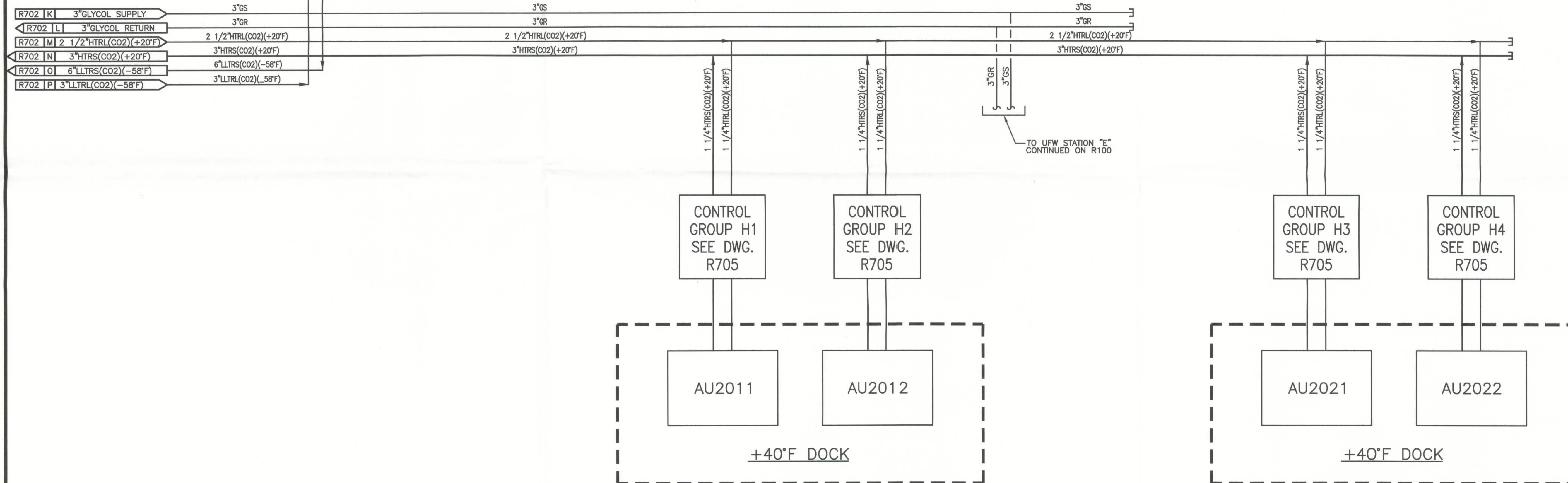
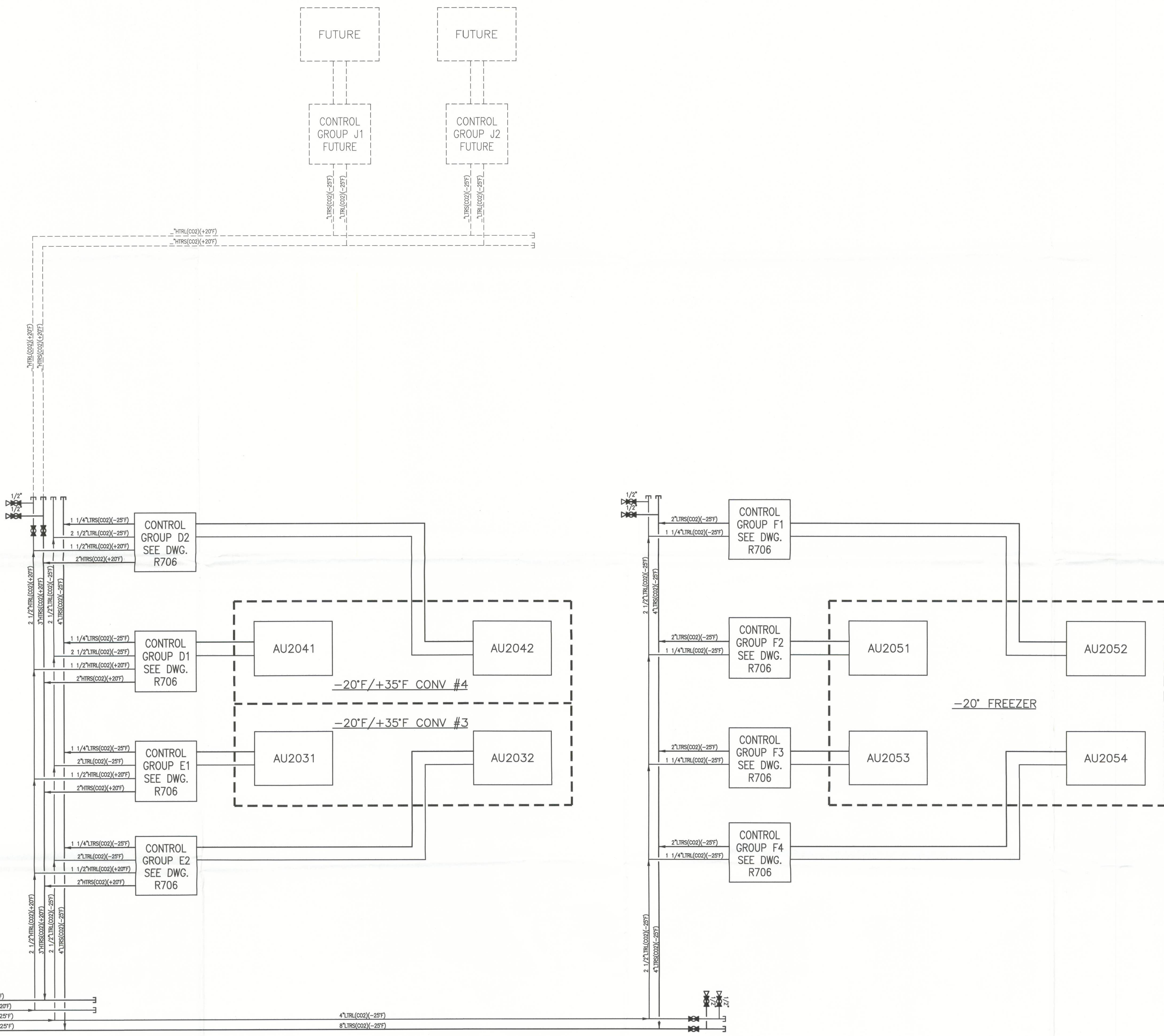


CO2
P&ID

[illegible]R702
DRAWING NO.



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UNITED STATES COLD STORAGE, INC
PHASE II EXPANSION
LAKE CITY, FLORIDA

PLANT
P&ID

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REV.	DATE	BY	DESCRIPTION
A	12-15-12	YJV	PERMIT ISSUE

JOB NO. 04224
DRAWN: YJV
CHECKED: BEK
SCALE: NONE

R704
DRAWING NO.



UNITED STATES COLD STORAGE, INC
PHASE II EXPANSION
LAKE CITY, FLORIDA

PLANT
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REV.	DATE	BY	CHKD.	PERMIT	ISSUE	DESCRIPTION
1	12-14-12	YJV				

JOB NO. 04224

DRAWN: YJV

CHECKED: BEK

SCALE: NONE

R703

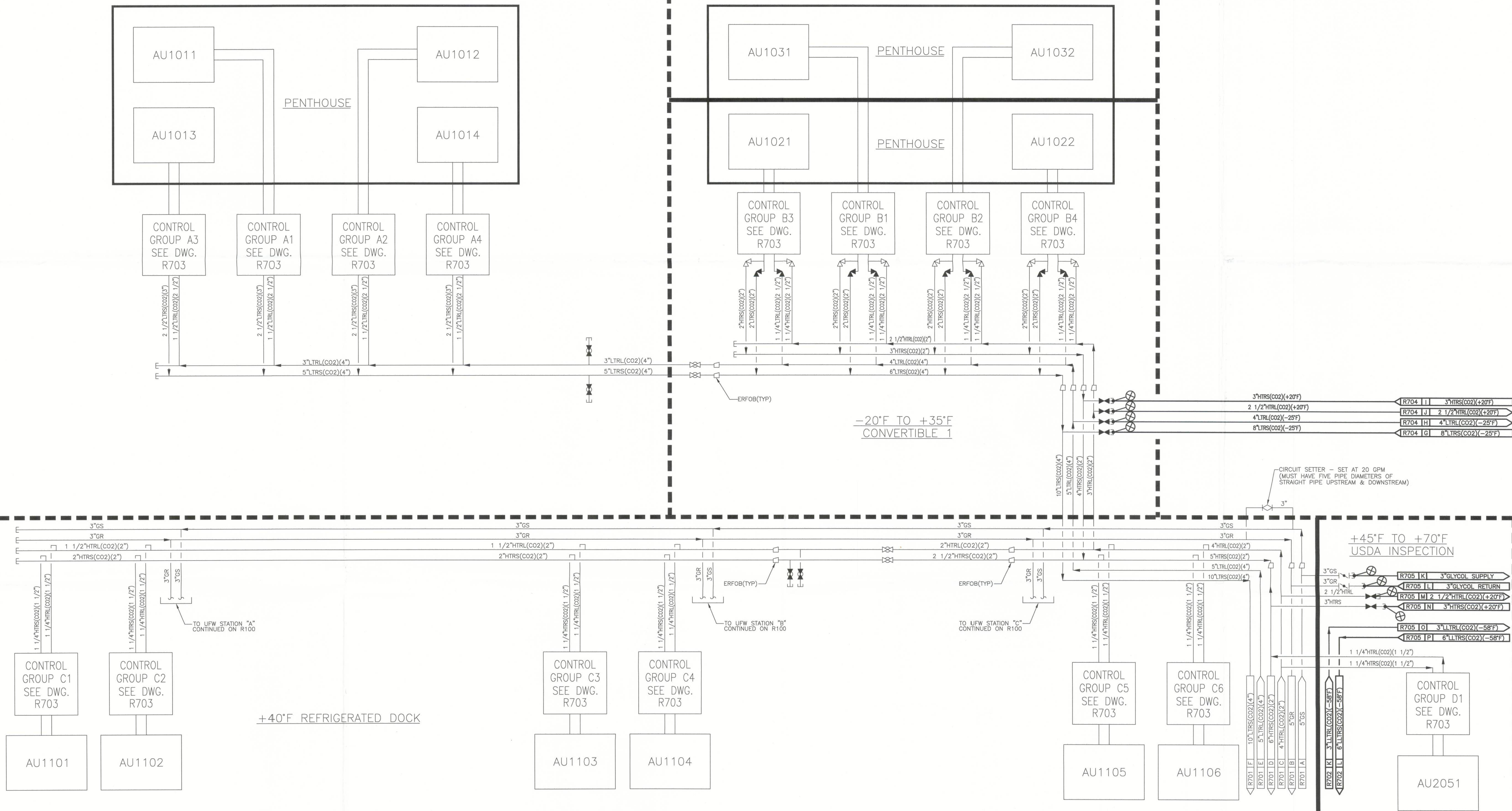
DRAWING NO.

-20°F
FREEZER

-20°F TO +35°F
CONVERTIBLE 2

-20°F TO +35°F
CONVERTIBLE 1

+45°F TO +70°F
USDA INSPECTION





UNITED STATES COLD STORAGE, INC
PHASE II EXPANSION
LAKE CITY, FLORIDA

NH3
P&ID

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REV.	DATE	BY	PERMIT	ISSUE	DESCRIPTION
1	12-19-12	YJV			

