBH)	MINIMUM RECOVERY AT RISE SHOWN (GPH)	EWT (°F)	LWT (°F)	STORAGE CAPACITY (GALLONS)	MANUFACTURER AND MODEL NUMBER	REMARKS

**NOTES:** 1. FIRST HOUR RATING: 234 GALLONS.  
2. PROVIDE WITH NEUTRALIZATION KIT. SEE PLANS FOR DRAIN ROUTING. PROVIDE CONCENTRIC VENT KIT.  
3. PROVIDE HOUSE KEEPING PAD.

**EXPANSION TANK SCHEDULE**

MARK	SERVES	LOCATION	TYPE	TOTAL SYSTEM GALLONS	TEMP RANGE (°F)	FILL PRESSURE (PSIG)	MAX OPER. PRESSURE (PSIG)	MANUFACTURER AND MODEL NUMBER	REMARKS

**NOTES:** 1. PROVIDE SUPPORT FOR EXPANSION TANK FROM STRUCTURE. DO NOT SUPPORT WITH PIPING.

**PLUMBING FIXTURE SCHEDULE**

MARK	DESCRIPTION	FIXTURE CONNECTIONS					FLOW RATE	MANUFACTURER AND MODEL NUMBER			REMARKS
		HOT WATER	COLD WATER	WASTE	VENT	OTHER		FIXTURE	FAUCET / FLUSH VALVE	ACCESSORY #1	
EWC-1	ELECTRIC WATER COOLER WITH BOTTLE FILLER	--	1/2"	1-1/2"	1-1/2"	--	8 GPH	ELKAY LZ218WSSP	--	--	--
FD-1	FLOOR DRAIN	--	--	2"	1-1/2"	--	FLOOR	JAY R SMITH 2009YB	--	--	--
FS-1	FLOOR SINK	--	--	3"	1-1/2"	--	FLOOR	JAY R SMITH 50-3002	--	--	--
GI-1	GREASE INTERCEPTOR	--	--	3"	2"	--	FLOOR	JAY R SMITH 6150-B-AR10	--	--	--
L-1	UNDERMOUNTED LAVATORY	1/2"	1/2"	1-1/2"	1-1/2"	--	SEE ARCH	KOHLER K-2874	KOHLER K-97093-4	--	TMV-1 2,4
MS-1	MCP SINK	3/4"	3/4"	3/4"	2"	1-1/2"	SEE ARCH	FIAT MSB0T2424	FIAT 830AA	FIAT 889CC	1
OB-1	OUTLET BOX	--	1/2"	--	--	--	24" A.F.F.	IPS GREY GUY BMB750T3AB	--	--	--
S-1	SINGLE COMPARTMENT SINK	1/2"	1/2"	--	--	--	SEE ARCH	ELKAY LK94AT08L2H	--	--	--
S-2	THREE COMPARTMENT SINK	3/4"	3/4"	--	--	--	SEE ARCH	ELKAY S8834R4	ELKAY LK94AF12LC	ELKAY LK2RT	--
S-3	SINGLE COMPARTMENT SINK, HAND SINK	1/2"	1/2"	--	--	--	SEE ARCH	ELKAY CHS171HR52	ELKAY LK94AT08L2H	ELKAY LK8	ELKAY LK500
S-4	INTERGRAL SINK	3/4"	3/4"	--	--	--	SEE ARCH	SEE ARCH	ELKAY LK94H08T8T	--	--
TMV-1	THERMOSTATIC MIXING VALVE, POINT OF USE	1/2"	1/2"	--	--	1/2"	UNDER SINK	LEONARD LV-270-LF-BRKT-SW-CP	--	--	4
TP-1	TRAP PRIMER	--	1/2"	--	--	--	--	ZURN Z102Z-XL	--	--	3
UR-1	ADA WALL MOUNTED FLUSH VALVE URINAL	--	1"	2"	2"	--	17" A.F.F.	WELS-1000-1001	SLOAN 1101009	--	--
WC-1	ADA FLOOR MOUNTED TANK TYPE WATER CLOSETS	--	1/2"	4"	2"	--	FLOOR	SLOAN WETS-8028-R010	--	--	--
WC-2	FLOOR MOUNTED TANK TYPE WATER CLOSETS	--	1/2"	4"	2"	--	FLOOR	SLOAN WETS-8009-R010	--	--	--
WH-1	WALL HYDRANT	--	1/2"	--	--	--	18" A.F.F.	ZURN Z-1320C	--	--	--
WMB-1	WASHING MACHINE BOX	1/2"	1/2"	1-1/2"	1-1/2"	--	SEE ARCH	DATY 38830	--	--	--

**NOTES:** 1. PROVIDE FIAT QC32 2" QUICK DRAIN CONNECTOR AND FIAT MS2424 WALL GUARDS.  
2. PROVIDE WITH GRID DRAIN, OFFSET CHROME PLATED P-TRAP, QUARTER TURN SHUT-OFF VALVE, CHROME PLATED ESCUTCHEONS PLATE, AND CHROME PLATED COPPER PIPER RISERS.  
3. PROVIDE 608 ACCESS PANEL. COORDINATE LOCATION WITH GENERAL CONTRACTOR. SUBMIT COLOR SELECTION TO ARCHITECT.  
4. SET THERMOSTATIC MIXING VALVE TO 110°F.

DESIGNED: MLB  
DRAWN: MLB  
CHECKED: JEK  
ISSUE DATE: 08/10/24  
REVISIONS: No.  
DATE: BY: DESCRIPTION



**SCHEMMER**  
Design with Purpose. Build with Confidence.

1 SOUTH BROADWAY, SUITE 200, EDMOND, OK 73034 | 405.259.2000  
COA: 5964 06/30/2023

CITY OF YALE  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085

DETAILS & SCHEDULES - PLUMBING

PROJECT NO: 09334.001  
COA: CA5964

P401

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SYMBOL LEGEND

Table of symbols for HVAC Piping, Values, Plumbing Piping, Fire Protection, and Miscellaneous Symbols.

ABBREVIATIONS

Table of abbreviations for various mechanical components and systems.

GENERAL DEMOLITION NOTES

Table of general demolition notes and symbols.

GENERAL NOTES

Table of general notes regarding construction and safety.

REF. DEMO NOTES

Table of reference demolition notes.

REF. NOTES

Table of reference notes.

REFERENCE LEGEND

Table of reference legend symbols for duct size, pipe size, plumbing fixtures, room numbers, equipment numbers, reference notes, plan details, section details, new columns, existing columns, matchlines, levels, title markers, and north arrows.

MECHANICAL SHEET LIST

Table listing mechanical sheets and their descriptions.

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Table listing mechanical sheets and their descriptions.

Vertical sidebar containing project information, logos, and contact details for Schemmer Mechanical.

Table with 18 columns and multiple rows. Columns are numbered 1 through 18. Rows are labeled with letters A through Z. The content includes technical specifications for HVAC systems, including sections for General Requirements, Execution, and Materials. It covers topics like duct installation, insulation, and sealing. The table is organized into sections such as 'SECTION 230000—GENERAL HVAC REQUIREMENTS', 'SECTION 230993—TESTING, ADJUSTING, AND BALANCING FOR HVAC', and 'SECTION 231213—FACILITY NATURAL-GAS PIPING'. Each row contains detailed technical text, often with sub-sections and numbered lists.

**REVISIONS:** A list of revisions with columns for No., Description, Date, and Drawn. Revisions include changes to material specifications and installation details.

