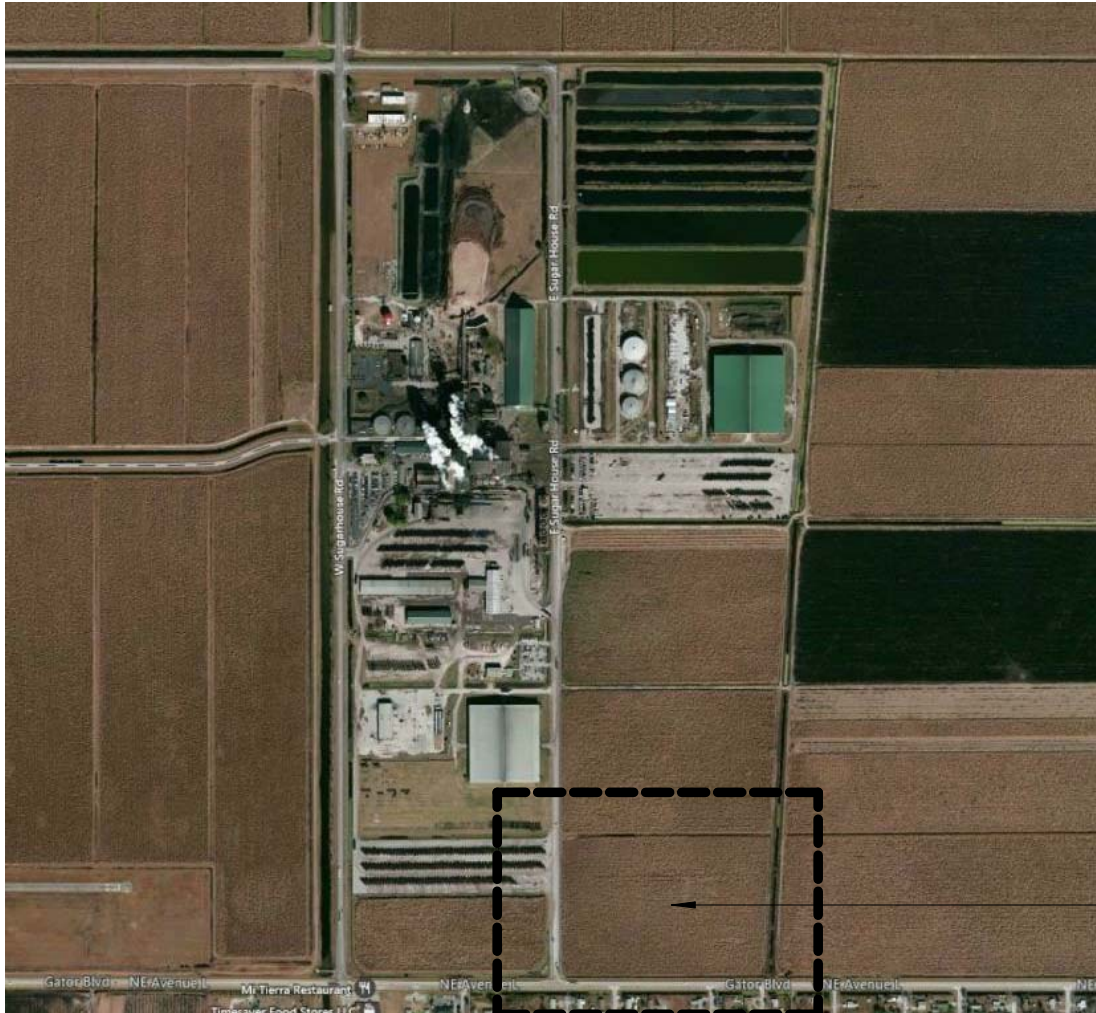


TELLUS PRODUCTS, LLC

BELLE GLADE, FLORIDA BAGASSE PROCESSING FACILITY



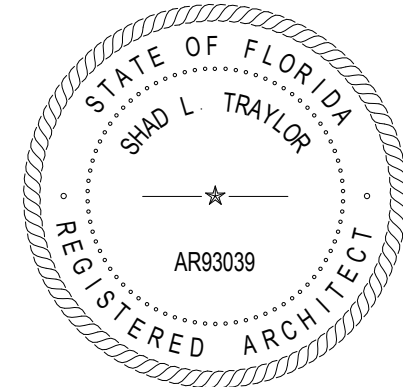
1 VICINITY MAP
NTS



2 LOCATION MAP
NTS

REFERENCE VICINITY MAP

PROJECT SITE



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY
SHAD L. TRAYLOR, ARCHITECT
USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS
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ARCHITECT OF RECORD
SHAD L. TRAYLOR
AR93039
DESIGNED BY
BRPH
DRAWN BY
GERMANO
CHECKED BY
TRAYLOR
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
COVER SHEET

E

D

C

B

A

GENERAL		
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
GENERAL		
G-001	COVER SHEET	01/30/17
G-002	DRAWING INDEX	01/30/17
G-003	ABBREVIATIONS, SYMBOLS, GENERAL NOTES	01/30/17
G-004	ACCESSIBILITY DETAILS	01/30/17

CIVIL		
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
CIVIL		
C-001	LEGEND AND ABBREVIATIONS	12/12/16
C-121	OVERALL SITE PLAN	12/12/16
C-122	PARTIAL SITE PLAN	12/12/16
C-123	PARTIAL SITE PLAN	12/12/16
C-124	PARTIAL SITE PLAN	12/12/16
C-125	PARTIAL SITE PLAN	12/12/16
C-126	PARTIAL SITE PLAN	12/12/16
C-127	PARTIAL SITE PLAN	12/12/16
C-141	OVERALL GRADING AND DRAINAGE PLAN	12/12/16
C-142	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-143	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-144	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-145	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-146	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-147	PARTIAL GRADING AND DRAINAGE PLAN	12/12/16
C-161	OVERALL UTILITY PLAN	12/12/16
C-162	PARTIAL UTILITY PLAN	12/12/16
C-163	PARTIAL UTILITY PLAN	12/12/16
C-164	PARTIAL UTILITY PLAN	12/12/16
C-165	PARTIAL UTILITY PLAN	12/12/16
C-166	PARTIAL UTILITY PLAN	12/12/16
C-181	PARTIAL EROSION, SEDIMENT AND POLLUTION CONTROL PLAN	12/12/16
C-182	PARTIAL EROSION, SEDIMENT AND POLLUTION CONTROL PLAN	12/12/16
C-201	POND SECTIONS	12/12/16
C-501	SITE DETAILS	12/12/16
C-502	SITE DETAILS	12/12/16
C-504	LOADING DOCK DETAILS	12/12/16
C-506	UTILITY DETAILS	12/12/16
C-506	UTILITY DETAILS	04/07/16
C-507	LIFT STATION DETAILS	12/12/16
C-509	EROSION CONTROL DETAILS	12/12/16
C-510	SWPPP CONTRACTOR'S REQUIREMENTS	12/12/16
C-701	CONSTRUCTION JOINT PLAN	12/12/16

MOLDING BUILDING		
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
STRUCTURAL		
MS-001	GENERAL NOTES	01/05/16
MS-002	GENERAL NOTES	01/05/16
MS-101A	WIND PRESSURE DIAGRAMS	01/05/16
MS-101B	FOUNDATION SLAB ON GRADE PLAN	09/13/15
MS-101C	OVERALL FRAMING PLAN	11/06/15
MS-101D	ENLARGED PLANS	11/06/15
MS-102A	ENLARGED INTERIOR PIPE RACK PLANS	03/14/16
MS-103A	EXTERIOR CONTAINMENT SLAB PLAN	11/14/16
MS-104A	EXTERIOR PIPE RACK PLANS AND SECTIONS	11/03/16
MS-201	INTERIOR PIPE RACK ELEVATION	03/14/16
MS-401	FOUNDATION AND SLAB ON GRADE DETAILS	01/05/16
MS-402	FOUNDATION AND SLAB ON GRADE DETAILS	11/06/15
MS-404	FOUNDATION AND SLAB ON GRADE DETAILS	11/14/16
MS-405	PIPE RACK BRACED CONN DETAILS	12/19/16
MS-501	MASONRY DETAILS	01/05/16
MS-601	STEEL JOIST DETAILS	11/06/15
MS-602	STEEL DETAIL	03/14/16
LIFE SAFETY		
MAI-001	CODE SUMMARY	01/30/17
MAI-101	FIRST FLOOR LIFE SAFETY PLAN	01/30/17
MAI-102	EQUIPMENT PLATFORM LIFE SAFETY PLAN	01/30/17
ARCHITECTURAL		
MA-101	FIRST FLOOR PLAN	01/30/17
MA-102	EQUIPMENT PLATFORM PLAN	01/30/17
MA-103	COUP. PLTFRM STAIR PLANS AND SECTIONS	01/30/17
MA-104	NORTH TANK CONTAINMENT AREA	01/30/17
MA-121	FIRST FLOOR CEILING PLAN	01/30/17
MA-122	UPPER LEVEL CEILING PLAN	01/30/17
MA-141	ROOF PLAN	01/30/17
MA-201	BUILDING ELEVATIONS	01/30/17
MA-301	BUILDING SECTIONS	01/30/17
MA-311	WALL SECTIONS	01/30/17
MA-312	WALL SECTIONS	01/30/17
MA-313	SECTION	01/30/17
MA-390	WALL TYPES	01/30/17
MA-401	ENLARGED PLAN	01/30/17
MA-402	FINISH SCHEDULE ENLARGED PLAN	01/30/17
MA-501	MOLDING BUILDING DETAILS	01/30/17
MA-601	DOOR SCHEDULE	01/30/17
MA-641	FINISH SCHEDULE	01/30/17
FIRE PROTECTION		
MF-001	FIRE PROTECTION NOTE SHEET	01/28/16
MF-002	FIRE PROTECTION SITE PLAN	01/28/16
MF-101	MOLDING BLDG 1ST FLOOR FP PLAN	01/28/16
MF-102	MOLDING BLDG PLTFRM FP PLAN	01/28/16
MF-501	FIRE PROTECTION DETAILS	01/28/16
PLUMBING		
MP-001	ABBREVIATIONS, LEGEND AND GENERAL NOTES	12-12-16
MP-101	PLUMBING FIRST FLOOR PLAN	12-12-16
MP-102	PLUMBING EQUIPMENT PLATFORM PLAN	12-12-16
MP-301	PLUMBING SECTIONS	12-12-16
MP-401	PLUMBING ENLARGED PLANS	12-12-16
MP-402	PLUMBING ENLARGED PLAN	12-12-16
MP-403	PLUMBING ENLARGED PLANS	01/11/17
MP-501	PLUMBING DETAILS	12-12-16
MP-601	PLUMBING SCHEDULES	12-12-16
MP-701	COMPRESSED AIR P & I DIAGRAM	12-12-16
MP-901	PLUMBING RISER DIAGRAMS	12-12-16
MP-902	PLUMBING RISER DIAGRAMS	12-12-16
MP-903	PLUMBING RISER DIAGRAMS	12-12-16
MECHANICAL		
MM-001	LEGEND ABBREVIATIONS & NOTES	12-12-16
MM-100	COMPOSITE HVAC PLAN	12-12-16
MM-101	GROUND FLOOR HVAC PLAN	12-12-16
MM-102	PLATFORM LEVEL HVAC PLAN	12-12-16
MM-301	MECHANICAL SECTIONS	12-12-16
MM-302	MECHANICAL SECTIONS	12-12-16
MM-401	ENLARGED MECH PLAN	12-12-16
MM-501	MECHANICAL DETAILS	12-12-16
MM-502	MECHANICAL DETAILS	12-12-16
MM-601	MECHANICAL SCHEDULES	12-12-16
MM-602	MECHANICAL SCHEDULES	12-12-16
MM-701	MECH CONTROL DIAGRAMS	12-12-16
MM-702	MECH CONTROL DIAGRAMS	12-12-16
MM-703	FLUIDS CONTROL AND DIAGRAMS	12-12-16
MM-901	CHILLER YARD ISOMETRIC	12-12-16
ELECTRICAL		
ME-001	ELECTRICAL LEGEND	01/30/17
ME-002	ELECTRICAL SCHEDULES	12/12/16
ME-101	ELECTRICAL SITE PLAN	12/12/16
ME-102	ELECTRICAL SITE PLAN	12/12/16
ME-103	ELECTRICAL SITE PLAN	12/12/16
ME-401	ENLARGED PLANS	12/12/16
ME-402	CHILLER YARD ENLARGED PLAN	12/12/16
ME-403	ENLARGED PLANS	12/12/16
ME-404	ENLARGED PLANS	12/12/16
ME-405	ENLARGED PLANS	12/12/16
ME-501	ELECTRICAL DETAILS	12/12/16
ME-502	ELECTRICAL DETAILS	12/12/16
ME-503	LIGHTING CONTROL DETAILS	12/12/16
ME-504	ELECTRICAL SITE DETAILS	12/12/16
ME-505	ELECTRICAL SITE DETAILS	12/12/16
ME-506	ELECTRICAL SITE DETAILS	12/12/16
ME-600	MV ONE-LINE DIAGRAM	12/12/16
ME-601	MVLY ONE-LINE DIAGRAM	12/12/16
ME-602	LY ONE-LINE DIAGRAM	12/12/16
ME-603	LY ONE-LINE DIAGRAM	12/12/16
ME-604	MV MCC ONE-LINE DIAGRAM	12/12/16
ME-701	PANELBOARD SCHEDULES	12/12/16
ME-702	PANELBOARD SCHEDULES	12/12/16
ME-G101	GROUNDING PLAN	12/12/16
ME-G103	LIGHTNING PROTECTION PLAN	12/12/16
ME-L101	LIGHTING PLAN	12/12/16
ME-L102	LIGHTING PLAN	12/12/16
ME-P100	COMPOSITE POWER PLAN	12/12/16
ME-P101	FIRST FLOOR POWER PLAN	12/12/16
ME-P102	EQUIPMENT PLATFORM POWER PLAN	12/12/16
FIRE ALARM		
ME-FA01	FIRE ALARM ONE-LINE DIAGRAM	12/12/16
ME-FA101	FIRST FLOOR FIRE ALARM PLAN	12/12/16
ME-FA102	ELECTRICAL EQUIPMENT FIRE ALARM PLAN	12/12/16
TELECOMMUNICATIONS		
ME-T101	COMMUNICATIONS PLAN	12/12/16

PULP BUILDING		
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
STRUCTURAL		
PS-001	GENERAL NOTES	01/07/16
PS-002	GENERAL NOTES	01/07/16
PS-102A	WIND PRESSURE DIAGRAMS	01/07/16
PS-102B	FOUNDATION PLAN	01/07/16
PS-102C	FRAMING PLANS	01/07/16
PS-102D	ENLARGED FRAMING PLANS (PIPE RACKS)	11/15/16
PS-102E	EXT CONTAINMENT SLAB	01/11/17
PS-102F	ENLARGED FRAMING PLANS (PLATFORM)	01/07/16
PS-103	ELEVATIONS	03/04/16
PS-401	FOUNDATION AND SLAB ON GRADE DETAILS	01/07/16
PS-402	FOUNDATION AND SLAB ON GRADE DETAILS	03/23/16
PS-403	PIPE RACK PIERS & BASE PLATES	12/09/16
PS-404	PIPE RACK BRACED CONN DETAILS	12/19/16
PS-501	MASONRY DETAILS	01/07/16
PS-601	STEEL DETAILS	01/07/16
PS-602	STEEL DETAILS	01/07/16
PS-603	STEEL DETAILS	01/07/16
LIFE SAFETY		
PAL-101	CODE SUMMARY	01/30/17
PAL-102	LIFE SAFETY FLOOR PLANS	01/30/17
ARCHITECTURE		
PA-101	FIRST FLOOR PLAN	01/30/17
PA-102	SECOND FLOOR PLAN	01/30/17
PA-103	UPPER LEVEL EQUIPMENT PLATFORM	01/30/17
PA-104	SOUTH TANK CONTAINMENT AREA	01/30/17
PA-105	NORTH TANK CONTAINMENT AREA	01/30/17
PA-121	FIRST FLOOR CEILING PLAN	01/30/17
PA-122	SECOND FLOOR CEILING PLAN	01/30/17
PA-123	EQUIPMENT PLATFORM CEILING PLAN	01/30/17
PA-141	ROOF PLAN	01/30/17
PA-201	ELEVATIONS	01/30/17
PA-302	ELEVATIONS	01/30/17
PA-301	BUILDING SECTION	01/30/17
PA-302	BUILDING SECTION	01/30/17
PA-310	WALL SECTIONS	01/30/17
PA-390	WALL TYPES	01/30/17
PA-401	ENLARGED PLANS & FINISH SCHEDULE	01/30/17
PA-402	ENLARGED PLANS	01/30/17
PA-501	DETAILS	01/30/17
PA-601	DOOR SCHEDULE	04/06/16
FIRE PROTECTION		
PF-001	FIRE PROTECTION NOTE SHEET	01/28/16
PF-002	FIRE PROTECTION SITE PLAN	01/28/16
PF-101	PULP BLDG 1ST FLOOR FP PLAN	01/28/16
PF-102	PULP BLDG 2ND FLOOR FP PLAN	01/28/16
PF-103	PULP BLDG EQUIP PLTFRM FP PLAN	01/28/16
PF-501	FIRE PROTECTION DETAILS	01/28/16
PLUMBING		
PP-001	ABBREVIATIONS, LEGEND AND GENERAL NOTES	12/12/16
PP-101	PLUMBING FIRST FLOOR PLAN	12/12/16
PP-102	PLUMBING SECOND FLOOR PLAN	12/12/16
PP-103	PLUMBING MECHANICAL PLATFORM PLAN	12/12/16
PP-104	PLUMBING ROOF PLAN	12/12/16
PP-301	BUILDING SECTIONS	12/12/16
PP-401	PLUMBING ENLARGED PLAN	12/12/16
PP-402	PLUMBING ENLARGED PLAN	01/10/17
PP-501	PLUMBING DETAILS	12/12/16
PP-601	PLUMBING SCHEDULES	12/12/16
PP-701	COMPRESSED AIR P & I DIAGRAM	12/12/16
PP-901	PLUMBING RISER DIAGRAMS	12/12/16
PP-902	SANITARY RISER DIAGRAM	12/12/16
PP-903	COMPRESSED AIR RISER DIAGRAM	01/11/17
PP-904	NATURAL GAS RISER DIAGRAM	01/16/17
MECHANICAL		
PM-001	LEGEND ABBREVIATIONS & NOTES	12-12-16
PM-101	FIRST FLOOR PLAN - HVAC	12-12-16
PM-102	SECOND FLOOR PLAN - HVAC	12-12-16
PM-103	UPPER LEVEL EQUIPMENT PLATFORM	12-12-16
PM-301	BUILDING SECTION	12-12-16
PM-401	ENLARGED MECHANICAL PLAN	12-12-16
PM-501	MECHANICAL DETAILS	12-12-16
PM-502	MECHANICAL DETAILS	12-12-16
PM-601	MECHANICAL SCHEDULES	12-12-16
PM-602	MECHANICAL SCHEDULES	12-12-16
PM-901	CONTROL SCHEMATICS	12-12-16
PM-902	STEAM BOILER P & I DIAGRAM	12-12-16
PM-903	BOILER PIPING ISOMETRIC	12-12-16
ELECTRICAL		
PE-001	ELECTRICAL LEGEND	12/09/2016
PE-002	ELECTRICAL SCHEDULES	12/09/2016
PE-401	ENLARGED PLANS	12/09/2016
PE-501	ELECTRICAL DETAILS	12/09/2016
PE-502	LIGHTING CONTROL DETAILS	12/09/2016
PE-601	BUILDING ONE-LINE DIAGRAM	12/09/2016
PE-701	PANEL SCHEDULES	12/09/2016
PE-702	PANEL SCHEDULES	12/09/2016
PE-G101	FIRST FLOOR GROUNDING PLAN	12/09/2016
PE-G102	LIGHTNING PROTECTION PLAN	12/09/2016
PE-L101	FIRST FLOOR LIGHTING PLAN	12/09/2016
PE-L102	SECOND FLOOR LIGHTING PLAN	12/09/2016
PE-L103	EQUIPMENT PLATFORM LIGHTING PLAN	12/09/2016
PE-P101	FIRST FLOOR POWER PLAN	12/09/2016
PE-P102	SECOND FLOOR POWER PLAN	12/09/2016
PE-P103	EQUIPMENT PLATFORM POWER PLAN	12/09/2016
FIRE ALARM		
PE-FA01	FIRE ALARM ONE-LINE DIAGRAM	12/09/2016
PE-FA101	FIRST FLOOR FIRE ALARM PLAN	12/09/2016
PE-FA102	SECOND FLOOR FIRE ALARM PLAN	12/09/2016
TELECOMMUNICATIONS		
PE-T101	FIRST FLOOR TELECOMM PLAN	12/09/2016
PE-T102	SECOND FLOOR TELECOMM PLAN	12/09/2016

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ABBREVIATIONS				SYMBOLS LEGEND			
E	ABV	ABOVE	GA	GAGE	POR	PORCELAIN TILE	
	AFF	ABOVE FINISHED FLOOR	GA/VL	GALVANIZED	LB, #	POUND	
	AF	ACCESS FLOOR	GA/VL STL	GALVANIZED STEEL	PSF	POUNDS PER SQUARE FOOT	
	AP	ACCESS PANEL	GC	GENERAL CONTRACTOR	PSI	POUNDS PER SQUARE INCH	
	ACOUS	ACOUSTICAL	GEN	GENERATOR	PCC	PRECAST CONCRETE	
	ACT	ACOUSTICAL CEILING TILE	GL	GLASS	PJ	PRECAST WALL JOINT	
	ASJ	ACOUSTICAL WALL COVERING	GOVT	GOVERNMENT	PEMB	PRE-ENGINEERED METAL BUILDING	
	ADJUST	ADJUSTABLE	GFE	GOVERNMENT FURNISHED EQUIPMENT	PREFAB	PREFABRICATED	
	A/C	AIR CONDITIONING	GB	GRAB BAR	PT	PRESSURE TREATED	
	AHU	AIR HANDLING UNIT	GR	GRADE	PP	PRIME PAINT	
D	AL, ALUM	ALUMINUM	GR/L	GRILLE	PROJ	PROJECT	
	ALT	ALTERNATE	GND	GROUND			
	ADA	AMERICANS W/ DISABILITIES ACT	GT	GROUT	QTY	QUANTITY	
	AB	ANCHOR BOLT	GYP	GYPSPUM	QT	QUARRY TILE	
	L	ANGLE	GWB	GYPSPUM WALLBOARD			
	ANOD	ANODIZE			RAD, R	RADIUS	
	APPROX	APPROXIMATE	HNDRL	HANDRAIL	RCPT	RECEPTACLE	
	A/E	ARCHITECT/ENGINEER	HDW	HARDWARE	REC	RECESSED	
	ARCH	ARCHITECT	HDWD	HARDWOOD	RECT	RECTANGULAR	
	ASSY	ASSEMBLY	HD	HEAD	REF	REFERENCE	
C	ASPH	ASPHALT	HDR	HEADER	RCF	REFLECTED CEILING PLAN	
	@	AT	HVAC	HEATING/VENTILATION/AIR COND	REFR, REFRIG	REFRIGERATOR	
	BKS	BACKSPLASH	HGT	HEIGHT	REINF	REINFORCING	
	BM	BEAM	H	HIGH	REM	REMOVABLE	
	BRG	BEARING	HP	HIGH POINT	RMV	REMOVED	
	BTW	BETWEEN	HC	HOLLOW CORE	REQD	REQUIRED	
	BF	BIFOLD	HM	HOLLOW METAL	REQT	REQUIREMENT	
	BLK	BLOCK	HORIZ	HORIZONTAL	RF	RESILIENT FLOOR	
	BLK (ING)	BLOCK (ING)	HP	HORSE POWER	RA	RETURN AIR	
	BD	BOARD	HB	HOSE BIBB	REV	REVISION / REVISED	
B	BLT	BOLT	HWH	HOT WATER HEATER	RT	RIGHT	
	BND	BOND	HR	HOUR	RH	RIGHT HAND	
	BS	BOTH SIDES			RI	RIGID INSULATION	
	BOT	BOTTOM	IR	IMPACT RESISTANT	R	RISER, RADIUS	
	B.O.	BOTTOM OF	IN	INCHES	RD	ROOF DRAIN	
	BRK	BRICK	INFO	INFORMATION	RM	ROOM	
	BRZ	BRONZE	ID	INSIDE DIAMETER	RO	ROUGH OPENING	
	BLDG	BUILDING	IG	INSULATED GLASS	RND	ROUND	
	BL	BUILDING LINE	INSUL	INSULATION	RBR	RUBBER	
	BP	BYPASS	INT	INTERIOR	RUB	RUBBER TILE OR ROLL FLOORING	
A	CAB	CABINET	INV	INVERT			
	CAR	CARPET	JAN	JANITOR	SWL	SANITARY WASTE LEADER	
	CSWK	CASEWORK	JAN CLOS	JANITOR CLOSET	SCHED	SCHEDULE	
	CIP	CAST IN PLACE	JT	JOINT	SJ	SCORED JOINT	
	CLG	CEILING	JST	JOIST	SLNT	SEALANT	
	CEM	CEMENT			S CONC	SEALED CONCRETE	
	CEM PLAS	CEMENT PLASTER	KD	KNOCKDOWN	SUR	SEALER	
	CTR	CENTER	KO	KNOCK OUT	SVCB	SEAMLESS VINYL COVE BASE	
	CL	CENTERLINE			SECT	SECTION	
	C TO C	CENTER TO CENTER	LAB	LABORATORY	SERV SK	SERVICE SINK	
A	CT	CERAMIC TILE	LAM	LAMINATE	SHT	SHEET	
	CHBD	CHALKBOARD	LP	LAMINATED PLASTIC	SV	SHEET VINYL	
	C	CHANNEL	LW	LAMINATED WOOD	SVC	SHEET VINYL COVE	
	CLRM	CLASSROOM	LAT	LATITUDINAL	SH	SHELF / SHELVES	
	CO	CLEANOUT	LAV	LAVATORY	SHWR	SHOWER	
	CLR	CLEARANCE, CLEAR	L	LEFT	SIM	SIMILAR	
	CLOS	CLOSET	LH	LEFT HAND	SLD	SLIDING GLASS DOOR	
	CRC	COLD ROLLED CHANNEL	LTG	LIGHTING	SC	SOLID CORE	
	COL	COLUMN	LT WT	LIGHT WEIGHT	SND	SOUND	
	COINB	COINTEGRATION	LWC	LIGHT WEIGHT CONCRETE	SAB	SOUND ATTENUATION BLANKET	
A	CONC	CONCRETE	LG	LONG	SI	SOUND BATT INSULATION	
	OCB	CONCRETE BLOCK	LONG	LONGITUDINAL	STC	SOUND TRANSMISSION CLASS	
	CMU	CONCRETE MASONRY UNIT	LLH	LONG LEG HORIZONTAL	S	SOUTH	
	CONF	CONFERENCE	LLV	LONG LEG VERTICAL	SE	SOUTHEAST	
	CONN	CONNECTION	LVR	LOUVER	SW	SOUTHWEST	
	CONST	CONSTRUCTION	LP	LOW POINT	SP	SPACES	
	CJ	CONSTRUCTION, CONTROL JOINT	LSC	NFPA LIFE SAFETY CODE	SPCT	SPECIAL COATING	
	CONT	CONTINUOUS	LBS or (#)	POUNDS	SPE	SPECIAL FINISH	
	CONTR	CONTRACTOR			SPEC	SPECIFICATIONS	
	CFE	CONTRACTOR FURNISHED EQUIP	MACH	MACHINE	SB	SPLASH BLOCK	
A	COORD	COORDINATE	MAINT	MAINTENANCE	SO	SQUARE	
	CPG	COPING	MFR	MANUFACTURER	SQ FEET	SQUARE FEET	
	CG	CORNER GUARD	MFG	MANUFACTURING	SQ IN	SQUARE INCHES	
	CORR	CORRIDOR	MP	MAPLE	STAG	STAGGERED	
	CTSK	COUNTER SINK	M	MARBLE	ST	STAINED	
	CRS	COURSE	MAR	MARCTE	STBLK	STAINED BLOCK	
			MO	MASONRY OPENING	SS, SS	STAINLESS STEEL	
			MATL	MATERIAL	STD	STANDARD	
			MAX	MAXIMUM	STL	STEEL	
			MECH	MECHANICAL	STOR	STORAGE	
A	DEPT	DEPARTMENT	MEC	MEDICINE CABINET	STRUCT	STRUCTURAL	
	DET	DETAIL	MTG	MEETING	SUSP	SUSPENDED	
	DAG	DIAGONAL	MEMB	MEMBRANE	SACD	SUSPENDED ACOUSTICAL	
	DIA	DIAMETER	MTL	METAL	STN CONC	STAINED CONCRETE	
	DM	DIMENSION	MBM	METAL BUILDING MANUFACTURER	SYS	SYSTEM	
	DW	DISHWASHER	MS	METAL STUD			
	DISP	DISPENSER	MEZZ	MEZZANINE	TKBD	TACKBOARD	
	DBL	DOUBLE	MW	MEZZANINE	TECH	TECHNICAL	
	DR	DOOR	ML	MILITARY	TEL, TELE	TELEPHONE	
	DG	DOOR GRILLE	MLWK	MILLWORK	TV	TELEVISION	
A	DO	DOOR OPENING	MIN	MINIMUM	TEMP	TEMPERATURE or TEMPERED	
	DN	DOWN	MIR, M	MIRROR	TEMPY	TEMPORARY	
	DS	DOWNSPOUT	MISC	MISCELLANEOUS	TEX	TEXTURES	
	DWG	DRAWING	MR	MOISTURE RESISTANT	THK	THICK	
	DF	DRINKING FOUNTAIN	MLDG	MOLDING	TH	THRESHOLD	
	DYR	DRYER	MTR	MORTAR	THRU	THROUGH	
			MTD	MOUNTED	TWF	THROUGH-WALL FLASHING	
			MT	MOUNTING HEIGHT	TLT	TOILET	
			MUL	MULLION	TA	TOILET ACCESSORIES	
					TP	TOILET PARTITION	
A	EA	EACH	NAP	NO APPLIED FINISH	T	TOP	
	EAF	EACH FACE	NRC	NOISE REDUCTION COEFFICIENT	T & B	TOP AND BOTTOM	
	E	EAST	NOM	NOMINAL	TO	TOP CHORD	
	ELEC	ELECTRIC (AL)	NIR	NON-RATED	T.O.	TOP OF	
	EWC	ELECTRIC WATER COOLER	N	NORTH	TOC	TOP OF CONCRETE	
	EW	ELECTRIC WATER HEATER	NE	NORTHEAST	TOF	TOP OF FOOTING	
	EL	ELEVATION	NW	NORTHWEST	TOS	TOP OF STEEL	
	ELEV	ELEVATOR	NA	NOT APPLICABLE	TOW	TOP OF WALL	
	ENCL	ENCLOSURE	NIC	NOT IN CONTRACT	T	TREAD	
	ENGR	ENGINEER	NTS	NOT TO SCALE	TYP	TYPICAL	
A	ENT	ENTRANCE	NO, #	NUMBER	UC	UNDERCUT	
	EQ	EQUAL	OFF	OFFICE	UL	UNDERWRITERS LABORATORY	
	EQUIP, EQMT	EQUIPMENT	OC	ON CENTER	UG	UNDERGROUND	
	EXH	EXHAUST	OPNG	OPENING	UNEX	UNEXCAVATED	
	EF	EXISTING	OPP	OPPOSITE	UNFN	UNFINISHED	
	EXIST	EXISTING GRADE	OPPT	OPPOSITE HAND	UNFN	UNLESS OTHERWISE NOTED	
	EG	EXPANSION	OPT	OPTIONAL	UR	URNAL	
	EXP	EXPANSION JOINT	OZ	OUNCE	VAN	VANITY	
	EXT	EXTERIOR	OT	OUTSIDE DIAMETER	VB	VAPOR BARRIER	
	ECD	EXTERIOR CEMENT BOARD	OF	OUTSIDE FACE	VPS	VENEERED PLASTER (SMOOTH)	
A	EXTD	EXTRUDED	OIO	OUT TO OUT	VPT	VENEERED PLASTER (TEXTURED)	
			OA	OVERALL	VTR	VENT THRU ROOF	
	FAB	FABRIC	OVHG	OVERHANG	VENT	VENTILATING	
	FBR	FACE BRICK	OH	OVERHEAD	VERT	VERTICAL	
	FOS	FACE OF STUDS	PNL	PANEL	VEST	VESTIBULE	
	FOW	FACE OF WALL	PTD	PAINT	V	VINYL	
	FM	FACTORY MUTUAL	PTD	PAINTED	VCT	VINYL COMPOSITION TILE	
	FED SPEC	FEDERAL SPECIFICATIONS	PCMU	PAINTED CONCRETE MASONRY UNIT	VC	VINYL COVE	
	FT	FEET, FOOT	PGWB	PAINTED GYPSUM WALLBOARD	VGWB	VINYL COVERED GYPSUM WALLBOARD	
			PR	PAIR	VRB	VENTED RUBBER BASE	
A	FIN	FINISH	PRT	PARTICLE BOARD	VS	VINYL STRAIGHT	
	FE	FIRE EXTINGUISHER	PTN, PART	PARTITION	VT	VINYL TILE	
	FEC	FIRE EXTINGUISHER CABINET	PVMT	PAVEMENT	VWC	VINYL WALL COVERING	
	PHG	FIRE HOSE CABINET	PGBD	PEGBOARD	WSCT	WAINSCOT	
	PHR	FIRE HOSE RACK	PLOS	PLACES	WSH	WASHER	
	FR	FIRE RESISTANT (RATED)	PLAS	PLASTER, PLASTIC	WC	WATER CLOSET	
	FRPF	FIRE PROOF	PLAM	PLASTIC LAMINATE	WP	WATERPROOFING	
	FXT	FIXTURE	PL	PLATE	WH	WALL HYDRANT	
	FLASHG	FLASHING	PLBG	PLUMBING	WT	WALL THICKNESS	
	FLEX	FLEXIBLE	PLTHRM	PLUMBING	WSP	WEATHERSTRIP	
A	FL	FLOOR	PLWOD,PLYWD	PLYWOOD	WWF	WELED WIRE FABRIC	
	F.D, FD	FLOOR DRAIN	PKT	POCKET	W	WEST	
	FLOOR	FLOOR	POL	POLISH	WIN	WINDOW	
	FSE	FOOD SERVICE EQUIPMENT	PVC	POLYVINYL CHLORIDE	WM	WIRE MESH	
	FTG	FOOTING			WI	WITH	
	FDN	FOUNDATION			W/O	WITHOUT	
	FS	FULL SIZE			WD	WOOD	
	FURN	FURNISH			WDFLR	ATHLETIC WOOD FLOORING	
	FBO	FURNISHED BY OWNER			YD	YARD	
	FURG	FURRING					
				NOTE : THIS LIST MAY NOT BE ALL INCLUSIVE.			

DRAWING TITLE	
DRAWING NAME	VIEW NAME
DRAWING NUMBER	1
DRAWING SCALE	1/8" = 1'-0"
SECTION MARKER	
SECTION NUMBER ON SHEET	1
SHEET NUMBER ON WHICH SECTION IS DRAWN	A101
EXTERIOR ELEVATION MARKER	
SECTION NUMBER ON SHEET	1
SHEET NUMBER ON WHICH SECTION IS DRAWN	A101
INTERIOR ELEVATION MARKER	
SECTION NUMBER ON SHEET	1
SHEET NUMBER ON WHICH SECTION IS DRAWN	A101
DETAIL CALLOUT MARKER	
SECTION NUMBER ON SHEET	1
SHEET NUMBER FROM WHICH DETAIL IS REFERENCED	A101
SHEET NUMBER ON WHICH SECTION IS DRAWN	A101
FLOOR ELEVATION SYMBOL	
SPOT ELEVATION SYMBOL	
COLUMN GRID MARKER	
PARTITION TAG	
ROOM TAG	
DOOR NUMBER TAG	
WINDOW TAG	
LOUVER TAG	
CURTAIN WALL GLASS & PANEL TAG	
KEYNOTE TAGS	
REVISION CLOUDS	
DIMENSION STANDARD	

1. CONSTRUCTION SHALL COMPLY WITH CURRENT FLORIDA BUILDING CODE STANDARDS AND REGULATIONS AS OUTLINED IN BUILDING CODE DATA SHEET.
2. CONSTRUCTION OF WORK INDICATED ON THE DRAWINGS AS (N.I.C.) IS NOT IN CONTRACT.
3. DETAILS NOT SHOWN ARE SIMILAR IN NATURE TO THOSE DETAILED. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT ARCHITECT BEFORE PROCEEDING WITH THE WORK. TYPICAL DETAILS APPLY AT ALL SIMILAR CONDITIONS WHETHER CROSS REFERENCES OR NOT.
4. DIMENSIONS SHOWN ON FLOOR PLANS ARE TO THE FACE OF GYP. BOARD (FOS), FACE OF MASONRY (FOM), FACE OF CONCRETE (FOC), CENTER-LINE OF COLUMN GRID LINES UNLESS NOTED OTHERWISE.
5. VERIFY DIMENSIONS IN FIELD BEFORE PROCEEDING WITH THE WORK. NOTIFY ARCHITECT OF DISCREPANCIES, CONFLICTS, AND MODIFICATIONS.
6. DO NOT SCALE DRAWINGS. WHERE DIMENSIONS OR EXACT LOCATIONS ARE REQUIRED AND NOT INCLUDED ON THE DRAWINGS, REQUEST INFORMATION FROM ARCHITECT.
7. ELECTROLYTIC PROTECTION SHALL BE PROVIDED BETWEEN DISSIMILAR METALS WHENEVER THE TWO ARE IN CONTACT.
8. OPEN EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AND AT PENETRATIONS OF UTILITIES THROUGH THE BUILDING ENVELOPE SHALL BE SEALED, FLASHED OR WEATHER STRIPPED AS REQUIRED FOR COMPATIBILITY WITH ADJACENT MATERIALS TO ELIMINATE AIR LEAKAGE & WATER INFILTRATION.
9. GLAZING SUBJECT TO HUMAN IMPACT AS IDENTIFIED IN APPLICABLE CODES SHALL BE SAFETY GLAZING MATERIAL. EACH LIGHT OF LAMINATED OR TEMPERED GLAZING SHALL BE IDENTIFIED BY A PERMANENT LABEL, WHICH SPECIFIES THE LABELER OR MANUFACTURER AND THAT SAFETY GLAZING MATERIAL HAS BEEN UTILIZED.
10. PROVIDE PROPER ANCHORAGE OF ESSENTIAL EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODES.
11. PROVIDE ACCESS PANELS FOR MECHANICAL AND ELECTRICAL EQUIPMENT AS REQUIRED BY APPLICABLE CODES.
12. PROVIDE AND INSTALL ALL STIFFENERS, BRACINGS, BACK-UP PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE BEST POSSIBLE INSTALLATION AND REQUIRED MINIMUM LATERAL FORCE OF ALL TOILET/RESTROOM ACCESSORIES AND PARTITIONS AND ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL OR MISCELLANEOUS EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODES.
13. FINISH DOOR OPENINGS SHALL BE 6" FROM FINISHED CORNER OF ROOM AT HINGE SIDE. EXCEPT WHERE DIMENSIONED OTHERWISE. ON THE PULL SIDE OF A DOOR OPENING THE STRIKE SIDE SHALL BE NOMINAL 18" FROM A PERPENDICULAR WALL. ON THE PUSH SIDE OF A DOOR OPENING EQUIPPED WITH BOTH A CLOSER AND LATCH, THE STRIKE SIDE SHALL BE NOMINAL 12" FROM A PERPENDICULAR WALL.

LEMARTEC AND VARCO PRUDEN ARE SOLELY RESPONSIBLE FOR ALL PRE-ENGINEERED METAL BUILDING EXTERIOR ENVELOPE DETAILS (ROOF AND WALLS) TO ENSURE A WEATHER TIGHT BUILDING. DETAILS AND CONDITIONS INCLUDE BUT NOT LIMITED TO GUTTERS, DOWNSPOUTS, SKYLIGHTS, DOOR, WINDOW, ROOF/WALL PENETRATIONS, AND ATTACHMENTS TO WALLS/ROOF INTERIOR OR EXTERIOR.



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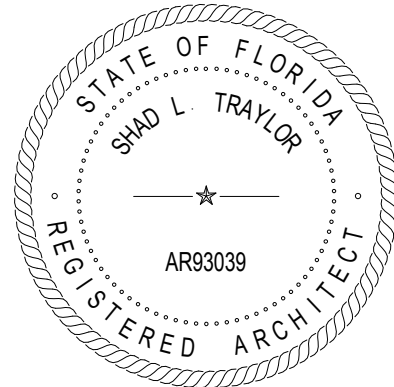
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ISSUE ISSUE FOR CONSTRUCTION

REVISION



BAGASSE PROCESSING FACILITY
BELLE GLADE, FLORIDA
TELLUS PRODUCTS, LLC



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY
SHAD L. TRAYLOR
AR93039
DESIGNED BY
BRPH

DRAWN BY
GERMANO

CHECKED BY
TRAYLOR

PROJECT NUMBER
C07111.004

DATE
01/30/17

TITLE
ABBREVIATIONS,
SYMBOLS,
GENERAL NOTES

DRAWING NO.
G-003

GR	GENERAL REQUIREMENTS
GR-1	AS USED IN THESE GENERAL NOTES: "DRAWINGS" MEANS THE LATEST STRUCTURAL DESIGN DRAWINGS, UON. "SPECIFICATIONS" MEANS THE LATEST PROJECT SPECIFICATIONS, UON. "CONTRACT DOCUMENTS" IS DEFINED AS THE DESIGN DRAWINGS AND THE SPECIFICATIONS "SER" IS DEFINED AS THE STRUCTURAL ENGINEER OF RECORD FOR THE STRUCTURE IN ITS FINAL CONDITION. "DESIGN PROFESSIONALS" IS DEFINED AS THE OWNER'S ARCHITECT AND SER. "MEP" INCLUDES, BUT IS NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION. "CONTRACTOR" IS DEFINED TO INCLUDE ANY OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGER AND THEIR SUBCONTRACTORS, STRUCTURAL AND STEEL FABRICATOR OR STRUCTURAL STEEL ERECTOR. "BASE BUILDING STRUCTURE" IS DEFINED AS THE STRUCTURAL FRAME DESIGNED BY JEZERINAC GROUP. "STRUCTURE" IN ITS FINAL CONDITION" MEANS ALL STRUCTURAL ELEMENTS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS ARE INSTALLED AND COMPLETELY CONNECTED AND INSPECTED WITH NO OUTSTANDING NON-COMPLIANCE ISSUES.
GR-2	THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE STRUCTURAL WORK WITH THE ARCHITECTURAL, CIVIL, MEP CONTRACT DOCUMENTS, AS WELL AS ANY OTHER APPLICABLE TRADES.
GR-3	THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE UNTIL THE CONSTRUCTION OF THE STRUCTURE REACHES ITS FINAL CONDITION.
GR-4	THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND REMOVAL OF TEMPORARY BRACING AND CONSTRUCTION SUPPORTS, FOR NEW AND EXISTING STRUCTURES, AS NECESSARY TO COMPLETE THE PROJECT. NO PORTION OF THE PROJECT WHILE UNDER CONSTRUCTION IS INTENDED TO BE STABLE IN THE ABSENCE OF THE CONTRACTOR'S TEMPORARY SUPPORTS AND BRACES. CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED TO DESIGN TEMPORARY BRACING AND CONSTRUCTION SUPPORTS.
GR-5	LATERAL LOAD RESISTANCE AND STABILITY OF THE STRUCTURE IN ITS FINAL CONDITION IS PROVIDED BY PULP AND MOLDING BUILDINGS: PRE-ENGINEERED METAL BUILDING MOMENT FRAMES PERPENDICULAR TO RIDGE. PRE-ENGINEERED METAL BUILDING BRACED FRAMES IN END WALLS PARALLEL TO RIDGE. OFFICE BUILDING: REINFORCED MASONRY SHEAR WALLS. LATERAL STABILITY OF OTHER ELEMENTS IS PROVIDED THROUGH PULP AND MOLDING BUILDINGS: IN-PLANE BRACING BETWEEN ROOF MEMBERS. OFFICE BUILDING: ROOF DECK.
GR-6	THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS.
GR-7	THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND COORDINATE WITH THE STRUCTURAL DRAWINGS, ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER CONSULTANTS, PROJECT SHOP DRAWINGS AND FIELD CONDITIONS.
GR-8	IN CASES OF CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
GR-9	APPLY DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
GR-10	ONLY USE DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS.
GR-11	ASSUME EQUAL SPACING BETWEEN ESTABLISHED DIMENSIONS, IF NOT INDICATED ON DRAWINGS.
GR-12	CENTERLINES OF COLUMNS AND FOUNDATIONS COINCIDE WITH GRID LINE INTERSECTIONS, UON.
GR-13	CENTERLINES OF GRADE BEAMS AND WALLS COINCIDE WITH CENTERLINES OF FOUNDATIONS, UON.
GR-14	CENTERLINES OF FRAMING MEMBERS COINCIDE WITH COLUMN CENTERLINES, UON.
GR-15	THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITIES FROM DAMAGE.
GR-16	THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.
GR-17	THE CONTRACTOR SHALL COORDINATE THE BOTTOM OF BASE PLATE ELEVATIONS WITH THE AS-BUILT TOP OF SUPPORT ELEVATIONS.
GR-18	THE CONTRACTOR SHALL VERIFY ALL OPENING SIZES AND LOCATIONS WITH OTHER DISCIPLINES. THE DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR THE CRITERIA INDICATED ON THE DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
GR-19	ELEVATIONS INDICATED ON STRUCTURAL DRAWINGS ARE BASED ON A PROJECT DATUM INDICATED ON THE ARCHITECTURAL DRAWINGS.

GR-20	SEE ARCHITECTURAL, CIVIL, MEP, AND VERTICAL TRANSPORTATION, CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS INCLUDING, BUT NOT LIMITED TO: CIVIL: SITING OF BUILDING GRID LINES WITH RESPECT TO CITY BENCHMARKS SITE PREPARATION BACKFILLING MATERIALS AND REQUIREMENTS PAVING AND SITE ELEMENTS OUTSIDE OF BUILDING ENVELOPE NEW AND EXISTING SITE UTILITIES ARCHITECTURAL: PLAN DIMENSIONS AND PROJECT DATUM SLAB EDGE DIMENSIONS FINISH ELEVATIONS WATERPROOFING AND DAMP-PROOFING DETAILS RAMP GEOMETRY, PITS, SLAB SLOPES AND DEPRESSIONS EMBEDMENTS, INSERTS, BLOCKOUTS, ETC. EXACT OPENING SIZES FOR PIPES, DUCTS, ETC. CONCRETE FINISHES AND TOPPING SLABS CONCRETE CURBS AND HOUSEKEEPING PADS INTERIOR NON-STRUCTURAL MASONRY PARTITIONS FIRE RATINGS METAL PAN STAIRS AND SUPPORTS OPERABLE PARTITIONS MEP: PIPE AND DUCT SIZES FOR OPENING AND SLEEVE COORDINATION FLOOR DRAINS UNDERFLOOR AND PERIMETER DRAINAGE SYSTEMS EQUIPMENT CURBS CONDUTS AND EMBEDMENTS IN WALLS AND SLABS VERTICAL TRANSPORTATION : INSERTS, HANGERS, TRENCHES, PITS, CONDUITS IN WALLS AND SLABS EQUIPMENT SUPPORT, ELEVATOR DIVIDER BEAMS, EMBEDMENTS, AND ANCHOR BOLTS]
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CD	CODES AND DESIGN CRITERIA
CD-1	PERFORM ALL CONSTRUCTION IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND STANDARDS, UON: FLORIDA BUILDING CODE, 2014. ASCE 7-10 STRUCTURAL CONCRETE: "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" THE AMERICAN CONCRETE INSTITUTE (ACI 318-11) CONCRETE MASONRY: "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES" THE AMERICAN CONCRETE INSTITUTE (ACI 530-11) STRUCTURAL STEEL: "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", MARCH 2011 14TH EDITION CONFORMING TO THE PROVISIONS OF LOAD RESISTANCE FACTOR DESIGN BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC-LRF4)

CD-2	LIVE LOADS: GROUND FLOOR 250 LBS./SQ. FT. OFFICES 50 LBS./SQ. FT. LOBBIES & CORRIDORS 100 LBS./SQ. FT. EXIT FACILITIES 100 LBS./SQ. FT. MEZZANINE STORAGE 100 LBS./SQ. FT. MECHANICAL ROOMS 100 LBS./SQ. FT. ROOFS 20 LBS./SQ. FT.
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CD-3	WIND LOAD DESIGN DATA: MAIN WIND FORCE RESISTING SYSTEM BASIC WIND SPEED, V 160 MPH EXPOSURE C OCCUPANCY/RISK CATEGORY II INTERNAL PRESSURE COEFFICIENT ± 0.18 MEAN ROOF HEIGHT (MOLDING) 34'-0" SEE DESIGN CLADDING LOAD DIAGRAMS ON SHEETS MS-101A
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CD	CODES AND DESIGN CRITERIA - cont'
CD-4	SEISMIC LOAD DESIGN DATA: BUILDING RISK CATEGORY II SEISMIC IMPORTANCE FACTOR (I _s) 1.00 S _s 0.056 g S ₁ 0.028 g SDS 0.045 g SD1 0.029 g SITE CLASS D SEISMIC DESIGN CATEGORY A LATERAL SYSTEM DESCRIPTION RESPONSE MODIFICATION FACTOR (R) 4 ANALYSIS PROCEDURE DESCRIPTION SEISMIC RESPONSE COEFFICIENT (C _s) 0.022 DESIGN BASE SHEAR 0.022 x W KIPS CMU COMPONENT IMPORTANCE FACTOR (I _p) 1.0 CD-5 IN CASES WHERE THE CONTRACTOR DETERMINES THAT SUSPENDED OR FLOOR MOUNTED MEP EQUIPMENT LOADS EXIST WHICH EXCEED DESIGN LOADS INDICATED ON CONTRACT DOCUMENTS, CONTRACTOR SHALL SUBMIT LOAD DATA TO DESIGN PROFESSIONALS FOR REVIEW PRIOR TO PROCEEDING WITH WORK. CD-6 ELEVATOR GUIDELINE SUPPORTS, MACHINE ROOMS, PITS, AND PENTHOUSES ARE BASED ON ELEVATOR TYPES INDICATED ON ARCHITECTURAL CONTRACT DOCUMENTS. CONTRACTOR SHALL SUBMIT FOR REVIEW ANY PLANNED CHANGE TO ELEVATORS TO DESIGN PROFESSIONALS PRIOR TO SUBMITTING CORRESPONDING STRUCTURAL HOP DRAWINGS FOR ACTION. CD-7 STRUCTURAL COMPONENTS ARE NOT DESIGNED FOR VIBRATING EQUIPMENT. MOUNT VIBRATING EQUIPMENT ON VIBRATION ISOLATORS. CD-8 SERVICEABILITY ROOF BEAM AND PURLINS: LIVE/WIND LOAD DEFLECTION IS LESS THAN L/180 LONG-TERM TOTAL DEFLECTION IS LESS THAN L/120 BEAM SUPPORTING CRANES - DEFLECTION LIMITS AS REQUIRED BY CRANE MANUFACTURER LATERAL DRIFT DUE TO WIND LOADS IS LESS THAN OR EQUAL TO H/60 CD-9 CONNECTIONS OF SYSTEMS DESIGNED BY CONTRACTOR'S ENGINEER SUCH AS, BUT NOT LIMITED TO, CLADDING, STAIRS, ELEVATORS, ESCALATORS, PRECAST STADIA, AND MEP LOADS ARE ASSUMED TO IMPOSE VERTICAL AND/OR HORIZONTAL LOADS ON THE BASE BUILDING STRUCTURAL MEMBERS WITHOUT GENERATING TORSION IN THE SUPPORTING STRUCTURAL MEMBERS. CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL SUPPLEMENTARY BRACING MEMBERS AS REQUIRED TO PREVENT TORSION ON THE BASE BUILDING STRUCTURE. CD-10 FOR FIRE RATING AND FIREPROOFING ASSEMBLY EVALUATIONS, CONSIDER THE FOLLOWING ASSEMBLIES RESTRAINED: COMPOSITE WIDE-FLANGE STEEL FRAMING, INTERIOR BAYS OF CONTINUOUS CAST-IN-PLACE CONCRETE CONSTRUCTION. CONSIDER ALL OTHER ASSEMBLIES UNRESTRAINED.

PI	PERFORMANCE ITEMS
PI-1	THE CONTRACTOR SHALL EMPLOY OR RETAIN A LICENSED STRUCTURAL ENGINEER IN THE STATE IN WHICH THIS PROJECT IS LOCATED TO DESIGN AND DETAIL PERFORMANCE ITEMS AS PART OF THE BASE BUILDING STRUCTURE INDICATED IN THE CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO: STRUCTURAL STEEL CONNECTIONS STEEL JOISTS, BRIDGING AND CONNECTIONS STEEL ROOF DECK PRE-ENGINEERED METAL BUILDING FRAME & CLADDING

SU	SUBMITTALS
SU-1	TEN WORKING DAYS PRIOR TO SUBMITTING SHOP DRAWINGS, THE CONTRACTOR SHALL SUBMIT FOR STRUCTURAL ENGINEER'S REVIEW A SCHEDULE WHICH DETAILS THE ESTIMATED QUANTITY OF SHOP DRAWINGS AND THE DATE THE SHOP DRAWINGS WILL BE RECEIVED BY THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER SHALL HAVE THE OPPORTUNITY TO REVIEW THE PROPOSED SCHEDULE AND SUBMIT COMMENTS TO THE CONTRACTOR. THE FINAL SHOP DRAWING SCHEDULE SHALL BE DEVELOPED AND SUBMITTED TO THE STRUCTURAL ENGINEER, IN ACCORDANCE WITH THE SHOP DRAWING SCHEDULE. THE STRUCTURAL ENGINEER WILL RETURN THE SHOP DRAWING ITEMS WITHIN TEN WORKING DAYS AFTER HAVING RECEIVED THE REPRODUCIBLE SHOP DRAWING. SU-2 THE CONTRACTOR IS TO REVIEW EACH SUBMITTAL PRIOR TO FORWARDING TO ARCHITECT AND STRUCTURAL ENGINEER. THE CONTRACTOR IS TO STAMP EACH SUBMITTAL VERIFYING THAT THE FOLLOWING IS ADDRESSED: 1. THE SHOP DRAWING IS REQUESTED. 2. THE SHOP DRAWING IS BASED ON THE LATEST DESIGN. 3. THE ARCHITECT'S AND STRUCTURAL ENGINEER'S COMMENTS FROM ANY PREVIOUS SUBMITTALS ARE ADDRESSED. 4. THE WORK IS COORDINATED AMONG ALL CONSTRUCTION TRADES. 5. REVISIONS FROM PREVIOUS SUBMITTALS ARE CLEARLY MARKED BY CIRCLING OR CLOUDS. 6. SUBMITTAL IS COMPLETE. 7. SUBMITTAL DOES NOT INCLUDE SUBSTITUTION REQUEST 8. SUBMITTAL SHALL INCLUDE A STAMP INDICATING PROJECT NAME AND LOCATION, SUBMITTAL NUMBER, SPECIFICATION SECTION NUMBER. THE STRUCTURAL ENGINEER SHALL RETURN, WITHOUT COMMENT, SUBMITTALS WHICH THE CONTRACTOR HAS NOT STAMPED OR WHICH DO NOT MEET THE ABOVE REQUIREMENTS. THE STRUCTURAL ENGINEER'S REVIEW OF SUBMITTALS SHALL BE FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT. NO WORK SHALL BE STARTED WITHOUT SUCH REVIEW. SU-3 FOR COMPONENTS THAT REQUIRE ENGINEERING BY THE CONTRACTOR, PROVIDE A NOTE ON EACH SHOP DRAWING, WRITTEN AND SIGNED BY THE SUPPLIER'S ENGINEER, INDICATING THAT THE SHOP DRAWING IS IN CONFORMANCE WITH THE CALCULATIONS OF THE CONTRACTOR'S ENGINEER. SU-4 THE FOLLOWING ITEMS REQUIRE SUBMITTALS FOR STRUCTURAL REVIEW AS OUTLINED IN THE SPECIFICATIONS: 03 10 00 S CALC CONCRETE FORMWORK 03 20 00 S CONCRETE REINFORCING LAYOUT 03 30 00 CALC CONCRETE MIX DESIGNS 03 30 00 S CONCRETE CONSTRUCTION JOINT LAYOUT 04 22 00 S MASONRY REINFORCEMENT LAYOUT 05 12 00 S STRUCTURAL STEEL 05 12 00 S CALC STRUCTURAL STEEL CONNECTIONS 05 20 00 S CALC STEEL JOISTS, BRIDGING AND CONNECTIONS 05 30 00 S CALC STEEL ROOF DECK 13 34 19 S CALC PRE-ENGINEERED METAL BUILDING FRAMING S = SHOP DRAWINGS REQUIRED CALC = SUPPORTING CALCULATIONS REQUIRED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.

SU-5	THE ITEMS IN THIS SECTION REFER TO LOADS IMPOSED BY CONTRACTOR DESIGNED SYSTEMS, SPECIFICALLY: COLD-FORMED METAL FRAMING EXTERIOR CLADDING SYSTEMS METAL STAIRS ARCHITECTURAL ORNAMENTATION (FLAGPOLES, BANNERS, MASTS, ETC.) CATWALKS MEP PLATFORMS WHERE CONTRACTOR LOADS IMPOSED DO NOT EXCEED AND/OR CONNECTION CONDITIONS DO NOT DIFFER FROM WHAT IS INDICATED IN THE STRUCTURAL DRAWINGS, SUBMIT FOR RECORD A LETTER SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED STATING THE FOLLOWING: "THE CONTRACTOR DESIGNED SYSTEM HAS BEEN DESIGNED TO IMPOSE LOADS ON THE BASE BUILDING STRUCTURE THAT ARE WITHIN THE LOAD LIMITS AND AT THE LOCATIONS INDICATED ON THE STRUCTURAL DRAWINGS." WHERE CONTRACTOR LOADS IMPOSED FOR THE FOLLOWING ITEMS EXCEED AND/OR CONNECTION CONDITIONS DIFFER FROM WHAT IS SHOWN IN THE STRUCTURAL DRAWINGS, SUBMIT FOR APPROVAL TO SER LOADS IMPOSED ON THE PRIMARY STRUCTURAL FRAME DUE TO THE DEAD, LIVE, AND WIND/SEISMIC LOADS INDICATED ON THE CONTRACT DOCUMENTS. SUBMITTAL SHALL LIST THE DESIGN LOADS USED AND BE SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED. SUBMITTAL SHALL INCLUDE LOCATION, MAGNITUDE AND DIRECTION OF UNFACTORED IMPOSED LOADS, GRAPHICALLY REPRESENTED IN THEIR APPROPRIATE LOCATIONS ON A COPY OF THE CONTRACT DOCUMENT STRUCTURAL FRAMING PLANS OR ELEVATIONS AS APPROPRIATE. DETAIL REFERENCES IN THE CONNECTIONS APPLICABLE AT EACH LOCATION SHALL BE NOTED ON THE SUBMITTAL DRAWINGS. FOR EXTERIOR WALL ASSEMBLIES, THE LOADS IMPOSED SUBMITTAL SHALL BE COMPREHENSIVE INDICATING THE LOAD IMPOSED ON THE BASE BUILDING STRUCTURE AND SHALL BE THE REACTION BASED ON THE ACTUAL LOADS OF THE ENTIRE ASSEMBLY, INCLUDING BUT NOT LIMITED TO GLAZING, CLADDING, METAL STUD BACKUP, AND MULLIONS. A SUBSTITUTION REQUEST MAY BE REQUIRED WHERE CONTRACTOR LOADS IMPOSED EXCEED AND/OR CONNECTION CONDITIONS DIFFER FROM THE BASIS OF DESIGN.
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FN	FOUNDATIONS
FN-1	THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL ENGINEERING REPORT BY TERRACON CONSULTANTS, INC., DATED AUGUST 7, 2015.
FN-2	FOUNDATIONS HAVE BEEN DESIGNED BASED ON THE FOLLOWING DESIGN VALUES FROM THE GEOTECHNICAL REPORT: BEARING STRATUM ENGINEERED FILL NET ALLOWABLE BEARING CAPACITY: 2,500 PSF SEE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS AND INFORMATION. DESIGN VALUES SHALL BE FIELD VERIFIED BY QUALIFIED GEOTECHNICAL ENGINEER RETAINED BY THE OWNER. FN-3 THE CONTRACTOR SHALL VERIFY FOUNDATION INSTALLATION AND CONSTRUCTION IS IN CONFORMANCE WITH THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT. FN-4 CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION, WHERE NECESSARY, SHEET AND SHORE THE EXCAVATION WITH ALL REQUIRED TIEBACKS AND BRACING AS DETERMINED BY CONTRACTOR'S STRUCTURAL ENGINEER. FN-5 FOUNDATIONS FOR THE PRE-ENGINEERED METAL BUILDING (PEMB) ARE DESIGNED FOR THE REACTION PROVIDED BY MANUFACTURER DATED JANUARY 28, 2016

CM	CONCRETE MATERIALS
CM-1	CONCRETE STRENGTH SHALL MEET THE FOLLOWING 28-DAY COMPRESSIVE STRENGTHS (f' _c), UON: FOOTINGS AND PEDESTAL 4,000 PSI GRADE BEAMS 4,000 PSI NON-SHRINK GROUT 8,000 PSI SLAB ON GRADE 4,000 PSI CONCRETE ON STEEL DECK 4,000 PSI CONCRETE HOUSEKEEPING PADS, AND FILL SLABS 4,000 PSI COLUMNS 4,000 PSI

CM-2	PROVIDE NORMALWEIGHT CONCRETE WITH CURED DENSITY OF 145 +/- 5 PCF, AND AGGREGATE CONFORMING TO ASTM C33, UON. WHERE INDICATED, PROVIDE LIGHTWEIGHT CONCRETE WITH CURED DENSITY OF 112+/-3 PCF AND AGGREGATE CONFORMING TO ASTM C330. CM-3 THE USE OF CALCIUM CHLORIDE AND OTHER CHLORIDE CONTAINING AGENTS IS PROHIBITED. THE USE OF RECYCLED CONCRETE IS PROHIBITED. PLACEMENT WITHIN AND CONTACT BETWEEN ALUMINUM ITEMS, INCLUDING ALUMINUM CONDUIT, AND CONCRETE IS PROHIBITED.
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CM-4	ALL CAST-IN-PLACE CONCRETE WILL EXPERIENCE DIFFERING VARIATIONS OF CRACKING. ANY ELEMENT EXPOSED TO DIRECT WEATHER AND/OR TEMPERATURE VARIATIONS DURING CONSTRUCTION OR IN THE FINAL CONDITION IS TO BE TREATED AND REGULARLY MAINTAINED TO PREVENT PROPAGATION OF CRACKS AND WATER PENETRATION. THE CONTRACTOR SHALL DEVELOP A REGULAR MAINTENANCE PROGRAM AND SUBMIT IT TO THE OWNER.
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RE	CONCRETE REINFORCEMENT
RE-1	ALL CONCRETE SHALL INCLUDE REINFORCEMENT. IF REINFORCEMENT IS NOT SPECIFICALLY INDICATED ON THE DRAWINGS VERIFY WITH THE STRUCTURAL ENGINEER.

RE-2	REINFORCEMENT SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES UON:
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DEFORMED BARS:	ASTM A615 GRADE 60
WELDABLE DEFORMED BARS:	ASTM A706
WELDED WIRE REINFORCEMENT	ASTM A1064

RE-3	DETAIL REINFORCEMENT BASED ON THE PROJECT REQUIREMENTS, ACI-318 AND ACI-315, UON.
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RE-4	WHERE A 90-DEG, 135-DEG OR 180-DEG HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOKS UON.
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RE-5	DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT UON.
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RE-6	REINFORCEMENT SHALL HAVE CONCRETE PROTECTION (CLEAR COVER) AS FOLLOW
ELEMENT	BOTTOM TOP SIDES
FOOTINGS	3" 2" 3"
BEAM ABOVE GRADE	1 1/2" 1 1/2" 1 1/2"
COLUMNS	3/4" 3/4" 1"
SLAB ABOVE GRADE	3/4" 3/4" 1"
SLAB EXPOSED TO WEATHER	1 1/2" 1 1/2" 1 1/2"
WALL RETAINING FILL	- - 2"
WALL EXPOSED TO WEATHER	- - 1 1/2"

RE-7	LAP REINFORCEMENT ONLY AT LOCATIONS AS SPECIFICALLY DETAILED ON THE DRAWINGS EXCEPT REINFORCEMENT MAIN CAN BE SPLICED AT LOCATIONS DETERMINED BY CONTRACTOR USING TENSION LAP SPLICES (TLS). SEE LAP SPLICE AND EMBEDMENT SCHEDULE.
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RE-8	UNLESS OTHERWISE NOTED ALL LAP SPLICES ARE TO BE TENSION LAP SPLICES PER LAP SPLICE AND EMBEDMENT SCHEDULE.
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RE-9	PROVIDE MECHANICAL SPLICES FOR BARS LARGER THAN #11 OR WHERE INDICATED. PROVIDE TENSILE, PRE-QUALIFIED, WELDED OR THREADED MECHANICAL SPLICES, UON.
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RE-10	LAP WELDED WIRE REINFORCEMENT TWO PANEL SPACINGS, UON. PROVIDE PLAIN, COLD DRAWN ELECTRICALLY-WELDED WIRE REINFORCEMENT CONFORMING TO ASTM A-185 AND SUPPLY 1/2 SHEET ONLY.
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RE-11	PROVIDE LAP LOCATIONS AS FOLLOWS, UON: A. GRADE BEAM / WALL (TOP HORIZONTAL REINFORCEMENT): AT CENTER OF SPAN B. GRADE BEAM / WALL (BOTTOM HORIZONTAL REINFORCEMENT): AT SUPPORTS C. WALL INSIDE FACE (VERTICAL REINFORCEMENT): AT SUPPORT D. WALL OUTSIDE FACE (VERTICAL REINFORCEMENT): AT MIDHEIGHT OF WALL E. UNLESS OTHERWISE NOTED TERMINATE BARS AT DISCONTINUOUS ENDS WITH STANDARD HOOKS.
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RE-12	PROVIDE EPOXY COATED REINFORCEMENT AND ACCESSORIES IN AREAS OF DIRECT EXPOSURE TO THE ENVIRONMENT, CHEMICALS, OR DE-ICING FOR THE AREAS INDICATED ON THE DRAWINGS.
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CJ	CONCRETE CONSTRUCTION JOINTS
CJ-1	PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI-318. SUBMIT SHOP DRAWINGS SHOWING PROPOSED CONSTRUCTION JOINT LOCATIONS, DETAILS AND THE PLACEMENT SEQUENCE FOR THE STRUCTURAL ENGINEER'S APPROVAL PRIOR TO PROCEEDING WITH WORK.
CJ-2	NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN BEAMS, UPTURNED BEAMS, WALLS AND SLABS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE DESIGN PROFESSIONALS PRIOR TO CONSTRUCTION.
CJ-3	PROVIDE CONTINUOUS WATERSTOPS AT ALL CONSTRUCTION JOINTS EXPOSED TO SOIL OR WATER, AS DESCRIBED IN THE SPECIFICATIONS.

MA	MASONRY
MA-1	LOAD BEARING, NON-LOAD BEARING, AND BACKUP WALL CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE FOLLOWING MATERIAL STANDARDS: CONCRETE BLOCK: ASTM C90, NORMALWEIGHT (135 PCF) MINIMUM 28 DAY COMPRESSIVE STRENGTH 2000 PSI FOR S OR M OR 2650 PSI FOR N ASTM C270, TYPE S OR M PORTLAND CEMENT / LIME ONLY MORTAR: (USE TYPE M MORTAR WHEN MASONRY IS IN DIRECT CONTACT WITH SOIL; TYPE S IN ALL OTHER CONDITIONS; TYPE N MAY BE USED FOR INTERIOR NON-LOAD BEARING WALLS AT CONTRACTOR'S OPTION) FINE GROUT, ASTM C476 (MINIMUM 28 DAY COMPRESSIVE: 2500 PSI) ASTM A615, GRADE 60 ASTM A82, TRUSS OR LADDER TYPE GROUT REINFORCEMENT: GALVANIZE PER ASTM A153 JOINT REINFORCEMENT: GALVANIZE PER ASTM A153 EXTERIOR JT REINF: GALVANIZE PER ASTM A441 INTERIOR JT REINF: GALVANIZE PER ASTM A153 TYPICAL GALVANIZE PER ASTM A153 RELATIVE HUMIDITY >75% GALVANIZE PER ASTM A153 MA-2 THE MINIMUM COMPRESSIVE STRENGTH OF THE MASONRY (F' _m) SHALL BE 2,000 PSI, UON, AS DETERMINED IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS FOR MASONRY STRUCTURES MA-3 CALCIUM CHLORIDE SHALL NOT BE USED IN MORTAR OR GROUT. MA-4 PROVIDE FULL FACE SHELL MORTAR COVERAGE ON MASONRY UNIT HORIZONTAL AND VERTICAL (BED AND HEAD) FACE SHELL JOINTS. MA-5 PROVIDE FULL MORTAR COVERAGE ON WEBS AROUND ALL GROUTED CELLS. MA-6 LAY MASONRY UNITS IN RUNNING BOND UON WITH UNITS DESIGNED TO ALIGN WITH WEBS IN EACH COURSE. MA-7 REFER TO PLANS AND DETAILS FOR BONDED JOINT REQUIREMENTS AT WALL CORNERS AND INTERSECTIONS WHERE INDICATED ON DRAWINGS. INTERLOCK WALLS WITH METAL TIES, ANCHORS OR PREFABRICATED JOINT REINFORCEMENT UON ON DRAWINGS OR SEE SPECIFICATIONS. MA-8 GROUT SOLID CELLS WITH REINFORCEMENT. GROUT SOLID CELLS IN BELOW GRADE CONSTRUCTION WHERE MASONRY IS IN CONTACT WITH SOIL. ALLOW MORTAR TO CURE FOR 24 HRS PRIOR TO GROUTING. PROVIDE CLEAN OUT OPENING AT THE BASE OF CELLS CONTAINING REINFORCING STEEL TO CLEAN THE CELL AND TO TIE THE VERTICAL BAR TO DOWEL. MA-9 GROUT MINIMUM OF ONE (1) CELL WITH REINFORCEMENT AT EACH SIDE OF ALL OPENINGS. SEE DRAWINGS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS. MA-10 BEAMS NOT SCHEDULED ARE MINIMUM 8'X12" TIE BEAMS WITH 2#5 TOP AND BOTTOM AND #3 TIES SPACED AT 48" OC TYPICAL AND 12" OC AT ENDS AND INTERSECTION. UON COLUMNS NOT SCHEDULED ARE MINIMUM 8'X12" TIE COLUMNS WITH #5 VERTICALS BARS AND #3 TIES AT 12" OC USE 30" LAPS SPLICE. HOOK ALL BAR AT DISCONTINUOUS END. MA-11 AT THE BEAM OR BOND BEAM INTERSECTION, PLACE MINIMUM 1#5 X 5'-0" TOP AND BOTTOM CORNER BAR WITH 30" LAP SPLICES. AT THE EXTERIOR FACE. MA-12 WHERE STRAP ANCHORS ARE REQUIRED BY DRAWINGS OR SPECIFICATIONS, LOCATE THEM AT DIFFERENT BED JOINTS THAN THOSE RECEIVING HORIZONTAL JOINT REINFORCEMENT. MA-13 WHERE REQUIRED, LAP HORIZONTAL JOINT REINFORCEMENT BY AT LEAST 8 INCHES. MA-14 IN HIGH LIFT GROUTING, USE 5'-0" (MAX) LIFT WITH 12 HOUR TO 1 HOUR BETWEEN LIFTS. VIBRATE EACH LIFT AND RECONSOLIDATE PREVIOUS LIFT. MA-15 USE PRESSURE TREATED WOOD FOR WOOD IN CONTACT WITH MASONRY

E

SJ	OPEN WEB STEEL JOISTS AND JOIST GIRDERS
SJ-1	DESIGN, MANUFACTURE AND ERECT JOISTS AND BRIDGING IN ACCORDANCE WITH THE "STANDARD SPECIFICATION FOR OPEN WEB JOISTS" OF THE STEEL JOIST INSTITUTE (SJI), CURRENT EDITION, AS A MINIMUM.
SJ-2	JOISTS AND JOIST GIRDERS SHALL BE DESIGNED AND PROVIDED BY CONTRACTOR PER THE SJI SPECIFICATIONS AS INDICATED IN THE DRAWINGS. SEE DRAWINGS FOR JOIST SPACING AND DEPTH LIMITATIONS. ONLY JOISTS LISTED IN THE SJI CATALOG ARE ACCEPTABLE.
SJ-3	BRIDGING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR PER THE SJI SPECIFICATIONS.
SJ-4	BEFORE METAL DECK IS PLACED, ATTACH ALL BRIDGING TO THE JOISTS AND ANCHOR ALL BRIDGING TERMINATING AT WALLS OR BEAMS TO THE WALLS OR BEAMS. WELD OR BOLT ALL BRIDGING CONNECTIONS TO STEEL JOISTS AND BEAMS.
SJ-5	DESIGN AND DETAIL STEEL JOIST CONNECTIONS TO CARRY THE MOST SEVERE COMBINATION OF DIAPHRAGM FORCES AND GRAVITY LOADS AND WIND UPLIFT FORCES
SJ-6	DESIGN JOISTS TO LIMIT DEFLECTION UNDER TOTAL LOAD TO SPAN DIVIDED BY 240. UON.
SJ-7	CAMBER JOISTS PER SJI STANDARDS, UON.
SJ-8	PROVIDE DOUBLE ANGLE TOP AND BOTTOM CHORDS.
SJ-9	HANGING AND POINT BEARING LOADS SHALL ONLY BE PERMITTED AT JOIST PANEL POINTS AND SHALL NOT EXCEED 200 LBS.
SJ-10	EXTEND BOTTOM CHORDS OF JOISTS AND JOIST GIRDERS AT COLUMNS.

SD	STEEL DECK GENERAL REQUIREMENTS
SD-1	THE DESIGN, MANUFACTURE AND ERECTION OF STEEL DECK AND ITS ANCHORAGE SHALL, AT A MINIMUM, BE IN ACCORDANCE WITH "DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS" OF THE STEEL DECK INSTITUTE (SDI), CURRENT EDITION AND "SPECIFICATIONS FOR DESIGN OF LIGHT GAGE COLD FORMED STEEL STRUCTURAL MEMBERS" AS PUBLISHED BY THE AMERICAN IRON AND STEEL INSTITUTE (AISI), CURRENT EDITION.
SD-2	FABRICATE STEEL DECK UNITS AND ACCESSORIES FROM STEEL SHEET CONFORMING TO ASTM A653 S24 GRADE 33, WITH A MINIMUM YIELD STRENGTH OF 33 KSI.
SD-3	CONFIGURE ALL STEEL DECK USING THREE SPAN CONTINUOUS LAYOUTS WHEREVER POSSIBLE.
SD-3	CONFIGURE ALL STEEL DECK AS SHOWN ON THE DRAWINGS.
SD-4	DESIGN STEEL DECK FOR UNSHORED CONDITIONS.

DK	STEEL COMPOSITE DECK AND FORM DECK
DK-1	COMPOSITE DECK AND FORM DECK SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES: ASTM A653-HOT-DIPPED GALVANIZED CONFORMING TO ASTM A924 G60, OR ASTM A1008, GRADE C WITH PHOSPHATE TREATED AND BAKED ON RUST-INHIBITIVE PAINT
DK-2	DESIGN AND DETAIL COMPOSITE DECK TO SUPPORT SCHEDULED DESIGN LOADS, WORKING AS A PART OF COMPOSITE SLAB.
DK-3	FASTEN COMPOSITE FLOOR DECK UNITS AS FOLLOWS: A. TO THE STEEL FRAMEWORK AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS: BY PUDDLE WELDS NOT LESS THAN 5/8 INCH DIAMETER SPACED AT 12 INCHES ON CENTER MAXIMUM, UON. WHERE PRESENT, A HEADED STUD CAN REPLACE A PUDDLE WELD. B. AT SIDE LAPS OF ADJACENT UNITS BETWEEN SUPPORTS AT INTERVALS NOT EXCEEDING 24 INCHES ON CENTER UON.
DK-4	COMPOSITE FLOOR DECK HANGER TABS LOADS SHALL NOT EXCEED 60 LBS PER HANGER TAB. IN ADDITION LOADS ON HANGERS SHALL BE DISTRIBUTED IN SUCH A MANNER THAT THE TRIBUTARY LOADS FOR EACH HANGER SHALL NOT EXCEED 5 POUNDS PER SQUARE FOOT.
DK-5	DISTRIBUTE STEEL STUDS UNIFORMLY OVER BEAM SPAN UNLESS OTHERWISE NOTED ON DRAWINGS. MAXIMUM SPACING OF 3/4 INCH HEADED STUDS SHALL NOT EXCEED 12" ON CENTER (ONE STUD PER FOOT) UNLESS OTHERWISE NOTED ON PLAN.
DK-6	HEADED SHEAR STUDS SHALL EXTEND A MINIMUM OF 1 1/2 INCHES ABOVE THE TOP OF STEEL DECK WITH A MINIMUM CLEAR COVER OF 1/2 INCH FROM THE TOP OF SLAB.
DK-7	STEEL COMPOSITE DECKS ARE TO BE POURED LEVEL TO COLUMNS OR AS INDICATED ON THE DRAWINGS.
DK-8	DESIGN AND DETAIL STEEL COMPOSITE DECK, FORM DECK, DECK ENCLOSURES, AND DECK ACCESSORIES FOR CONSTRUCTION LOADS. IN DETERMINING CONSTRUCTION LOADING OF FRESH CONCRETE, ACCOUNT FOR RELEVANT FACTORS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: A. THE PLANNED CONCRETE PLACEMENT METHODS B. ADDITIONAL CONCRETE WEIGHT DUE TO DECK DEFLECTION C. WHERE DECKS ARE POURED TO LEVEL ADDITIONAL CONCRETE WEIGHT DUE TO CUMULATIVE DEFLECTION OF INDIVIDUAL BEAMS AND GIRDERS EQUAL TO DIAGONAL BAY DIMENSION BETWEEN COLUMNS DIVIDED BY 380 LESS ANY INDICATED CAMBER.

RD	STEEL ROOF DECK
RD-1	STEEL ROOF DECK SHALL CONFORM TO THE FOLLOWING STANDARDS AND MATERIAL PROPERTIES: STEEL FOR DECK ASTM A653, MINIMUM YIELD STRENGTH OF 33 KSI HOT-DIP GALVANIZING ASTM A653 G60 ROOF DECK SHALL BE HOT-DIP GALVANIZED, UON
RD-2	PROVIDE STEEL ROOF DECK WITH DEPTH AND MINIMUM GAGE INDICATED ON DRAWINGS. PROVIDE ANCHORAGE TO SUPPORTING MEMBERS AS INDICATED ON DRAWINGS.
RD-3	ROOF DECK AND ITS ANCHORAGE TO STRUCTURAL FRAMING SHALL BE CAPABLE OF WITHSTANDING A MINIMUM NET UPLIFT FORCE, AS SHOWN ON SHEETS MS-101A.
RD-4	ROOF DECK AND ITS ANCHORAGE TO SUPPORTING MEMBERS SHALL MEET THE FOLLOWING MINIMUM FASTENING REQUIREMENTS A. AT ENDS OF UNITS AND AT ALL INTERMEDIATE SUPPORTS: BY PUDDLE WELDS NOT LESS THAN 5/8 INCH DIAMETER SPACED NOT MORE THAN 12 INCHES ON CENTER MAX. B. SIDE LAPS OF ADJACENT UNITS: SHALL BE FASTENED BY SIDE SEAM WELDING OR SIDELAP SCREWS SPACED PER MANUFACTURERS ENGINEERED CALCULATIONS WITH A MAXIMUM SPACING OF 24 INCHES ON CENTER. ARC SEAM WELDS SHALL BE A MINIMUM OF 1-1/2 INCH BY 1/2 INCH.
RD-5	NO LOADS SHALL BE HUNG DIRECTLY FROM STEEL ROOF DECK WITHOUT THE PRIOR APPROVAL OF THE DECK SUPPLIER AND REVIEW BY THE SER.
RD-6	DECKING CONTRACTOR SHALL COORDINATE DECK OPENING SIZES AND LOCATIONS FROM ARCHITECTURAL AND MEP CONTRACT DOCUMENTS, PROVIDE HEADER MEMBERS OR REINFORCEMENT AS REQUIRED BY TYPICAL DETAILS EVEN IF NOT SHOWN ON THE PLANS, AND SUBMIT PROPOSED OPENINGS THROUGH SLAB/DECK FOR REVIEW BY THE DESIGN PROFESSIONALS.

AC	ARCHITECTURAL CLADDING
AC-1	TYPICAL DETAILS INDICATE GENERAL CRITERIA FOR ASSUMED CONNECTIONS OF ARCHITECTURAL CLADDING TO BASE BUILDING STRUCTURE. PROVIDE DESIGNS THAT MEET INDICATED CRITERIA AND CONFORM TO LISTED CODES AND STANDARDS. REFER TO SUBMITTALS SECTION IN THESE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
PA	POST-INSTALLED ANCHORS
PA-1	ADHESIVE ANCHOR SYSTEMS USED FOR DESIGN: ADHESIVE: HILTI HIT-HY 200-A (CONCRETE) HILTI HIT-HY 70 (CONCRETE MASONRY UNIT) THREADED ROD: HILTI HAS OVERHEAD AND/OR CONSTANT TENSION ADHESIVE ANCHOR INSTALLATIONS NOT SHOWN ON THE DRAWINGS SHALL NOT BE PERMITTED UNLESS EACH CONDITION IS REVIEWED AND APPROVED IN WRITING BY THE SER.
PA-2	FIELD DRILLED EXPANSION ANCHOR SYSTEMS USED FOR DESIGN: KWIK BOLT TZ
PA-3	FIELD DRILLED THREADED SCREW ANCHOR SYSTEMS USED FOR DESIGN: HUS-EZ
PA-4	ALTERNATIVE SYSTEM EQUIVALENT TO OR EXCEEDING THE PROPERTIES OF THE SYSTEMS ABOVE WILL BE CONSIDERED AS A SUBSTITUTION REQUEST. SEE PROJECT SPECIFICATIONS.
PA-5	ANCHORS ARE TO BE MINIMUM 3/4" DIAMETER WITH A MINIMUM EMBEDMENT OF 6" UON.
PA-6	INSTALL ANCHORS TO MEET THE REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS AND THE CURRENT MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS (MPII).
PA-7	LOCATE, BY NON-DESTRUCTIVE MEANS, AND AVOID ALL EXISTING REINFORCEMENT PRIOR TO INSTALLATION OF ANCHORS. IF EXISTING REINFORCING LAYOUT PROHIBITS THE INSTALLATION OF ANCHORS AS INDICATED IN THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS IMMEDIATELY.
PA-8	INSTALL MASONRY ANCHORS IN SOLID MASONRY OR IN HOLLOW MASONRY THAT HAS BEEN GROUTED SOLID AT LEAST ONE COURSE ABOVE AND ONE COURSE BELOW THE ANCHOR, UON.
PA-9	SEE PROJECT SPECIFICATIONS FOR POST-INSTALLED ANCHOR INSPECTION REQUIREMENTS.

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ADDL	ADDITIONAL	W/P	WORK POINT
ADJ	ADJACENT	WPFG	WATERPROOFING
ALT	ALTERNATE	WS	WATERSTOP
APPRX	APPROXIMATE	WWR	WELDED WIRE REINFORCEMENT
ARCH	ARCHITECT OR ARCHITECTURAL		
B/	BOTTOM OF		
B/B	BACK TO BACK		
BAL	BALANCE		
BLDG	BUILDING		
BLK	BLOCK		
BLKG	BLOCKING		
BM	BEAM		
BTM	BOTTOM		
BP	BASE PLATE		
BRDG	BRIDGING		
BRG	BEARING		
BTWN	BETWEEN		
C	COMPRESSION		
C/C	CENTER TO CENTER		
CIP	CAST-IN-PLACE		
CL	CENTER LINE		
CLR	CLEAR OR CLEARANCE		
CMU	CONCRETE MASONRY UNIT		
COL	COLUMN		
COMP	COMPRESSION		
CONC	CONCRETE		
CONN	CONNECTION(S)		
CONST	CONSTRUCTION		
CONT	CONTINUOUS		
db	REINFORCING BAR DIAMETER		
DBL	DOUBLE		
DCW	DEMAND CRITICAL WELD		
DEG	DEGREE(S)		
DET	DETAIL		
DIA	DIAMETER		
DIAG	DIAGONAL		
DIM(S)	DIMENSION(S)		
DL	DEAD LOAD		
DWG(S)	DRAWING(S)		
DWL	DOWEL(S)		
EA	EACH		
ECC	ECCENTRICITY		
EFC	EACH FACE		
EL	ELEVATION		
ELEC	ELECTRICAL		
ENGR	ENGINEER		
EOS	EDGE OF SLAB		
EQ	EQUAL		
EQUIP	EQUIPMENT		
EW	EACH WAY		
EXP	EXPANSION		
EXST	EXISTING		
EXT	EXTERIOR		
F/F	FACE TO FACE		
FIN	FINISH(ED)		
FLR	FLOOR		
FND	FOUNDATION		
FP	FIREPROOF(ING)		
FS	FAR SIDE		
FTG	FOOTING		
GA	GAGE, GAUGE		
GALV	GALVANIZED		
GB	GRADE BEAM		
GEN	GENERAL		
GR	GRADE		
HK	HOOK		
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HT	HEIGHT		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
INFO	INFORMATION		
INT	INTERIOR		
INTRM	INTERMEDIATE		
JST(S)	JOIST(S)		
JT	JOINT		
K	KIPS (1,000 POUNDS)		
KLF	KIP PER LINEAR FOOT		
KSF	KIP PER SQUARE FOOT		
LL	LIVE LOAD		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LONG	LONGITUDINAL		
LP	LOW POINT		
LW	LIGHTWEIGHT		
LWC	LIGHTWEIGHT CONCRETE		
M	MOMENT		
MATL	MATERIAL		
MAX	MAXIMUM		
MC	MOMENT CONNECTION(S)		
MECH	MECHANICAL		
MEP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION		
MEZZ	MEZZANINE		
MFR	MANUFACTURER		
MID	MIDDLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
NIC	NOT IN CONTRACT		
NO	NUMBER		
NOM	NOMINAL		
NS	NEAR SIDE		
NTS	NOT TO SCALE		
NW	NORMAL WEIGHT		
NWC	NORMALWEIGHT CONCRETE		
OC	ON CENTER		
OD	OUTSIDE DIAMETER		
OF	OUTSIDE FACE		
OH	OPPOSITE HAND		
OPNG(S)	OPENING(S)		
OPP	OPPOSITE		
OSL	OUTSTANDING LEG		
P/T	POST-TENSIONED		
PC	PIECE		
PCY	POUNDS PER CUBIC YARD		
PERP	PERPENDICULAR		
PG	PLATE GIRDER		
PJF	PREFORMED JOINT FILLER		
PL	PLATE		
PRC	PREGAST		
PRLL	PARALLEL		
PSF	POUNDS PER SQUARE FOOT		
PSI	POUNDS PER SQUARE INCH		
PT	POINT		
RAD	RADIUS		
REF	REFERENCE		
REINF	REINFORCE(D) (ING) OR (MENT)		
REQD	REQUIRED		
SCHED	SCHEDULE(D)		
SDL	SUPERIMPOSED DEAD LOAD		
SECT	SECTION		
SER	STRUCTURAL ENGINEER OF RECORD		
SF	SQUARE FOOT (FEET)		
SHT	SHEET		
SIM	SIMILAR		
SLRS	SEISMIC LOAD RESISTING SYSTEM		
SOG	SLAB ON GRADE		
SP	SPACE		
SPEC(S)	SPECIFICATION(S)		
STD	STANDARD		
STL	STEEL		
STR	STRUCTURE		
STRCTL	STRUCTURAL		
SYM	SYMMETRICAL		
T	TENSION		
T&B	TOP AND BOTTOM		
TI	TOP OF		
TEMP	TEMPERATURE OR TEMPORARY		
TEN	TENSION		
THK	THICK OR THICKNESS		
TYP	TYPICAL		
UON	UNLESS OTHERWISE NOTED		
V	SHEAR		
VERT	VERTICAL		
VIF	VERIFY IN FIELD		
W/	WITH		
W/O	WITHOUT		
WD	WOOD		



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TO THE BEST OF THE ENGINEERS
KNOWLEDGE, THE PLANS AND
SPECIFICATIONS COMPLY WITH THE
APPLICABLE BUILDING CODES AND
MATERIAL SPECIFICATIONS.

BAGASSE PROCESSING FACILITY
BELLE GLADE, FL
TELLUS PRODUCTS, LLC

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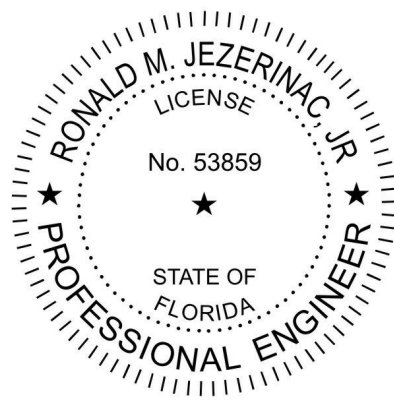
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CERTIFICATE OF AUTHORIZATION FL #30785

TO THE BEST OF THE ENGINEER'S
KNOWLEDGE, THE PLANS AND
SPECIFICATIONS COMPLY WITH THE
APPLICABLE BUILDING CODES AND
MATERIAL SPECIFICATIONS.

BAGASSE PROCESSING FACILITY
BELLE GLADE, FL
TELLUS PRODUCTS, LLC



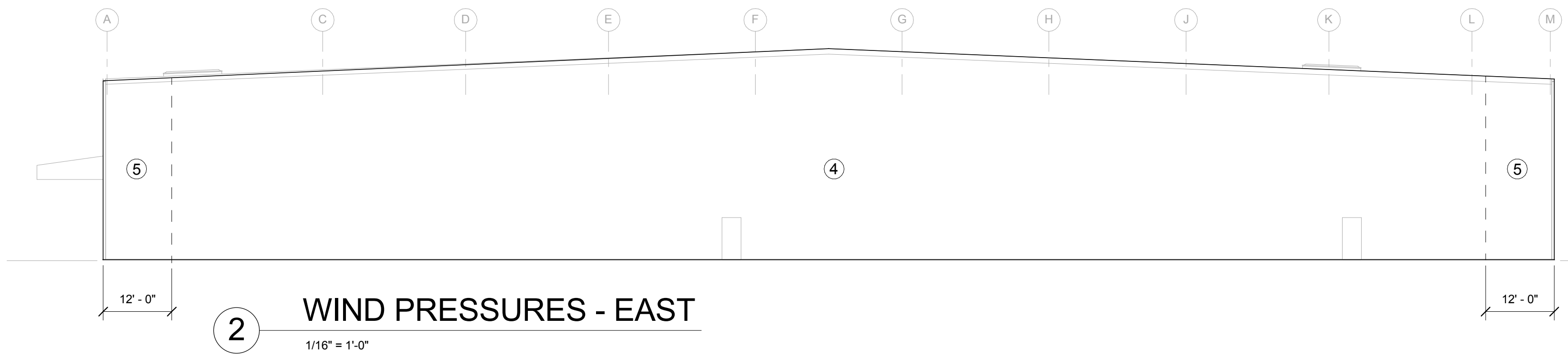
RONALD M. JEZERINAC, JR. PE NO.: 53859
THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND
SEALED BY RONALD M. JEZERINAC, JR. P.E. ON
01/30/2017
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ARCHITECT OF RECORD
RONALD M. JEZERINAC, JR.
PE 53859
DESIGNED BY
JEZERINAC GROUP
DRAWN BY
S. WIDJAJA
CHECKED BY
RONALD M. JEZERINAC
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
WIND PRESSURE
DIAGRAMS

E



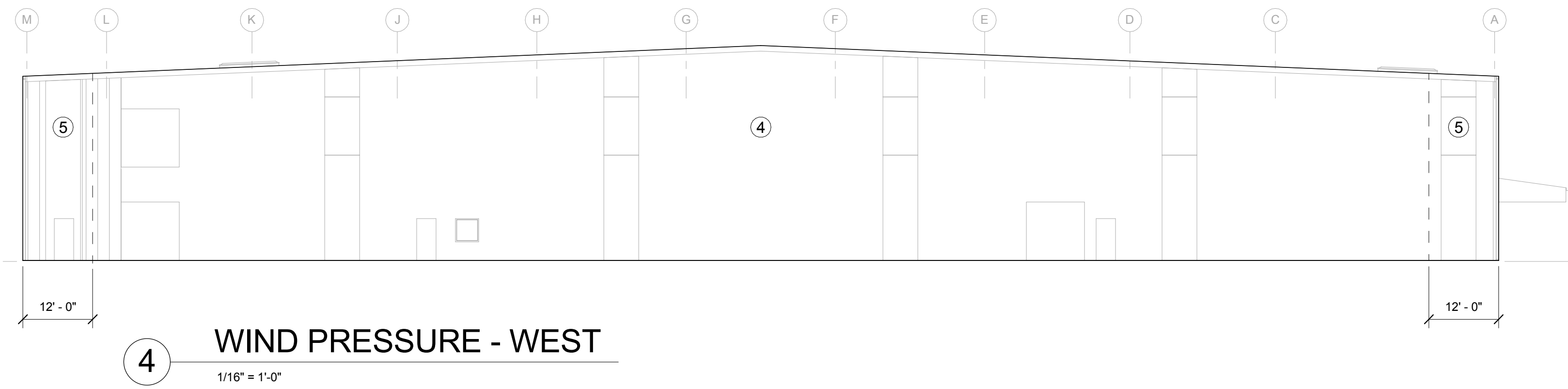
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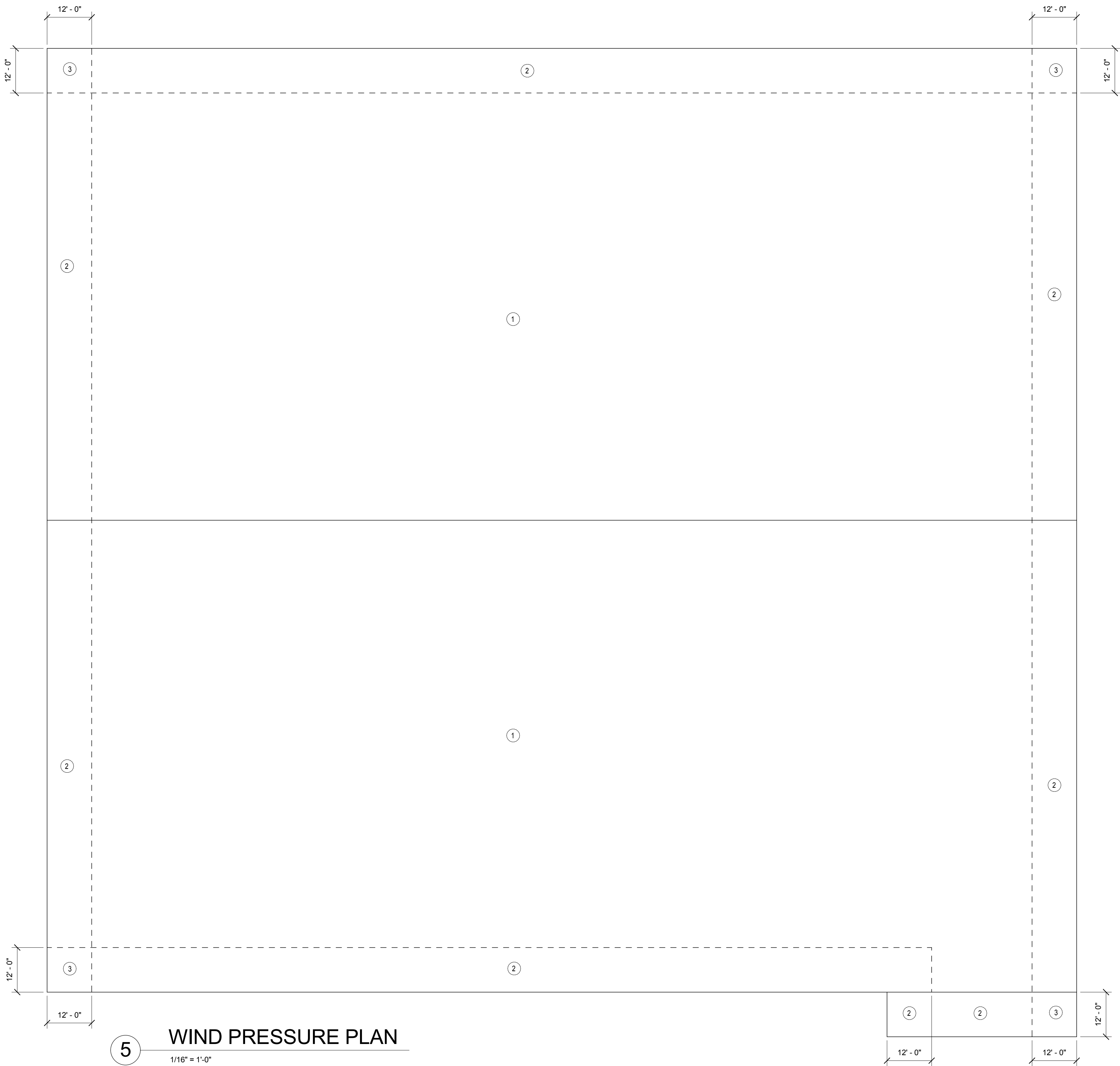
D



4



C



B

A

WIND PRESSURES - PLAN						
COMPONENTS AND CLADDING ROOF PRESSURES (PSF)						
ZONE	AREA (SF)					
	10	20	50	100	200	500
1	+26/-64	+25/-63	+23/-61	+21/-59	+21/-59	+21/-59
2	+26/-108	+25/-97	+22/-81	+21/-70	+21/-70	+21/-70
3	+26/-163	+25/-135	+22/-98	+21/-70	+21/-70	+21/-70

WIND PRESSURES - ELEVATIONS						
COMPONENTS AND CLADDING WALL PRESSURES (PSF)						
ZONE	AREA (SF)					
	10	20	50	100	200	500
4	+58/-64	+57/-61	+53/-58	+51/-56	+48/-53	+44/-49
5	+58/-79	+57/-74	+53/-67	+51/-61	+48/-56	+44/-49

- WIND PRESSURE NOTES:**
1. THE LOADS SHOWN ARE ULTIMATE LOADS PER ASCE 7.2010.
 2. THE USE OF A 0.6 FACTOR FOR ITEMS DESIGNED OR TESTED BASED ON ALLOWABLE OR NOMINAL WIND LOADS IS PERMITTED PER FBC 2014, SEC. 1609.1.2.4.1



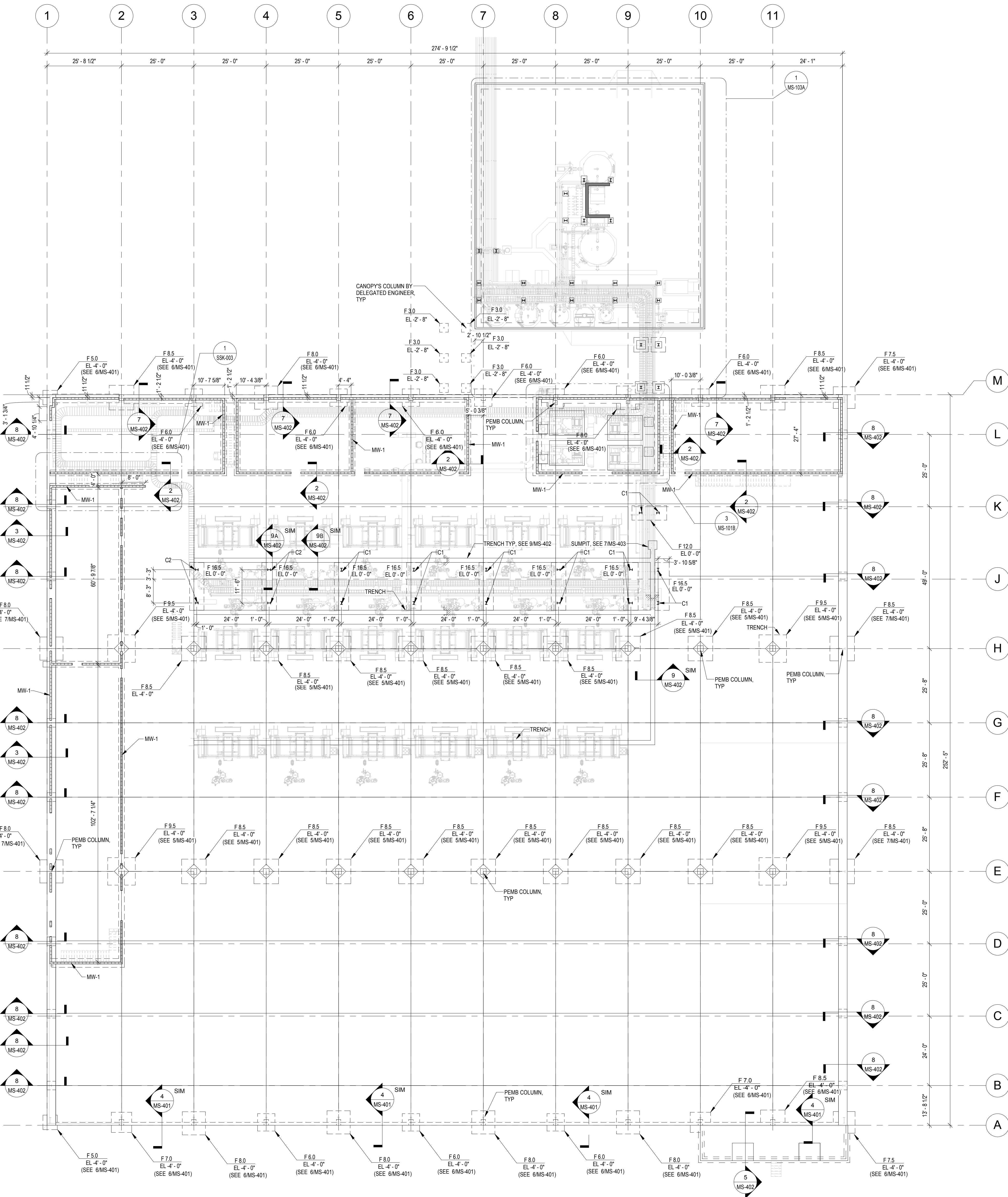
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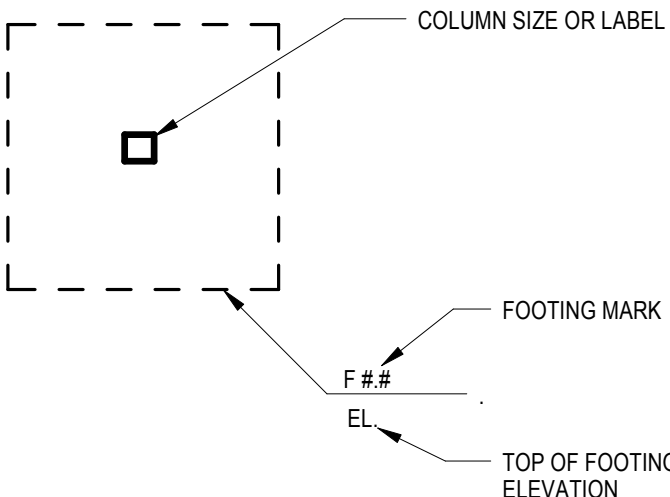
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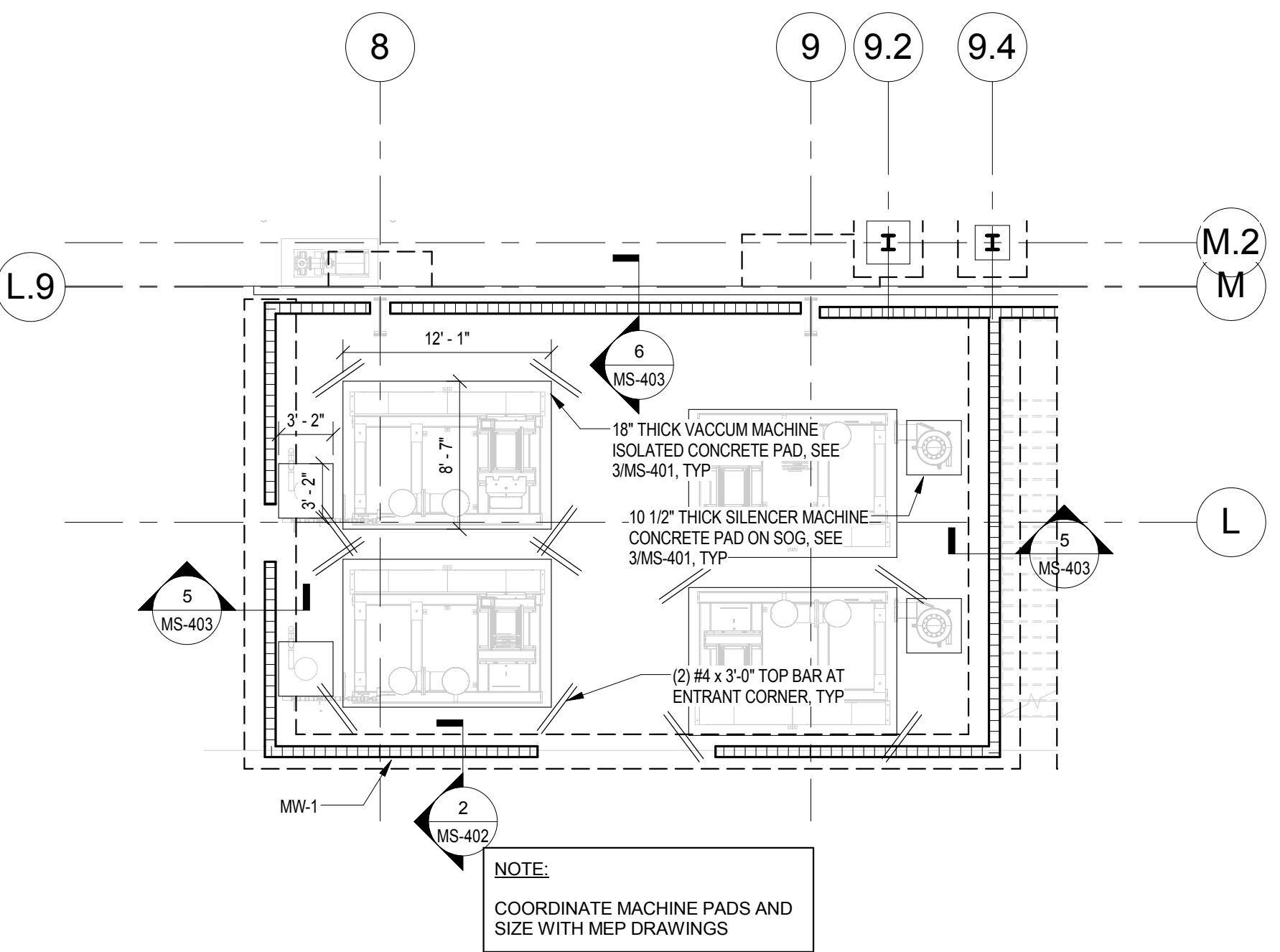
FOUNDATION NOTES:

1. TOP OF FOOTING EL = -1'-4" UNO.
2. TOP OF SLAB EL = 0'-0" UNO.
3. SLAB ON-GRADE SHALL BE 9" THICK REINFORCED WITH #4 AT 12" OC EACH WAY. UNO. PROVIDE 10 MIL. VAPOR BARRIER UNDERNEATH ALL SLAB ON GRADE. REFER TO DETAIL 1/MS-401 FOR REINFORCING LOCATION.
4. SEE GENERAL NOTES FOR CONCRETE COMPRESSIVE STRENGTH.
5. COORDINATE ALL FLOOR DRAIN, SLOPE, TRENCH DRAIN AND PROFILE LOCATION WITH MEP DRAWING. FOR TRENCH DRAIN REFER TO 9MS-402.
6. COORDINATE WITH APPROVED PRE-ENGINEER METAL BUILDING (PEMB) DRAWINGS FOR COLUMN LOCATION, SIZE AND BASE PLATE.
7. F # DESIGNATES COLUMN FOUNDATION. SEE SPREAD FOOTING SCHEDULE.
8. MW-1 DESIGNATES 8" CONCRETE MASONRY WALL REINFORCED WITH #5 AT 24" OC
9. C1 DESIGNATES W12X40 PIPE RACK COLUMNS. FOR BASE PLATE REFER TO SEE 10MS-401. COORDINATE PIPE RACK LOCATION WITH MEP/ELEC DRAWINGS.
10. C2 DESIGNATES W12X45 PIPE RACK COLUMNS. FOR BASE PLATE REFER TO SEE 10MS-401. COORDINATE PIPE RACK LOCATION WITH MEP/ELEC DRAWINGS.
11. SEE MS-4 SERIES FOUNDATION AND SLAB ON GRADE DETAILS.
12. SEE MS-5 SERIES FOR MASONRY DETAILS.
13. PRE-ENGINEER CANOPY IS DESIGNED BY DELEGATED ENGINEER. COORDINATE COLUMN LOCATION WITH APPROVED CANOPY SHOP DRAWINGS
14. FOR INTERIOR PIPE RACK FRAMING PLAN REFER TO MS-102A
15. FOR EXTERIOR PIPE RACK FRAMING PLAN SEE MS-104A

FOUNDATION LEGEND:



SPREAD FOOTING SCHEDULE							
MARK	LENGTH	WIDTH	THICKNESS	LONG BOTTOM REINF BARS	SHORT BOTTOM REINF BARS	LONG TOP REINF BARS	SHORT TOP REINF BARS
F 3.0	3'-0"	3'-0"	1'-0"	(4)#5	(4)#5	(3)#4	(3)#4
F 4.0	4'-0"	4'-0"	1'-0"	(5)#5	(5)#5	(4)#5	(4)#5
F 5.0	5'-0"	5'-0"	1'-2"	(5)#5	(5)#5	(4)#5	(4)#5
F 6.0	6'-0"	6'-0"	1'-4"	(6)#5	(6)#5	(5)#5	(5)#5
F 7.0	7'-0"	7'-0"	1'-6"	(7)#5	(7)#5	(5)#5	(5)#5
F 7.5	7'-6"	7'-6"	1'-6"	(7)#5	(7)#5	(5)#5	(5)#5
F 8.0	8'-0"	8'-0"	1'-8"	(8)#7	(8)#7	(6)#6	(6)#6
F 8.5	8'-6"	8'-6"	2'-0"	(8)#7	(8)#7	(6)#6	(6)#6
F 9.5	9'-6"	9'-6"	2'-0"	(8)#8	(8)#8	(6)#7	(6)#7
F 12.0	12'-0"	5'-0"	1'-0"	(5)#6	#5 AT 10" OC	(5)#6	#5 AT 10" OC
F 16.5	16'-6"	5'-0"	1'-0"	(5)#6	#5 AT 10" OC	(5)#6	#5 AT 10" OC



VACUUM ROOM

1/8" = 1'-0"

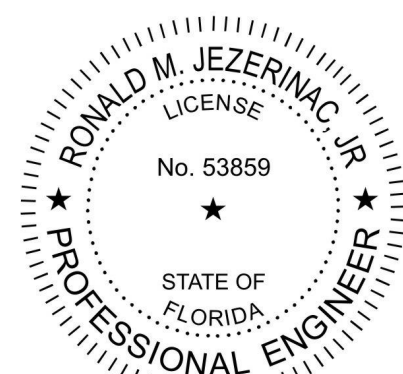
REVISION	



JEZERINAC GROUP
Engineering | Construction | Human
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CERTIFICATE OF AUTHORIZATION FL #30785

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BELLE GLADE, FL
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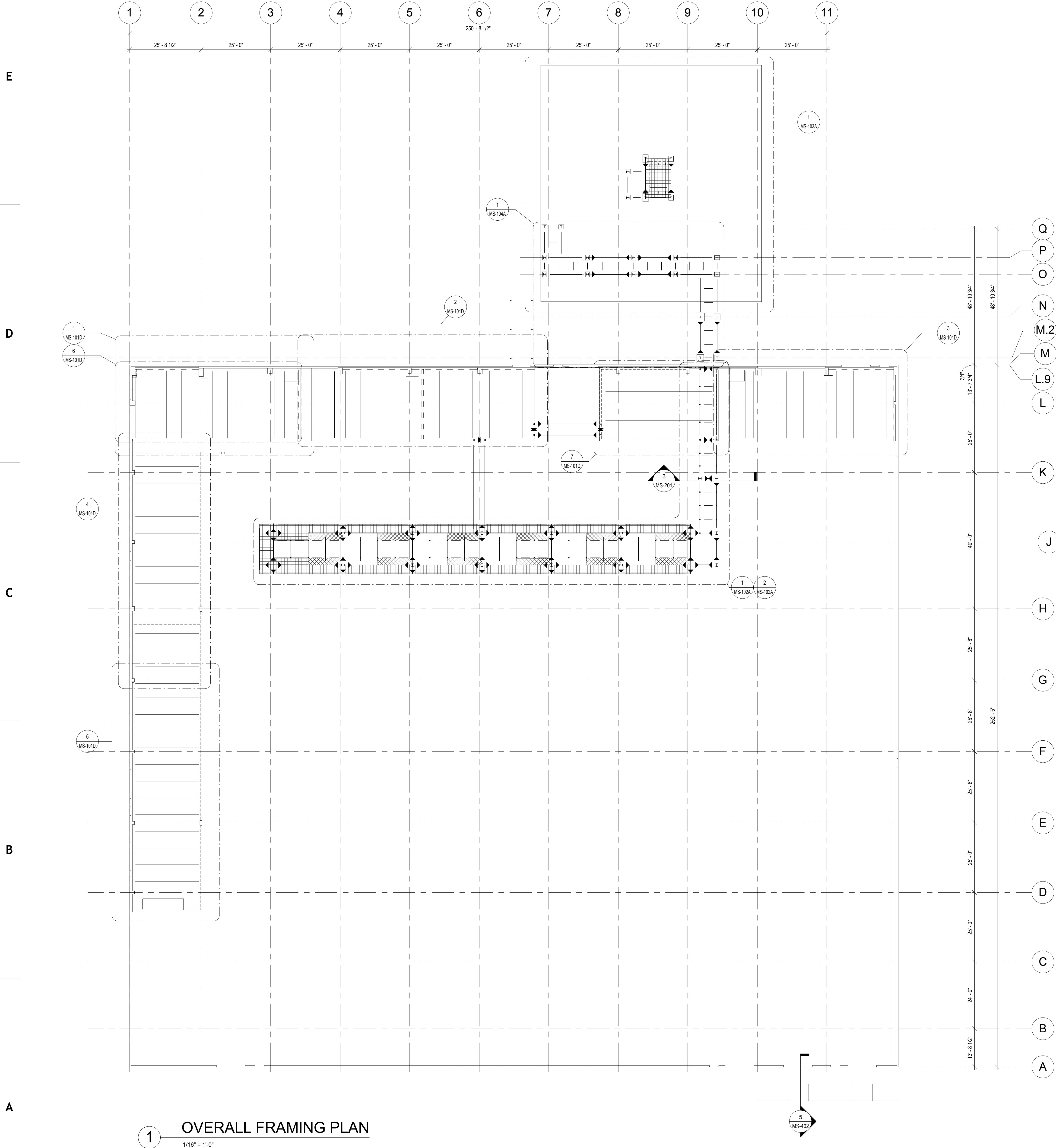


RONALD M. JEZERINAC, JR. PE NO: 53859

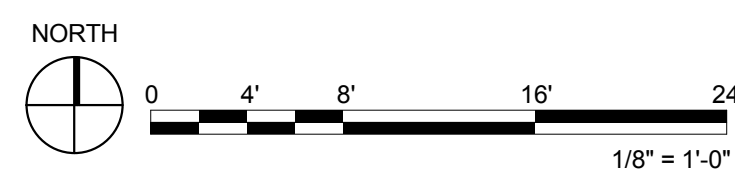
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ARCHITECT OF RECORD
RONALD M. JEZERINAC, JR.
PE 53859
DESIGNED BY
JEZERINAC GROUP
DRAWN BY
S. WIDJAJA
CHECKED BY
RONALD M. JEZERINAC
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
OVERALL
FRAMING PLAN
DRAWING NO.

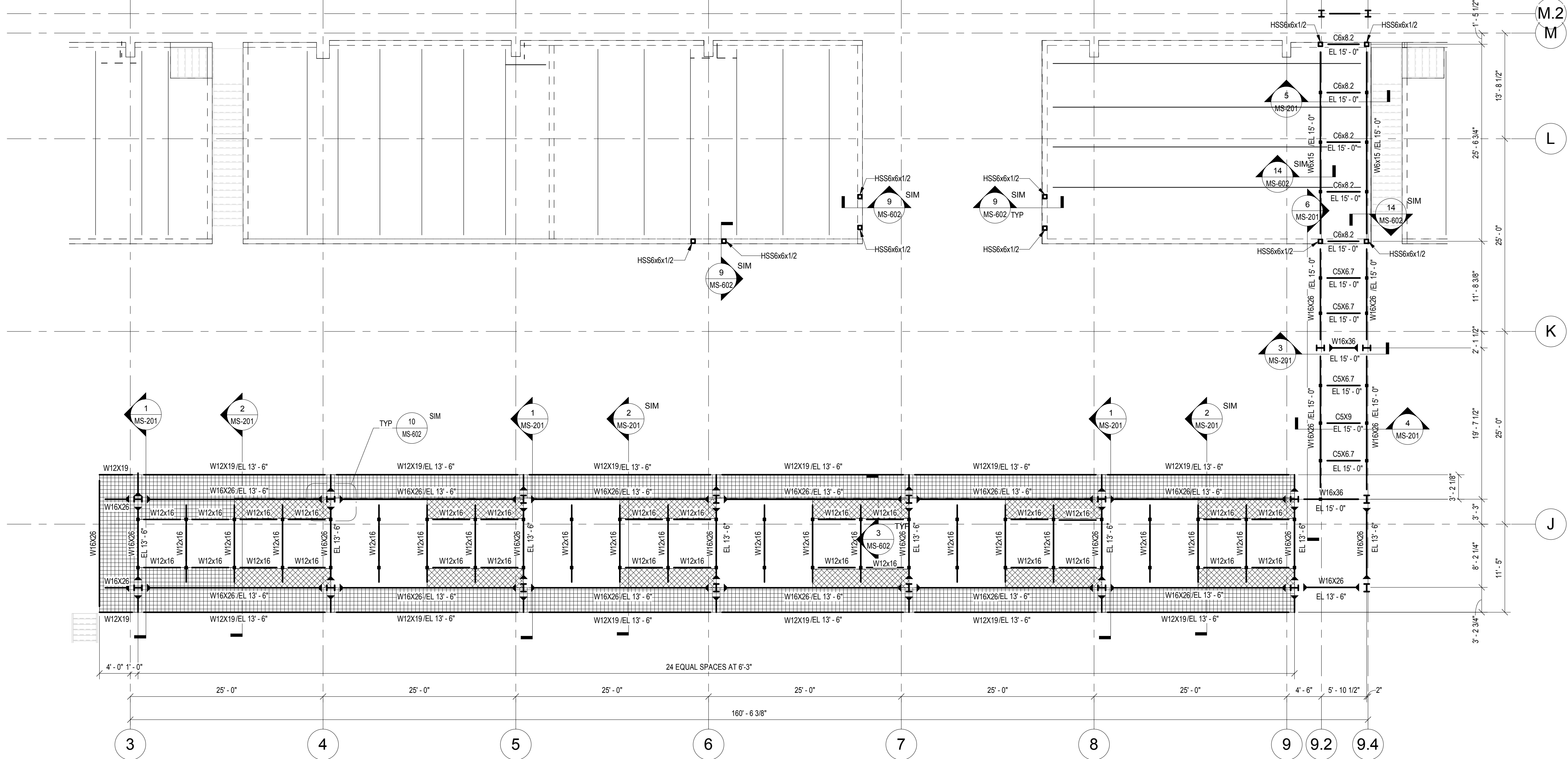
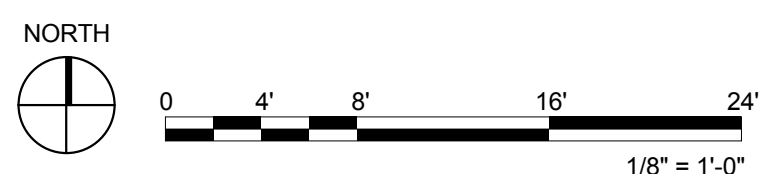
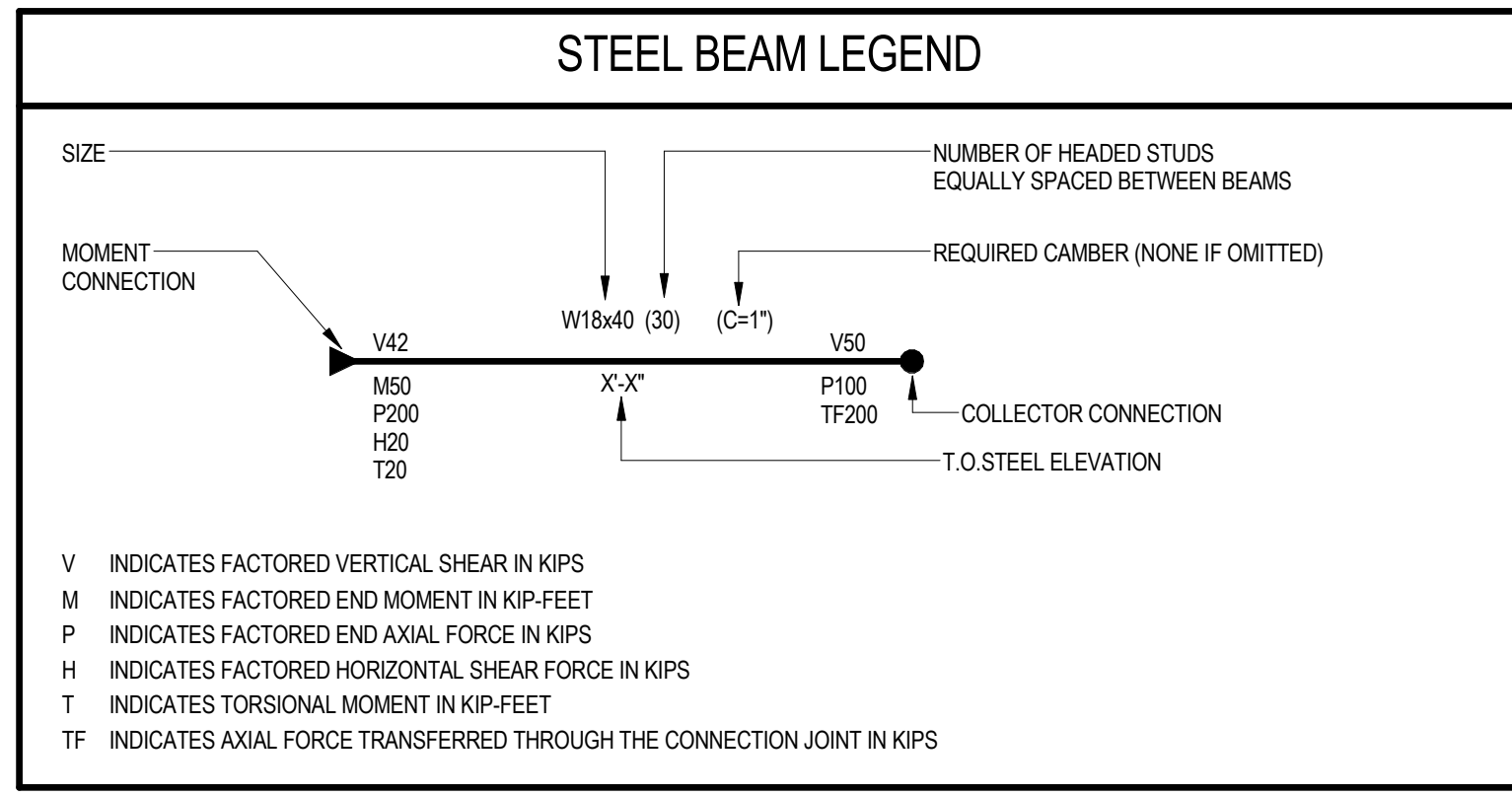
MS-101C



1 OVERALL FRAMING PLAN
1/16" = 1'-0"

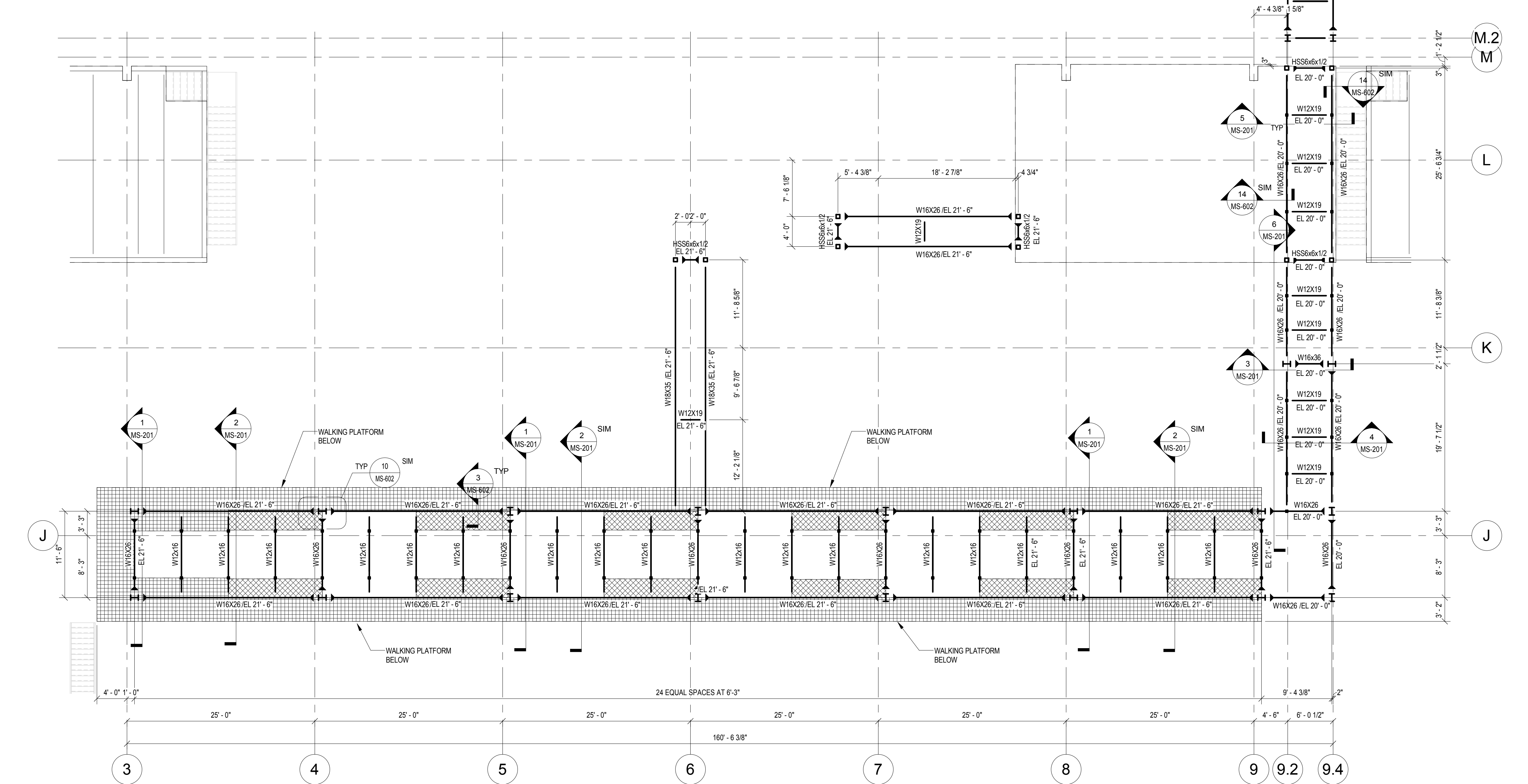


- SHEET NOTES:
- COORDINATE LOCATION WITH MECH/ELEC DRAWINGS
 - SEE MS-602 FOR STEEL DETAIL
 - INDICATES WALKING PLATFORM WITH MC NICHOLS BAR GRATING
1" X 3" @ 6" ON CENTER. REFER TO MANUFACTURER FOR
ATTACHMENT METHODS
 - INDICATES 3/8" DIAMOND PLATE



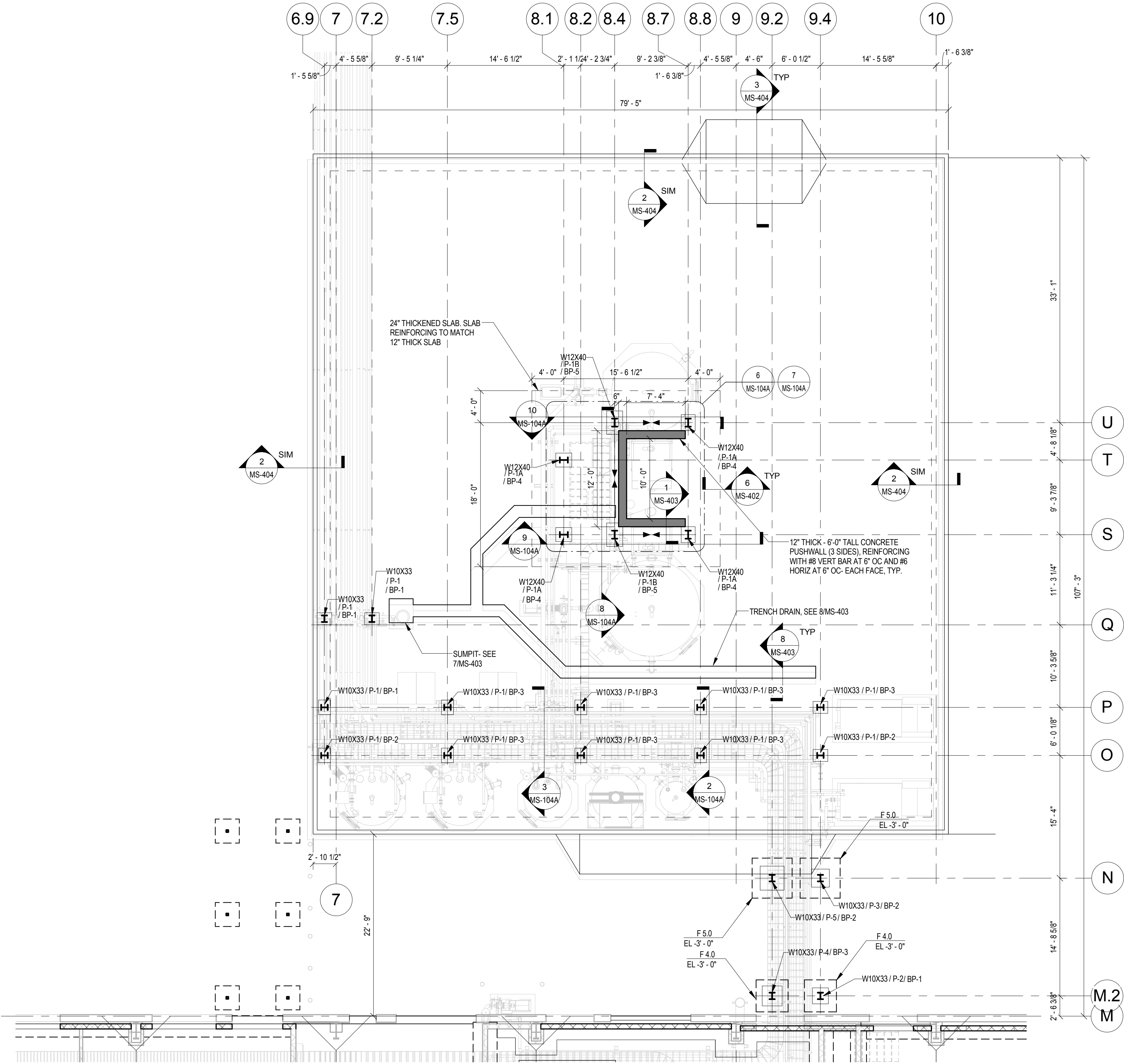
1 INTERIOR PIPE RACK EL 13'-6", UNO

1/8" = 1'-0"



2 INTERIOR PIPE RACK EL 21'-6", UNO

1/8" = 1'-0"



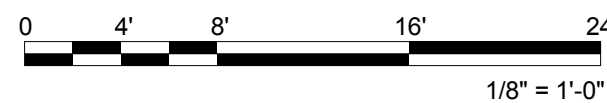
1 CONTAINMENT SLAB

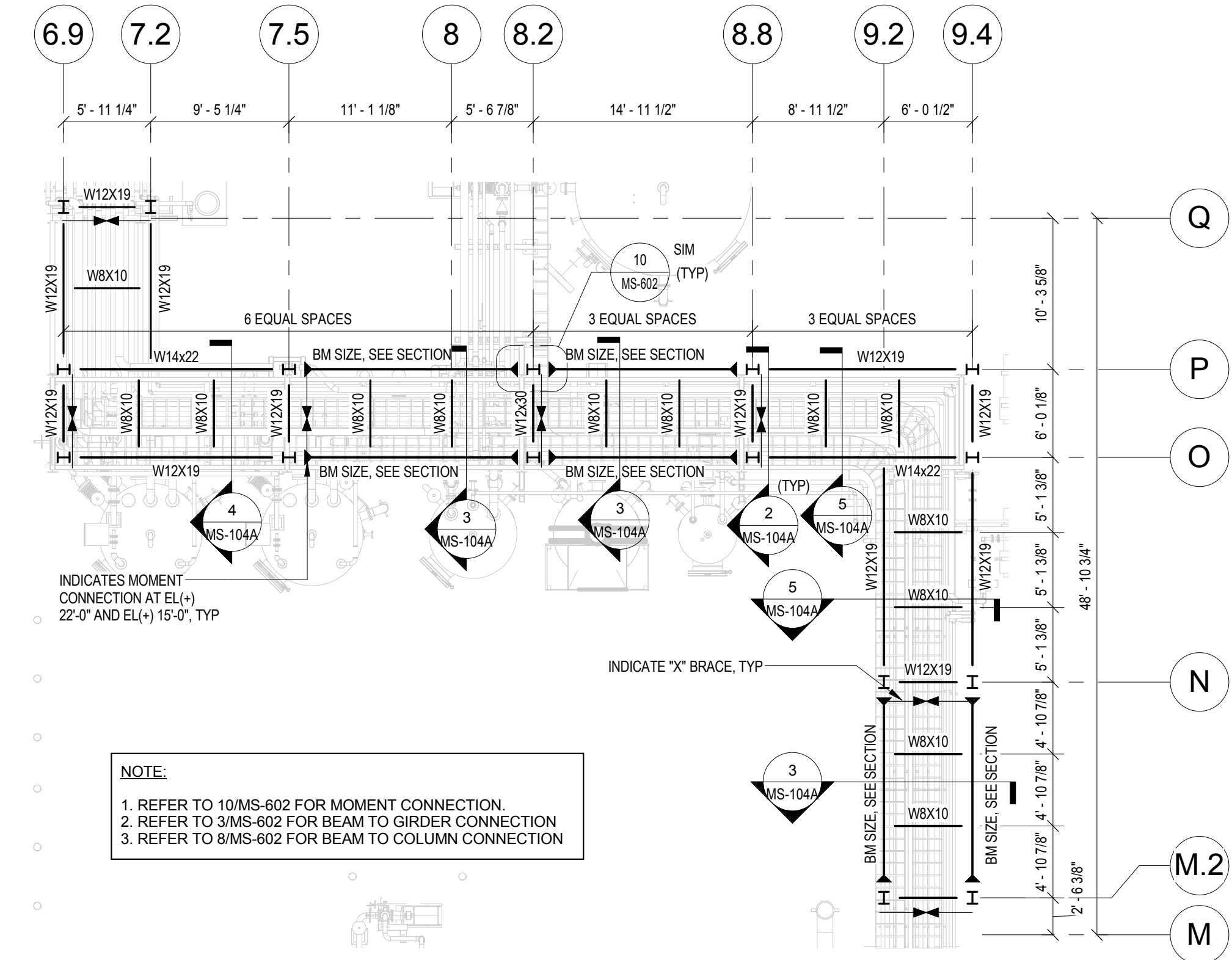
1/8" = 1'-0"

NOTES:

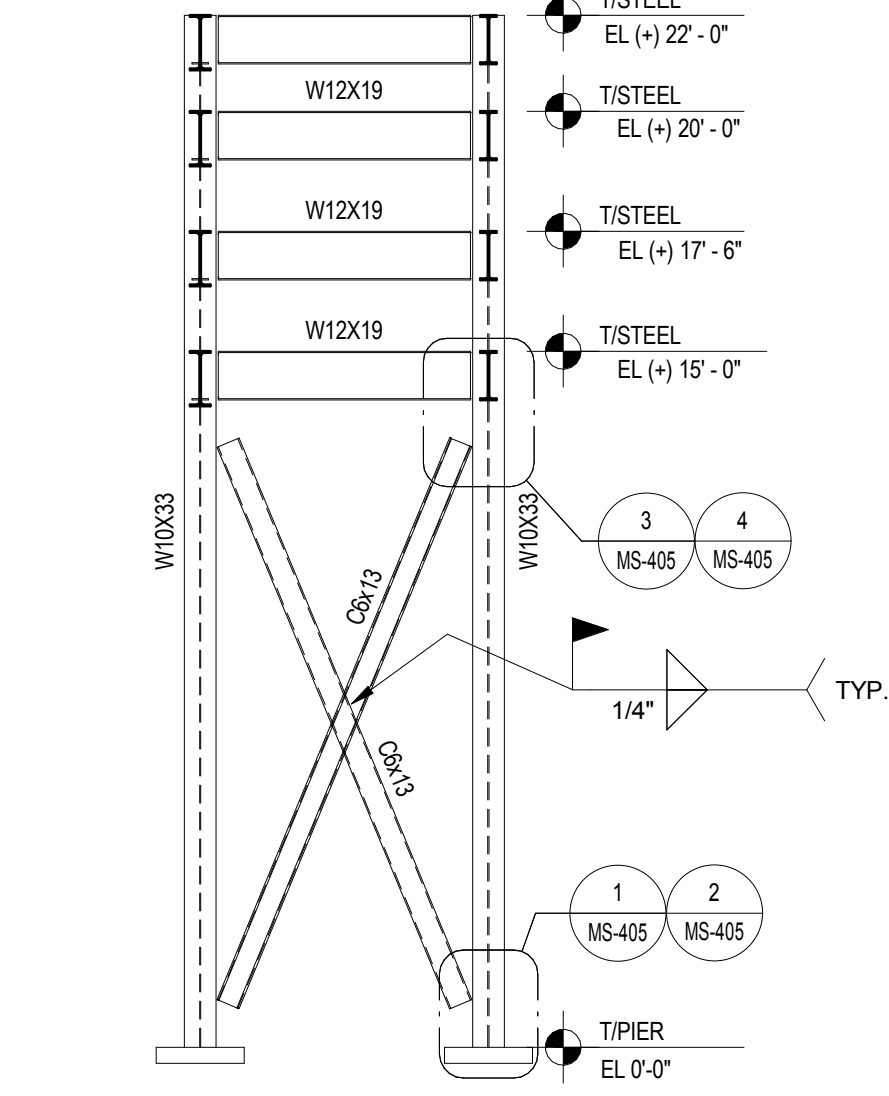
1. TOP OF SLAB EL = 0'-0" UNO.
2. SLAB-ON-GRADE SHALL BE 12" THICK REINFORCED WITH #6 AT 8" OC EACH WAY TOP BAR AND #6 AT 12" OC EACH WAY BOTTOM BAR. PROVIDE MINIMUM CONCRETE CLEAR COVER OF 2" FOR TOP REBAR AND 3" FOR BOTTOM REBAR.
3. SEE GENERAL NOTES FOR CONCRETE COMPRESSIVE STRENGTH.
4. COORDINATE ALL FLOOR DRAIN, SLOPE, TRENCH DRAIN AND PROFILE LOCATION WITH MEP DRAWING.
5. F # DESIGNATES COLUMN FOUNDATION. SEE SPREAD FOOTING SCHEDULE ON MS-101B.
6. P # DESIGNATES PEDESTAL/PIER. SEE DETAIL ON 4MS-404.
7. BP # DESIGNATES COLUMN BASE PLATE. SEE DETAIL & SCHEDULE ON 5MS-404.
8. SEE MS-4 SERIES FOUNDATION AND SLAB ON GRADE DETAILS.
9. SEE 4MS-403 FOR CONCRETE SLEEPER DETAIL.
10. FOR EXTERIOR PIPE RACK PLAN AND SECTION SEE MS-104A.
11. FOR STRUCTURAL STEEL TOWER FRAMING SEE 6MS-104A AND 7MS-104A.