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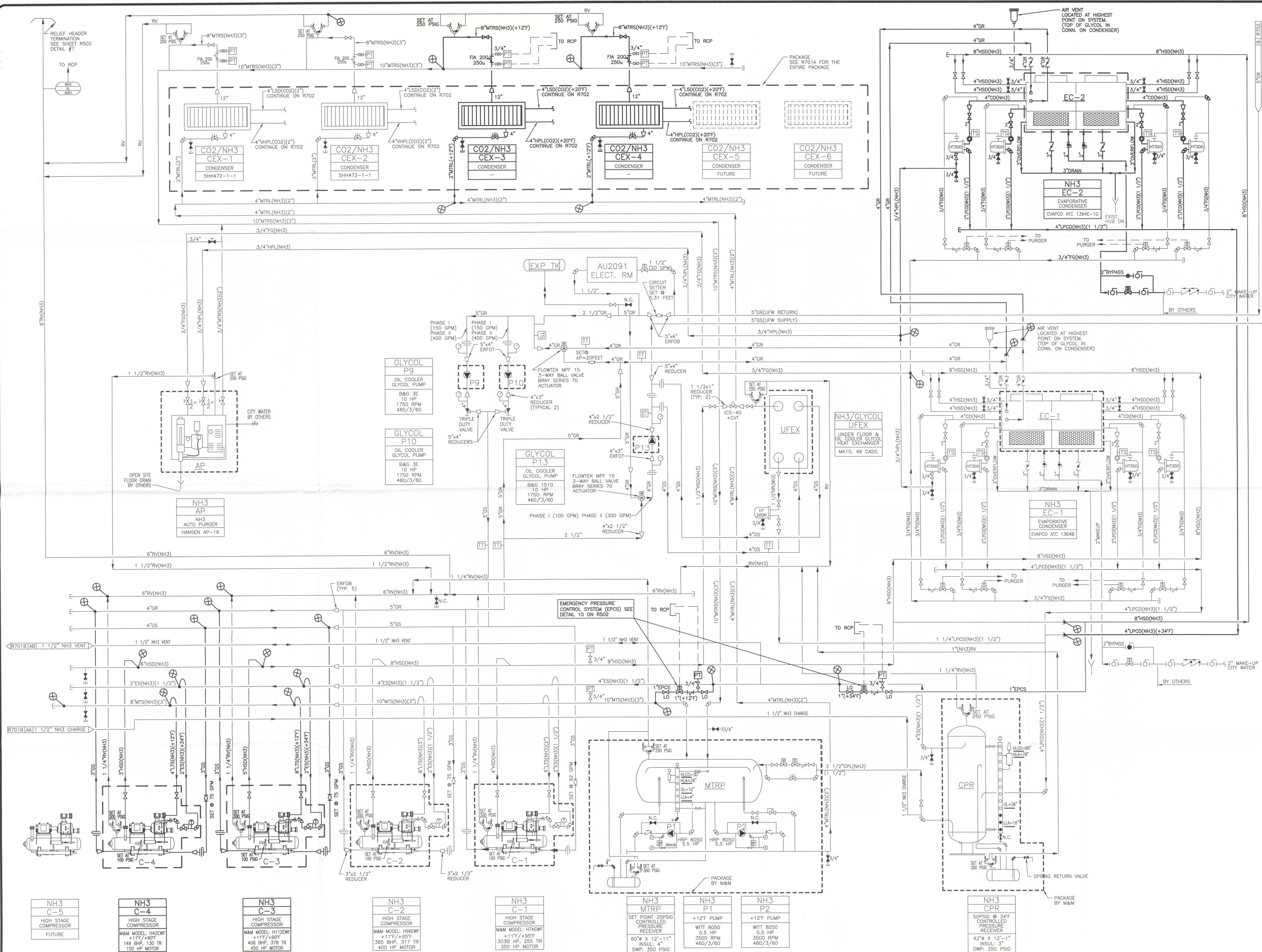
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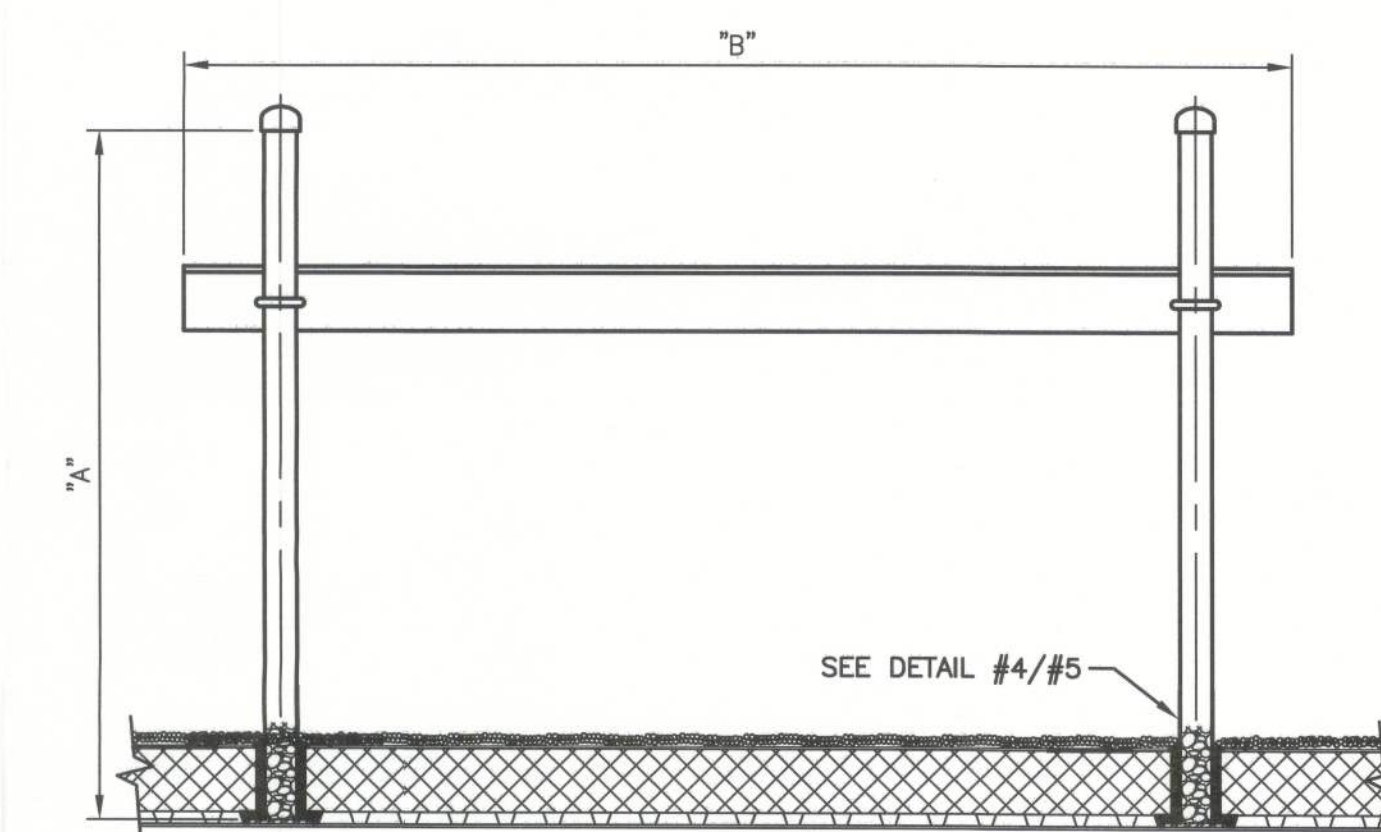
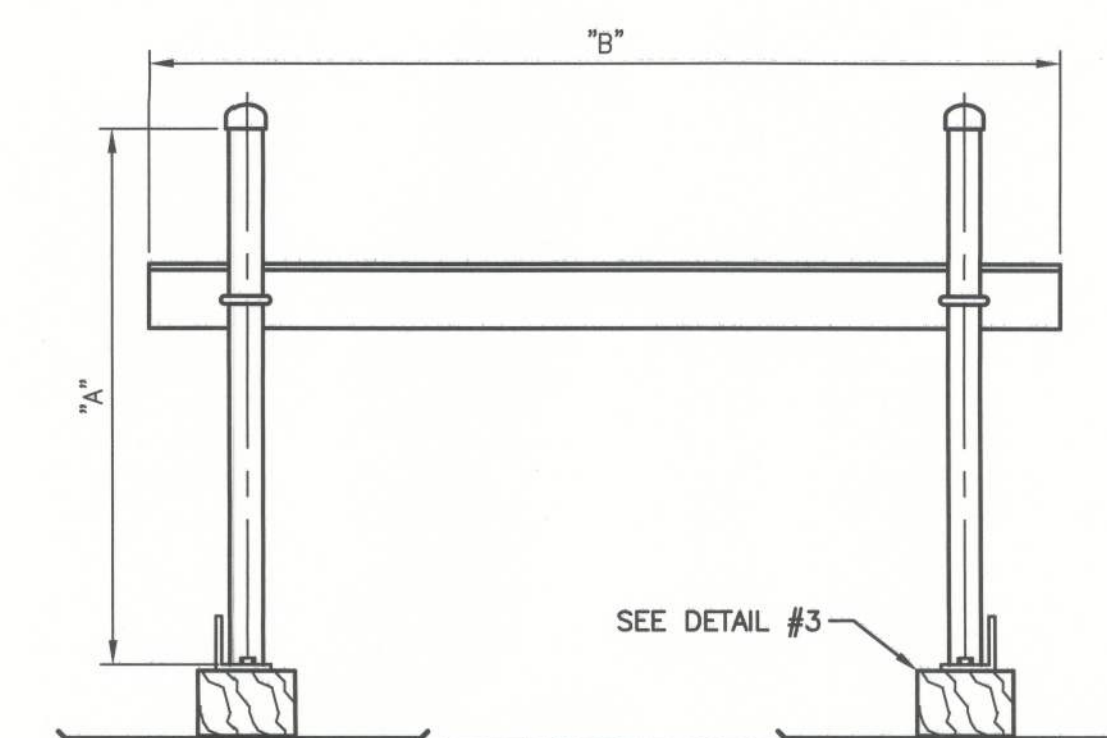
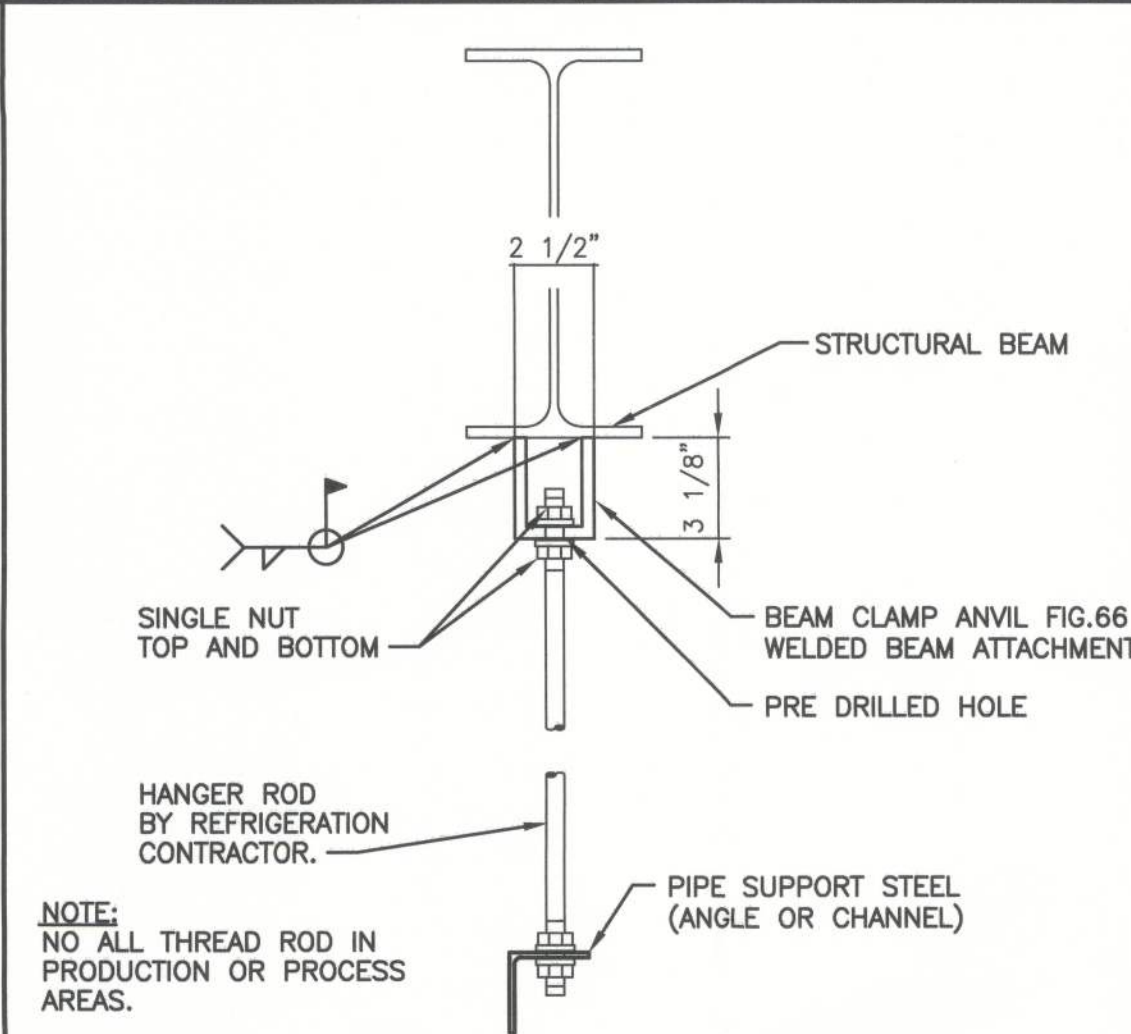
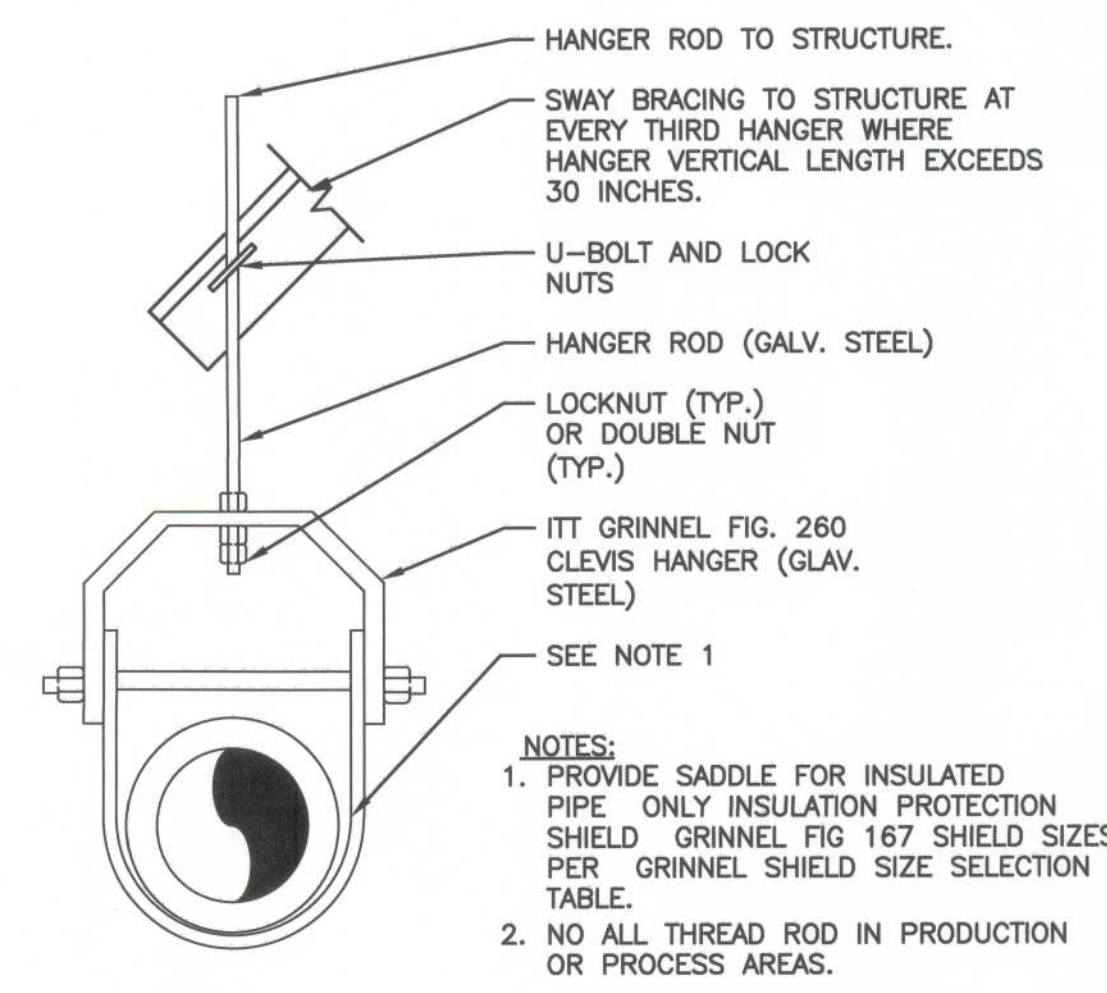
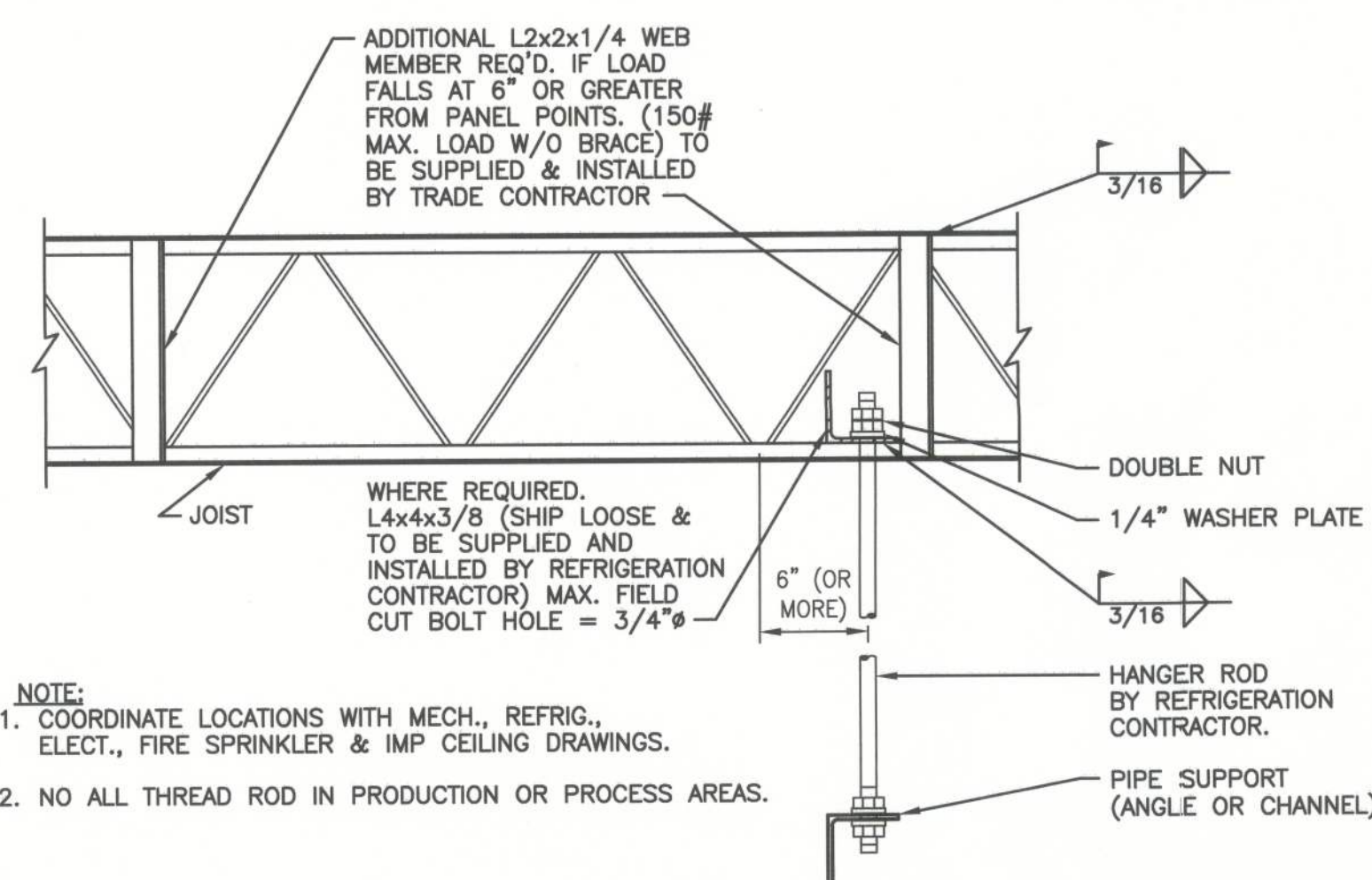
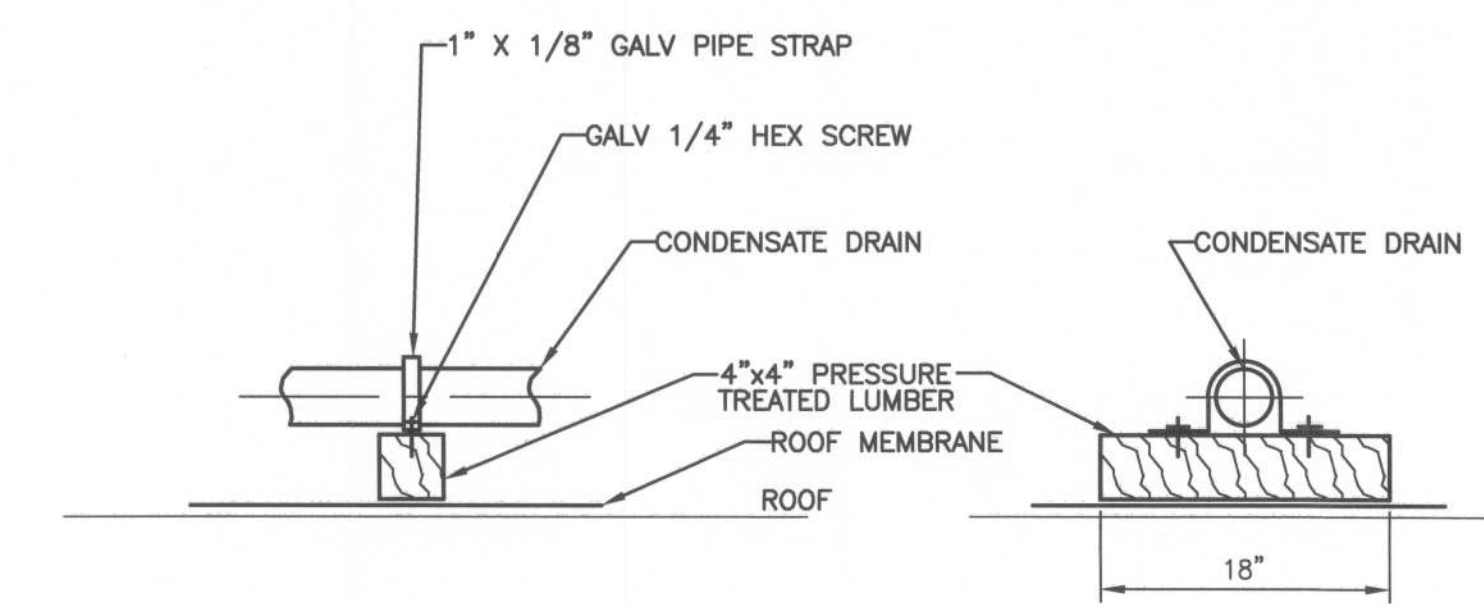
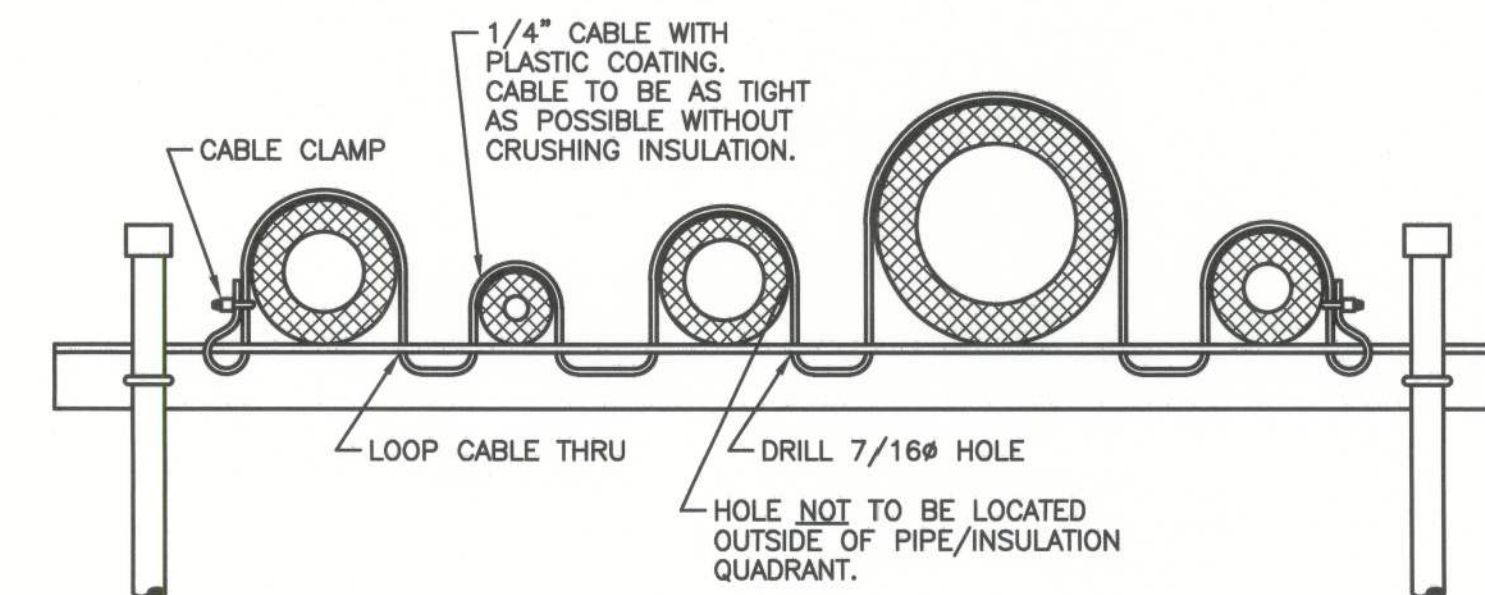
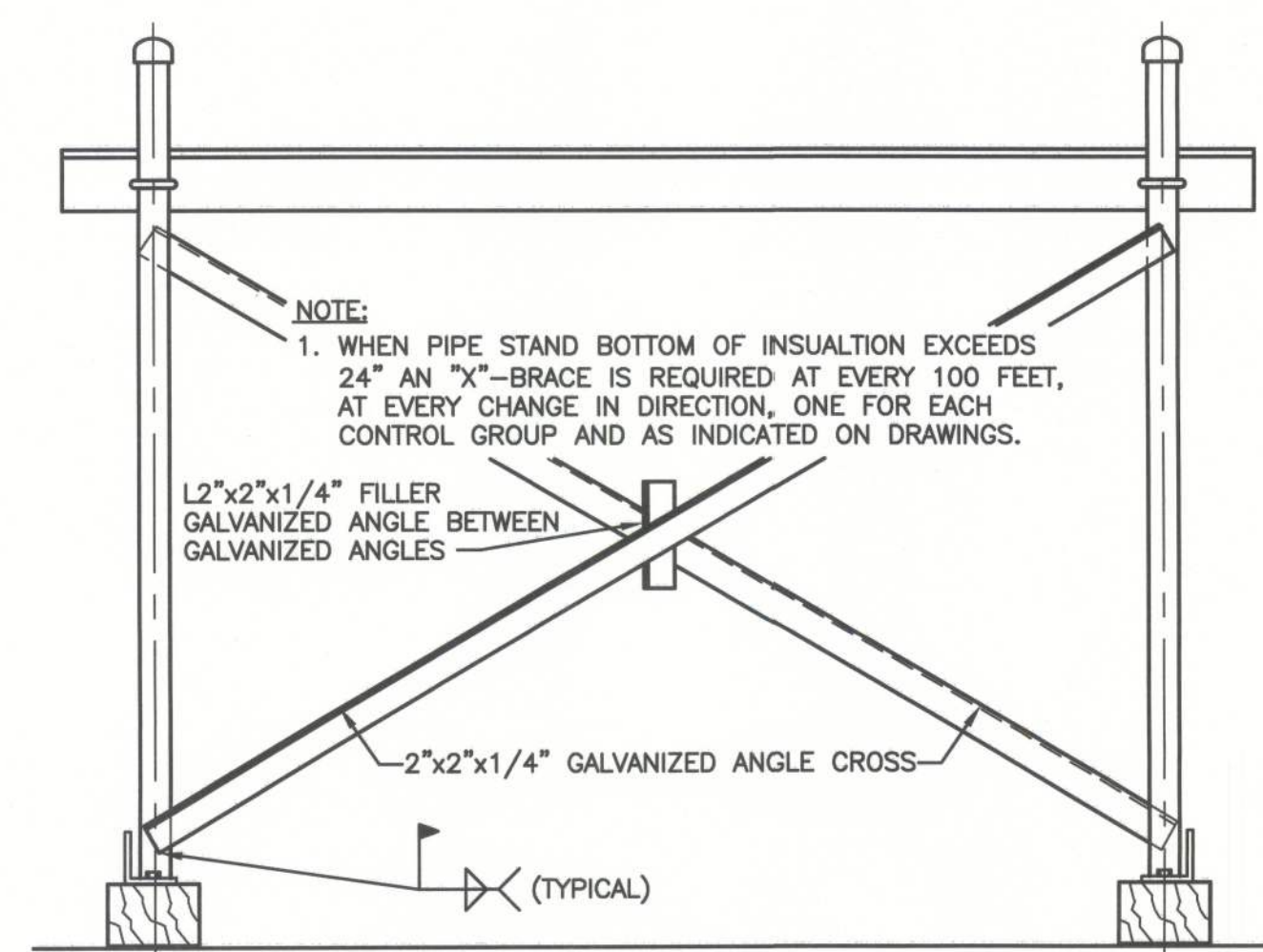
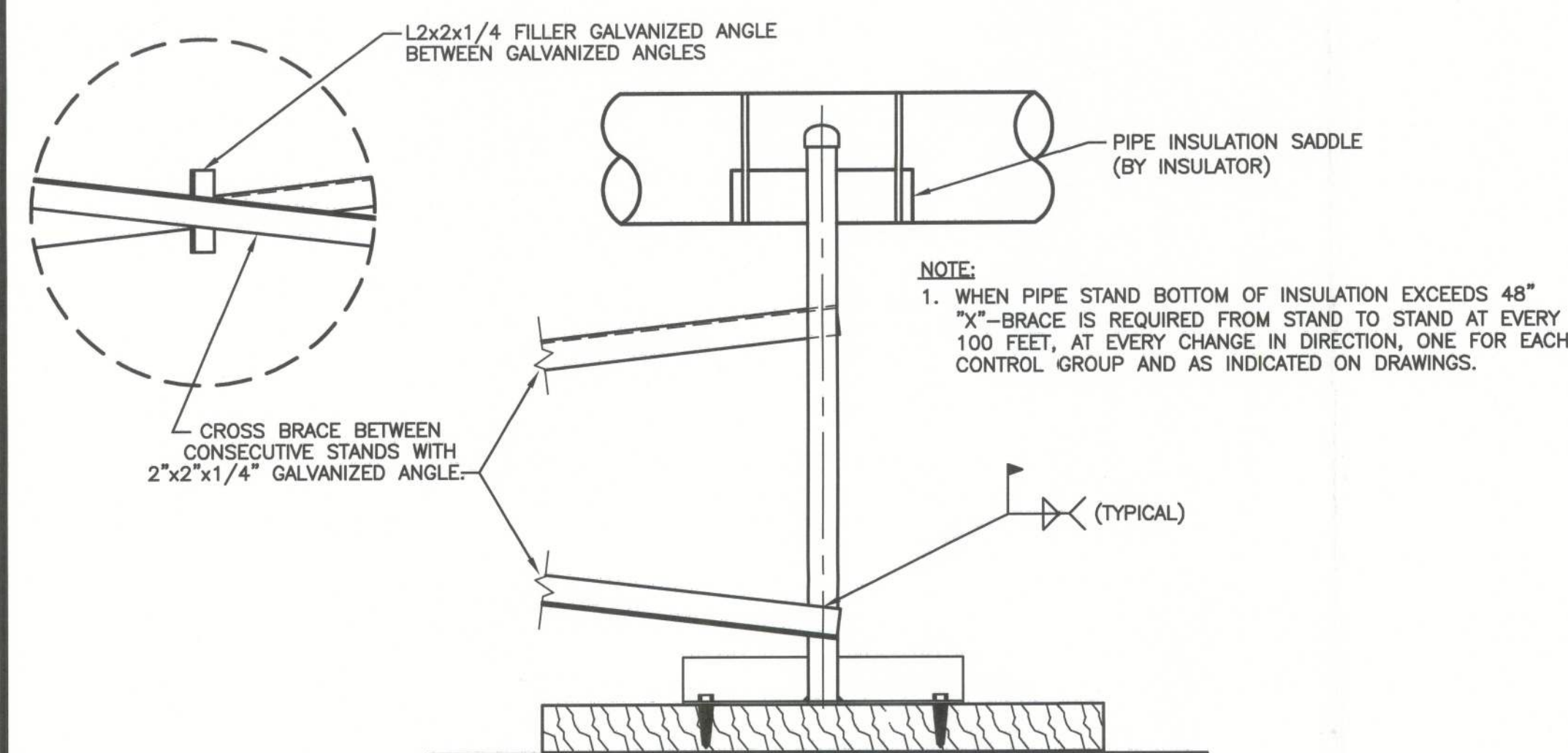
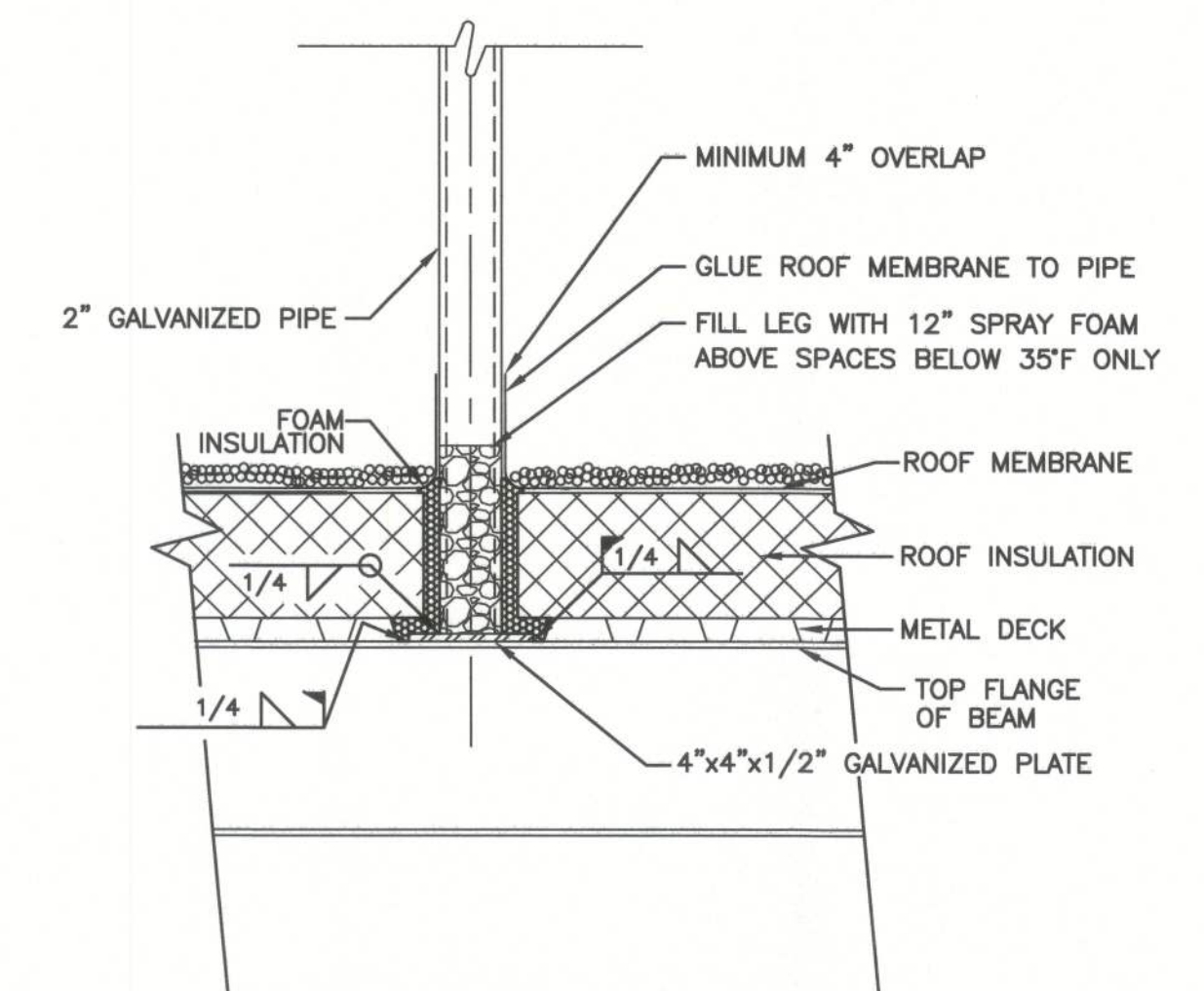
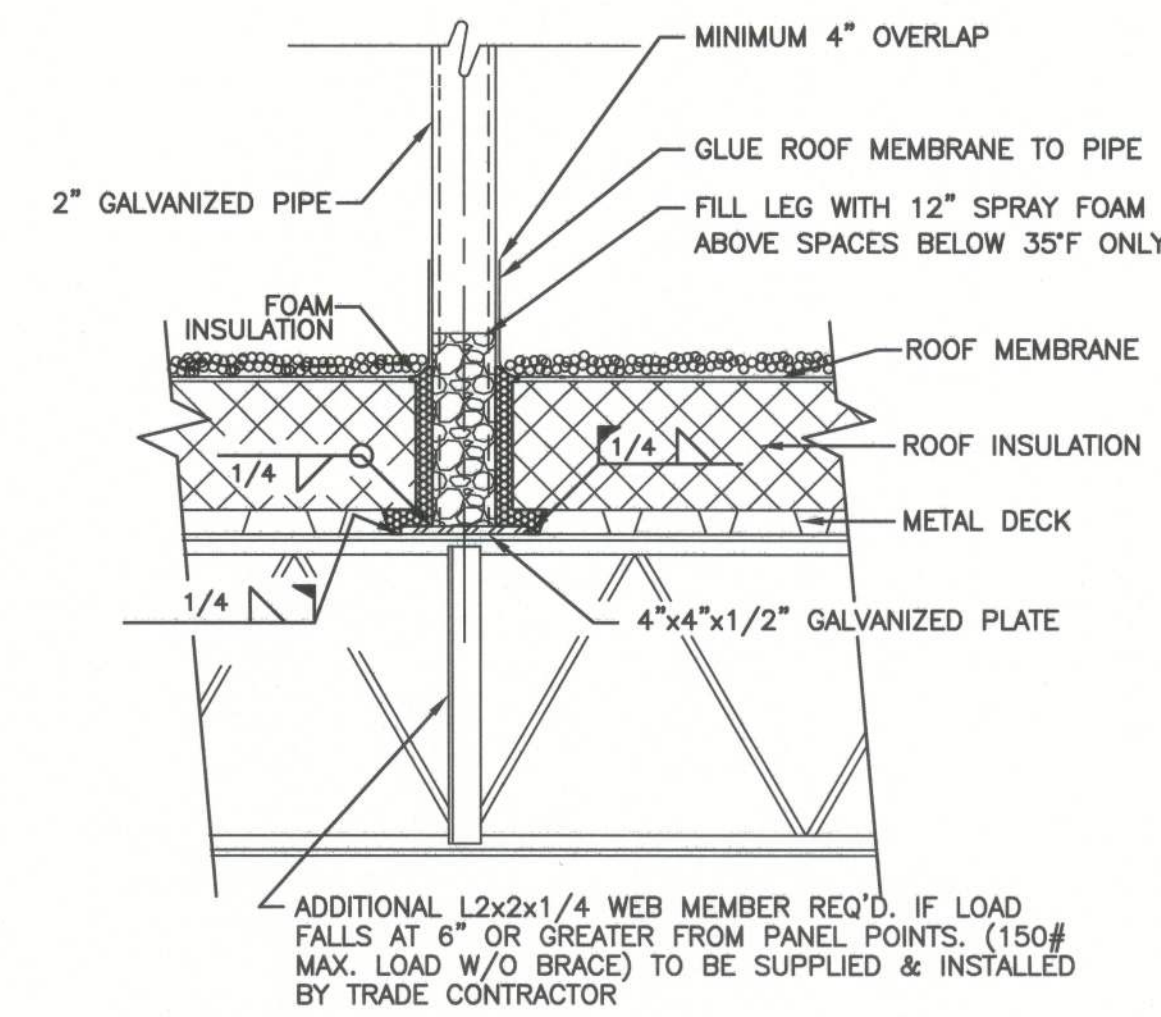
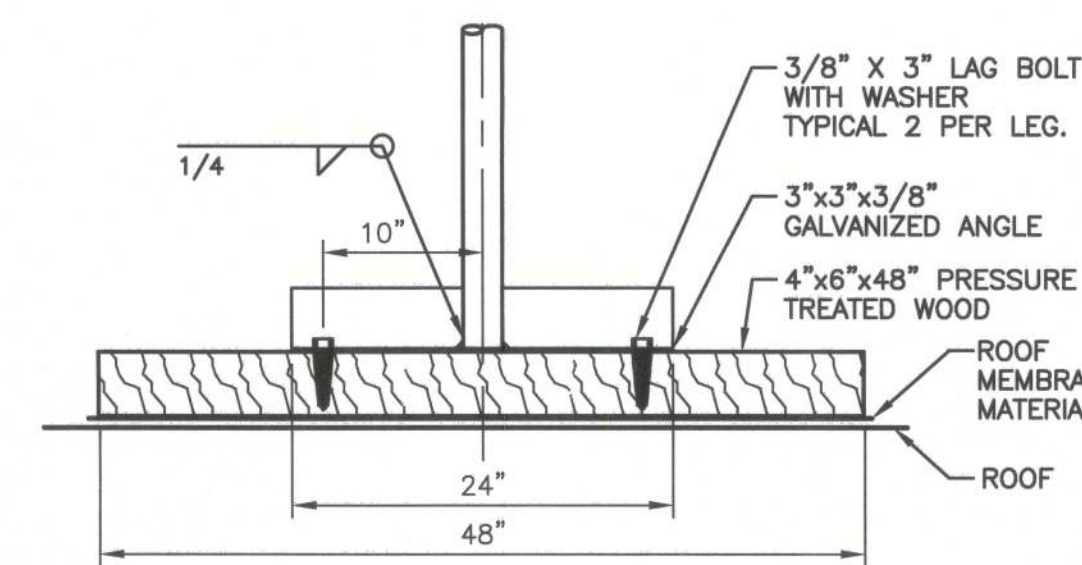
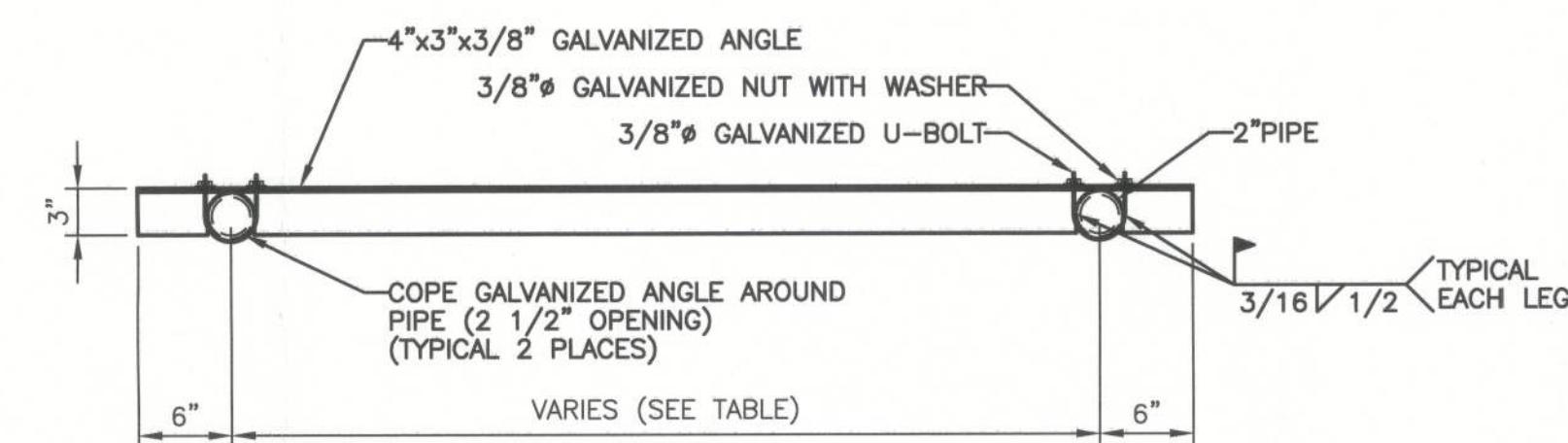
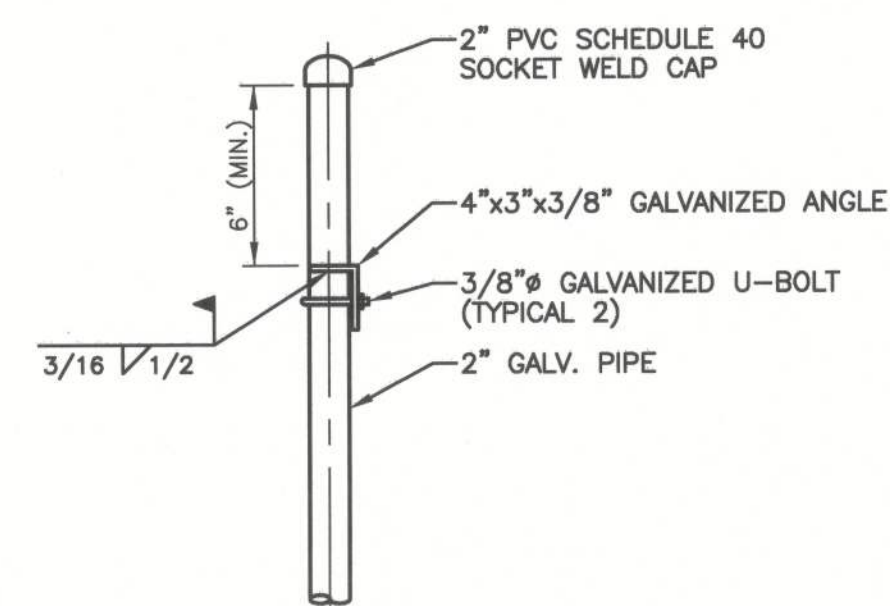
SCALE: NONE