**DESIGNED:** MLB  
**DRAWN:** MLB  
**CHECKED:** JJK  
**DATE:** 08/10/24  
**ISSUE DATE:** 08/10/24

**PROJECT NO: 09334.001**  
**COA: CA5964**

**CITY OF YALE**  
**YALE SENIOR CENTER**  
**111 N B ST**  
**YALE, OK 74865**

**SHEET SPECIFICATIONS - MECHANICAL**

**PROJECT NO: 09334.001**  
**COA: CA5964**

**M 01**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18						
P	1. Ducts Connected to Air-Handling Units: a. Pressure Class: Positive or negative 3-inch wg (750 Pa). b. Minimum SMACNA Seal Class: A. c. SMACNA Leakage Class for Rectangular: 4 d. SMACNA Leakage Class for Round and Flat Oval: 2	2. Ducts Connected to Equipment Not Listed above: a. Pressure Class: Positive or negative 2-inch wg (500 Pa). b. Minimum SMACNA Seal Class: A. c. SMACNA Leakage Class for Rectangular: 4 d. SMACNA Leakage Class for Round and Flat Oval: 2	D. Exhaust Ducts: 1. All exhaust ducts (ASHRAE 62.1, Class 1 and 2) Air: a. Pressure Class: Negative 2-inch wg (500 Pa). b. Minimum SMACNA Seal Class: A if negative pressure, and A if positive pressure. c. SMACNA Leakage Class for Rectangular: 4 d. SMACNA Leakage Class for Round and Flat Oval: 2	E. Intermediate Reinforcement: 1. Galvanized-Steel Ducts: Galvanized steel.	F. Elbow Configuration: 1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-2, "Rectangular Elbows." a. Radius Type RE 1 with minimum 1.5 radius-to-diameter ratio. b. Radius Type RE 3 with minimum 1.0 radius-to-diameter ratio and two vanes. c. Mitered Type RE 2 with vanes complying with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-3, "Vanes and Vane Runners," and Figure 4-4, "Vane Support in Elbows."	2. Round Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-4, "Round Duct Elbows." a. Minimum Radius-to-Diameter Ratio and Elbow Segments: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 3-1, "Mitered Elbows." Elbows with less than 90-degree change of direction have proportionately fewer segments. 1) Radius-to-Diameter Ratio: 1.5. b. Round Elbows, 12 inches (305 mm) and Smaller in Diameter: Stamped or pleated. c. Round Elbows, 14 inches (356 mm) and Larger in Diameter: Standing seam.	G. Branch Configuration: 1. Rectangular Duct: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 4-6, "Branch Connection." a. Rectangular Main to Rectangular Branch: 45-degree entry. b. Rectangular Main to Round Branch: High Efficiency Takeoff. 2. Round and Flat Oval: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 3-5, "90 Degree Tees and Laterals," and Figure 3-6, "Conical Tees." Saddle taps are permitted in existing duct. a. Velocity 1000 fpm (5 m/s) or Lower: 90-degree tap. b. Velocity 1000 to 1500 fpm (5 to 7.6 m/s): Conical tap. c. Velocity 1500 fpm (7.6 m/s) or Higher: 45-degree lateral.	END OF SECTION <b>SECTION 233300—AIR DUCT ACCESSORIES</b>	2.7 FLEXIBLE CONNECTORS A. Materials: Flame-retardant or noncombustible fabrics. B. Coatings and Adhesives: Comply with UL 181, Class 1. C. Metal-Edged Connectors: Factory fabricated with a fabric strip 3-1/2 inches (89 mm) wide attached to two strips of 2-3/4 inch- (70 mm-) wide, 0.028 inch- (0.7 mm-) thick, galvanized sheet steel or 0.032 inch- (0.8 mm-) thick aluminum sheets. Provide metal compatible with connected ducts. D. Indoor System, Flexible Connector Fabric: Glass fabric double coated with neoprene. 1. Minimum Weight: 28 oz/sq yd (880 g/sq m). 2. Tensile Strength: 480 lb/inch (84 N/mm) in the warp and 360 lb/inch (63 N/mm) in the filling. E. Outdoor System, Flexible Connector Fabric: Glass fabric double coated with weatherproof, synthetic rubber resistant to UV rays and ozone. 1. Minimum Weight: 24 oz/sq yd (810 g/sq m). 2. Tensile Strength: 530 lb/inch (93 N/mm) in the warp and 440 lb/inch (77 N/mm) in the filling. 3. Service Temperature: Minus 40 to plus 200 deg F (Minus 40 to plus 93 deg C).	2.8 DUCT ACCESSORY HARDWARE A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness. B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease. <b>PART 3—EXECUTION</b> 3.1 INSTALLATION A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAAMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts. B. Install volume dampers at points on supply, return, and exhaust systems where dampers extend from larger ducts. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel. C. Install fire and smoke dampers according to UL listing. D. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations: 1. Adjacent to and close enough to fire or smoke dampers, to reset or reinstall fusible links. 2. Access doors for access to fire or smoke dampers having fusible links shall be pressure relief access doors and shall be outward operation for access doors installed upstream from dampers and inward operation for access doors installed downstream from dampers. E. Install access doors with swing against duct static pressure. F. Install flexible connectors to connect ducts to equipment. G. Connect flexible ducts to metal ducts with draw bands. H. Install duct test holes where required for testing and balancing purposes.	END OF SECTION <b>SECTION 233223—HVAC POWER VENTILATORS</b>	<b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each type of product. <b>PART 2—PRODUCTS</b> 2.1 ASSEMBLY DESCRIPTION A. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," and with NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems." B. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections. <b>2.2 MATERIALS</b> A. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M. B. Reinforcement Shapes and Plates: Galvanized-steel reinforcement where installed on galvanized sheet metal ducts; compatible materials for aluminum and stainless-steel ducts. C. Tie Rods: Galvanized steel, 1/4-inch (6-mm) minimum diameter for lengths 36 inches (900 mm) or less; 3/8-inch (10-mm) minimum diameter for lengths longer than 36 inches (900 mm). <b>2.3 MANUAL VOLUME DAMPERS</b> A. Standard, Steel, Manual Volume Dampers: 1. Standard leakage rating. 2. Suitable for horizontal or vertical applications. 3. Frames: a. Frame: Hat-shaped, 0.094 inch- (2.4 mm-) thick, galvanized sheet steel. b. Mitered and welded corners. c. Flanges for attaching to walls and flangeless frames for installing in ducts. 4. Blades: a. Multiple or single blade. b. Parallel- or opposed-blade design. c. Stiffen damper blades for stability. d. Galvanized-steel, 0.064 inch (1.62 mm) thick. 5. Blade Axles: Galvanized steel. 6. Bearings: a. Oil-impregnated bronze. c. Dampers in ducts with pressure classes of 3 inch wg (750 Pa) or less shall have axles full length of damper blades and bearings at both ends of operating shaft. 7. Tie Bars and Brackets: Galvanized steel. B. Jackshaft: 1. Size: 0.5 inch (13 mm) diameter. 2. Material: Galvanized-steel pipe rotating within pipe-bearing assembly mounted on supports at each mullion and at each end of multiple-damper assemblies. 3. Length and Number of Mountings: As required to connect linkage of each damper in multiple-damper assembly. C. Damper Hardware: 4. Zinc-plated, die-cast core with dial and handle made of 3/32 inch- (2.4 mm-) thick zinc-plated steel, and a 3/4 inch (19 mm) hexagon locking nut. 5. Include center hole to suit damper operating-rod size. 6. Include elevated platform for insulated duct mounting.	2.8 DUCT ACCESSORY HARDWARE A. Instrument Test Holes: Cast iron or cast aluminum to suit duct material, including screw cap and gasket. Size to allow insertion of pitot tube and other testing instruments and of length to suit duct-insulation thickness. B. Adhesives: High strength, quick setting, neoprene based, waterproof, and resistant to gasoline and grease. <b>PART 3—EXECUTION</b> 3.1 INSTALLATION A. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for metal ducts and in NAAMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts. B. Install volume dampers at points on supply, return, and exhaust systems where dampers extend from larger ducts. Where dampers are installed in ducts having duct liner, install dampers with hat channels of same depth as liner, and terminate liner with nosing at hat channel. C. Install fire and smoke dampers according to UL listing. D. Install duct access doors on sides of ducts to allow for inspecting, adjusting, and maintaining accessories and equipment at the following locations: 1. Adjacent to and close enough to fire or smoke dampers, to reset or reinstall fusible links. 2. Access doors for access to fire or smoke dampers having fusible links shall be pressure relief access doors and shall be outward operation for access doors installed upstream from dampers and inward operation for access doors installed downstream from dampers. E. Install access doors with swing against duct static pressure. F. Install flexible connectors to connect ducts to equipment. G. Connect flexible ducts to metal ducts with draw bands. H. Install duct test holes where required for testing and balancing purposes.	END OF SECTION <b>SECTION 233223—HVAC POWER VENTILATORS</b>	<b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each type of product. <b>PART 2—PRODUCTS</b> 2.1 PERFORMANCE REQUIREMENTS A. Manufacturers: Subject to compliance with requirements, provide products by one of the following: 1. Broan-NuTone LLC 2. Greenheck Fan Corporation. 3. Loren Cook Company. 4. PennBarry. 5. S & P USA Ventilation Systems, LLC. 6. See plans for individual product performance requirements. <b>2.2 CEILING-MOUNTED VENTILATORS</b> A. Housing: Steel, lined with acoustical insulation. B. Fan Wheel: Centrifugal wheels directly mounted on motor shaft. Fan shrouds, motor, and fan wheel removable for service. C. Back-draft damper: Integral. D. Grille: Plastic or Aluminum, louvered grille with flange on intake and thumbscrew or spring retainer attachment to fan housing. E. Electrical Requirements: Junction box for electrical connection on housing and receptacle for motor plug-in. F. Accessories, provide when indicated on plans: 1. Variable-Frequency Motor Controller: Solid-state control to reduce speed from 100 to less than 50 percent. 2. Manual Starter Switch: Single-pole rocker switch assembly with cover and pilot light. 3. Isolation: Rubber-in-shear vibration isolators. 4. Manufacturer's standard roof jack or wall cap, and transition fittings.	2.9 CENTRIFUGAL VENTILATORS - ROOF UPBLAST OR SIDEWALL A. Configuration: See plans for configuration of fan installation. B. Housing: Removable spun-aluminum dome top and outlet baffle; square, one-piece aluminum base with venturi inlet cone. 1. Upblast Units: Provide spun-aluminum discharge baffle to direct discharge air upward, with rain and snow drains. 2. Provide grease collector for kitchen exhaust fan. C. Fan Wheels: Aluminum hub and wheel with backward-inclined blades. D. Accessories: 1. Variable-Frequency Motor Controller: Solid-state control to reduce speed from 100 to less than 50 percent. 2. Disconnect Switch: Nonfusible type, with thermal-overload protection mounted outside fan housing, factory wired through an internal aluminum conduit. 3. Bird Screens: Removable, 1/2-inch (13-mm) mesh, aluminum or brass wire. 4. Grease Hood Kitchen Exhaust: UL 762 listed for grease-laden air exhaust. E. Prefabricated Kitchen Exhaust Roof Curbs: Galvanized steel, mitered and welded corners; ventilation openings on all sides to ventilate curb interstitial space. Size as required to suit roof opening and fan base.	3. Configuration: Self-flashing without a cant strip, with mounting flange. 4. Overall Height: Minimum 12 inches. 5. Hinged sub-base to provide access to damper or as cleanout for grease applications. 6. Pitch Mounting: Manufacture curb for roof slope. 7. Metal Liner: Galvanized steel. 8. Mounting Pedestal: Galvanized steel with removable access panel. 9. Vented Curb: For kitchen exhaust; 12-inch- (300-mm-) high galvanized steel; unlined, with louvered vents in vertical sides. 10. NFPA 96 code requirements for commercial cooking operations. 11. Kitchen Hood Exhaust: UL 762 listed for grease-laden air. <b>PART 3—EXECUTION</b> 3.1 INSTALLATION OF HVAC POWER VENTILATORS A. Install power ventilator level and plumb. B. Secure roof-mounted fans to roof curbs with zinc-plated hardware. C. Ceiling Units: Suspend units from structure; use metal straps or threaded rod. D. Install units with clearances for service and maintenance. <b>END OF SECTION</b> <b>SECTION 233113—AIR DIFFUSERS, REGISTERS, AND GRILLES</b>	<b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each type of product. <b>PART 2—PRODUCTS</b> 2.1 DIFFUSERS, GRILLES, AND REGISTERS: A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following: 1. Carnes Company. 2. Kreuzer. 3. Price. 4. Thus. <b>PART 3—EXECUTION</b> 3.1 INSTALLATION A. Install diffusers level and plumb. B. Ceiling-Mounted Outlets and Inlets: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical. For units installed in lay-in ceiling panels, locate units in the center of panel. Where architectural features or other items conflict with installation, notify Architect for a determination of final location. C. Install diffusers with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers. <b>3.2 ADJUSTING</b> A. After installation, adjust diffusers to air patterns indicated, or as directed, before starting air balancing. <b>END OF SECTION</b> <b>SECTION 237416—PACKAGED ROOFTOP AIR-CONDITIONING UNITS</b>	<b>PART 1—GENERAL</b> 1.1 ACTION SUBMITTALS A. Product Data: For each RTU. <b>PART 2—PRODUCTS</b> 2.1 DESCRIPTION A. AHRI Compliance: 1. Comply with AHRI 210/240 for testing and rating energy efficiencies for RTUs. 2. Comply with AHRI 340/360 for testing and rating energy efficiencies for RTUs. 3. Comply with AHRI 270 for testing and rating sound performance for RTUs. 4. Comply with AHRI 1060 for testing and rating performance for air-to-air exchanger. B. AMCA Compliance: 1. Comply with AMCA 11 and bear the AMCA-Certified Ratings Seal for air and sound performance according to AMCA 211 and AMCA 311. 2. Damper leakage tested according to AMCA 500-D. 3. Operating Limits: Classify according to AMCA 99. C. ASHRAE Compliance: 1. Comply with ASHRAE 15 for refrigeration system safety. 2. Comply with ASHRAE 33 for methods of testing cooling and heating coils. 3. Comply with applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Start-up." D. ASHRAE/IES Compliance: Comply with applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning." E. NFPA Compliance: Comply with NFPA 90A or NFPA 90B. F. UL Compliance: Comply with UL 1995. G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application. <b>2.2 MANUFACTURERS</b> A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following: 1. Carrier Corporation; a unit of United Technologies Corp. 2. Lennox Industries, Inc.; Lennox International. 3. Trane. 4. YORK; a Johnson Controls company. <b>2.3 CASINGS</b> A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed. B. Exterior Casing Material: Galvanized steel with factory-painted finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs. C. Casing Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B. 1. Materials: ASTM C 1071, Type I. 2. Thickness: 1 inch. 3. Liner materials shall have airstream surface coated with erosion- and temperature-resistant coating or faced with a plain or coated fibrous mat or fabric. 4. Liner Adhesive: Comply with ASTM C 916, Type I. D. Condensate Drain Pans: Fabricated using stainless-steel sheet, 0.025 inch (0.715 mm) thick, a minimum of 2 inches (50 mm) deep, and complying with ASHRAE 62.1 for design and construction of drain pans. 1. Drain Connections: Threaded nipple. E. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1. <b>2.4 FANS</b> A. Supply-Air Fans: Aluminum or painted-steel wheels, and galvanized- or painted-steel fan scrolls. 1. Direct-Driven Supply-Air Fans: Motor shall be resiliently mounted in the fan inlet. B. Condenser-Coil Fan: Propeller, mounted on shaft of permanently lubricated motors. <b>2.5 COILS</b> A. Supply-Air Refrigerant Coil: 1. Aluminum-plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor. 2. Polymer strip shall prevent all copper coils from contacting steel coil frame or condensate pan. B. Outdoor-Air Refrigerant Coil: 1. Aluminum-plate fin and seamless copper tube in steel casing with equalizing-type vertical distributor. 2. Polymer strip shall prevent all copper coils from contacting steel coil frame or condensate pan. <b>2.6 REFRIGERANT CIRCUIT COMPONENTS</b> A. Compressor: Hemetic, scroll, mounted on vibration isolators; with internal overcurrent and high-temperature protection, and internal pressure relief. B. Refrigeration Specialties: 1. Refrigerant: R-410A. 2. Expansion valve with replaceable thermostatic element. 3. Refrigerant filter/dryer. 4. Manual-reset high-pressure safety switch. 5. Automatic-reset low-pressure safety switch.	6. Minimum off-time relay. 7. Automatic-reset compressor motor thermal overload. 8. Brass service valves installed in compressor suction and liquid lines. <b>2.7 AIR FILTRATION</b> A. Minimum arrestance and MERV according to ASHRAE 52.2. <b>2.8 GAS FURNACE</b> A. Description: Factory assembled, piped, and wired; complying with ANSI Z21.47/CSA 2.3 and NFPA 54. 1. CSA Approval: Designed and certified by and bearing label of CSA. B. Burners: Stainless steel. 1. Fuel: Natural gas. 2. Ignition: Electronically controlled electric spark or hot-surface igniter with flame sensor. C. Heat-Exchanger and Drain Pan: Stainless steel. D. Power Vent: Integral, motorized centrifugal fan interlocked with gas valve. E. Gas Valve Train: Single-body, regulated, redundant, 24-V ac gas valve assembly containing pilot solenoid valve, pilot filter, pressure regulator, pilot shutoff, and manual shutoff. <b>2.9 DAMPERS</b> A. Leakage Rate: Comply with ASHRAE/IES 90.1. B. Damper Motor: Modulating with adjustable minimum position. <b>2.10 ELECTRICAL POWER CONNECTIONS</b> A. RTU shall have a single connection of power to unit with unit-mounted disconnect switch accessible from outside unit and control-circuit transformer with built-in overcurrent protection. <b>END OF SECTION</b> <b>2.11 CONTROLS</b> A. Basic Unit Controls: 1. Control-voltage transformer. 2. Wall-mounted thermostat or sensor with the following features: a. Heat-cool-off switch. b. Fan on-auto switch. c. Fan-speed switch. d. Automatic changeover. e. Adjustable deadband. f. Exposed set point. g. Exposed indication. h. Degree F indication. i. Unoccupied-period-override push button. j. Data entry and access port to input temperature set points, occupied and unoccupied periods, and output room temperature, supply-air temperature, operating mode, and status. B. Electronic Controller: 1. Controller shall have volatile-memory backup. 2. Safety Control Operation: a. Smoke Detectors: Stop fan and close outdoor-air damper if smoke is detected. Provide additional contacts for alarm interface to fire-alarm control panel. b. Firestays: Stop fan and close outdoor-air damper if air greater than 130 deg F (54 deg C) enters unit. Provide additional contacts for alarm interface to fire-alarm control panel. c. Defrost Control for Condenser Coil: Pressure differential switch to initiate defrost sequence. 3. Scheduled Operation: Occupied and unoccupied periods on seven-day clock with a minimum of four programmable periods per day. 4. Unoccupied Period: a. Heating Setback: 10 deg F (5.6 deg C). b. Cooling Setback: System off. c. Override Operation: Two hours. 5. Supply Fan Operation: a. Occupied Periods: Run fan continuously. b. Unoccupied Periods: Cycle fan to maintain setback temperature. 6. Refrigerant Circuit Operation: a. Occupied Periods: Cycle or stage compressors to match compressor output to cooling load to maintain room temperature. Cycle condenser fans to maintain maximum hot-gas pressure. b. Unoccupied Periods: Compressors off. 7. Gas Furnace Operation: a. Occupied Periods: Modulate burner to maintain room temperature. b. Unoccupied Periods: Cycle burner to maintain setback temperature. 8. Electric-Heating-Coil Operation: a. Occupied Periods: Energize coil to maintain setback temperature. b. Unoccupied Periods: Close the outdoor-air damper. 9. Fixed Minimum Outdoor-Air Damper Operation: a. Occupied Periods: Open to meet minimum outdoor air requirements. b. Unoccupied Periods: Close the outdoor-air damper. 10. Economizer Outdoor-Air Damper Operation: a. Morning cool-down cycles. b. Occupied Periods: Open to fixed minimum intake, and maximum 100 percent of the fan capacity. Controller shall permit air-side economizer operation when outdoor air is less than 60 deg F (15 deg C). Use outdoor-air enthalpy to adjust mixing dampers. Start relief-air fan with and switch on outdoor-air damper. During economizer cycle operation, lock out cooling. c. Unoccupied Periods: Close outdoor-air damper and open return-air damper.	C. Where installing piping adjacent to RTUs, allow space for service and maintenance. 1. Gas Piping: Comply with applicable requirements in Section 231123 "Facility Natural-Gas Piping." Connect gas piping to burner, full size of gas train inlet, and connect with union and shutoff valve with sufficient clearance for burner removal and service. D. Install nameplate for each electrical connection indicating electrical equipment designation and circuit number feeding connection. <b>3.3 FIELD QUALITY CONTROL</b> A. Tests and Inspections: 1. After installing RTUs and after electrical circuitry has been energized, test units for compliance with requirements. 2. Inspect for and remove shipping bolts, blocks, and tie-down straps. 3. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation. 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment. B. RTU will be considered defective if it does not pass tests and inspections. C. Prepare test and inspection reports. <b>3.4 CLEANING AND ADJUSTING</b> A. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupancy conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose. B. After completing system installation and testing, adjusting, and balancing RTU and air-distribution systems, clean filter housings and install new filters.	DESIGNED: MLB REVISIONS: No. DRAWN: MLB CHECKED: JJK DATE: 09/11/24 28210 9/11/24 KULHANEK ARCHITECTS P.C. 223 SOUTH BROADWAY, SUITE 200, EDMOND, OK 73034   405.259.2000 COA 0664 063002023 THE EXHIBITS BEING REFERENCED TO IN THIS DOCUMENT ARE INCORPORATED BY REFERENCE INTO THIS DOCUMENT. THE EXHIBITS BEING REFERENCED TO IN THIS DOCUMENT ARE THE PROPERTY OF ARCHITECT AND SHALL BE RETURNED TO ARCHITECT UPON COMPLETION OF THE PROJECT.	ISSUE DATE: 08/10/24 REVISIONS: No. DRAWN: MLB CHECKED: JJK DATE: 09/11/24 28210 9/11/24 KULHANEK ARCHITECTS P.C. 223 SOUTH BROADWAY, SUITE 200, EDMOND, OK 73034   405.259.2000 COA 0664 063002023 THE EXHIBITS BEING REFERENCED TO IN THIS DOCUMENT ARE INCORPORATED BY REFERENCE INTO THIS DOCUMENT. THE EXHIBITS BEING REFERENCED TO IN THIS DOCUMENT ARE THE PROPERTY OF ARCHITECT AND SHALL BE RETURNED TO ARCHITECT UPON COMPLETION OF THE PROJECT.	PROJECT NO: 09334.001 COA: CA5964
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**CITY OF YALE**  
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111 N B ST  
YALE, OK 74085

**SHEET SPECIFICATIONS - MECHANICAL**

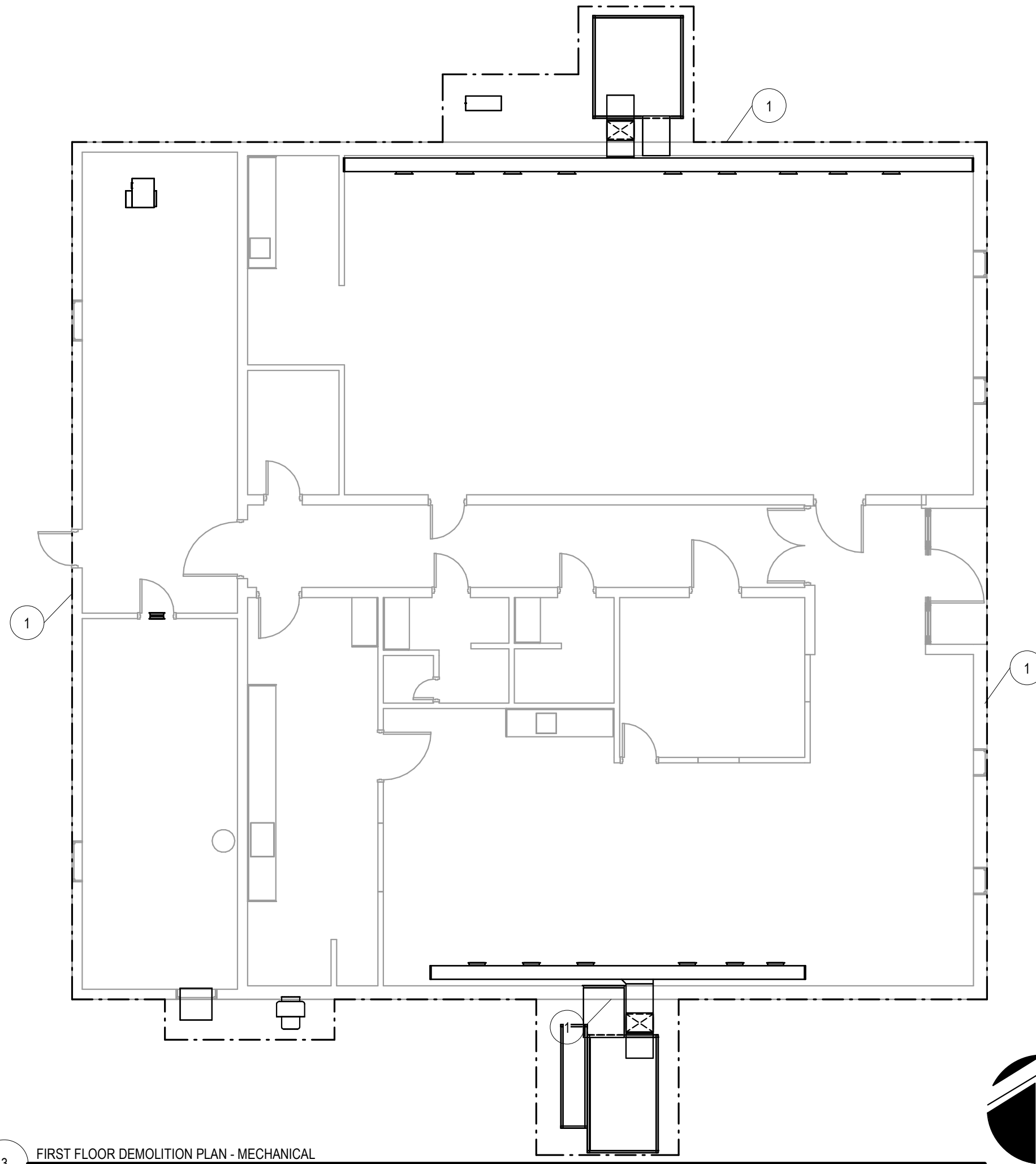
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M 02

**REF. DEMO NOTES (X):**

- 1 REMOVE EXISTING MECHANICAL SYSTEM IN ITS ENTIRETY. PREPARE FOR NEW CONSTRUCTION.