NORTH

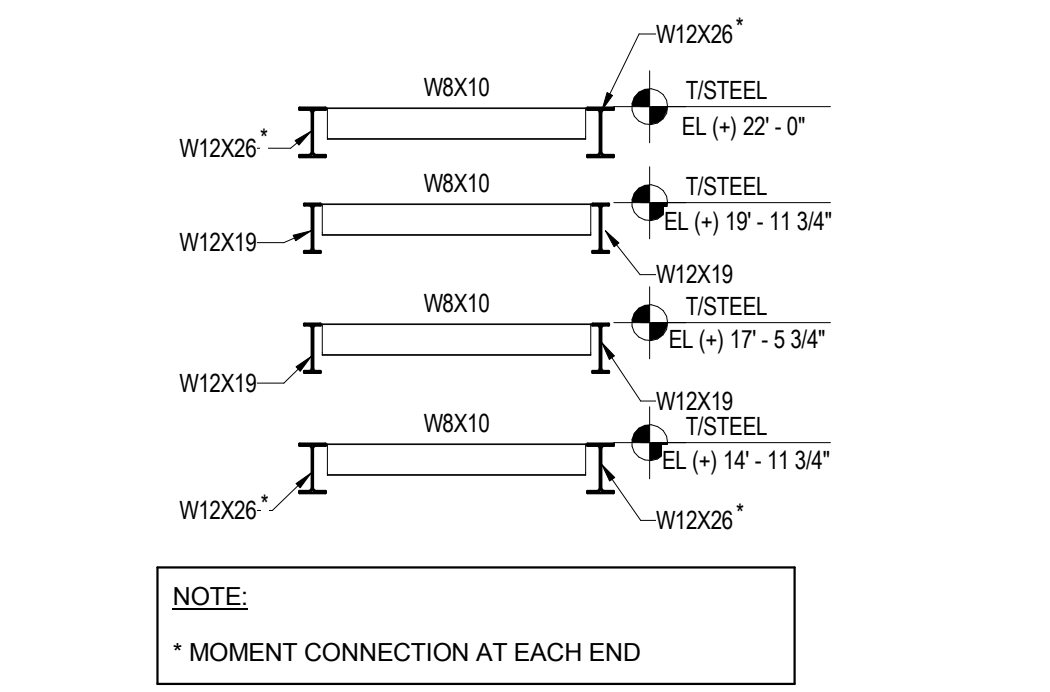




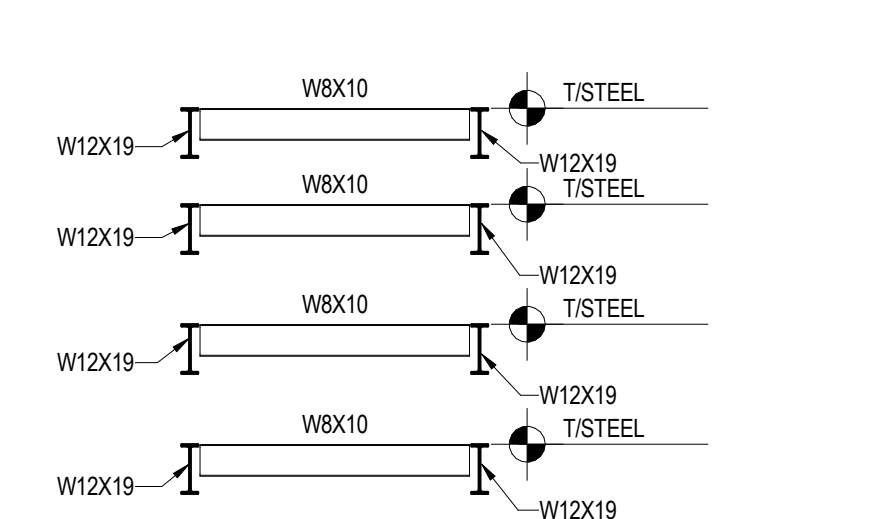
1 FRAMING PLAN - EXTERIOR PIPE RACK
1/8" = 1'-0"



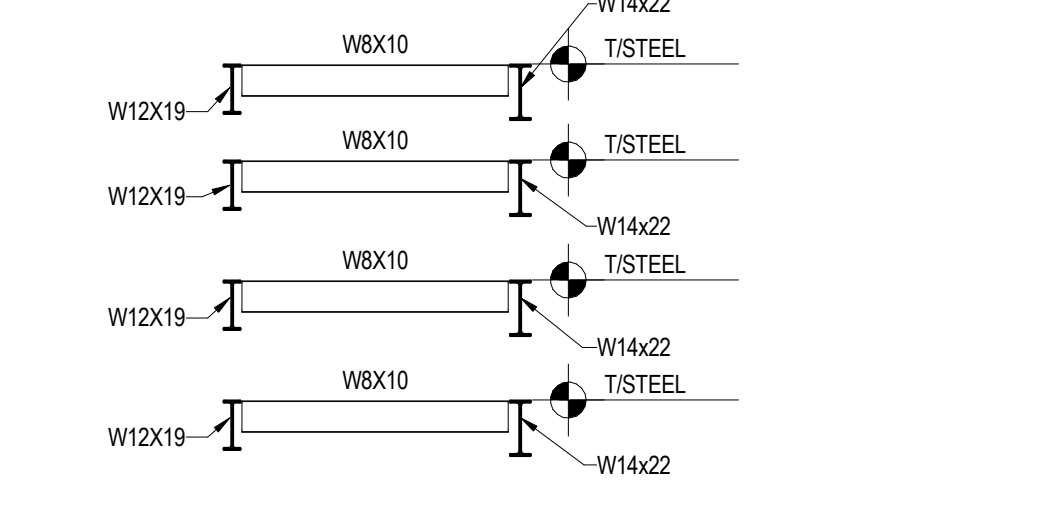
2 TYPICAL AT COLUMN
1/4" = 1'-0"



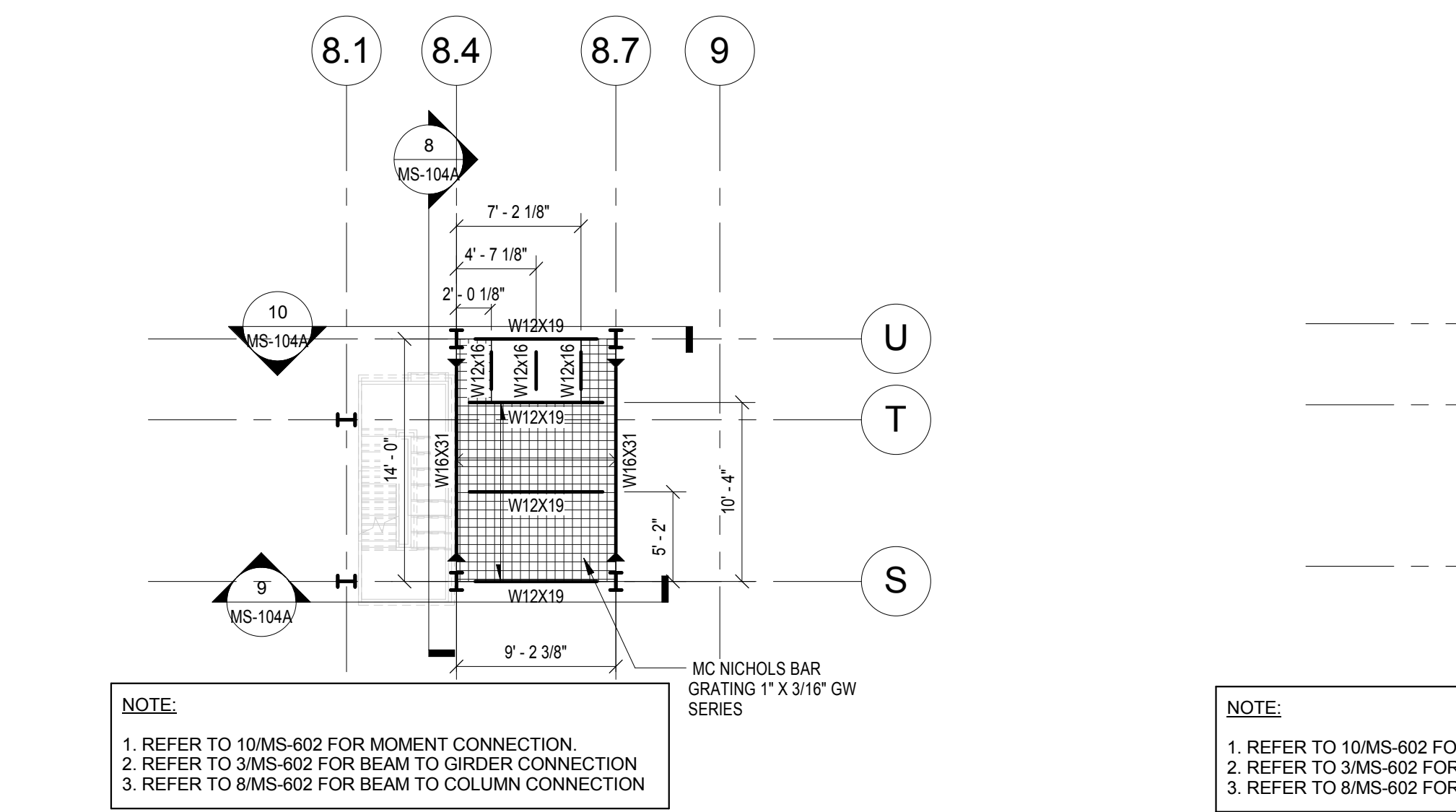
3 PIPE RACK SECTION 1
1/4" = 1'-0"



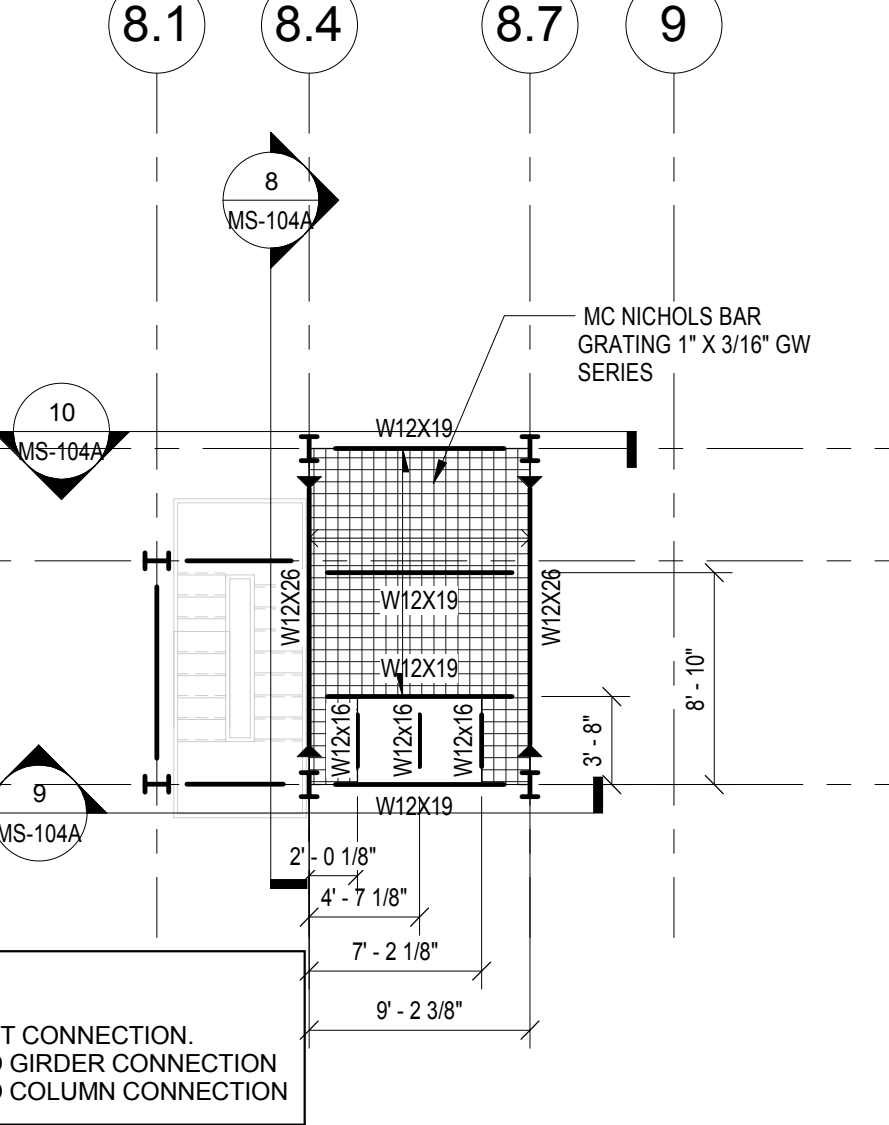
5 PIPE RACK SECTION 3
1/4" = 1'-0"



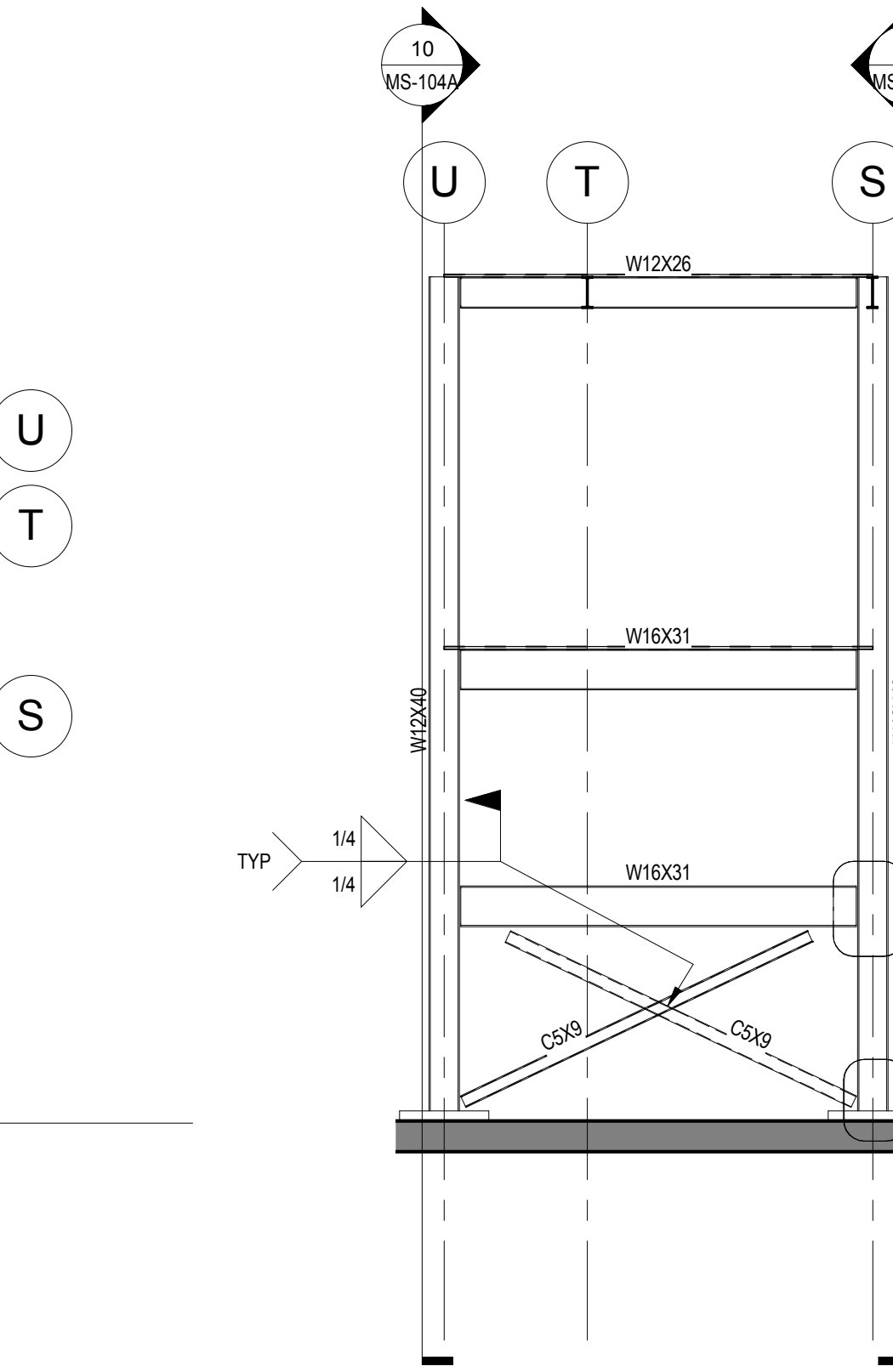
4 PIPE RACK SECTION 2
1/4" = 1'-0"



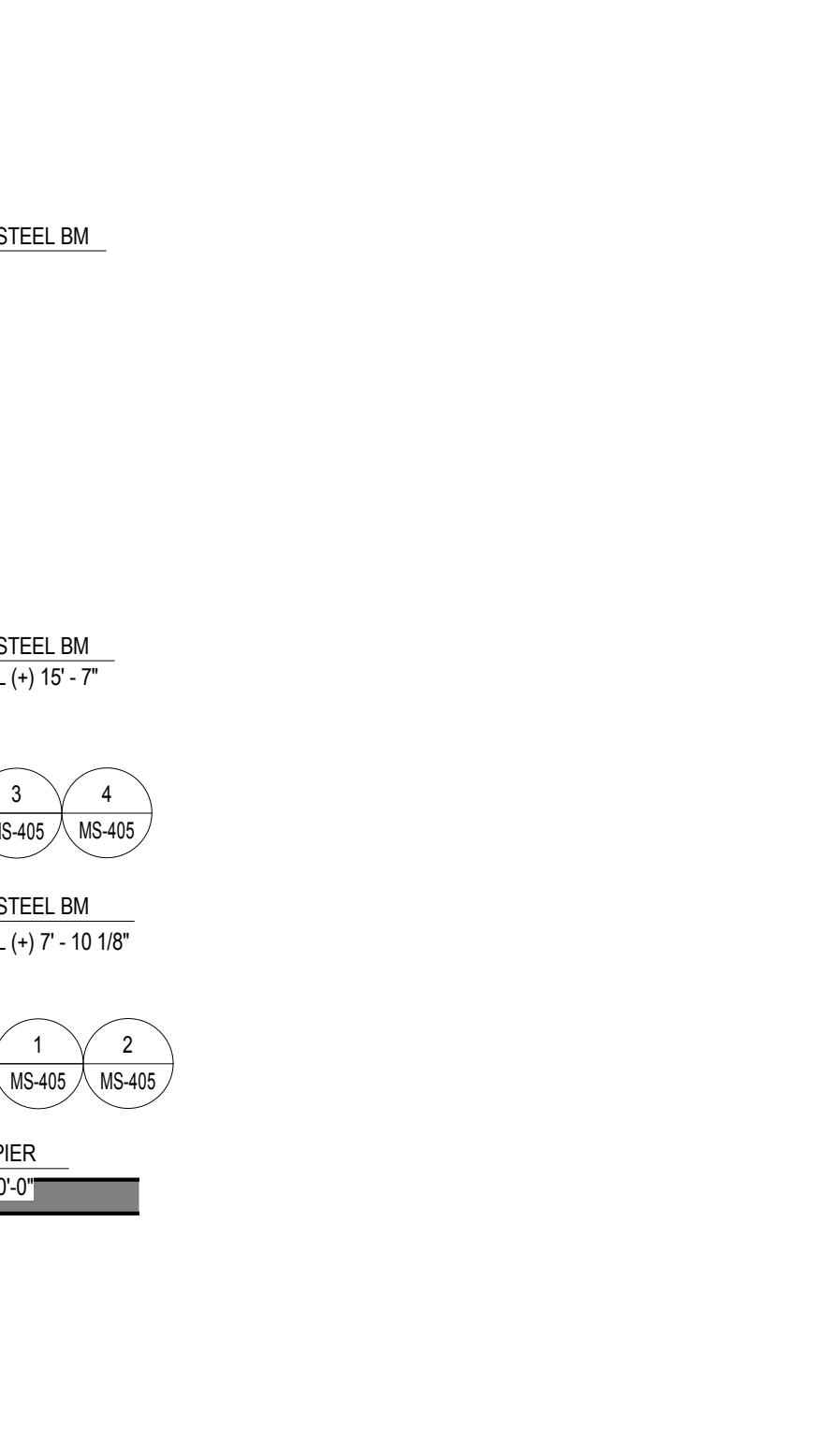
6 ELEVATED PLATFORM EL. +15'-8"
1/8" = 1'-0"



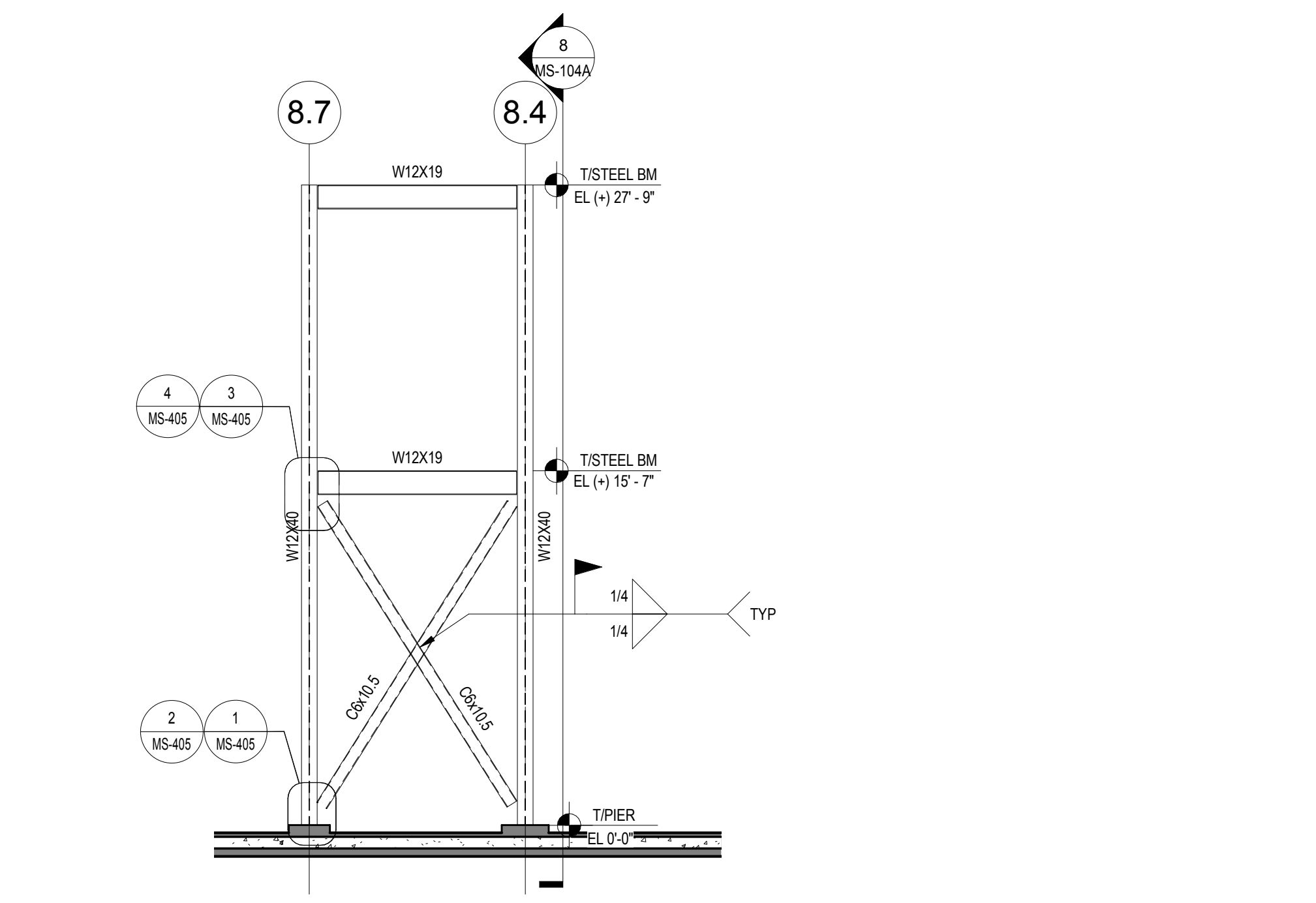
7 ELEVATED PLATFORM EL. 27'-10"
1/8" = 1'-0"



8 ELEVATED PLATFORM SECTION 1
3/16" = 1'-0"



9 ELEVATED PLATFORM SECTION 2
3/16" = 1'-0"



10 ELEVATED PLATFORM SECTION 3
3/16" = 1'-0"

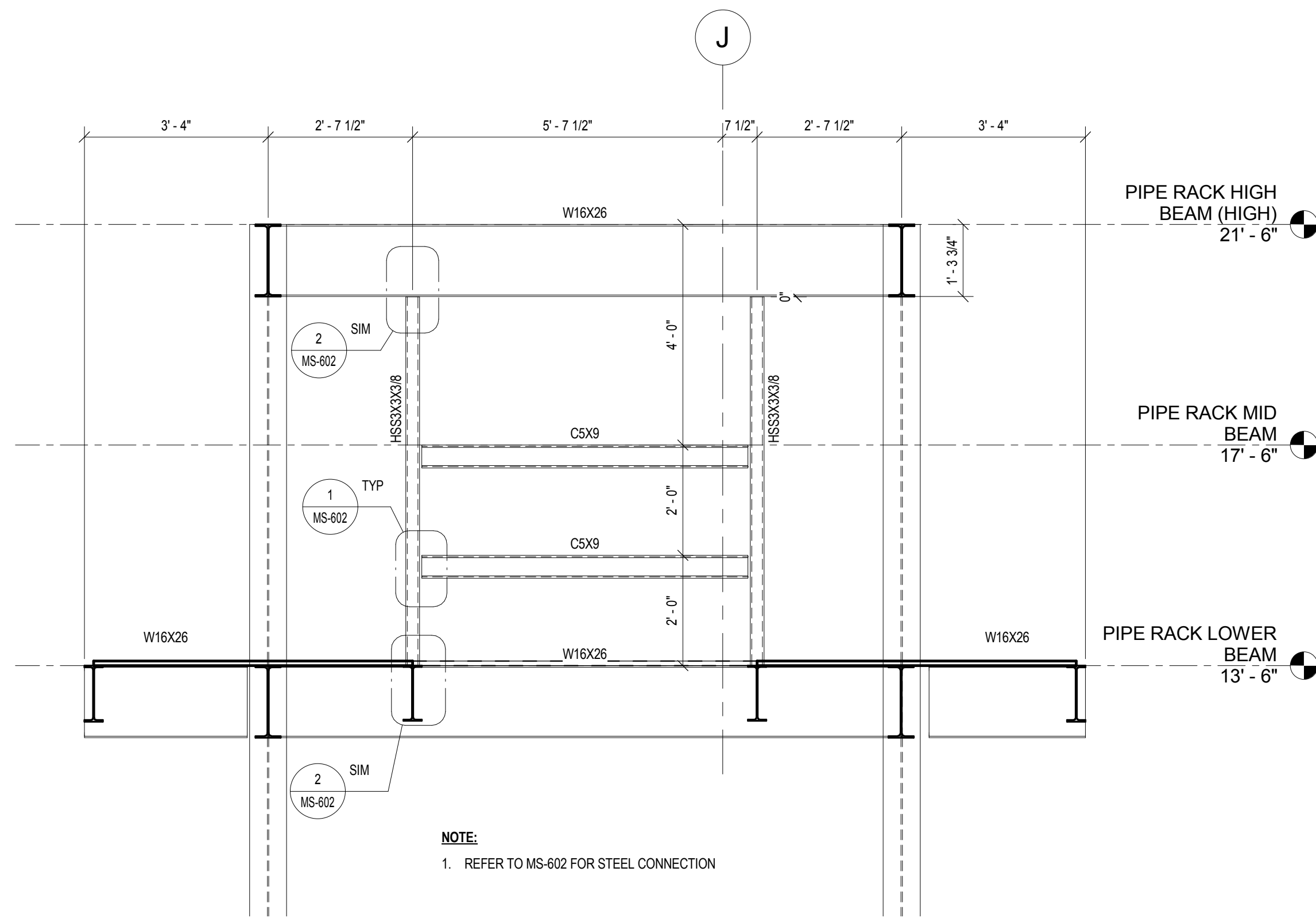
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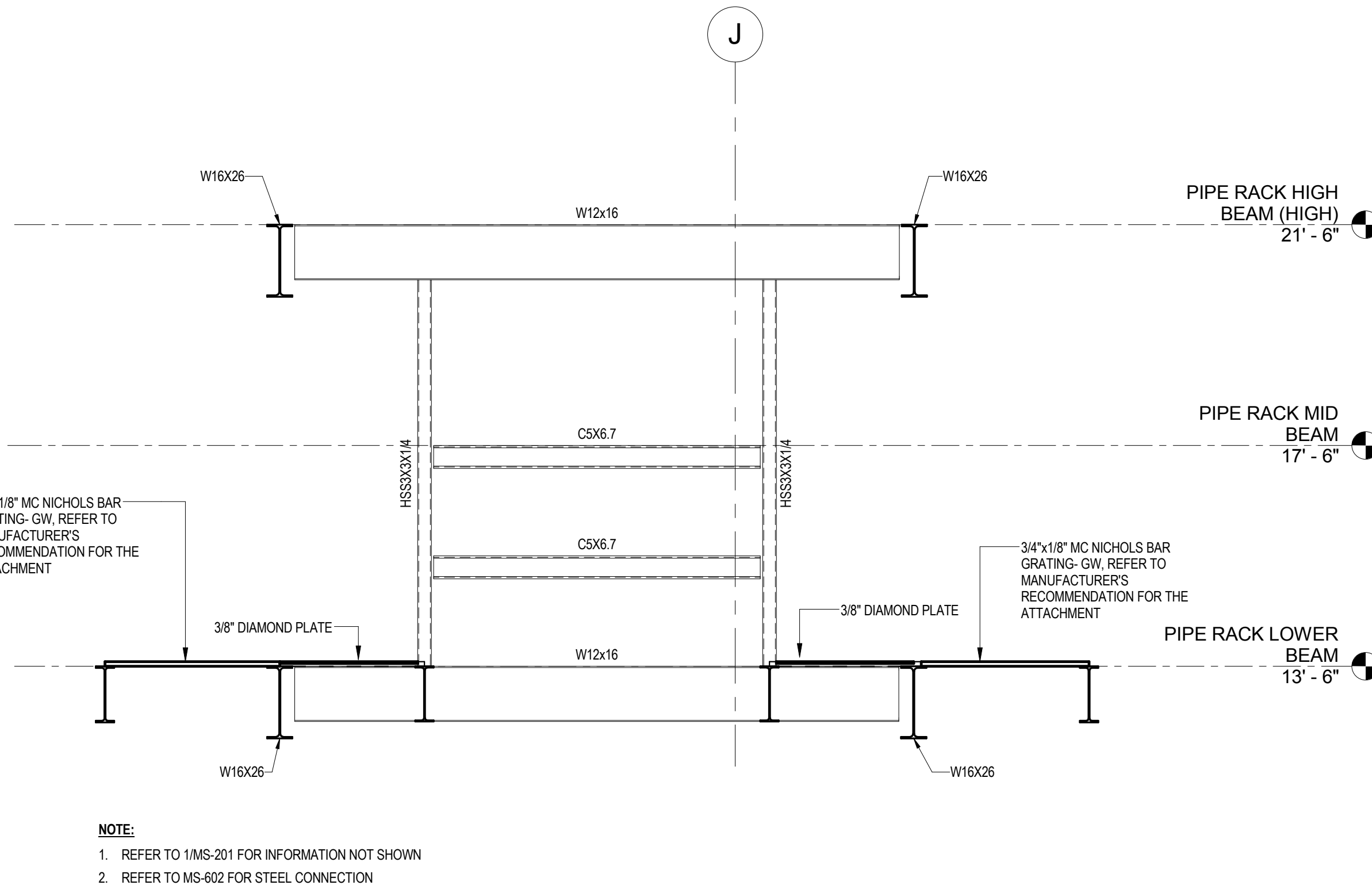
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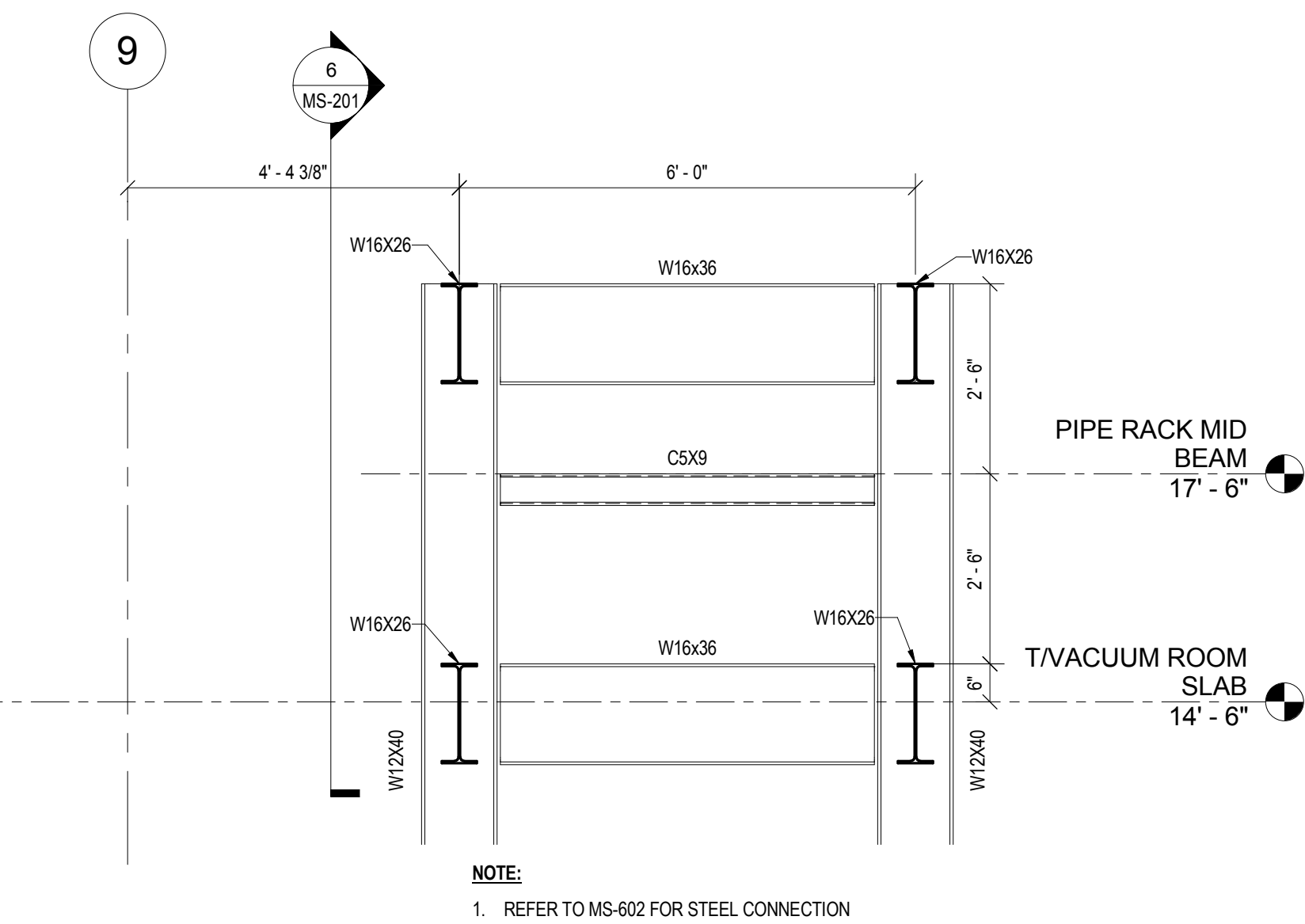
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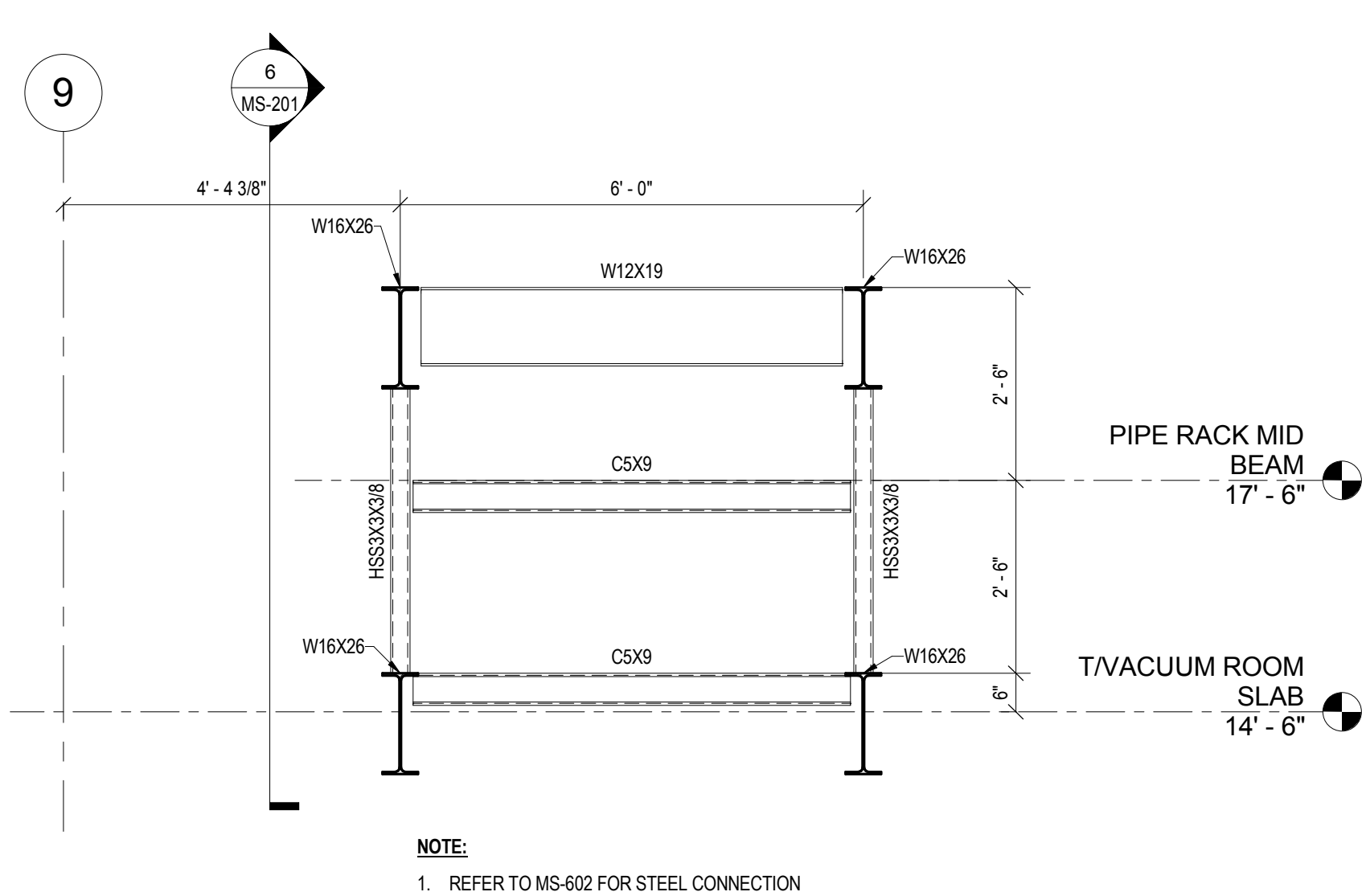
1 PIPE RACK ELEVATION 1
1/2" = 1'-0"



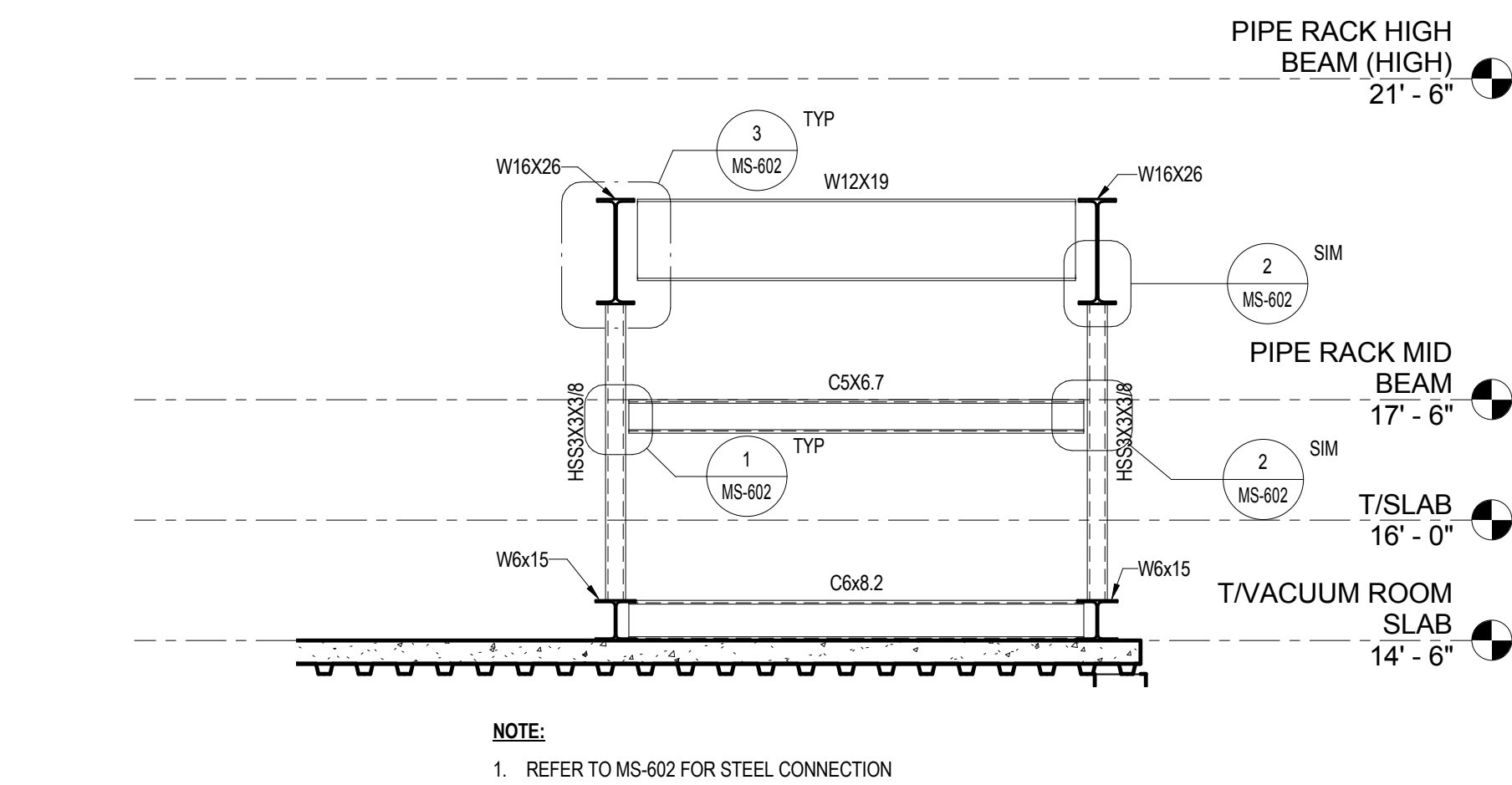
2 PIPE RACK ELEVATION 2
1/2" = 1'-0"



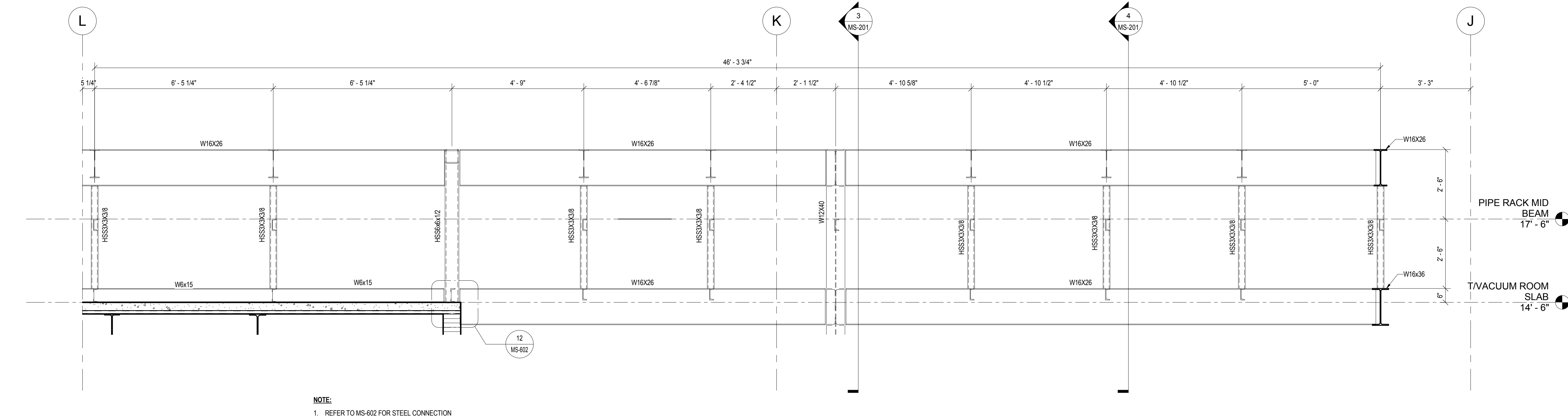
3 PIPE RACK ELEVATION 3
1/2" = 1'-0"



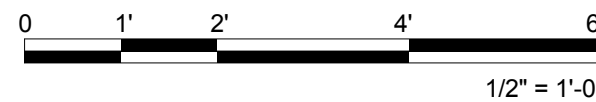
4 PIPE RACK ELEVATION 4
1/2" = 1'-0"



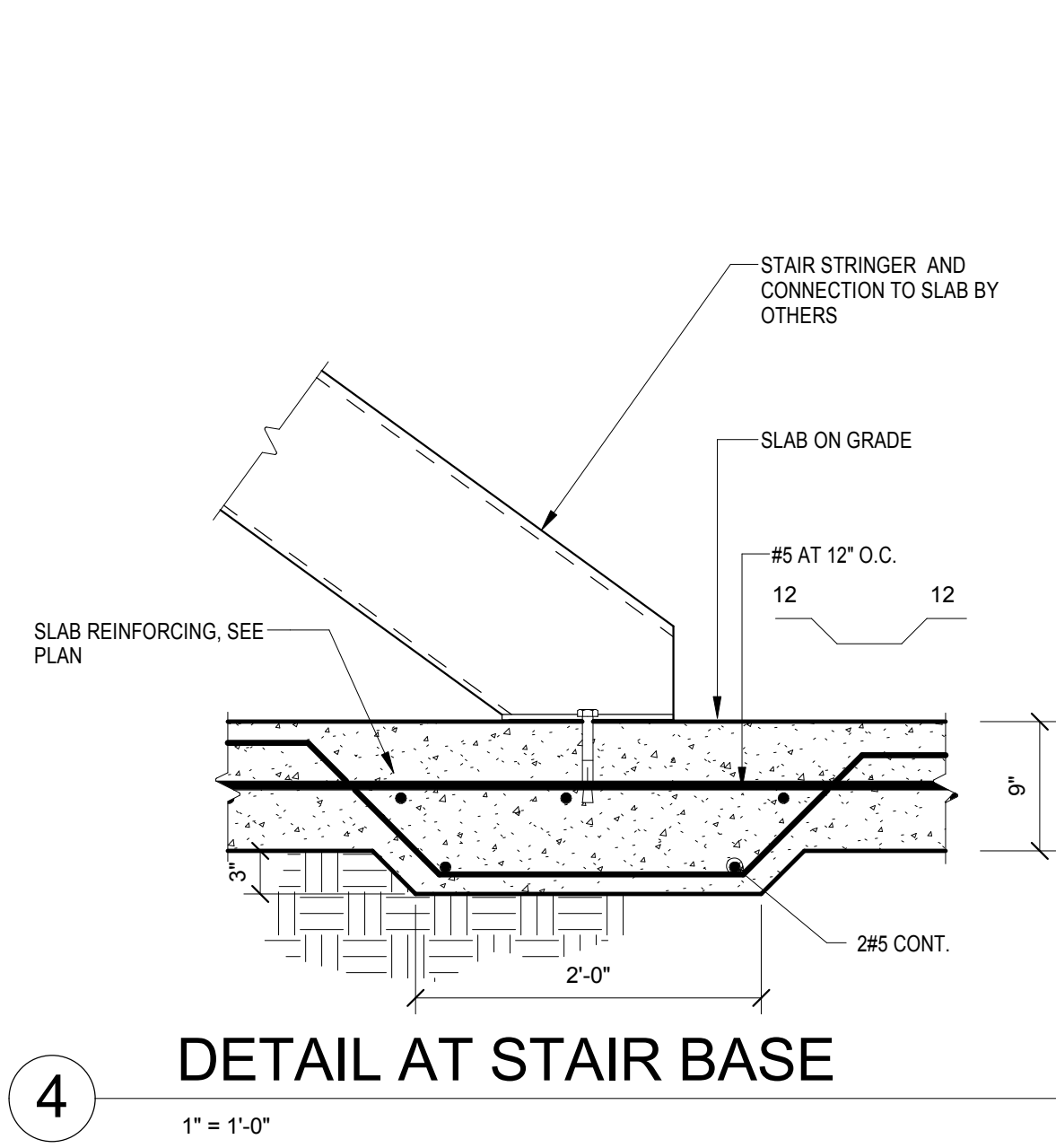
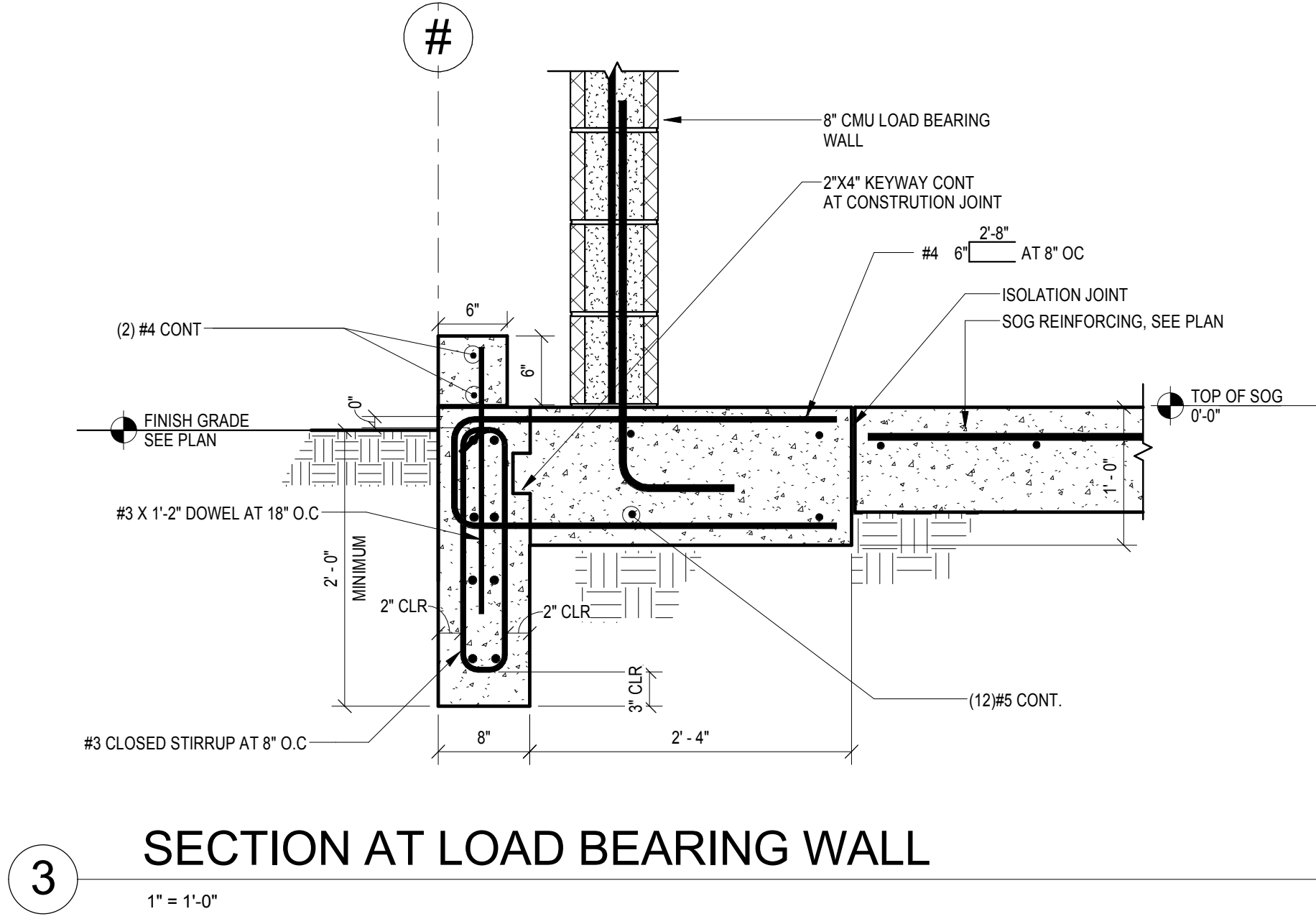
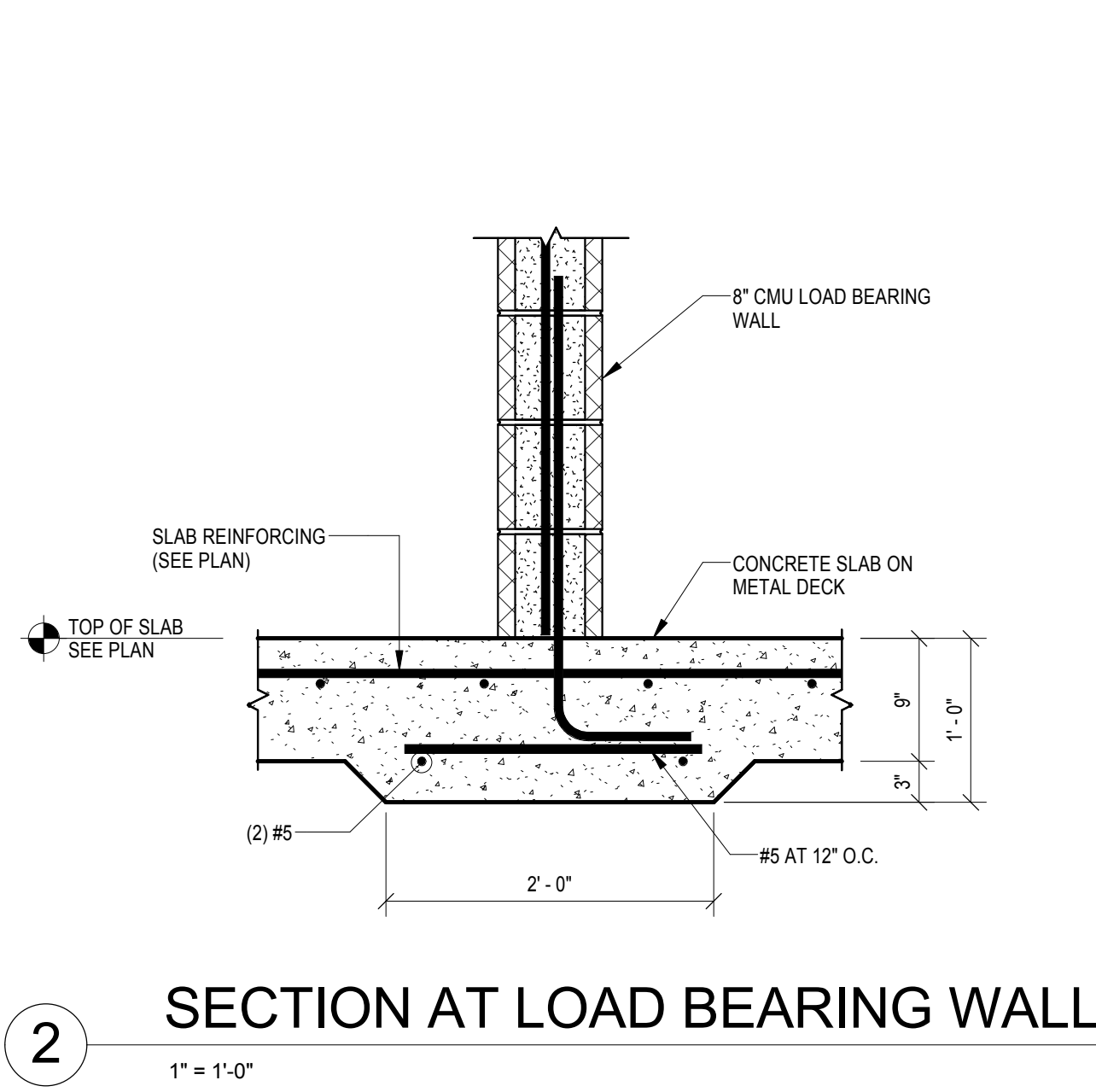
5 PIPE RACK ELEVATION 5
1/2" = 1'-0"



6 PIPE RACK ELEVATION 6
1/2" = 1'-0"

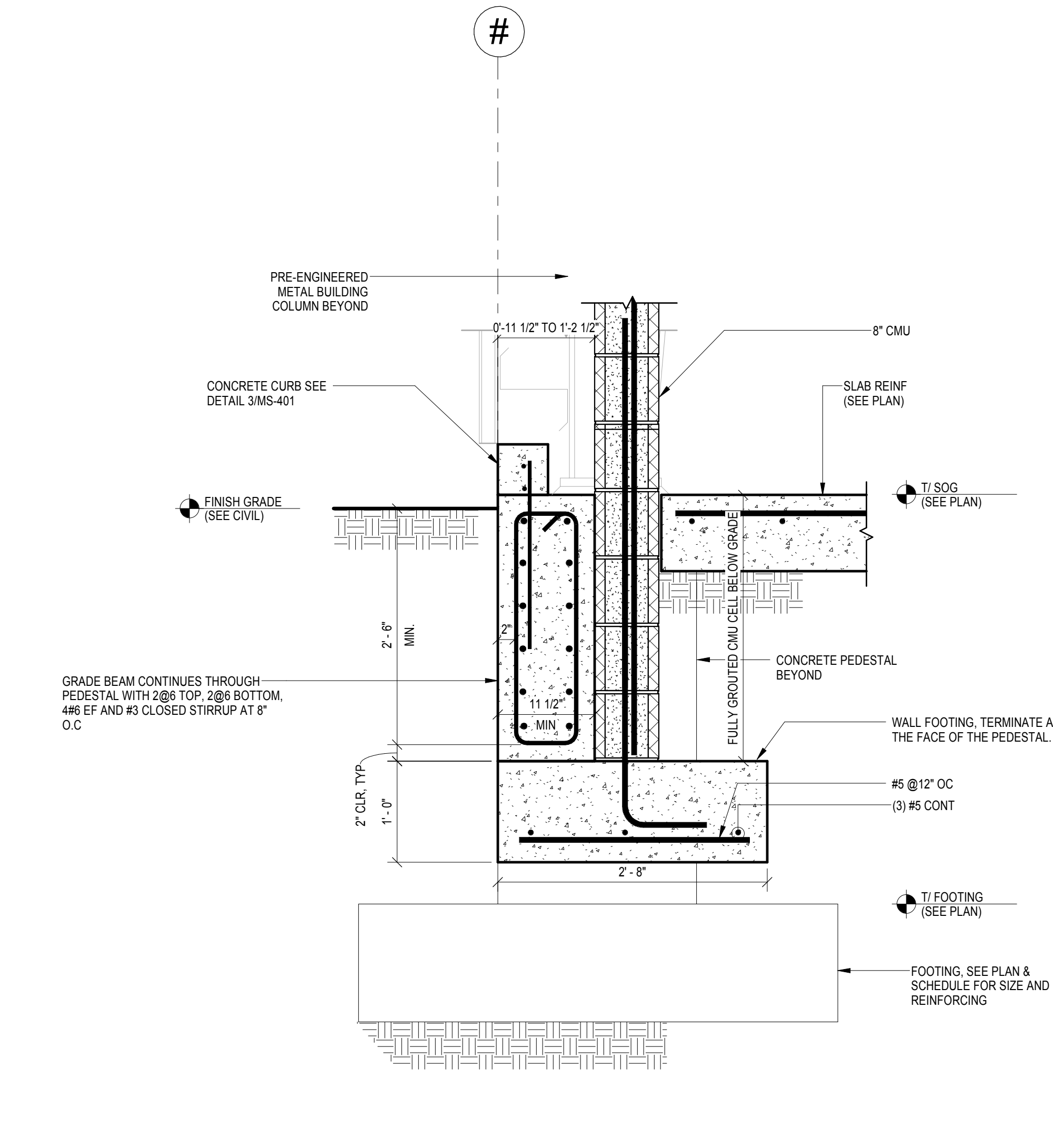
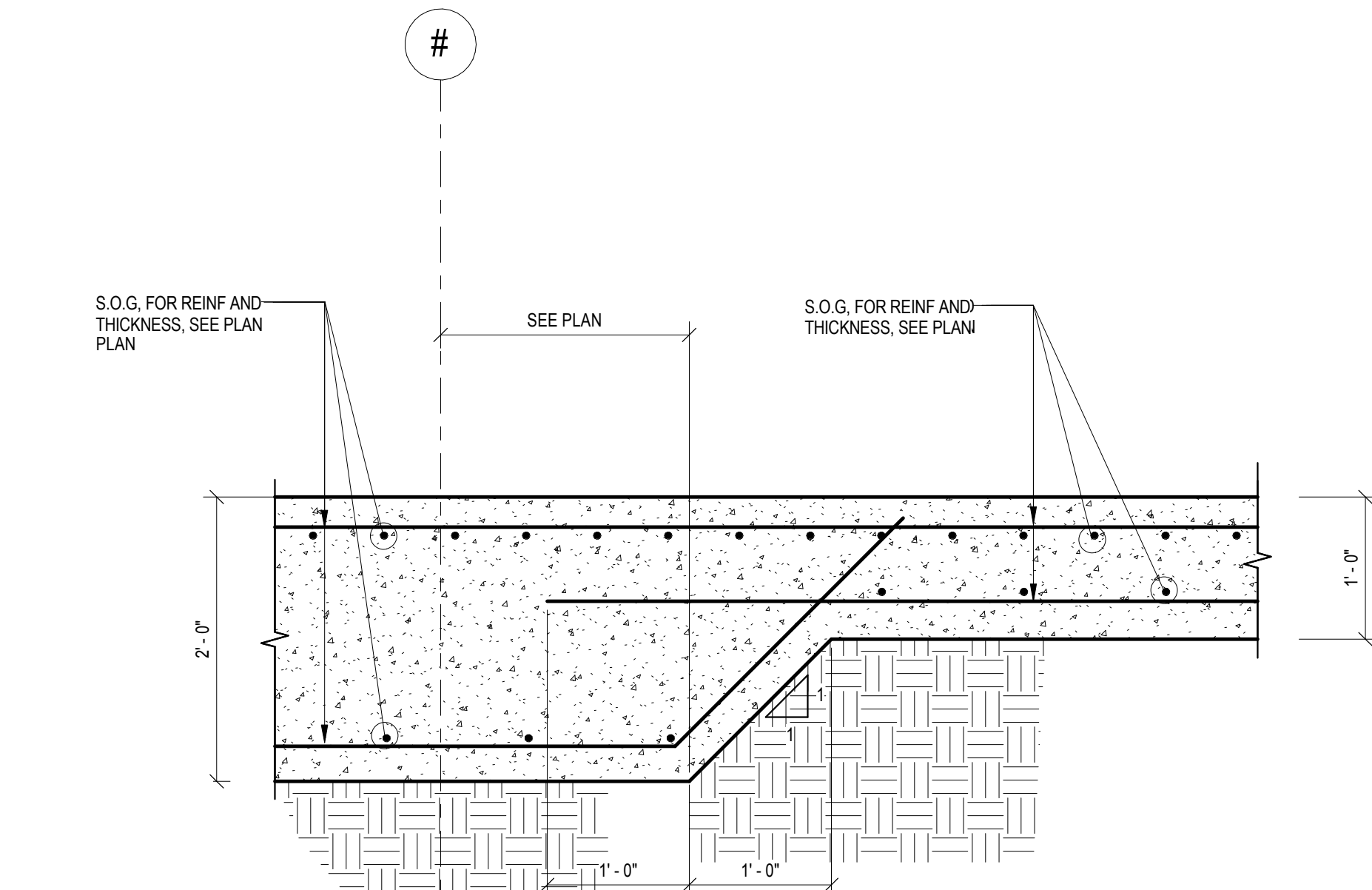
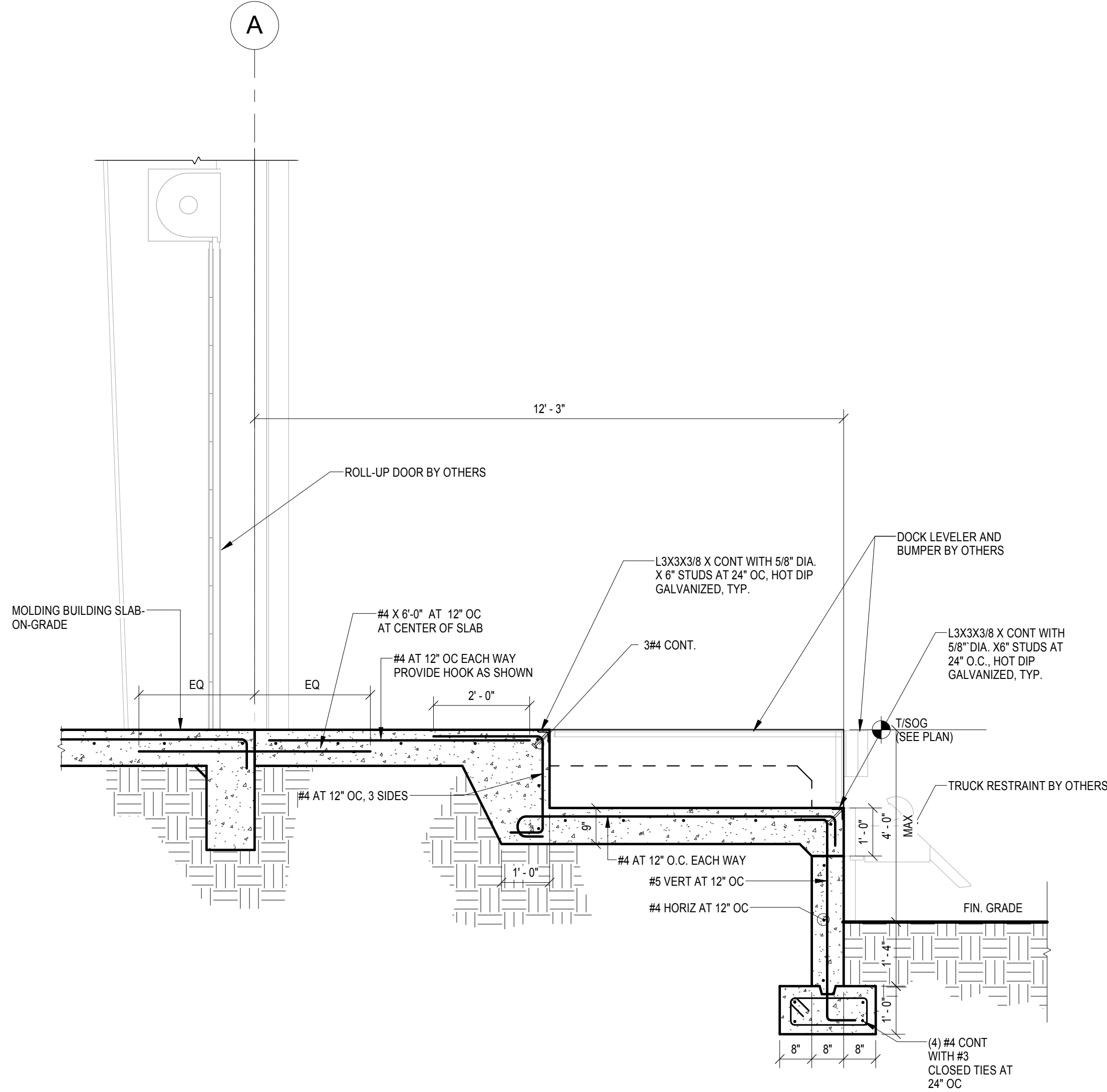


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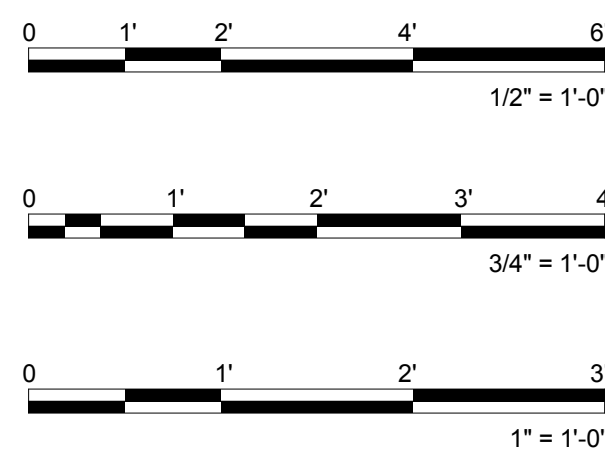
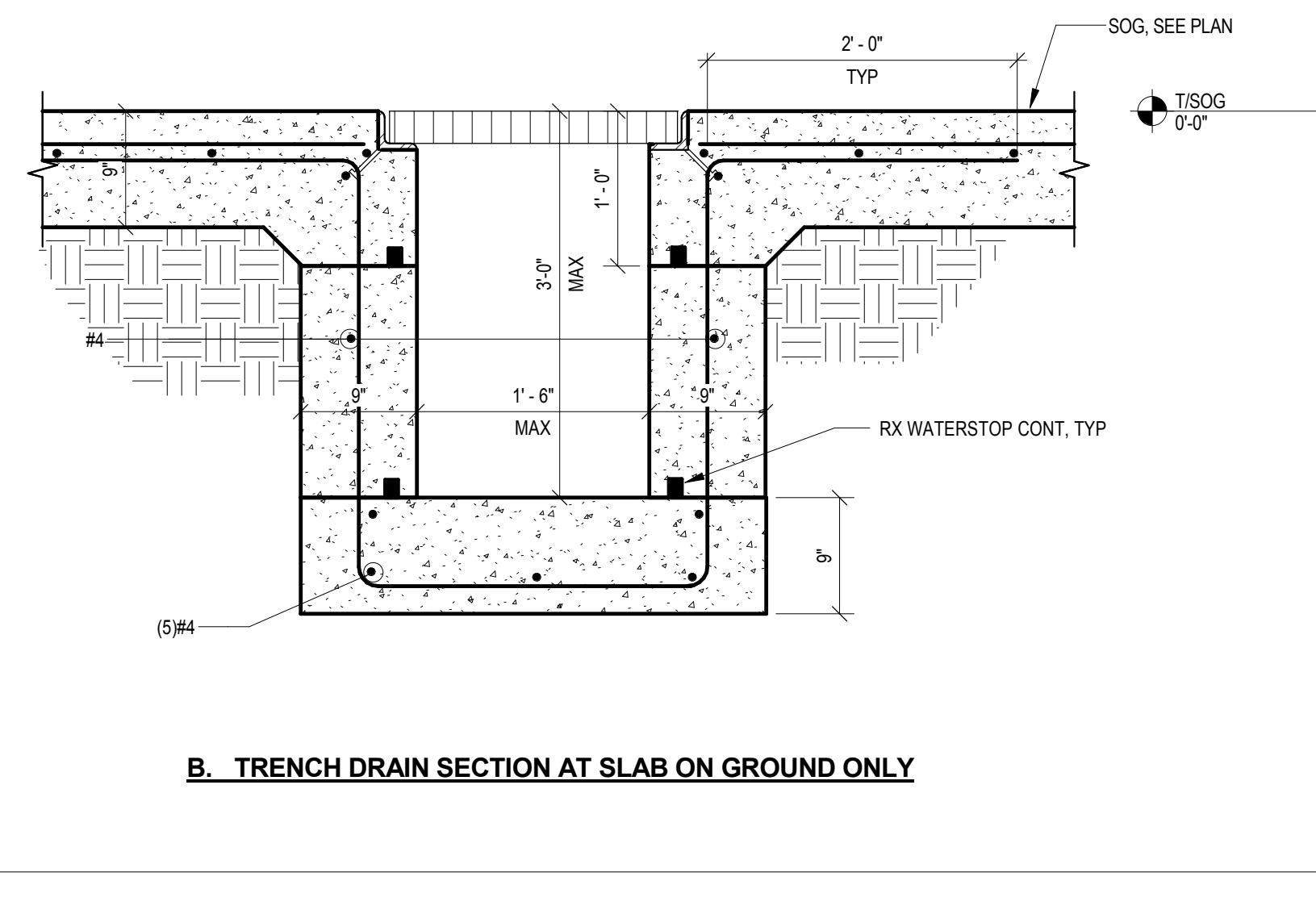
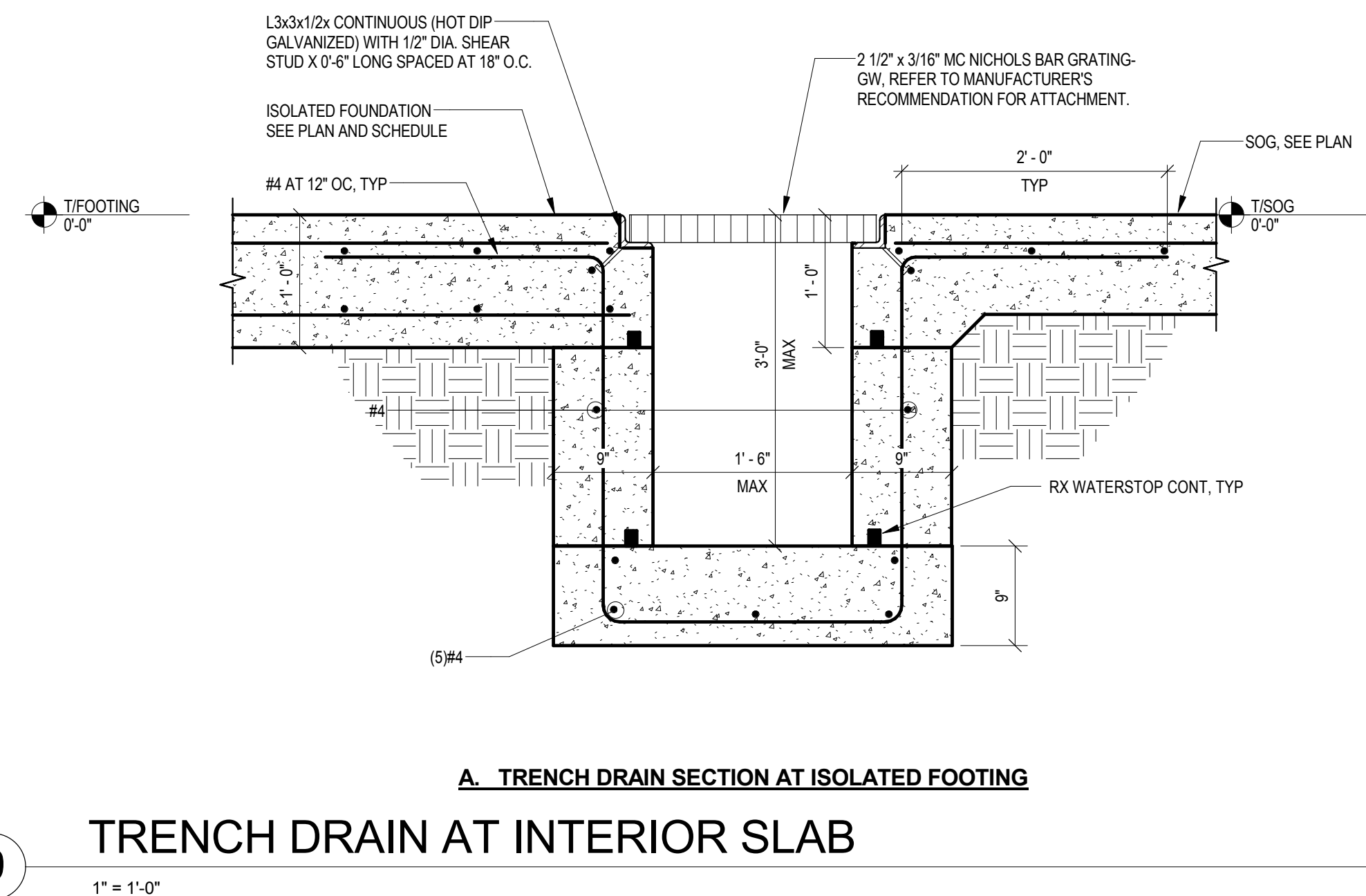
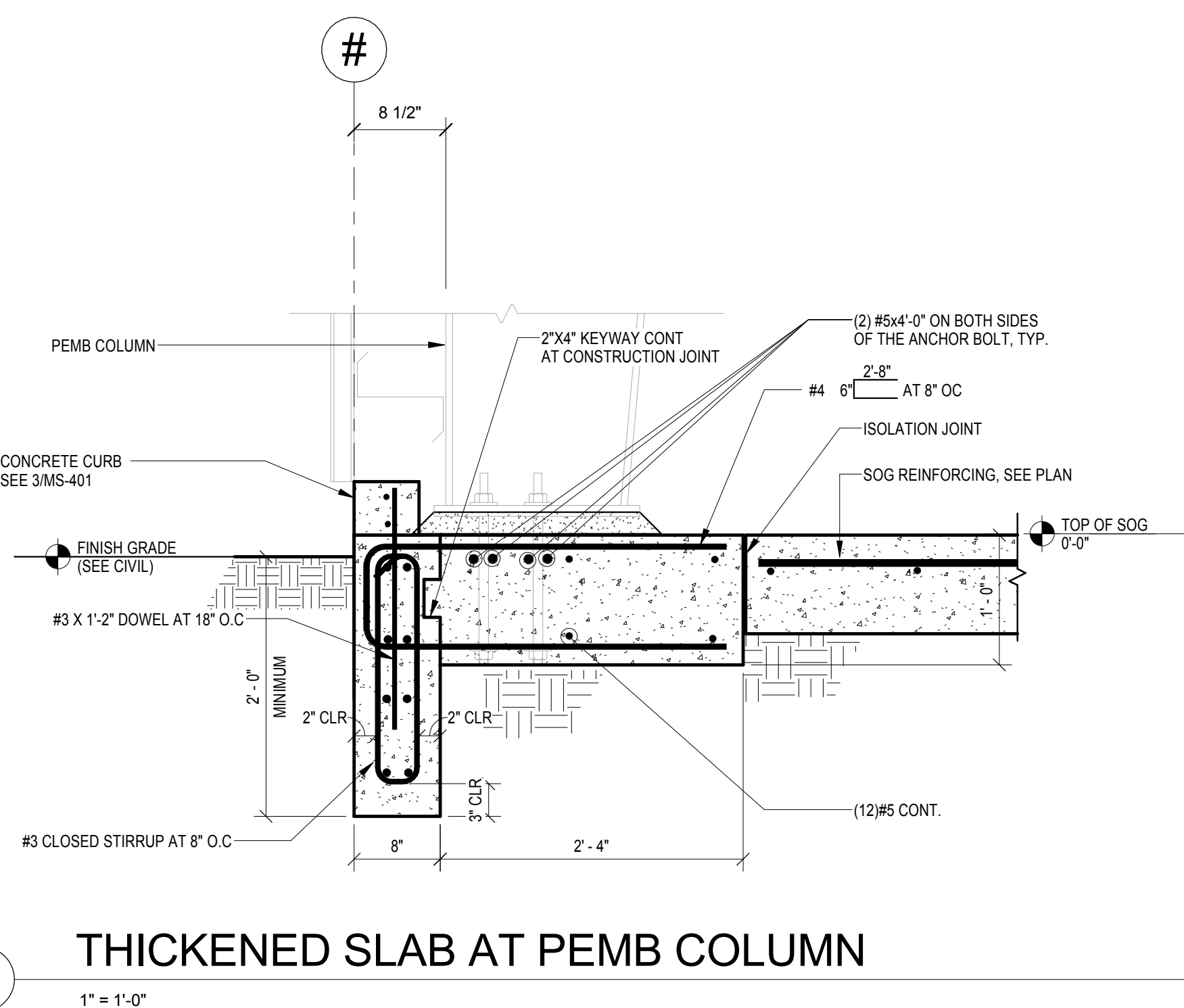
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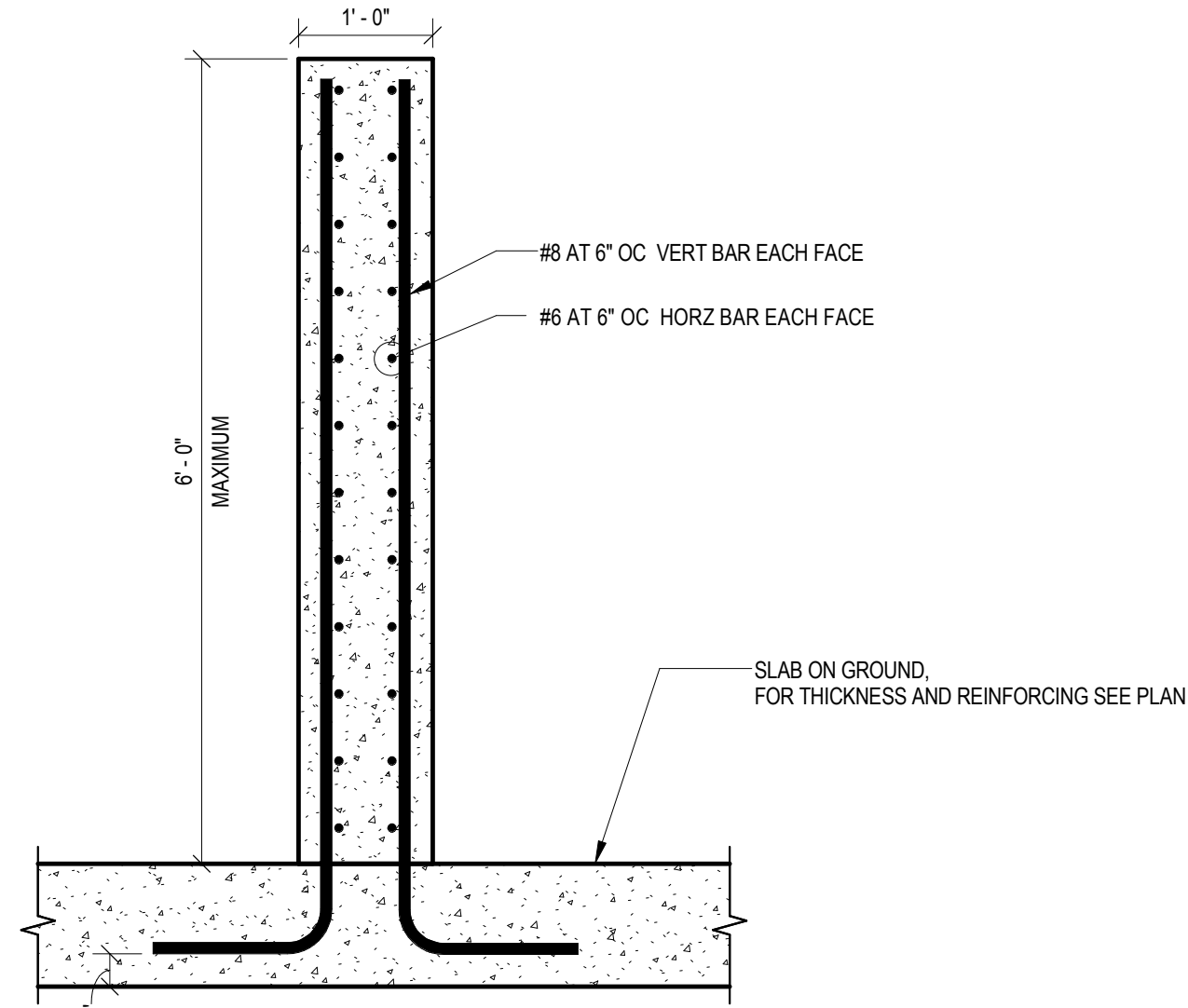


B

A

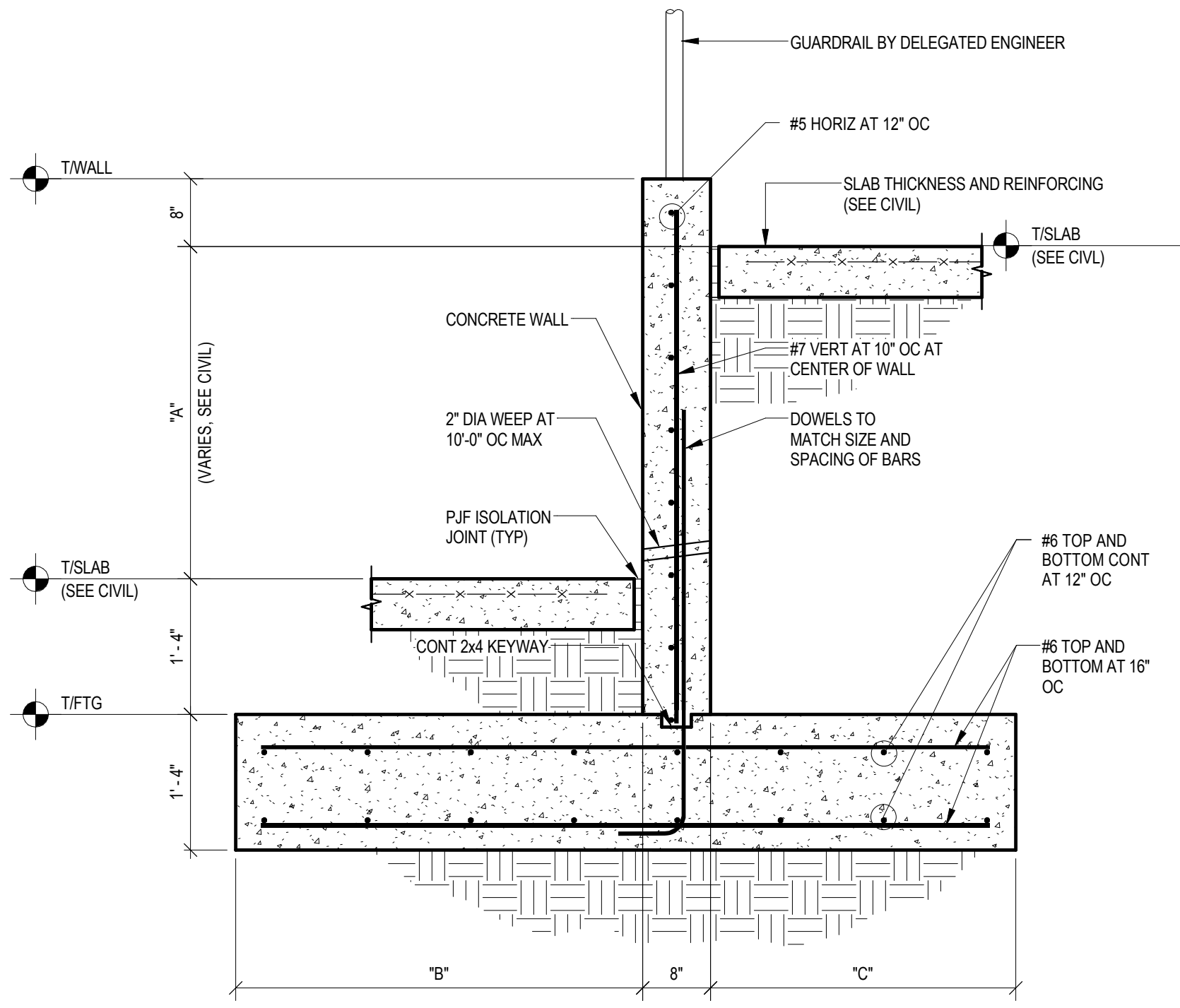


E



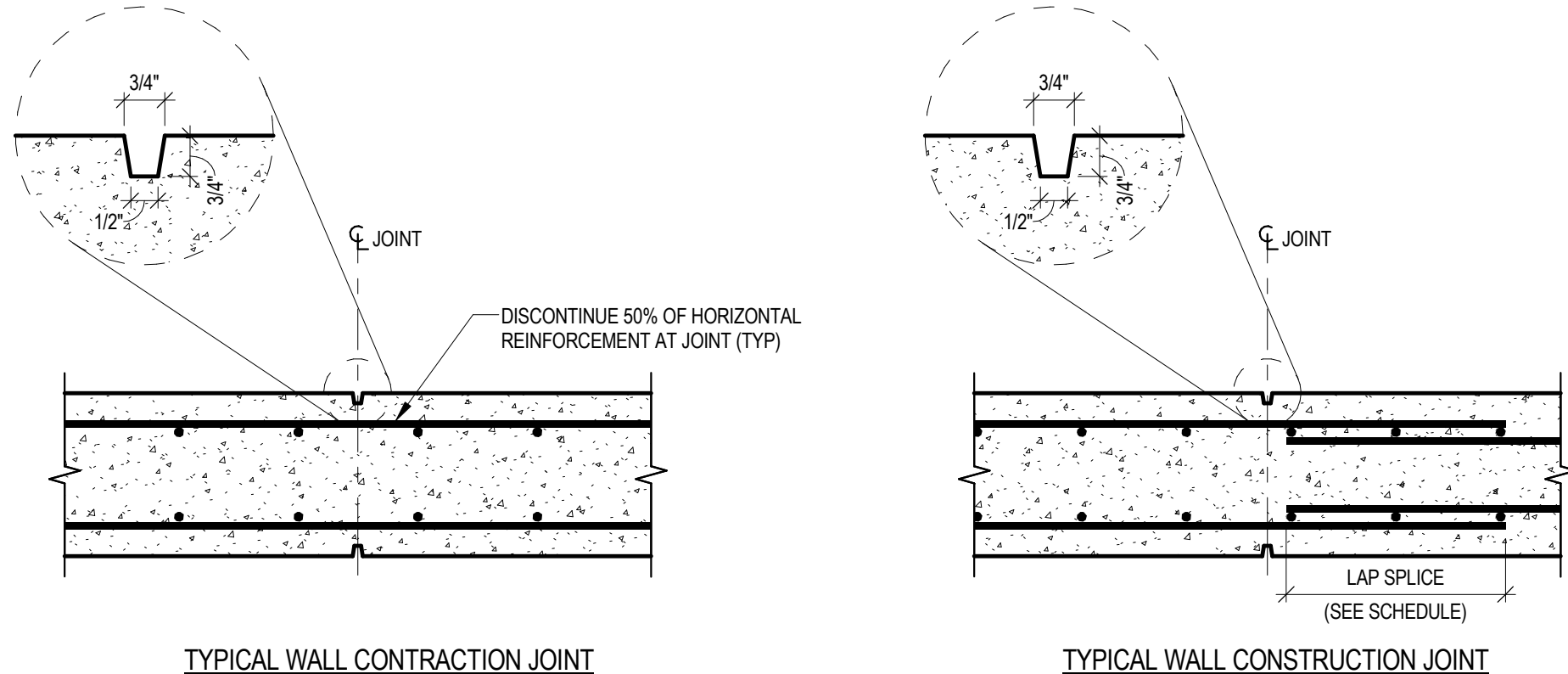
1 CONCRETE PUSH WALL
3/4" = 1'-0"

D



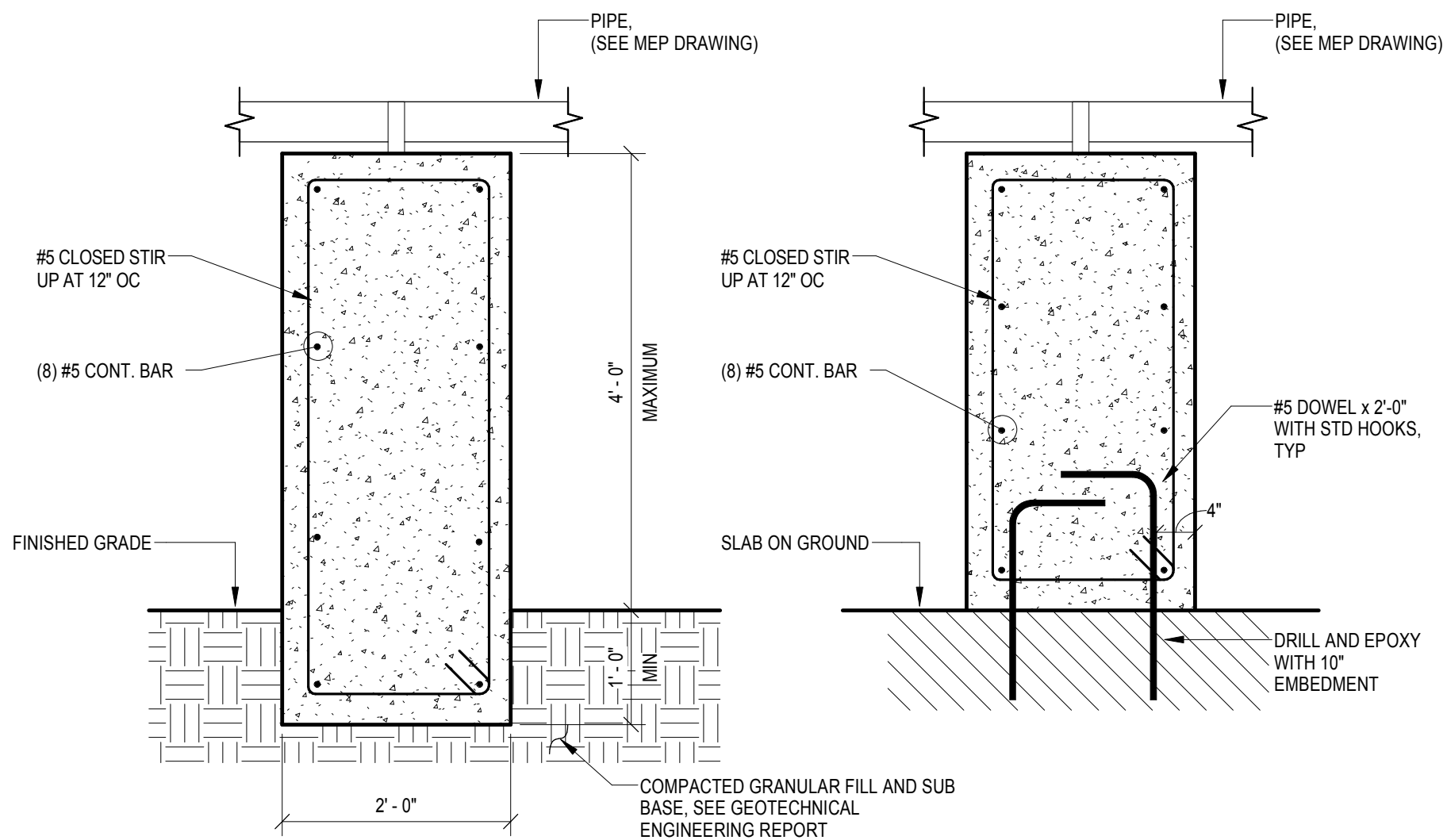
- NOTES:
1. WALL DESIGNED FOR DRAINED CONDITION. SEE MECHANICAL AND/OR CIVIL DRAWINGS FOR DRAINAGE REQUIREMENT.
 2. DO NOT BACKFILL UNTIL WALL COMPRESSIVE STRENGTH f_c REACHES 28 DAY DESIGN STRENGTH.
 3. PROVIDE VERTICAL CONTRACTION JOINTS. SEE RETAINING WALL JOINT DETAIL.

RETAINING WALL DIMENSIONS		
WALL HEIGHT 'A'	TOE LENGTH 'B'	HEEL LENGTH 'C'
0'-0" TO 2'-0"	1'-0"	1'-0"
2'-0" TO 6'-0"	2'-4"	3'-0"

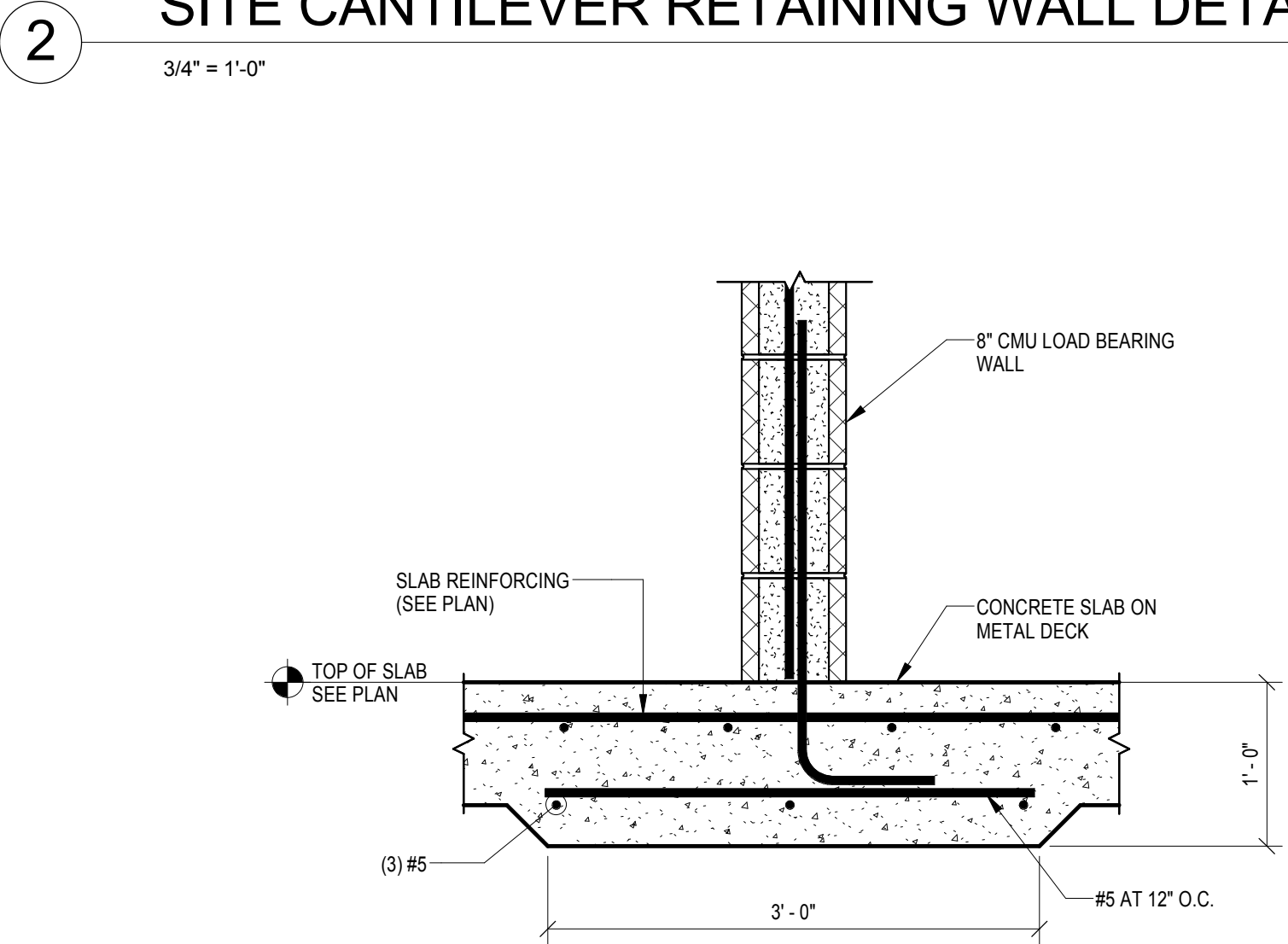


- NOTES:
1. CONTRACTION JOINT SPACING SHALL NOT EXCEED 25'-0" MAXIMUM AND 5'-0" MINIMUM FROM CORNERS.
 2. CONSTRUCTION JOINT SPACING SHALL NOT EXCEED 100'-0" MAXIMUM AND 5'-0" MINIMUM FROM CORNERS.
 3. TYPICAL WALL CONTRACTION JOINTS AND TYPICAL WALL CONSTRUCTION JOINTS DO NOT APPLY TO SHEAR WALLS.

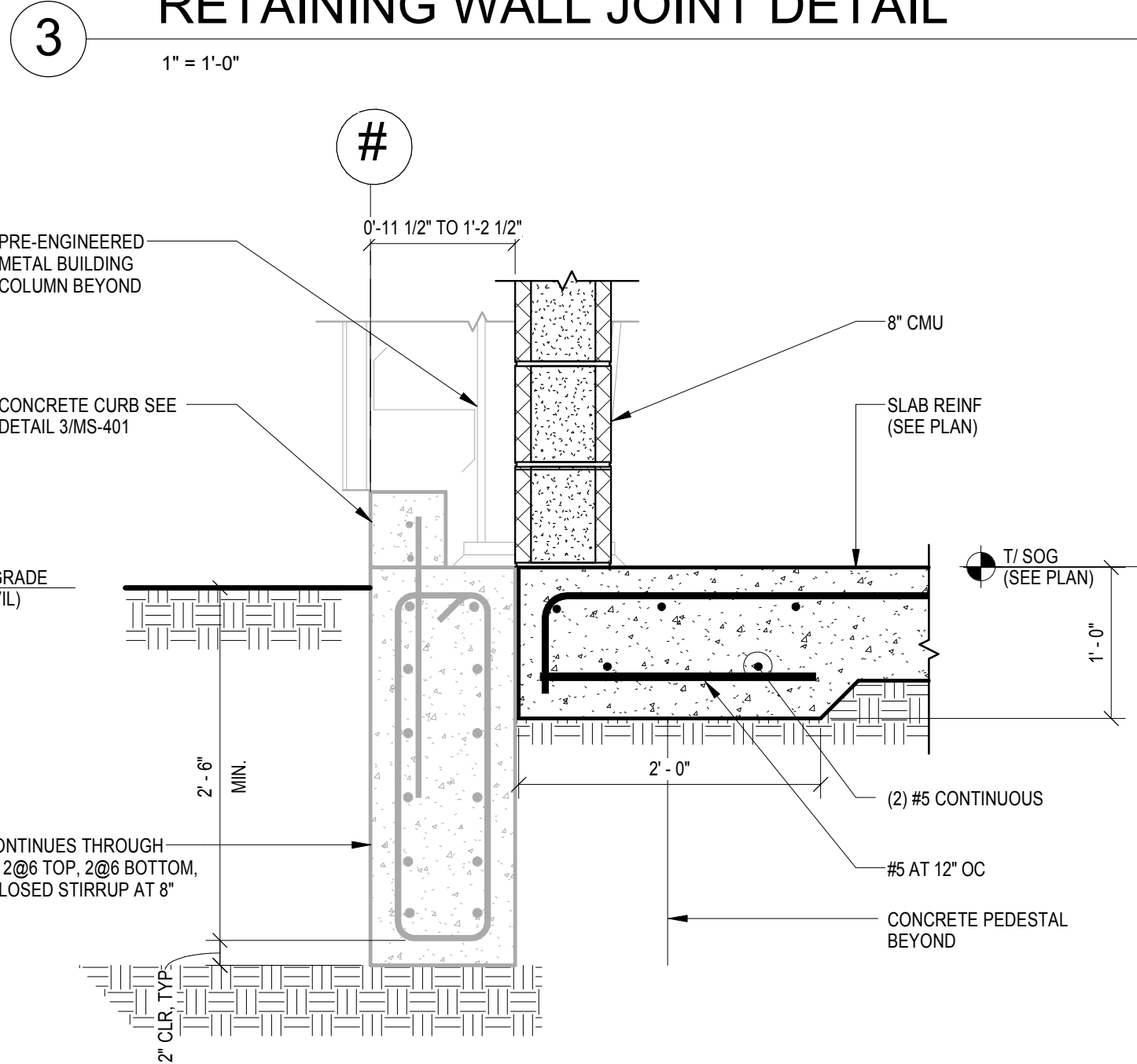
C



4 CONCRETE SLEEPER
3/4" = 1'-0"

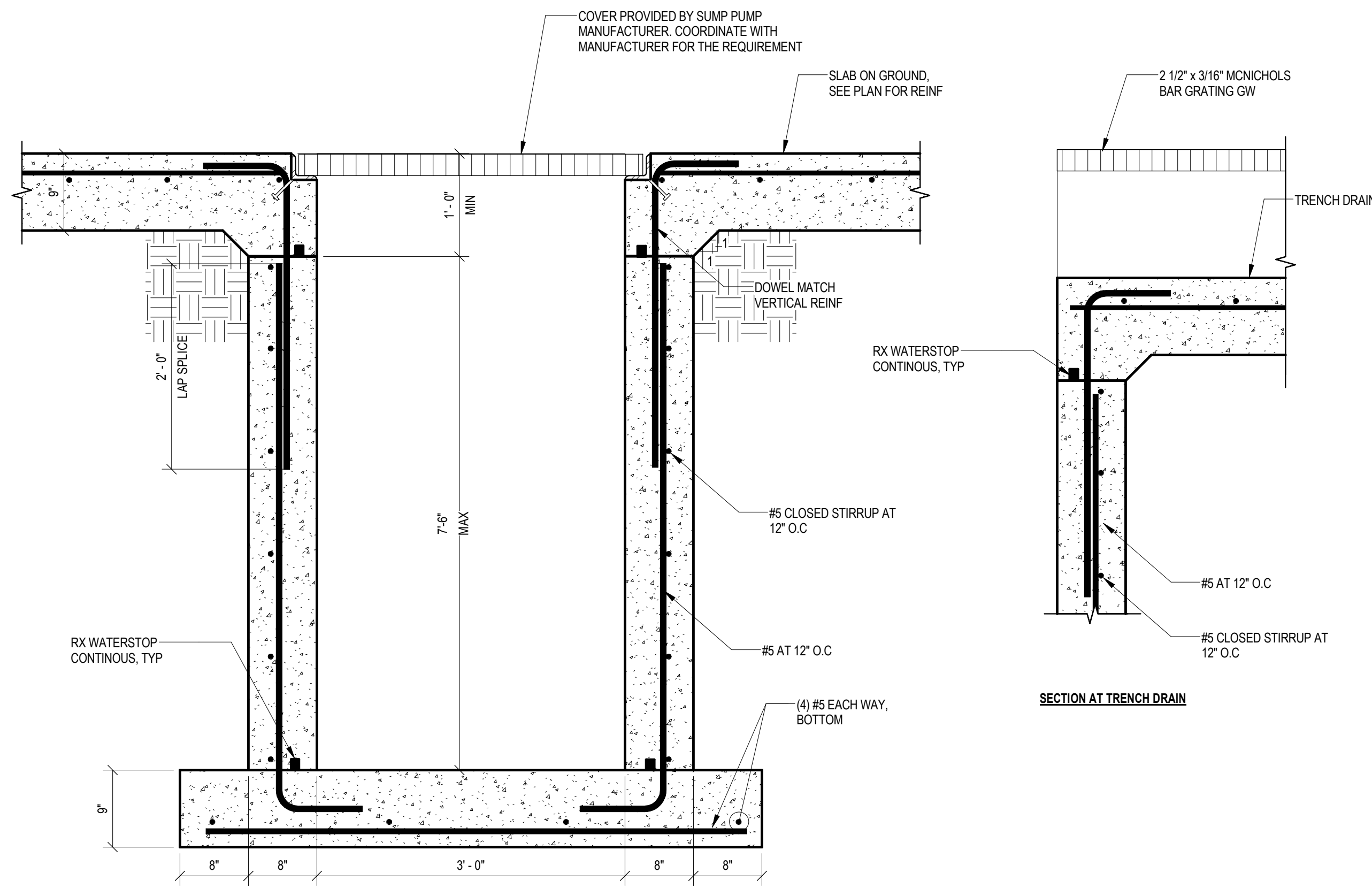


5 SECTION AT LOAD BEARING WALL VACUUM ROOM
1" = 1'-0"



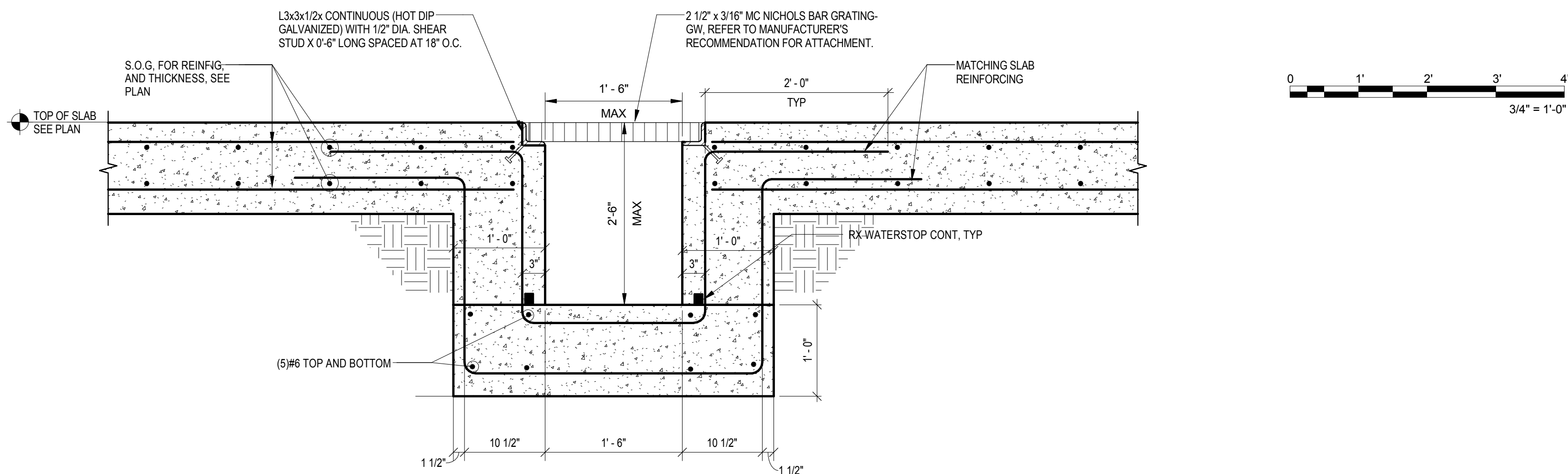
6 SECTION AT LOAD BEARING WALL
1" = 1'-0"

B



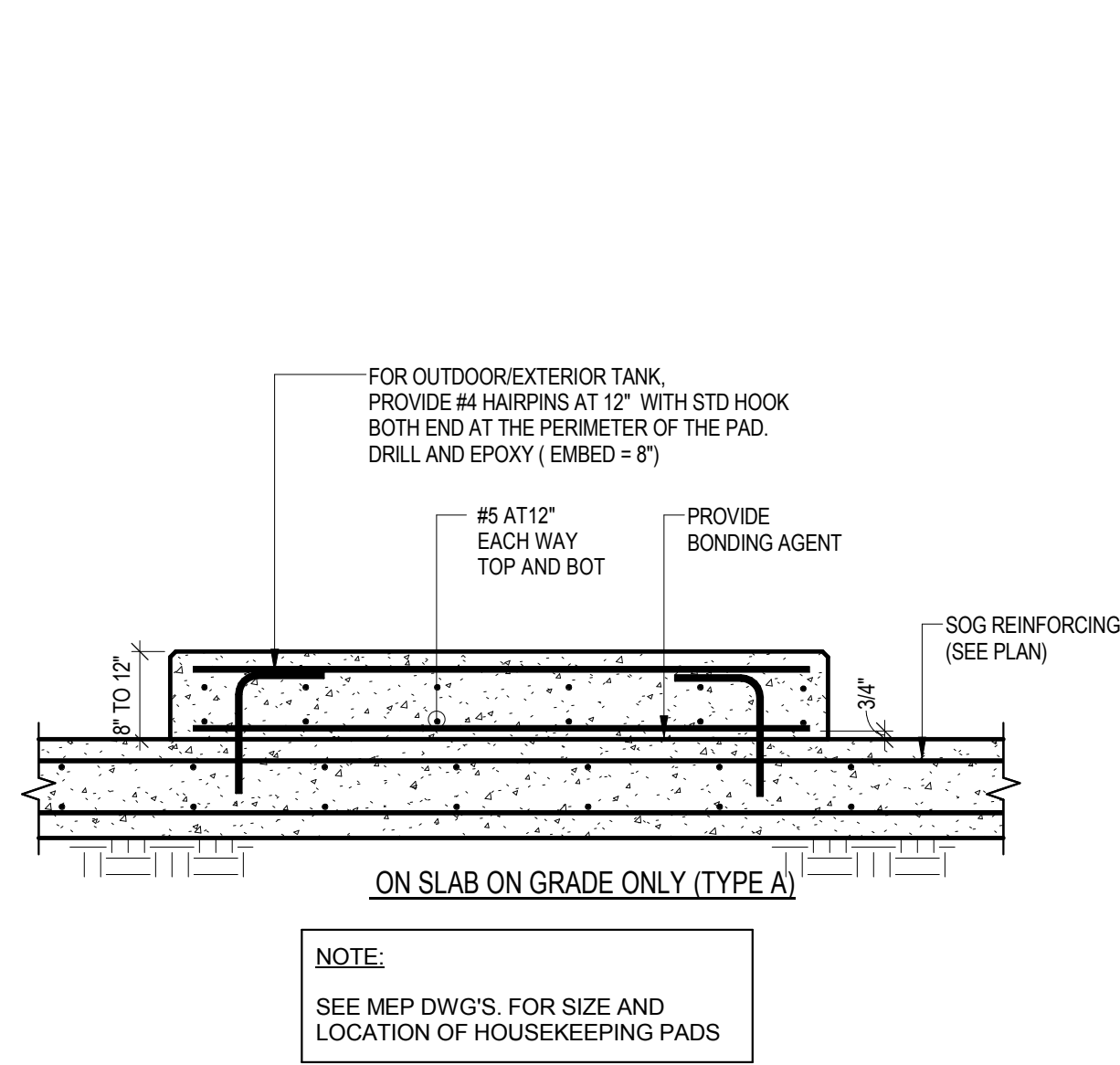
7 3'-0" x 3'-0" SUMPIT DETAILS
1" = 1'-0"

A

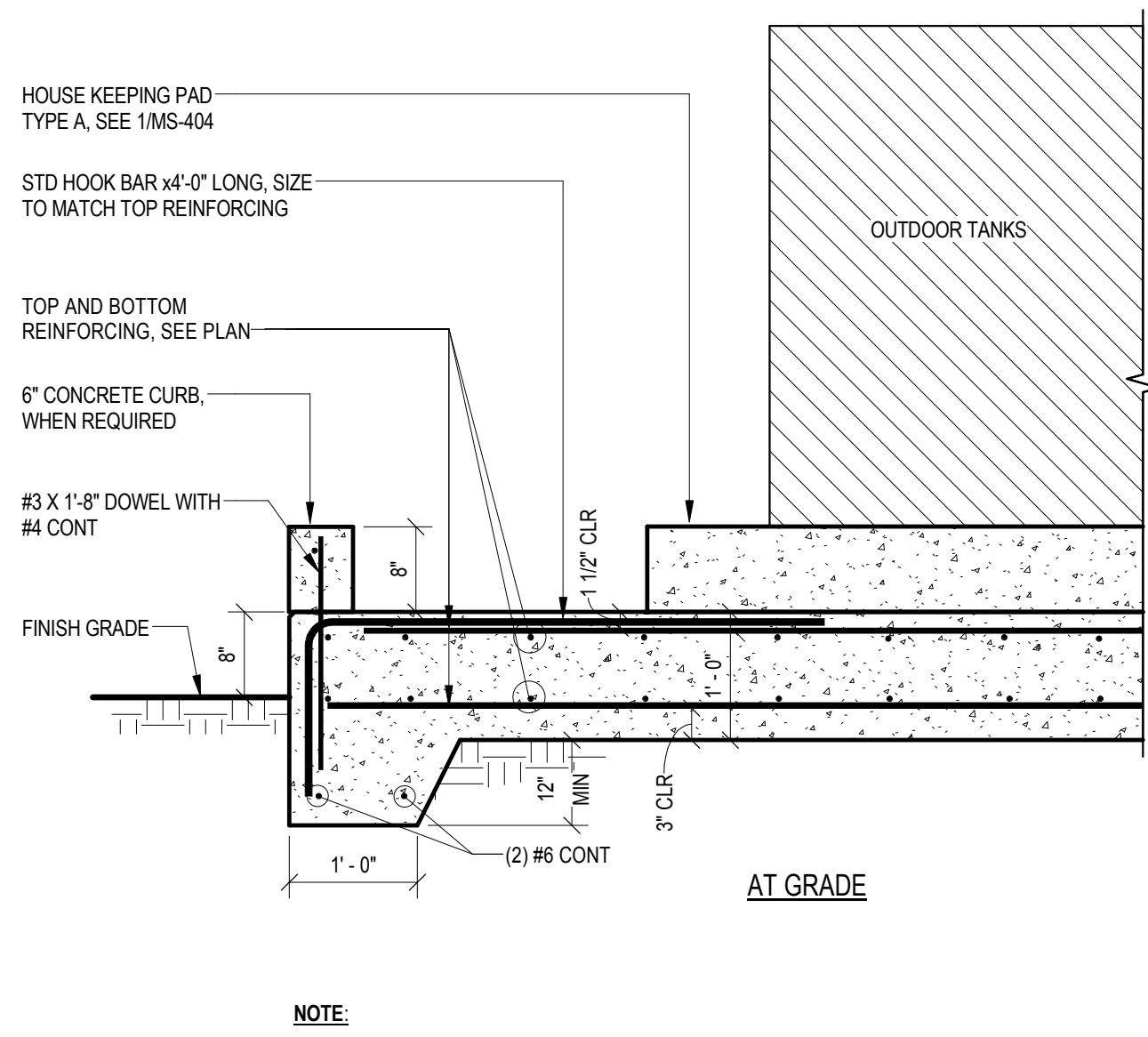


8 TRENCH DRAIN AT EXTERIOR CONTAINMENT SLAB
1" = 1'-0"

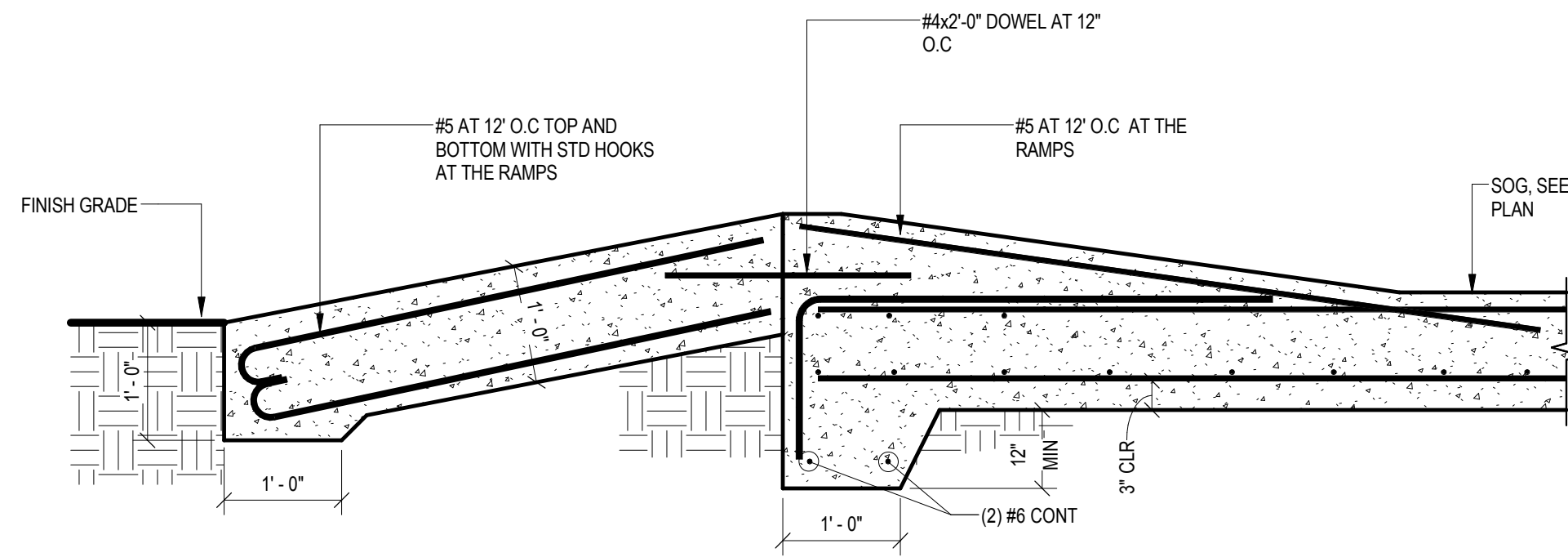
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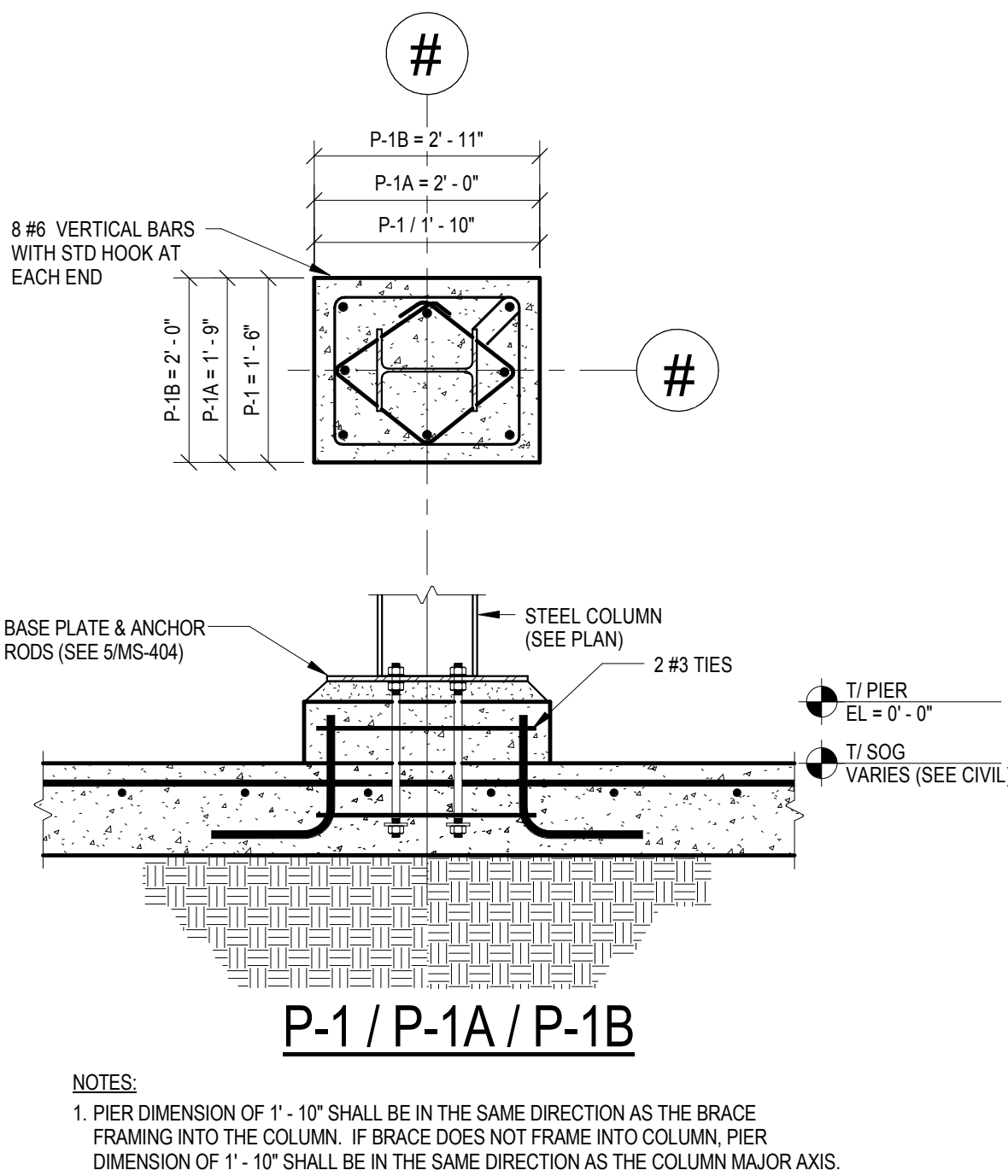
1 TYPICAL EXTERIOR HOUSEKEEPING PADS



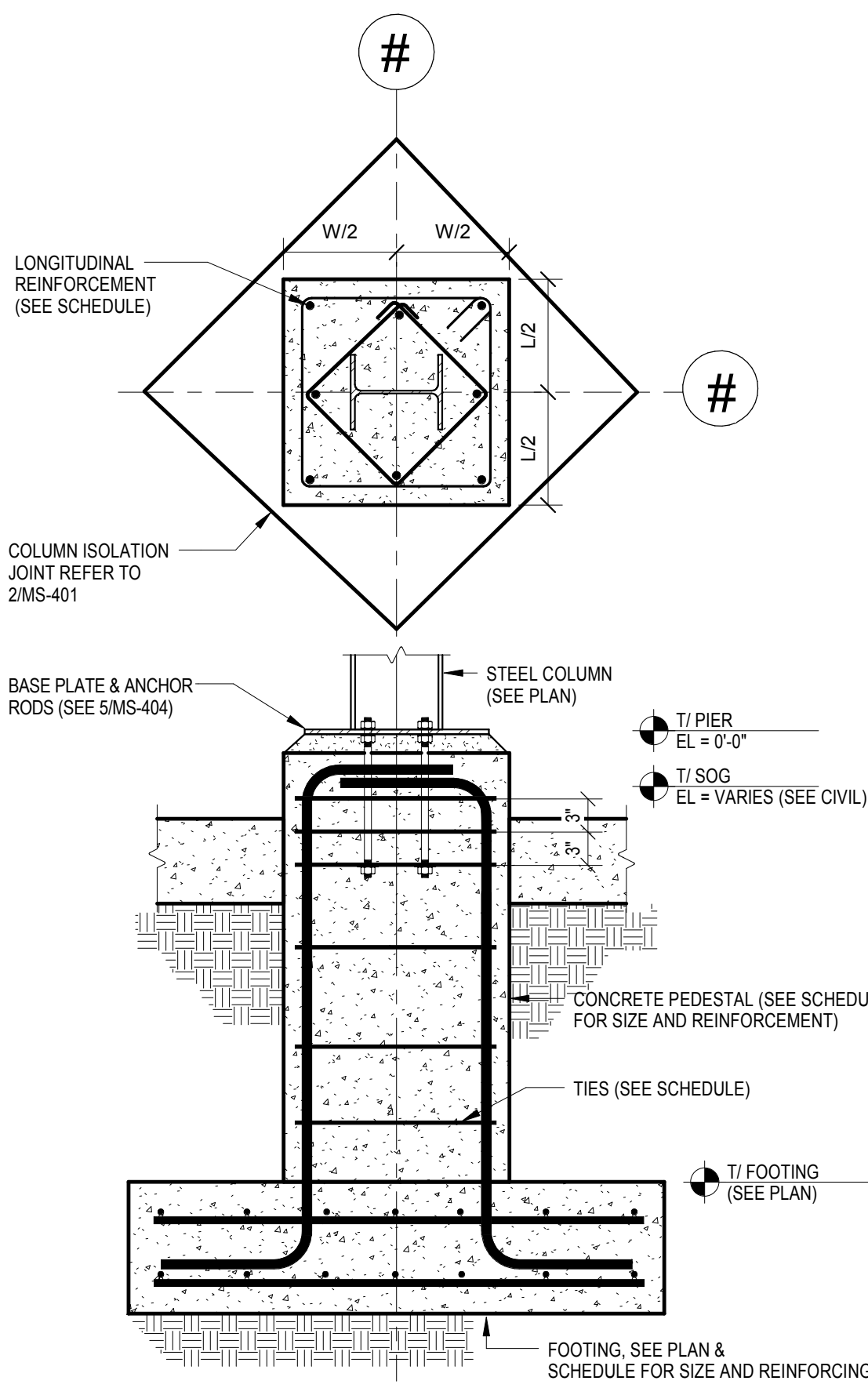
2 EXTERIOR TANKS CONTAINMENT SLAB



3 EXTERIOR RAMPS

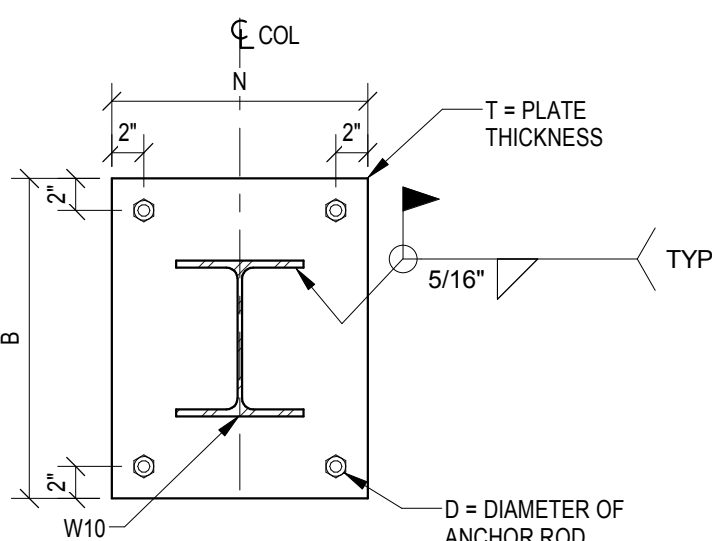


PIPE RACK PIER SCHEDULE				
MARK	WIDTH (W)	LENGTH (L)	LONGITUDINAL REINFORCEMENT	TIES
P-2	2' - 0"	2' - 0"	(8) - #8	#3 AT 12" O.C
P-3	2' - 3"	2' - 3"	(12) - #8	#3 AT 12" O.C
P-4	2' - 6"	2' - 6"	(12) - #8	#3 AT 12" O.C
P-5	3' - 0"	3' - 0"	(20) - #8	#3 AT 12" O.C



P-2, P-3, P-4, P-5

4 CONCRETE PIER EXTERIOR PIPE RACK



NOTES:
1. BASE PLATE DIMENSION "B" SHALL BE IN THE SAME DIRECTION AS THE BRACE FRAMING INTO THE COLUMN. IF BRACE DOES NOT FRAME INTO COLUMN, BASE PLATE DIMENSION "B" SHALL BE IN THE SAME DIRECTION AS THE COLUMN MAJOR AXIS.

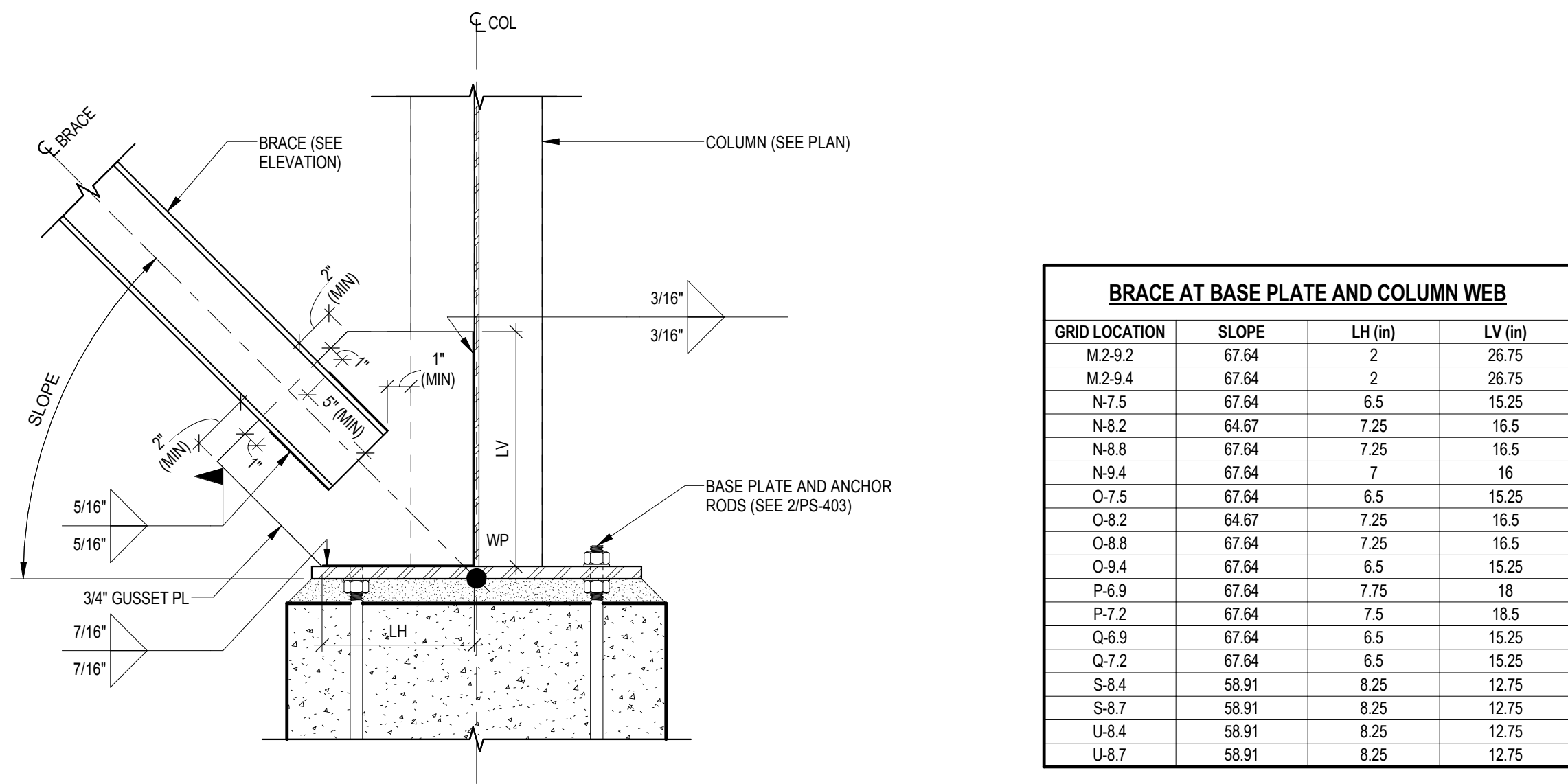
COLUMN BASE PLATE SCHEDULE					
MARK	N	B	PLATE THICKNESS (T)	ROD Ø	EMBEDMENT
BP-1	1' - 4"	1' - 8"	3/4"	3/4"	14"
BP-2	1' - 4"	1' - 8"	1"	1"	14"
BP-3	1' - 4"	1' - 8"	1 1/2"	1"	14"
BP-4	1' - 6"	1' - 9"	1"	1"	14"
BP-5	1' - 9"	2' - 8"	1"	1"	14"

5 EXTERIOR PIPE RACK BASE PLATES

B

A

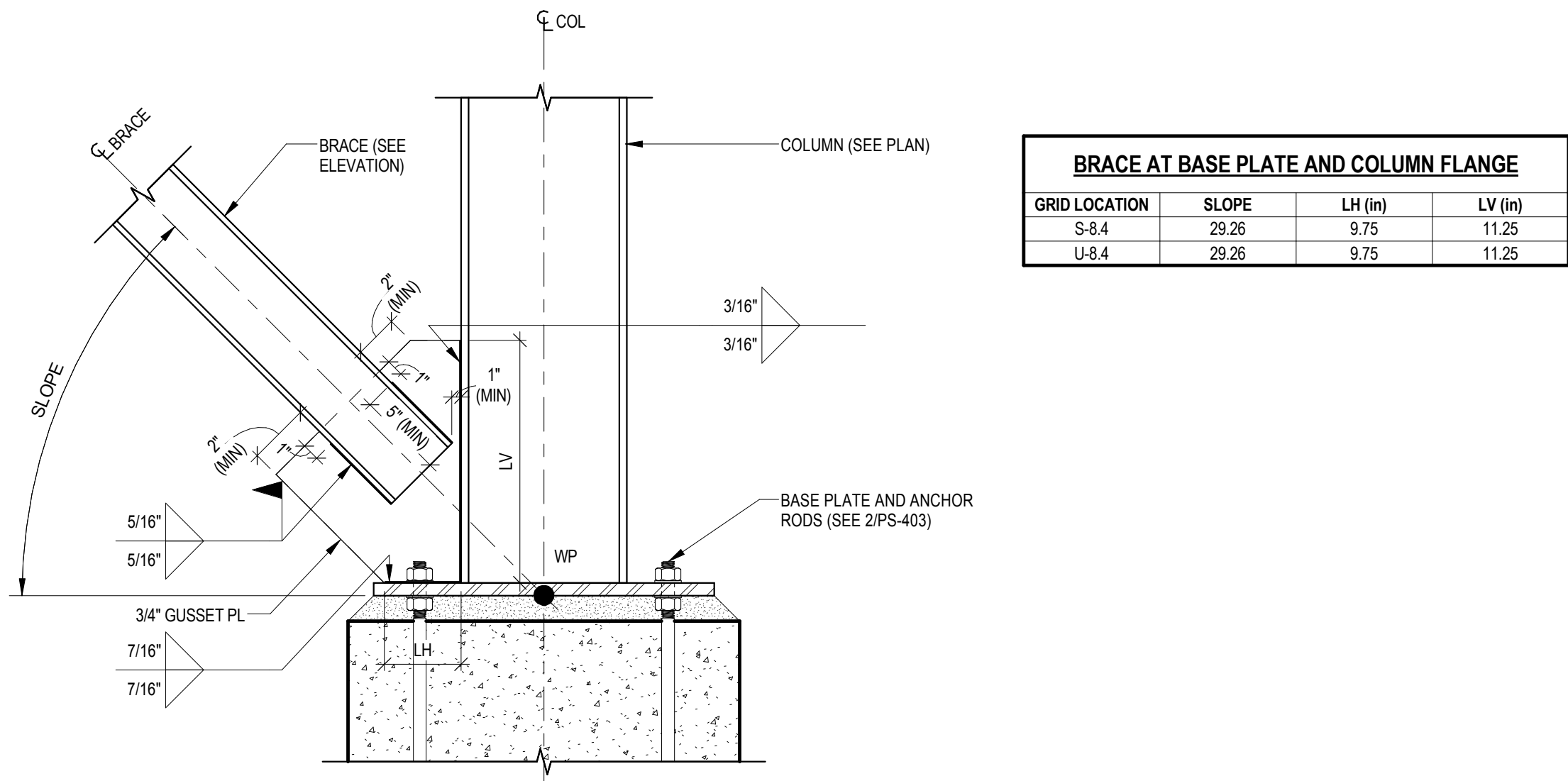
E



D

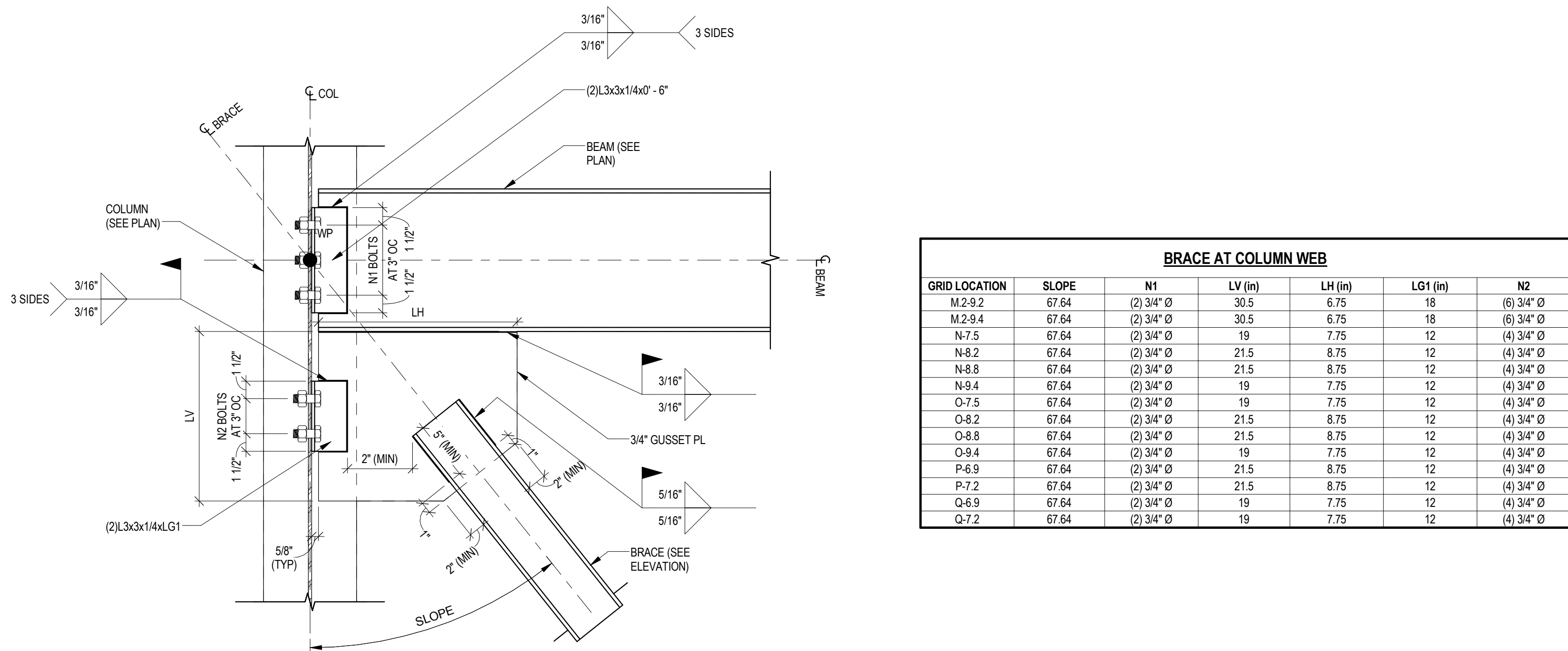
1 BRACE AT BASE PLATE (COL WEB)
1 1/2\"/>

E

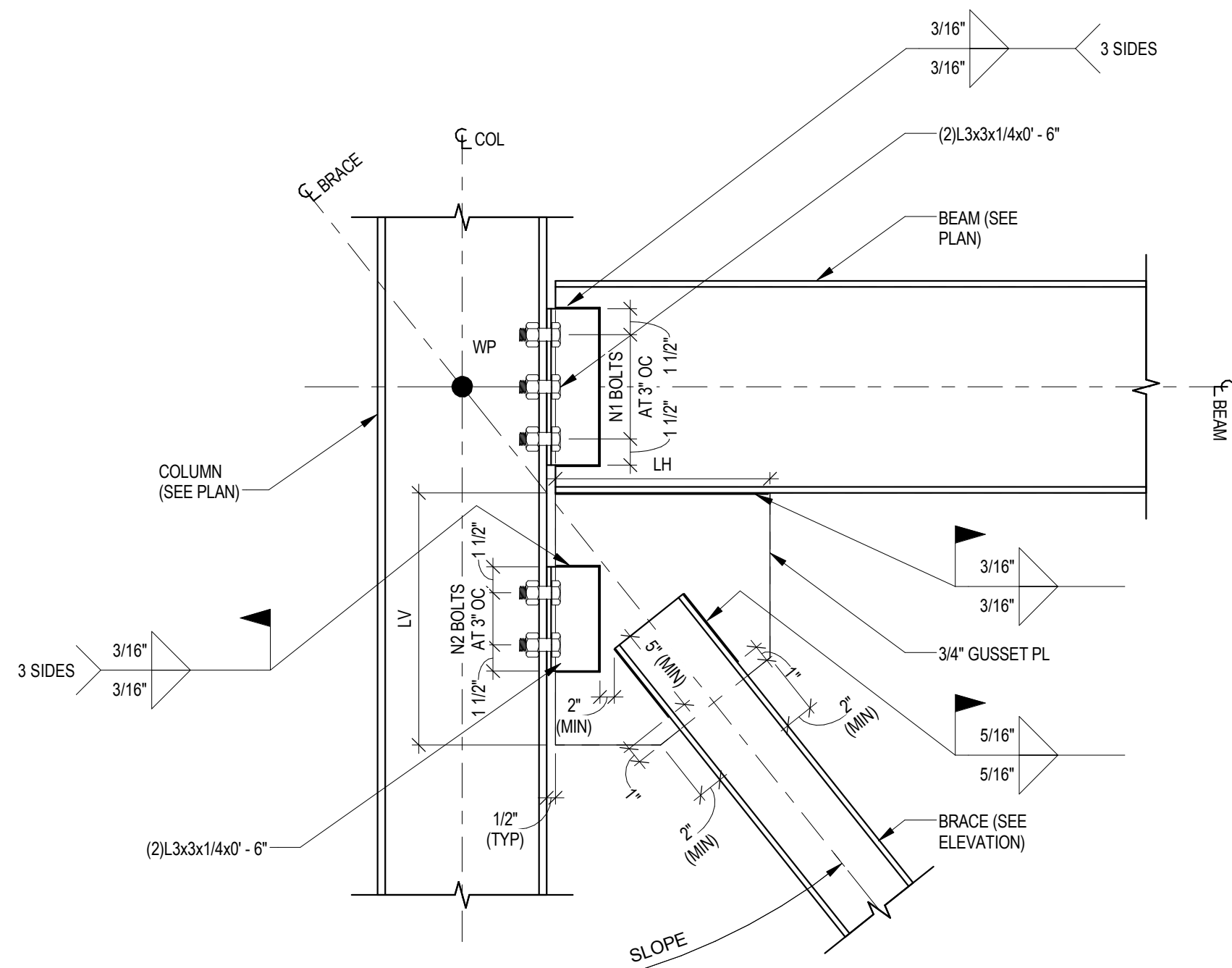


2 BRACE AT BASE PLATE (COL FLANGE)
1 1/2\"/>

C



3 BRACE AT COL WEB/BEAM
1 1/2\"/>



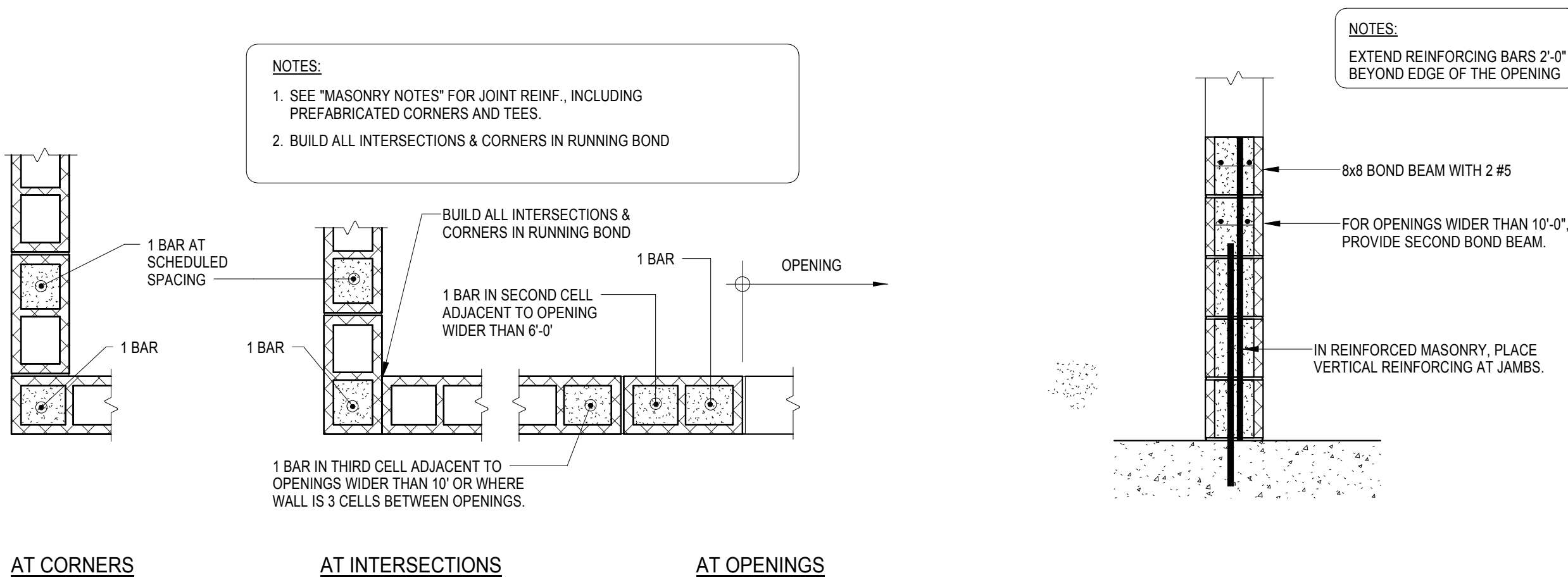
4 BRACE AT COL FLANGE/BEAM
1 1/2\"/>

BRACE AT COLUMN FLANGE					
GRID LOCATION	SLOPE	LV (in)	LH (in)	N1	N2
S-8.4	29.26	10.75	18.5	(2) 3/4\"	(2) 3/4\"
U-8.4	29.26	10.75	18.5	(2) 3/4\"	(2) 3/4\"

B

A

E



1 MASONRY WALL REINFORCING
3/4" = 1'-0"

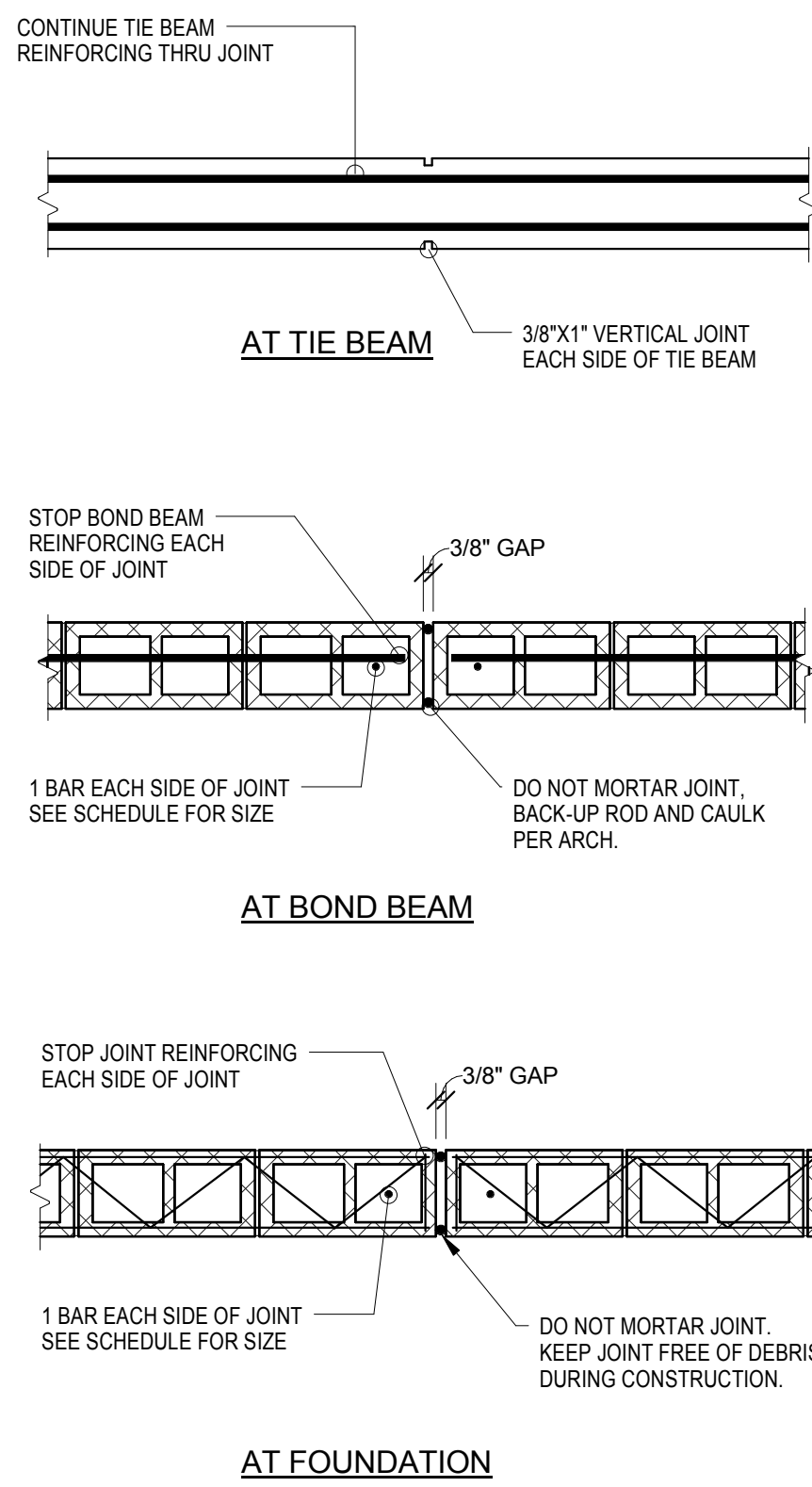
2 TYPICAL MASONRY SILL
3/4" = 1'-0"

3 TYPICAL INTERIOR LINTEL
3/4" = 1'-0"

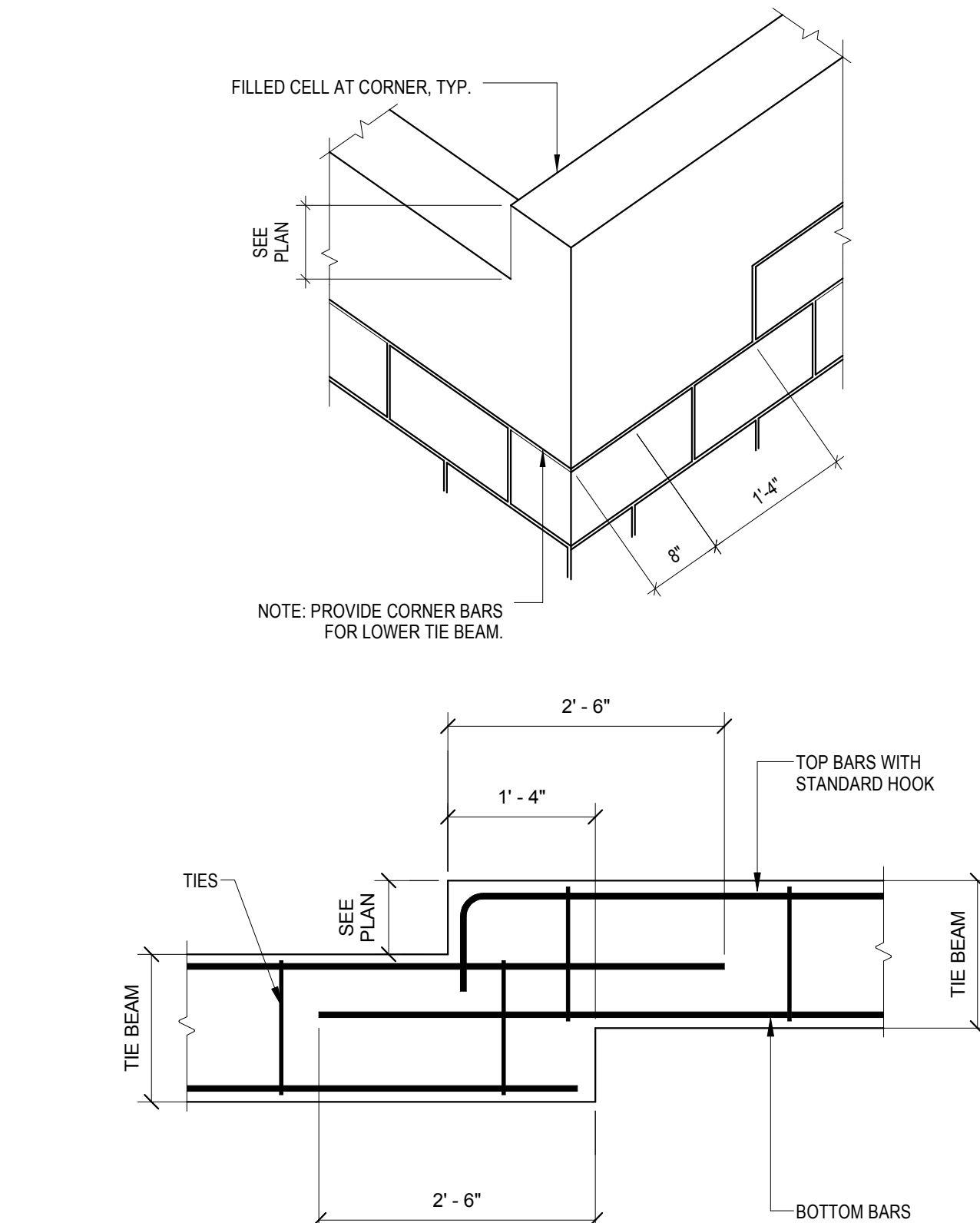
4 TYPICAL EXTERIOR LINTEL
3/4" = 1'-0"

5 SECTION AT ROLL-UP DOOR
3/4" = 1'-0"

D



6 MASONRY CONTROL JOINTS
3/4" = 1'-0"

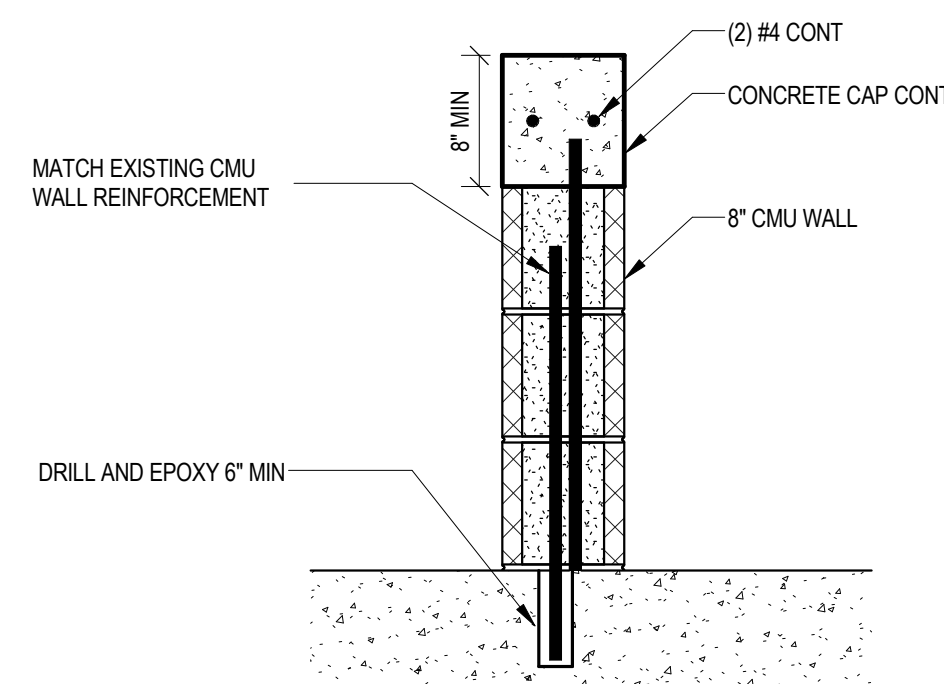


7 TYPICAL STEPPED TIE BEAM
3/4" = 1'-0"

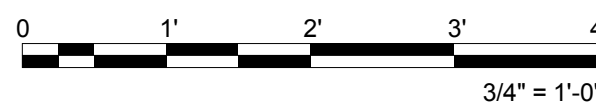
BAR WITH SPLICE	8" CMU - REINFORCING SPLICES ^a					
	VERTICAL BARS ^b		HORIZONTAL BARS ^c			
	1 VERT.	2 VERT.	1 VERT. 1 HORIZ.	2 VERT. 1 HORIZ.	1 VERT. 2 HORIZ.	2 VERT. 2 HORIZ.
#4	21"	28"	21"	21"	28" ^d	48" ^d
#5	26"	40"	29"	26"	40"	70"
#6	43"	74"	57"	43"	74"	131"
#7	60"	107"	81"	60"	107" ^d	N/A

- NOTES:
- SEE TYPICAL REBAR LAYOUT DETAIL FOR BAR PLACEMENT. WHERE BARS OF DIFFERENT SIZES ARE TO BE SPLICED, THE SPLICE LENGTH SHALL BE THAT REQUIRED FOR THE LARGER BAR.
 - SPLICES OF VERTICAL reinforcement shall be placed next to the main bar as indicated in the illustration.
 - SPLICES OF HORIZONTAL reinforcement shall be placed vertically over the main bar.
 - SPLICES OF HORIZONTAL REINFORCEMENT IN WALLS CONTAINING TWO BARS PER COURSE SHALL BE STAGGERED.

8 8" CMU - REINFORCING SPLICES
1" = 1'-0"

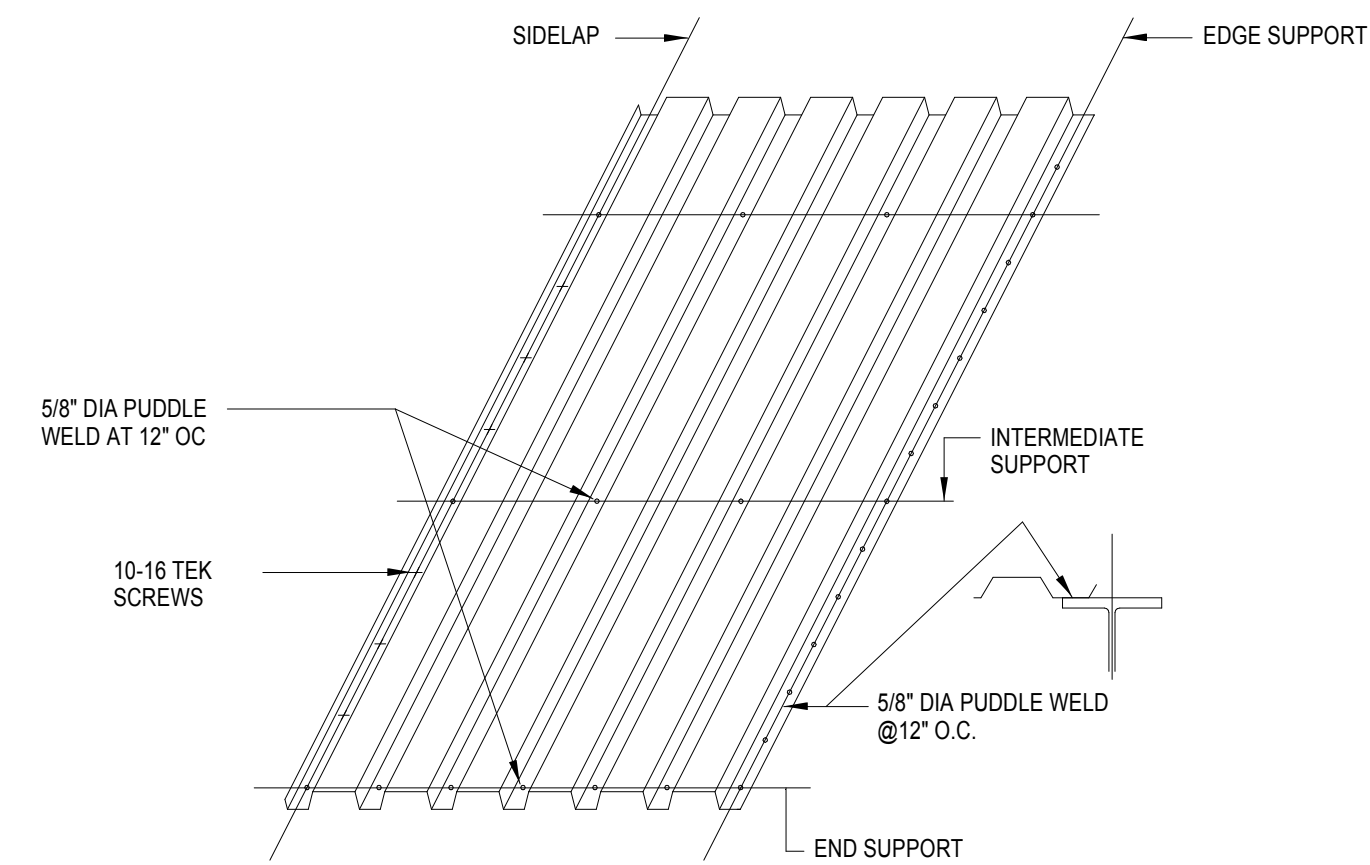


9 CMU CONCRETE CAP
1" = 1'-0"



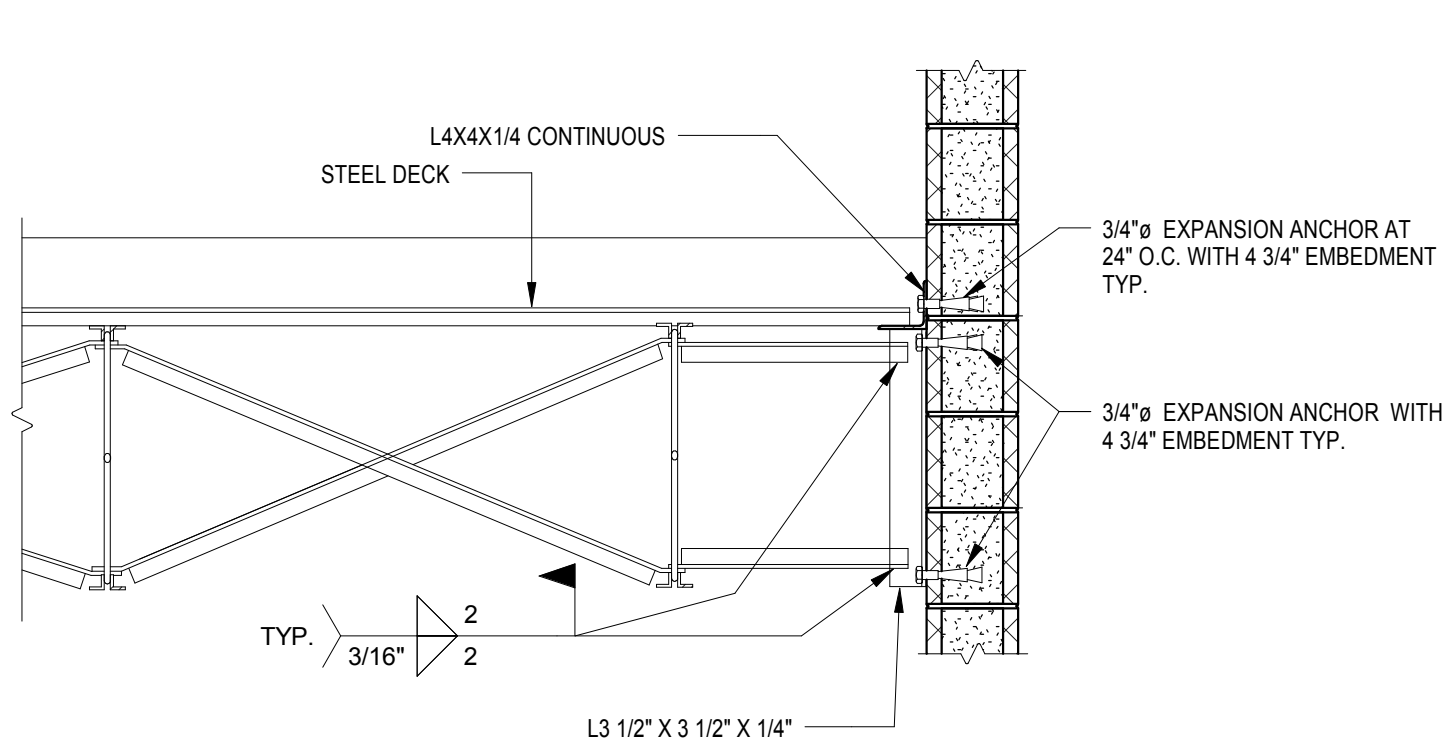
B

A



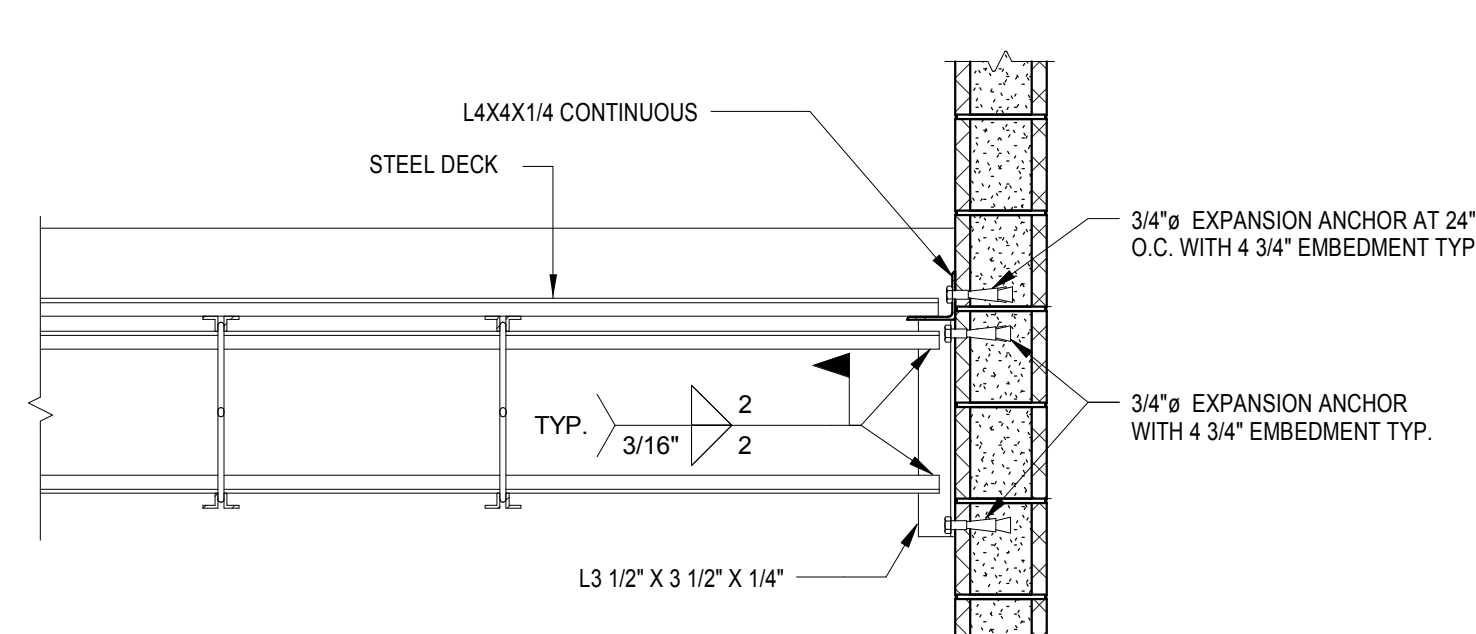
1 DECK ATTACHMENT

3/4" = 1'-0"



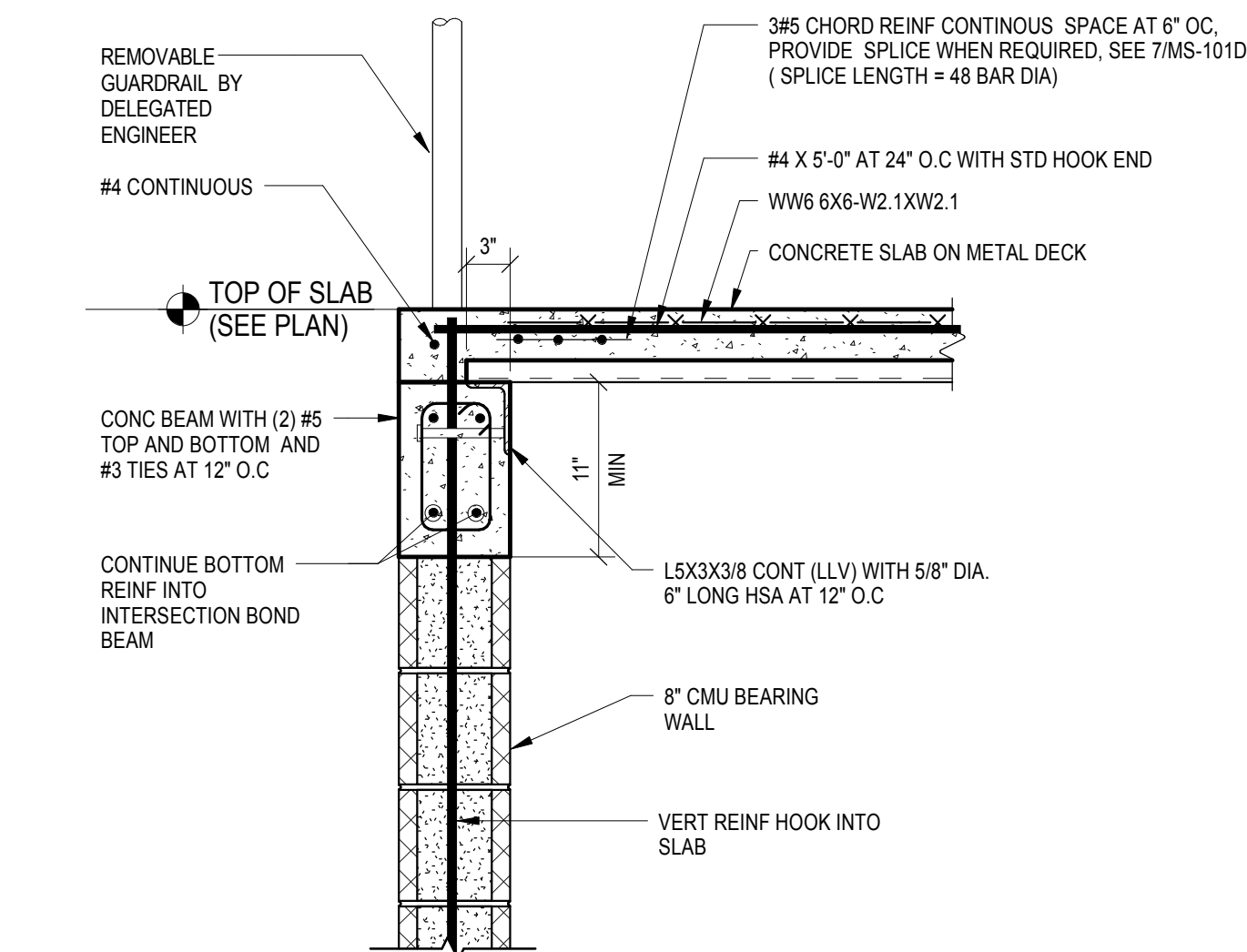
2 CONTINUOUS CROSS BRIDGING

3/4" = 1'-0"



3 CONTINUOUS HORIZONTAL BRIDGING

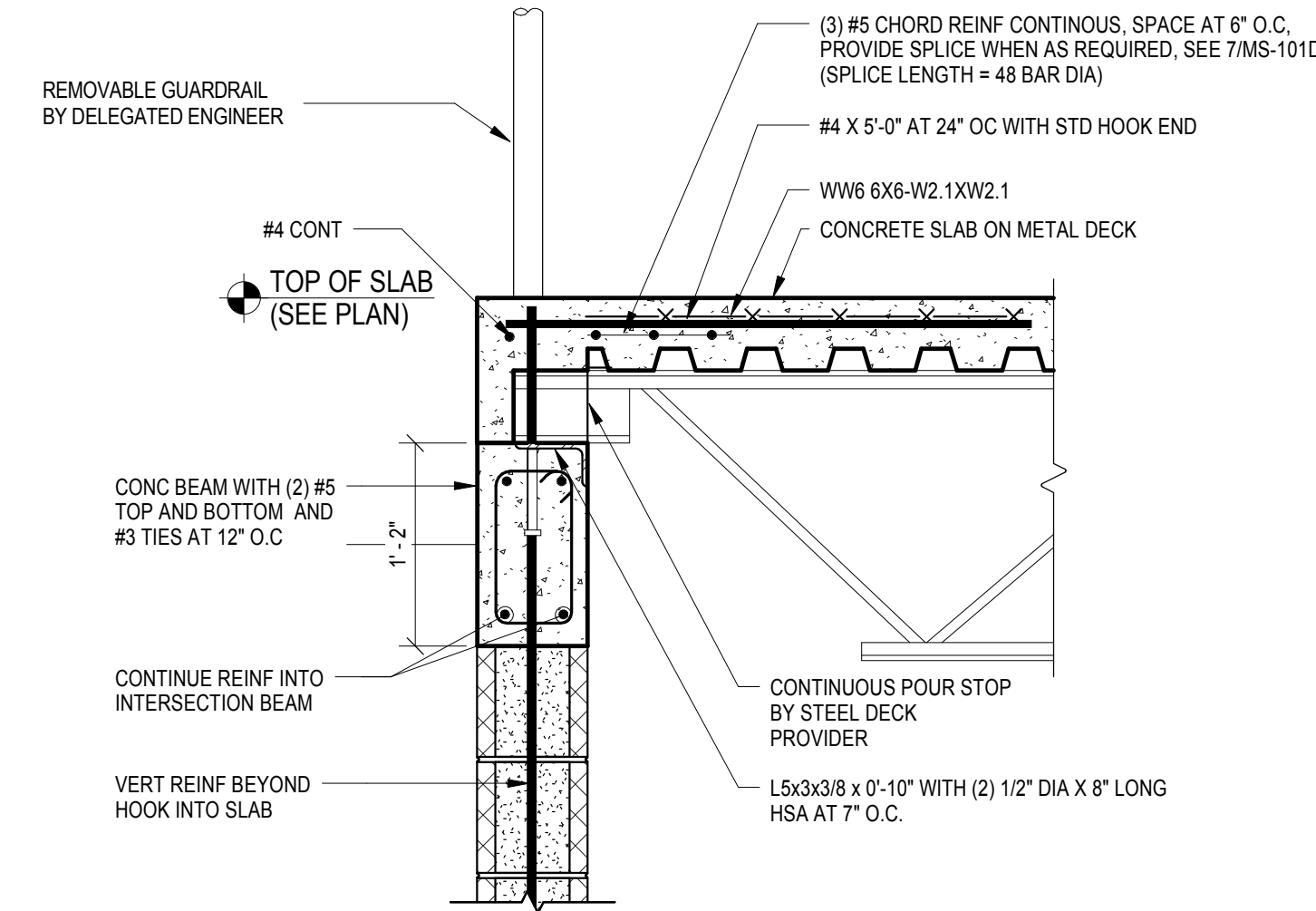
3/4" = 1'-0"



4 SECTION AT CMU WALL

1" = 1'-0"

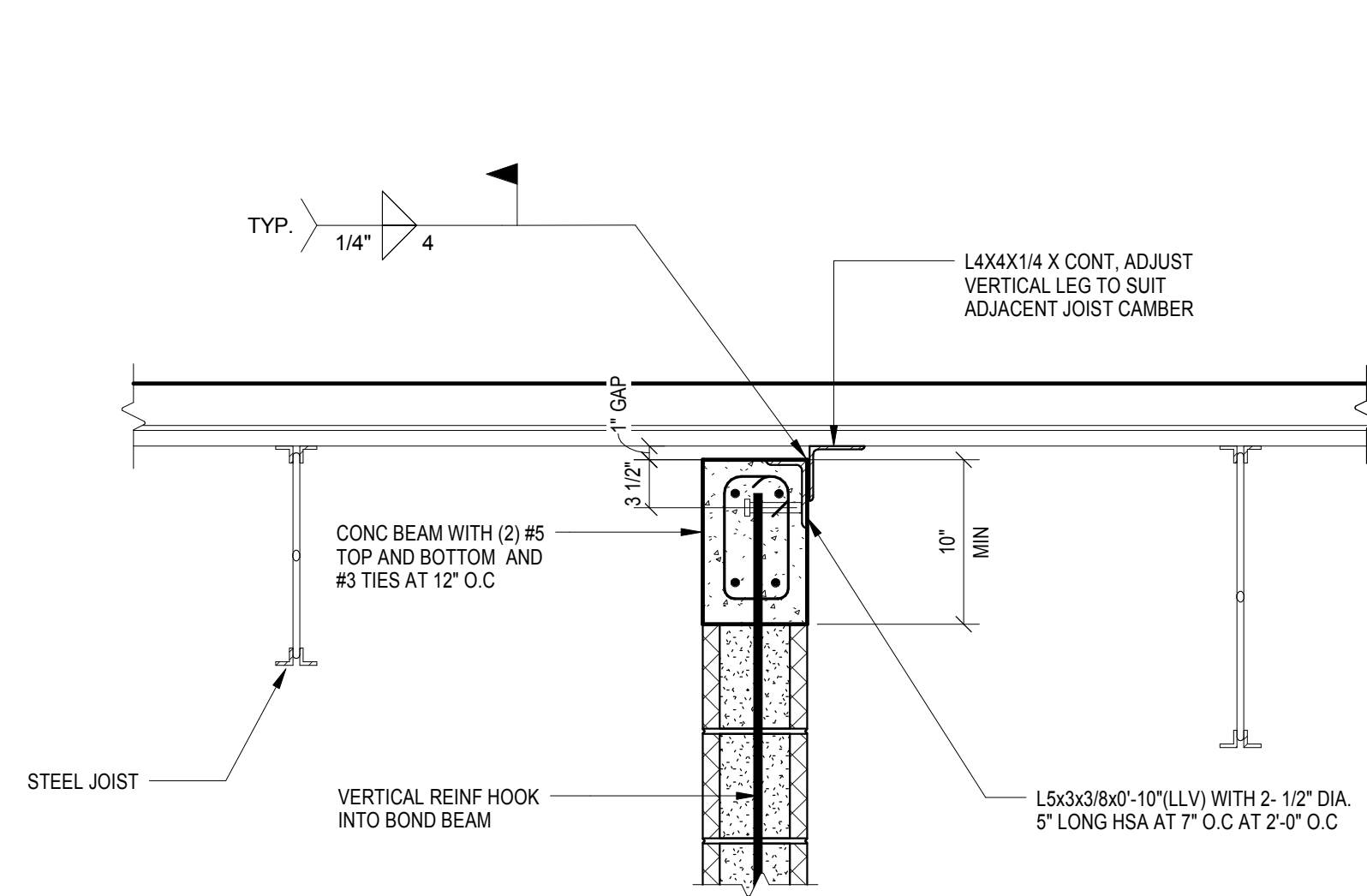
PERPENDICULAR TO DECK



5 SECTION AT CMU WALL

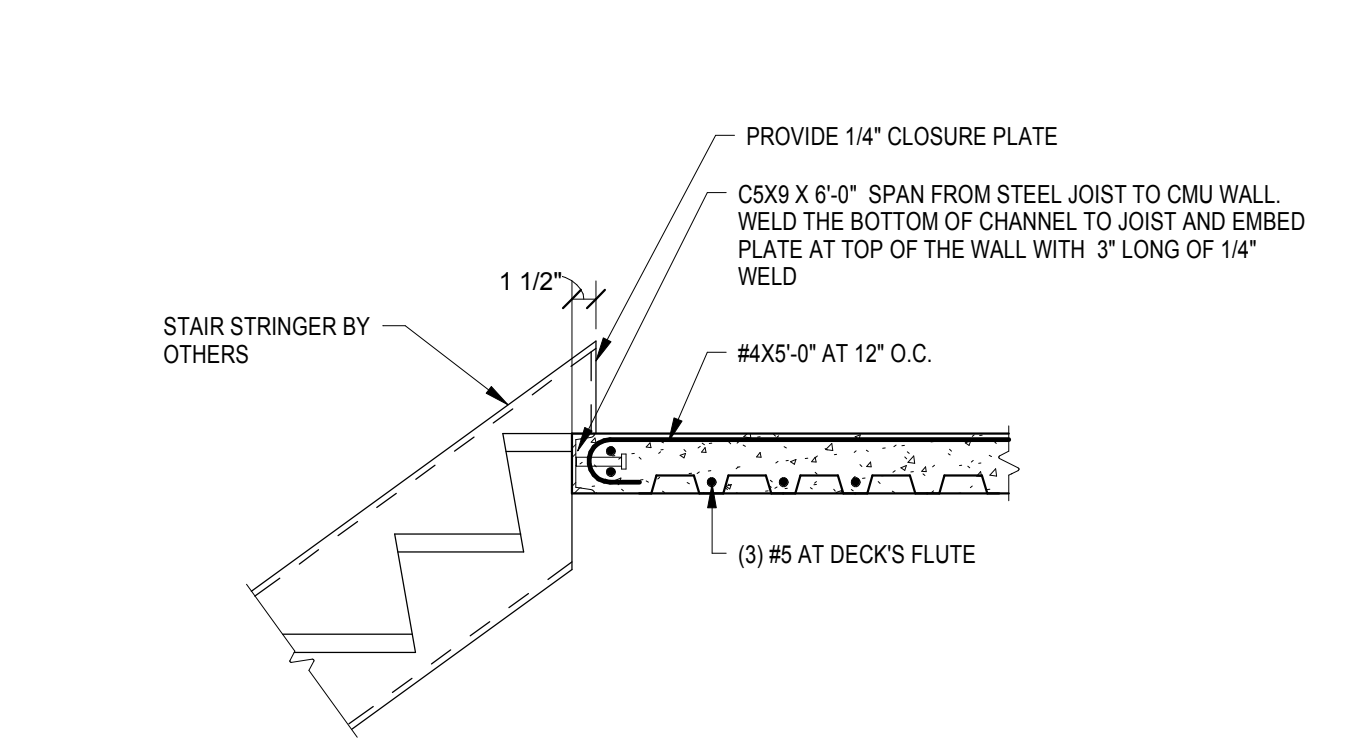
1" = 1'-0"

PARALLEL TO DECK



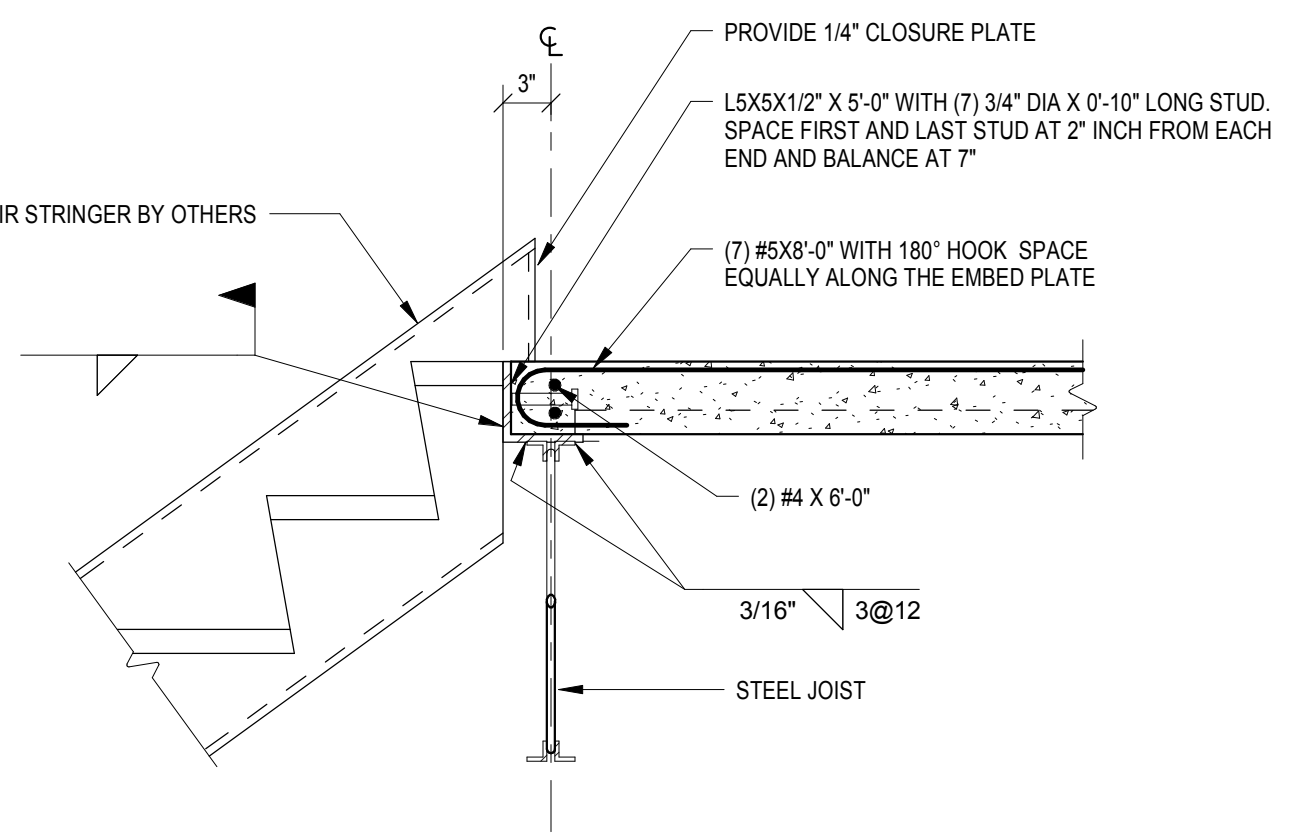
6 INTERIOR BEARING CMU WALL

1" = 1'-0"