R701

DRAWING NO.



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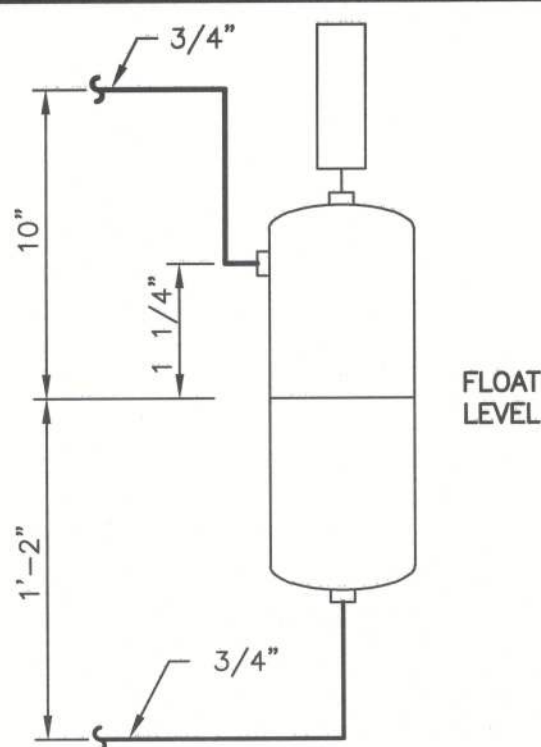
STANDARD PIPE STAND		
STAND NAME	DIM "A" HEIGHT (N)	DIM "B" WIDTH (N)
A	42	108
B	42	65
C	46	46
D	42	60
E	58	36
F	46	84
G	50	54
H	62	81
I	75	81
J	64	54
K	64	54
L	28	60
M	51	60
N	63	60

STAND NAME	DIM "A"	DIM "B"
	HEIGHT (N)	WIDTH (N)
A	2	2
B	2	2
C	2	2
D	2	2
E	2	2
F	2	2
G	2	2
H	2	2
I	2	2
J	2	2
K	2	2
L	2	2
M	2	2
N	2	2
O	2	2
P	2	2
Q	2	2
R	2	2
S	2	2
S1	54	85
T1	58	48
U	2	2
V	2	2
W	2	2
X	2	2
Y	2	2
Z1	85	54

NOTES:

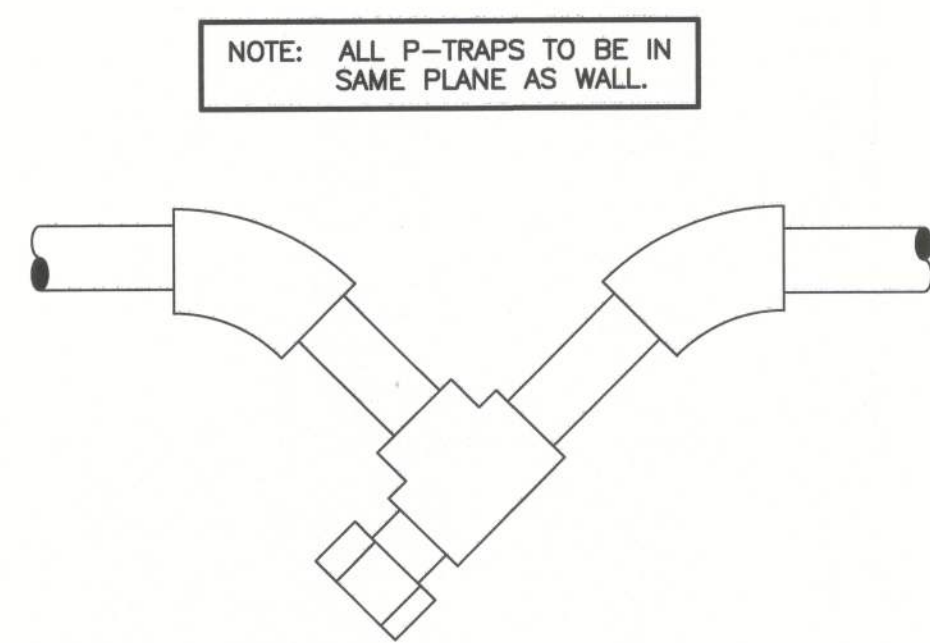
1. PIPE STANDS TO BE HOT DIPPED GALVANIZED OR CONSTRUCTED OF GALVANIZED MATERIALS.
2. COLD GALVANIZE ALL FIELD WELDS AND ANY GALVANIZING DAMAGED DURING INSTALLATION.

Files: T:\Jobs\04224-04224 United States Cold Storage Phase II Facility Expansion_F1\Design\Notes\04224R502.dwg Last Saved By: VICENTE Date: 12/11/2012 9:43:22 AM Plotted: 12/11/2012 11:23:31 AM