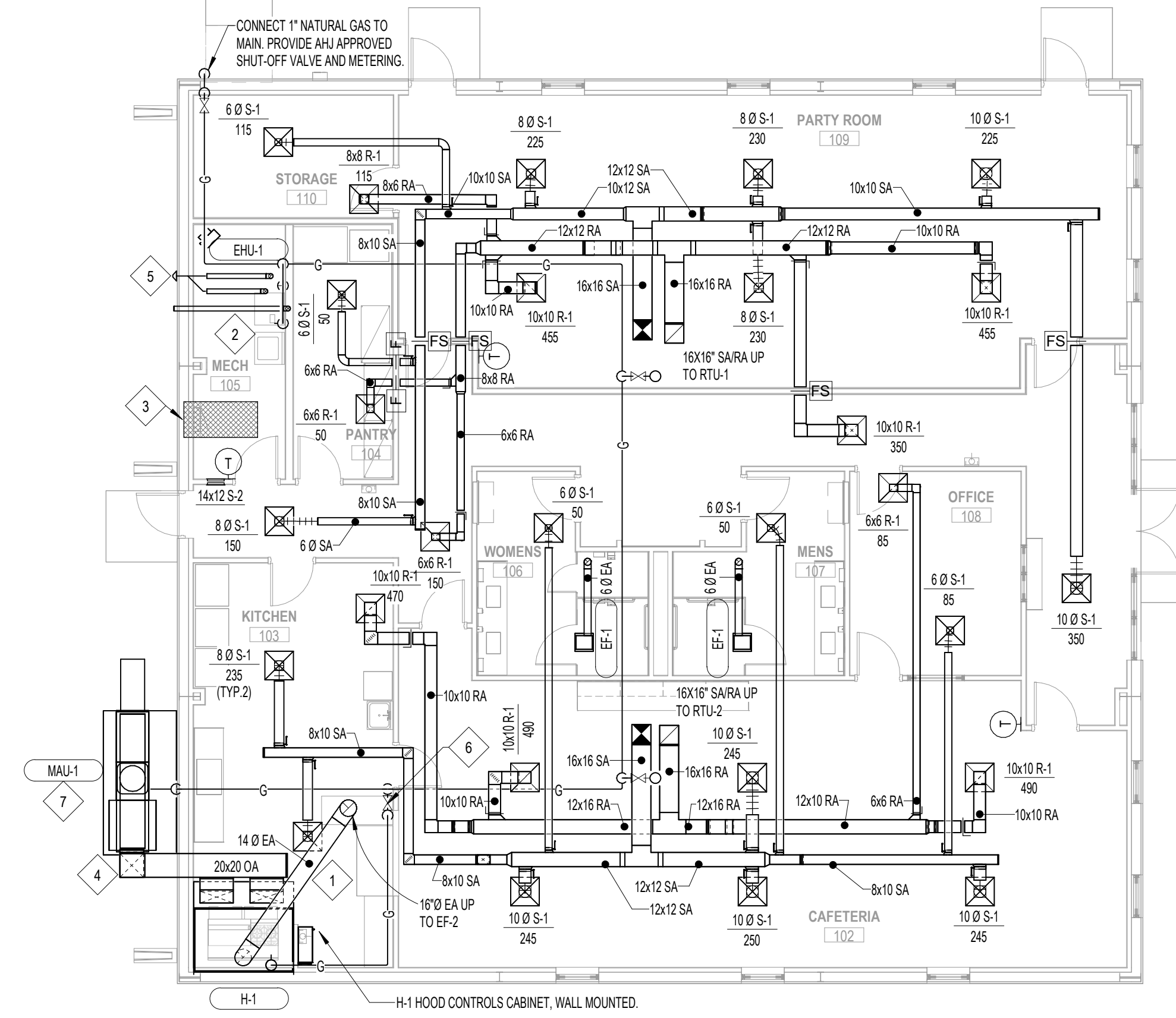


3 FIRST FLOOR DEMOLITION PLAN - MECHANICAL  
SCALE: 1/8" = 1'-0"

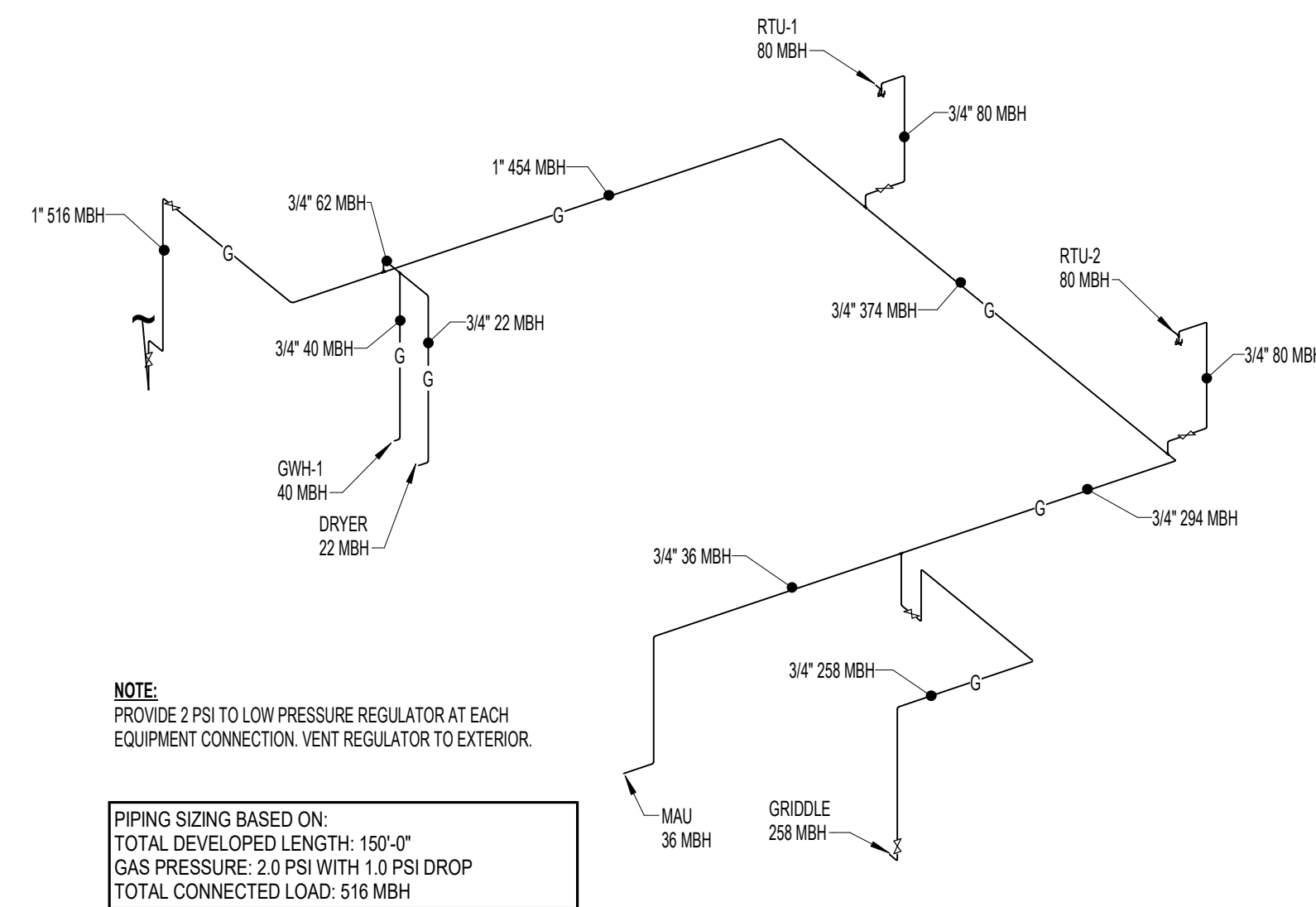


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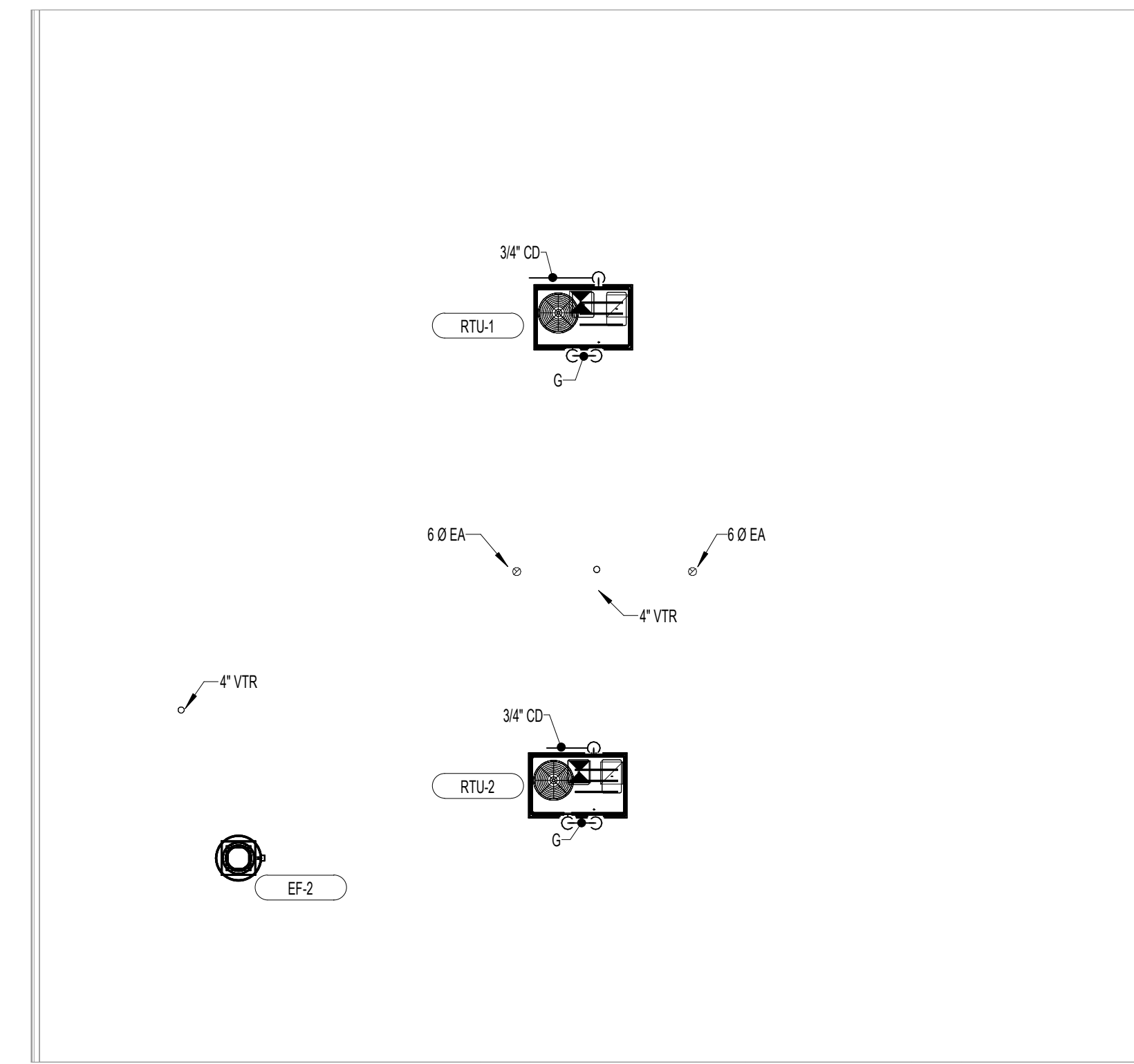
- 1 KITCHEN GREASE EXHAUST DUCT SHALL SLOPE AT LEAST 1/4 UNIT VERTICAL IN 12 UNITS HORIZONTAL. ROUTE DUCT THROUGH TRUSSES. INSTALL CLEANOUTS ON SIDE OF DUCT, NO MORE THAN 20 FT APART AND NO MORE THAN 10 FT FROM CHANGES OF DIRECTION GREATER THAN 45 DEGREES. GREASE DUCT TO BE MANUFACTURED PRODUCT RATED FOR ZERO CLEARANCE.
- 2 PROVIDE 1-HOUR FIRE RATED DRYER BOX, MODEL 425 OR EQUAL. CONTRACTOR IS TO COORDINATE DRYER BOX LOCATION WITH ARCHITECTURAL PLANS AND GC PRIOR TO INSTALLATION. PROVIDE 4" Ø ALUMINUM DUCT FROM DRYER BOX TO VENT TERMINAL. INSTALL VENTING PER MANUFACTURER RECOMMENDATIONS.
- 3 THIS SPACE IS RESERVED FOR ELECTRICAL EQUIPMENT. NO PIPING OR DUCTWORK SHALL PASS BELOW, ABOVE, OR AROUND ELECTRICAL EQUIPMENT. PROVIDE CODE REQUIRED MINIMUM CLEARANCE ABOVE ELECTRICAL EQUIPMENT ACCESS SPACE.
- 4 INSTALL MAKE UP AIR UNIT ON CONCRETE HOUSEKEEPING PAD. ANCHOR UNIT TO PAD AS REQUIRED.
- 5 PVC COMBUSTION AIR AND VENT FOR WATER HEATER. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 6 ROUTE 1/2" NATURAL GAS PIPING DOWN TO 7'-0". PROVIDE SHUTOFF VALVE AND EXTEND UP INTO PLENUM AND OVER TO GRIDDE. COORDINATE PIPING INSTALLATION WITH ROLL UP GATE FOR PASS THROUGH WINDOW.
- 7 MAKE UP AIR UNIT (MAU-1) TO BE INSULATED WITH MINIMUM 3" WRAP AND ALUMINUM JACKET.



1 FIRST FLOOR PLAN - MECHANICAL  
SCALE: 1/8" = 1'-0"



4 NATURAL GAS RISER - MECHANICAL  
NOT TO SCALE



2 ROOF PLAN - MECHANICAL  
SCALE: 1/8" = 1'-0"



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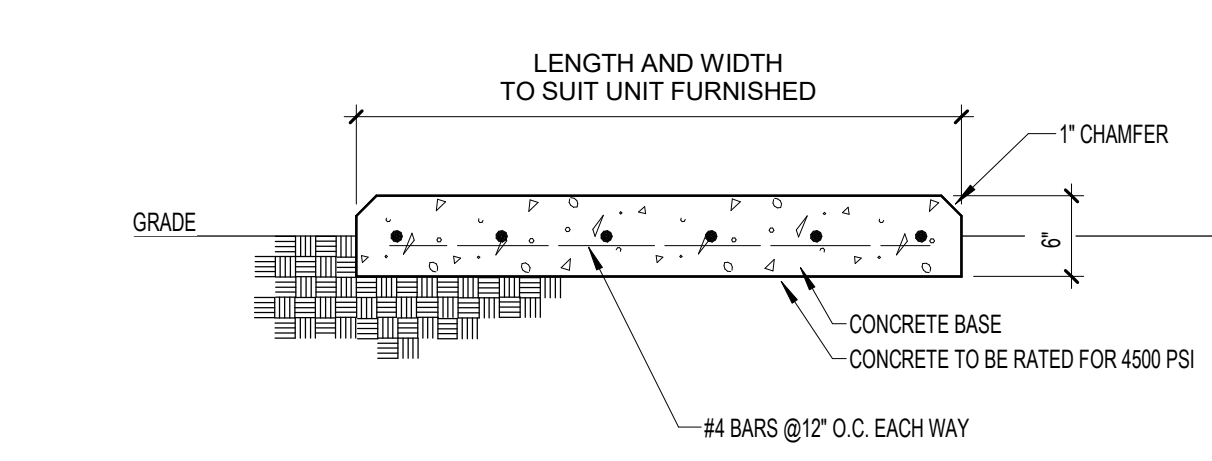
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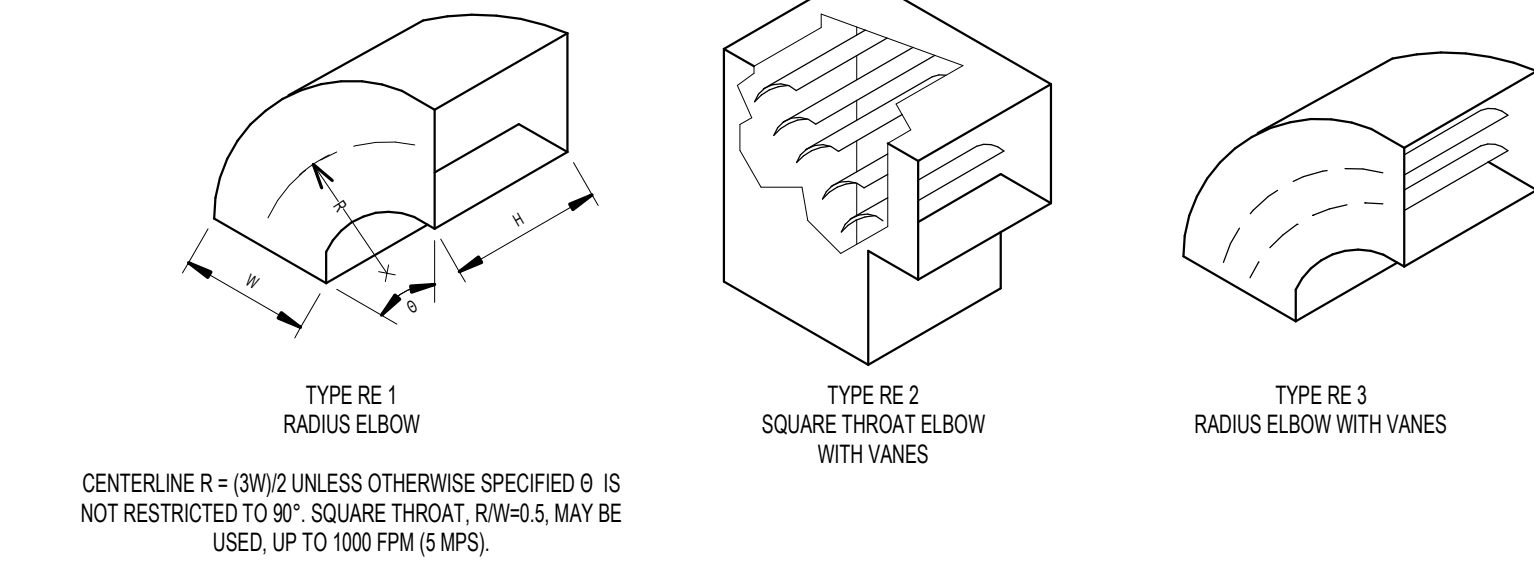
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**FLOOR PLAN - MECHANICAL**