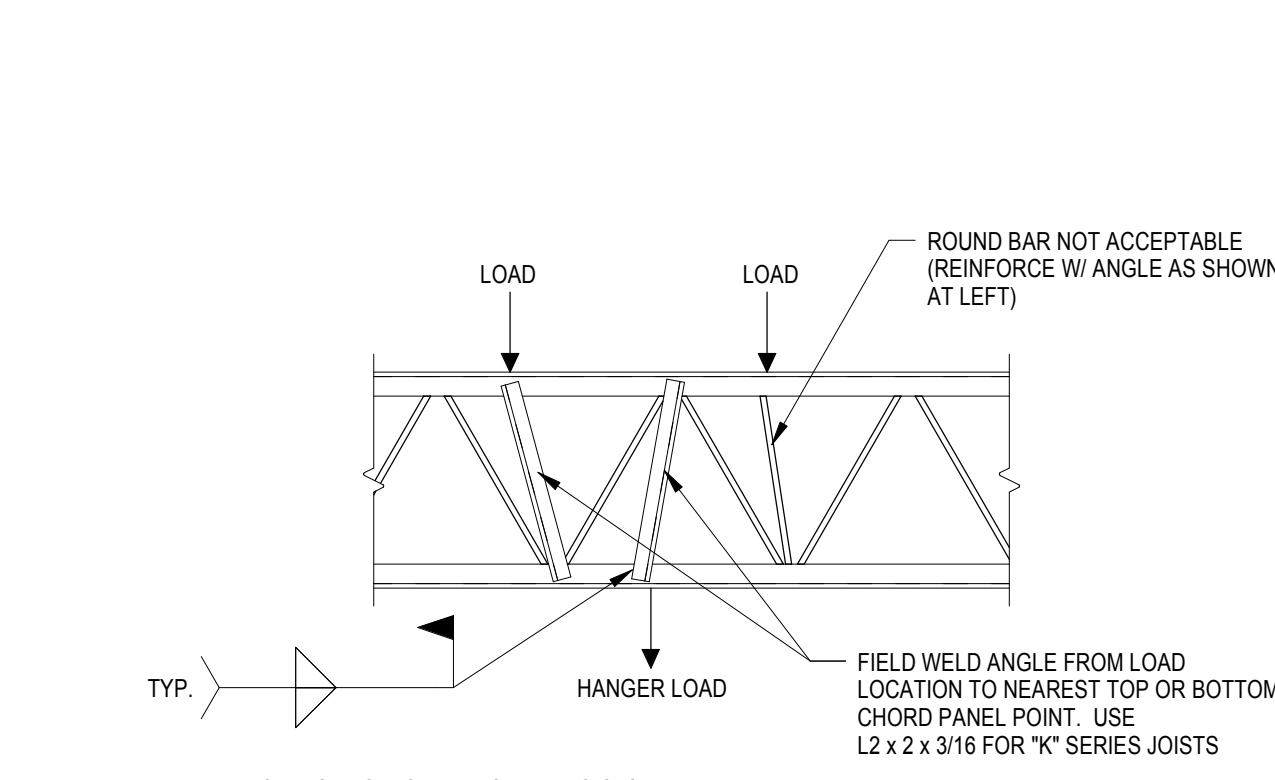
7 STAIR STRINGER AT STEEL CHANNEL

3/4" = 1'-0"



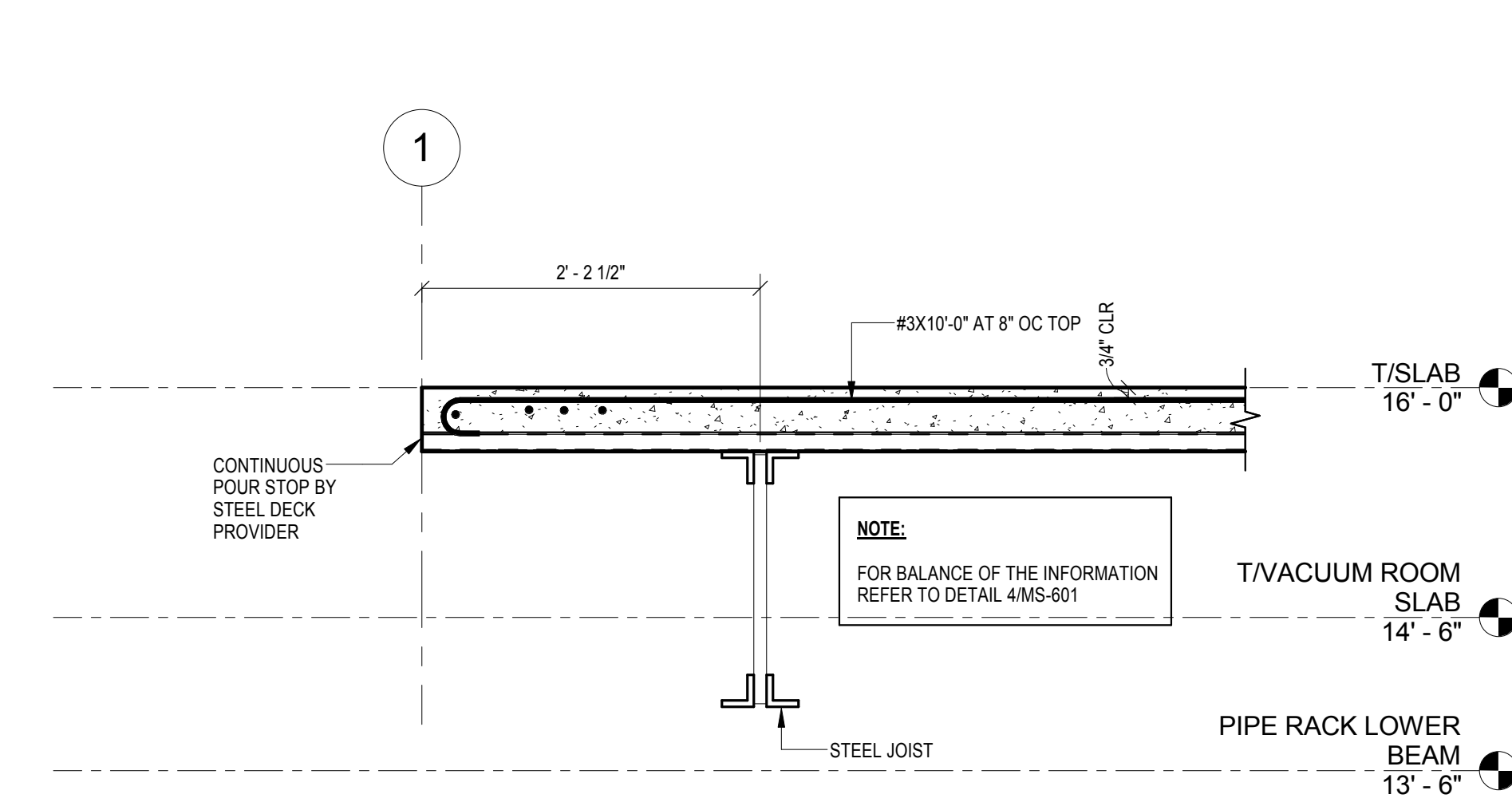
8 STAIR STRINGER AT STEEL JOIST

1" = 1'-0"



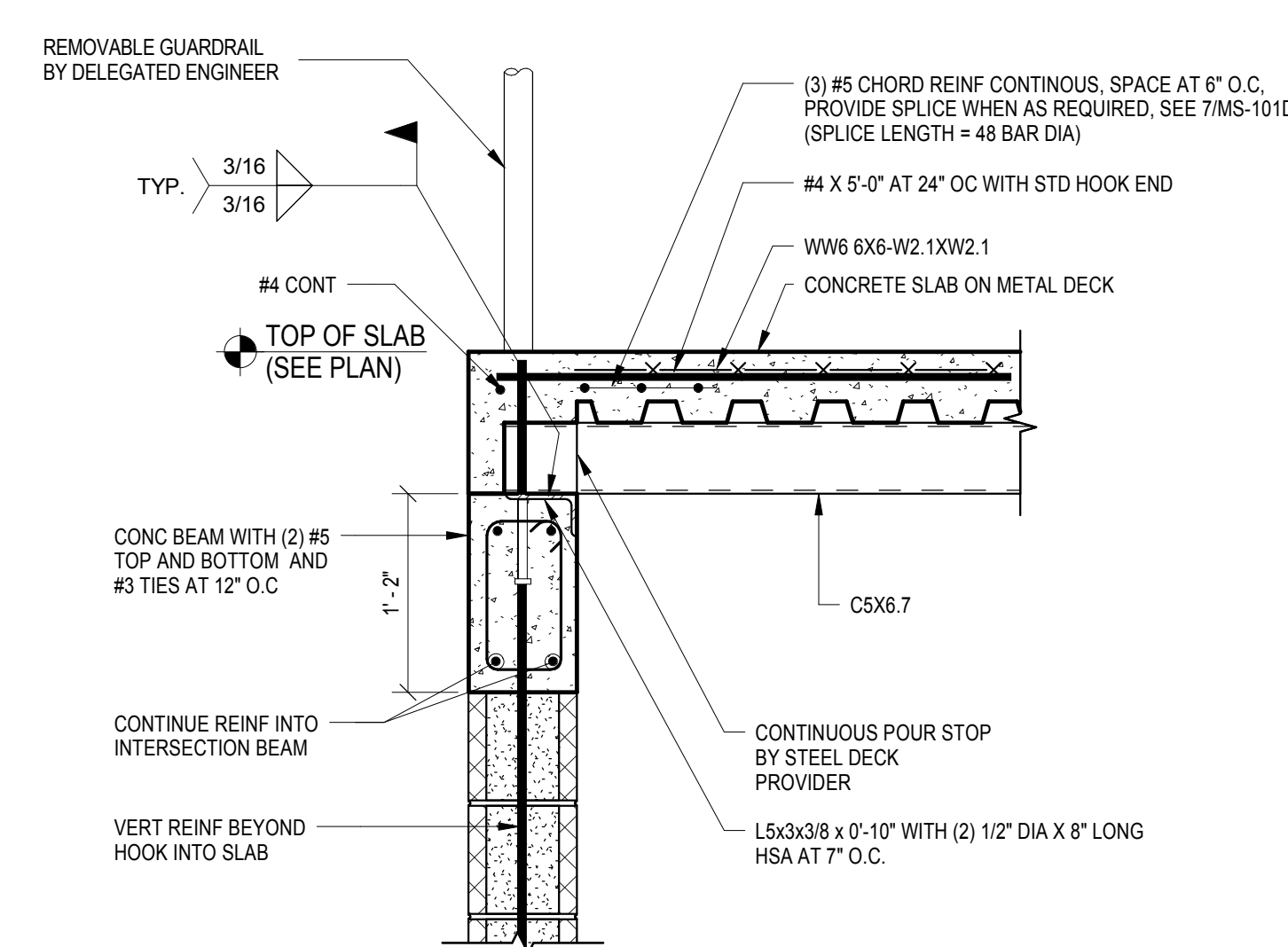
9 SECTION

3/4" = 1'-0"



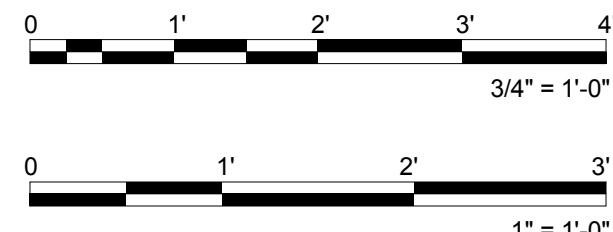
10 CANTILEVER SLAB

1" = 1'-0"

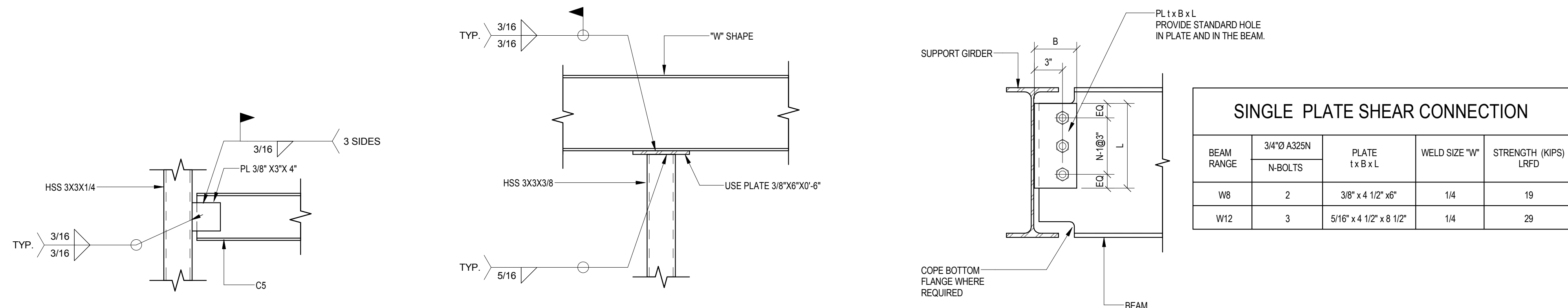


11 SECTION AT CMU WALL

1" = 1'-0"



E



1 CHANNEL TO HSS 3X3

1 1/2\"/>

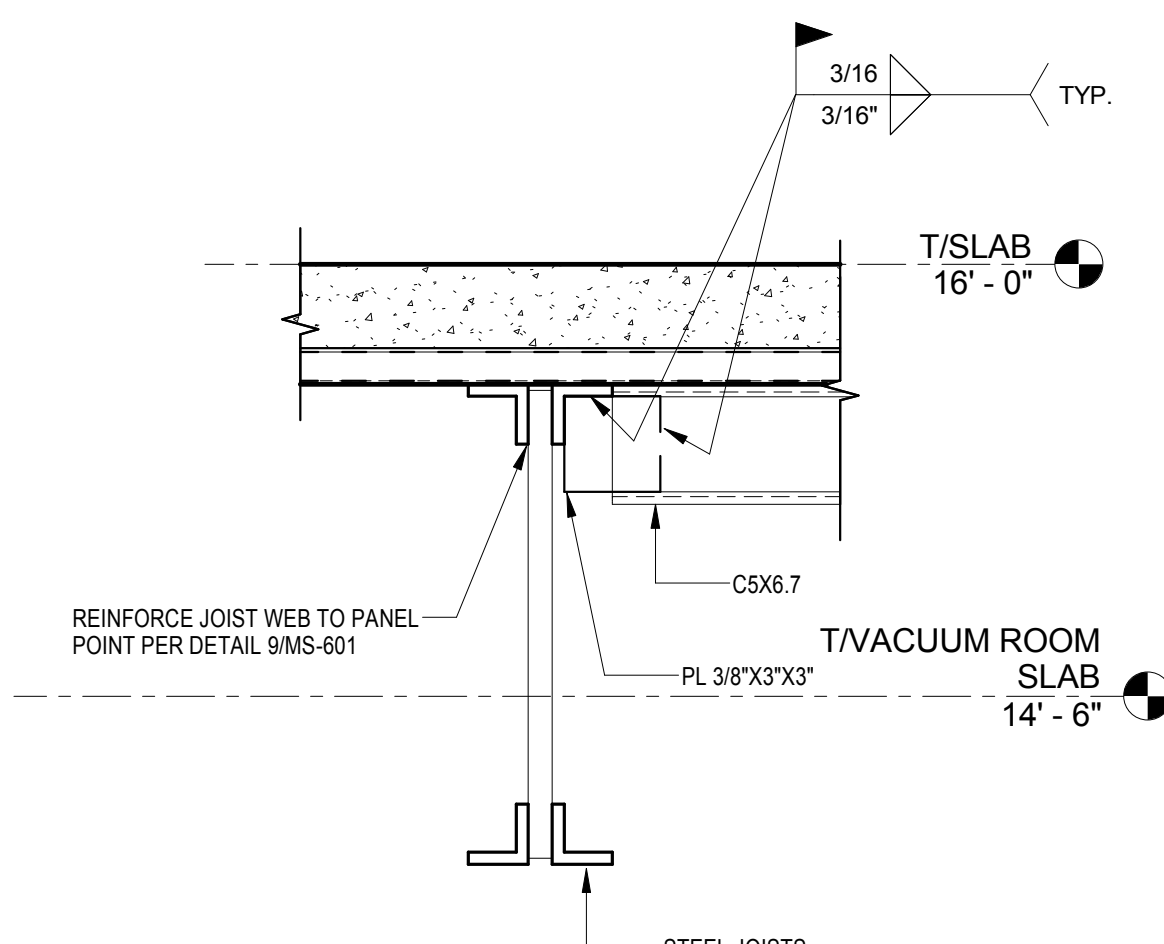
2 HSS 3X3 CONNECTION

1 1/2\"/>

3 BEAM TO GIRDER CONNECTION

1 1/2\"/>

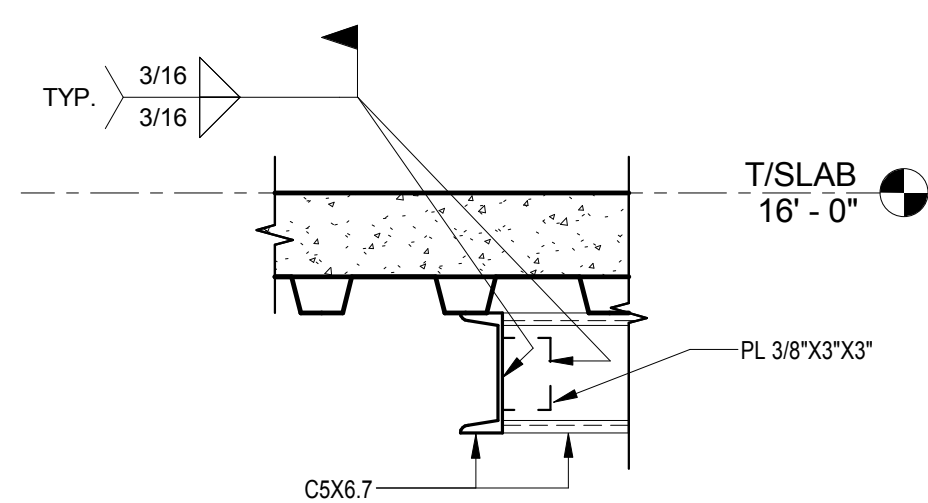
D



5 CHANNEL TO JOIST

1 1/2\"/>

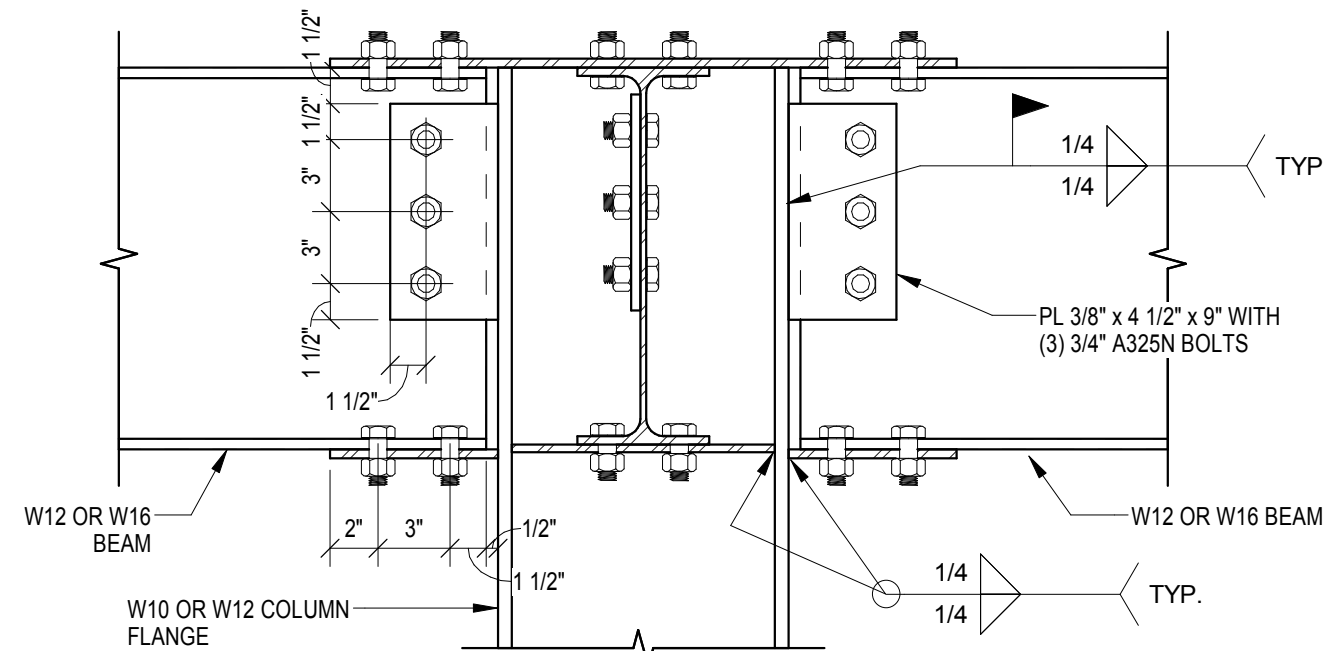
C



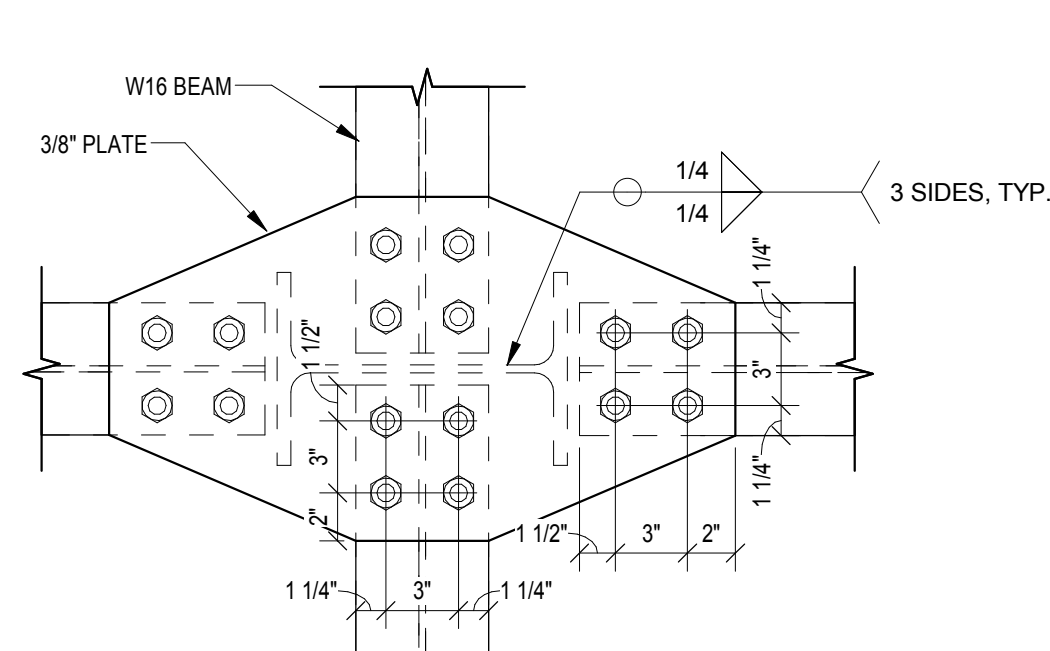
6 CHANNEL TO CHANNEL

1 1/2\"/>

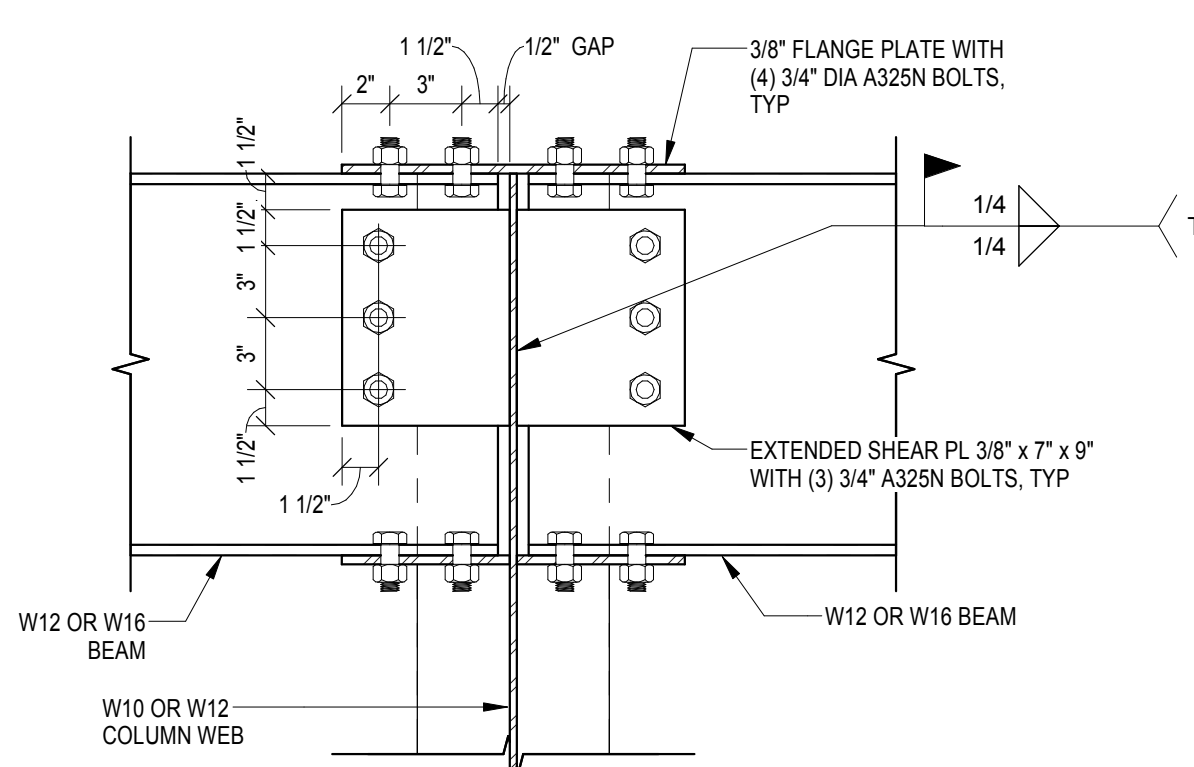
B



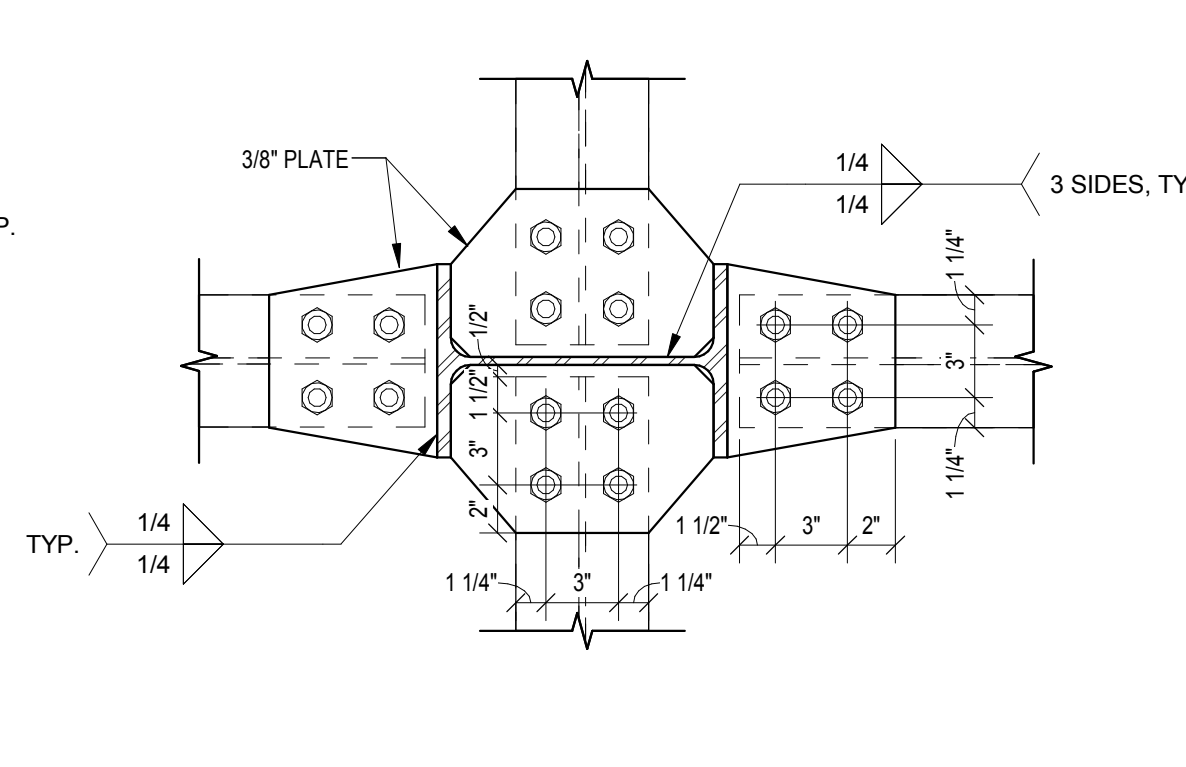
SECTION VIEW



TOP PLAN VIEW



SECTION VIEW



TOP PLAN VIEW

- NOTES:
- ALL BOLTED MOMENT AND AXIAL CONNECTIONS AT A MINIMUM SHALL HAVE PRETENSIONED BOLTS IN STANDARD HOLES AT FLANGES AND WEBS UON
 - BOLTED MOMENT CONNECTIONS AT CANTILEVERS AND BACKSPANS SHALL USE SLIP CRITICAL BOLTS

A

10 PIPE RACK MOMENT CONNECTION

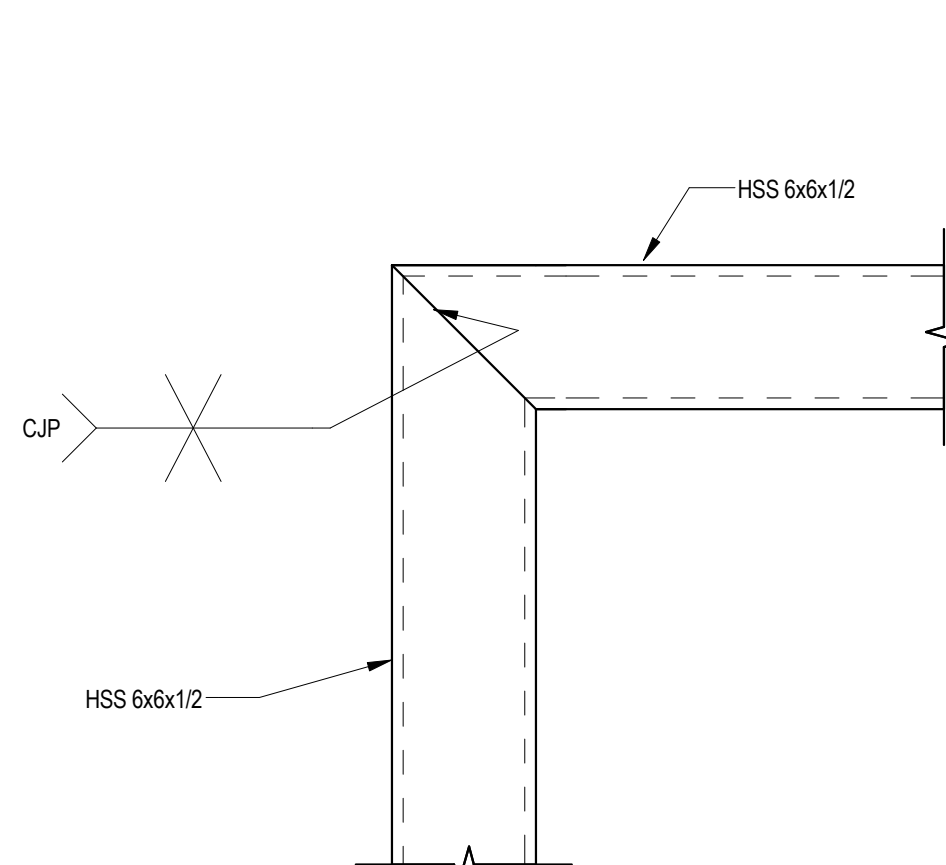
1 1/2\"/>

12 W16 TO CONCRETE BEAM

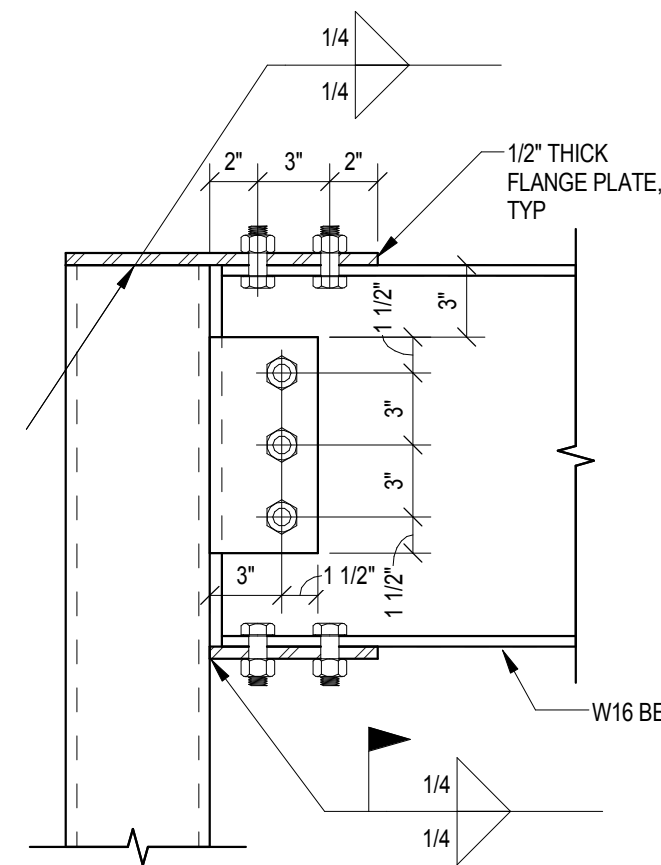
1 1/2\"/>

14 W6 TO CONC SLAB

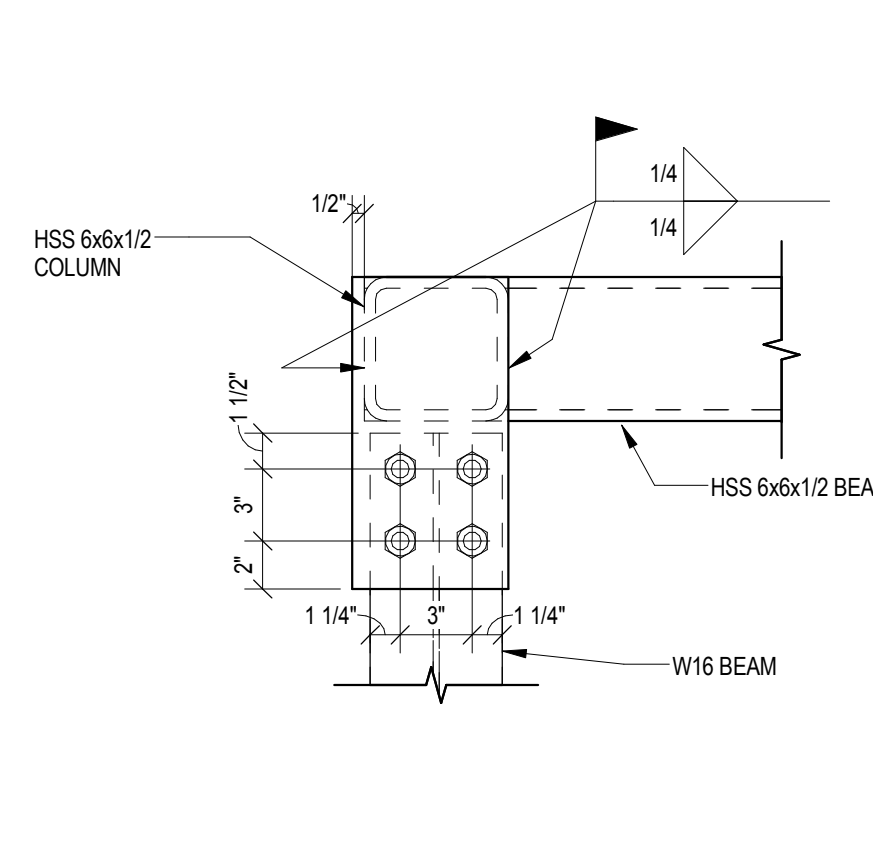
1 1/2\"/>



HSS TO HSS MOMENT CONNECTION



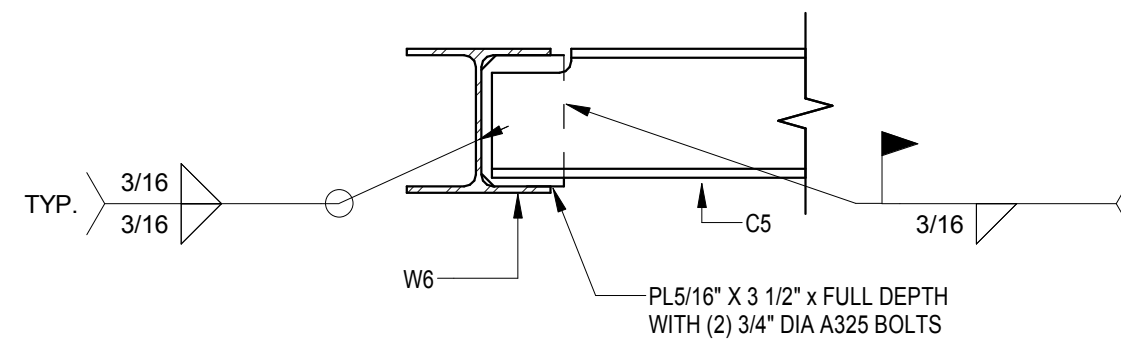
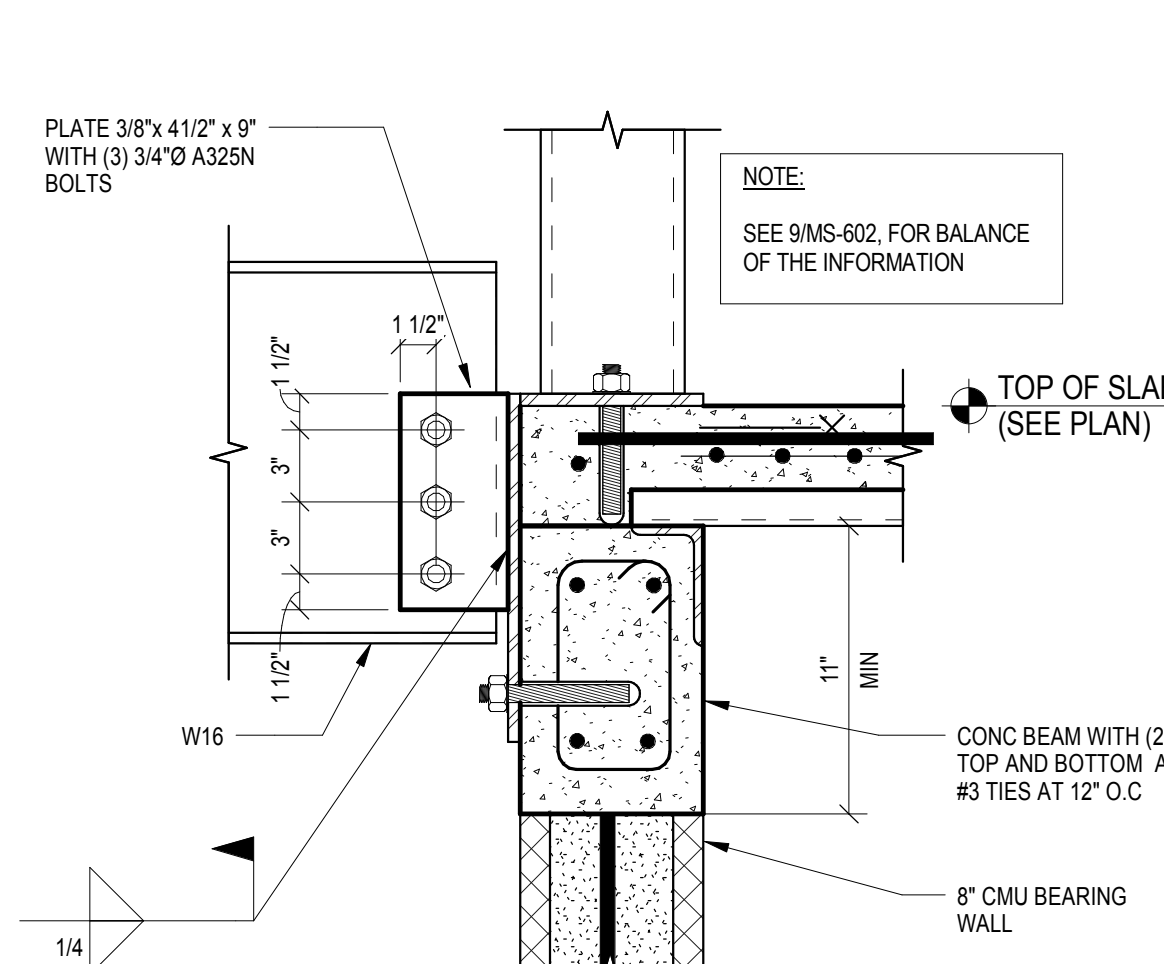
W16 TO HSS MOMENT CONNECTION SECTION VIEW



W16 TO HSS MOMENT CONNECTION PLAN VIEW

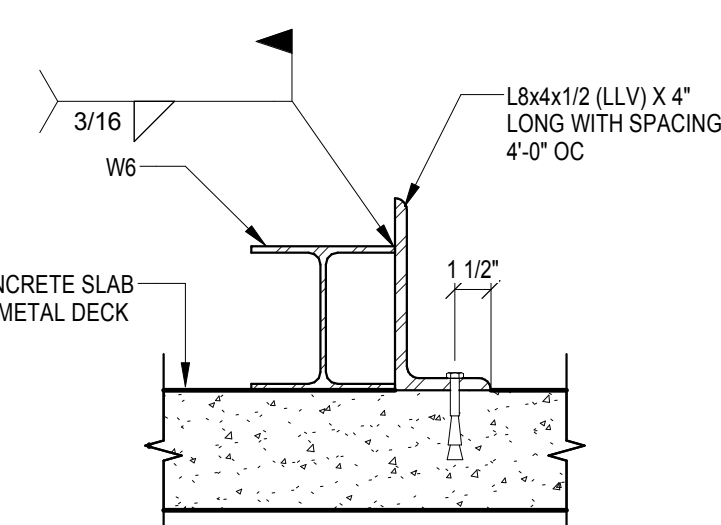
11 HSS 6x6 CONNECTION (COMPLETELY DESIGNED)

1 1/2\"/>



13 CHANNEL TO W SHAPE

1 1/2\"/>



0 1/2\"/>

Molding Building Code and Life Safety Code Review

PROJECT INFORMATION

New building construction for the manufacturing of paper products from bagasse pulp. The pulp is received from an adjacent pulp building. The primary space within this building is for molding presses used to produce the paper products. Secondary spaces support the molding process.

REVIEW QUALIFICATION

This review is based on Code interpretations by the author and includes Architectural Issues associated with the Building and Life Safety Codes. Note that no confirmation of the information herein has been obtained by the Review Agencies, which, as stated in the Codes, have the authority to direct more stringent requirements.

BASIC CODE DATA

Project Location and Governing Agency Jurisdiction
Belle Glade, Palm Beach County, Florida

APPLICABLE CODES

- 2014 Florida Building Code Fifth Edition (FBC).
- 2014 Florida Fire Prevention Code 5th Edition (FFPC).
- 2014 Florida Energy Conservation Code (FECC).
- 2014 Florida Mechanical Code (FMC).
- 2014 Florida Fuel Gas Code (FFGC).
- 2014 Florida Plumbing Code (FPC).
- 2008 National Electrical Code (NEC).

BUILDING TYPE DESCRIPTIONS, FBC 2014

Type II is construction in which the structural members including exterior walls, interior bearing walls, columns, beams girders, trusses, arches, floors and roofs are of non-combustible materials and are protected so as to have fire resistance not less than that specified for the structural elements as specified in Table 601. For exterior nonbearing partition requirements, see section 705.

FBC TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS

GROUP	TYPE OF CONSTRUCTION	
	HEIGHT (feet)	TYPE II B
B	STORIES	3
	AREA	23,000
F-1	STORIES	2
	AREA	15,500

- Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
- Building area limitations shown in square feet, as determined by the definition of "Area, building," per story.

UNLIMITED AREA BUILDINGS, FBC 507.4

Two story. The area of a Group **B, F, M** or **S** building no more than two stories above grade plane shall not be limited when the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and is surrounded and adjoined by public ways or yards not less than 60 feet in width.

FBC TABLE 503
BUILDING CLASSIFICATION AND BUILDING TYPE SUMMARY

Building Level	Occupancy Description	Building Canopy (SF)	Total Area (SF)	FBC Occupancy	Area Increase	Construction Type	Sprinkled
Molding Building	(B) Business (F-1) Factory Moderate Hazard	612	69,772	B F-1	Unlimited Per FBC 507.4	Type II B	Yes

OCCUPANCY SEPARATION

- Mixed Occupancy:
1. Offices and Testing Laboratories: Business Occupancy, (B) FBC Section 304.
 2. Paper mills or Products: Factory Moderate Hazard Occupancy (F-1) FBC Section 306.2.

FIRE RESISTANCE SEPARATION BY OCCUPANCY, FBC TABLE 508.4

- B (Business) – F1 (Factory Industrial) - sprinkled, None required.

FBC TABLE 509
INCIDENTAL ACCESSORY OCCUPANCIES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic fire-extinguishing system

509.3 Area limitations. Aggregate accessory occupancies shall not occupy more than 10 percent of the building area of the story in which they are located.

FBC TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (hours)

BUILDING ELEMENT	TYPE II B
Primary structural frame (see Section 202)	0
Bearing walls Exterior Interior	0 0
Nonbearing walls and partitions Exterior	See Table 602
Nonbearing walls and partitions Interior	0
Floor construction and secondary members (see Section 202)	0
Roof construction and secondary members (see Section 202)	0

PROTECTION OF EXTERIOR OPENINGS

Allowable Building Separation, Wall Ratings and Percent of Opening: (FBC Table 601 and 602) Construction Type II-B

1. Exterior walls not required to be rated per Table 602.
2. Exterior opening protection not required.

FIRE PROTECTION

FBC Table 1018.1 Corridors in occupancy groups A, B, E, F, M, S, and U are not required to be rated if the building is equipped with a sprinkler system.

FIRE ALARM AND DETECTION SYSTEMS

Fire Alarm system required per FBC 907.2.4

Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system and the alarm notification appliances will activate upon sprinkler water flow.

FIRE SPRINKLER PROTECTION

Fire sprinkler protection shall be designed for all buildings that are referenced. The systems shall be designed to be an approved fire sprinkler system in accordance with NFPA and the Florida Building Code.

Automatic Sprinkler System) required for unlimited area buildings.

PORTABLE FIRE EXTINGUISHERS AND SPECIAL REQUIREMENTS

FBC 906 and Table 906.3(1) - Portable fire extinguishers shall be installed as follows:

- A. Ordinary Hazard: Minimum 4-A rated single extinguisher, maximum 11,250 sf coverage per extinguisher, 75' maximum travel distance to extinguisher. Maximum mounting height 48" AFF.

Sources of ignition shall not be located within 18 inches of the floor.

Ventilation shall be provided per the requirements of the adopted Mechanical Code.

OPENING PROTECTION

Through penetrations of fire rated walls shall comply with FBC 714 with exceptions.

INTERIOR WALLS OPENING PROTECTION

Fire Door and Fire Shutter Fire Protection Ratings FBC Table 716.5

FBC TABLE 803.9
INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY

GROUP	SPRINKLERED		
	Exit enclosures and exit passageways	Corridors	Rooms and enclosed spaces
F	C	C	C

FBC TABLE 1004.1.1

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Assembly without fixed seats Concentrated (chairs only—not fixed) Standing space Unconcentrated (tables and chairs)	7 net 5 net 15 net
Business areas	100 gross
Kitchens, commercial	200 gross

MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

EGRESS

1. Door Swing, NFPA 7.2.1.4.3, Doors used as an exit enclosure should swing in the direction of travel.
2. Exit doors with 100 or more occupants to have panic devices, NFPA 12.2.2.2.3.
3. Main entry of assembly occupancy to handle 1/2 of the total occupants. When entry is not well defined the exits may be distributed, NFPA 12.2.3.6.4 (2)
4. Every room shall have one means of egress. Rooms with occupant load of 50 or more or one with a travel distance from the most remote point to the entrance to the exit access exceeds 75 feet shall have not less than two exits. FBC Table 1019.2.
5. Emergency rescue openings not required in sprinkled buildings or those where room or space has a door leading directly to the outside.
6. Allowed Door Encroachment, FBC 1005.7 and NFPA 7.2.14.3. Doors opening into the path of egress travel shall not reduce the required width to less than one-half during the course of the swing, when fully open. The door shall not project more than 7 inches into the required width.

EGRESS REQUIREMENTS:

Exit Capacity, FBC Table 1005.1
0.2 inches per person for Doors, Corridors, and Ramps
0.3 inches per person for Stairs

Maximum Travel Distance FBC Table 1016.2
250 Feet - Sprinkled Factory Industrial Occupancy

Common Path of Travel (FBC 1014.3): Sprinkled, Maximum 100'

Maximum Dead End Corridor FBC 1018.4
50 Feet for Business
50 Feet for Factory

Minimum Corridor Width FBC 1018.2
24" Access to Electrical, Mechanical or Plumbing
36" Occupant Capacity of less than 50
44" Minimum or as determined by Section 1005.1

Minimum Door Width FBC 1008.1.1.
32" Minimum Clear Width

Ceiling Height FBC 1003.2
7'-6" Minimum means of egress

Ramps
44" Minimum Width
1:12 Maximum Slope
60" Minimum, Ramp Landing Depth Match Ramp Width

PLUMBING FIXTURES

Occupancy	Water Closets		Lavatories		Drinking Fountains	Service Sinks
	Male	Female	Male	Female	1/400	1
Factory/Industrial	1/100	1/100	1/100	1/100	1/400	1

BUILDING ENVELOPE THERMAL VALUES

ENVELOPE COMPONENT	THERMAL VALUE	
<u>ROOF</u> Roof Type: Batt Insulation Below Deck	<u>U-Factor</u>	<u>R-Value</u> 30.0
<u>WALLS</u> Wall Type: Metal Panel W/Batt Insulation	<u>U-Factor</u>	<u>R-Value</u> 19.0
<u>FLOORS</u> Floor Type: Slab-On-Grade, Unheated	<u>U-Factor</u>	<u>R-Value</u> NR
<u>OPAQUE DOORS</u> Door Type: Swinging	<u>U-Factor</u> .70	<u>R-Value</u>
<u>FENESTRATION</u> Vertical Glazing Type: Insulated Glass, Low-E Skylight Type: Skylight with Curb, Acrylic	<u>U-Factor</u> 1.5 0.59	<u>SHGC</u> 0.13 0.45

NOTES:

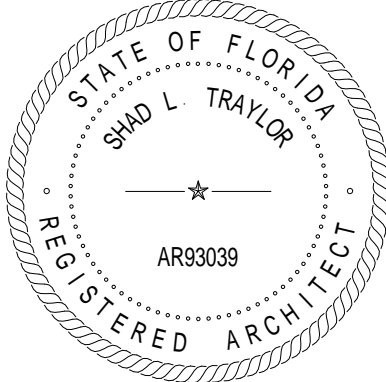
1. All exterior joints in the building envelope shall be sealed, caulked, gasketed, or weather-stripped to minimize air leakage.
2. Dropped ceiling cavities shall be sealed and insulated.
3. Air leakage for exterior doors and windows shall not exceed 1.0 CFM/SF for glazed swinging entry doors and 0.4 CFM/SF for all other products. All products shall be labeled and certified by the manufacturer.

Architects, Engineers, Constructors
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Melbourne | Florida | 32940
321-254-7666 | 321-259-4703 f

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ISSUE ISSUE FOR CONSTRUCTION

REVISION 



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ARCHITECT OF RECORD
SHAD L. TRAYLOR
AR93039
DESIGNED BY
BRPH
DRAWN BY
SCHRAGE
CHECKED BY
TRAYLOR
PROJECT NUMBER
C07111.004

DATE
01/30/17
TITLE

CODE SUMMARY

DRAWING NO.

MAL-001

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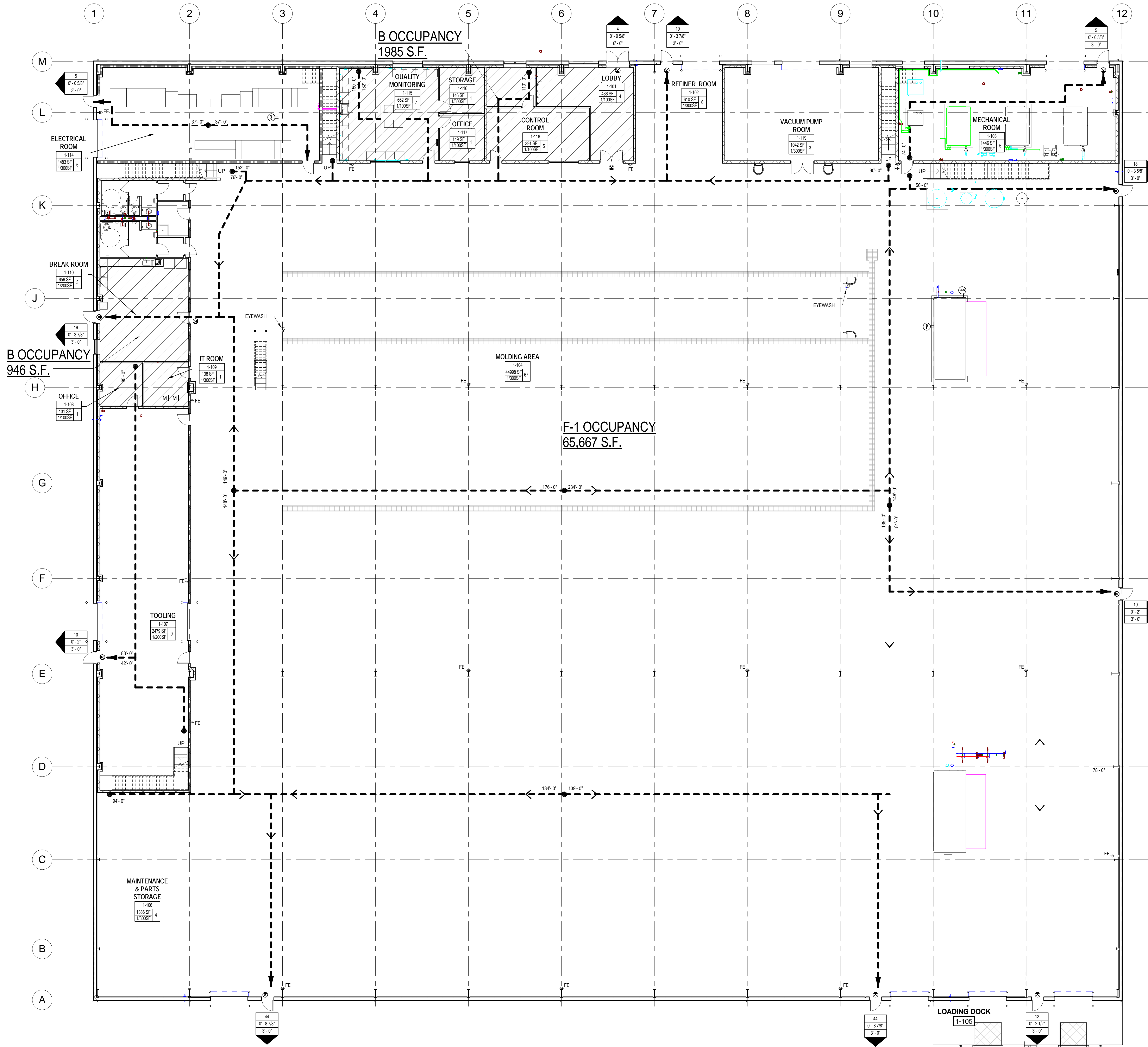
E

D

C

B

A



LIFE SAFETY LEGEND

LIFE SAFETY ROOM TAG

ROOM NAME	ROOM NAME
ROOM NUMBER	101
ROOM AREA	Area ??
OCCUPANT LOAD FACTOR	17778F
NUMBER OF OCCUPANTS	

LIFE SAFETY EXIT TAG

EXIT CAPACITY REQUIRED	50
EXIT WIDTH REQUIRED	0'-0"
EXIT WIDTH PROVIDED	1'-0"

EGRESS ROUTE

SEGMENT LENGTH	30'-0"
EGRESS PATH ORIGIN	
EGRESS PATH EXIT	

FIRE RATED PARTITION

1 HOUR SEPARATION ASSEMBLY OR FIRE PARTITION	
--	--

FIRE PROTECTION

FIRE EXTINGUISHER, BRACKET-MOUNTED	FE
------------------------------------	----

EMERGENCY EQUIPMENT

EYE WASH	
----------	--

EMERGENCY SYSTEMS

EXIT LIGHT	⊗ ⊗ ⊗ ⊗
------------	---------

HORN ANNUNCIATOR

	▽
--	---

SPEAKER ANNUNCIATOR

	□
--	---

STROBE ANNUNCIATOR

	⊗
--	---

SMOKE DETECTOR

	⊙
--	---



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ISSUE

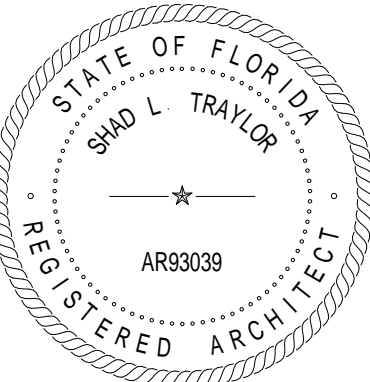
ISSUE FOR CONSTRUCTION

REVISION

△

lemartec

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AR93039

DESIGNED BY

BRPH

DRAWN BY

SCHRAGE

CHECKED BY

TRAYLOR

PROJECT NUMBER

C07111.004

DATE

01/30/17

TITLE

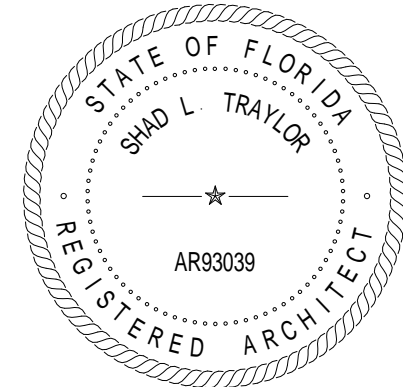
FIRST FLOOR

LIFE SAFETY

PLAN

DRAWING NO.

MAL-101



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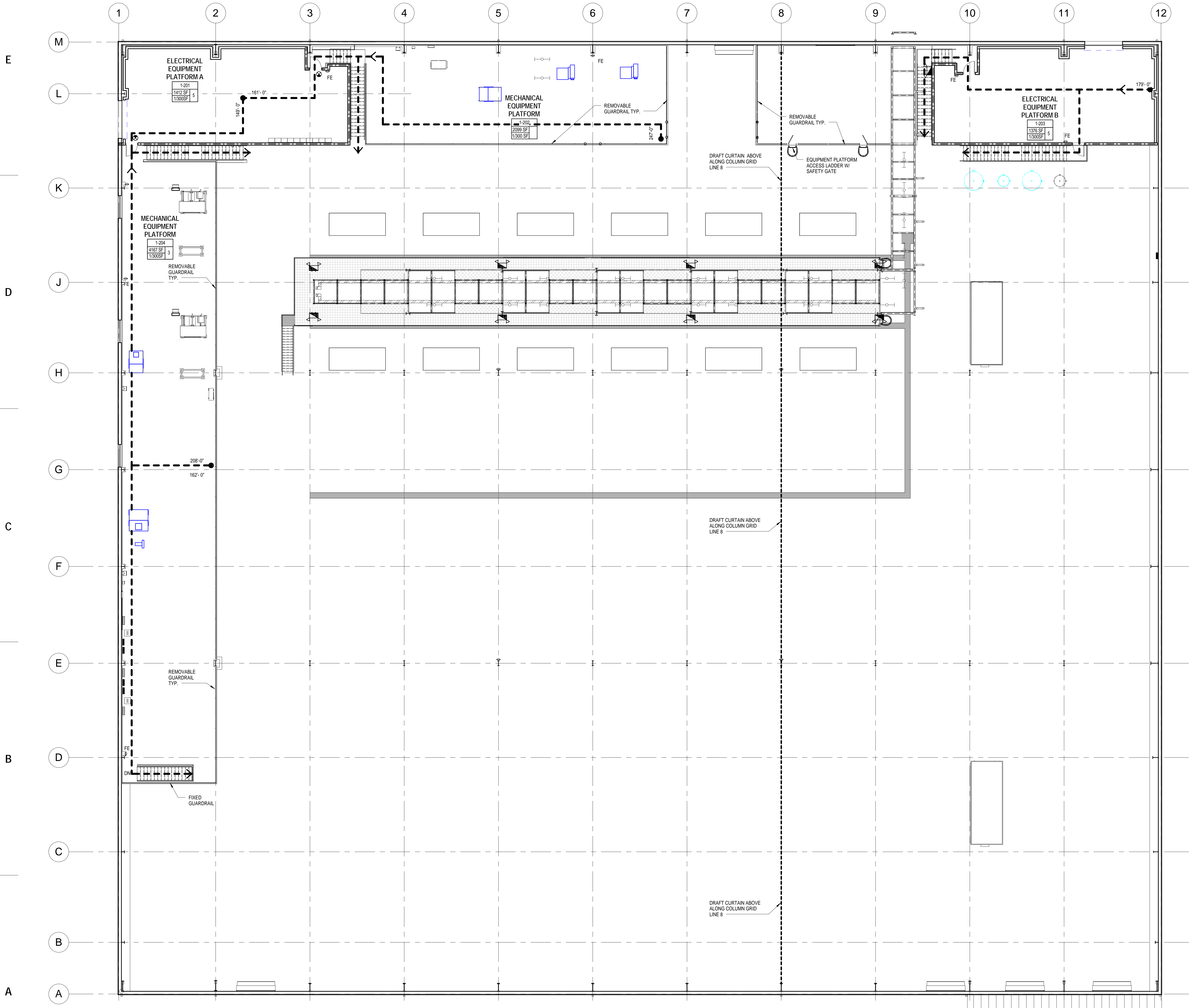
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DATE
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TITLE

EQUIPMENT
PLATFORM LIFE
SAFETY PLAN

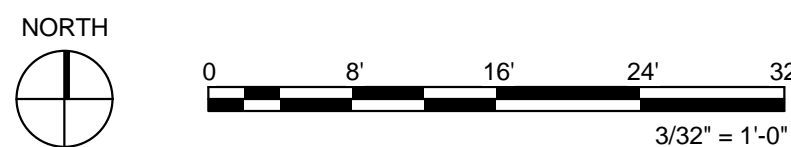
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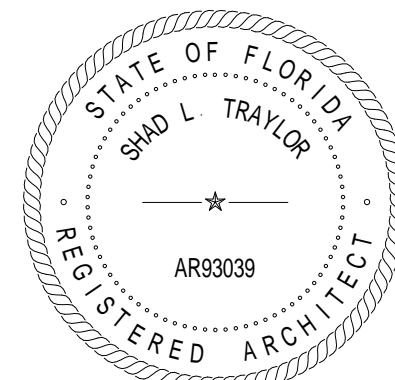
MAL-102

LIFE SAFETY LEGEND	
LIFE SAFETY ROOM TAG	
ROOM NAME	ROOM NAME
ROOM NUMBER	101
ROOM AREA	Area 1777SF
OCCUPANT LOAD FACTOR	1777SF
NUMBER OF OCCUPANTS	1777SF
LIFE SAFETY EXIT TAG	
EXIT CAPACITY REQUIRED	50
EXIT WIDTH REQUIRED	0' - 10"
EXIT WIDTH PROVIDED	1' - 0"
EGRESS ROUTE	
SEGMENT LENGTH	30'-0"
EGRESS PATH ORIGIN	
EGRESS PATH EXIT	
FIRE RATED PARTITION	
1 HOUR SEPARATION ASSEMBLY OR FIRE PARTITION	
FIRE PROTECTION	
FIRE EXTINGUISHER, BRACKET-MOUNTED	FE
EMERGENCY EQUIPMENT	
EYE WASH	
EMERGENCY SYSTEMS	
EXIT LIGHT	
HORN ANNUNCIATOR	
SPEAKER ANNUNCIATOR	
STROBE ANNUNCIATOR	
SMOKE DETECTOR	



1 EQUIPMENT PLATFORM LIFE SAFETY PLAN
3/32" = 1'-0"





GENERAL NOTES:
1. SEE SHEET MA-401 FOR ENLARGED PLAN
DIMENSIONS AND WALL TYPES.
2. SEE STRUCTURAL FOR CONCRETE SLAB
SLOPES AND DIMENSIONS.

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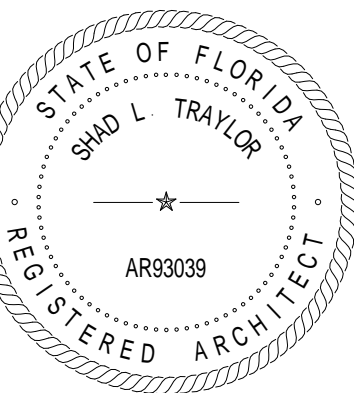
1 FIRST FLOOR PLAN
3/32" = 1'-0"

LEMARTEC AND VARCO PRUDEN ARE SOLELY
RESPONSIBLE FOR ALL PRE-ENGINEERED METAL
BUILDING EXTERIOR ENVELOPE DETAILS (ROOF AND
WALLS) TO ENSURE A WEATHER TIGHT BUILDING. DETAILS
AND CONDITIONS INCLUDE BUT NOT LIMITED TO GUTTERS,
DOWNSPOUTS, SKYLIGHTS, DOOR, WINDOW, ROOF/WALL
PENETRATIONS, AND ATTACHMENTS TO WALLS/ROOF
INTERIOR OR EXTERIOR.



0 8' 16' 24' 32'
3/32" = 1'-0"

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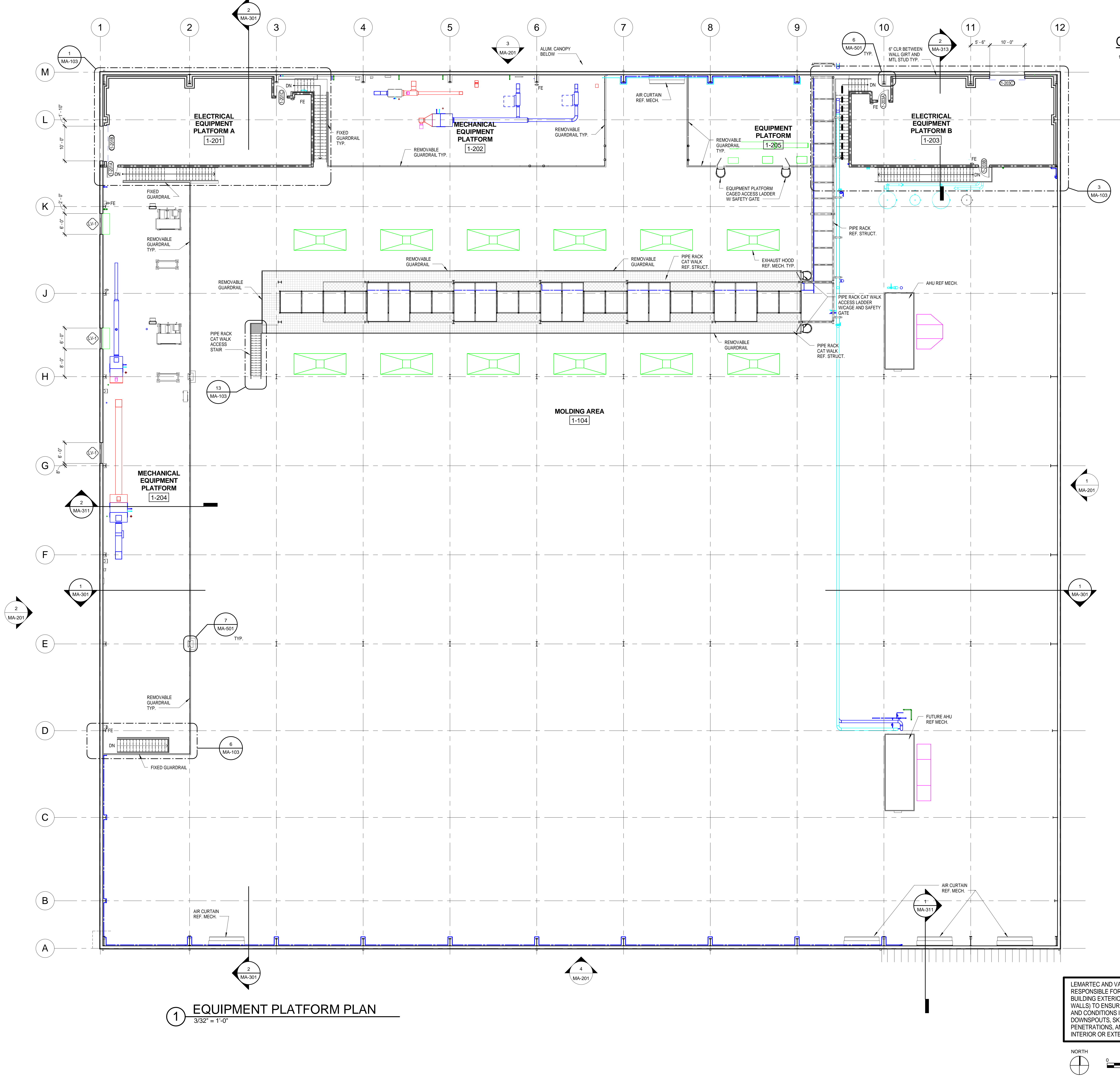
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TITLE
EQUIPMENT PLATFORM PLAN

DRAWING NO.

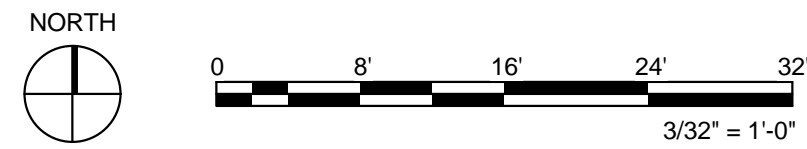
MA-102

GENERAL NOTES:

- SEE SHEET MA-103 ENLARGED PLANS FOR DIMENSIONS AND WALL TYPES



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PENETRATIONS, AND ATTACHMENTS TO WALLS/ROOF
INTERIOR OR EXTERIOR.



1 EQUIPMENT PLATFORM PLAN
3/32" = 1'-0"

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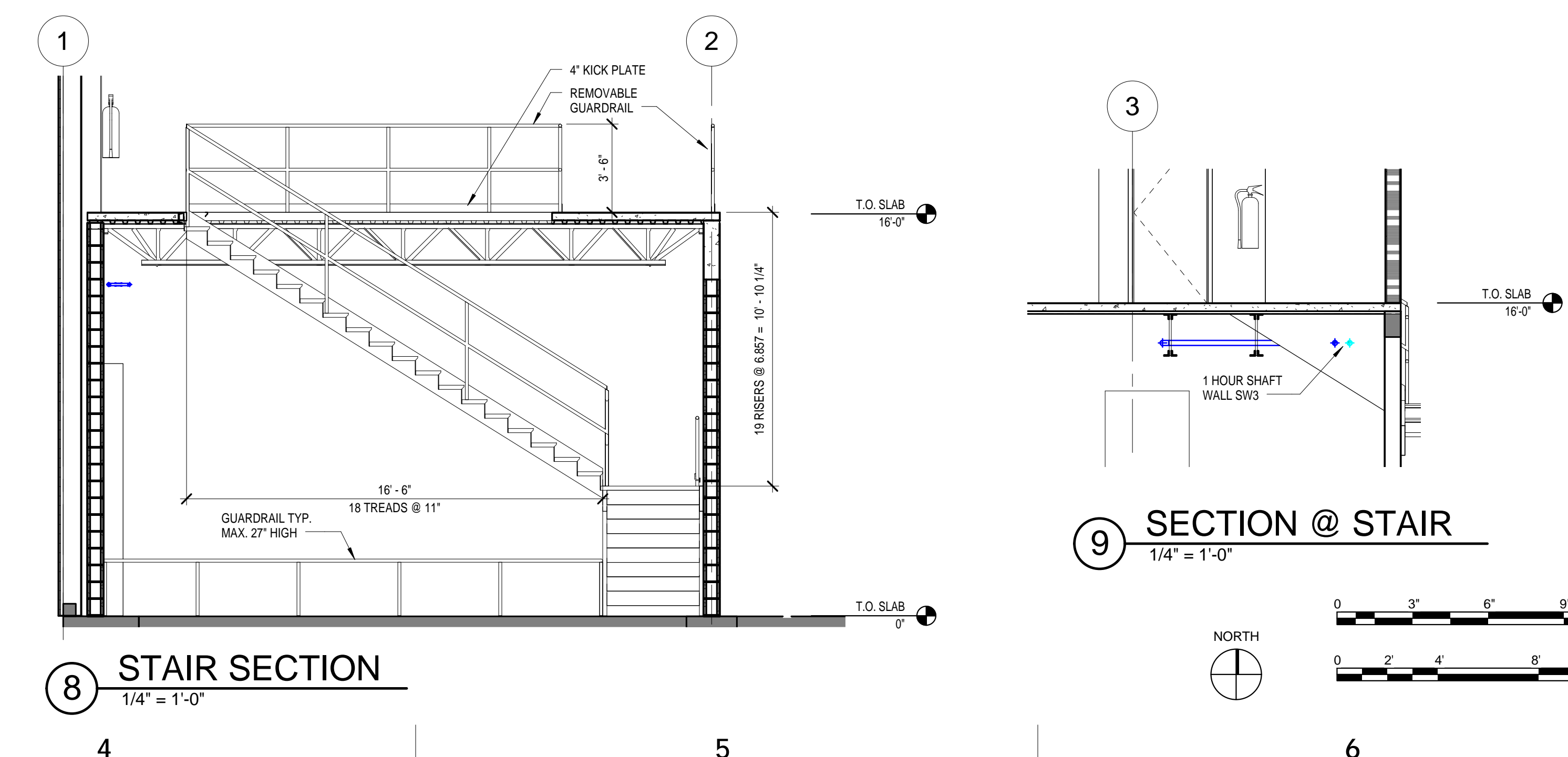
2

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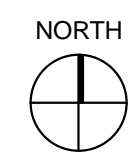
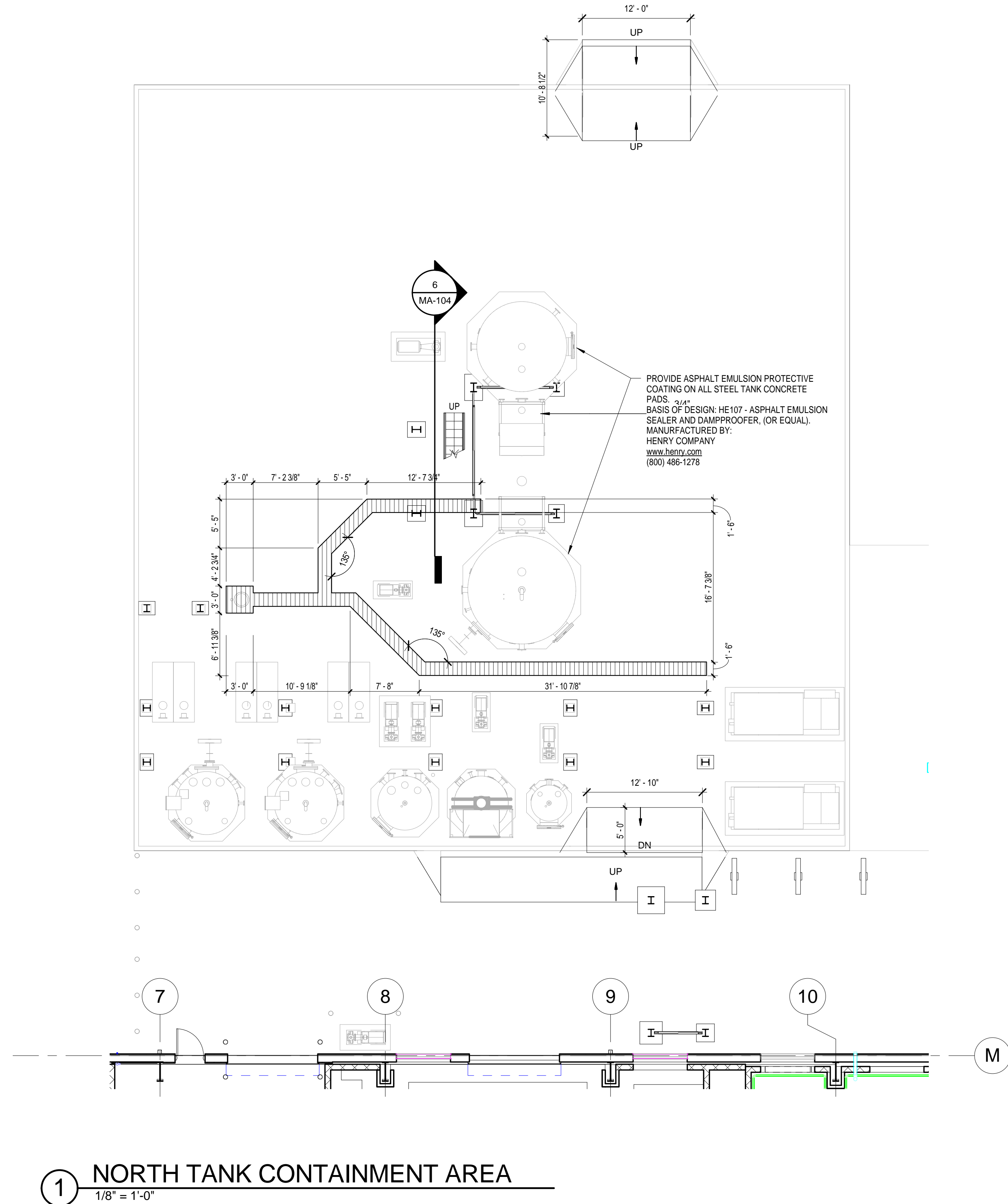
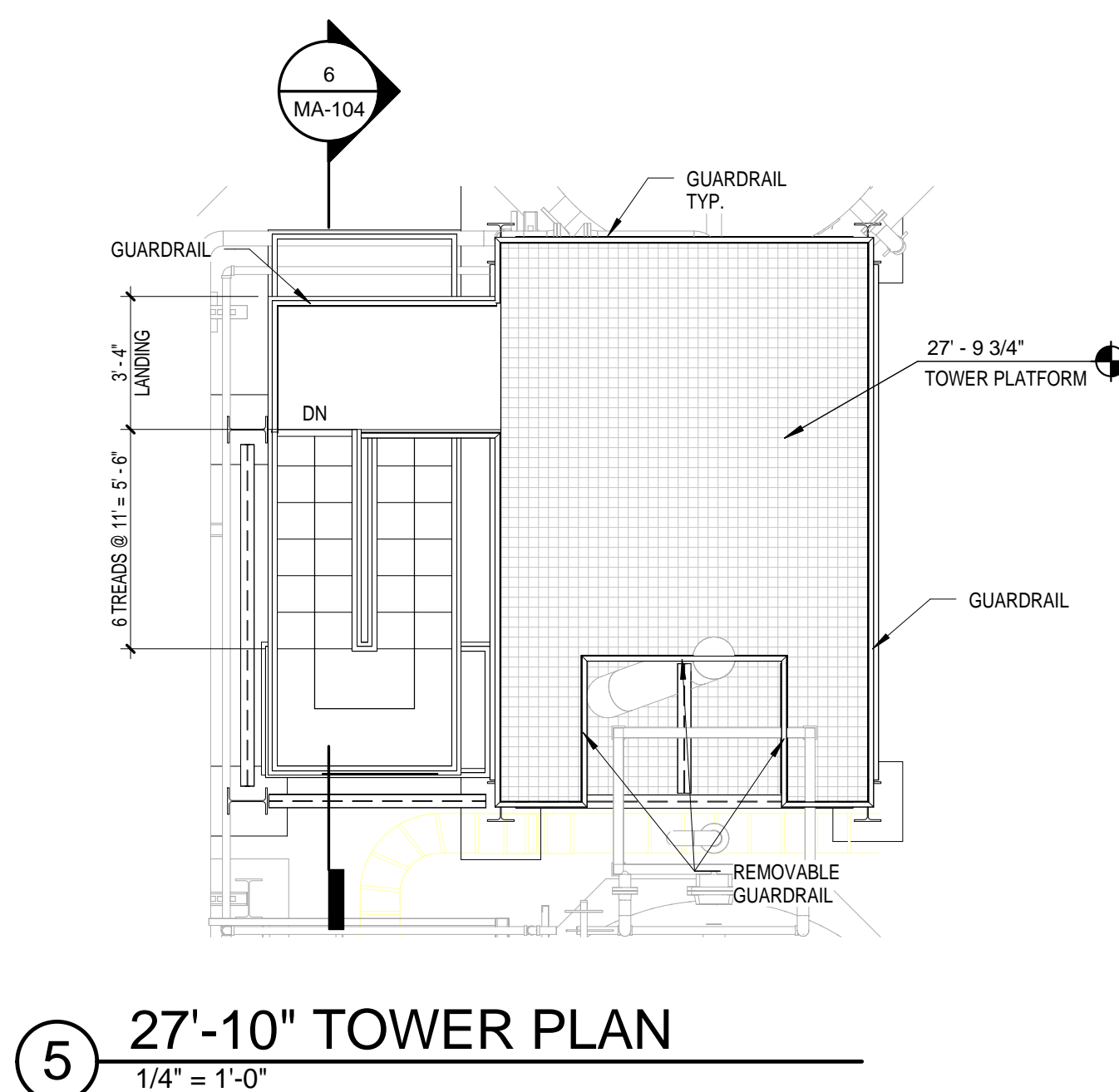
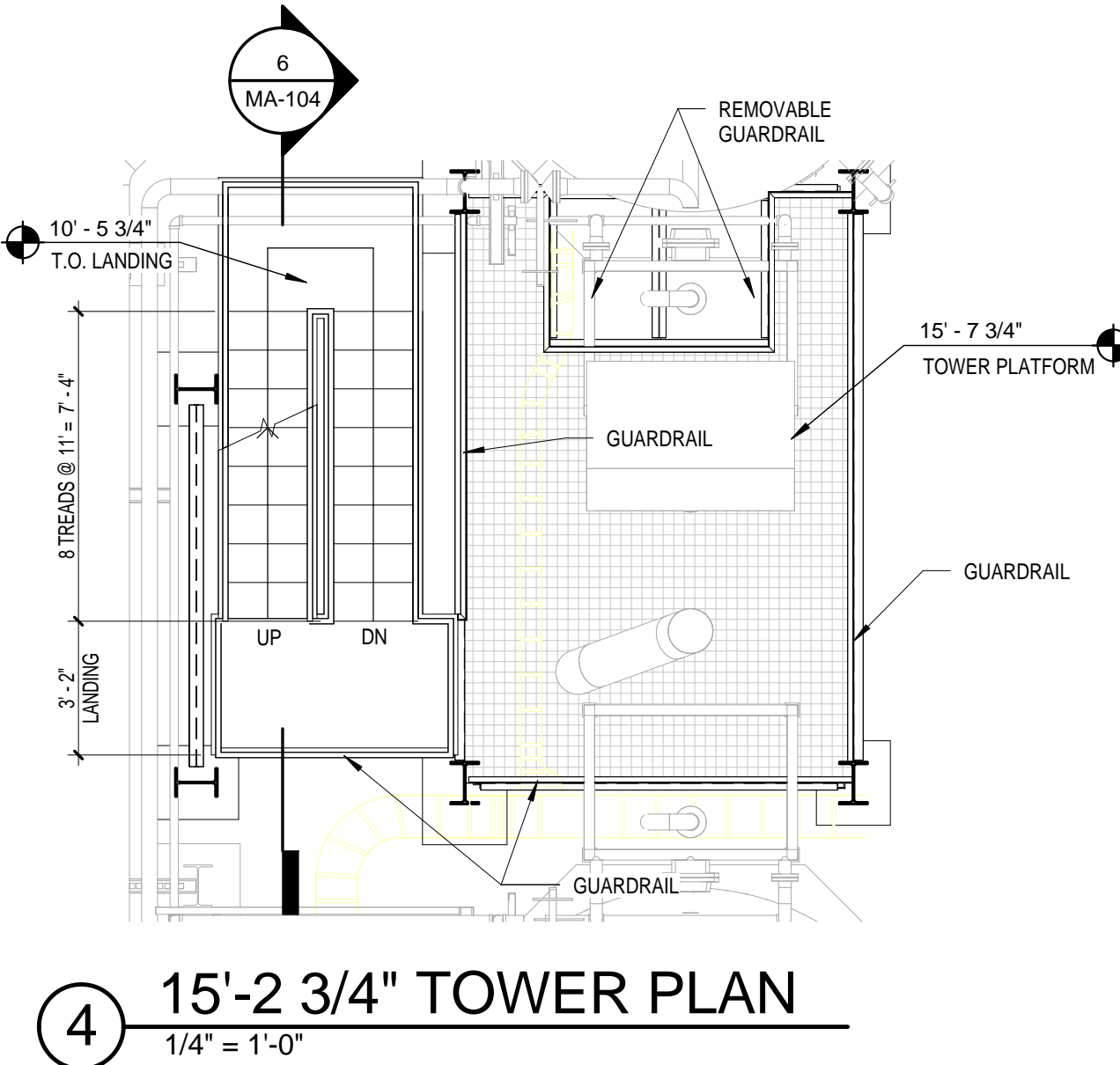
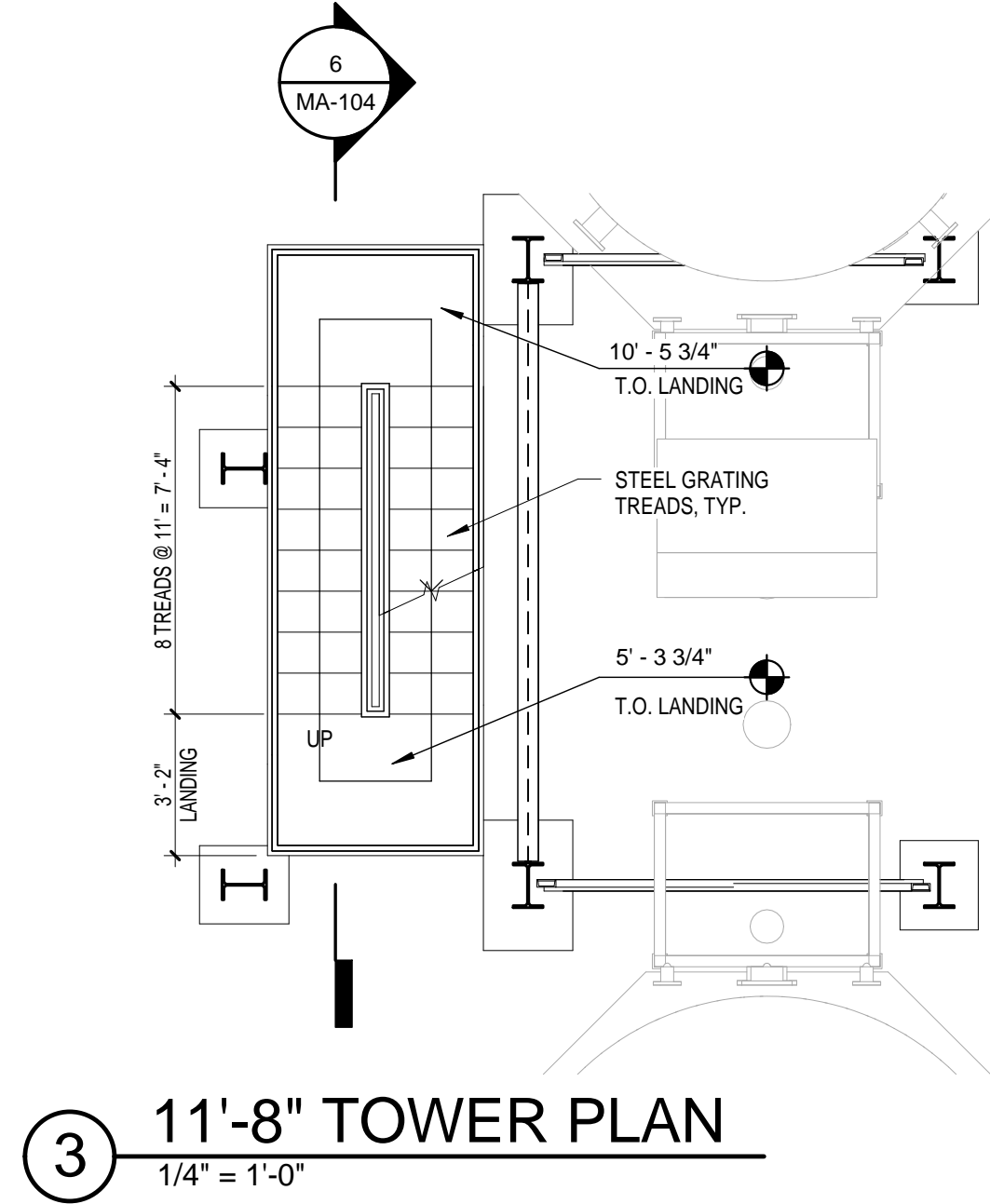
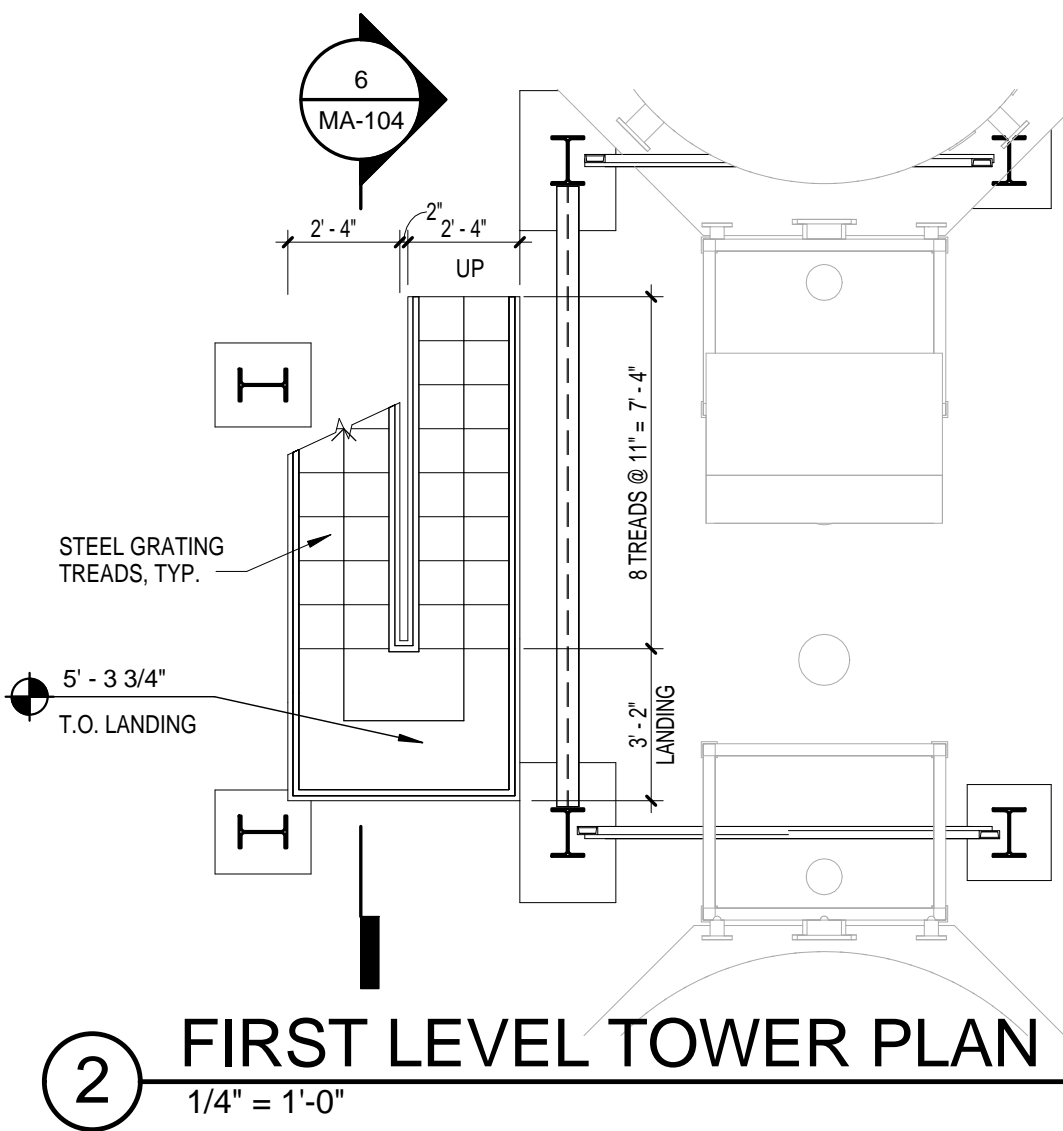
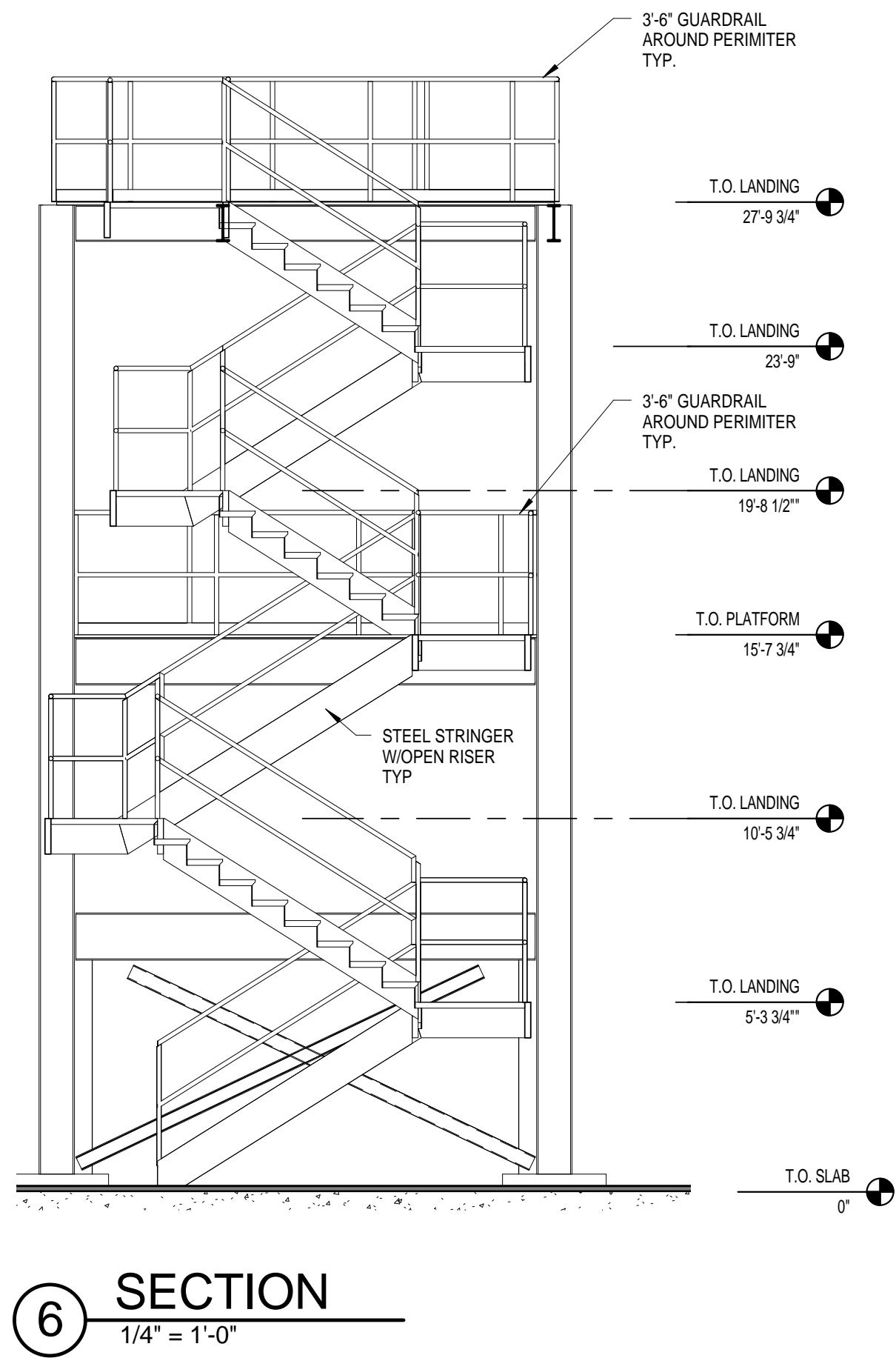
E

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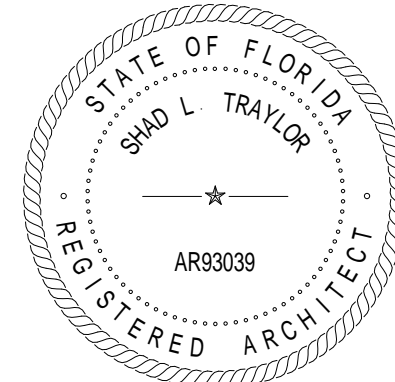
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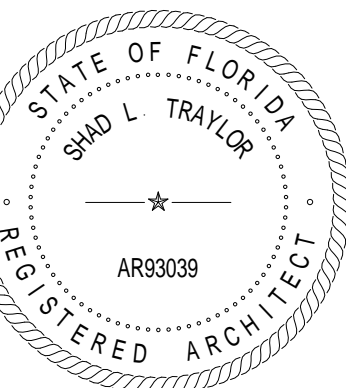
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A



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AR93039

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BRPH

DRAWN BY

SCHRAGE

CHECKED BY

TRAYLOR

PROJECT NUMBER

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DATE

01/30/17

TITLE

FIRST FLOOR

CEILING PLAN

DRAWING NO.

MA-121

E

D

C

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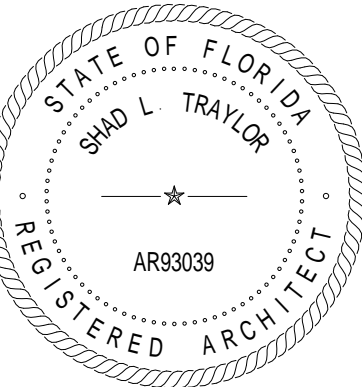
1 FIRST FLOOR CEILING PLAN
3/32" = 1'-0"

LOADING DOCK
1-105
MTL. SOFFIT @ 9'-4" AFF

NORTH

0 8' 16' 24' 32'
3/32" = 1'-0"

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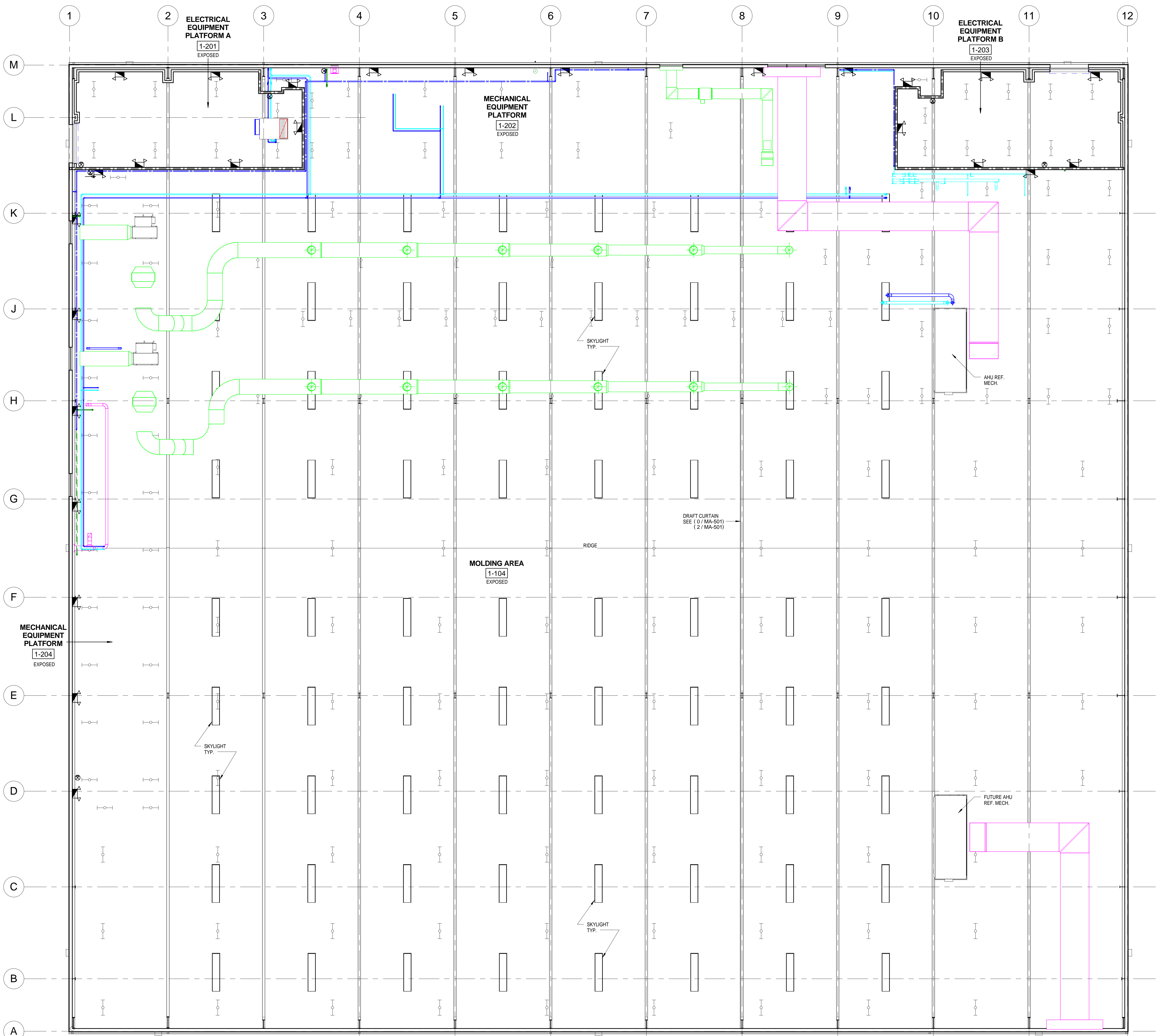
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DATE
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TITLE
UPPER LEVEL
CEILING PLAN

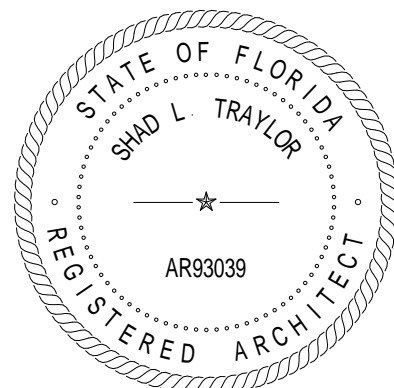
DRAWING NO.

MA-122

CEILING LEGEND	
SYMBOL	DESCRIPTION
ACP	CEILING TYPE
10'-0"	CEILING HEIGHT
NOTES:	
1. SEE MECHANICAL/ELECTRICAL DRAWINGS FOR SPECIFICATIONS OF DEVICES TO BE PROVIDED	
2. CEILING FINISHES SHALL INCLUDE ALL PROJECTIONS, BEAMS, BOXED ENCLOSURES AND BULKHEADS.	
	HIGH BAY LED LIGHT FIXTURE
	HIGH BAY LED LIGHT FIXTURE (EMERGENCY)
	2x2 LED LIGHT FIXTURE
	2x2 LED LIGHT FIXTURE (EMERGENCY)
	PENDANT LIGHT FIXTURE
	PENDANT LIGHT FIXTURE (EMERGENCY)
	SUSPENDED PENDANT LIGHT
	RECESSED CAN LED
	RECESSED CAN LED WITH EMERGENCY BATTERY BACKUP
	ILLUMINATED EXIT SIGN
	STRIP FLUORESCENT LIGHT
	STRIP FLUORESCENT EMERGENCY LIGHT
	SECURITY CAMERA
	OCCUPANCY SENSOR
	SUPPLY
	RETURN
	EXHAUST
	FIRE SPRINKLER
	STROBE



1 UPPER LEVEL CEILING PLAN
3/32" = 1'-0"



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DATE
01/30/17

TITLE
ROOF PLAN

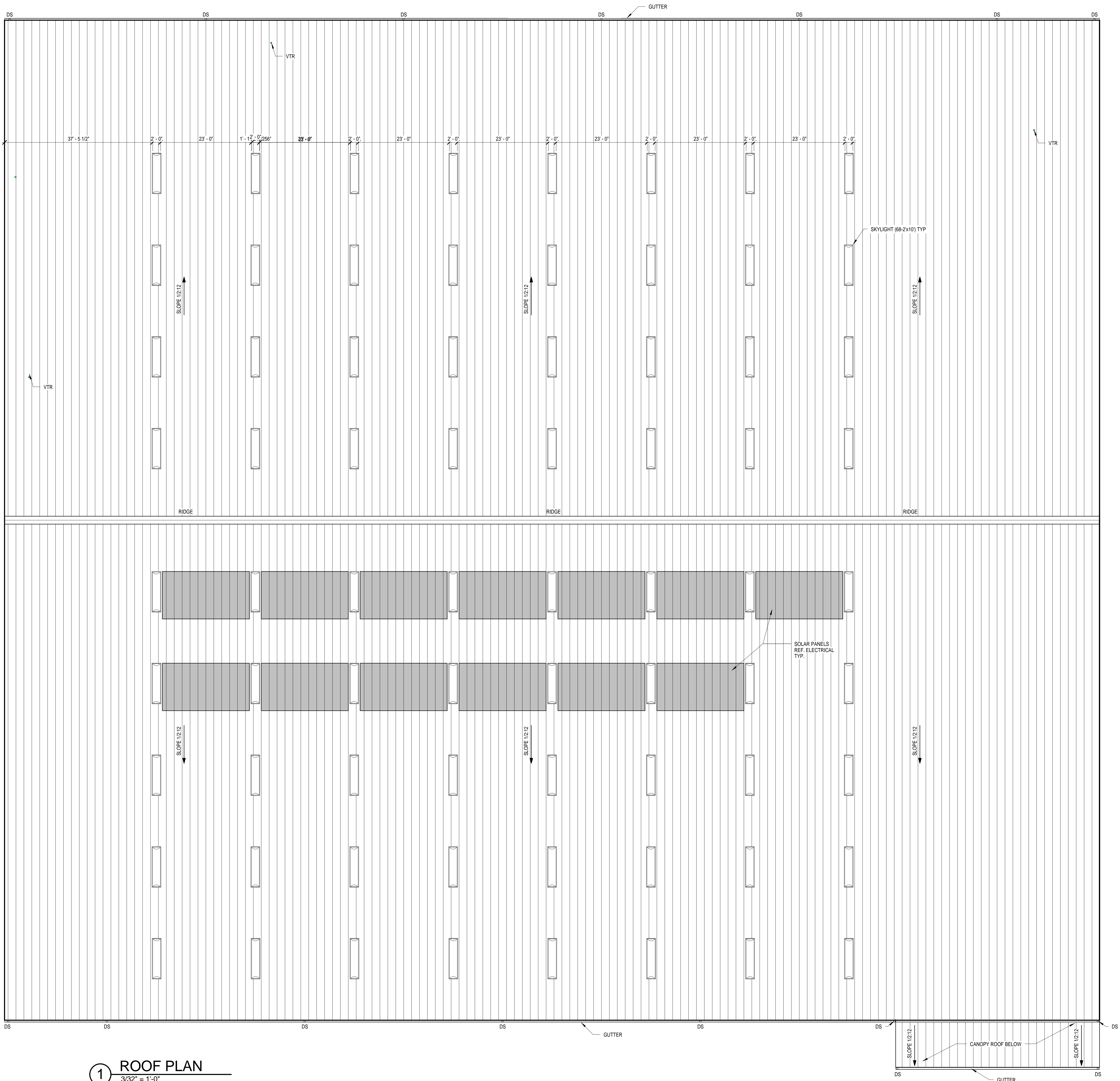
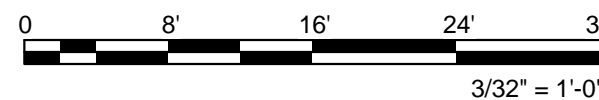
DRAWING NO.

MA-141

GENERAL NOTES:

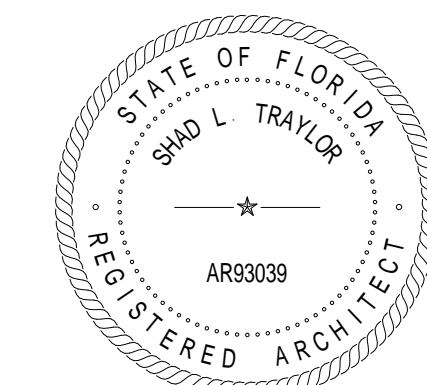
1. PROVIDE 2x10 SKYLIGHT STRIPS OVER THE MOLDING AREA. SKYLIGHTS
SHALL BE 3% OF THE ROOF AREA ABOVE THE MOLDING AREA.
BASIS OF DESIGN: PRISMAX SKYLIGHTS BY VARCO PRUDEN BUILDINGS.

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INTERIOR OR EXTERIOR.



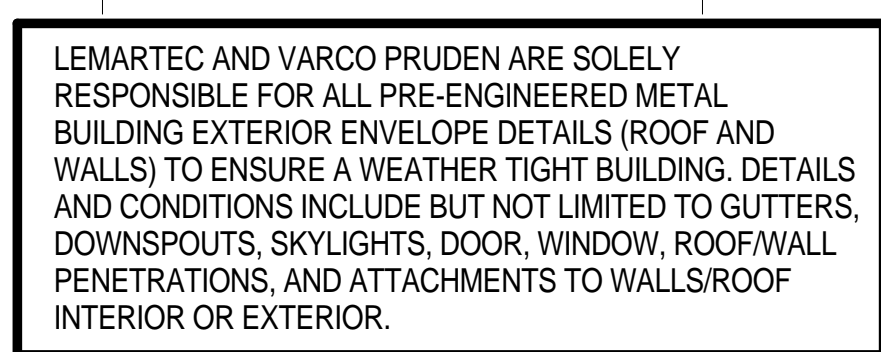
1 ROOF PLAN
3/32" = 1'-0"

BAGASSE PROCESSING FACILITY
BELLE GLADE, FL
TELLUS PRODUCTS, LLC



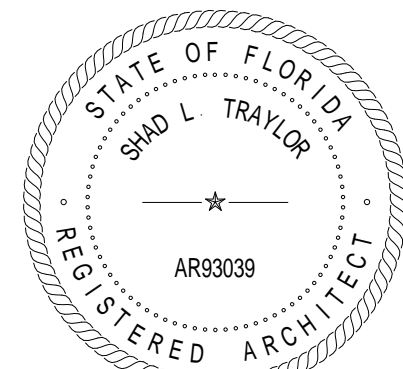
DRAWING NO.

MA-201



REVISION	

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DATE
01/30/17
TITLE

BUILDING
SECTIONS

E

D

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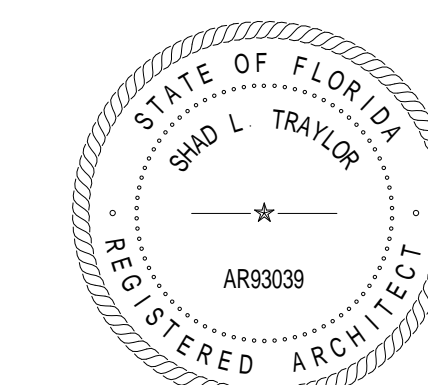
B

A

2 BUILDING SECTION
1/8" = 1'-0"

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

BAGASSE PROCESSING FACILITY
BELLE GLADE, FL
TELLUS PRODUCTS, LLC



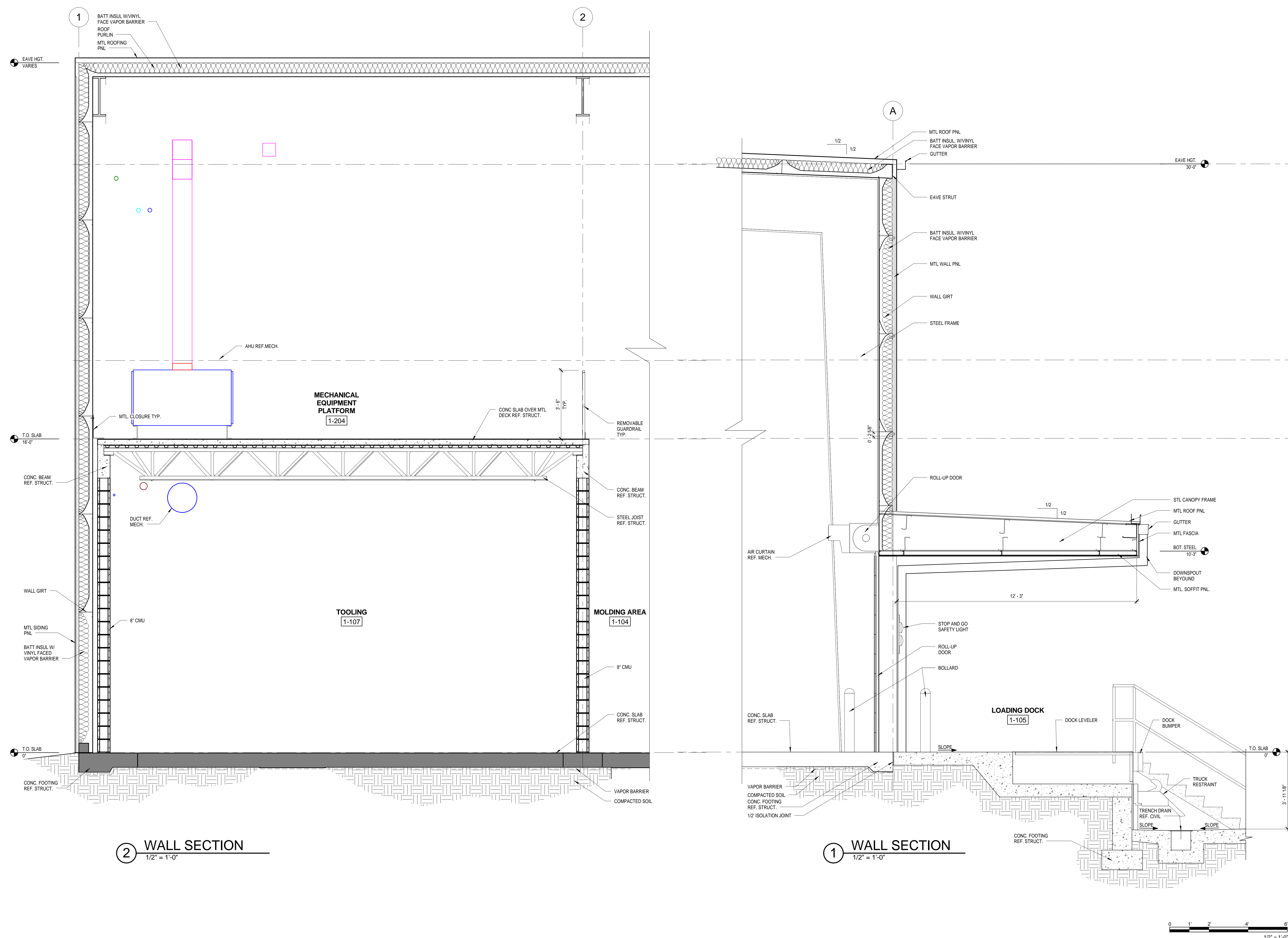
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PROJECT NUMBER
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DATE
01/30/17
TITLE
WALL SECTIONS

DRAWING NO.

MA-311



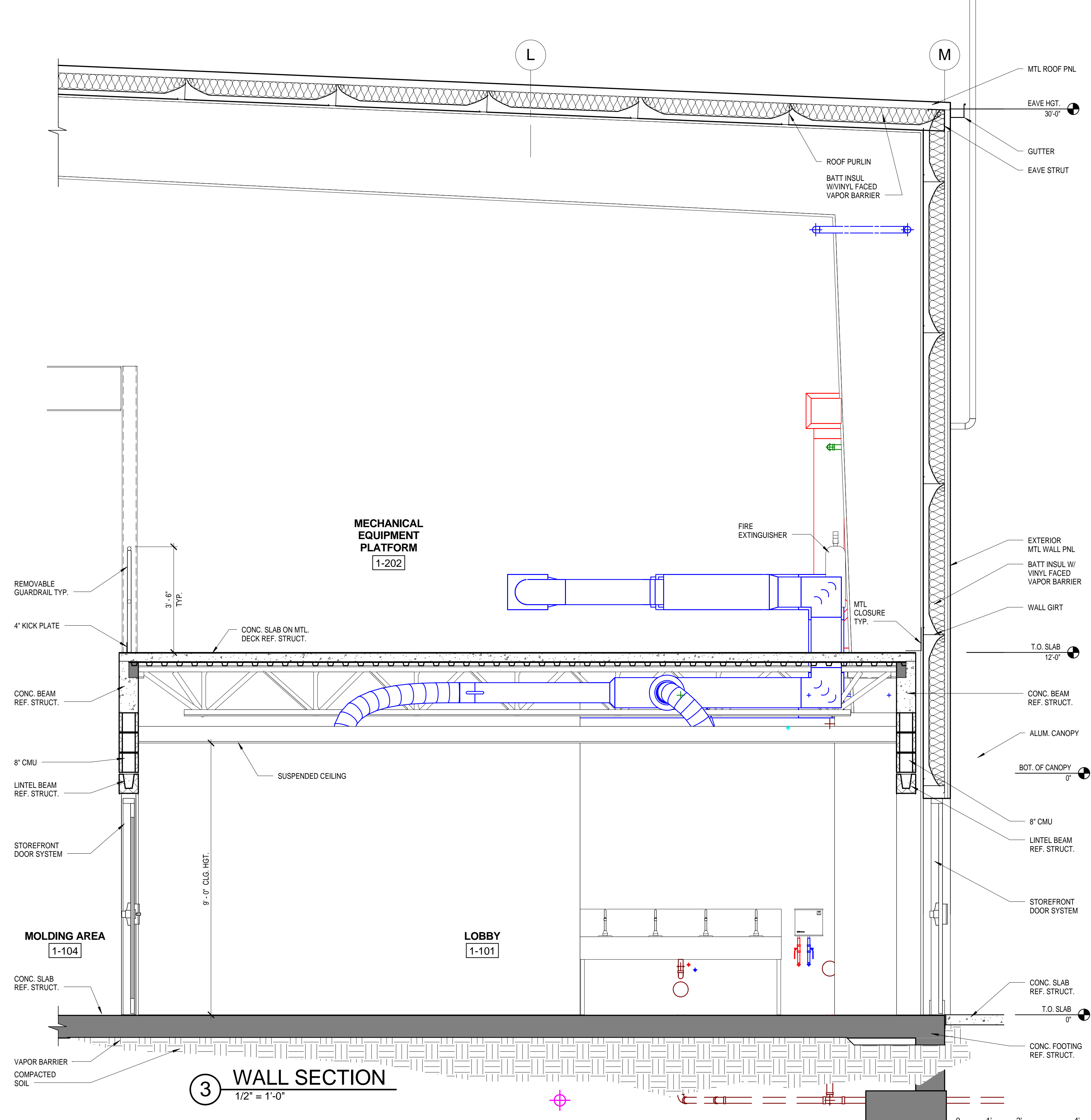
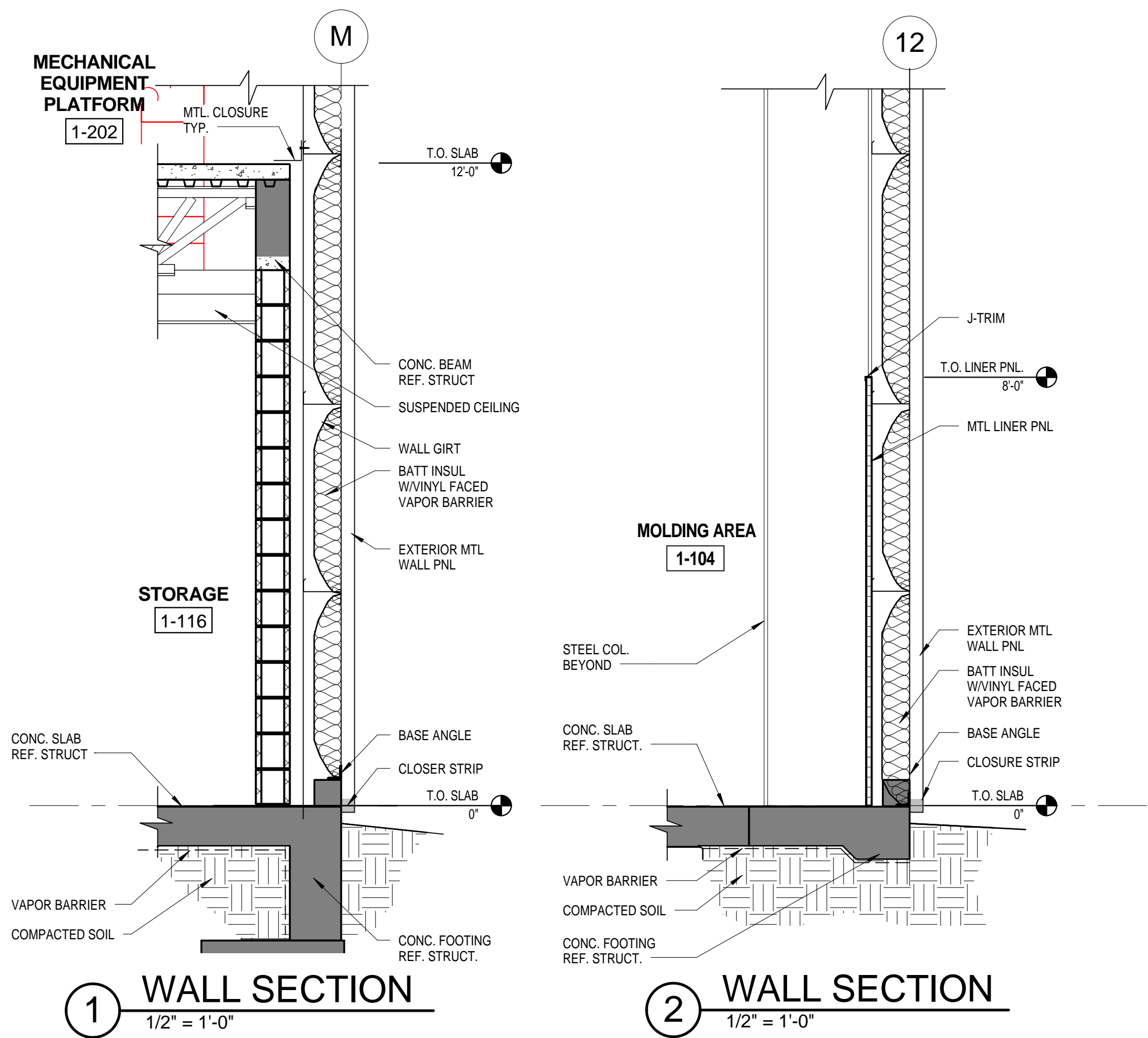
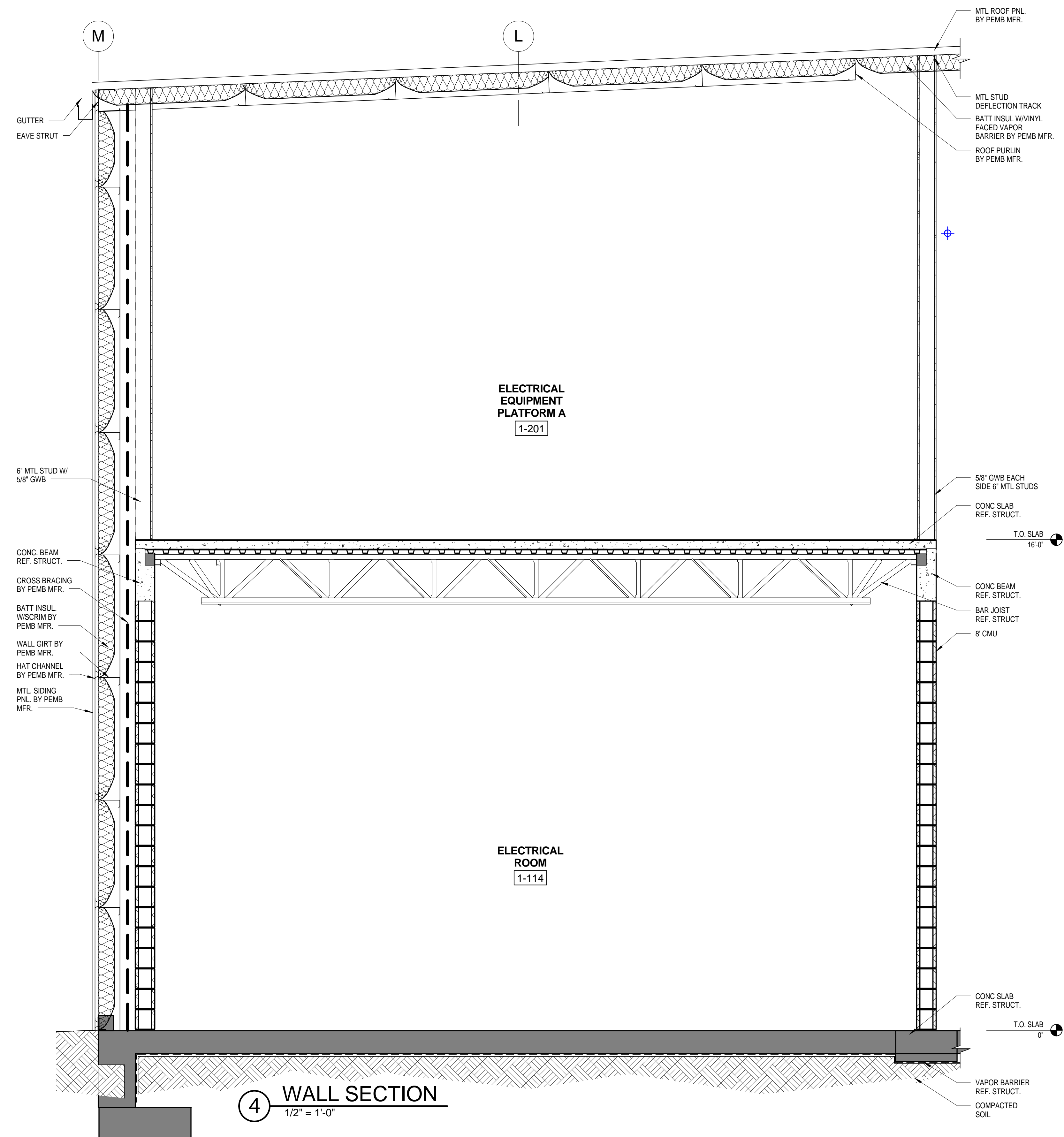
E

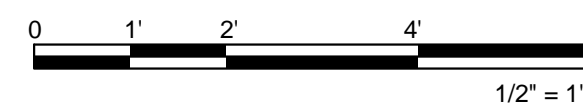
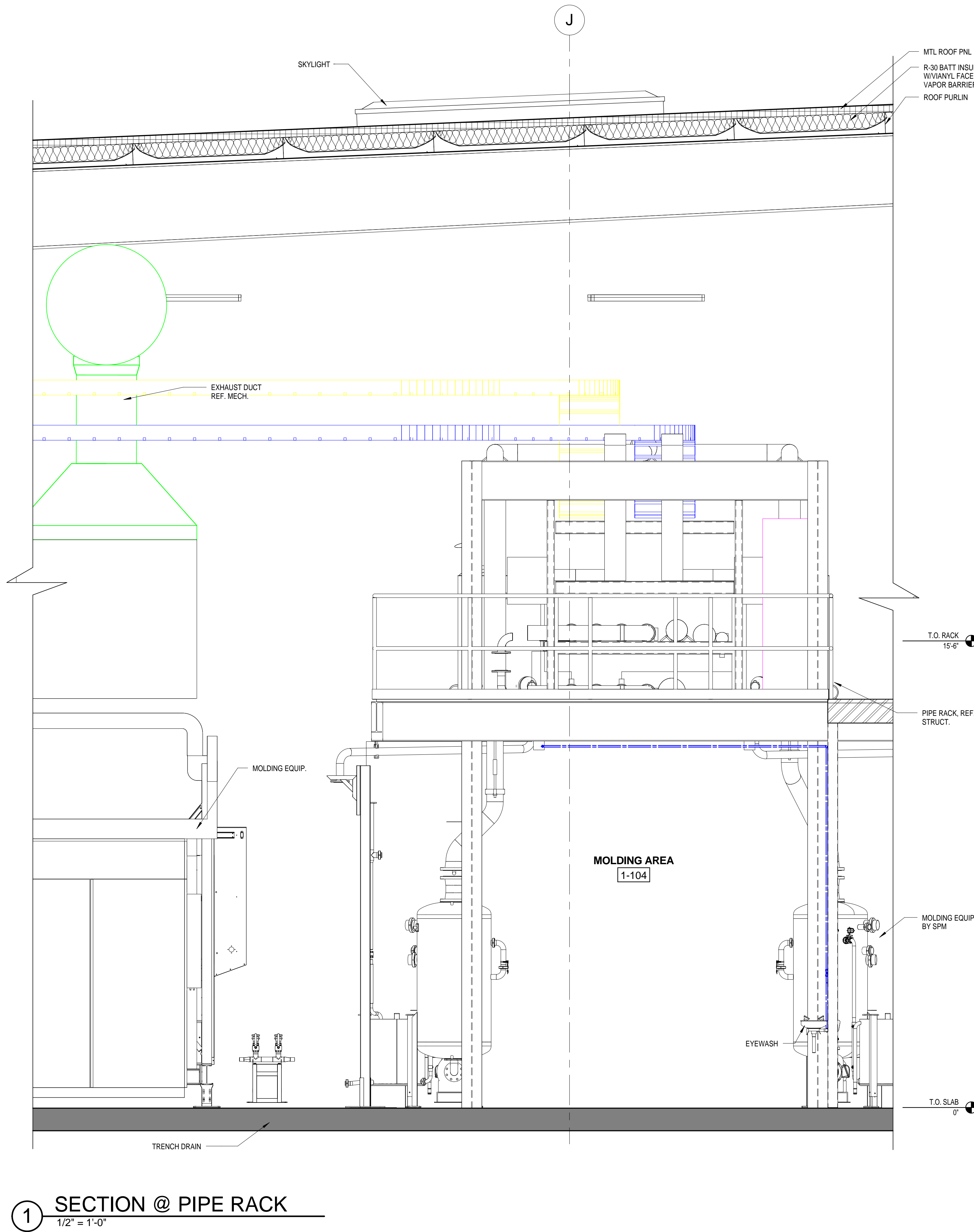
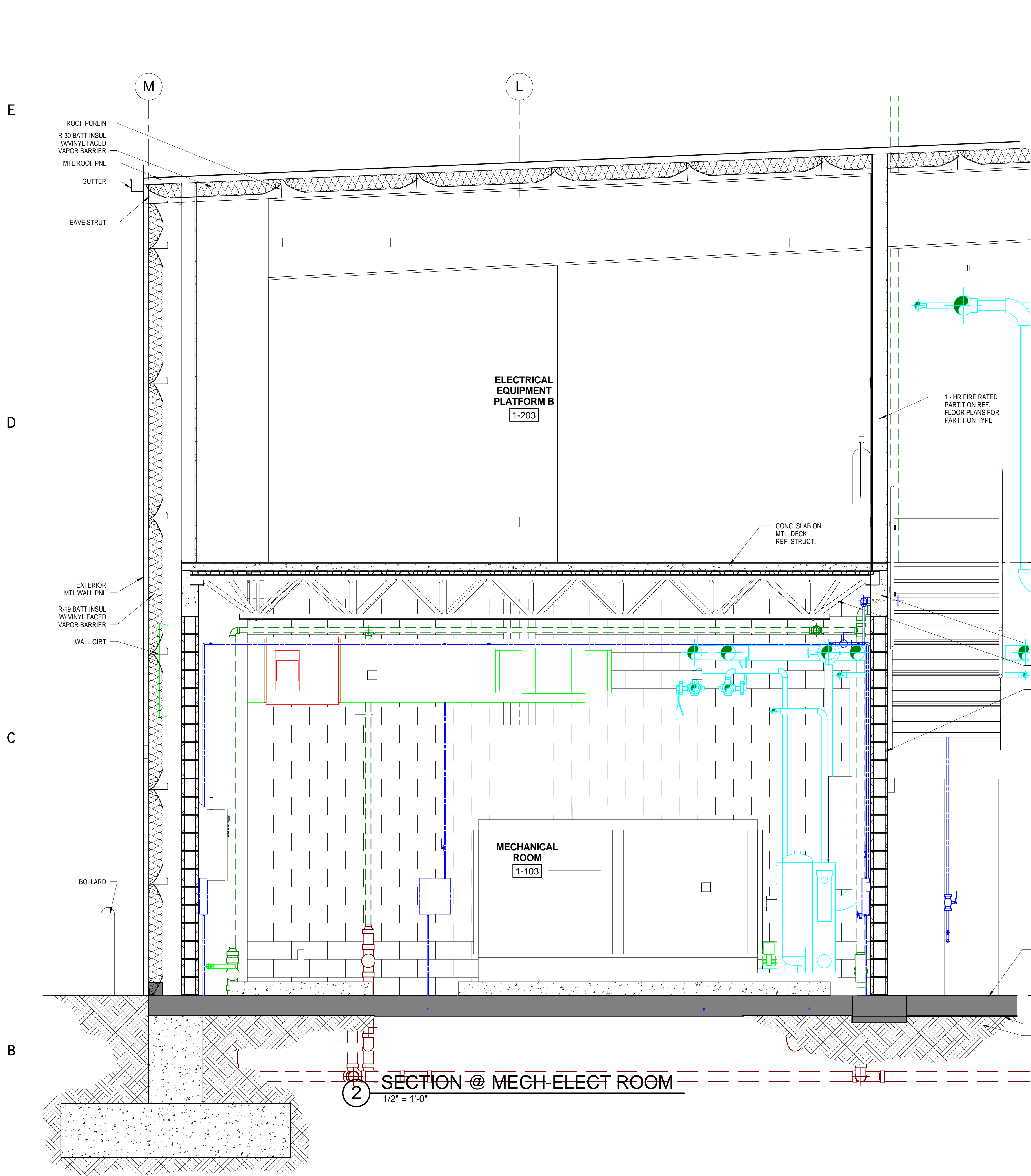
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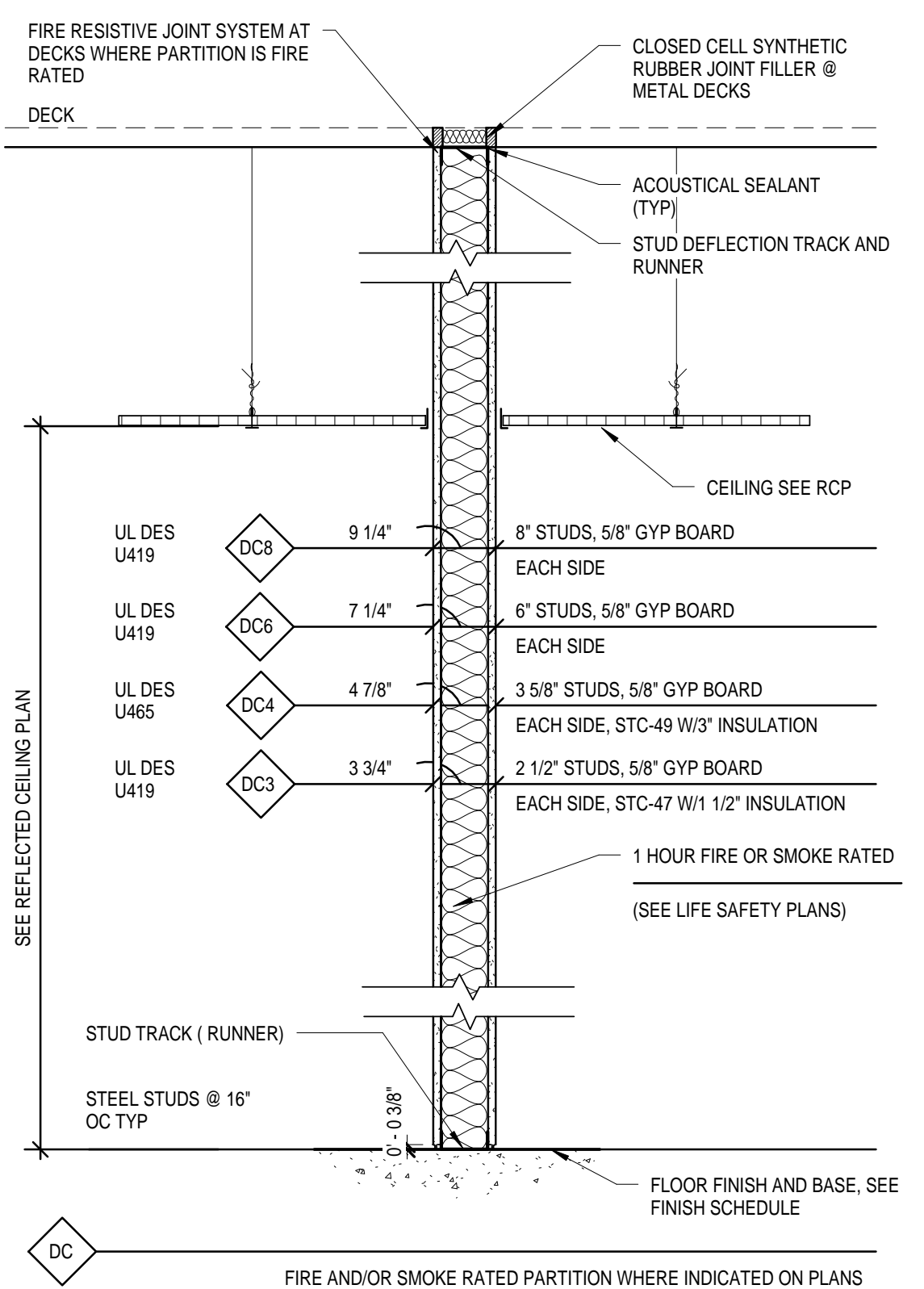
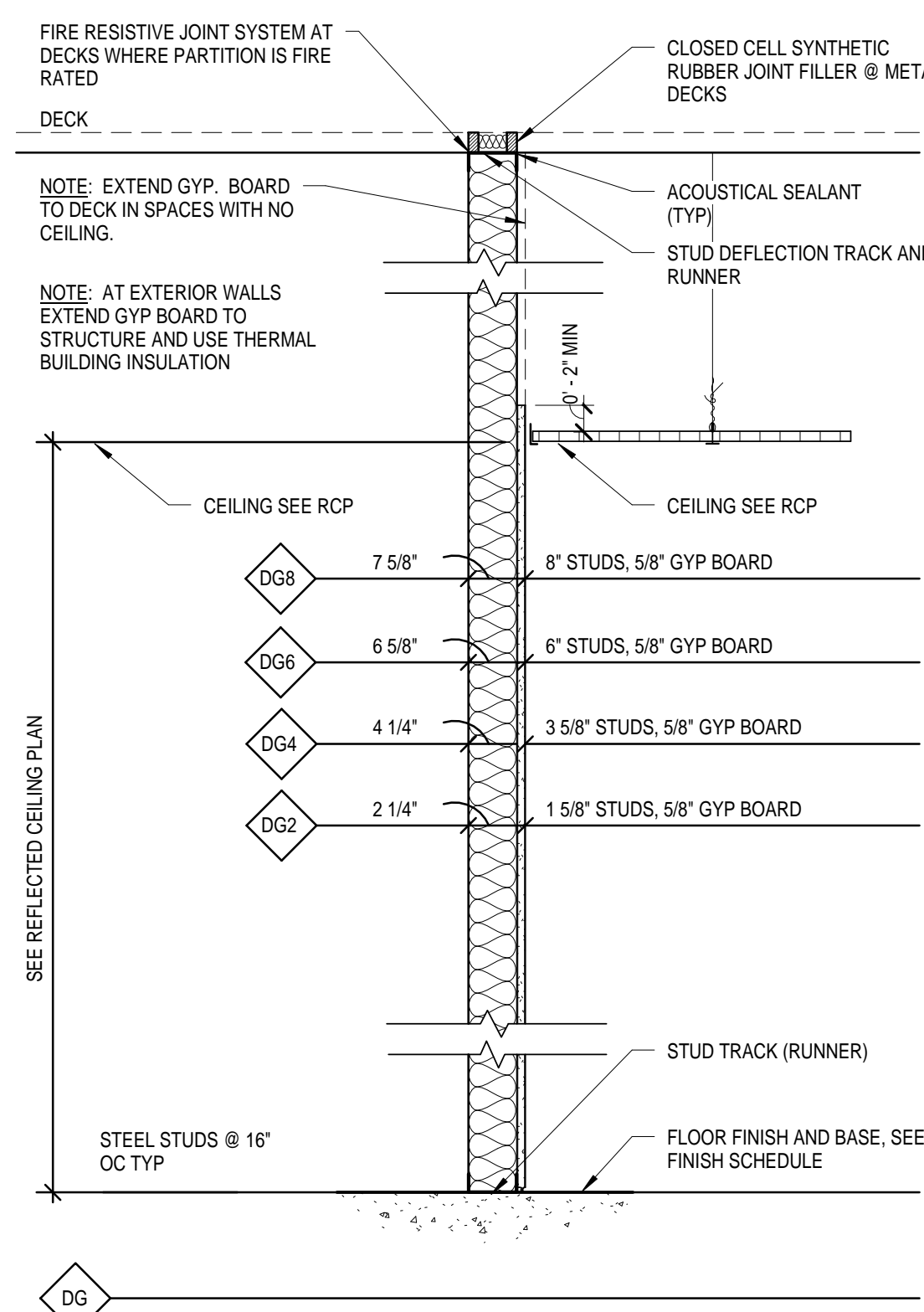
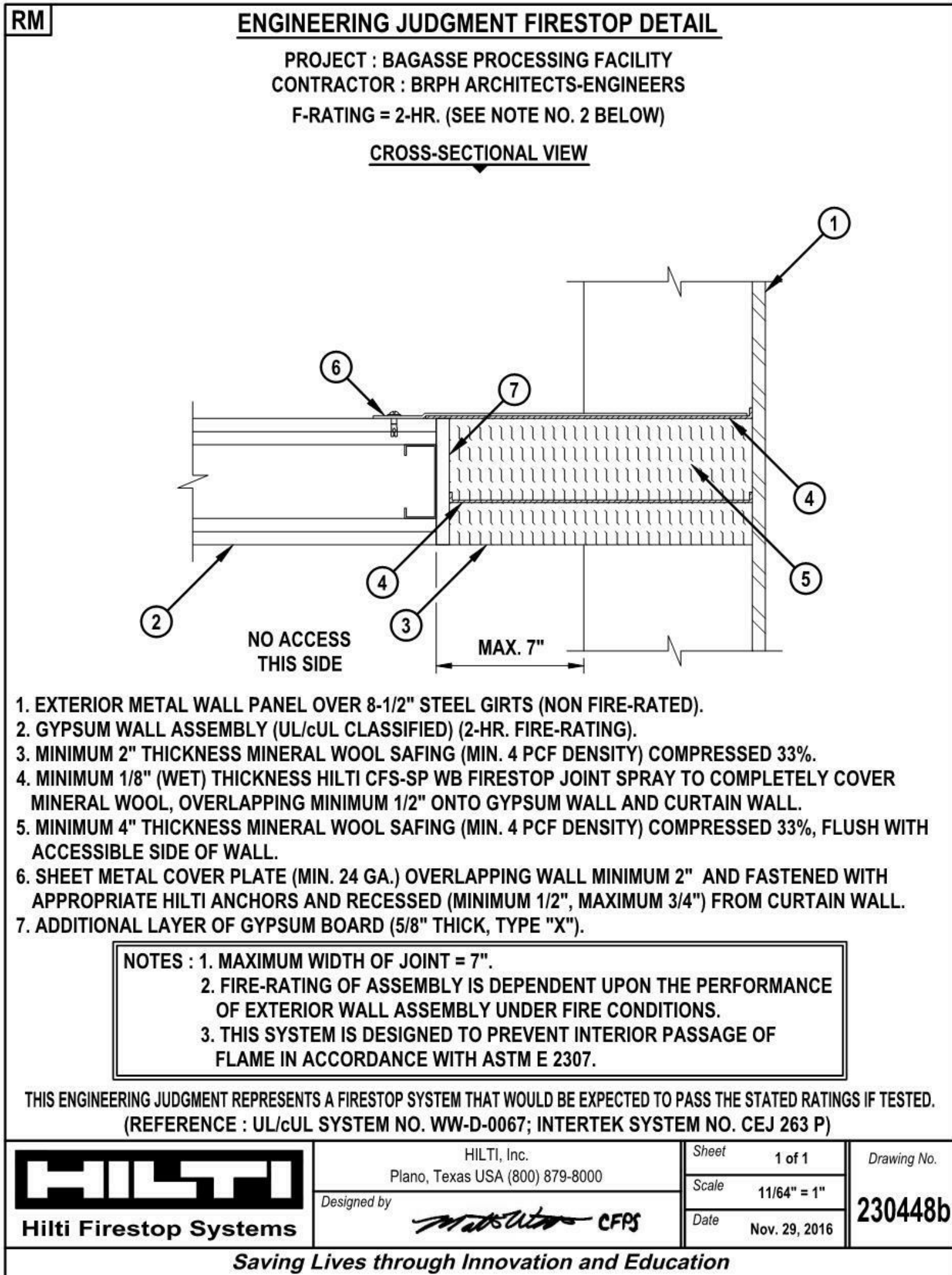
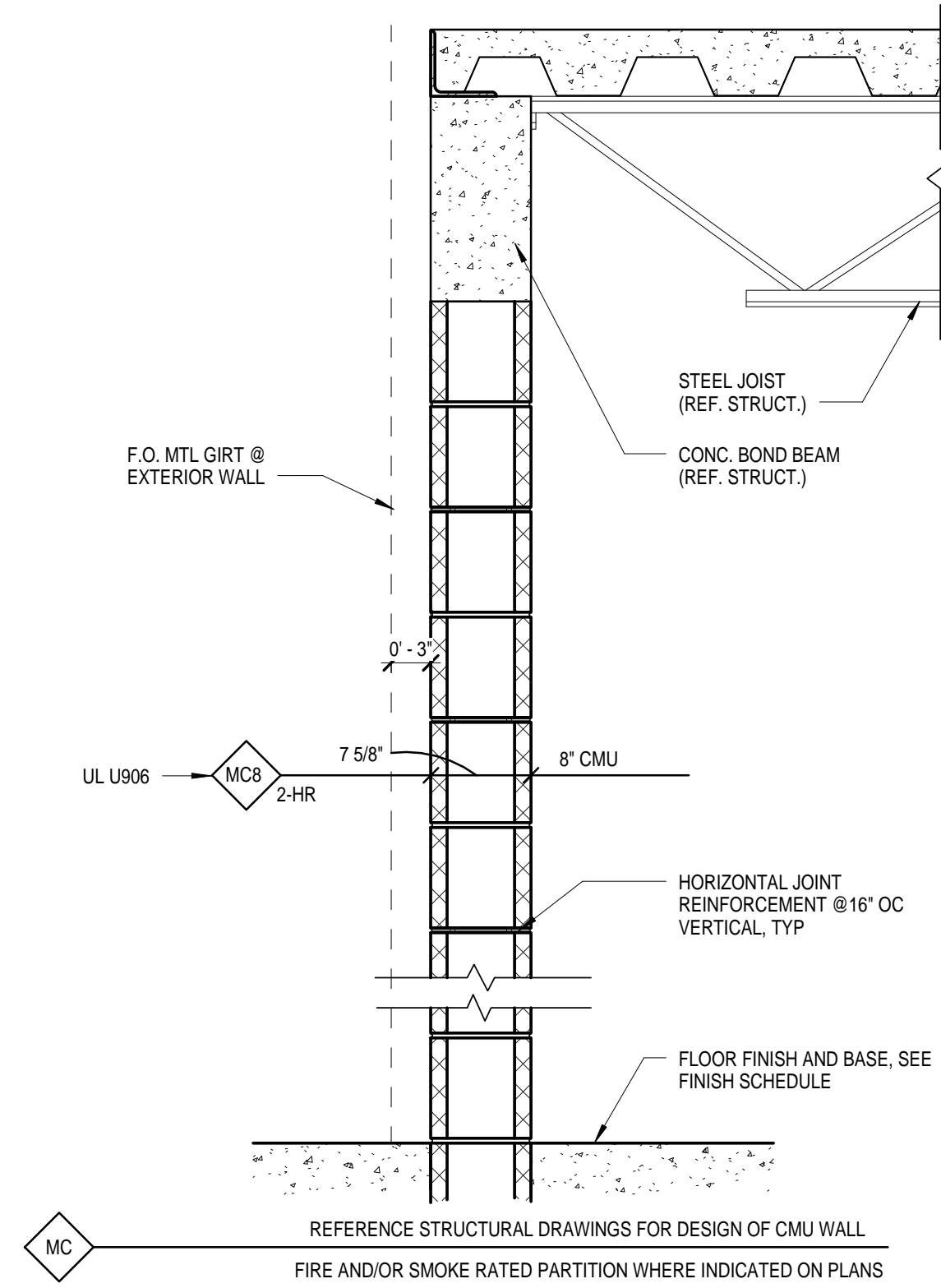
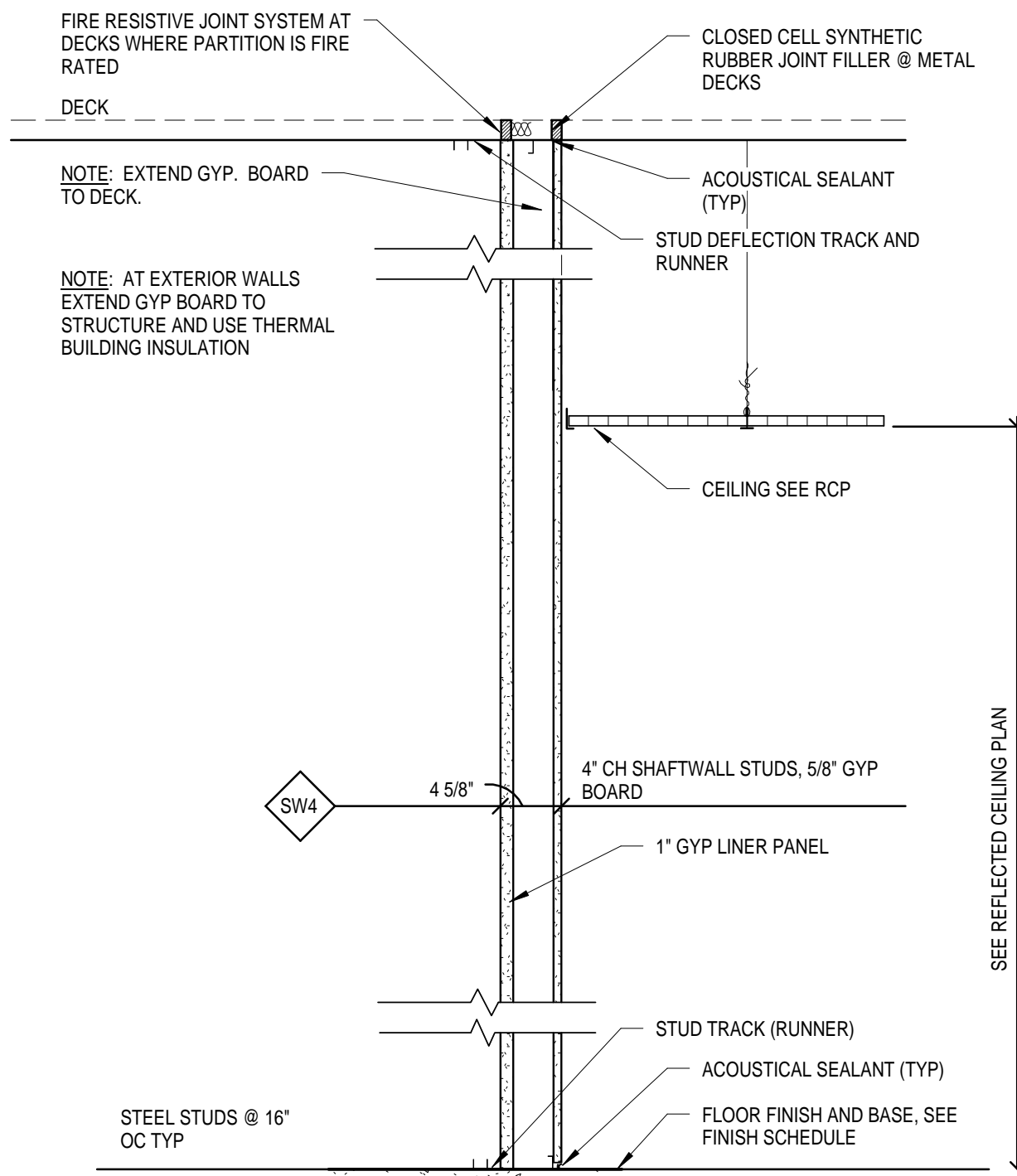
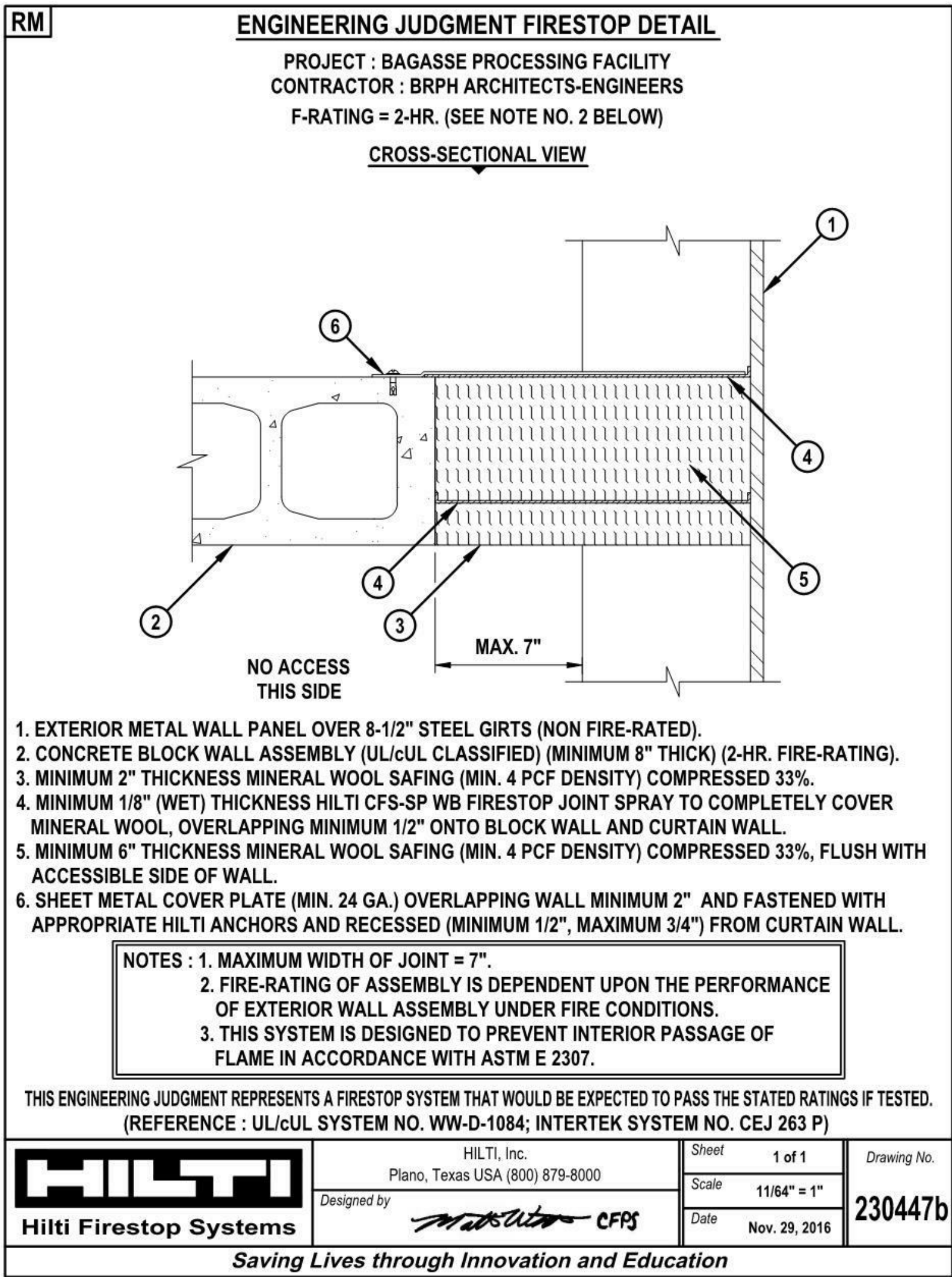
GENERAL NOTES - WALL PARTITIONS

1. SEE LIFE SAFETY PLANS AND FLOOR PLAN FOR LOCATIONS OF FIRE RATED WALLS.
2. SEE FINISH SCHEDULE FOR WALL FINISHES.
3. USE 5/8" CEMENTITIOUS BACKER BOARD AT ALL CERAMIC TILE LOCATIONS.
4. WHERE CMU WALLS ARE TO BE LEFT EXPOSED, JOINTS TO BE TOOLED.
5. PROVIDE MINIMUM 6" STUD AT ALL WET WALLS OF RESTROOMS UNLESS NOTED OTHERWISE AT METAL STUD AND GYPSUM BOARD ASSEMBLIES.