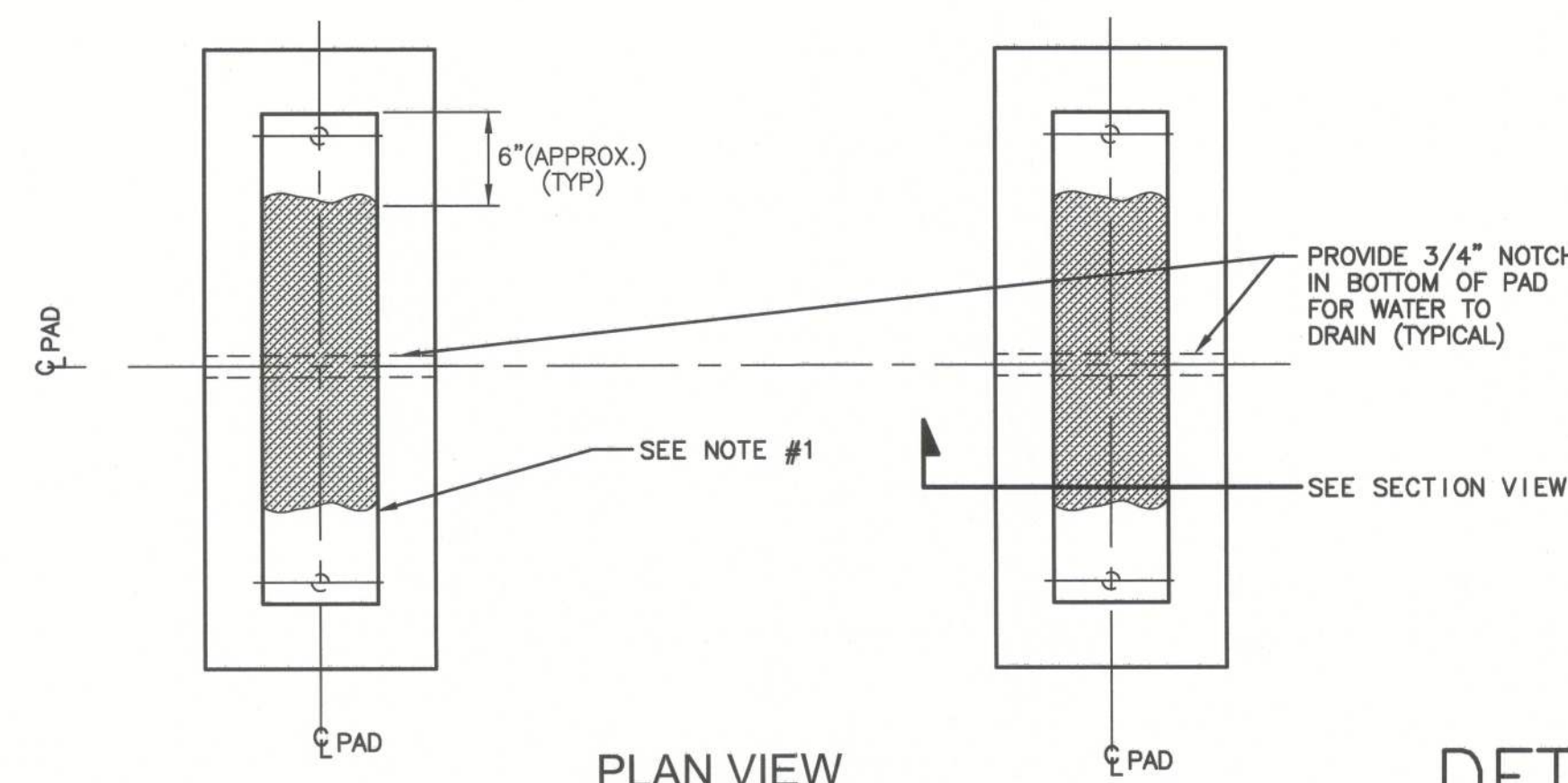
TYPICAL FLOAT PIPING

DETAIL ①



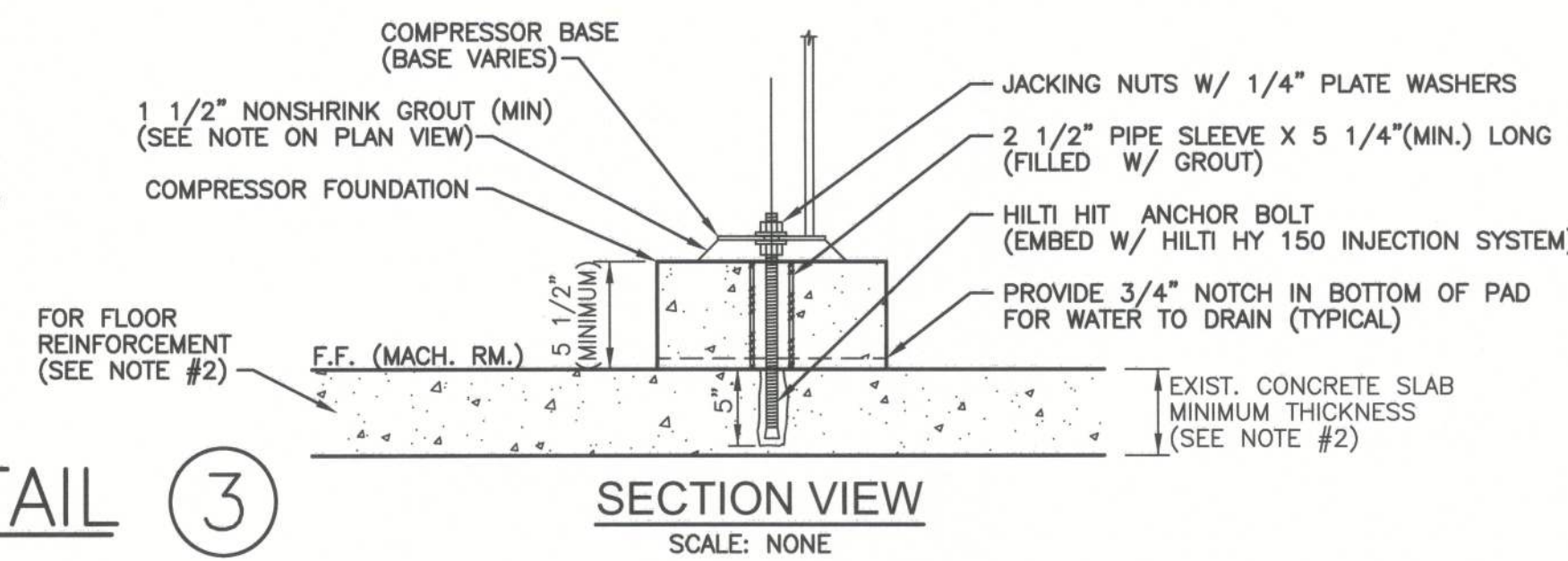
DRAIN LINE P-TRAP

DETAIL ②



PLAN VIEW

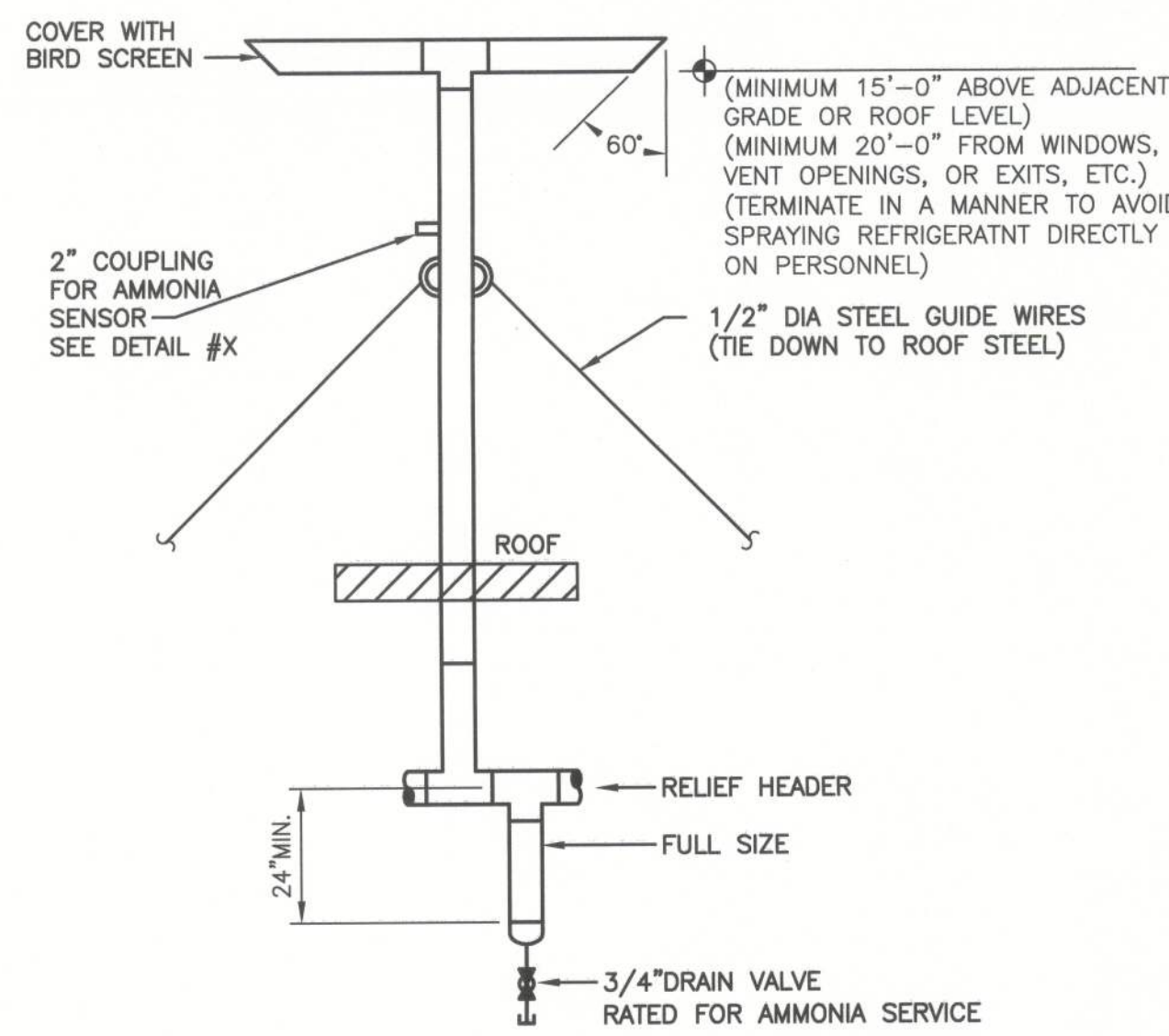
DETAIL ③



SECTION VIEW

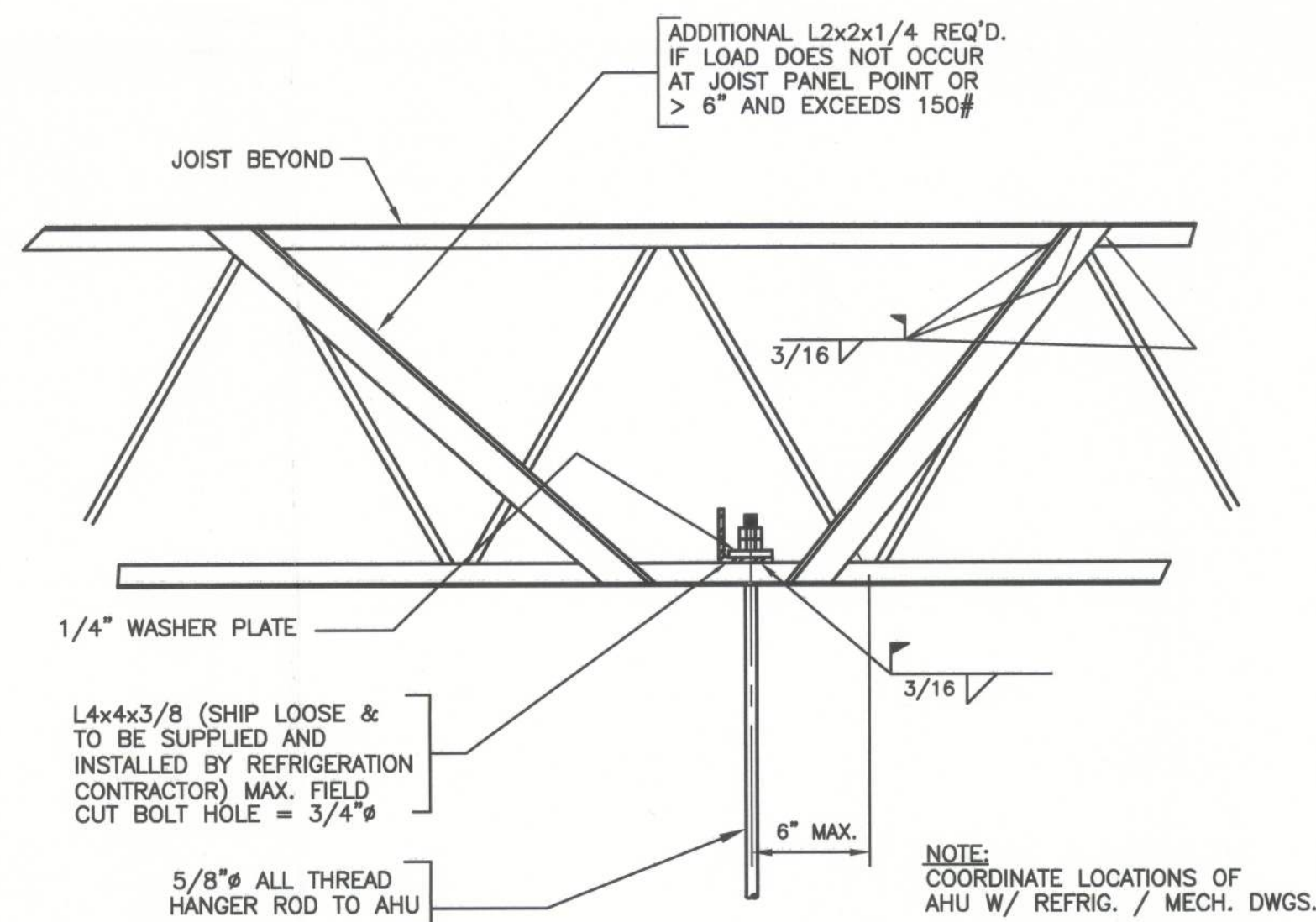
- NOTE:
1. WHEN GROUTING AROUND THE COMPRESSOR BASE, LEAVE ADEQUATE SPACE FOR JACKING NUT ADJUSTMENT. ONCE THE GROUT HAS SET, BACK OFF THE JACKING NUT AS FAR AS POSSIBLE TO ALLOW THE COMPRESSOR TO SET DIRECTLY ON THE GROUT. FINISH GROUTING UNDER THE REMAINDER OF THE BASE. ONCE ALL GROUTING HAS SET, SECURE THE COMPRESSOR BY TIGHTENING THE MOUNTING NUTS AND LOCKING THEM WITH A SECOND NUT.
 2. SEE STRUCTURAL FLOOR DRAWINGS FOR FLOOR THICKNESS AND REINFORCEMENT.

IMPORTANT: PROPER GROUTING TECHNIQUES ARE REQUIRED TO ENSURE UNIFORMITY & 100% CONTACT TO THE BOTTOM OF THE COMPRESSOR BASE!



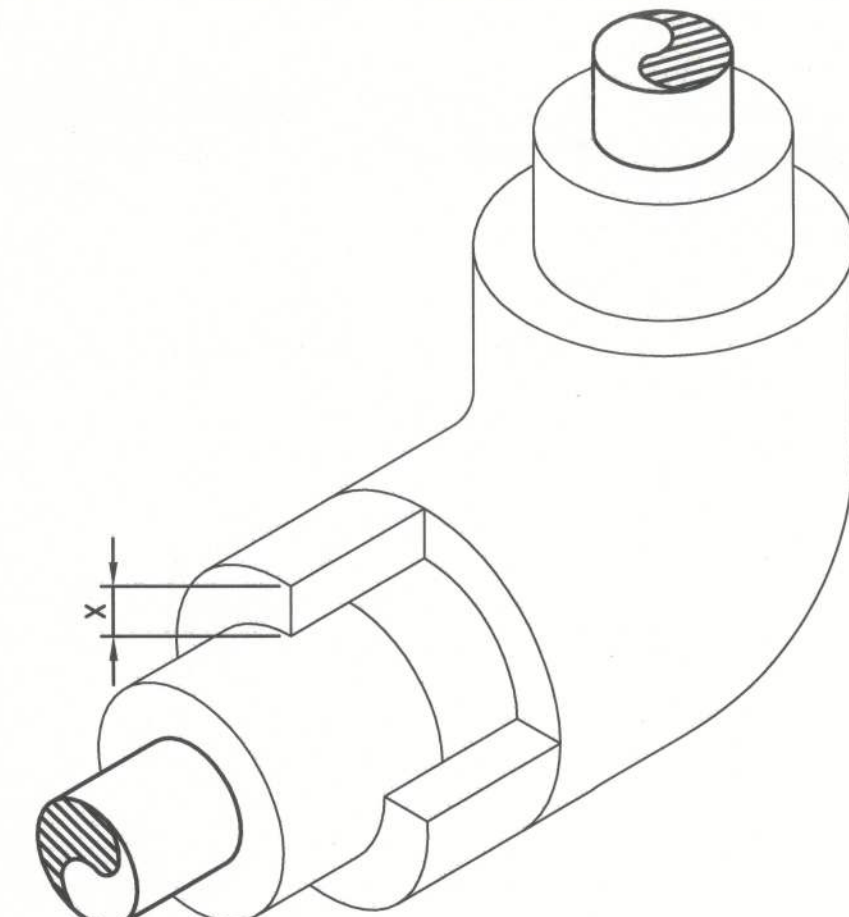
RELIEF HEADER TERMINATION DETAIL
ROOF SUPPORTED

DETAIL ④



AIR HANDLING UNIT HANGERS

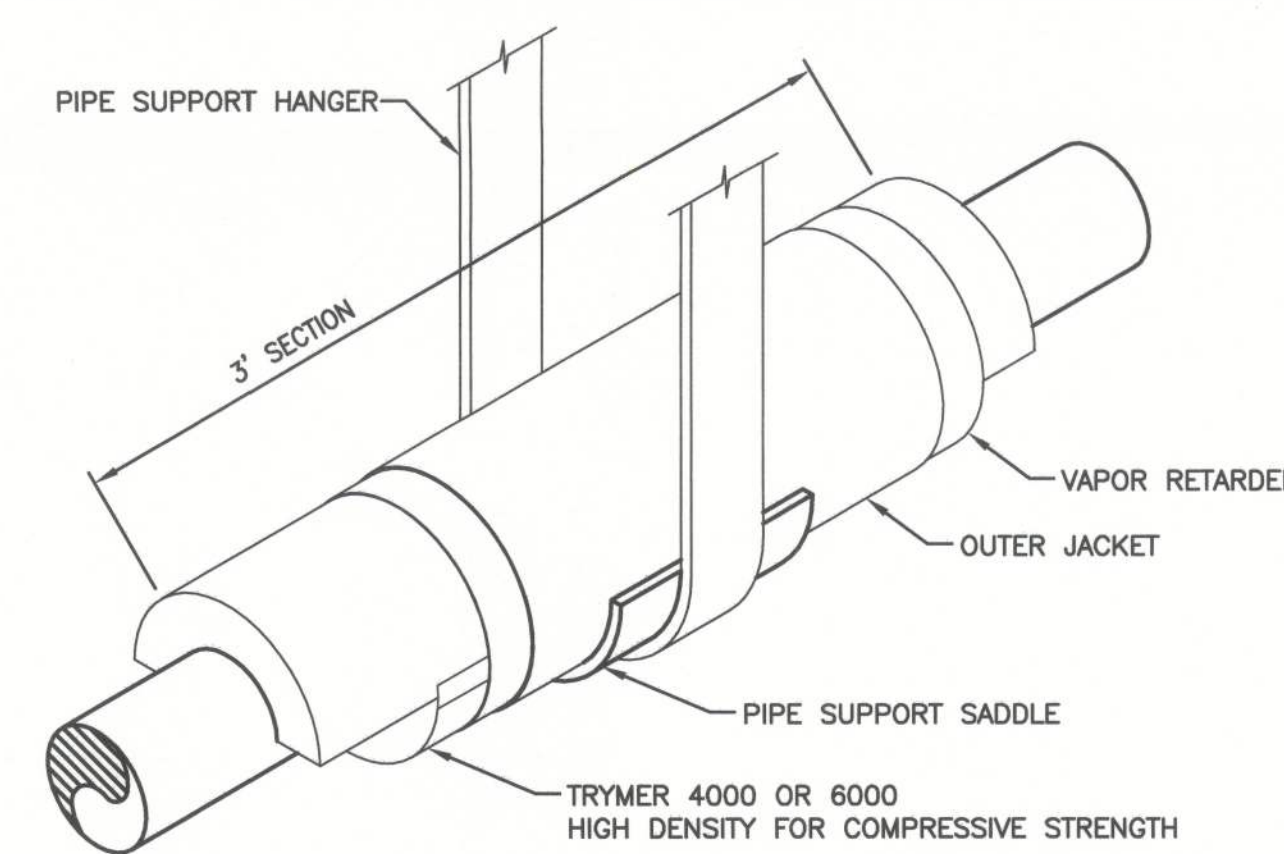
DETAIL ⑤



- NOTE:
1. SHIPLAP END CUT TO THICKNESS "X" TO ACCOMMODATE DOUBLE LAYER PIPE INSULATION.
 2. USE IN LIEU OF DOUBLE LAYERED FITTINGS.
 3. WRAP ELBOW W/ SARAN 520 VAPOR RETARDER TAPE.

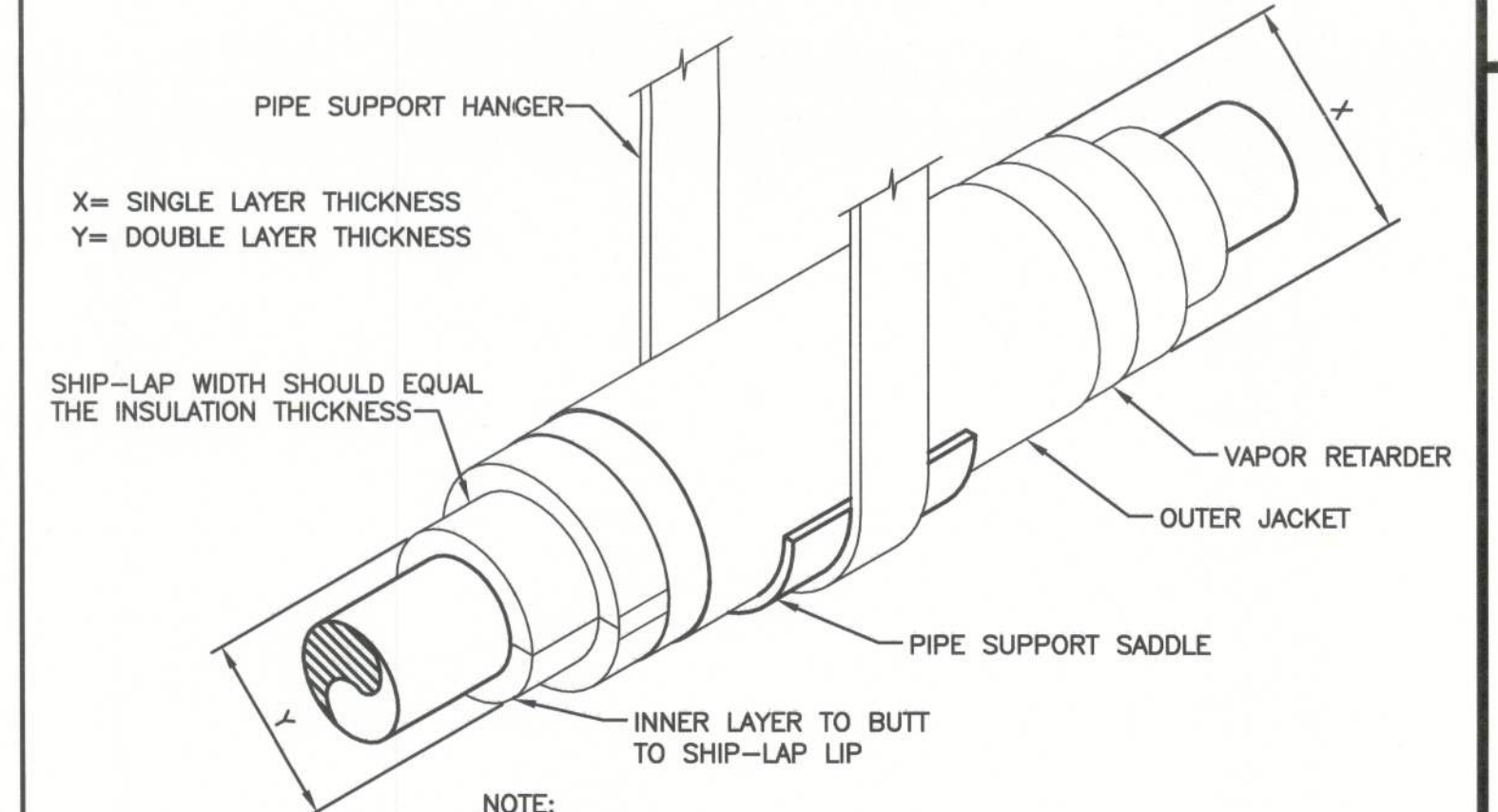
FULL THICKNESS SHIPLAP ELBOW FITTING

DETAIL ⑥



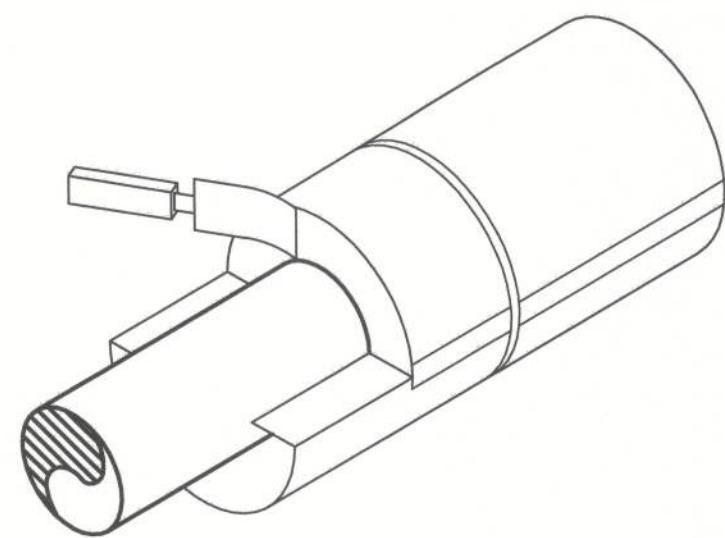
SINGLE LAYER INSULATION SYSTEM THROUGH
PIPE HANGER SUPPORT

DETAIL ⑦



FULL THICKNESS INSULATION SECTION IN DOUBLE
LAYERED SYSTEM AT PIPE HANGER SUPPORT

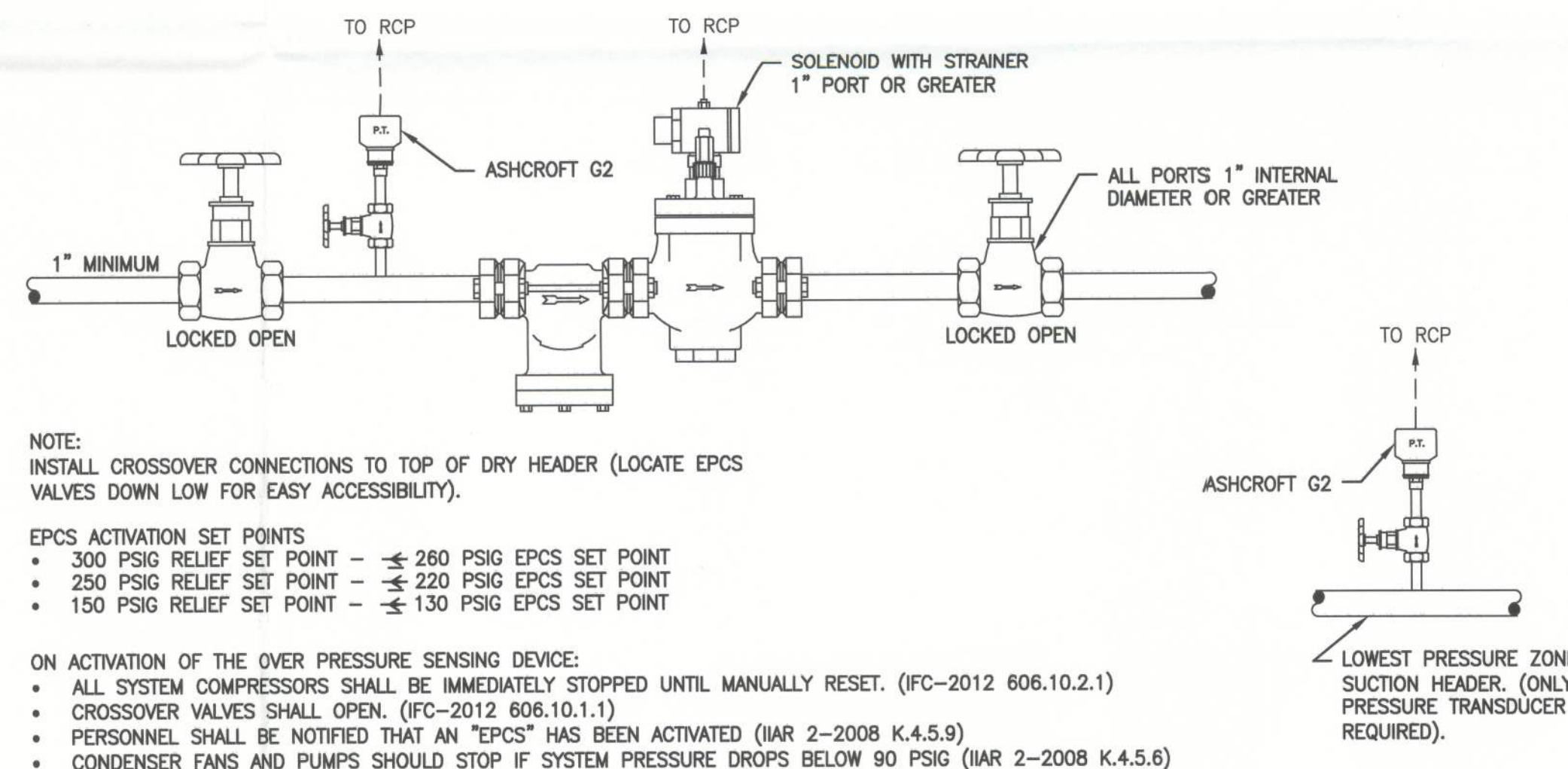
DETAIL ⑧



- NOTE:
- USE THIN COAT OF SEALANT OVER THE WHOLE JOINT DEPTH. BUTTER EXCESS DOWN THE FACE OF JOINT AS SHOWN.
 - USE SEALANT ON OUTER LAYER ONLY.