PROJECT NO.: 09334.001  
COA: CA5964

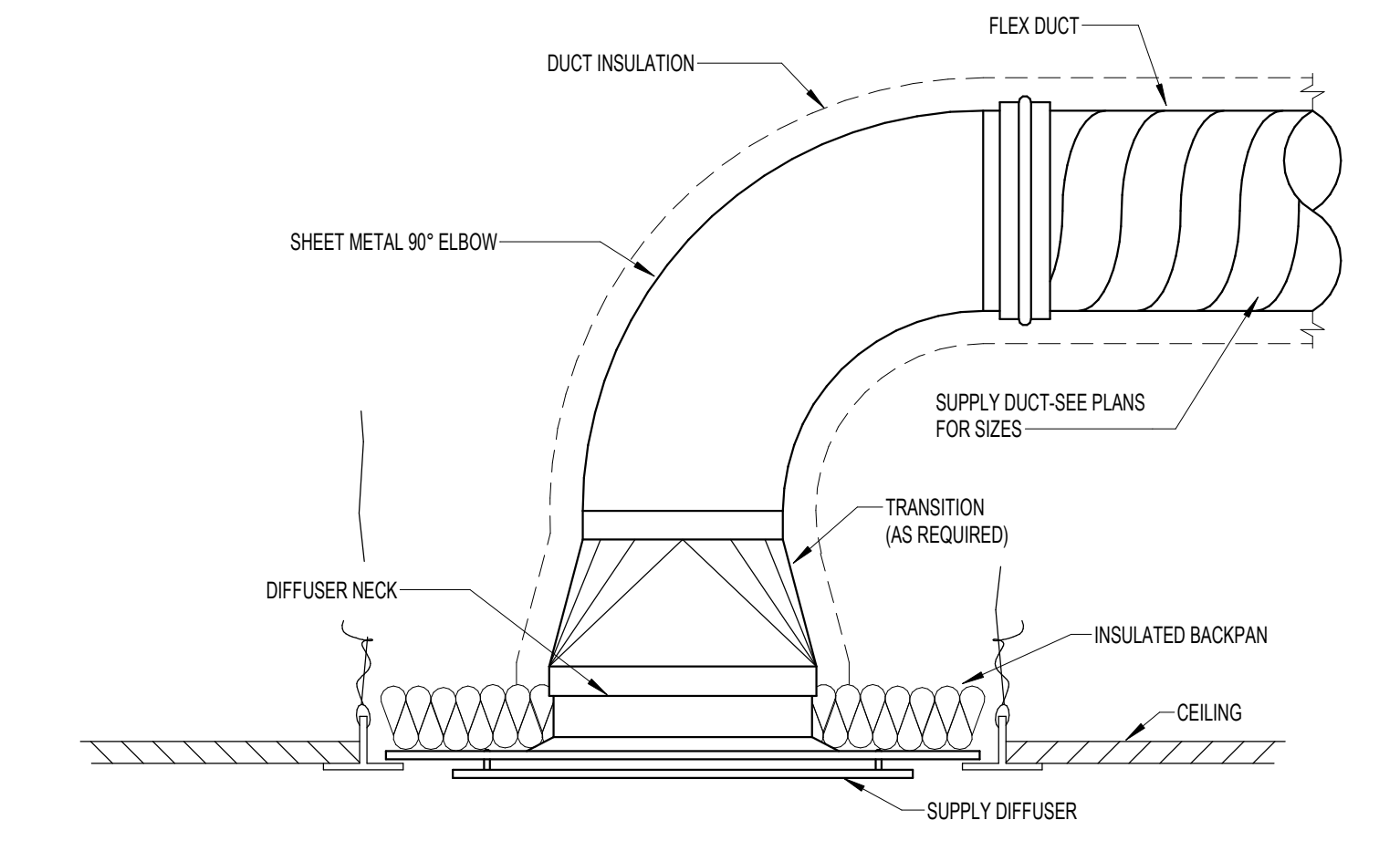
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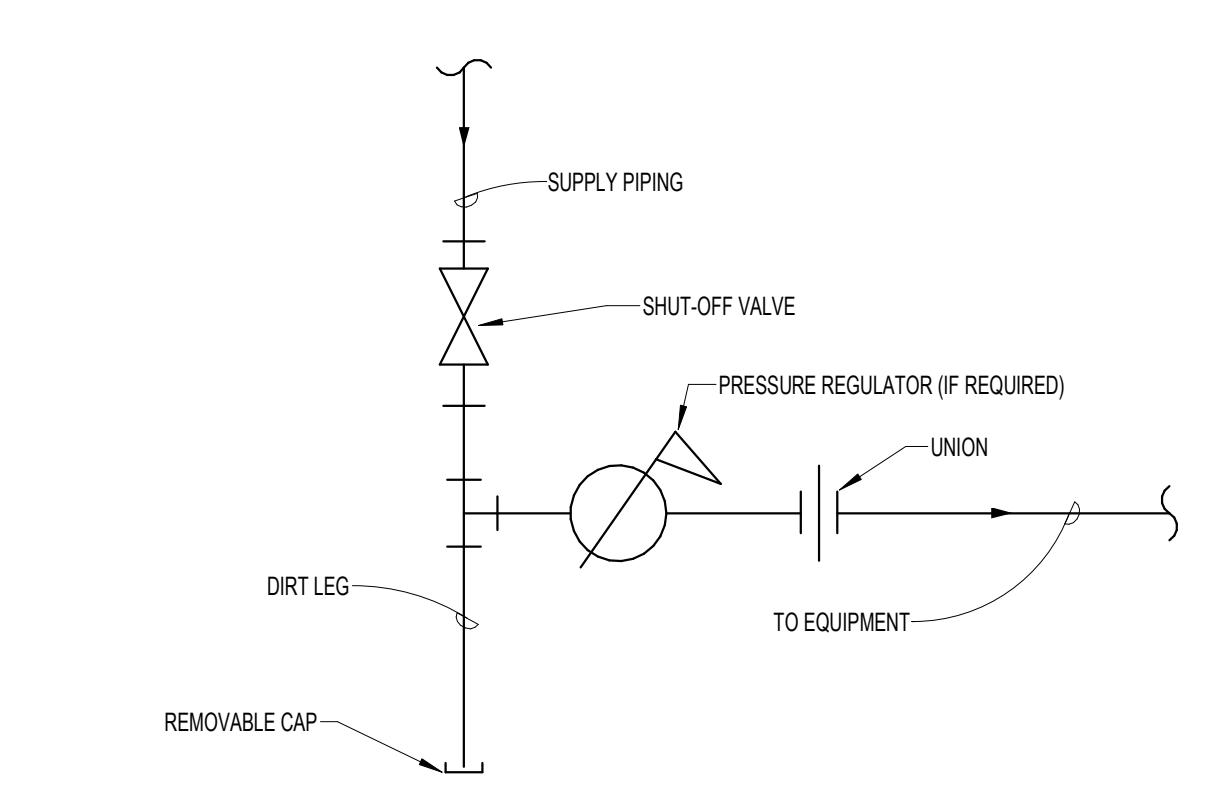
1 EXTERIOR EQUIPMENT PAD DETAIL  
SCALE: NOT TO SCALE



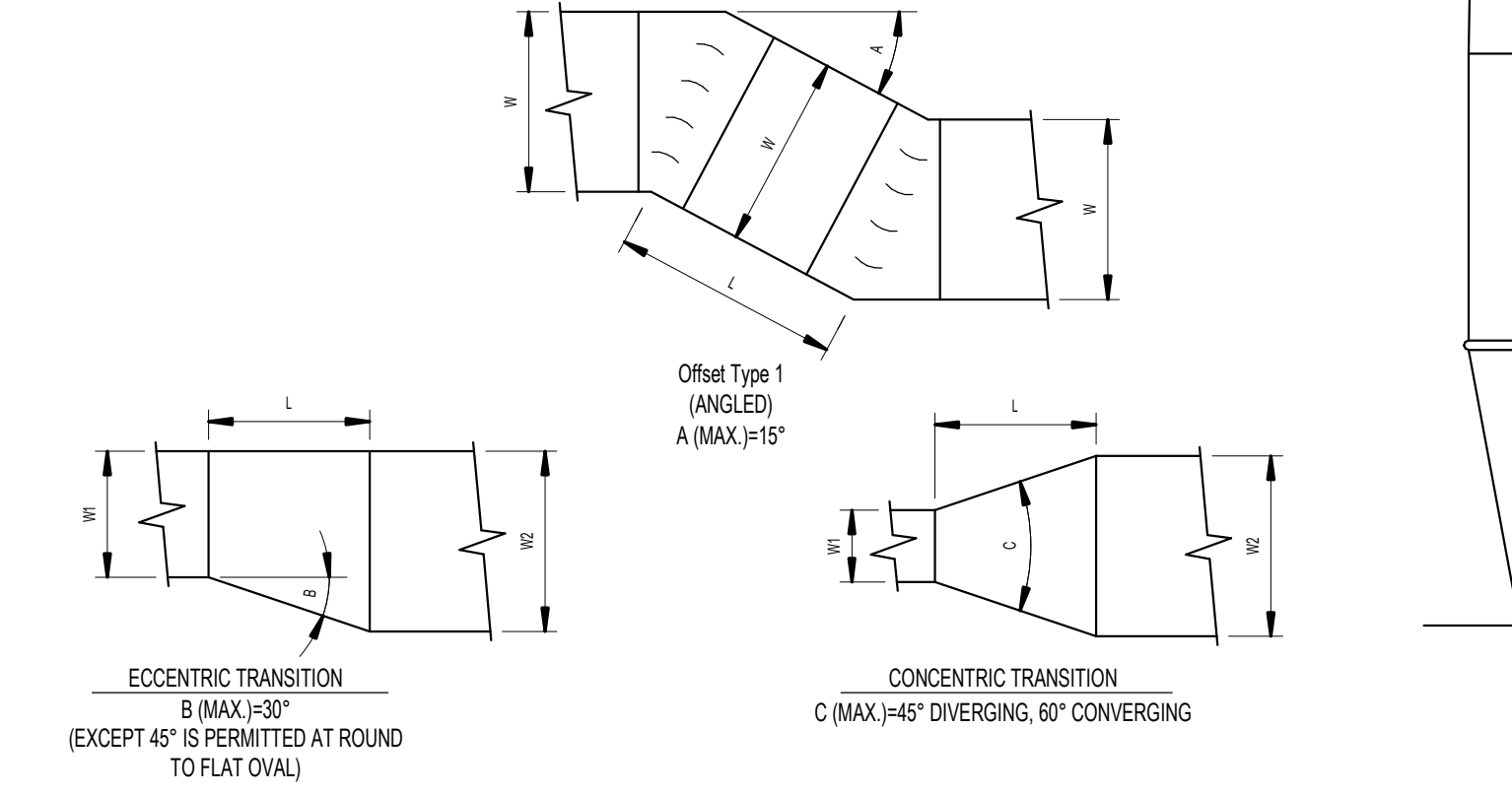
3 DUCT ELBOW DETAIL  
SCALE: NOT TO SCALE



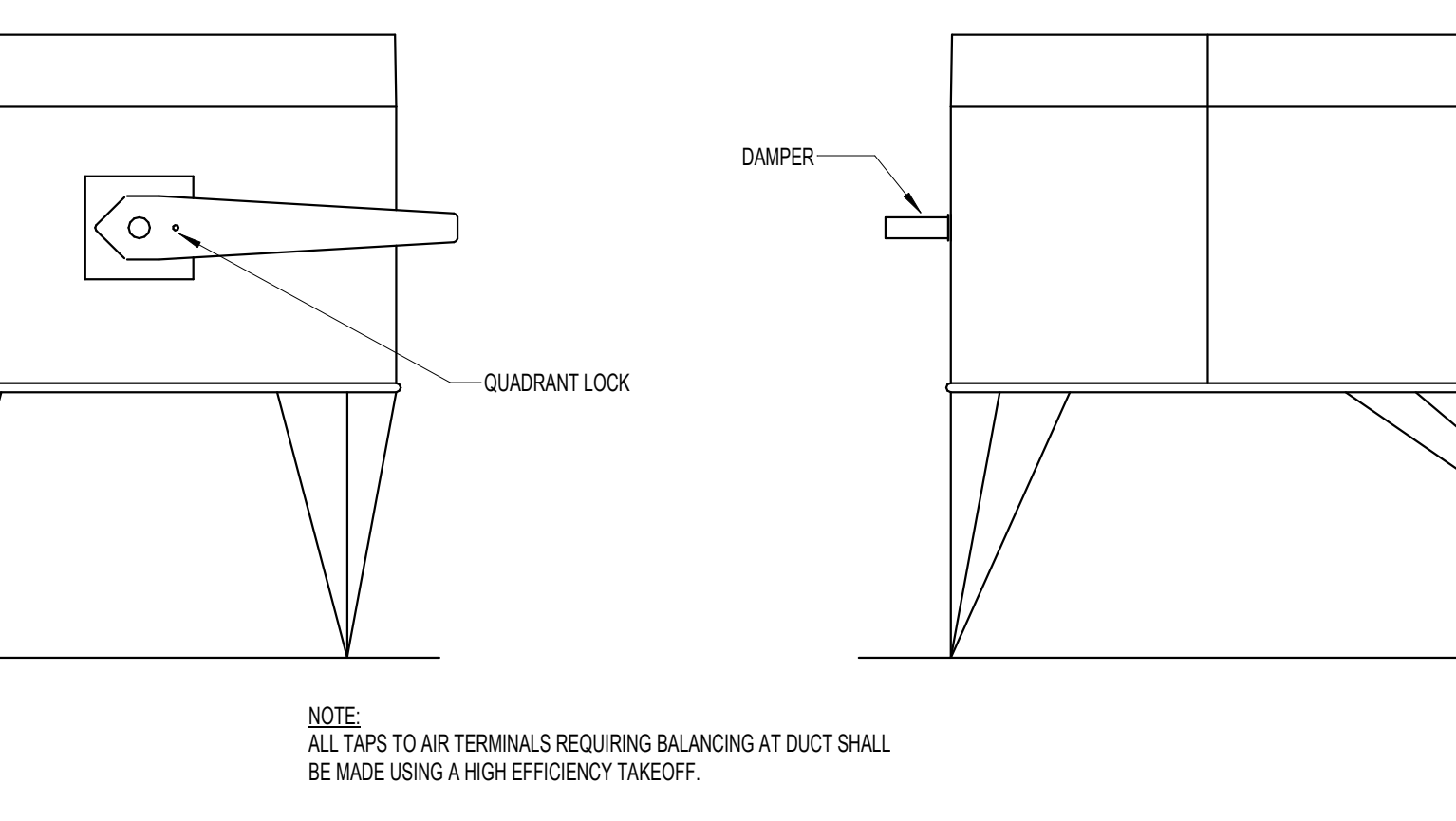
5 SUPPLY DIFFUSER DUCT CONNECTION DETAIL  
SCALE: NOT TO SCALE



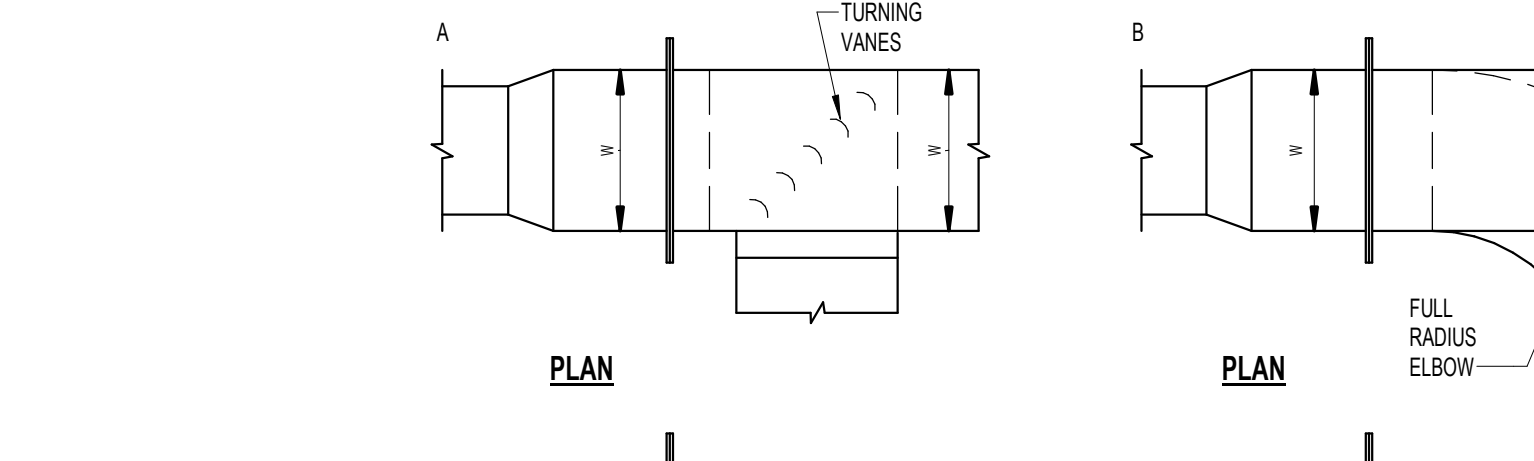
2 TYPICAL GAS PIPING DETAIL  
SCALE: NOT TO SCALE



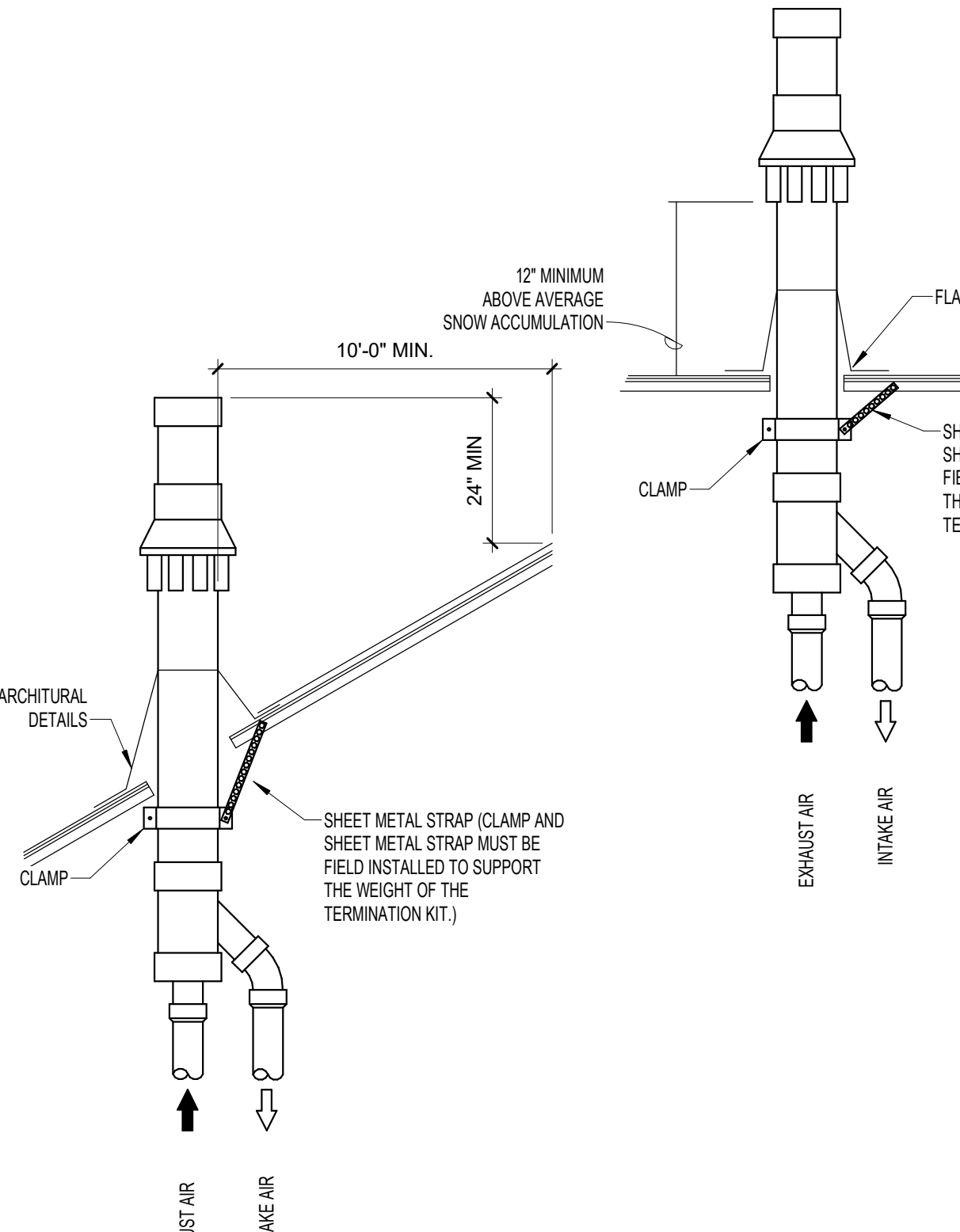
4 OFFSETS AND TRANSITIONS DETAIL  
SCALE: NOT TO SCALE