METAL STUD WALL GAGE SCHEDULE

METAL STUD GAGE SCHEDULE FOR METAL STUD NON-BEARING WALLS SPACED AT 16" O.C. LOCATED AT THE INTERIOR OF THE BUILDING. DELEGATED LIGHT GAUGE STEEL ENGINEER TO DESIGN ALL LOAD BEARING STUDS. PROVIDE BRACING SUPPORT FOR HEIGHTS TALLER THAN LISTED IN SCHEDULE

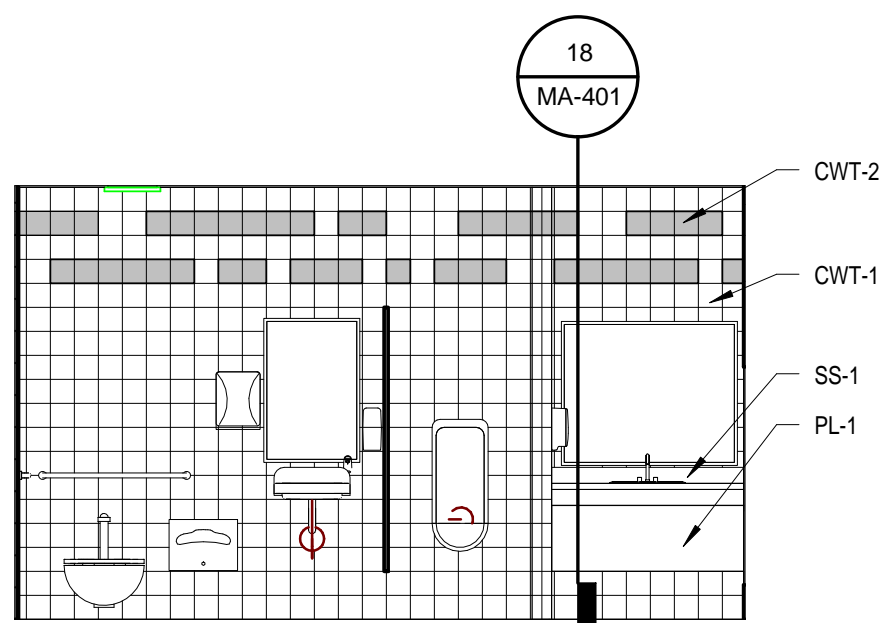
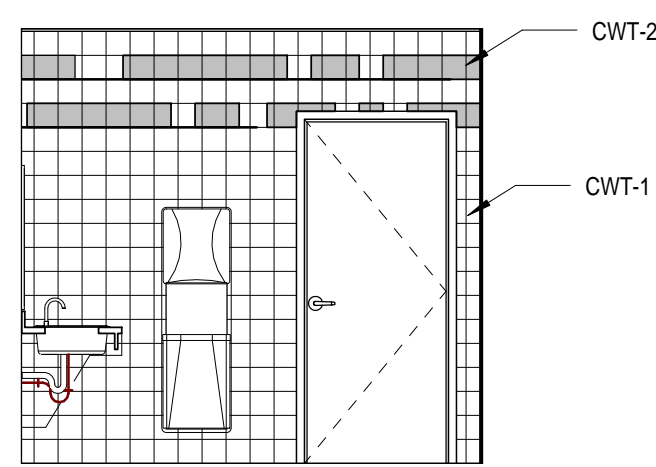
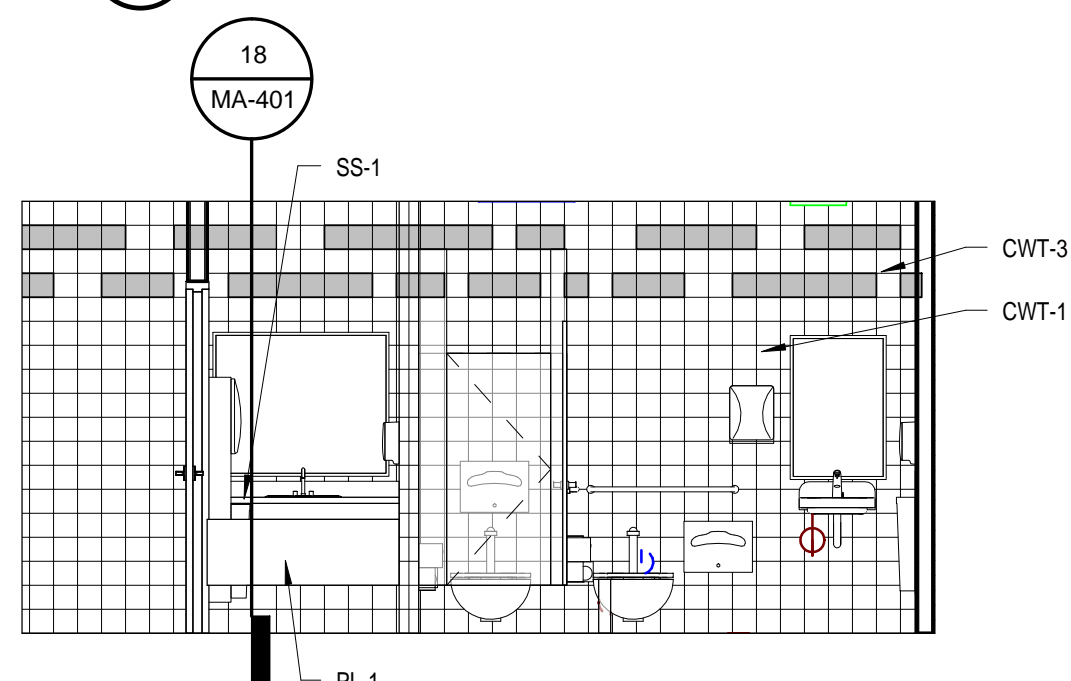
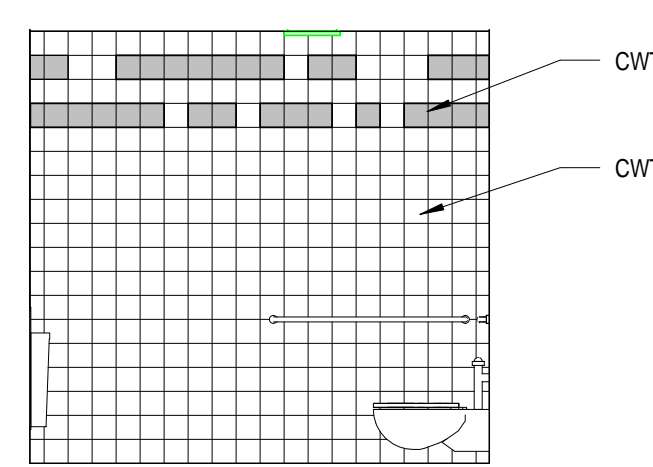
SIZE	MILS	16" O.C. NON-BEARING INTERIOR UNBRACED PARTITION HEIGHT
1-5/8"	33	8'-0" TO 8'-6"
2-1/2"	33	11'-6" TO 12'-4"
3-5/8"	33	15'-0" TO 16'-6"
4"	33	16'-6" TO 17'-6"
6"	33	23'-0" TO 24'-6"
8"	43	24'-6" TO 30'-1"



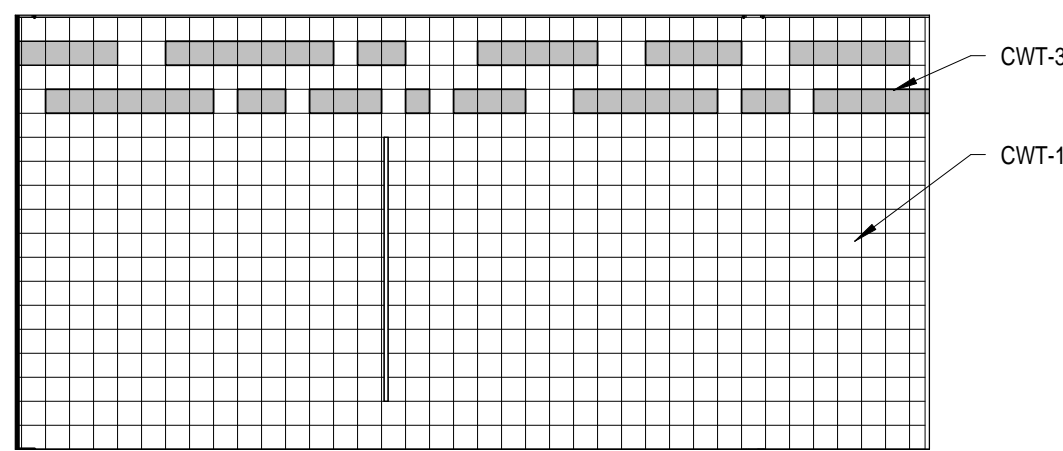
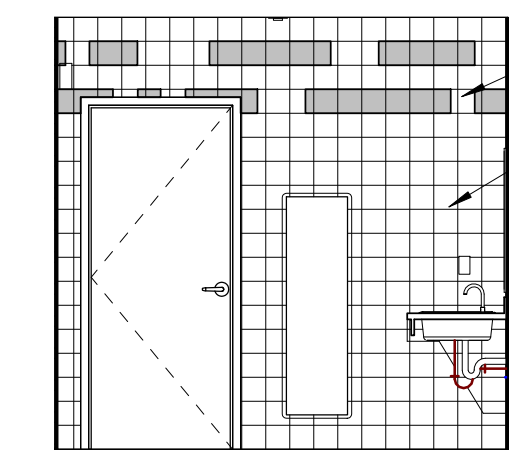
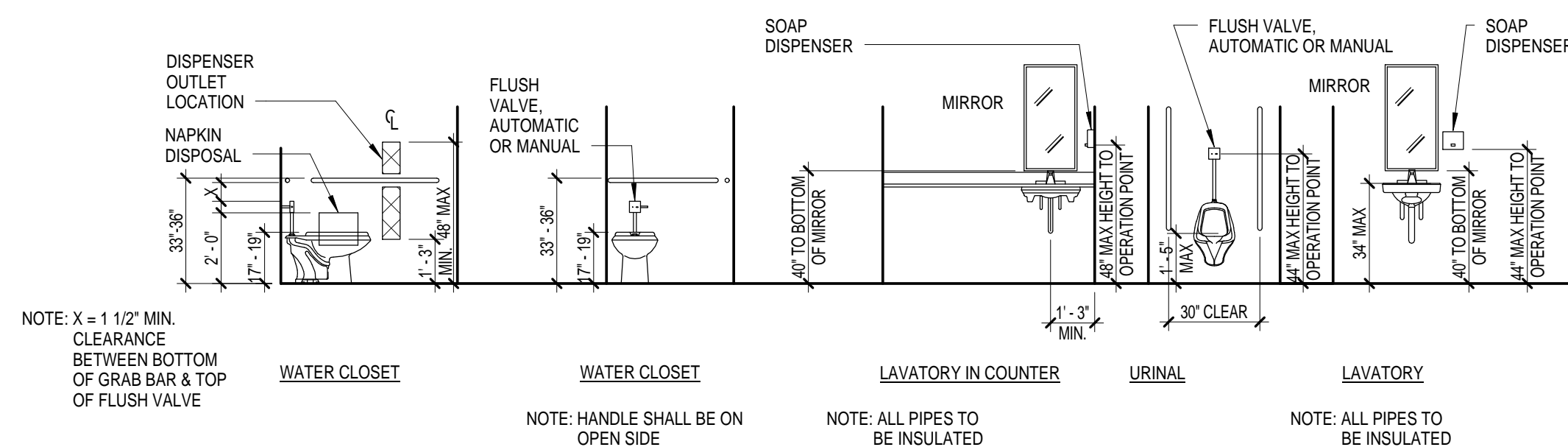
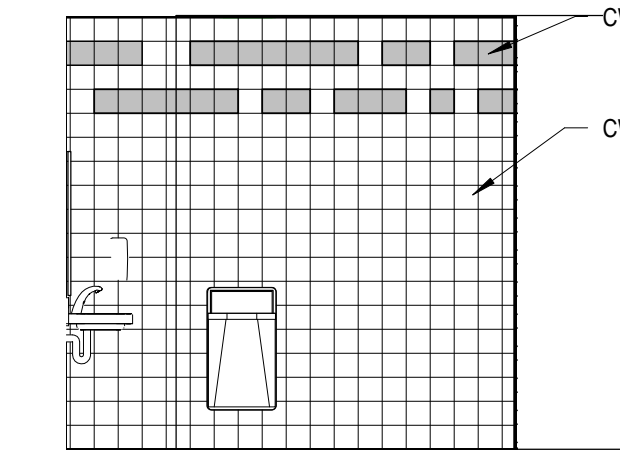
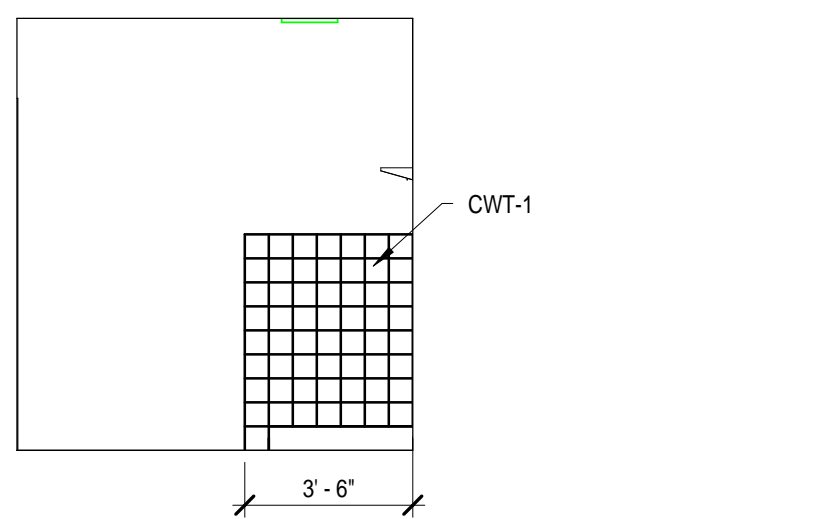
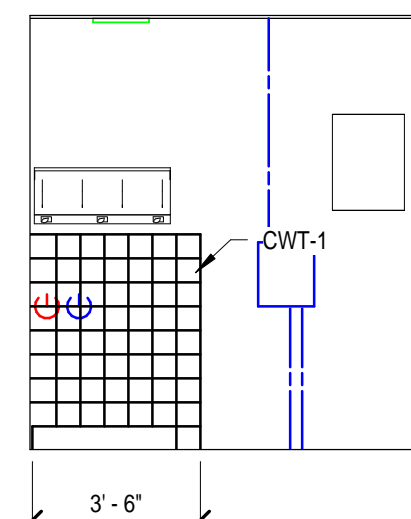
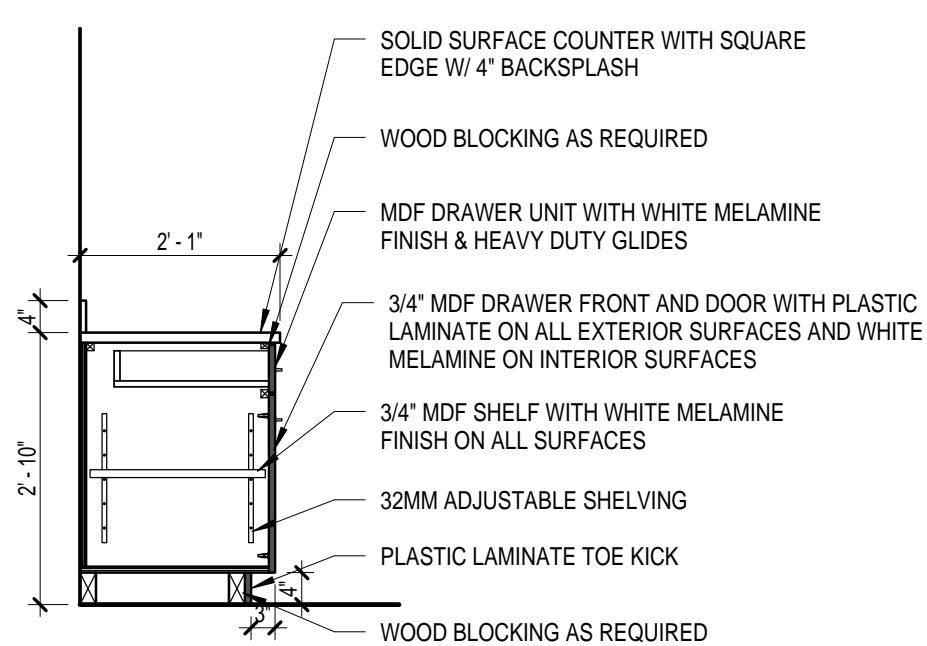
1 WALL TYPES
1" = 1'-0"



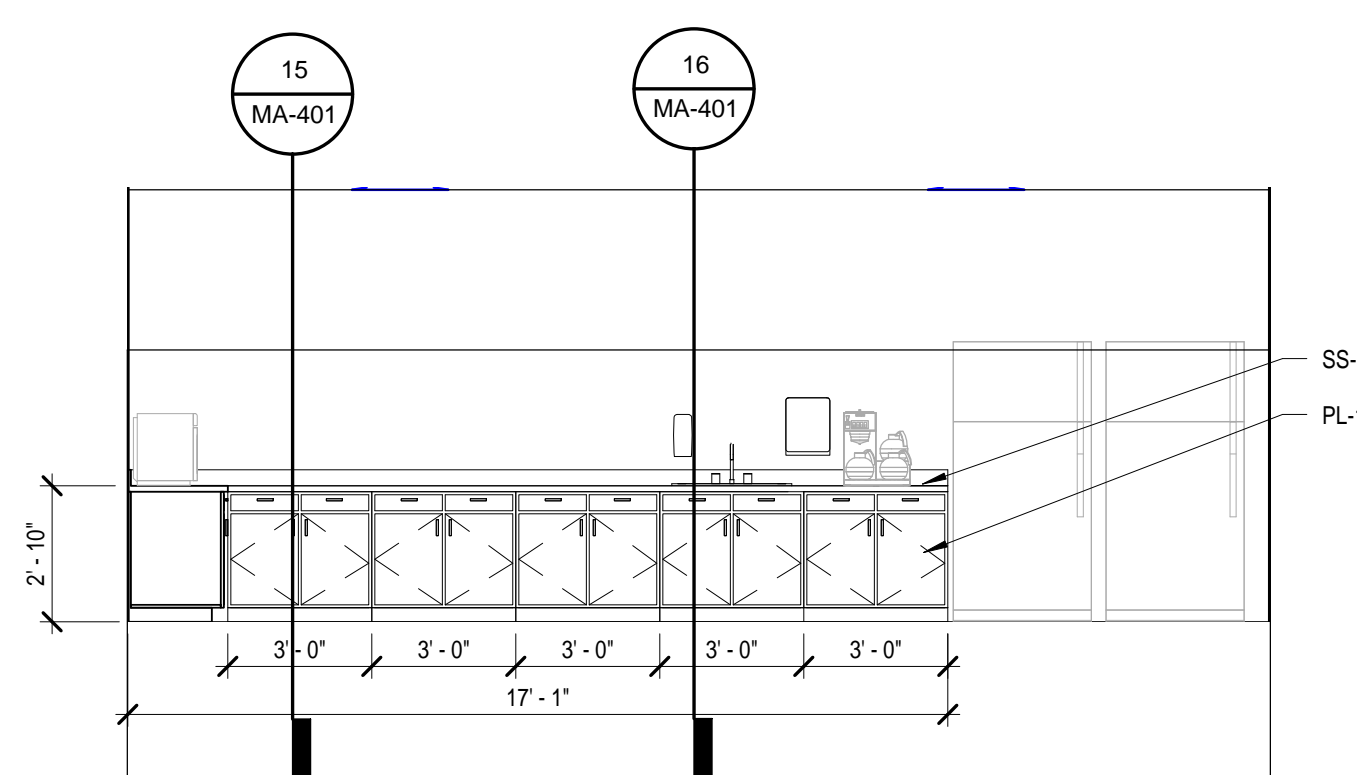
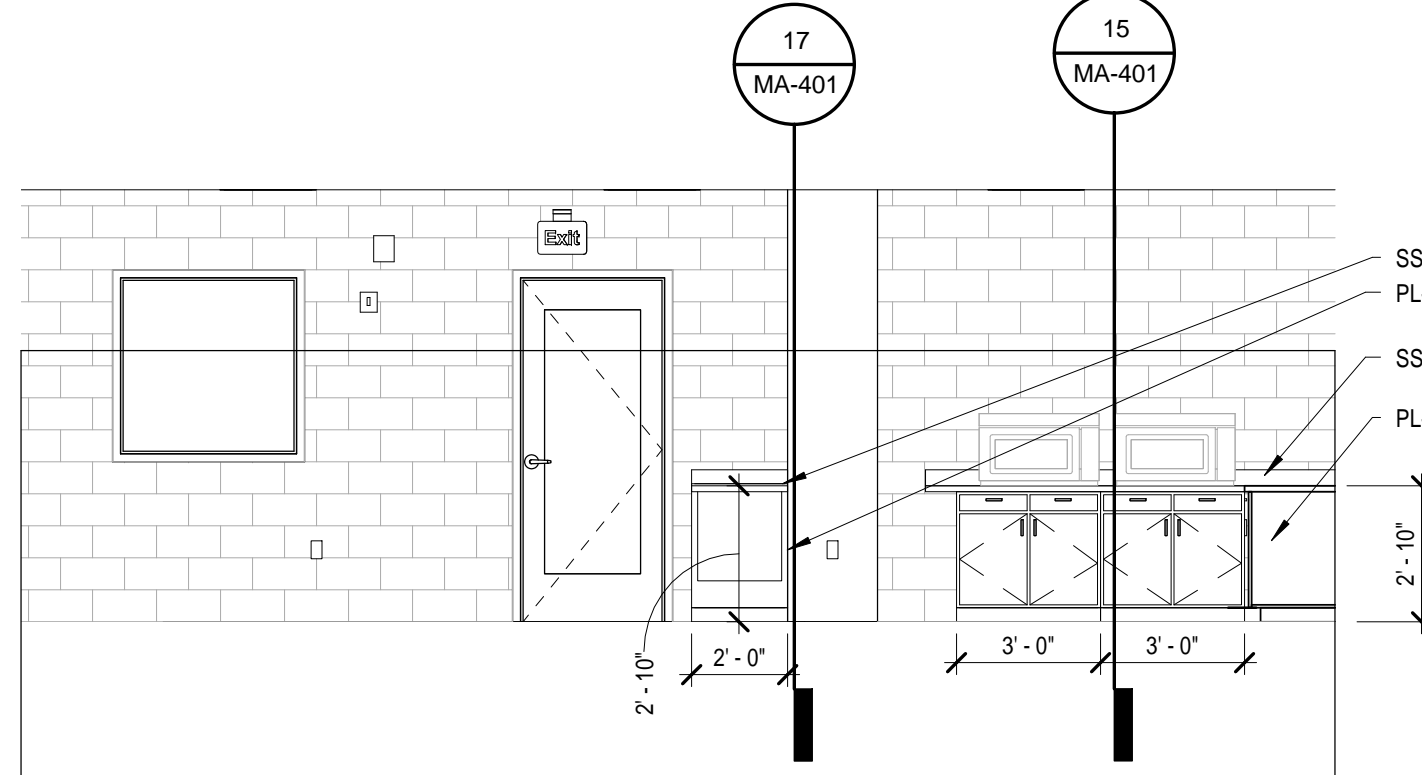
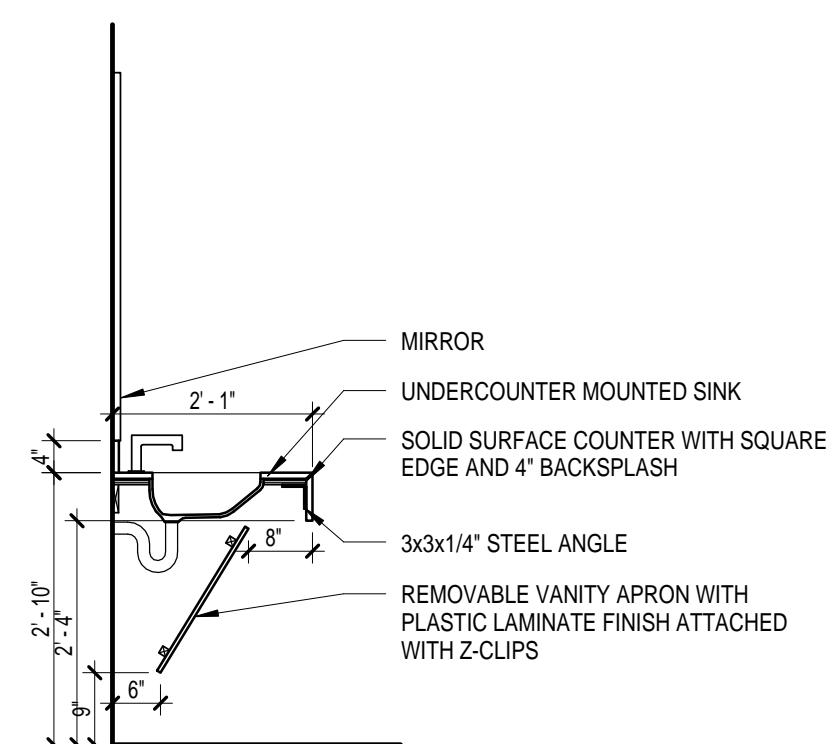
E

2 MEN 1-113-NORTH
1/4" = 1'-0"3 MEN 1-113-EAST
1/4" = 1'-0"4 MEN 1-111-SOUTH
1/4" = 1'-0"5 MEN 1-113-WEST
1/4" = 1'-0"

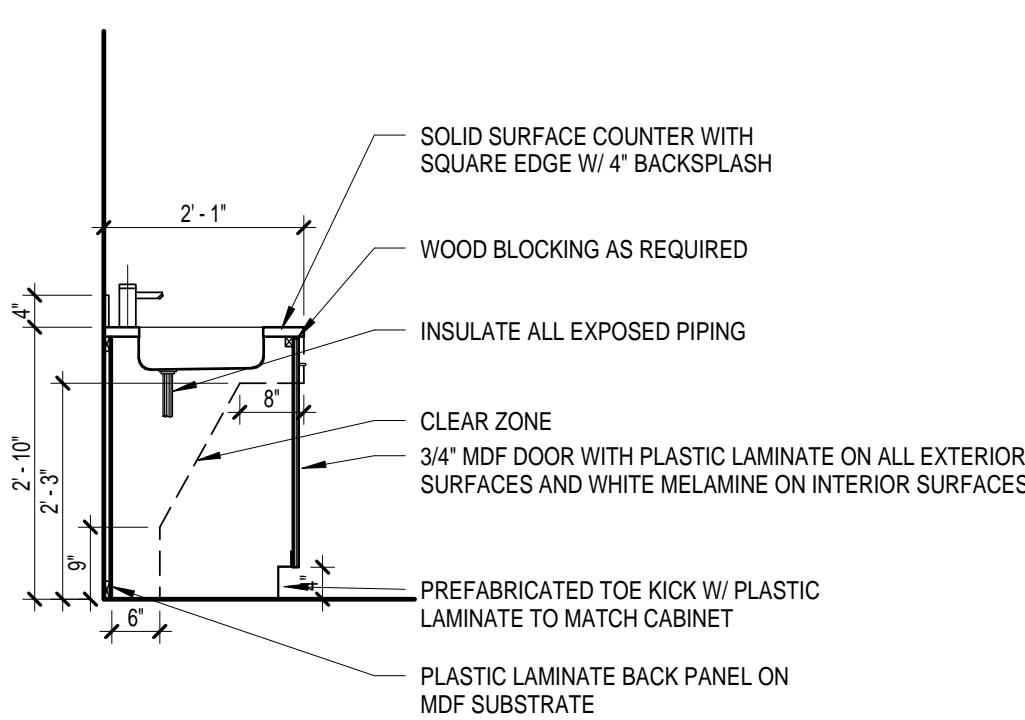
D

6 WOMEN 1-113-NORTH
1/4" = 1'-0"7 WOMEN 1-113-EAST
1/4" = 1'-0"8 WOMEN 1-113-SOUTH
1/4" = 1'-0"9 WOMEN 1-113-WEST
1/4" = 1'-0"10 JANITOR 1-112-SOUTH
1/4" = 1'-0"11 JANITOR 1-112-WEST
1/4" = 1'-0"12 FIXTURE MOUNTING HEIGHTS
1/4" = 1'-0"

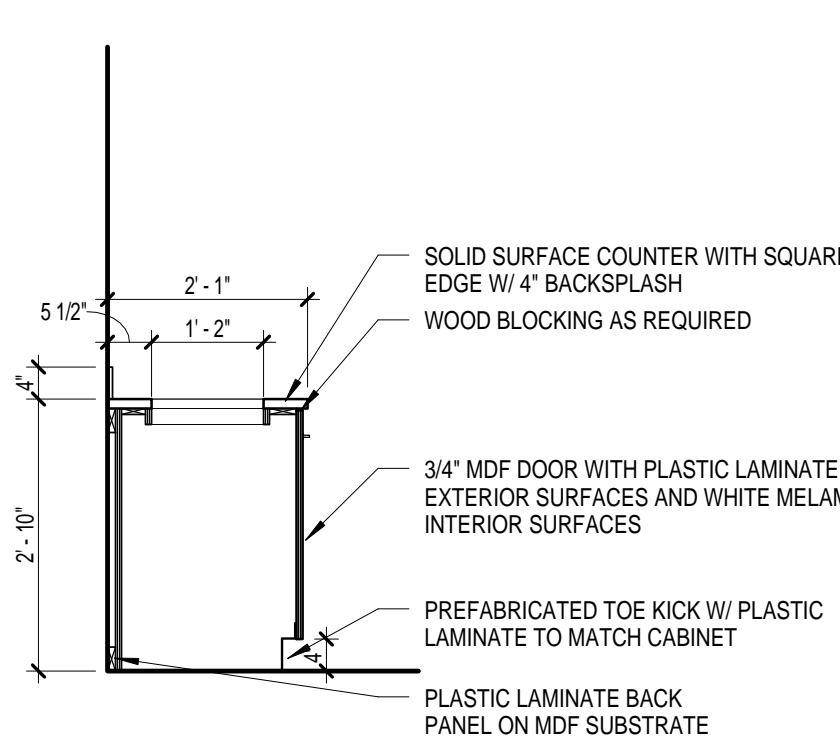
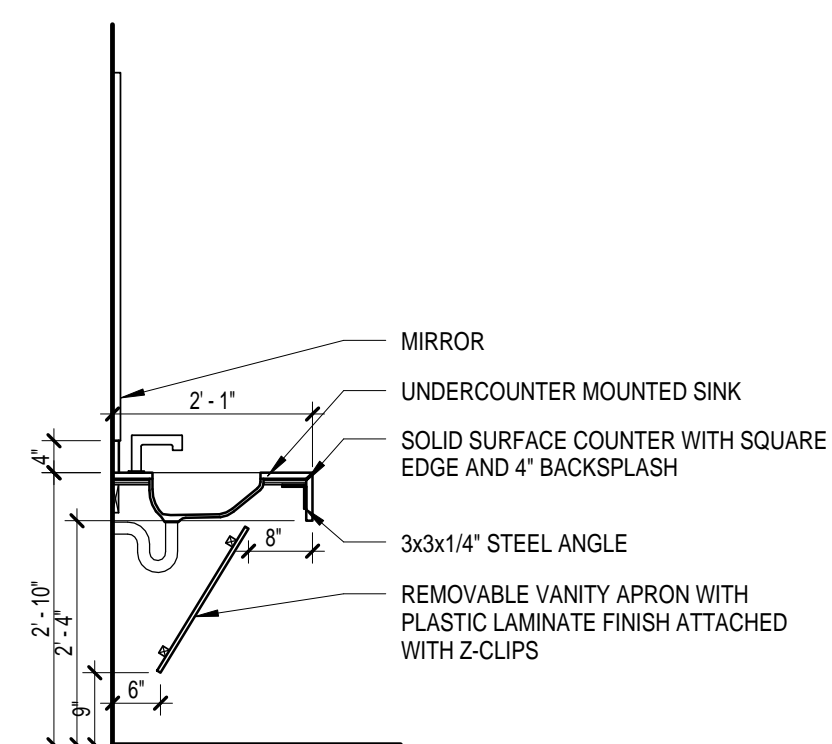
C

13 BREAKROOM 1-112-NORTH
1/4" = 1'-0"14 BREAKROOM 1-110-WEST
1/4" = 1'-0"15 TYP. BASE CABINET W/ DRAWER
1/2" = 1'-0"

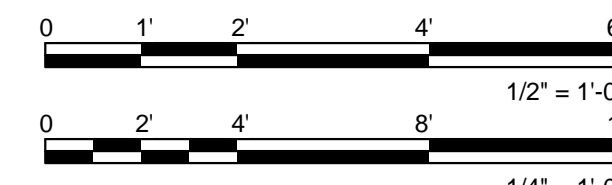
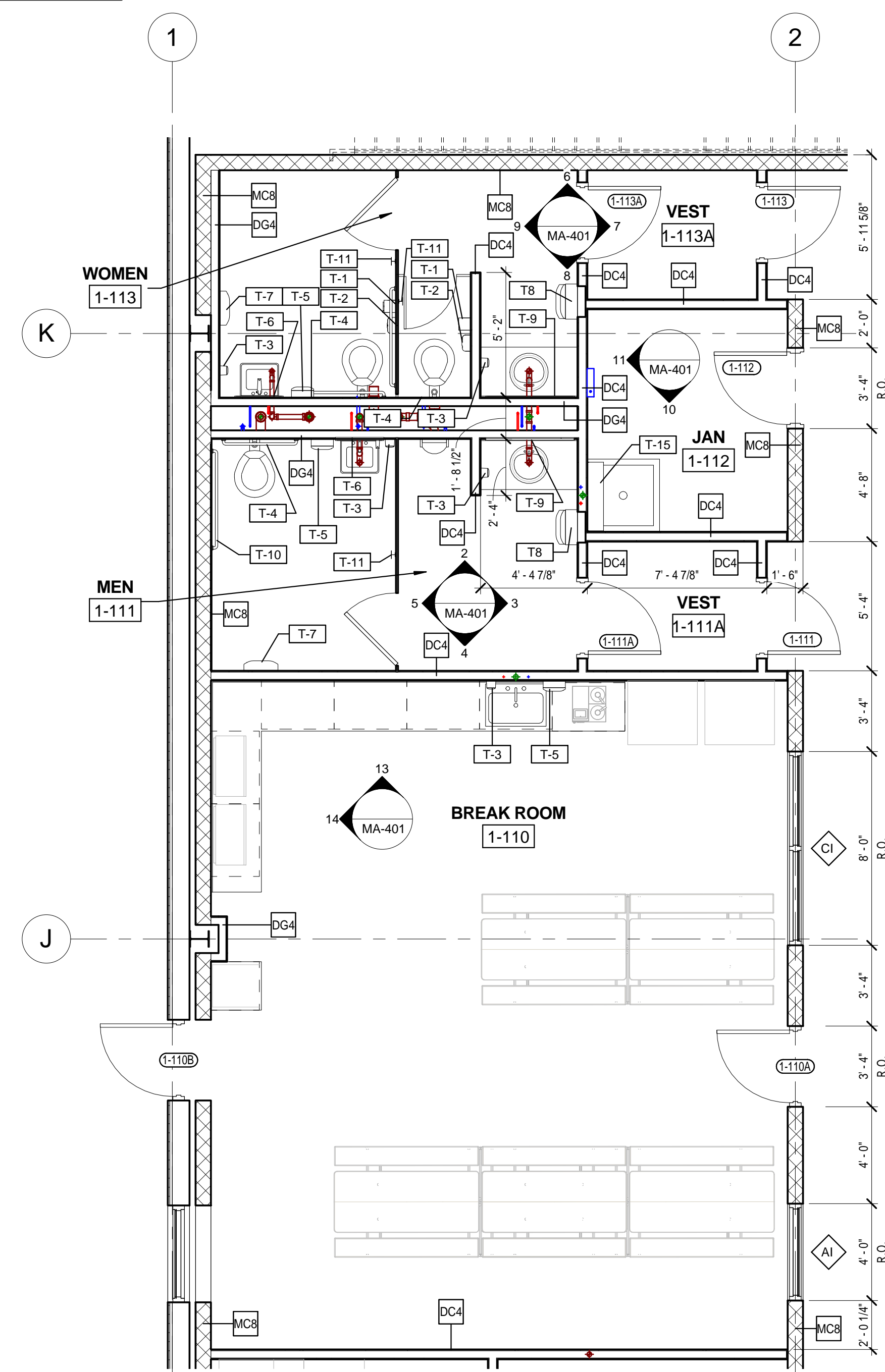
B

16 TYP. BASE CABINET W/ SINK
1/2" = 1'-0"

A

17 TYP. TRASH/RECYCLE CABINET
1/2" = 1'-0"18 RESTROOM COUNTER W/ SINK
1/2" = 1'-0"

TOILET ACCESSORY SCHEDULE				
TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING HEIGHTS
T-1	TOILET TISSUE DISPENSER - SURFACE MOUNTED	BOBRICK WASHROOM EQUIPMENT, INC.	B-2888	18" TO TOP
T-2	SANITARY NAPKIN DISPENSER - SURFACE-MOUNTED	BOBRICK WASHROOM EQUIPMENT, INC.	B-270	18" TO TOP
T-3	SOAP DISPENSER - WALL MOUNT	BOBRICK WASHROOM EQUIPMENT, INC.	B-40	
T-4	SEAT COVER DISPENSER - RECESSED	BOBRICK WASHROOM EQUIPMENT, INC.	B-301	48" MAX TO OPENING, ADA MOUNT 20" TO TOP
T-5	TOWEL DISPENSER - SURFACE MOUNTED	BOBRICK WASHROOM EQUIPMENT, INC.	B-4262	
T-6	CHANNEL FRAME MIRROR	BOBRICK WASHROOM EQUIPMENT, INC.	B-165 2430	38" TO BOTTOM
T-7	WASTE RECEPTACLE - RECESSED	BOBRICK WASHROOM EQUIPMENT, INC.	B-43644	2'-10" to opening
T-9	CUSTOM BEVELED EDGE MIRROR	N/A	N/A	MOUNT DIRECTLY ABOVE BACKSPLASH
T-10	GRAB BARS - HORIZONTAL BACK / SIDE AND VERTICAL SIDE	BOBRICK WASHROOM EQUIPMENT, INC.	B-5806	34" TO TOP OF HORIZONTAL BARS, 40" TO BOTTOM OF VERTICAL BAR
T-11	ROBE HOOK	BOBRICK WASHROOM EQUIPMENT, INC.	B-2116	48" MAX TO HOOK
T-15	MOP AND BROOM HOLDER	BOBRICK WASHROOM EQUIPMENT, INC.	B-224	50" TO BOTTOM

1 ENLARGED RESTROOM/BREAKROOM PLAN
1/4" = 1'-0"

ROOM FINISH SCHEDULE						
NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	COMMENTS
1-101	LOBBY	SC-1	RB-1	P-1	APC-1	
1-102	REFINER ROOM	SC-1	RB-1	P-1	EXP	
1-103	MECHANICAL ROOM	SC-1	RB-1	P-1	EXP	
1-104	MOLDING AREA	SC-1	RB-1	P-1	EXP	
1-105	LOADING DOCK	SC-1	RB-1	P-1	EXP	
1-106	MAINTENANCE & PARTS STORAGE	SC-1	RB-1	P-1	EXP	
1-107	TOOLING	SC-1	RB-1	P-1	EXP	
1-108	OFFICE	VCT-1	RB-1	P-1	EXP	
1-109	IT ROOM	SC-1	RB-1	P-1	EXP	
1-110	BREAK ROOM	SC-1	RB-1	P-1	APC-1	
1-111	MEN	VCT-1	CWT-1	CWT-1 / CWT-2	GYP	
1-111A	VEST	VCT-1	RB-1	P-1	APC-1	
1-112	JAN	SC-1	RB-1	P-1 / CWT-1	EXP	
1-113	WOMEN	VCT-1	CWT-1	CWT-1 / CWT-2	GYP	
1-113A	VEST	VCT-1	RB-1	P-1	APC-1	
1-114	ELECTRICAL ROOM	SC-1	RB-1	P-1	EXP	
1-115	QUALITY MONITORING	VCT-1	RB-1	P-1	EXP	
1-116	STORAGE	SC-1	RB-1	P-1	EXP	
1-117	OFFICE	VCT-1	RB-1	P-1	APC-1	
1-118	CONTROL ROOM	SC-1	RB-1	P-1	EXP	
1-118A	PLC ROOM	VCT-1	RB-1	P-1	EXP	
1-119	VACUUM PUMP ROOM	SC-1	RB-1	P-1	EXP	
1-201	ELECTRICAL EQUIPMENT PLATFORM A	SC-1	RB-1	P-1	EXP	
1-202	MECHANICAL EQUIPMENT PLATFORM	SC-1	RB-1	P-1	EXP	
1-203	ELECTRICAL EQUIPMENT PLATFORM B	SC-1	RB-1	P-1	EXP	
1-204	MECHANICAL EQUIPMENT PLATFORM	SC-1	RB-1	P-1	EXP	
1-205	EQUIPMENT PLATFORM	-	-	P-1	EXP	

FINISH LEGEND:

WALLS:

P-1 GENERAL PAINT
MANUFACTURER: SHERWIN WILLIAMS
STYLE: EPOXY
COLOR: SW6152 ETHERIAL
SIZE: N/A

CWT-1 GENERAL CERAMIC WALL TILE
MANUFACTURER: AMERICAN OLEAN
STYLE: BRIGHT
COLOR: 0025 ICE WHITE
SIZE: 6" X 6"
NOTES: PROVIDE COVE BASE WHERE TILE MEETS FLOOR

CWT-2 ACCENT CERAMIC WALL TILE
MANUFACTURER: AMERICAN OLEAN
STYLE: BRIGHT
COLOR: 0076 SHAMROCK GREEN
SIZE: 6" X 6"

BASE:

RB-1 RUBBER BASE
MANUFACTURER: JOHNSONITE
STYLE: COVE
COLOR: 32 PEBBLE
SIZE: 4"

FLOORING:

VCT-1 VINYL COMPOSITION TILE
MANUFACTURER: ARMSTRONG
STYLE: STANDARD EXCELO IMPERIAL TEXTURE
COLOR: COOL WHITE
SIZE: 12" X 12"
NOTES: INSTALL WITH PATTERN RUNNING IN ONE DIRECTION

SC-1 SEALED CONCRETE
MANUFACTURER: SHERWIN WILLIAMS - GENERAL POLYMERS
STYLE: FASTOP 128.100
COLOR: LIGHT GREY
SIZE: N/A

CEILING:

EXP - EXPOSED STRUCTURE

APC-1 ACOUSTIC PANEL CEILING
MANUFACTURER: ARMSTRONG
STYLE: ULTIMA
COLOR: WHITE
SIZE: 24" X 24"
NOTES: PROVIDE 15/16" WHITE GRID

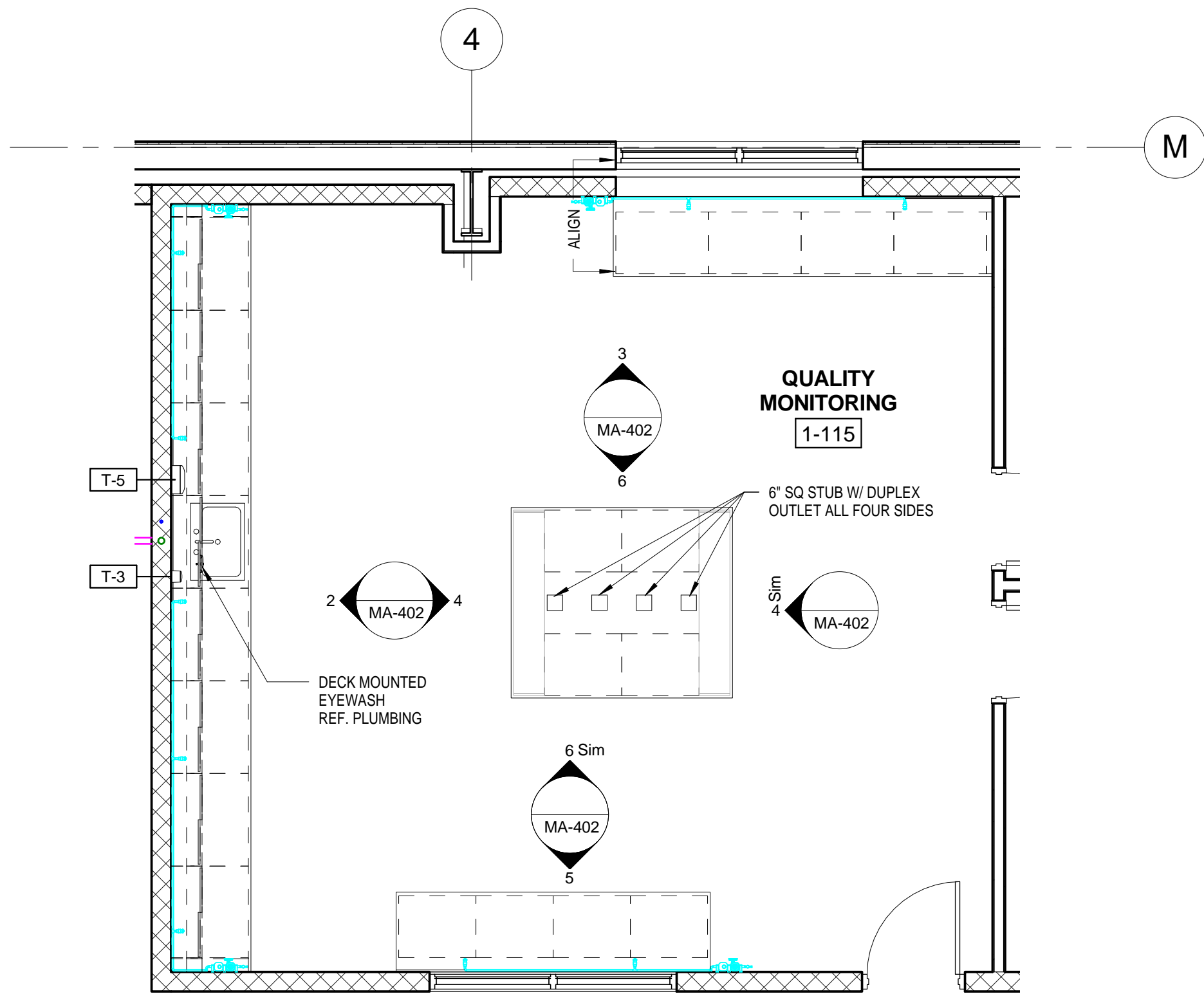
MILLWORK:

SS-1 SOLID SURFACE
MANUFACTURER: CORIAN
STYLE:
COLOR: JASMINE
SIZE: N/A
NOTES: PROVIDE FOR BREAK ROOM COUNTER TOPS

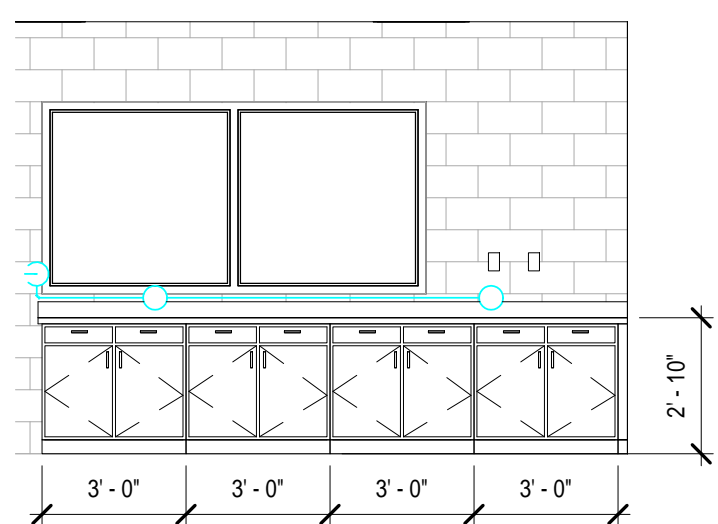
SS-2 EPOXY RESIN COUNTERS
MANUFACTURER: BURCON
STYLE: CLASSIC TOP
COLOR: BLACK ONYX
SIZE: 1" THICK
NOTES: PROVIDE FOR QUALITY MONITORING COUNTER TOPS

PL-1 PLASTIC LAMINATE
MANUFACTURER: WILSONART
STYLE: NATURELLE FINISH
COLOR: SABANT ESPRESSO PEAR
SIZE: N/A
NOTES: PROVIDE FOR ALL CABINETS

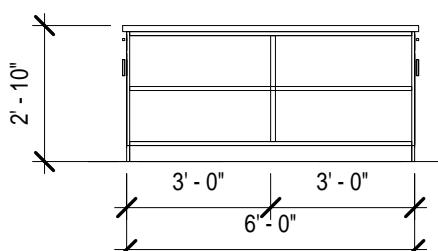
SW-1 SOLID WOOD
MANUFACTURER: N/A CUSTOM MILLWORK
STYLE: CUSTOM GRADE, FRAMELESS, FLUSH OVERLAY
COLOR: PLAIN SLICED, WHITE OAK, CLEAR FINISH
SIZE: REFERENCE DRAWINGS



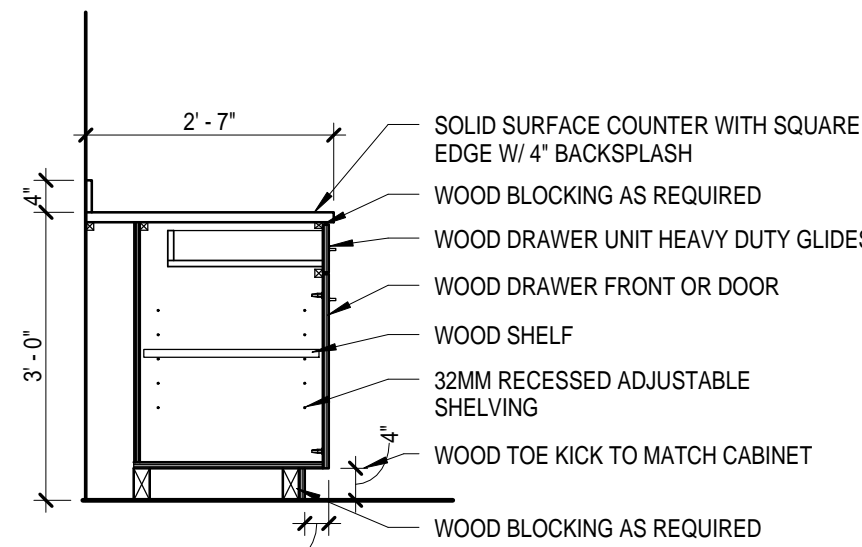
1 ENLARGED QUALITY MONITORING PLAN
1/4" = 1'-0"



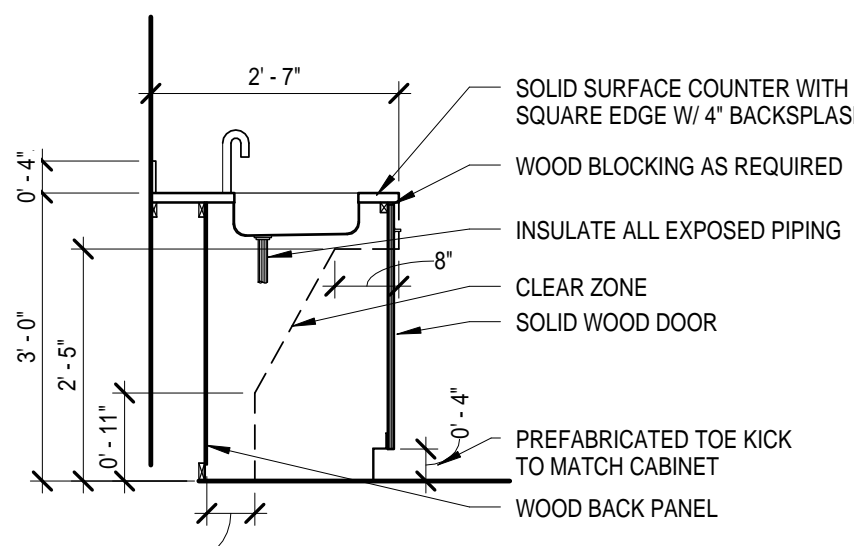
3 QUALITY MONITORING 1-115-NORTH
1/4" = 1'-0"



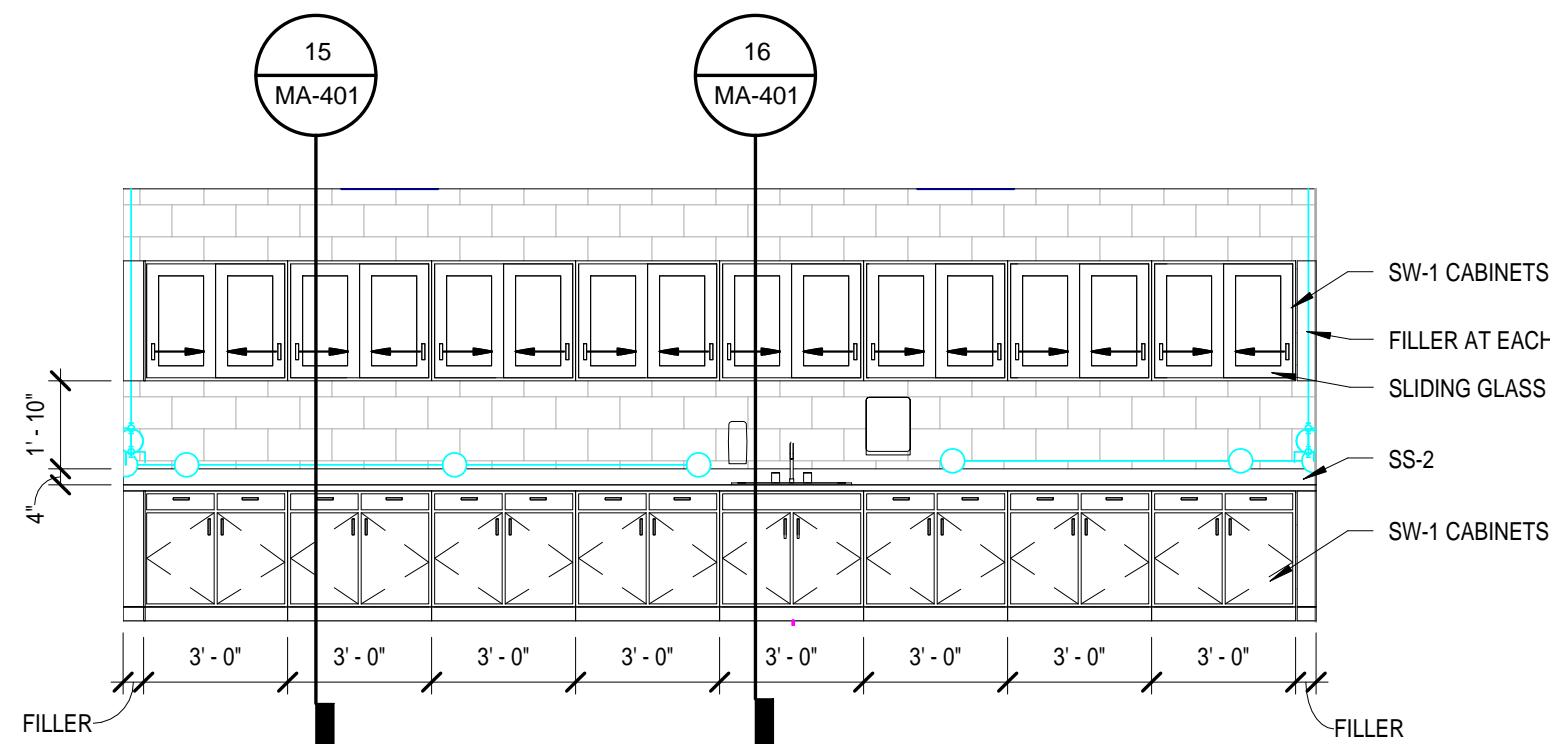
4 QUALITY MONITORING 1-115-EAST
1/4" = 1'-0"



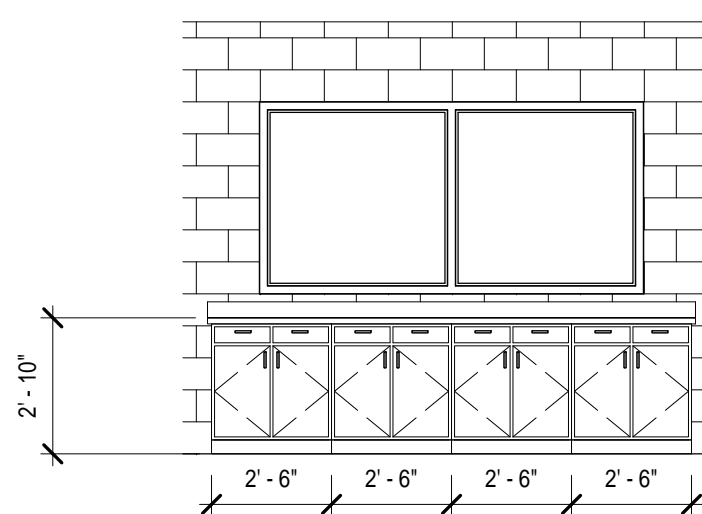
7 TYP. BASE CABINET W/ DRAWER
1/2" = 1'-0"



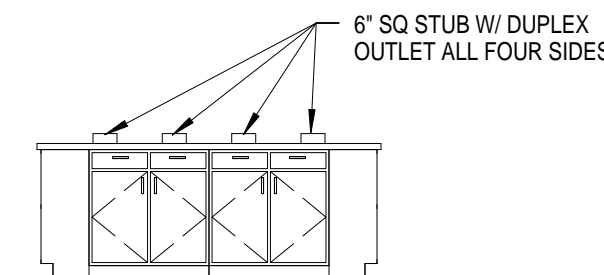
8 TYP. BASE CABINET W/ SINK
1/2" = 1'-0"



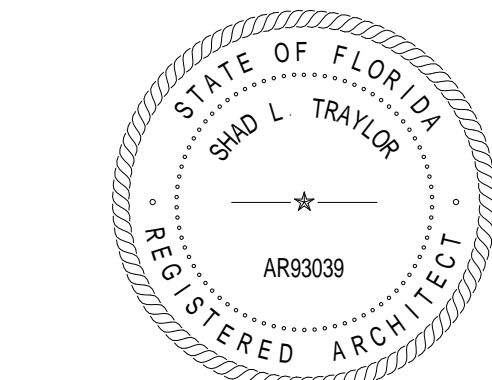
2 QUALITY MONITORING 1-115-WEST
1/4" = 1'-0"



5 QUALITY MONITORING 1-115-WEST
1/4" = 1'-0"



6 LAB MILLWORK ELEVATION E
1/4" = 1'-0"



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SHAD L. TRAYLOR, ARCHITECT
USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS
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ARCHITECT OF RECORD
SHAD L. TRAYLOR
AR93039
DESIGNED BY
BRPH
DRAWN BY
SCHRAGE
CHECKED BY
TRAYLOR
PROJECT NUMBER
C07111.004

DATE

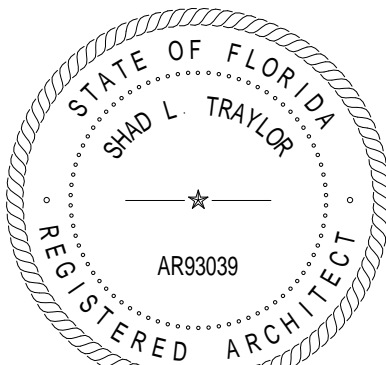
01/30/17

TITLE

FINISH
SCHEDULE
ENLARGED PLAN

DRAWING NO.

MA-402



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AR93039
DESIGNED BY
BRPH
DRAWN BY
SCHRAGE
CHECKED BY
TRAYLOR
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE

MOLDING
BUILDING
DETAILS

DRAWING NO.

MA-501

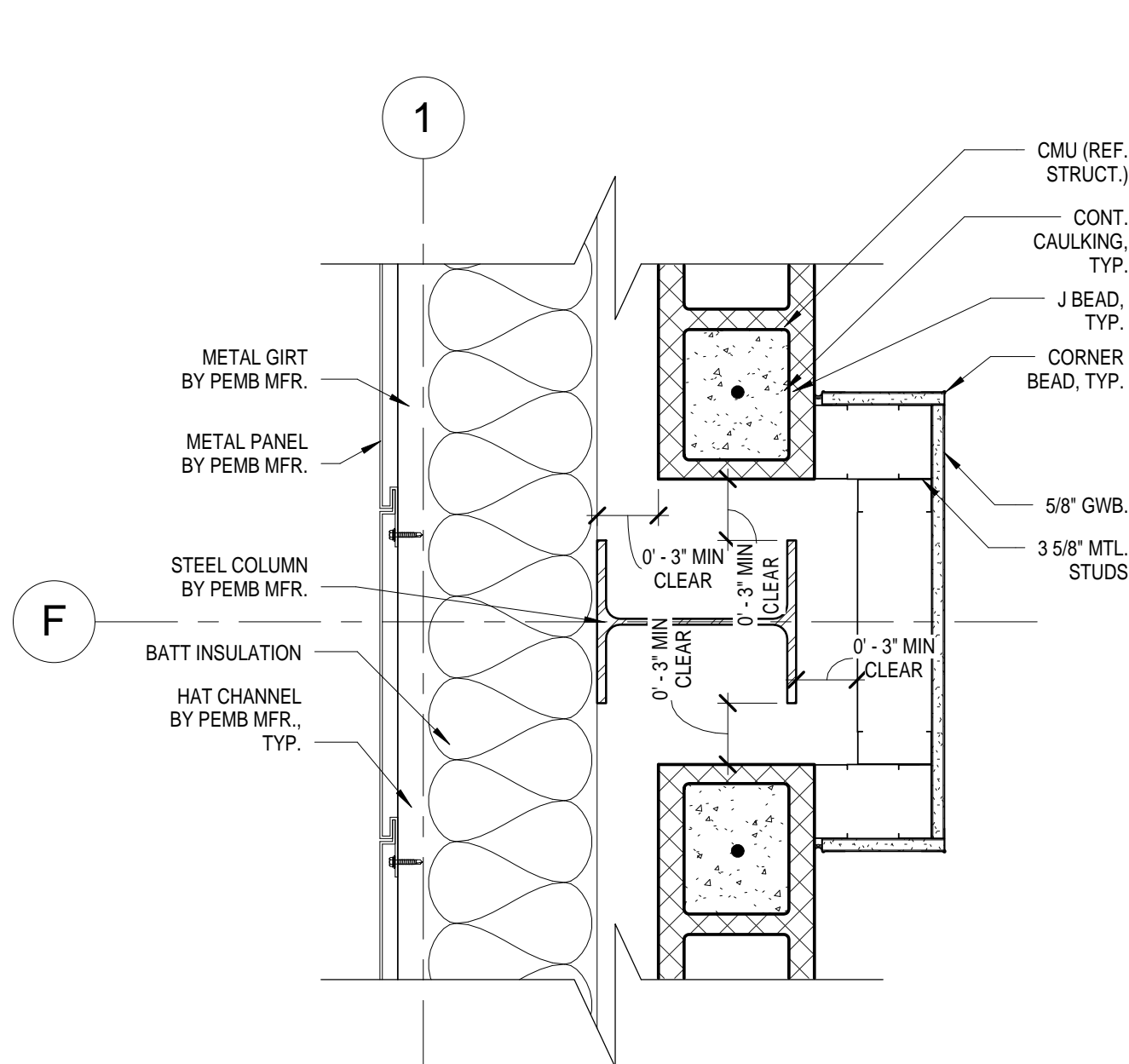
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D

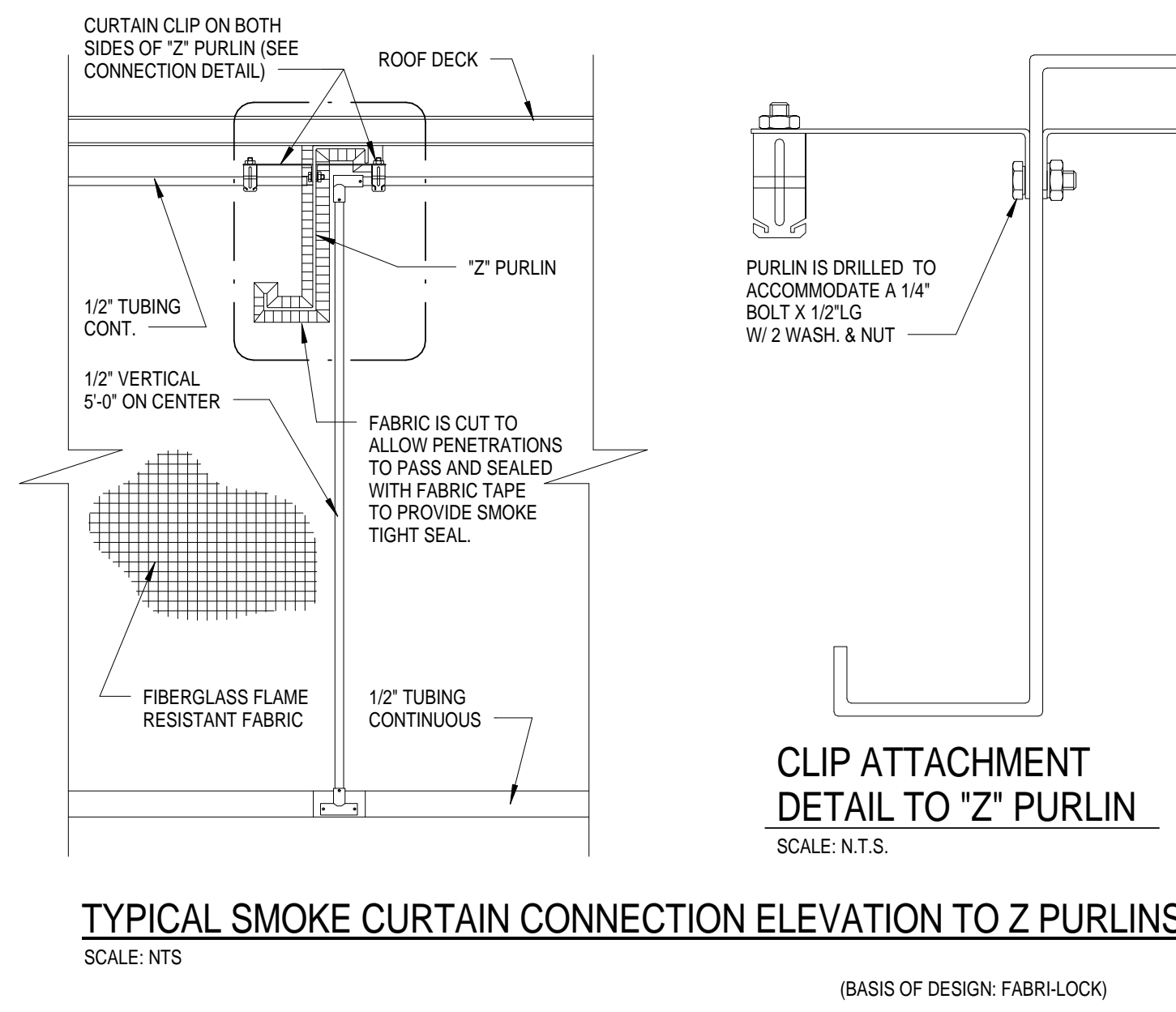
C

B

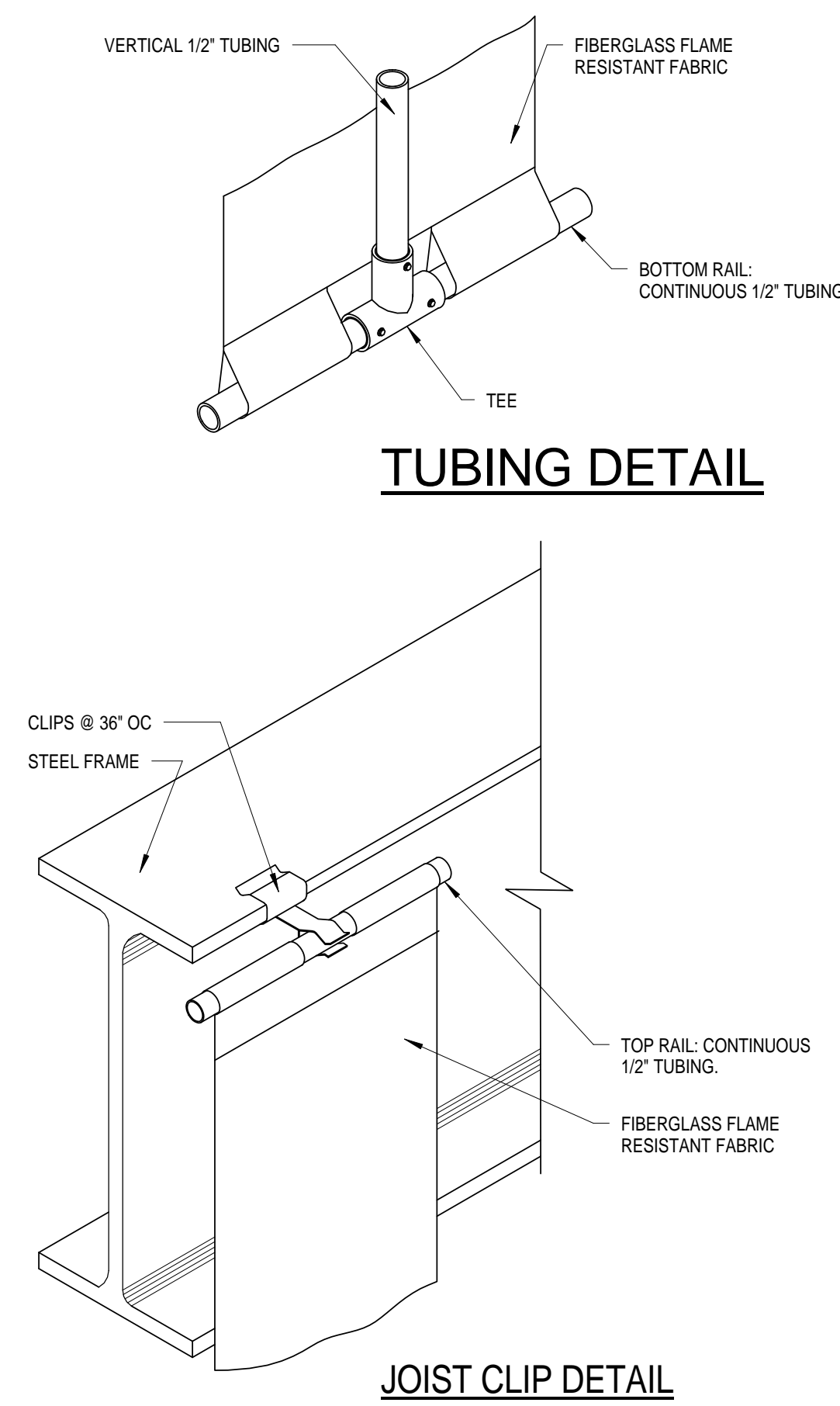
A



3 EXTERIOR COLUMN CLOSURE
1 1/2" = 1'-0"



2 DRAFT CURTAIN DETAILS
1 1/2" = 1'-0"



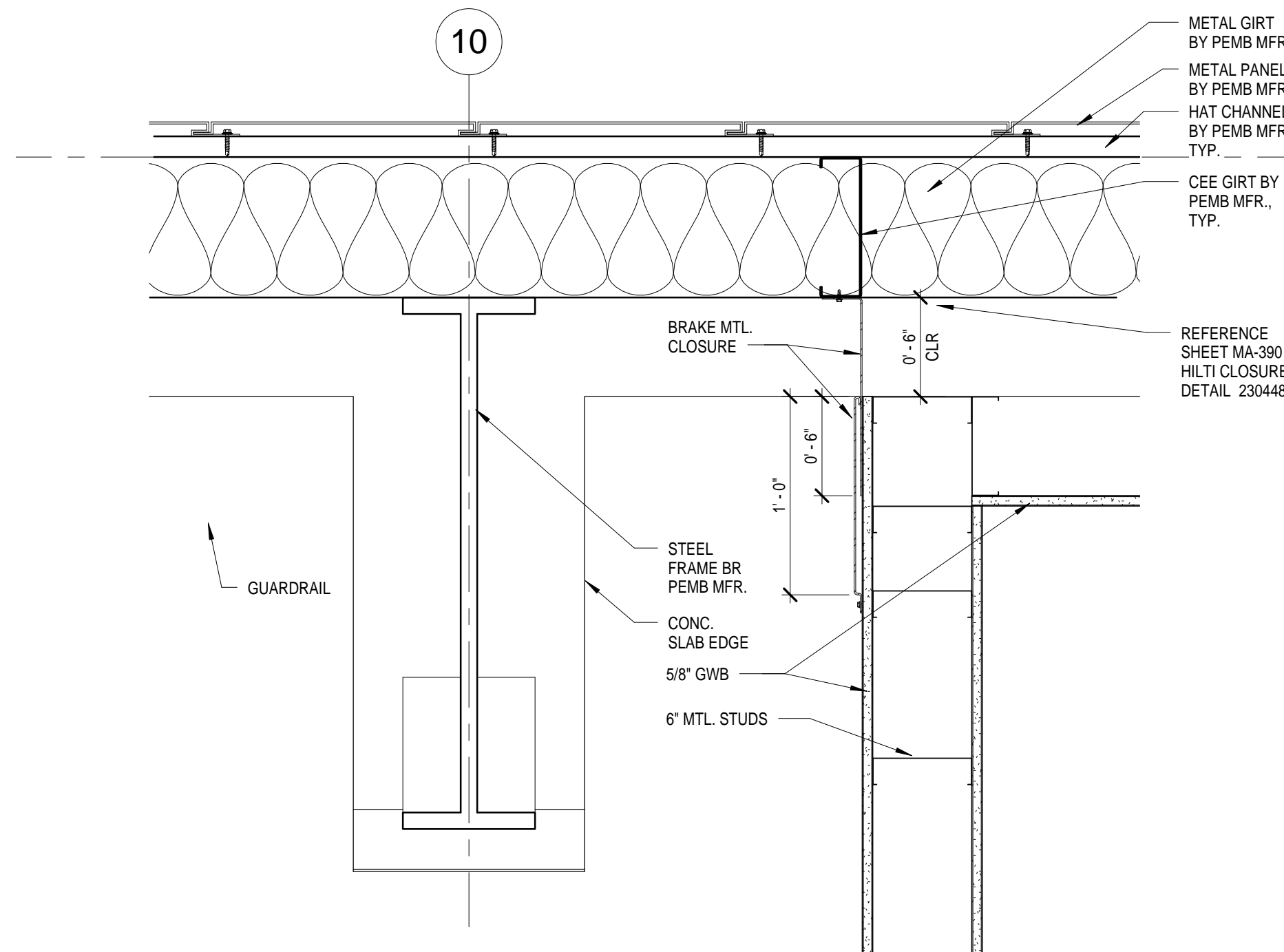
TUBING DETAIL

JOIST CLIP DETAIL

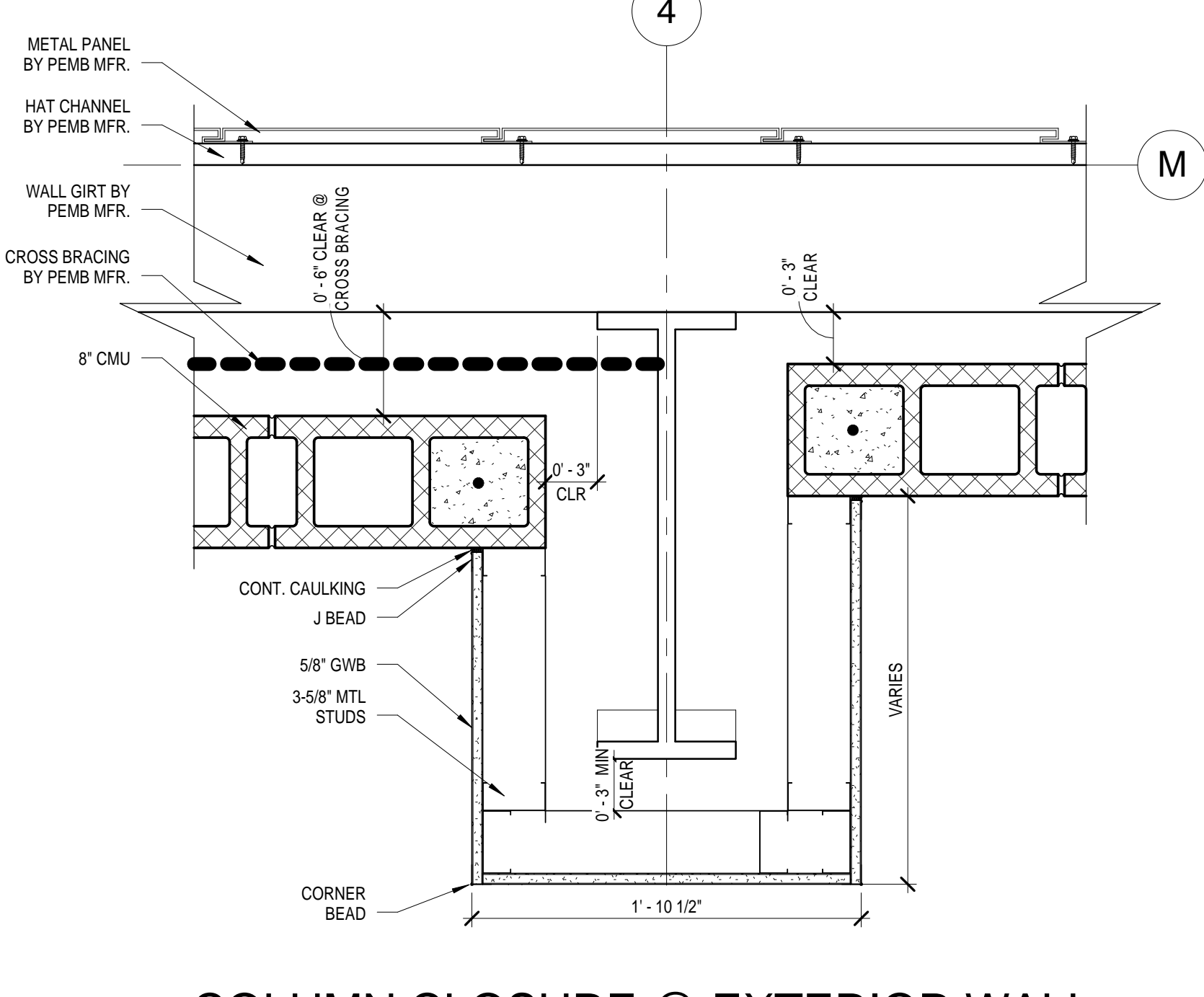
HEAD 4

JAMB 4

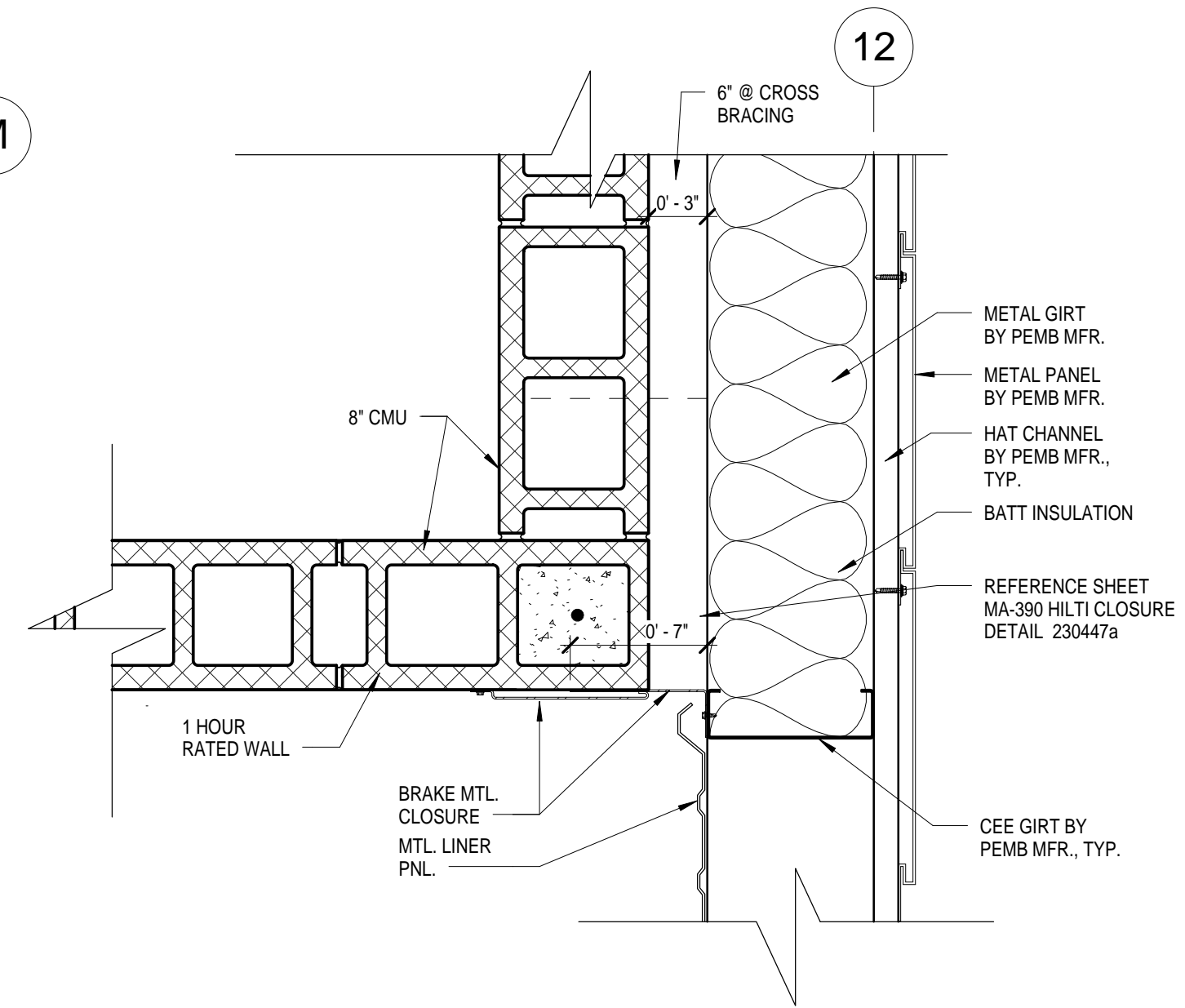
1 CLOSURE @ OHC
1 1/2" = 1'-0"



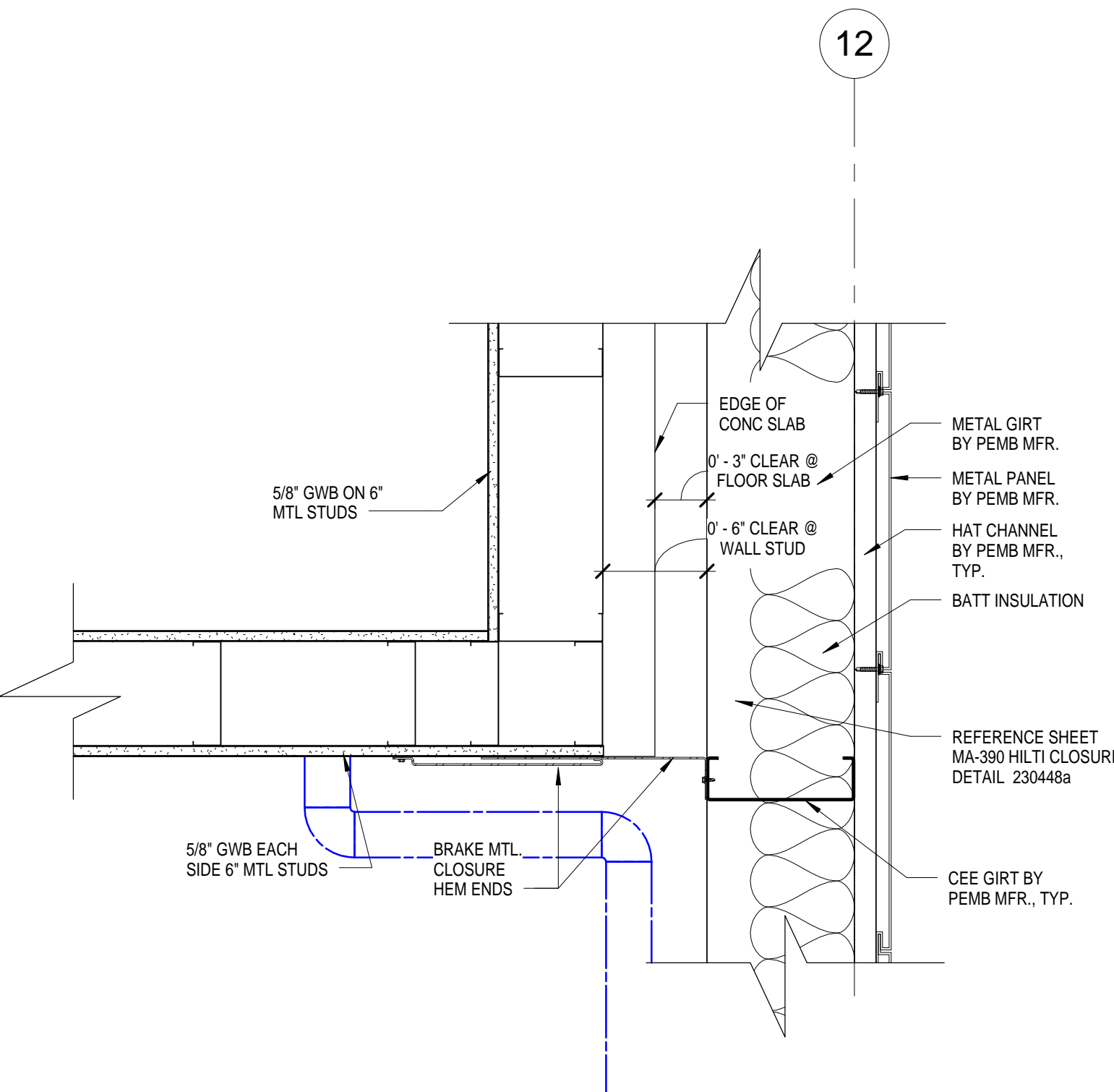
6 GWB TO EXTERIOR WALL CLOSURE
1 1/2" = 1'-0"



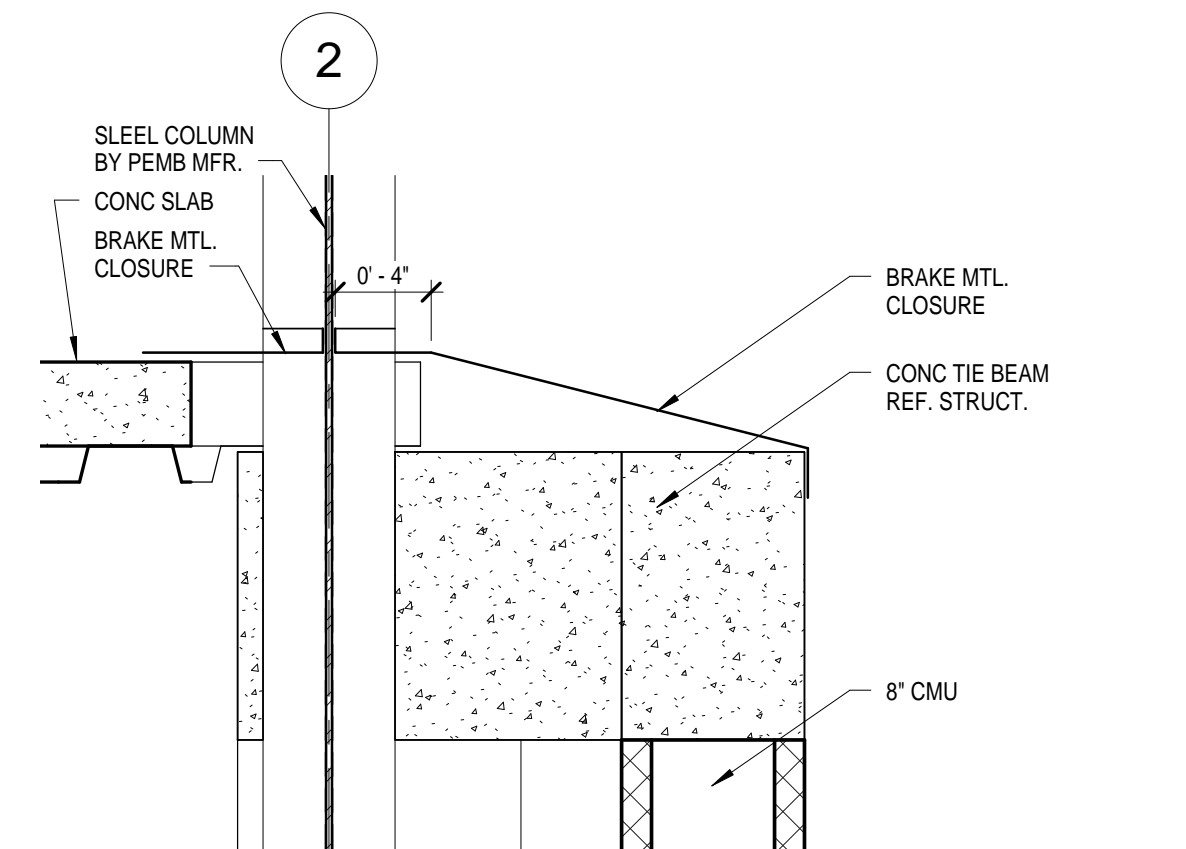
5 COLUMN CLOSURE @ EXTERIOR WALL
1 1/2" = 1'-0"



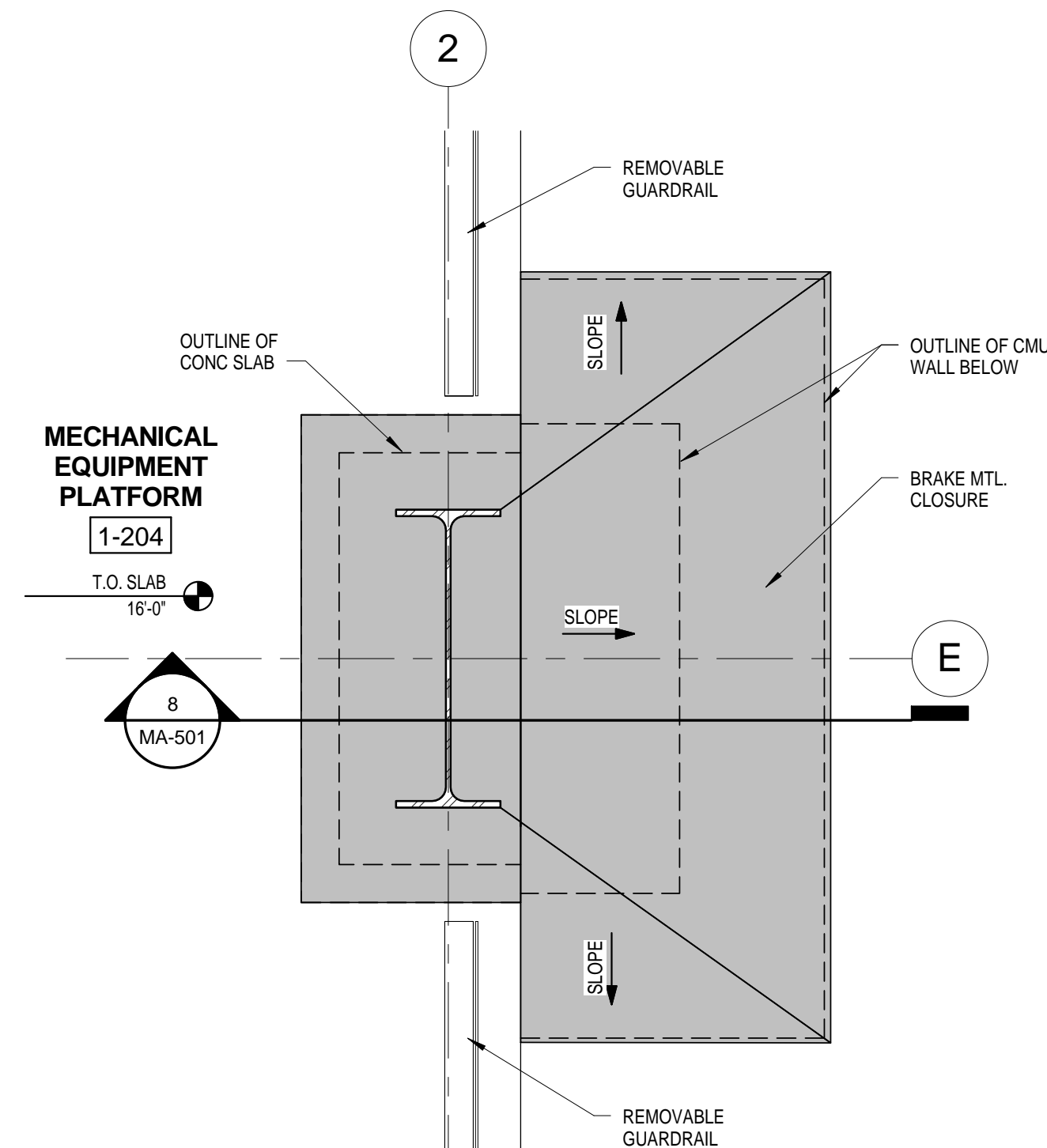
4 CMU TO EXTERIOR WALL CLOSURE
1 1/2" = 1'-0"



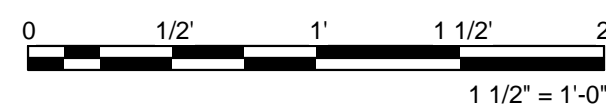
9 GWB TO EXTERIOR WALL CLOSURE
1 1/2" = 1'-0"



8 SECTION @ CMU COLUMN CLOSURE
1 1/2" = 1'-0"



7 CMU @ COLUMN CLOSURE
1 1/2" = 1'-0"



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E

DH4

DJ4

DS4

DS4A

DS4A

DH8

DJ8

DS8

DS8A

4 DOOR DETAILS
1 1/2" = 1'-0"

B

DH-5

DJ-5

DS-5

A

2

DH1

DJ1

DS1

DH2

DJ2

DS2

DH3

DJ3

DS3

3

5 LOUVER DETAILS
1 1/2" = 1'-0"

4

6 WINDOW DETAILS
1 1/2" = 1'-0"

5

6

DOOR SCHEDULE														
REV	NUMBER	TYPE	DOOR			MATL	FIRE RATING	FRAME				COMMENTS		
			WIDTH	HEIGHT	THICK			TYPE	MATL	HEAD	DETAIL			
											JAMB	SILL		
	1-101A	SF	6'-0"	7'-2"	0'-1 3/4"	ALUM/GLASS	-	-	ALUM	DH1 SIM	DJ1 SIM	DS1		CARD READER
	1-101B	SF	6'-0"	7'-2"	0'-1 3/4"	ALUM/GLASS	-	-	ALUM	DH5 SIM	DJ5 SIM	DS5 SIM		CARD READER
	1-102A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-102B	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		AIR CURTAIN REFERENCE MECHELEC.
	1-103A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-103B	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		SEE DETAIL 1MA-501
	1-103C	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH1	DJ1	DS1		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-104A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-104B	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-104C	OHC	10'-0"	12'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		AIR CURTAIN REF. MECHELEC.
	1-104D	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-104E	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-104F	OHC	10'-0"	12'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		AIR CURTAIN REF. MECHELEC.
	1-105A	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		AIR CURTAIN REF. MECHELEC.
	1-105B	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-105C	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		AIR CURTAIN REF. MECHELEC.
	1-107A	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-107B	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-107C	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH1	DJ1	DS1		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-107D	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		SEE DETAIL 1MA-501
	1-107E	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-108	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-109	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-110A	HG	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-110B	SF	3'-0"	7'-2"	0'-1 3/4"	ALUM/GLASS	-	-	ALUM	DH1	DJ1	DS1		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-111	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		3/4" DOOR UNDERCUT
	1-111A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		3/4" DOOR UNDERCUT
	1-112	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-113	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		3/4" DOOR UNDERCUT
	1-113A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		3/4" DOOR UNDERCUT
	1-114A	F	3'-0"	7'-2"	0'-1 3/4"	HM	45 MIN.	A	HM	DH8	DJ8	DS8		
	1-114B	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		
	1-114C	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH5	DJ5	DS5		STORE ROOM LOCK FUNCTION, AIR CURTAIN REF. MECHELEC.
	1-115	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-116	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		
	1-117	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH2	DJ2	DS2		
	1-118	NL	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-118A	F	3'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
	1-119A	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4		
	1-119B	F	6'-0"	7'-2"	0'-1 3/4"	HM	-	A	HM	DH8	DJ8	DS8		
EQUIPMENT PLATFORM DOOR SCHEDULE														
	1-201A	F	3'-0"	7'-2"	0'-1 3/4"	HM	45 MIN.	A	HM	DH2	DJ2	DS2		
	1-201B	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4A		SEE DETAIL 1MA-501 SIM, PROVIDE SAFETY CHAIN
	1-201C	F	3'-0"	7'-2"	0'-1 3/4"	HM	45 MIN.	A	HM	DH2	DJ2	DS2		
	1-203A	F	3'-0"	7'-2"	0'-1 3/4"	HM	45 MIN.	A	HM	DH2	DJ2	DS2		
	1-203B	F	3'-0"	7'-2"	0'-1 3/4"	HM	45 MIN.	A	HM	DH2	DJ2	DS2		
	1-203C	OHC	10'-0"	10'-0"	0'-0 5/8"	STEEL	-	-	STEEL	DH4	DJ4	DS4A		SEE DETAIL 1MA-501 SIM, PROVIDE SAFETY CHAIN

LOUVER SCHEDULE				
TYPE	QTY	WIDTH	HEIGHT	
LV-1	3	6'-0"	10'-0"	
LV-2	3	6'-0"	4'-0"	
LV-3	1	3'-0"	3'-6"	
LV-4	2	2'-0"	1'-0"	
LV-5	1	2'-0"	2'-0"	
LV-6	2	0'-7"	0'-7"	
LV-7	1	6'-0"	5'-0"	
LV-8	3	5'-0"	8'-0"	

1 DOOR TYPES
1/4" = 1'-0"

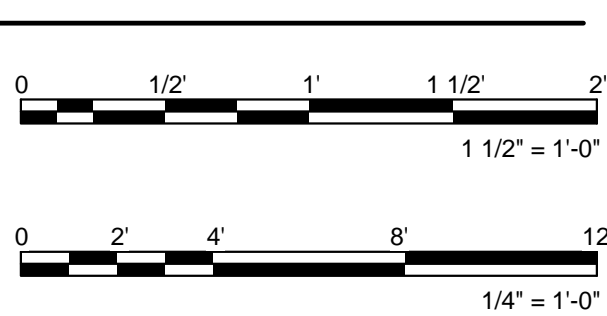
2 FRAME TYPES
1/4" = 1'-0"

3 WINDOW TYPES
1/4" = 1'-0"

NOTE:
JAMB SIMILAR TO HEAD. LOUVER MUST BE INSTALLED PER MANUFACTURERS INSTALLATION METHOD TO COMPLY WITH MIAMI DADE APPROVAL. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY INSTALL THE LOUVERS PER THE MANUFACTURERS DETAILS.

5 LOUVER DETAILS
1 1/2" = 1'-0"

6 WINDOW DETAILS
1 1/2" = 1'-0"



REVISION	

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ROOM FINISH SCHEDULE						
NUMBER	NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	COMMENTS
1-101	LOBBY	SC-1	RB-1	P-1	APC-1	
1-102	REFINER ROOM	SC-1	RB-1	P-1	EXP	
1-103	MECHANICAL ROOM	SC-1	RB-1	P-1	EXP	
1-104	MOLDING AREA	SC-1	RB-1	P-1	EXP	
1-105	LOADING DOCK	SC-1	RB-1	P-1	EXP	
1-106	MAINTENANCE & PARTS STORAGE	SC-1	RB-1	P-1	EXP	
1-107	TOOLING	SC-1	RB-1	P-1	EXP	
1-108	OFFICE	VCT-1	RB-1	P-1	EXP	
1-109	IT ROOM	SC-1	RB-1	P-1	EXP	
1-110	BREAK ROOM	SC-1	RB-1	P-1	APC-1	
1-111	MEN	VCT-1	CWT-1	CWT-1 / CWT-2	GYP	
1-111A	VEST	VCT-1	RB-1	P-1	APC-1	
1-112	JAN	SC-1	RB-1	P-1 / CWT-1	EXP	
1-113	WOMEN	VCT-1	CWT-1	CWT-1 / CWT-2	GYP	
1-113A	VEST	VCT-1	RB-1	P-1	APC-1	
1-114	ELECTRICAL ROOM	SC-1	RB-1	P-1	EXP	
1-115	QUALITY MONITORING	VCT-1	RB-1	P-1	EXP	
1-116	STORAGE	SC-1	RB-1	P-1	EXP	
1-117	OFFICE	VCT-1	RB-1	P-1	APC-1	
1-118	CONTROL ROOM	SC-1	RB-1	P-1	EXP	
1-118A	PLC ROOM	VCT-1	RB-1	P-1	EXP	
1-119	VACUUM PUMP ROOM	SC-1	RB-1	P-1	EXP	
1-201	ELECTRICAL EQUIPMENT PLATFORM A	SC-1	RB-1	P-1	EXP	
1-202	MECHANICAL EQUIPMENT PLATFORM	SC-1	RB-1	P-1	EXP	
1-203	ELECTRICAL EQUIPMENT PLATFORM B	SC-1	RB-1	P-1	EXP	
1-204	MECHANICAL EQUIPMENT PLATFORM	SC-1	RB-1	P-1	EXP	
1-205	EQUIPMENT PLATFORM	-	-	P-1	EXP	

FINISH LEGEND:

WALLS:

P-1 GENERAL PAINT
MANUFACTURER: SHERWIN WILLIAMS
STYLE: EPOXY
COLOR: SW6182 ETHERIAL
SIZE: N/A
NOTES:

CWT-1 GENERAL CERAMIC WALL TILE
MANUFACTURER: AMERICAN OLEAN
STYLE: BRIGHT
COLOR: Q025 ICE WHITE
SIZE: 6" X 6"
NOTES:

CWT-2 MENS ACCENT CERAMIC WALL TILE
MANUFACTURER: AMERICAN OLEAN
STYLE: BRIGHT
COLOR: Q078 SHAMROCK
SIZE: 6" X 6"
NOTES:

CWT-3 WOMENS ACCENT CERAMIC WALL TILE
MANUFACTURER: AMERICAN OLEAN
STYLE: BRIGHT
COLOR: Q076 GREEN APPLE
SIZE: 6" X 6"
NOTES:

BASE:

RB-1 RUBBER BASE
MANUFACTURER: JOHNSONITE
STYLE: COVE
COLOR: 32 PEBBLE
SIZE: 4"
NOTES:

FLOORING:

VCT-1 VINYL COMPOSITION TILE
MANUFACTURER: ARMSTRONG
STYLE: STANDARD EXCELOX IMPERIAL TEXTURE
COLOR: COOL GREY
SIZE: 12" X 12"
NOTES: INSTALL WITH PATTERN RUNNING IN ONE DIRECTION

SC-1 SEALED CONCRETE
MANUFACTURER: SHERWIN WILLIAMS - GENERAL POLYMERS
STYLE: FASTOP 125L 18"
COLOR: LIGHT GREY
SIZE: N/A
NOTES:

CEILINGS:

EXP - EXPOSED STRUCTURE

GYP - PAINTED GYP BOARD
MANUFACTURER: SHERWIN WILLIAMS
STYLE: FLAT
COLOR: SUPER WHITE
SIZE: N/A
NOTES:

APC-1 ACOUSTIC PANEL CEILING
MANUFACTURER: ARMSTRONG
STYLE: ULTIMA BEVELED REGULAR 1912
COLOR: WHITE
SIZE: 24" X 24"
NOTES: PROVIDE 15/16" WHITE GRID

MILLWORK:

SS-1 SOLID SURFACE
MANUFACTURER: CORIAN
STYLE:
COLOR: JASMINE
SIZE:
NOTES: PROVIDE FOR ALL COUNTER TOPS

PL-1 PLASTIC LAMINATE
MANUFACTURER: WILSONART
STYLE: NATURELLE FINISH
COLOR: 548-NT ESPRESSO PEAR
SIZE:
NOTES: PROVIDE FOR ALL CABINETS

SW-1 SOLID WOOD
MANUFACTURER: N/A CUSTOM MILLWORK
STYLE: CUSTOM GRADE, FRAMELESS, FLUSH OVERLAY
COLOR: PLAIN SLICED, WHITE OAK, CLEAR FINISH
SIZE: REFERENCE DRAWINGS
NOTES:



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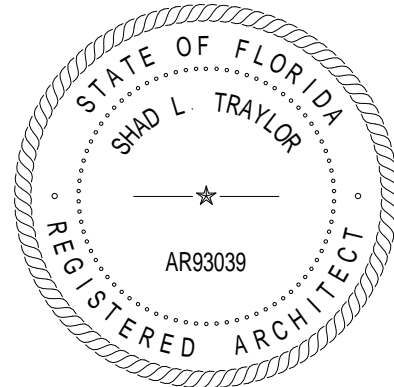
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ISSUE ISSUE FOR CONSTRUCTION

REVISION



BAGASSE PROCESSING FACILITY
BELLE GLADE, FL
TELLUS PRODUCTS, LLC



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ARCHITECT OF RECORD
SHAD L. TRAYLOR
AR93039
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BRPH
DRAWN BY
SCHRAGE
CHECKED BY
TRAYLOR
PROJECT NUMBER
C07111.004

DATE

01/30/17

TITLE

FINISH
SCHEDULE

DRAWING NO.

MA-641

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E

SCOPE OF WORK:

THE SCOPE OF WORK SHALL INCLUDE THE FOLLOWING:

- A. THE LAYOUT, INSTALLATION AND TESTING OF THE NEW FIRE PROTECTION AUTOMATIC WET-PIPE SPRINKLER SYSTEM THROUGHOUT THE BUILDING.
- B. JENSEN HUGHES' SCOPE OF WORK BEGINS AT 12" ABOVE FINISH FLOOR.

CLARIFICATIONS:

- 1. JENSEN HUGHES IS NOT RESPONSIBLE FOR THE WATER SUPPLY OR THE EFFECT EITHER MAY HAVE ON THE FIRE PROTECTION SPRINKLER SYSTEMS.
- 2. THESE DRAWINGS HAVE BEEN PROVIDED AS A BASIS OF DESIGN. IT IS THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR TO PREPARE FULLY COORDINATED SHOP DRAWINGS IN ACCORDANCE WITH NFPA 13 "WORKING DRAWINGS".
- 3. FIRE SPRINKLER CONTRACTOR SHALL PROVIDE LAYOUT OF THE SPRINKLER SYSTEM TO GIVE FULL CONSIDERATION TO BLIND SPACES, PIPING, ELECTRICAL EQUIPMENT, DUCTS, AND OTHER CONSTRUCTION AND EQUIPMENT. LOCATE SPRINKLERS IN A CONSISTENT PATTERN WITH THE CEILING AND CEILING GRID (WHERE PROVIDED), LIGHTS, AND AIR SUPPLY DIFFUSERS. SPRINKLERS SHALL BE LOCATED IN THE CENTER OF CEILING TILE WHERE TILE IS PROVIDED. DEVICES AND EQUIPMENT FOR FIRE PROTECTION SERVICE SHALL BE UL FIRE PROTECTION DIRECTORY LISTED OR FM APPROVED FOR USE IN WET PIPE SPRINKLER SYSTEMS. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED TO, ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE FIRE PROTECTION SYSTEM, IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, LOCAL AUTHORITIES AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE OWNER. THE SPRINKLER CONTRACTOR SHALL CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS.
- 4. AFTER COMPLETION, BUT BEFORE FINAL ACCEPTANCE, FIRE SPRINKLER CONTRACTOR SHALL SUBMIT COMPLETE SET OF AS-BUILT DRAWINGS OF EACH SYSTEM FOR RECORD PURPOSES.

DESIGN CRITERIA:

- 1. DESIGN AND INSTALLATION ARE IN ACCORDANCE WITH 2010 NFPA 13, "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS", FLORIDA BUILDING CODE 5TH EDITION (2014) FLORIDA FIRE PREVENTION CODE 5TH EDITION (2014), LOCAL ORDINANCES AND AUTHORITIES HAVING JURISDICTION.
- 2. ALL CONTROL VALVES AND FLOW SWITCHES ON THE FIRE PROTECTION SYSTEM SHALL BE ELECTRICALLY SUPERVISED PER 13.8.16.1.1.2.1, BY AN APPROVED CENTRAL STATION.
- 3. LIGHT HAZARD AREAS, ARE HYDRAULICALLY CALCULATED AT A DENSITY OF .10 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. INCLUDING 100 GPM FOR OUTSIDE HOSE. LIGHT HAZARD AREAS SHALL INCLUDE: BREAK, OFFICE, RESTROOMS, LOBBY, AND OTHER SIMILAR AREAS.
- 4. ORDINARY HAZARD GROUP I AREAS ARE HYDRAULICALLY CALCULATED AT A DENSITY OF .15 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. AND INCLUDE 250 GPM FOR OUTSIDE HOSE. ORDINARY GROUP I HAZARD AREAS SHALL INCLUDE: ELECTRICAL, MECHANICAL, CONTROL ROOM, LABORATORY AND OTHER SIMILAR AREAS.
- 5. ORDINARY HAZARD GROUP II AREAS ARE HYDRAULICALLY CALCULATED AT A DENSITY OF 0.20 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. AND INCLUDE 250 GPM FOR OUTSIDE HOSE. ORDINARY HAZARD GROUP II AREAS SHALL INCLUDE: MOLDING AREAS AND TOOLING.
- 6. HYDRAULIC CALCULATIONS SHALL INCLUDE A MINIMUM OF 5-PSI OR 10% SAFETY MARGIN,WHICHEVER IS GREATER, AT THE POINT WHERE THE WATER SUPPLY TEST WAS TAKEN.

CONTRACTOR:

- 1. THESE DOCUMENTS SHALL SERVE AS A BASIS FOR DESIGN AND LAYOUT.
- 2. SEE CLARIFICATION NOTES ABOVE.
- 3. SPRINKLER CONTRACTOR SHALL VISIT JOB SITE WITH THESE DESIGN DOCUMENTS, AND THE PROJECT CONSTRUCTION DOCUMENTS, PRIOR TO BID AND BECOME FAMILIAR WITH FIELD CONDITIONS, AND TO IDENTIFY ANY COORDINATION CONFLICTS. NOTIFY ENGINEER OF RECORD WITH ANY CONFLICTS OR DISCREPANCIES OUTSIDE THIS DESIGN INTENT, PRIOR TO BID. ANY CHANGE ORDER REQUEST, AS A RESULT OF FIELD CONDITIONS, OR AS A RESULT OF LACK OF COORDINATION BETWEEN TRADES, WILL BE DENIED.
- 4. SPRINKLER CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR THE INSTALLATION AND TESTING OF FIRE SPRINKLER SYSTEM(S) INCLUDED IN THIS WORK-SCOPE, AND ADHERE TO ALL PERMIT, LICENSE AND GOVERNMENTAL REQUIREMENTS.
- 5. CONTRACTOR SHALL CONDUCT A WATER SUPPLY TEST PRIOR TO PREPARATION OF SHOP DRAWINGS, AND IMMEDIATELY NOTIFY ENGINEER OF RECORD, IN WRITING, OF THE TEST RESULTS.
- 6. CONTRACTOR SHALL SUBMIT A COMPLETE INSTALLATION PACKAGE TO THE ENGINEER FOR REVIEW AND APPROVAL, PRIOR TO MATERIAL REQUISITIONING AND FABRICATION. THE INSTALLATION PACKAGE SHALL INCLUDE:
 - A. INSTALLATION DRAWINGS WITH INSTALLATION INFORMATION PER 13.22.1.
 - B. SITE PLAN WITH CURRENT UTILITY INFORMATION AND PERTINENT INFORMATION IN 13.22.1.
 - C. HYDRAULIC CALCULATIONS.
 - D. CURRENT WATER SUPPLY RESULTS.
 - E. MATERIAL SPECIFICATION BROCHURE.
- 7. MATERIAL SPECIFICATION BROCHURE SHALL INCLUDE ALL SYSTEM COMPONENTS USED IN THE SYSTEM, TO THE WATER SOURCE, INCLUDING THE BACKFLOW PREVENTER.
- 8. THE INSTALLATION OR PROCUREMENT OF NEW SYSTEM PIPING AND COMPONENTS IS PROHIBITED PRIOR TO THE SATISFACTORY REVIEW OF THE INSTALLATION PACKAGE BY THE ENGINEER AND AT THE RISK OF THE INSTALLING CONTRACTOR.
- 9. FIRE SPRINKLER CONTRACTOR SHALL PROVIDE TO OWNER ALL LITERATURE AND INSTRUCTIONS PROVIDED BY THE MANUFACTURER DESCRIBING PROPER OPERATION AND MAINTENANCE OF ANY EQUIPMENT AND DEVICES INSTALLED, AND A COPY OF NFPA 25, "STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS PER 10-4.
- 10. FIRE SPRINKLER CONTRACTOR SHALL INSTALL SYSTEM PIPING AND COMPONENTS IN A WORKMANSHIP LIKE MANNER. CHANGES IN INSTALLATION AS A RESULT OF POOR CRAFTSMANSHIP SHALL BE AS DIRECTED BY THE ARCHITECT, ENGINEER OR OWNER, AND SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
- 11. THE INSTALLING CONTRACTOR SHALL ENSURE THE SPRINKLER SYSTEM IS COORDINATED WITH ALL OTHER TRADES AND BUILDING FEATURES. SPRINKLERS SHALL BE LOCATED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF NFPA 13 FOR OBSTRUCTIONS. THIS SHALL INCLUDED OBSTRUCTIONS TO SPRINKLER DISCHARGE OBSTRUCTIONS THAT PREVENT SPRINKLER DISCHARGE FROM REACHING THE HAZARD AND OBSTRUCTIONS TO SPRINKLER DISCHARGE PATTERN DEVELOPMENT. CONTRACTOR SHALL LOCATE SPRINKLERS AS REQUIRED TO ADHERE TO THESE REQUIREMENTS AND / OR PROVIDE ADDITIONAL SPRINKLERS AS NECESSARY TO COMPLY WITH THESE SECTIONS.
- 12. SPRINKLERS SHALL BE INSTALLED UNDER FIXED OBSTRUCTIONS OVER 4 FT. IN WIDTH. SUCH ITEMS INCLUDE, BUT NOT LIMITED TO, MEZZANINES, DUCTWORK, DECKS, OPEN GRATE FLOORING, AND OVERHEAD DOORS.

GENERAL NOTES:

- 1. DO NOT SCALE PLANS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.
- 2. NOT ALL PIPING, VALVES AND APPURTENANCES ARE SHOWN ON THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE DETAIL, DESIGN AND INSTALLATION DOCUMENTS. REFER TO PLANS, NOTES AND DETAILS, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 3. FLOW AND SUPERVISORY SWITCH CONNECTIONS SHALL BE ACCOMPLISHED BETWEEN THE DIFFERENT RESPONSIBLE TRADES. ELECTRICAL WIRING CONNECT TO ELECTRICAL FIRE PROTECTION DEVICES SHALL BE UNDER THE ELECTRICAL/FIRE ALARM DIVISION.
- 4. FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE PARTITIONS. FIRE STOPPING SHALL BE OF UL LISTED ASSEMBLY.
- 5. SPRINKLER SYSTEM(S) SHALL BE DESIGNED FOR A MAXIMUM WORKING PRESSURE OF 175PSI PER 13.6.1.3.
- 6. PROVIDE SYSTEM(S) WITH FLUSHING CONNECTIONS PER 13.8.16.3.
- 7. SPRINKLER SYSTEM(S) SHALL BE HYDROSTATICALLY TESTED FOR TWO HOURS AT 200 PSI OR AT A PRESSURE OF 50 PSI IN EXCESS OF SYSTEM WORKING PRESSURE, WHICHEVER IS GREATER, PER 13.24.2.1.1.
- 8. ALL SPRINKLER PIPE AND FITTINGS SHALL BE SO INSTALLED THAT THE SYSTEM CAN BE DRAINED PER 13.8.16.2.1. PROVIDE ADDITIONAL DRAINS AS NECESSARY.
- 9. INSPECTORS TEST CONNECTIONS SHALL BE PROVIDED SO THAT THE WATER FLOW SWITCH CAN BE TESTED. CONNECTIONS SHALL BE LOCATED IN AN ACCESSIBLE LOCATION AND DISCHARGE TO AN APPROVED LOCATION. REFER TO DETAIL.
- 10. ALL VALVES SHALL HAVE A PERMANENTLY AFFIXED SIGN INDICATING ITS FUNCTION SECURED TO THE VALVE WITH SUITABLE CHAIN PER 13.6.7.4.
- 11. PROVIDE A PERMANENTLY ATTACHED HYDRAULIC NAMEPLATE STATING THE REQUIRED DESIGN CRITERIA FOR EACH DESIGNED SYSTEM PER 13.24.5.
- 12. PIPE HANGER MATERIAL, SPACING AND METHOD OF ATTACHMENT SHALL BE PER 13.9.1, AND "MANUFACTURERS REQUIREMENTS".
- 13. MAINTAIN A MINIMUM OF 18" CLEARANCE BELOW SPRINKLER DEFLECTOR(S) AND ANY PERMANENT OR TEMPORARY OBSTRUCTION(S) PER 13.8.6.6.1.
- 14. AT LEAST SIX (6) SPARE SPRINKLER HEADS OF EACH TYPE, TEMPERATURE AND ORIFICE SIZE USED IN THE SYSTEM INCLUDING A SPECIAL WRENCH FOR EACH SPRINKLER HEAD SHALL BE KEPT IN A CABINET WHERE THE AMBIENT TEMPERATURE WILL AT NO TIME EXCEED 100" PER 13.6.2.9.1.

MATERIAL NOTES:

- 1. ONLY LISTED AND APPROVED DEVICES AND MATERIALS AS SPECIFIED IN NFPA 13 SHALL BE INSTALLED THROUGHOUT THE SYSTEM PER 13.6.1.1.
- 2. ONLY NEW SPRINKLERS, AS NOTED, OR THEIR EQUAL, SHALL BE USED.
- 3. ALL PIPING IN SIZES 1" THROUGH 2" SHALL BE SCH. 40, ASTM A-135 OR ANSI/ASTM A-53 BLACK STEEL PIPE, ASTM A-795 GALVANIZED, AND THREADED, UNLESS INDICATED OTHERWISE.
- 4. THE USE OF THREADABLE THINWALL PIPE, SUCH AS ALLIED "XL" OR "DYNA-THREAD", IS PROHIBITED.
- 5. ALL STEEL SPRINKLER PIPE SHALL HAVE A MINIMUM CORROSION RESISTANCE RATIO (CRR) OF 1.0.
- 6. ALL PIPE IN SIZES 2-1/2" THROUGH 8" SHALL BE SCH. 10, ASTM A-135 OR ANSI/ASTM A-53 BLACK STEEL, AND/OR ASTM A-795, AND ROLL-GROOVED, UNLESS INDICATED OTHERWISE. GRID SYSTEM BRANCHLINES OR MAINS OF 2" PIPING TO BE SCHEDULE 10 WITH GROOVED FITTINGS.
- 7. ALL THREADED PIPE AND FITTINGS SHALL HAVE THREADS CUT TO ASME B1.20.1, PIPE THREAD, GENERAL PURPOSE PER 13.6.5.1.1.
- 8. ALL SCH. 10 GROOVED BLACK STEEL PIPE SHALL BE ROLL-GROOVED.
- 9. PIPE JOINED WITH GROOVED FITTINGS SHALL BE JOINED BY A LISTED COMBINATION OF FITTINGS, GASKETS, AND GROOVES BY THE SAME MANUFACTURER. GROOVES SHALL BE DIMENSIONALLY COMPATIBLE WITH THE FITTINGS PER 13.6.5.3.2.
- 10. GROOVED FITTINGS SHALL BE MALLEABLE IRON ASTM A-47, DUCTILE IRON ASTM A-635, OR WELDED SEGMENT CARBON STEEL SCHEDULE 40 ASTM A-53. FINISH TO BE FACTORY PAINTED.
- 11. THREADED FITTINGS SHALL BE CAST IRON CLASS 125 OR 250 ANSI B16.4 OR MALLEABLE IRON CLASS 150 OR 300 ANSI B16.3., AND GALVANIZED WHERE NECESSARY OR REQUIRED.
- 12. WELDED OUTLETS SHALL BE ANSI B16.11 FORGED STEEL PER NFPA (UL LISTED) FOR WORKING PRESSURE TO 175PSI.
- 13. GALVANIZED PIPE AND FITTINGS TO BE USED IN ALL AREAS WHERE PIPE IS INSTALLED OUTSIDE OF THE BUILDING, SUCH AS DRAIN PIPING.

INSTALLATION NOTES:

- 1. THE WELDING OF PIPE OR FITTINGS ON THE JOB SITE PREMISES IS PROHIBITED.
- 2. ALL PIPE LENGTHS ARE SHOWN CENTER-TO-CENTER UNLESS OTHERWISE NOTED.
- 3. ALL SPRINKLERS SHALL BE INSTALLED ACCORDING TO THEIR LISTINGS SPACING AND OBSTRUCTION REQUIREMENTS.
- 4. SPRINKLER DEFLECTORS SHALL BE INSTALLED PARALLEL TO ROOF/CEILING SLOPE PER 13.8.6.4.2.1, UNLESS OTHERWISE NOTED.
- 5. PIPE OR FITTINGS, AND COMPONENTS, INSTALLED IN CORROSIVE ATMOSPHERES, SUCH AS DRAIN PIPE OR HANGER ALL-THREAD ROD EXPOSED TO WEATHER CONDITIONS, SHALL BE GALVANIZED OR OTHER APPROVED CORROSION-RESISTIVE MATERIAL.
- 6. LOCATE SPRINKLER HEADS IN A CONSISTENT PATTERN WITH CEILING GRID, LIGHTS, AND SUPPLY AND RETURN AIR DIFFUSERS. FOR SPACES WITH LAY-IN TYPE CEILINGS, LOCATED SPRINKLERS IN CENTER OF TILE. THE DESIGN SHALL GIVE FULL CONSIDERATION TO BLIND SPACES, OTHER SYSTEM PIPING, ELECTRICAL EQUIPMENT, HVAC DUCTWORK, AND ALL OTHER TYPES OF OBSTRUCTIONS WHICH COULD PREVENT THE PROPER INSTALLATION AND OPERATION OF THE SPRINKLER SYSTEM.
- 7. EACH LEVEL OF THE BUILDING SHALL BE PROVIDED WITH A SPRINKLER CONTROL VALVE, CHECK VALVE, AND WATER FLOW SWITCH.
- 8. SPRINKLERS IN AREAS WITH CEILING TILE SHALL BE INSTALLED CENTER OF TILE.

HANGER NOTES:

- 1. THE COMPONENTS OF HANGER ASSEMBLIES THAT DIRECTLY ATTACH TO THE PIPE OR TO THE BUILDING STRUCTURE SHALL BE LISTED PER 9.1.1.4.1.
- 2. HANGERS AND THEIR COMPONENTS SHALL BE FERROUS PER 9.1.1.5.1 UNLESS THE COMPONENTS HAVE BEEN PROVEN BY FIRE TESTS TO BE ADEQUATE FOR THE HAZARD APPLICATION, AND THAT ARE LISTED FOR THAT SERVICE PER 9.1.1.5.2.
- 3. SPRINKLER PIPING SHALL BE SUBSTANTIALLY SUPPORTED FROM THE BUILDING STRUCTURE, WHICH MUST SUPPORT THE ADDED LOAD OF THE WATER-FILLED PIPE PLUS A MINIMUM OF 250-POUNDS APPLIED AT THE POINT OF HANGING PER 9.2.1.3.1.
- 4. SPRINKLER PIPING OR HANGERS SHALL NOT BE USED TO SUPPORT NON-SYSTEM COMPONENTS PER 9.1.1.7.
- 5. BRANCHLINE AND MAIN HANGER LOCATION AND MAXIMUM DISTANCES SHALL MEET 9.2.2, TABLE 9.2.2.1, AND 9.2.4. ADDITIONALLY, THERE SHALL BE NOT LESS THAN ONE HANGER FOR EACH SECTION OF PIPE PER 9.2.3.2.1, UNLESS SPRINKLERS ARE SPACED LESS THAN 6-FT APART (9.2.3.2.2).
- 6. WALL MOUNTED SIDEWALL SPRINKLERS SHALL BE RESTRAINED TO PREVENT MOVEMENT.
- 7. THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER IN A PENDENT POSITION OR DROP NIPPLE AND THE LAST HANGER ON THE BRANCH LINE SHALL NOT BE GREATER THAN 12-INCHES FOR STEEL PIPE PER 9.2.3.4.3.2. WHEN 12-INCHES IS EXCEEDED THE PIPE SHALL BE EXTENDED BEYOND THE END SPRINKLER AND SUPPORTED BY AN ADDITIONAL HANGER PER 9.2.3.4.3.3.
- 8. THE HANGER CLOSEST TO THE SPRINKLER SHALL BE OF A TYPE THAT PREVENT UPWARD MOVEMENT OF THE PIPE PER 9.2.3.4.4.4., AND 9.2.3.5.2.2.
- 9. WHERE THE BRANCH LINE ABOVE A CEILING SUPPLIES SPRINKLERS IN A PENDENT POSITION BELOW THE CEILING, THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARM/OVER TO A SPRINKLER OR SPRINKLER DROP SHALL NOT EXCEED 12 INCHES FOR STEEL PIPE PER 9.2.3.5.2.1.
- 10. TRAPEZE HANGERS SHALL BE USED WHERE NECESSARY TO MEET THE ABOVE HANGING REQUIREMENTS TO TRANSFER LOADS TO APPROPRIATE STRUCTURAL MEMBERS. TRAPEZE HANGERS SHALL COMPLY WITH NFPA 13. SPRINKLER CONTRACTOR SHALL PROVIDE DETAILS OF SUCH HANGERS.
- 11. TRAPEZE HANGERS SHALL COMPLY WITH 9.1.1.6.
- 12. THREADED SECTIONS OF ROD SHALL NOT BE FORMED OR BENT PER 9.1.2.6.
- 13. FIRE SPRINKLER CONTRACTOR SHALL VERIFY WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER ALL MEANS OF CONNECTING HANGERS TO THE CONCRETE FLOORS. THE METHOD OF ATTACHMENT SHALL BE APPROVED PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND ANY INSTALLATION.

FLORIDA 61-G NOTES

- 1. THESE DRAWINGS HAVE BEEN PROVIDED IN ACCORDANCE WITH THE FLORIDA ADMINISTRATIVE CODE 61G15-32. IT IS THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR TO PREPARE FULLY COORDINATED SHOP DRAWINGS IN ACCORDANCE WITH NFPA 13 "WORKING DRAWINGS".
- 2. DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH 2010 NFPA 13, "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS", FLORIDA BUILDING CODE (FBC) 5TH EDITION (2014), FLORIDA FIRE PREVENTION CODE (FFPC) 5TH EDITION (2014), LOCAL ORDINANCES AND AUTHORITY HAVING JURISDICTION.
- 3. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. IT IS INTENDED THAT A COMPLETE FIRE PROTECTION SYSTEM BE PROVIDED WITH ALL THE NECESSARY EQUIPMENT, APPURTENANCES AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. ALL PARAMETERS GIVEN IN THESE DOCUMENTS SHALL BE STRICTLY CONFORMED TO, ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE FIRE PROTECTION SYSTEM, IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, LOCAL AUTHORITIES AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE OWNER. THE SPRINKLER CONTRACTOR SHALL CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHOP DRAWINGS.
- 4. FIRE SPRINKLER CONTRACTOR SHALL PROVIDE LAYOUT OF THE SYSTEM TO GIVE FULL CONSIDERATION TO BLIND SPACES, PIPING, ELECTRICAL EQUIPMENT, DUCTS, AND OTHER CONSTRUCTION AND EQUIPMENT. LOCATE SPRINKLER HEADS IN A CONSISTENT PATTERN WITH THE CEILING AND CEILING GRID (WHERE PROVIDED), LIGHTS, AND AIR SUPPLY DIFFUSERS AND RETURN GRILLS.
- 5. JENSEN HUGHES' DESIGN RESPONSIBILITY STARTS AT 12" ABOVE FINISH FLOOR.
- 6. JENSEN HUGHES HAS NO CONTROL OVER THE WATER SUPPLY'S QUALITY, OR AVAILABILITY, AND CANNOT GUARANTEE THAT THE RESULTS WILL REMAIN VALID FOR ANY LENGTH OF TIME.
- 7. REASONABLE EFFORTS HAVE BEEN MADE TO IDENTIFY WHETHER OR NOT WATER SUPPLY CONDITIONS EXIST THAT COULD LEAD TO MICROBIAL INFLUENCED CORROSION (MIC). ACCORDING TO THE DISCUSSIONS WITH THE OWNER, LOCAL WATER PUEVEYOR AND THE FIRE OFFICIAL NO KNOWN ENVIRONMENTAL CONDITIONS THAT MIGHT BE RESPONSIBLE FOR MIC ARE FOUND IN THE WATER SUPPLY.
- 8. THE BACKFLOW PREVENTER AND METERING SPECIFICATIONS SHALL MEET OR EXCEED REQUIREMENTS OF THE LOCAL WATER PUEVEYOR. THE BACKFLOW PREVENTER SHALL BE LISTED FOR FIRE PROTECTION USE.
- 9. THE WATER SUPPLY IS A WATER STORAGE TANK AS SHOWN ON THE CIVIL DRAWINGS, AND 2500GPM @ 75PSI FIRE PUMP.
- 10. THE POINT OF SERVICE FOR THE FIRE PROTECTION SYSTEM IS POINT WHERE THE UNDERGROUND IS USED FOR FIRE PROTECTION ONLY. THIS IS AT THE CONTROL VALVE ON THE SUCTION SIDE OF THE FIRE PUMP.
- 11. A FIRE HYDRANT FLOW TEST WAS PERFORMED.
- 12. ALL MATERIAL AND DEVICES SHALL BE LISTED. CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR REVIEW PRIOR TO ANY INSTALLATION.
- 13. THE FIRE SPRINKLER SYSTEM CONTROL VALVES AND WATER FLOW SWITCHES SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM AND MONITORED BY A UL LISTED MONITORING STATION.
- 14. LIGHT HAZARD AREAS, ARE HYDRAULICALLY CALCULATED AT A DENSITY OF .10 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. INCLUDING 100 GPM FOR OUTSIDE HOSE. LIGHT HAZARD AREAS SHALL INCLUDE: BREAK, OFFICE, RESTROOMS, LOBBY, AND OTHER SIMILAR AREAS.
- 15. ORDINARY HAZARD GROUP I AREAS ARE HYDRAULICALLY CALCULATED AT A DENSITY OF .15 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. AND INCLUDE 250 GPM FOR OUTSIDE HOSE. ORDINARY GROUP I HAZARD AREAS SHALL INCLUDE: ELECTRICAL, MECHANICAL, CONTROL ROOM, LABORATORY AND OTHER SIMILAR AREAS.
- 16. ORDINARY HAZARD GROUP II AREAS ARE HYDRAULICALLY CALCULATED AT A DENSITY OF 0.20 GPM/SQ.FT. OVER A REMOTE AREA OF 1,500 SQ.FT. AND INCLUDE 250 GPM FOR OUTSIDE HOSE. ORDINARY HAZARD GROUP II AREAS SHALL INCLUDE: MOLDING AREAS AND TOOLING.

SPRINKLER LEGEND

SYMBOL	MFG	TYPE	MODEL	TEMP.	SIN	NOM. K-FACTOR	FINISH	ESCUTCHEON
☉	TYCO	SSP-QR	TY-FRB	155°	TY3231	5.6	WHITE	RECESSED
☼	TYCO	SSP-QR	TY-FRB	200°	TY3231	5.6	POLYESTER	RECESSED
○	TYCO	SSU-QR	TY-FRB	175°	TY3131	5.6	BRASS	N/A

Architects, Engineers, Constructors

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321-254-7666 | 321-259-4703 f

Offices in Melbourne, Orlando, Seattle, West Palm Beach, Atlanta, Charleston

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ISSUE ISSUE FOR CONSTRUCTION

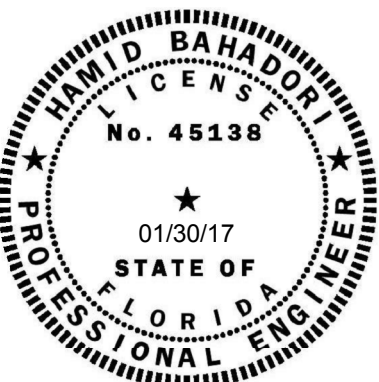
REVISION



JENSEN HUGHES

7250 Primera Blvd | Suite 215 | Lake Mary, FL 32746
P: 407.547.3737 | F: 407.547.4829
www.jensenhughes.com
Project: 1HRB00500 EB-0007927

Bagasse Processing Facility
Belle Glade, Florida
TELLUS PRODUCTS, LLC



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ARCH/ENGR OF RECORD

HAMID BAHADORI, PE
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DESIGNED BY

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PROJECT NUMBER

C07111.004

DATE

01/30/17

TITLE

FIRE
PROTECTION
NOTE SHEET

DRAWING NO.

MF-001

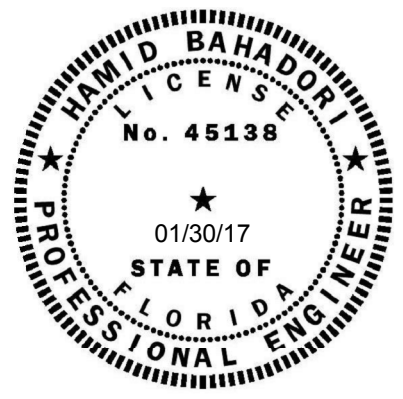
2. ALL NEW FIRE DEPARTMENT CONNECTION INSTALLATIONS SHALL BE LOCATED NOT MORE THAN 100 FT. FROM A FIRE HYDRANT MEASURED ALONG FIRE DEPARTMENT VEHICLE ACCESS PER PALM BEACH COUNTY.

Bagasse Processing Facility
Belle Glade, Florida
TELLUS PRODUCTS, LLC

A

$$1'' = 40'$$

6



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DATE
01/30/17

TITLE

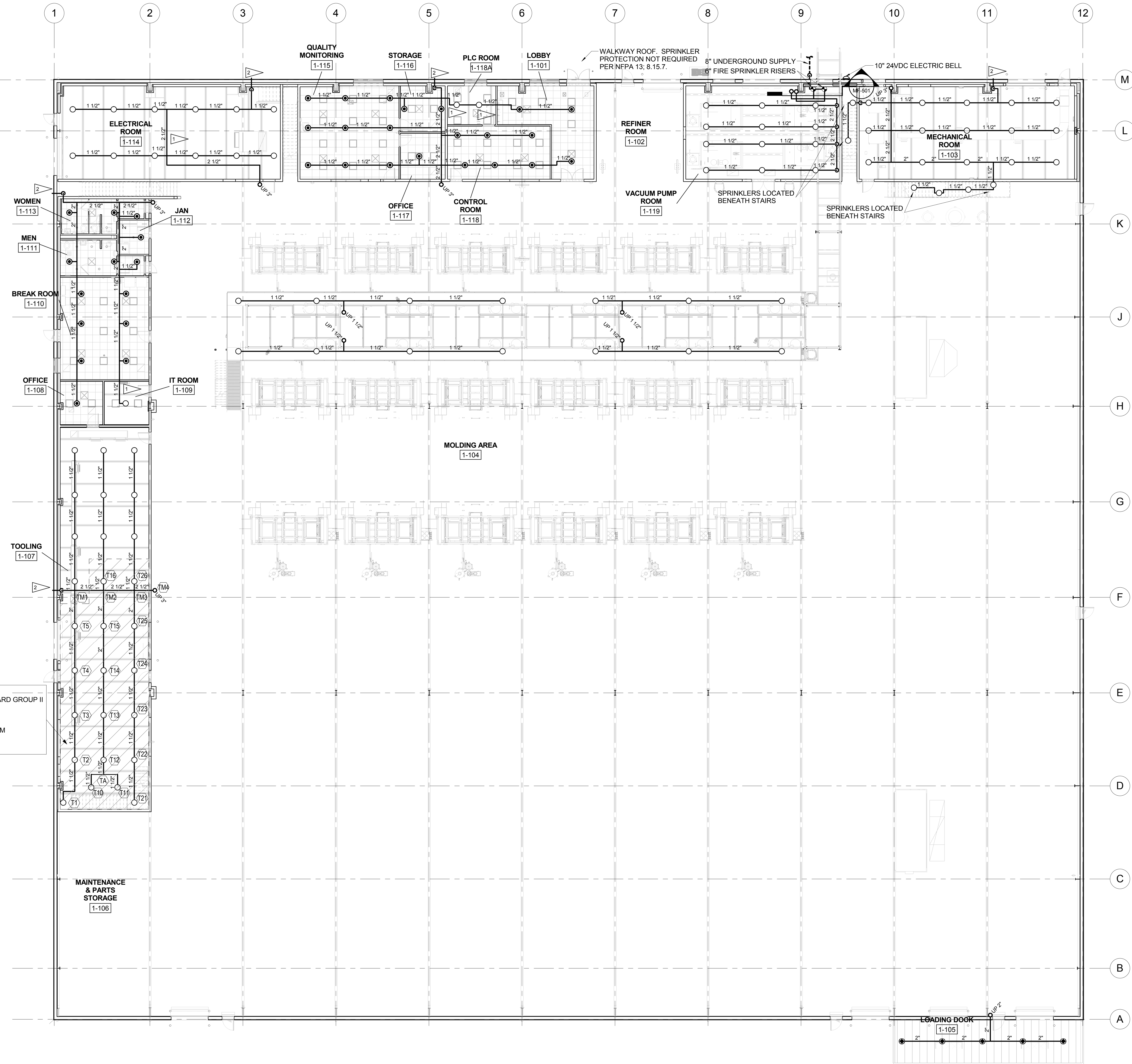
MOLDING BLDG
1ST FLOOR FP
PLAN

DRAWING NO.
MF-101

CONSTRUCTION NOTES:

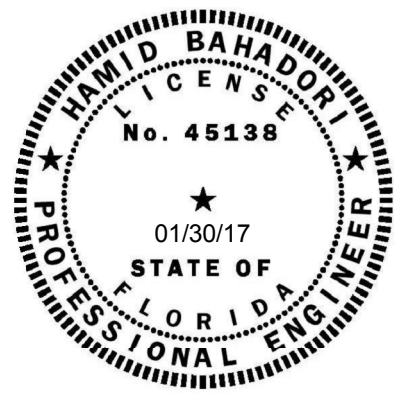
1 PIPING NOT TO PASS ABOVE
ELECTRICAL PANELS.

2 AUXILIARY DRAIN WITH VALVE TO
DISCHARGE OUTSIDE.



1 FIRST FLOOR FIRE PROTECTION PLAN
3/32" = 1'-0"



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DATE

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TITLE

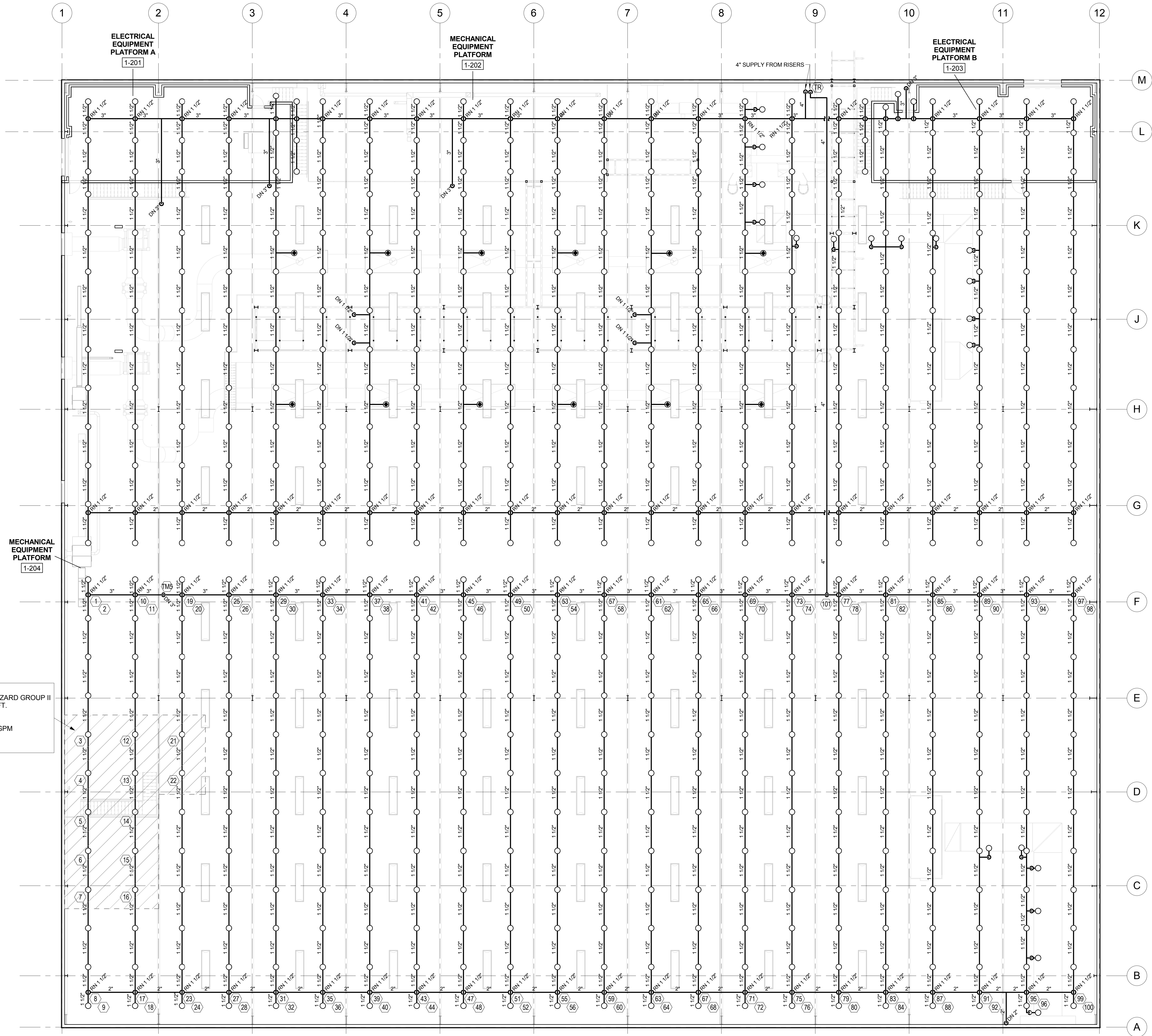
MOLDING BLDG
PLTFM FP PLAN

DRAWING NO.

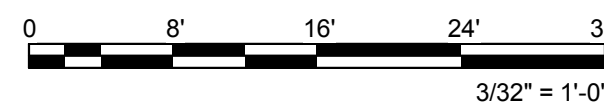
MF-102

SHEET NOTES:

1. ROOF CONSTRUCTION IS OF Z-
PURLINS, DESIGNED BASED UPON
PRELIMINARY DRAWINGS BY VP
BUILDINGS DATED 11/12/2015.
INSTALLING CONTRACTOR TO VERIFY
ROOF CONSTRUCTION AND
COORDINATE AS NECESSARY.

1 ELEC. EQMT. PLTFM FIRE PROTECTION PLAN
3/32" = 1'-0"

NORTH



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1

2

3

4

5

6

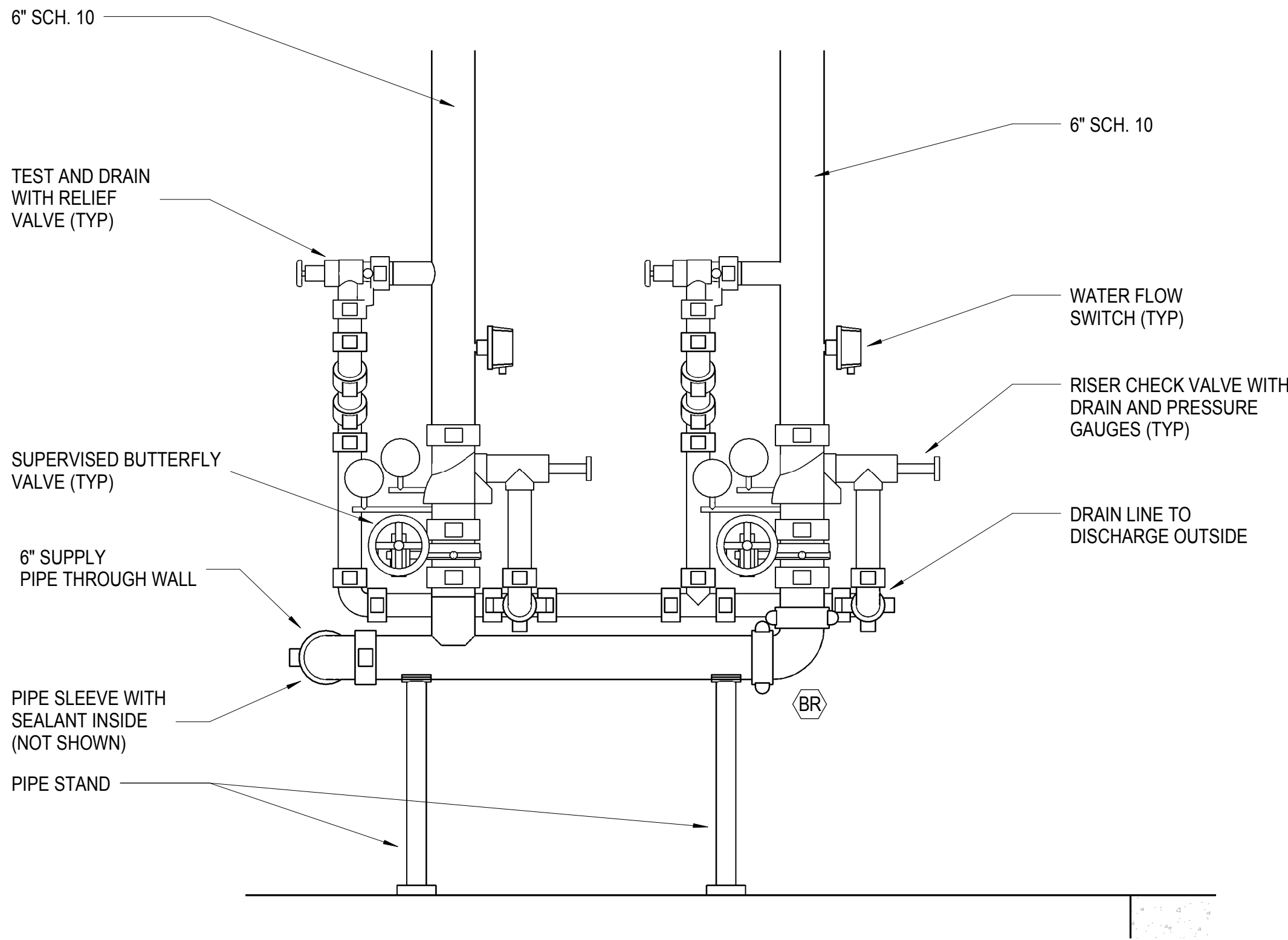
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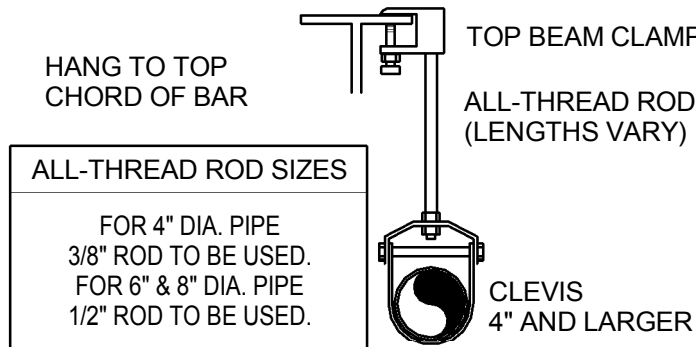
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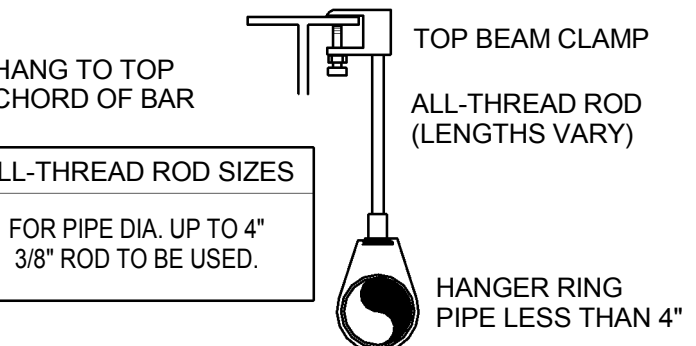
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1 FIRE RISER DETAIL
1" = 1'-0"



2 TBC AND CLEVIS
NTS



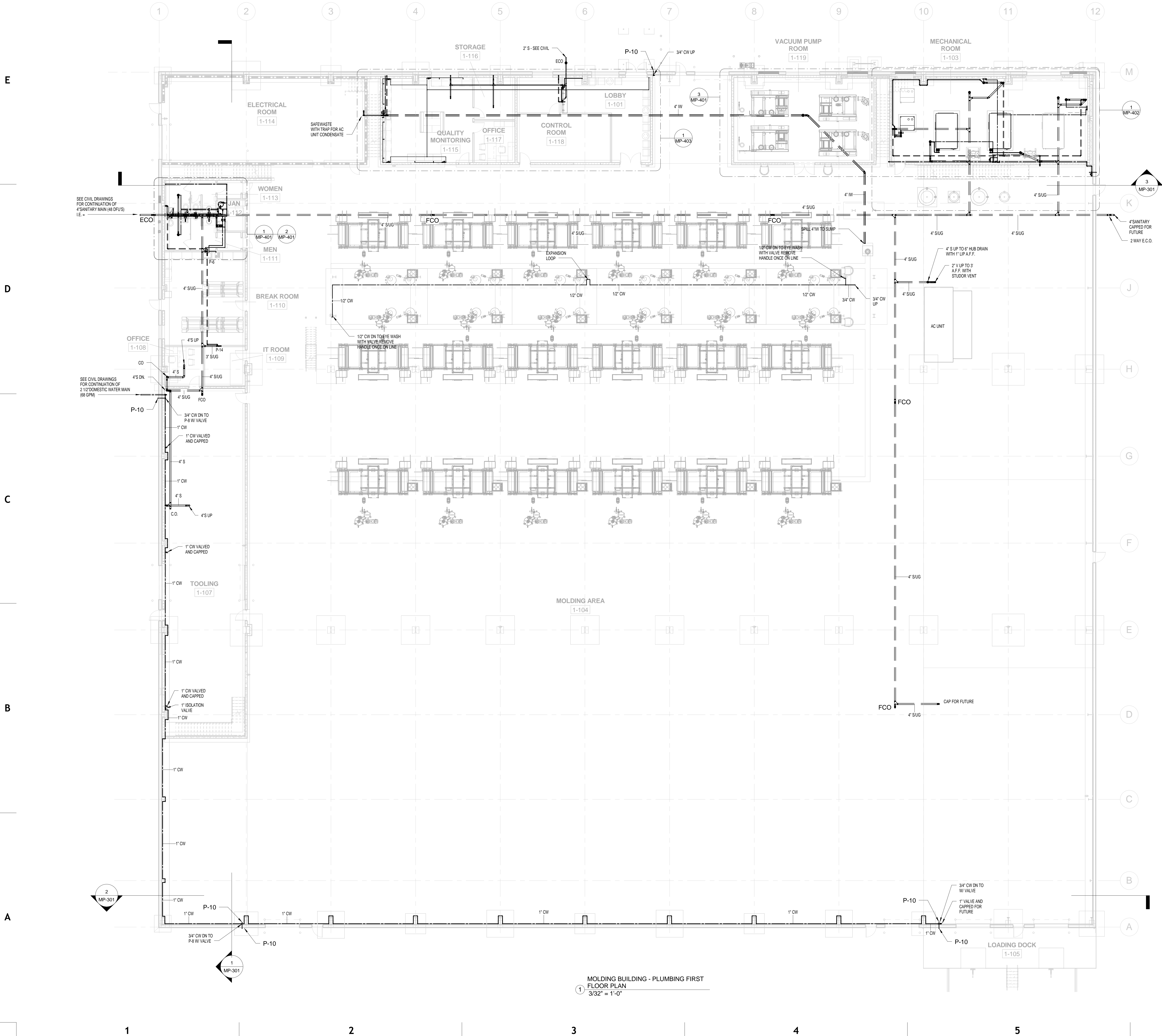
3 TBC AND SWIVEL
NTS

GENERAL NOTES

PLUMBING SUB-CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTING DEVICES (SHUT-OFF VALVES, QUICK CONNECTS, FLEXIBLE TUBING, REGULATOR, FILTERS, GAUGES, DRAINS, COUPLERS, REDUCERS, DIELECTRIC UNIONS, ETC.) AND PERFORM FINAL CONNECTIONS FOR FULLY FUNCTIONAL EQUIPMENT OPERATION AS REQUIRED PER MANUFACTURER AND OWNER RECOMMENDATIONS. ROUGH-IN ALL DRAIN, WATER, AND PROCESS PIPING FOR ALL EQUIPMENT AND PERFORM FINAL CONNECTIONS AS REQUIRED.

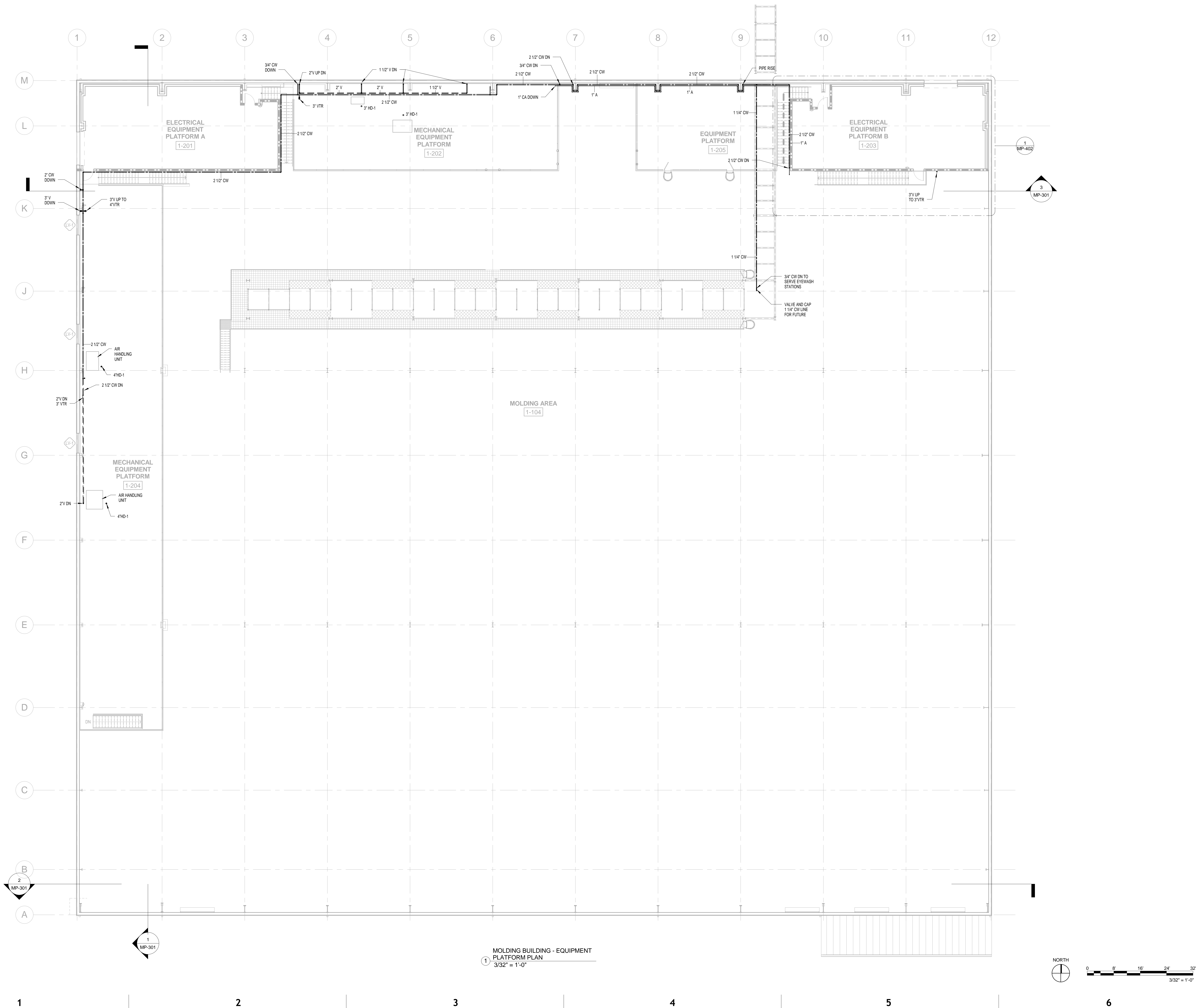
PLUMBING SUB-CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH ALL OTHER TRADES PRIOR TO SUBMITTING SHOP DRAWINGS FOR REVIEW.

INVERT ELEVATIONS NOTED AT CIVIL CONNECTIONS BASED OFF FINISHED FLOOR ELEVATION OF 100'.
WHITE WATER RETURN BASED ON A 1/16" FALL PER FOOT SLOPE.