SEALANT APPLICATION TECHNIQUE

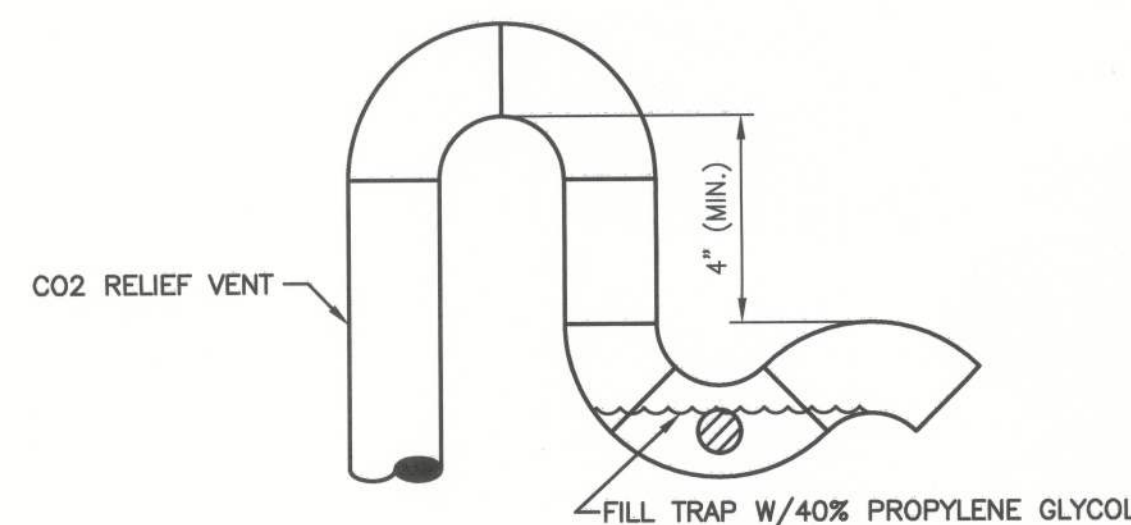
DETAIL ⑨



- NOTE:
- INSTALL CROSSOVER CONNECTIONS TO TOP OF DRY HEADER (LOCATE EPCS VALVES DOWN LOW FOR EASY ACCESSIBILITY).
- EPCS ACTIVATION SET POINTS
- 300 PSIG RELIEF SET POINT - 260 PSIG EPCS SET POINT
 - 250 PSIG RELIEF SET POINT - 220 PSIG EPCS SET POINT
 - 150 PSIG RELIEF SET POINT - 130 PSIG EPCS SET POINT
- ON ACTIVATION OF THE OVER PRESSURE SENSING DEVICE:
- ALL SYSTEM COMPRESSORS SHALL BE IMMEDIATELY STOPPED UNTIL MANUALLY RESET. (IFC-2012 606.10.2.1)
 - CROSSOVER VALVES SHALL OPEN. (IFC-2012 606.10.1.1)
 - PERSONNEL SHALL BE NOTIFIED THAT AN "EPCS" HAS BEEN ACTIVATED (IAR 2-2008 K.4.5.9)
 - CONDENSER FANS AND PUMPS SHOULD STOP IF SYSTEM PRESSURE DROPS BELOW 90 PSIG (IAR 2-2008 K.4.5.6)

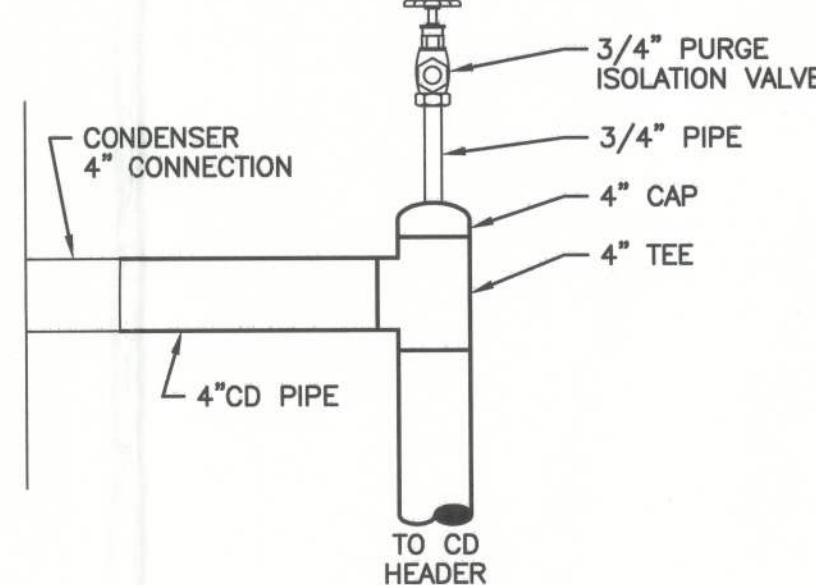
EMERGENCY PRESSURE CONTROL SYSTEM DETAIL

DETAIL ⑩



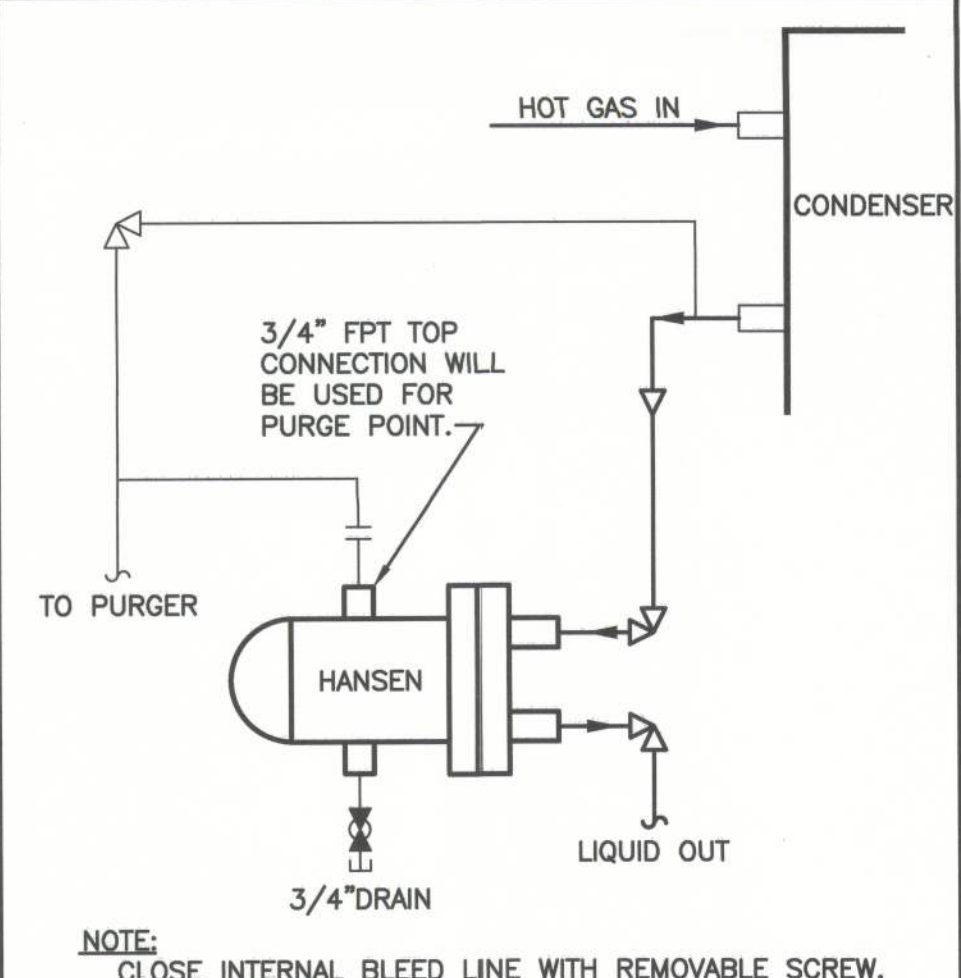
CO2 VESSEL RELIEF ROOF TERMINATION
NOTE: TERMINATE RELIEF PIPE CLOSE TO ROOF

DETAIL ⑪



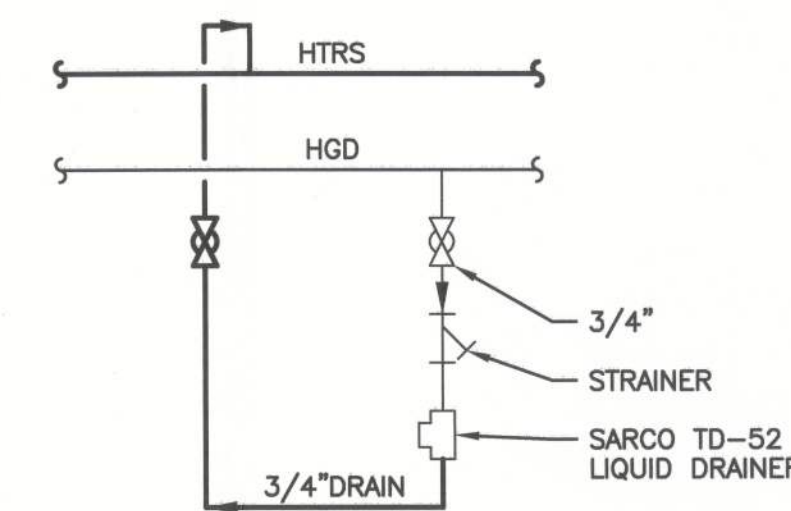
CONDENSER
DRAIN PURGE DETAIL

DETAIL ⑫



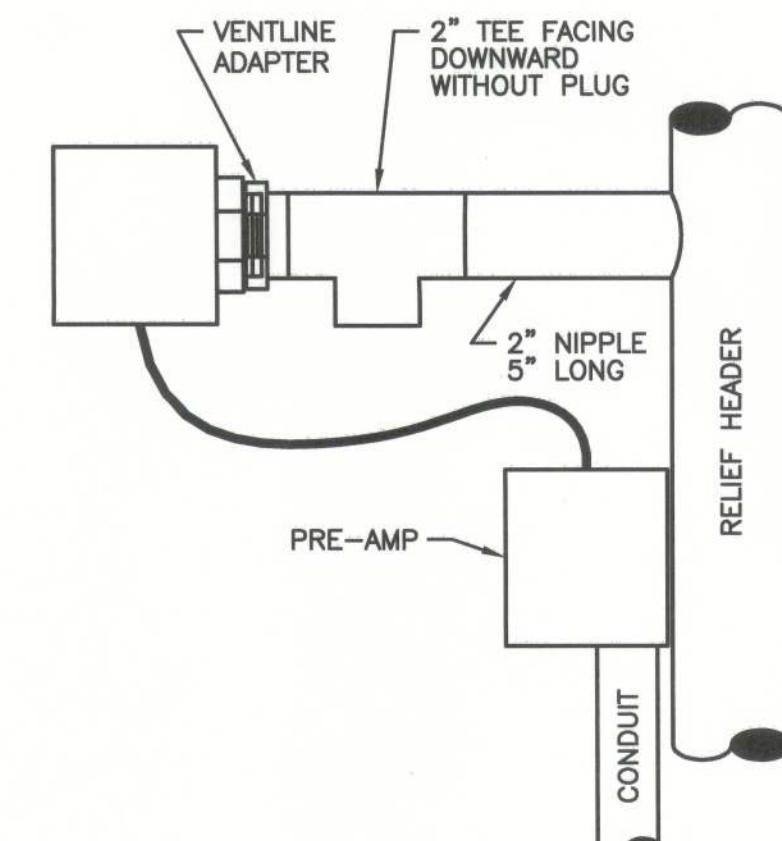
HANSEN LIQUID DRAINER
CONDENSER INSTALLATION

DETAIL ⑬



SARCO LIQUID DRAINER DETAIL

DETAIL ⑭



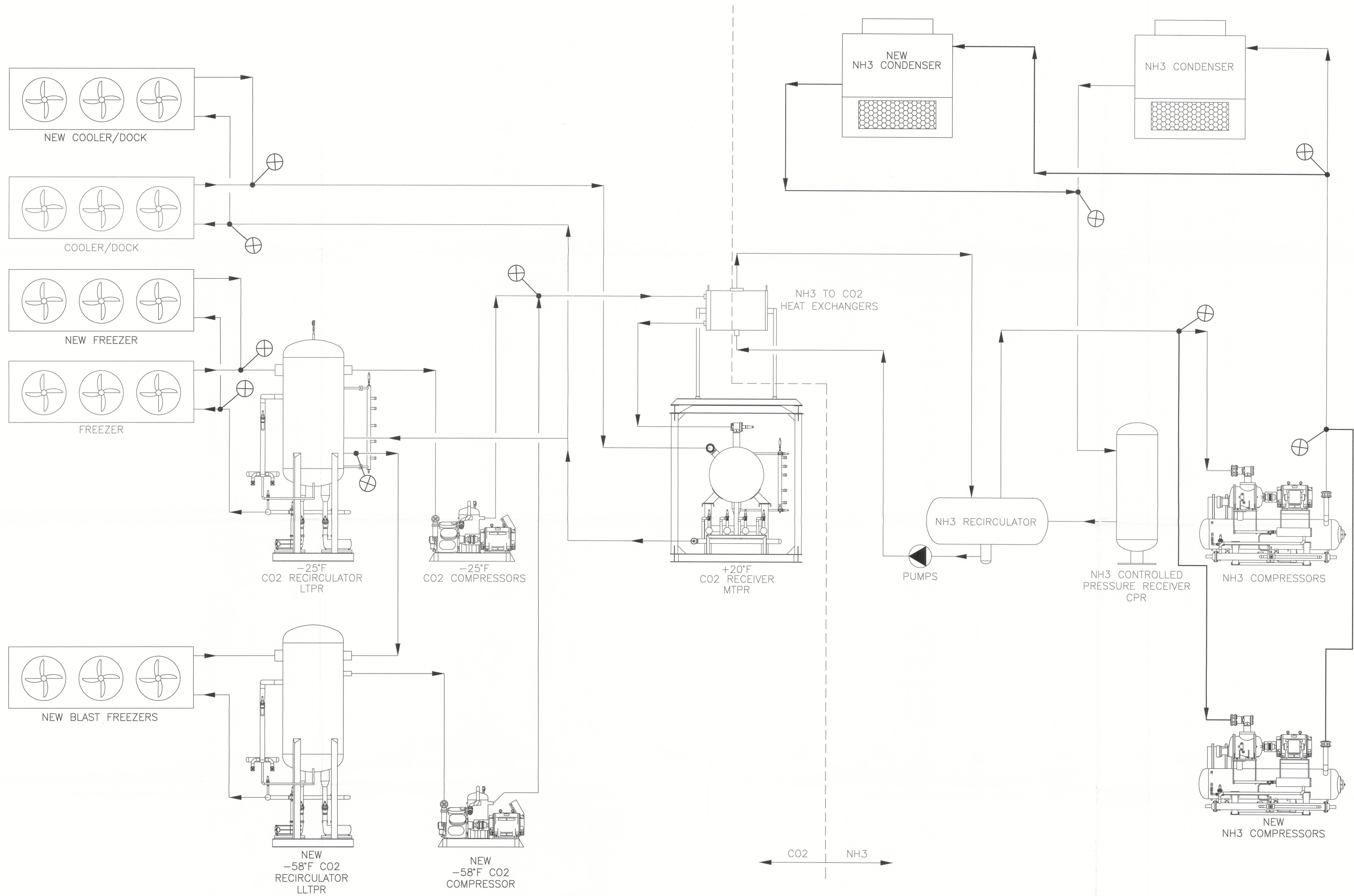
RELIEF HEADER SENSOR DETAIL

DETAIL ⑮

REV	DATE	BY	DESCRIPTION
1	12/11/12	YJV	PERMIT ISSUE

JOB NO.	04224
DRAWN:	YJV
CHECKED:	BEK
SCALE:	NONE

Filename: T:\Jobs\04200-04224\United States Cold Storage Phase II Facility Expansion_F1\Design\Active\Refrig\04224R700.dwg Last Saved By: VICENTE Date: 12/14/2012 9:48:43 AM Plotted: 12/14/2012 11:21:09 AM



CO2/AMMONIA BLOCK FLOW DIAGRAM

REV.	DATE	BY	DESCRIPTION
A	12-18-12	YJV	PERMIT ISSUE

JOB NO. 04224

DRAWN: YJV

CHECKED: BEK

SCALE: NONE

R700

DRAWING NO.

Filename: T:\Jobs\04200-04299\04224 United States Cold Storage Phase II Facility Expansion_FL\Design\Active\Refring\04224R602.dwg User: Saved By: WYCENTE Date: 12/14/2012 9:48:11 AM Plotted: 12/14/2012 11:21:31 AM

EVAPORATOR SCHEDULE PHASE 1																						
QTY.	TAG No.	LOCATION	BASIC RATING (TD)	OPERATING DATA									EQUIPMENT DATA									
				CAPACITY (TR @ °TD)	TYP FEED	FINS/ INCH	COIL MAT'L	ROOM TEMP	COIL TEMP	OPERATING WEIGHT (lbs)	DEFROST ELECTRIC (KW)	NORMAL REFRIG CHARGE (Cu. Ft.)	FANS			FAN MOTORS				PAN	CASING	MANUFACTURER MODEL
													QTY	TYPE	DRIVE	QTY	HP	RPM	V/ø			
1	AU2051	USDA	16	5	REC.	4	STN. STEEL	+36	+20	586	7.0	0.72	1	PROP.	DIRECT	1	0.5	1160	460/3/60	STN. STEEL	STN. STEEL	SSTW1-00383-4
6	AU1101 THRU AU1106	TRUCK DOCK	15	20	REC.	4	STN. STEEL	+35	+20	1850	29.9	2.8	3	PROP.	DIRECT	3	0.75	870	460/3/60	GALV. STEEL	GALV. STEEL	TFCSM3 3964-075N
4	AU1011 THRU AU1014	FREEZER	10.5	63	REC.	3	STN. STEEL	-10	-20	6922	121.1	11.1	3	PROP.	DIRECT	3	10	1750	460/3/60	GALV. STEEL	GALV. STEEL	TFCS3 91103-10M
4	AU1031 AU1032 AU1021 AU1022	CONVERT.	10	30	REC.	3	STN. STEEL	+36 -10	+20 -20	4796	86.46	7.8	2	PROP.	DIRECT	2	3.0	870	460/3/60	GALV. STEEL	GALV. STEEL	TFCS2 63103-30010

EVAPORATIVE CONDENSER SCHEDULE PHASE 1 & 2																					
TAG No.	LOCATION	OPERATING DATA				EQUIPMENT DATA										REMARKS	MPC MAIN BREAKER SIZE				
		REFRIG TYPE	RATED HEAT REJECTION (MBH)	ENTERING AIR WET BULB (°F)	SATURATED CONDENSING (°F AT PSIG)	FANS			FAN MOTORS			WATER SUMP	INTEGRAL PUMP					MANUFACTURER MODEL			
						QTY	TYPE	DRIVE	QTY	HP	SERVICE FACTOR	V/ø/HZ	TYPE	HP	GPM				V/ø		
EC-1	ENGINE ROOM ROOF	NH3	13,640	78°	95°	2	VFD	BELT	2	25	1.15	460/3/60	IN CONDENSER	(2) 7.5	2400	460/3/60	ATC 1364B	4 - 9KW HEATERS ONE SECTION HAS A SPLIT COIL FOR GLYCOL COOLING	MPC #1 500 AMPS		
EC-1 (FUTURE)	ENGINE ROOM ROOF	NH3	13,640	78°	95°	2	VFD	BELT	2	25	1.15	460/3/60	IN CONDENSER	(2) 7.5	2400	460/3/60	ATC 1364B	4 - 9KW HEATERS ONE SECTION HAS A SPLIT COIL FOR GLYCOL COOLING	MPC #1 500 AMPS		
SEE REFRIGERATION SCHEDULES R601																					

SEE REFRIGERATION SCHEDULES R601

REFRIGERATION COMPRESSOR SCHEDULE																			
TAG No.	LOCATION	OPERATING DATA							EQUIPMENT DATA							MANUFACTURER MODEL	REMARKS	MAIN BREAKER SIZE	
		REFRIG TYPE	STAGE	SATURATED SUCTION (*F AT PSIG)	SATURATED CONDENSING (*F AT PSIG)	RATED CAPACITY (TR)	RATED BHP	RPM	COMP TYPE	MOTOR									
										DRIVE	V/ø/HZ	PE HP	RPM	TYPE	SERVICE FACTOR				MFG FRAME
BC1	ENGINE ROOM	CO2	LOW	-25	+20 407.5	116	85	1170	PISTON	DIRECT	460/3/60	100	1200	ODP	1.15		HPC 104S	SOLID STATE STARTER	225 AMPS
BC2	ENGINE ROOM	CO2	LOW	-25	+20 407.5	231	168	1170	PISTON	DIRECT	460/3/60	200	1200	ODP	1.15		HPC 108S	SOLID STATE STARTER	400 AMPS
C1	ENGINE ROOM	NH3	HIGH	+11 24.7	+95 181	255	303	3550	SCREW	DIRECT	460/3/60	350	3600	ODP	1.15		H74EWF	SOLID STATE STARTER	700 AMPS
C2	ENGINE ROOM	NH3	HIGH	+11 24.7	+95 181	317	365	3550	SCREW	DIRECT	460/3/60	400	3600	ODP	1.15		H96EWF	SOLID STATE STARTER	800 AMPS

AIR PURGER	
MODEL	HANSEN AP16

MCP'S		
LOCATION	MAIN BREAKER SIZE	DIMENSION
MCP #1	500 AMPS	84"H x 155"W x 21"D
MCP #2	400 AMPS	84"H x 78"W x 21"D
MCP #3	300 AMPS	84"H x 156"W x 21"D
MCP #4	500 AMPS	84"H x 156"W x 21"D

PUMP SCHEDULE							
TAG No.	LOCATION	DESCRIPTION	MOTOR			MANUFACTURER MODEL	REMARKS
			HP	RPM	V/ø/HZ		
P-1,2	ENGINE ROOM	11" NH3 LIQUID PUMPS	5.5	3500	460/3/60	WITT 8050	12 AMPS
P-3,4 5 (FUTURE)	ENGINE ROOM	-25° CO2 LIQUID PUMPS	11.4	3500	460/3/60	WITT 10080	22 AMPS
P-6,7 8 (FUTURE)	ENGINE ROOM	+20° CO2 LIQUID PUMPS	13.4	3500	460/3/60	WITT 10080	32 AMPS
P-9,10	ENGINE ROOM	UNDER FLOOR OIL COOLER GLYCOL PUMPS	10	1750	460/3/60	EG&G 1510	100 AMPS
P-11,12 (FUTURE)	ENGINE ROOM	-58° CO2 LIQUID PUMPS	-	-	460/3/60	WITT	
P-13	ENGINE ROOM	UNDER FLOOR RECIRCULATION GLYCOL PUMP	10	1750	460/3/60	EG&G 1510	3 1/2 HP 8" MP, PHASE 1&2 CHANGES TO 9" HP FOR PHASE 3, 10HP MOTOR

SEE REFRIGERATION SCHEDULES R601

SEE REFRIGERATION SCHEDULES R601

EXHAUST FANS		
LOCATION	HP	V/ø
ENG. ROOM	-	460/3/60
ENG. ROOM	-	460/3/60

VESSEL & HEAT EXCHANGER SCHEDULE							
TAG No.	LOCATION	DESCRIPTION	DIMENSIONS	OPERATING DATA			REMARKS
				DWP (PSI)	DWT (°F)	RELIEFS	
CEX 1-2	ENGINE ROOM	CO2 CONDENSER	_____x_____"	580			MODEL 5HH-465/1/1
CPR	ENGINE ROOM	NH3/CPR +50°	VERT 42"x145"	250			
NH3 MTPR	ENGINE ROOM	NH3 PUMP PKG +11°	HORZ 60"x155"	250			
CO2 MTPR	ENGINE ROOM	CO2/HPR PUMP PKG. +20°	HORZ 54"x224"	580			
LTPR	ENGINE ROOM	CO2 PUMP PKG -25°	VERT 60"x155"	350			
OSR	ENGINE ROOM	CO2 OIL RETURN POT	HORZ 16"x60"	580			
EXHAUSE VR	ENGINE ROOM	CO2 PUMP PKG -25°	VERT 42"x145"	350			
SHCX	ENGINE ROOM	SUCTION LINE SUPER HEATER	HORZ 12"x10'	580			

NOTE:
VESSELS V1, V2, V3, V4 ARE SIZED FOR 3 PHASES.



UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

EXISTING SCHEDULES

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REV.	DATE	BY	Y/V	PERMIT	ISSUE	DESCRIPTION
A	12-19-12					

JOB NO. 04224
DRAWN: MAC
CHECKED: BEK
SCALE: NONE

R602
DRAWING NO.