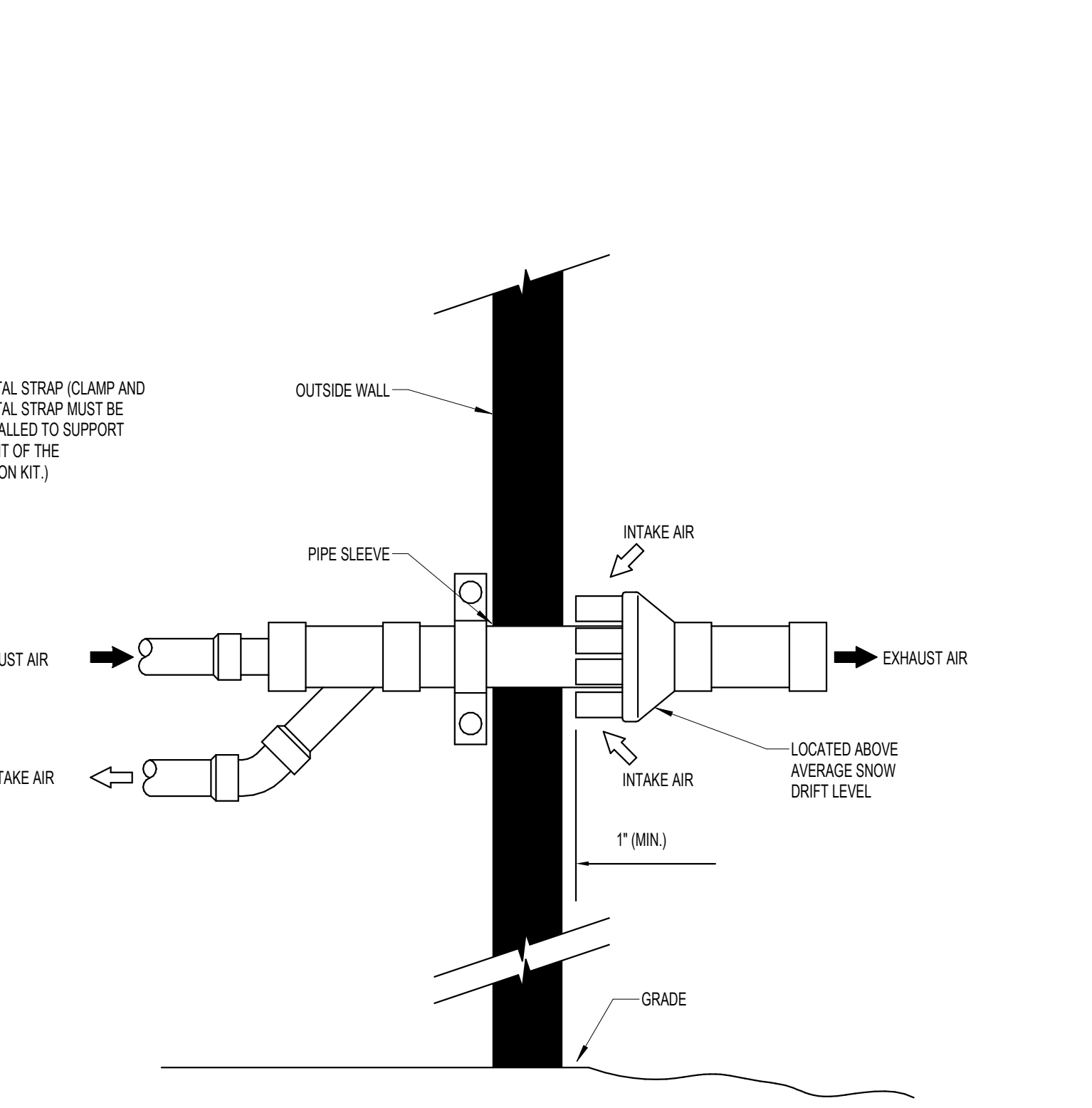
6 HIGH EFFICIENCY TAKEOFF DETAIL  
SCALE: NOT TO SCALE



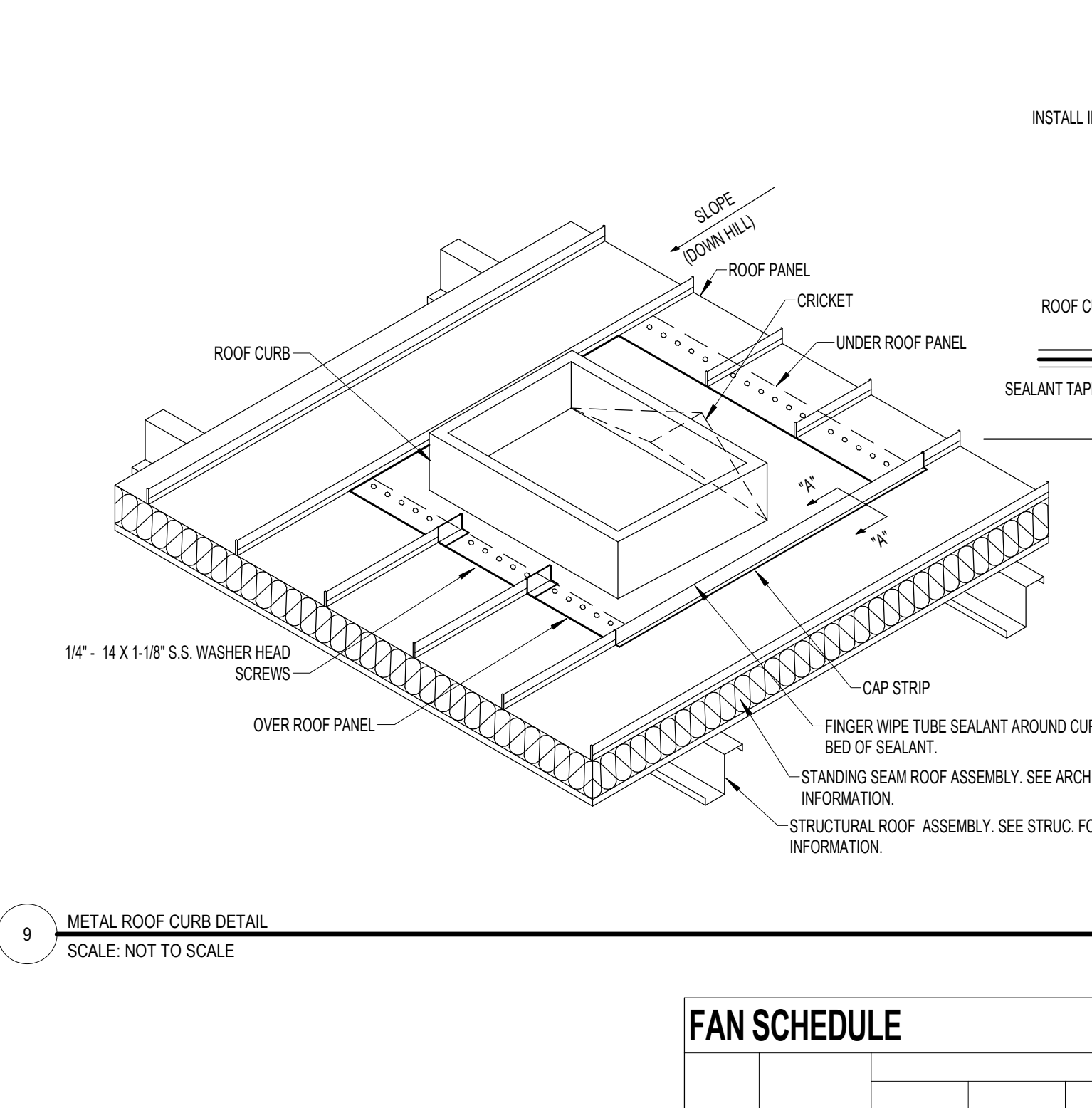
7 PARALLEL FLOW BRANCH DETAIL  
SCALE: NOT TO SCALE



8 CONCENTRIC GAS FLUE DETAILS  
SCALE: NOT TO SCALE

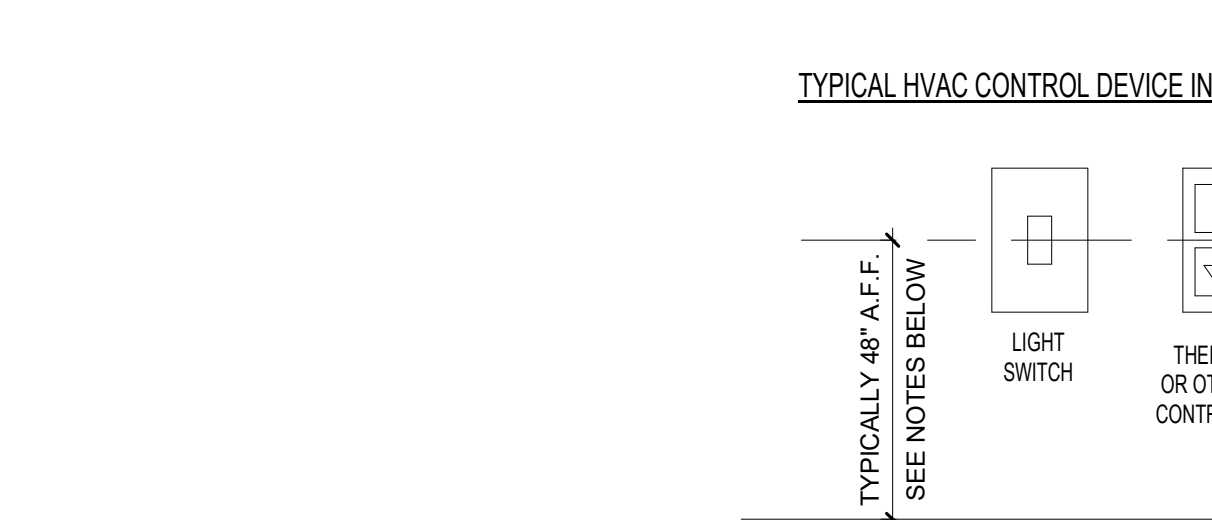


9 METAL ROOF CURB DETAIL  
SCALE: NOT TO SCALE



10 CONDENSATE DRAIN TRAP NEGATIVE STATIC PRESSURE  
SCALE: NOT TO SCALE

NOTE: FOLLOW ALL CODE AND MANUFACTURERS REQUIREMENTS FOR MOUNTING AND INSTALLATION.



11 THERMOSTAT DETAIL  
SCALE: 12" = 1'-0"

FAN SCHEDULE

MARK	LOCATION	TYPE	FAN DATA				ELECTRICAL DATA				UNIT WEIGHT (LBS)	FAN CONTROL	MANUFACTURER AND MODEL NUMBER	REMARKS	
			CFM	EXT SP (IN WG)	DRIVE	RPM	SOUND LEVEL	HP	VOLTS	PH					HZ
EF-1	RESTROOM	CEILING	75	0.2	DIRECT	—	33.8BA	19 WATTS	120	1	60	18	TIEBLOCK	GREENHECK SR-890	3
EF-2	ROOF	URBLAST	1400	1.2	DIRECT	1342	11.50NES	3/4	208	1	60	65	SWITCH	CAPTIVEAIRE DUBSPFA	1, 2

NOTES: 1. PROVIDE WITH 1/4" HIGH VENTED ROOF CURB, BIRD SCREEN, AND SPEED CONTROLLER.  
2. PROVIDE WITH GREASE BOX.  
3. PROVIDE WITH GREENHECK WC-6 ROOF CAP, INTEGRAL BACKDRAFT DAMPER, AND SPEED CONTROLLER.

DIFFUSER, REGISTER AND GRILLE SCHEDULE

MARK	MOUNTING TYPE	FACE SIZE (IN)	NECK SIZE (IN)	BLADE ANGLE	VOLUME CONTROL	MATERIAL FINISH	MAX PD (IN WG)	MAX NC AT PD SHOWN	MANUFACTURER & MODEL NUMBER	REMARKS
S-1	LAF-N	24 X 24	SEE PLANS	—	DAMPER IN DUCT	WHITE	0.1	25	KRUEGER-PLG	1
R-1	LAF-N	24 X 24	SEE PLANS	—	DAMPER IN DUCT	WHITE	0.1	25	KRUEGER ECG10	—

NOTES: 1. PROVIDE WITH STRAIGHTENING GRID IN NECK.

GAS FIRED ROOF TOP UNIT SCHEDULE

MARK	CFM	ESP (IN WG)	OA (CFM)	COOLING MBH		HEATING MBH		ELECTRICAL DATA				MAX FUSE AMPS	MANUFACTURER AND MODEL NUMBER	REMARKS
				TOTAL	SENSIBLE	INPUT	OUTPUT	VOLTS	PH	MCA	MAX NC AT PD SHOWN			
RTU-1	1575	1	235	40.88	38.76	80	64.8	208	3	26	35	TRANE YSC24833	1-5	
RTU-2	1640	1	235	40.88	38.76	80	64.8	208	3	26	35	TRANE YSC24834	1-5	

NOTES: 1. SUPPLY WITH 7 DAY PROGRAMMABLE TOUCHSCREEN THERMOSTAT AND MERV 13 FILTER KIT. PROVIDE ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF.  
2. PROVIDE KINETICS NOISE CONTROL RIP RT CURB ISOLATION PADS FOR EACH RTU OR SIMILAR PRODUCT.  
3. PROVIDE KINETICS NOISE CONTROL RT-7 ACOUSTIC INFILL AT EACH RTU OR SIMILAR PRODUCT.  
4. PROVIDE WITH COIL HALL GUARD.  
5. PROVIDE SMOKE DETECTION IN RETURN DUCT. SEE ELECTRICAL FOR MORE INFORMATION.

ELECTRIC UNIT HEATER SCHEDULE

MARK	LOCATION	HEATER ELECTRICAL DATA				MOTOR				AIR DELIVERY DATA				RECORD MOUNTING HEIGHT	MANUFACTURER AND MODEL NUMBER	REMARKS
		BTUH	KW	VOLTS	PH	HP	VOLTS	PH	HZ	CFM	EAT (F)	LAT (F)	RECOND			
EUH-1	MECH 105	17,060	5	208	1	80	0.03	208	1	60	150-479	57	90	7'-0" TO BOTTOM	REZNOUR EUH-TSL 05	1, 2

NOTES: 1. MOUNT UNIT TO ROOF STRUCTURE. COORDINATE WITH ELECTRICAL CONTRACTOR.  
2. PROVIDE WITH THERMOSTAT.

HOOD SCHEDULE

MARK	LOCATION	SERVES	TYPE	CFM	STATIC PRESSURE	EXHAUST THROAT SIZE		OUTSIDE AIR THROAT SIZE			HOOD DIMENSIONS			MANUFACTURER AND MODEL NUMBER	REMARKS
						DIAMETER (IN)	WIDTH (IN)	LENGTH (IN)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)				
KH-1	KITCHEN	MAU-1	TYPE 1	1400	-0.82	12	10	28	84	68	30	—	CAPTIVEAIRE 5430 ND-2-PSR-F	1-3	

NOTES: 1. PROVIDE WITH WALL MOUNTED UTILITY CABINET. SEE PLANS FOR LOCATION.  
2. PROVIDE WITH FILTERS, LIGHTS, AND GREASE TRAP.  
3. PROVIDE WITH WALL END PANELS AND BACKSPLASH.

INDIRECT FIRED MAKE-UP AIR HANDLING UNIT SCHEDULE

MARK	SERVES	CFM	ESP (IN WG)	FUEL	MINIMUM HEATING CAPACITY				MINIMUM COOLING CAPACITY				ELECTRICAL FAN DATA				ELECTRICAL CONDENSER DATA				MANUFACTURER AND MODEL NUMBER	REMARKS									
					EAT (F)	LAT (F)	INPUT (MBH)	OUTPUT (MBH)	AFUE	EAT (F)	LAT (F)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	LATENT CAPACITY (MBH)	HP	FLA	MCA	MCCP	VOLT	PH			HZ	CONDENSER NUMBER	VOLT	PH	HZ	MCA	RLA	MCCP	SEER
MAU-1	KH-1	1120	0.5	NAT. GAS	10	70	80.9	74.5	92	99	87.2	36	36	0	1	6.9	27.5	40	208	1	60	1	208	1	60	18.1	14.7	30	15	CAPTIVEAIRE A1-0-250-150-MPU	1-3

NOTES: 1. PROVIDE WITH CONTROLS, MOTORIZED BACKDRAFT DAMPER, AND CLOGGED FILTER SWITCH.  
2. INTERLOCK EF-2 WITH MAU-1. UNITS TO OPERATE WHEN COOKING OPERATION OCCURS.  
3. PROVIDE WITH HOUSEKEEPING PAD AND STAND.

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YALE, OK 74085  
DETAILS & SCHEDULE - MECHANICAL

PROJECT NO.: 09334.001  
COA: CA5964

M501

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SYMBOL LEGEND

Table containing symbols for Lighting, Fire Alarm System, Wiring Devices - Switches, Wiring Devices - Receptacles, Conduit and Boxes, Power Equipment, Panels and Cabinets, and Reference Legend.

ABBREVIATIONS

Table listing abbreviations for various electrical components and materials, such as ACGR, AFF, AIC, AL, ALT, AMP, ANSI, APPROX, AUTO, AVG, AWG, L, BKR, C OR CL, C OR CND, CKT, CLG, COL, CONG, CONF, CPT, CUH, DC, DEG, DEMO, DIA, DIM, DISC, DIST, DN, DWG, E, EA, EL OR ELEV, ELEC, ELEV, EM, EMI, ENCL, EQUIP, EST, EWC, EXIST, EXP, EXT, FA, FAAP, FACP, FAEP, FLA, FLEX, FLUOR, GF, HP, HR, HTG, HTR, HZ, ID, IES, IN, INSUL, INT, KCMIL, KV, KVA, KVAR, KW, LBS, LRA, LTG, MAX, MECH, MCCB, MFR, MG, MH, MIN, MISC, N, NC, NEC, NFPA, NIC, NO, NTS, OCPD, OD, OH, OPNG, PH, PIV, PNL, PSI, QTY, REC, REFR, REINF, REQD, RFI.

GENERAL DEMO NOTES

Notes regarding demolition procedures, including requirements for retaining salvageable material and proper disposal of hazardous materials.

GENERAL NOTES

General notes for the project, covering coordination with other trades, material specifications, and safety requirements.

GENERAL LIGHTING NOTES

Notes specific to lighting installation, including coordination of switch heights, equipment layouts, and emergency exit lighting requirements.

GENERAL POWER & AUX SYSTEMS NOTES

Notes regarding power and auxiliary systems, including mounting heights, conduit requirements, and equipment specifications.

ELECTRICAL SHEET LIST

Table listing the contents of the electrical sheet, including Electrical Info Sheet, Specifications, Demolition, Lighting, Power & Auxiliary Systems, and Equipment Schedules.

REFERENCE LEGEND

Table detailing reference symbols for room numbers, scheduled equipment, non-scheduled equipment, demolition notes, plan details, section details, new columns, matchlines, levels, title markers, and north arrows.

GENERAL DEMO NOTES

Additional demolition notes and specifications, including requirements for material retention and disposal.

GENERAL NOTES

General project notes and coordination instructions for the electrical installation.

GENERAL LIGHTING NOTES

Lighting-specific notes and requirements, including fixture placement and emergency lighting details.

GENERAL POWER & AUX SYSTEMS NOTES

Power and auxiliary system notes, covering conduit, raceway, and equipment installation requirements.

ELECTRICAL SHEET LIST

Summary table of the electrical sheet contents, including sheet numbers and titles for various sections.

Professional Engineer seal for Jonathan Fant, License No. 32120, dated 09/17/2024.