MOLDING BUILDING - PLUMBING FIRST
FLOOR PLAN
3/32" = 1'-0"





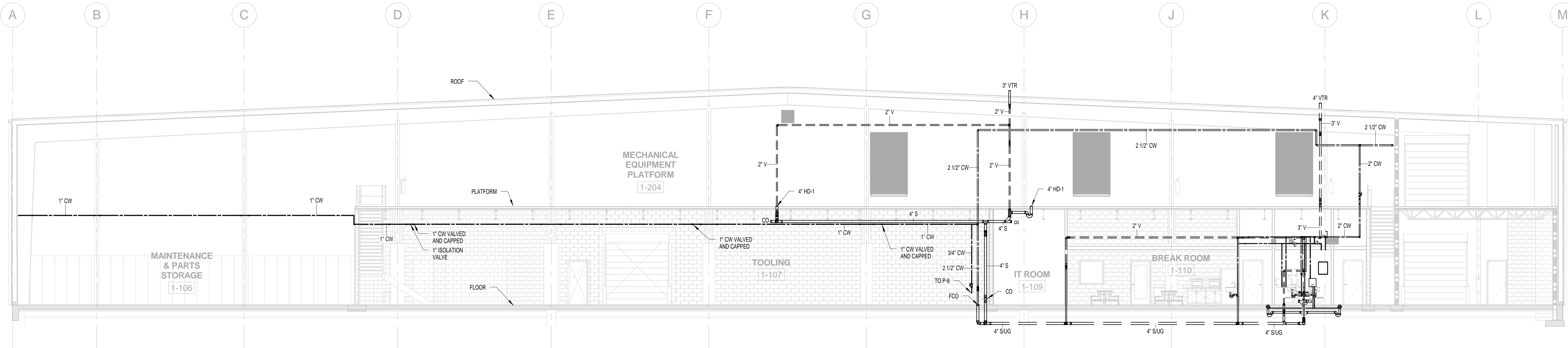
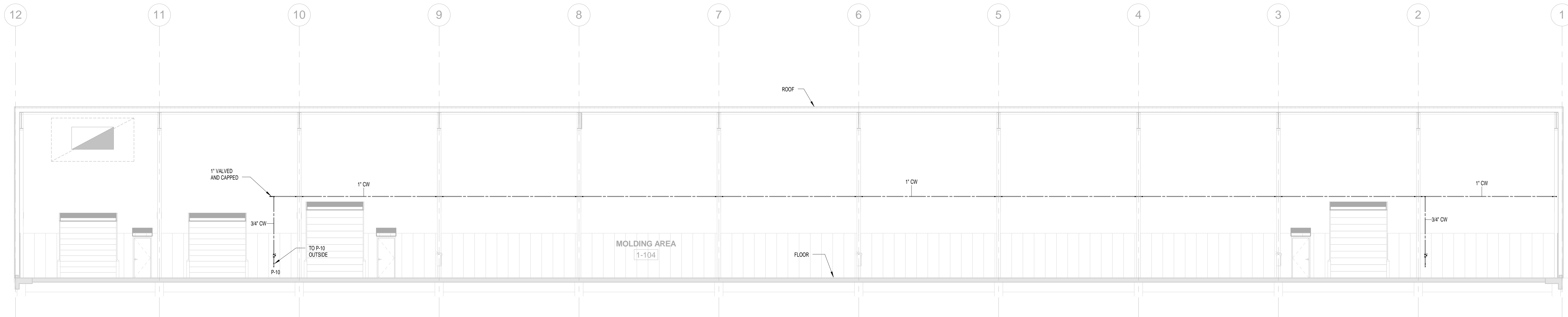
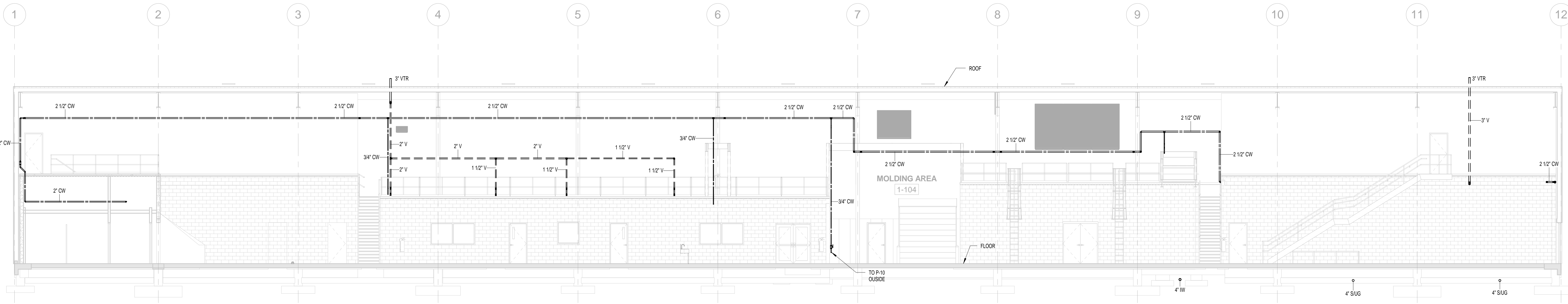
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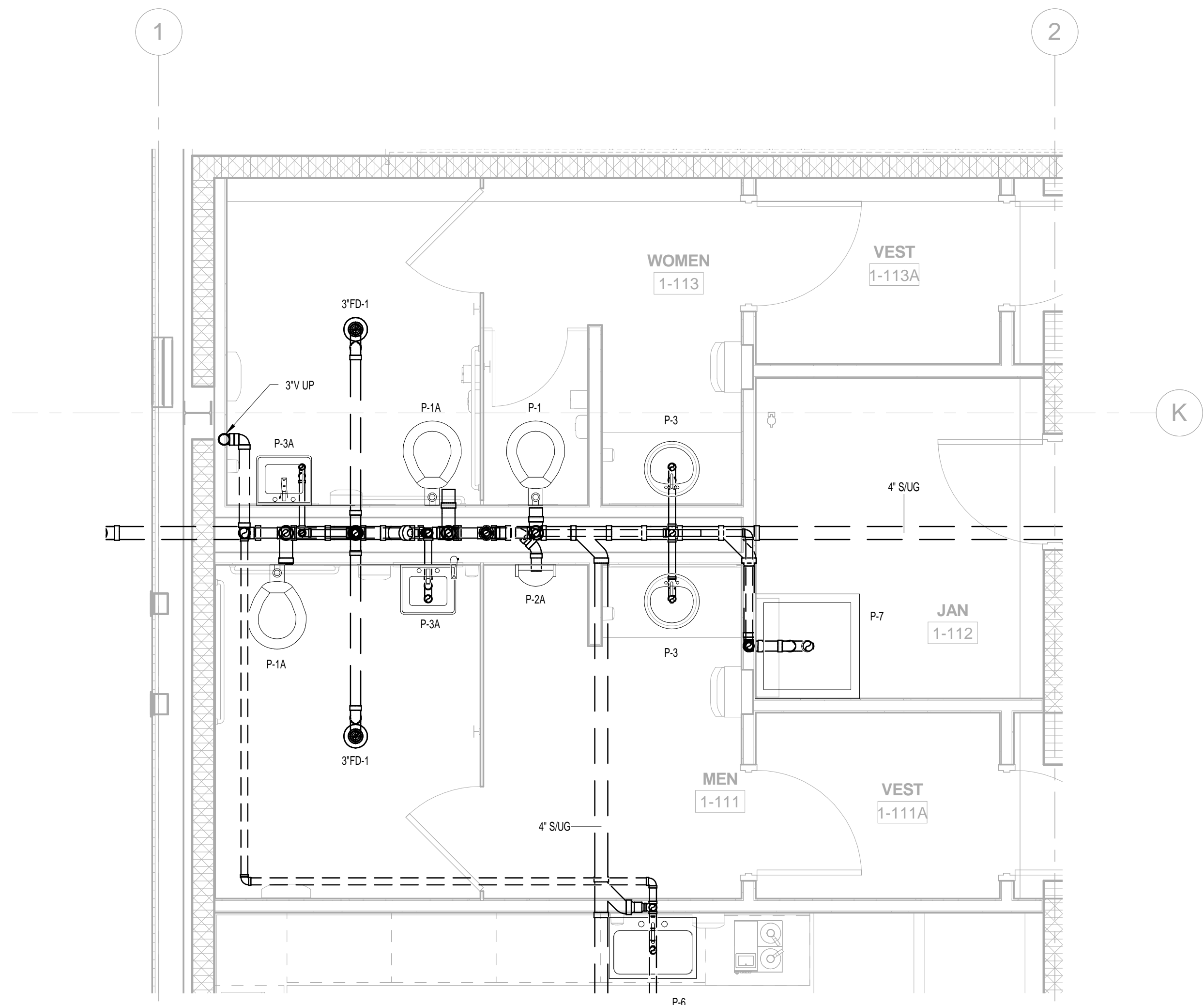
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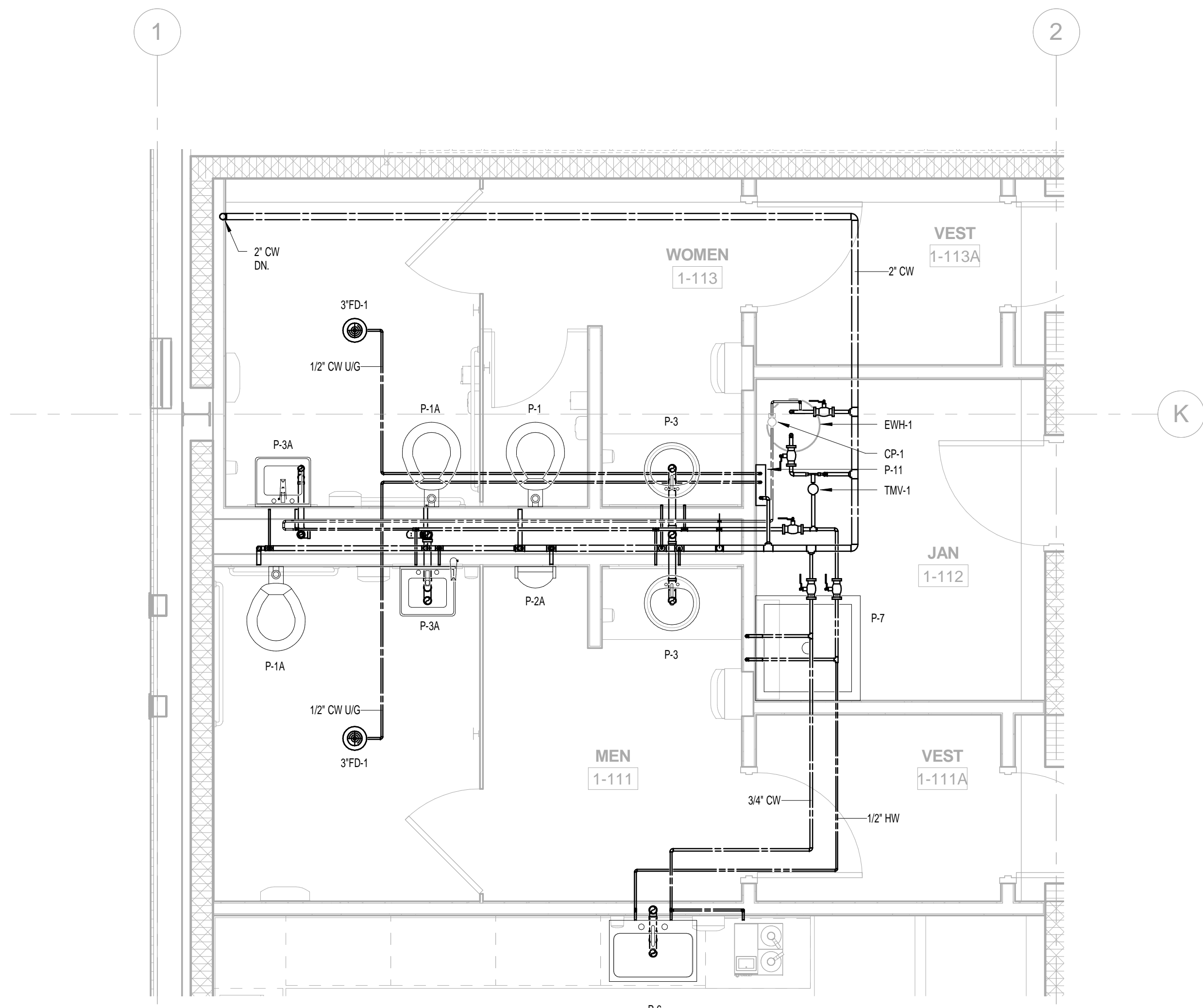
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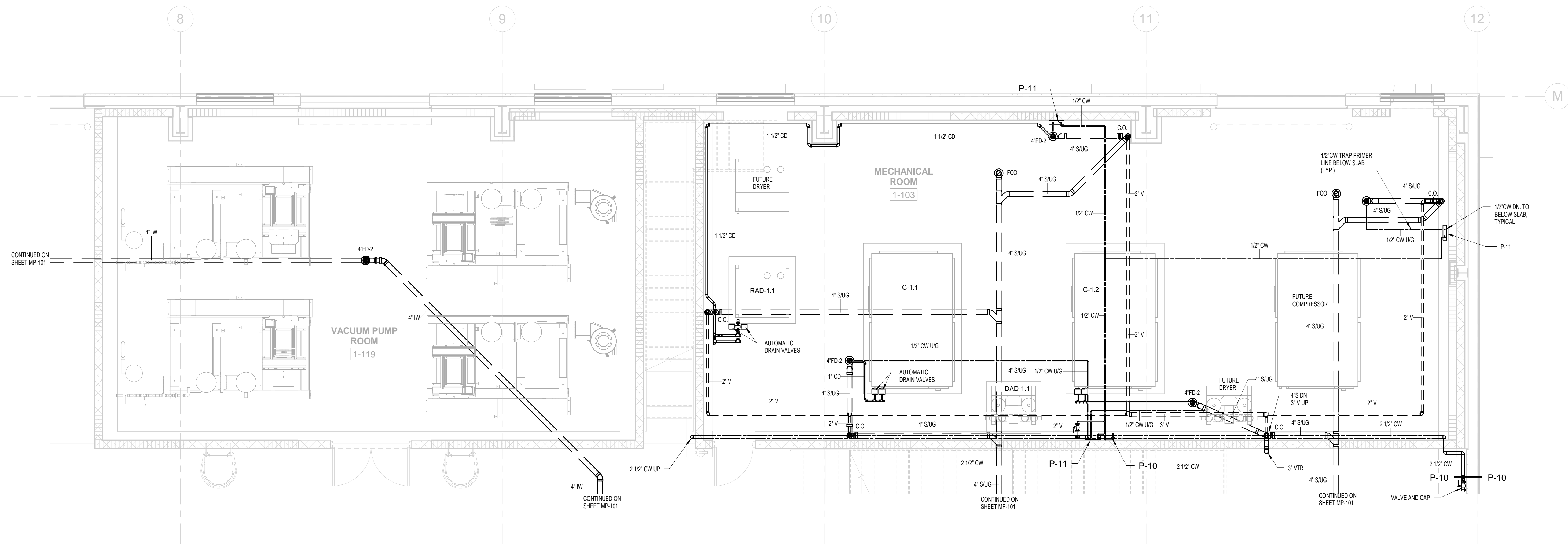
1 SECTION - WEST ELEVATION
1/8" = 1'-0"2 SECTION - EAST ELEVATION
1/8" = 1'-0"3 SECTION - NORTH ELEVATION
1/8" = 1'-0"



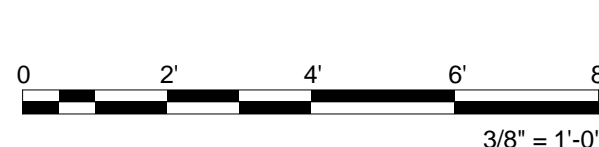
ENLARGED PLUMBING PLAN - SANITARY
WASTE AND VENT
①
3/8" = 1'-0"



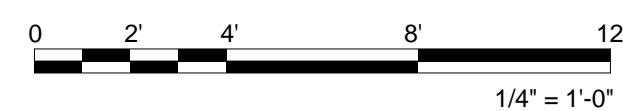
ENLARGED PLUMBING PLAN - DOMESTIC
WATER
②
3/8" = 1'-0"

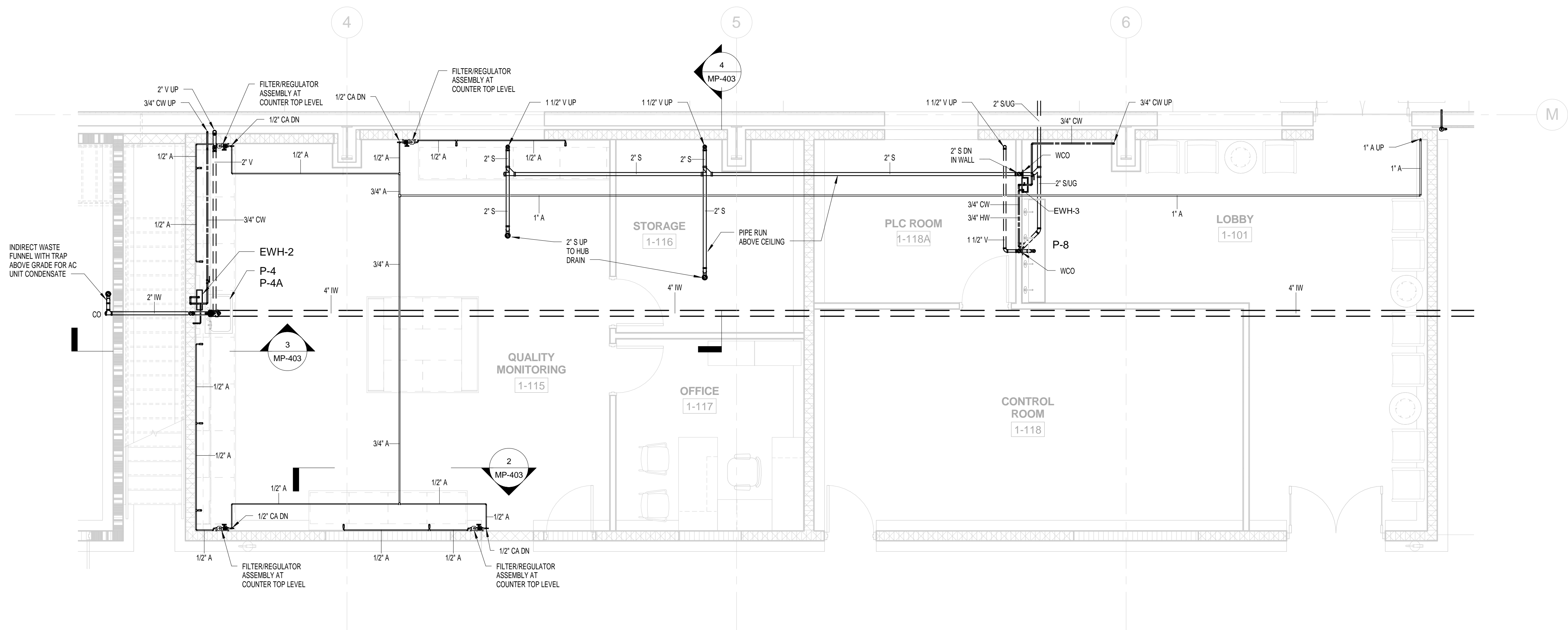
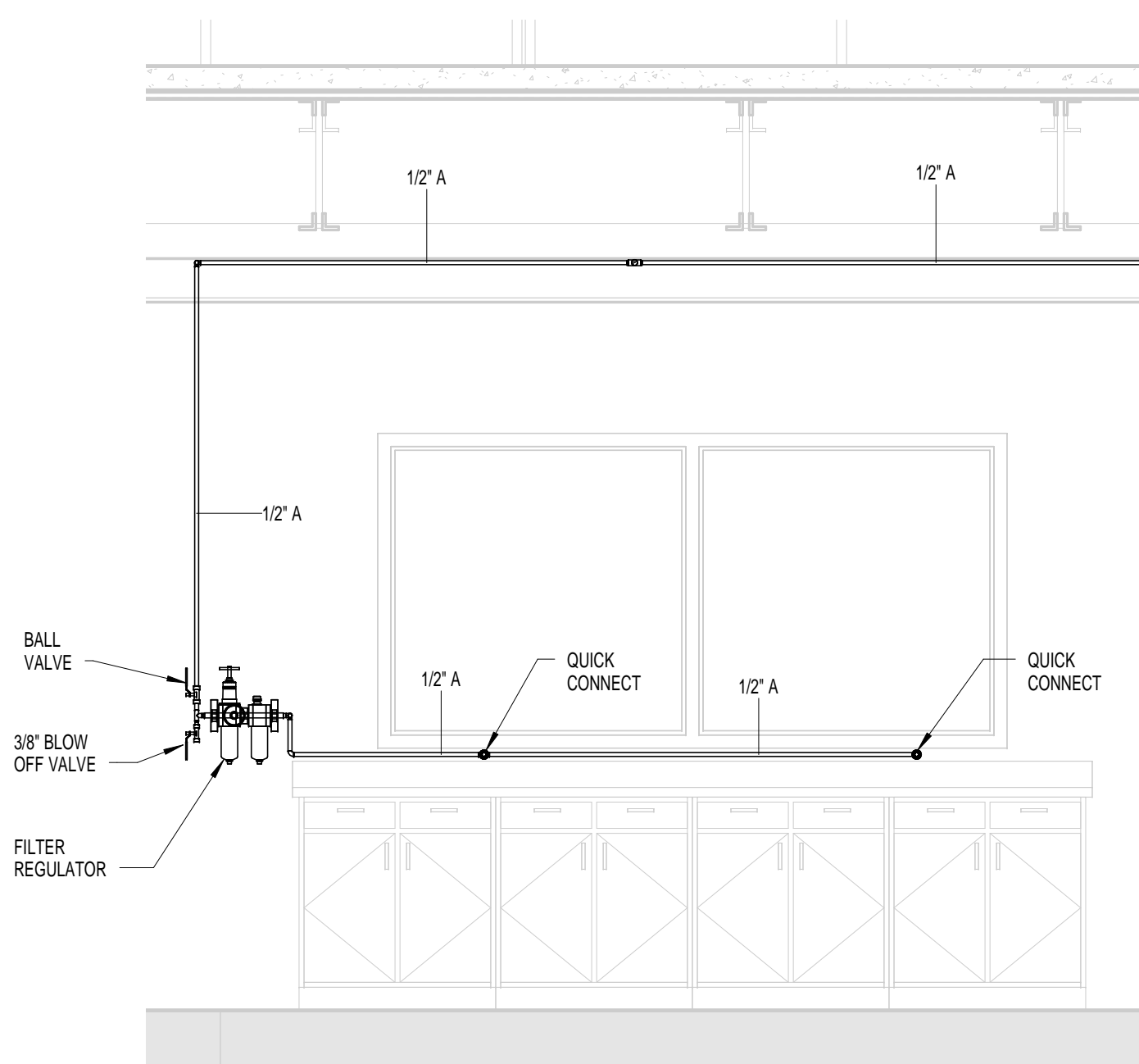
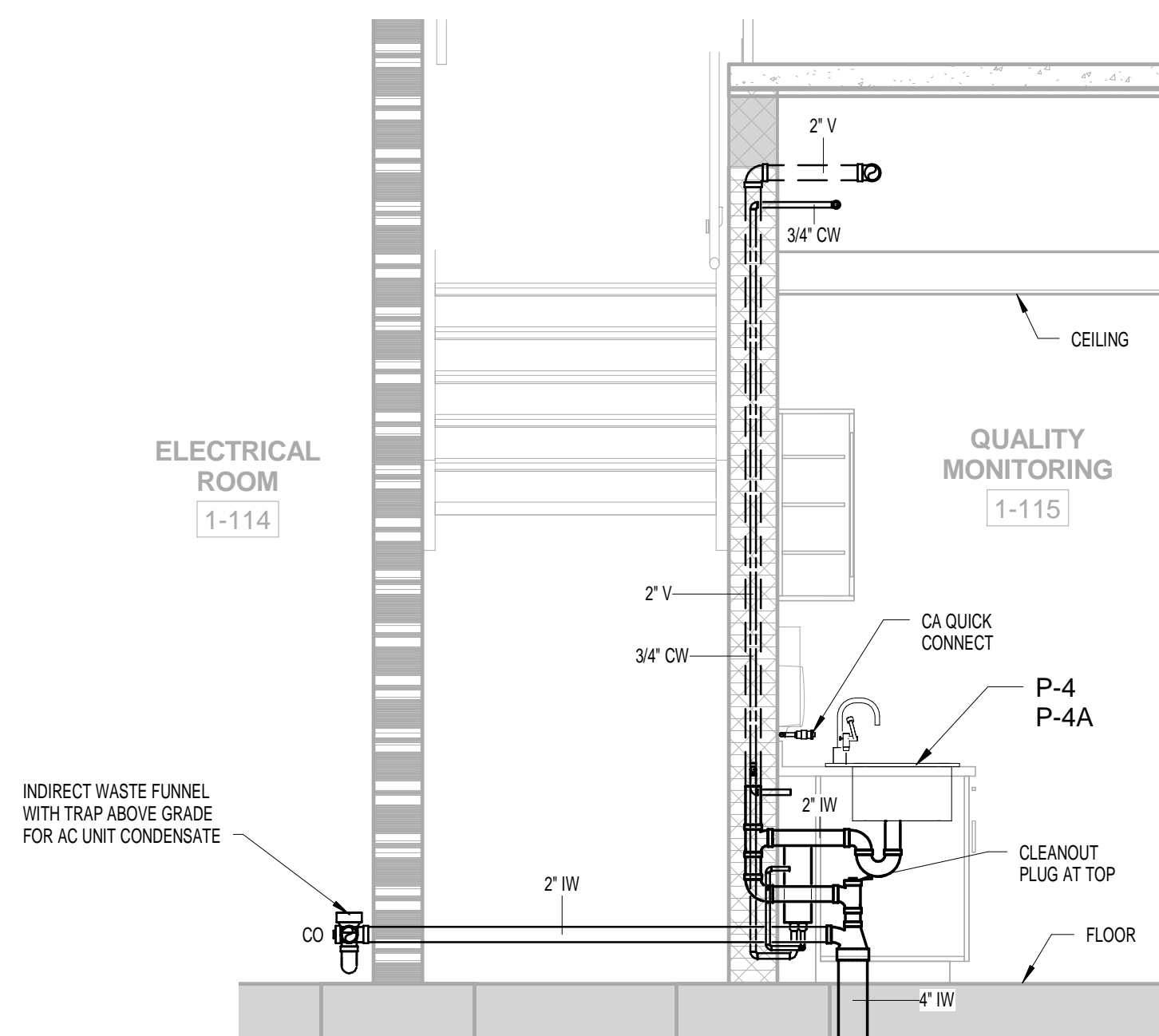
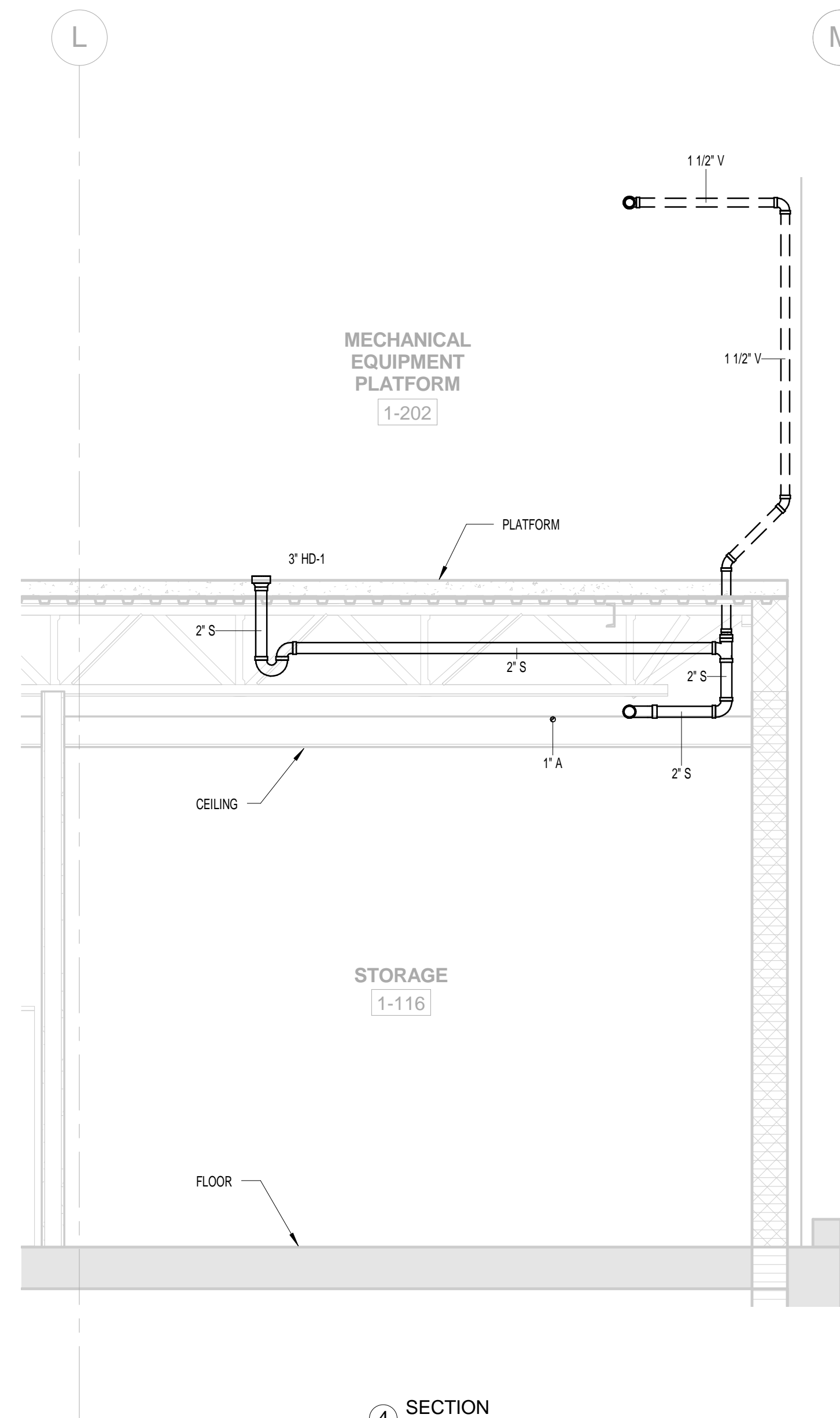
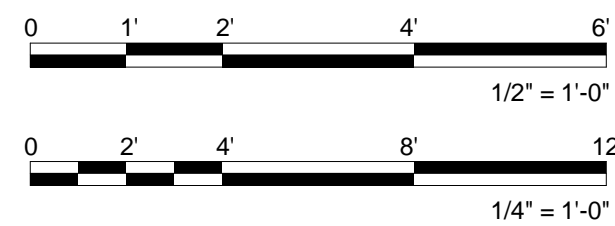


ENLARGED PLUMBING PLAN
③
1/4" = 1'-0"



BAGASSE PAPERWARE PULP & PAPER
BELLE GLADE, FLORIDA
TELLUS PRODUCTS, LLC

Drawing No. **1115**

① ENLARGED PLUMBING PLAN
1/4" = 1'-0"② SECTION
1/2" = 1'-0"③ SECTION
1/2" = 1'-0"④ SECTION
1/2" = 1'-0"

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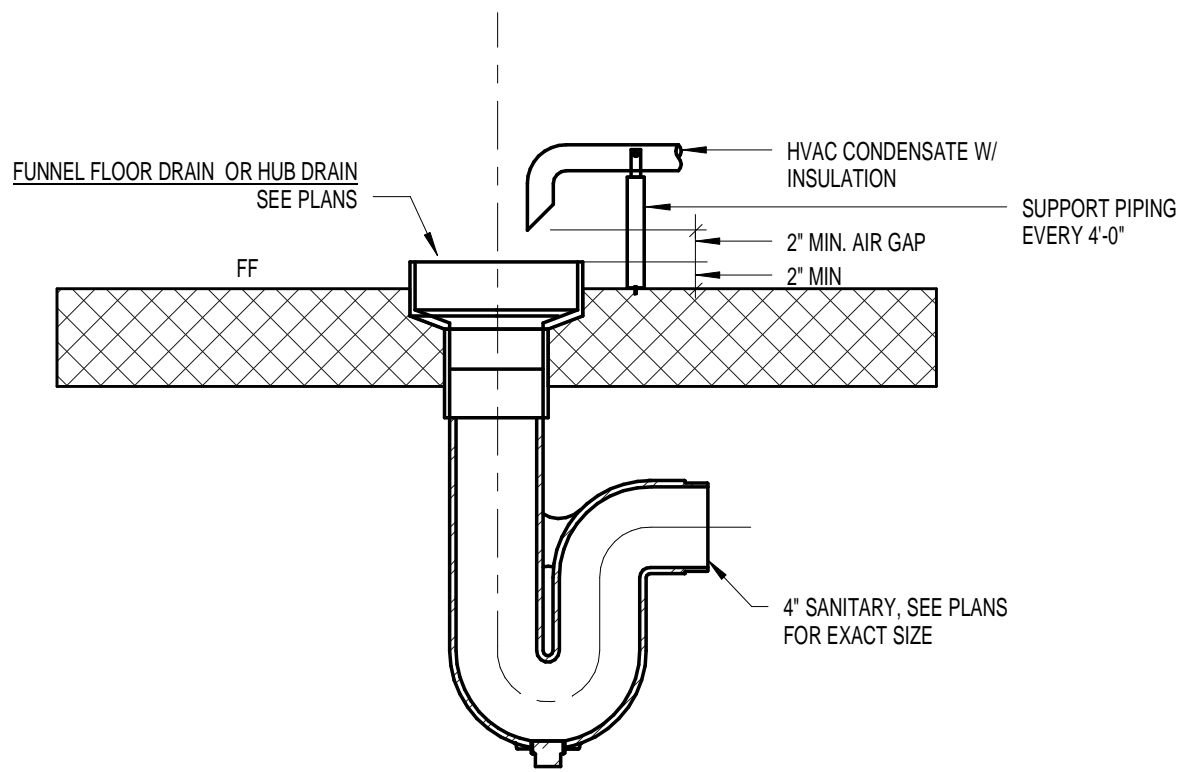
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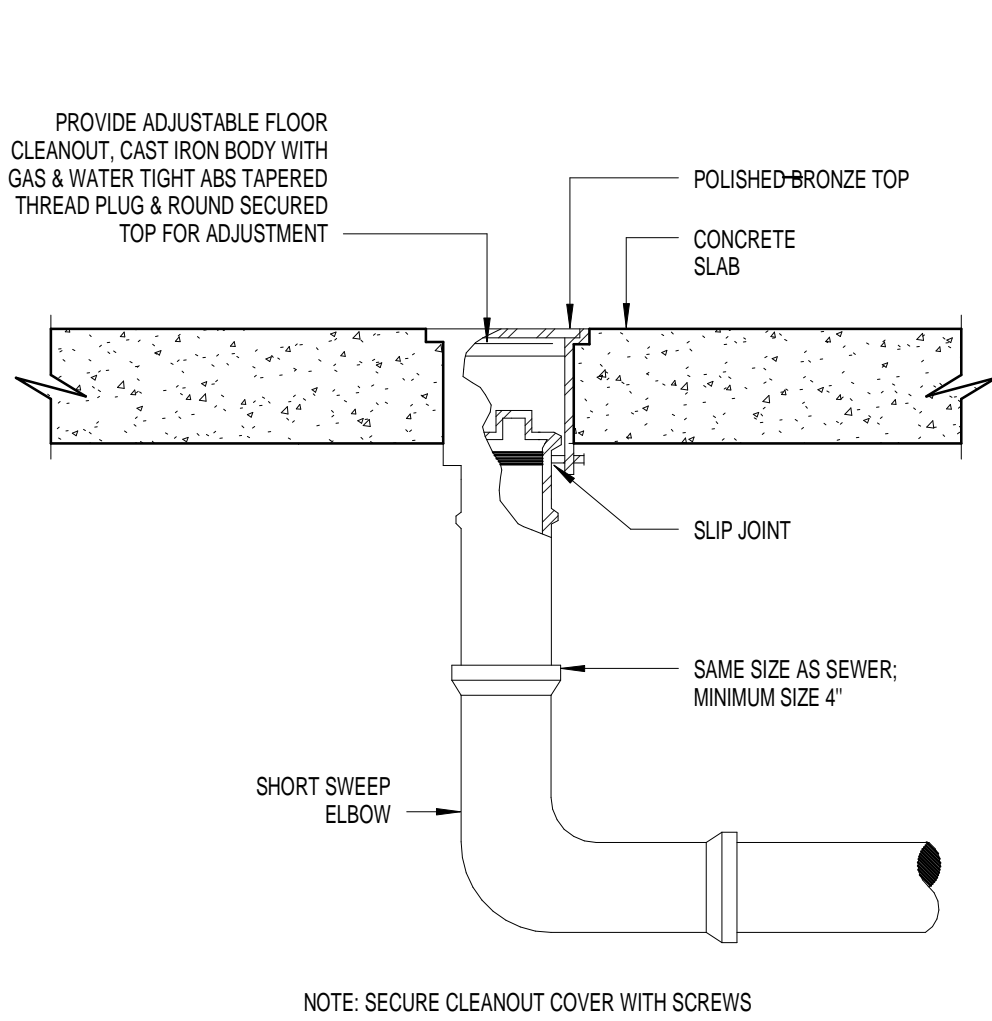
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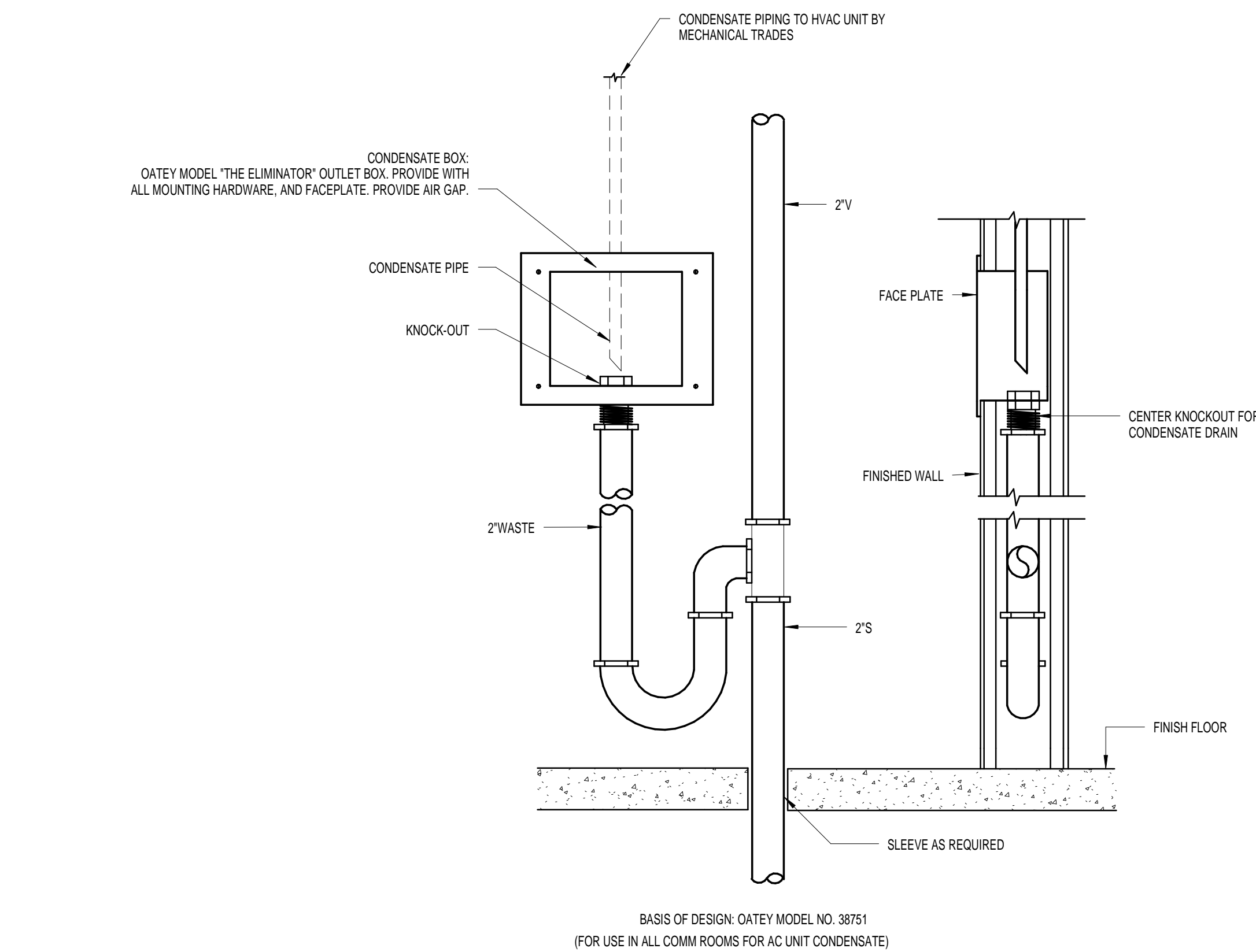
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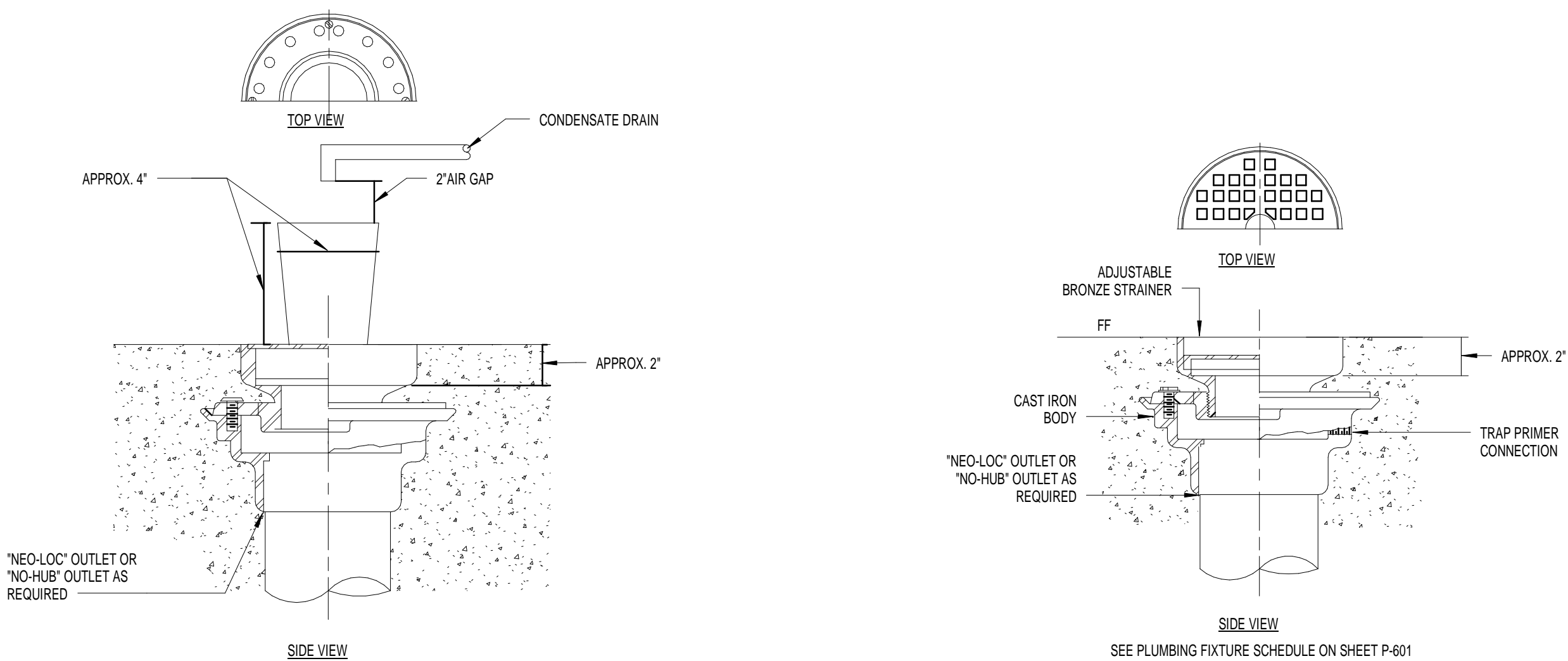
3 CONDENSATE FLOOR DRAIN DETAIL
NTS



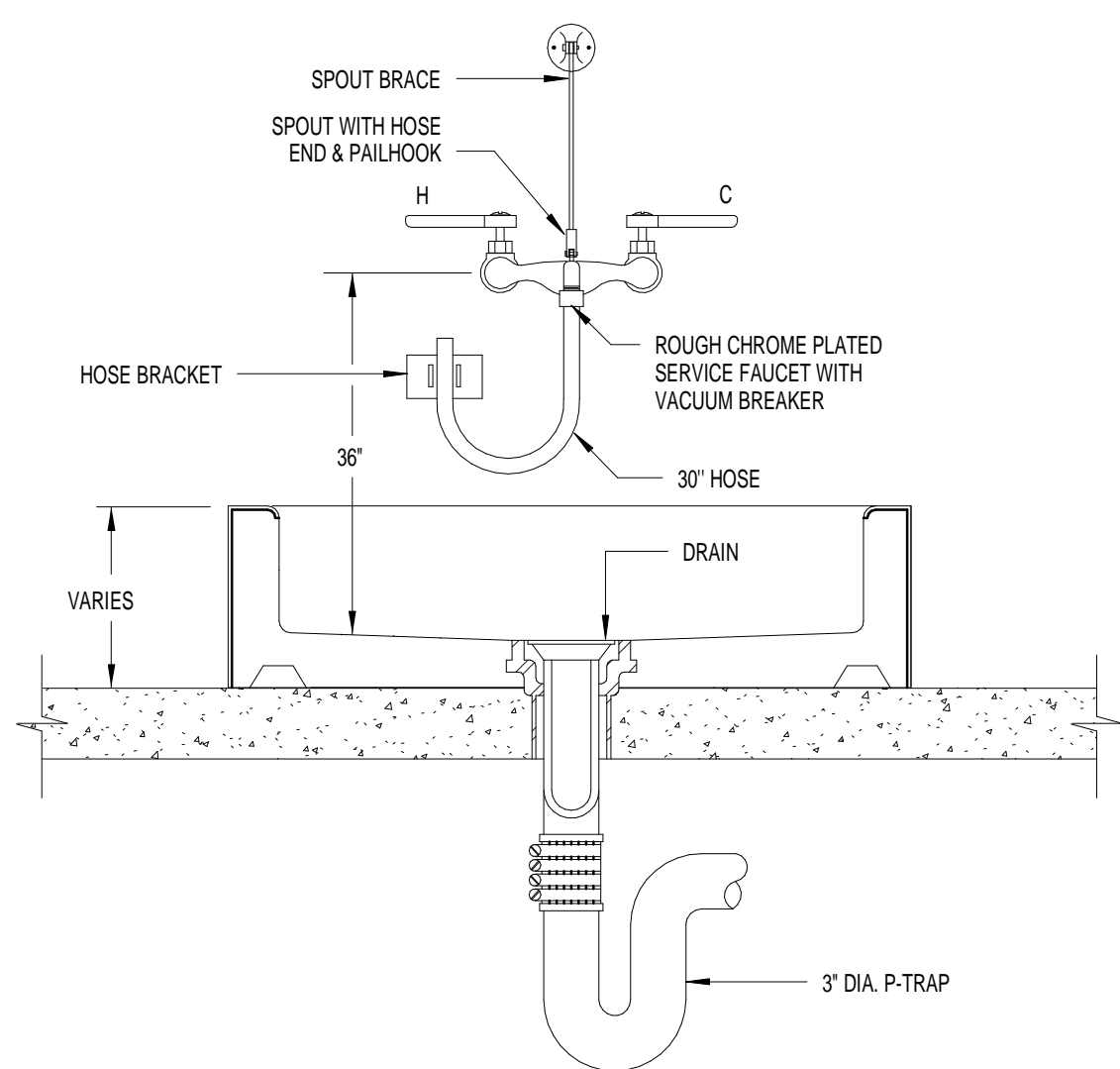
7 INTERIOR 1-WAY FLOOR CLEANOUT DETAIL
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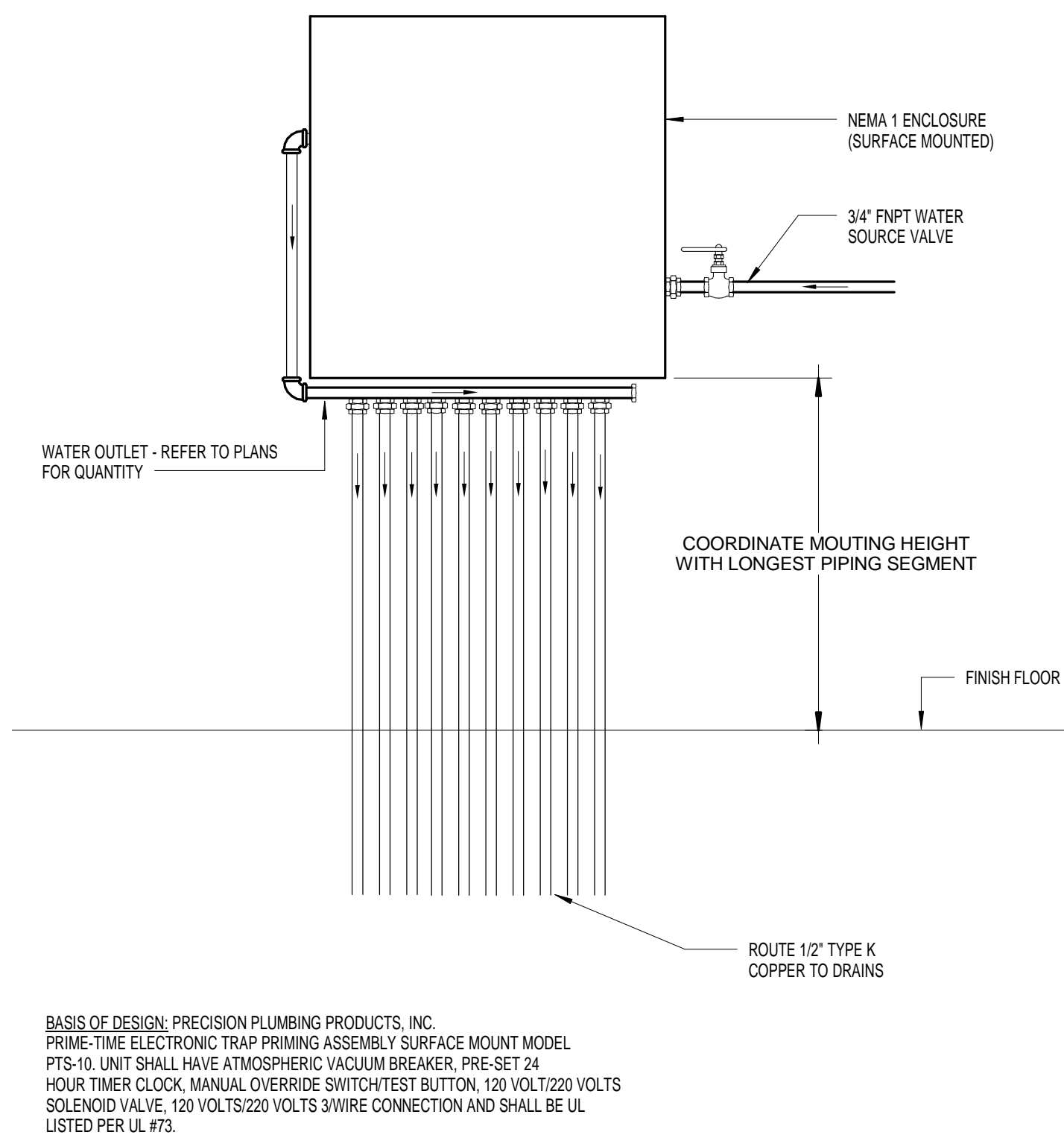
2 TYPICAL CONDENSATE WALL BOX DETAIL
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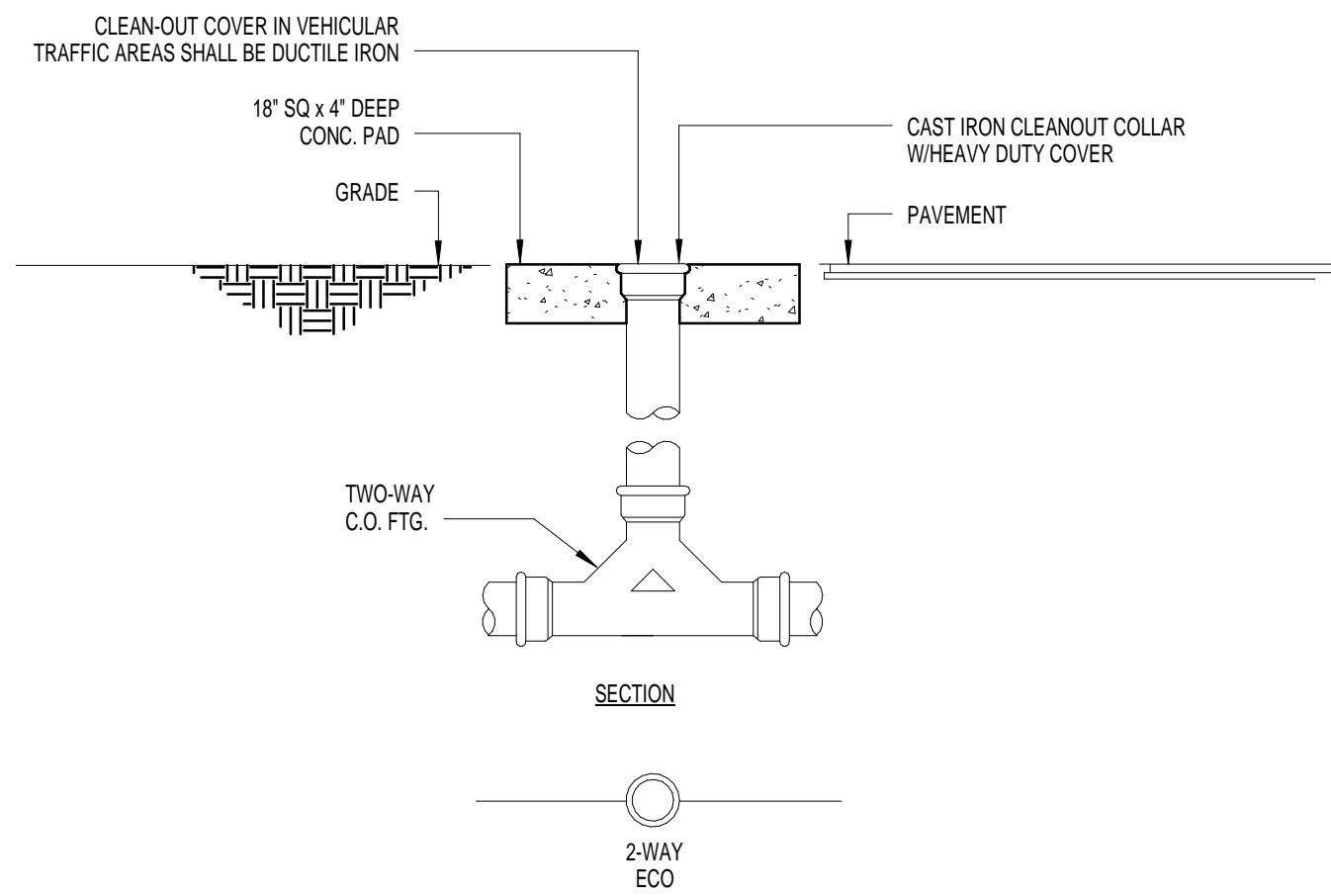
6 FLOOR DRAIN WITH FUNNEL
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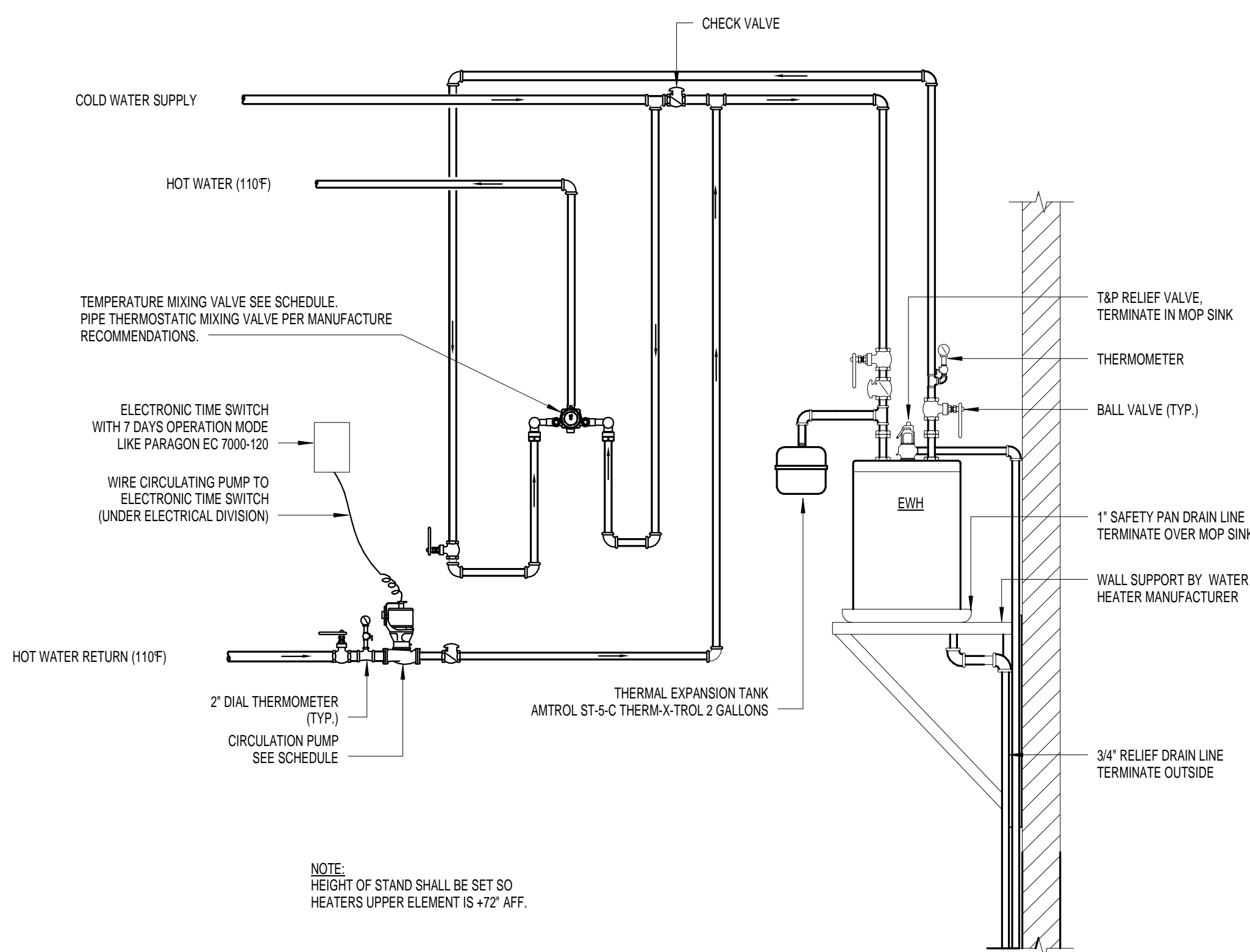
8 MOP SINK DETAIL
NTS



1 ELECTRONIC TRAP PRIMER DETAIL
NTS



4 EXTERIOR 2-WAY CLEANOUT DETAIL
NTS



9 WALL MOUNTED WATER HEATER DETAIL
NTS

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AIR COMPRESSOR SCHEDULE																			
UNIT NO.	LOCATION	SERVICE	TYPE	WEIGHT (LBS.)	CAP (ACFM)	OPER. PRES. (PSIG)	MAX. PRES. (PSIG)	HP	COOLING			ELECTRICAL (60 HZ)					BASIS OF DESIGN	NOTES	
									EWT F	GPM	WPD FT	COMPRESSOR MOTOR			FAN/OIL PUMP MOTORS				
												VOLTS	PHASE	MOCP	VOLTS	PHASE			AMPS
C-1.1	MOLDING BLDG	PROC/INST AIR	ROTARY - WATER COOLED	9670	920	140	150	250	58	25		4160	3		480	3	5.0	KOBELCO KNW2-B/H	1,2,3,4,5,6
C-1.2	MOLDING BLDG	PROC/INST AIR	ROTARY - WATER COOLED	9670	920	140	150	250	58	25		4160	3		480	3	5.0	KOBELCO KNW2-B/H	1,2,3,4,5,6
NOTES:																			
1. PROVIDE COMPRESSOR WITH FACTORY MICROPROCESSOR WITH BUILT-IN SEQUENCING FOR MULTIPLE COMPRESSORS AND NETWORK INTERFACE.																			
2. PROVIDE AUTOMATIC ZERO AIR LOSS DRAIN ASSEMBLY WITH ADJUSTABLE TIMER.																			
3. PROVIDE WITH WATER SEPARATOR, FILTERS AND REGULATORS.																			
4. STANDARD FACTORY WARRANTY ON ALL EQUIPMENT.																			
5. INSTALL COMPRESSORS ON 6" HIGH CONCRETE HOUSEKEEPING PAD.																			
6. DISCONNECT SWITCHES, STARTERS, AND VFDS LOCATED IN PROCESS AREAS SHALL BE NEMA 4X RATED. IN ALL OTHER LOCATIONS THEY SHALL BE NEMA 12 RATED.																			

D

DESICCANT AIR DRYER SCHEDULE																
UNIT NO.	LOCATION	SERVICE	TYPE	WEIGHT (LBS.)	CAP (ACFM)	MAX. INLET TEMP. °F	F DP	MAX. OPER. PRES. (PSIG)	ELECTRICAL						BASIS OF DESIGN	NOTES
									HEATER KW	VOLTS	PHASE	HZ	FLA	MOC ²		
DAD-1.1	MOLDING BLDG	INSTRUMENT AIR	HEATED DESICCANT	1800	315	100	-40	150	7.0	480	3	60	8.8	15	HANKISON HPD400	1,2,3,4,5,6,7
NOTES: 1. PROVIDE DISCONNECT BY DIV. 23 INSTALLED BY DIV. 26. 2. PROVIDE DRYER WITH FACTORY MICROPROCESSOR WITH BUILT-IN SEQUENCING. 3. PROVIDE AUTOMATIC ZERO AIR LOSS DRAIN ASSEMBLY WITH ADJUSTABLE TIMER. 4. PROVIDE WITH AIR FILTER AND REGULATORS. SEE PAD ON SHEET MP-701 FOR ADDITIONAL INFORMATION. 5. STANDARD FACTORY WARRANTY ON ALL EQUIPMENT. 6. INSTALL DRYERS ON 6" HIGH CONCRETE HOUSEKEEPING PAD. 7. DISCONNECT SWITCHES, STARTERS, AND VFDS LOCATED IN PROCESS AREAS SHALL BE NEMA 4X RATED. IN ALL OTHER LOCATIONS THEY SHALL BE NEMA 12 RATED.																

C

RECEIVER TANK SCHEDULE												
UNIT NO.	LOCATION	SERVICE	TYPE	CAPACITY (GAL)	DESIGN PRES. (PSI)	CONNECTIONS			DIMENSIONS		BASIS OF DESIGN	NOTES
						INLET	OUTLET	DRAIN	DIA.	HEIGHT.		
RT-1.1	MOLDING BLDG.	PROCESS AIR	VERTICAL	2200	150	6" FLANGE	6" FLANGE	1" NPT	60"	202"	SILVAN 92-60-2200-150 ASME AIR RECEIVER	1,2,3
RT-1.2	MOLDING BLDG.	INSTRUMENT AIR	VERTICAL	500	150	3" NPT	3" NPT	1" NPT	36"	128"	SILVAN 92-36-500-150 ASME AIR RECEIVER	1,2,3
NOTES: 1. WITH SAFETY RELIEF VALVE, PRESSURE GAUGE, PNEUMATIC NO-LOSS DRAIN VALVE AND LIFTING LUGS INCLUDED. 2. STANDARD FACTORY WARRANTY. 3. STANDARD FACTORY WATER BASED ALKYLE ENAMEL PRIMER COAT.												

B

ELECTRIC WATER HEATER SCHEDULE																
QTY	TAG	TYPE	MANUFACTURER	MODEL	LOCATION	STORAGE (GALLONS)	SYSTEM STORAGE (TEMP F)	RECOVERY (GPH) @ 54F	NO OF ELEMENTS	KW PER ELEMENTS	TOTAL KW	HEATER SIZE (D"X"H")	ELECTRICAL			NOTES
													VOLTS	PHASE	HZ	
1	EW#-1	ELECTRIC	AO SMITH	DEL 20	JAN CLOSET	20	140	11	1	NA	1.5	(21.75"x22.25")	120	-	60	1,2,3,5
1	EW#-2	ELECTRIC	EEMAX	PA010277T	LAB	-	-	-	-	-	10	-	277	-	60	4,5
1	EW#-3	ELECTRIC	EEMAX	PA010277T	LAB	-	-	-	-	-	10	-	277	-	60	4,5
NOTES: 1. ROUTE TAP VALVE DISCHARGE TO FLOOR DRAIN. INSULATE ALL HOT WATER AND LABEL PER SPECIFICATIONS. 2. PROVIDE AND INSTALL THERMAL EXPANSION TANK AND SET STORAGE TEMPERATURE TO 140°F. 3. OUTLET TEMPERATURE SHALL BE SET AT 140°F ON WATER HEATER. 4. INSTANTANEOUS TYPE WATER HEATER. 5. INSTALL PER MANUFACTURE RECOMMENDATIONS.																

HOT WATER RECIRCULATING PUMP SCHEDULE											
TAG	MANUFACTURER	MODEL NO.	LOCATION	RPM	FLOW (GPM)	FT OF HEAD	ELECTRICAL				NOTES
							MOTOR (HP)	VOLTS	PHASE	HZ	
CP-1	TACO	110	X	1725	15	36	1/2	115	1	60	1,2
-	-	-	-	-	-	-	-	-	-	-	-
NOTES: 1. BALANCING VALVES SHALL BE PROVIDED FOR ALL CIRCULATING SYSTEMS AND SHALL BE SET TO FLOW RATES SHOWN UNLESS NOTED OTHERWISE. 2. PROVIDE WITH TIMER AND AQUASTAT (285-3 AND 963-2).											

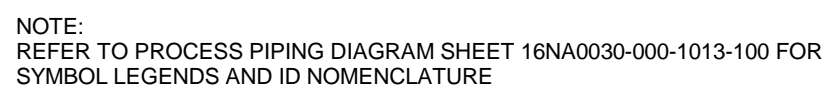
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2

PLUMBING FIXTURE SCHEDULE																
MARK	FIXTURE	MANUFACTURER	MODEL NO.	TYPE	MATERIAL	WASTE	VENT	CW	HW	REMARKS						
P-1	WATER CLOSET	SLOAN	WETS 2050 1301-1.28 ES-S	WALL MOUNTED FLUSH VALVE	VITREOUS CHINA	4"	2"	1 1/4"	---	COMPLETE HET (HIGH EFFICIENCY TOILET) SYSTEM WITH EXPOSED. SENSOR ACTIVATED. ROYAL OPTIMA CLOSET FLUSHOMETER AND VITREOUS CHINA WALL HUNG WATER CLOSET. FLUSH CYCLE: 1.28 GALLONS PER FLUSH. ELECTRICAL REQUIREMENTS: 24VAC INPUT AND OUTPUT CONTROL CIRCUIT. 24VAC SOLENOID OPERATOR. TRANSFORMER MODEL NO. EL-154 (120VAC/24VAC 60 HZ, 50VA) SEAT: BEAMS MODEL #1855C WHITE PLASTIC, ELONGATED SHAPE, OPEN FRONT, LESS COVER CARRIER: JOSAM 1200 SERIES ADA ACCESSIBLE						
P-1A	WATER CLOSET (ADA ACCESSIBLE)	SLOAN	WETS 2050 1301-1.28 ES-S	WALL MOUNTED FLUSH VALVE	VITREOUS CHINA	4"	2"	1 1/4"	---	COMPLETE HET (HIGH EFFICIENCY TOILET) SYSTEM WITH EXPOSED. SENSOR ACTIVATED. ROYAL OPTIMA CLOSET FLUSHOMETER AND VITREOUS CHINA WALL HUNG WATER CLOSET. FLUSH CYCLE: 1.28 GALLONS PER FLUSH. ELECTRICAL REQUIREMENTS: 24VAC INPUT AND OUTPUT CONTROL CIRCUIT. 24VAC SOLENOID OPERATOR. TRANSFORMER MODEL NO. EL-154 (120VAC/24VAC 60 HZ, 50VA) SEAT: BEAMS MODEL #1855C WHITE PLASTIC, ELONGATED SHAPE, OPEN FRONT, LESS COVER CARRIER: JOSAM 1200 SERIES ADA ACCESSIBLE						
P-2	URINAL	SLOAN	WEUS 1000 1301-0.13 ES-S	WALL MOUNTED FLUSH VALVE	VITREOUS CHINA	3"	2"	1"	---	COMPLETE HET (HIGH EFFICIENCY TOILET) SYSTEM WITH EXPOSED. SENSOR ACTIVATED. ROYAL OPTIMA URINAL FLUSHOMETER AND VITREOUS CHINA WALL HUNG URINAL. FLUSH CYCLE: 0.13 GALLONS PER FLUSH. ELECTRICAL REQUIREMENTS: 24VAC INPUT AND OUTPUT CONTROL CIRCUIT. 24VAC SOLENOID OPERATOR. TRANSFORMER MODEL NO. EL-154 (120VAC/24VAC 60 HZ, 50VA) CARRIER: JOSAM 17500-UR ADA ACCESSIBLE						
P-2A	URINAL (ADA ACCESSIBLE)	SLOAN	WEUS 1000 1301-0.13 ES-S	WALL MOUNTED FLUSH VALVE	VITREOUS CHINA	3"	2"	1"	---	COMPLETE HET (HIGH EFFICIENCY TOILET) SYSTEM WITH EXPOSED. SENSOR ACTIVATED. ROYAL OPTIMA URINAL FLUSHOMETER AND VITREOUS CHINA WALL HUNG URINAL. FLUSH CYCLE: 0.13 GALLONS PER FLUSH. ELECTRICAL REQUIREMENTS: 24VAC INPUT AND OUTPUT CONTROL CIRCUIT. 24VAC SOLENOID OPERATOR. TRANSFORMER MODEL NO. EL-154 (120VAC/24VAC 60 HZ, 50VA) CARRIER: JOSAM 17500-UR ADA ACCESSIBLE						
P-3	LAVATORY (UNDERMOUNT)	KOHLER	CAXTON HK-2211	UNDERMOUNT	VITREOUS CHINA	1 1/2"	1 1/2"	12"	12"	UNDERMOUNT. VITREOUS CHINA, OVERFLOW, 18"X18" WITH OVERFLOW. DRILL HOLE FOR SOAP DISPENSER. FAUCET: KOHLER K-1348B-CP SENSOR ACTIVATED, 0.5 GPM WITH A 10 SECOND TIMEOUT. CHROME PLATED. SINGLE HOLE INSTALLATION. PLUG-IN 120 VAC/24 VAC TRANSFORMER (MODEL K-13481) BELOW DECK MECHANICAL MIXING VALVE. PROVIDE MCGUIRE STRAINER-P-TRAP AND SUPPLIES 155A/8902 AND 2165CC.						
P-3A	LAVATORY - WALL HUNG (ADA ACCESSIBLE)	KOHLER	SOHO HK-2084	WALL HUNG	VITREOUS CHINA	1 1/2"	1 1/2"	12"	12"	ACCESSIBLE WALL HUNG 20"X18". VITREOUS CHINA, SINGLE HOLE WITH OVERFLOW AND SOAP DISPENSER HOLE ON RIGHT. DRILLED FOR CONCEALED CARRIER. FAUCET: KOHLER K-1348B-CP SENSOR ACTIVATED, 0.5 GPM WITH A 10 SECOND TIMEOUT. SINGLE HOLE INSTALLATION. PLUG-IN 120 VAC/24 VAC TRANSFORMER (MODEL K-13480), BELOW DECK MECHANICAL MIXING VALVE. PROVIDE MCGUIRE STRAINER-P-TRAP AND SUPPLIES 155A/8902 AND 2165CC. ZURN 1231 CARRIER OR EQUAL						
P-4	LAB SINK	ORION FITTING, INC.	ARLS-17 23"x18"x12" DEEP	DROP-IN	CORROSION RESISTANT POLYETHYLENE	2"	1 1/2"	12"	12"	SINGLE COMPARTMENT DROP-IN TYPE CORROSION RESISTANT HIGH DENSITY POLYETHYLENE, 23"x18"x12" DEEP. SELF RIMMING. FACTORY DRAIN/OVERFLOW OPTION WITH BASKET AND TAILPIECE. FAUCET: JUST MODEL J-1174-KS CONCEALED LEDGE/MOUNT, 8" CENTERS, SWIVELING GOOSENECK SPOUT, 4" PVD CHROME WRIST BLADE HANDLES AND 2.2GPM WATER SAVING AERATOR. PROVIDE MCGUIRE STRAINER-P-TRAP AND SUPPLIES 151A/8912 AND 2165CC.						
P-4A	EYEFACE WASH	GUARDIAN	G1779	DECK MOUNTED	CHROME PLATED BRASS	---	---	12"	---	AUTOFLOW EYEFASH WASH FOR MOUNTING ON COUNTER. SPRAY HEADS SWING DOWN FROM STORAGE TO OPERATIONAL POSITION. ACTIVATING WATER FLOW. POLISHED CHROME PLATED BRASS, 1/2" NPT MALE INLET. ANSI-COMPLIANT IDENTIFICATION SIGN, FURNISHED WITH IN-LINE STRAINER. UNIT REMAINS OPERATIONAL UNTIL SPRAY HEADS RETURNED TO STORAGE POSITION.						
P-5	ELECTRIC WATER COOLER - ADA ACCESSIBLE	ELKAY	LZOST18C	WALL MOUNTED	---	1 1/2"	1 1/2"	12"	---	UNIT SHALL PROVIDE 8.0 GPM OF 50 DEGREE F. WATER AT 90 DEGREE F. AMBIENT AND 80 DEGREE F. INLET WATER. TWO-LEVEL, BARRIER-FREE STAINLESS STEEL WATER COOLER. SURFACE MOUNTED ON WALL REFRIGERATION SYSTEM AND STAINLESS STEEL GRILL. ADA ACCESSIBLE STAINLESS STEEL, TUBULAR SUPPORT ARMS. ALL STAINLESS STEEL POLISHED TO LUSTROUS SATIN FINISH WITH HIGH SHINED OUTER EDGE. FOUNTAIN HAS CONTOURED BASINS TO MINIMIZE SPLASHING. FLEX-GUARD SAFETY BUBBLERS, AND VANDAL-RESISTANT FRONT PUSH BUTTONS. FLOW REGULATOR. PROVIDE MCGUIRE P-TRAP AND SUPPLIES 8902 AND 158LK.						
P-6	SINGLE COMPARTMENT SINK	ELKAY	ELUHAD2115	UNDERMOUNT	STAINLESS STEEL	2"	1 1/2"	12"	12"	SINGLE COMPARTMENT UNDERMOUNT TYPE 304 18-8 STAINLESS STEEL 21"x15"x5 1/2" DEEP. SURFACES SHALL BE POLISHED TO HIGH LUSTER FINISH. PROVIDE SINK WITH CRIMP CLIP STRAINER. FAUCET: KOHLER PURIST K-7505 - CHROME PLATED BRASS FAUCET, VANDAL RESISTANT 1.5 GPM FLOW RESTRICTOR SINGLE HANDLE AND 6" SPOUT. PROVIDE MCGUIRE STRAINER-P-TRAP AND SUPPLIES 151A/8912 AND 2165CC.						
P-7	MOP SINK	FIAT	MSB 2424	FLOOR MOUNTED	MOLDED STONE	3"	1 1/2"	3/4"	3/4"	FLOOR MOUNTED MOLDED STONE MOP SERVICE BASIN, WHITE, 10" HIGH WALLS WITH 1" WIDE SHOULDERS, COMBINATION DOME STRAINER AND STAINLESS STEEL LINT BASKET. FAUCET: FIAT MODEL NO. 830 AA WALL MOUNTED SERVICE FAUCET CHROME PLATED WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAUL HOOK AND 3/4" THREADED HOSE SPOUT.						
P-8	HAND WASH STATION	BRADLEY	S96-980 4-STATION	WALL MOUNTED	STAINLESS STEEL	1 1/2"	1 1/2"	3/4"	3/4"	WALL MOUNTED HEAVY DUTY STAINLESS STEEL 4 STATION WASH SINK WITH ADJUSTABLE HEIGHT FRONT LEGS. PROVIDE WITH SENSOR ACTIVATED GOOSENECK FAUCETS BRADLEY MODEL S53-326. INCLUDE PLUG-IN TRANSFORMER FOR AC POWER. PROVIDE GRID DRAIN, TAILPIECE AND TRAP. PROVIDE THERMOSTATIC MIXING VALVE TO SET TEMP. OFF WATER HEATER.						
P-9	HOSE BIBB (TOILET ROOM)	ZURN	Z1341-VB-PC-LK	WALL MOUNTED	---	---	---	3/4"	---	WALL FAUCET WITH VACUUM BREAKER, 3/4" HOSE THREAD OUTLET SPOUT, LOOSE KEY OPERATION, POLISHED CHROME FINISH.						
P-10	HOSE BIBB	ZURN	Z1341-VB-RC	WALL MOUNTED	---	---	---	3/4"	---	WALL FAUCET WITH VACUUM BREAKER, 3/4" HOSE THREAD OUTLET SPOUT, ROUGH CHROME FINISH.						
P-11	TRAP PRIMER (MULTIPLE)	PRECISION PLUMBING PRODUCTS	---	---	---	---	---	12"	---	TRAP PRIMER VALVE CPO-500, DISTRIBUTION UNIT DU-4.						
P-12	TRAP PRIMER (SINGLE)	PRECISION PLUMBING PRODUCTS	---	---	---	---	---	12"	---	TRAP PRIMER VALVE CPO-500						
P-13	ICE MAKER BOX W/SHUT-OFF VALVE	OATLEY	PART NO. 39151	---	---	---	---	12"	---	HIGH IMPACT POLYSTYRENE, 2 SUPPORT BRACKETS, SNAP-ON FACEPLATE FRAME, ACCOMMODATES UP TO 1" DRYWALL WITH 1/4 TURN SHUT-OFF VALVE						
P-14	CONDENSATE WALL BOX W/FIXED AIR GAP	ZURN	PART NO. 38550	---	---	2"	---	---	---	HIGH IMPACT POLYSTYRENE, 2 SUPPORT BRACKETS, SNAP-ON FACEPLATE FRAME, ACCOMMODATES UP TO 1" DRYWALL WITH ZURN Z-1024 FIXED AIR GAP, DURA COATED CAST IRON BODY WITH SLIP JOINT INLET AND NPT OUTLET. COORDINATE INSTALLATION WITH MECHANICAL EQUIPMENT.						
P-15	EMERGENCY EYE WASH	HAWS	7261-7271	PEDESTAL MOUNTED	---	---	---	3/4"	---	PEDESTAL MOUNTED, PLASTIC BOWL, EYEFACE WASH, INCLUDES 1" GREEN ABS PLASTIC BOWL AND INTEGRAL STAY OPEN BALL VALVE. UNITS INCLUDES 1 1/4" SCHEDULE 40 HOT DIPPED GALVANIZED STEEL PIPE AND FITTING. EYE WASH OPERATED BY PUSH HANDLE						

DRAINAGE SPECIALTIES AND CONNECTIONS SCHEDULE										REMARKS
MARK	SPECIALTY	MANUFACTURER	MODEL NO.	TYPE	MATERIAL	STYLE	SIZE	DOMESTIC CW		
FD-1	FLOOR DRAIN (FINISHED AREA)	ZURN	Z415B	NO HUB OR NEO-LOCK	CAST IRON/ NICKEL BRONZE TOP	POLISHED ROUND TOP	PER DWGS.	1/2" TRAP PRIMER		COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE TYPE "B" NICKEL BRONZE STRAINER, 5 7/16" ROUND TOP, TAPPED FOR TRAP PRIMER CONNECTION, VANDAL PROOF.
FD-2	FLOOR DRAIN (MECHANICAL ROOM)	ZURN	Z-608-P-Y-VP	NO HUB OR NEO-LOCK	CAST IRON/ NICKEL BRONZE TOP	POLISHED ROUND TOP	PER DWGS.	1/2" TRAP PRIMER		COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE TYPE NICKEL BRONZE STRAINER, 8" ROUND TOP, TAPPED FOR TRAP PRIMER CONNECTION, VANDAL PROOF.
CD-1	CONDENSATE DRAIN	ZURN	Z415-U-V	NO HUB OR NEO-LOCK	CAST IRON/ NICKEL BRONZE TOP	POLISHED ROUND TOP	PER DWGS.			COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE Y POLISHED, 5 7/16" ROUND TOP, NICKEL BRONZE STRAINER WITH 2" RAISED UP AND INTEGRAL BACKWATER VALVE.
HD-1	HUB DRAIN	ZURN	Z415-U	NO HUB OR NEO-LOCK	CAST IRON/ NICKEL BRONZE TOP	POLISHED ROUND TOP	PER DWGS.			COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE Y POLISHED, 7 3/8" ROUND TOP, NICKEL BRONZE STRAINER WITH 2" RAISED UP. COORDINATE LOCATION WITH EQUIPMENT.
BWV	BACK WATER VALVE	PLASTIC ODDITIES	PBF3808	NO HUB	PVC		PER DWGS.			

WATER HAMMER SCHEDULE		
ARRESTOR SIZE (WHA)	WATER SUPPLY FIXTURE UNITS	PDI STD WH 201
1/2"	1-11	PDI-A
3/4"	12-32	PDI-B
1"	33-60	PDI-C
1-1/4"	61-133	PDI-D
1-1/2"	114-154	PDI-E
2"	155-330	PDI-F
NOTE: ALL ARRESTORS SHALL BE INSTALLED PER PDI (PLUMBING AND DRAINAGE INSTITUTE) STANDARD PDI-WH201 (2006) FOR SIZING AND PLACEMENT.		



KEY: DI = DIGITAL INPUT, AI = ANOLOG INPUT, DO = DIGITAL OUTPUT, AO = ANOLOG OUTPUT

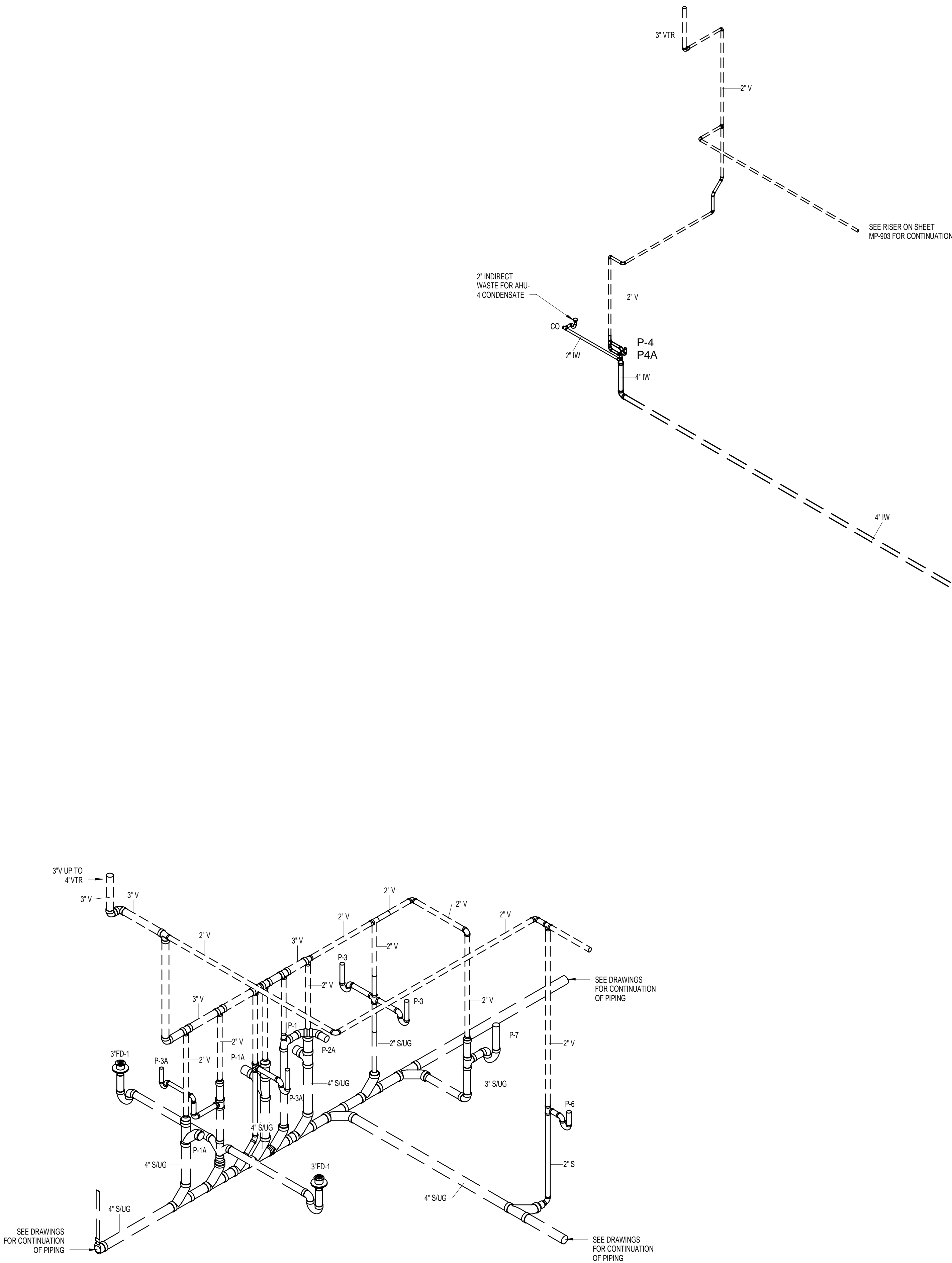
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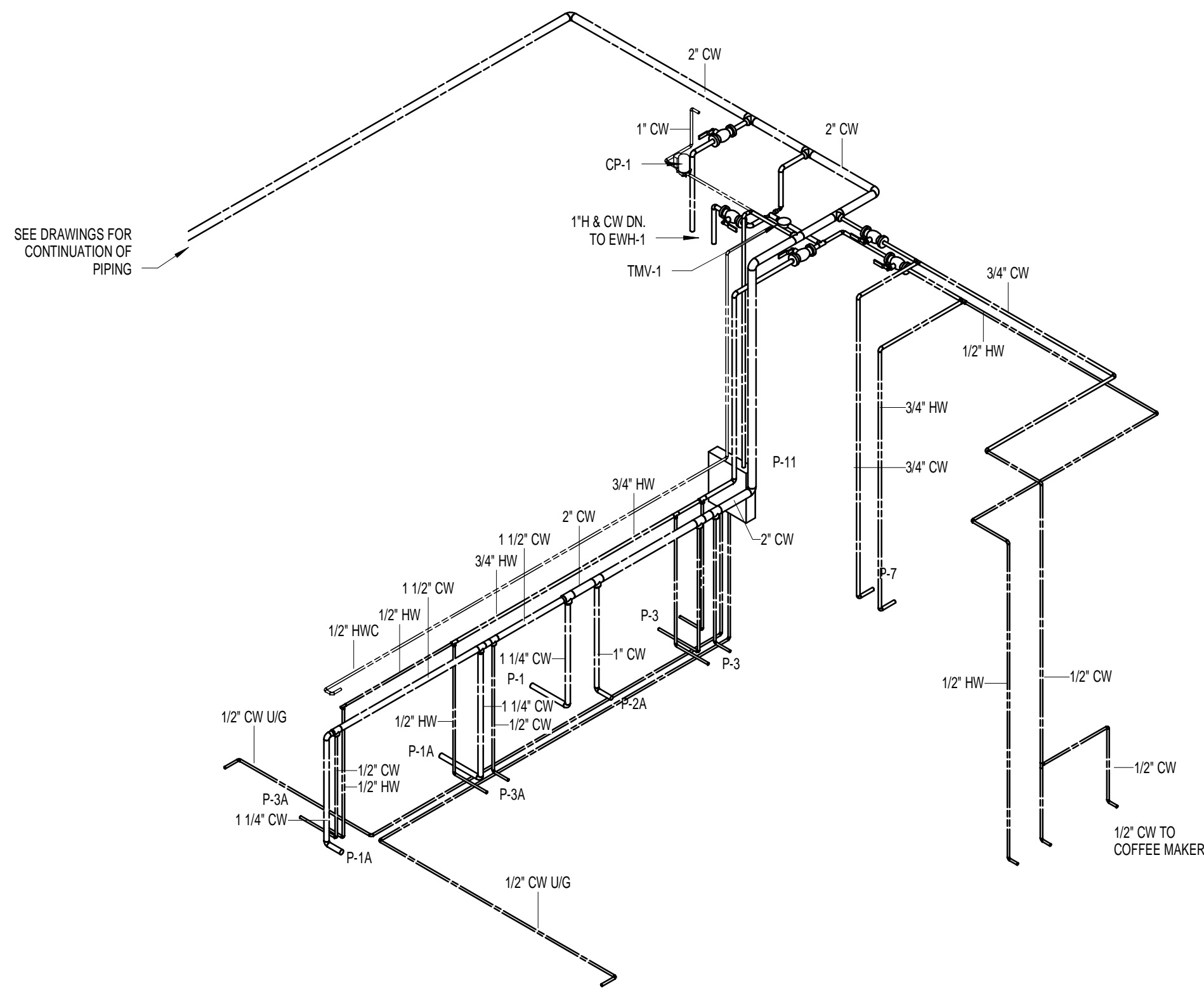
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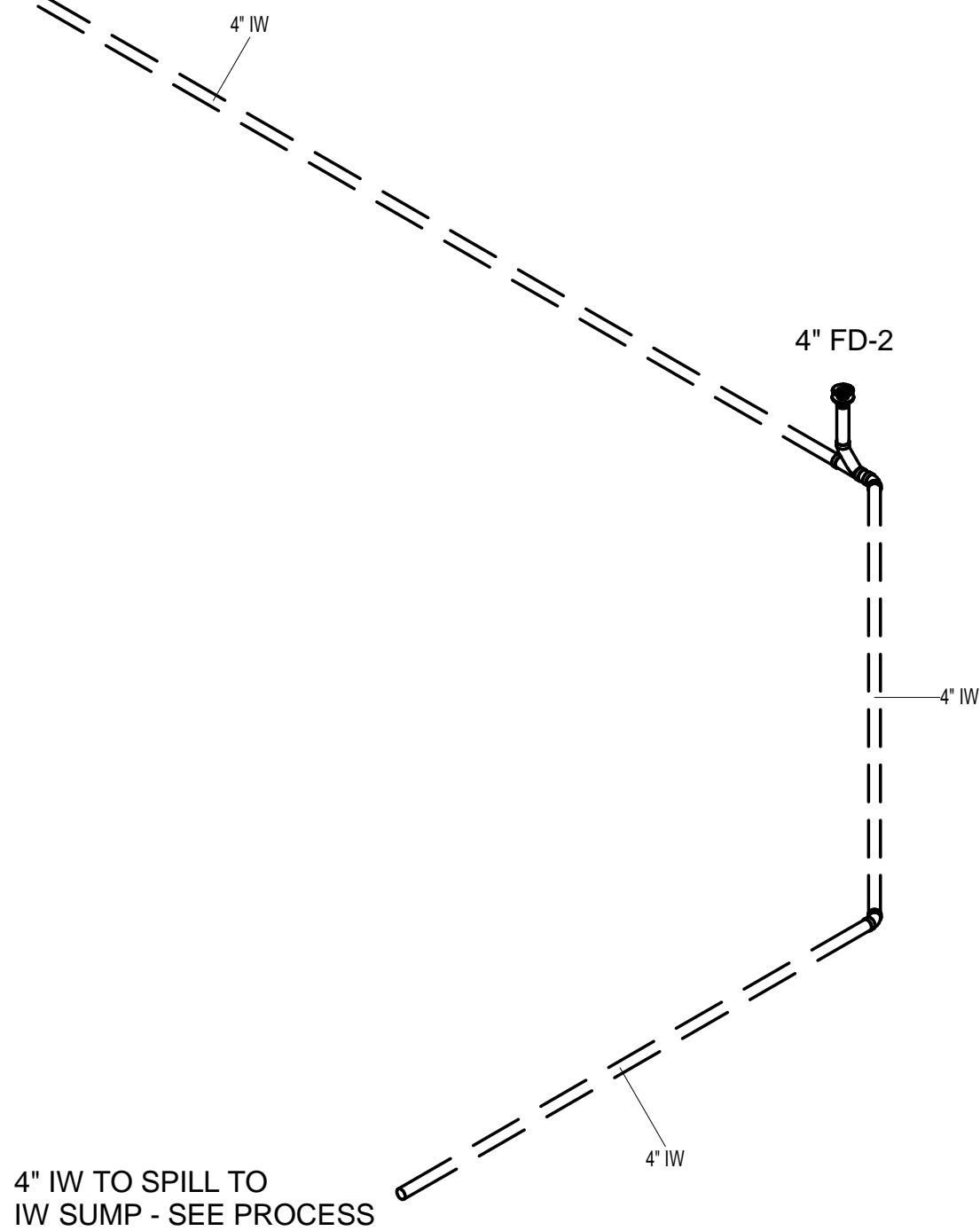
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SANITARY WASTE AND VENT RISER DIAGRAM



DOMESTIC WATER RISER DIAGRAM



INDUSTRIAL WASTE AND WHITE WATER RETURN

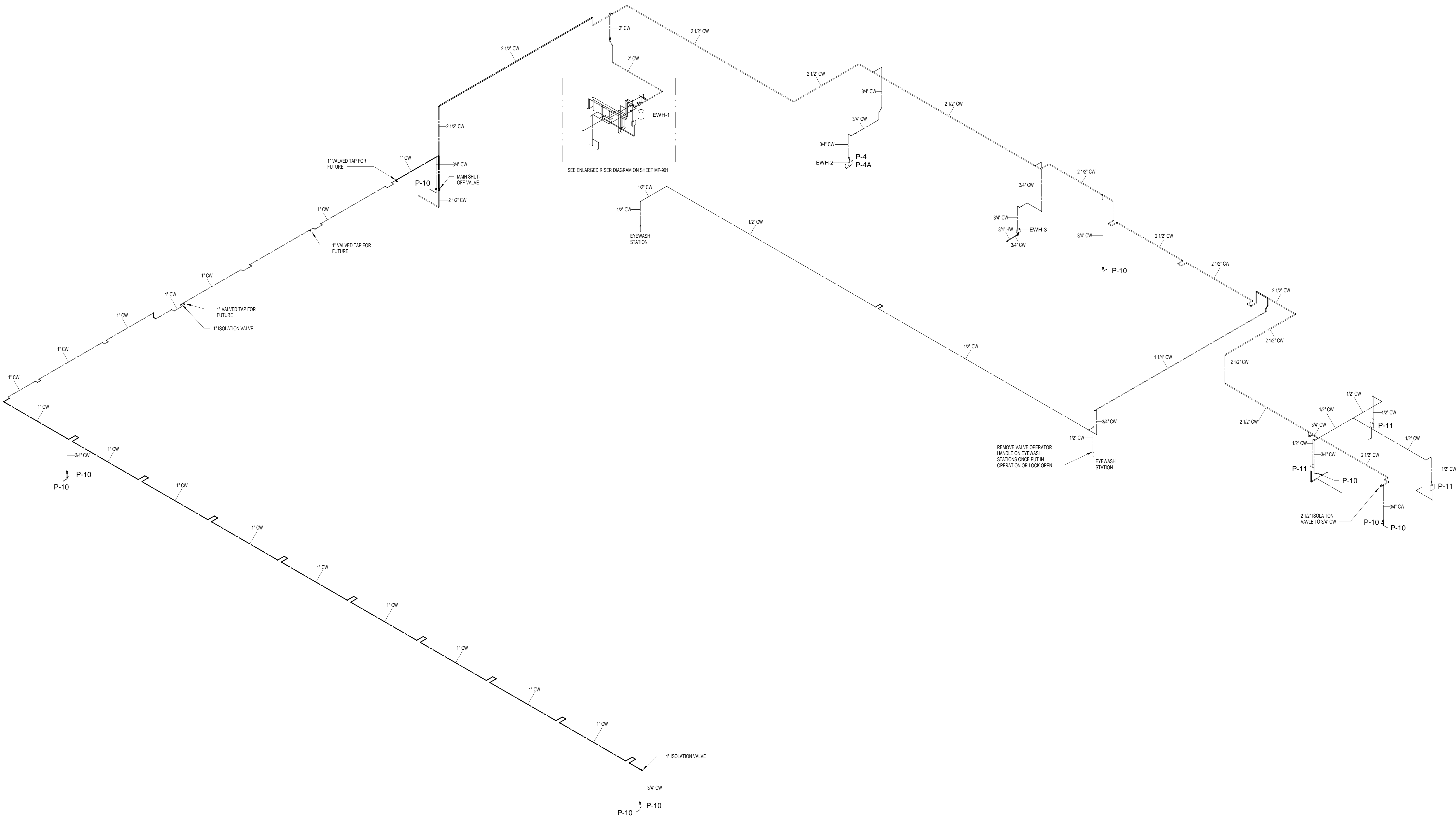
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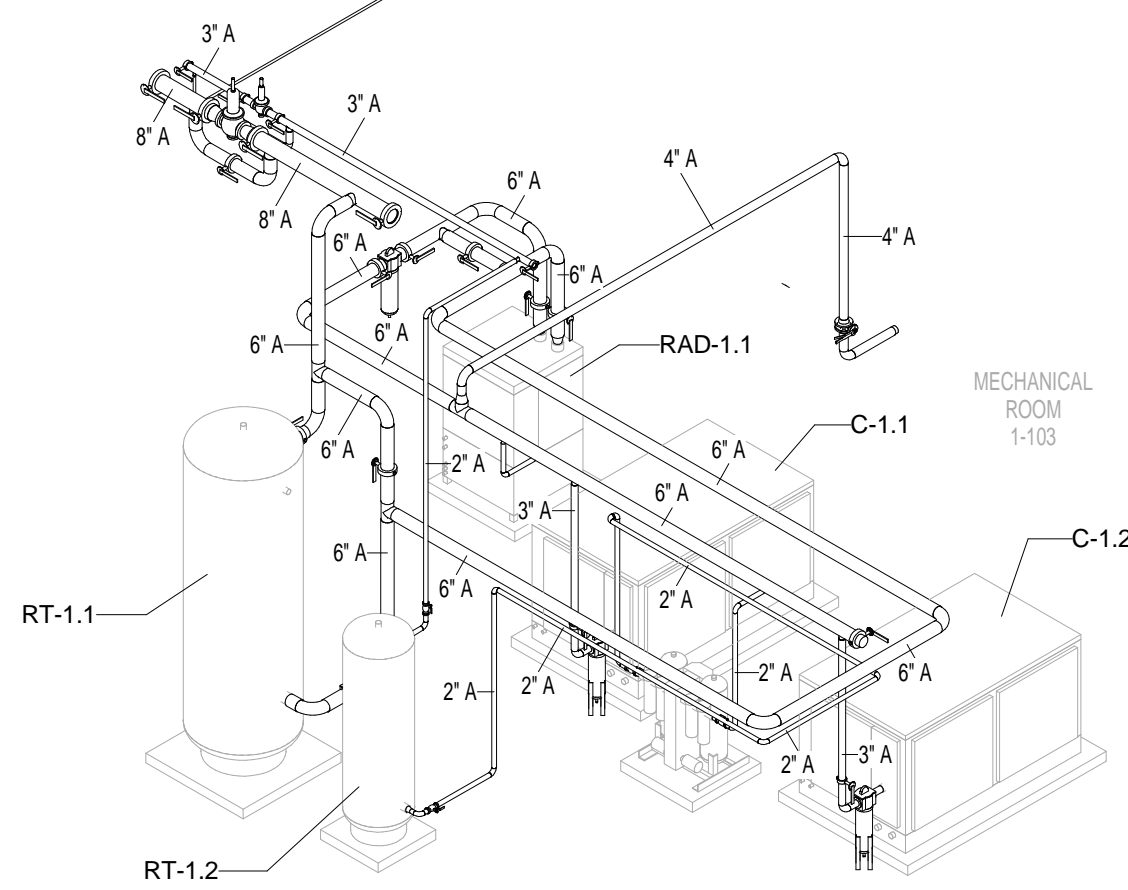
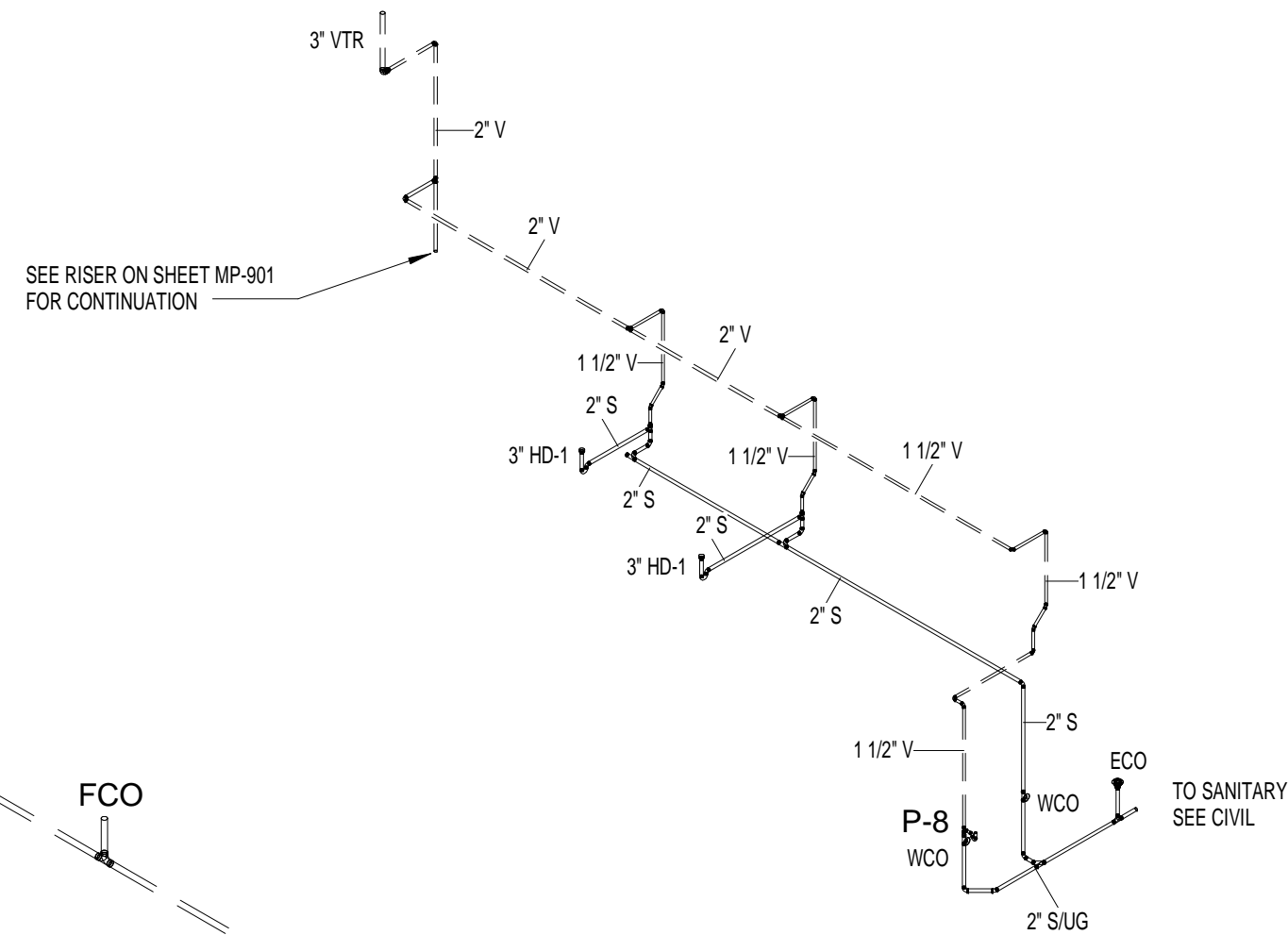
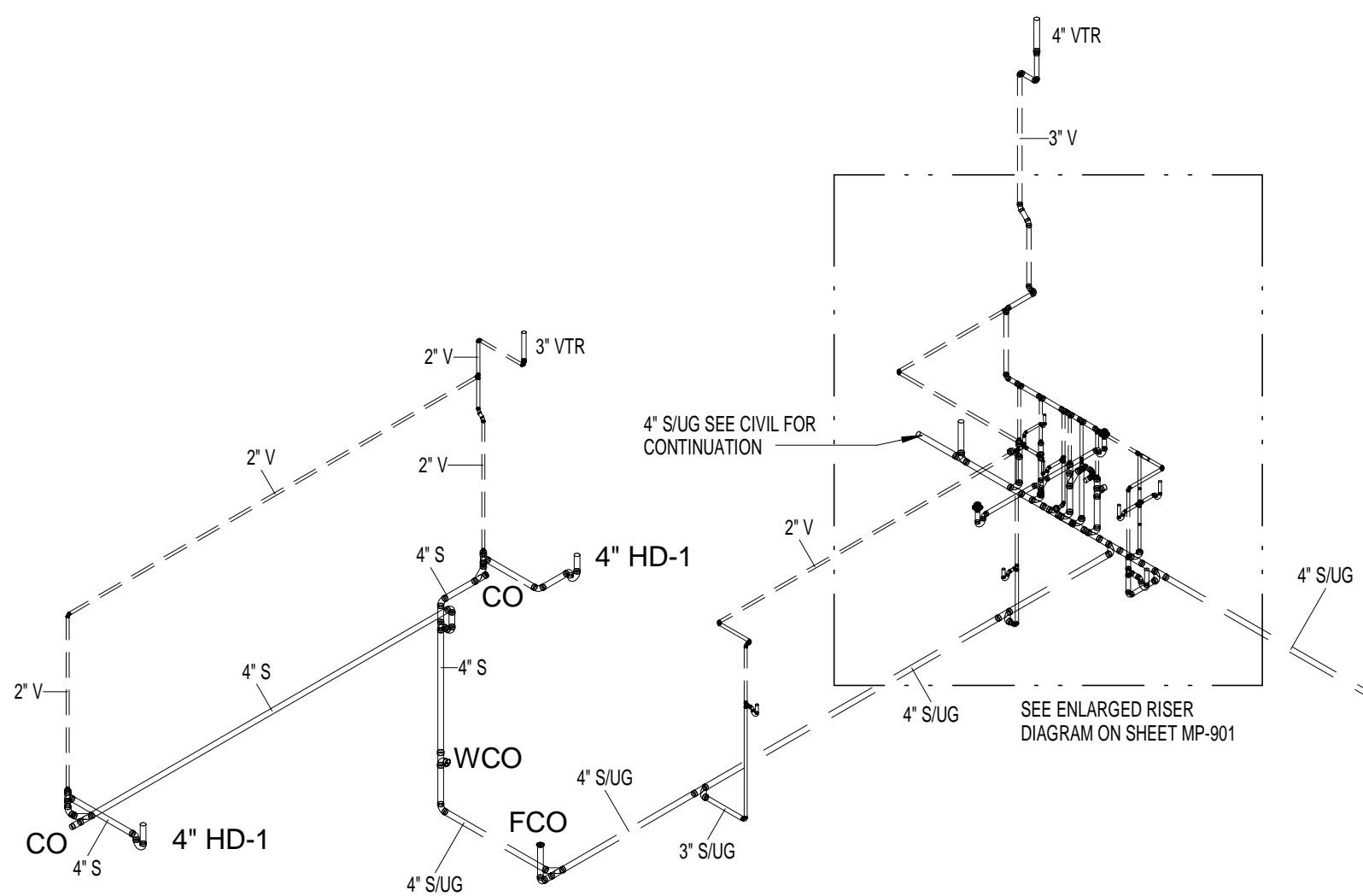
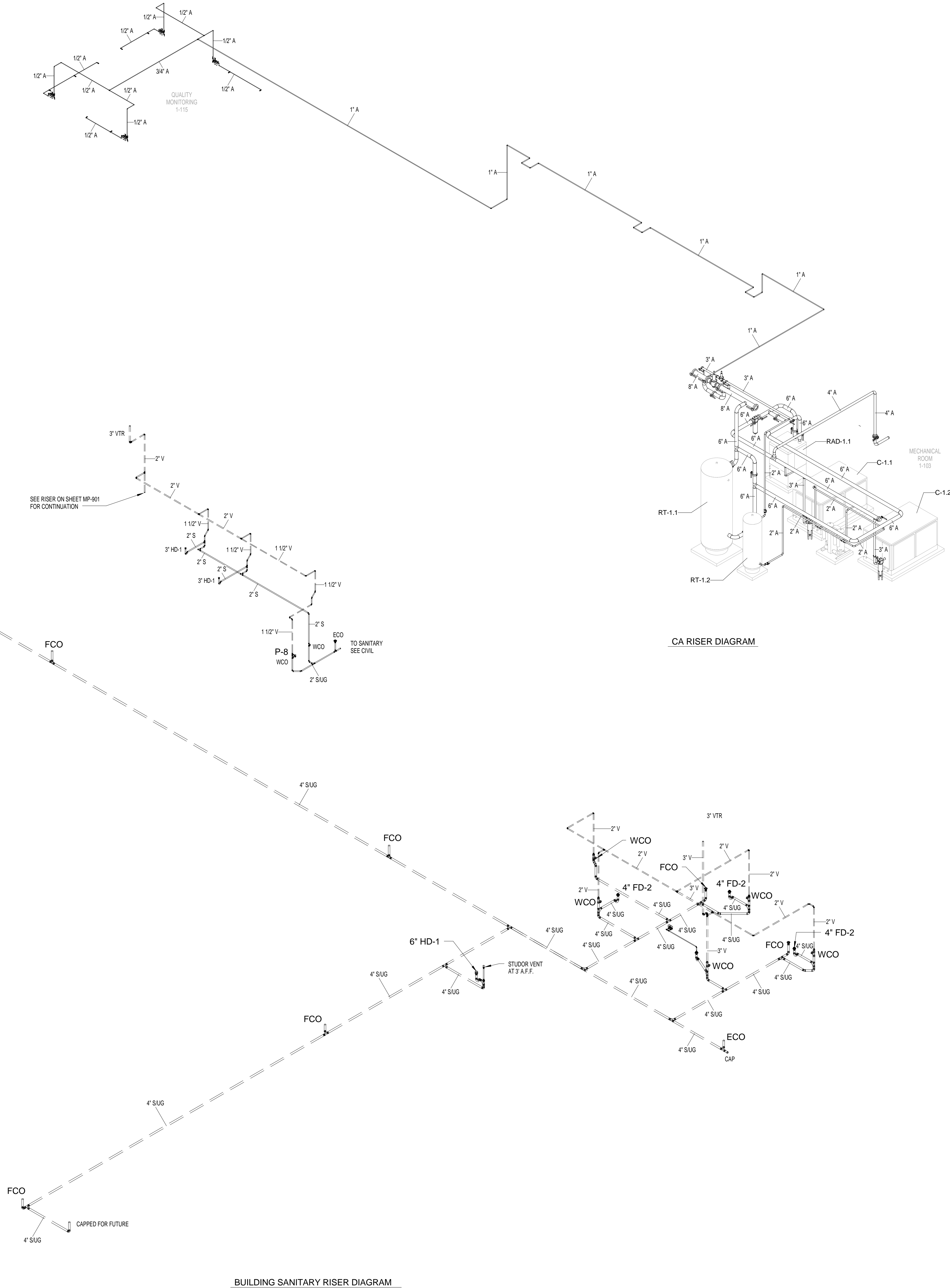
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BUILDING DOMESTIC WATER RISER DIAGRAM



CA RISER DIAGRAM

BUILDING SANITARY RISER DIAGRAM

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ABBREVIATIONS

ABBR	DESCRIPTION	ABBR	DESCRIPTION
AC	AIR CONDITIONER	MAU	MAKE-UP AIR UNIT
A/C	AIR CONDITIONING	MAX	MAXIMUM
AD	ACCESS DOOR	MBH	1000 BRITISH THERMAL UNITS PER HOUR
AF	AIRFOIL	MCA	MINIMUM CIRCUIT AMPACITY
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
AFG	ABOVE FINISHED GRADE	MFS	MAXIMUM FUSE SIZE
AHU	AIR HANDLING UNIT	MIN	MINIMUM
AP	ACCESS PANEL	MOCOP	MAXIMUM OVER CURRENT PROTECTION
		MVD	MANUAL VOLUME DAMPER
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONINGENGINEERS	NC	NORMALLY CLOSED
		N/C	NOISE CRITERIA
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	NEC	NATIONAL ELECTRIC CODE
		NFPA	NATIONAL FIRE PROTECTION AGENCY
BAS	BUILDING AUTOMATION SYSTEM	NIC	NOT IN CONTRACT
BHP	BRAKE HORSEPOWER	NO	NORMALLY OPEN
BOD	BOTTOM OF DUCT	NOM	NOMINAL
BTU	BRITISH THERMAL UNIT	NTS	NOT TO SCALE
BTUH	BRITISH THERMAL UNIT PER HOUR		
		OA	OUTSIDE AIR
CAP	CAPACITY	OAL	OUTSIDE AIR LOUVER
C/C	CENTER TO CENTER	OAT	OUTSIDE AIR TEMPERATURE
CENTRI	CENTRIFUGAL	OAU	OUTSIDE AIR UNIT
CFM	CUBIC FEET PER MINUTE	OC	ON CENTER
CHW	CHILLED WATER	ODP	OPEN DRIP PROOF
CONT	CONTINUE		
COP	COEFFICIENT OF PERFORMANCE	PCT	PERCENT
CO2	CARBON DIOXIDE	PD	PRESSURE DROP
CU	CONDENSING UNIT	PH	PHASE
		POC	POINT OF CONNECTION
DB	DRY BULB	PSIG	POUNDS PER SQUARE INCH GAUGE
DG	DOOR GRILLE	PTAC	PACKAGED TERMINAL AIR CONDITIONER
DL	DOOR LOUVER		
DDC	DIRECT DIGITAL CONTROL	RA	RETURN AIR
DIA	DIAMETER	RG	RETURN AIR GRILLE
DIF	DIFFERENTIAL	RR	RETURN AIR REGISTER
DN	DOWN	RAT	RETURN AIR TEMPERATURE
DP	DIFFERENTIAL PRESSURE	REF	REFRIGERANT
DWG	DRAWING	RH	RELATIVE HUMIDITY
DX	DIRECT EXPANSION	RLA	RATED LOAD AMPS
		RM	ROOM
EA	EXHAUST AIR	RPM	REVOLUTION PER MINUTE
EG	EXHAUST AIR GRILLE	RTU	ROOFTOP UNIT
ER	EXHAUST AIR REGISTER		
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EDH	ELECTRIC DUCT HEATER	SG	SUPPLY AIR GRILLE
EER	ENERGY EFFICIENCY RATIO	SR	SUPPLY AIR REGISTER
EF	EXHAUST FAN	SAT	SUPPLY AIR TEMPERATURE
EFF	EFFICIENCY	SATT	SOUND ATTENUATOR
ELEC	ELECTRIC, ELECTRICAL	SCH	SCHEDULE
EQUIP	EQUIPMENT	SD	SUPPLY DIFFUSER
ESP	EXTERNAL STATIC PRESSURE	SEC	SECOND
EWT	ENTERING WATER TEMPERATURE	SEER	SEASONAL ENERGY EFFICIENCY RATIO
EXIST	EXISTING	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
		SF	SUPPLY FAN
F	DEGREES FAHRENHEIT	SG	SOFFIT GRILLE
FA	FACE AREA	SHT	SHEET
FACP	FIRE ALARM CONTROL PANEL	SP	STATIC PRESSURE
FC	FORWARD CURVE	SS	STAINLESS STEEL
FLOD	FLOOR DRAIN	STL	STEEL
FLEX	FLEXIBLE	STM	STEAM
FLG	FLANGE		
FPS	FEET PER SECOND	TG	TRANSFER AIR GRILLE
FT	FEET	TR	TRANSFER AIR REGISTER
FTU	FAN TERMINAL UNIT	TEAO	TOTALLY ENCLOSED AIR OVER
FV	FACE VELOCITY	TEFC	TOTALLY ENCLOSED FAN COOLED
		TEMP	TEMPERATURE
GA	GAUGE	TSH	TOTAL SENSIBLE HEAT
GALV	GALVANIZED	TSP	TOTAL STATIC PRESSURE
GPM	GALLONS PER MINUTE	TSTAT	THERMOSTAT
GTH	GRAND TOTAL HEAT	TYP	TYPICAL
		TOD	TOP OF DUCT
H2O	WATER	TOS	TOP OF STEEL
HD	HEAD		
HDT	HORIZONTAL DRAW THRU	UH	UNIT HEATER
HP	HORSEPOWER	UL	UNDERWRITER'S LABORATORIES
HP	HEAT PUMP	UNO	UNLESS NOTED OTHERWISE
HR	HOUR		
HRU	HEAT RECOVERY UNIT	V	VOLTS, VOLTAGE
HVAC	HEATING, VENTILATION AND AIR CONDITIONING	VAV	VARIABLE AIR VOLUME
HZ	HERTZ	VFD	VARIABLE FREQUENCY DRIVE
		VLV	VALVE
IH	INFRARED HEATER	VVT	VARIABLE VOLUME AND TEMPERATURE
IN	INCHES		
IST	ICE STORAGE TANK	W	WATT(S)
		W/	WITH
KW	KILOWATTS	WB	WET BULB
		WG	WATER GAGE
LAT	LEAVING AIR TEMPERATURE	WH	ALL HEATER
LDS	LEAK DETECTION SENSOR	WSHP	WATER SOURCE HEAT PUMP
LPG	LIQUEFIED PETROLEUM GAS		
LRA	LOCKED ROTOR AMPS	ZD	ZONE DAMPER
LVR	LOUVER		
LWT	LEAVING WATER TEMPERATURE		

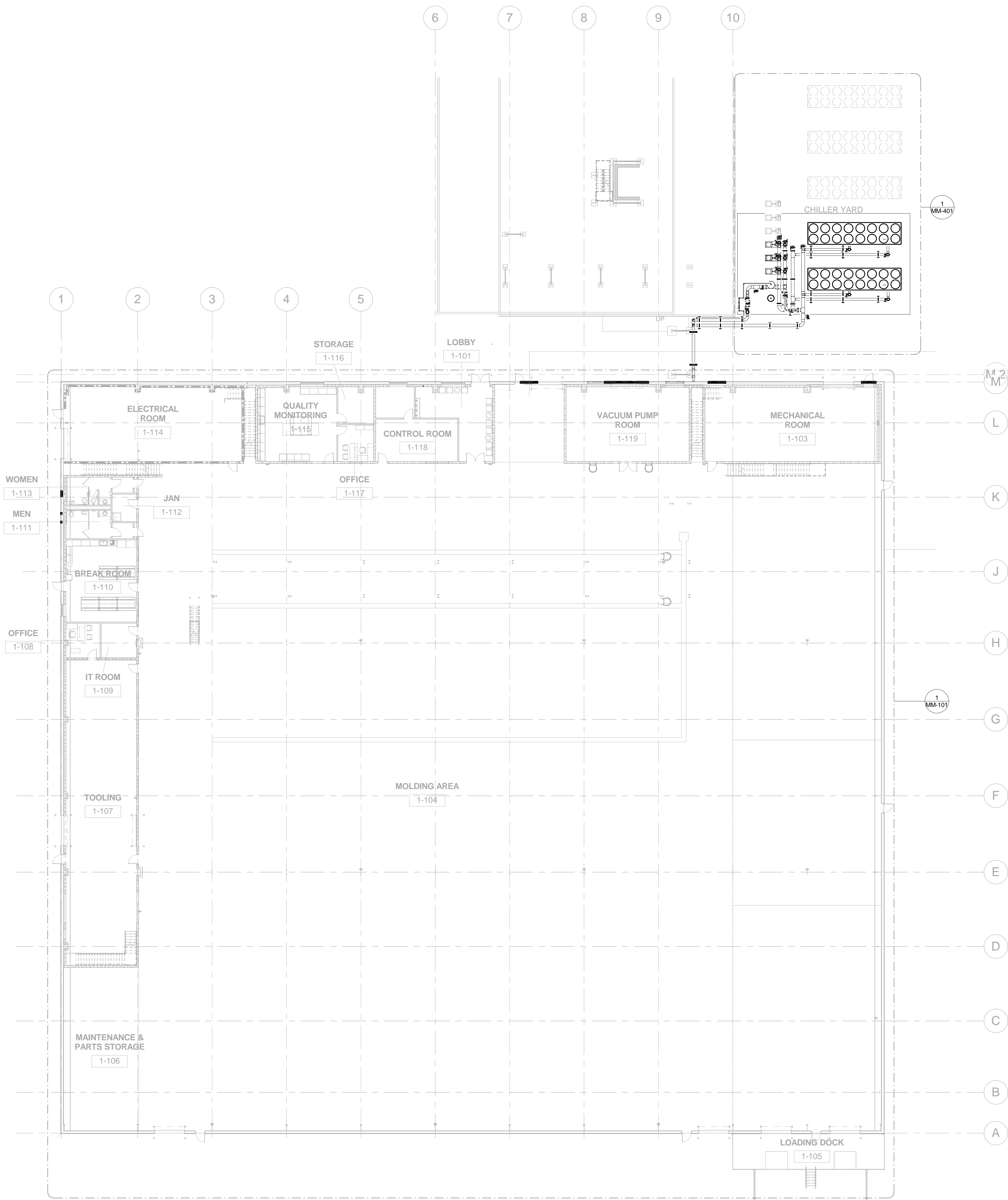
AIR DISTRIBUTION LEGEND		
SYMBOL	ABBR	DESCRIPTION
		RECTANGULAR DUCT SIZE IN INCHES FIRST SIZE LISTED IS SIDE SHOWN
		ROUND DUCT SIZE IN INCHES
	D	DUCT OFFSET (DOWN) IN DIRECTION OF ARROW (NOT TYPICALLY SHOWN)
	U	DUCT OFFSET (UP) IN DIRECTION OF ARROW (NOT TYPICALLY SHOWN)
		SUPPLY AIR DUCT SECTION TURNED UP OR TOWARDS
		SUPPLY AIR DUCT SECTION TURNED DOWN OR AWAY
		RETURN AIR DUCT SECTION TURNED UP OR TOWARDS
		RETURN AIR DUCT SECTION TURNED DOWN OR AWAY
		EXHAUST AIR DUCT SECTION TURNED UP OR TOWARDS
		EXHAUST AIR DUCT SECTION TURNED DOWN OR AWAY
		ROUND DUCT SECTION TURNED UP OR TOWARDS
		ROUND DUCT SECTION TURNED DOWN OR AWAY
		DUCT SECTIONS UP THROUGH SLAB OR ROOF
		END OF DUCT WITH CAP (UNLESS NOTED OTHERWISE)
		FLEXIBLE DUCT
	AD	DUCT ACCESS DOOR
		CONCENTRIC DUCT TRANSITION
		ECCENTRIC DUCT TRANSITION
		SQUARE TO ROUND TRANSITION
	VD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
		TWO POSITION PARALLEL BLADE DAMPER WITH ACTUATOR
	MD	MODULATING OPPOSED BLADE DAMPER WITH ACTUATOR
	FD	FIRE DAMPER W/ACCESS DOOR IN DUCT
	FSD	FIRE/SMOKE DAMPER WITH ACCESS DOOR IN DUCT
	SMD	SMOKE DAMPER WITH ACCESS DOOR IN DUCT
	LLT	LOW LIMIT THERMOSTAT
	DSD	DUCT SMOKE DETECTOR
		INDICATES SUPPLY AIR FLOW DIRECTION
		INDICATES RETURN or EXHAUST AIR FLOW DIRECTION
		CEILING SUPPLY DIFFUSER. REFER TO DIFFUSER AND GRILLE SCHEDULE FOR ADDITIONAL INFORMATION.
		CEILING GRILLE (RETURN OR TRANSFER) REFER TO DIFFUSER AND GRILLE SCHEDULE FOR ADDITIONAL INFORMATION.
		CEILING EXHAUST GRILLE. REFER TO DIFFUSER AND GRILLE SCHEDULE FOR ADDITIONAL INFORMATION.

PIPING LEGEND		
SYMBOL	ABBR	DESCRIPTION
		LIGHT LINEWORK INDICATES EXISTING PIPING OR EQUIPMENT
	D	DRAIN - INDIRECT
	CD	CONDENSATE DRAIN - INDIRECT
	CHWS	CWS
	CHWR	CWR
	PCWS	PCWS
	PCWR	PCWR
	RL	RL
	RS	RS
	HG	HG
	CAP	PIPE END CAP
		PIPE TURNING DOWN OR AWAY
		PIPE TURNING UP OR TOWARD
		PIPE TURNING DOWN OR AWAY (TEE)
		REDUCER (NOT TYPICALLY SHOWN)
		PIPE CONNECTION
		PIPE ANCHOR
		PIPE SLEEVE or ALIGNMENT GUIDES
		PUMP (DIAGRAM)
		FLEXIBLE CONNECTOR
		INDICATES ASSEMBLY OF PIPING COMPONENTS (AS NOTED OR DIAGRAMED)
		SHUTOFF VALVE (AS SPECIFIED FOR PIPING SYSTEM)
	BV	BALL VALVE
	CKV	CHECK VALVE
	BFV	BUTTERFLY VALVE
	BFV MS	BUTTERFLY VALVE W/ MEMORY STOP
	BAL VA	BALANCING VALVE
	BSV	COMBINATION BALANCING/SHUTOFF VALVE
	ACV	MODULATING CONTROL VALVE W/ ACTUATOR
	ACV	3-WAY MODULATING CONTROL VALVE W/ACTUATOR
	PRV	PRESSURE REDUCING VALVE
	RV	RELIEF VALVE
	FMS	FLOW MEASUREMENT STATION
	YSTR	Y-TYPE STRAINER
	NV	NEEDLE VALVE
		SQUARE HEAD COCK VALVE
	PV	PLUG VALVE
	GLV	GLOBE VALVE
	OSY VA	OUTSIDE SCREW AND YOKE VALVE
	EXP VA	EXPANSION VALVE
	SOL VA	SOLENOID VALVE (TWO-POSITION W/ ACTUATOR)
	FCV	FLOW CONTROL VALVE
		UNION
		FLANGES
		THREADED DRAIN PLUG
		MALE (GARDEN) HOSE CONNECTION WITH CAP
	TP	TEST PLUG
	FL SW	FLOW SWITCH
	PR SW	PRESSURE SWITCH
	TH	THERMOMETER
	B STR	BASKET STRAINER
	PG	PRESSURE GAUGE
	AAV	AUTOMATIC AIR VENT
	MAV	MANUAL AIR VENT
	WM	WATER METER

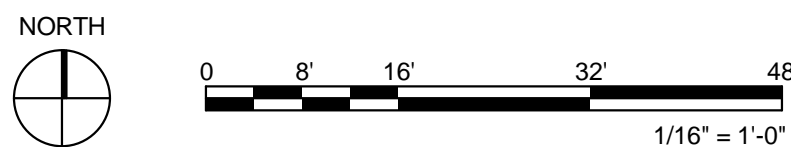
GENERAL LEGEND	
SYMBOL	DESCRIPTION
	DETAIL OR ENLARGED VIEW SYMBOL: A = IDENTIFYING NUMBER B = SHEET WHERE DETAIL OR ENLARGED VIEW IS SHOWN SIM = SIMILAR (ONLY NOTED IF IT APPLIES)
	SECTION SYMBOL: A = IDENTIFYING LETTER B = SHEET WHERE SECTION IS
	ELEVATION / PHOTO SYMBOL: A = IDENTIFYING NUMBER B = SHEET WHERE ELEVATION / PHOTO IS SHOWN
	VIEW TITLE SYMBOL ON SHEET WHERE SHOWN: A = IDENTIFYING NUMBER B = SHEET WHERE VIEW IS FROM
	EQUIPMENT IDENTIFICATION: (REFER TO SCHEDULES)
	DEVICE IDENTIFICATION: CFM (REFER TO SCHEDULES)
	REVISION CLOUD AND REVISION NUMBER
	KEYED REFERENCE NOTE OR SHEET NOTE
	POINT OF CONNECTION SYMBOL
	POINT OF DEMOLITION SYMBOL
	SPACE TEMPERATURE SENSOR
	SPACE HUMIDITY SENSOR

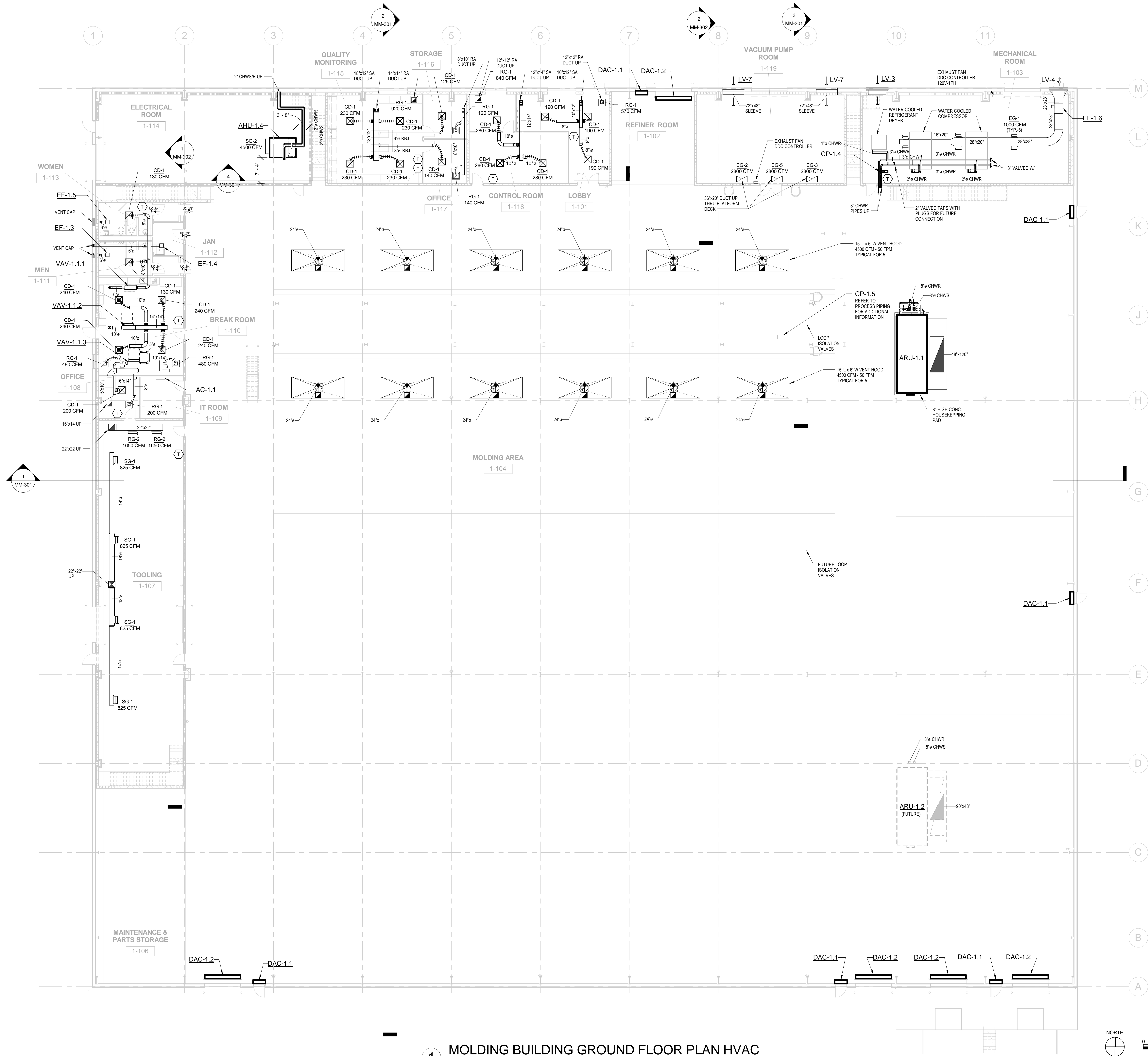
MECHANICAL GENERAL NOTES

- PROVIDE ALL LINEAR DIFFUSERS WITH DEFLECTION BLADES, WHICH SHALL BE ADJUSTED BY THE TAB AGENCY DURING THE TESTING AND BALANCING PROCESS.
- FOR ALL LINEAR DIFFUSERS, PROVIDE A DUCT BRANCH EVERY FOUR (4) FEET AS A MINIMUM.
- INSTALL FLEXIBLE DUCTS IN ACCORDANCE WITH SMACNA STANDARDS.
- MAXIMUM ALLOWED FLEXIBLE DUCT LENGTH SHALL BE SIX (6) FEET.
- PROVIDE MANUAL VOLUME DAMPERS AT EACH DUCT BRANCH LEADING TO AN OUTLET/INLET OPENING. INSTALL THESE DAMPERS AS FAR AS POSSIBLE AWAY FROM THE OPENING.
- DUCT PRESSURE CLASSIFICATION SHALL BE AS INDICATED ON THE DRAWINGS. IF NOT INDICATED, IT SHALL BE AS FOLLOWS:
SUPPLY DUCTS : 2" POSITIVE
EXHAUST DUCTS : 2" NEGATIVE
RETURN DUCTS : 2" NEGATIVE
- DO NOT ROUTE ANY WET PIPING THROUGH ELECTRICAL, COMMUNICATION OR ELEVATOR EQUIPMENT ROOMS.
- COMPLY WITH ALL 2014 FLORIDA BUILDING CODES, NFPA AND NEC FOR ALL WORK UNDER THIS CONTRACT.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF CEILING DIFFUSERS/GRILLES AND VFF CEILING CASSETTES.
- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DETAILS OF EXTERIOR WALL LOUVERS AND ROOF PENETRATION CURBS.
- COORDINATE ALL MECHANICAL WORK & EQUIPMENT WITH STRUCTURAL MEMBERS, ELECTRICAL WORK AND FIXTURES, AND ALL OTHER TRADES.
- VERIFY REFLECTED CEILING PLANS IN THE FIELD FOR EXACT LAYOUT LOCATION OF ALL CEILING GRILLES & DIFFUSERS. COORDINATE WITH ALL OTHER TRADES THEIR LAYOUTS.
- PROVIDE ACCESS DOORS IN DUCTWORK TO SERVICE FIRE DAMPERS & DEVICES WITHIN DUCTS NOT OTHERWISE ACCESSIBLE THRU GRILL/DIFFUSERS OR OPEN DUCT.
- PROVIDE ACCESS DOORS IN UNACCESSIBLE CEILINGS TO ACCESS MEP DEVICES ABOVE CEILINGS NOT OTHERWISE ACCESSIBLE.
- FABRICATE ALL DUCT WORK IN ACCORDANCE WITH SMACNA STANDARDS.
- PROVIDE INSULATED TRAPPED CONDENSATION DRAIN PIPING, WITH AIR GAPS, FROM COOLING COIL DRAIN PANS, TO NEAREST FLOOR DRAIN, CONDENSATE DRAIN, STORM DRAIN OR TO OUTSIDE AS INSTRUCTED BY THE ENGINEER.
- SET AND ANCHOR, TO HURRICANE LEVEL, ALL OUTDOOR HVAC AND PLUMBING EQUIPMENT.
- PROVIDE DUCT FLEXIBLE CONNECTOR BETWEEN EACH DUCT & THE FAN THAT IT IS CONNECTED TO.
- PROVIDE ALL HVAC AND PLUMBING EQUIPMENT COMPLETE WITH MOTOR STARTERS AS PER MANUFACTURER REQUIREMENT.
- DETERMINE FINAL LOCATIONS & ORIENTATION OF ALL EQUIPMENT IN THE FIELD.
- PROVIDE 1/2" x 1/2" STAINLESS STEEL BIRD SCREEN ON THE INSIDE FACE OF ALL OUTSIDE AIR LOUVERS.
- RUN ALL PIPING CONCEALED ABOVE CEILING EXCEPT WHERE INDICATED.
- COORDINATE FINAL EQUIPMENT/FIXTURE LOCATIONS WITH THE GENERAL CONTRACTOR. THE LOCATION AS INDICATED ON THE DRAWING IS APPROXIMATE.
- INSTALL ALL DUCT SMOKE DETECTORS FURNISHED UNDER DIVISION 28 SPECIFICATIONS.
- PROVIDE ALL CONTROL WIRING IN COMPLIANCE WITH DIVISION 26 SPECIFICATIONS.
- ANCHOR UNDERGROUND FIBERGLASS OIL COLLECTION TANKS TO CONCRETE FOUNDATIONS TO COUNTER WEIGHT THE UPWARDS FORCE ON THE TANK BY UNDERGROUND WATER.
- PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS & DRAIN VALVES, WITH CAPPED HOSE CONNECTIONS AT ALL LOW POINTS OF PIPING SYSTEMS.
- PROVIDE FIRE/SMOKE DAMPERS AT ALL DUCT PENETRATIONS OF ALL FIRE/SMOKE RATED ASSEMBLIES, TO MAINTAIN THE INTEGRITY OF THE ASSOCIATED FIRE/SMOKE ASSEMBLY.
- FIRESTOP/SMOKESTOP ALL PIPE PENETRATIONS THROUGH FIRE/SMOKE RATED ASSEMBLIES TO MAINTAIN THE INTEGRITY OF THE ASSEMBLY.
- COORDINATE ALL PIPING WITH DUCTWORK, PLUMBING PIPING, ELECTRICAL CONDUITS/DEVICES AND STRUCTURAL MEMBERS.
- DRAIN ALL CONDENSATE DRAIN PANS WITH INSULATED, TRAPPED PIPING AS INDICATED OR, WHERE NOT INDICATED, AS DIRECTED BY THE ENGINEER ON SITE.
- INSTALL ALL ROOM WALL MOUNTED THERMOSTATS, TEMPERATURE SENSORS, AND HUMIDISTATS AT 48 INCHES ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.



1 MOLDING BUILDING COMPOSITE FLOOR PLAN HVAC
1/16" = 1'-0"





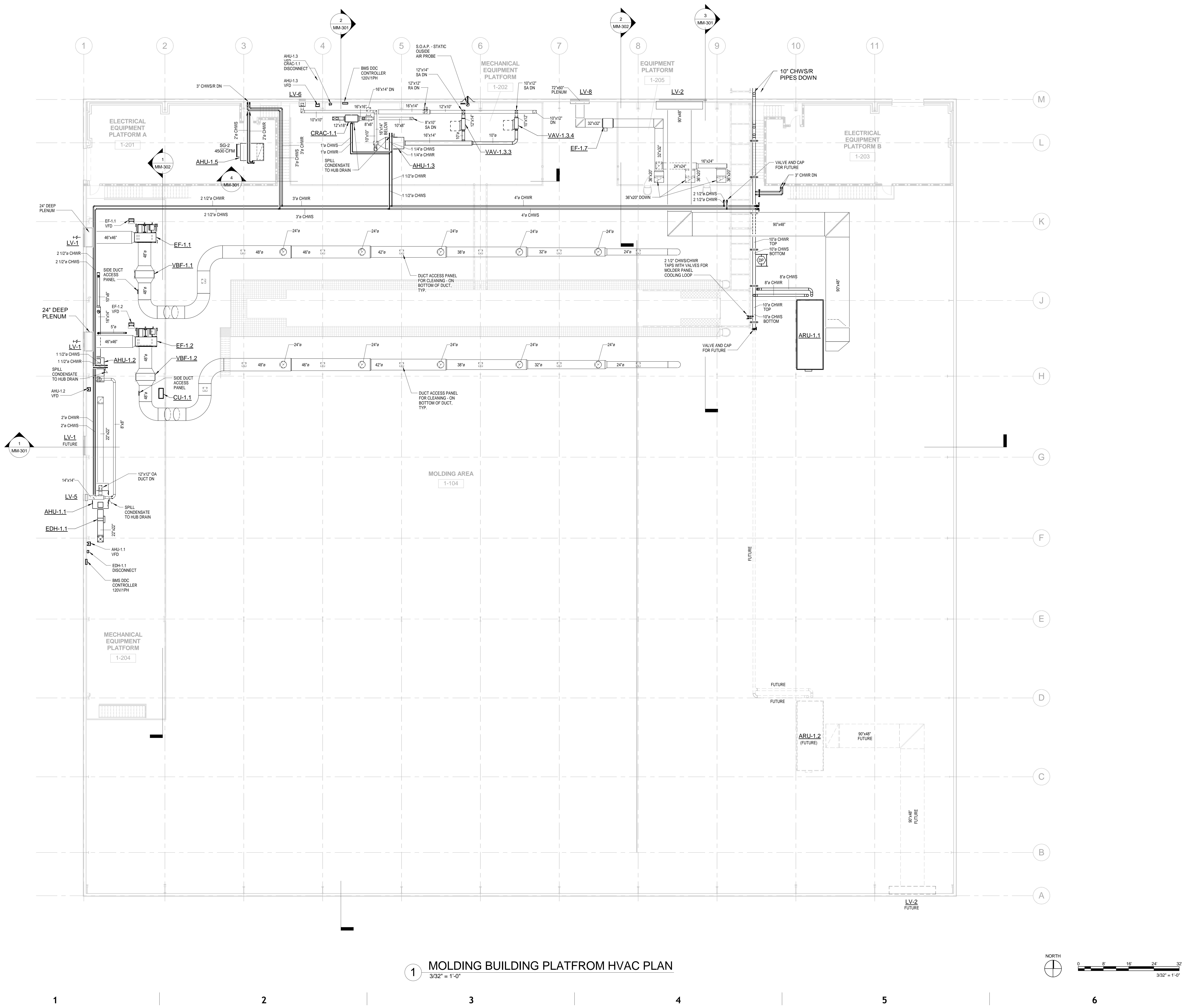
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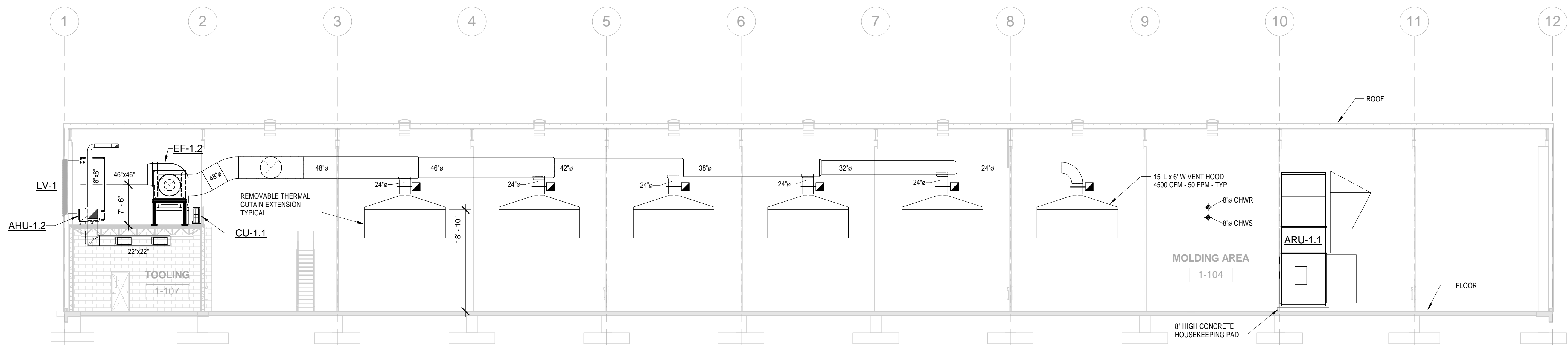
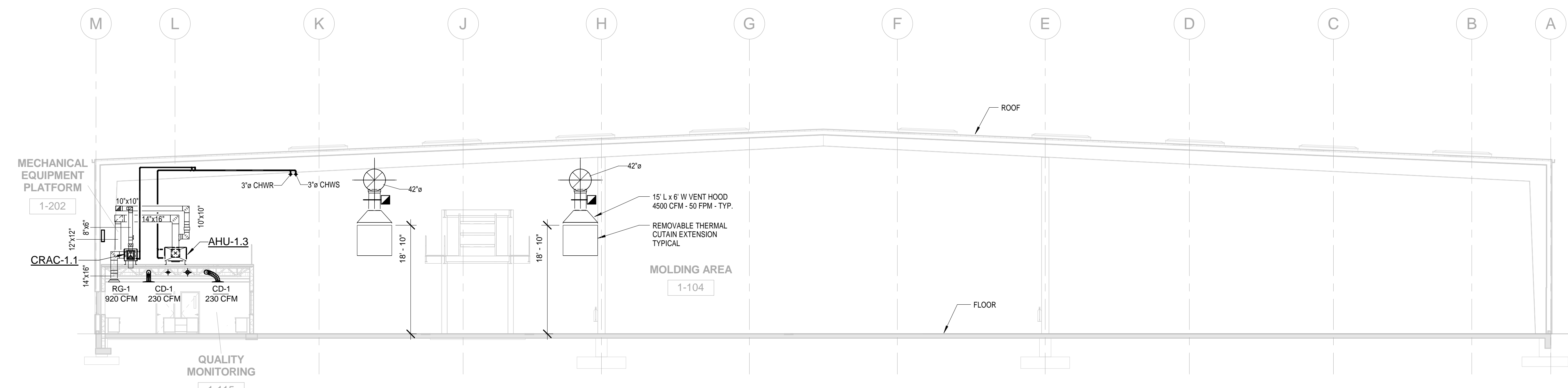
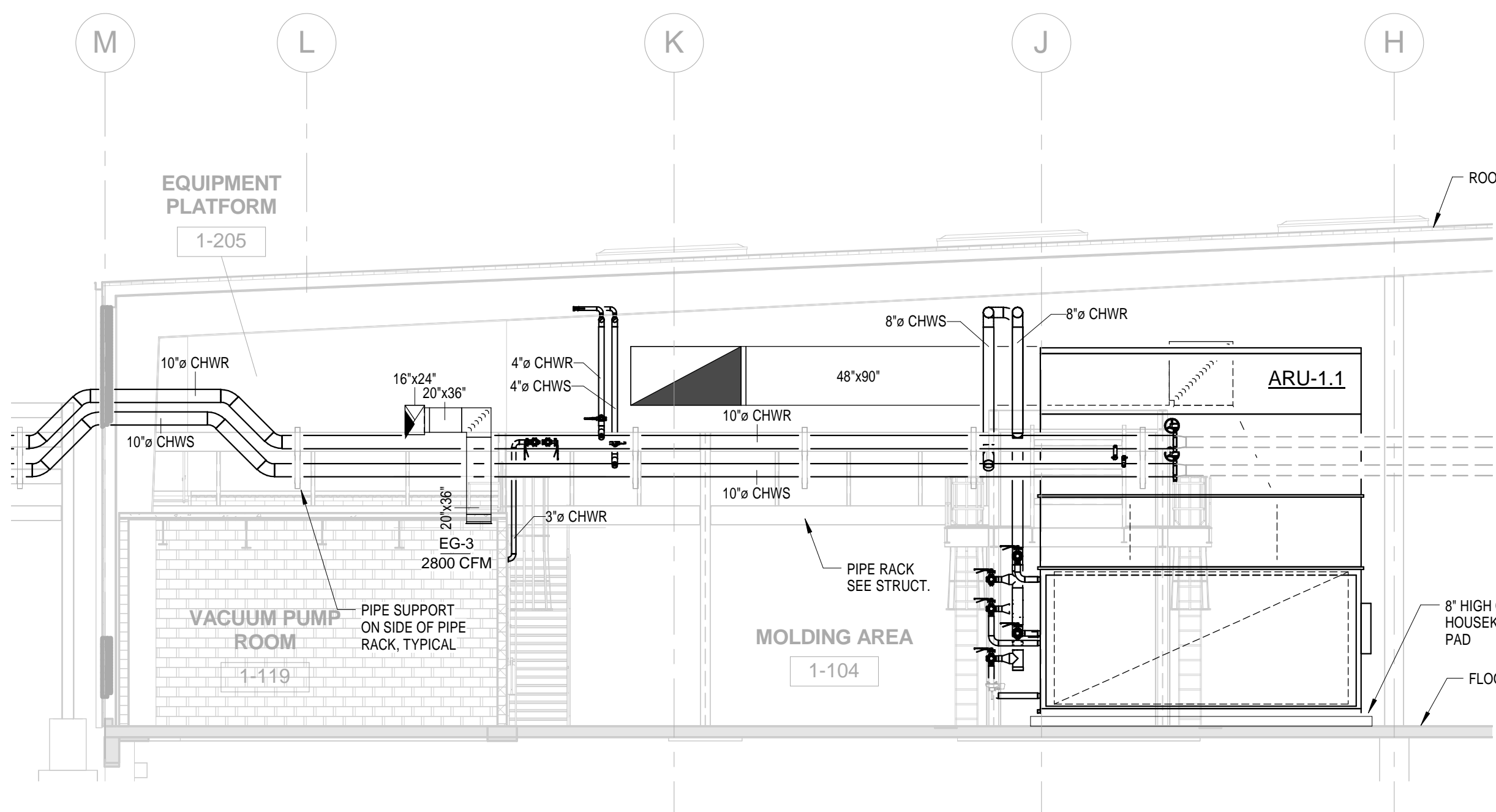
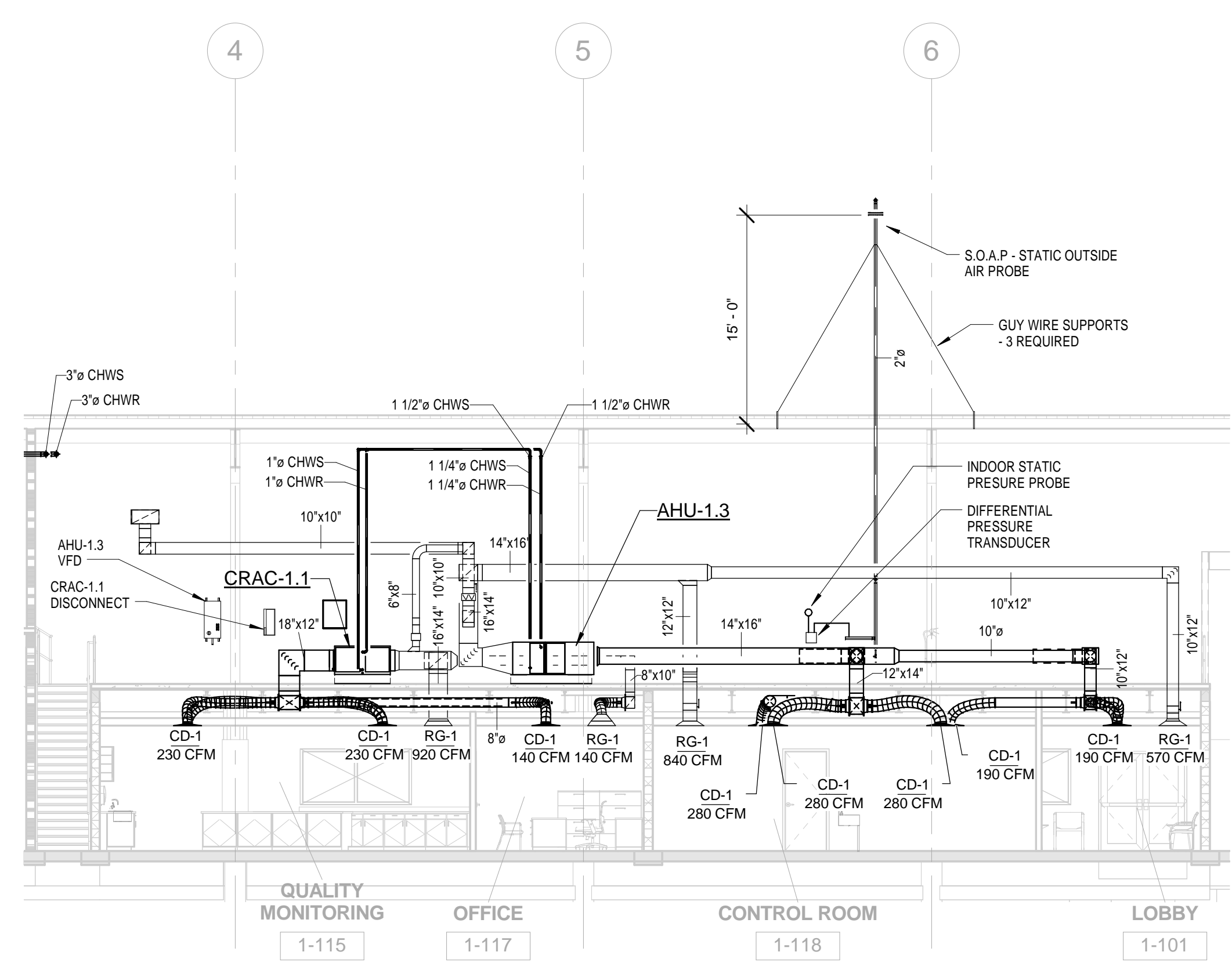
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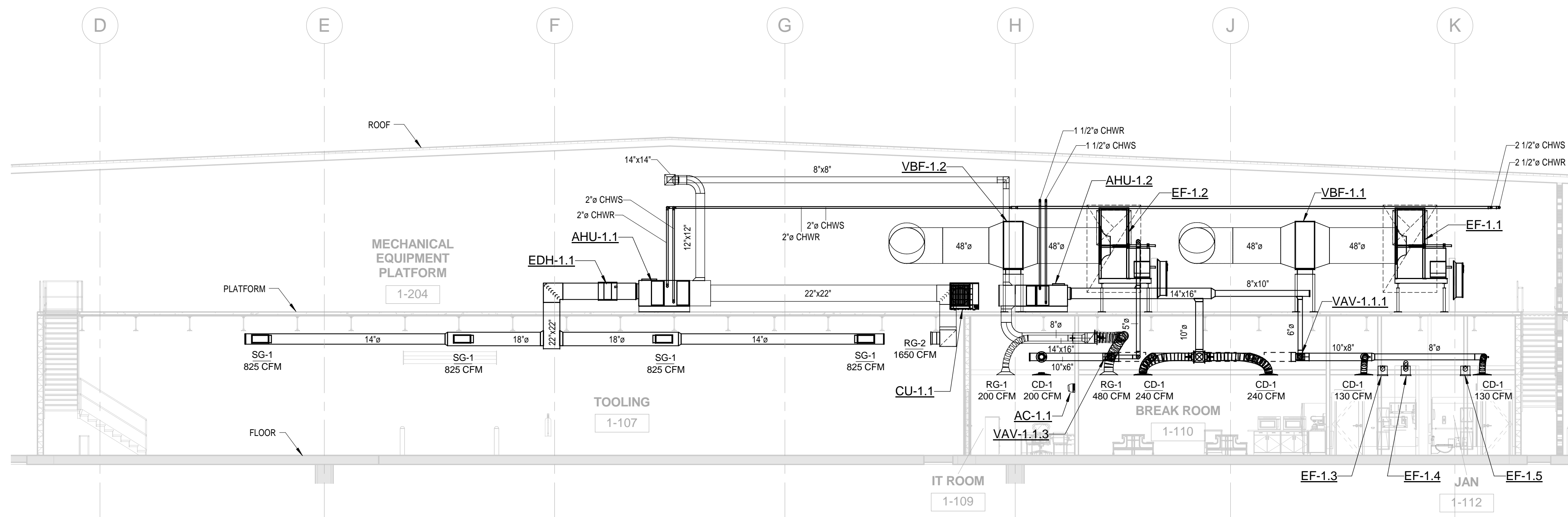
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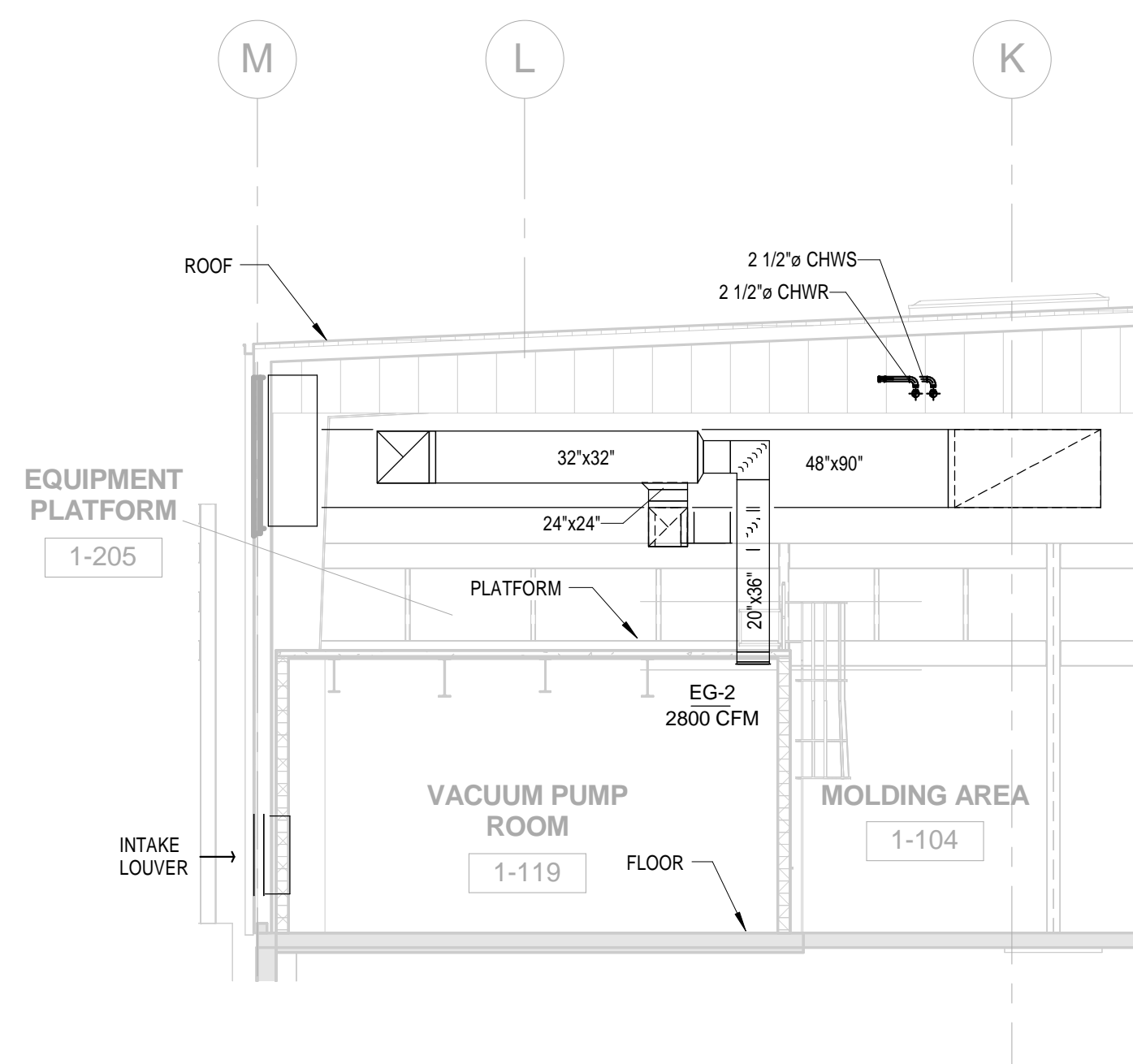
1 MOLDING BUILDING PLATFORM HVAC PLAN

3/32" = 1'-0"

1 SECTION 1
3/32" = 1'-0"2 SECTION 2
3/32" = 1'-0"3 SECTION 3
1/8" = 1'-0"4 SECTION 4
1/8" = 1'-0"0' 4' 8' 16' 24'
1/8" = 1'-0"0' 8' 16' 24' 32'
3/32" = 1'-0"

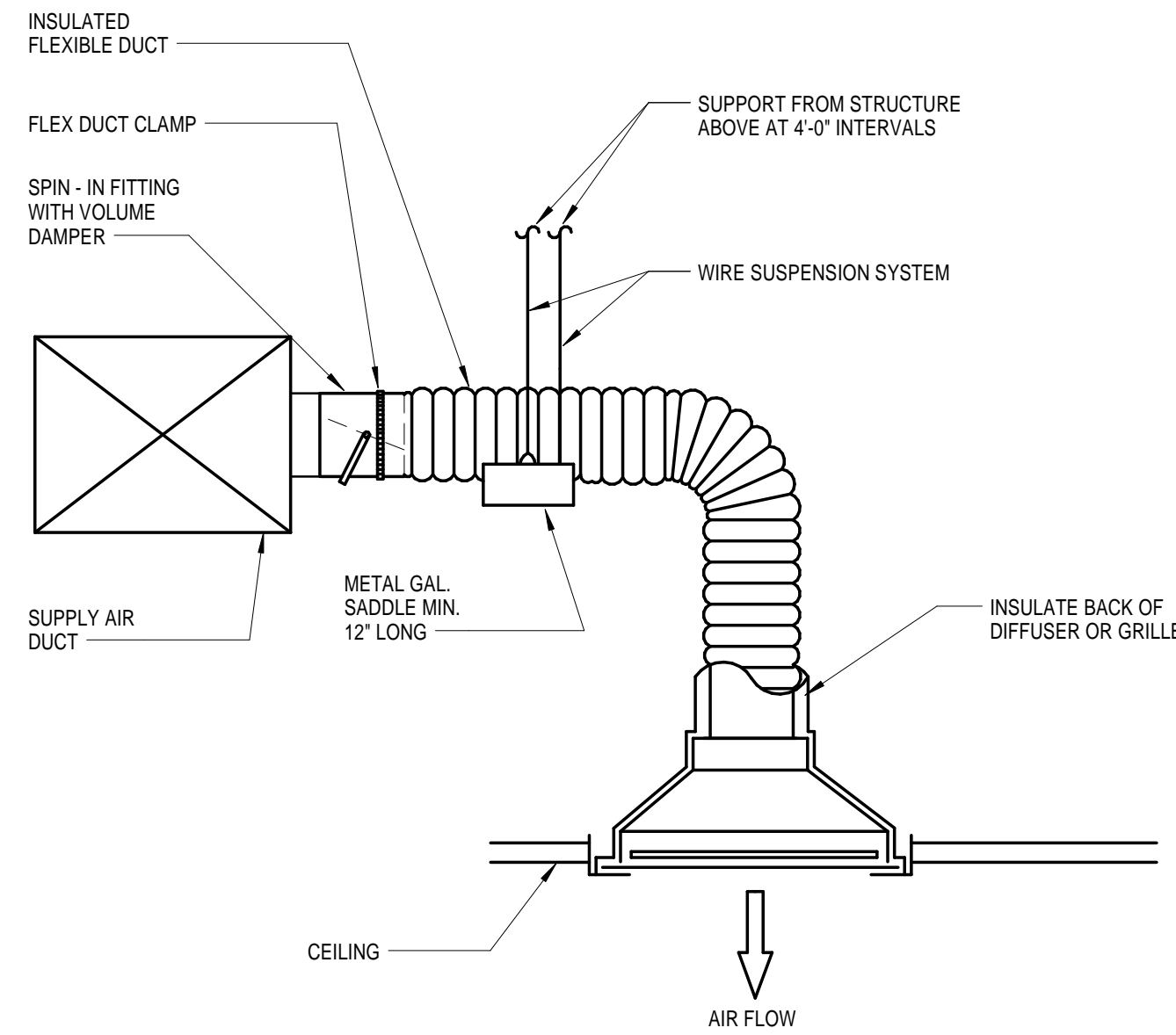


1 SECTION 5
1/8" = 1'-0"

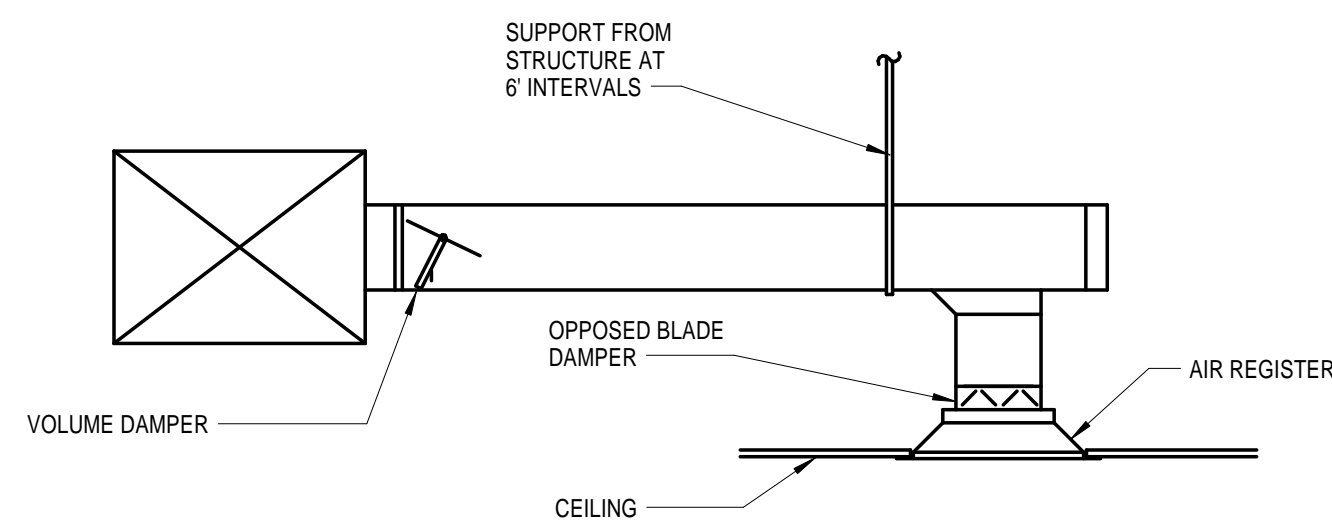


2 SECTION 6
1/8" = 1'-0"

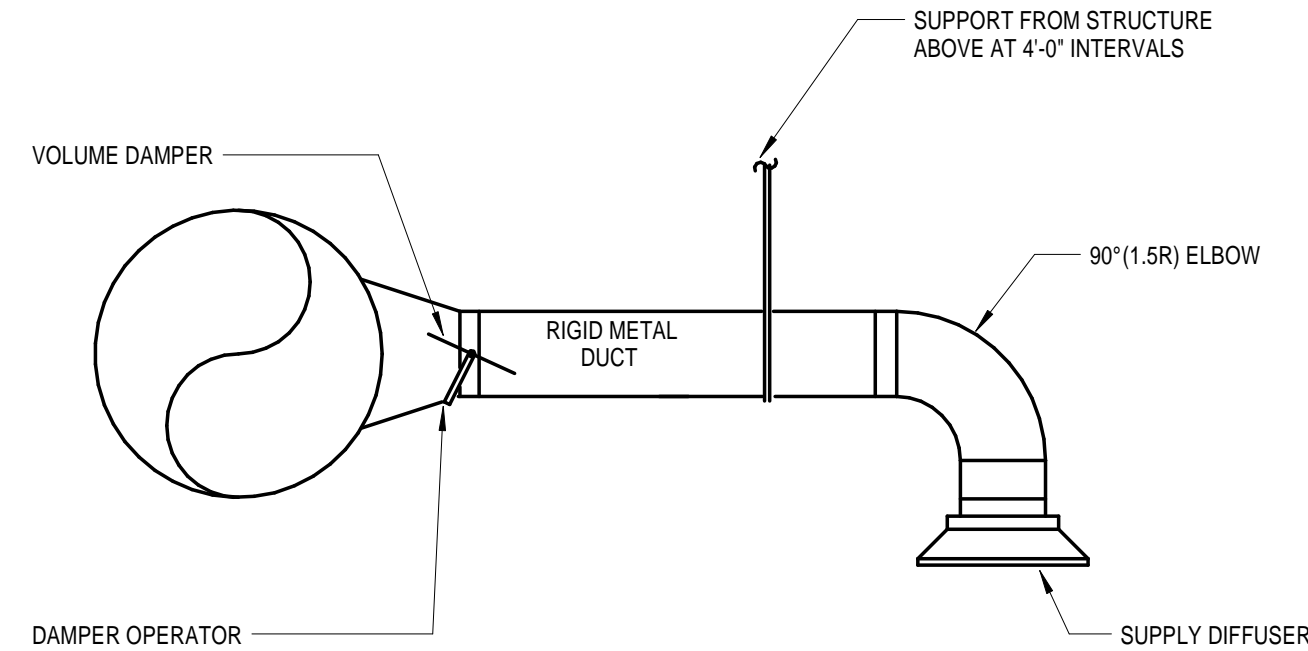




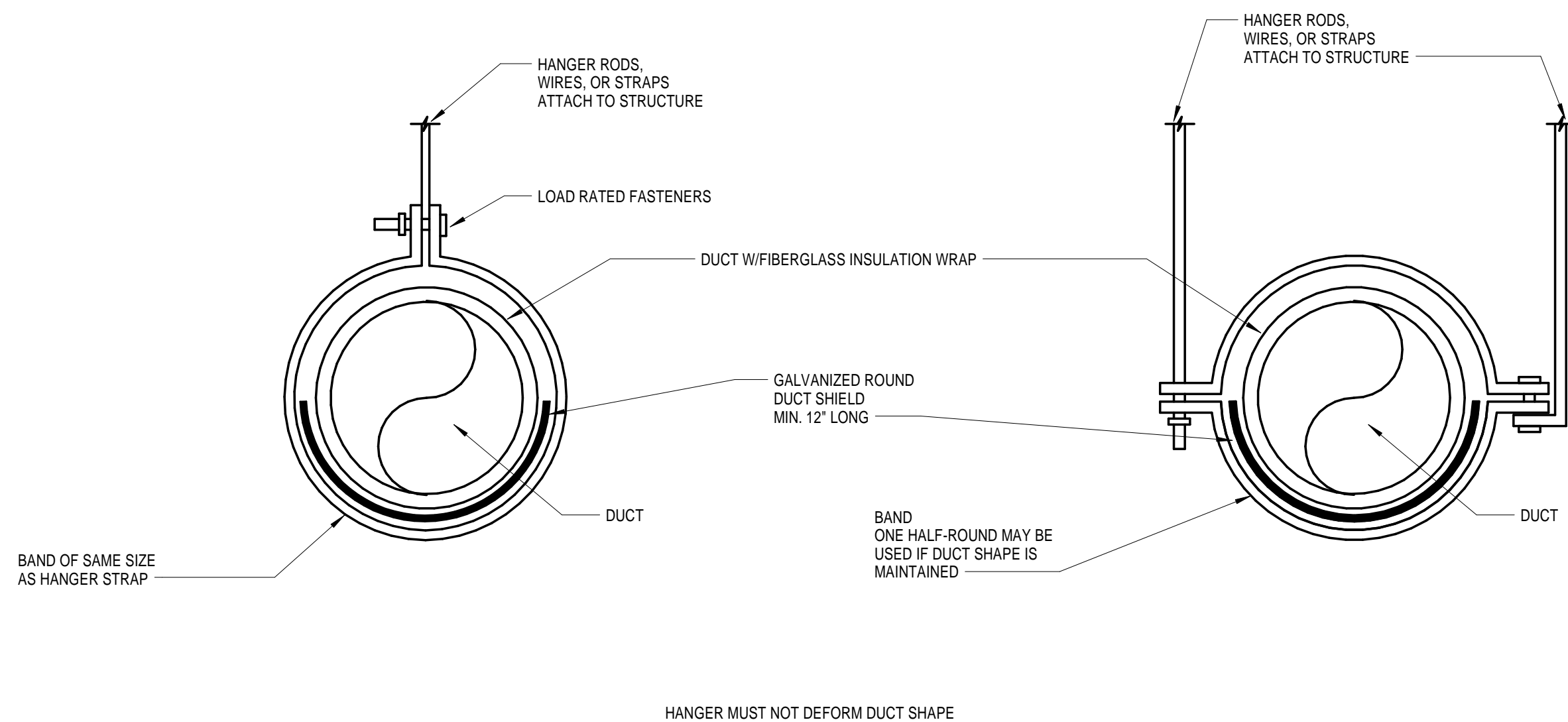
1 DUCT/DIFFUSER LAYOUT DETAIL
NTS



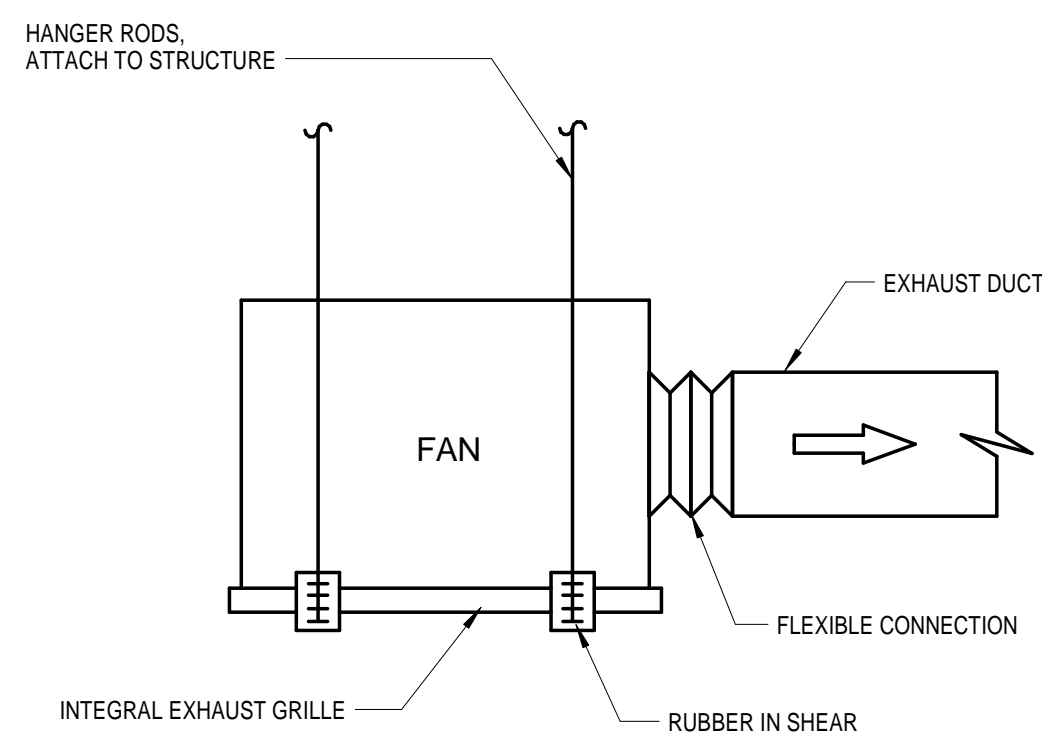
4 HARD DUCT/REGISTER DETAIL
NTS (RECTANGULAR DUCT)



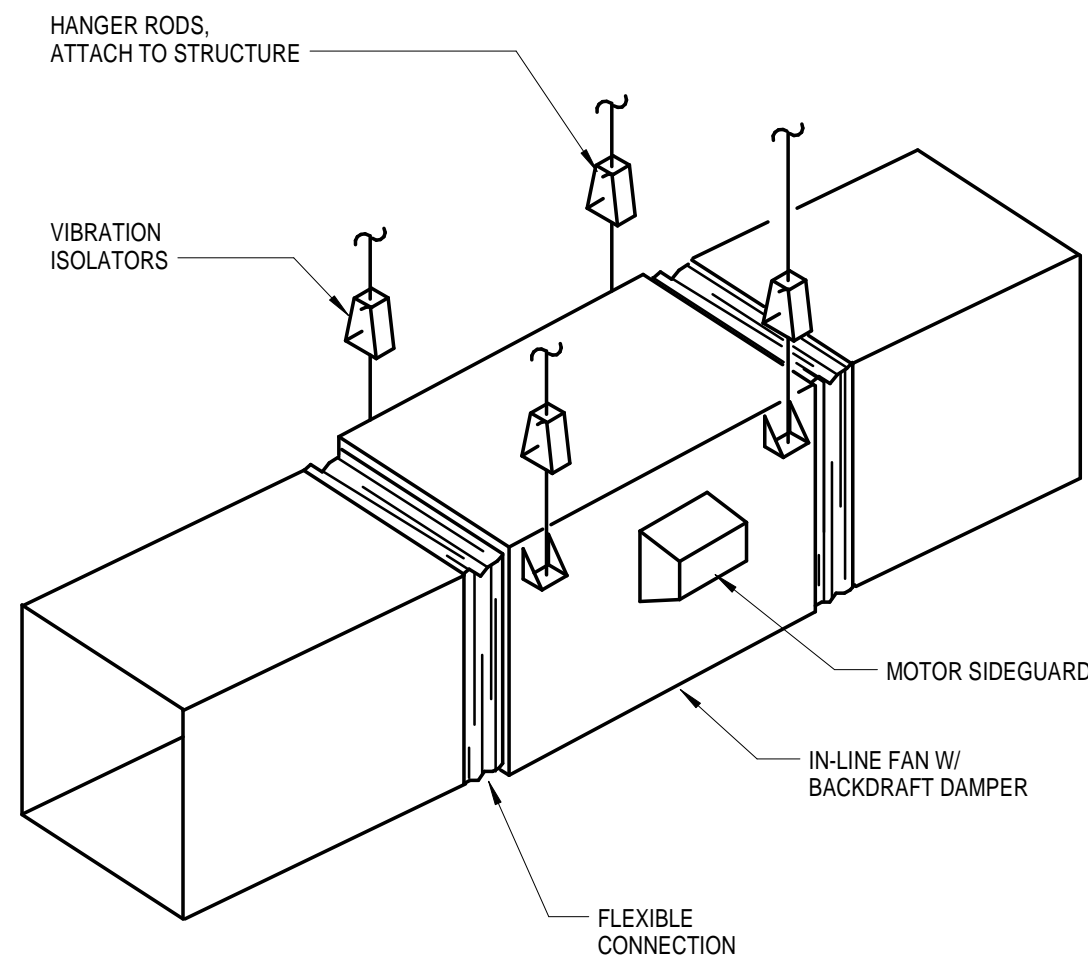
7 HARD DUCT/DIFFUSER DETAIL
NTS (ROUND DUCT)



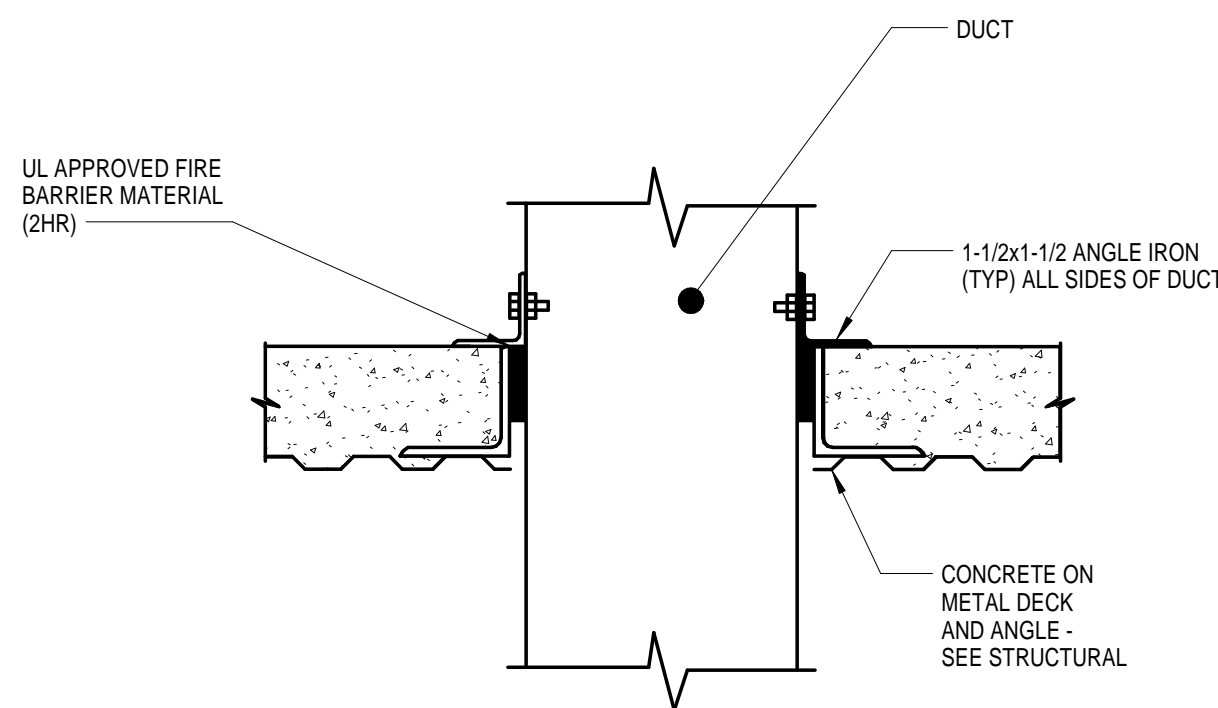
9 ROUND DUCT HANGER DETAILS
NTS



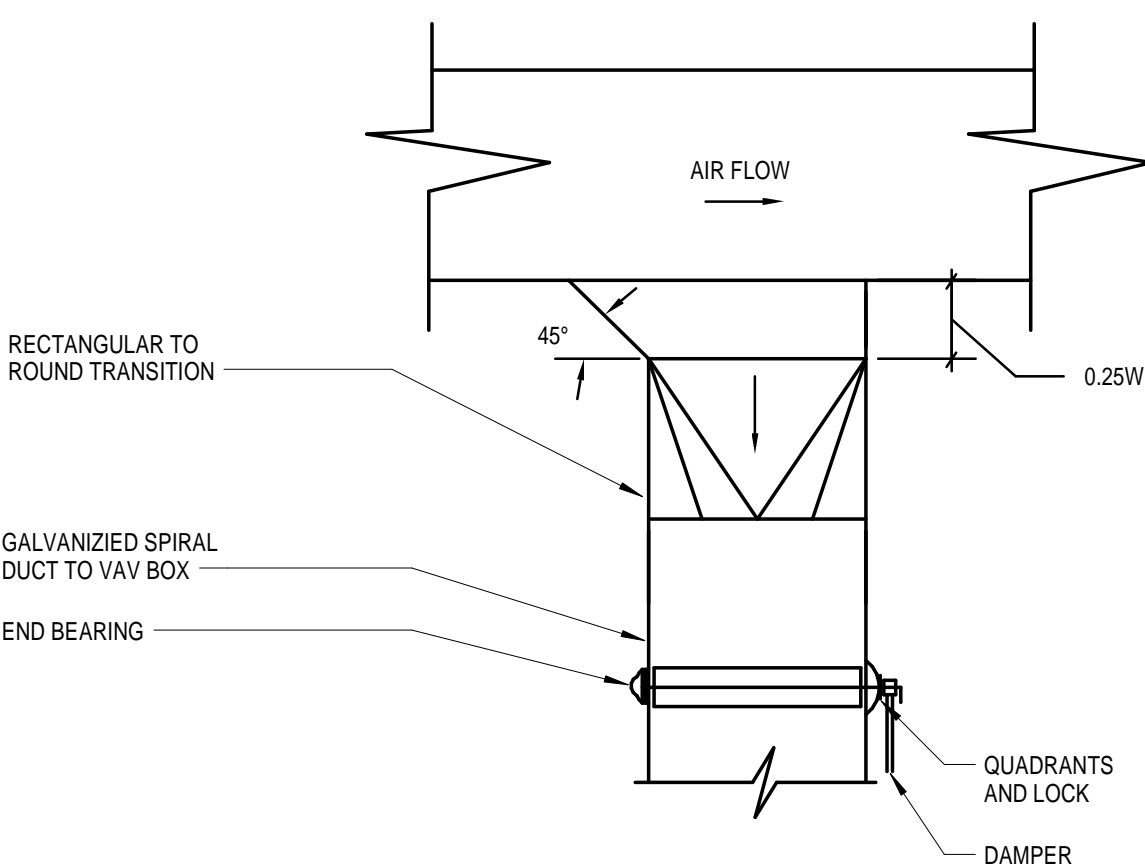
2 CEILING CABINET EXHAUST FAN
NTS



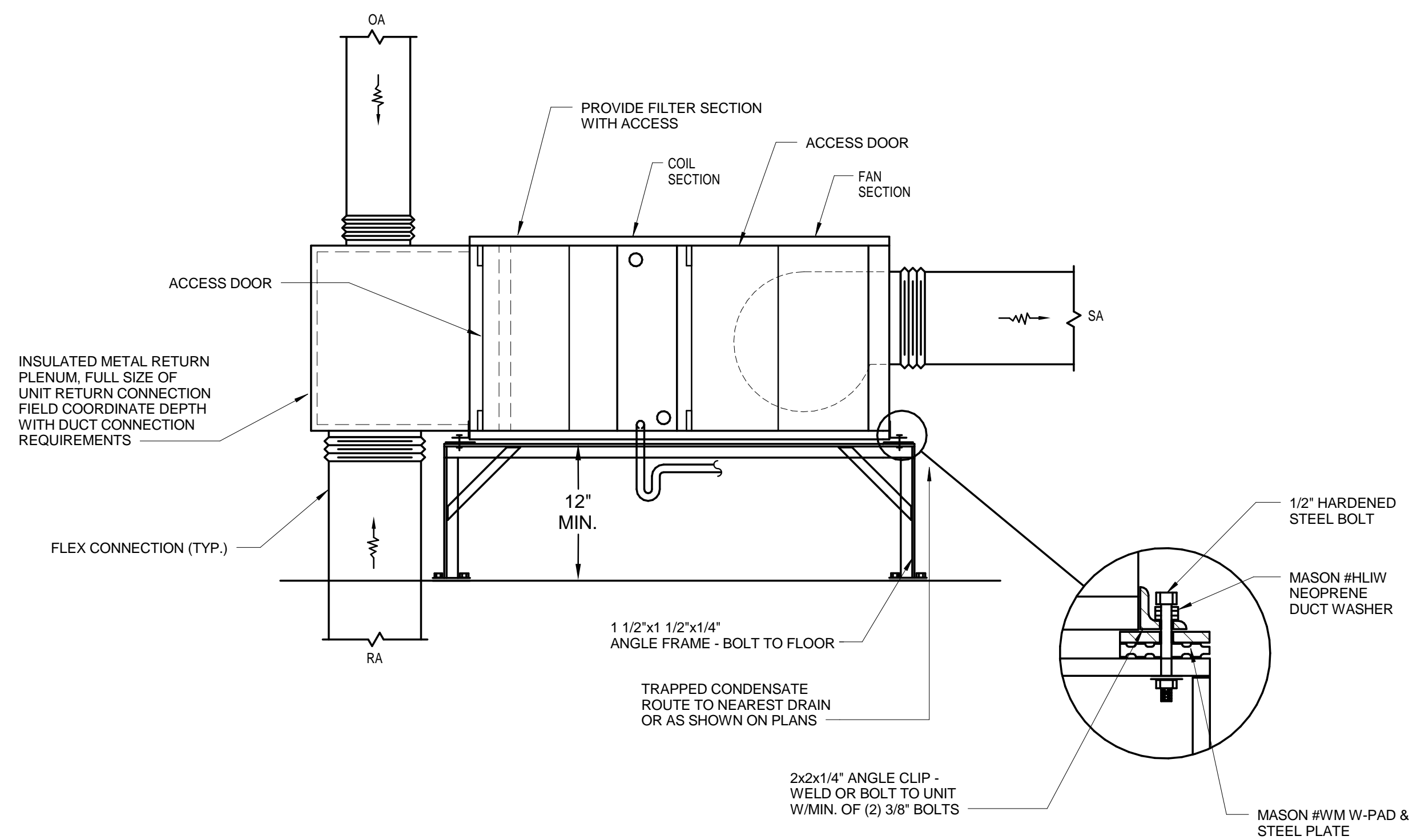
5 BELT DRIVE IN-LINE FAN DETAIL
NTS



8 DUCT FLOOR PENETRATION DETAIL
NTS

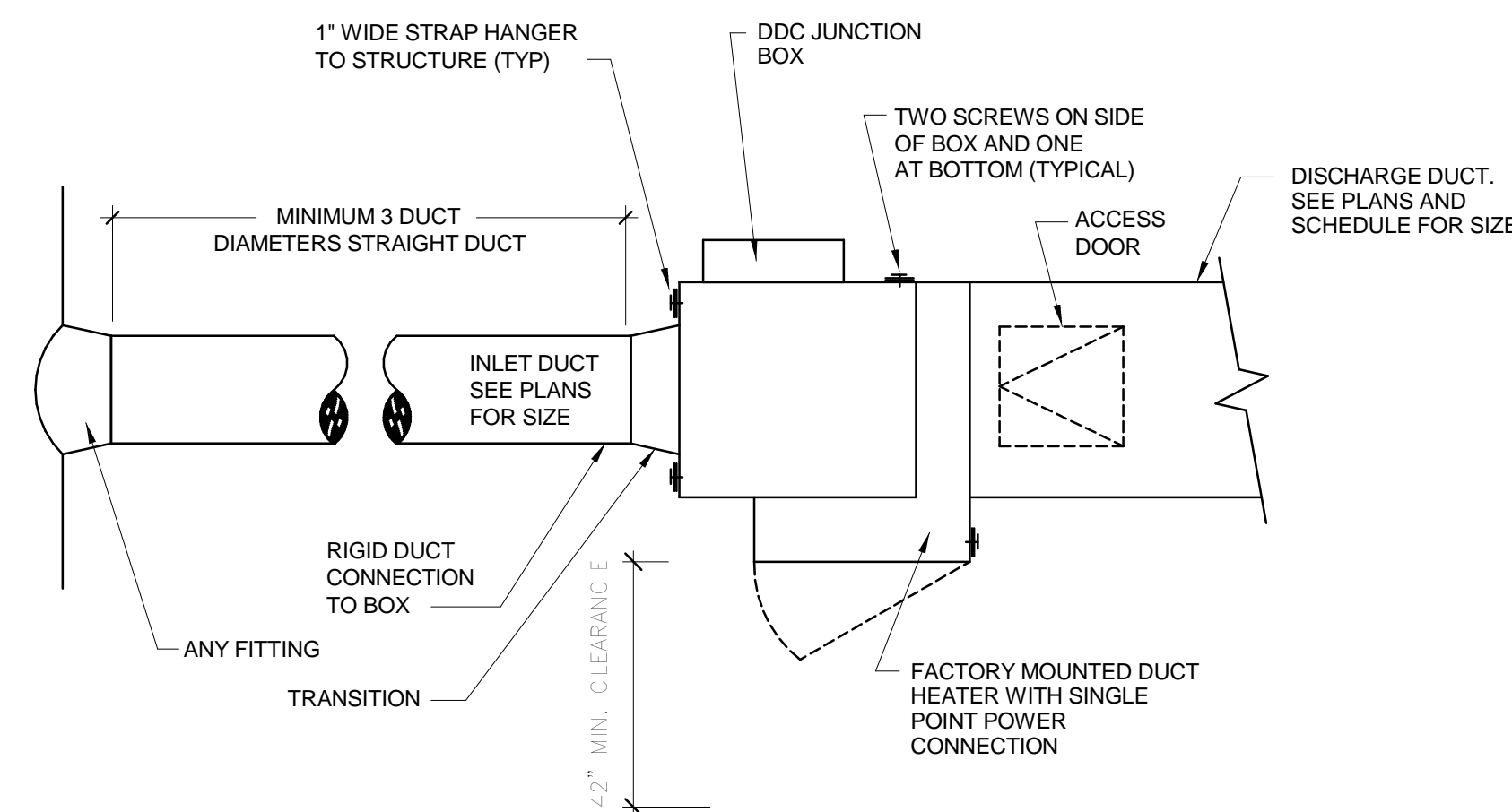


10 DUCT TAKE-OFF DETAIL
NTS



NOTE:
REFER TO CONTROL DRAWINGS FOR DAMPERS, CONTROL DEVICES AND ACCESSORIES.