COMPRESSORS																
COMP NO.	MANUFACTURER	MODEL NO.	CAPACITY (TR) -58°F/20°F	HP REQUIRED -58°F/20°F	CAPACITY (TR) -30°F/20°F	HP REQUIRED -30°F/20°F	CAPACITY (TR) 11°F/90°F	HP REQUIRED 11°F/90°F	MOTOR SIZE (HP)	POWER (V/PH/HZ)	STARTER TYPE	OIL PUMP (HP)	OIL COOLING	MOTOR HEATERS (V/N)	OPERATING WEIGHT (LBS)	COMMENTS
C-3	M&M	H112EWF					377.6	408.3	450	480/3/60	SS			Y	--	--
C-4	M&M	H42EWF					129.9	148.5	150	480/3/60	SS			Y	--	--
BC-3	M&M	HP028			83.6	71			100	480/3/60	SS			Y	--	--
BC-4	M&M	HP0-108S			202.9	180.5			200	480/3/60	SS			Y	--	--
BC-5	M&M	HP0-108S	100	149					200	480/3/60	SS			Y	--	--

CONDENSERS																
EC NO.	MANUFACTURER	MODEL NO.	DESIGN CONDENSING TEMP (°F)	DESIGN AMBIENT WET BULB (°F)	BASE H.O.R. (MBH)	CORRECTED H.O.R. (MBH)	NO. OF FANS	FAN MOTOR HP	NO. OF PUMPS	PUMP MOTOR HP	POWER V/PH/HZ	WEIGHT OF HEAVIEST SECTION (LBS)	OPERATING WEIGHT (LBS)	PAN HEATER(S) (QTY) KW	FACING THE FANS THE CONN. ARE ON THE:	COMMENTS
EC-2	EVAPCO	ATC-1364E-1G	95°F	78°F	20,054	13,482	2	25	2	7.5	480/3/60	19,800	67,920	-	-	-

CO2 PUMPS											
PUMP NO.	PUMP LOCATION	MANUFACTURER	MODEL NO.	IMPELLER SIZE	SPEED (RPM)	GPM	HEAD (PSID)	NPSH REQ'D (FT)	MOTOR (HP)	POWER (V/PH/HZ)	COMMENTS
P-8	+20 PUMP PACKAGE	BUFFALO	-	-	-	-	-	-	10	-	-
P-5	-25 PUMP PACKAGE	WHITT	-	-	-	-	-	-	11.4	-	-
P-11	-58 PUMP PACKAGE		-	-	-	-	-	-	5	-	-
P-12	-58 PUMP PACKAGE		-	-	-	-	-	-	5	-	STANDBY

EVAPORATORS																						
AHU NO.	LOCATION SERVED	MANUFACTURER	MODEL NO.	QTY	ROOM TEMP (°F)	COIL TEMP (°F)	BASIC RATING (BTU/F TD)	CAPACITY (TR)	TYPE OF FEED	RECIRC RATE	FINS PER INCH	COIL VOLUME (FT ³)	NO. OF FANS	FAN MOTOR HP	POWER (V/PH/HZ)	TYPE OF DEFROST	COIL / FIN MATERIAL	PAN MATERIAL	CASING	APPROX. OPERATING WEIGHT (LBS)	FACING THE FANS THE CONN. ARE ON THE:	COMMENTS
AHU2011 THRU 2	TRUCK DOCK	EVAPCO	TBFMC3-2884-050P	2		20°F	16,000	20.387	LRB		4	2.75	3	0.5	480/3/60	ELEC	SS/AL	GALV	GALV	1,703		28.2 KW DEF
AHU2021 THRU 2	TRUCK DOCK	EVAPCO	TBFMC3-2884-050P	2		20°F	16,000	20.387	LRB		4	2.75	3	0.5	480/3/60	ELEC	SS/AL	GALV	GALV	1,703		28.2 KW DEF
AHU2031 THRU 2	CONVERTIBLE #3	EVAPCO	TBFS2-6783-750M	2	-20°F	-30°F	40,800	34,000	LRB		3	6.6	2	7.5	480/3/60	ELEC	SS/AL	GALV	GALV	4,672		78.9 KW DEF
AHU2041 THRU 2	CONVERTIBLE #4	EVAPCO	TBFS2-67103-750M	2	-20°F	-30°F	45,800	38,000	LRB		3	8.2	2	7.5	480/3/60	ELEC	SS/AL	GALV	GALV	5,323		77.6 KW DEF
AHU2051 THRU 4	FREEZER	EVAPCO	TBFS2-6763-750M	4	-20°F	-30°F	40,800	34,000	LRB		3	6.6	2	7.5	480/3/60	ELEC	SS/AL	GALV	GALV	4,672		78.9 KW DEF
AHU2061	BLAST CELL 1	EVAPCO	TBFS4-101103-750M	1	-48°F	-58°F	75,800	64,000	LRB		3	21.97	4	7.5	480/3/60	ELEC	SS/AL	GALV	GALV	8,080		124 KW DEF
AHU2071	BLAST CELL 2	EVAPCO	TBFS4-101103-750M	1	-48°F	-58°F	75,800	64,000	LRB		3	21.97	4	7.5	480/3/60	ELEC	SS/AL	GALV	GALV	8,080		124 KW DEF

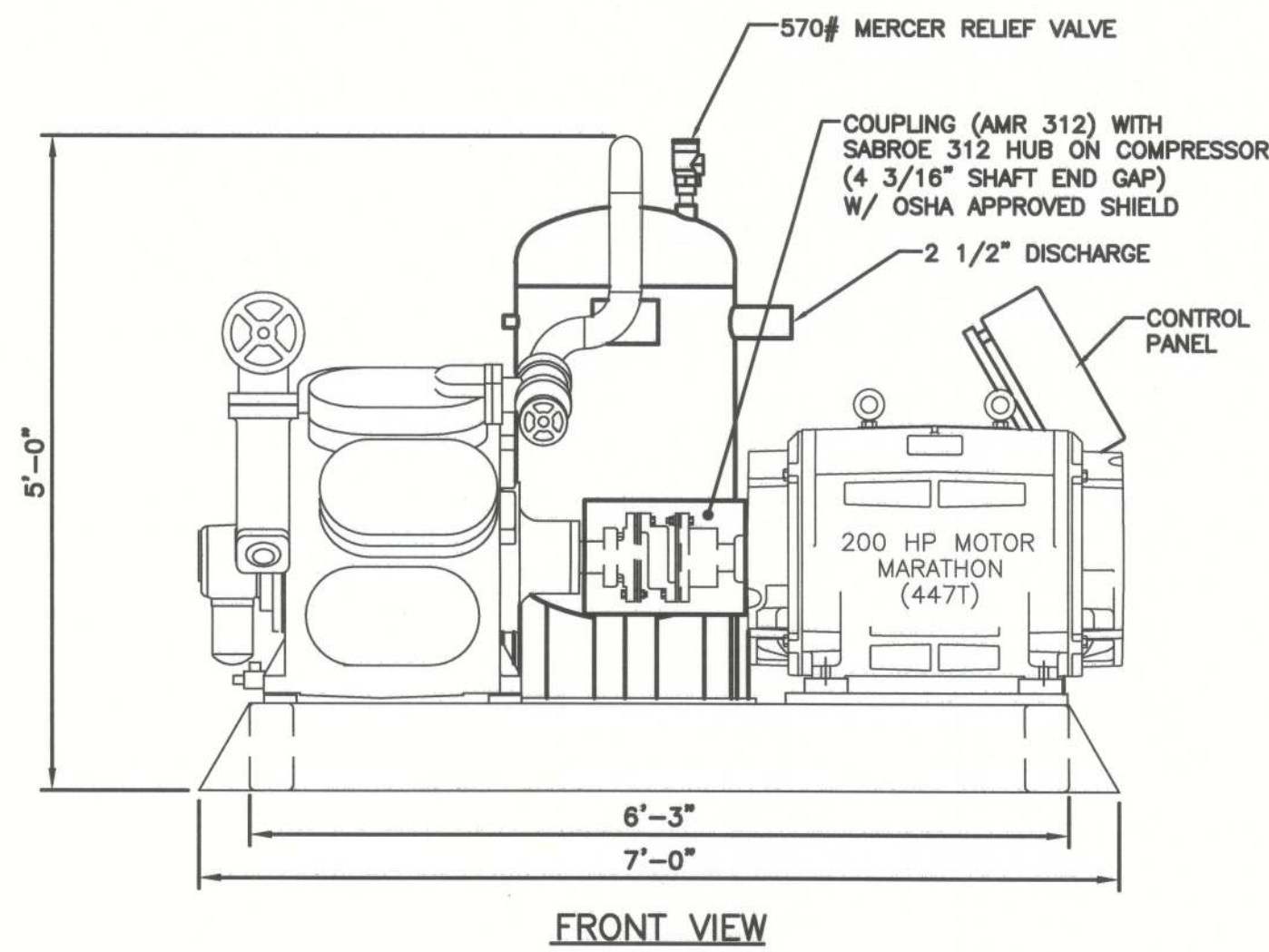
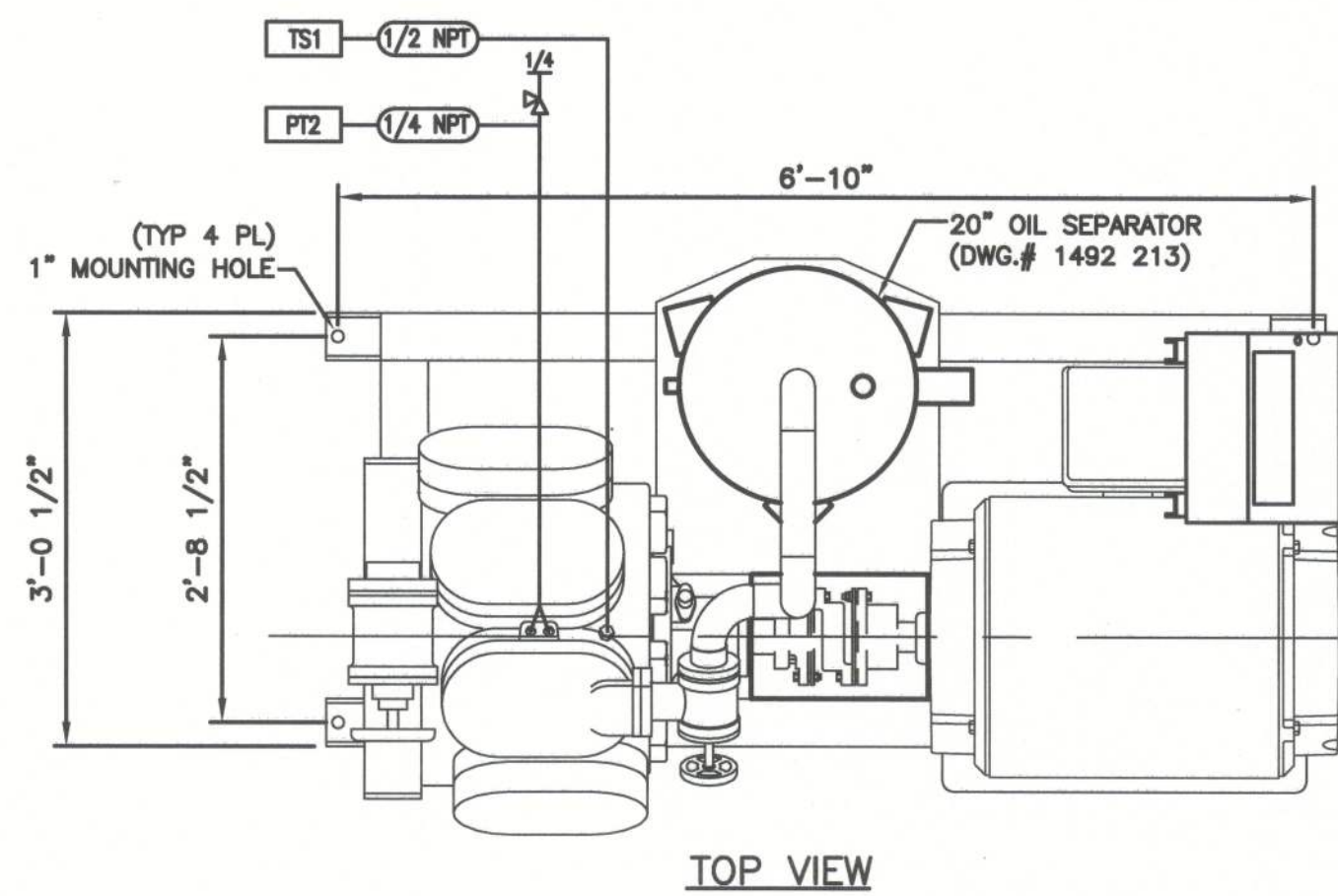
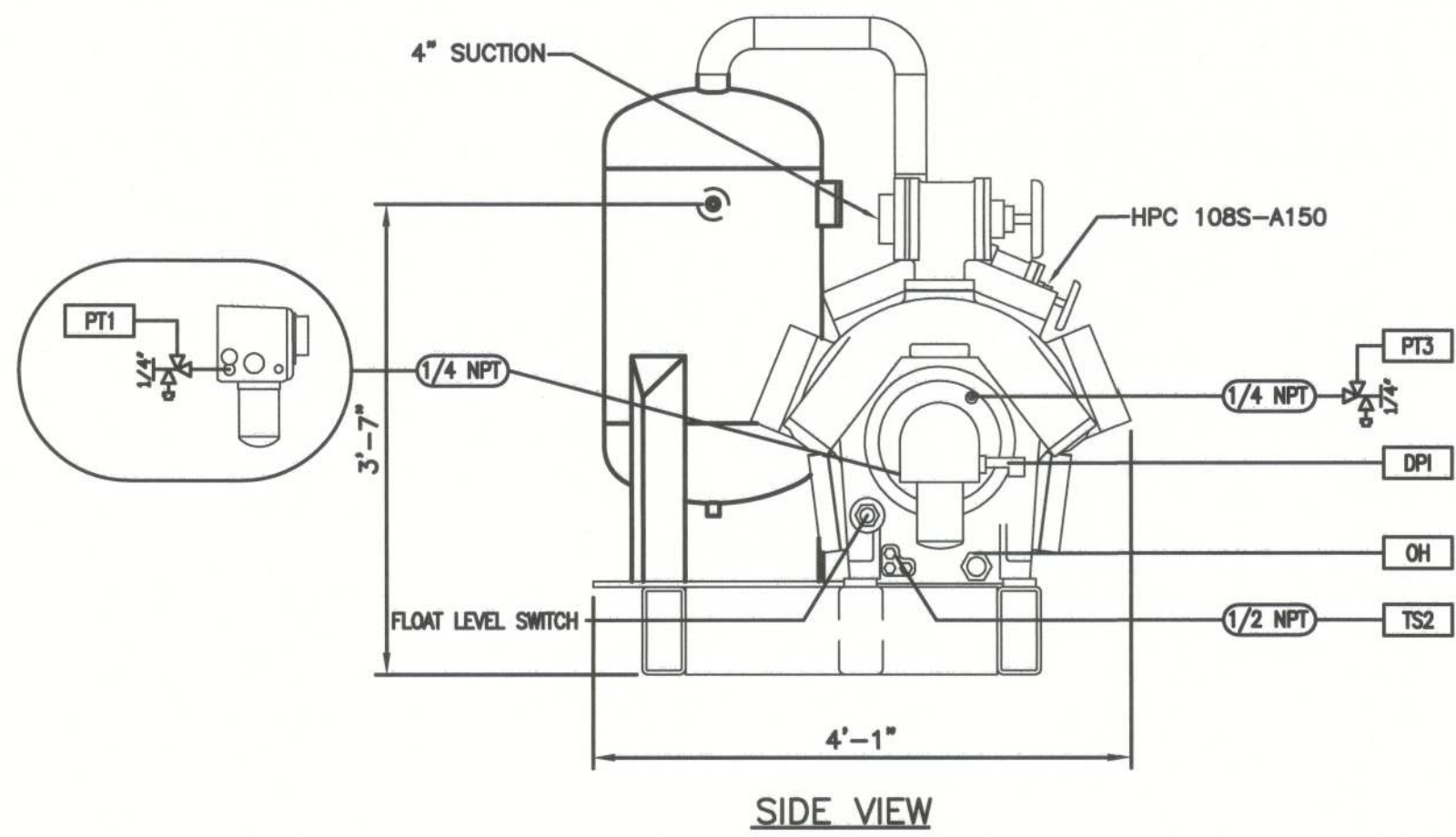
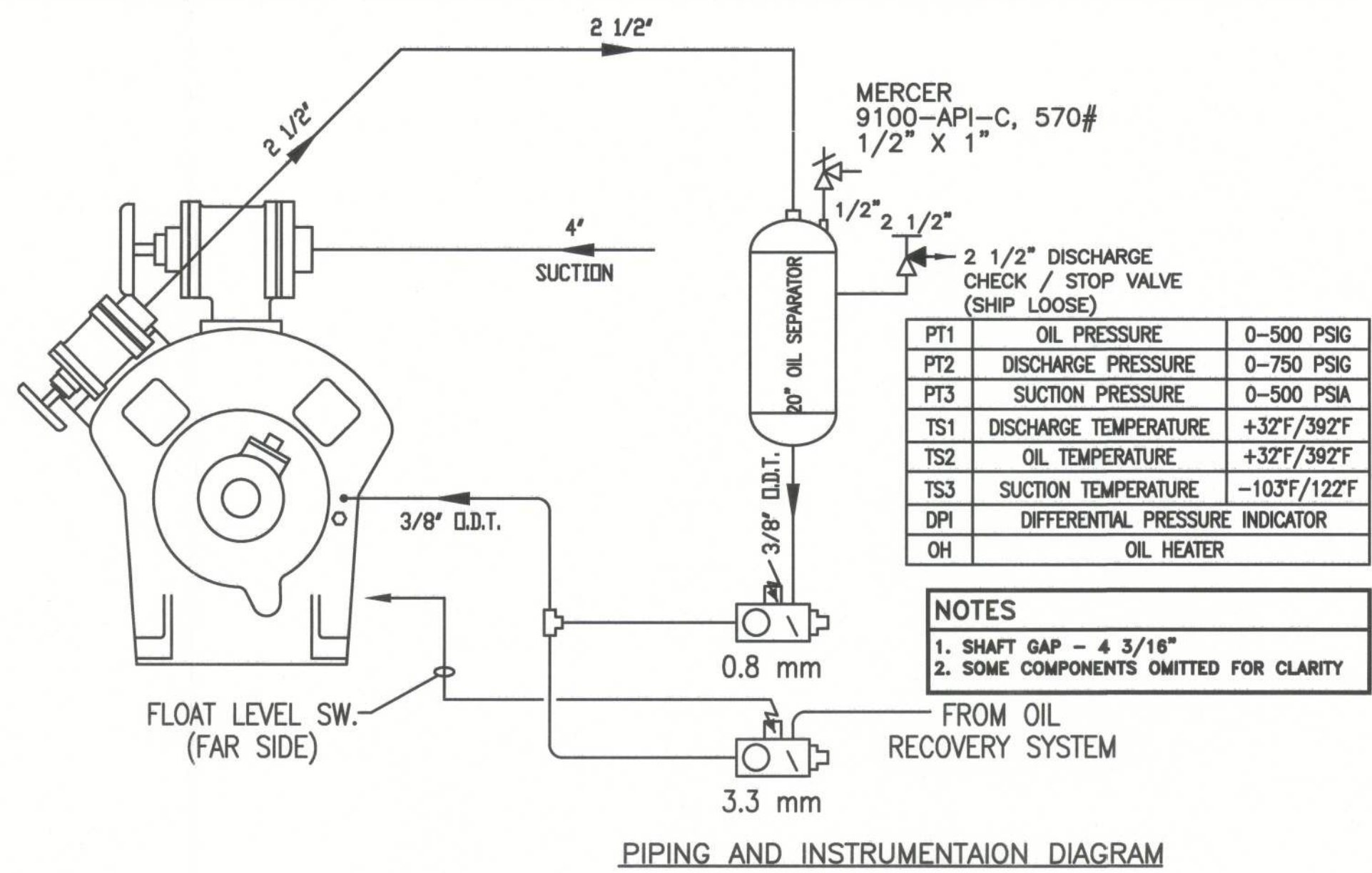
HEAT EXCHANGERS																
NO.	LOCATION	DESCRIPTION	MANUFACTURER	MODEL NO.	MEDIUM SIDE					COOLANT SIDE					APPROXIMATE OPERATING WEIGHT (LBS)	COMMENTS
					TYPE OF MEDIUM	FLOW RATE (GPM)	PRESSURE (PSIG)	TEMP IN (°F)	TEMP OUT (°F)	TYPE OF MEDIUM	FLOW RATE (lb/min)	PRESSURE (PSIG)	TEMP IN (°F)	TEMP OUT (°F)		
CEX-3	Machine Room	NH3 TO CO2	M&M	7HH-350-1-1	CO2	—	—	20°F	20°F	NH3	—	—	11°F	11°F	—	—
CEX-4	Machine Room	NH3 TO CO3	M&M	7HH-350-1-2	CO3	—	—	20°F	20°F	NH4	—	—	11°F	11°F	—	—

VESSELS										
NO.	DESCRIPTION	MANUFACTURER	MAWP (PSI)	ØMAX TEMP (°F)	MIN DESIGN METAL TEMP	OPERATING CHARGE (LBS)	DIAMETER (IN)	LENGTH (IN)	MAX. SHIPPING WEIGHT (LBS)	COMMENTS
V6	VERTICAL RECIRCULATOR OIL POT	M&M	350	-	-	-	80	155	-	
		M&M	350	-	-	-	???	???	-	

CONTROL VALVES											
NO.	MANUFACTURER	VALVE P/N	PORT SIZE (IN)	MODEL #	FLNG SIZE FLNG MAKE	STRAINER	GREEN PILOT LIGHT	PRESSURE GAUGE & VALVE	MALE ADAPTER RING	LOCATION/FUNCTION	COMMENTS
	DANFOSS	032F621549	1/2"	EVRA-15	1/2" SW	Y	Y	N	N	CONDENSER PURGE SOL	--
	DANFOSS	032F621549	1/2"	EVRA-15	1/2" SW	Y	Y	N	N	CONDENSER PURGE SOL	--
	DANFOSS	032F621549	1/2"	EVRA-15	1/2" SW	Y	Y	N	N	CONDENSER PURGE SOL	--
	DANFOSS	032F621549	1/2"	EVRA-15	1/2" SW	Y	Y	N	N	CONDENSER PURGE SOL	--
	DANFOSS	032F622579	1"	EVRA-25	1" SW	Y	Y	N	N	TRUCK DOCK LIQUID SHUTOFF	--
	DANFOSS	032F622579	1"	EVRA-25	1" SW	Y	Y	N	N	TRUCK DOCK LIQUID SHUTOFF	--
	DANFOSS	032F622579	1"	EVRA-25	1" SW	Y	Y	N	N	TRUCK DOCK LIQUID SHUTOFF	--
	DANFOSS	032F622579	1"	EVRA-25	1" SW	Y	Y	N	N	TRUCK DOCK LIQUID SHUTOFF	--
	DANFOSS	032F622579	1"	EVRA-25	1" SW	Y	Y	N	N	TRUCK DOCK LIQUID SHUTOFF	--
	DANFOSS	032F622566	3/4"	EVRA-20	3/4" FPT	Y	Y	N	N	USDA SAMPLE ROOM	--
	DANFOSS	042H1140	1-1/4"	EVRA-32	1-1/4" WN	Y	Y	N	N	CONVERTIBLE RM LIQ SHUTOFF	--
	DANFOSS	042H1140	1-1/4"	EVRA-32	1-1/4" WN	Y	Y	N	N	CONVERTIBLE RM LIQ SHUTOFF	--
	DANFOSS	042H1140	1-1/4"	EVRA-32	1-1/4" WN	Y	Y	N	N	CONVERTIBLE RM LIQ SHUTOFF	--
	DANFOSS	042H1140	1-1/4"	EVRA-32	1-1/4" WN	Y	Y	N	N	CONVERTIBLE RM LIQ SHUTOFF	--
	DANFOSS	042H1142	1-1/2"	EVRA-40	1-1/2" WN	Y	Y	N	N	FREEZER LIQ SHUTOFF	--
	DANFOSS	042H1142	1-1/2"	EVRA-40	1-1/2" WN	Y	Y	N	N	FREEZER LIQ SHUTOFF	--
	DANFOSS	042H1142	1-1/2"	EVRA-40	1-1/2" WN	Y	Y	N	N	FREEZER LIQ SHUTOFF	--
	DANFOSS	042H1142	1-1/2"	EVRA-40	1-1/2" WN	Y	Y	N	N	FREEZER LIQ SHUTOFF	--
	WARREN	VA3013CA-E00B	4"	EMA 400	4" 150# FLG	N	N	N	N	GLYCOL UNDERFLOOR HEATING 3-WAY VALVE	--
	WARREN	VA3013CA-E00B	4"	EMA 400	4" 150# FLG	N	N	N	N	GLYCOL OIL COOLING 3-WAY VALVE	--
	--	--	2-1/2"	--	2-1/2" 150# FLG	N	N	N	N	NH3 COMPRESSOR OIL COOLING VALVE #1	SET AT 62 GPM
	--	--	2-1/2"	--	2-1/2" 150# FLG	N	N	N	N	NH3 COMPRESSOR OIL COOLING VALVE #2	SET AT 75 GPM
	--	--	4"	--	--	N	N	N	N	GLYCOL CIRC SITR. ELECTRICAL RM BYPASS	SET AT 12.3 FT PRESSURE DROP TO BALANCE BOHN UNIT
	--	--	4"	--	--	N	N	N	N	GLYCOL CIRC SITR. CONDENSER BYPASS	SET AT 20 FT PRESSURE DROP TO BALANCE CONDENSER
	HANSEN	--	--	HT300	2"	N	N	N	N	CONDENSER LIQ. DRNR. #1	--
	HANSEN	--	--	HT300	2"	N	N	N	N	CONDENSER LIQ. DRNR. #2	--
	HANSEN	--	--	HT300	2"	N	N	N	N	CONDENSER LIQ. DRNR. #3	--
	HANSEN	--	--	HT300	2"	N	N	N	N	CONDENSER LIQ. DRNR. #4	--
	HANSEN	--	--	HT200N	1-1/2"	N	N	N	N	UNDERFLOOR HX LIQUID RAINER	--
	DANFOSS	020-202421	1-1/2"	NRVA40	1-1/2" SW	N	N	N	N	AMMONIA CHARGE LINE CHECK VALVE	--
	DANFOSS	027H2112JB	1"	ICS-OS	1" SW	N	N	N	N	UNDERFLOOR HEAT EXCHANGER OUTLET REGULATOR	--
	DANFOSS	027H2142AF	1/2"	ICS	3/4" SW	N	Y	N	N	CO2 SUCTION LINE SUPERHEATER LIQUID REGULATOR	--