SCHEMMER logo with tagline 'Design with Purpose. Build with Confidence.' and contact information for the firm.

CITY OF YALE logo and contact information for the YALE SENIOR CENTER, including address and phone number.

PROJECT NO.: 09334.001

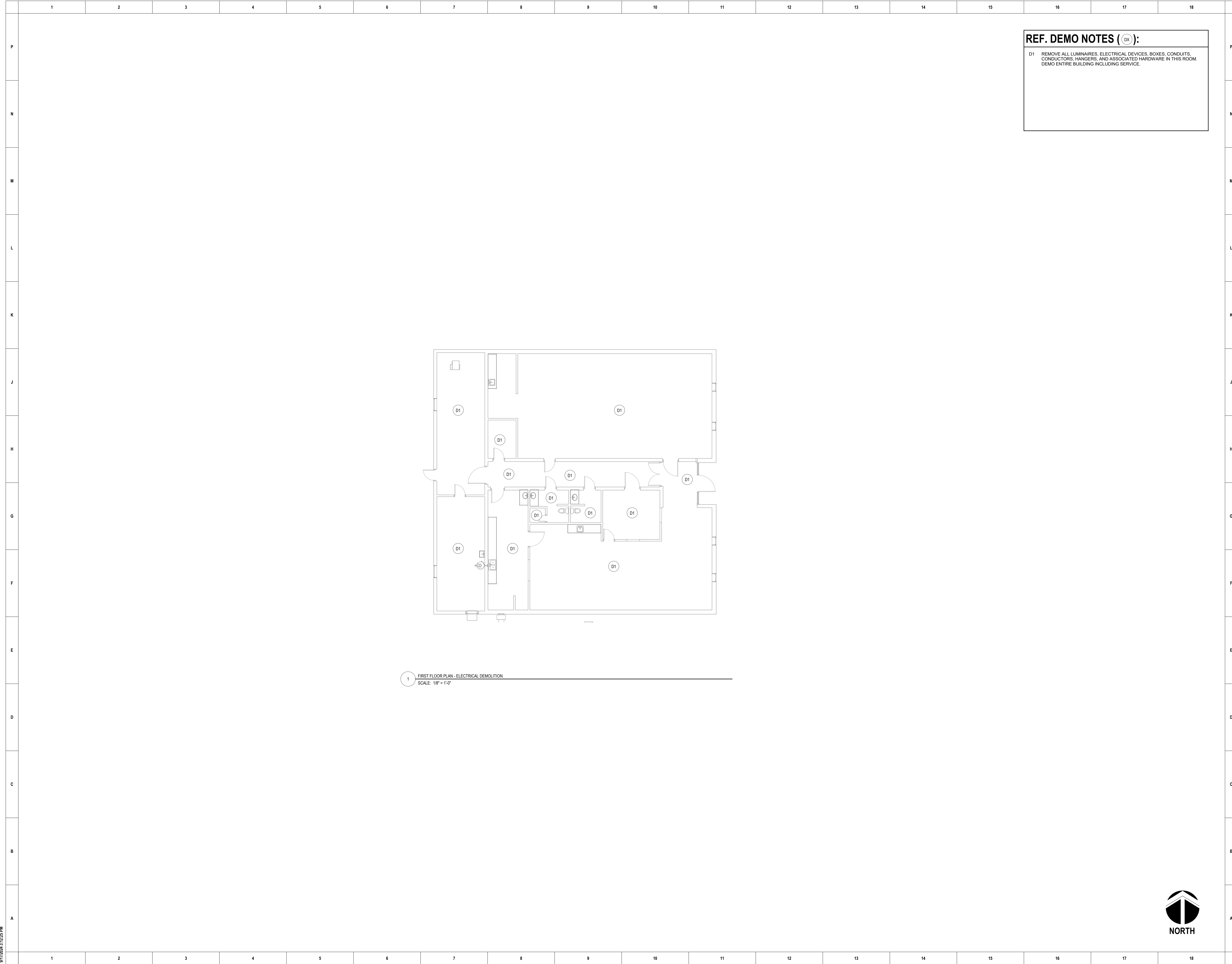


Table with 18 columns (1-18) and 26 rows (A-Z). Each row contains technical specifications and requirements for electrical systems, including sections for Lighting Control Devices, LED Interior Lighting, Fuses, Wiring Devices, Enclosed Switches, and Fire Alarm Systems. The table is organized into sections such as 'SECTION 26-09-23 - LIGHTING CONTROL DEVICES', 'SECTION 26-51-19 - LED INTERIOR LIGHTING', 'SECTION 26-28-13 - FUSES', 'SECTION 26-27-26 - WIRING DEVICES', 'SECTION 26-28-16 - ENCLOSED SWITCHES', and 'DIVISION 28 - ELECTRONIC SAFETY AND SECURITY SECTION 28-46-21.1 - ADDRESSABLE FIRE-ALARM SYSTEMS'. Each section includes sub-sections for Summary, Products, Execution, and Identification, with detailed material and performance requirements.

Professional Engineer Seal for Jonathan Fant, No. 32120, State of Oklahoma. Includes project information: PROJECT NO.: 09334.001, E 02, and address: CITY OF YALE, YALE SENIOR CENTER, 111 N B ST, YALE, OK 74885. The seal is circular with the text 'PROFESSIONAL ENGINEER' and 'JONATHAN FANT' around the perimeter, and 'LICENSED IN THE STATE OF OKLAHOMA' at the bottom.



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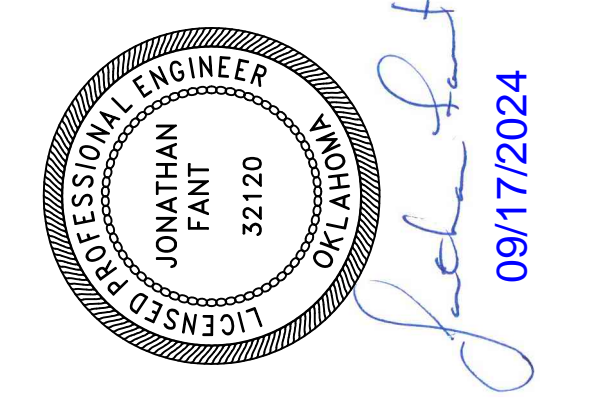


1 FIRST FLOOR PLAN - ELECTRICAL DEMOLITION  
SCALE: 1/8" = 1'-0"

**REF. DEMO NOTES (OK):**

D1 REMOVE ALL LUMINAIRES, ELECTRICAL DEVICES, BOXES, CONDUITS, CONDUCTORS, HANGERS, AND ASSOCIATED HARDWARE IN THIS ROOM. DEMO ENTIRE BUILDING INCLUDING SERVICE.

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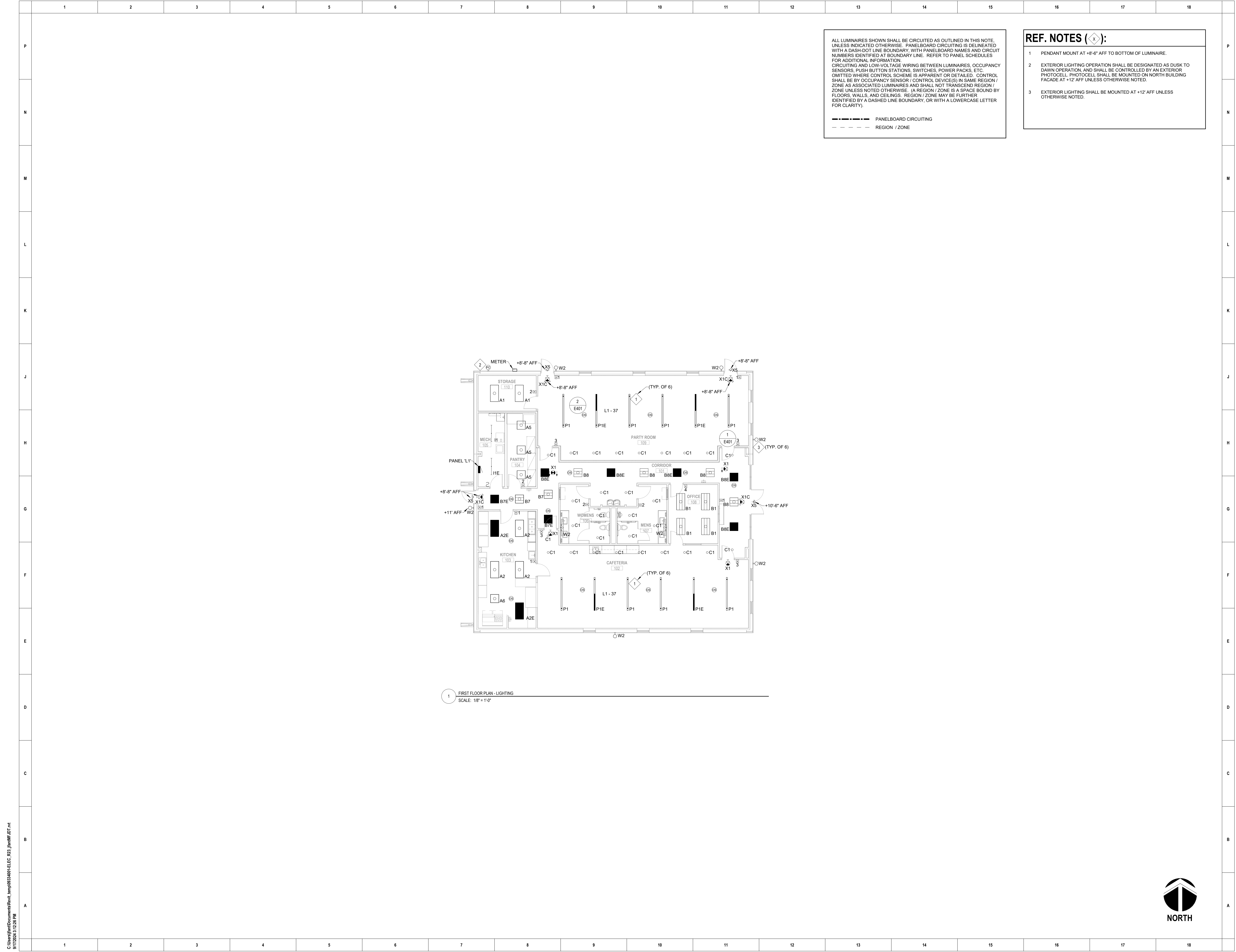
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**FLOOR PLAN - DEMOLITION**

PROJECT NO.: 09334.001

**E001**



**REF. NOTES (X):**

- PENDANT MOUNT AT +8'-6" AFF TO BOTTOM OF LUMINAIRE.
- EXTERIOR LIGHTING OPERATION SHALL BE DESIGNATED AS DUSK TO DAWN OPERATION, AND SHALL BE CONTROLLED BY AN EXTERIOR PHOTOCELL. PHOTOCELL SHALL BE MOUNTED ON NORTH BUILDING FACADE AT +12' AFF UNLESS OTHERWISE NOTED.
- EXTERIOR LIGHTING SHALL BE MOUNTED AT +12' AFF UNLESS OTHERWISE NOTED.

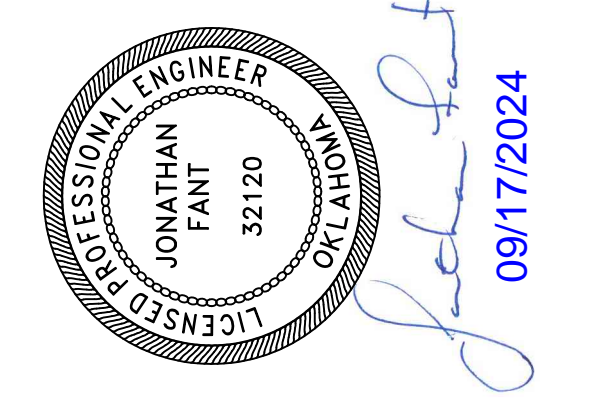
ALL LUMINAIRES SHOWN SHALL BE CIRCUITED AS OUTLINED IN THIS NOTE, UNLESS INDICATED OTHERWISE. PANELBOARD CIRCUITING IS DELINEATED WITH A DASH-DOT LINE BOUNDARY. WITH PANELBOARD NAMES AND CIRCUIT NUMBERS IDENTIFIED AT BOUNDARY LINE. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

CIRCUITING AND LOW-VOLTAGE WIRING BETWEEN LUMINAIRES, OCCUPANCY SENSORS, PUSH BUTTON STATIONS, SWITCHES, POWER PACKS, ETC. OMITTED WHERE CONTROL SCHEME IS APPARENT OR DETAILED. CONTROL SHALL BE BY OCCUPANCY SENSOR / CONTROL DEVICE(S) IN SAME REGION / ZONE AS ASSOCIATED LUMINAIRES AND SHALL NOT TRANSCEND REGION / ZONE UNLESS NOTED OTHERWISE. (A REGION / ZONE IS A SPACE BOUND BY FLOORS, WALLS, AND CEILINGS. REGION / ZONE MAY BE FURTHER IDENTIFIED BY A DASHED LINE BOUNDARY, OR WITH A LOWERCASE LETTER FOR CLARITY).

--- PANELBOARD CIRCUITING  
 - - - REGION / ZONE

1 FIRST FLOOR PLAN - LIGHTING  
 SCALE: 1/8" = 1'-0"

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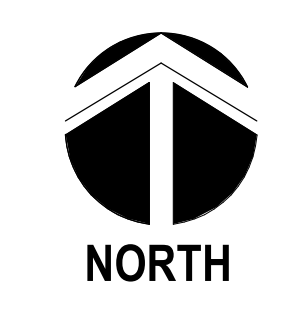
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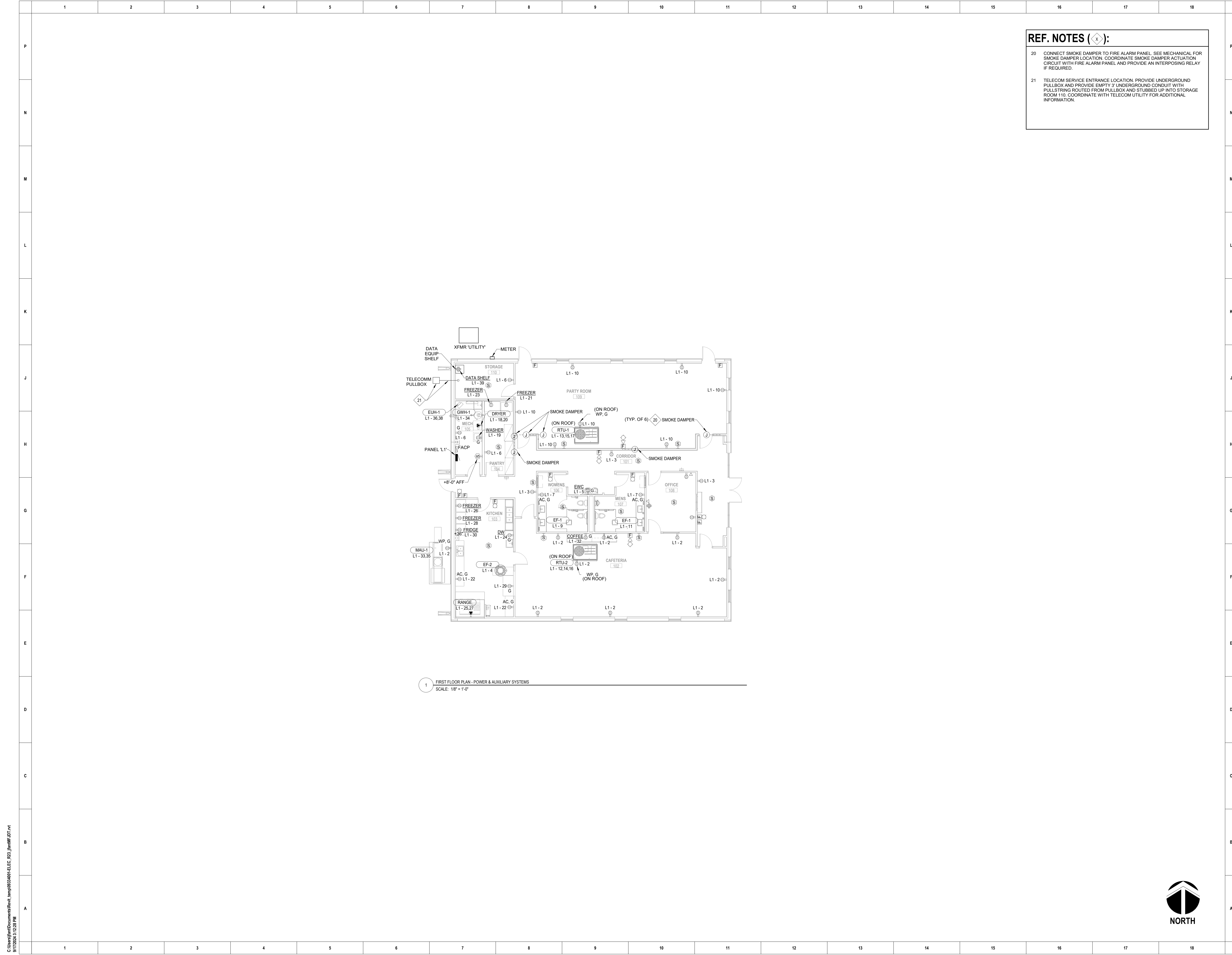
**FLOOR PLAN - LIGHTING**

PROJECT NO.: 09334.001



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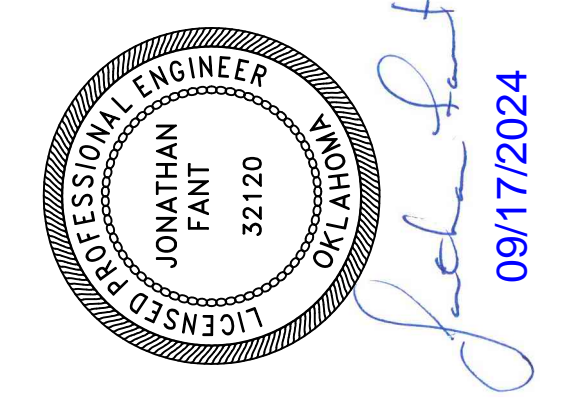
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1 FIRST FLOOR PLAN - POWER & AUXILIARY SYSTEMS  
SCALE: 1/8" = 1'-0"

REF. NOTES (X):	
20	CONNECT SMOKE DAMPER TO FIRE ALARM PANEL. SEE MECHANICAL FOR SMOKE DAMPER LOCATION. COORDINATE SMOKE DAMPER ACTUATION CIRCUIT WITH FIRE ALARM PANEL AND PROVIDE AN INTERPOSING RELAY IF REQUIRED.
21	TELECOM SERVICE ENTRANCE LOCATION. PROVIDE UNDERGROUND PULLBOX AND PROVIDE EMPTY 3' UNDERGROUND CONDUIT WITH PULLSTRING ROUTED FROM PULLBOX AND STUBBED UP INTO STORAGE ROOM 110. COORDINATE WITH TELECOM UTILITY FOR ADDITIONAL INFORMATION.