3 TYPICAL PLATFORM MOUNTED AIR HANDLING UNIT DETAIL
NTS



1. DO NOT LOCATE VAV TERMINAL BOXES WITH BOTTOM ACCESS OVER LIGHT FIXTURES.
2. MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FROM CONTROLLER TO EACH VAV TERMINAL BOX. REFER TO ELECTRICAL DRAWINGS FOR PANEL LOCATIONS AND CONDUIT ROUTING.

6 VAV TERMINAL BOX DETAIL
NTS



E

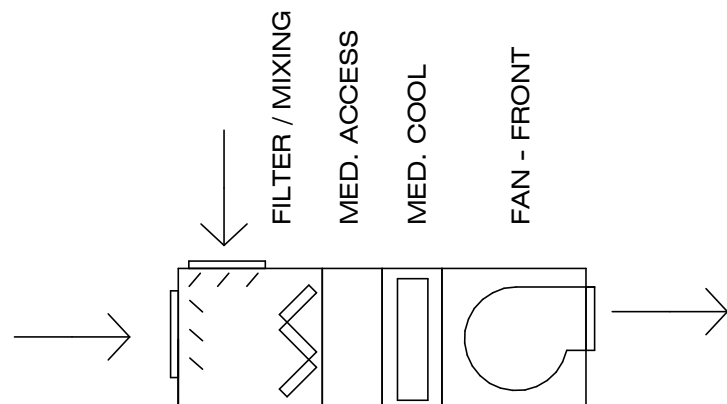
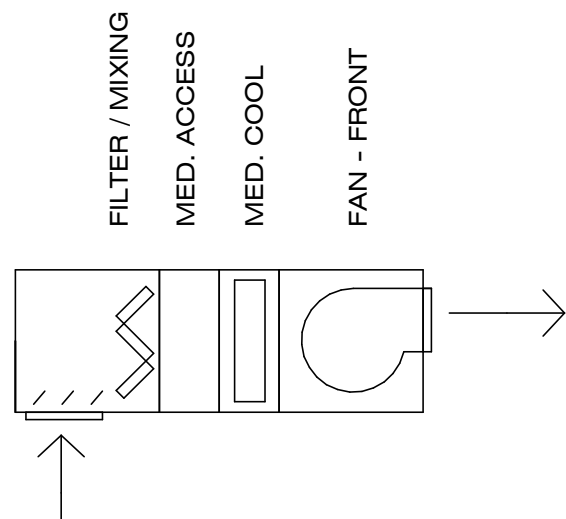
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AIR HANDLING UNIT SCHEDULE

UNIT DATA				FAN DATA										COOLING WATER COIL DATA													FILTER TYPE	BASIS OF DESIGN	NOTES
TAG	SERVICE	SUPPLY AIR CFM	OUTDOOR AIR CFM	STATIC PRESSURE IN., WG		BLOWER RPM	TYPE/DIA. (INCH)	MOTOR					MAX. FACE VELOCITY FPM,	AIR TEMP °F				CAPACITY MBH		WATER TEMP °F		GPM	WATER PRESSURE DROP FEET H2O	MIN. NUMBER OF ROWS	MAX. FINS PER FEET	AIR SIDE PRESSURE DROP INCHES H2O			
				EXTERNAL	TOTAL			HP	BHP	VOLTS	PH	HZ		EAT DB	EAT WB	LAT DB	LAT WB	TOTAL	SENS	EWT	LWT								
AHU-1.1	TOOLING	3300	570	1.25	2.09	1568	FC/10	3	2.57	460	3	60	500	78.1	64.5	52.0	51.5	125.7	94.3	45	57	21	9.4	-	-	0.69	MERVE 13	DAIKIN-McQUAY MO. CAH008GDAC	1,2,3,4,5,6,7,8,9,10,11
AHU-1.2	BREAK AREA	1460	200	1.50	3.19	1978	FC/9X7	1.5	1.32	460	3	60	500	77.3	65.7	52.5	52.3	58.6	38.1	45	57	10	2.2	-	-	1.58	MERV 13	DAIKIN-McQUAY MO. CAH003GDAC	1,2,3,4,5,6,7,8,9,10
AHU-1.3	CONTROL AREA	1675	170	1.25	?	?	?	?	?	460	3	60	500	76.8	63.9	52.8	52.4	54.0	42.0	45	57	9	?	-	-	?	MERV 13	DAIKIN-McQUAY MO. CAH003GDAC	1,2,3,4,5,6,7,8,9,10
AHU-1.4	ELECTRICAL RM	4500	NA	0.75	1.63	1678	FC/10	5	4.46	460	3	60	500	80.2	61.7	59.4	53.7	102.4	102.4	45	57	20	2.9	-	-	0.42	MERV 13	DAIKIN-McQUAY MO. CAH010GDAC	1,2,3,4,5,6,8,9,10
AHU-1.5	ELECTRICAL RM	4500	NA	0.75	1.63	1678	FC/10	5	4.46	460	3	60	500	80.2	61.7	59.4	53.7	102.4	102.4	45	57	20	2.9	-	-	0.42	MERV 13	DAIKIN-McQUAY MO. CAH010GDAC	1,2,3,4,5,6,8,9,10
NOTES:																							ARRANGEMENT #1			ARRANGEMENT #2			
<div>1. PREMIUM EFFICIENCY ODP FAN MOTOR IN THE MAIN UNIT.</div> <div>2. THE FINAL SELECTION OF EQUIPMENT SHALL NOT AFFECT MOTOR BRAKE HORSEPOWER OR SOUND POWER LEVELS OF THE UNITS SCHEDULED.</div> <div>3. INSTALL DUCT MOUNTED SMOKE DETECTOR IN SUPPLY AIR DUCT ON UNITS OVER 2000 CFM.</div> <div>4. THE COIL WATER PRESSURE DROP SHALL NOT EXCEED THE VALUES SHOWN IN THE ABOVE SCHEDULE.</div> <div>5. EQUIPMENT COOLING COILS WITH 2-WAY AUTOMATIC TEMPERATURE CONTROL VALVES. VALVES SHALL BE PRESSURE INDEPENDENT (PIC)VALVES.</div> <div>6. PROVIDE SMOKE DAMPERS IN SUPPLY AND RETURN AIR DUCTS.</div> <div>7. FURNISH UNITS WITH 8" HIGH, FACTORY INSTALLED BASE RAIL.</div> <div>8. PROVIDE FACTORY MOUNTED MOTOR STARTER (OR VFD) AND DISCONNECT SWITCH.</div> <div>9. PROVIDE SINGLE POINT ELECTRICAL CONNECTION.</div> <div>10. PROVIDE UNIT MOUNTED, STANDALONE, PREPROGRAMMED, DIRECT DIGITAL CONTROLLER COMPATIBLE WITH BUILDING AUTOMATION SYSTEM.</div> <div>11. PROVIDE DUCT MOUNTED ELECTRIC HEATER - 1700 CFM - 17 KW - 30 A - 480V/3PH - 30°F TEMPERATURE RISE. 22"x22" DUCT SIZE. INDEECO QUA SLIP-IN TYPE WITH SCR, DISCONNECT, AIR FLOW SWITCH AND ALL SAFETIES.</div>																							<div>AHU-1.1</div> <div>AHU-1.3</div> <div>AHU-1.5</div> <div></div>			<div>AHU-1.4</div> <div></div>			

AIR ROTATION UNIT SCHEDULE

UNIT DATA		FAN DATA						OUTSIDE AIR COIL										RETURN AIR COIL										FILTER TYPE	BASIS OF DESIGN	NOTES
TAG	SERVICE	SUPPLY AIR CFM	OUTDOOR AIR CFM	FAN STATIC IN. WG	BLOWER RPM	TYPE/DIA. (INCH)	MOTOR			AIR TEMP °F		CAPACITY MBH		WATER TEMP °F		GPM	WATER PRESSURE DROP FEET H2O	AIR SIDE PRESSURE DROP INCHES H2O	AIR TEMP °F		CAPACITY MBH		WATER TEMP °F		GPM	WATER PRESSURE DROP FEET H2O	AIR SIDE PRESSURE DROP INCHES H2O			
							HP	BHP	VOLTAGE	EAT DB/WB	LAT DB/WB	TOTAL	SENS	EWT	LWT				EAT DB/WB	LAT DB/WB	TOTAL	SENS	EWT	LWT						
ARU-1.1	MOLDING AREA	135,000	67,500	NA	-	-	40	-	460/3/60	95.0 / 80.0	63.0 / 62.5	4884.7	2375.5	45	57	773	20.4	0.31	85.0 / 70.8	62.8 / 60.1	1095.4	728.0	45	57	180	10.4	0.34	4" MERV 13	JOHNSON AIR ROTATION	1,2,3
NOTES: 1. UNIT SHALL BE GALVANIZED STEEL CONSTRUCTION WITH FLANGES CASINGS. 2. UNIT SHALL INCLUDE DDC CONTROL PANEL AND INTERFACE COMPATABLE WITH BMS PROTOCOL. 3. PROVIDE MOTOR STARTER / DISCONNECT FOR UNIT BY DIV. 23, INSTALLED BY DIV. 26.																														

AIR COOLED CHILLER SCHEDULE

AIR COOLED CHILLER SCHEDULE																
TAG	CAPACITY (TONS) NOMINAL	EER	CHILLED WATER					COMPRESSOR MOTOR DATA		SINGLE POINT WIRING					BASIS OF DESIGN	NOTES
			GPM	AIR TEMP, °F ENT.	WATER TEMP, °F		MAX. WATER PD FT HD	NO	NO OF REFRIGERANT CIRCUITS	VOLTS	PHASE	HERTZ	MCA	MOP		
					EWI	LWT										
CH-1.1	275	11.2	510	95	56	44	17.0	2	2	480	3	60	477	600	DAIKIN-McQUAY AWW018A	1,2,3,4.
CH-1.2	275	11.2	510	95	56	44	17.0	2	2	480	2	60	477	600	DAIKIN-McQUAY AWW018A	1,2,3,4.
NOTES: 1. CHILLER SHALL INCLUDE FACTORY INSTALLED VFD STARTER, DISCONNECT AND CONTROL TRANSFORMER. 2. PROVIDE FACTORY BAKE ENAMEL OR HERESITE COATING ON CONDENSER FINS. 3. REFRIGERANT SHALL BE R134-a. PROVIDE HOUSEKEEPING PAD 6" ABOVE GRADE MINIMUM WITH HURRICANE TIE DOWN. 4. PROVIDE SPARE CHW VALVE CONNECTIONS IN CHILLER PLANT PIPING FOR TEMPORARY CHILLER.																

AIR SEPARATOR SCHEDULE

UNIT NO.	LOCATION	SERVICE	MAXIMUM FLOWRATE (GPM)	PIPE SIZE (IN.)		DIA. (IN.)	OPER. WT.	BASIS OF DESIGN	NOTES
				IN	OUT				
AS-1	CHILLER YARD	CHILLED WATER	3749	12	12	30	800	TACO MO. ACT12-125	1
NOTES: 1. AIR SEPARATOR TO BE INSULATED.									

EXPANSION TANK SCHEDULE

UNIT NO.	LOCATION	SERVICE	TANK VOL. TOTAL (GAL)	TANK VOL. ACCEPTANCE (GAL)	CONN. SIZE	VALVE SETTINGS (PSIG)			OPER. WT.	BASIS OF DESIGN	NOTES
						PRV	RELIEF	CHARGE			
ET-1	CHILLER YARD	CHILLED WATER	53	FULL ACCEPTANCE	1"	35	45	35	615	AMTROL EXTROL 200-L	1,2
NOTES: 1. EXPANSION TANK TO BE INSULATED. 2. MAX. PRESSURE 125 PSI - MAX. TEMP. 240°F.											

PUMP SCHEDULE

TAG	BASIS OF DESIGN	SERVICE	TYPE	GPM	FT HD	EFF %	IMPELLER SIZE IN.	SUCTION SIZE IN. (FLG)	DISCH SIZE IN. (FLG)	MOTOR HP	VOLT/PHASE/ HETZ	RPM	NOTES
PCHWP-1.1	TACO FI4011C	CHILLED WATER	END SUCTION	510	100	80	10.1	5	4	25	480/3/60	1750	1,2,3,4,5,6.
PCHWP-1.2	TACO FI4011C	CHILLED WATER	END SUCTION	510	100	80	10.1	5	4	25	480/3/60	1750	1,2,3,4,5,6.
PCHWP-1.3	TACO FI4011C	CHILLED WATER	END SUCTION	510	100	80	10.1	5	4	25	480/3/60	1750	1,2,3,4,5,6.
CP-1.4	B&G XL 60-130	CHILLED WATER	IN-LINE	80	30	NA	NA	1.5	1.5	1	208/1/60	VARIES	6,7,8
CP-1.5	B&G XL 65-130	CHILLED WATER	IN-LINE	36	40	NA	NA	1.5	1.5	1	208/1/60	VARIES	6,7,8
NOTES: 1. BASIS OF DESIGN: TACO PUMPS 2. PROVIDE VARIABLE FREQUENCY DRIVE FOR VARIABLE VOLUME APPLICATION. 3. FURNISH VFD'S W INTEGRAL DISCONNECT SWITCH BY DIV 23 TO DIVISION 26 CONTRACTOR FOR INSTALLATION. 4. PROVIDE PUMP SUITABLE FOR OUTDOOR/EXPOSED APPLICATION. INCLUDE TEFC MOTOR. 5. FULLY GROUT PUMP BASE. 6. BASIS OF DESIGN: BELL & GOSSETT ECOCIRC XL SERIES. 7. INCLUDE THE MOLDED PUMP HOUSING INSULATION KIT.. 8. FURNISH MOTOR STARTERSBY DIV 23 TO DIVISION 26 CONTRACTOR FOR INSTALLATION.													

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LOUVER SCHEDULE							
TAG	CFM	SIZE W" x H"	MAX. FPM	MAX. PRESS. DROP IN H2O	MINIMUM FREE AREA	BASIS OF DESIGN	NOTES
LV-1	27,000	72" x 120"	700	0.10"	39 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1,2,3
LV-2	67,000	180" x 114"	750	0.10"	90 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1
LV-3	6000	60" x 48"	520	0.10"	11.6 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1,2,4
LV-4	6000	60" x 42"	615	0.10"	9.8 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1,2,3
LV-5	770	24" x 24"	500	0.10"		GREENHECK EDS-6 FPA NO. FL6876.4	1,2,4
LV-6	290	24" x 12"	500	0.10"		GREENHECK EDS-6 FPA NO. FL6876.4	1,2,4
LV-7	4200	72" x 48"	500	0.10"	12 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1
LV-8	8400	72" x 60"	700	0.10"	15 SF	GREENHECK EDS-6 FPA NO. FL6876.4	1
NOTES: 1. PROVIDE WITH STAINLESS STEEL BIRD SCREEN. 2. PPROVIDE SHEETMETAL PLENUM FOR LOUVER WITH SLOPED BOTTOM FOR DRAINING. 3. PROVIDE BACK DRAFT DAMPER. 4. PROVIDE MOTOR OPERATED DAMPER.							

DOOR AIR CURTAIN SCHEDULE			
TAG	LOCATION	DESCRIPTION	WEIGHT
DAC-1.1	MAN DOORS	HIGHT VELOCITY OVERHEAD DOOR AIR CURTAIN - NON-HEATED - 42" NOZZLE LENGHT 1792 CFM AT 2300 FPM AVERAGE - 1 HP FAN MOTOR - 5.0 FLA - 208V/1/60 - PROVIDE WITH MOUNTING BRACKET, CONTROLS, DOOR SWITCH AND DISCONNECT. MARS AIR SYSTEMS MODEL HV242-1U-TS OR EQUAL	115 LB.
DAC-1.2	OVERHEAD ROLL-UP DOORS	HIGHT VELOCITY OVERHEAD DOOR AIR CURTAIN - NON-HEATED -120" NOZZLE LENGHT 1792 CFM AT 2300 FPM AVERAGE - (3) 1 HP FAN MOTORS - 10.0 FLA - 208V/1/60 - PROVIDE WITH MOUNTING BRACKET, CONTROLS, DOOR SWITCH AND DISCONNECT. MARS AIR SYSTEMS MODEL HV2120-3U-TS OR EQUAL	345 LB.

VAV BOX SCHEDULE										
TAG	MAX. AIR FLOW (CFM)	MIN. AIR FLOW (CFM)	HEAT AIR FLOW (CFM)	INLET CONN. (IN.)	ELECTRIC HEAT DATA			PRESSURE DROP (IN WG)	BASIS OF DESIGN	
					KW	STEPS	VOLT / PHASE			
VAV-1.1.1	260	90	140	6"	0.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
VAV-1.1.2	960	320	450	10"	2.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
VAV-1.1.3	200	150	100	5"	0.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
VAV-1.3.2	265	90	135	6"	0.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
VAV-1.3.3	840	280	420	10"	2.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
VAV-1.3.4	570	190	285	8"	1.6	1	120/1	0.10	DAIKIN McQUAY MQTH15	
NOTES: 1. PROVIDE WITH 13/16" FOIL FACED INTERNAL LINER. 2. PROVIDE UNITS WITH FACTORY DDC CONTROLLERS. 3. PROVIDE UNITS WITH FUSED DISCONNECTS, PE SWITCH WITH AUTOMATIC CUTOFF AND CONTACTORS. UNITS SHALL HAVE STEPDOWN TRANSFORMER FOR 24 VOLT CONTROL POWER.										

DIFFUSER AND GRILLE SCHEDULE					
TAG	TYPE	BASIS OF DESIGN	MODEL	AIR FLOW	SIZE
CD-1	CEILING SUPPLY LAY-IN	TITUS	TMS-AA WHITE	1 TO 120 CFM 1211 TO 230 CFM 231 TO 350 CFM	6" - 24x24 FACE 8" - 24x24 FACE 10" - 24x24 FACE
CD-3	CEILING SUPPLY SURFACE	TITUS	TMS-AA WHITE	1 TO 50 CFM 51 TO 120 CFM 121 TO 230 CFM	4" - 12x12 FACE 6" - 12x12 FACE 8" - 12x12 FACE
SG-1	DOUBLE DEFLECTION SUPPLY GRILLE	TITUS	300 FS WHITE	600 TO 900 CFM	22" x 10" FACE SIZE
SG-2	DOUBLE DEFLECTION SUPPLY GRILLE DUCT MOUNTED	TITUS	300 FS WHITE	3500 TO 5000 CFM	48" x 24" FACE SIZE
RG-1	RETURN GRILLE LAY-IN WITH PANEL	TITUS	350 FS WHITE	1 TO 120 CFM 1211 TO 230 CFM 231 TO 350 CFM 351 TO 650 CFM	6" - 8x8 FACE 8" - 10x10 FACE 10" - 12x12 FACE 12" - 24x24 FACE
RG-2	SINGLE DEFLECTION RETURN GRILLE DUCT MOUNTED	TITUS	350 FS WHITE	1500 TO 1800 CFM	30" x 16" FACE SIZE
EG-1	SINGLE DEFLECTION EXHAUST GRILLE DUCT MOUNTED	TITUS	350 FS WHITE	900- 1400 CFM	18" x 18" FACE SIZE
EG-2	SINGLE DEFLECTION EXHAUST GRILLE DUCT MOUNTED	TITUS	350 FS WHITE	2500- 3000 CFM	36" x 20" FACE SIZE
NOTES: 1. INSULATE THE BACK SIDE OF ALL LAY-IN CEILING DIFFUSERS WITH DUCTWORK INSULATION. SEAL EDGES WITH FOIL FACED TAPE.					

SPLIT SYSTEM AIR CONDITIONER SCHEDULE																		
INDOOR UNIT						OUTDOOR UNIT							ELECTRICAL			NOTES		
TAG	TYPE	SA CFM	OA CFM	NOMINAL MBH	BASIS OF DESIGN	TAG	NOM. TONS	AMBIENT TEMP.	COMPRESSOR QTY.	BASIS OF DEIGN	REFRIG. TYPE	SEER	UNIT MCA	MOCP	VOLT/PH			
AC-1.1	WALL	297	-	0.90	DAIKIN FTK09NMVJU	CU-1.1	0.75	95	1	DAIKIN RK09NMVJU	R-410A	19.0	12.1	15.0	208/1			
																	1,2,3,4,5	
NOTES: 1. PROVIDE SYSTEM WITH A SINGLE POINT POWER CONNECTION AT OUTDOOR UNIT. PROVIDE DISCONNECT BY DIV. 23, INSTALLED BY DIV. 26. 2. PROVIDE FLORIDA PRODUCT APPROVAL ROOF-TOP MOUNTING ASSEMBLY FOR THE OUTDOOR UNITS. 3. PROVIDE WALL MOUNTED TEMPERATURE SENSOR WITH INTERFACE FOR BMS TO MONITOR SPACE TEMPERATURE. PROVIDE ALARM FOR HIGH SPACE TEMPERATURE. 4. INSULATE CONDENSATE DRAIN LINE EXPOSED IN THE SPACE.. 5. INSTALL OUTDOOR CONDENSING UNITS ON DUPLEX ALUMINUM ROOF STAND. PRECISION ALUMINUM PRODUCTS OR ACCEPTABLE EQUAL. FLORIDA PRODUCT APPROVAL FL# 16921.1.																		

EXHAUST FAN SCHEDULE													
TAG	AREA SERVED	TYPE	DRIVE	CFM	RPM	ESP (IN.)	BHP	HP	V/PH/Hz	CONTROL	BASIS OF DESIGN	FLORIDA PRODUCT APPROVAL # / NOA #	NOTES
EF-1.1	VENT HOODS	UTILITY SET	BELT	27,000	465	1.10	18.3	25	480/3/60	INTERLOCKED WITH ARU-1.1	GREENHECK 33-IPA	NA	1,6
EF-1.2	VENT HOODS	UTILITY SET	BELT	27,000	465	1.10	18.3	25	480/3/60	INTERLOCKED WITH ARU-1.1	GREENHECK 33-IPA	NA	1,6
EF-1.3	RESTROOM	CEILING CABINET	DIRECT	150	1023	0.25	129 WATTS		120/1/60	INTERLOCKED WITH ARU-1.1	GREENHECK SP-B150	NA	2,4,5
EF-1.4	JANITOR	CEILING CABINET	DIRECT	100	950	0.25	80 WATTS		120/1/60	INTERLOCKED WITH ARU-1.1	GREENHECK SP-B110	NA	2,4,5
EF-1.5	RESTROOM	CEILING CABINET	DIRECT	150	1023	0.25	129 WATTS		120/1/60	INTERLOCKED WITH ARU-1.1	GREENHECK SP-B150	NA	3,4
EF-1.6	MECH. RM.	IN-LINE	BELT	6000	1122	0.50	2.07	3	480/3/60	REVERSE ACTING T-STAT	GREENHECK BSQ-200	NA	3,4
EF-1.7	MECH. RM.	IN-LINE	BELT	8400	675	1.00	2.62	3	480/3/60	MANUAL - DISCONNECT	GREENHECK BSQ-300	NA	3,4
NOTES: 1. PROVIDE VFD/DISCONNECT BY DIV. 23, INSTALLED BY DIV. 26. 2. PROVIDE SOLID STATE SPEED CONTROL AND DISCONNECT BY DIV. 23, INSTALLED BY DIV. 26. 3. PROVIDE DISCONNECT FOR FAN BY DIV. 23, INSTALLED BY DIV. 26. 4. PROVIDE FAN WITH INTEGRAL WHITE PLASTIC GRILLE, BACKDRAFT DAMPER AND HANGER SUPPORTS WITH ISOLATORS. 5. PROVIDE ISOLATION SUSPENSION FOR FAN. 6. PROVIDE STEEL MOUNTING RACK ANCHORED TO FLOOR AND VIBRATION ISOLATION FOR FAN.													

CHILLED WATER COMPUTER ROOM AIR CONDITIONER SCHEDULE																			
TAG	TYPE	SA CFM	OA CFM	EXT. S.P.	FAN HP	FAN TYPE	E.A.T DB/WB °F	SENS. MBH	TOTAL MBH	GPM	W.P.D. FT.	ELECT. HEAT KW	STEAM HUMIDIFICATION		ELECTRICAL			BASIS OF DEIGN	NOTES
													LB/HR	KW	VOLT/PH	MCA	MOCP		
CRAC-1.1	DUCTED	1185	144	0.3"	1/3	BELT	80.0/67.0	28.0	38.0	8.0	14.0	5.0	5.0	1.7	480/3	15.1	20.0	STULZ CEILAIR OHS-032-C	1,2,3,4,5
NOTES: 1. PROVIDE FUSED DISCONNECT BY DIV. 23, INSTALLED BY DIV. 26. 2. PROVIDE REMOTE WALL MOUNTED MICROPROCESSOR (STULZ E2) WITH TEMPERATURE AND HUMIDITY SENSING, 24/7 PROGRAMING, BMS INTERFACE AND USER INTERFAVE WITH TOUCH PAD AND LED SCREEN. 3. UNIT TO BE MOUNTED ON STAND ANCHORED TO FLOOR AT 12" A.F.F. 4. INSULATE CONDENSATE DRAIN LINE EXPOSED IN THE SPACE.. 5. PROVIDE FILER RACK ON RETURN WITH MERV 13 THROW AWAY FILTER.																			



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ISSUE ISSUE FOR CONSTRUCTION

REVISION



Bagasse Processing Facility
Belle Glade, Florida
TELLUS PRODUCTS, LLC

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FL PE 45180
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BOLINE
DRAWN BY
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CHECKED BY
CONLEY
PROJECT NUMBER
C07111.004

DATE
01/30/17

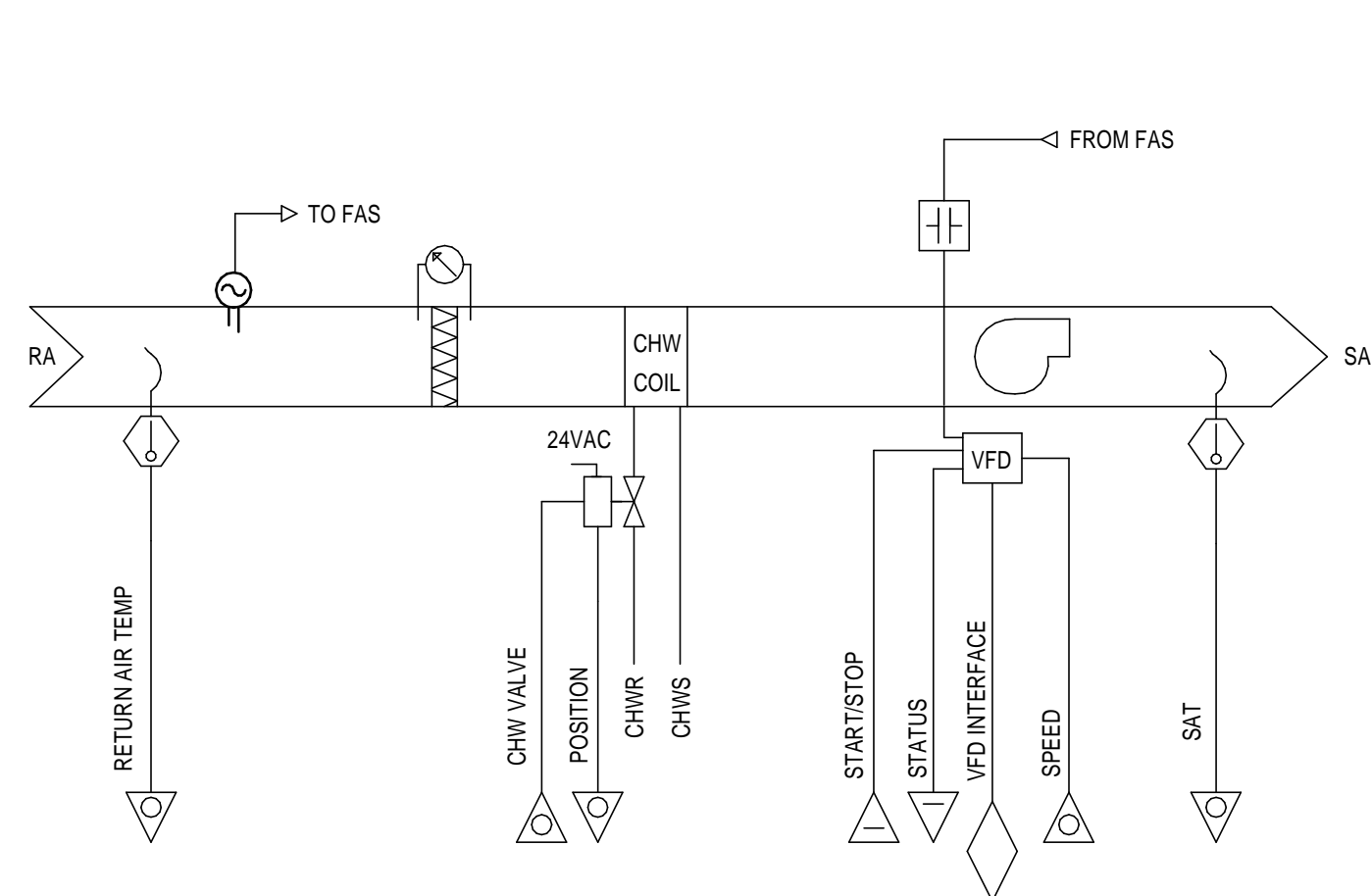
TITLE
MECHANICAL
SCHEDULES

DRAWING NO.

MM-602

CONTROLS LEGEND

SYMBOL	DESCRIPTION
	DIGITAL INPUT OR OUTPUT
	ANALOG INPUT OR OUTPUT
	COMMUNICATIONS INTERFACE
	DRY CONTACT
	CURRENT SWITCH
	FLOW SWITCH
	VIBRATION SWITCH
	DIFFERENTIAL PRESSURE SWITCH
	STARTER
	VARIABLE FREQUENCY DRIVE
	DUCT SMOKE DETECTOR
	FLOW METER
	AIR TEMPERATURE SENSOR
	AIR FLOW MEASURING STATION
	CARBON MONOXIDE SENSOR/TRANSMITTER
	STATIC PRESSURE SENSOR/TRANSMITTER
	IMMERSION TEMPERATURE TRANSMITTER WITH THERMOWELL
	HUMIDIFIER
	FREEZE/STAT
	2-WAY CONTROL VALVE W/ 24V ACTUATOR UNO
	3-WAY CONTROL VALVE W/ 24V ACTUATOR UNO
	2-WAY BUTTERFLY VALVE W/ 24V ACTUATOR UNO
	CURRENT SENSOR/TRANSMITTER
	OCCUPANCY SENSOR
	SPACE TEMPERATURE SENSOR
	SPACE RELATIVE HUMIDITY SENSOR
	SPACE STATIC PRESSURE SENSOR
	CARBON DIOXIDE SENSOR/TRANSMITTER
	DIFFERENTIAL PRESSURE SENSOR/TRANSMITTER
	WET BULB SENSOR
	COMBINATION SENSOR/THERMOSTAT
	THERMOSTAT
	EMERGENCY PUSHBUTTON
	LIGHT
	HORN AND STROBE
	DIFFERENTIAL PRESSURE INDICATING TRANSMITTER
	OPPOSED BLADE CONTROL DAMPER WITH 24V ACTUATOR UNO
	PARALLEL BLADE CONTROL DAMPER WITH 24V ACTUATOR UNO
	EQUIPMENT DESIGNATION

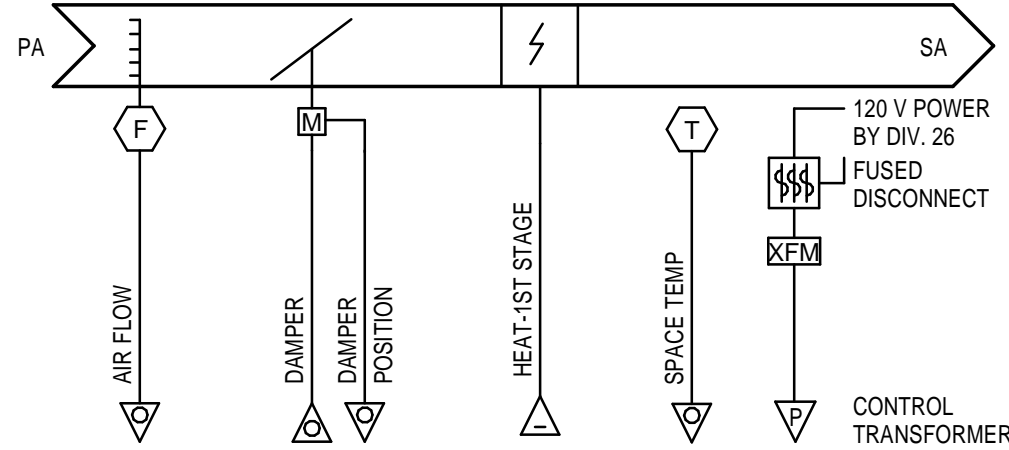


AHU-1.4

ELECTRICAL SWITCHGEAR ROOM AIR CONDITIONING UNIT

SEQUENCE OF OPERATION

- GENERAL: THE AIR HANDLING UNIT CONSISTS OF AIR FILTERS, CHILLED WATER COOLING COIL, AND SUPPLY AIR FAN WITH VARIABLE FREQUENCY DRIVE.
- SYSTEM START-STOP: AIR HANDLING UNIT IS STARTED AND STOPPED THROUGH BMS. AHU IS PROGRAMMED TO RUN CONTINUOUSLY, 24-HOURS-A-DAY, 365-DAYS-A-YEAR.
- MAINTENANCE: WHEN THE SUPPLY FAN IS OFF FOR MAINTENANCE, RESPECTIVE CONTROL DEVICES ARE POSITIONED AS FOLLOWS: 1. COIL CONTROL VALVE IS POSITIONED CLOSED, NO FLOW THROUGH COIL.
- AIRFLOW CONTROL: THE BMS SHALL MODULATE THE VFD FREQUENCY BASED ON A SIGNAL FROM THE RETURN AIR TEMPERATURE SENSOR LOCATED IN THE RETURN DUCT TO MAINTAIN THE RETURN AIR TEMPERATURE SET POINT - 80°F (ADJUSTABLE). THE MINIMUM FREQUENCY OF THE VFD (SET AT THE VFD) SHALL BE 20Hz.
- SUPPLY AIR TEMPERATURE CONTROL: WHEN THE SUPPLY FAN IS ON, A TEMPERATURE SENSOR LOCATED IN THE SUPPLY DUCT WILL, THROUGH THE DDC CONTROLLER, MODULATE THE TWO-WAY COOLING CONTROL VALVE TO MAINTAIN THE COOLING SUPPLY AIR TEMPERATURE SETPOINT, INITIALLY SET AT 65°F (ADJUSTABLE).
- SMOKE DETECTOR SHUTDOWN: DUCT-MOUNTED IONIZATION TYPE SMOKE DETECTOR (FURNISHED AND WIRED BY DIVISION 28, MOUNTED BY DIVISION 23), LOCATED IN THE RETURN AIR DUCT, DISABLES SUPPLY FAN. SMOKE DETECTORS REQUIRE MANUAL RESETTING IN ORDER TO RESTART SUPPLY FAN.
- PROVIDE CONTINUOUS MONITORING OF THE FOLLOWING POINTS AND DISPLAY AT THE OPERATORS WORKSTATION:
 - RA TEMPERATURE (°F)
 - VFD SPEED (Hz)
 - SUPPLY AIR TEMPERATURE (°F)
 - VFD STATUS (ON/OFF) (ALARM IF MISMATCHED)
 - CHW VALVE POSITION (ALARM IF MISMATCHED)

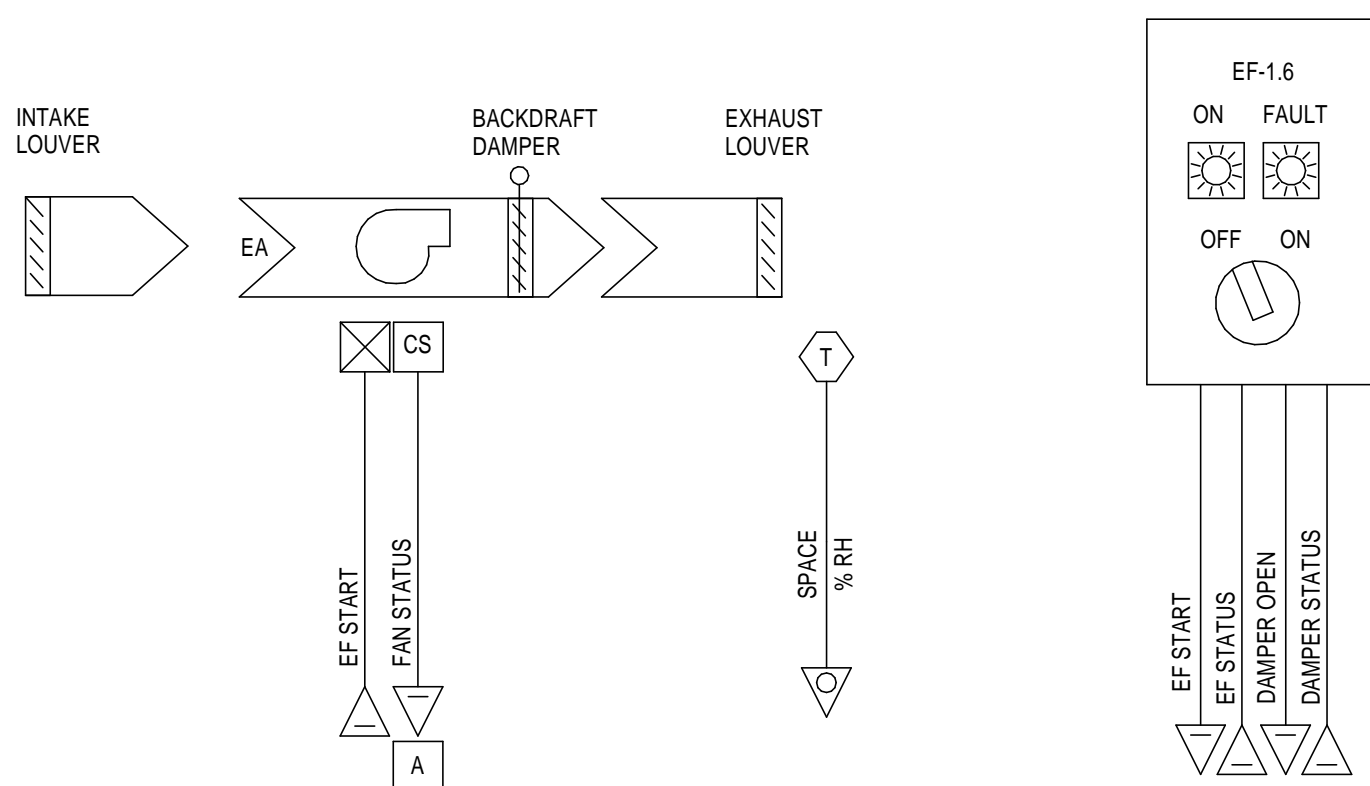


VAV TERMINAL

- ROOM TEMPERATURE SENSOR WILL MAINTAIN SETPOINT BY MODULATING THE NORMALLY CLOSED DAMPER BETWEEN MINIMUM AND MAXIMUM VOLUME POSITIONS THROUGH A TERMINAL CONTROL UNIT (TCU) MOUNTED ON THE TERMINAL UNIT.

NOTES:

- CONTROLLER AND EXTERNAL ACTUATOR SHALL BE SUPPLIED BY BMS VENDOR AND SHALL BE INSTALLED AND WIRED BY THE VAV BOX MANUFACTURER BEFORE SHIPMENT TO JOB SITE. THIS WORK INCLUDES TERMINATION OF CONTROL VOLTAGE, FLOW PICKUP TUBES, AND MOUNTING OF CONTROLLER AND EXTERNAL ACTUATOR.



MECHANICAL ROOM EXHAUST FAN

EF-1.6 & EF-1.7

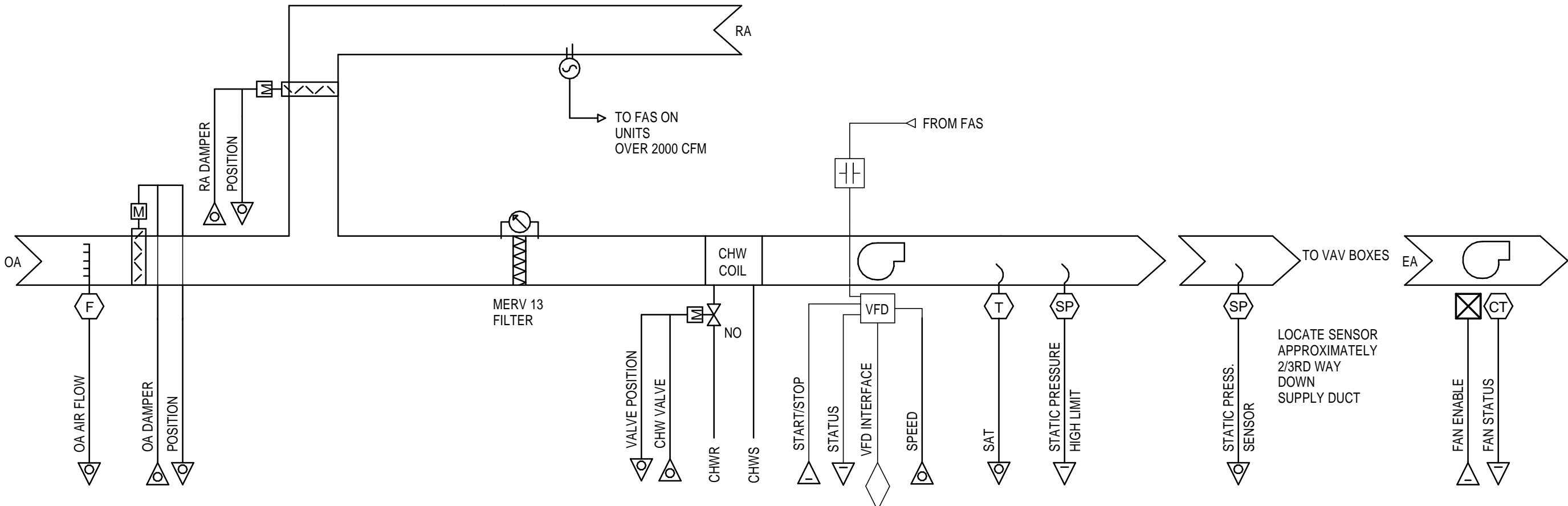
SEQUENCE OF OPERATION

FAN START-STOP: FAN IS INDEXED TO RUN THROUGH THE MANUALLY OPERATED BUILDING EXHAUST SYSTEM DDC CONTROL PANEL VIA SWITCH.

WHEN FAN IS SWITCHED ON:

- THE THERMOSTAT SHALL START THE FAN ON A RISE IN TEMPERATURE ABOVE 80°F (ADJ). THE FAN SHALL DE-ENERGIZE ON A DROP BELOW THE SPACE TEMPERATURE SETPOINT.
- THE EF SHALL BE ENERGIZED, AND THE GREEN ON LIGHT SHALL BE LIT. IF THE FAN DOES NOT START, THE RED FAULT LIGHT SHALL BE LIT.

E



VAV AIR CONDITIONING UNIT

AHU-1.2/EF1.3, 1.4, 1.5 & AHU-1.3

- GENERAL: THE AIR HANDLING UNIT CONSISTS OF AN OUTSIDE AIR DAMPER, RETURN AIR DAMPER, AIR FILTERS, CHILLED WATER COOLING COIL, SUPPLY AIR FAN WITH VARIABLE FREQUENCY DRIVE, DAMPERS AND ALL OTHER DEVICES INDICATED.
- SYSTEM START-STOP: AIR HANDLING UNIT IS STARTED AND STOPPED THROUGH THE BMS. WHEN AHU-1.2 IS STARTED/STOPPED, ASSOCIATED EXHAUST FANS EF-1.3, EF-1.4 AND EF-1.5 SHALL ALSO BE STARTED AND STOPPED.
- MAINTENANCE: WHEN THE SUPPLY FAN IS OFF FOR MAINTENANCE, RESPECTIVE CONTROL DEVICES ARE POSITIONED AS FOLLOWS:
 - COIL CONTROL VALVE IS POSITIONED CLOSED, NO FLOW THROUGH COIL.
 - OUTDOOR AIR DAMPER IS POSITIONED CLOSED.
 - RETURN AIR DAMPER IS POSITIONED OPEN.
- AIRFLOW CONTROL: THE BMS SHALL MODULATE THE VFD FREQUENCY BASED ON A SIGNAL FROM THE STATIC PRESSURE SENSOR LOCATED IN THE SUPPLY DUCT TO MAINTAIN THE STATIC PRESSURE SETPOINT.
- STATIC PRESSURE RESET: THE SUPPLY AIR STATIC PRESSURE SETPOINT IS RESET BETWEEN 0.5 AND 1.5 INCHES WC (ADJUSTABLE) BASED ON THE VAV BOXES DEMAND FOR AIR. AT THREE MINUTE INTERVALS (ADJUSTABLE), THE MAXIMUM VAV BOX DAMPER POSITION IS DETERMINED WHICH INDICATES THE MAXIMUM CALL FOR STATIC PRESSURE. IF THE MAXIMUM DAMPER POSITION IS ABOVE 92 PERCENT OPEN, THEN THE STATIC PRESSURE SETPOINT IS INCREMENTED BY 0.05 INCHES WC. IF THE MAXIMUM DAMPER POSITION IS LESS THAN 70 PERCENT OPEN, THEN THE STATIC PRESSURE SETPOINT IS DECREMENTED BY 0.05 INCHES WC.
- SUPPLY AIR TEMPERATURE CONTROL: WHEN THE SUPPLY FAN IS ON, THE TWO-WAY COOLING COIL CONTROL VALVE SHALL BE MODULATED TO MAINTAIN THE LEAVING AIR TEMPERATURE SETPOINT, INITIALLY SET AT 55°F (ADJUSTABLE).
- OUTSIDE/RETURN AIR DAMPER CONTROL: THE RETURN AIR DAMPER SHALL BE OPENED 100% AND THE OUTSIDE AIR DAMPER WILL BE MODULATED TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT. IF THE OUTSIDE AIR DAMPER IS OPEN 100% AND THE OUTSIDE AIR VOLUME IS BELOW SETPOINT, THE RA DAMPER SHALL BE MODULATED TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT. AN ALARM WILL BE GENERATED AT THE OPERATOR'S WORKSTATION IF THE OUTDOOR AIRFLOW VARIES BY MORE THAN 10% FROM SETPOINT.
- UN-OCCUPIED MODE:
 - THE BMS SHALL DE-ENERGIZE THE UNIT SUPPLY FAN AND ASSOCIATED EXHAUST FANS, CLOSE THE OA DAMPER, CLOSE THE CHILLED WATER CONTROL VALVE, OPEN THE RETURN AIR DAMPER, AND FULLY OPEN ALL VAV BOXES.
 - IF SPACE TEMPERATURE DROPS BELOW UN-OCCUPIED WINTER SPACE TEMPERATURE SET-POINT 55°F (ADJUSTABLE) AS MEASURED BY THE SPACE TEMPERATURE SENSOR IN ANY ASSOCIATED ZONE, THE BMS SHALL ENABLE ALL VAV BOX TEMPERATURE CONTROL ALGORITHMS TO MAINTAIN THE WINTER ZONE TEMPERATURE SET-POINTS.
 - IF SPACE TEMPERATURE RISES ABOVE THE SUMMER UN-OCCUPIED TEMPERATURE SET-POINT 85°F (ADJUSTABLE) AS MEASURED BY ANY ASSOCIATED ZONE AIR TEMPERATURE SENSOR, THE BMS SHALL ENERGIZE THE SUPPLY FAN, AND MODULATE THE CHILLED WATER CONTROL VALVE TO MAINTAIN THE UN-OCCUPIED TEMPERATURE SET-POINT DOWNSTREAM OF THE COOLING COIL AND ENABLE VAV ZONE TEMPERATURE CONTROL ALGORITHMS.
- SMOKE DETECTOR SHUTDOWN: SMOKE DETECTORS (FURNISHED AND WIRED BY DIVISION 28, MOUNTED BY DIVISION 23), THROUGH THE FIRE ALARM SYSTEM SHUT DOWN THE SUPPLY FAN AND AN ALARM SHALL BE SENT TO THE BMS. SMOKE DETECTORS SHALL REQUIRE MANUAL RESETTING.
- HIGH - LIMIT STATIC SHUTDOWN: UPON TRIPPING OF THE HIGH STATIC SUPPLY DUCT PRESSURE SENSOR, THE SUPPLY FAN SHALL DE-ENERGIZED, THE OUTSIDE AIR DAMPER SHALL CLOSE, THE RETURN AIR DAMPER SHALL BE OPENED AND AN ALARM SHALL BE SENT TO THE OPERATOR'S WORKSTATION.
- PROVIDE CONTINUOUS MONITORING OF THE FOLLOWING POINTS AND DISPLAY AT THE OPERATORS WORKSTATION:
 - OUTSIDE AIR FLOW (ALARM ON LOW AIRFLOW)
 - OUTSIDE AIR DAMPER POSITION
 - RA DAMPER POSITION
 - MIXED AIR TEMPERATURE
 - CHILLED WATER COOLING VALVE POSITION
 - VFD INTERFACE (WITH HARD WIRED START/STOP AND STATUS)
 - LEAVING AIR TEMPERATURE
 - DUCT HIGH PRESSURE STATUS
 - DUCT STATIC CONTROL PRESSURE

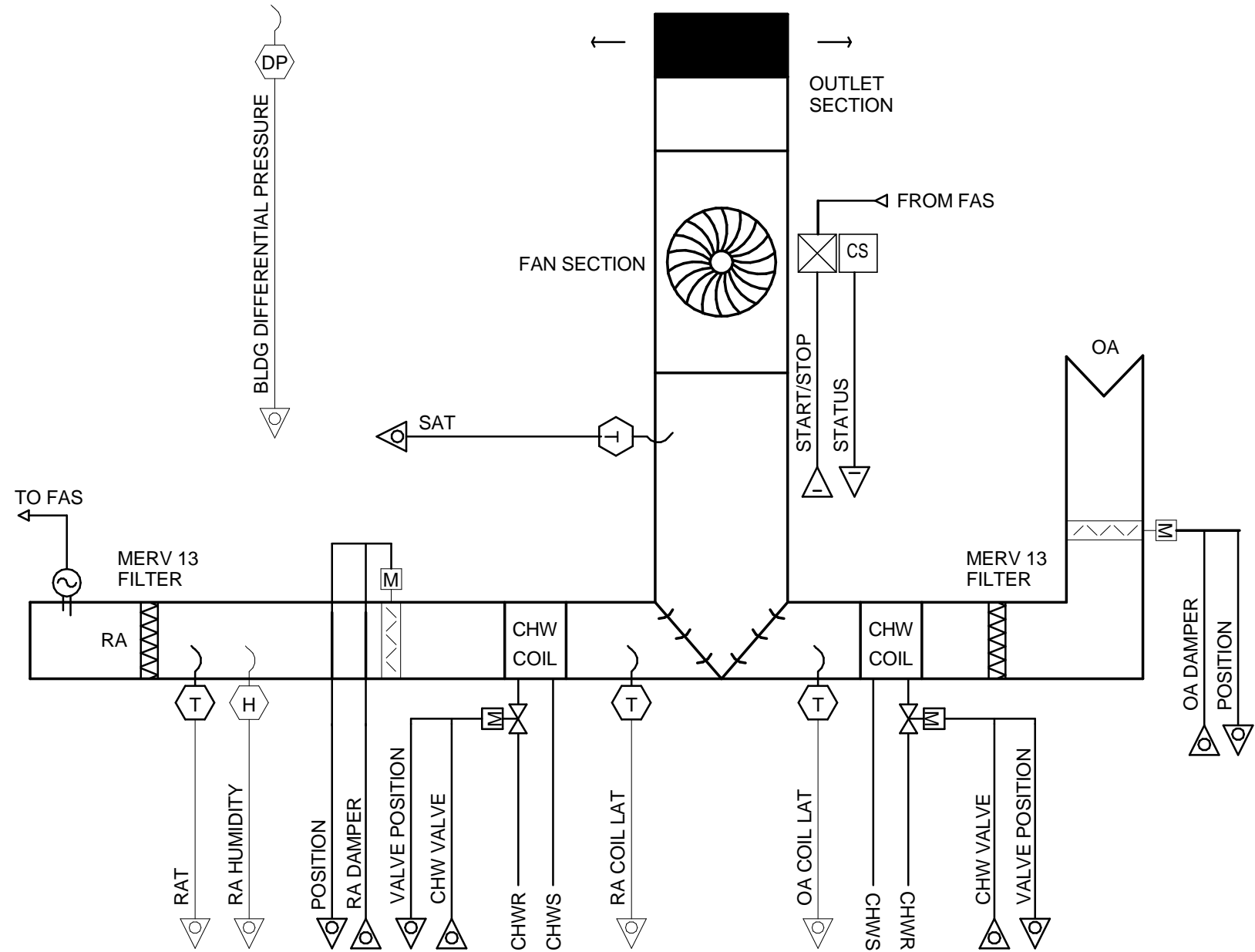
C

GENERAL CONTROL NOTES

- THE BUILDING MANAGEMENT SYSTEM (BMS) SHALL PROVIDE FOR GLOBAL DISTRIBUTED CONTROL AND MONITORING OF THE INDIVIDUAL ITEMS OF EQUIPMENT, AND HVAC SYSTEMS. ALL NECESSARY HARDWARE, SOFTWARE, PROGRAMMING AND SERVICES SHALL BE PROVIDED AS REQUIRED TO PROVIDE A COMPLETELY AUTOMATIC, FUNCTIONAL AND OPERATIONAL SYSTEM.
- THE BMS CONFIGURATION IS BASED ON AN OPEN PROTOCOL. ANY DESKTOP PERSONAL COMPUTER SHALL SERVE AS THE OPERATORS WORK STATIONS (OWS) FOR GRAPHICAL DISPLAY, MONITORING, TRENDED, ALARMS AND SUPERVISORY CONTROL FOR THE SYSTEM.
- THE WORK SHALL INCLUDE, BUT NOT BY WAY OF LIMITATION, MICROPROCESSOR BASED CONTROLLERS, SENSORS, PANELS, SWITCHES, CONDUIT, WIRING, PROGRAMMING, SOFTWARE, FIRMWARE, ROUTERS, HUBS, WORKSTATION SYSTEM GRAPHICS, TERMINATIONS, COMMUNICATIONS WIRING/CABLING, CALIBRATION, ACTIVATION, DE-BUGGING, COMMISSIONING, DEMONSTRATIONS AND TRAINING.
- COORDINATE THE RANGE, SET POINT, DEAD BAND, CHARACTERISTICS AND MOUNTING LOCATIONS OF SENSORS WITH THE ACTUAL EQUIPMENT FURNISHED. INSTALL SENSORS, TUBING AND WIRING TO BE ACCESSIBLE, PROPERLY SUPPORTED AND ARRANGED SO AS NOT TO IMPEDE OR ENCROACH UPON EQUIPMENT SERVICE AND ACCESS AREAS. ALL DEVICES MOUNTED ON INSULATED SURFACES SHALL INCLUDE APPROPRIATE GALVANIZED STEEL STAND-OFF BRACKETS, THERMOMETER WELLS SHALL HAVE LAGGING EXTENSIONS.
- WHERE PROPOSED SEQUENCES COULD DEFEAT THE EQUIPMENT MANUFACTURERS RECOMMENDED SAFETIES OR BE INJURIOUS TO THE EQUIPMENT CONTROLLED, ALERT ENGINEER OF CONFLICT PRIOR TO PROCEEDING WITH THE WORK.
- SEQUENCES DO NOT REFER TO SPECIFIC DEAD BANDS, INTERLOCKS, RESET RATIOS, DELAYS AND RANGES REQUIRED FOR STABLE OPERATION, BUT SHALL BE PROVIDED AND BE FULLY USER ADJUSTABLE AT THE OPERATOR WORKSTATION. ALL OWS ENTERED VALUES AND SET POINTS SHALL BE RETAINED THROUGH A LOSS IN POWER.
- PROVIDE FOR MODIFICATION OF CONTROL SEQUENCES BASED UPON DIRECTION, CLARIFICATIONS, MODIFICATIONS AND REVISIONS ISSUED BY THE ENGINEER. IN ADDITION, INCLUDE FIELD CALIBRATION OF ALL SENSORS, REVISION TO SET POINTS, SCHEDULES, PID PARAMETERS, DEAD BANDS, DELAYS AND RANGES BASED UPON ACTUAL PERFORMANCE OF CONTROLLED EQUIPMENT, TO PROVIDE FOR STABLE OPERATION WITHOUT EXCESSIVE CYCLING OR HYSTERESIS.
- DEMONSTRATE SEQUENCE OF OPERATION IN THE PRESENCE OF THE OWNER, AND TEST AND BALANCE FIRM FOR ALL CONTROLLED EQUIPMENT, TO INCLUDE GENERATION OF ALARMS AND SIMULATION OF POWER OUTAGES. REMOTE RESET OF SYSTEMS ON EMERGENCY POWER, AUTOMATIC RESTART AFTER POWER RESTORATION, AND GENERAL EQUIPMENT FAILURES. PROVIDE MANPOWER TO ASSIST AND SUPPORT CALIBRATION OF ALL SENSORS AS SPECIFIED UNDER SPECIFICATION SECTION 15991.
- IN ADDITION TO SPECIFIC EQUIPMENT ALARMS NOTED IN THE SEQUENCE, PROVIDE STANDARD ALARMS FOR BMS SUCH AS SENSOR FAILURE, OUT OF RANGE (HIGH-LOW LIMITS) AND SIMILAR ITEMS.
- COORDINATE SEQUENCES AND DATA ACQUISITION REQUIREMENTS AND PROVIDE FOR TREND LOGGING, REPORT GENERATION, CALCULATE RUN HOURS AND SIMILAR PREVENTIVE MAINTENANCE FUNCTIONS.
- CACIASC POINT TABLES, SEQUENCES OF OPERATION, INPUT/OUTPUT SUMMARY TABLES AND CONTROLLER SOFTWARE REQUIREMENTS SHALL BE CONSIDERED COMPLEMENTARY, IN THAT THE WORK OR FEATURES CALLED FOR OR REQUIRED BY ANY ONE, SHALL APPLY TO ALL THE CONTRACTOR SHALL COORDINATE THESE REQUIREMENTS, RECONCILE ANY DIFFERENCES, AND PROVIDE A COMPLETE SYSTEM WITH ALL OF THE FEATURES, FUNCTIONS AND SEQUENCES SPECIFIED, NOTED INDICATED AND/OR REQUIRED.
- ALL CONTROL WIRING, INCLUDING POWER, SIGNALING AND COMMUNICATIONS SHALL MEET THE REQUIREMENTS SPECIFIED IN DIVISION 26, EXCEPT THAT ONE HALF INCH DIAMETER CONDUIT IS ACCEPTABLE. POWER WIRING SHALL NOT BE RUN IN THE SAME CONDUIT AS LOW VOLTAGE WIRING, SIGNAL OR COMMUNICATIONS WIRING. FINAL CONNECTION TO SENSORS AND ACTUATORS MAY BE MADE WITH FLEXIBLE CONDUIT NOT EXCEEDING 24 INCHES IN LENGTH. EXPOSED COMMUNICATION CABLES SHALL BE INSTALLED IN CONDUIT, CONCEALED COMMUNICATION CABLES MAY BE RUN EXPOSED BUT SHALL BE PLENUM RATED, SUPPORTED FROM BRIDAL RINGS OR USING J-hooks FROM THE SIDE OF THE CABLE TRAY. INSTALLATION OF THE WIRING WITHIN THE TRAY IS NOT ALLOWED.
- WIRING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. CONDUCTORS SHALL BE COPPER, ONE-PIECE, INSTALLED WITHOUT SPLICES. WIRE NUTS ARE ALLOWED ONLY AT CONNECTION TO END DEVICES. CACS SHALL BE INSTALLED WITHIN CONTROL PANELS. TERMINAL STRIP TYPE CONNECTIONS SHALL BE USED WITHIN CONTROL PANELS WITH NO MORE THAN TWO CONDUCTORS LANDED TO ANY ONE TERMINAL. USE JUMPEES TO AN ADJACENT TERMINAL WHERE NECESSARY TO LAND MORE THAN TWO CONDUCTORS. WIRING WITHIN PANELS SHALL BE RUN PARALLEL AND PERPENDICULAR TO THE PANEL, ARRANGED NEATLY, USING WIRING DUCT FOR MULTIPLE CONDUCTOR RUNS AND SPIRAL WRAPPING OF WIRE BUNDLES. WIRING SHALL BE COLOR CODED AND NUMBER CODED ON BOTH ENDS USING PANDUIT TYPESET PRE-PRINTED LABELS TO MATCH AS-BUILT WIRING DIAGRAMS. CABLING SHALL BE COLOR CODED.
- 120-VOLT POWER TO CONTROLLERS WILL BE PROVIDED UNDER DIVISION 26 POWER WIRING SHALL BE MINIMUM #12 THWN, LABELED FOR THE CIRCUIT AND PANEL NUMBER FED FROM. MOTOR CONTROL CIRCUITS SHALL BE A MINIMUM OF #14 THWN. TRANSFORMERS, DC POWER RECTIFIERS, 24 VOLT POWER SUPPLIES AND EXTENSION OF POWER TO ACTUATORS, TRANSMITTERS, TERMINAL (VAV) BOXES AND SIMILAR CONTROL DEVICES AND SENSORS SHALL BE PROVIDED UNDER DIVISION 15.
- SENSOR WIRING SHALL BE STRANDED #18 HOOK-UP WIRE, 300 VAC LABELED AT BOTH ENDS AS TO THE DEVICE IT SERVES. ANALOG CIRCUIT (4-20 MA / 0-10 VDC) WIRING SHALL BE A TWISTED PAIR.
- A DEDICATED COMMUNICATIONS NETWORK SHALL BE PROVIDED FOR INTERCONNECTION OF THE CONTROL SYSTEM CONTROLLERS. CONTROL SYSTEM COMMUNICATION NETWORK SHALL BE RUN SEPARATELY FROM OTHER WIRING AND MEET THE MANUFACTURERS REQUIREMENTS.
- THE DESIGN IS BASED UPON A HARD WIRED SYSTEM. WIRELESS DEVICES SHALL NOT BE USED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- IN THE EVENT OF A POWER FAILURE/OUTAGE ALL CONTROLS SHALL RECYCLE TO A NORMAL START SEQUENCE WHEN POWER IS RESTORED. WHERE MULTIPLE UNITS HAVE THE SAME OPERATOR DEFINED START TIME, OR SOFTWARE CALCULATED OPTIMUM START TIME, START-UP OF UNITS SHALL BE STAGGERED TO LIMIT THE KW DEMAND.
- THE CONFIGURATION DIAGRAM REFLECTS THE REQUIREMENTS OF THE MANUFACTURER USED AS THE BASIS OF DESIGN. THE CONTROL SYSTEM SHALL INCLUDE ALL HARDWARE NECESSARY TO MEET THE SPECIFIED REQUIREMENTS.
- THE CONTROL OF MODULATING VALVES, DAMPERS, AND VFDs SHALL UTILIZE PROPORTIONAL-INTEGRAL-DERIVATIVE (PID) CONTROL LOOPS. THE CONTRACTOR SHALL TUNE THE LOOPS TO PROVIDE STABLE OPERATION. CONTROL STABILITY SHALL BE DEMONSTRATED BY SIMULATING OR CAUSING A LARGE OFFSET IN THE MEASURED CONTROL INPUT VARIABLE AND PROVIDING A TIME BASED GRAPHICAL TREND LOG OF THE CONTROLLED VARIABLE.
- COORDINATE VFD COMMUNICATION CARD AND I/O REQUIREMENTS WITH THE DIVISION 16 CONTRACTOR AND PROVIDE PERSONNEL TO ASSIST IN VFD START-UP. COORDINATE INTERFACE TO THE CHILLER MANUFACTURERS TRANSLATOR PANEL FOR ACCESS TO DETAILED CHILLER DATA. EVEN WHERE DATA IS AVAILABLE THROUGH INTERFACES HARD VFD/CHILLER POINTS SHALL BE PROVIDED AS INDICATED IN THE CAC POINT LIST TABLES. COORDINATE WITH DIVISION 16 FOR MULTIPLEXED INTERFACE TO THE GENERATOR.
- ALL ROOM NAMES AND NUMBERS USED FOR PROGRAMMING, GRAPHICS, LABELING AND SHOP DRAWINGS SHALL BE COORDINATED WITH THOSE ACTUALLY USED, WHICH MAY DIFFER FROM THE NAMES/NUMBERS ON THE DOCUMENTS.
- SMOKE AND FIRE/SMOKE DAMPERS ASSOCIATED WITH EACH AHU SHALL BE WIRED THROUGH THE FIRE ALARM SHUTDOWN RELAY CONTROLLING THE PARTICULAR AHU SYSTEM ASSOCIATED WITH THE DAMPER AND THE AHU FAN STOP/START RELAY AUXILIARY CONTACTS UNDER DIVISION 16. THE DAMPERS SHALL BE SHUT WHENEVER THE AHU FAN IS OFF.
- ALL CACS, 24 VAC POWER SOURCES AND RELAYS SHALL BE LOCATED WITHIN BMS CONTROL PANELS. SENSORS LOCATED OUTDOORS SHALL BE PROVIDED WITH SURGE SUPPRESSION.

A

E



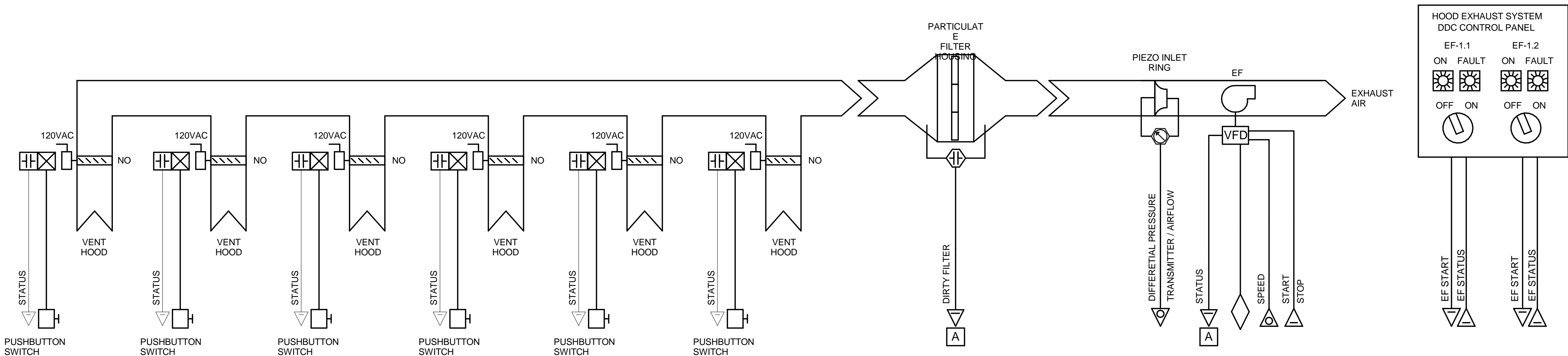
D

AIR ROTATION UNIT

- A. GENERAL: THE AIR ROTATION UNIT IS A FACTORY FABRICATED CUSTOM DESIGN UNIT WITH CHILLED WATER COILS AND DAMPERS AND FILTERS IN THE OUTSIDE AIR AND RETURN AIR PATH, FILTER RACKS AND SUPPLY FAN.
- B. SYSTEM START-STOP: AIR HANDLING UNIT IS STARTED AND STOPPED THROUGH THE BMS.
- C. MAINTENANCE: WHEN THE SUPPLY FAN IS OFF FOR MAINTENANCE, RESPECTIVE CONTROL DEVICES ARE POSITIONED AS FOLLOWS:
1. COIL CONTROL VALVES ARE POSITIONED CLOSED, NO FLOW THROUGH COILS.
2. OUTDOOR AIR DAMPER IS POSITIONED CLOSED.
3. RETURN AIR DAMPER IS POSITIONED OPEN.
- D. SUPPLY AIR TEMPERATURE CONTROL: THE RA COIL CONTROL VALVE SHALL BE MODULATED TO MAINTAIN SUPPLY AIR TEMPERATURE. THE SUPPLY AIR TEMPERATURE SHALL BE RESET BASED UPON RETURN AIR TEMPERATURE (80°F, ADJ.).
- E. OUTSIDE AIR TEMPERATURE CONTROL: THE OA COIL CONTROL VALVE SHALL BE MODULATED TO MAINTAIN 63°F (ADJ.) OUTSIDE AIR COIL LEAVING AIR TEMPERATURE.
- F. OUTSIDE/RETURN AIR DAMPER CONTROL: THE RETURN AIR DAMPER SHALL BE OPENED 100% AND THE OUTSIDE AIR DAMPER WILL BE MODULATED TO MAINTAIN THE BUILDING PRESSURIZATION SETPOINT (ADJUSTABLE - INITIAL SETPOINT OF 0.00WIF THE OUTSIDE AIR DAMPER IS OPEN 100% AND THE BUILDING PRESSURIZATION IS BELOW SETPOINT, THE RA DAMPER SHALL BE MODULATED TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT. AN ALARM WILL BE GENERATED AT THE OPERATOR'S WORKSTATION IF THE BUILDING PRESSURIZATION GOES NEGATIVE.
- G. SMOKE DETECTOR SHUTDOWN: SMOKE DETECTORS (FURNISHED AND WIRED BY DIVISION 28, MOUNTED BY DIVISION 23), SHALL, THROUGH THE FIRE ALARM SYSTEM SHUT DOWN THE SUPPLY FAN AND AN ALARM SHALL BE SENT TO THE BMS. SMOKE DETECTORS SHALL REQUIRE MANUAL RESETTING.
- H. ON ANY SIGNAL FROM THE FAS, THE SUPPLY FAN TURN OFF AND AN ALARM SENT TO THE BMS.
- I. PROVIDE CONTINUOUS MONITORING OF THE FOLLOWING POINTS AND DISPLAY AT THE OPERATOR'S WORKSTATION:
1. BUILDING PRESSURIZATION (ALARM ON NEGATIVE VALUE)
2. FAN STATUS
3. OA FLOW
4. OA DAMPER POSITION
5. OA COIL VALVE POSITION
6. OA COIL LEAVING AIR TEMPERATURE
7. RA DAMPER POSITION
8. RA COIL VALVE POSITION
9. RA COIL LEAVING AIR TEMPERATURE
10. RA TEMPERATURE
11. RA HUMIDITY (ALARM ABOVE 65%, ADJ.)
12. SUPPLY AIR TEMPERATURE

C

B



MANUAL MOLDING MACHINE HOOD EXHAUST SYSTEM

NTS

SEQUENCE OF OPERATION:

SYSTEM DESCRIPTION: THE VENTILATION SYSTEM CONSISTS OF AN EXHAUST FAN WITH A UPSTREAM PARTICULATE FILTER BOX AND SIX (6) EXHAUST HOODS SERVING A MOLDING MACHINE. EACH HOOD HAS A MANUAL MOTOR OPERATED DAMPER WITH MANUAL PUSHBUTTON SWITCH AND DAMPER OPEN STATUS SWITCH.

FAN START-STOP: FAN IS STARTED AND STOPPED THROUGH THE MANUALLY OPERATED INDUSTRIAL VENTILATION EXHAUST SYSTEM DDC CONTROL PANEL VIA SWITCHES.

WHEN ANY FAN IS SWITCHED ON:

1. THE EF SHALL BE ENERGIZED, AND THE GREEN ON LIGHT SHALL BE LIT. THE VFD SHALL RAMP UP FAN SPEED TO MAINTAIN FLOW SETPOINT. FLOW IS CALCULATED FROM DIFFERENTIAL PRESSURE AT THE INLET PIEZO RING. THE FAN SHALL RUN CONTINUOUSLY.

BMS CONTROL INTERFACE:

1. THE BMS SHALL MONITOR THE HOOD DAMPER SWITCHES IN ORDER TO CALCULATE THE EF FLOW SETPOINT. THE FLOW SETPOINT IS BASED UPON THE NUMBER OF OPEN HOOD DAMPERS (4500 CFM PER OPEN DAMPER).

PROVIDE CONTINUOUS MONITORING OF THE FOLLOWING POINTS AND DISPLAY AT THE OPERATOR'S WORKSTATION:

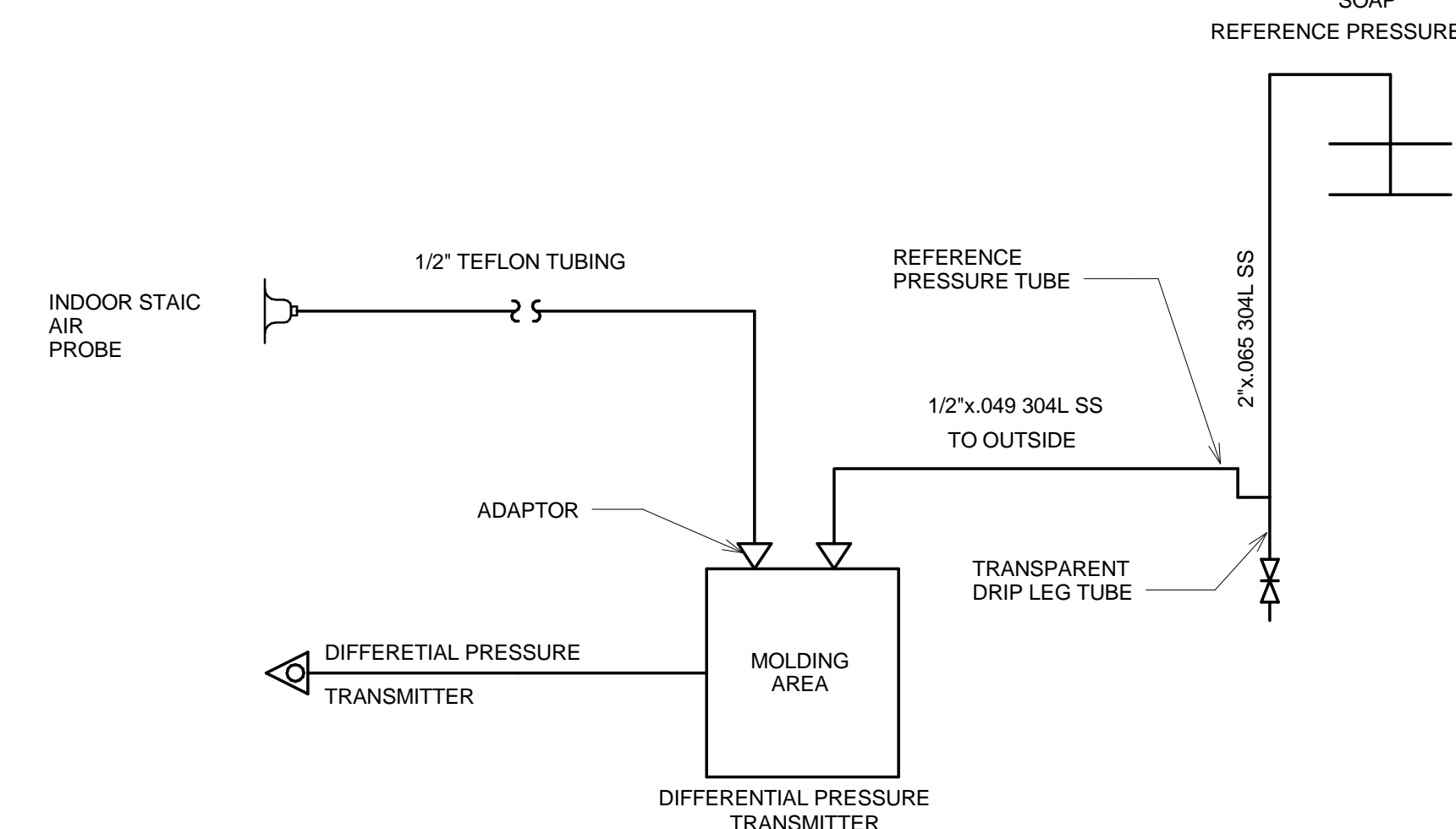
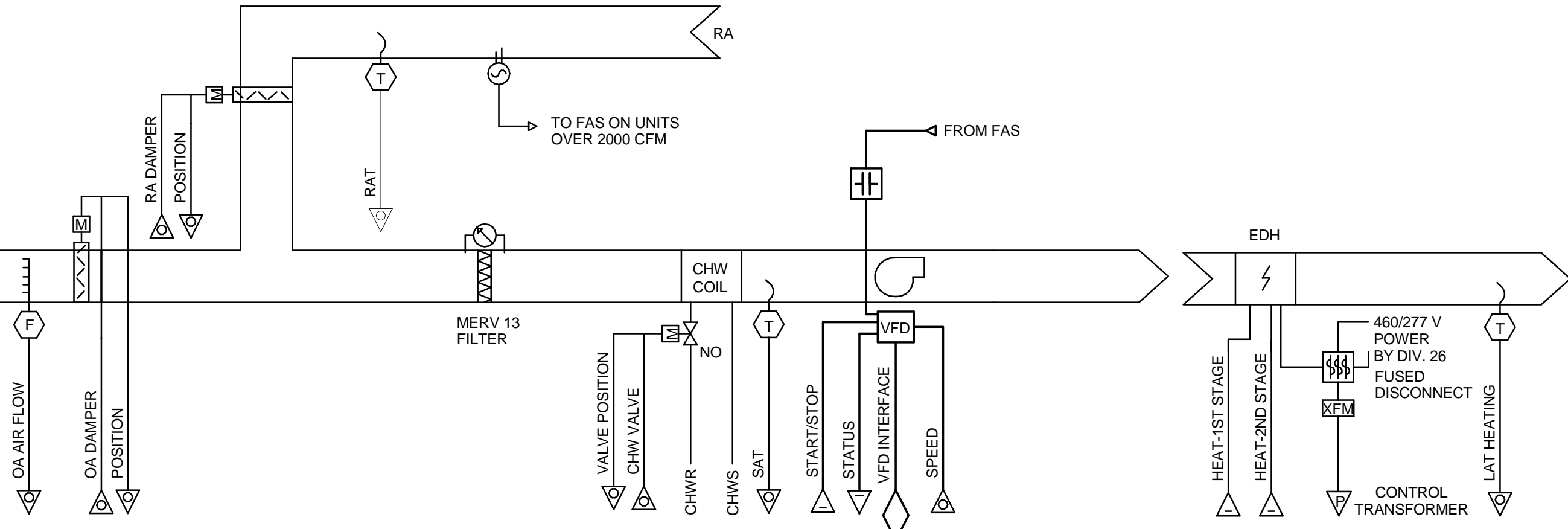
1. FAN STATUS (ALARM ON FAN FAILURE).
2. FILTER STATUS (ALARM ON FILTER HIGH STATIC).
3. HOOD STATUSES.
4. FAN AIRFLOW.

A

SINGLE ZONE VAV AIR CONDITIONING UNIT

AHU-1.1

- A. GENERAL: THE AIR HANDLING UNIT CONSISTS OF AN OUTSIDE AIR DAMPER, RETURN AIR DAMPER, AIR FILTERS, CHILLED WATER COOLING COIL, SUPPLY AIR FAN WITH VARIABLE FREQUENCY DRIVE, DAMPERS AND ALL OTHER DEVICES INDICATED.
- B. SYSTEM START-STOP: AIR HANDLING UNIT IS STARTED AND STOPPED THROUGH THE BMS.
- C. MAINTENANCE: WHEN THE SUPPLY FAN IS OFF FOR MAINTENANCE, RESPECTIVE CONTROL DEVICES ARE POSITIONED AS FOLLOWS:
1. COIL CONTROL VALVE IS POSITIONED CLOSED, NO FLOW THROUGH COIL.
2. OUTDOOR AIR DAMPER IS POSITIONED CLOSED.
3. RETURN AIR DAMPER IS POSITIONED OPEN.
- D. AIRFLOW CONTROL: THE BMS SHALL MODULATE THE VFD FREQUENCY BASED ON A SIGNAL FROM THE BMS. THE BMS SHALL MODULATE THE FREQUENCY FROM 60Hz (MAXIMUM COOLING) TO HEATING MINIMUM (1700 CFM - FREQUENCYDETERMINED WITH THE HELP OF T&B CONTRACTOR) TO MAINTAIN THE RETURN AIR TEMPERATURE AT SETPOINT (75°F ADJUSTABLE).
- E. SUPPLY AIR TEMPERATURE CONTROL: WHEN THE SUPPLY FAN IS ON, THE TWO-WAY COOLING COIL CONTROL VALVE SHALL BE MODULATED TO MAINTAIN THE LEAVING AIR TEMPERATURE SETPOINT, INITIALLY SET AT 55°F (ADJUSTABLE).
- F. ELECTRIC HEATER CONTROL: IF THE VFD SPEED IS AT MINIMUM AND THE RA TEMPERATURE IS BELOW SETPOINT, THE ELECTRIC HEAT SHALL BE STAGED TO MAINTAIN RA SETPOINT. THE ELECTRIC HEATER SHALL BE OFF IF THE VFD FREQUENCY IS ABOVE MINIMUM.
- G. OUTSIDE/RETURN AIR DAMPER CONTROL: THE RETURN AIR DAMPER SHALL BE OPENED 100% AND THE OUTSIDE AIR DAMPER WILL BE MODULATED TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT. IF THE OUTSIDE AIR DAMPER IS OPEN 100% AND THE OUTSIDE AIR VOLUME IS BELOW SETPOINT, THE RA DAMPER SHALL BE MODULATED TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINT. AN ALARM WILL BE GENERATED AT THE OPERATOR'S WORKSTATION IF THE OUTDOOR AIRFLOW VARIES BY MORE THAN 10% FROM SETPOINT.
- H. SMOKE DETECTOR SHUTDOWN: SMOKE DETECTORS (FURNISHED AND WIRED BY DIVISION 28, MOUNTED BY DIVISION 23), SHALL, THROUGH THE FIRE ALARM SYSTEM SHUT DOWN THE SUPPLY FAN AND SEND AN ALARM SHALL BE SENT TO THE BMS. SMOKE DETECTORS SHALL REQUIRE MANUAL RESETTING.
- I. PROVIDE CONTINUOUS MONITORING OF THE FOLLOWING POINTS AND DISPLAY AT THE OPERATOR'S WORKSTATION:
1. OA FLOW (CFM)
2. OUTSIDE AIR DAMPER POSITION
3. RA DAMPER POSITION
4. MIXED AIR TEMPERATURE
5. CHILLED WATER COOLING VALVE POSITION
6. CHILLED WATER RETURN TEMPERATURE
7. VFD INTERFACE (WITH HARD WIRED START/STOP AND STATUS AND SPEED)
8. SUPPLY AIR TEMPERATURE
9. HEATER LAT



- MOUNT DIFFERENTIAL PRESSURE TRANSMITTERS ON 4"x4"x1/4" STAINLESS STEEL PLATE ON MECHANICAL PLATFORM.
-MOUNT PLATE TO UNISTRUT ON WALL.
-PRESSURE TEST TEFLON TUBING TO 10 PSI FOR 60 MINUTES.
-PRESSURE TEST REFERENCE PRESSURE TUBE TO 50 PSI FOR 60 MINUTES.
-CLEAN REFERENCE PRESSURE TUBE.

PRESSURE REFERENCE BOARD

NTS

CHILLED WATER PLANT SYSTEM SEQUENCE OF OPERATIONS

SYSTEM DESCRIPTION - GENERAL:

THE CHILLED WATER SYSTEM CONSISTS OF TWO (2) AIR-COOLED CHILLERS PIPED IN PARALLEL, IN A VARIABLE PRIMARY PUMPING CONFIGURATION. THERE ARE THREE (3) VARIABLE-SPEED PRIMARY CHILLED WATER PUMPS. ONLY TWO OPERATE AT A TIME. THE OTHER IS FOR BACKUP. THE VARIABLE-SPEED PUMPING SYSTEM SHALL OPERATE TO MAINTAIN THE REQUIRED SYSTEM PRESSURE MEASURED BY THE DIFFERENTIAL PRESSURE TRANSMITTER LOCATED AT THE MOST REMOTE COOLING COIL. THE CHILLER PLANT CONTROL SYSTEM SHALL HAVE A FULLY EDITABLE USER INTERFACE SET-UP VIA POINT AND CLICK ON A STANDARD WINDOWS SCREEN. IT SHALL NOT REQUIRE SPECIAL SOFTWARE TOOLS OR A BUILDING AUTOMATION SYSTEM TECHNICIAN TO OPERATE.

THE SYSTEM SHALL BE ABLE TO ACCEPT A TEMPORARY CHILLER TO AID IN COOLING DEMAND IF REQUIRED FOR EQUIPMENT FAILURE. THE TEMPORARY CHILLER SHALL BE CAPABLE OF PRODUCING THE SAME CHILLED WATER SUPPLY TEMPERATURES AS THE REST OF THE SYSTEM.

THE DESIGN SYSTEM CHILLED WATER SETPOINT SHALL BE 42°F, EDITABLE BY THE OPERATOR.

SYSTEM START/STOP:

THE CHILLED WATER SYSTEM SHALL START IN RESPONSE TO A BINARY SIGNAL FROM THE BAS. UPON THE START OF THE CHILLED WATER SYSTEM, THE CHILLER PLANT CONTROL SYSTEM SHALL AUTOMATICALLY START TREND LOG REPORTS AS INDICATED IN THE TRENDLG LOGGING SECTION.

CHILLER OPERATION:

THE CHILLER PLANT CONTROL SYSTEM WILL START AND STOP THE CHILLED WATER PUMPS AND CHILLERS BASED UPON SYSTEM LOAD. WHEN THE CHILLED WATER SYSTEM IS ENABLED THE CHILLER PLANT CONTROL SYSTEM SHALL:

1. SEND AN ENABLE SIGNAL TO THE CURRENT LEAD CHILLER. LEAD CHILLER ASSIGNMENT SHALL BE AUTOMATICALLY ROTATED BETWEEN CH-1 AND CH-2.
2. OPEN THE CHILLER EVAPORATOR CONTROL VALVE (SEE ALSO COMMISSIONING, THIS SHEET).
3. AFTER TWO (2) MINUTES (ADJUSTABLE) AND WHEN THE CONTROL VALVE IS CONFIRMED TO BE 100% OPEN, THE LEAD PRIMARY CHILLED WATER PUMP IN THE SEQUENCE SHALL BE STARTED. IF THE LEAD PUMP FAILS TO START, AS INDICATED BY THE CURRENT SENSING FEATURE, THAT PUMP SHALL BE LOCKED OUT AND AN ALARM SHALL BE SENT TO THE OPERATOR'S WORKSTATION. THE LAG PUMP IN THE SEQUENCE SHALL THEN BECOME THE LEAD PUMP.
4. THE VFD OF THE LEAD PUMP SHALL BE CONTROLLED VIA A SPEED CONTROL SIGNAL FROM THE CHILLED WATER PLANT CONTROLLER (CWPC) TO MAINTAIN THE DESIGN DIFFERENTIAL PRESSURE SETPOINT FOR THE SYSTEM AS MEASURED BY THE DIFFERENTIAL PRESSURE TRANSMITTER.
5. AFTER A TWO-MINUTE TIME DELAY (ADJUSTABLE), THE CHILLER PLANT CONTROL SYSTEM SHALL MODULATE THE CHW BYPASS VALVE SUCH THAT THE CHILLED WATER FLOW DOES NOT DROP BELOW XXX GPM (ADJUSTABLE). THE MINIMUM FLOW SHALL BE DETERMINED BASED ON THE MANUFACTURER'S RECOMMENDED MINIMUM CHILLER FLOW RATE.
6. WHEN BOTH THE SYSTEM AND THE DIFFERENTIAL PRESSURE AND THE MINIMUM FLOW SETPOINTS HAVE BEEN MET AND ARE STABILIZED FOR TWO (2) MINUTES (ADJUSTABLE), THE LEAD CHILLER SHALL THROUGH ITS OWN CONTROLLER, START UP AND MAINTAIN THE DESIGN TEMPERATURE SETPOINT. IF THE LEAD CHILLER FAILS TO START AS INDICATED BY CHILLER STATUS FROM THE CHILLER INTERFACE THAT CHILLER SHALL BE LOCKED OUT AND AN ALARM SHALL BE SENT TO THE OPERATOR'S WORKSTATION. THE NEXT CHILLER IN THE SEQUENCE SHALL THEN BE STARTED.
7. UPON THE START OF EACH CHILLER, THE CHILLER PLANT CONTROL SYSTEM SHALL AUTOMATICALLY START CHILLER-SPECIFIC TREND LOG REPORTS AS INDICATED IN THE TRENDLG LOGGING SECTION.
8. THE MINIMUM FLOW BY-PASS VALVE SHALL BE CONTROLLED ACCORDING TO THE MINIMUM FLOW BY-PASS VALVE CONTROL SECTION.

ADDITION OF A SECOND CHILLER:

1. WHEN THE OPERATING CHILLER CAN NO LONGER MAINTAIN ITS CHILLED WATER SUPPLY SETPOINT AND THE CHWS TEMPERATURE HAS RISEN TO 43.5°F FOR A 10-MINUTE PERIOD, THE LAG CHILLER IN THE ROTATION SEQUENCE SHALL BE ENABLED BY THE BAS.
2. THE LAG CHILLER CONTROL VALVE SHALL OPEN OVER A TWO-MINUTE PERIOD (ADJUSTABLE) AND THE LAG CHILLED WATER PUMP SHALL BE STARTED.
3. AFTER A TWO-MINUTE TIME DELAY (ADJUSTABLE), THE BAS SHALL READ THE FLOW AT THE ASSOCIATED CHILLER FLOW METER AND MODULATE THE BYPASS CONTROL VALVE UNTIL THE COMBINED MINIMUM FLOW SETPOINT IS MET.
4. WHEN THE SYSTEM DIFFERENTIAL PRESSURE AND THE MINIMUM FLOW SETPOINTS HAVE BEEN MET AND ARE STABILIZED FOR TWO MINUTES (ADJUSTABLE), THE SECOND CHILLER, THROUGH ITS OWN DEMAND-LIMIT IMPOSED ON THE FIRST CHILLER, SHALL BE RELEASED, AND BOTH CHILLERS SHALL CONTROL THEIR DISCHARGE TEMPERATURE AT 42°F.

SUBTRACTION OF A SECOND CHILLER:

1. WHEN THE AVERAGE %RLA OF THE TWO OPERATING CHILLERS DROPS TO 40%, THE LAG CHILLER AND LAG PUMP SHALL BE TURNED OFF BY THE BAS.
2. THE LAG CHILLER CONTROL SHALL DISABLE ITS COOLING OPERATION.
3. THE LAG CHILLER'S ASSOCIATED CONTROL VALVE SHALL BE CLOSED OVER A TWO-MINUTE PERIOD.
4. THE BAS SHALL READ THE FLOW AT THE REMAINING OPERATING CHILLER FLOW METER AND MODULATE THE BYPASS CONTROL VALVE TO MAINTAIN THE MINIMUM CHILLED WATER FLOW FOR THE REMAINING CHILLER.

SYSTEM SOFT START:

THE CHILLER PLANT CONTROL SYSTEM WILL INITIATE A 'SOFT START' MODE WHENEVER THE SYSTEM CHILLED WATER TEMPERATURE EXCEEDS THE SPECIFIED CHILLED WATER SYSTEM SETPOINT BY 20°F AT SYSTEM START-UP. THE CHILLER PLANT CONTROL APPLICATION WILL ADD COOLING CAPACITY DURING SOFT START MODE ONLY IF RETURN WATER TEMPERATURE IS NOT DECLINING AT A RATE OF AT LEAST 0.5°F PER MINUTE. THIS PREVENTS THE UNNECESSARY OPERATION OF CHILLERS AND LIMITS SYSTEM ELECTRICAL DEMAND DURING THE CHILLED WATER LOOP PULL-DOWN.

CHILLED WATER SYSTEM OPERATION:

1. THE BAS SHALL ALLOW THE PRIMARY CHILLED WATER LOOP TO COOL DOWN TO THE SETPOINT TEMPERATURE FOR 15 MINUTES (ADJUSTABLE).
2. AT A FEEDBACK FROM ANY PRIMARY CHILLED WATER PUMP STATUS DEVICE THAT THE PUMP FAILS, THE BAS SHALL DE-ENERGIZE THE FAILED PUMP/CHILLER, ENERGIZE THE LAG PUMP/CHILLER IN LINE FOR START, AND ALARM THE FAILED PUMP/CHILLER TO THE OPERATOR'S WORKSTATION.
3. THE SAME SEQUENCE AS FOUR (4) ABOVE SHALL OCCUR FOR CHILLER FAILURE.
4. THE LAG CHILLER/PUMP SHALL BE DISABLED AFTER THE AVERAGE %RLA OF THE TWO (2) CHILLERS DROPS BELOW 40% (ADJUSTABLE).

AUTOMATIC ROTATION OF CHILLERS AND PUMPS:

CHILLER ROTATION SHALL BE INITIATED BASED ON AN OPERATOR-ENTERED DAY INTERVAL OR BY THE CYCLING OF A BINARY POINT. THE METHOD OF SEQUENCE SHALL BE OPERATOR SELECTABLE.

CHILLER CYCLING CAUSED BY NORMAL SYSTEM LOAD FLUCTUATIONS SHALL CAUSE THE CHILLERS TO CHANGE ROTATION SEQUENCE OR AT THE OPERATOR'S OPTION CHILLERS MAY BE FORCED INTO THE NEW ROTATION SEQUENCE AT THE TIME OF SEQUENCE CHANGE.

THE CHILLED WATER PUMPS SHALL OPERATE IN A LEADLAG CONFIGURATION. THE LEAD PUMP ROTATION SHALL BE INITIATED BY AN AUTOMATIC SCHEDULE OR BY THE CYCLING OF A BINARY POINT.

DIAGNOSTICS/PROTECTION:

THE BAS SHALL BE ABLE TO ALARM FROM ALL SENSED POINTS AND DIAGNOSTIC ALARMS MONITORED BY THE CHILLER CONTROLLER.

DEMAND LIMITING:

AS PART OF THE DEMAND LIMITING SCHEME ON THE BUILDING, THE CHILLER PLANT CONTROL SYSTEM SHALL BE ABLE TO MONITOR AND REDUCE PEAK POWER DEMAND THROUGH THE LIMITING OF CHILLER CURRENT DRAW.

MINIMUM FLOW BYPASS:

1. THE 'MINIMUM FLOW BY-PASS VALVE' SHALL BE A NORMALLY CLOSED LINER PLUG GLOBE VALVE.
2. FOLLOWING THE CONFIRMED START OF THE LEAD PUMP AND WHENEVER ONLY ONE CHILLER IS OPERATING THE CHILLER PLANT CONTROL SYSTEM SHALL MODULATE THE CHW BYPASS VALVE SUCH THAT THE CHILLED WATER FLOW DOES NOT DROP BELOW THE MINIMUM FLOW FOR THE CHILLER.
3. THE MINIMUM FLOW SHALL BE DETERMINED BY DIRECT MEASUREMENT USING A FLOW METER IN THE SYSTEM SUPPLY. THE FLOW METER SETPOINT SHALL BE DETERMINED BASED ON THE MANUFACTURER'S RECOMMENDED MINIMUM CHILLER FLOW RATE.

MOLDING MACHINE CHILLED WATER COOLING LOOP PUMP:

THE MOLDING MACHINE CHILLED WATER COOLING LOOP PUMP SHALL BE INDEXED TO RUN ON THE SAME SCHEDULE AS THE CHILLED WATER PLANT OPERATION. THE PUMP SHALL MAINTAIN A CONSTANT LOOP PRESSURE (ADJ) BASED ON THE SELF-CONTAINED PROGRAMMABLE SEQUENCER AND VFD CONTROL. THE PUMP SHALL WILL RAMP UP OR DOWN BASED ON FLOW PRESSURE. EACH PANEL COOLER HAS AN INDEPENDENT CONTROL LOGIC AND 2-WAY VALVES THAT WILL OPERATE INDEPENDENTLY FROM THE PLANT CONTROL. THE PUMP LOGIC WILL REACT TO THIS DEMAND AND MAINTAIN A CONSTANT LOOP PRESSURE.

COMPRESSOR/DRYER COOLING WATER LOOP PUMP:

THE COMPRESSOR COOLING WATER LOOP PUMP SHALL BE INDEXED TO RUN ON THE SAME SCHEDULE AS THE CHILLED WATER PLANT OPERATION. THE PUMP SHALL MAINTAIN A CONSTANT LOOP PRESSURE (ADJ) BASED ON THE SELF-CONTAINED PROGRAMMABLE SEQUENCER AND VFD CONTROL. THE PUMP SHALL WILL RAMP UP OR DOWN BASED ON FLOW PRESSURE. THE 2-WAY VALVES ON THE COMPRESSOR AND DRYER PIPING ARRANGEMENT WILL OPERATE INDEPENDENTLY FROM THE PLANT CONTROL. THE PUMP LOGIC WILL REACT TO THIS DEMAND AND MAINTAIN A CONSTANT LOOP PRESSURE.

COMMISSIONING:

THE TEST AND BALANCE CONTRACTOR SHALL VERIFY THAT UNDER ANY COMBINATION OF MULTIPLE CHILLERS AND CHWPS, FLOW THROUGH THE CHILLERS ARE EQUAL TO WITHIN 3% FOR 50%, 75% AND 100% FLOW RATES. IF NECESSARY THE TAB SHALL ASSIST THE TAB IN PROGRAMMING THE VFD'S AS REQUIRED.

TRENDLG/LOGGING:

PROVIDE AN OPERATING STATUS REPORT FOR EACH CHILLER. THE REPORT(S) SHALL PROVIDE THE FOLLOWING INFORMATION TO THE BAS:

- COMPRESSOR ON/OFF STATUS
- COMPRESSOR START/STOP HOURS
- COMPRESSOR PHASE (1/23 PERCENT RLA - SEPARATE FOR EACH)
- COMPRESSOR CURRENT DRAW - RLA %
- ACTIVE CHILLER DIAGNOSTICS OR ALARMS
- LEAVING CHILLED WATER TEMPERATURE
- ENTERING CHILLED WATER TEMPERATURE
- EVAPORATOR FLOW STATUS
- CHILLED WATER SETPOINT
- REFRIGERANT TEMPERATURE EVAPORATOR
- CHILLER MODEL AND SERIAL NUMBER
- OPERATING MODE
- OUTSIDE AIR DRY BULB
- OUTSIDE AIR WET BULB

HOURLY LOGGING OF SYSTEM SHALL INCLUDE THE FOLLOWING POINTS:

- OUTSIDE AIR DRY BULB (OATDB)
- OUTSIDE AIR WET BULB (OATWB)
- SYSTEM CHILLED WATER SETPOINT
- SYSTEM CHILLED WATER FLOW RATE
- SYSTEM CHILLED WATER RETURN TEMPERATURE
- SYSTEM CHILLED WATER SUPPLY TEMPERATURE
- SYSTEM CHILLED WATER MIXED RETURN TEMPERATURE
- OPERATING STATUS OF EACH CHILLER
- OPERATING STATUS OF SYSTEM PUMPS
- SYSTEM CHILLED WATER USAGE IN TON-HOURS CALCULATED FROM CHILLED WATER FLOW AND TEMPERATURE DIFFERENCE BETWEEN SYSTEM SUPPLY AND RETURN.

HOURLY LOGGING OF CHILLER SHALL INCLUDE THE FOLLOWING:

- UNIT CHILLED WATER SETPOINT
- COMPRESSOR(S) RLA
- EVAPORATOR ENTERING WATER TEMP
- EVAPORATOR LEAVING WATER TEMP
- EVAPORATOR FLOW STATUS
- EVAPORATOR APPROACH TEMP

FIVE-MINUTE LOGGING OF CHILLER SHALL INCLUDE THE FOLLOWING:

- UNIT CHILLED WATER SETPOINT
- COMPRESSOR(S) RLA
- EVAPORATOR ENTERING WATER TEMP
- EVAPORATOR LEAVING WATER TEMP
- EVAPORATOR FLOW RATE STATUS

OPERATOR INTERFACE:

THE CHILLER PLANT CONTROL SYSTEM SHALL INCLUDE THE FOLLOWING OPERATOR INTERFACE ELEMENTS:

1. OPERATIONAL STATUS SCREEN TO INCLUDE:

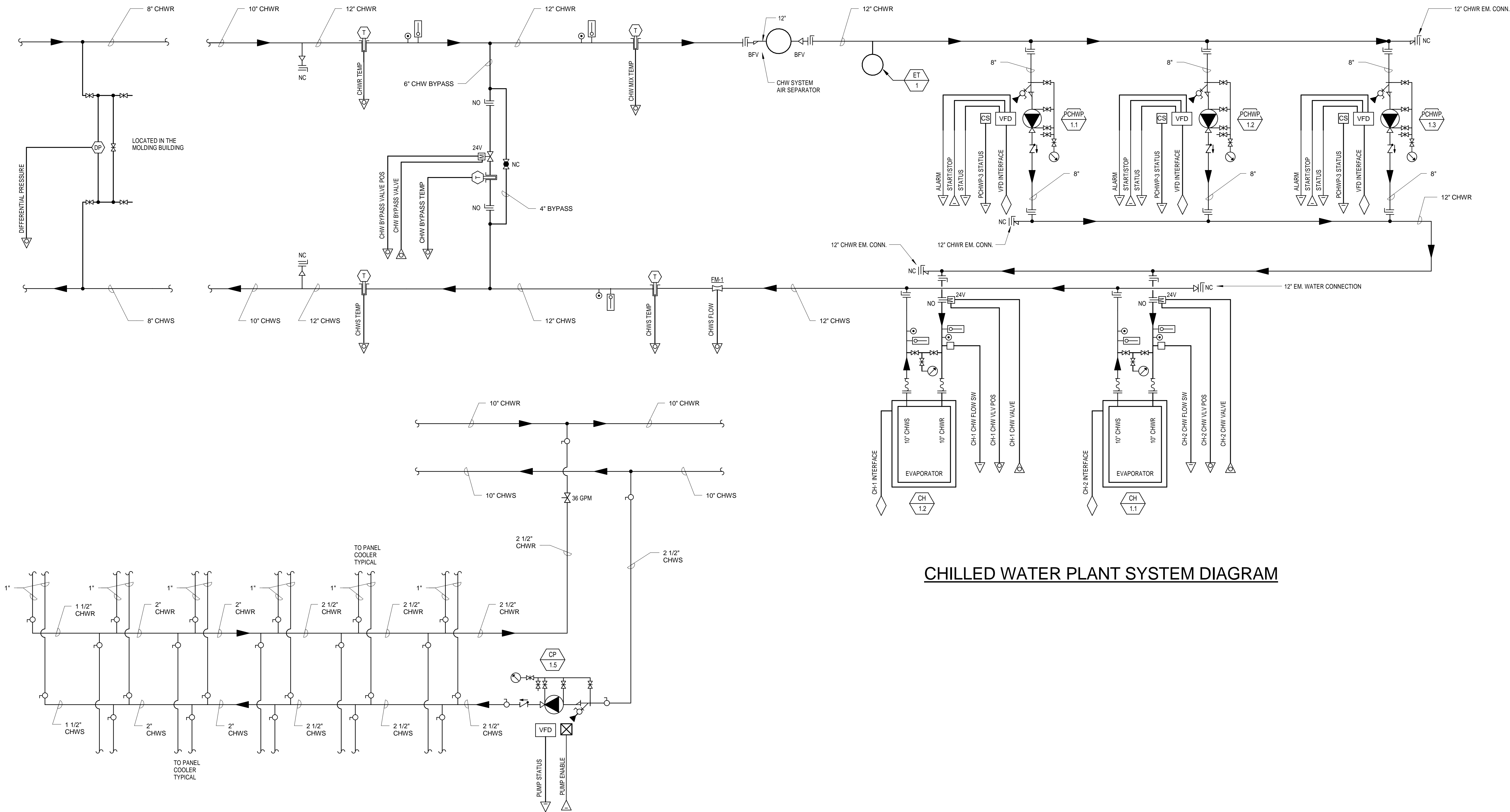
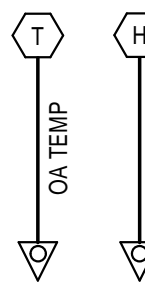
- PREDICTIVE CHILLER ADDITION / SUBTRACTION STATUS MESSAGES (I.E. "NEXT CHILLER WILL BE ADDED IF THE SYSTEM SUPPLY WATER TEMP EXCEEDS 42.5°F FOR 8 MINUTES.")
- INDIVIDUAL CHILLER FAILURE RESET
- ALL CHILLER FAILURE RESET
- MANUAL ADDITION OF CHILLER
- MANUAL SUBTRACTION OF CHILLER
- MANUAL ROTATION OF CHILLER SEQUENCE
- CURRENT SYSTEM CHILLED WATER DEMAND IN TONS CALCULATED FROM SYSTEM CHILLED WATER FLOW AND TEMP DIFFERENCE BETWEEN SYSTEM SUPPLY AND RETURN
- AVERAGE CHILLER %RLA
- CHILLER ROTATION SEQUENCE

2. SCREEN THAT ALLOWS EDITING OF THE FOLLOWING DATA (TO BE PERFORMED WITHOUT ENTERING PROGRAM CODE EDITOR):

- SUPPLY WATER SETPOINT
- SYSTEM SOFT LOADING PARAMETERS
- CHILLER ADDITION PARAMETERS
- CHILLER SUBTRACTION PARAMETERS
- AUTO ROTATION PARAMETERS
- ALARM HANDLING SETUP
- SECURITY SETUP

3. INDIVIDUAL CHILLER GRAPHIC(S) TO INCLUDE ALL DATA LISTED ON THE SUPPLEMENTARY CHILLER SYSTEM POINT LIST, INCLUDING:

- CHILLER NAME
- CHILLER OPERATING MODE
- CHILLED WATER SETPOINT
- CHILLER RLA %
- ENTERING CHILLED WATER TEMPERATURE
- LEAVING CHILLED WATER TEMPERATURE
- EVAPORATOR FLOW STATUS



CHILLED WATER PLANT SYSTEM DIAGRAM

MOLDING MACHINE PANEL COOLER CHILLED WATER SYSTEM DIAGRAM

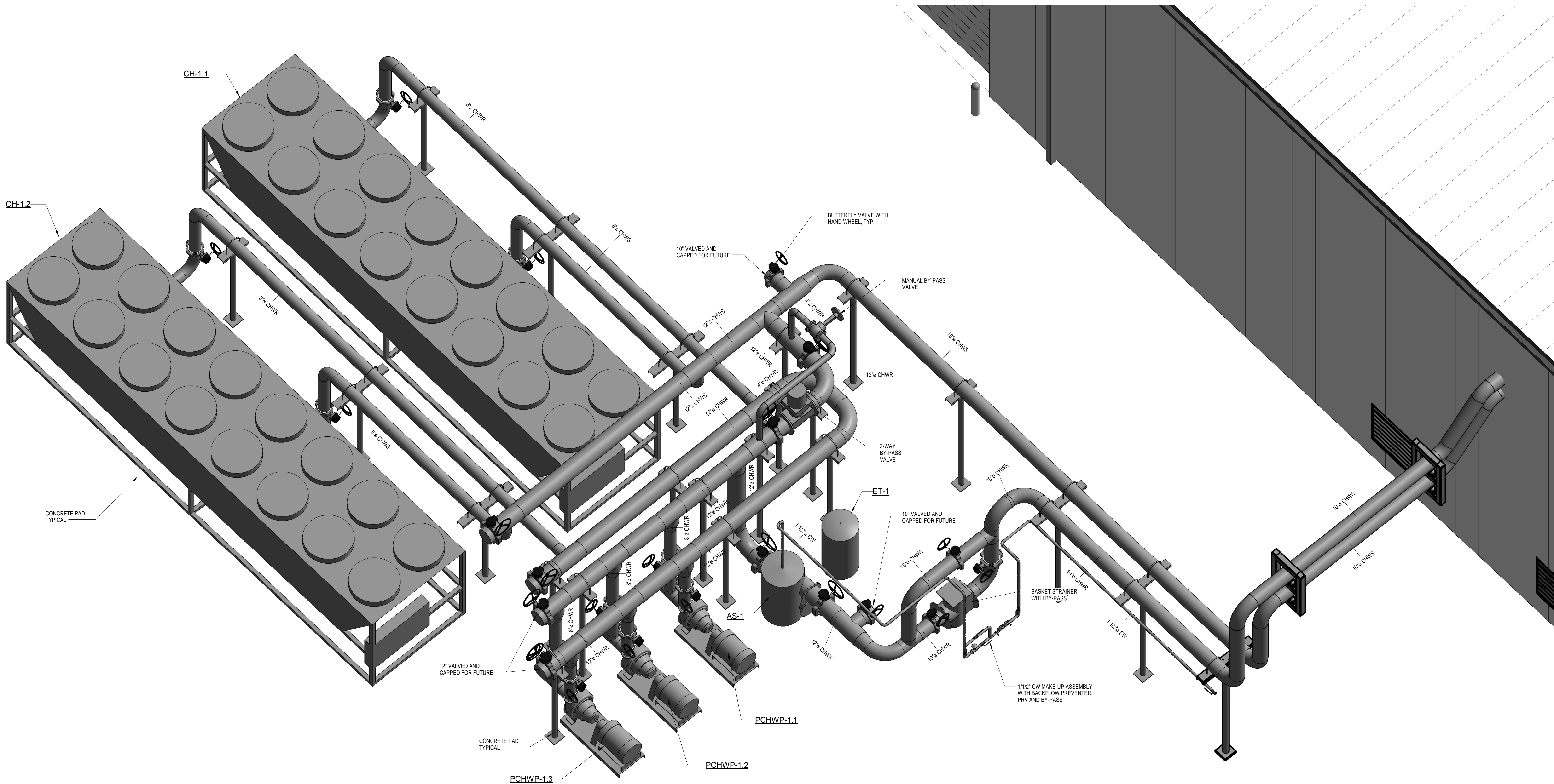
REVISION



Bagasse Processing Facility
Belle Glade, Florida
TELLUS PRODUCTS, LLC

ARCH/ENGR OF RECORD
JAMES LAING CONLEY, JR.
FL PE 45180
DESIGNED BY
BOLINE
DRAWN BY
BOLINE
CHECKED BY
CONLEY
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
CHILLER YARD
ISOMETRIC

DRAWING NO.
MM-901



1 CHILLER YARD ISOMETRIC

NTS
NOTE:
REFER TO CONTROLS DRAWINGS AND DETAILS FOR ADDITIONAL INFORMATION
ON VALVES, FITTINGS AND ACCESSORIES.

ELECTRICAL SYMBOLS LEGEND

(APPLIES TO ALL ELECTRICAL SHEETS)

GENERAL

26.	SPECIFIC NOTE NUMBER
SECURITY 103	ROOM NAME AND NUMBER
	INDIVIDUAL SECTION, ELEVATION OR DETAIL REFERENCE
	DRAWING NUMBER WHERE SECTION, ELEVATION OR DETAIL IS SHOWN OR REFERENCED TO
POWER SYSTEMS	
	UNDERGROUND ELECTRICAL.
	OVERHEAD ELECTRICAL.
	PANELBOARD, 480Y/277V
	PANELBOARD, 208Y/120V
	FUSED DISCONNECT. FUSED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. FURNISHED BY DIVISION 23. INSTALLED BY DIVISION 26. FOR ALL MECHANICAL EQUIPMENT. PROVIDED BY DIVISION 26 FOR ALL OTHER EQUIPMENT.
	BUSWAY PLUG-IN UNIT.
	NON-FUSED DISCONNECT SWITCH.
	COMBINATION MOTOR STARTER DISCONNECT SWITCH.
	MOTOR RATED SWITCH. 20A, 2P, 120/277V.
	JUNCTION BOX, CEILING MOUNTED. SIZED PER NEC.
	JUNCTION BOX, WALL MOUNTED. SIZED PER NEC.
	DUPLEX RECEPTACLE; NEMA 5-20R, 125VAC. GFCI INDICATES GROUND FAULT CIRCUIT INTERRUPTER.
	DUPLEX RECEPTACLE; NEMA 5-20R, 125VAC. MOUNTED ABOVE COUNTERS OR BACKSPLASH AS INDICATED ON THE DEVICE MOUNTING HEIGHT SCHEDULE ON THIS SHEET. COORDINATE WITH ARCHITECTURAL ELEVATION DRAWINGS. GFCI INDICATES GROUND FAULT CIRCUIT INTERRUPTER.
	QUADRUPLX RECEPTACLE; NEMA 5-20R, 125VAC.
	QUADRUPLX RECEPTACLE; NEMA 5-20R, 125VAC. MOUNTED ABOVE COUNTERS OR BACKSPLASH AS INDICATED ON THE DEVICE MOUNTING HEIGHT SCHEDULE ON THIS SHEET. COORDINATE WITH ARCHITECTURAL ELEVATION DRAWINGS.
	RECEPTACLE SUBSCRIPTS: GFCI GROUND FAULT CIRCUIT INTERRUPTER WP GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF IN USE USE TYPE COVER.
	SPECIAL PURPOSE OUTLET. TYPE INDICATED ON LAYOUT
	DUPLEX RECEPTACLE; NEMA 5-20R, 125VAC. MOUNTED WITHIN BENCH. FIELD COORDINATE CONDUIT STUB-UP WITH BENCH VENDOR.
	P = NUMBER OF POLES, SIZE = DISCONNECT AMP RATING. * = FUSED PER MANUFACTURER'S NAMEPLATE RATING. NF= NON-FUSED.
	SOLAR PANEL

LIGHTING

	UPPER CASE LETTER INDICATES FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE AND DRAWINGS. LOWER CASE LETTER INDICATES SWITCH LEG.
	2' x 4' LIGHTING FIXTURE.
	2' x 2' LIGHTING FIXTURE.
	1' x 4' LIGHTING FIXTURE.
	4' STRIP LIGHTING FIXTURE.
	RECESSED OR PENDANT MOUNTED LIGHTING FIXTURE.
	EXTERIOR WALL MOUNTED LIGHTING FIXTURE. SEE PLANS FOR MOUNTING HEIGHTS.
	EMERGENCY LED TWIN LAMP WITH EMERGENCY BATTERY BACK-UP.
	SINGLE SIDED EMERGENCY EXIT SIGN.
	DOUBLE SIDED EMERGENCY EXIT SIGN.
	SINGLE POLE LINE SWITCH. 20A, 120/277V. "N" DENOTES NUMBER OF WAYS.
	LOW VOLTAGE SWITCH
	LOW VOLTAGE WALL MOUNTED OCCUPANCY SENSOR WITH MANUAL OVERRIDE SWITCH
	DIGITAL TIMER SWITCH WITH MANUAL OVERRIDE
	CHELSEA GR2400 LCAD 6 BUTTON SWITCH
	OCCUPANCY SENSOR. COMBINATION OCCUPANCY/DAYLIGHT SENSOR IN DAYLIGHT ZONES.
	LIGHTING CONTROL CALL OUT. REFER TO LIGHTING CONTROL SCHEDULE.

COMMUNICATIONS/SECURITY

	ALL COMMUNICATIONS/SECURITY DEVICES AND WIRING METHODS SHOWN ON COMMUNICATION DRAWINGS ARE TO BE PROVIDED BY OWNER.
	UNDERGROUND COMMUNICATIONS.
	DATAPHONE OUTLET BACK BOX
	WIRELESS ACCESS POINT BACK BOX
	CARD READER DOUBLE-GANG BACK BOX

ONE-LINE DIAGRAMS

	CONDUCTOR SIZE - SEE CONDUCTOR SCHEDULE
	CURRENT TRANSFORMER
	DRY-TYPE TRANSFORMER. DELTA/WYE-GROUND
	600 AMP FRAME CIRCUIT BREAKER WITH 400 AMP TRIP LONG TIME SETTING. L: LONG TIME SETTING S: SHORT TIME SETTING I: INSTANTANEOUS SETTING G: GROUND FAULT SETTING X: INDICATES CIRCUIT BREAKER FRAME
	DRAW OUT TYPE CIRCUIT BREAKER
	SWITCH
	SURGE PROTECTION DEVICE
	POWER TRANSFORMER
	FUSE
	KEY INTERLOCK
	MOTOR. NUMBER INDICATES NAMEPLATE HORSEPOWER RATING
	DIGITAL POWER METER
	SERVICE ENTRANCE RATED COMBINATION POWER TRANSFER SWITCH AND CONTROLLER
	MULTIFUNCTION MOTOR PROTECTIVE RELAY
	CONTROL STATION
	VARIABLE FREQUENCY DRIVE
	EMERGENCY STANDBY GENERATOR. NON-SEPARATELY DERIVED

GROUNDING & LIGHTNING PROTECTION

	BURIED GROUND BARE COPPER CONDUCTOR.
	EXPOSED LIGHTNING PROTECTION CONDUCTOR. CLASS 1 ALUMINUM.
	CONDUCTOR ELEVATION CHANGE FROM LOW TO HIGH LEVEL.
	20' COPPER GROUND ROD.
	GROUND TEST WELL.
	AIR TERMINAL.
	DOWN CONDUCTOR, THROUGH ROOF PENETRATION TO GROUND ROD OR GROUND COUNTERPOISE.
	GROUND BAR ASSEMBLY. "TGB" DENOTES TELECOMMUNICATIONS GROUND BAR.
	GROUND CONDUCTOR BONDING CONNECTION.

FIRE ALARM

	ADDRESSABLE FIRE ALARM CONTROL PANEL
	FIRE ALARM REMOTE POWER SUPPLY
	ADDRESSABLE FIRE ALARM ANNUNCIATOR PANEL
	ADDRESSABLE MANUAL PULL STATION
	ADDRESSABLE HORN/STROBE NOTIFICATION APPLIANCE. DENOTATIONS: "WP" WEATHER PROOF, "C" CEILING MOUNTED, "cd" CANDELA RATING
	VALVE TAMPER SWITCH
	WATER FLOW SWITCH
	FIRE ALARM STROBE WALL MOUNTED; "cd" DENOTES CANDELA RATING
	FIRE ALARM STROBE CEILING MOUNTED; "cd" DENOTES CANDELA RATING
	ADDRESSABLE PHOTO-ELECTRIC TYPE SMOKE DETECTOR.
	ADDRESSABLE DUCT SMOKE DETECTOR. "S" INDICATES SUPPLY AND "R" INDICATES RETURN.
	ADDRESSABLE FIRE ALARM RELAY
	ADDRESSABLE MONITOR MODULE
	DUCT DETECTOR REMOTE TEST STATION
	SPRINKLER SYSTEM ALARM BELL

GENERAL NOTES:

- ELECTRICAL SERVICE FOR MECHANICAL AND OTHER EQUIPMENT IS BASED ON EQUIPMENT DESIGN DATA. THE VALUES MAY DIFFER DEPENDING UPON THE ACTUAL EQUIPMENT TO BE FURNISHED. COORDINATE RATINGS WITH OTHER TRADES PRIOR TO ORDERING ELECTRICAL EQUIPMENT. ANY MODIFICATION TO THE ELECTRICAL INSTALLATION BASED UPON ACTUAL EQUIPMENT SELECTION, SHALL RESULT IN NO ADDITIONAL COST TO THE CONTRACT.
- CONTRACTOR SHALL THOROUGHLY REVIEW ALL DESIGN DOCUMENTS TO ASSURE THAT ELECTRICAL SERVICE FOR ALL ITEMS AND/OR EQUIPMENT REQUIRING ELECTRICAL SERVICE IS INCLUDED. ANY ITEM AND/OR EQUIPMENT NOT PROVIDED WITH ELECTRICAL SERVICE, WHICH REQUIRES ELECTRICAL SERVICE, SHALL BE IMMEDIATELY BROUGHT TO THE OWNER'S ATTENTION.
- MECHANICAL AND ELECTRICAL EQUIPMENT HAVE BEEN LOCATED AND ARRANGED TO MINIMIZE THE INTERFERENCES OF EQUIPMENT AND STRUCTURE. CONTRACTOR SHALL THOROUGHLY BECOME FAMILIAR WITH THE WORK TO BE PERFORMED BY ALL TRADES AND THE PHYSICAL CHARACTERISTICS OF THE STRUCTURE IN ORDER TO SCHEDULE AND INSTALL EQUIPMENT AND TO MINIMIZE POSSIBLE INTERFERENCE. FAILURE TO PROPERLY COMMUNICATE AND SCHEDULE WORK WITH OTHER TRADES RESULTING IN ADDITIONAL WORK AND MATERIAL, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- MOTOR STARTERS AND DISCONNECT SWITCHES ARE FURNISHED BY DIVISION 23 AND SHALL BE INSTALLED AND WIRED BY DIVISION 26 UNLESS OTHERWISE NOTED ON LAYOUTS.
- ALL DISCONNECTING MEANS (SWITCHES) FEEDING FAN TERMINAL BOXES SHALL BE MOTOR RATED SWITCHES. MOUNT ALL DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT WITHIN SIX (6) FEET OF EQUIPMENT AS REQUIRED BY APPLICABLE CODES AND STANDARDS. LOCATIONS FOR DISCONNECT SWITCHES SHOWN ON PLANS ARE FOR GENERAL INFORMATION ONLY.
- REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR CONDUIT/CONDUCTORS, DISCONNECTS, AND MISCELLANEOUS EQUIPMENT REQUIRED FOR ALL MECHANICAL EQUIPMENT. FINAL ELECTRICAL INSTALLATIONS SHALL BE IN ACCORDANCE WITH APPROVED MECHANICAL SHOP DRAWINGS.
- EQUIPMENT INSTALLED WITHIN CONCEALED SPACES SHALL HAVE REASONABLE AND CODE COMPLIANT ACCESS PANELS PROVIDED NEARBY FOR INSPECTION, TESTING AND SERVICE CONSIDERATIONS.
- VERIFY CEILING TYPES AND INSTALLATION REQUIREMENTS PRIOR TO ORDERING LIGHT FIXTURES.
- COORDINATE THE HEIGHTS OF WALL MOUNTED LIGHTING FIXTURES TO CLEAR MIRRORS, CABINETS AND BUILT-INS.
- PAINT ALL EXPOSED CONDUIT TO MATCH ADJACENT SURFACE IN FINISHED SPACES.
- COORDINATE THE LOCATION OF ALL DEVICES AND BOXES WITH WINDOWS, MILLWORK, BUILT-INS, AND CABINETS PRIOR TO ANY INSTALLATION OF CONDUITS.
- RECEPTACLES MOUNTED AT COUNTER HEIGHT SHALL BE LOCATED ABOVE BACK SPLASH WHERE POSSIBLE.
- PROVIDE DEDICATED 120 VOLT, 20 AMP CIRCUIT TO FIRE ALARM PANELS AND REMOTE PANELS. CONNECT TO 20 AMP, 1 POLE CIRCUIT BREAKER IN LOCAL 120 VOLT PANEL. LABEL CIRCUIT BREAKER ACCORDINGLY. PROVIDE LOCKING DEVICE ON BREAKER.
- PROVIDE 120 VOLT, 20 AMP CIRCUIT TO SMOKE DAMPERS. PROVIDE LOCKING DEVICE ON BREAKER. COORDINATE LOCATION AND ELECTRICAL REQUIREMENTS WITH FIRE PROTECTION ENGINEER AND DAMPER INSTALLER.
- ALL ELECTRIC WATER COOLER (EWC) RECEPTACLES SHALL BE INSTALLED BEHIND THE COOLER'S ENCLOSURE. CIRCUIT BREAKER SHALL BE PROVIDED WITH A GFCI DEVICE.
- FOR UNDERGROUND CONDUITS 1-1/2" AND LARGER, PROVIDE BITUMINOUS COATED GALVANIZED RIGID METAL SWEEPS AND BENDS. PROVIDE MASTIC AROUND ALL THREADS AFTER CONDUIT ASSEMBLY.
- EXPOSED CONDUIT BUNDLES THROUGH FLOORS, FEEDING PANELS, ETC SHALL HAVE A 4" HIGH CONCRETE "HOUSEKEEPING" PAD, WITH 1" CHAMFERED EDGE INSTALLED WITH 3" COVER AROUND OUTSIDE OF CONDUITS.
- WIRE AND CONDUIT SYSTEMS ARE SHOWN DIAGRAMMATICALLY AND SHALL BE ROUTED TO SUIT FIELD CONDITIONS AND EQUIPMENT LOCATIONS.
- ALL LIGHTING FIXTURES AND GENERAL PURPOSE RECEPTACLES IN MECHANICAL, ELECTRICAL AND EQUIPMENT ROOMS SHALL BE FIELD LOCATED TO SUIT EQUIPMENT CONDITIONS AND EQUIPMENT LOCATIONS.
- CONTRACTOR SHALL FURNISH DESIGN CALCULATIONS FOR LIGHT POLES AND FIXTURES AS A COMPLETE ASSEMBLY, SIGNED AND SEALED BY QUALIFIED FLORIDA LICENSED PROFESSIONAL ENGINEER (PE). DESIGN SHALL BE BASED ON ASCE 7-10 WITH A WIND SPEED OF 155MPH (OCCUPANCY CATEGORY I). EXPOSED CATEGORY C). CALCULATIONS SHALL INCLUDE EPA OF POLE WITH CORRESPONDING EPA FOR MOUNTING ASSEMBLY AND ACTUAL LIGHT FIXTURE TO BE MOUNTED AS PROPOSED.
- ALL WORK SHALL BE IN COMPLIANCE WITH CURRENT NEC, STATE CODES AND REGULATIONS.
- WIRE AMPACITY SIZE RATED FOR 100A CIRCUITS AND BELOW SHALL BE BASED ON NEC TABLE 310.15(B)(16), 60°C COLUMN FOR AMPACITY. WIRE AMPACITY SIZE FOR RATED OVER 100A SHALL BE BASED ON NEC TABLE 310.15(B)(16), 75°C COLUMN FOR AMPACITY.
- ADJUST WIRE AND CONDUIT SIZES FOR VOLTAGE DROP OF 3% ON ALL BRANCH CIRCUITING OVER 100'.
- LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE INSTALLED WITHIN ENVIRONMENTAL AIR SPACES PER NEC 300.22(C).
- PROVIDE A SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT IN COMPLIANCE WITH NEC 210.4 (B). WHERE SEPARATE NEUTRALS ARE NOT PROVIDED FOR MULTIPLE CIRCUITS PRE-WIRED MODULAR FURNITURE, PROVIDE A MULTI-POLE CIRCUIT BREAKER FOR CIRCUITS ORIGINATING FROM THE SAME PANEL TO SIMULTANEOUSLY INTERRUPT LOADS SHARING A COMMON NEUTRAL CONDUCTOR.
- MAIN BREAKERS AND/OR MAIN LUG ONLY LUGS SHALL BE BOLT-ON TYPE UNLESS OTHERWISE NOTED.
- FINAL POWER CONNECTIONS BETWEEN PROCESS EQUIPMENT AND DISCONNECT SWITCHES AND VARIABLE FREQUENCY DRIVES SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.

DESIGN APPROACH

ELECTRICAL EQUIPMENT AND CONDUITS IN THE MOLDING AREA WILL NOT BE CLASSIFIED FOR CLASS II DIVISION 1 LOCATIONS BASED ON THE RECOMMENDED HOUSE KEEPING SCHEDULE SHOWN ON THE HAZARDOUS CLASSIFICATION STUDY. HOWEVER, IN CASE THE HOUSE KEEPING SCHEDULE WILL NOT BE MAINTAINED, CONTRACTOR SHALL STRICTLY ADHERE TO ALL APPLICABLE CODE PROVISIONS THAT PERTAIN TO THE CLASSIFICATION OF MATERIAL, EQUIPMENT, DEVICES, WIRING, CONDUIT, AND SEALING AT THIS LOCATION.

DEVICE MOUNTING HEIGHTS

SWITCHES	48" AFF TO CENTER LINE OF BOX, UON
RECEPTACLES	18" AFF TO CENTER LINE, UON
COUNTER HEIGHT RECEPTACLES	48" AFF TO CENTER LINE OR 2' ABOVE SPLASHBOARD, UON
TELEPHONE/DATA OUTLET	18" AFF TO CENTER LINE, UON
WALL MOUNTED TELEPHONE	46" AFF TO CENTER LINE OF BOX, UON
FIRE ALARM PULL STATIONS	46" TO CENTER LINE OF BOX
FIRE ALARM SPEAKER/STROBES	80" TO BOTTOM OF STROBE
EXTERIOR WALL RECEPTACLES	24" AFG TO BOTTOM, UON

NOTE:
ALL HEIGHTS ARE BASED ON NON-OBSTRUCTED REACH. ADJUST MOUNTING HEIGHTS IF/AS REQUIRED FOR COMPLIANCE WITH ANSI 117.1.

PANELBOARD IDENTIFICATION

BUILDING NAME MB-MOLDING BUILDING OB-OFFICE BUILDING PB-PULPING BUILDING	MB F P 1
PANEL LOAD TYPE F - FACILITY P - PROCESS	
SERVICE TYPE L- LIGHTING M - POWER 208Y/120V P - POWER 480Y/277V R - RECEPTACLE	
NUMBER SUCCESSION 1= 1ST 2= 2ND 3= 3RD	

ABBREVIATIONS AND ACRONYMS

(APPLIES TO ALL ELECTRICAL SHEETS)

A	AMPERES	DP	DISTRIBUTION PANEL	GPU	GROUND POWER UNIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	TC	TIME CLOCK
A/C	AIR CONDITIONING	DPC	DUCT DETECTOR	HID	HIGH INTENSITY DISCHARGE	NIC	NOT IN CONTRACT	TGB	TELECOMMUNICATIONS GROUND BAR
AC	ALTERNATING CURRENT	DT	DRAWING	HL	HANDING LIGHT	NL	NIGHT LIGHT	TS	TAMPER SWITCH
AF	AMP FRAME	DWG	DRAWING	HP	HORSE POWER	NO	NUMBER	TTC	TELEPHONE TERMINAL CABINET
AFF	ABOVE FINISHED FLOOR	EC	ELECTRICAL CONTRACTOR	HSE	HOUSE	N.O.	NORMALLY OPEN	TYP	TYPICAL
AFG	ABOVE FINISHED GRADE	ECB	ENCLOSED CIRCUIT BREAKER	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	NPT	NATIONAL PIPE THREAD	TSP	TWISTED SHIELDED PAIR
AFS	ABOVE FINISHED SLAB	EF	EXHAUST FAN	IC	INTERCOM	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY	TV	TELEVISION
AGF	ABOVE GROUND FLOOR	EL	ELEVATION	ICJB	INTERCOM JUNCTION BOX	NTS	NOT TO SCALE	TW	TESTWELL
AHJ	AUTHORITY HAVING JURISDICTION	ELEC	ELECTRICAL	INV	INVERTER	OB	OFFICE BUILDING	UC	UNDER COUNTER
AHU	AIR HANDLING UNIT	ELI	EMERGENCY LIGHTING INTERFACE	INTLK	INTERLOCK	OC	ON CENTER	UG	UNDERGROUND
APPROX	APPROXIMATELY	ELV	ELEVATOR	J	JUNCTION	UGDB	UNDERGROUND DUCT BANK	UH	UNIT HEATER
AT	ADJUSTABLE TRIP	EM	EMERGENCY	KAIC	(THOUSAND) AMPERE INTERRUPTING CAPACITY	UL	OVER LOAD	UON	UNLESS OTHERWISE NOTED
ATR	ALL THREAD ROD	EMS	ENERGY MANAGEMENT SYSTEM	kcmil	THOUSANDS OF CIRCULAR MILS	P	POLE	UPS	UNINTERRUPTIBLE POWER SUPPLY
AV	AUDIOVISUAL	EMT	ELECTRICAL METALLIC TUBING	KK	KIRK KEY INTERLOCK	PB	PUSH BUTTON	V	VARIABLE AIR VOLUME
AWG	AMERICAN WIRE GAUGE	EP	EXPLOSION-PROOF (RATED FOR HAZARDOUS LOCATION)	KVA	KILOVOLT-AMPERES	PC	PHOTOCCELL	VAV	VOLTS
BC	BARE COPPER	EPA	EFFECTIVE PROJECTED AREA	KW	KILOWATT	PH	POST INDICATOR VALVE	V	VOLTAGE DROP
BD	BYPASS DAMPERS	EPO	EMERGENCY POWER OFF	LB	LOAD BANK	PLCS	PLACES	VDC	VOLTS, DIRECT CURRENT
BILD	BASIC INSULATION LEVEL	EUP	ELECTRICAL UNDERGROUND PRIMARY	LC	LIGHTING CONTACTOR	PM	PAD MOUNTED	VERT	VERTICAL
BOM	BILL OF MATERIALS	EUS	ELECTRICAL UNDERGROUND SECONDARY	LCU	LOCAL CONTROL UNIT	PNL	PANEL	VFD	VARIABLE FREQUENCY DRIVE
BOT	BOTTOM OF TRAY	EWC	ELECTRIC WATER COOLER	LCP	LIGHTING CONTROL PANEL	POC	POINT OF CONNECTION	W	WIRE
BOF	BOTTOM OF FIXTURE	EWV	ELECTRIC WATER HEATER	LED	LIGHT EMITTING DIODE	POE	POWER OVER ETHERNET	WAP	WIRELESS ACCESS POINT
BTM	BOTTOM	EXT	EXTERIOR	LGT	LIGHTING	PP	POWER POLE	WH	WALL HEATER
C	CONDUIT	EXIST	EXISTING	LSG	LONG TIME, SHORT TIME	PS	PRESSURE SWITCH	WSR	WITHSTAND RATING
CCA	COLD CRANKING AMPS	FA	FIRE ALARM	MB	MAIN BONDING JUMPER	PTZ	PAN-TILT-ZOOM	WP	WEATHERPROOF
CCC	COMMUNICATIONS CONTROL CONSOLE	FACP	FIRE ALARM CONTROL PANEL	MBJ	MAIN BONDING JUMPER	PVC	POLYVINYL CHLORIDE	WW	WIREWAY
cd	CANDELA	FATS	FIRE ALARM TERMINAL CABINET	MCA	MINIMUM CIRCUIT AMPS	REC	RECEPTACLE	FXMR	TRANSFORMER
CH	COUNTER HEIGHT	FBO	FURNISHED BY OTHERS	MCB	MAIN CIRCUIT BREAKER (ELECTRONIC)	REFR	REFRIGERATOR	Y	WYE (CONNECTED)
CLF	CURRENT LIMITING FUSE	FC	FLOOR BOX	MCU	MASTER CONTROL UNIT	RESTR	RESTROOM	ZD	ZONE DAMPER
C-MAKER	COFFEE MAKER	MDF	MAIN DISTRIBUTION FRAME	MDP	MAIN DISTRIBUTION PANEL	RGS	RIGID GALVANIZED STEEL		
CNTR	COUNTER	FCU	FAN COIL UNIT	MECH	MECHANICAL	RM	ROOM		
COMM	COMMUNICATION	FLA	FULL LOAD AMPS	MGB	MAIN GROUNDING BAR	RTU	ROOF TOP UNIT		
CONC	CONCRETE	FP&L	FLORIDA POWER & LIGHT	MH	MANHOLE	SCP	SECURITY CONTROL PANEL		
CORR	CORRIDOR	FS	FLOW SWITCH	MM	MINIMUM	SCA	SHORT CIRCUIT AMPS		
CONVCT	CONVECTION	G	GROUND	MN	MAIN LUGS ONLY	SEC	SECURITY		
CP	CIRCULATING PUMP	GAL	GALLONS	MOC	MAX OVERCURRENT PROTECTION	SCHED	SCHEDULE		
CT	CURRENT TRANSFORMER	GAP	GENERATOR ANNUNCIATOR PANEL	MR	MOTOR RATED	SN	SOLID NEUTRAL		
CTRL	CONTROL	GB	GROUND BAR	MS	MOTOR STARTER	SPD	SURGE PROTECTION DEVICE		
Cu	COPPER	GD	GARAGE DISPOSAL	MTD	MOUNTED	SPEC	SPECIFICATION		
CU	CONDENSING UNIT	G.E	GENERAL ELECTRICAL	N	NEUTRAL	SS	STAINLESS STEEL		
CW	COOL WHITE	GEN	GENERATOR	NA	NOT APPLICABLE	SQ	SQUARE		
DB	DUCT BANK	GF	GROUND FAULT	N.C.	NORMALLY CLOSED	ST	SHUNT TRIP		
DDC	DIRECT DIGITAL CONTROL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NEC	NATIONAL ELECTRICAL CODE	SWGR	SWITCHGEAR		
DH	DOOR HOLDER	GPH	GALLONS PER HOUR	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	SYB	SYMBOL		
DIA	DIAMETER	GND	GROUND	NF	NON-FUSED	SYM	SYMMETRICAL		
DISC	DISCONNECT	GRC	GALVANIZED RIGID CONDUIT			TBD	TO BE DETERMINED		
DMW	DIMMING MICRO WATT PANEL	GWH	GAS WATER HEATER			TEL	TELEPHONE		
DOAU	DEDICATED OUTSIDE AIR UNIT								

GENERAL NOTES:

1. LIGHTING FIXTURES, AS SPECIFIED HEREIN, ARE REPRESENTATIVE OF A MINIMUM STANDARD OF QUALITY. THE USE OF AN APPROVED EQUAL PRODUCT SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR DEFICIENCIES IN QUALITY, LIGHT OUTPUT, WARRANTY AND OVERALL PERFORMANCE. IF REQUIRED ILLUMINANCE LEVELS ARE NOT MET, CONTRACTOR SHALL PROVIDE ADDITIONAL OR REPLACEMENT FIXTURES AT THEIR EXPENSE.
2. CONTRACTOR SHALL CLOSELY COORDINATE ARCHITECTURAL REFLECTED CEILING PLANS AND CEILING TYPE SPECIFICATIONS WITH RESPECTIVE LIGHTING FIXTURES FOR EACH ROOM PRIOR TO ORDERING TO ASSURE PROPER INSTALLATION. CONTRACTORS PERTAINING TO THE INSTALLATION REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD.
3. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND ACCESSORIES WITH FIXTURES AS REQUIRED FOR A COMPLETE INSTALLATION.
4. CONTRACTOR PROVIDE LAMPS AS SPECIFIED WITH ALL LIGHTING FIXTURES.

LIGHTING CONTROL GENERAL NOTES:

1. THE LIGHTING CONTROL SYSTEM IS DESIGNED TO COMPLY WITH THE FBC ENERGY CONSERVATION 2014 LIGHTING CONTROL DIRECTIVES UNDER SECTION C405.2.
2. THE LIGHTING CONTROL SYSTEM FOR THE MOLDING BUILDING WILL CONSIST OF LOW VOLTAGE SWITCHES, POWER PACKS, OCCUPANCY/VACUANCY SENSORS, DAY LIGHT SENSORS, AND INDOOR/OUTDOOR PHOTO-CELLS. CONTRACTOR SHALL ENGAGE A QUALIFIED TESTING AGENCY TO EVALUATE LIGHTING CONTROL DEVICES AND PERFORM FUNCTIONAL TESTING OF THE LIGHTING CONTROL SYSTEM IN COMPLIANCE WITH FBC ENERGY CONSERVATION 2014 SECTION C408.3.1 AND PROJECT SPECIFICATIONS SECTION 28 09 23.
3. BASIS OF DESIGN FOR THE LIGHTING CONTROL DEVICES IS NIGHT, AND FOR THE LIGHTING CONTROL PANELS LIGHTING CONTROL AND DESIGN (LC&D). THE LIGHTING CONTROL DEVICES IN THE MOLDING AREA SHALL BE NETWORKED TO THE CENTRALIZED LIGHTING CONTROL PANEL (LCP), WHILE THE REST OF THE DEVICES IN OTHER AREAS ARE DESIGNED FOR STANDALONE OPERATION.
4. CONTRACTOR SHALL PROVIDE A LIGHTING CONTROL SOFTWARE WITH A WEB INTERFACE TO DEMONSTRATE LIGHT AND DEVICE STATUS, LIGHTING LOADS, AND ENERGY SAVINGS. LIGHTING CONTROL SOFTWARE SHALL BE COMPATIBLE WITH THE POWER METER INSTALLED ON THE LIGHTING PANEL FOR ACCURATE READING OF BUILDING LIGHTING LOADS.
5. LIGHTING FIXTURES IN THE MOLDING AREA WILL BE CONTROLLED FROM THE CENTRALIZED LIGHTING CONTROL PANEL (LCP) THROUGH AN ESTABLISHED TIME OF DAY SCHEDULE. ADDITIONALLY, DAYLIGHT CONTROLS ARE PROVIDED IN THIS AREA TO CONTINUOUSLY DIM THE LIGHTING FIXTURES IN RESPONSE TO DAYLIGHT.
6. LIGHTING CONTROL PANEL SHALL BE PRE-WIRED, PRE-ASSEMBLED, PREPROGRAMMED AND UL LISTED. PANELS SHALL BE PROVIDED WITH DUAL VOLTAGE POWER SUPPLY AND 16 GAGE BARRIERS TO SEPARATE LINE VOLTAGE FROM LOW VOLTAGE.
7. EXTERIOR LIGHTING FIXTURES WILL BE CONTROLLED VIA PHOTO CELL LOCATED AT THE ROOF, MOUNTED TOWARDS THE NORTH DIRECTION, AND CONNECTED TO THE CENTRALIZED LIGHTING CONTROL PANEL. SITE LIGHTING POLES WILL BE CONTROLLED VIA TIME CLOCK LOCATED INSIDE LIGHTING CONTROL PANEL.
8. ELECTRICAL AND MECHANICAL ROOMS WILL BE CONTROLLED BY DIGITAL TIMER SWITCHES WITH MANUAL OVERRIDE IN COMPLIANCE WITH NEC ARTICLE 110.28(D).
9. IN SPACES WITH MORE THAN ONE LUMINAIRE, WHERE OCCUPANCY SENSING IS NOT PROVIDED, AND WHERE LIGHT DENSITY LEVELS EXCEED 0.6W/SF, 50% LIGHTING REDUCTION IN EACH ROOM, AS REQUIRED, HAS BEEN ACHIEVED THROUGH DIMMING OR THROUGH PROVIDING ADDITIONAL SWITCHING IN COMPLIANCE WITH FBC ENERGY CONSERVATION 2014 SECTION C405.2.1.2.
10. THE LIGHTING FIXTURES WITHIN AREAS DESIGNATED AS DAY LIGHT ZONES UNDER THE SKYLIGHTS SHALL BE CONTROLLED INDEPENDENT OF OTHER LIGHTING FIXTURES WITHIN THE SAME AREA IN COMPLIANCE WITH FBC ENERGY CONSERVATION 2014 SECTION C405.2.2.3.2. THIS WILL BE ACHIEVED THROUGH LC&D GR2400 INDOOR PHOTO SENSORS ADEQUATELY DISTRIBUTED BY MANUFACTURER ALONG THE PLANT AREA.
11. LIGHTING CONTROL SYSTEM SHALL BE IMPLEMENTED PER THE LIGHTING CONTROL MATRIX ON THIS SHEET.
12. THE BUILDING COMPLIES WITH THE EFFICIENT LIGHTING SYSTEM DESIGN WHERE THE WHOLE BUILDING LIGHTING POWER DENSITY (WSP) WAS DETERMINED THROUGH COMPLYING WITH THE REDUCED WHOLE BUILDING INTERIOR LIGHTING POWER ALLOWANCE IN TABLE C408.3 OF THE FBC ENERGY CONSERVATION 2014. COMPLIANCE IS DEMONSTRATED THROUGH THE TABULATED CALCULATION ON THIS SHEET.
13. THE BUILDING EXTERIOR IS CLASSIFIED AS ZONE 3 PER TABLE C405.6.2(2) OF THE FBC ENERGY CONSERVATION 2014. COMPLIANCE WITH EXTERIOR POWER ALLOWANCES IS DEMONSTRATED THROUGH THE TABULATED CALCULATION ON THIS SHEET.
14. EGRESS PATHS WILL BE ILLUMINATED THROUGH EMERGENCY LED TWIN LAMPS WHICH ARE ADEQUATELY DISTRIBUTED ALONG FINISHED AREAS AND THE PLANT AREA, AND ARE DESIGNED TO TURN "ON" UPON LOSS OF NORMAL POWER. LIGHTING FIXTURES AT DOORS, EXIT DISCHARGES, AND STAIRWAYS WILL BE EQUIPPED WITH BATTERY PACKS AND WILL BE DESIGNATED AS NIGHT LIGHTS (NL). THESE FIXTURES SHALL BE CONNECTED AHEAD OF ALL SWITCHES, DIMMERS, OCCUPANCY SENSORS, AND ALL OTHER CONTROL DEVICES AND SHALL REMAIN "ON" AT ALL TIMES.
15. REFER TO SHEET ME-003 FOR LIGHTING CONTROL DETAILS.