AMMONIA PRESSURE RELIEF VALVES									
NO.	MANUFACTURER	LOCATION	MODEL #	PORT SIZE (IN)	PRESSURE (PSI)	INLET SIZE (IN)	OUTLET SIZE (IN)	CAPACITY (#/MIN) AIR	COMMENTS
	Hansen	UFEX	H5600R	0.5	300	0.5	0.75	20.20	
	Hansen	UFEX	H5600R	0.5	300	0.5	0.75	20.20	
	Hansen	CPR Oil Pot	H5600R	0.5	300	0.5	0.75	20.20	BY M&M
	Hansen	CPR Oil Pot	H5600R	0.5	300	0.5	0.75	20.20	BY M&M
	Hansen	CPR	H5600A	0.5	250	0.5	0.75	54.00	BY M&M
	Hansen	CPR	H5600A	0.5	250	0.5	0.75	54.00	BY M&M
	Hansen	C1	H5600A	0.5	300	0.5	0.75	65.00	BY M&M
	Hansen	C1	H5600A	0.5	300	0.5	0.75	65.00	BY M&M
	Hansen	MTPR (NH3)	H5600A	0.5	250	0.5	0.75	54.00	BY M&M
	Hansen	MTPR (NH3)	H5600A	0.5	250	0.5	0.75	54.00	BY M&M
	Hansen	MTPR (NH3) Oil Pot	H5600R	0.5	300	0.5	0.75	20.20	
	Hansen	MTPR (NH3) Oil Pot	H5600R	0.5	300	0.5	0.75	20.20	
	Hansen	CB (POSSIBLE FUTURE)	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	CB (POSSIBLE FUTURE)	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C5	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C5	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C4	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C4	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C3	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C3	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C2	H5600A	0.5	300	0.5	0.75	65.00	FUTURE
	Hansen	C2	H5600A	0.5	300	0.5	0.75	65.00	BY M&M
	Hansen	CEX1	H5600A	0.5	250	0.5	0.75	54.00	
	Hansen	CEX1	H5600A	0.5	250	0.5	0.75	54.00	
	Hansen	CEX2	H5600A	0.5	250	0.5	0.75	54.00	
	Hansen	CEX2	H5600A	0.5	250	0.5	0.75	54.00	
	Hansen	CEX3	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX3	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX4	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX4	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX5	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX5	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX6	H5600A	0.5	250	0.5	0.75	54.00	FUTURE
	Hansen	CEX6	H5600A	0.5	250	0.5	0.75	54.00	FUTURE

CO2 PRESSURE RELIEF VALVES									
NO.	MANUFACTURER	LOCATION	MODEL #	PORT SIZE (IN)	PRESSURE (PSI)	INLET SIZE (IN)	OUTLET SIZE (IN)	CAPACITY (#/MIN) AIR	COMMENTS
	MERCER	RC5	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC5	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC1	9100API-C	0.5	570	0.5	1	45.60	BY M&M
	MERCER	RC1	9100API-C	0.5	570	0.5	1	45.60	BY M&M
	MERCER	RC4	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC4	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC3	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC3	9100API-C	0.5	570	0.5	1	45.60	FUTURE
	MERCER	RC2	9100API-C	0.5	570	0.5	1	45.60	BY M&M
	MERCER	RC2	9100API-C	0.5	570	0.5	1	45.60	BY M&M
	MERCER	V-3	9100API-D	0.75	570	0.75	1.25	-	BY M&M
	MERCER	V-3	9100API-D	0.75	570	0.75	1.25	-	BY M&M
	MERCER	V-4	9100API-E	1	350	1	1.5	-	BY M&M
	MERCER	V-4	9100API-E	1	350	1	1.5	-	BY M&M
	MERCER	HEX-7	9112-D51V1111	0.75	570	0.75	1	-	-
	MERCER	HEX-7	9112-D51V1111	0.75	570	0.75	1	-	-
	DANFOSS	HEX-1	OFV20	0.75	30	0.75	0.75	-	BY M&M
	DANFOSS	HEX-2	OFV20	0.75	30	0.75	0.75	-	BY M&M



NEW M&M MODEL HPC108S RECIPROCATING COMPRESSOR

SCALE: 3/4" = 1'-0"

ADD DETAIL LATER

NEW M&M MODEL HPO 28 RECIPROCATING COMPRESSOR

UNITED STATES COLD STORAGE, INC.

PHASE II EXPANSION

LAKE CITY, FLORIDA

M&M MODEL
HPC104S &
HPC108S
RECIPROCATING
COMPRESSOR
DETAIL

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REV.	DATE	BY	YJV	PERMIT	ISSUE	DESCRIPTION
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CHECKED: BEK

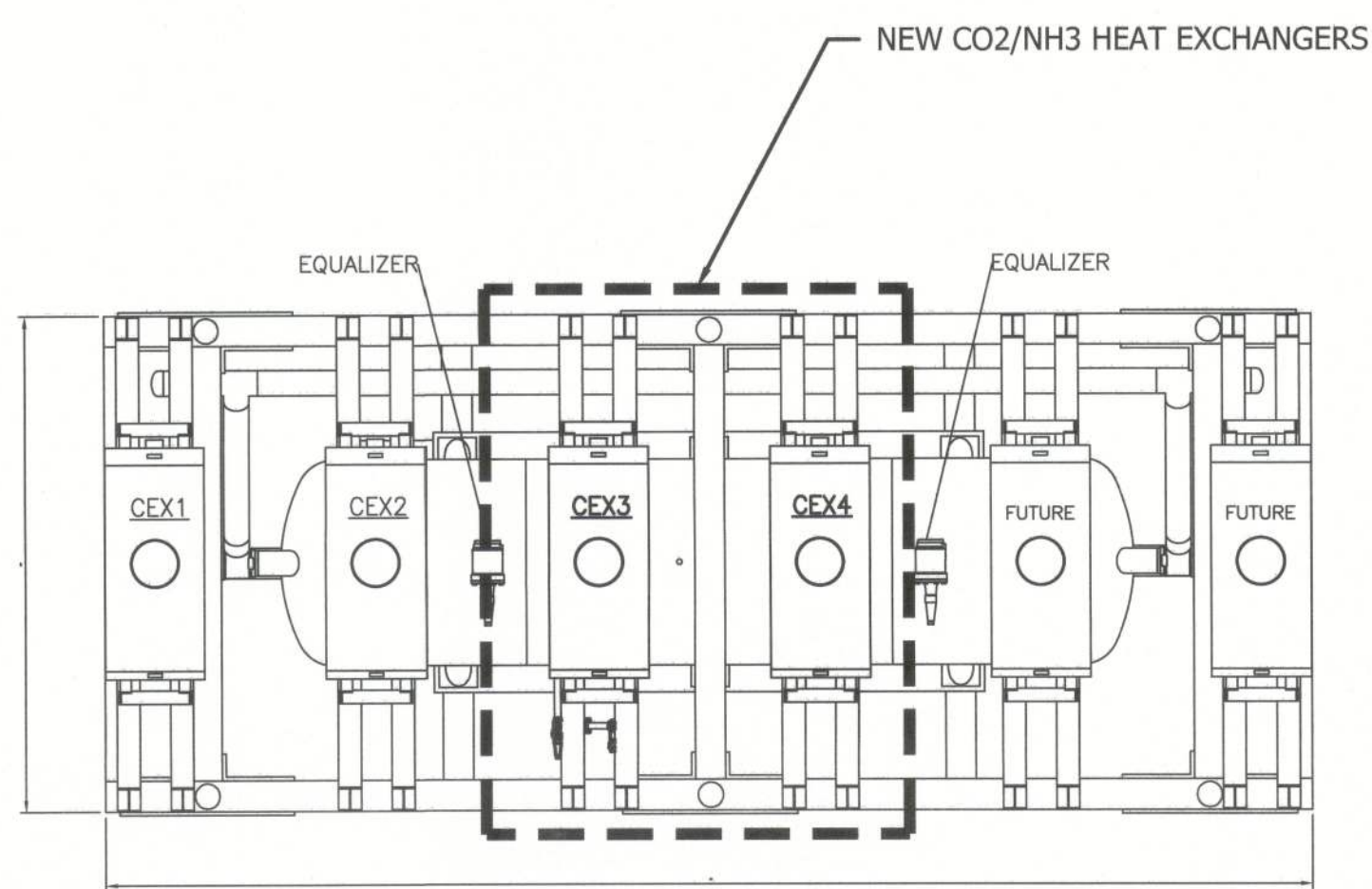
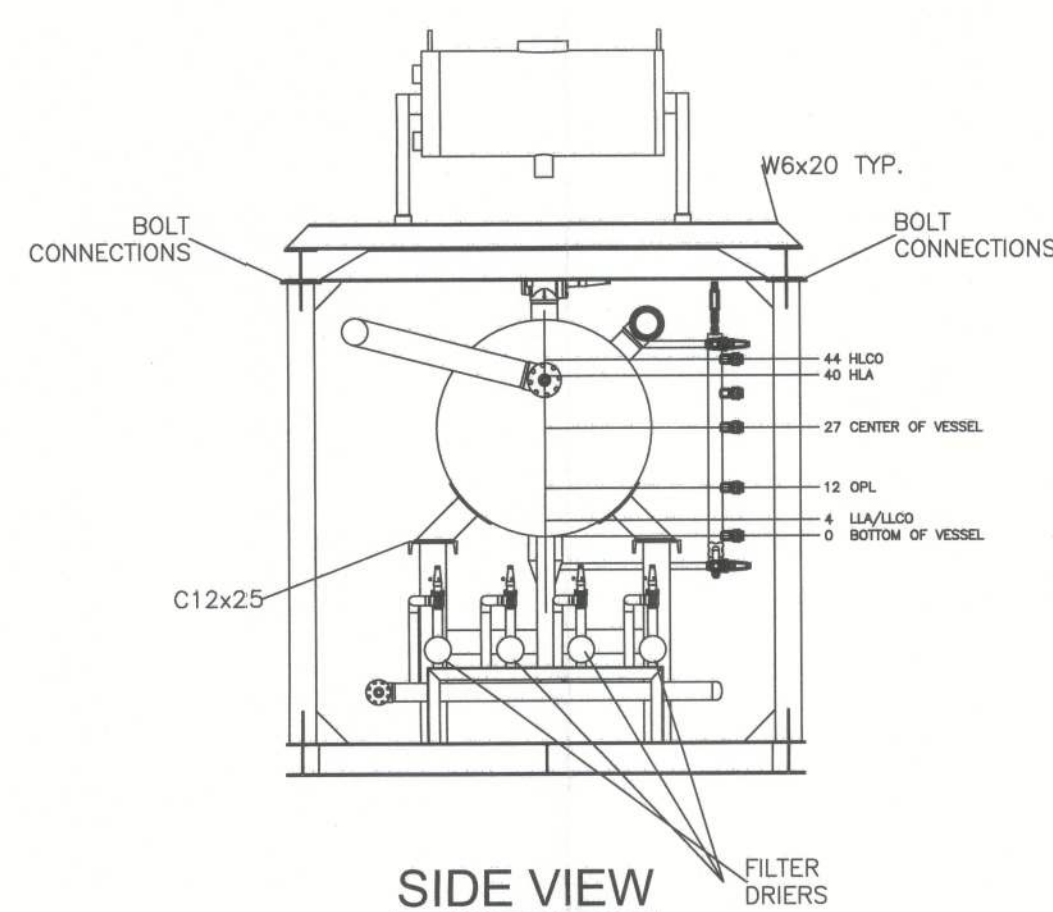
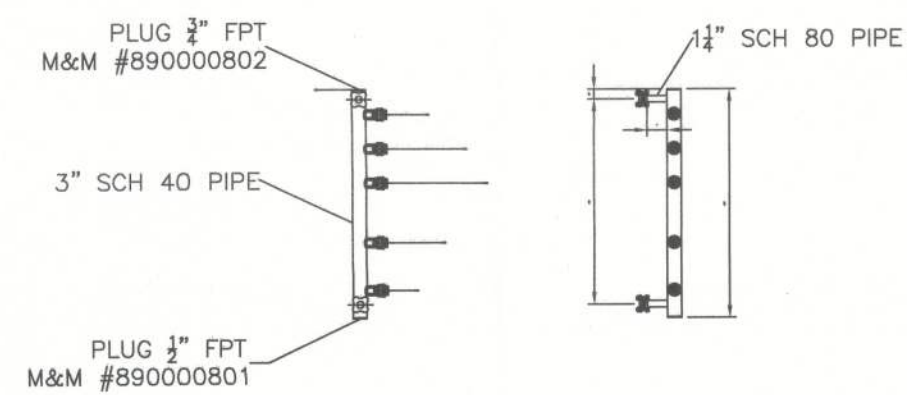
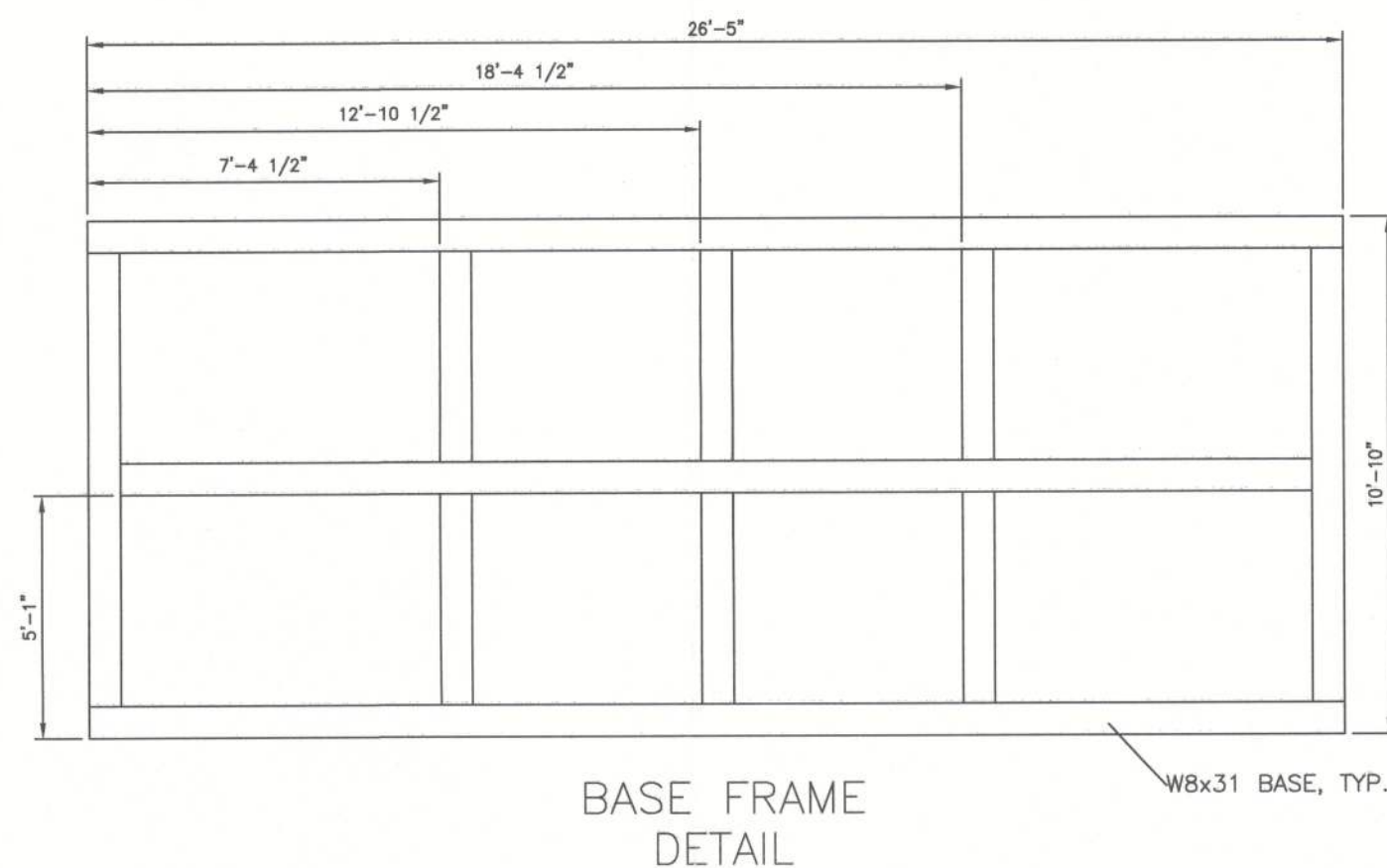
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R505

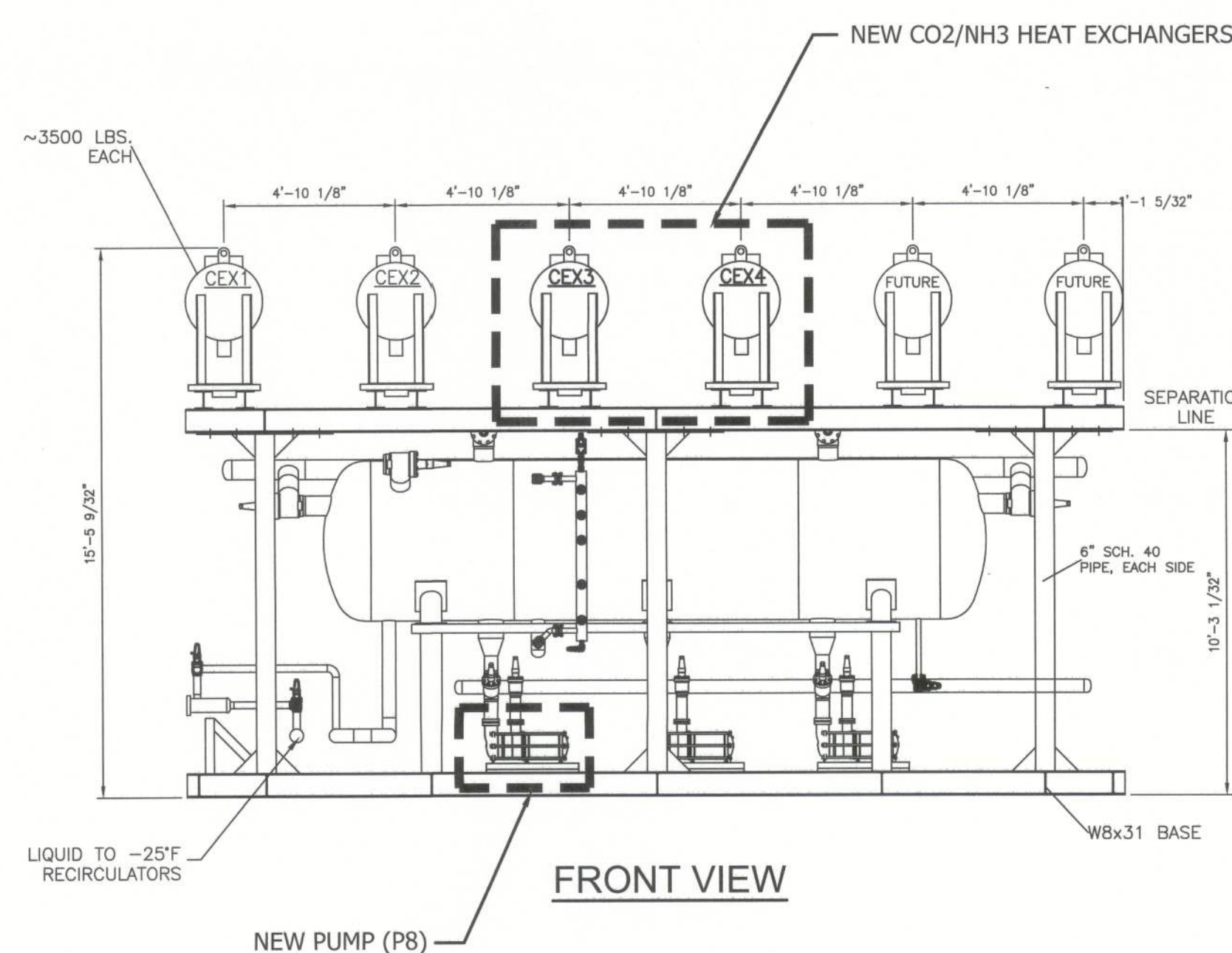
DRAWING NO.