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		BY:	
		DESCRIPTION:	



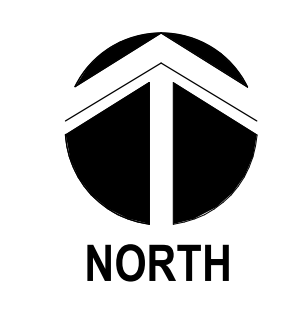
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COA 5964 06/30/2023

**CITY OF YALE**  
YALE SENIOR CENTER  
111 N B ST  
YALE, OK 74085

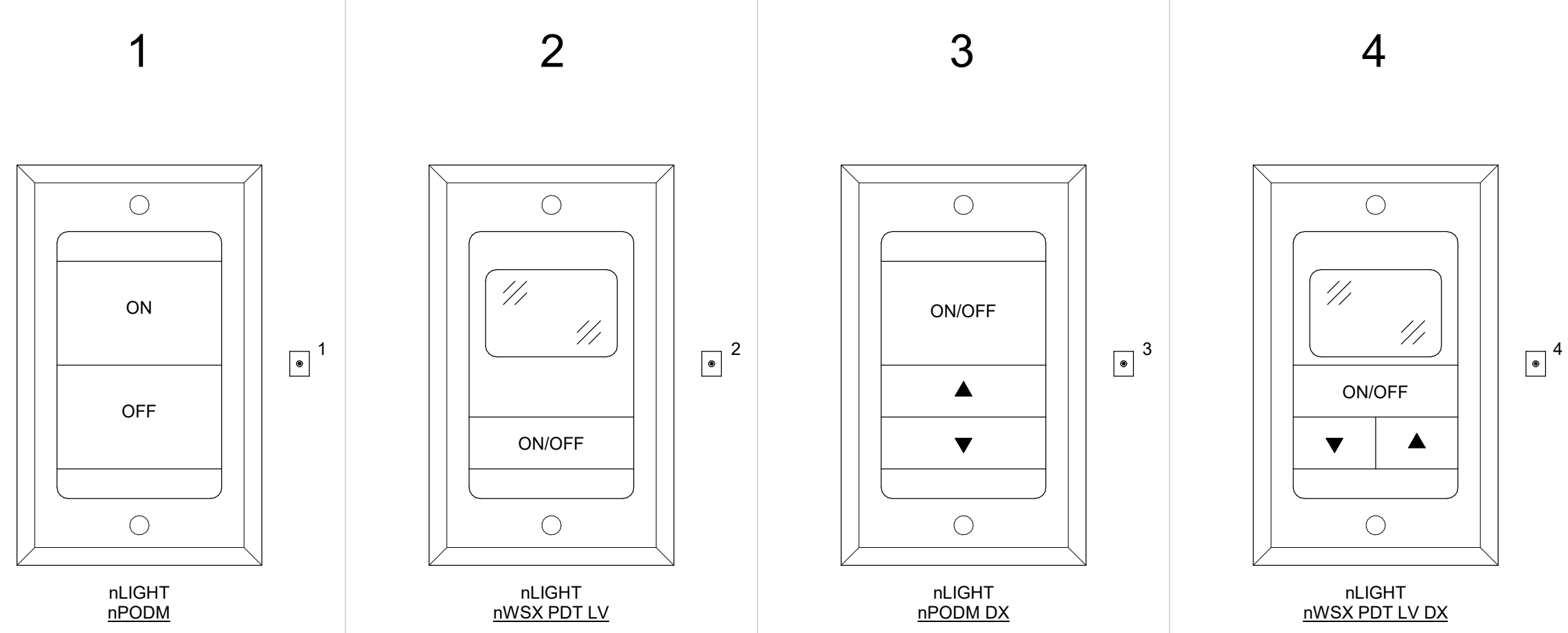
**FLOOR PLAN - POWER & AUXILIARY SYSTEMS**

PROJECT NO.: 09334.001

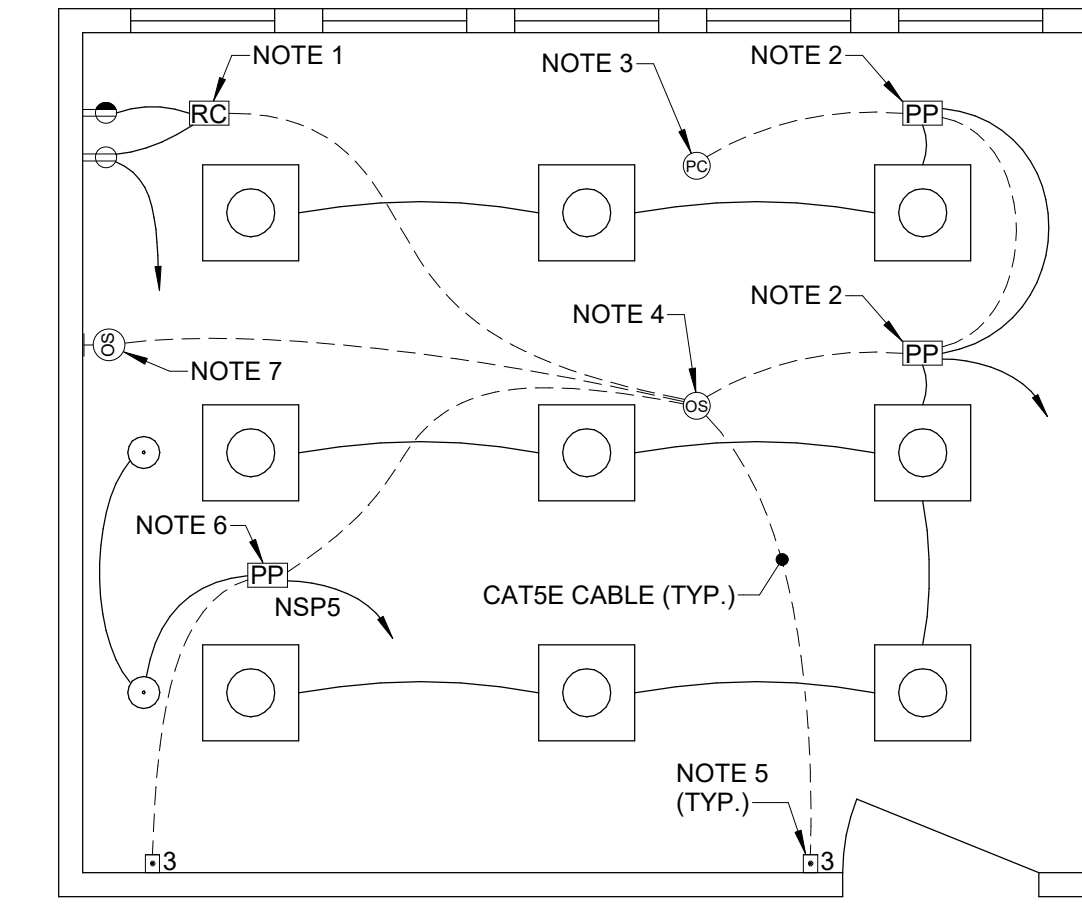


**E201**

LITHONIA (nLIGHT)

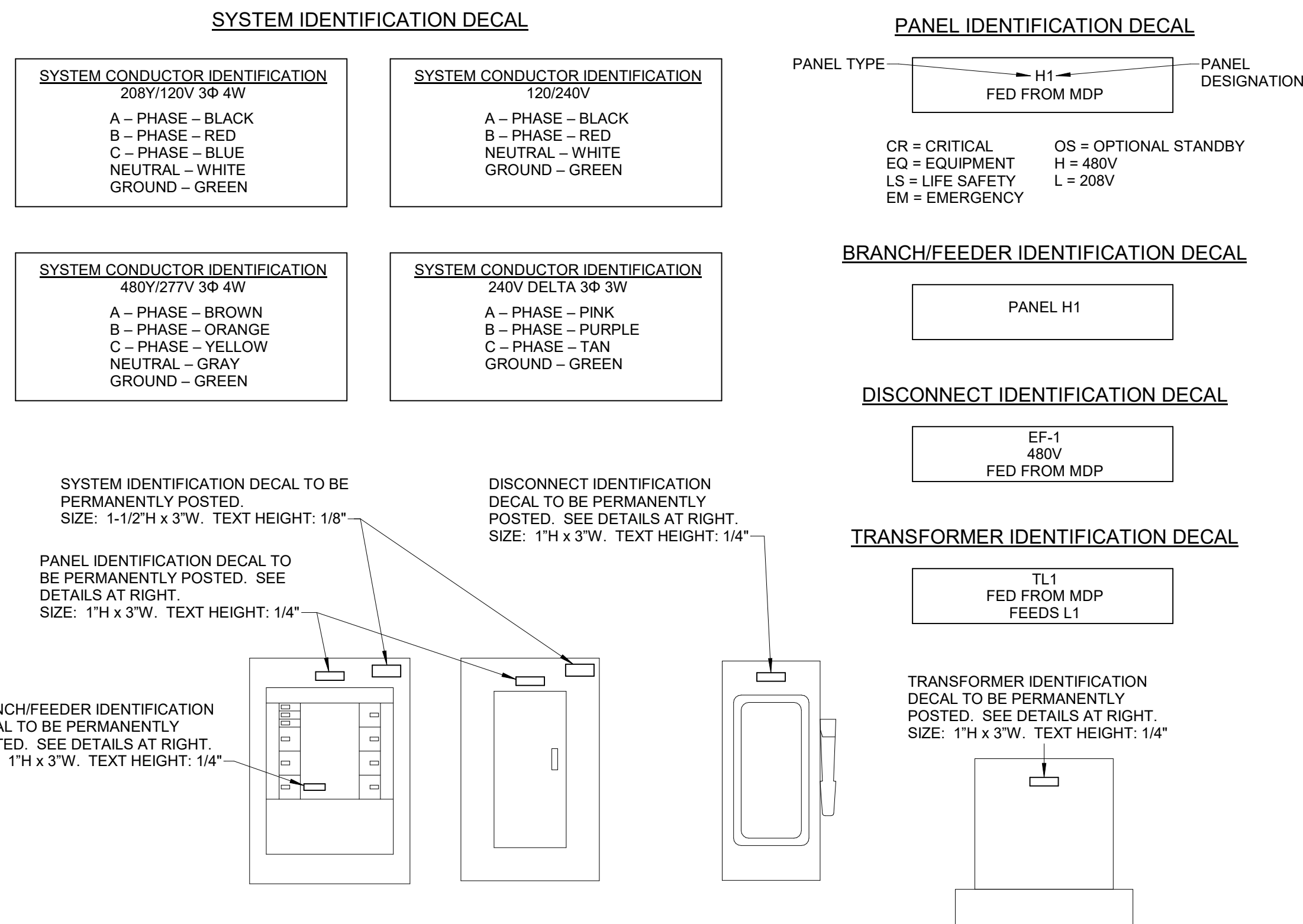


1 LITHONIA (nLIGHT) - SPECIALTY LIGHTING PUSHBUTTONS  
SCALE: NOT TO SCALE



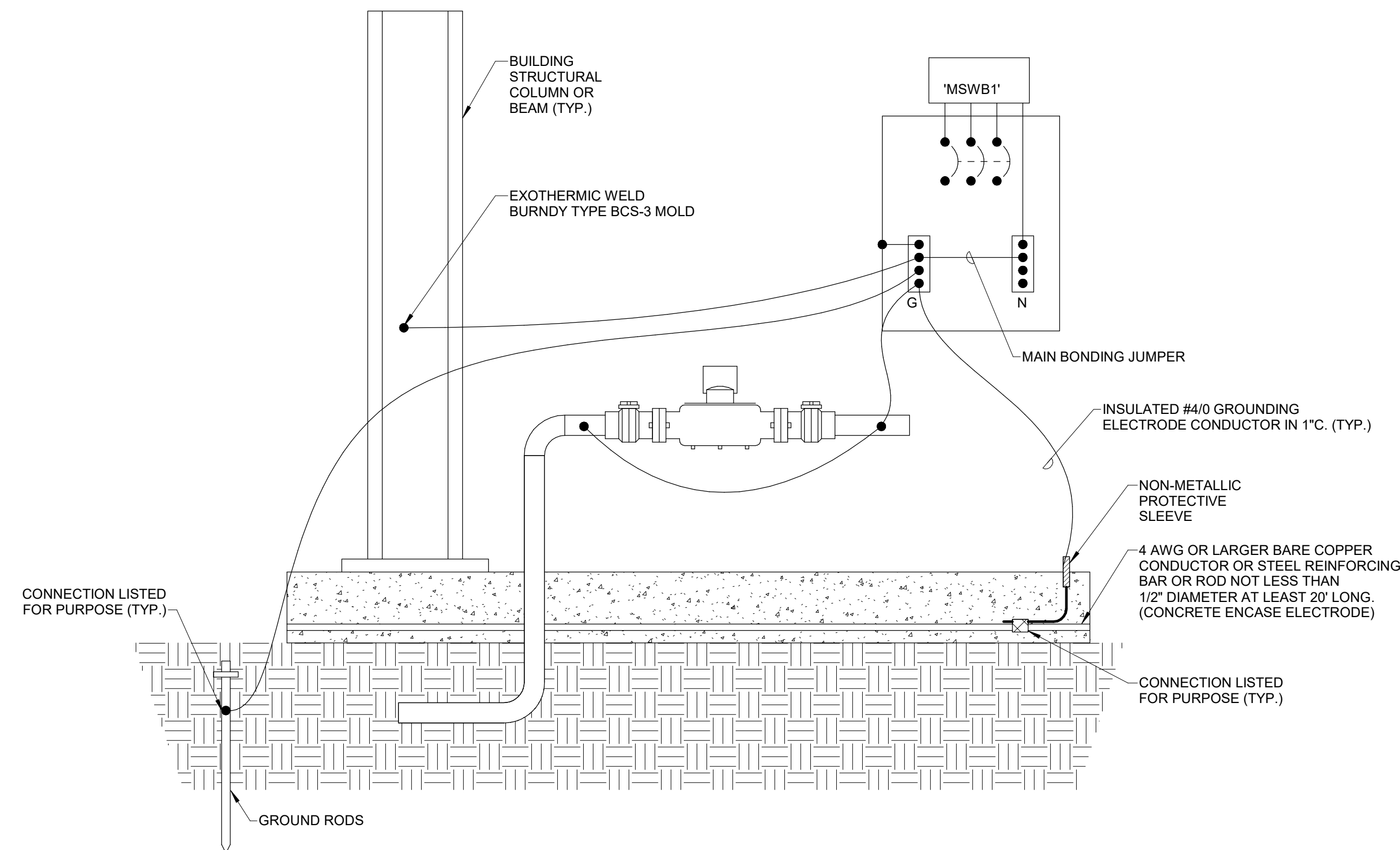
- NOTES:
1. POWER PACK (nPP20 PL) SHALL CONTROL "CONTROLLED" RECEPTACLES THROUGH OCCUPANCY SENSOR. (AS REQUIRED. SEE PLANS).
  2. POWER PACK (nPP16D) REQUIRED TO CONTROL EACH DIMMABLE REGION / ZONE INCLUDING DAYLIGHTING ZONES. WHERE DIMMING IS NOT SHOWN / REQUIRED, POWER PACK (nPP16) SHALL BE USED. CONTROLS AND REGIONS / ZONES SHOWN ON PLANS.
  3. PHOTOCCELL CONTROL DEVICE: nCM ADCX RJB (AS REQUIRED. SEE PLANS).
  4. OCCUPANCY SENSOR DEVICE: nCM-PDT-910-RJB (AS REQUIRED. SEE PLANS).
  5. LOW VOLTAGE LIGHT CONTROL / DIMMER PUSHBUTTON SWITCH. SEE PLANS AND 1/E501 FOR MORE INFORMATION.
  6. POWER PACKS LABELED "nSP5": nSP5 PCD POWER PACKS FOR LINE-VOLTAGE SWITCHING & DIMMING OF DECORATIVE INCANDESCENT LUMINAIRES. (AS REQUIRED. SEE PLANS).
  7. WALL OCCUPANCY SENSOR DEVICE: nWV-PDT-16 (AS REQUIRED. SEE PLANS).

2 LITHONIA (nLIGHT) - SPECIALTY LIGHTING WIRING DIAGRAM  
SCALE: NOT TO SCALE



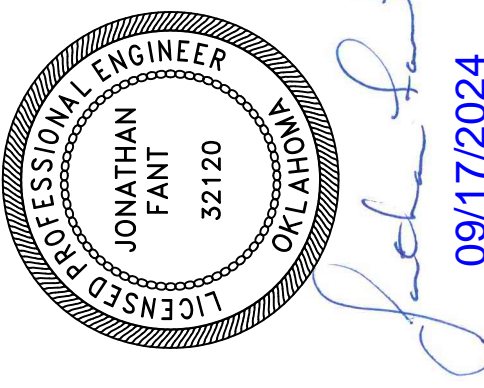
- NOTES:
1. DECALS SHALL BE LAMINATED ACRYLIC WITH WHITE ENGRAVED LETTERING ON A BLACK BACKGROUND. PANELS OR EQUIPMENT CONNECTED TO AN ALTERNATE POWER SOURCE SHALL HAVE WHITE ENGRAVED LETTERING ON A RED BACKGROUND.
  2. DECALS SHALL BE SIZED TO ACCOMMODATE SPECIFIED LEGENDS BUT NO SMALLER THAN SIZES SHOWN, MINIMUM OF 1/16" THICK.
  3. DECALS SHALL BE PUNCHED OR DRILLED FOR MECHANICAL FASTENERS WITH 1/4" GROMMETS IN CORNERS FOR MOUNTING.
  4. COLORS FOR 240V DELTA SYSTEMS BASED ON AVAILABLE COLORS OFFERED BY SOUTHWIRE. OTHER COLORS THAT DO NOT CONFLICT WITH OTHER VOLTAGE SYSTEMS PERMITTED.