LIGHTING FIXTURE SCHEDULE							
FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS	DESCRIPTION	MOUNTING	VOLTS	REMARKS
OL1	LITHONIA	2TL2-20L-FW-A12-EZ1-LP840	2,092 LUMENS 4000K LED, 18 WATTS	LED 2x2 LENSED TROFFER	RECESSED	277 V	
OL1A	LITHONIA	2TL2-40L-FW-A12-EZ1-LP840	3,921 LUMENS 4000K LED, 35 WATTS	LED 2x2 LENSED TROFFER	RECESSED	277 V	
OL2	LITHONIA	ZL1N-L46-5000LM-FST-MVOLT-40K-80CRI-WH-ZACVH	5,169 LUMENS 4000K, 38 WATTS	LED STRIP WITH FROSTED LENS		277 V	
OL2A	LITHONIA	ZL1N-L46-5000LM-FST-MVOLT-40K-80CRI-WH	5,169 LUMENS 4000K, 38 WATTS	LED STRIP WITH FROSTED LENS	SURFACE	277 V	
OL3	GOTHAM LIGHTING	EVO-40-15-6AR-MW/D-LSS-MVOLT-EZ1	1,572 LUMENS 4000K, 18.5 WATTS	LED 6" OPEN DOWN LIGHT	RECESSED	277 V	
OL4	LITHONIA	IBH-3600LM-SD080-ND-277-OZ10-40K-80CRI-CS11W-WH-IBAC120 M20	33,047 LUMENS 4000K LED, 345 WATTS	LED HIGH BAY, LENSED, NARROW DISTRIBUTION	PENDANT	277 V	PROVIDE 10'-0" LONG AIR CRAFT CABLE WITH HOOK.
OL4A	LITHONIA	IBH-1800LM-SD080-MD-277-OZ10-40K-80CRI-CS11W-WH-IBAC120 M20	17109 LUMENS 4000K LED, 142 WATTS	LED HIGH BAY, LENSED, NARROW DISTRIBUTION	PENDANT	277 V	
OL5	LITHONIA	WSQ LED-1-10A700/40K-SR2-277-SF-ELCW-DOBXD	2,005 LUMENS 4000K LED, 24 WATTS	LED EXTERIOR WALL MOUNT WITH EMERGENCY BATTERY PACK	WALL	277 V	WALL MOUNT AT CENTERLINE OF DOOR. SEE PLANS FOR MOUNTING HEIGHT.
OL6	LITHONIA	CSXW LED-30C-700-40K-T2M-MVOLT-DOBXD	7,561 LUMENS 4000K LED, 70 WATTS	LED EXTERIOR WALL MOUNT	WALL	277 V	SEE PLANS FOR MOUNTING HEIGHT.
OL7	LITHONIA	ELM2 LED-SD	(2) 1.5W LED	TWIN LAMP EMERGENCY LIGHTING UNIT	WALL	277 V	WALL MOUNT 7'-6" AFF UON. SEE PLANS FOR ADDITIONAL MOUNTING HEIGHTS.
OL8	LITHONIA	ELMLT-W-LP06VS-LTP-SD	(2) 5.4W LED	TWIN LAMP EMERGENCY LIGHTING UNIT	WALL	277 V	WALL MOUNT 7'-6" AFF UON. SEE PLANS FOR ADDITIONAL MOUNTING HEIGHTS.
OL13	LITHONIA	VAP-6000LM-FST-WD-277-GZ10-40K-80CRI-WLFEND2	5,648 LUMENS 4000K, 64 WATTS	54" LONG ROUGH SERVICE LED VAPOR TIGHT, FROSTED LENS	SURFACE	277 V	
OL13E	LITHONIA	VAP-6000LM-FST-WD-277-GZ10-40K-80CRI-BSL722-WLFEND2	5,648 LUMENS 4000K, 64 WATTS	54" LONG ROUGH SERVICE LED VAPOR TIGHT, FROSTED LENS	SURFACE	277 V	
OLX	LITHONIA	LOM-S-W-3-G-120/277-ELN	GREEN LED, 0.70 WATTS	GREEN LED EXIT SIGN	WALL OR CEILING	277 V	
SLA	LITHONIA	DSX1 LED-60C-700-40K-T3M-MVOLT-RPA-DNAXD	13,265 LUMENS LED, 4000K, 131W	LED SITE LIGHT, TYPE III DISTRIBUTION, 25FT MOUNTING HEIGHT	POLE	277 V	REFER TO SHEET ME-001 GENERAL NOTE 20

PANEL NAME: LCP

LOCATION : MECHANICAL EQUIPMENT PLATFORM

SUPPLY CIRCUIT: MB-FL-41 VOLTAGE: 277V

RELAY	CIRCUIT	ZONE	TYPE	VOLTAGE	SOURCE	DESCRIPTION	LOCATION	CHELSEA SWITCH BUTTON
1	MB-FL-1	1	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	1
2	MB-FL-3	1	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	1
3	MB-FL-5	1	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	1
4	MB-FL-7	2	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	2
5	MB-FL-9	2	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	2
6	MB-FL-11	3	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	3
7	MB-FL-13	3	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	3
8	MB-FL-15	4	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	4
9	MB-FL-17	4	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	4
10	MB-FL-19	5	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	5
11	MB-FL-21	5	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	5
12	MB-FL-23	6	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	6
13	MB-FL-25	6	NC	277V	NORMAL	SWITCHING/DIMMING	MOLDING AREA 1-104	6
14	MB-FL-33	-	NC	277V	NORMAL	SWITCHING	BUILDING EXTERIOR	-
15	MB-FL-14	-	NC	277V	NORMAL	SWITCHING	SITE LIGHTING	-
16	MB-FL-16	-	NC	277V	NORMAL	SWITCHING	SITE LIGHTING	-

PART NUMBER: LC&D GR1416 WITH 16 NORMALLY CLOSED RELAYS
ENCLOSURE DIMENSIONS: 18"H x 12"W x 6"D
NEMA RATING: 1

LIGHTING CONTROL SCHEDULE (REFER TO LIGHTING CONTROL NOTES ON THIS SHEET)

CONTROL CODE	1	2	3	4	5
APPLICATION	MECHANICAL RM ELECTRICAL RM EQUIP. PLATFORMS	OFFICE JANITOR RM DATA RM STORAGE RM PLC ROOM	TEST MONITORING CONTROL RM TOOLING	PLANT AREA	LOBBY TOILETS
DESCRIPTION					
WALL MOUNTED, DIGITAL TIMER SWITCH WITH MANUAL "OFF" OVERRIDE AND AN ALARM FEATURE SET TO SOUND 1 MINUTE BEFORE TURNING LIGHTS OFF	X				
WALL MOUNTED, LOW VOLTAGE, ON/OFF SWITCH			X	X	X
WALL MOUNTED OCCUPANCY SENSOR, WITH LOW VOLTAGE ON/OFF SWITCH, SET AT 20 MINUTE VACANCY SENSING WITH AUTO-OFF AND MANUAL ON TO 50% OPERATION		X			
CEILING MOUNTED OCCUPANCY SENSOR SET AT 20 MINUTE VACANCY SENSING WITH AUTO OFF MANUAL ON			X		
CEILING MOUNTED OCCUPANCY SENSOR SET AT 20 MINUTE VACANCY SENSING WITH AUTO OFF AUTO ON OPERATION					X
INDOOR PHOTO SENSORS FOR DAYLIGHT SENSING WITHIN AREAS DESIGNATED AS DAYLIGHT ZONES CONTINUOUSLY DIMMING LIGHTS IN RESPONSE TO DAYLIGHT TO 35%				X	
EMERGENCY LED TWIN LAMPS TO TURN ON UPON LOSS OF NORMAL POWER	X	X	X	X	X
LIGHTING NETWORK INTERFACE FOR PROGRAMMABLE TIME OF DAY SCHEDULING				X	
BUILDING ENERGY MANAGEMENT SYSTEM INTERFACE CONTACT	X	X	X	X	X

INTERIOR LIGHTING POWER DENSITY CALCULATION (BUILDING AREA METHOD)

TOTAL NEW BUILDING AREA = 79,598 SF
TOTAL NEW INTERIOR LIGHTING WATTAGE = 56,783 W
LIGHTING POWER DENSITY = 56,783W/79,598SF =0.71 W/SF < 1.3 W/SF

ALLOWABLE FOR A MANUFACTURING AREA TYPE, COMPLYING WITH TABLE C405.5.2(1) AND C406.3 OF THE FBC ENERGY CONSERVATION FOR REDUCED LIGHTING POWER DENSITY

EXTERIOR LIGHTING POWER DENSITY CALCULATION (ZONE 3 EXTERIOR LIGHTING)

BUILDING ENTRANCES AND EXITS:
OTHER DOORS = 24W/3.0LF (DOOR WIDTH) = 8.0W/LF < 20W/LF
ENTRY CANOPIES = 1520W/61.0SF (CANOPY AREA) = 0.24W/SF < 0.4W/SF
COMPLYING WITH FBC ENERGY CONSERVATION 2014 C405.8 AND TABLE C405.6.2(2).

MECHANICAL AND PLUMBING EQUIPMENT SCHEDULE

DESIGNATION	VOLTAGE(V)/APPARENT POWER(KVA)	MOTOR NAMEPLATE (HP)	MCA (A)	MOCP (A)	PANEL	CIRCUIT NUMBER	NOTES
AHU-1.1	460 V/3-4.00 kVA	3			MB-FP3	1,3,5	3,10
AHU-1.2	460 V/3-2.50 kVA	1.5			MB-FP3	8,10,12	3
AHU-1.3	460 V/3-4.00 kVA	3			MB-FP1	1,3,5	3
AHU-1.4	460 V/3-6.30 kVA	5			MB-FP1	7,9,11	3,10
ARU-1.1	460 V/3-44.00 kVA	40			MB-FP2	14,16,18	6
CH1.1	460 V/3-370.00 kVA		477	600	MB-USS2	7	3,5,12
CH1.2	460 V/3-370.00 kVA		477	600	MB-USS2	8	3,5,12
CP-1	120 V/1-0.90 kVA	1/2			MB-FRM2	11	9
CP-1.4	208 V/2-1.80 kVA				MB-FRM1	14,16	6
CP-1.5	208 V/2-1.80 kVA	1			MB-FRM3	11,13	6
CRAC-1.1	460 V/3-1.88 kVA		14.4	15	MB-FP1	13,15,17	1,4
CU-1/1 AC-1.1	208 V/2-2.50 kVA		12.1	15	MB-FRM2	8,10	1,4,5,11
DAD-1.1	460 V/3-7.50 kVA		8.8	15	MB-FP2	32,34,36	1,4
EDH-1.1	460 V/3-8.00 kVA	1			MB-FP3	14,16,18	1,4
EF-1.1	460 V/3-28.20 kVA	25			MB-FP3	2,4,6	3
EF-1.2	460 V/3-28.20 kVA	25			MB-FP3	7,9,11	3
EF-1.3	120 V/1-0.90 kVA				MB-FRM2	17	7
EF-1.4	120 V/1-0.90 kVA				MB-FRM2	16	7
EF-1.5	120 V/1-0.90 kVA				MB-FRM2	19	7
EF-1.6	460 V/3-5.00 kVA	3			MB-FP2	19,21,23	1,4
EF-1.7	460 V/3-1.88 kVA				MB-FP1	26,28,30	1,4
EVH-1	120 V/1-1.50 kVA				MB-FRM2	9	8,13
EVH-2	277 V/1-10.00 kVA				MB-FP1	19	8,13
PCHWP1.1	460 V/3-28.30 kVA	25			MB-FP2	1,3,5	2,5
PCHWP1.2	460 V/3-28.30 kVA	25			MB-FP2	7,9,11	2,5
PCHWP1.3	460 V/3-28.30 kVA	25			MB-FP2	2,4,6	2,5
RAD-1.1	120 V/1-16.00 kVA		20	30	MB-FRM1	21	1,4
VAV-1.1.1	120 V/1-0.63 kVA				MB-FRM2	1	1,4
VAV-1.1.2	120 V/1-3.00 kVA				MB-FRM2	2	1,4
VAV-1.1.3	120 V/1-0.63 kVA				MB-FRM2	3	1,4
VAV-1.3.3	120 V/1-3.00 kVA				MB-FRM2	4	1,4
VAV-1.3.4	120 V/1-1.88 kVA				MB-FRM2	7	1,4

- NOTES:
1. FUSED DISCONNECT SWITCH FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
2. VFD FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
3. FACTORY MOUNTED VFD AND DISCONNECT SWITCH.
4. INSTALL FUSE PER MANUFACTURER'S NAMEPLATE RATING.
5. PROVIDE A DUPLEX CONVENIENCE RECEPTACLE (IN WEATHER PROOF COVER FOR OUTDOOR UNITS) WITHIN 25' FROM EQUIPMENT.
6. COMBINATION MOTOR STARTER DISCONNECT SWITCH FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
7. MOTOR RATED SWITCH FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 26.
8. 120V/1PH OR 277V/1PH ELECTRICAL CONNECTION THROUGH JUNCTION BOX.
9. FUSED DISCONNECT SWITCH PROVIDED BY DIVISION 26.
10. PROVIDE AN INTERFACE WITH FIRE ALARM SYSTEM.
11. NON-FUSED DISCONNECTION SWITCH PROVIDED BY DIVISION 26.
12. FED FROM UNIT SUBSTATION DISTRIBUTION SECTION.
13. PROVIDE CIRCUIT BREAKER WITH LOCKABLE PROVISIONS.

BUSWAY PLUG-IN SCHEDULE

DESIGNATION	PLUG-IN (A)	ELECTRICAL DATA	CONDUCTOR/CONDUIT	BUSWAY
MOLDING EQUIPMENT 1	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 2	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 3	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 4	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 5	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 6	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-5
MOLDING EQUIPMENT 7	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4
MOLDING EQUIPMENT 8	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4
MOLDING EQUIPMENT 9	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4
MOLDING EQUIPMENT 10	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4
MOLDING EQUIPMENT 11	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4
MOLDING EQUIPMENT 12	400	480 V/3-250.00 kVA	(3)-600 KCMIL, (1)W3 GND IN 4" C	BD-4

GENERAL NOTES:

- THE PRIMARY POWER SYSTEM CONSISTS OF A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM SCGC TURBINES AND A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM FPL THAT ARE CURRENTLY TERMINATED AT THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AT THE SCGC SITE.
- POWER SUPPLY TO THE MOLDING AND PULPING BUILDINGS AT THE RENEWCO SITE WILL BE BASED ON A SELECTIVE PRIMARY SYSTEM BETWEEN THE SCGC AND FPL PRIMARY CIRCUITS THAT SHALL ORIGINATE FROM THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AND SHALL TERMINATE AT THE BUILDING SUBSTATIONS PRIMARY MAIN SWITCHES.
- CONTRACTOR SHALL PROVIDE THE BELOW ITEMS, AND ANY ADDITIONAL ITEMS NECESSARY FOR A COMPLETE OVERHEAD PRIMARY POWER SYSTEM FROM THE EXISTING SCGC FACILITY SWITCH CABINETS TO THE INDICATED MANHOLES:
 - 13.8KV PRIMARY OVERHEAD CONDUCTORS SIZED PER NEC TABLE 310.60(C)(69)
 - CONCRETE POWER POLES
 - DOUBLE ARMS SUPPORTED WITH BRACES
 - DOWN GUY WIRES FOR DEAD END POLES
 - DISCONNECT SWITCH AND DISCONNECT SWITCH BRACKET
 - POTHEAD AND POTHEAD BRACKET
 - TERMINATORS
 - ZINC OXIDE RISER POLE ARRESTERS
 - SINGLE SPOOLS
 - INSULATORS
 - 5" PVC U-GUARD
 - PROVISION FOR (2) FUTURE PRIMARY FEEDERS
- THE OVERHEAD PRIMARY CIRCUITS SHALL BE ROUTED FROM DEAD END POLES TO MANHOLES ALONG EAST SUGARHOUSE ROAD. CONTRACTOR SHALL PROVIDE ADEQUATELY SIZED MANHOLES. UNDERGROUND PRIMARY CIRCUITS, 6" SCHEDULE 40 CONCRETE ENCASED PVC CONDUITS, DUCT BANKS, AND ALL NECESSARY MOUNTING HARDWARE TO SUPPORT SPLICE AND ACCESSORIES REQUIRED FOR A COMPLETE UNDERGROUND PRIMARY SYSTEM FROM THE MANHOLES TO THE BUILDING SUBSTATIONS.

GENERAL NOTES: (CONTINUED)

- THE UNDERGROUND MV-105 PRIMARY COPPER CONDUCTOR SHALL BE SIZED PER NEC TABLE 310.60(C)(77) AND SHALL ASSUME A MAXIMUM BURIAL DEPTH OF 30" TO TOP OF DUCTBANK.
- SINCE INFORMATION ON THE RELIABILITY OF THE SCGC CIRCUIT WAS NOT AVAILABLE DURING DESIGN, ENGINEER HAS ELECTED TO PROVIDE MULTIPLE SOURCES OF POWER SUPPLY TO THE FIRE PUMP BY PROVIDING AN EMERGENCY STANDBY GENERATOR CAPABLE OF CARRYING THE STARTING AND RUNNING CURRENT OF THE FIRE PUMP IN COMPLIANCE WITH NEC ARTICLE 695.3(B). THE DETERMINATION OF WHETHER THE SCGC CIRCUIT IS A RELIABLE SOURCE OF POWER SUPPLY IS AN ISSUE FOR THE AUTHORITY HAVING JURISDICTION (AHJ). IF DEEMED AS A RELIABLE SOURCE OF POWER SUPPLY BY THE AHJ, THE EMERGENCY STANDBY GENERATOR AND THE COMBINATION POWER TRANSFER SWITCH CAN BE ELIMINATED.
- COORDINATE ALL UNDERGROUND WORK WITH UTILITY SURVEY PLAN, CIVIL PLANS, AND ALL OTHER TRADES. FIELD VERIFY EXISTING SITE CONDITIONS. ALL EXISTING UNDERGROUND UTILITIES MUST BE LOCATED AND MARKED USING ALL AVAILABLE RESOURCES PRIOR TO COMMENCEMENT OF ANY UNDERGROUND SITE WORK.

SPECIFIC NOTES:

- 26-1 PROVIDE POWER POLE AND OVERHEAD PRIMARY WIRING PER GENERAL NOTE 3 (TYPICAL).
- 26-2 PROVIDE OVERHEAD (POLE MOUNTED) TRANSFORMER, SECONDARY WIRING, TRANSITION FROM OVERHEAD TO UNDERGROUND, NEW METER, AND NEW 60A SERVICE FOR POWER TO GATE CONTROLLER. COORDINATE REQUIREMENTS WITH GATE CONTROLLER MANUFACTURER.
- 27-1 PROVIDE (1) 2" CONDUIT WITH PULL CORDS FOR COMMUNICATIONS WIRING BETWEEN NEAREST BUILDING AND GATE CONTROLLER. COORDINATE REQUIREMENTS WITH GATE CONTROLLER MANUFACTURER.



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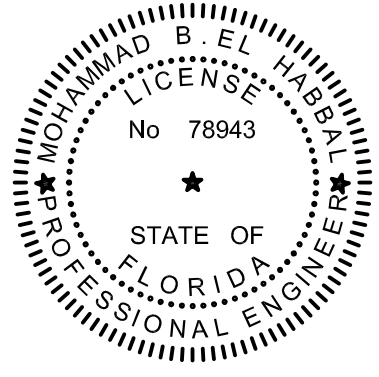
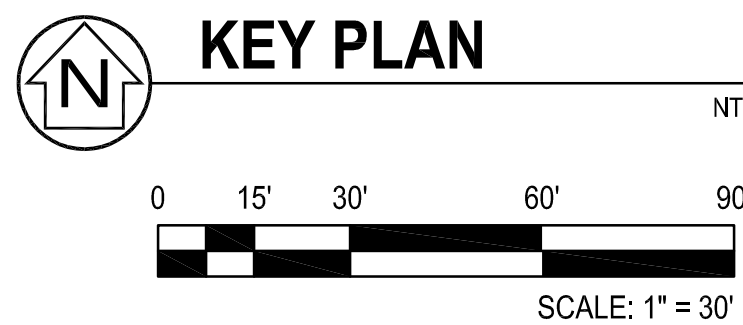
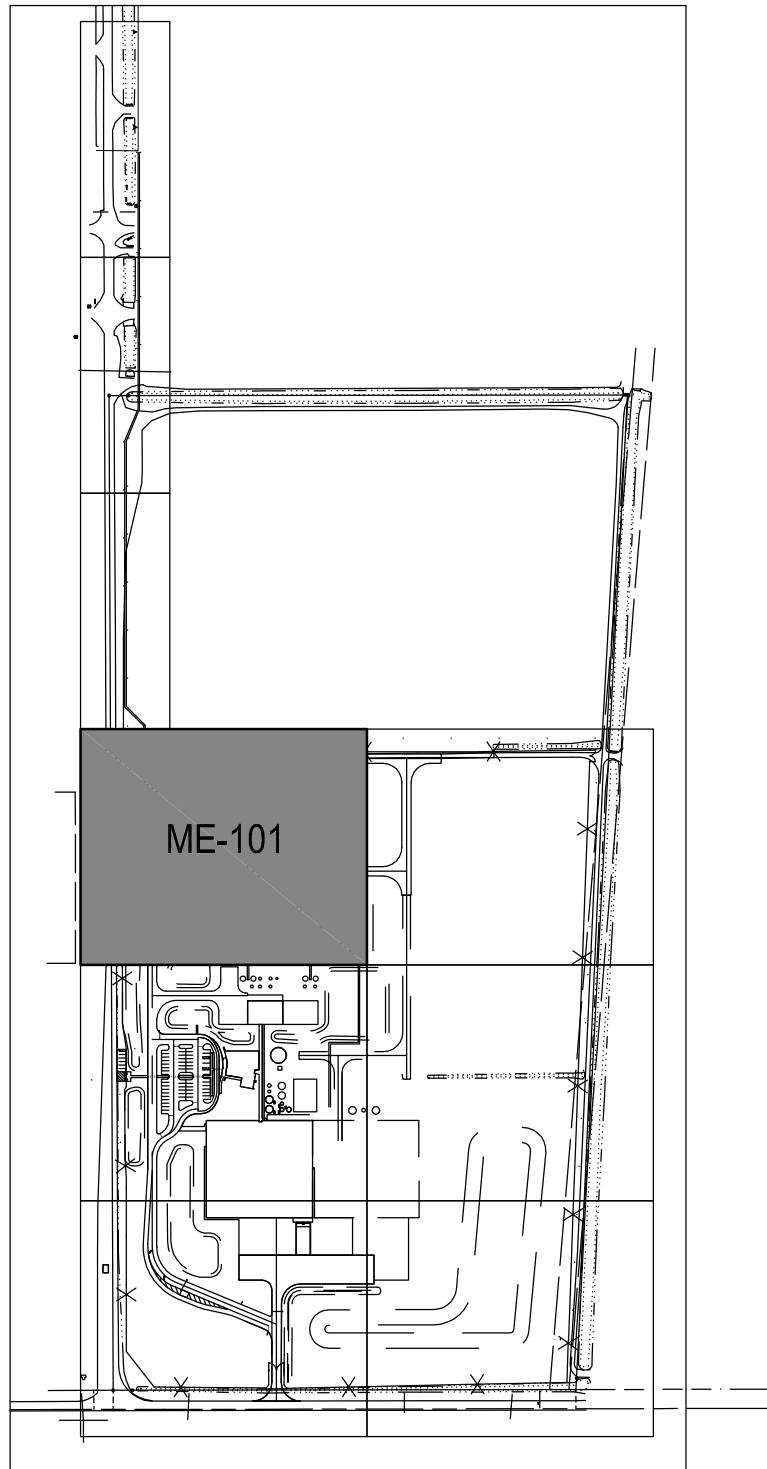
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SMITH

CHECKED BY

EL HABBAL

PROJECT NUMBER

C07111.004

DATE

01/30/17

TITLE

ELECTRICAL
SITE PLAN

DRAWING NO.

ME-101

GENERAL NOTES:

1. THE PRIMARY POWER SYSTEM CONSISTS OF A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM SCGC TURBINES AND A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM FPL THAT ARE CURRENTLY TERMINATED AT THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AT THE SCGC SITE.
2. POWER SUPPLY TO THE MOLDING AND PULPING BUILDINGS AT THE RENEWCO SITE WILL BE BASED ON A SELECTIVE PRIMARY SYSTEM BETWEEN THE SCGC AND FPL PRIMARY CIRCUITS THAT SHALL ORIGINATE FROM THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AND SHALL TERMINATE AT THE BUILDING SUBSTATIONS PRIMARY MAIN SWITCHES.
3. CONTRACTOR SHALL PROVIDE THE BELOW ITEMS, AND ANY ADDITIONAL ITEMS NECESSARY FOR A COMPLETE OVERHEAD PRIMARY POWER SYSTEM FROM THE EXISTING SCGC FACILITY SWITCH CABINETS TO THE INDICATED MANHOLES:
 - 13.8KV PRIMARY OVERHEAD CONDUCTORS SIZED PER NEC TABLE 310.60(C)(9)
 - CONCRETE POWER POLES
 - DOUBLE ARMS SUPPORTED WITH BRACES
 - DOWN GUY WIRES FOR DEAD END POLES
 - DISCONNECT SWITCH AND DISCONNECT SWITCH BRACKET
 - POTHEAD AND POTHEAD BRACKET
 - TERMINATORS
 - ZINC OXIDE RISER POLE ARRESTERS
 - SINGLE SPOOLS
 - INSULATORS
 - 5" PVC U-GUARD
 - PROVISION FOR (2) FUTURE PRIMARY FEEDERS
4. THE OVERHEAD PRIMARY CIRCUITS SHALL BE ROUTED FROM DEAD END POLES TO MANHOLES ALONG EAST SUGARHOUSE ROAD. CONTRACTOR SHALL PROVIDE ADEQUATELY SIZED MANHOLES, UNDERGROUND PRIMARY CIRCUITS, 6" SCHEDULE 40 CONCRETE ENCASED PVC CONDUITS, DUCT BANKS, AND ALL NECESSARY MOUNTING HARDWARE TO SUPPORT SPLICE AND ACCESSORIES REQUIRED FOR A COMPLETE UNDERGROUND PRIMARY SYSTEM FROM THE MANHOLES TO THE BUILDING SUBSTATIONS.

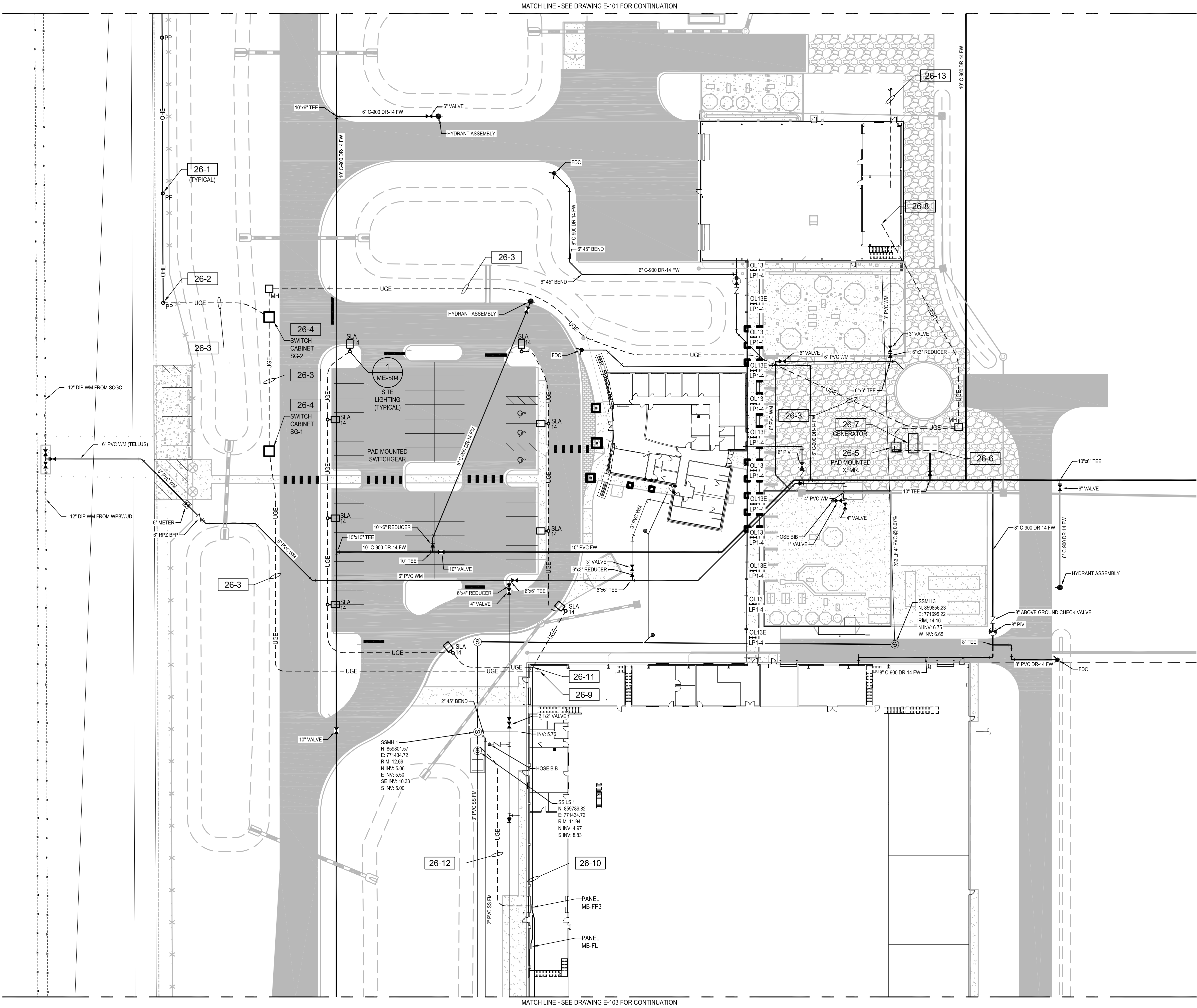
GENERAL NOTES: (CONTINUED)

5. THE UNDERGROUND MV-105 PRIMARY COPPER CONDUCTOR SHALL BE SIZED PER NEC TABLE 310.60(C)(7) AND SHALL ASSUME A MAXIMUM BURIAL DEPTH OF 30" TO TOP OF DUCTBANK.
6. POWER SUPPLY TO THE OFFICE BUILDING SHALL ORIGINATE FROM SUBSTATION MB-USS2 DISTRIBUTION SECTION 4 LOCATED AT THE MOLDING BUILDING'S ELECTRICAL ROOM 1-114.
7. SINCE INFORMATION ON THE RELIABILITY OF THE SCGC CIRCUIT WAS NOT AVAILABLE DURING DESIGN, ENGINEER HAS ELECTED TO PROVIDE MULTIPLE SOURCES OF POWER SUPPLY TO THE FIRE PUMP BY PROVIDING AN EMERGENCY STANDBY GENERATOR CAPABLE OF CARRYING THE STARTING AND RUNNING CURRENT OF THE FIRE PUMP IN COMPLIANCE WITH NEC ARTICLE 695.3(3). THE DETERMINATION OF WHETHER THE SCGC CIRCUIT IS A RELIABLE SOURCE OF POWER SUPPLY IS AN ISSUE FOR THE AUTHORITY HAVING JURISDICTION (AHJ). IF DEEMED AS A RELIABLE SOURCE OF POWER SUPPLY BY THE AHJ, THE EMERGENCY STANDBY GENERATOR AND THE COMBINATION POWER TRANSFER SWITCH CAN BE ELIMINATED.
8. COORDINATE ALL UNDERGROUND WORK WITH UTILITY SURVEY PLAN, CIVIL PLANS, AND ALL OTHER TRADES. FIELD VERIFY EXISTING SITE CONDITIONS. ALL EXISTING UNDERGROUND UTILITIES MUST BE LOCATED AND MARKED USING ALL AVAILABLE RESOURCES PRIOR TO COMMENCEMENT OF ANY UNDERGROUND SITE WORK.
9. ALL LIGHTING FIXTURES SHOWN ON THIS DRAWING SHALL BE CONTROLLED BY TIMECLOCK IN CONJUNCTION WITH PHOTOCELL AND LIGHTING CONTACTOR. SEE EXTERIOR LIGHTING CONTROL DIAGRAM ON E-504.
10. NEW LIGHTING FIXTURES SHOWN ON THIS DRAWING SHALL BE FED FROM PANEL 'MB-FL'; PROVIDE CONDUIT AND WIRING AS INDICATED ON THE PANELBOARD SCHEDULE ON DRAWING E-701.
11. PROVIDE ADDITIONAL HANDHOLES AS NECESSARY.

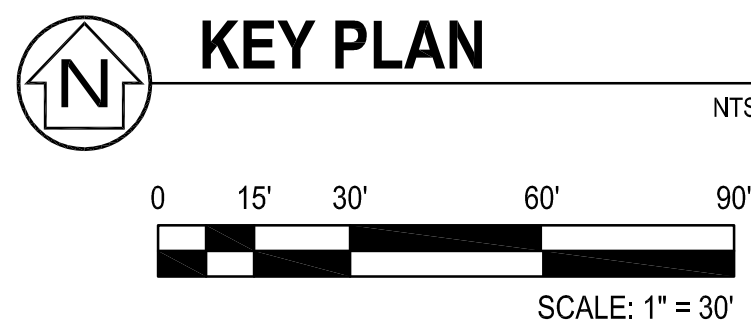
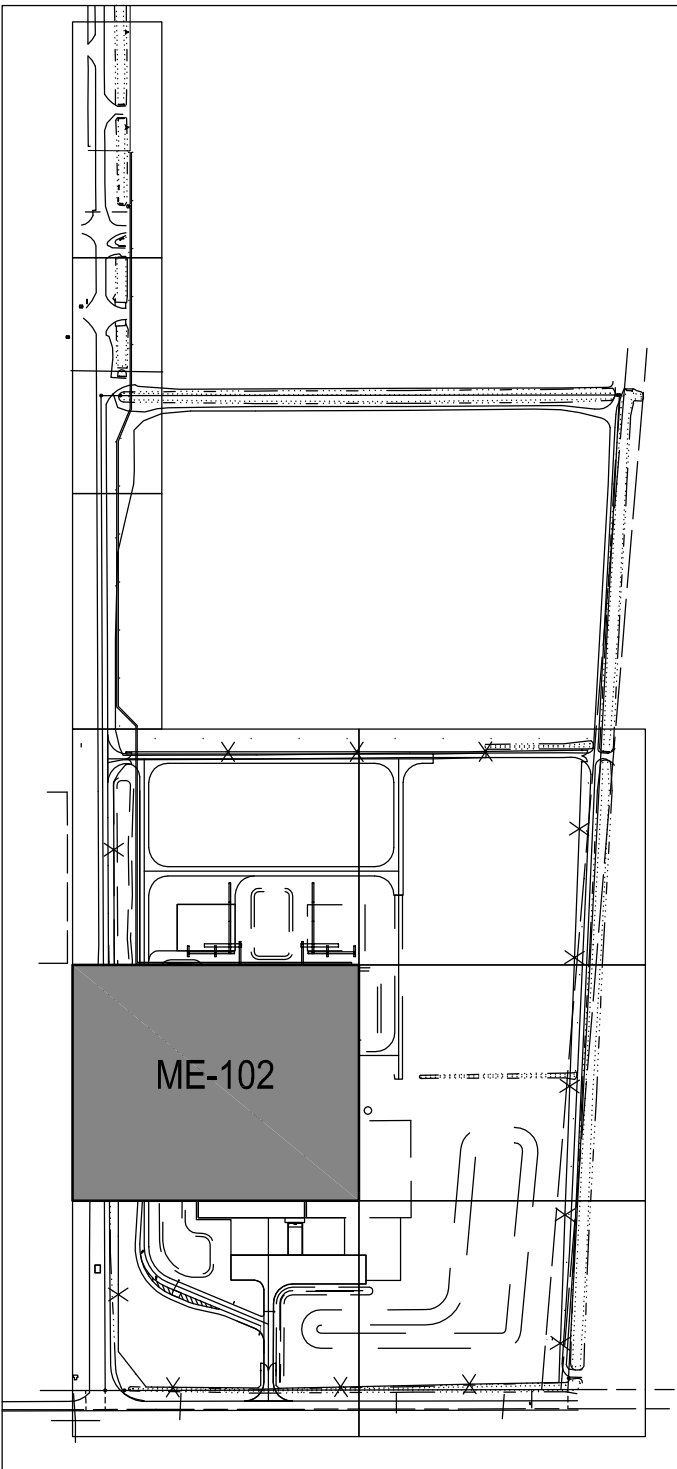
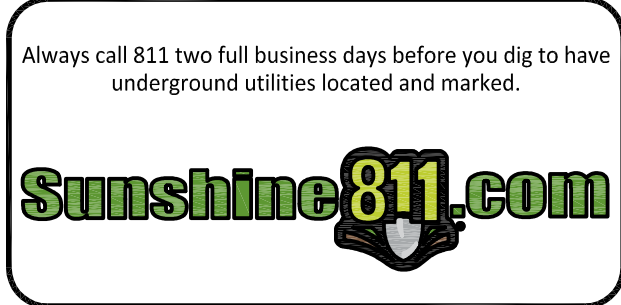
SPECIFIC NOTES:

- 26-1 PROVIDE POWER POLE AND OVERHEAD PRIMARY WIRING PER GENERAL NOTE 3 (TYPICAL).
- 26-2 PROVIDE DIP POLE FOR TRANSITION FROM OVERHEAD TO UNDERGROUND FOR NEW 15KV PRIMARIES.
- 26-3 PROVIDE UNDERGROUND MV-105 PRIMARY COPPER CONDUCTORS PER ONE-LINE DIAGRAM ON ME-600.
- 26-4 PROVIDE A GE TYPE PSE DEADFRONT PAD MOUNTED SWITCHGEAR WITH THE FOLLOWING CHARACTERISTICS:
 - QUICK MAKE, QUICK BREAK, MANUALLY OPERATED
 - RATED MAXIMUM VOLTAGE: 15KV
 - LOAD INTERRUPTING CURRENT: 800A SYM.
 - FAULT CLOSING CURRENT: 40 KA ASYM.
 - IMPULSE WITHSTAND (BIL): 95KV
 - FUSES: 175E, 40KA ASYM, CURRENT LIMITING.
 - SURGE ARRESTERS: 12KV METAL OXIDE, DISTRIBUTION CLASS
 - FEED THRU INSERTS
 - COPPER SILVER PLATED BUS
 - SWITCH AND FUSE VIEWING WINDOWS
 - BLOWN FUSE INDICATOR
 - KEY INTERLOCK PROVISIONS (MANUAL SELECTIVITY BETWEEN FPL AND SCGC CIRCUITS)
 - OPERATING HANDLE AND SWITCH POSITION INDICATOR
 - PREPARED CHAMBER FOR FUTURE EXTENSION OF PRIMARY CIRCUIT
 - UL LABEL
- 26-5 PROVIDE A PAD MOUNTED DRY TYPE TRANSFORMER DEDICATED FOR THE ELECTRIC FIRE PUMP WITH THE FOLLOWING CHARACTERISTICS:
 - TYPE: DELTAWYE
 - PRIMARY VOLTAGE: 13.8KV
 - SECONDARY VOLTAGE: 480Y/277V
 - APPARENT POWER: 300 KVA
 - WINDING TEMPERATURE RISE: 150 DEGREES
 - WINDINGS: ALUMINUM
 - INSULATION LEVEL: 220 DEGREES
 - PERCENT IMPEDANCE (%Z): 5.75%
 - ENCLOSURE: NEMA 3R
 - NO SECONDARY OVERCURRENT PROTECTION
 - DOE 2016 COMPLIANT
 - UL LABEL

PROVIDE A PLACARD ON THE TRANSFORMER WITH A MINIMUM OF 1" HIGH LETTERS TO INDICATE THE LOCATION OF ITS DISCONNECTING MEANS 'DISCONNECTING MEANS FOR TRANSFORMER IS AT SG-2' IN COMPLIANCE WITH NEC ARTICLE 450.14.
- 26-6 PROVIDE SECONDARY CONDUIT AND WIRING FROM PAD MOUNTED TRANSFORMER TO FIRE PUMP ATS IN FIRE PUMP HOUSE. REFER TO ME-600.
- 26-7 PROVIDE A 400KW/500KVA, 480V, NFPA 110.4.4.1 COMPLIANT, LEVEL 1, TYPE 10, CLASS 8 DIESEL ENGINE EMERGENCY STANDBY GENERATOR WITH THE FOLLOWING CHARACTERISTICS:
 - MODEL: GENERAC 50400
 - ENCLOSURE: RED COLOR, WEATHER PROTECTED WITH LEVEL 2 SOUND ATTENUATION, ALUMINUM
 - CIRCUIT BREAKER: MOLDED CASE, CAPABLE OF BEING LOCKED IN CLOSED POSITION
 - SUB-BASE FUEL TANK: 438 GALL USABLE CAPACITY PER NFPA 110.7.3.1
 - FUEL TYPE: ULTRA LOW SULFUR DIESEL
 - ENGINE TYPE: PRE-COMBUSTION
 - BATTERY (SIZE/VOLTAGE/GROUP): SEALED LEAD ACID, 1155CCA @ 0 DEGREES CELSIUS, (2)-12VDC, 8D
 - GROUNDING CONFIGURATION: NON-SEPARATELY DERIVED SYSTEM
 - ALARMS: LOW LEVEL FUEL, COOLANT TEMPERATURE AND LEVEL, OIL PRESSURE, ENGINE SPEED, OVERVOLTAGE AND ANY ADDITIONAL REQUIREMENTS PER NFPA 110
 - CONTROL PANEL: VISUAL REQUIREMENTS PER NFPA 110.5.6.5.1 AND AUDIBLE REQUIREMENTS PER NFPA 110.5.6.5.2
 - CLEARANCE: 36" AROUND GENERATOR FUEL TANK PER NFPA 110.7.9.12.1
- 26-8 CONNECT NEW 15KV CONDUCTORS TO PRIMARY SECTION OF SUBSTATION PB-USS1 IN ROOM 2-103 PER ME-600.
- 26-9 CONNECT NEW 15KV CONDUCTORS TO PRIMARY SECTION OF SUBSTATION MB-USS1 IN ROOM 1-114. EXTEND 15KV FEEDERS THROUGH TO PRIMARY SECTIONS OF SUBSTATIONS MB-USS2 AND MB-USS3. REFER TO ME-600.
- 26-10 PROVIDE POWER FOR SITE LIGHTING FROM PANEL MB-LF. RUN CONDUIT OVERHEAD TO ROOM 1-114 AS SHOWN.
- 26-11 TURN SITE LIGHTING CONDUITS DOWN AND CONTINUE BELOW GRADE AS SHOWN.
- 26-12 PROVIDE POWER FOR LIFT STATION LS-1 FROM PANEL MB-FP3. CIRCUIT 19.21.23. PROVIDE ALL CONDUIT AND WIRING FOR LIFT INSTALLATION AS REQUIRED. REFER TO E-506 FOR TYPICAL LIFT STATION DETAILS.
- 26-13 PROVIDE A 4" SCHEDULE 80 PVC UNDERGROUND CONDUIT WITH PULL CORD. STUB UP AND CAP AT RAW MATERIAL BUILDING.



ELECTRICAL SITE PLAN
1"=30'



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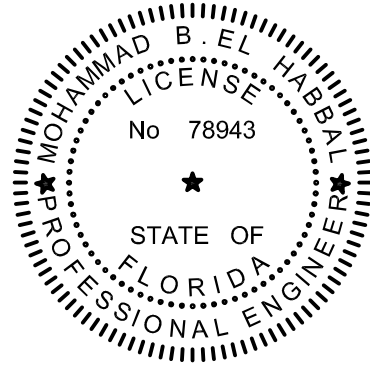
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ISSUE ISSUE FOR CONSTRUCTION

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FL PE 78943
DESIGNED BY
BRPH
DRAWN BY
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CHECKED BY
EL HABBAL
PROJECT NUMBER
C07111.004

DATE
01/30/17
TITLE
ELECTRICAL
SITE PLAN

DRAWING NO.

ME-102

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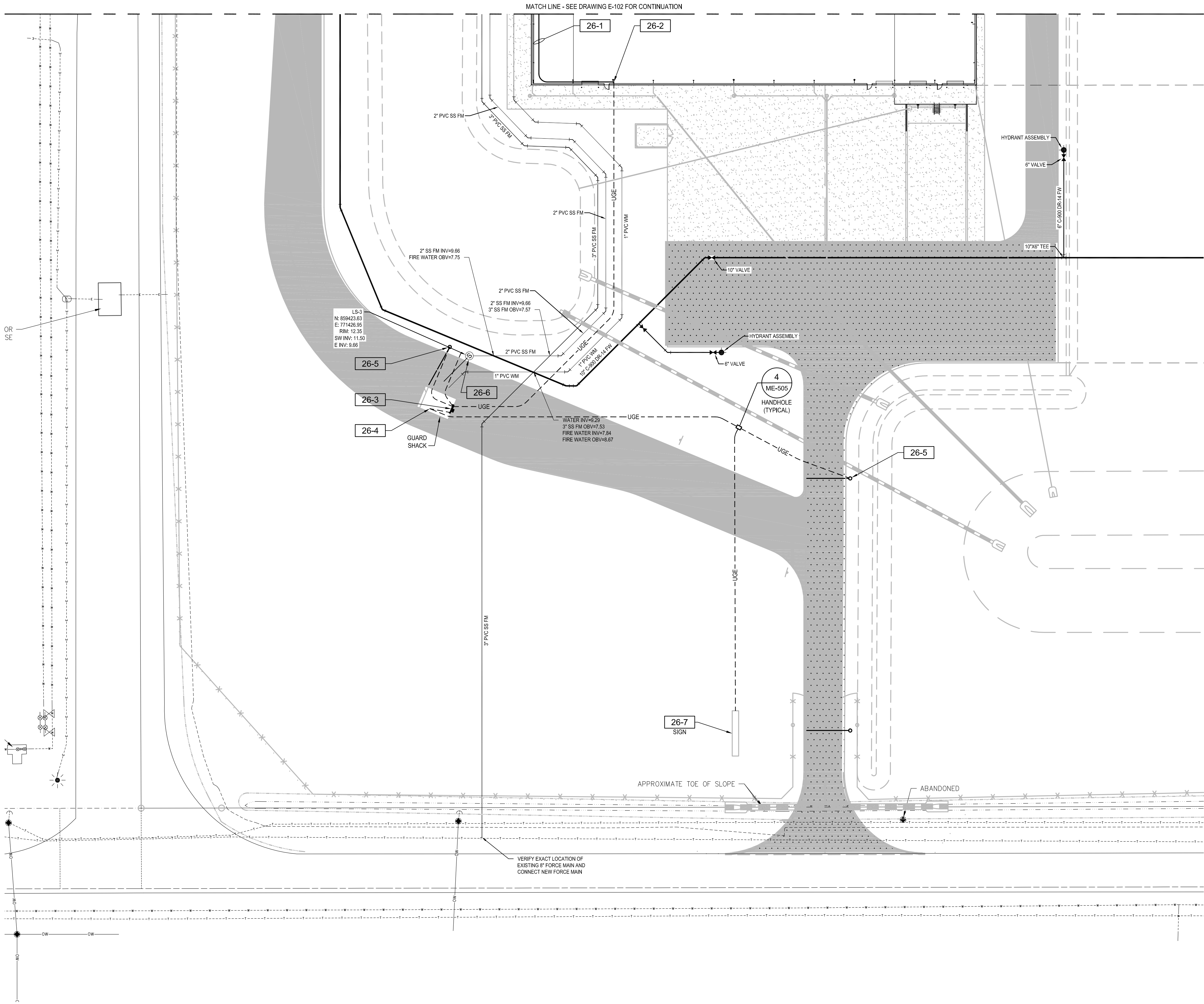
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GENERAL NOTES:

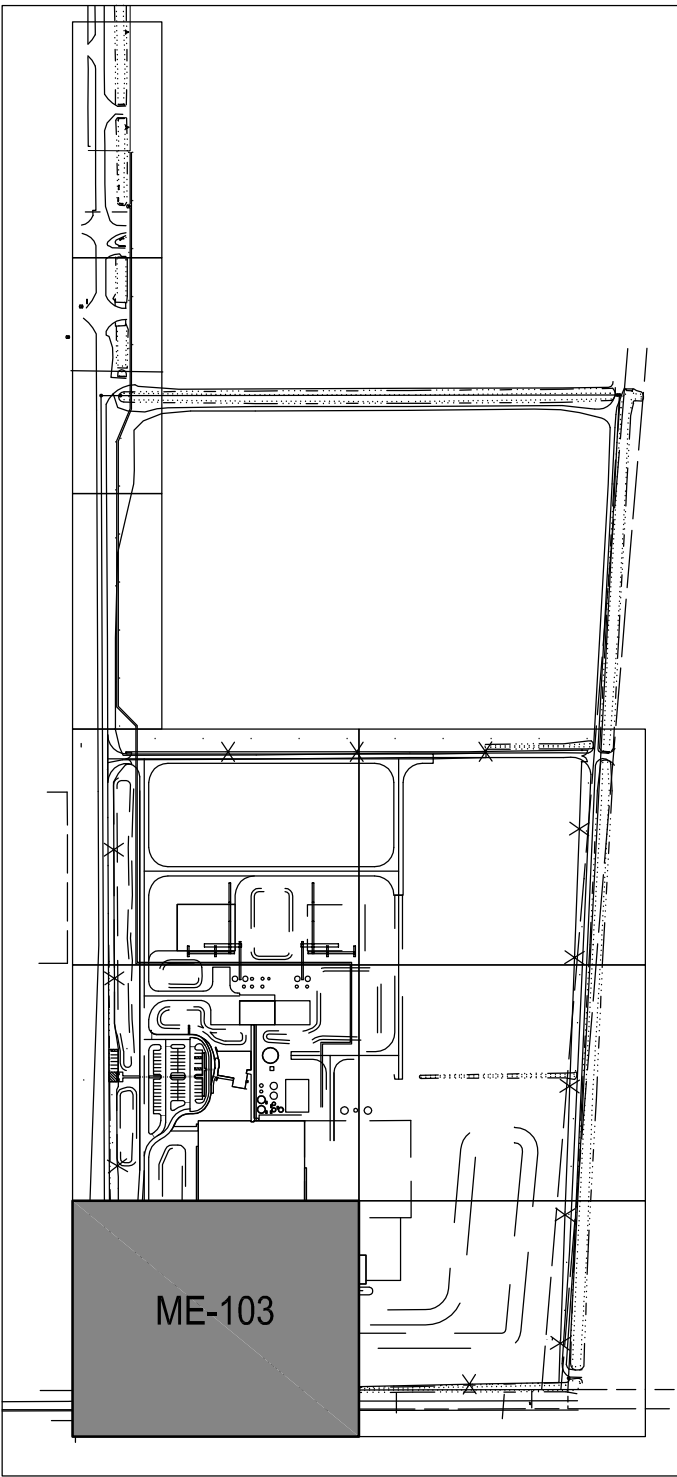
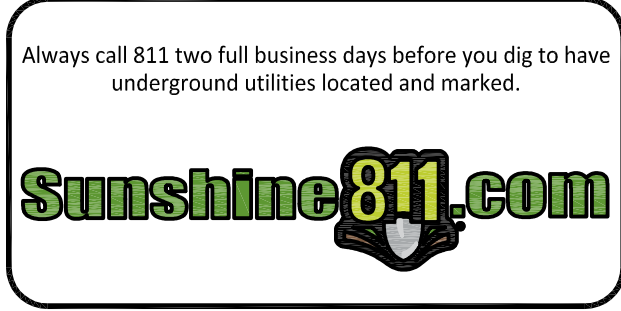
- COORDINATE ALL UNDERGROUND WORK WITH UTILITY SURVEY PLAN, CIVIL PLANS, AND ALL OTHER TRADES. FIELD VERIFY EXISTING SITE CONDITIONS. ALL EXISTING UNDERGROUND UTILITIES MUST BE LOCATED AND MARKED USING ALL AVAILABLE RESOURCES PRIOR TO COMMENCEMENT OF ANY UNDERGROUND SITE WORK.
- ALL LIGHTING FIXTURES SHOWN ON THIS DRAWING SHALL BE CONTROLLED BY TIMELOCK IN CONJUNCTION WITH PHOTOCELL AND LIGHTING CONTACTOR. SEE EXTERIOR LIGHTING CONTROL DIAGRAM ON E-504.
- NEW LIGHTING FIXTURES SHOWN ON THIS DRAWING SHALL BE FED FROM PANEL 'MB-FL'. PROVIDE CONDUIT AND WIRING AS INDICATED ON THE PANELBOARD SCHEDULE ON DRAWING E-701.
- PROVIDE ADDITIONAL HANDHOLES AS NECESSARY.

SPECIFIC NOTES:

- 26-1 PROVIDE POWER FOR LIFT STATION LS-3 FROM PANEL MB-FP3, CIRCUIT 125,27,28. PROVIDE POWER FOR GUARD HOUSE TRANSFORMER FROM PANEL MB-FP3, CIRCUIT 31,33. RUN CIRCUITS OVERHEAD FROM ROOM 1-114 AS SHOWN.
- 26-2 TURN LIFT STATION AND GUARD CONDUITS DOWN AND CONTINUE BELOW GRADE AS SHOWN.
- 26-3 PROVIDE ELECTRICAL EQUIPMENT RACK FOR INSTALLATION OF LIFT STATION AND GUARD SHACK DISCONNECT SWITCHES. NEW 25kVA SINGLE PHASE (480/240/120V) TRANSFORMER, AND ASSOCIATED CONDUITS. EQUIPMENT RACK SHALL CONSIST OF 6' x 6' REINFORCED CONCRETE VERTICAL POSTS WITH A MINIMUM OF 3' BURIED IN GROUND AND 10' GALVANIZED SLOTTED STEEL CHANNEL (UNISTRUT OR EQUAL) HORIZONTAL SUPPORTS. PROVIDE ALL HARDWARE (STAINLESS STEEL) AND ACCESSORIES. PROVIDE EQUIPMENT RACK SHOP DRAWING FOR ENGINEERING APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
- 26-4 PROVIDE 240/120V, SINGLE PHASE, 100 AMP FEEDER FROM NEW TRANSFORMER SECONDARY AND CONNECT TO PANELBOARD FURNISHED WITH MODULAR GUARD HOUSE BUILDING. PROVIDE ALL CONDUIT, WIRING, CONNECTIONS, AND GROUNDING IN STRICT ACCORDANCE WITH THE NEC.
- 26-5 PROVIDE POWER TO GATE CONTROLLER FROM GUARD HOUSE PANELBOARD. COORDINATE REQUIREMENTS WITH GATE CONTROLLER MANUFACTURER.
- 26-6 PROVIDE POWER CONNECTIONS TO LIFT STATION CONTROLLER. PROVIDE ALL CONDUIT AND WIRING FOR LIFT INSTALLATION AS REQUIRED. REFER TO E-506 FOR TYPICAL LIFT STATION DETAILS.
- 26-7 PROVIDE POWER TO SIGN FROM GUARD HOUSE PANELBOARD. COORDINATE REQUIREMENTS WITH SIGN MANUFACTURER.



ELECTRICAL SITE PLAN
1" = 30'



KEY PLAN
NTS
0 15' 30' 60' 90'
SCALE: 1" = 30'



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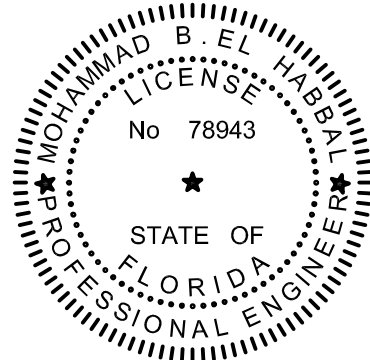
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CHECKED BY
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PROJECT NUMBER
C07111.004

DATE
01/30/17
TITLE
ELECTRICAL
SITE PLAN

DRAWING NO.

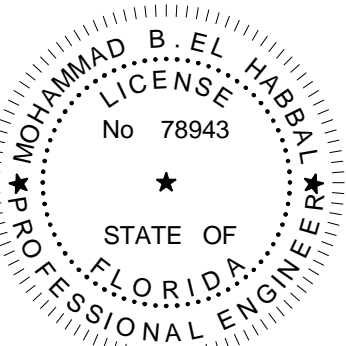
ME-103

GENERAL NOTES:

- REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES. REFER TO SHEETS E602, E603, AND E604 FOR SUBSTATION ONE-LINE DIAGRAMS AND SPECIFICATIONS.
- ALL DISCONNECT SWITCHES, STARTERS, COMBINATION VFDS, AND ASSOCIATED FUSES FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY ALL FUSE SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS WILL BE PROVIDED BY DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
- APPLY PROPER UL LISTED FIRE STOPPING FOR CONDUITS PENETRATING THROUGH FIRE RATED ASSEMBLIES. FIRE STOP SHALL BE LISTED FOR THE FIRE RATING OF THE ASSEMBLY.
- RECEPTACLE OUTLET BOXES SHALL NOT BE MOUNTED BACK TO BACK DIRECTLY ACROSS A WALL OR PARTITION. CONTRACTOR SHALL OFFSET THE INSTALLATION OF BOXES HORIZONTALLY A MINIMUM OF 2'-0".
- ELECTRICAL EQUIPMENT IN THE MOLDING BUILDING, EXCEPT THE MOLDING AREA, SHALL BE IN NEMA 12 ENCLOSURES UNLESS OTHERWISE NOTED.

SPECIFIC NOTES:

- ELECTRICAL CONTRACTOR SHALL RESERVE THIS WALL SPACE FOR THE PROCESS EQUIPMENT VENDOR TO FURNISH AND INSTALL VARIABLE FREQUENCY DRIVES FOR THE OPERATION OF THE PROCESS EQUIPMENT. CONTRACTOR SHALL RUN CONDUIT AND WIRE FROM THE MOTOR CONTROL CENTER MB-MCC1, LOCATED ON ELECTRICAL PLATFORM A 1-201, TO LINE SIDE OF VARIABLE FREQUENCY DRIVES FOR PROCESS EQUIPMENT VENDOR TO TERMINATE.
- ELECTRICAL CONTRACTOR SHALL RESERVE THIS SPACE FOR THE PROCESS EQUIPMENT VENDOR TO FURNISH AND INSTALL THE MOLDING BUILDING CHEMICAL DOSING PUMPS POWER TRANSFORMER.
- ELECTRICAL CONTRACTOR SHALL RESERVE THIS SPACE FOR THE PROCESS EQUIPMENT VENDOR TO FURNISH AND INSTALL THE MOLDING BUILDING INSTRUMENT POWER PANEL AND TRANSFORMER.
- ENSURE ADEQUATE CLEARANCE FOR SUBSTATIONS IS ESTABLISHED PER NEC TABLE 110.34(A) CONDITION 3.
- MAIN GROUNDING BUSBAR "MGB"
- PROVIDE ENGRAVED PHENOLIC PERMANENT SIGN ON DOOR EXTERIOR WITH 1'-10" HIGH LETTERS INDICATING "MAIN BUILDING DISCONNECTS INSIDE".
- PROVIDE A 30A/3PH FUSED DISCONNECT SWITCH MOUNTED AT 48" AFF FOR OVERHEAD COILING DOOR. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT AND FIELD COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION.
- CHAIN CONNECTED BOLLARDS TO PROHIBIT ENTRY INTO THIS AREA. PROVIDE A SIGN TO INDICATE "ACCESS TO THIS AREA IS NOT PERMITTED" AND MOUNT ON CHAINS AND SOUTH WALL. REFER TO ARCHITECTURAL SHEET MA-101 FOR LOCATION OF BOLLARDS.
- VFD WITH INTEGRAL DISCONNECT SWITCH FOR AIR HANDLING UNIT AHU-1.4 FACTORY MOUNTED WITH EQUIPMENT UNDER DIVISION 23. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF VFD AND FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.



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FL PE 78943

DESIGNED BY

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PROJECT NUMBER

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DATE

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TITLE

ENLARGED

PLANS

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ME-401

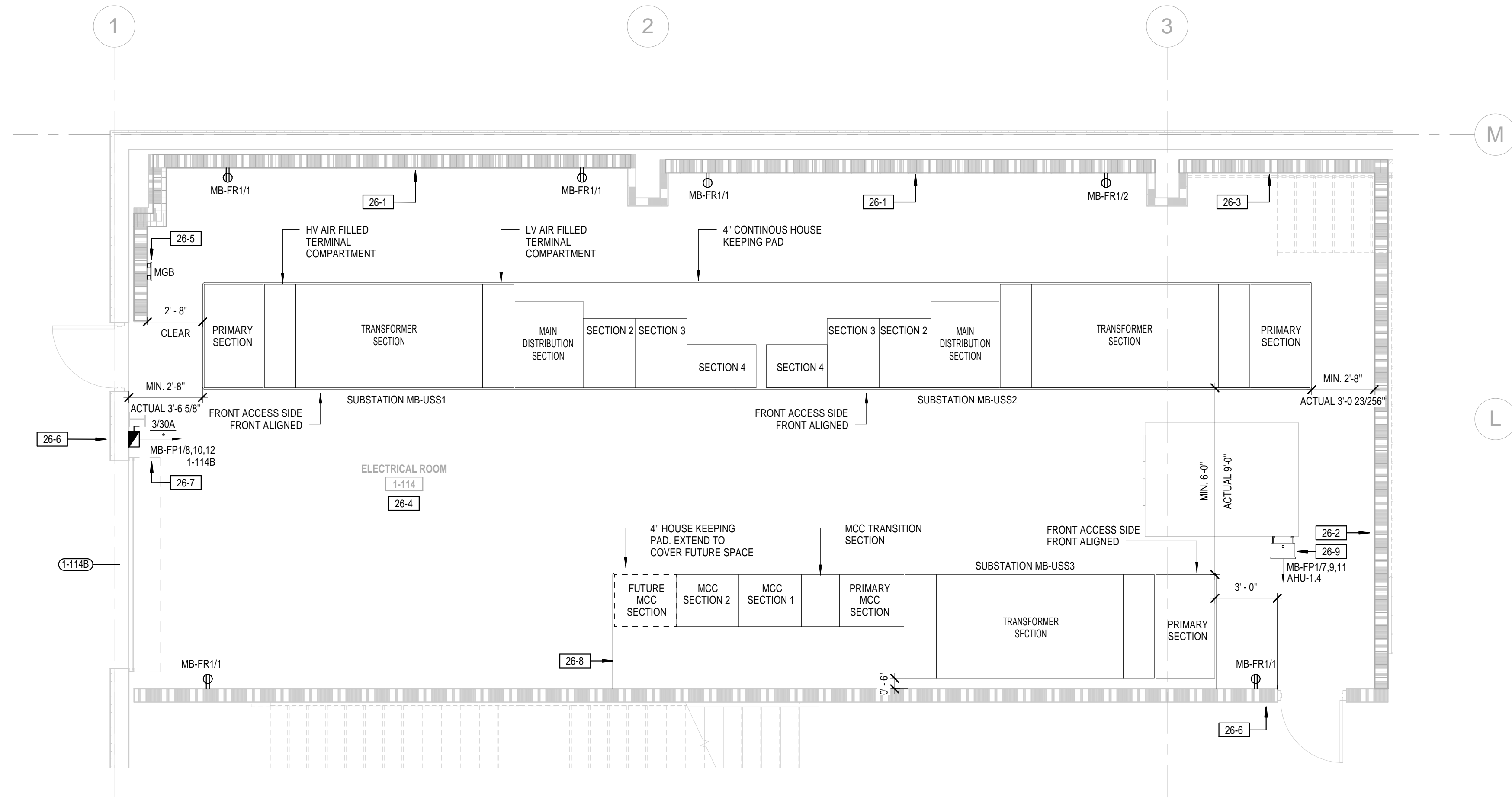
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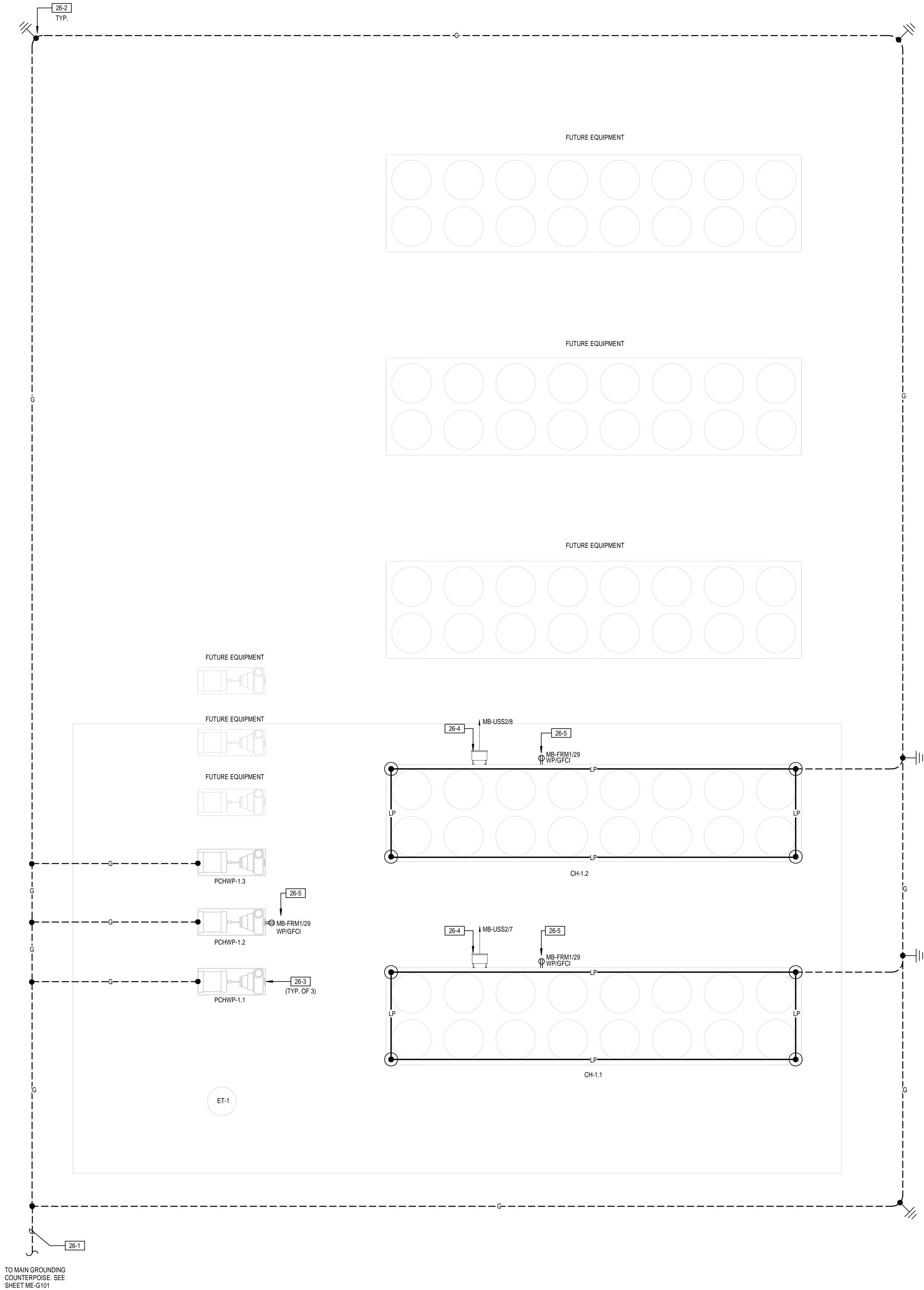
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1 CHILLER YARD ENLARGED PLAN
1/4" = 1'-0"

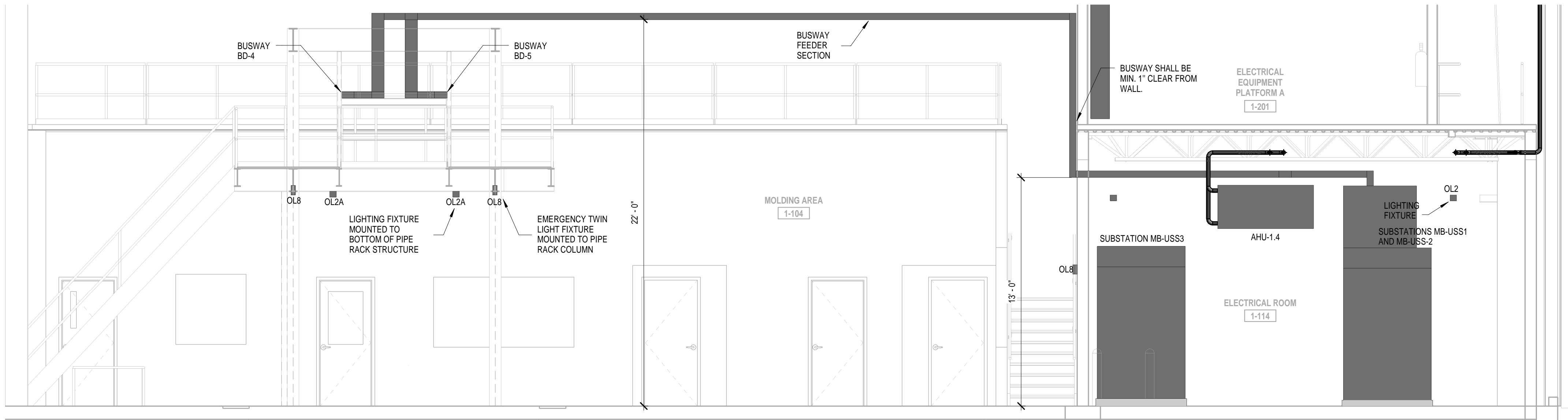
GENERAL NOTES:

1. REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES.
2. ALL DISCONNECT SWITCHES, STARTERS, COMBINATION VFDs, AND ASSOCIATED FUSES FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY ALL FUSE SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
3. CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS WILL BE PROVIDED BY DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
4. APPLY PROPER UL LISTED FIRE STOPPING FOR CONDUITS PENETRATING THROUGH FIRE RATED ASSEMBLIES. FIRE STOP SHALL BE LISTED FOR THE FIRE RATING OF THE ASSEMBLY.
5. EXTEND PROPERLY SIZED GROUND COPPER CONDUCTORS SO THAT ALL NON-CURRENT CARRYING METALLIC PARTS WITHIN THE PHYSICAL EXTENT OF THE CHILLER YARD ARE BONDED AND MADE ELECTRICALLY CONTINUOUS TO GROUND.

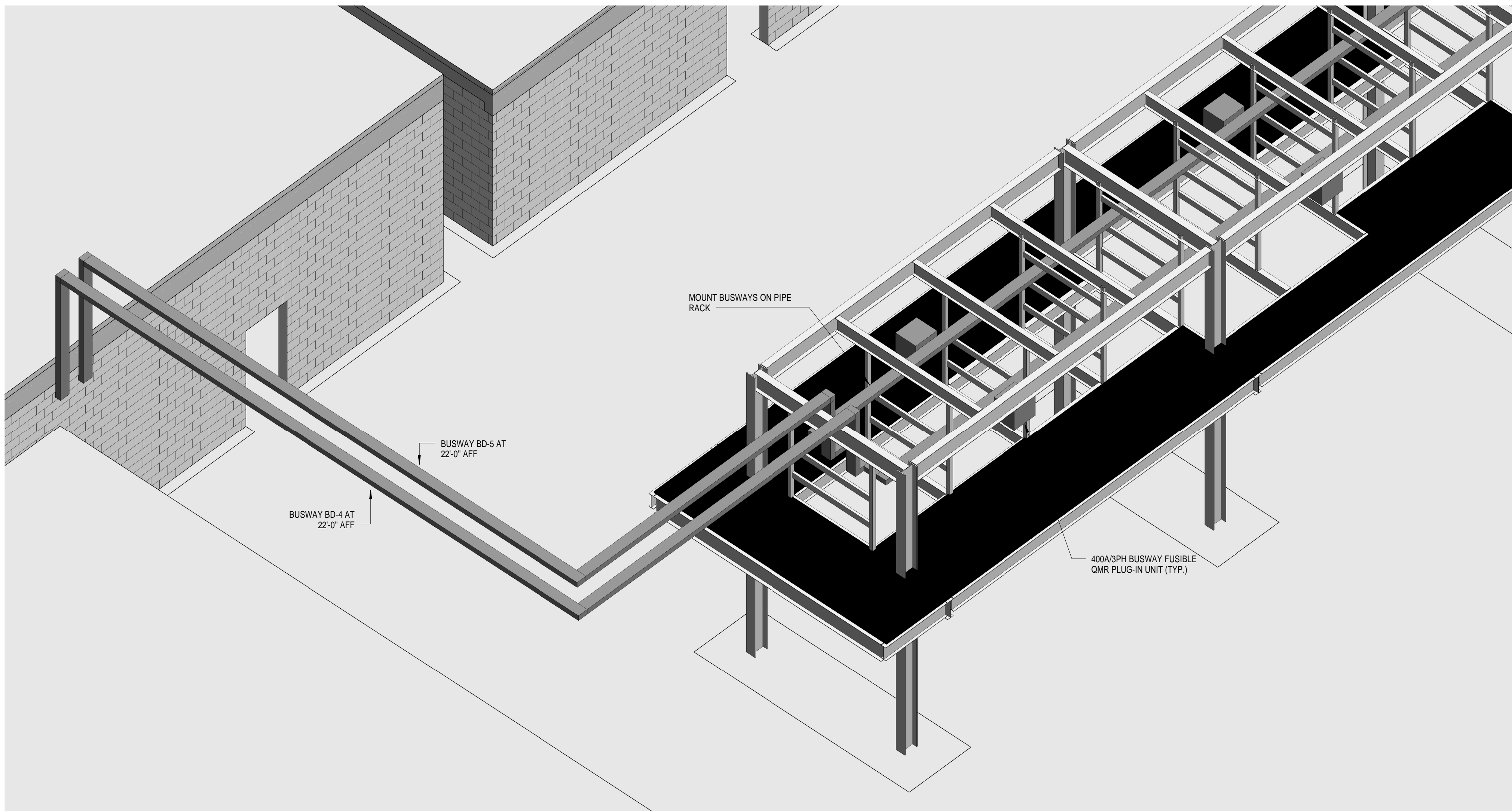
SPECIFIC NOTES:

- 26-1 PROVIDE A CADWELD "TEE" TYPE EXOTHERMIC CONNECTION AND EXTEND A #40 BARE COPPER CONDUCTOR FROM BUILDING'S MAIN GROUNDING COUNTERPOISE TO THE OUTDOOR MECHANICAL EQUIPMENT AND CHILLER AREA. ESTABLISH A GROUNDING COUNTERPOISE AROUND THE EQUIPMENT AND BOND BY MECHANICAL MEANS. ENSURE ALL NORMALLY NON-CURRENT CARRYING METALLIC PARTS ARE BONDED AND MADE ELECTRICALLY CONTINUOUS TO EARTH GROUND. PROVIDE GROUNDING RODS AS REQUIRED TO ACHIEVE A MAXIMUM OF 5 OHM RESISTANCE TO GROUND.
- 26-2 3/4" DIA X 20'-0" VERTICALLY DRIVEN CU CLAD GND ROD.
- 26-3 PROVIDE AN ENGRAVED PHENOLIC SIGN ON PCHWP-1.1, PCHWP-1.2, AND PCHWP-1.3 WITH 1" HIGH LETTERS INDICATING "VFD FOR PUMP IS LOCATED IN MECHANICAL ROOM".
- 26-4 FACTORY INSTALLED VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT PROVIDED WITH CHILLERS UNDER DIVISION 23. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF VFD ORIGINATING FROM SUBSTATION MB-US22. AND FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- 26-5 PROVIDE A GFCI DUPLEX CONVENIENCE RECEPTACLE IN WEATHER PROOF COVER IN AN ACCESSIBLE LOCATION FOR SERVICING OF THE MECHANICAL EQUIPMENT. CONVENIENCE RECEPTACLE SHALL BE ON A SEPARATE BRANCH CIRCUIT THAT SHOULD REMAIN POWERED WHEN THE EQUIPMENT DISCONNECT IS TURNED OFF IN COMPLIANCE WITH NEC ARTICLE 210.63. COORDINATE EXACT LOCATION OF RECEPTACLE WITH EQUIPMENT PRIOR TO INSTALLATION.





1 BUSWAY ROUTING ELEVATION
1/4" = 1'-0"



2 BUSWAY ROUTING 3D VIEW

GENERAL NOTES:

- REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES.
- ALL DISCONNECT SWITCHES, STARTERS, COMBINATION VFDs, AND ASSOCIATED FUSES FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY ALL FUSE SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS WILL BE PROVIDED BY DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
- APPLY PROPER UL LISTED FIRE STOPPING FOR BUSWAYS AND CONDUITS PENETRATING THROUGH FIRE RATED ASSEMBLIES. FIRE STOP SHALL BE LISTED FOR THE FIRE RATING OF THE ASSEMBLY.
- RECEPTACLE OUTLET BOXES SHALL NOT BE MOUNTED BACK TO BACK DIRECTLY ACROSS A WALL OR PARTITION. CONTRACTOR SHALL OFFSET THE INSTALLATION OF BOXES HORIZONTALLY A MINIMUM OF 24".
- VACUUM PUMPS AND AIR COMPRESSORS ARE FED FROM THE MEDIUM VOLTAGE MCC SECTION OF SUBSTATION MB-US53. REFER TO SHEET ME-604.

SPECIFIC NOTES:

- FUSED DISCONNECT SWITCH FOR VAV UNITS VAV-1.1.1, VAV-1.1.2, AND VAV-1.1.3 PROVIDED WITH EQUIPMENT UNDER DIVISION 23. FUSE SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATION. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT AND FIELD COORDINATE EXACT LOCATION OF EQUIPMENT PRIOR TO INSTALLATION.
- SOLID STATE SPEED CONTROL AND MOTOR RATED DISCONNECT SWITCH FOR EXHAUST FANS EF-1.3, EF-1.4, AND EF-1.5 FURNISHED WITH EQUIPMENT UNDER DIVISION 23. INSTALL SWITCHES IN AN ACCESSIBLE LOCATION ABOVE CEILING AND PROVIDE WIRE AND CONDUIT TO LINE SIDE OF SWITCH.
- PROVIDE WIRE AND CONDUIT AC-1.1 FROM CORRESPONDING CONDENSING UNIT CU-1.1 LOCATED ON MECHANICAL PLATFORM 1.204. COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- PROVIDE A 208V/1PH ELECTRICAL CONNECTION VIA WALL MOUNTED JUNCTION BOX FOR HIGH VELOCITY OVERHEAD DOOR AIR CURTAIN ORIGINATING FROM A 20A/2P CIRCUIT BREAKER. FIELD COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO INSTALLATION.
- PROVIDE A 30A/3PH FUSED DISCONNECT SWITCH MOUNTED AT 48" AFF FOR OVERHEAD COILING DOOR. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT AND FIELD COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION.
- PROVIDE COUNTER HEIGHT GFCI QUAD RECEPTACLES AT 36" FROM CENTER ALONG WORK SURFACE.
- PROVIDE (2) NEMA L5-20R OUTLETS FOR THE COMMUNICATION RACK'S POWER DISTRIBUTION UNITS AND MOUNT WITHIN VERTICAL RACK CHANNEL. REFER TO SHEET E-502 DETAIL 3.
- PROVIDE A 120V/1PH ELECTRICAL CONNECTION TO FIRE ALARM CONTROL PANEL VIA A WALL MOUNTED JUNCTION BOX FROM A 20A/1P CIRCUIT BREAKER WITH LOCKABLE PROVISIONS. FIELD COORDINATE EXACT LOCATION OF PANEL WITH FIRE ALARM CONTRACTOR PRIOR TO INSTALLATION.
- PROVIDE A 277V/1PH ELECTRICAL CONNECTION VIA WALL MOUNTED JUNCTION BOX TO ELECTRIC WATER HEATERS EWH-2 AND EWH-3 ORIGINATING FROM A 60A/1P CIRCUIT BREAKER. FIELD COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO INSTALLATION.
- PROVIDE A 120V/1PH ELECTRICAL CONNECTION VIA WALL MOUNTED JUNCTION BOX TO CIRCULATING PUMP CP-1 ORIGINATING FROM A 20A/1P CIRCUIT BREAKER. ADDITIONALLY, FIELD COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO INSTALLATION.
- PROVIDE A 120V/1PH ELECTRICAL CONNECTION FOR TRAP PRIMERS VIA WALL MOUNTED JUNCTION BOX ORIGINATING FROM A 20A/1P CIRCUIT BREAKER. FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- PROVIDE A 120V/1PH ELECTRICAL CONNECTION TO THE BENCH MOUNTED 6" SQUARE RECEPTACLES. BRANCH CIRCUIT FEEDING THE RECEPTACLE SHALL BE SUPPLIED FROM A GFCI TYPE CIRCUIT BREAKER LOCATED AT SOURCE PANEL. FIELD COORDINATE CONDUIT STUB-UP WITH BENCH VENDOR.
- PROVIDE A WALL MOUNTING BRACKET TO MOUNT TRANSFORMER. ADDITIONALLY, PROVIDE A PLACARD ON THE TRANSFORMER WITH A MINIMUM OF 1" HIGH LETTERS TO INDICATE THE LOCATION OF ITS DISCONNECTING MEANS. DISCONNECTING MEANS FOR TRANSFORMER IS AT PANEL MB-FP1 LOCATED AT THE MECHANICAL EQUIPMENT PLATFORM. IN COMPLIANCE WITH NEC ARTICLE 450.14 FIELD COORDINATE EXACT HEIGHT PRIOR TO INSTALLATION.
- ENSURE ADEQUATE CLEARANCES FOR PANEL BOARD IS ESTABLISHED PER NEC ARTICLE 110.26. PLACE A 36" DEEP FLOOR MARKING TAPE FOR THE 208V/120V PANEL TO INDICATE REQUIRED CLEARANCE PERIMETER. NO STORAGE SHALL BE PERMITTED WITHIN THIS AREA.

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2 ENLARGED FACILITY ROOMS

1/4" = 1'-0"

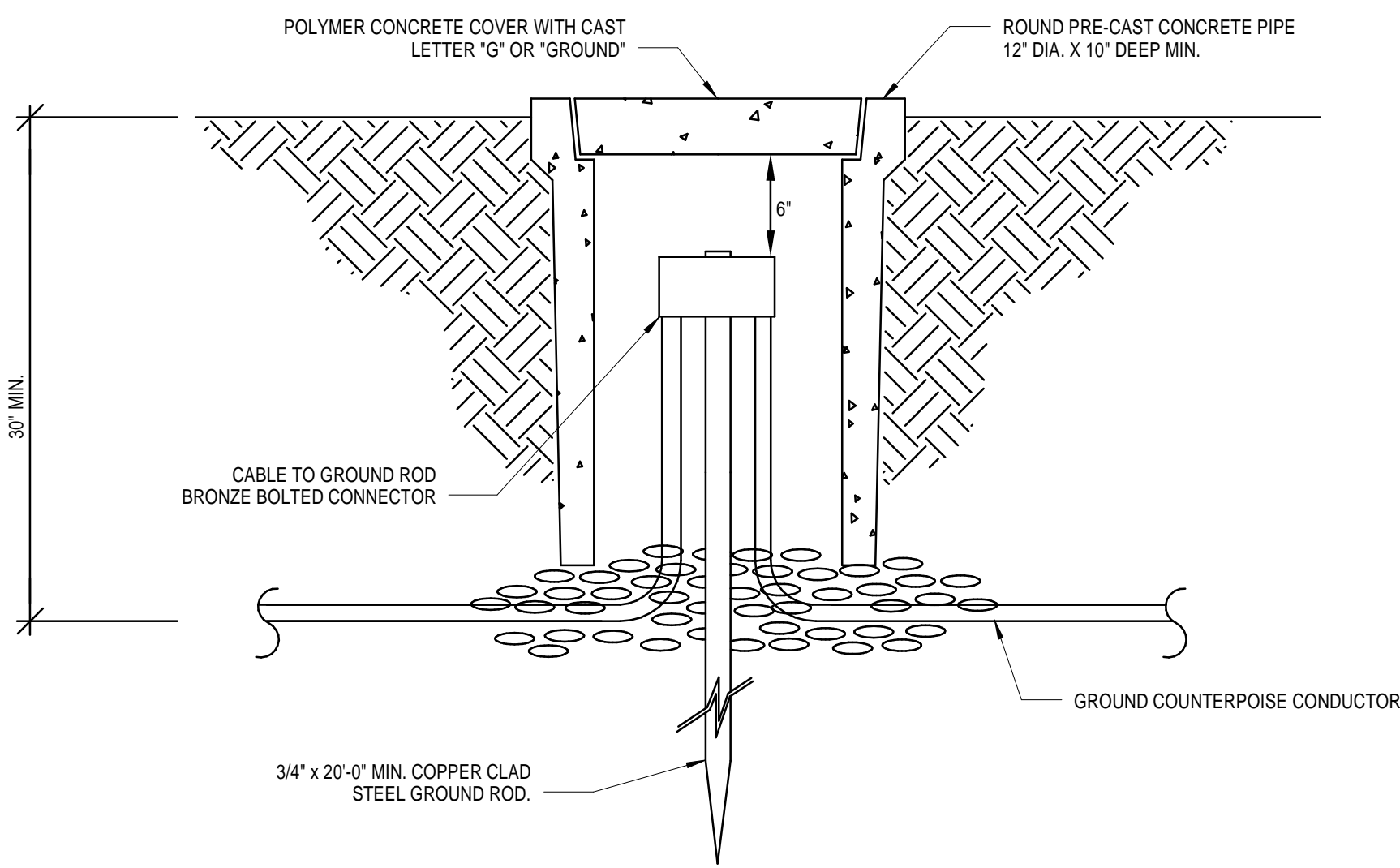
3 ENLARGED REFINER AND VACUUM PUMP ROOMS

1/4" = 1'-0"

NORTH



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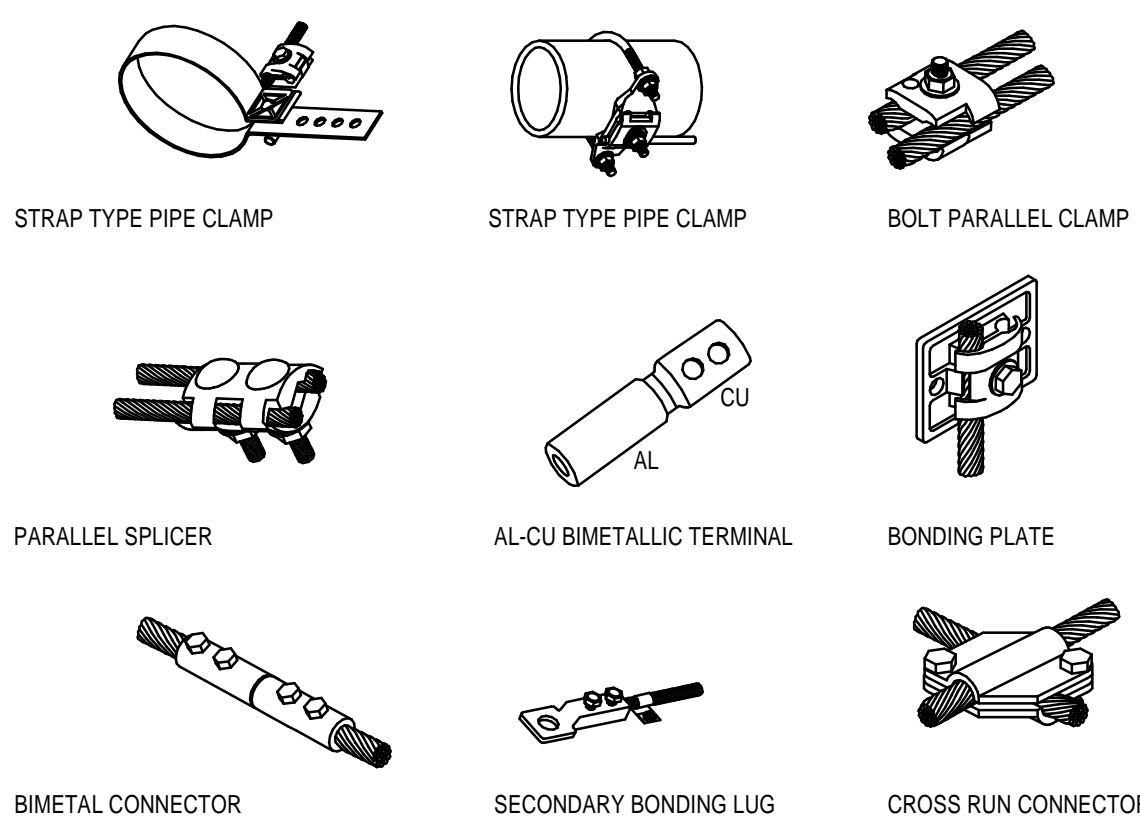
1 GROUNDING CONNECTION TESTWELL DETAIL
NTS

DETAIL NOTES:

TEST WELL GROUND ROD CONNECTION SHOWN IN THIS DETAIL. CONNECTION TO ORDINARY GROUND RODS SHALL BE DONE IN A SIMILAR MANNER, BUT WITH A WELDED CABLE CONNECTION IN LIEU OF BOLTED CABLE CONNECTION.

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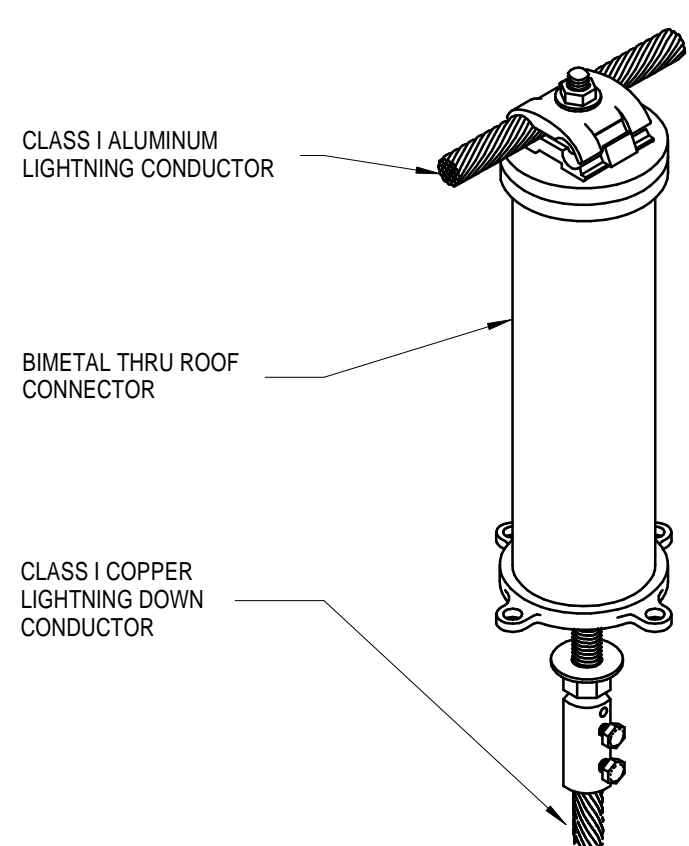
4 TYPICAL BONDING / SPLICING DETAIL
NTS

DETAIL NOTES:

CONNECTORS SHALL BE LISTED AND LABELED BY AN NRTL AND FROM AN ACCEPTABLE MANUFACTURER IN COMPLIANCE WITH PROJECT SPECIFICATIONS SECTION 26 05 26

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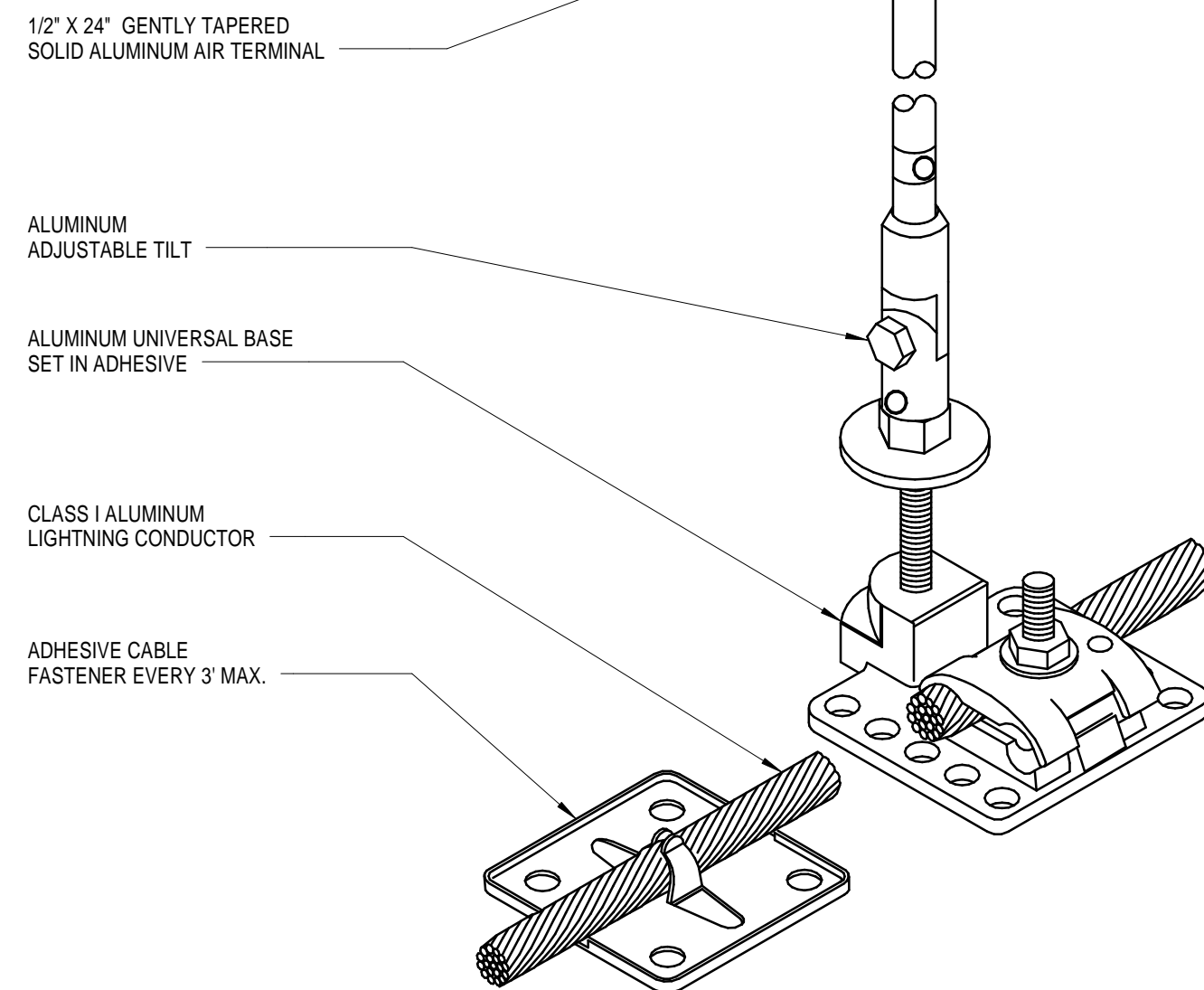
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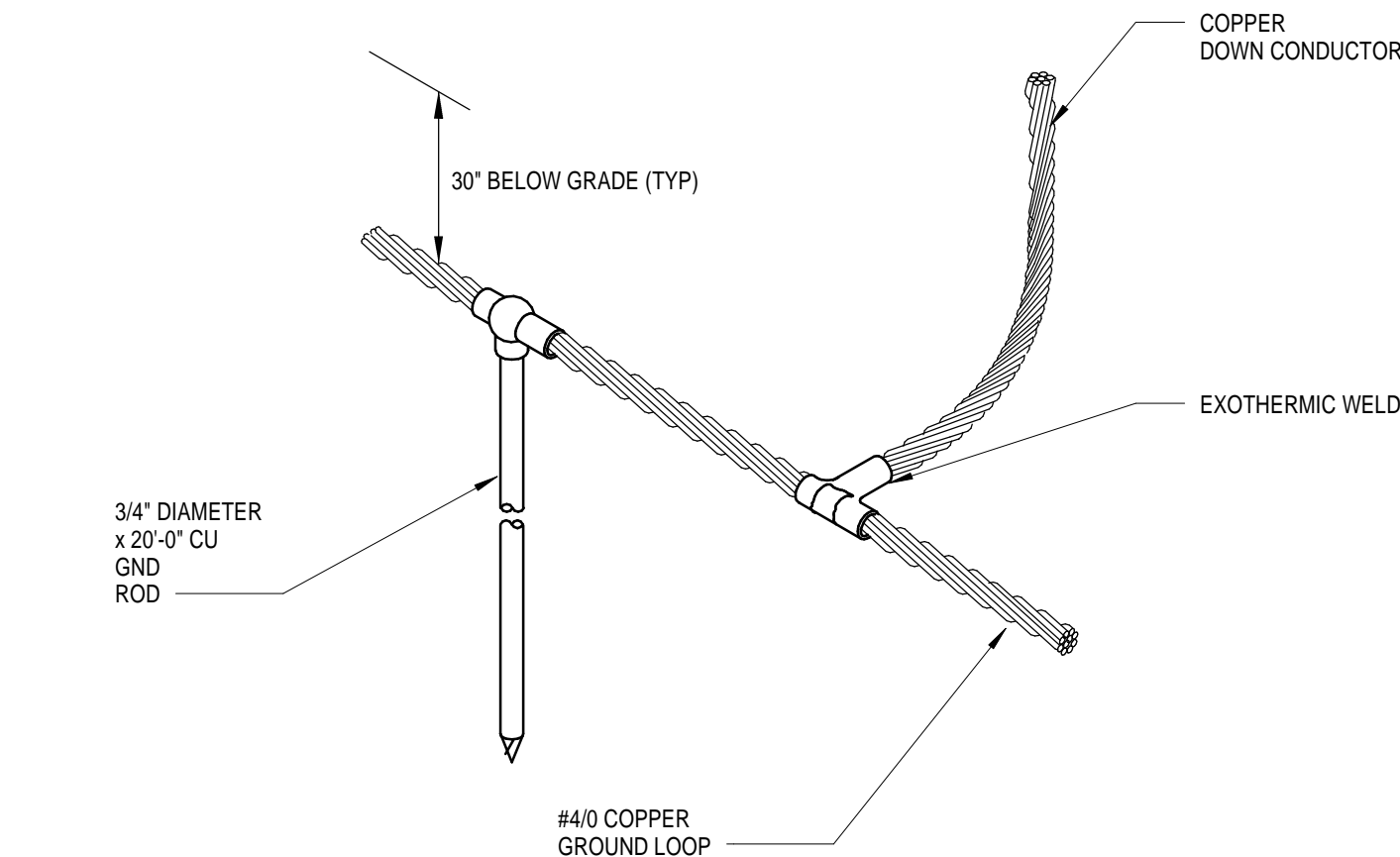
7 BIMETALLIC THRU ROOF CONNECTOR
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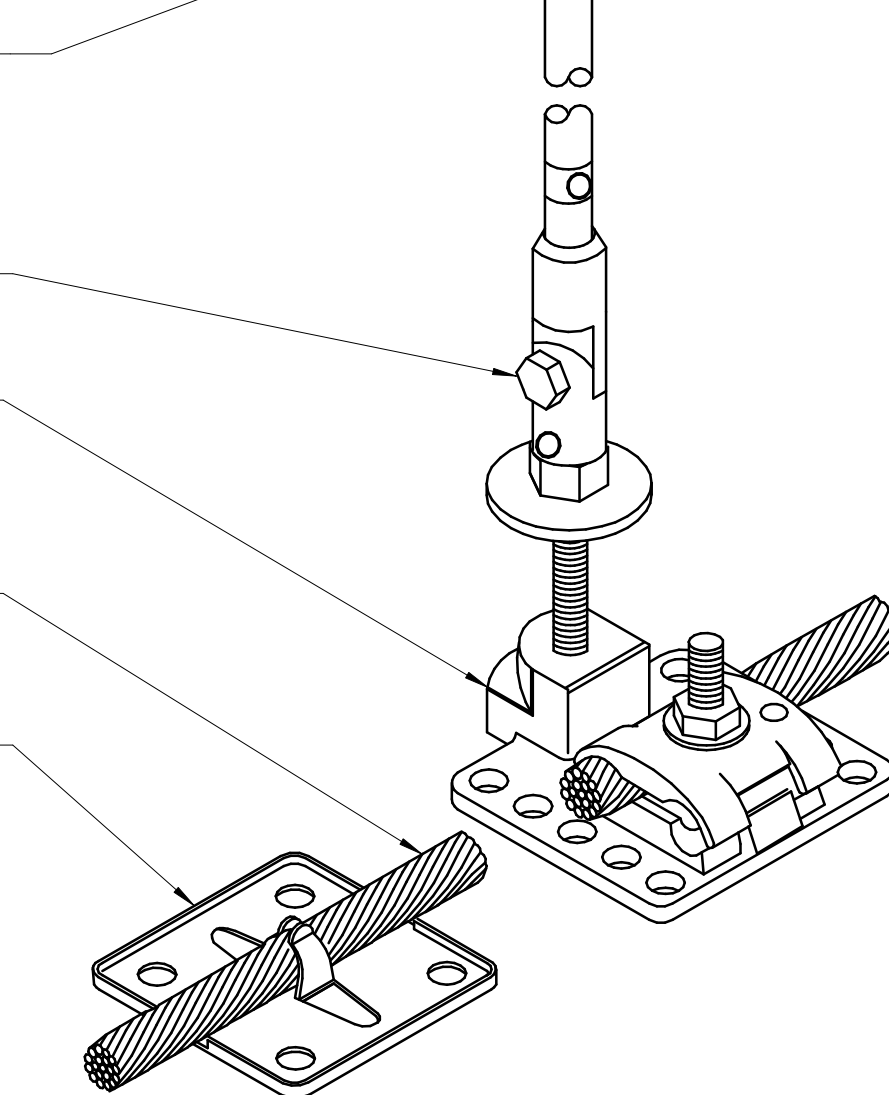
5 CLASS I ALUMINUM AIR TERMINAL DETAIL
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8 DOWN CONDUCTOR TO COUNTERPOISE CONNECTION
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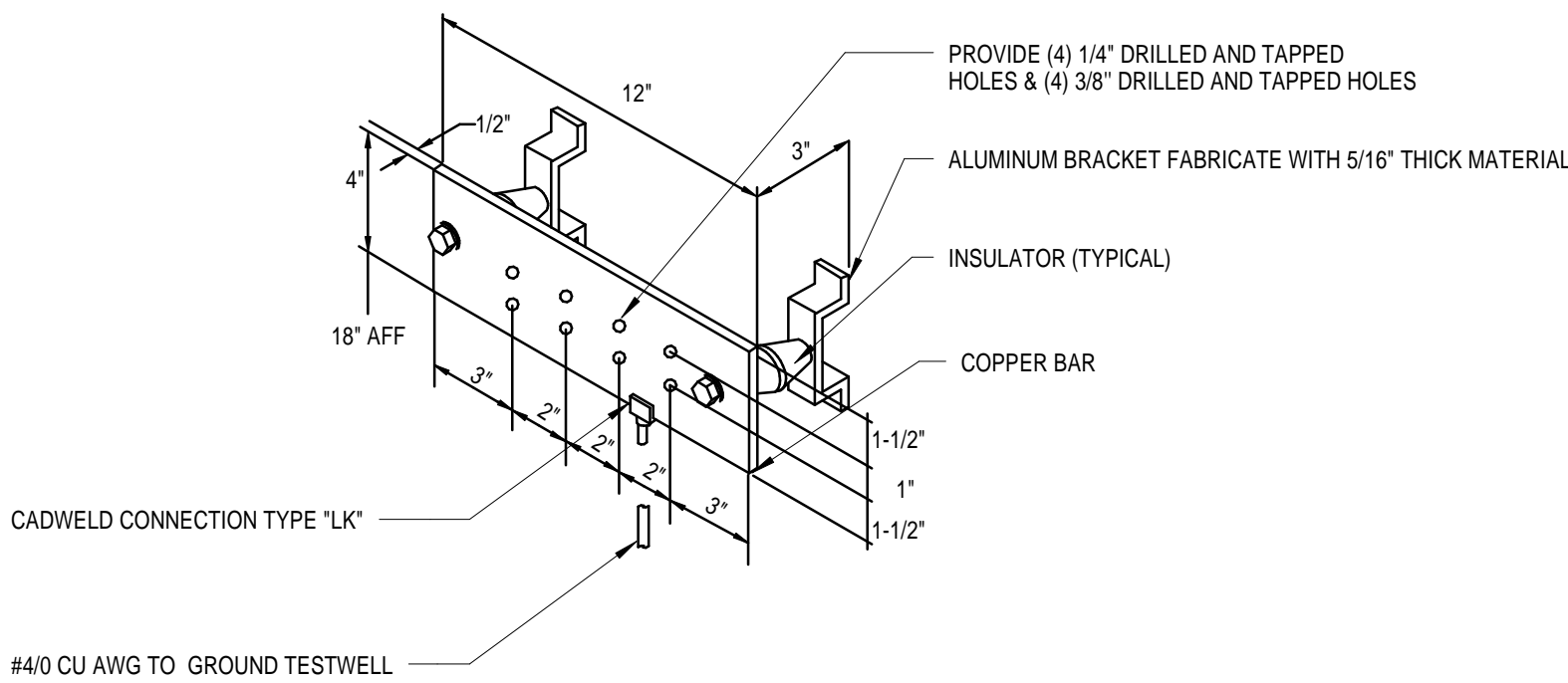
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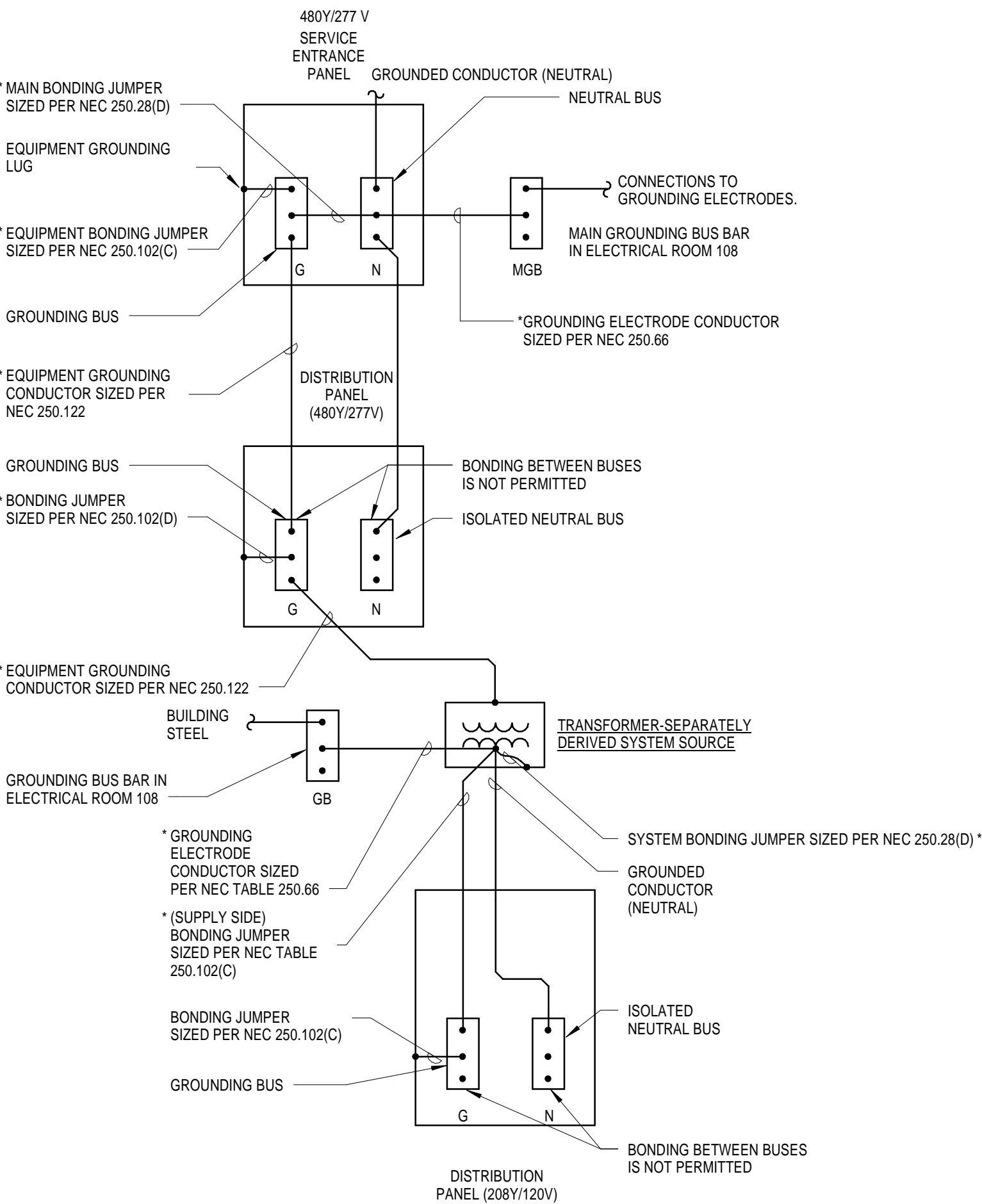
2 BUILDING STEEL CONNECTION TO GROUND ROD
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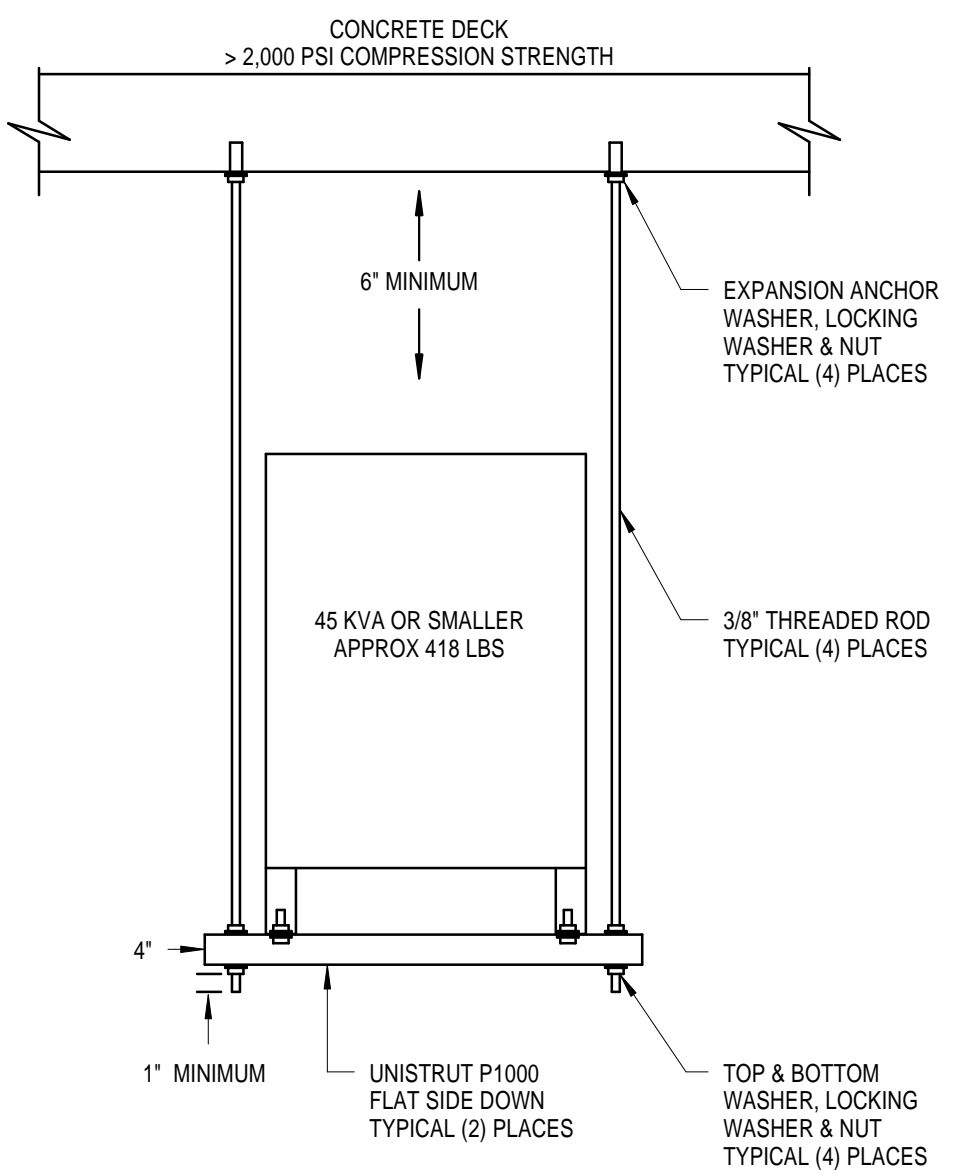
3 GROUND BAR DETAIL
NTS



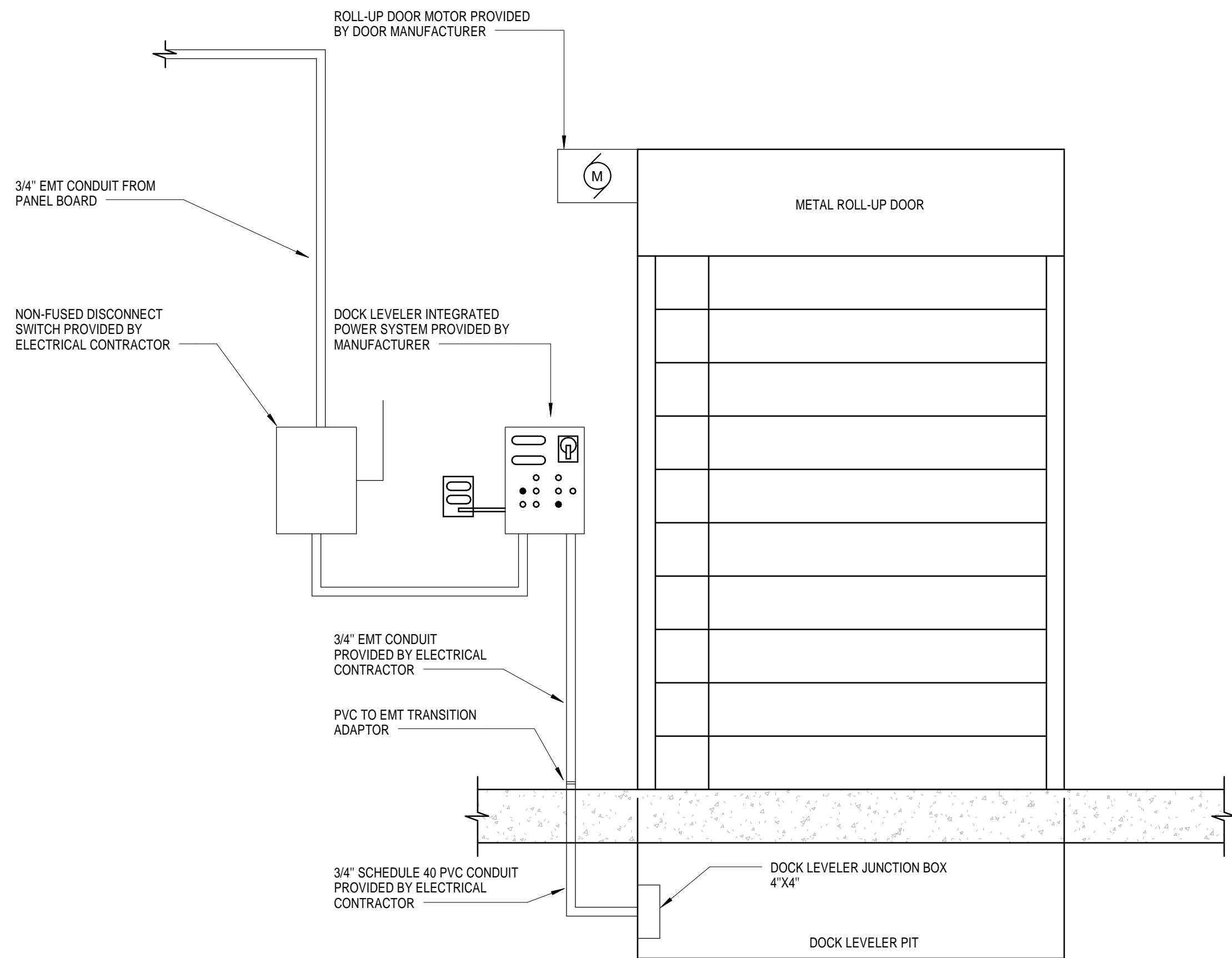
6 TRANSFORMER GROUNDING DETAIL
NTS

DETAIL NOTE:

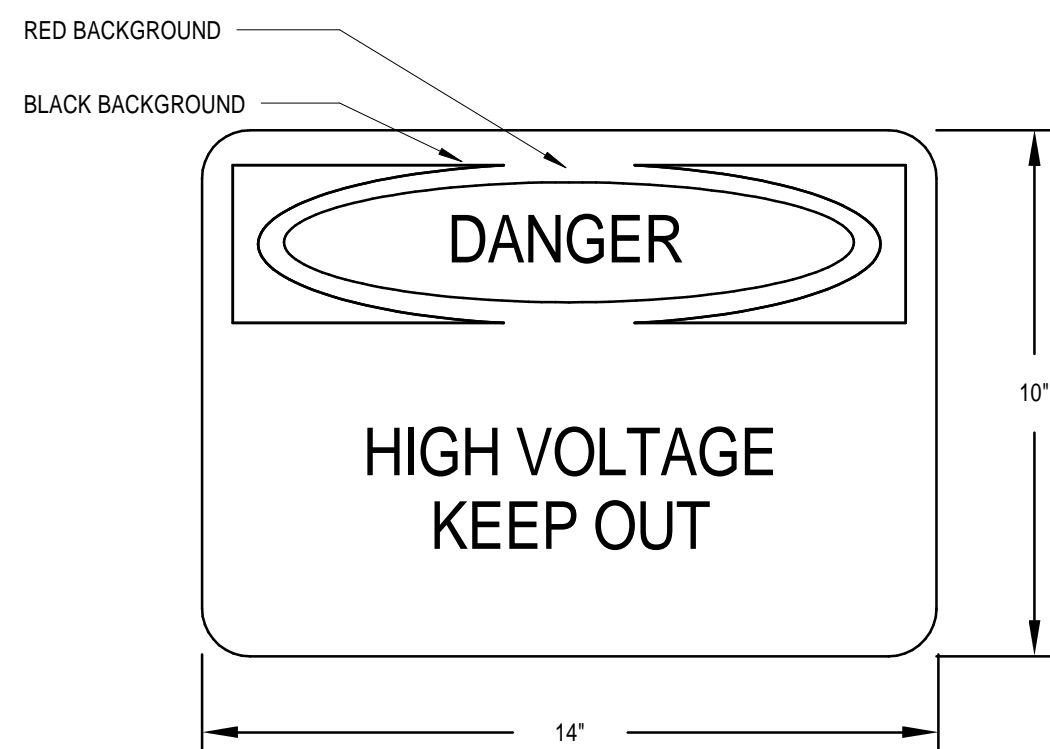
WHERE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE, EQUIPMENT GROUNDING CONDUCTORS, WHERE INSTALLED, SHALL BE INCREASED IN SIZE PROPORTIONATELY ACCORDING TO THE CIRCULAR MIL AREA OF THE UNGROUNDED CONDUCTORS IN COMPLIANCE WITH NEC ARTICLE 250.122(B).



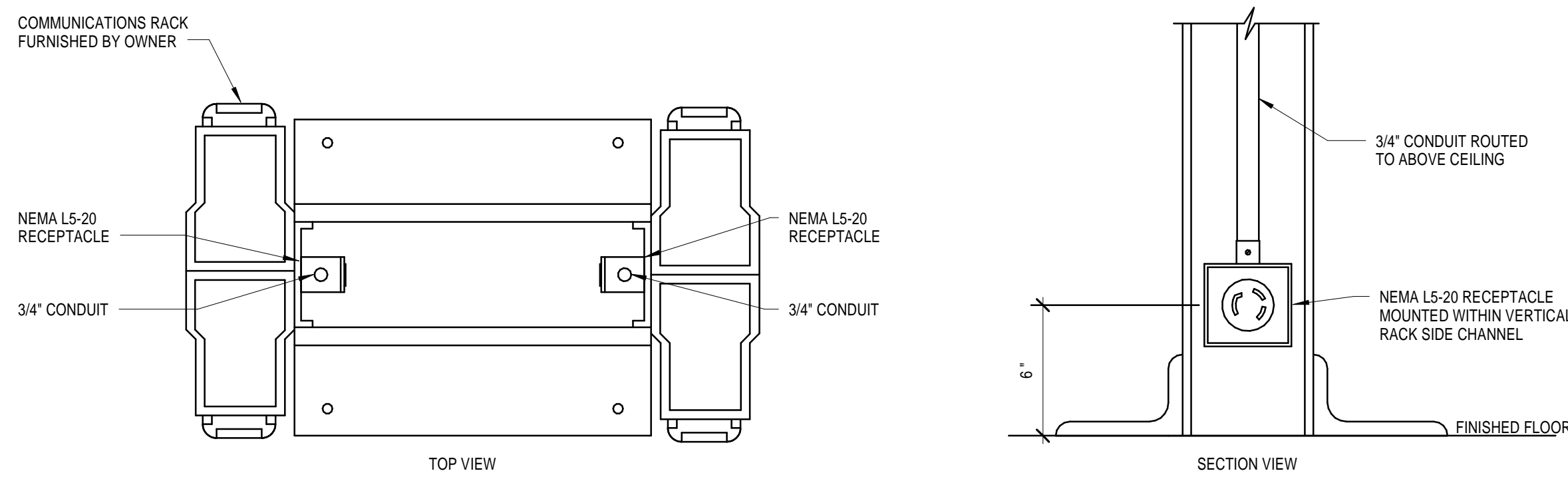
9 TRANSFORMER TRAPEZE MOUNTING DETAIL
NTS



1 DOCK LEVELER CONNECTION DETAIL
NTS

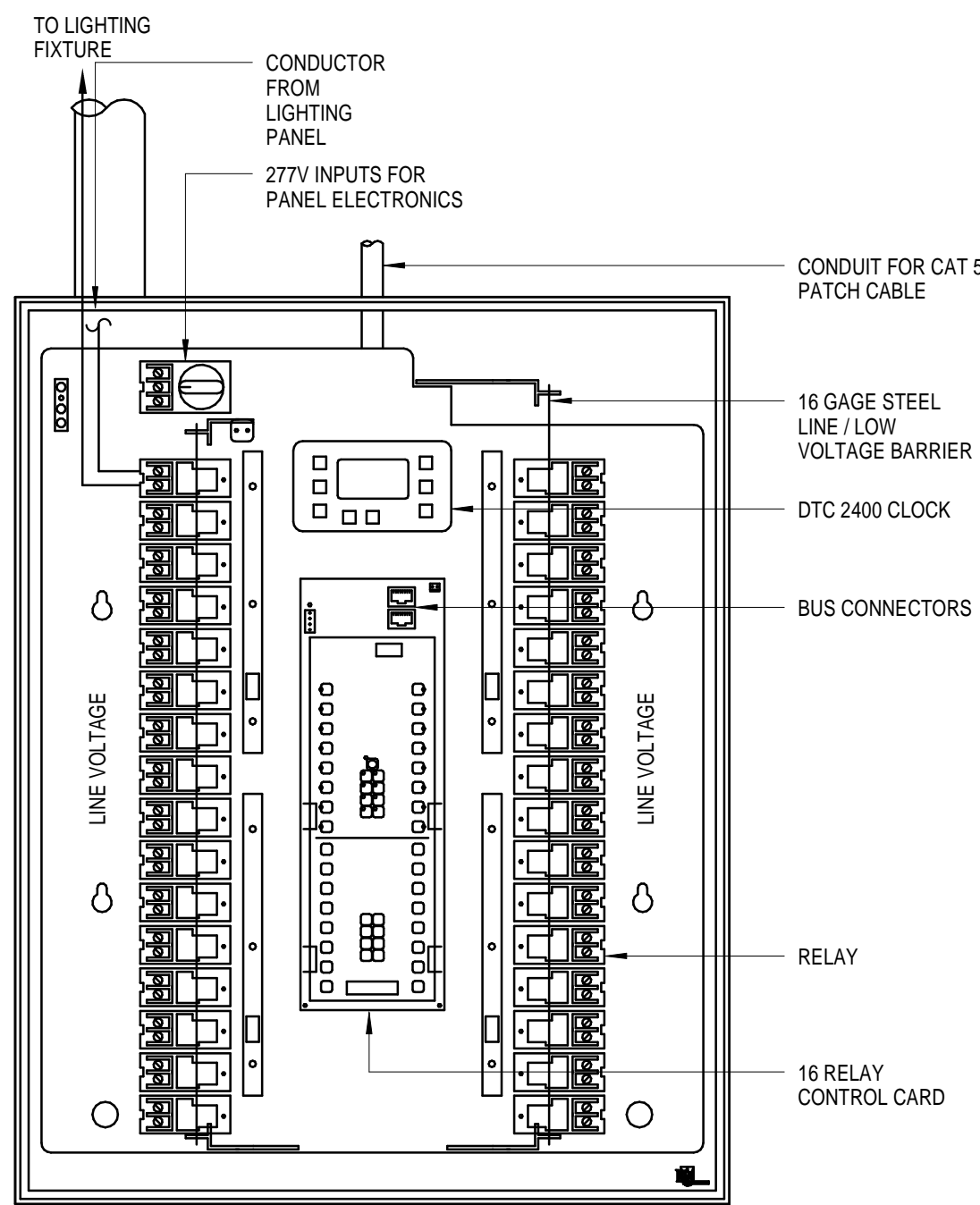


2 HIGH VOLTAGE WARNING SIGN
NTS



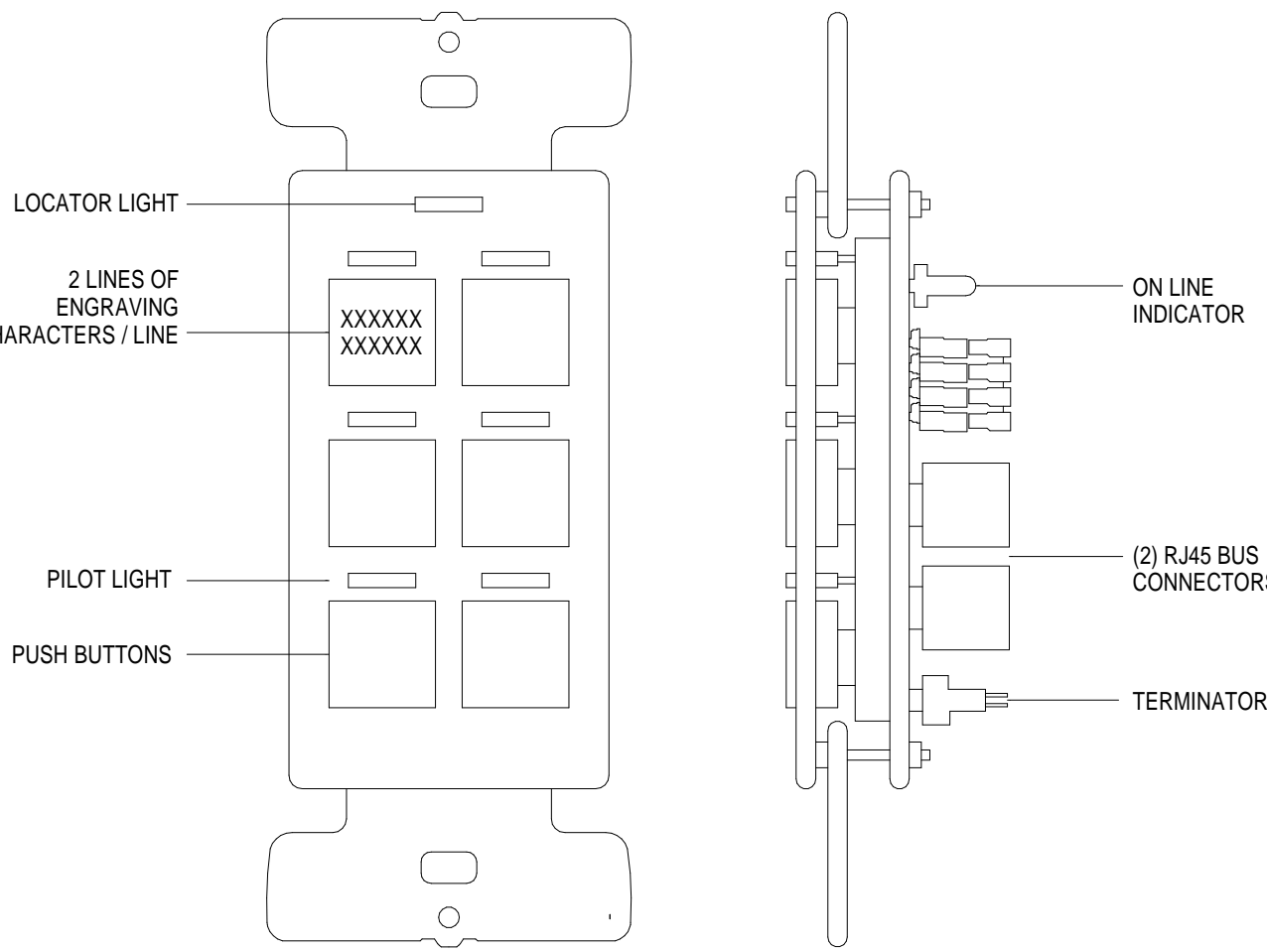
3 EQUIPMENT RACK POWER DETAIL
NTS

E



1 LIGHTING CONTROL PANEL ELEVATION
NTS

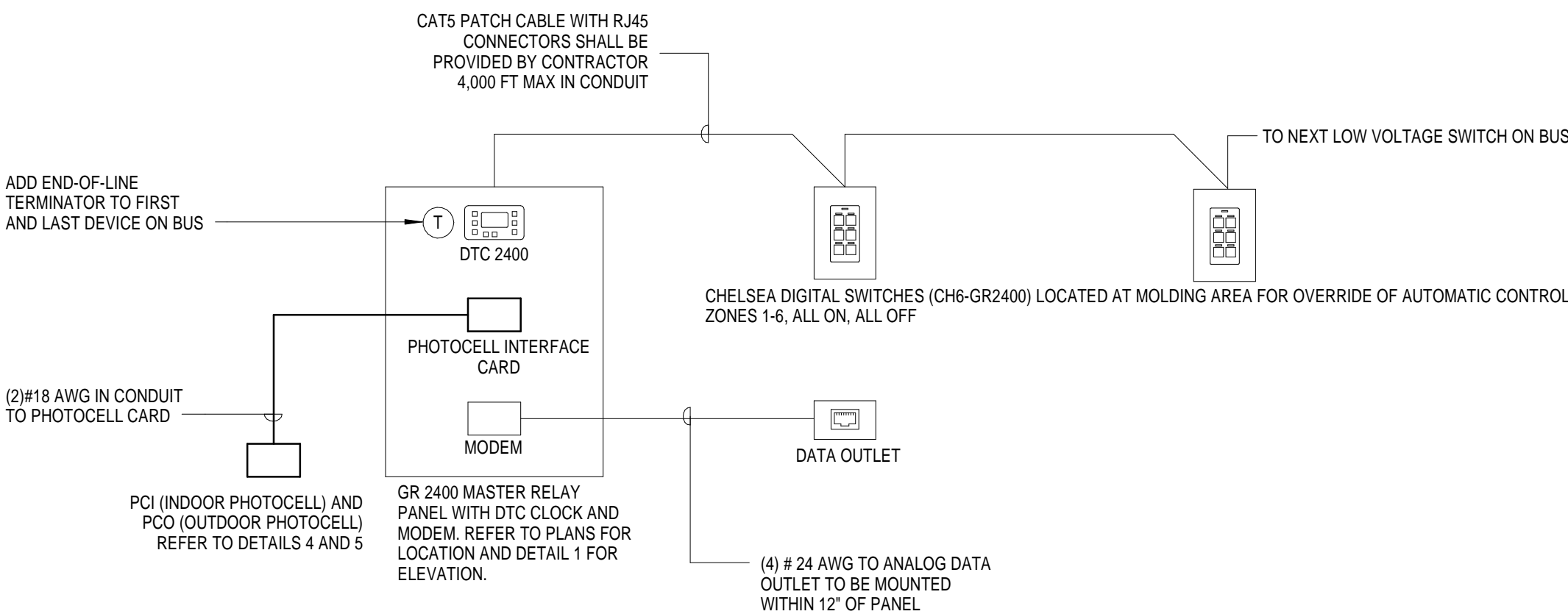
D



2 CHELSEA DIGITAL SWITCH FOR DIMMING/SWITCHING
NTS

- DETAIL NOTES:
- SWITCH BUTTONS ARE FACTORY ENGRAVED.
 - SWITCH BUTTONS MAY CONTROL ANY RELAY(S) IN ANY COMBINATION. REFER TO LIGHTING CONTROL PANEL SCHEDULE ON SHEET ME-002
 - LED PILOT LIGHTS INDICATES STATUS.
 - SWITCH IS LINKED TO THE GR 2400 DIGITAL BUS VIA CAT5 PATCH CABLE WITH RJ45 CONNECTORS.

C

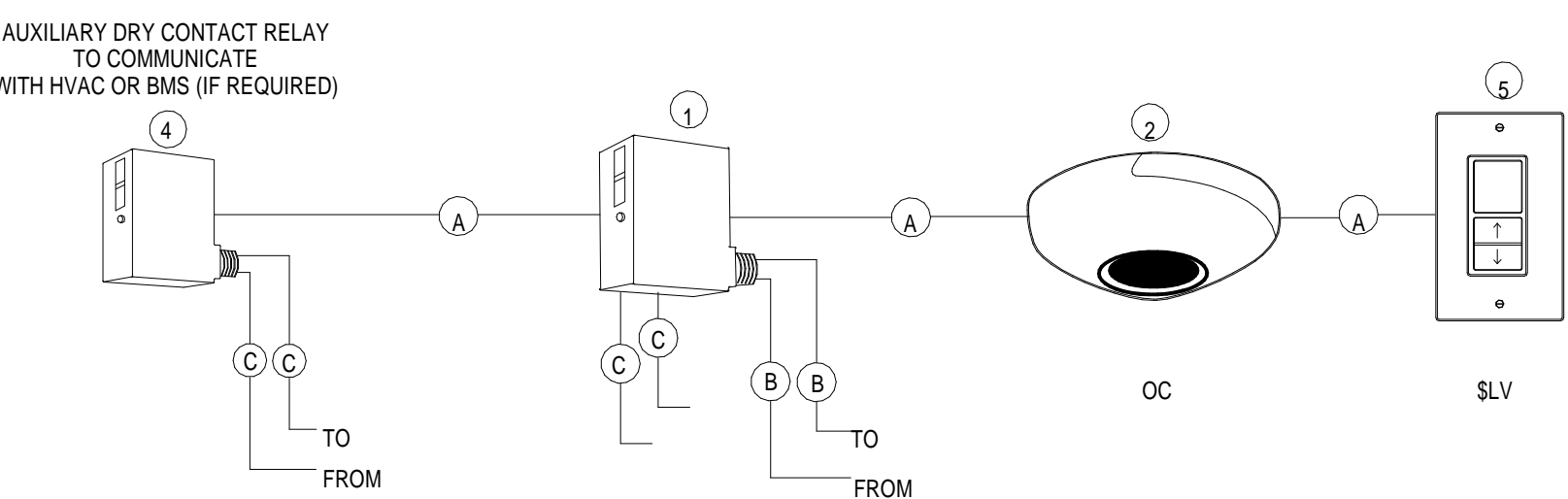


3 TYPICAL LOW VOLTAGE SINGLE LINE DIAGRAM
NTS

APPLIES TO AREAS WITH TIME OF DAY AND DAYLIGHT CONTROL CONNECTED TO LIGHTING CONTROL PANEL (CONTROL CODE 4)

- MOLDING AREA 1-104
- REFINER ROOM 1-102
- MAINTENANCE STORAGE AND PARTS 1-106

B



6 STANDALONE AREA WIRING DETAIL 1
NTS

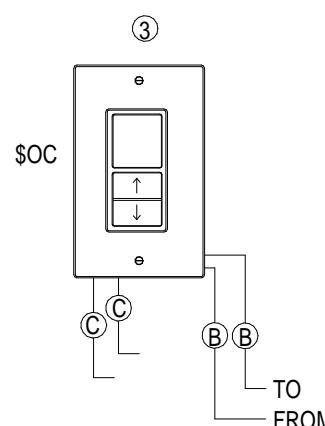
APPLIES TO AREAS WITH CEILING MOUNTED OCCUPANCY SENSING CONTROL (CONTROL CODES 3 AND 5)

- BREAK ROOM 1-110
- TEST MONITORING 1-115
- CONTROL ROOM 1-116
- TOOLING ROOM 1-107
- WOMEN'S 1-113
- NEWS 1-111
- LOBBY 1-101

A

WIRE LEGEND	
(A)	CAT 5 (LOW VOLTAGE)
(B)	CLASS 1 (LINE VOLTAGE)
(C)	CLASS 2 (LOW VOLTAGE)

LIGHTING CONTROL DEVICE LEGEND (NIGHT)	
1	SWITCHING RELAY POWER PACK MODEL #: rPP16
2	OCCUPANCY/VACANCY SENSOR MODEL #: vCM PDT-10
3	OCCUPANCY/VACANCY WALL SWITCH COMBINATION UNIT MODEL #: WSX SA
4	AUXILIARY DRY CONTACT RELAY PACK MODEL #: nAR 40
5	ON/OFF OVERRIDE SWITCH MODEL #: Npdm



7 STANDALONE AREA WIRING DETAIL 2
NTS

APPLIES TO AREAS WITH WALL MOUNTED OCCUPANCY SENSING CONTROL (CONTROL CODE 2)

- OFFICES 1-1171-108
- JANITOR ROOM 1-112
- DATA ROOM 1-109
- STORAGE 1-116

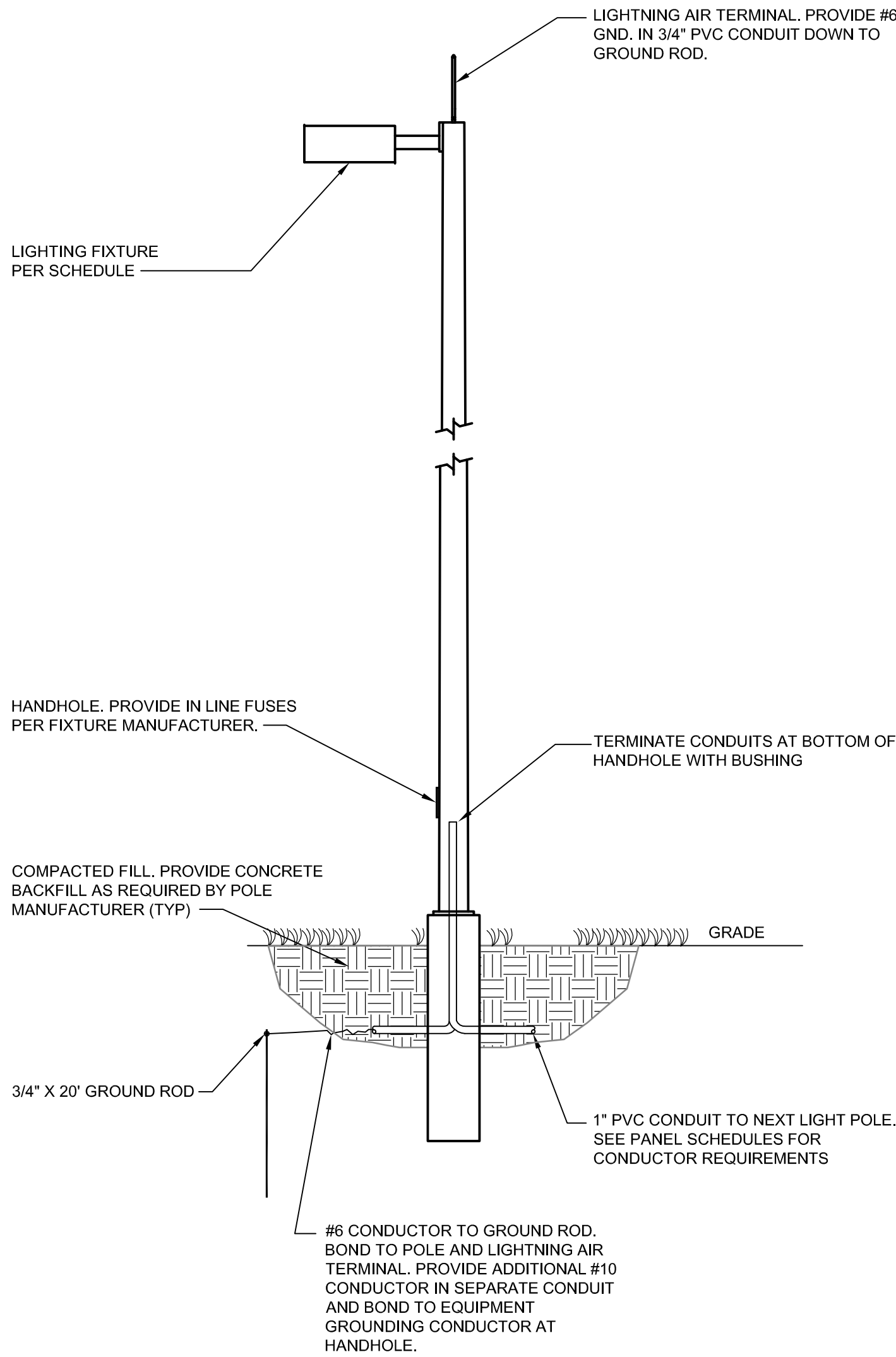
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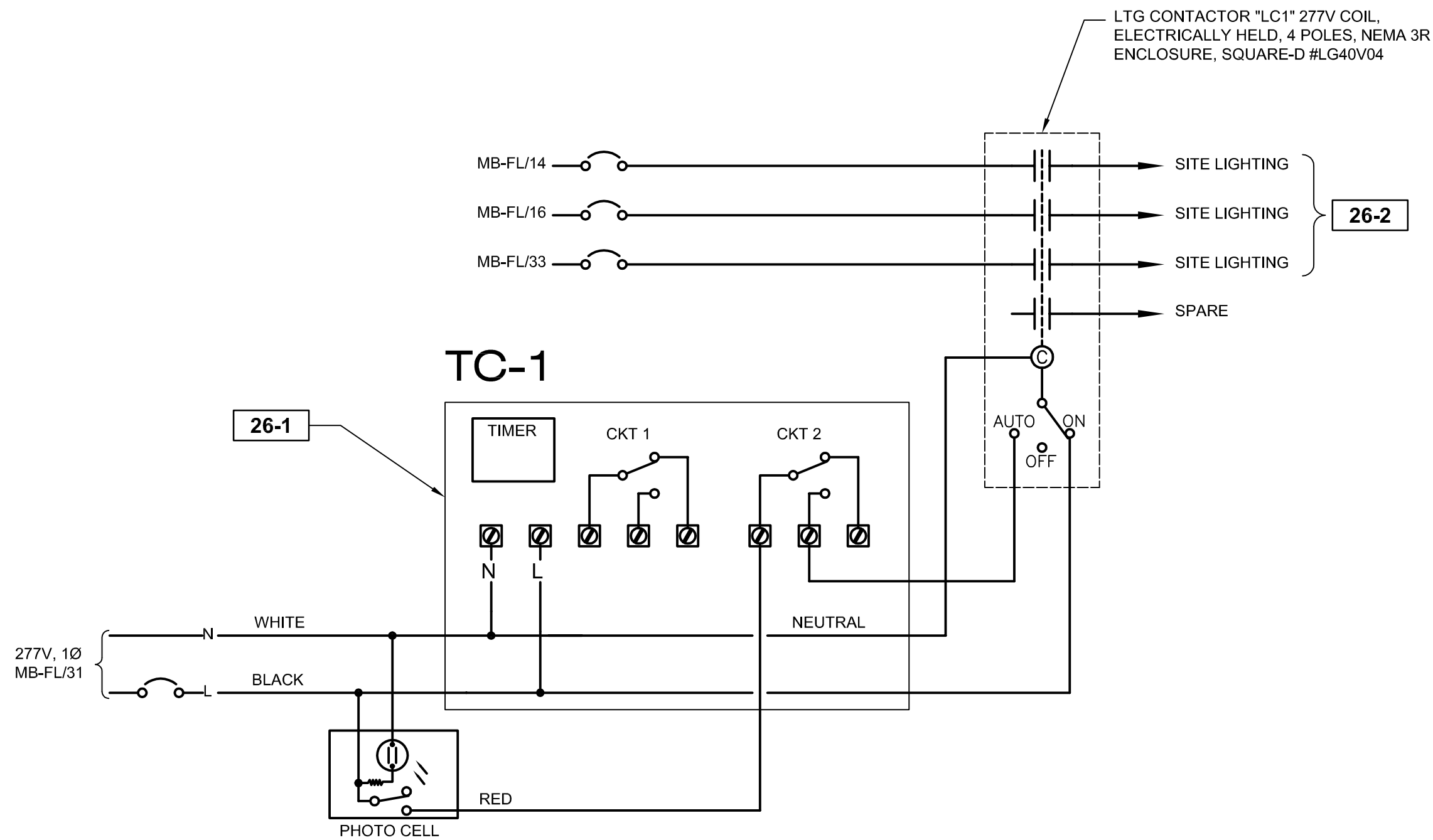
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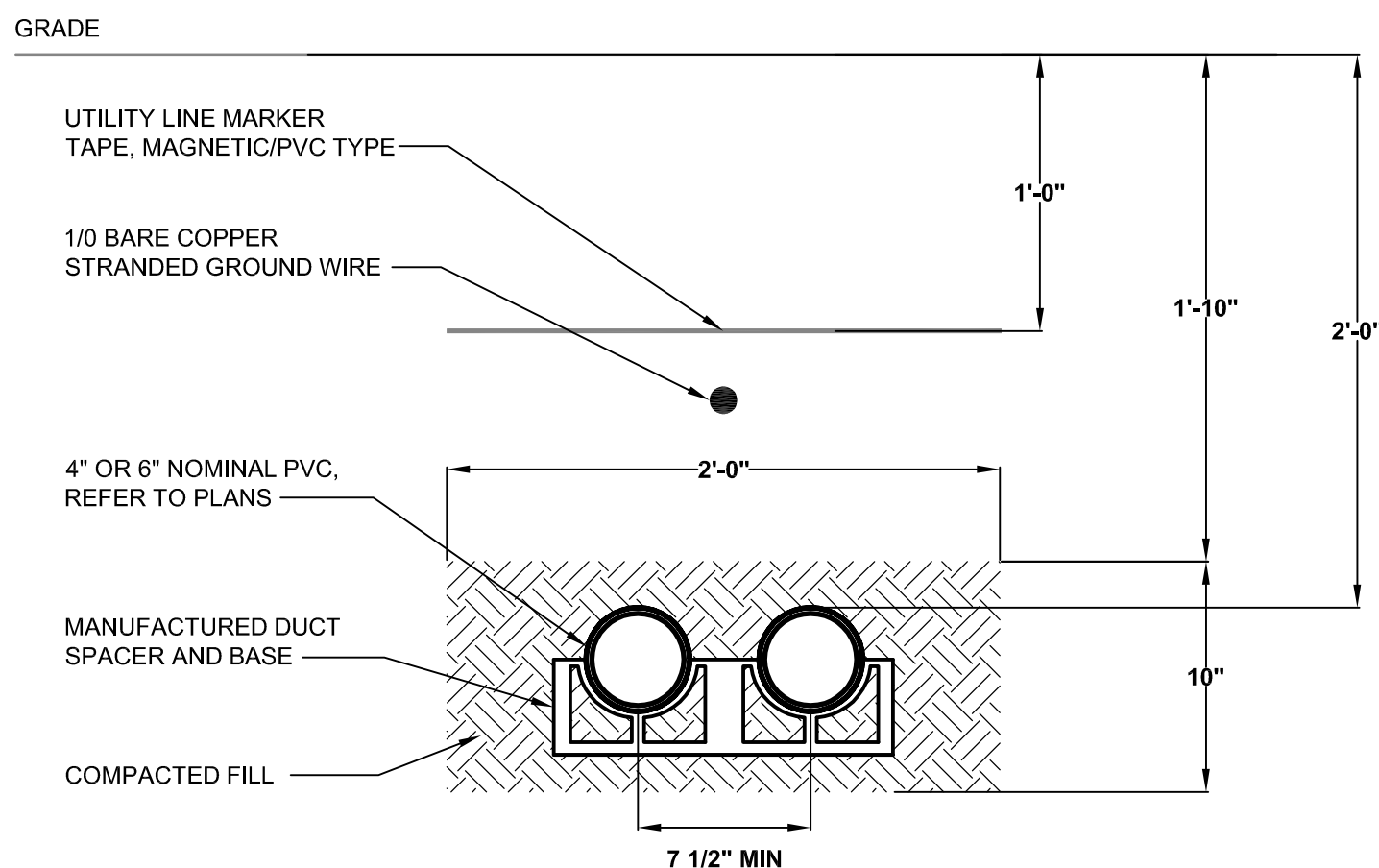
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1 TYPICAL LIGHT POLE DETAIL
SCALE: NTS



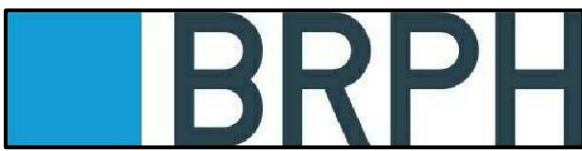
2 EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NTS



3 TYPICAL DUCT BANK SECTION
SCALE: NTS

SPECIFIC NOTES:

- 26-1 ELECTRONIC TIME SWITCH 'TC-1', (2) CIRCUIT, FULLY PROGRAMMABLE FOR 7-DAY LOAD CONTROL WITH AUTOMATIC DAYLIGHT SAVING TIME ADJUSTMENT, AUTOMATIC LEAP YEAR ADJUSTMENT, MANUAL OVERRIDE CAPABILITY, NON-VOLATILE MEMORY AND FACTORY INSTALLED FIELD REPLACEABLE LITHIUM BATTERY BACKUP, INTERMATIC MODEL #ET70215CR, OR APPROVED EQUAL. CIRCUIT 2 SHALL BE PROGRAMMED AND WIRED FOR DUSK TO DAWN OPERATION. CIRCUIT 1 SHALL BE SPARE.
- 26-2 NEUTRAL AND GROUNDING WIRES NOT SHOWN BUT SHALL BE INSTALLED. RUN SEPARATE NEUTRAL FOR EACH 'MB-FL' CIRCUIT.



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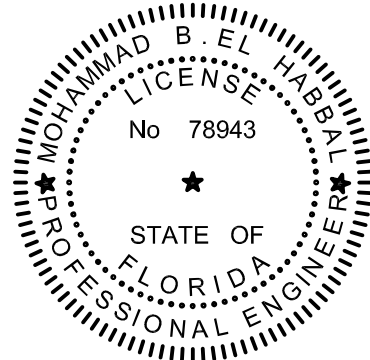
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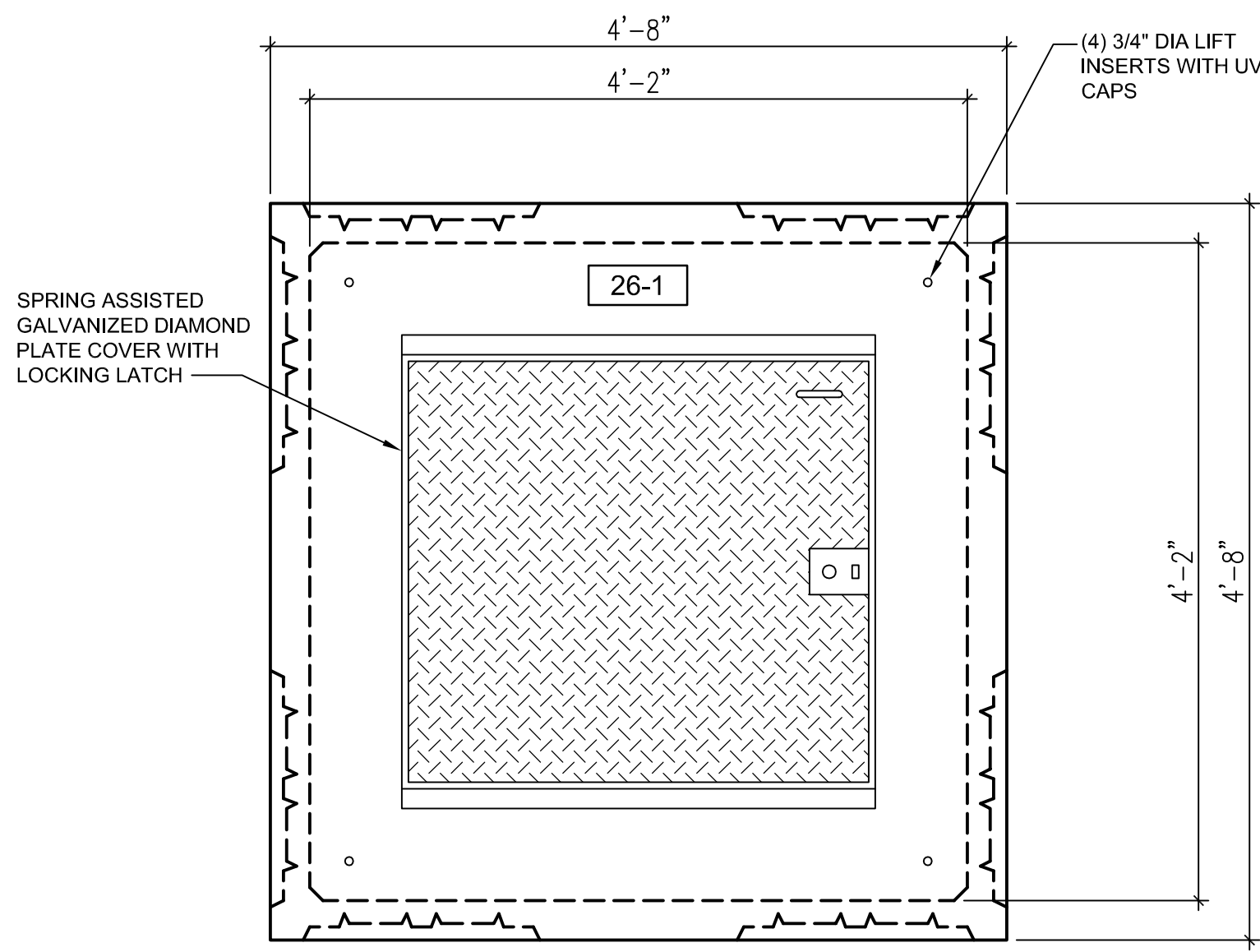
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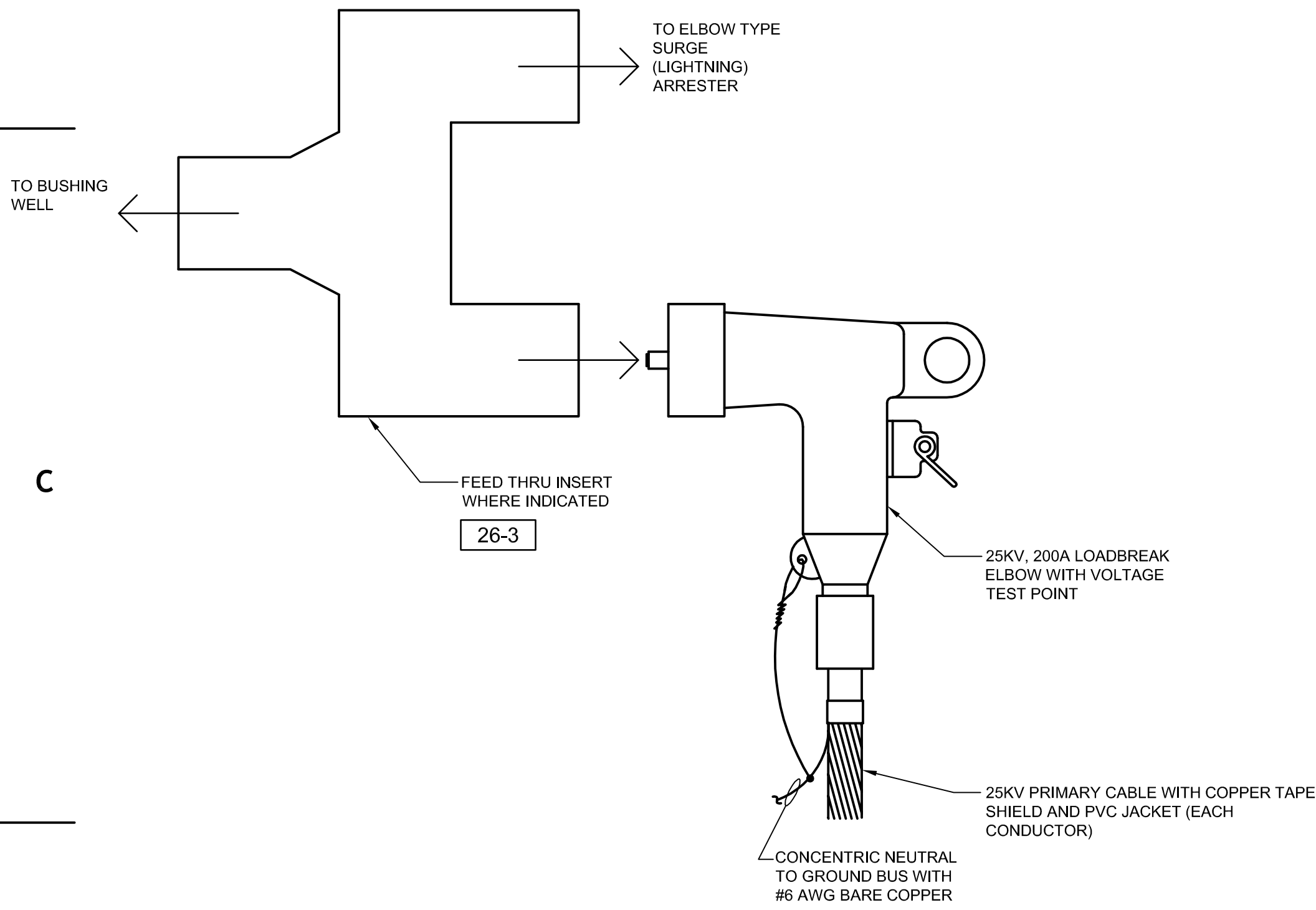
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D

TYPICAL ELECTRICAL POWER MANHOLE PLAN

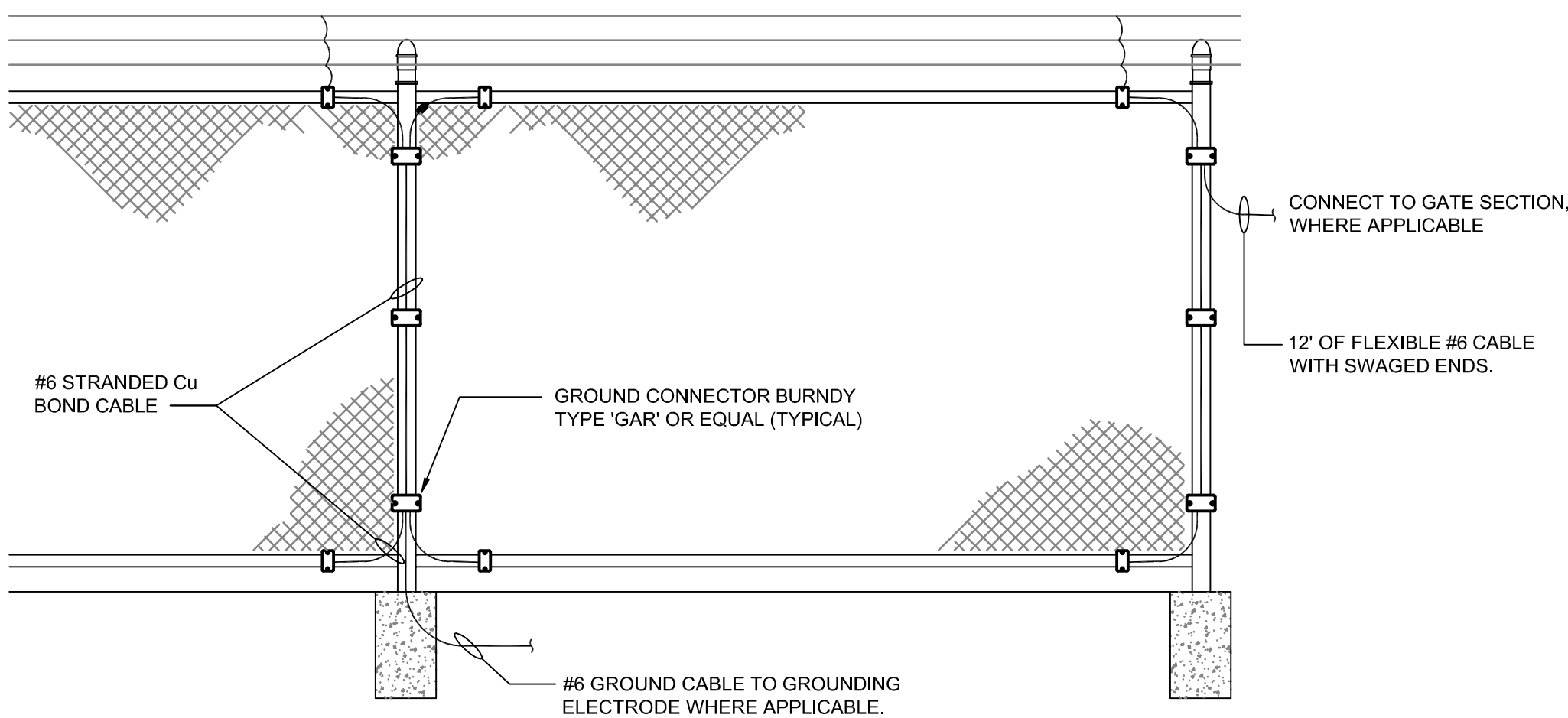
1 SCALE: NTS



15KV LOAD BREAK ELBOW DETAIL

3 SCALE: NTS

B

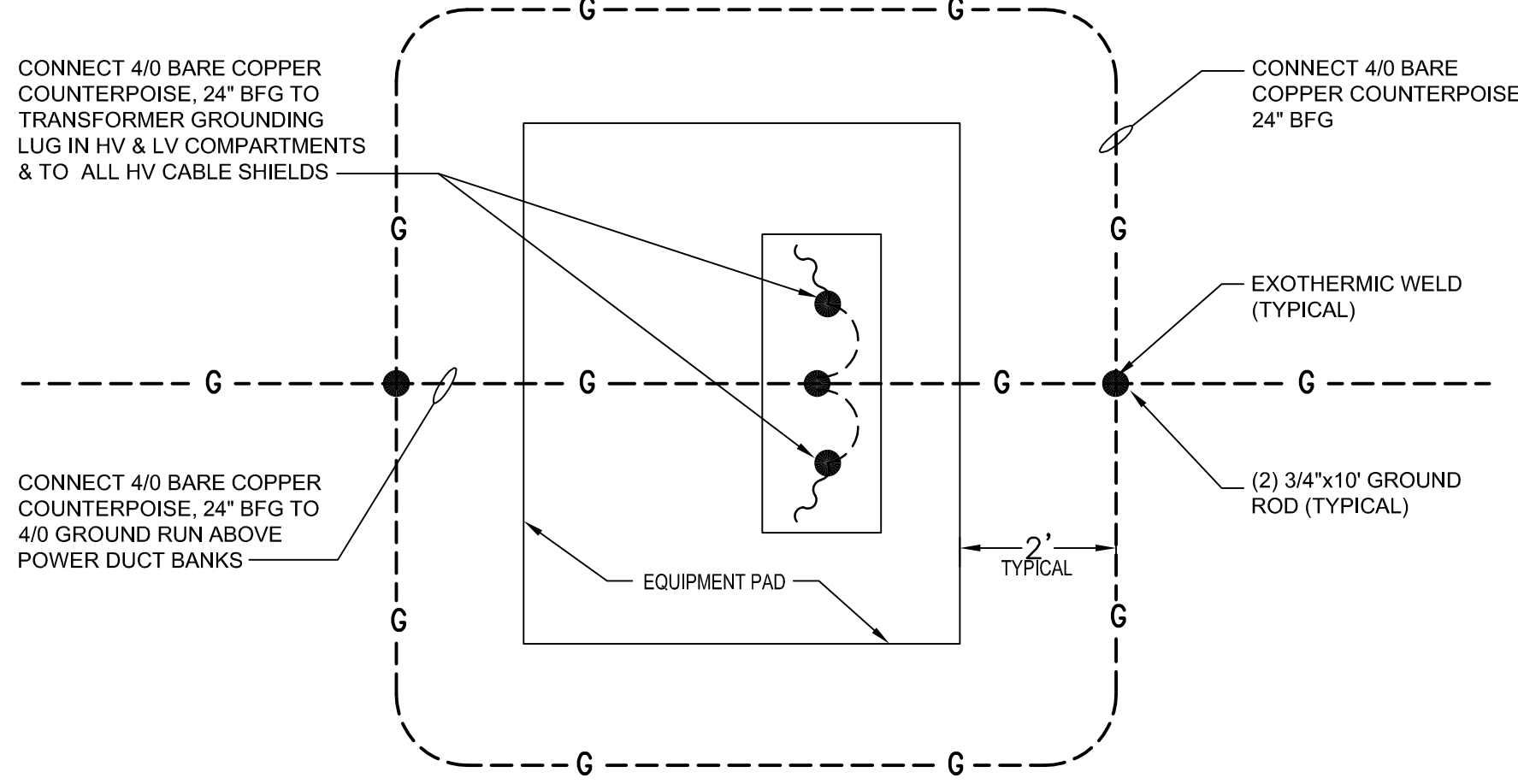


FENCE GROUNDING DETAIL

5 SCALE: NTS

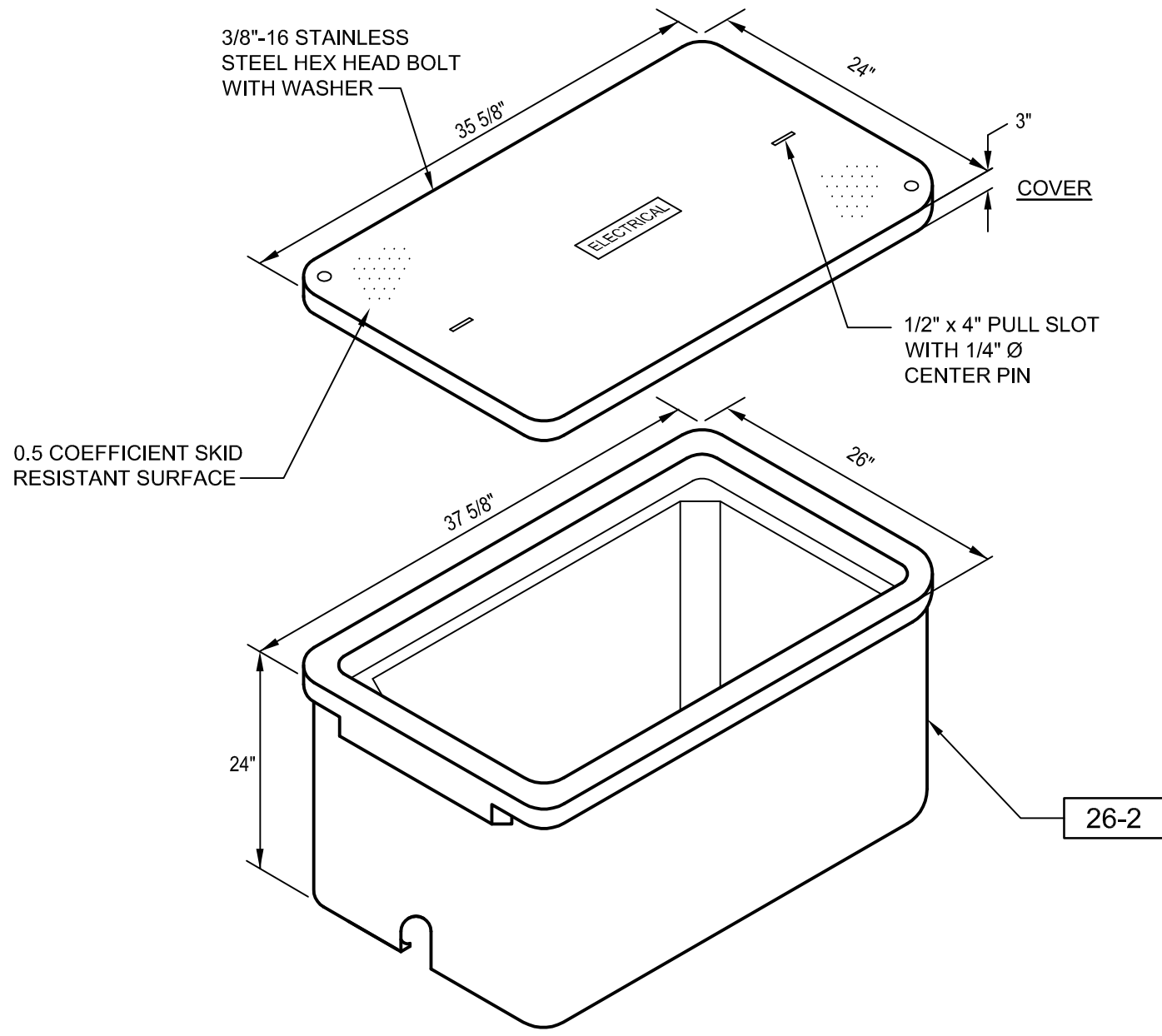
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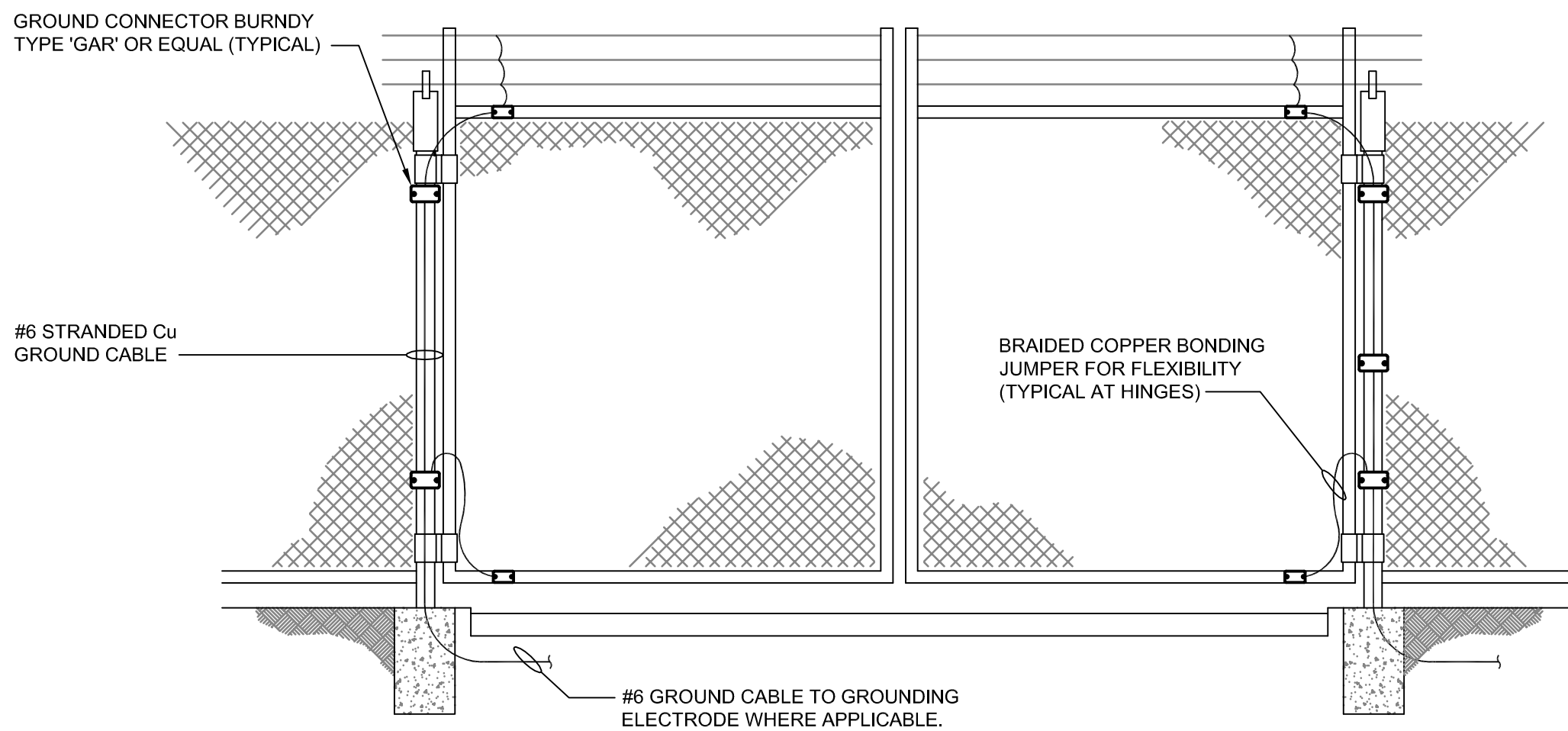
TRANSFORMER GRID DETAIL

2 SCALE: NTS



HANDHOLE DETAIL

4 SCALE: NTS



FENCE GROUNDING DETAIL

6 SCALE: NTS

3

4

SPECIFIC NOTES:

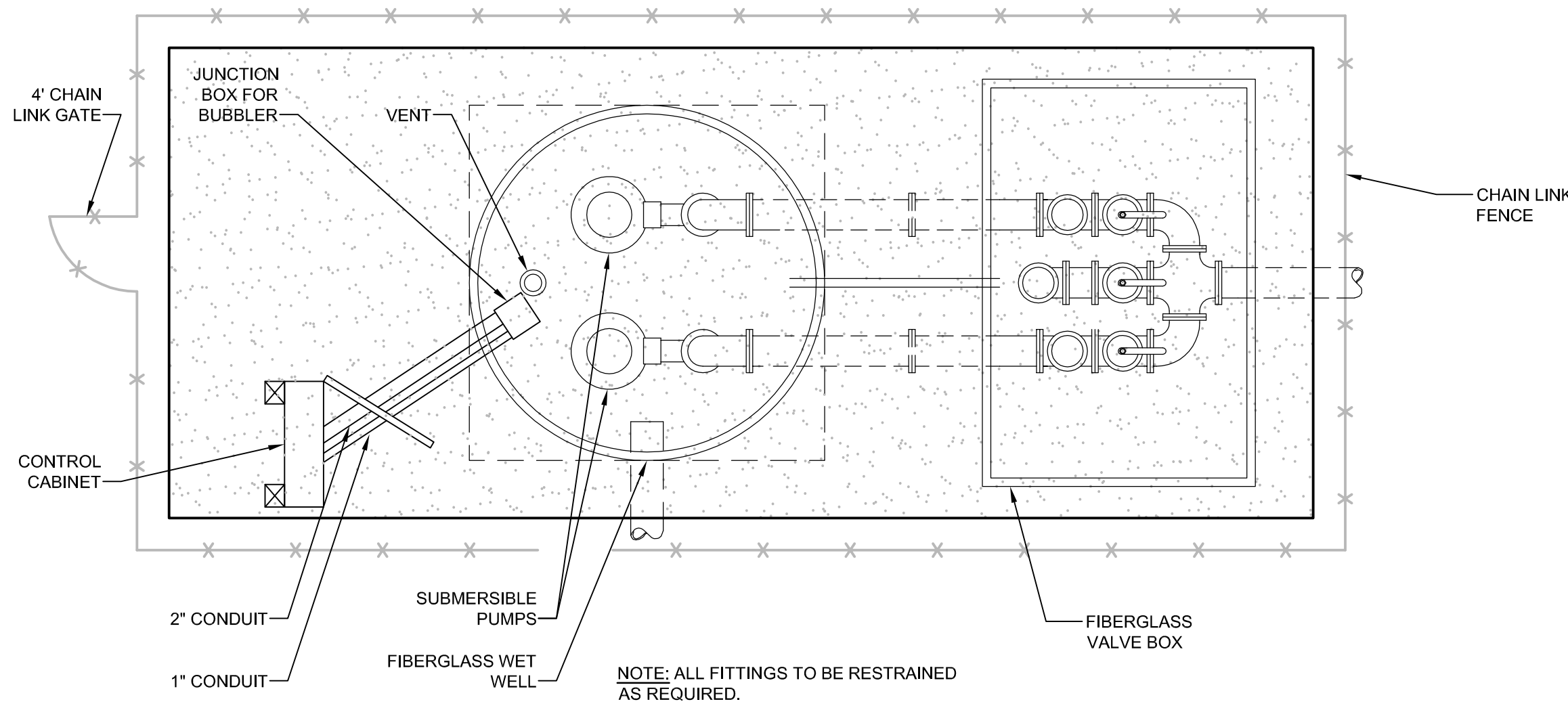
26-

- 26-1 "LOOP" INCOMING/OUTGOING CABLES WITHIN MANHOLES. SECURE CABLES TO INTERIOR WALLS OF MANHOLES SO AS TO PROVIDE SLACK LENGTH OF CABLES.
- 26-2 BASIS OF DESIGN IS HUBBELL TYPE PG 24" X 36" POLYMER CONCRETE STACKABLE ASSEMBLY. STACK MULTIPLE BOXES AS REQUIRED TO ACCOMMODATE SIDE CONDUIT ENTRY.