3 PANELBOARD & EQUIPMENT IDENTIFICATION DETAIL  
SCALE: 1/8" = 1'-0"



4 SERVICE GROUNDING DETAIL  
SCALE: NOT TO SCALE

DESIGNED: DES: ISSUE DATE: 08/17/24  
REVISIONS: No. DATE: BY: DESCRIPTION:



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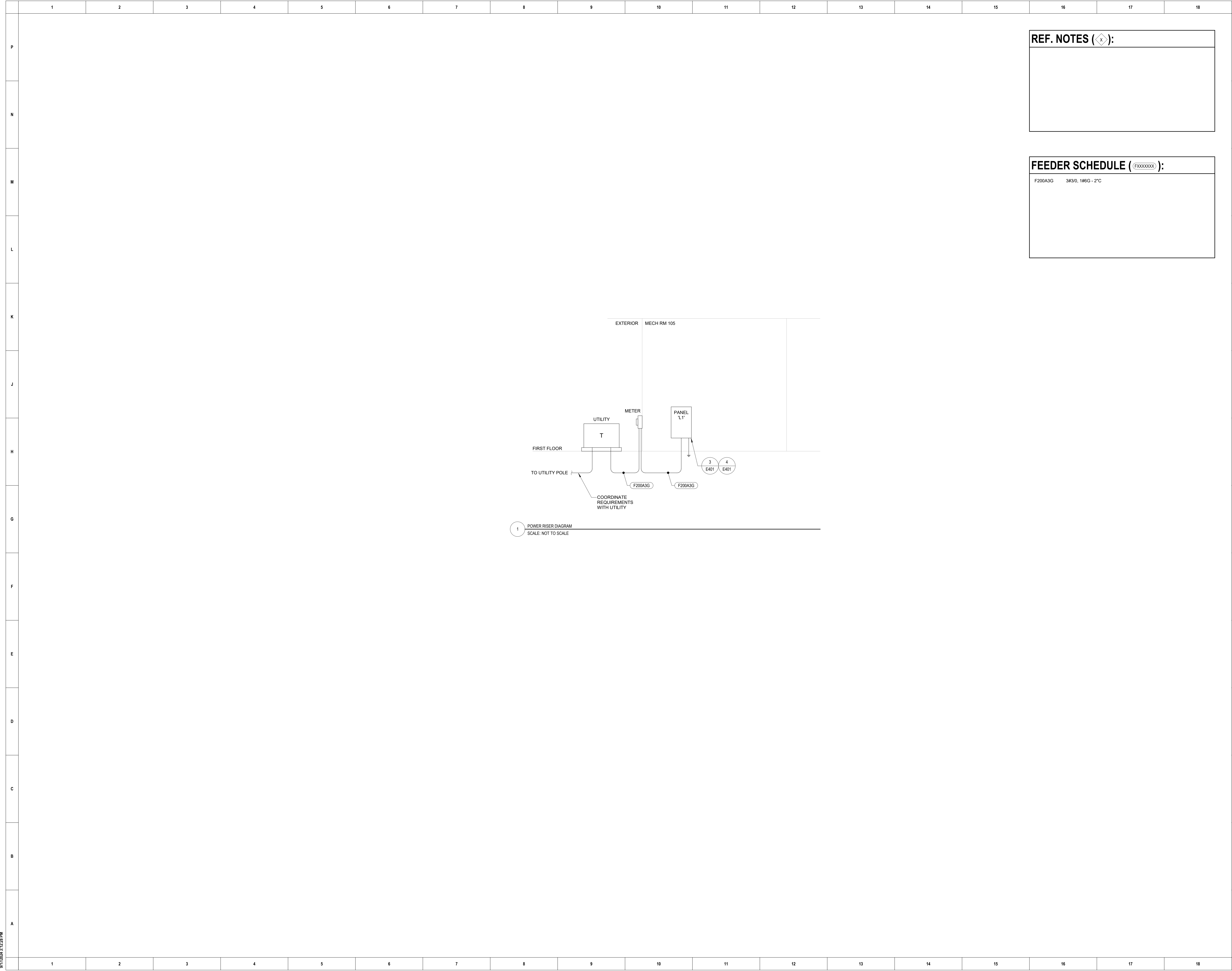
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YALE, OK 74085  
ELECTRICAL DETAILS

PROJECT NO.: 09334.001

E401





REF. NOTES (X):

FEEDER SCHEDULE (FXXXXXX):  
F200A3G 3#3/0, 1#6G - 2'C

1 POWER RISER DIAGRAM  
SCALE: NOT TO SCALE

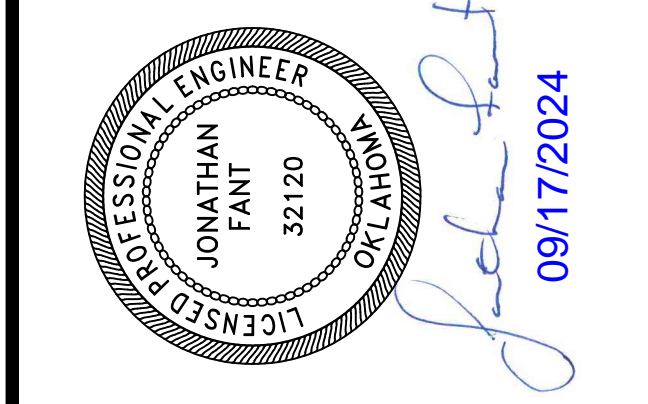
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E501

POWER RISER DIAGRAM

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DESIGNED:	DES	ISSUE DATE:	08/17/24
DRAWN:	DRW	DATE:	
CHECKED:	CHK	REVISIONS:	
		NO.	
		DATE:	
		BY:	
		DESCRIPTION:	

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### EQUIPMENT SCHEDULE

DEVICE	DEVICE DESCRIPTION	VOL TAGE	PH	KW	FLA	HP	STARTER / DISCONNECT	RECEPT CONFIG	FEEDER SIZE	NOTES
							TYPE SIZE FUSE	PLUG CONFIG		
DRYER	DRYER	208 V	1	-	24	-	- - -	14-30P	F30A3G 3#10- 1#10G - 3/4"	
EF-1	EXHAUST FAN	120 V	1	-	19	-	BCU 15A/1 - -	-	2#12, 1#12G - 3/4"	1
EF-2	EXHAUST FAN	120 V	1	-	1/2	-	BCU 20A/1 - -	-	2#12, 1#12G - 3/4"	3
EUH-1	ELECTRIC UNIT HEATER	208 V	1	-	19.4	-	NFD 25A/2P - -	-	2#12, 1#10G - 3/4"	2
GW-H1	GAS WATER HEATER	120 V	1	-	-	-	BCU 15A/1 - -	-	2#12, 1#12G - 3/4"	
MAU-1	MAKE UP AIR UNIT	208 V	1	-	6.9	-	NFD 30A/2P - -	-	3#10, 1#10G - 3/4"	3
RANGE	RANGE	208 V	1	-	40	-	- - -	14-50P	F50A3G 3#6, 1#10G - 1"	
RTU-1	ROOF TOP UNIT	208 V	3	-	22	-	NFD 30A/3P - -	-	3#10, 1#10G - 3/4"	
RTU-2	ROOF TOP UNIT	208 V	3	-	22	-	NFD 30A/3P - -	-	3#10, 1#10G - 3/4"	

**GENERAL EQUIPMENT SCHEDULE NOTES:**

A. THIS SCHEDULE DISPLAYS SIZING INFORMATION THAT IS GENERIC IN NATURE. SCHEDULE DOES NOT ITEMIZE ALL INSTANCES OF EQUIPMENT. CONTRACTOR SHALL REFER TO THE PLANS FOR FINAL QUANTITIES AND LOCATIONS.

B. MOUNT ALL DISCONNECTS AND STARTERS ON ASSOCIATED EQUIPMENT UNLESS SHOWN OTHERWISE. MAINTAIN WORKING CLEARANCES PER NEC; COORDINATE WITH MECHANICAL CONTRACTOR.

C. BCU = BOX COVER UNIT (COOPER #SSY / #STY OR EQUAL) WITH FUSE.

D. NFD OR FD = NON-FUSED OR FUSED DISCONNECT SWITCH.

E. CS/NFD, FD = COMBINATION STARTER/ NON OR FUSED DISCONNECT SWITCH.

F. INT = INTEGRAL DISCONNECT FURNISHED WITH EQUIPMENT.

G. FHPMC = FRACTIONAL HORSEPOWER MANUAL CONTROLLER.

H. HHPMC = INTEGRAL HORSEPOWER MANUAL CONTROLLER.

I. STE = THERMAL ELEMENT SWITCH. PROVIDE THERMAL UNIT.

J. EXP = DEVICE TO BE EXPLOSION-PROOF.

K. ALL SWITCHES, DISCONNECTS, ETC SHALL BE LOCKABLE.

L. ALL SWITCHES, DISCONNECTS, ETC SHALL BE NEMA 3R WHERE REQUIRED.

M. PROVIDE FUSES AS SHOWN; REVISE SIZES PER ACTUAL NAMEPLATE DATA.

N. STARTER ACCESSORIES: STARTER ACCESSORIES:  
 1. CONTROL TRANSFORMER  
 2. H-O-A SWITCH  
 3. RED RUN LIGHT  
 4. 2 NO CONTACTS, 2 NC CONTACTS

O. PROVIDE DUCT DETECTOR, SHUTDOWN RELAY, AND ACCESSORIES AS REQUIRED TO SHUTDOWN HVAC EQUIPMENT 2000 CFM OR HIGHER PER NFPA AND AHJ.

**EQUIPMENT SCHEDULE NOTES:**

1. EXHAUST FAN SHALL BE CONTROLLED BY LOCAL LIGHTING OCCUPANCY SENSOR AND ASSOCIATED POWER PACK. SEE LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

2. UNIT HEATER SHALL BE CONTROLLED BY THERMOSTAT (PROVIDED BY OTHERS).

3. DESIGNATED MECHANICAL EQUIPMENT SHALL BE CONTROLLED BY HOOD CONTROLLER SYSTEM (PROVIDED BY OTHERS).

### LUMINAIRE SCHEDULE

TYPE NO	DESCRIPTION / SPEC NO	TOTAL WATTS	VOLT	MOUNTING	NOTES
A1	2X4 - FLAT PANEL - 3000 LUMENS LITHONIA EPANL 2X4 3000LM 80CRI 40K MIN1 EZT MVOLT	26 VA	MVOLT	CEILING	
A2	2X4 - FLAT PANEL - 4000 LUMENS LITHONIA EPANL 2X4 4000LM 80CRI 40K MIN1 EZT MVOLT	39 VA	MVOLT	CEILING	
A2E	2X4 - FLAT PANEL - 4000 LUMENS - EMERGENCY LITHONIA EPANL 2X4 4000LM 80CRI 40K MIN1 EZT MVOLT E10WCP	39 VA	MVOLT	CEILING	
A5	2X2 - FLAT PANEL - 3300 LUMENS LITHONIA EPANL 2X2 3300LM 80CRI 40K MIN1 EZT MVOLT	31 VA	MVOLT	CEILING	
A6	2X2 - FLAT PANEL - 4000 LUMENS LITHONIA EPANL 2X2 4000LM 80CRI 40K MIN1 EZT MVOLT	34 VA	MVOLT	CEILING	
B1	2X2 - BASKET - 3000 LUMENS LITHONIA STAK 2X2 3000LM 80CRI 40K COLT MIN1 EZT MVOLT	25 VA	MVOLT	CEILING	
B7	2X2 - BASKET - 3000 LUMENS LITHONIA STAK 2X2 3000LM 80CRI 40K COLT MIN1 EZT MVOLT	25 VA	MVOLT	CEILING	
B7E	2X2 - BASKET - 3000 LUMENS - EMERGENCY LITHONIA STAK 2X2 3000LM 80CRI 40K COLT MIN1 EZT MVOLT E10WLCP	25 VA	MVOLT	CEILING	
B8	2X2 - BASKET - 4000 LUMENS LITHONIA STAK 2X2 4000LM 80CRI 40K COLT MIN1 EZT MVOLT	34 VA	MVOLT	CEILING	
B8E	2X2 - BASKET - 4000 LUMENS - EMERGENCY LITHONIA STAK 2X2 4000LM 80CRI 40K COLT MIN1 EZT MVOLT E10WLCP	34 VA	MVOLT	CEILING	
C1	6" RECESSED CAN - 1000 LUMENS LITHONIA LDR6 40 10 LOG AR LSS MVOLT EZI	13 VA	MVOLT	CEILING	
I1	INDUSTRIAL STRIP LED - 4" - 5000 LUMEN - ZLN LITHONIA ZLN L48 5000LM FST MVOLT 40K 80CRI WH ZACVH	34 VA	MVOLT	SURFACE / CABLE	
I1E	INDUSTRIAL STRIP LED - 4" - 5000 LUMEN - ZLN - EMERGENCY LITHONIA ZLN L48 5000LM FST MVOLT 40K 80CRI E10WLCP WH ZACVH	34 VA	MVOLT	SURFACE / CABLE	
P1	LINEAR PENDANT 8" MARK ARCHITECTURAL S4PID LLP 8FT MLS8 80CRI 40K 800LMF I80CRI I40K I400LMF SCT MIN1 FLL DC MVOLT SLVT ZT	32 VA	120 V		
P1E	LINEAR PENDANT 8" EMERGENCY MARK ARCHITECTURAL S4PID LLP 8FT MLS8 80CRI 40K 800LMF I80CRI I40K I400LMF SCT MIN1 FLL DC MVOLT SLVT ZT E10WLCP	32 VA	120 V		
W2	4" WALL MOUNTED RECTANGULAR - RESTROOM LITHONIA BLWP4 20L ADSMT EZ1 LP840	32 VA	120 V	WALL / SURFACE	
X1	EXIT SIGN LITHONIA LQM S W 3 R 120/277 EL N SD	2 VA	MVOLT	WALL / CEILING	
X1C	EXIT SIGN WITH BUGEYE - COMBO LITHONIA LHOM LED R HO SD	5 VA	MVOLT	WALL / CEILING	
X5	EMERGENCY BUGEYE REMOTE HEAD - DUAL - WEATHERPROOF LITHONIA ELA T QWP L0309 SD	3 VA	120 V	WALL / SURFACE	

**LUMINAIRE SCHEDULE NOTES:**

1. VERIFY CABLE / CHAIN LENGTH AND ADJUST ACCORDINGLY.

2. COORDINATE MOUNTING HEIGHT BEFORE ROUGH-IN.

3. MOUNT ABOVE MIRROR.

4. SEE ARCHITECTURAL EXTERIOR BUILDING ELEVATIONS.

5. PROVIDE GYPSUM TRIM RING WHERE REQUIRED. (SUPPORT TRIM RING FROM STRUCTURE.) SEE ARCH A6 SERIES SHEETS FOR REFLECTED CEILING PLANS.

### Branch Panel: L1

Location: MECH 105      Volts: 208Y/120      A.I.C. Rating: 14,000  
 Supply From: UTILITY      Phases: 3      MLO / MCB: MCB  
 Mounting: SURFACE      Wires: 4      FCB / MCB Rating: 225 A

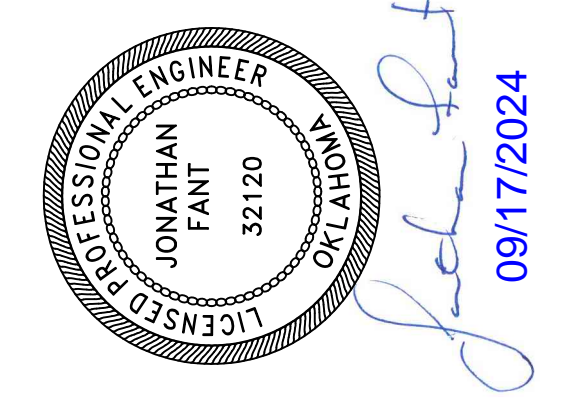
CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT	
1	LTG	20 A	1	1380	1620			1	20 A REC - RM 102	2	
3	REC - RM 101	20 A	1		540	1176		1	20 A EF-2 - RM 103	4	
5	EWIC - RM 101	20 A	1			370	540	1	20 A REC - RM 104, 105, 110	6	
7	REC - RM 106, 107	20 A	1	360	720			1	20 A REC - RM 108	8	
9	EF-1 - RM 106	15 A	1		23	1260		1	20 A REC - RM 109	10	
11	EF-1 - RM 107	15 A	1			23	2642	3	35 A RTU-2 - (ROOF)	12	
13	RTU-1 - (ROOF)	35 A	3	2642	2642					14	
15	--	--	--		2642	2642				16	
17	--	--	--			2642	2496	2	30 A (GFI) DRYER - RM 105	18	
19	WASHER - RM 105	20 A	1	1500	2496					20	
21	(GFI) FREEZER - RM 104	20 A	1		800	360		1	20 A REC - RM 103	22	
23	(GFI) FREEZER - RM 104	20 A	1			800	1200	1	20 A DW - RM 103	24	
25	(GFI) RANGE - RM 103	50 A	2	4160	800			1	20 A (GFI) FREEZER - RM 103	26	
27	--	--	--		4160	800		1	20 A (GFI) FREEZER - RM 103	28	
29	REC - RM 103 (DED.)	20 A	1			180	800	1	20 A (GFI) FRIDGE - RM 103	30	
31	FACP - RM 105	20 A	1	360	1000			1	20 A COFFEE - RM 102	32	
33	MAU-1	30 A	2		718	500		1	15 A GWH-1 - RM 105	34	
35	--	--	--			718	2018	2	25 A EUH-1 - RM 105	36	
37	LTG - RM 102, 109	20 A	1	596	2018					38	
39	DATA SHELF - RM 110	20 A	1		600	0			1	20 A SPARE	40
41	SPARE	20 A	1			0	0	1	20 A SPARE	42	
43	SPARE	20 A	1	0	0			1	20 A SPARE	44	
45	SPARE	20 A	1		0	0		1	20 A SPARE	46	
47	SPARE	20 A	1			0	--	1	-- SPARE	48	
49	SPARE	20 A	1	0	--			1	-- SPARE	50	
51	SPARE	20 A	1		0	--		1	-- SPARE	52	
53	SPARE	20 A	1			0	--	1	-- SPARE	54	
				<b>Total Load:</b>	22294 VA	16221 VA	14429 VA				
				<b>Total Amps:</b>	188 A	137 A	120 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
LTG	1976 VA	100.00%	1976 VA	Total Est. Demand: 52944 VA
REC	6550 VA	100.00%	6550 VA	Total Est. Demand Current (100% Rated): 147 A
EQP_CONT	43218 VA	100.00%	43218 VA	
EQP_NON CONT	1200 VA	100.00%	1200 VA	Non-Cont. Current @ 100%: 22 A
				Continuous Current @ 125%: 157 A
				Total Est. Demand Current (80% Rated): 178 A

**Legend:**  
 FCB: Feeder Circuit Breaker      MCCB: Molded Case Circuit Breaker  
 GFI: GFCI Circuit Breaker      MLO: Main Lug Only  
 LOCK: Lockable Circuit Breaker      EXTG: Existing Circuit Breaker  
 MCB: Main Circuit Breaker

**Notes:**

DESIGNED: DES    ISSUE DATE: 08/17/24  
 REVISIONS: No.    DATE:    BY:    DESCRIPTION:



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**LUMINAIRE & EQUIPMENT SCHEDULES**

PROJECT NO.: 09334.001

E601