5

6

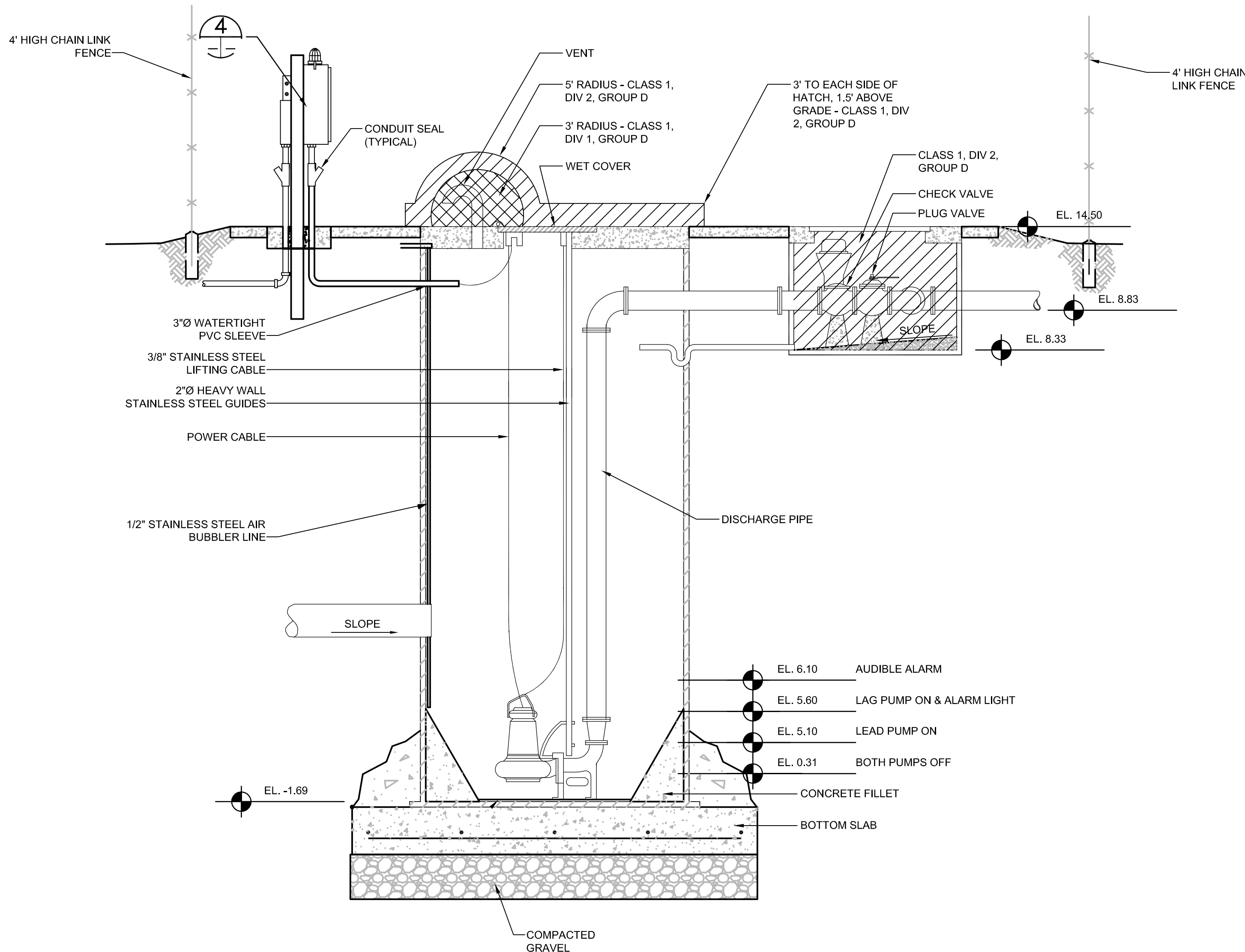
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1 LIFT STATION PLAN
SCALE: NTS

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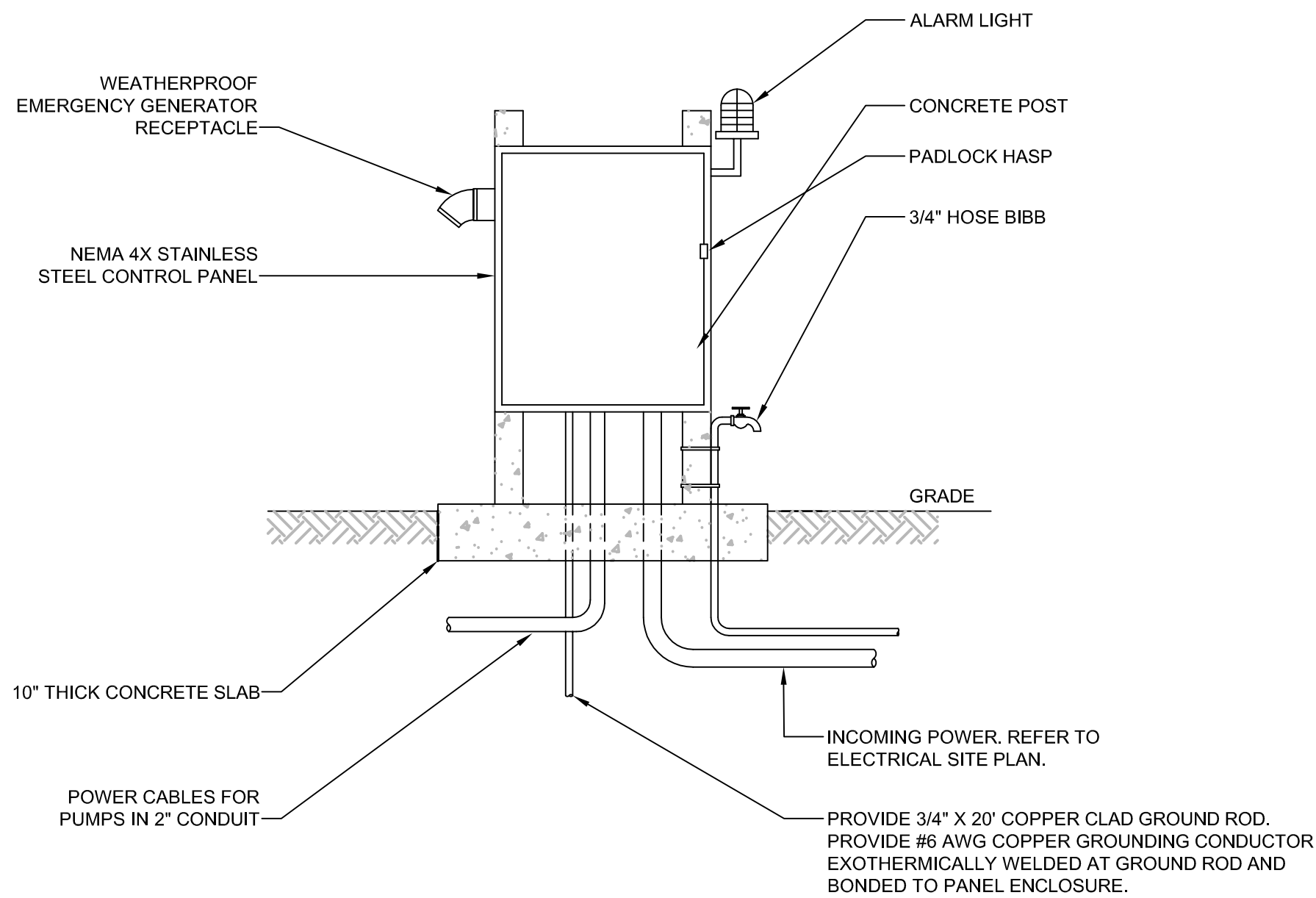
2 LIFT STATION SECTION
SCALE: NTS

B

A

PUMP DATA (BASIS OF DESIGN)

MANUFACTURER:	HYDRAMATIC	MODEL:	HYDRAMATIC
IMPELLER Dia.:	4.75"	NOMINAL SIZE:	3"
SPEED:	3500 RPM	DISCHARGE SIZE:	3"
VOLTAGE:	460V, 60 HZ	PHASE:	3
HORSEPOWER:	5 HP		



3 LIFT STATION ELEVATION
SCALE: NTS

SERVICE PEDESTAL
(FOR UNDERGROUND SERVICE)

GENERAL NOTES:

1. VERIFY ALL REQUIREMENTS WITH LIFT STATION CONTRACTOR PRIOR TO INSTALLATION.
2. SEE CIVIL PLANS FOR LIFT STATION LOCATIONS.
3. INSTALL CONTROL PANEL WITH A MINIMUM SEPARATION DISTANCE OF 3' FROM LIFT STATION HATCH.

SPECIFIC NOTES: 26-

- 26-1 INSTALL LIFT-STATION CONTROL PANEL WITH NEMA 4X ENCLOSURE FURNISHED BY LIFT STATION CONTRACTOR. SEE ELECTRICAL SITE PLAN FOR FEEDER CONDUIT AND WIRING REQUIREMENTS. PROVIDE CONTROL AND PUMP CONDUCTORS PER PANEL MANUFACTURER.



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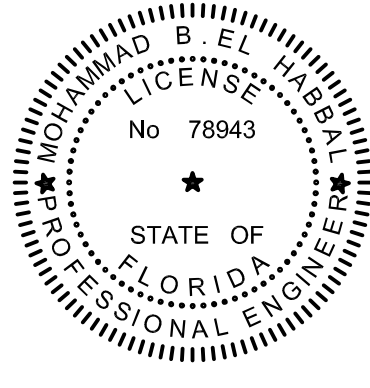
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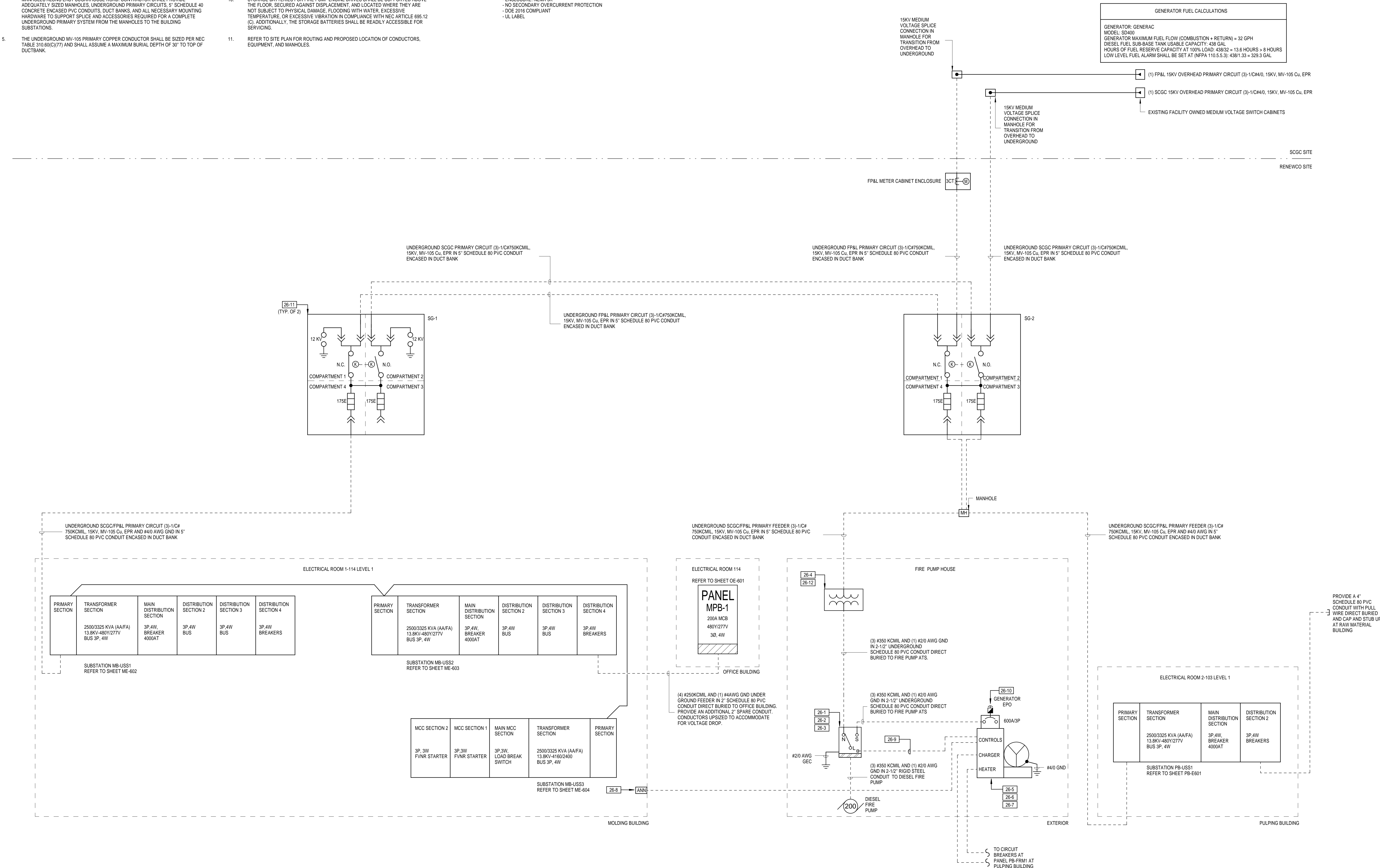
GENERAL NOTES:

1. THE PRIMARY POWER SYSTEM CONSISTS OF A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM SCGC TURBINES AND A 13.8KV OVERHEAD PRIMARY CIRCUIT FROM FPL THAT ARE CURRENTLY TERMINATED AT THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AT THE SCGC SITE.
2. POWER SUPPLY TO THE MOLDING AND PULPING BUILDINGS AT THE RENEWCO SITE WILL BE BASED ON A SELECTIVE PRIMARY SYSTEM BETWEEN THE SCGC AND FPL PRIMARY CIRCUITS THAT SHALL ORIGINATE FROM THE EXISTING FACILITY OWNED MEDIUM VOLTAGE SWITCH CABINETS AND SHALL TERMINATE AT THE BUILDING SUBSTATION'S PRIMARY MAIN SWITCHES.
3. CONTRACTOR SHALL PROVIDE THE BELOW ITEMS, AND ANY ADDITIONAL ITEMS NECESSARY FOR A COMPLETE OVERHEAD PRIMARY POWER SYSTEM FROM THE EXISTING SCGC FACILITY SWITCH CABINETS TO THE INDICATED MANHOLES.
 - 13.8KV PRIMARY OVERHEAD CONDUCTORS SIZED PER NEC TABLE 310.60(C)(69)
 - CONCRETE POWER POLES
 - DOUBLE ARMS SUPPORTED WITH BRACES
 - DOWN GUY WIRES FOR DEAD END POLES
 - DISCONNECT SWITCH AND DISCONNECT SWITCH BRACKET
 - POTHEAD AND POTHEAD BRACKET
 - TERMINATORS
 - ZINC OXIDE RISER POLE ARRESTERS
 - SINGLE SPOOLS
 - INSULATORS
 - 2" PVC U/G GUARD
 - PROVISION FOR (2) FUTURE PRIMARY FEEDERS
 - SAG AND POLE SPAN CALCULATIONS TO DETERMINE SERVICE CLEARANCE BASED ON POLE HEIGHT AND POLE CLASS
4. THE OVERHEAD PRIMARY CIRCUITS SHALL BE ROUTED FROM DEAD END POLES TO MANHOLES ALONG EAST SUGARHOUSE ROAD. CONTRACTOR SHALL PROVIDE ADEQUATELY SIZED MANHOLES, UNDERGROUND PRIMARY CIRCUITS, 5" SCHEDULE 40 CONCRETE ENCASED PVC CONDUITS, DUCT BANKS, AND ALL NECESSARY MOUNTING HARDWARE TO SUPPORT SPLICE AND ACCESSORIES REQUIRED FOR A COMPLETE UNDERGROUND PRIMARY SYSTEM FROM THE MANHOLES TO THE BUILDING SUBSTATIONS.
5. THE UNDERGROUND MV-105 PRIMARY COPPER CONDUCTOR SHALL BE SIZED PER NEC TABLE 310.60(C)(77) AND SHALL ASSUME A MAXIMUM BURIAL DEPTH OF 30" TO TOP OF DUCTBANK.
6. POWER SUPPLY TO THE OFFICE BUILDING SHALL ORIGINATE FROM SUBSTATION MB-US2 DISTRIBUTION SECTION 4 LOCATED AT THE MOLDING BUILDING'S ELECTRICAL ROOM 1-114.
7. GROUNDING CONNECTIONS:
 - COMBINATION POWER TRANSFER SWITCH: ESTABLISH A GROUNDING COUNTERPOISE WITH (2) GROUND RODS, ONE AT EACH OPPOSITE CORNERS. CONNECT COPPER GROUNDING ELECTRODE CONDUCTOR FROM GROUND BUS AND ENCLOSURE TO GROUND ROD. DO NOT CONNECT NEUTRAL TO GROUND.
 - GENERATOR: ESTABLISH A GROUNDING COUNTERPOISE WITH (2) GROUND RODS, ONE AT EACH OPPOSITE CORNERS. CONNECT COPPER GROUNDING ELECTRODE CONDUCTOR FROM GROUND BUS AND ENCLOSURE TO GROUND ROD. DO NOT CONNECT NEUTRAL TO GROUND.
8. SINCE INFORMATION ON THE RELIABILITY OF THE SCGC CIRCUIT WAS NOT AVAILABLE DURING DESIGN, ENGINEER HAS ELECTED TO PROVIDE MULTIPLE SOURCES OF POWER SUPPLY TO THE FIRE PUMP BY PROVIDING AN EMERGENCY STANDBY GENERATOR CAPABLE OF CARRYING THE STARTING AND RUNNING CURRENT OF THE FIRE PUMP IN COMPLIANCE WITH NEC ARTICLE 695.3(B). THE DETERMINATION OF WHETHER THE SCGC CIRCUIT IS A RELIABLE SOURCE OF POWER SUPPLY IS AN ISSUE FOR THE AUTHORITY HAVING JURISDICTION (AHJ). IF DEEMED AS A RELIABLE SOURCE OF POWER SUPPLY BY THE AHJ, THE EMERGENCY STANDBY GENERATOR AND THE COMBINATION POWER TRANSFER SWITCH CAN BE ELIMINATED.
9. THE EMERGENCY POWER SUPPLY SYSTEM (EPSS) SHALL BE TESTED AND MAINTAINED IN ACCORDANCE WITH NFPA 110. CONTRACTOR SHALL ARRANGE FOR AN ACCEPTANCE TEST WITH THE AUTHORITY HAVING JURISDICTION TO OBTAIN FINAL APPROVAL.
10. STORAGE BATTERIES FOR FIRE PUMP ENGINE DRIVES SHALL BE SUPPORTED ABOVE THE FLOOR, SECURED AGAINST DISPLACEMENT, AND LOCATED WHERE THEY ARE NOT SUBJECT TO PHYSICAL DAMAGE, FLOODING WITH WATER, EXCESSIVE TEMPERATURE, OR EXCESSIVE VIBRATION IN COMPLIANCE WITH NEC ARTICLE 695.12 (C). ADDITIONALLY, THE STORAGE BATTERIES SHALL BE READILY ACCESSIBLE FOR SERVICING.
11. REFER TO SITE PLAN FOR ROUTING AND PROPOSED LOCATION OF CONDUCTORS, EQUIPMENT, AND MANHOLES.

SPECIFIC NOTES:

- 26-1 PROVIDE A 400KVA/400A/100KAC WSR 3 POLE NEMA 4X SERVICE ENTRANCE RATED, COMBINATION POWER TRANSFER SWITCH AND CONTROLLER "FP-ATS" MODEL NUMBER FIRETROL FTA1000-AM20XB-F (OR APPROVED EQUAL LISTED FOR FIRE PUMP SERVICE. THE POWER TRANSFER SWITCH SHALL INCLUDE OVERCURRENT PROTECTION DEVICE RATED TO CARRY THE LOCKED ROTOR CURRENT OF THE FIRE PUMP MOTOR. SHALL BE THE FIRE PUMP'S DISCONNECTING MEANS, AND SHALL BE CAPABLE OF BEING LOCKED IN THE CLOSED POSITION. PROVIDE A PLACARD WITH A MINIMUM OF 1" HIGH LETTERS INDICATING "FIRE PUMP DISCONNECTING MEANS" AND INDICATING LOCATION OF EMERGENCY SOURCE AND OF LOCKING KEY IN COMPLIANCE WITH NEC ARTICLE 700.7(A).
- 26-2 PROVIDE A WARNING SIGN ON THE COMBINATION POWER TRANSFER SWITCH AND CONTROLLER INDICATING "WARNING: SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE IS ENERGIZED". PROVIDE ANOTHER SIGN INDICATING TYPE AND LOCATION OF THE ON-SITE EMERGENCY POWER SOURCE "EMERGENCY SOURCE ORIGINATES FROM AN EMERGENCY STANDBY GENERATOR LOCATED AT THE FIRE PUMP HOUSE".
- 26-3 THE VOLTAGE DROP AT THE FIRE PUMP CONTROLLER LINE TERMINALS UNDER MOTOR STARTING CONDITIONS SHALL NOT EXCEED 15%, AND THE VOLTAGE DROP AT THE MOTOR TERMINALS SHALL NOT EXCEED 5% DURING RUNNING IN COMPLIANCE WITH NEC ARTICLE 695.7.
- 26-4 PROVIDE A PAD MOUNTED DRY TYPE TRANSFORMER DEDICATED FOR THE ELECTRIC FIRE PUMP WITH THE FOLLOWING CHARACTERISTICS:
 - TYPE: DELTA/DELTA
 - PRIMARY VOLTAGE: 13.8KV
 - SECONDARY VOLTAGE: 480V
 - APPARENT POWER: 300 KVA
 - WINDING TEMPERATURE RISE: 150 DEGREES
 - WINDINGS: ALUMINUM
 - INSULATION LEVEL: 220 DEGREES
 - PERCENT IMPEDANCE (%Z): 5.75%
 - ENCLOSURE: NEMA 3R
 - NO SECONDARY OVERCURRENT PROTECTION
 - DOE 2016 COMPLIANT
 - UL LABEL
- 26-5 PROVIDE A 400KW/500KVA, 480V, NFPA 110.4.4.1 COMPLIANT, LEVEL 1, TYPE 10, CLASS 8 DIESEL ENGINE EMERGENCY STANDBY GENERATOR WITH THE FOLLOWING CHARACTERISTICS:
 - MODEL: GENERAC SD400
 - ENCLOSURE: RED COLOR, WEATHER PROTECTED WITH LEVEL 2 SOUND ATTENUATION, ALUMINUM, NFPA 704 HAZARD PLACARD AFFIXED.
 - CIRCUIT BREAKER: MOLDED CASE, CAPABLE OF BEING LOCKED IN CLOSED POSITION
 - SUB-BASE FUEL TANK: UL 142, NFPA 30, NFPA 37, NFPA 54 COMPLIANT, 438 GAL USABLE CAPACITY PER NFPA 110.7.3.1
 - SUB-BASE FUEL TANK CONSTRUCTION: RECTANGULAR SHAPE REINFORCED, DOUBLE WALL WITH SIGN INDICATING FUEL TYPE AND AMOUNT
 - SUB-BASE FUEL TANK VENTING: NORMAL AND EMERGENCY VENTING
 - SUB-BASE FUEL TANK FITTINGS: ADEQUATELY SIZED NPT FOR FUEL SUPPLY AND RETURN, NORMAL AND EMERGENCY VENT, MANUAL FILL, LEVEL GAUGE, BASIN DRAIN, LEVEL ALARM, AND LEAK DETECTION ALARM
 - FUEL TYPE: ULTRA LOW SULFUR DIESEL. PROVIDE DIRECT FUEL LEVEL GAUGE AND LEAK DETECTION SYSTEM AT SUB-BASE FUEL TANK
 - ENGINE TYPE: PRE-COMBUSTION
 - BATTERY (SIZE/VOLTAGE/GROUP): SEALED LEAD ACID, 1155CCA AT 0 DEGREES CELSIUS, (2)-12VDC, 8D
 - GROUNDING CONFIGURATION: NON-SEPARATELY DERIVED SYSTEM
 - REQUIREMENTS PER NFPA 110
 - CONTROL PANEL: VISUAL REQUIREMENTS PER NFPA 110.5.6.5.1 AND AUDIBLE REQUIREMENTS PER NFPA 110.5.6.5.2
 - CLEARANCE: 36" AROUND GENERATOR FUEL TANK PER NFPA 110.7.3.1.2.1. NO SMOKING WITHIN 50'
- 26-6 CONTRACTOR SHALL VERIFY THAT THE LOW LEVEL FUEL ALARM IS SET IN CONFORMANCE WITH NFPA 110.5.5.3 AS SHOWN IN THE GENERATOR FUEL CALCULATIONS ON THIS SHEET.
- 26-7 PROVIDE A SIGN ON THE GENERATOR TO READ THE FOLLOWING: "FIRE PUMP GENERATOR. THE GENERATOR IS A NON-SEPARATELY DERIVED SYSTEM. GENERATOR NEUTRAL TO GROUND BONDING CONNECTION SHALL BE REMOVED BEFORE GENERATOR IS PLACED INTO SERVICE".
- 26-8 INSTALL THE REMOTE GENERATOR ANNUNCIATOR PANEL IN A SUPERVISED LOCATION IN THE MOLDING BUILDING'S ELECTRICAL ROOM, OR ANY OTHER OWNER PREFERRED LOCATION SUBJECT TO MONITORING PER NFPA 110.5.6.5.2(4). PROVIDE COMMUNICATIONS WIRING IN A 1" PVC CONDUIT PER MANUFACTURER'S RECOMMENDATION.

- 26-9 PROVIDE CONTROL WIRING PER MANUFACTURER'S RECOMMENDATION TO GENERATOR IN 2" UNDERGROUND SCHEDULE 80 PVC IN COMPLIANCE WITH NEC ARTICLE 695.14(F).
- 26-10 PROVIDE A NEMA 4X MANUAL REMOTE EMERGENCY BREAK GLASS STOP SWITCH LOCATED A MINIMUM OF 20' AWAY FROM THE GENERATOR AND IDENTIFIED WITH SIGNAGE "EMERGENCY GENERATOR STOP". READABLY VISIBLE TO APPROACHING EMERGENCY PERSONNEL. EMERGENCY SWITCH SHALL SHUNT GENERATOR LOAD CIRCUIT BREAKER AND POWER OFF GENERATOR IN COMPLIANCE WITH NFPA 110.5.6.5.6. LABEL SHALL BE 18"X18" 1" RADIUS OF DEVICE. PROVIDE 120V/PH ELECTRICAL CONNECTION TO EPO SYSTEM ORIGINATING FROM PANEL PB-FRM1 AT PULPING BUILDING.
- 26-11 PROVIDE A GE TYPE PSE DEADFRONT PAD MOUNTED SWITCHGEAR WITH THE FOLLOWING CHARACTERISTICS:
 - QUICK MAKE, QUICK BREAK, MANUALLY OPERATED
 - RATED MAXIMUM VOLTAGE: 15KV
 - LOAD INTERRUPTING CURRENT: 600A SYM.
 - FAULT CLOSING CURRENT: 40 KA ASYM.
 - IMPULSE WITHSTAND (BIL): 85KV
 - FUSES: 175E, 40KA ASYM, CURRENT LIMITING
 - SURGE ARRESTERS: 12KV METAL OXIDE, DISTRIBUTION CLASS
 - FEED THRU INSERTS
 - COPPER SILVER PLATED BUS
 - SWITCH AND FUSE VIEWING WINDOWS
 - BLOWN FUSE INDICATOR
 - KEY INTERLOCK PROVISIONS (MANUAL SELECTIVITY BETWEEN FPL AND SCGC CIRCUITS)
 - OPERATING HANDLE AND SWITCH POSITION INDICATOR
 - PREPARED CHAMBER FOR FUTURE EXTENSION OF PRIMARY CIRCUIT
 - UL LABEL
- 26-12 PROVIDE A PLACARD ON THE TRANSFORMER WITH A MINIMUM OF 1" HIGH LETTERS TO INDICATE THE LOCATION OF ITS DISCONNECTING MEANS "DISCONNECTING MEANS FOR TRANSFORMER IS AT SG-2" IN COMPLIANCE WITH NEC ARTICLE 450.14.



MV ONE-LINE DIAGRAM

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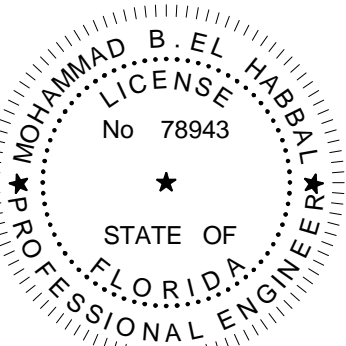
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ISSUE ISSUE FOR CONSTRUCTION

REVISION	



Bagasse Processing Facility
Belle Glade, Florida
Renewco, LLC



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MOHAMMAD B. EL HABBAL, FL PE 78943
USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS
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ARCH/ENGR OF RECORD
MOHAMMAD B. EL HABBAL
FL PE 78943
DESIGNED BY
HABBAL
DRAWN BY
BRPH
CHECKED BY
ROSARIO
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE

MV ONE-LINE
DIAGRAM

DRAWING NO.

ME-600

1. THE MEDIUM VOLTAGE MV-105 COPPER CONDUCTORS INSIDE THE BUILDING SHALL BE SIZED PER NEC TABLE 310.60(C)(73).
2. WHERE THE MEDIUM VOLTAGE CONDUCTORS ARE ROUTED IN A CABLE TRAY IN LIEU OF A METALLIC CONDUIT, THE CONDUCTORS SHALL BE SHIELDED.



GENERAL NOTES:

- SPACES IN THE DISTRIBUTION SECTION OF THE SUBSTATION MUST BE "PREPARED SPACES" AND MUST BE EQUIPPED WITH BUSBAR EXTENSIONS FOR FUTURE CONNECTIONS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- UNIT SUBSTATIONS AND PANEL BOARDS SHALL BE FIELD MARKED TO ADVISE QUALIFIED PERSONS OF POTENTIAL ARC FLASH HAZARDS IN COMPLIANCE WITH NEC ARTICLE 110.16 AND PROJECT SPECIFICATIONS SECTION 26.05.74.
- PROVIDE PERMANENT WARNING SIGNS ON ELECTRICAL ROOM DOOR AND SUBSTATION DOORS TO INDICATE "DANGER-HIGH VOLTAGE-KEEP OUT" IN COMPLIANCE WITH NEC ARTICLE 110.34(C).
- ALL UNGROUNDED CONDUCTORS AND FEEDERS SHALL BE IDENTIFIED BY PHASE AND SYSTEM AT TERMINATIONS, CONNECTIONS AND SPICE POINTS IN COMPLIANCE WITH NEC ARTICLE 215.12(D) AND PROJECT SPECIFICATIONS SECTION 26.05.63.
- PROVIDE A PERMANENT SINGLE LINE DIAGRAM OF SUBSTATION "MB-USS1" IN A READILY VISIBLE LOCATION WITHIN THE SAME ROOM AS THE SUBSTATION IDENTIFYING INTERLOCKS, ISOLATION MEANS, AND ALL POSSIBLE SOURCES OF VOLTAGE TO THE INSTALLATION UNDER NORMAL OR EMERGENCY CONDITIONS IF APPLICABLE. THE MARKING ON THE SUBSTATION SHALL CROSS REFERENCE THE SINGLE LINE DIAGRAM.
- LOAD INTERRUPTER SWITCH, FUSE MOUNTING, AND FUSE UNITS SHALL HAVE PERMINENT AND LEGIBLE NAMEPLATES SHOWING THE MANUFACTURER'S DESIGNATION, CONTINUOUS CURRENT RATING, INTERRUPTING CURRENT RATING, AND MAXIMUM VOLTAGE RATING.
- THE SHORT CIRCUIT ANALYSIS FOR THIS SYSTEM WAS BASED ON THE NAMEPLATE PERCENT IMPEDANCE VALUE OF THE TRANSFORMER. AS A RESULT, THE SHORT CIRCUIT AMPS (SCA) VALUE WAS DETERMINED AT DOWNSTREAM EQUIPMENT; HOWEVER STANDARD AIC VALUES WERE SHOWN FOR EQUIPMENT CONFORMITY.
- CIRCUIT BREAKER FRAMES, SETTINGS, RATING PLUGS, SENSORS, AND TRIP UNITS SHALL BE DETERMINED AND SET BASED ON THE SELECTIVE COORDINATION STUDY PERFORMED BY CONTRACTOR.
- WHERE ARC FLASH MITIGATION IS DESIRED, CIRCUIT BREAKERS SHOULD BE FURNISHED WITH A MAINTENANCE SWITCH TO MODIFY THE INSTANTANEOUS TRIP SETTINGS OF THE CIRCUIT BREAKER AND REDUCE THE INCIDENT ENERGY LEVELS. UPON COMPLETION OF WORK, SETTINGS SHALL BE RESTORED BACK TO SELECTIVE COORDINATION STUDY RECOMMENDED SETTINGS.
- THE %V.D. SHOWN BELOW IS THE CALCULATED VOLTAGE DROP PERCENTAGE AT EACH PANEL FEEDERS SHALL BE LIMITED TO 2% MAXIMUM VOLTAGE DROP AND BRANCH CIRCUITS TO BE LIMITED TO 3% MAXIMUM VOLTAGE DROP.

SPECIFIC NOTES:

- 26-1 UNIT SUBSTATION "MB-USS1" SHALL INCLUDE A PRIMARY LOAD INTERRUPTER SWITCH SECTION (GE BREAKMASTER) WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
- QUICK MAKE, QUICK BREAK, MANUALLY OPERATED METAL ENCLOSED TYPE
 - RATED MAXIMUM VOLTAGE: 15kV
 - LOAD INTERRUPTING CURRENT: 600A SYM.
 - FAULT CLOSING CURRENT: 40 KA ASYM.
 - IMPULSE WITHSTAND (BIL): 55KV
 - PRIMARY FUSE: 175E 40KA ASYM, CURRENT LIMITING CATALOG NO. 9F62FD175
 - SURGE ARRESTERS: 12KV, DISTRIBUTION CLASS, CATALOG NO. 9L20FX012KH5
 - COPPER SILVER PLATED BUS
 - VIEWING WINDOWS AND FULL HEIGHT INTERPHASE BARRIERS
 - BLOWN FUSE INDICATOR
 - SWITCH PADLOCK AND KEY INTERLOCK PROVISIONS
 - SUITABLE FOR BOTTOM ENTRY OF PRIMARY CIRCUIT
 - FRONT ACCESS ONLY
 - UL LABEL
- 26-2 UNIT SUBSTATION "MB-USS1" SHALL INCLUDE A DRY TYPE TRANSFORMER SECTION WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
- TYPE: DELTA/WYE, VPI
 - PRIMARY VOLTAGE: 13.8KV
 - SECONDARY VOLTAGE: 480Y/277V
 - APPARENT POWER (KVA): 2500 AA, 3325 FA FORCED AIR COOLING
 - PERCENT IMPEDANCE (%Z): 5.75%
 - BASIC INSULATION LEVEL (HVLV): 60KV/10KV
 - WINDINGS: ALUMINUM
 - WINDING TEMPERATURE RISE: 150 DEGREES
 - INSULATION SYSTEM: 220 DEGREES
 - ENCLOSURE: NEMA 1 VENTILATED
 - FRONT ACCESS ONLY
 - HVLV AIR FILLED TERMINAL COMPARTMENTS
 - DIGITAL TEMPERATURE MONITOR: GE QUALITROL 3-PHASE SERIES 118ITM
 - DOE 2016 COMPLIANT
 - UL LABEL
- 26-3 UNIT SUBSTATION "MB-USS1" SHALL INCLUDE A 4000A 480Y/277V, 3Ø, 4W, 65KAIC UL LISTED METAL ENCLOSED SWITCHBOARD DISTRIBUTION SECTIONS (GE SPECTRA SERIES) HAVING 400A HORIZONTAL AND 300A VERTICAL, SILVER PLATED, THERMAL RATED COPPER BUS BARS. DISTRIBUTION SECTIONS SHALL BE FRONT ACCESS ONLY.
- 26-4 UNIT SUBSTATION "MB-USS1" SHALL INCLUDE A COMPLETELY COORDINATED KEY INTERLOCK SCHEME TO:
- PREVENT OPERATION (OPEN OR CLOSE) OF PRIMARY INTERRUPTER SWITCH WHEN THE MAIN CIRCUIT BREAKER IS ENERGIZED
 - PREVENT OPENING OF THE FUSE COMPARTMENT WHEN THE INTERRUPTER SWITCH IS IN THE CLOSED POSITION
 - ALLOW MAIN CIRCUIT BREAKER TO BE DRAWN OUT, SERVICED, AND OPERATED WHILE PRIMARY INTERRUPTER SWITCH IS LOCKED IN THE OPEN POSITION
- 26-5 ALL 400 AMP FRAME AND LARGER CIRCUIT BREAKERS INSIDE THE UNIT SUBSTATIONS DISTRIBUTION SECTION SHALL BE 100% RATED, ELECTRONIC TYPE WITH SELECTABLE LONG TIME, SHORT TIME, AND INSTANTANEOUS SETTINGS. ADDITIONALLY, PROVIDE GROUND FAULT SENSING CHARACTERISTICS WHERE INDICATED.
- 26-6 TYPE 2 200KAIC SURGE PROTECTION DEVICE 150KA PER MODE/300KA PER PHASE FURNISHED WITH INDICATING LIGHTS, ALARM, FORM C CONTACTS, SURGE COUNTER AND DISCONNECT SWITCH. SURGE PROTECTION DEVICE SHALL BE INSTALLED IN COMPLIANCE WITH NEC ARTICLE 285.24(C).
- 26-7 GE DIGITAL POWER METER EPM 7000 IN ACCORDANCE WITH PROJECT SPECIFICATIONS
- 26-8 GROUNDING ELECTRODE CONDUCTOR (GEC) FOR TRANSFORMER SHALL BE SIZED PER NEC 250.30(A)(5) AND TABLE 250.66. CONNECT TO NEAREST GROUND BUSBAR.
- 26-9 COPPER BUS TRANSITION FROM LOAD INTERRUPTER SWITCH TO VPI DRY TYPE TRANSFORMER SECTION HV SIDE, AND FROM TRANSFORMER SECTION LV SIDE TO DISTRIBUTION SECTIONS MAIN CIRCUIT BREAKER.

- 26-10 PROVIDE A 600V/3W/3P/2000A/150KAIC CONTINUOUS COPPER GE SPECTRA BUSWAY WITH 10' CONNECTED STRAIGHT LENGTHS AND PLUG-IN TAP-OFFS AS NEEDED TO FEED THE MOLDING EQUIPMENT. PROVIDE ALL NECESSARY FITTINGS AND ACCESSORIES FOR A COMPLETE INSTALLATION AND CONNECTION OF THE BUSWAY SYSTEM. REFER TO SHEETS ME-P100 FOR BUSWAY ROUTING AND SHEET ME-404 FOR BUSWAY ELEVATION.
- 26-11 PROVIDE A 600V/3W/3P/2000A/150KAIC CONTINUOUS COPPER GE SPECTRA FEEDER BUSWAY WITH NO TAP-OFFS FROM UNIT SUBSTATION MB-USS1 DISTRIBUTION SECTION 2 TO BUSWAY BD-5. PROVIDE ALL NECESSARY FITTINGS AND ACCESSORIES FOR A COMPLETE INSTALLATION AND CONNECTION OF THE BUSWAY SYSTEM. REFER TO SHEETS ME-P100 FOR BUSWAY ROUTING AND SHEET ME-404 FOR BUSWAY ELEVATION.
- 26-12 #40 BARE CU GROUND IN 1 INCH CONDUIT TO BUILDING STEEL.
- 26-13 #40 BARE CU GROUND IN 1 INCH CONDUIT TO CONCRETE ENCASED ELECTRODE (REBAR).
- 26-14 #40 BARE CU GROUND IN 1 INCH CONDUIT TO METALLIC WATER PIPING.
- 26-15 PROVIDE THRU-FEED LUGS.
- 26-16 CONNECT TO FIRE ALARM CONTROL MODULE.

SUBSTATION: MB-USS1

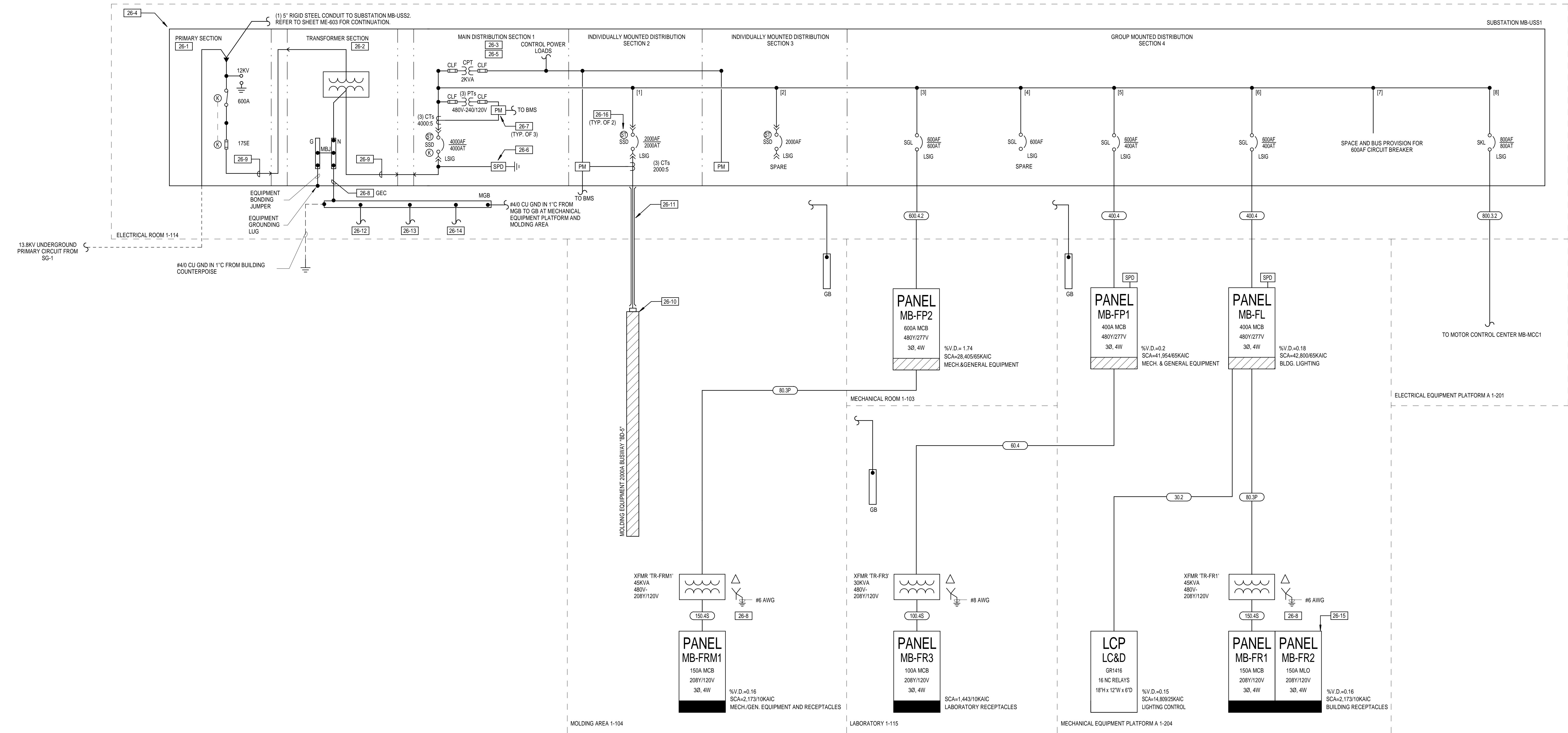
Design Selection: Mains: 4000 A Voltage: 480Y/277V Minimum A.L.C. Rating: 65KAIC
Modifications: Phases: 3 Location: ELECTRICAL ROOM 1-114
Wires: 4 Served From: SG-1

Note	Circuit	Poles	Trip Amps	Description	Load
--	1	3	2000 A	SPARE	0.00 KVA
--	2	3	2000 A	BD-5	1500.00 KVA
--	3	3	600 A	MB-FP2	185.06 KVA
--	4	3	600 A	SPARE	0.00 KVA
--	5	3	400 A	MB-FP1	46.42 KVA
--	6	3	400 A	MB-FL	76.23 KVA
--	7	--	--	SPACE	0.00 KVA
--	8	--	--	SPACE	0.00 KVA
--	9	3	800 A	MB-MCC1	249.00 KVA
--	10				
--	11				
--	12				
--	13				
--	14				
--	15				
--	16				
--	17				
--	18				
--	19				
--	20				

Load Classification	Connected Load	Demand Factor	Demand Load	Load Summary
Equipment	1500.00 kVA	100.00%	1500.00 kVA	Total Connected Load: 2056.8 kVA
HVAC	6.30 kVA	100.00%	6.30 kVA	
Lighting	56.19 kVA	100.00%	56.19 kVA	Total Demand Load: 2056.7 kVA
Motor	405.48 kVA	100.00%	405.48 kVA	
Motor - Largest	35.20 kVA	125.00%	44.00 kVA	Total Demand Current: 2474 A
Power	5.13 kVA	100.00%	5.13 kVA	
Receptacle	27.72 kVA	68.04%	18.86 kVA	20% Future Demand Allowance: 411.34 kVA
Plumbing Fixtures	20.75 kVA	100.00%	20.75 kVA	
				Total Demand Load Including Future Allowance: 2468.05 kVA
				2969 A

Notes:

CONDUCTORS SCHEDULE (COPPER CONDUCTORS)						
TYPE	MARK	CAPACITY	SETS	PHASE/WIRE	CONDUCTORS (PER SET)	EQUIPMENT GND (PER SET)
BRANCH CIRCUIT	30.2	30 AMP	1	1 PHASE/2 WIRE	(2)#10AWG	#10
BRANCH CIRCUIT	60.4	30 AMP	1	1 PHASE/2 WIRE	(2)#10AWG	#10
TRANSFORMER PRIMARY	80.3P	80 AMP	1	3 PHASE/3 WIRE	(3)#3	#8
TRANSFORMER SECONDARY	100.4S	100 AMP	1	3 PHASE/4 WIRE	(4)#1	#6
TRANSFORMER SECONDARY	150.4S	150 AMP	1	3 PHASE/4 WIRE	(4)#1/0	#10
FEEDER	200.4	200 AMP	1	3 PHASE/4 WIRE	(4)#3/0	#6
FEEDER	400.4	400 AMP	1	3 PHASE/4 WIRE	(4)#500KCMIL	#3
FEEDER	600.3.2	600 AMP	2	3 PHASE/3 WIRE	(3)#350KCMIL	#1/0
FEEDER	600.4.2	600 AMP	2	3 PHASE/4 WIRE	(4)#350KCMIL	#1/0
FEEDER	800.3.2	800 AMP	2	3 PHASE/3 WIRE	(3)#500KCMIL	#1/0



LV ONE-LINE DIAGRAM

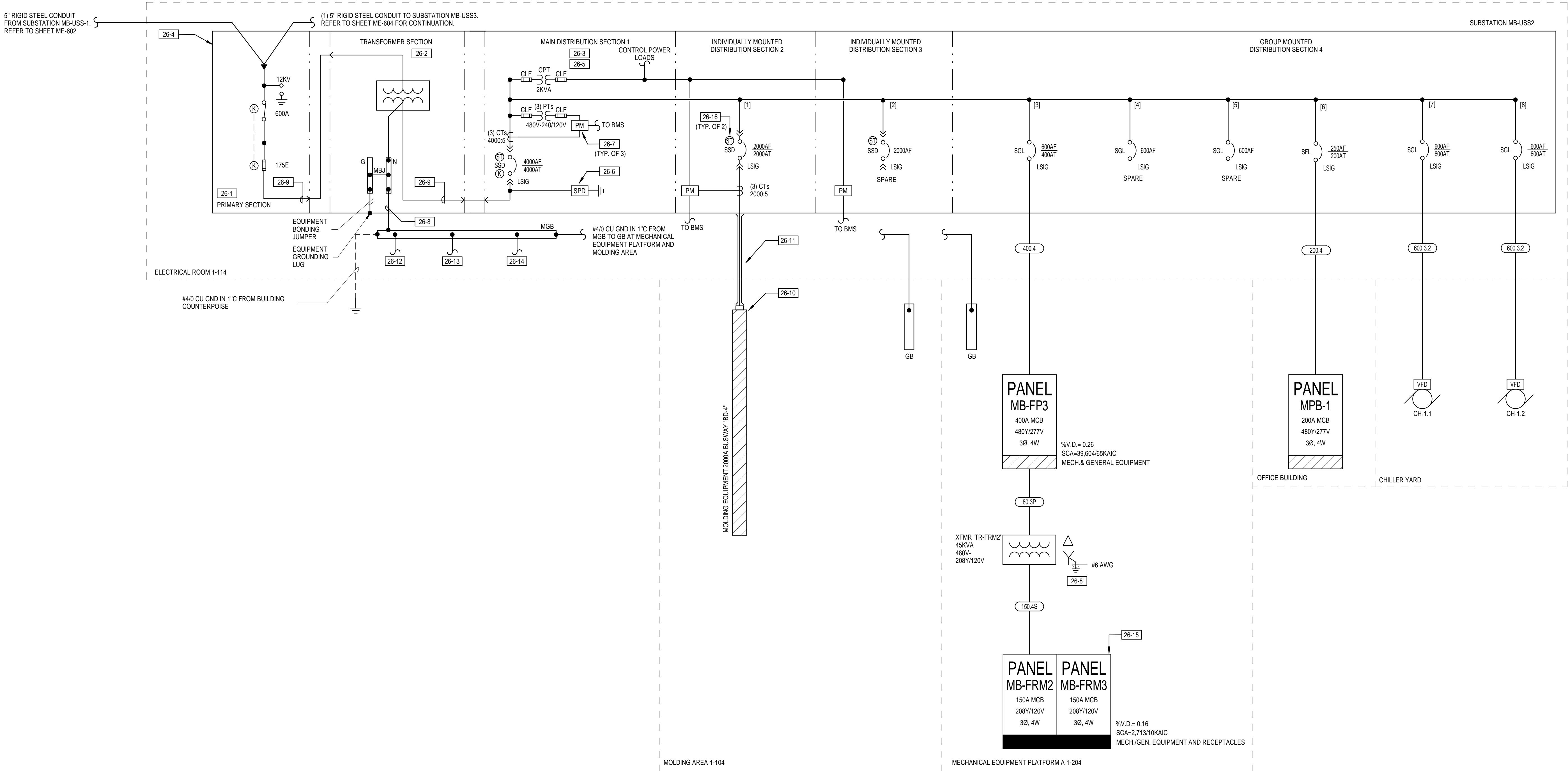
GENERAL NOTES:

- SPACES IN THE DISTRIBUTION SECTION OF THE SUBSTATION MUST BE "PREPARED SPACES" AND MUST BE EQUIPPED WITH BUSBAR EXTENSIONS FOR FUTURE CONNECTIONS IN COMPLIANCE WITH PROJECT SPECIFICATIONS.
- UNIT SUBSTATIONS AND PANEL BOARDS SHALL BE FIELD MARKED TO ADVISE QUALIFIED PERSONS OF POTENTIAL ARC FLASH HAZARDS IN COMPLIANCE WITH NEC ARTICLE 110.16 AND PROJECT SPECIFICATIONS SECTION 26.05.74.
- PROVIDE PERMANENT WARNING SIGNS ON ELECTRICAL ROOM DOOR AND SUBSTATION DOORS TO INDICATE "DANGER-HIGH VOLTAGE-KEEP OUT" IN COMPLIANCE WITH NEC ARTICLE 110.34(C).
- ALL UNGROUNDED CONDUCTORS AND FEEDERS SHALL BE IDENTIFIED BY PHASE AND SYSTEM AT TERMINATIONS, CONNECTIONS AND SPLICE POINTS IN COMPLIANCE WITH NEC ARTICLE 215.12(C) AND PROJECT SPECIFICATIONS SECTION 26.09.53.
- PROVIDE A PERMANENT SINGLE LINE DIAGRAM OF SUBSTATION "MB-USS2" IN A READILY VISIBLE LOCATION WITHIN THE SAME ROOM AS THE SUBSTATION IDENTIFYING INTERLOCKS, ISOLATION MEANS, AND ALL POSSIBLE SOURCES OF VOLTAGE TO THE INSTALLATION UNDER NORMAL OR EMERGENCY CONDITIONS IF APPLICABLE. THE MARKING ON THE SUBSTATION SHALL CROSS REFERENCE THE SINGLE LINE DIAGRAM.
- LOAD INTERRUPTER SWITCH, FUSE MOUNTING, AND FUSE UNITS SHALL HAVE PERMANENT AND LEGIBLE NAMEPLATES SHOWING THE MANUFACTURER'S DESIGNATION, CONTINUOUS CURRENT RATING, INTERRUPTING CURRENT RATING, AND MAXIMUM VOLTAGE RATING.
- THE SHORT CIRCUIT ANALYSIS FOR THIS SYSTEM WAS BASED ON THE NAMEPLATE PERCENT IMPEDANCE VALUE OF THE TRANSFORMER. AS A RESULT, THE SHORT CIRCUIT AMPS (SCA) VALUE WAS DETERMINED AT DOWNSTREAM EQUIPMENT; HOWEVER STANDARD AC VALUES WERE SHOWN FOR EQUIPMENT CONFORMITY.
- CIRCUIT BREAKER FRAMES, SETTINGS, RATING PLUGS, SENSORS, AND TRIP UNITS SHALL BE DETERMINED AND SET BASED ON THE SELECTIVE COORDINATION STUDY PERFORMED BY CONTRACTOR.
- WHERE ARC FLASH MITIGATION IS DESIRED, CIRCUIT BREAKERS SHOULD BE FURNISHED WITH A MAINTENANCE SWITCH TO MODIFY THE INSTANTANEOUS TRIP SETTINGS OF THE CIRCUIT BREAKER AND REDUCE THE INCIDENT ENERGY LEVELS. UPON COMPLETION OF WORK, SETTINGS SHALL BE RESTORED BACK TO SELECTIVE COORDINATION STUDY RECOMMENDED SETTINGS.
- THE %V.D. SHOWN BELOW IS THE CALCULATED VOLTAGE DROP PERCENTAGE AT EACH PANEL. FEEDERS SHALL BE LIMITED TO 2% MAXIMUM VOLTAGE DROP AND BRANCH CIRCUITS TO BE LIMITED TO 3% MAXIMUM VOLTAGE DROP.

SPECIFIC NOTES:

- UNIT SUBSTATION "MB-USS2" SHALL INCLUDE A PRIMARY LOAD INTERRUPTER SWITCH SECTION (GE BREAKMASTER) WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
 - QUICK MAKE, QUICK BREAK, MANUALLY OPERATED METAL ENCLOSED TYPE
 - RATED MAXIMUM VOLTAGE: 15KV
 - LOAD INTERRUPTING CURRENT: 600A SYM.
 - FAULT CLOSING CURRENT: 40 KA ASYM.
 - IMPULSE WITHSTAND (BI): 95KV
 - PRIMARY FUSE: 175E, 400A ASYM, CURRENT LIMITING CATALOG NO. 9F62FD175
 - SURGE ARRESTERS: 12KV, DISTRIBUTION CLASS, CATALOG NO. 9L20FX0120HS
 - COPPER SILVER PLATED BUS
 - VIEWING WINDOWS AND FULL HEIGHT INTERPHASE BARRIERS
 - BLOWN FUSE INDICATOR
 - SWITCH PADLOCK AND KEY INTERLOCK PROVISIONS
 - SUITABLE FOR TOP ENTRY OF PRIMARY CIRCUIT
 - FRONT ACCESS ONLY
 - UL LABEL
- UNIT SUBSTATION "MB-USS2" SHALL INCLUDE A DRY TYPE TRANSFORMER SECTION WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
 - TYPE: DELTAWYE, VPI
 - PRIMARY VOLTAGE: 15.8KV
 - SECONDARY VOLTAGE: 480Y/277V
 - APPARENT POWER (KVA): 2500 AA, 3325 FA, 3325 FA FORCED AIR COOLING
 - PERCENT IMPEDANCE (%Z): 5.75%
 - BASIC INSULATION LEVEL (HVLV): 60KV/10KV
 - WINDINGS: ALUMINUM
 - WINDING TEMPERATURE RISE: 150 DEGREES
 - INSULATION SYSTEM: 220 DEGREES
 - ENCLOSURE: NEMA 1 VENTILATED
 - FRONT ACCESS ONLY
 - H/V LV AIR FILLED TERMINAL COMPARTMENTS
 - DIGITAL TEMPERATURE MONITOR: GE QUALITROL 3-PHASE SERIES 118T1M
 - DOE 2016 COMPLIANT
 - UL LABEL
- UNIT SUBSTATION "MB-USS2" SHALL INCLUDE A 4000A, 480Y/277V, 3Ø, 4W, 65KAIC UL LISTED METAL ENCLOSED SWITCHBOARD DISTRIBUTION SECTIONS (GE SPECTRA SERIES) HAVING 4000A HORIZONTAL AND 3000A VERTICAL, SILVER PLATED, THERMAL RATED COPPER BUSBARS. DISTRIBUTION SECTIONS SHALL BE FRONT ACCESS ONLY.
- UNIT SUBSTATION "MB-USS2" SHALL INCLUDE A COMPLETELY COORDINATED KEY INTERLOCK SCHEME TO:
 - PREVENT OPERATION (OPEN OR CLOSE) OF PRIMARY INTERRUPTER SWITCH WHEN THE MAIN CIRCUIT BREAKER IS ENERGIZED.
 - PREVENT OPENING OF THE FUSE COMPARTMENT WHEN THE INTERRUPTER SWITCH IS IN THE CLOSED POSITION.
 - ALLOW MAIN CIRCUIT BREAKER TO BE DRAWN OUT, SERVICED, AND OPERATED WHILE PRIMARY INTERRUPTER SWITCH IS LOCKED IN THE OPEN POSITION.
- ALL 400 AMP FRAME AND LARGER CIRCUIT BREAKERS INSIDE THE UNIT SUBSTATION'S DISTRIBUTION SECTION SHALL BE 100% RATED, ELECTRONIC TYPE WITH SELECTABLE LONG-TIME, SHORT-TIME, AND INSTANTANEOUS SETTINGS. ADDITIONALLY, PROVIDE GROUND FAULT SENSING CHARACTERISTICS WHERE INDICATED.
- TYPE 2, 200KAIC SURGE PROTECTION DEVICE 150A PER MODE/300A PER PHASE FURNISHED WITH INDICATING LIGHTS, ALARM, FORM C CONTACTS, SURGE COUNTER AND DISCONNECT SWITCH. SURGE PROTECTION DEVICE SHALL BE INSTALLED IN COMPLIANCE WITH NEC ARTICLE 285.23(C).
- GE DIGITAL POWER METER EPM 7000 IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- GROUNDING ELECTRODE CONDUCTOR (GEC) FOR TRANSFORMER SHALL BE SIZED PER NEC 250.30(A)(5) AND TABLE 250.66. CONNECT TO NEAREST GROUND BUSBAR.
- COPPER BUS TRANSITION FROM LOAD INTERRUPTER SWITCH TO VPI DRY TYPE TRANSFORMER SECTION HV SIDE, AND FROM TRANSFORMER SECTION LV SIDE TO DISTRIBUTION SECTIONS MAIN CIRCUIT BREAKER.

CONDUCTORS SCHEDULE (COPPER CONDUCTORS)							
TYPE	MARK	CAPACITY	SETS	PHASE/WIRE	CONDUCTORS (PER SET)	EQUIPMENT GND (PER SET)	CONDUIT (PER SET)
BRANCH CIRCUIT	30.2	30 AMP	1	1 PHASE/2 WIRE	(2)#10AWG	#10	3/4"
BRANCH CIRCUIT	60.4	30 AMP	1	1 PHASE/2 WIRE	(2)#10AWG	#10	3/4"
TRANSFORMER PRIMARY	80.3P	80 AMP	1	3 PHASE/3 WIRE	(3)#3	#6	1"
TRANSFORMER SECONDARY	100.4S	100 AMP	1	3 PHASE/4 WIRE	(4)#1	#6	1-1/2"
TRANSFORMER SECONDARY	150.4S	150 AMP	1	3 PHASE/4 WIRE	(4)#1/0	#6	1-1/2"
FEEDER	200.4	200 AMP	1	3 PHASE/4 WIRE	(4)#3/0	#6	2"
FEEDER	400.4	400 AMP	1	3 PHASE/4 WIRE	(4)#500KCMIL	#3	4"
FEEDER	600.3.2	600 AMP	2	3 PHASE/3 WIRE	(3)#350KCMIL	#1/0	2-1/2"
FEEDER	600.4.2	600 AMP	2	3 PHASE/4 WIRE	(4)#350KCMIL	#1/0	2-1/2"
FEEDER	800.3.2	800 AMP	2	3 PHASE/3 WIRE	(3)#500KCMIL	#1/0	4"

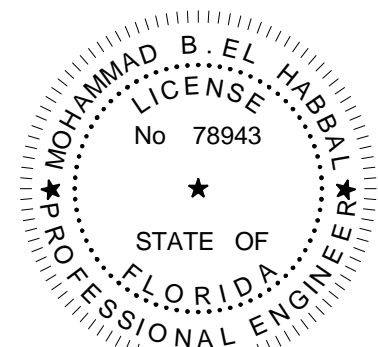


SUBSTATION: MB-USS2					
Design Selection:		Voltage: 480Y/277V		Minimum A.I.C. Rating: 65 KAIC	
Mains: 4000 A		Phases: 3		Location: ELECTRICAL ROOM 1-114	
Modifications:		Wires: 4		Served From: SG-1	
Note	Circuit	Poles	Trip Amps	Description	Load
	1	3	2000 A	BD-4	1500.00 kVA
	2	3	2000 A	SPARE	0.00 kVA
	3	3	400 A	MB-FP3	144.67 kVA
	4	3	400 A	MPB-1 OFFICE BUILDING	100.73 kVA
--	5	3	600 A	SPARE	0.00 kVA
	6	3	600 A	SPARE	0.00 kVA
	7	3	600 A	CH1.1	370.00 kVA
	8	3	600 A	CH1.2	370.00 kVA
	9				
	10				
	11				
	12				
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	18				
	19				
	20				
Load Classification				Load Summary	
HVAC Cooling		Connected Load	Demand Factor	Demand Load	
		32.10 kVA	100.00%	32.10 kVA	
Equipment		1502.00 kVA	100.00%	1502.00 kVA	Total Connected Load: 2485.4 kVA
Lighting		7.83 kVA	100.00%	7.83 kVA	
Lighting - Exterior		1.18 kVA	100.00%	1.18 kVA	
Motor		819.72 kVA	100.00%	819.72 kVA	Total Demand Load: 2482.8 kVA
Motor - Largest		1.70 kVA	125.00%	2.13 kVA	
Power		46.68 kVA	100.00%	46.68 kVA	
Receptacle		16.08 kVA	81.09%	13.04 kVA	20% Future Demand Allowance: 496.56 kVA
HVAC Heating		47.14 kVA	100.00%	47.14 kVA	
Plumbing Fixtures		10.97 kVA	100.00%	10.97 kVA	
				Total Demand Load Including Future Allowance:	2979.34 kVA
					3584 A
Notes:					

REVISION	



Bagasse Processing Facility
Belle Glade, Florida
Renewco, LLC



THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY
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ROSARIO
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01/30/17
TITLE
MV MCC
ONE-LINE
DIAGRAM
DRAWING NO.

ME-604

GENERAL NOTES:

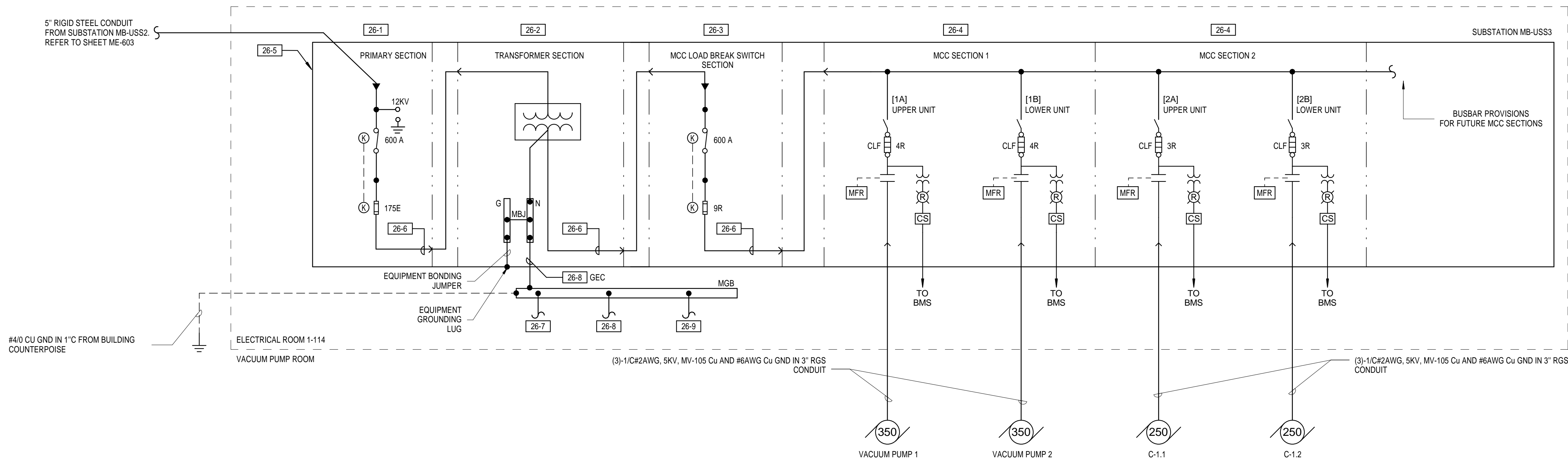
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- UNIT SUBSTATIONS AND PANEL BOARDS SHALL BE FIELD MARKED TO ADVISE QUALIFIED PERSONS OF POTENTIAL ARC FLASH HAZARDS IN COMPLIANCE WITH NEC ARTICLE 110.16 AND PROJECT SPECIFICATIONS SECTION 26.05.74.
- PROVIDE PERMANENT WARNING SIGNS ON ELECTRICAL ROOM DOOR AND SUBSTATION DOORS TO INDICATE "DANGER-HIGH VOLTAGE-KEEP OUT" IN COMPLIANCE WITH NEC ARTICLE 110.34(C).
- ALL UNGROUNDED CONDUCTORS AND FEEDERS SHALL BE IDENTIFIED BY PHASE AND SYSTEM AT TERMINATIONS, CONNECTIONS AND SPLICE POINTS IN COMPLIANCE WITH NEC ARTICLE 215.12(C) AND PROJECT SPECIFICATIONS SECTION 26.05.53.
- PROVIDE A PERMANENT SINGLE LINE DIAGRAM OF SUBSTATION "MB-USS3" IN A READILY VISIBLE LOCATION WITHIN THE SAME ROOM AS THE SUBSTATION IDENTIFYING INTERLOCKS, ISOLATION MEANS, AND ALL POSSIBLE SOURCES OF VOLTAGE TO THE INSTALLATION UNDER NORMAL OR EMERGENCY CONDITIONS. THE MARKING ON THE SUBSTATION SHALL CROSS REFERENCE THE SINGLE LINE DIAGRAM.
- LOAD INTERRUPTER SWITCH, FUSE MOUNTING, AND FUSE UNITS SHALL HAVE PERMANENT AND LEGIBLE NAMEPLATES SHOWING THE MANUFACTURER'S DESIGNATION, CONTINUOUS CURRENT RATING, INTERRUPTING CURRENT RATING, AND MAXIMUM VOLTAGE RATING.
- CIRCUIT BREAKER FRAMES, SETTINGS, RATING PLUGS, SENSORS, AND TRIP UNITS SHALL BE DETERMINED AND SET BASED ON THE SELECTIVE COORDINATION STUDY PERFORMED BY CONTRACTOR.
- WHERE THE MEDIUM VOLTAGE CONDUCTORS ARE ROUTED IN A CABLE TRAY IN LIEU OF A METALLIC CONDUIT, THE CONDUCTORS SHALL BE SHIELDED.

SPECIFIC NOTES:

- 26-1 UNIT SUBSTATION "MB-USS3" SHALL INCLUDE A PRIMARY LOAD INTERRUPTER SWITCH SECTION (GE BREAKMASTER) WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
- QUICK MAKE, QUICK BREAK, MANUALLY OPERATED METAL ENCLOSED TYPE
 - RATED MAXIMUM VOLTAGE: 15KV
 - LOAD INTERRUPTING CURRENT: 600A SYM.
 - FAULT CLOSING CURRENT: 40 KA ASYM.
 - IMPULSE WITHSTAND (BIL): 95KV
 - PRIMARY FUSE: 17SE, 40KA ASYM, CURRENT LIMITING CATALOG NO. 9F63FD0175
 - SURGE ARRESTERS: 12KV, DISTRIBUTION CLASS, CATALOG NO. 8L20FX012XHS
 - COPPER SILVER PLATED BUS
 - VIEWING WINDOWS AND FULL HEIGHT INTERPHASE BARRIERS
 - BLOWN FUSE INDICATOR
 - SWITCH PADLOCK AND KEY INTERLOCK PROVISIONS
 - SUITABLE FOR TOP ENTRY OF PRIMARY FEEDER
 - FRONT ACCESS ONLY
 - UL LABEL
- 26-2 UNIT SUBSTATION "MB-USS3" SHALL INCLUDE A DRY TYPE TRANSFORMER SECTION WITH THE FOLLOWING CHARACTERISTICS AND ACCESSORIES:
- TYPE: DELTA/WYE, VPI
 - PRIMARY VOLTAGE: 13.8KV
 - SECONDARY VOLTAGE: 4160/2400V, 3PH, 4W WYE
 - APPARENT POWER (KVA): 2500 AA, 3325 FA FORCED AIR COOLING
 - PERCENT IMPEDANCE (%Z): 5.75%
 - BASIC INSULATION LEVEL: 60KV
 - WINDINGS: ALUMINUM
 - WINDING TEMPERATURE RISE: 150 DEGREES
 - INSULATION SYSTEM: 220 DEGREES
 - ENCLOSURE: NEMA 1 VENTILATED
 - FRONT ACCESS ONLY
 - HV/LV AIR FILLED TERMINAL COMPARTMENTS
 - DIGITAL TEMPERATURE MONITOR: GE QUALITROL 3-PHASE SERIES 1181TM
 - DOE 2016 COMPLIANT
 - UL LABEL

- 26-3 UNIT SUBSTATION "MB-USS3" SHALL INCLUDE A LOAD BREAK SWITCH WITH THE FOLLOWING CHARACTERISTICS:
- QUICK MAKE, QUICK BREAK, MANUALLY OPERATED METAL ENCLOSED TYPE
 - FUSED STATIONARY SWITCH
 - RATED MAXIMUM VOLTAGE: 5KV
 - LOAD INTERRUPTING CURRENT: 600A SYM.
 - FAULT CLOSING CURRENT: 81 KA ASYM.
 - IMPULSE WITHSTAND (BIL): 60KV
 - FUSE: 600A, CURRENT LIMITING
 - COPPER SILVER PLATED BUS
 - VIEWING WINDOWS AND FULL HEIGHT INTERPHASE BARRIERS
 - BLOWN FUSE INDICATOR
 - SWITCH PADLOCK AND KEY INTERLOCK PROVISIONS
 - FRONT ACCESS ONLY
 - UL LABEL
- 26-4 UNIT SUBSTATION "MB-USS3" SHALL INCLUDE A MOTOR CONTROL CENTER SECTION WITH THE FOLLOWING CHARACTERISTICS:
- MODEL: GE LIMITAMP
 - STARTERS: 2-HIGH OR 194 STATIONARY VACUUM 400A CLASS E2 NEMA RATED
 - STARTER TYPE: FULL VOLTAGE NON-REVERSING
 - BOLT-IN CURRENT LIMITING FUSES
 - BLOWN FUSE INDICATOR
 - EXTERNALLY OPERATED ISOLATION SWITCH
 - THREE POLE VACUUM CONTACTOR
 - MULTIFUNCTION MOTOR PROTECTIVE RELAY (MULTILIN 469)
 - OVERLOAD RELAYS
 - INTERLOCKS
 - RATED VOLTAGE: 5KV
 - IMPULSE WITHSTAND (BIL): 60KV
 - FUSED PRIMARY AND SECONDARY CONTROL POWER TRANSFORMER - 2KVA
 - CURRENT TRANSFORMERS
 - THREE POLE AMBIENT COMPENSATED THERMAL OVERLOAD
 - NORMAL TEST SELECTOR SWITCH
 - CONTROL CIRCUIT FUSE
 - START-STOP PUSH BUTTON, OIL TIGHT, FLUSH MOUNTED

- 26-5 MOTOR CONTROL CENTER SHALL INCLUDE A COMPLETELY COORDINATED KEY INTERLOCK SCHEME TO:
- PREVENT OPERATION (OPEN OR CLOSE) OF ISOLATION SWITCH WHEN THE CONTACTOR IS ENERGIZED
 - PREVENT CLOSING THE CONTACTOR WHEN THE ISOLATION SWITCH IS IN AN INTERMEDIATE POSITION
 - PREVENT CLOSING OF ISOLATION SWITCH WHEN LOAD BREAK SWITCH DOOR IS OPEN.
- 26-6 COPPER BUS TRANSITION FROM LOAD INTERRUPTER SWITCH TO VPI DRY TYPE TRANSFORMER SECTION HV SIDE, AND FROM TRANSFORMER SETION LV SIDE TO MCC LOAD BREAK SECTION AND DISTRIBUTION SECTIONS
- 26-7 #4/0 BARE CU GROUND IN 1 INCH CONDUIT TO BUILDING STEEL
- 26-8 #4/0 BARE CU GROUND IN 1 INCH CONDUIT TO CONCRETE ENCASED ELECTRODE (REBAR).
- 26-9 #4/0 BARE CU GROUND IN 1 INCH CONDUIT TO METALLIC WATER PIPING.



MV MCC ONE-LINE DIAGRAM

GENERAL NOTES:

- WIRE AMPACITY SIZE FOR 100A CIRCUITS AND BELOW SHALL BE BASED ON NEC TABLE 310.15(B)(16), 60°C COLUMN FOR AMPACITY. WIRE AMPACITY SIZE FOR OVER 100A SHALL BE BASED ON NEC TABLE 310.15(B)(16), 75°C COLUMN FOR AMPACITY.
- ADJUST WIRE AND CONDUIT SIZES FOR VOLTAGE DROP OF 3% ON ALL BRANCH CIRCUITING OVER 100'. WHERE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE, EQUIPMENT GROUNDING CONDUCTORS, WHERE INSTALLED, SHALL BE INCREASED IN SIZE PROPORTIONATELY ACCORDING TO THE CIRCULAR MIL AREA OF THE UNGROUNDED CONDUCTORS IN COMPLIANCE WITH NEC ARTICLE 250.122(B).
- ALL MAIN BREAKERS AND MAIN LUG ONLY LUGS SHALL BE BOLT-ON TYPE.
- PROVIDE CIRCUIT BREAKER AND WIRE SIZE AS RECOMMENDED BY SURGE PROTECTIVE DEVICE MANUFACTURER. MINIMIZE LEAD LENGTH AND TWIST LEADS IN CONDUIT.

E

Panel: MB-FP1																								
Design Selection:							Voltage: 480Y/277V							Minimum A.I.C. Rating: 65KAIC										
Mains Rating: 400 A							Phases: 3							Location: MECHANICAL EQUIPMENT PLATFORM 1-204										
Type:							Wires: 4							Served From: MB-USS1										
							Mounting: SURFACE							Modifications:										
Note	Trip Amps	Poles	Description	Wire	Neut	Gnd	Cond	No.	A	B	C	No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip Amps	Note				
	30 A	3	AHU-1.3	(3)-10	--	10	3/4"	1	1.3	0.3		2												
								3				4	3/4"	10	--	(3)-10	COILING DOOR 1-104F	3	30 A					
								5				6												
								7	2.1	0.3		8												
	30 A	3	AHU-1.4	(3)-10	--	10	3/4"	9				10	3/4"	10	--	(3)-10	COILING DOOR 1-114B	3	30 A					
								11				12												
								13	0.6	0.3		14												
	30 A	3	CRAC-1.1	(3)-10	--	10	3/4"	15				16	3/4"	10	--	(3)-10	COILING DOOR 1-107A	3	30 A					
								17				18												
1	60 A	1	EW-2	6	6	10	3/4"	19	10.0	0.3		20												
								21				22	3/4"	10	--	(3)-10	COILING DOOR 1-107D	3	30 A					
2	60 A	3	TR-FR3	--	--	--	--	23				24												
								25	2.2	0.6		26												
								27				28	3/4"	10	--	(3)-10	EF-1.7	3	30 A					
	30 A	3	COILING DOOR 1-203C	(3)-10	--	10	3/4"	29				30												
								31	0.3	10.0		32	3/4"	10	6	6	EW-3	1	60 A	1				
								33				34	--	--	--	--	SPACE	--	--	--				
								35				36	--	--	--	--	SPACE	--	--	--				
								37	0.3	0.0		38												
--	20 A	1	SPARE	--	--	--	--	39				40	3/4"	10	--	(3)-10	SPD	3	30 A					
--	20 A	1	SPARE	--	--	--	--	41				42												
Total								28.69 kVA		8.33 kVA		9.41 kVA		Load Summary										
Connected Load								Demand Factor		Demand Load		Total Connected Load: 46 kVA												
HVAC								6.30 kVA		100.00%		6.30 kVA												
Motor								13.28 kVA		100.00%		13.28 kVA												
Power								0.00 kVA		0.00%		0.00 kVA		Estimated Demand Load: 46 kVA										
Receptacle								6.84 kVA		100.00%		6.84 kVA		25% Future Demand Allowance: 11.61 kVA										
Plumbing Fixtures								20.00 kVA		100.00%		20.00 kVA		Total Estimated Demand Load: 58.03 kVA										
														Total Estimated Demand Current: 70 A										
Notes:																								
1. PROVIDE CIRCUIT BREAKER WITH LOCKABLE PROVISIONS																								
2. REFER TO CONDUCTOR SCHEDULE ON ONE-LINE DIAGRAM SHEET ME-603 FOR CONDUCTOR AND CONDUIT SIZE.																								

D

Panel: MB-FL																							
Design Selection:									Voltage: 480Y/277V						Minimum A.I.C. Rating: 65 KA/IC								
Mains Rating: 400 A									Phases: 3						Location: MECHANICAL EQUIPMENT PLATFORM 1-204								
Type:									Wires: 4						Served From: MB-USS1								
									Mounting: SURFACE						Modifications:								
Note	Trip Amps	Poles	Description	Wire	Neut	Gnd	Cond	No.	A	B	C	No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip Amps	Note			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	1	3.6	6.7		2											
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	3				4					TR-FR1	3	80 A	1			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	5				6											
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	7	2.8	0.0		8	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	9				10	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	11				12	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	13	2.8	1.2		14	3/4"	10	10	10	LTG. - EXTERIOR BLDG.	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	15				16	3/4"	10	10	10	LTG. - EXTERIOR BLDG.	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	17				18	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	19	3.9	0.0		20	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	21				22	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	23				24	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	25	2.8	0.0		26	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LTG. - 2ND FLR MEZZ	10	10	10	3/4"	27				28	--	--	--	--	SPARE	1	20 A	--			
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	29				30	--	--	--	--	SPACE	--	--	--			
	20 A	1	LTG. - 2ND FLR MEZZ	10	10	10	3/4"	31	0.9	0.0		32	--	--	--	--	SPACE	--	--	--			
	20 A	1	LTG. - EXTERIOR BLDG.	10	10	10	3/4"	33				34	--	--	--	--	SPACE	--	--	--			
	20 A	1	LTG. - RMS. 101, 114-118	10	10	10	3/4"	35				36	--	--	--	--	SPACE	--	--	--			
	20 A	1	LTG. - RMS. 107-113	10	10	10	3/4"	37	3.7	0.0		38											
	20 A	1	LIGHTING RM. 1-104	10	10	10	3/4"	39				40	3/4"	10	-	(3)-10	SPD	3	30 A				
	30 A	1	LCP	10	10	10	3/4"	41				42											
									Total		28.34 kVA		25.9 kVA		22.05 kVA								
Load Classification									Connected Load		Demand Factor		Demand Load		Load Summary								
Lighting									56.10 kVA		100.00%		56.10 kVA		Total Connected Load: 76 kVA								
Power									4.98 kVA		100.00%		4.98 kVA										
Receptacle									15.12 kVA		83.07%		12.56 kVA										
															Estimated Demand Load: 74 kVA								
															25% Future Demand Allowance: 18.43 kVA								
															Total Estimated Demand Load: 92.16 kVA								
															Total Estimated Demand Current: 111 A								
Notes:																							
1. REFER TO CONDUCTOR SCHEDULE ON ONE-LINE DIAGRAM SHEET ME-603 FOR CONDUCTOR AND CONDUIT SIZE.																							

GENERAL NOTES:

1. WIRE AMPACITY SIZE FOR 100A CIRCUITS AND BELOW SHALL BE BASED ON NEC TABLE 310.15(B)(16), 60°C COLUMN FOR AMPACITY. WIRE AMPACITY SIZE FOR OVER 100A SHALL BE BASED ON NEC TABLE 310.15(B)(16), 75°C COLUMN FOR AMPACITY.
2. ADJUST WIRE AND CONDUIT SIZES FOR VOLTAGE DROP OF 3% ON ALL BRANCH CIRCUITING OVER 100'. WHERE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE, EQUIPMENT GROUNDING CONDUCTORS, WHERE INSTALLED, SHALL BE INCREASED IN SIZE PROPORTIONATELY ACCORDING TO THE CIRCULAR MIL AREA OF THE UNGROUNDED CONDUCTORS IN COMPLIANCE WITH NEC ARTICLE 250.122(B).
3. ALL MAIN BREAKERS AND MAIN LUG ONLY LUGS SHALL BE DOLT-ON TYPE.
4. PROVIDE CIRCUIT BREAKER AND WIRE SIZE AS RECOMMENDED BY SURGE PROTECTIVE DEVICE MANUFACTURER. MINIMIZE LEAD LENGTH AND TWIST LEADS IN CONDUIT.

Offices in Melbourne, Orlando, Seattle,
West Palm Beach, Atlanta, Charleston

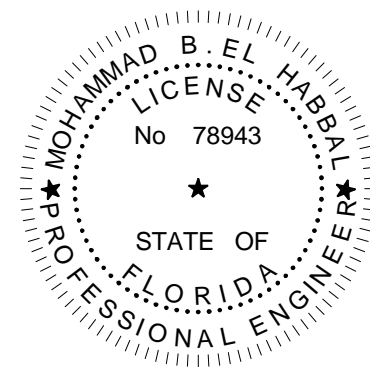
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REVISION 

Bagasse Processing Facility
Belle Glade, Florida
Renewco, LLC



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PROJECT NUMBER
0-6789-10-11-12-13

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TITLE

PANI

SCHEDULES

DRAWING NO.

ME-702

PANEL KEY	
MB-FP2	MB-FP3
MB-FRM1	MB-FRM2
MB-FRM3	-

Panel: MB-FP2

Design Selection:

Mains Rating: 600 A

Type: MCB

Voltage: 480Y/277V

Phases: 3

Wires: 4

Mounting: SURFACE

Minimum A.I.C. Rating: 65KA/IC

Location: MECHANICAL ROOM 1-103

Served From: MB-US51

Modifications:

Note	Trip Amps	Poles	Description	Wire	Neut	Gnd	Cond	No.	A	B	C	No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip Amps	Note			
50 A	3	PCHWP 1.1	(3)-8	--	10	3/4"		1	9.4 kVA	9.4 kVA		2											
								3			9.4 kVA	9.4 kVA	4	3/4"	10	--	(3)-8	PCHWP 1.2	3	50 A			
								5				9.4 kVA	9.4 kVA	6									
50 A	3	PCHWP 1.3	(3)-8	--	10	3/4"		7	9.4 kVA	0.3 kVA		8											
								9			9.4 kVA	0.3 kVA	10	3/4"	10	--	(3)-10	COILING DOOR 1-119C	3	30 A			
								11				9.4 kVA	0.3 kVA	12									
30 A	3	COILING DOOR 1-103B	(3)-10	--	10	3/4"		13	0.3 kVA	14.7 kVA		14											
								15			0.3 kVA	14.7 kVA	16	3/4"	8	--	(3)-4	ARU 1.1	3	70 A			
								17				0.3 kVA	14.7 kVA	18									
30 A	3	EF-1.6	(3)-10	--	10	3/4"		19	1.7 kVA	8.6 kVA		20											
								21			1.7 kVA	22.7 kVA	--	--	--	--	TR-FRM1	3	80 A	1			
								23				1.7 kVA	7.5 kVA	24									
30 A	3	COILING DOOR 1-105A	(3)-10	--	10	3/4"		25	0.3 kVA	0.3 kVA		26											
								27			0.3 kVA	0.3 kVA	28	3/4"	10	--	(3)-10	COILING DOOR 1-105C	3	30 A			
								29				0.3 kVA	0.3 kVA	30									
30 A	3	COILING DOOR 1-104C	(3)-10	--	10	3/4"		31	0.3 kVA	2.5 kVA		32											
								33			0.3 kVA	2.5 kVA	34	3/4"	10	--	(3)-10	DAD-1.1	3	30 A			
								35				0.3 kVA	2.5 kVA	36									
20 A	3	C-1.2 FAN AND OILER 1-103	(3)-12	--	12	3/4"		37	0.1 kVA	0.1 kVA		38											
								39			0.1 kVA	0.1 kVA	40	3/4"	12	--	(3)-12	C-1.2 FAN ANF OILER 1-103	3	20 A			
								41				0.1 kVA	0.1 kVA	42									
--	--	--	SPACE	--	--	--	--	43	0.0 kVA	0.0 kVA		44	--	--	--	SPACE	--	--	--				
--	--	--	SPACE	--	--	--	--	45			0.0 kVA	0.0 kVA	46	--	--	--	SPACE	--	--	--			
--	--	--	SPACE	--	--	--	--	47				0.0 kVA	0.0 kVA	48	--	--	--	SPACE	--	--	--		
--	--	--	SPACE	--	--	--	--	49	0.0 kVA	0.0 kVA		50	--	--	--	--	SPACE	--	--	--			
--	--	--	SPACE	--	--	--	--	51			0.0 kVA	0.0 kVA	52	--	--	--	SPACE	--	--	--			
--	--	--	SPACE	--	--	--	--	53				0.0 kVA	0.0 kVA	54	--	--	--	SPACE	--	--	--		
								Total	57.32 kVA	71.45 kVA	56.3 kVA												
								Connected Load		Demand Factor		Demand Load		Load Summary									
Load Classification								Motor		176.20 kVA		100.00%		176.20 kVA		Total Connected Load: 185 kVA							
Power								0.15 kVA		100.00%		0.15 kVA											
Receptacle								5.76 kVA		100.00%		5.76 kVA		Estimated Demand Load: 186 kVA									
Motor - Largest								2.20 kVA		125.00%		2.75 kVA		25% Future Demand Allowance: 46.40 kVA									
Plumbing Fixtures								0.75 kVA		100.00%		0.75 kVA		Total Estimated Demand Load: 232.01 kVA									
														Total Estimated Demand Current: 279 A									

Notes:

1. REFER TO CONDUCTOR SCHEDULE ON ONE-LINE DIAGRAM SHEET ME-602 FOR CONDUCTOR AND CONDUIT SIZE

[illegible]

Panel: MB-FRM3

Design Selection:

Mains Rating: 150 A

Type: MLO

Voltage: 208Y/120V

Phases: 3

Wires: 4

Mounting: SURFACE

Minimum A.I.C. Rating: 10KAIC

Location: MECHANICAL EQUIPMENT PLATFORM 1-204

Served From: MB-FRM2

Modifications: THRU-FEED LUGS

Note	Amps	Poles	Description	Wire	Neut	Gnd	Cond	No.	A		B		C		No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip	Amps	Note
1	20 A	1	RECP 1-204	10	10	10	3/4"	1	0.4 kVA	0.5 kVA					2	3/4"	12	12		RECP 1-204	1	20 A		
	20 A	1	RECP 1-106	12	12	12	3/4"	3			0.5 kVA	0.5 kVA			4	3/4"	12	12		RECP 1-104, 1-106	1	20 A		
	30 A	2	DAC 1/1/ 1-104E	(2)-10	--	10	3/4"	5	0.7 kVA	1.1 kVA			0.5 kVA	1.1 kVA	6	3/4"	10	--	(2)-10	DAC 1/2/1-104F	2	30 A		
1	20 A	1	RECP 1-104	10	10	10	3/4"	1			0.4 kVA	0.4 kVA			8	3/4"	12	12		RECP 1-104	1	20 A		
	30 A	2	CP-1.5	(2)-10	--	10	3/4"	11					0.9 kVA	1.1 kVA	12	3/4"	10	--	(2)-10	DAC 1/2/ 1-102B	2	30 A		
	20 A	1	DOC PANEL	12	12	12	3/4"	15	0.9 kVA	1.1 kVA			0.5 kVA	0.5 kVA	14	3/4"	10	--	(2)-10					
--	20 A	1	SPARE	--	--	--	--	17					0.0 kVA	0.5 kVA	16	3/4"	10	--	(2)-10	DAC 1/1/ 1-102A	2	30 A		
--	20 A	1	SPARE	--	--	--	--	19	0.0 kVA	0.0 kVA					20	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	21			0.0 kVA	0.0 kVA			22	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	23					0.0 kVA	0.0 kVA	24	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	25	0.0 kVA	0.0 kVA					26	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	27			0.0 kVA	0.0 kVA			28	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	29					0.0 kVA	0.0 kVA	30	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	31	0.0 kVA	0.0 kVA					32	--	--	--	--	SPARE		1	20 A	--
--	20 A	1	SPARE	--	--	--	--	33			0.0 kVA	0.0 kVA			34	--	--	--	--	SPARE		1	20 A	--
--	--	--	SPACE	--	--	--	--	35					0.0 kVA	0.0 kVA	36	--	--	--	--	SPACE		--	--	
--	--	--	SPACE	--	--	--	--	39			0.0 kVA	0.0 kVA			40	3/4"	10	--	(3)-10	SPD		3	30 A	
--	--	--	SPACE	--	--	--	--	41					0.0 kVA	0.0 kVA	42									
								Total	4.5 kVA		2.8 kVA		4.1 kVA											
Load Classification									Connected Load		Demand Factor		Demand Load		Load Summary									
									7.20 kVA		100.00%		7.20 kVA		Total Connected Load: 11 kVA									
Power									0.50 kVA		100.00%		0.50 kVA											
Receptacle									2.70 kVA		100.00%		2.70 kVA		Estimated Demand Load: 12 kVA									
Motor - Largest									1.00 kVA		125.00%		1.25 kVA		25% Future Demand Allowance: 2.91 kVA									
															Total Estimated Demand Load: 14.56 kVA									
Total Estimated Demand Current: 40 A																								
Notes:																								
1. WIRE UPSIZED TO ACCOUNT FOR VOLTAGE DROP IN COMPLIANCE WITH NEC ARTICLE 250.122(B)																								

Panel: MB-FP3

Design Selection:

Mains Rating: 400 A

Type: MCB

Voltage: 480Y/277V

Phases: 3

Wires: 4

Mounting: SURFACE

Minimum A.I.C. Rating: 65KAIC

Location: MECHANICAL EQUIPMENT PLATFORM 1-204

Serviced From: MB-US2

Modifications:

Note	Trip Amps	Poles	Description	Wire	Neut	Gnd	Cond	No.	A	B	C	No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip Amps	Note
	30 A	3	AHU 1.1	(3)-10	--	10	3/4"	1	1.3 kVA	9.4 kVA		2								
								3			1.3 kVA	9.4 kVA	4	3/4"	10	--	(3)-6	EF-1.1	3	50 A
								5				1.3 kVA	9.4 kVA	6						
								7	9.4 kVA	0.8 kVA		8								
	50 A	3	EF-1.2	(3)-6	--	10	3/4"	9		9.4 kVA	0.8 kVA	10	3/4"	10	--	(3)-3	AHU 1.2		3	50 A
								11				9.4 kVA	0.8 kVA	12						
								13	8.2 kVA	2.7 kVA		14								
1	80 A	3	TR-FRM3	--	--	--	--	15		14.0 kVA	2.7 kVA	16	3/4"	10	--	(3)-10	EDH-1.1	3	30 A	
								17				11.4 kVA	2.7 kVA	18						
								19	2.7 kVA	0.3 kVA		20								
	20 A	3	LIFT STATION 1 (LS-1)	(3)-12	12	12	1"	21		2.7 kVA	0.3 kVA	22	3/4"	10	--	(3)-10	COILING DOOR 1-201B	3	30 A	
								23				2.7 kVA	0.3 kVA	24						
								25	2.7 kVA	2.5 kVA		26								
	20 A	3	LIFT STATION 1 (LS-3)	(3)-12	12	12	1"	27		2.7 kVA	2.5 kVA	28	3/4"	10	--	3(-10)	AHU-1.5	3	30 A	
								29				2.7 kVA	2.5 kVA	30						
	70 A	2	GUARD SHACK XFMR	(2)-4	4	8	1"	31	7.7 kVA	0.0 kVA		32	--	--	--	--	SPARE	1	20 A	--
								33		7.7 kVA	0.0 kVA	34	--	--	--	--	SPARE	1	20 A	--
--	--	--	SPACE	--	--	--	--	35				0.0 kVA	0.0 kVA	36	--	--	--	SPACE	--	--
--	--	--	SPACE	--	--	--	--	37	0.0 kVA	0.0 kVA		38			--	--	--		--	--
--	--	--	SPACE	--	--	--	--	39			0.0 kVA	0.0 kVA	40	3/4"	10	--	(3)-10	SPD	3	30 A
--	--	--	SPACE	--	--	--	--	41				0.0 kVA	0.0 kVA	42						
Total									47.78 kVA	53.57 kVA	43.31 kVA									
Load Classification									Connected Load	Demand Factor	Demand Load	Load Summary								
HVAC Cooling									2.50 kVA	100.00%	2.50 kVA	Total Connected Load								
Equipment									2.00 kVA	100.00%	2.00 kVA									
Motor									78.82 kVA	100.00%	78.82 kVA	Estimated Demand Load								
Power									33.06 kVA	100.00%	33.06 kVA	25% Future Demand Allowance								
Receptacle									4.50 kVA	100.00%	4.50 kVA	Total Estimated Demand Load								
Motor - Largest									1.00 kVA	125.00%	1.25 kVA	181.15 kVA								
HVAC Heating									17.14 kVA	100.00%	17.14 kVA	Total Estimated Demand Current								
Plumbing Fixtures									5.85 kVA	100.00%	5.85 kVA	218 A								

Notes:

1. REFER TO CONDUCTOR SCHEDULE ON ONE-LINE DIAGRAM SHEET ME-603 FOR CONDUCTOR AND CONDUIT SIZE.

Panel: MB-FRM2																				
Design Selection: Mains Rating: 150 A Type:										Voltage: 208Y/120V Phases: 3 Wires: 4 Mounting: Surface					Minimum A.I.C. Rating: 10KAIC Location: MECHANICAL EQUIPMENT PLATFORM 1-204 Serviced From: TR-FRM2 Modifications: THRU-FEED LUGS					
Note	Amps	Poles	Description	Wire	Neut	Gnd	Cond.	No.	A	B	C	No.	Cond	Gnd	Neut	Wire	Description	Poles	Trip	
	30 A	1	VAV-1.1.1	10	10	10	3/4"	1	0.6 kVA	3.0 kVA		2	3/4"	10	8	VAV-1.2		1	40 A	
	30 A	1	VAV-1.1.3	10	10	10	3/4"	3		0.6 kVA	3.0 kVA		4	3/4"	10	8	VAV-1.3.3		1	
1	20 A	1	DOC Panel	10	10	10	3/4"	5				6	3/4"	12	12	12	FLUSH VALVES		1	
	30 A	1	VAV-1.3.4	10	10	10	3/4"	7	1.9 kVA	1.3 kVA		8	3/4"	10	--	(2/10)	CUJ-1		2	
2	30 A	1	EW-1	10	10	10	3/4"	9		1.5 kVA	1.3 kVA	10							30 A	
	30 A	1	CP-1	10	10	10	3/4"	11				0.9 kVA	0.2 kVA	12	12	12	RECIP 1-201		1	
	20 A	1	RECIP 1-201	12	12	12	3/4"	13	0.4 kVA	0.4 kVA		14	3/4"	12	12	12	RECIP 1-201		1	
	20 A	1	RECIP 1-201	12	12	12	3/4"	15		0.4 kVA	0.9 kVA	16	3/4"	10	10	10	EF-1.4		1	
	30 A	1	EF-1.3	10	10	10	3/4"	17				0.9 kVA	1.0 kVA	18	3/4"	10	10	OUTLET 1-109		1
	30 A	1	EF-1.5	10	10	10	3/4"	19	0.9 kVA	0.6 kVA		20	3/4"	12	12	12	F-SENSORS 1-111, 1-113		1	
1	20 A	1	OUTLET 1-109	10	10	10	3/4"	21		1.0 kVA	0.0 kVA	22	--	--	--	--	SPARE		--	
1	20 A	1	T PRIMER 1-112	12	12	12	3/4"	23			0.2 kVA	0.0 kVA	24	--	--	--	SPARE		--	
1	20 A	1	RECIP 1-202	10	10	10	3/4"	25	0.5 kVA	0.0 kVA		26	--	--	--	--	SPARE		--	
--	20 A	1	SPARE	--	--	--	--	27		0.0 kVA	0.0 kVA	28	--	--	--	--	SPARE		--	
--	20 A	1	SPARE	--	--	--	--	29			0.0 kVA	0.0 kVA	30	--	--	--	SPARE		--	
--	--	--	SPACE	--	--	--	--	31	0.0 kVA	0.0 kVA		32	--	--	--	--	SPACE		--	
--	--	--	SPACE	--	--	--	--	33		0.0 kVA	0.0 kVA	34	--	--	--	--	SPACE		--	
--	--	--	SPACE	--	--	--	--	35			0.0 kVA	0.0 kVA	36	--	--	--	SPACE		--	
--	--	--	SPACE	--	--	--	--	37	0.0 kVA	0.0 kVA		38	--	--	--	--	SPACE		--	
--	--	--	SPACE	--	--	--	--	39		0.0 kVA	0.0 kVA	40	--	--	--	--	SPACE		--	
--	--	--	SPACE	--	--	--	--	41			0.0 kVA	0.0 kVA	42	--	--	--	SPACE		--	
Total									14.02 kVA	11.44 kVA	8.23 kVA									
Load Classification									Connected Load	Demand Factor	Demand Load	Load Summary								
HVAC Cooling									2.50 kVA	100.00%	2.50 kVA	Total Connected Load: 34 kVA								
Equipment									2.00 kVA	100.00%	2.00 kVA									
Motor									7.20 kVA	100.00%	7.20 kVA	Estimated Demand Load: 34 kVA								
Power									1.50 kVA	100.00%	1.50 kVA	25% Future Demand Allowance: 8.49 kVA								
Receptacle									4.50 kVA	100.00%	4.50 kVA	Total Estimated Demand Load: 42.43 kVA								
100VA Largest									1.00 kVA	125.00%	1.25 kVA									
HVAC Heating									9.14 kVA	100.00%	9.14 kVA	Total Estimated Demand Current: 118 A								
Plumbing Fixtures									5.85 kVA	100.00%	5.85 kVA									
Notes:																				
1. WIRE UPSIZED TO ACCOUNT FOR VOLTAGE DROP IN COMPLIANCE WITH NEC ARTICLE 250.122(B)																				
2. PROVIDE CIRCUIT BREAKER WITH LOCKABLE PROVISIONS																				

- CONNECTED TOGETHER AND TO THE SUPPLY SYSTEM GROUNDED EQUIPME IN A MANNER THAT CREATES A LOW IMPEDANCE PATH FOR GROUND FAULT CURRENT THAT IS CAPABLE OF CARRYING THE MAXIMUM FAULT CURRENT LIKELY TO BE IMPOSED ON IT.

2-61 PROVIDE A CADWELD TYPE "T" EXOTHERMIC CONNECTION AND EXTEND A #40 BARE COPPER CONDUCTOR FROM BUILDING'S MAIN GROUNDING COUNTERPOISE TO THE EXISTING ESTABLISHED BUILDING GROUNDING COUNTERPOISE AND BOND CHILLERS BY MECHANICAL MEANS. REFER TO SHEET ME-402 FOR CHILLER GROUNDING CONNECTION.

2-62 PROVIDE A CADWELD TYPE "T" EXOTHERMIC CONNECTION AND EXTEND A #40 BARE COPPER GROUNDING CONDUCTOR FROM BUILDING COUNTERPOISE TO GROUNDING BUSBARS LOCATED ON PIPE RACK COLUMNS. ENCASE CONDUCTOR IN 1" PVC CONDUIT. PROVIDE AN ADJUT GROUNDING CABLE TO BUILDING COUNTERPOISE BY MECHANICAL MEANS. REFER TO DETAIL 1, ON SHEET ME-501.

2-63 PROVIDE #40 BARE COPPER GROUNDING CONDUCTOR FROM GROUNDING CABLE TO MAIN GROUND BAR (MGB) IN ELECTRICAL RM-114. ENCASE CONDUCTOR IN 1" PVC CONDUIT AT BUILDING ENTRY AND BOND BY EXOTHERMIC MEANS. INSIDE TEST WELL, CONNECT CONDUCTOR TO MAIN GROUND BAR (MGB) COUNTERPOISE BY MECHANICAL MEANS. REFER TO DETAIL 1, ON SHEET ME-501.

2-64 PROVIDE A CADWELD TYPE "T" EXOTHERMIC CONNECTION AND EXTEND A #40 BARE COPPER GROUNDING CONDUCTOR FROM BUILDING COUNTERPOISE TO BUILDING CORNER STEEL COLUMNS AND INTERMEDIATE EXTERIOR COLUMNS AT DISTANCES NOT EXCEED 40 FEET. PROVIDE AN ADJUT GROUNDING CABLE TO BUILDING ENTRY AT EXTERNALLY WELD BONDING PACE TO STEEL STRUCTURE.

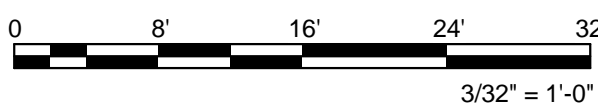
2-65 PROVIDE A #40 BARE COPPER CONDUCTOR FROM GROUND BARS LOCATED ON PIPE RACK, AND BOND PIPE RACK STEEL COLUMNS BY EXOTHERMIC MEANS.

2-66 PROVIDE A #40 BARE COPPER CONDUCTOR FROM GROUND BARS LOCATED ON COLUMN AND BOND SUMP PIPES BY MECHANICAL MEANS.

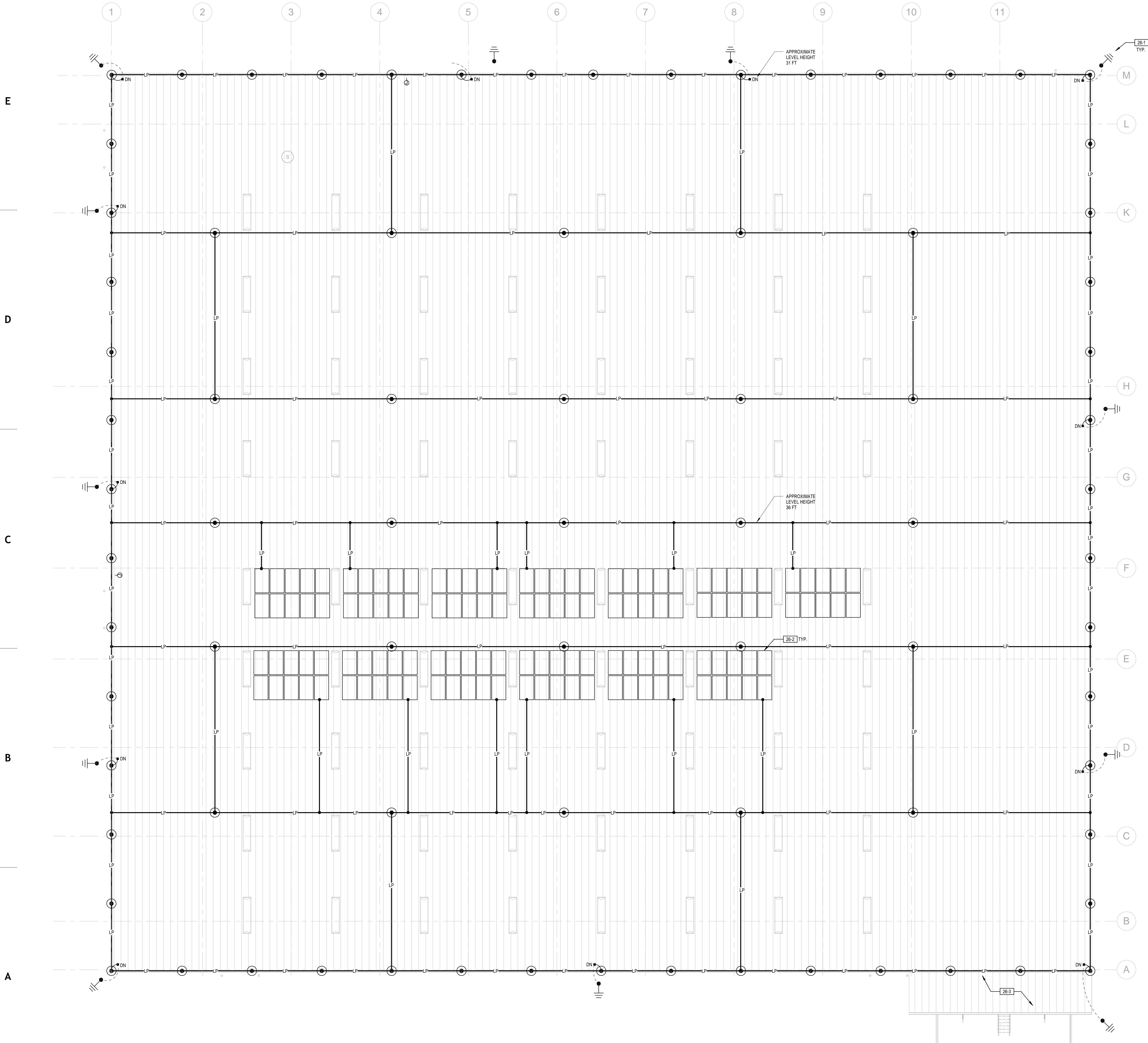
2-67 PROVIDE A #40 OVERHEAD INSULATED COPPER GROUND WIRE FROM BUILDING COUNTERPOISE FOR BONDING OF FUTURE EQUIPMENT. FIELD COORDINATE EXACT HEIGHT PRIOR TO INSTALLATION.

2-68 PROVIDE A CADWELD TYPE "T" EXOTHERMIC CONNECTION AND EXTEND A #40 BARE COPPER GROUNDING CONDUCTOR FROM BUILDING COUNTERPOISE TO GROUNDING BUSBARS LOCATED IN PLC RM-118A. ENCASE CONDUCTOR IN 1" PVC CONDUIT AT BUILDING ENTRY AND BOND BY EXOTHERMIC MEANS. GROUNDING BUSBARS SHALL BE BOND TO GROUNDING CABLE BY MECHANICAL MEANS.

1 GROUNDING PLAN



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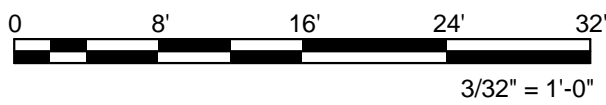
1 LIGHTNING PROTECTION PLAN
3/32" = 1'-0"

GENERAL NOTES:

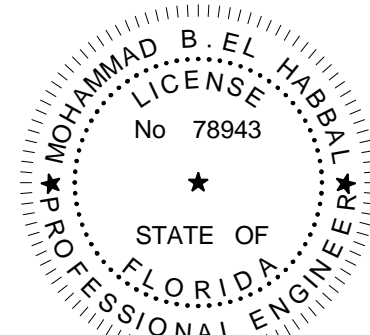
- REFER TO SHEET ME-601 FOR LEGEND, ABBREVIATIONS, AND NOTES.
- ALL LIGHTNING PROTECTION CABLES AND DOWN LEADS SHALL BE CONCEALED.
- THE COMPLETED INSTALLATION SHALL MEET NFPA 780 REQUIREMENTS. THIRD PARTY CERTIFICATION SHALL BE FURNISHED TO THE OWNER UPON COMPLETION.
- METAL BODIES WITHIN 6' OF THE LIGHTNING PROTECTION SYSTEM SHALL BE BONDED TO THE LIGHTNING PROTECTION SYSTEM.
- DESIGN SHOWN IS SCHEMATIC AND IS INTENDED TO SHOW BASIC SYSTEM DESIGN. CONTRACTOR SHALL VERIFY DIMENSIONS AND SITE CONDITIONS AND PROVIDE SYSTEM THAT COMPLIES WITH CODE REQUIREMENTS.
- ALL LIGHTNING CONDUCTORS ARE TO MAINTAIN A HORIZONTAL OR DOWNWARD PATH. ALL BENDS IN THE CONDUCTOR SHALL HAVE A RADIUS OF 8" OR GREATER AND SHALL HAVE AN ANGLE BEND OF 90 DEGREES OR GREATER.
- ADHESIVE USED WITH AIR TERMINALS SHALL BE COMPATIBLE WITH ROOFING MEMBRANE. COORDINATE WITH ROOFING CONTRACTOR.
- ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE CLASS 1 ALUMINUM.
- ALL METALLIC PIPE STACKS, STRUCTURES, AND OTHER METALLIC APPURTENANCES MUST BE BONDED TO THE LIGHTNING PROTECTION SYSTEM PER NFPA 780.
- PROVIDE GROUNDING ELECTRODE TO STEEL COLUMNS (WHERE APPLICABLE) TO COMPLY WITH NFPA 780.
- BI-METALLIC LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL BE USED TO AVOID ELECTROLYTIC CORROSION.
- UNDERGROUND METALLIC PIPING ENTERING THE BUILDING SHALL BE BONDED TO THE NEAREST DOWN CONDUCTOR OR GROUND ELECTRODE.
- IF THE METAL THICKNESS OF AN OBJECT IS 3/16" OR GREATER, AIR TERMINALS MAY BE ELIMINATED IF THE OBJECT IS PROPERLY CONNECTED TO THE SYSTEM.
- ALL ELEVATIONS ARE APPROXIMATE, AND ARE TAKEN FROM AVERAGE GRADE.
- AIR TERMINALS ARE TO BE LOCATED AS SHOWN. THEY ARE TO BE A MAXIMUM OF 24" FROM THE ROOF EDGE AND PROJECT A MINIMUM OF 10" ABOVE THE PROTECTED EDGE. THE SPACING BETWEEN AIR TERMINALS ARE NOT TO EXCEED 20'. AIR TERMINALS THAT EXTEND 24" ABOVE THE PROTECTED EDGE ARE NOT TO EXCEED A SPACING GREATER THAN 25'. EXCEPT FOR MID-ROOF AIR TERMINALS (50' MAX SPACING). VERIFY THAT THE SPACING BETWEEN DOWN CONDUCTORS IS IN COMPLIANCE WITH NFPA 780.

SPECIFIC NOTES: 26-

- 26-1 CONNECT LIGHTNING PROTECTION SYSTEM DOWN CONDUCTOR FROM ROOF TO THE BELOW GRADE BUILDING COUNTERPOISE WHERE APPLICABLE, AND BOND SYSTEM DOWN CONDUCTOR TO VERTICAL STEEL COLUMN AT TOP AND BOTTOM OF COLUMN. RUN DOWN CONDUCTOR IN 1" PVC CONDUIT SLEEVE WITHIN BUILDING INTERIOR.
- 26-2 SOLAR ARRAY CONSISTS OF 13 PARALLEL STRINGS OF 10 PANELS EACH FOR A TOTAL OF 130 PANELS. EACH PANEL SHALL BE RATED AT 310W OUTPUT. REFER TO OFFICE BUILDING SHEET OE-601 FOR THE SOLAR ONE-LINE DIAGRAM AND CONNECTIONS.
- 26-3 DESIGN AS INDICATED CONSIDERS THE BUILDING'S HIGH ELEVATION A ZONE OF PROTECTION FOR THE LOADING DOCK.



REVISION	



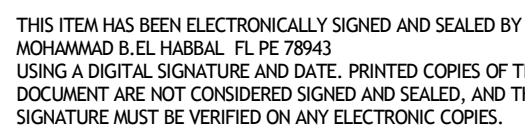
THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY
MOHAMMAD B. EL HABBAL, FL PE 78943
USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS
DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED, AND THE
SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

RECORDING OF RECORD
MOHAMMAD B. EL HABBAL
FL PE 78943
DESIGNED BY
HABBAL
DRAWN BY
BRPH
CHECKED BY
ROSARIO
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
LIGHTNING
PROTECTION
PLAN
DRAWING NO.

1. REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES. REFER TO SHEET ME-002 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING CONTROL MATRIX.
2. LIGHTING PLANS INDICATE PROPOSED LOCATIONS AND QUANTITY OF LIGHTING CONTROL DEVICES. LIGHTING CONTROL DEVICES SHALL BE INSTALLED TO ENSURE PROPER SPACING OF OCCUPANCY SENSORS TO ENSURE PROPER OPERATION AND COVERAGE IN COMPLIANCE WITH PROJECT SPECIFICATIONS AND SEQUENCE OF OPERATIONS. WHERE NECESSARY, IN CONSULTATION WITH THE ELECTRICAL CONTROL VENDOR, THE VENDOR SHALL PROVIDE ADDITIONAL OCCUPANCY SENSORS AT NO COST TO THE OWNER.
3. COORDINATE LOCATION OF LIGHTING FIXTURES WITH PROCESS EQUIPMENT, MECHANICAL EQUIPMENT, AND DUCTWORK FOR INSTALLATION.
4. LIGHTING FIXTURE TYPE "OL5" SHALL BE MOUNTED AT 2'-0" AFF AT CENTERLINE OF MAIN DOORS.
5. EMERGENCY LIGHTING UNITS TYPE "OLT" AND "OL5" SHALL BE MOUNTED AT 7'-6" AFF UNLESS OTHERWISE NOTED ON THE LAYOUT.
6. WALL MOUNTED EXIT SIGNS SHALL BE MOUNTED AT 12" ABOVE TOP OF DOOR FRAME TO CENTER OF EXIT SIGN AND SHALL BE WIRED TO THE NORMAL CIRCUIT IN THE SAME AREA AREA OF ANY LIGHTING CONTROL DEVICES.
7. ALL CEILING MOUNTED OCCUPANCY SENSORS SHALL BE LOW VOLTAGE DUAL TECHNOLOGY TYPE.
8. WALL MOUNTED OCCUPANCY SENSORS SHALL BE LOW VOLTAGE DUAL TECHNOLOGY TYPE WITH A MANUAL OVER/OFF BUTTON.
9. ALL LOW VOLTAGE SWITCHES SHALL BE PUSH BUTTON TYPE.
10. LIGHTING FIXTURES IN THE MOLDFORM BUILDING ARE FED FROM PANEL MB-F LOCATED AT MECHANICAL EQUIPMENT PLATFORM.

26-1	PROVIDE A DIGITAL TIMER WITH MANUAL OVERRIDE OFF SWITCH. DIGITAL TIMER SWITCH SHALL HAVE A BEEP WARNING SIGNAL 1 MINUTE BEFORE LIGHTS SHUT OFF.
26-2	LIGHTING FIXTURES IN THIS ROOM SHALL BE INSTALLED WITH AIR CRAFT CABLE SO THAT BOTTOM OF FIXTURE IS AT 12'-0" AFF. UNLESS OTHERWISE NOTED.
26-3	LIGHTING FIXTURES SHALL BE MOUNTED TO BOTTOM OF PIPE RACK STRUCTURE. FIELD COORDINATE FIXTURE HEIGHT WITH HEIGHT OF PIPE RACK STRUCTURE.
26-4	EMERGENCY LIGHTING UNITS SHALL BE MOUNTED ON PIPE RACK COLUMNS AT 12'-0" AFF.

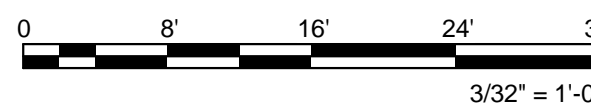
Bagasse Processing Facility
Belle Glade, Florida
Renewco, LLC



ARCH/ENGR OF RECORD
MOHAMMAD B.EL HABBAL
FL PE 78943
DESIGNED BY
HABBAL
DRAWN BY
BRPH
CHECKED BY
ROSARIO
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
LIGHTING PL

DRAWING NO.

ME-L101



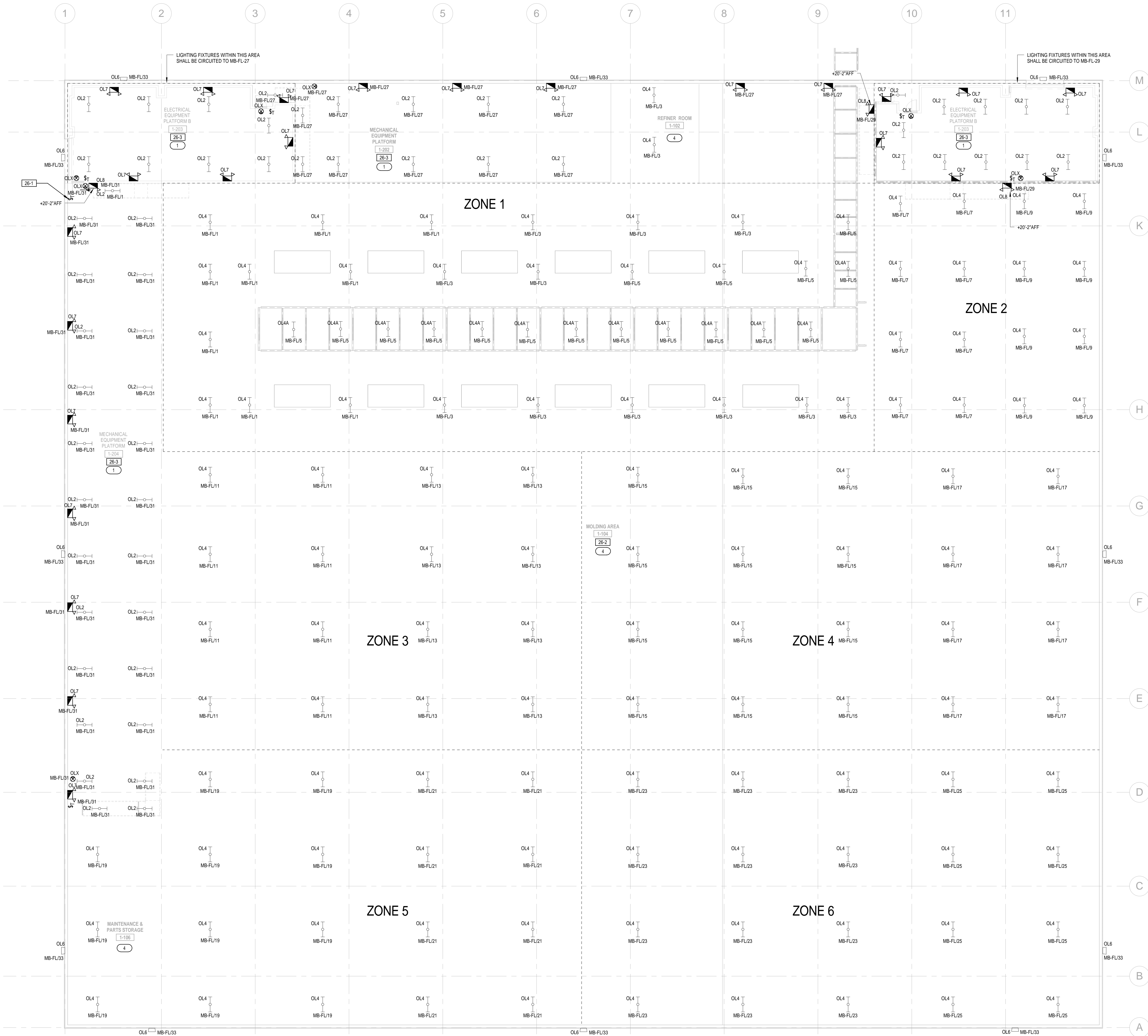
1 LIGHTING PLAN
3/32" = 1'-0"

GENERAL NOTES:

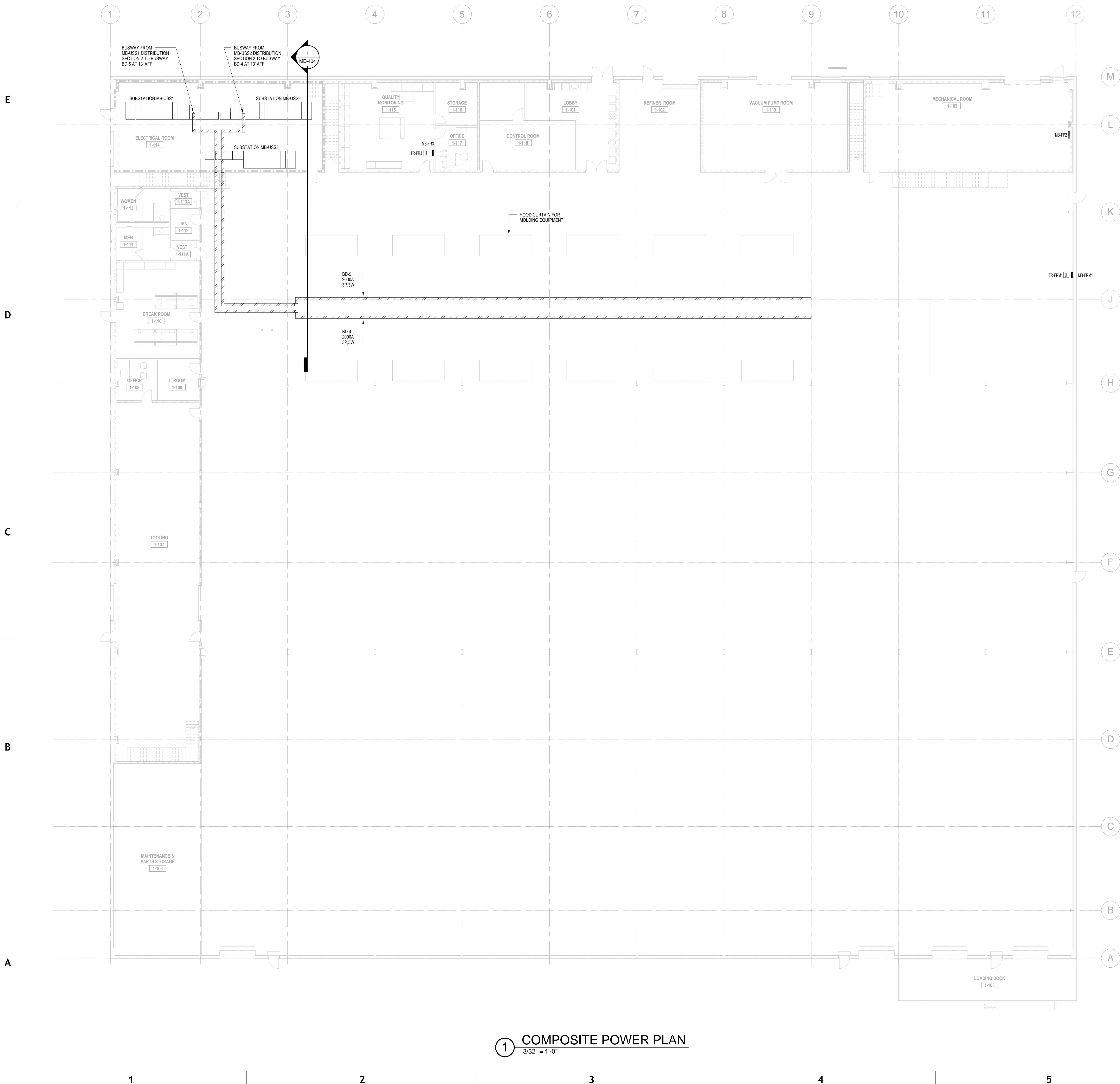
- REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES. REFER TO SHEET ME-002 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING CONTROL MATRIX.
- LIGHTING FIXTURE TYPE "OL6" SHALL BE MOUNTED AT 28'-0" AFG AT CENTERLINE OF DOORS.
- EMERGENCY LIGHTING UNITS TYPE "OL7" AND "OL8" SHALL BE MOUNTED AT 7'-6" AFF UNLESS OTHERWISE NOTED ON THE LAYOUT.
- WALL MOUNTED EXIT SIGNS SHALL BE MOUNTED AT 12" ABOVE TOP OF DOOR FRAME TO CENTER OF EXIT SIGN AND SHALL BE WIRED TO THE NORMAL CIRCUIT IN THE SAME AREA AHEAD OF ANY LIGHTING CONTROL DEVICES.
- ALL LOW VOLTAGE SWITCHES SHALL BE PUSH BUTTON TYPE.
- LIGHTING FIXTURES IN THE MOLDING AREA ARE FED FROM PANEL MB-FL LOCATED AT MECHANICAL EQUIPMENT PLATFORM.
- LIGHTING FIXTURES IN THE MOLDING AREA ARE DIVIDED INTO 6 ZONES OF CONTROL. THESE ZONES WILL BE CONTROLLED BY DEDICATED RELAYS THROUGH THE CHELSEA DIGITAL SWITCHES AS INDICATED ON THE LIGHTING CONTROL PANEL SCHEDULE ON SHEET ME-002.

SPECIFIC NOTES:

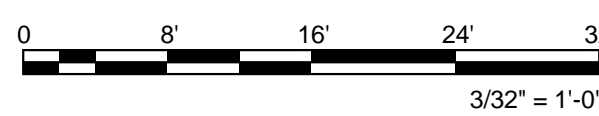
- 26-1 PROVIDE A DIGITAL TIMER WITH MANUAL OVERRIDE OFF SWITCH. DIGITAL TIMER SWITCH SHALL HAVE A BEEP WARNING SIGNAL 1 MINUTE BEFORE LIGHTS SHUT OFF.
- 26-2 LIGHTING FIXTURES IN THE MOLDING AREA SHALL BE MOUNTED WITH AIR CRAFT CABLE SO THAT BOTTOM OF FIXTURE IS AT 27'-0" AFF. UON.
- 26-3 LIGHTING FIXTURES IN THIS ROOM SHALL BE MOUNTED WITH AIR CRAFT CABLE SO THAT BOTTOM OF FIXTURE IS AT 12'-0" AFF. UON.



1 LIGHTING PLAN
3/32" = 1'-0"



1 COMPOSITE POWER PLAN
3/32" = 1'-0"



1

2

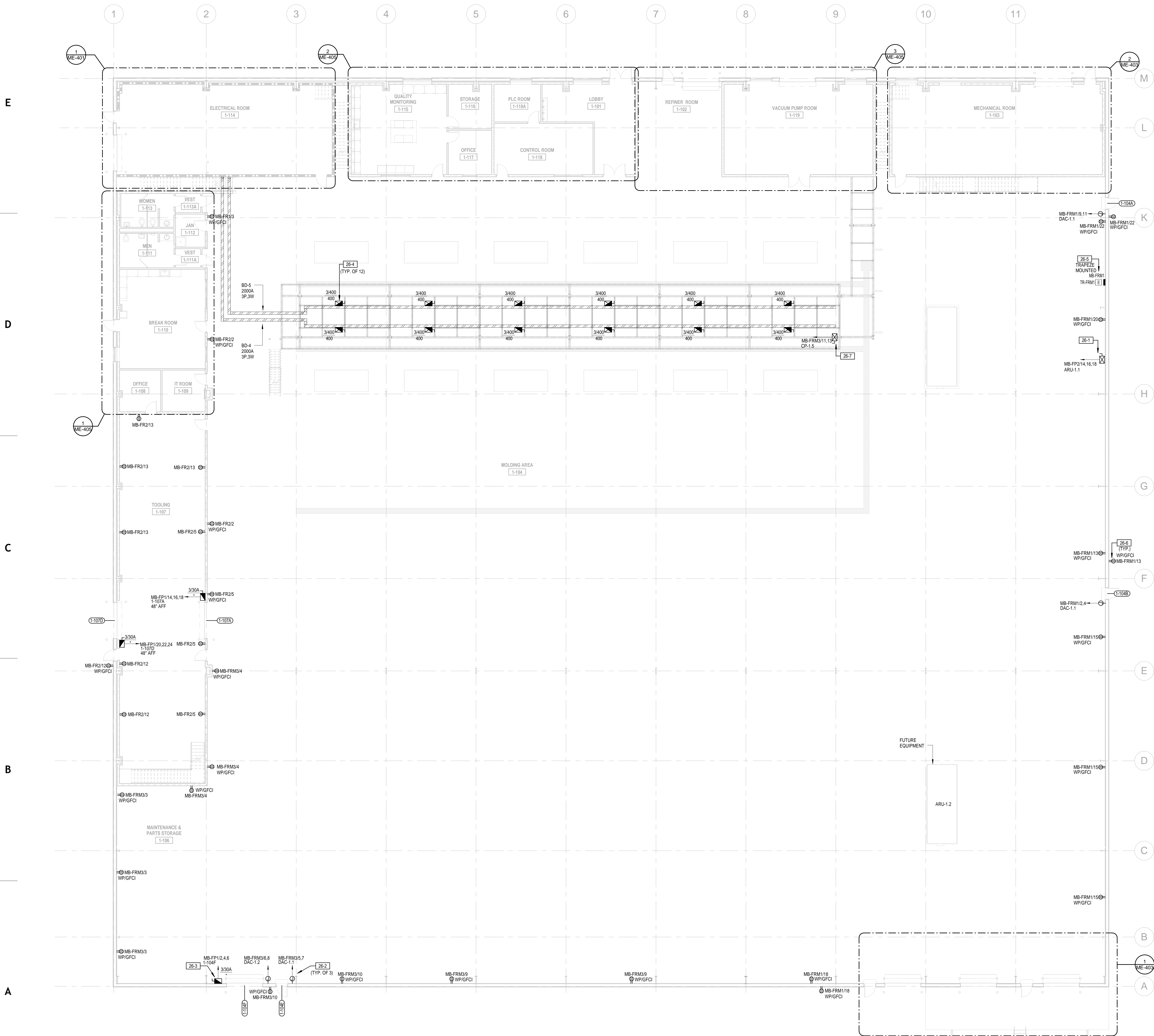
3

4

5

6

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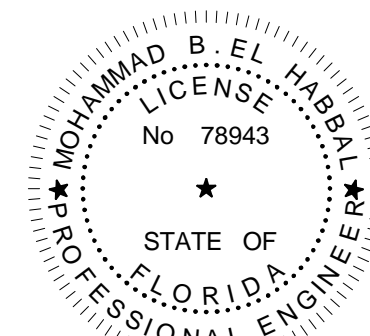
1 FIRST FLOOR POWER PLAN
3/32" = 1'-0"

GENERAL NOTES:

- REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES.
- ALL DISCONNECT SWITCHES, STARTERS, COMBINATION VFDs, AND ASSOCIATED FIRES FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY ALL FUSE SIZES WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS WILL BE PROVIDED BY DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
- APPLY PROPER UL LISTED FIRE STOPPING FOR BUSWAYS AND CONDUITS PENETRATING THROUGH FIRE RATED ASSEMBLIES. FIRE STOP SHALL BE LISTED FOR THE FIRE RATING OF THE ASSEMBLY.
- RECEPTACLE OUTLET BOXES SHALL NOT BE MOUNTED BACK TO BACK DIRECTLY ACROSS A WALL OR PARTITION. CONTRACTOR SHALL OFFSET THE INSTALLATION OF BOXES HORIZONTALLY A MINIMUM OF 24".
- DESIGN CONSIDERS THAT THE MOLDING EQUIPMENT IN THE MOLDING AREA WILL BE HOSED DOWN ON A REGULAR BASIS AND THAT BAGASSE VAPOR WILL BE CONSTANTLY PRODUCED. ACCORDINGLY, ALL ELECTRICAL EQUIPMENT IN THE MOLDING AREA SHALL BE IN NEMAX SS ENCLOSURES, AND ALL RECEPTACLES SHALL BE GFCI IN WEATHER PROOF COVERS AND MOUNTED AT 48" AFF. ALL ELECTRICAL EQUIPMENT IN OTHER AREAS OF THE MOLDING BUILDING SHALL BE IN NEMA 12 ENCLOSURES.
- PROCESS RELATED EQUIPMENT IN THE MOLDING AREA WILL BE FED FROM MOTOR CONTROL CENTER MB-MCC1 LOCATED AT THE ELECTRICAL PLATFORM 1-201. CONTRACTOR SHALL PROVIDE WIRE AND CONDUIT FROM RESPECTIVE MCC BUCKETS TO EQUIPMENT AND VARIABLE FREQUENCY DRIVES. REFER TO ALL NORTH DRAWINGS FOR MOTOR CONTROL CENTER ONE-LINE DIAGRAMS.

SPECIFIC NOTES:

- COMBINATION MOTOR STARTER DISCONNECT SWITCH FOR AIR ROTATION UNIT ARU-1.1 FURNISHED WITH EQUIPMENT UNDER DIVISION 23. INSTALL AT 48" AFF. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT, AND FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- PROVIDE A 208V/1PH ELECTRICAL CONNECTION VIA WALL MOUNTED JUNCTION BOX FOR HIGH VELOCITY OVERHEAD DOOR AIR CURTAIN ORIGINATING FROM A 20A/2P CIRCUIT BREAKER. FIELD COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO INSTALLATION.
- PROVIDE A 30A/3PH FUSED DISCONNECT SWITCH MOUNTED AT 48" AFF FOR OVERHEAD COILING DOOR. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT AND FIELD COORDINATE EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION.
- PROVIDE A 400A/3PH FUSIBLE OMR BUSWAY PLUG-IN UNITS WITH CLASS R FUSE KITS. CONNECT PLUG-IN TO BUSWAY TAP-OFF BOX AND PROVIDE HOOKSTICKS OR OTHER SUITABLE MEANS TO OPERATE PLUG-IN HANDLE IN COMPLIANCE WITH NEC ARTICLE 404.8. EXTEND WIRE AND CONDUIT FROM BUSWAY PLUG-IN UNIT TO LINE SIDE OF EQUIPMENT MAIN ELECTRICAL PANEL. REFER TO BUSWAY PLUG-IN SCHEDULES ON SHEET ME-002 AND ONE-LINE DIAGRAMS SHEETS ME-002 AND ME-003 FOR CONDUCTOR AND CONDUIT SIZE.
- PROVIDE A WALL MOUNTING BRACKET TO MOUNT TRANSFORMER. ADDITIONALLY, PROVIDE A PLACARD ON THE TRANSFORMER WITH A MINIMUM OF 1" HIGH LETTERS TO INDICATE THE LOCATION OF ITS DISCONNECTING MEANS. DISCONNECTING MEANS FOR TRANSFORMER IS AT PANEL MB-FP2 INSIDE THE MECHANICAL ROOM IN COMPLIANCE WITH NEC ARTICLE 450.14 FIELD COORDINATE EXACT HEIGHT PRIOR TO INSTALLATION.
- PROVIDE 120V/1PH CONNECTION THROUGH 3/4" CONDUIT TO JUNCTION BOX. FEED INTERIOR AND EXTERIOR RECEPTACLES FROM JUNCTION BOX.
- COMBINATION MOTOR STARTER DISCONNECT SWITCH FOR PUMP CP-1.5 FURNISHED WITH EQUIPMENT UNDER DIVISION 23. INSTALL AT 48" AFF. PROVIDE WIRE AND CONDUIT TO LINE SIDE OF DISCONNECT, AND FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.



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RECORDING OF RECORD

MOHAMMAD B. EL HABBAL

FL PE 78943

DESIGNED BY

HABBAL

DRAWN BY

BRPH

CHECKED BY

ROSARIO

PROJECT NUMBER

C07111.004

DATE

01/30/17

TITLE

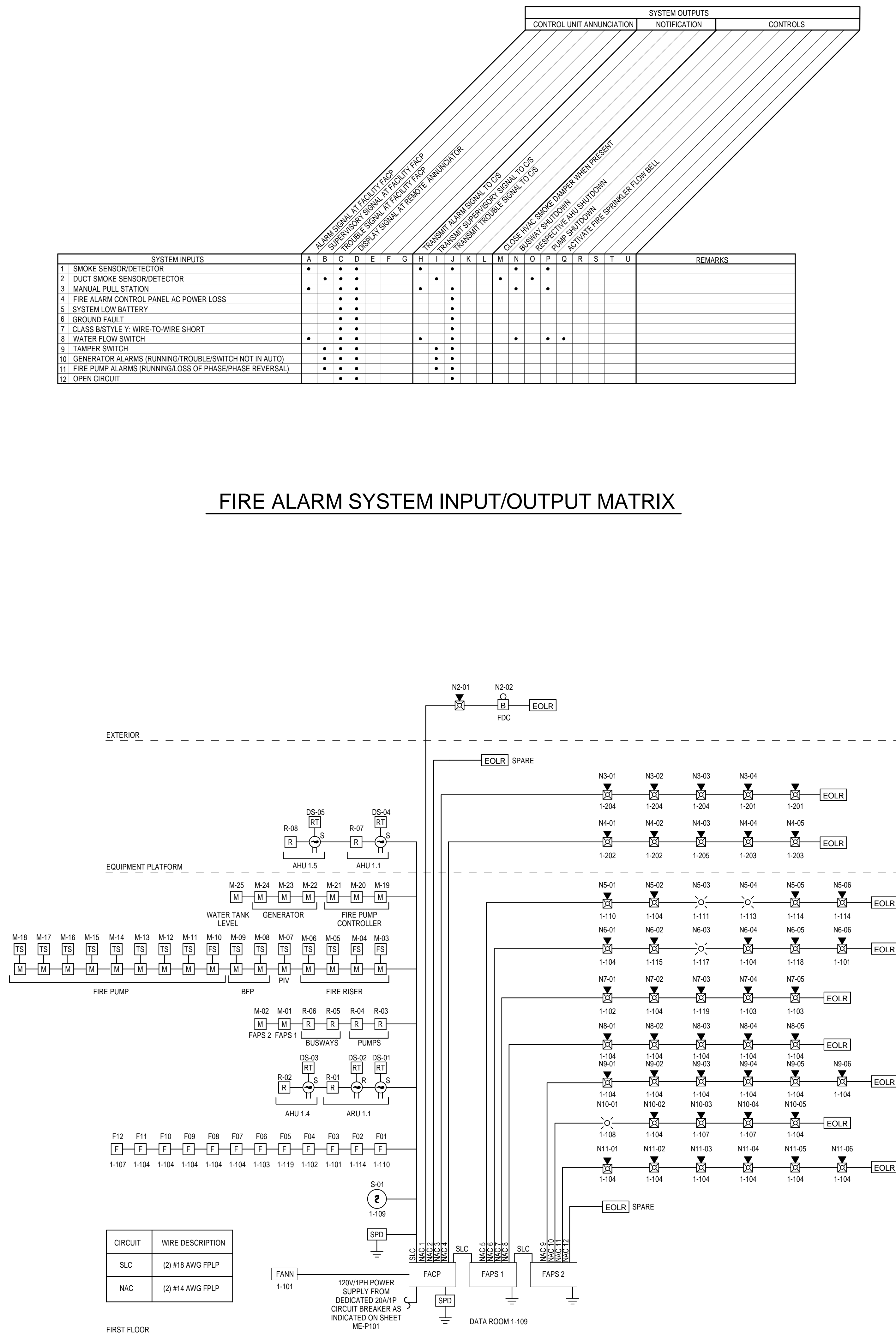
FIRST FLOOR

POWER PLAN

DRAWING NO.

ME-P101

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX



FIRE ALARM ONE-LINE DIAGRAM

GENERAL NOTES:

- REFER TO SHEET ME-001 FOR SYMBOLS AND LEGEND.
- FIRE ALARM SYSTEM SHALL BE IN COMPLIANCE WITH FBC 907.2.4. AND SHALL BE A FULLY ADDRESSABLE SYSTEM.
- INITIATION OF THE FIRE ALARM SYSTEM SHALL BE BY AUTOMATIC AND MANUAL MEANS IN COMPLIANCE WITH FBC 907.2.4.1. ACTIVATION OF THE FIRE ALARM SYSTEM SHALL INITIATE A GENERAL EVACUATION SIGNAL IN COMPLIANCE WITH FBC 907.2.4.2.
- THE FIRE ALARM SYSTEM WIRING SHALL BE IN ACCORDANCE WITH NFPA 72 AS FOLLOWS:
 - SIGNALING LINE CIRCUITS CLASS B, STYLE 4
 - NOTIFICATION APPLIANCE CIRCUIT CLASS B, STYLE Y
- FIRE ALARM SYSTEM SHALL BE TESTED PER NFPA 72
- FIRE ALARM WIRING SHALL BE INSTALLED IN METAL RACEWAY UNLESS NOTED OTHERWISE.
- ALL PENETRATIONS THROUGH FIRE/SMOKE PARTITIONS SHALL BE PROVIDED WITH APPROVED FIRESTOP, INSTALLED IN ACCORDANCE WITH A UL LISTED ASSEMBLY.
- THE FIRE ALARM SYSTEM COMPONENTS AND MATERIALS SHALL BE UL LISTED AND SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.
- POWER LOAD ON EACH NOTIFICATION APPLIANCE CIRCUIT SHALL NOT EXCEED 75% OF THE INDIVIDUAL CIRCUIT POWER AVAILABLE FROM THE FIRE ALARM SYSTEM CONTROL UNIT.
- CONTRACTOR SHALL COORDINATE AND PROVIDE THE FOLLOWING FIRE ALARM INTERFACE POINTS:
 - INTERFACE POINTS AT EMERGENCY GENERATOR
 - INTERFACE POINTS AT FIRE PUMP AND CONTROLLER
 - INTERFACE POINTS AT FIRE TANK
- FIRE ALARM CONTROL PANEL SHALL INCLUDE A RELAY MODULE RESERVED FOR CONNECT TO PROCESS EQUIPMENT.
- CONTRACTOR SHALL PROVISION FOR (12) FUTURE HORN/STROBE DEVICES THAT WILL BE INSTALLED ON FUTURE PIPE RACKS AT LOCATIONS SIMILAR TO THE ONES SHOWN ON THE CURRENT PIPE RACK. ACCORDINGLY, ADEQUATE SPARE CAPACITY SHALL BE RESERVED FOR THE FUTURE NOTIFICATION APPLIANCE DEVICES.
- CONTRACTOR SHALL PROVIDE DETAILED SHOP DRAWINGS FOR FIRE ALARM SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, SHOWING LOCATION OF DEVICES, BATTERY AND VOLTAGE DROP CALCULATIONS, AND ONE LINE DIAGRAM SHOWING NOTIFICATION AND INITIATION DEVICE CONNECTIONS TO FIRE ALARM CONTROL PANELS.

SPECIFIC NOTES:

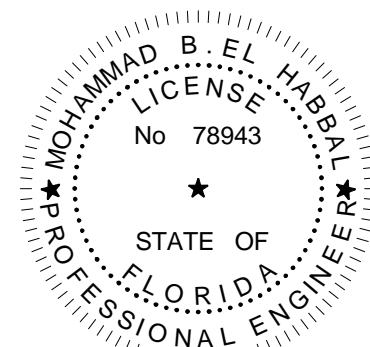
- FIRE ALARM REMOTE ANNUNCIATOR PANEL, ANNUNCIATOR PANEL SHALL DISPLAY COMPLETE SYSTEM POINT INFORMATION STATUS AND SHALL INCLUDE CONTROL SWITCHES FOR REMOTE CONTROL OF CRITICAL SYSTEM FUNCTIONS.
- PROVIDE A FIRE ALARM RELAY TO SHUT DOWN AIR ROTATION UNIT "ARU-1.1" UPON ACTIVATION OF FIRE ALARM SYSTEM.
- PROVIDE A FIRE ALARM RELAY TO SHUT DOWN THE CIRCUIT BREAKER FEEDING THE MOLDING EQUIPMENT BUSWAY UPON ACTIVATION OF FIRE ALARM SYSTEM.
- PROVIDE A FIRE ALARM RELAY TO SHUT DOWN PULP CIRCULATION PUMPS AND HOUSEKEEPING FLUSHING PUMPS UPON ACTIVATION OF FIRE ALARM SYSTEM.
- PROVIDE A FIRE ALARM RELAY TO SHUTDOWN AIR HANDLING UNITS UPON ACTIVATION OF THE FIRE ALARM SYSTEM.
- PROVIDE (2) WATER FLOW SWITCHES AND (2) NORMALLY OPEN VALVE TAMPER SWITCHES FOR THE FIRE RISER. FIELD COORDINATE EXACT LOCATION PRIOR TO INSTALLATION.
- 24VDC FIRE SPRINKLER FLOW BELL PROVIDED BY FIRE PROTECTION CONTRACTOR AND LOCATED WITHIN PROXIMITY OF THE FIRE DEPARTMENT CONNECTION TO SOUND UPON ACTIVATION OF FLOW SWITCH. FLOW BELL SHALL NOT BE CAPABLE OF BEING SILENCED FROM THE FIRE ALARM CONTROL PANEL. CONNECT FLOW BELL TO THE BUILDING FIRE ALARM SYSTEM AS SHOWN ON THE FIRE ALARM ONE-LINE DIAGRAM.
- FIRE ALARM CONTRACTOR SHALL FURNISH DUCT SMOKE DETECTORS AND SAMPLE TUBES FOR THE MECHANICAL CONTRACTOR TO INSTALL ON DUCTS AT THE INDICATED HVAC UNITS.
- FIELD COORDINATE EXACT LOCATION OF SMOKE DETECTOR, SO AS TO BE MOUNTED A MINIMUM OF 3' WAY FROM THE NEAREST HVAC DIFFUSER.
- PROVIDE A DUCT DETECTOR REMOTE TEST STATION AT A FIELD COORDINATE LOCATION.
- MOUNT FIRE ALARM HORN/STROBE DEVICE AT 80" AFF ON PIPE RACK COLUMN. PROVIDE ADDITIONAL BACK BOX TO SUPPORT MOUNTING ON COLUMN AS NEEDED.

NORTH

0 8' 16' 24' 32'
3/32" = 1'-0"

1 FIRST FLOOR FIRE ALARM PLAN
3/32" = 1'-0"

REVISION	



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FL PE 78943
DESIGNED BY
HABBAL
DRAWN BY
BRPH
CHECKED BY
ROSARIO
PROJECT NUMBER
C07111.004
DATE
01/30/17
TITLE
ELECTRICAL
EQUIPMENT FIRE
ALARM PLAN
DRAWING NO.

GENERAL NOTES:

- REFER TO SHEET ME-001 FOR SYMBOLS AND LEGEND.
- FIRE ALARM SYSTEM SHALL BE IN COMPLIANCE WITH FBC 907.2.4 AND SHALL BE A FULLY ADDRESSABLE SYSTEM.
- INITIATION OF THE FIRE ALARM SYSTEM SHALL BE BY AUTOMATIC AND MANUAL MEANS IN COMPLIANCE FBC 907.2.4.1. ACTIVATION OF THE FIRE ALARM SYSTEM SHALL INITIATE A GENERAL EVACUATION SIGNAL IN COMPLIANCE WITH IFC 907.2.4.2.
- THE FIRE ALARM SYSTEM WIRING SHALL BE IN ACCORDANCE WITH NFPA 72 AS FOLLOWS:
 - SIGNALING LINE CIRCUITS: CLASS B, STYLE 4
 - NOTIFICATION APPLIANCE CIRCUIT: CLASS B, STYLE Y
- FIRE ALARM SYSTEM SHALL BE TESTED PER NFPA 72
- FIRE ALARM WIRING SHALL BE INSTALLED IN METAL RACEWAY UNLESS NOTED OTHERWISE.
- ALL PENETRATIONS THROUGH FIRE/SMOKE PARTITIONS SHALL BE PROVIDED WITH APPROVED FIRESTOP, INSTALLED IN ACCORDANCE WITH A UL LISTED ASSEMBLY.
- THE FIRE ALARM SYSTEM COMPONENTS AND MATERIALS SHALL BE UL LISTED AND SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.
- POWER LOAD ON EACH NOTIFICATION APPLIANCE CIRCUIT SHALL NOT EXCEED 75% OF THE INDIVIDUAL CIRCUIT POWER AVAILABLE FROM THE FIRE ALARM SYSTEM CONTROL UNIT.

SPECIFIC NOTES:

- 28-1 PROVIDE A FIRE ALARM RELAY TO SHUTDOWN AIR HANDLING UNITS UPON ACTIVATION OF THE FIRE ALARM SYSTEM.
- 28-2 FIRE ALARM CONTRACTOR SHALL FURNISH DUCT SMOKE DETECTORS AND SAMPLE TUBES FOR THE MECHANICAL CONTRACTOR TO INSTALL ON DUCTS AT THE INDICATED HVAC UNITS.
- 28-3 PROVIDE A DUCT DETECTOR REMOTE TEST STATION AT A FIELD COORDINATE LOCATION.



1

EQUIPMENT PLATFORM FIRE ALARM PLAN

3/32" = 1'-0"

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1 COMMUNICATIONS PLAN
3/32" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET ME-001 FOR LEGEND, ABBREVIATIONS, AND NOTES.
2. REFER TO POWER LAYOUT FOR RECEPTACLE LOCATIONS. WHERE 120V RECEPTACLES ARE IN CLOSE PROXIMITY TO COMMUNICATION DEVICES, SUCH DEVICES SHALL BE INSTALLED AT THE SAME HEIGHT AS RECEPTACLES WITH NO MORE THAN 2" OF SEPARATION BETWEEN THEM.
3. COMMUNICATION CONDUITS SHALL BE INCREASED BY ONE STANDARD TRADE SIZE FOR ALL RUNS WHICH REQUIRE MORE THAN ONE 90 DEGREE BEND.
4. HORIZONTAL CABLE LENGTH SHALL NOT EXCEED 295' FROM PATCH PANELS TO DATA OUTLETS.
5. PROVIDE CONDUIT SLEEVES FOR DATA CABLE PENETRATIONS THROUGH FULL HEIGHT WALLS. PROVIDE UL LISTED FIRE STOPPING MATERIAL WHERE NECESSARY TO MAINTAIN FIRE RATING OF WALLS.

SPECIFIC NOTES:

- 27-1 PROVIDE 19" TELECOM RACK WITH PATCH PANELS TO TERMINATE ALL DATA AND TELEPHONE WIRING. PROVIDE 25% SPARE CAPACITY TO ACCOMMODATE FOR FUTURE EXPANSION.
- 27-2 COORDINATE WITH POWER LAYOUT TO PROVIDE (4) DATA OUTLETS SPACED AT 36" FROM CENTER AND MOUNTED ADJACENT TO QUAD RECEPTACLES.
- 27-3 COORDINATE WITH POWER LAYOUT TO PROVIDE (6) DATA OUTLETS SPACED AT 36" FROM CENTER AND MOUNTED ADJACENT TO QUAD RECEPTACLES.
- 27-4 PROVIDE A CEILING MOUNTED WIRELESS ACCESS POINT. PROVIDE (4) CAT6 CABLES AT EACH WAP LOCATION. COORDINATE WAP LOCATIONS WITH OWNER TO ENSURE DESIRED COVERAGE.
- 27-5 PROVIDE A DATA OUTLET WITH (2) CAT 6 CABLES DEDICATED FOR FIRE ALARM CONTROL PANEL FIELD COORDINATE WITH EXACT LOCATION OF PANEL PRIOR TO INSTALLATION.
- 27-6 PROVIDE 5/8X3/4" THICK CUSTOM CUT AC GRADE PLYWOOD BACKBOARDS WITH 2 COATS OF WHITE FIRE RETARDANT PAINT ON BOTH SIDES FOR MOUNTING OF COMMUNICATION EQUIPMENT, OUTLETS, AND COMMUNICATION GROUND BAR. INSTALL BACKBOARDS AT 6" AFF ON EACH WALL OF THE DATA ROOM.
- 27-7 PROVIDE A JUNCTION BOX LABELED "SECURITY" AND MOUNTED IN AN ACCESSIBLE LOCATION ABOVE ALL DOORS THAT REQUIRE SECURITY ACCESS CONTROL AS INDICATED ON THE LAYOUT AND ON DOOR SCHEDULE ON ARCHITECTURAL SHEETS. CONTRACTOR SHALL COORDINATE WITH THE OWNER'S IT REPRESENTATIVE TO RUN A 1" CONDUIT AND PULL WIRE FROM JUNCTION BOX TO SECURITY CABINET, PROVIDED BY OWNER, AND LOCATED IN THE DATA ROOM.
- 27-8 PROVIDE A BACK BOX FOR THE CARD READER AND RUN A 1" CONDUIT WITH PULL WIRE FROM BACK BOX TO THE SECURITY JUNCTION BOX LOCATED ABOVE DOOR.