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OPERATING AS THE STELLAR GROUP
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WWW.STELLAR-FL.COM
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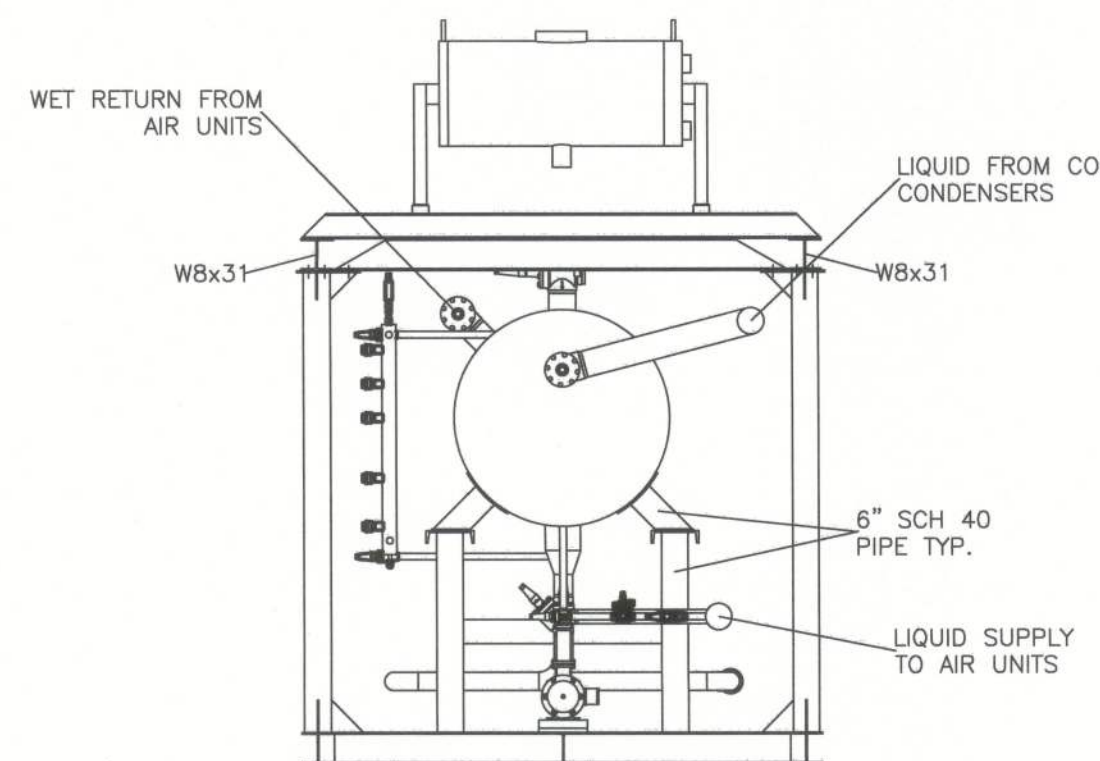




PLAN VIEW

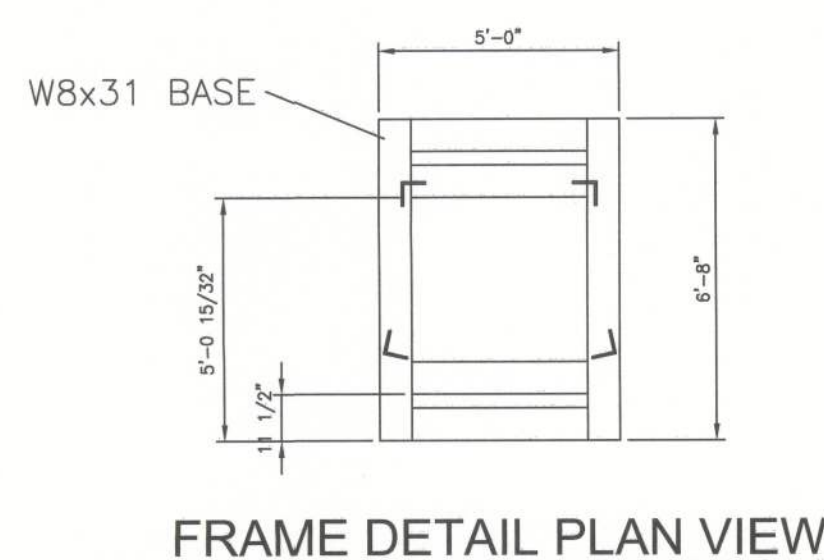


FRONT VIEW

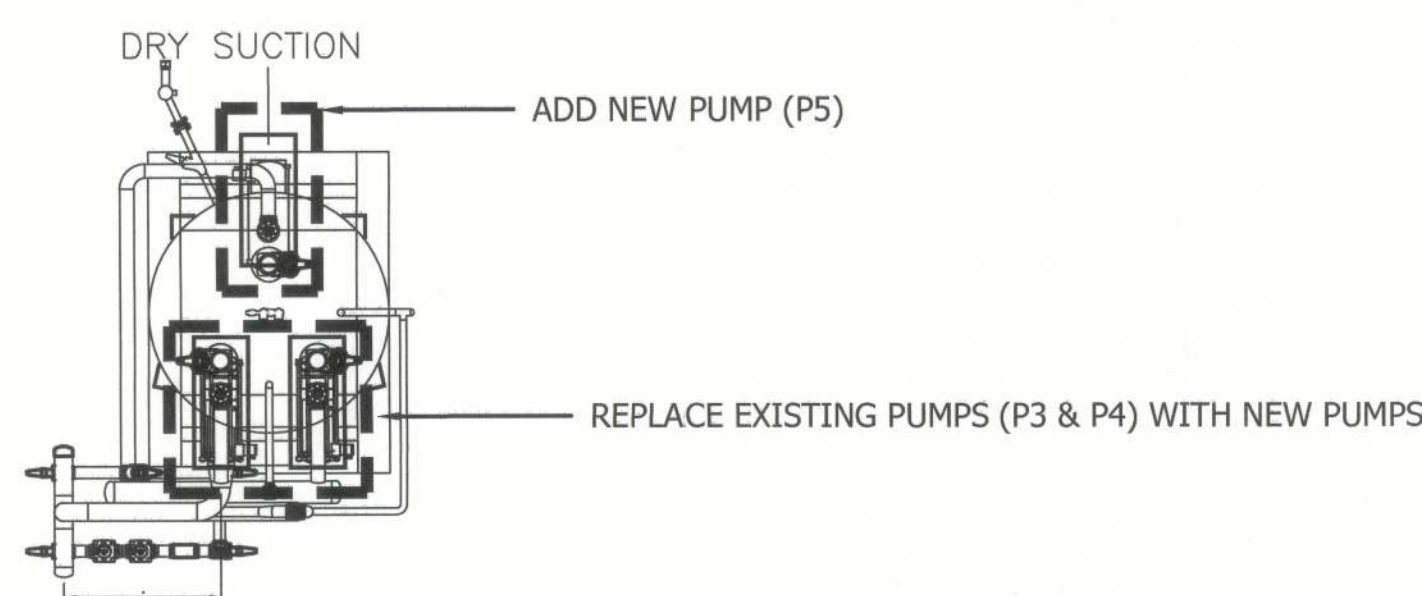


SIDE VIEW

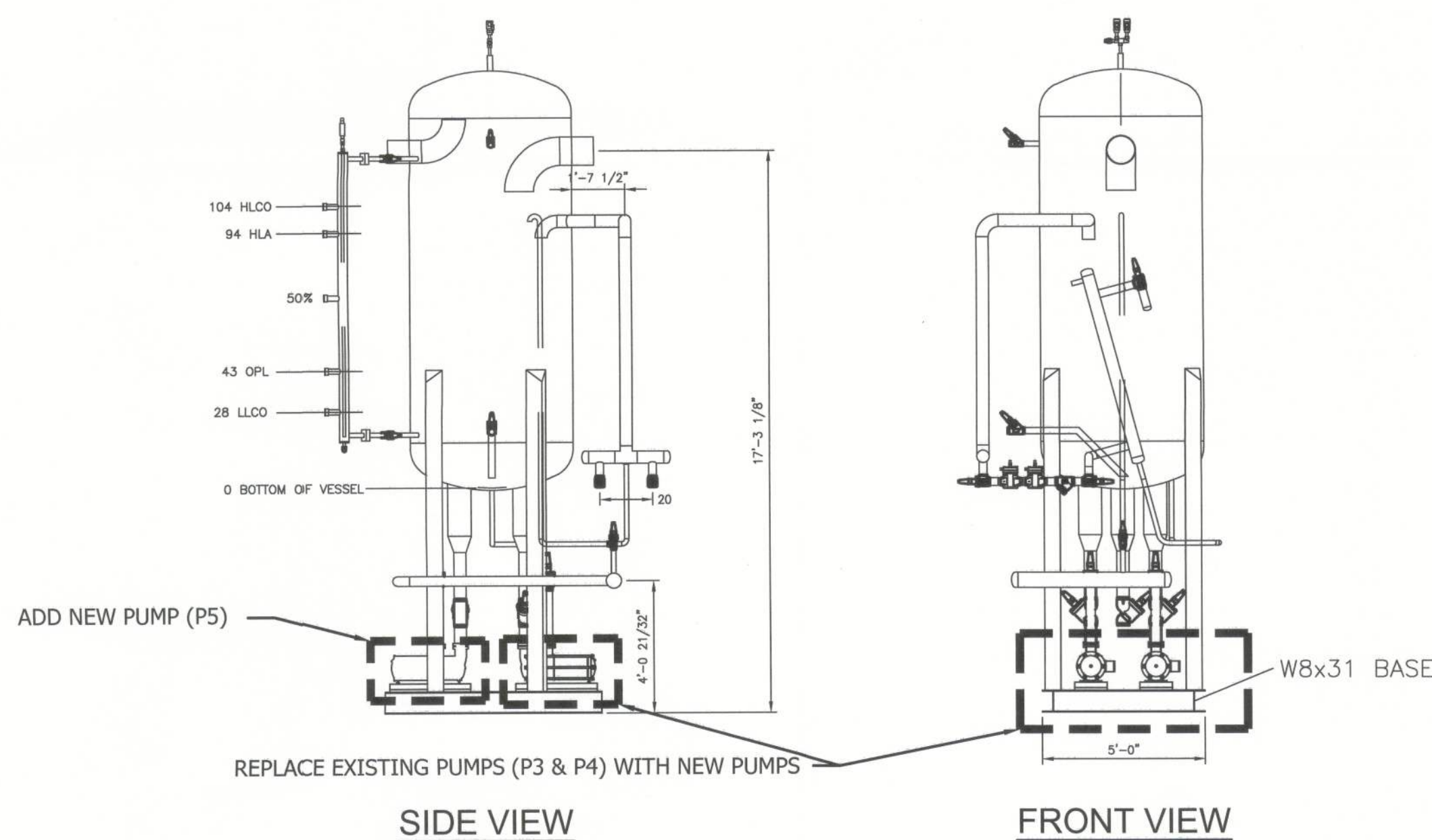
EXISTING CO2/NH3 HEAT EXCHANGER/+20°F RECIRCULATOR SKID PACKAGE "MTPR"



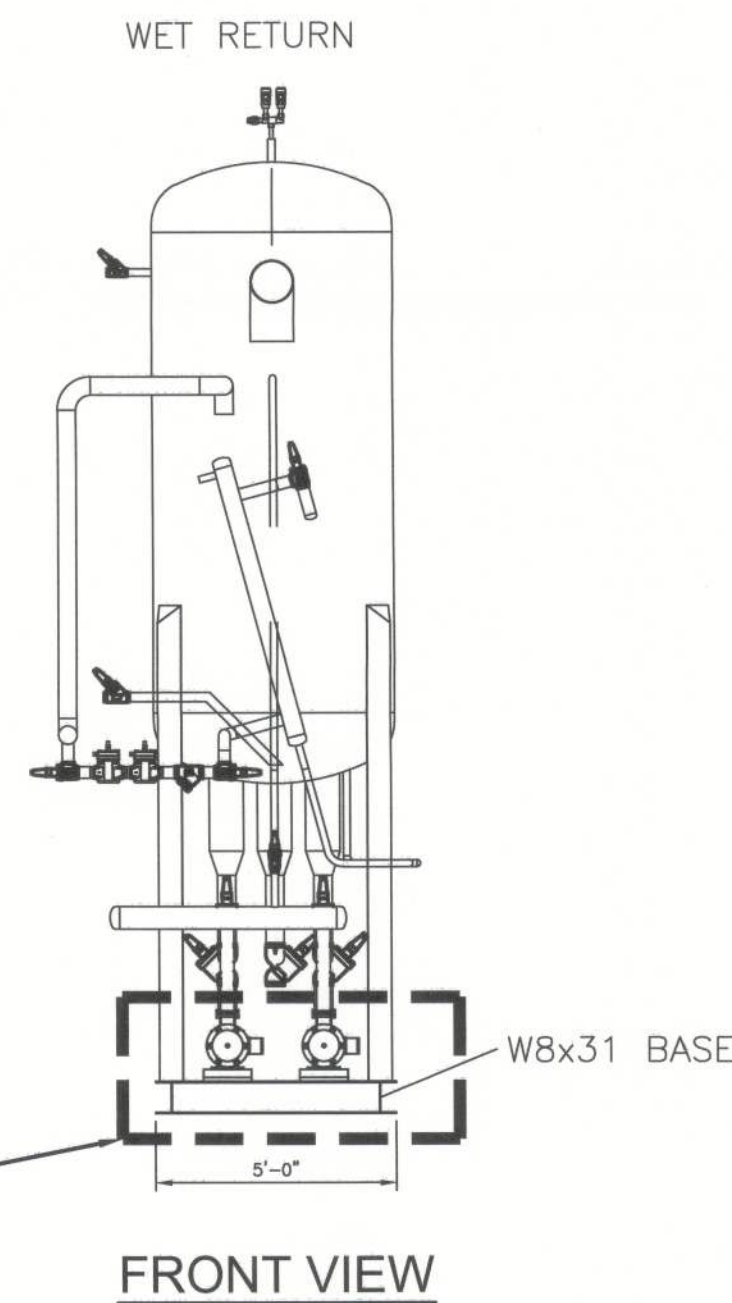
FRAME DETAIL PLAN VIEW



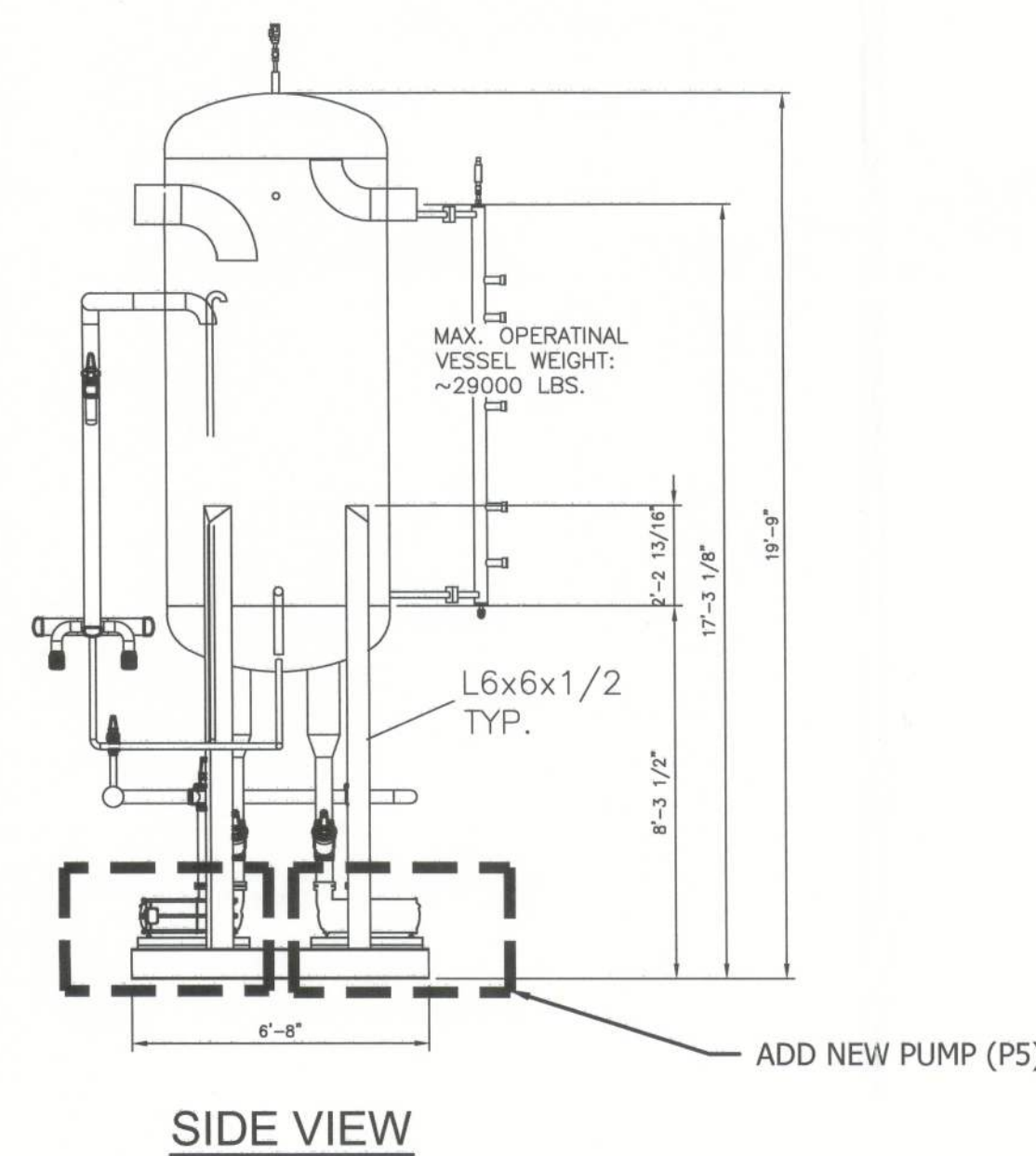
PLAN VIEW



SIDE VIEW



FRONT VIEW

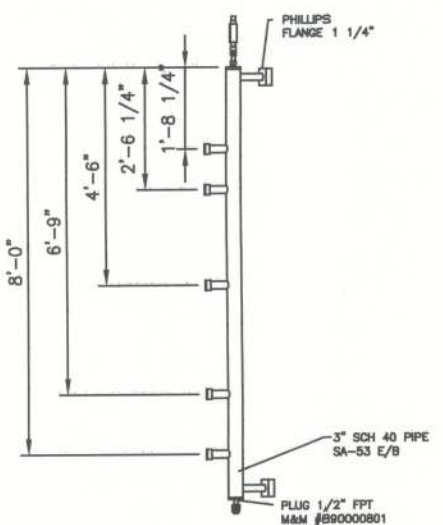


SIDE VIEW

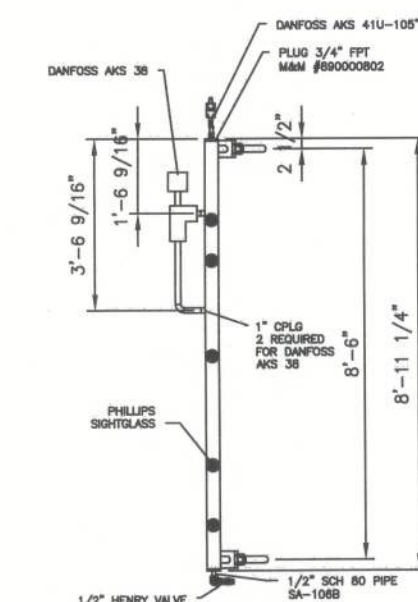
EXISTING -25°F CO2 PUMP PACKAGE "LTPR" DETAILS



LEVEL COLUMN PLAN VIEW



LEVEL COLUMN FRONT VIEW



LEVEL COLUMN SIDE VIEW

UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

EXISTING VESSEL DETAILS

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REV	DATE	BY	CHK	ISSUE	DESCRIPTION
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JOB NO. 04224

DRAWN: YJV

CHECKED: BEK

SCALE: NONE

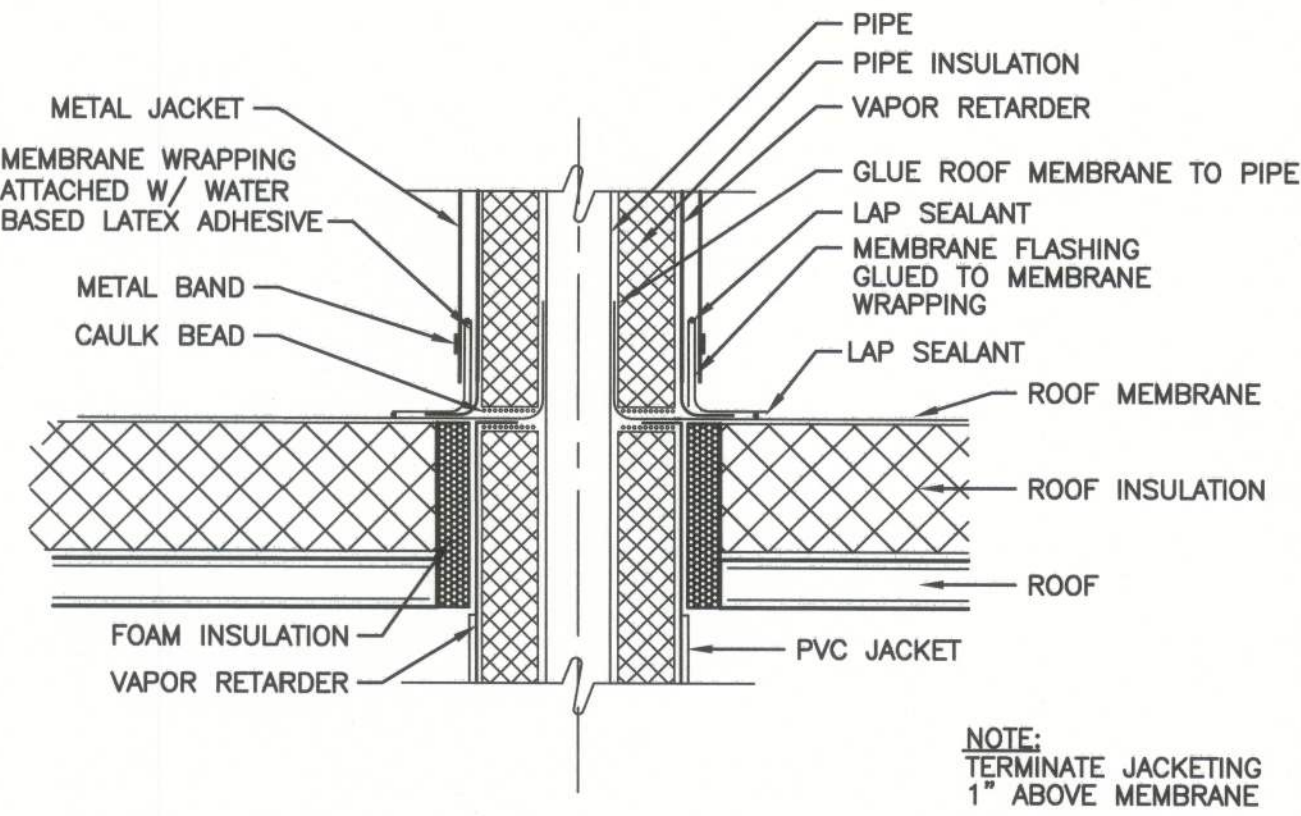
R504
DRAWING NO.



Extruded Polystyrene Insulation Thickness for Refrigeration Pipe							
PIPE SIZE	TEMPERATURE (-75°F TO -51°F)	TEMPERATURE (-50°F TO -26°F)	TEMPERATURE (-25°F TO -1°F)	TEMPERATURE (+0°F TO +25°F)	TEMPERATURE (+26°F TO +50°F)	HOT GAS LINE	CONDENSATE DRAIN LINE
1/2"	3.0	2.5	2.0	1.5	1.5	1.5	1.5
3/4"	3.0	2.5	2.0	1.5	1.5	1.5	1.5
1"	3.0	2.5	2.0	1.5	1.5	1.5	1.5
1 1/4"	3.0	3.0	2.5	1.5	1.5	1.5	1.5
1 1/2"	3.0	3.0	2.5	1.5	1.5	1.5	1.5
2"	4.0	4.0	3.0	2.0	1.5	1.5	1.5
2 1/2"	4.0	4.0	3.0	2.0	1.5	1.5	1.5
3"	4.0	4.0	3.0	2.0	1.5	1.5	1.5
4"	4.0	4.0	3.0	2.0	1.5	1.5	1.5
5"	5.0	5.0	4.0	2.0	1.5	1.5	1.5
6"	5.0	5.0	4.0	2.0	2.0	1.5	1.5
8"	5.0	5.0	4.0	3.0	2.0	1.5	1.5
10"	5.0	5.0	4.0	3.0	2.0	1.5	1.5
12"	6.0	5.0	4.0	4.0	3.0	1.5	1.5
VESSEL BOTTOM	6.0	5.0	4.0	4.0	3.0	-	-

NOTE: ON ALL HORIZONTAL PIPE RUNS, WHERE THERE IS NO CHANGE IN ELEVATION, THE INSULATION THICKNESS SHOULD REMAIN THE SAME SIZE FROM BEGINNING TO END.

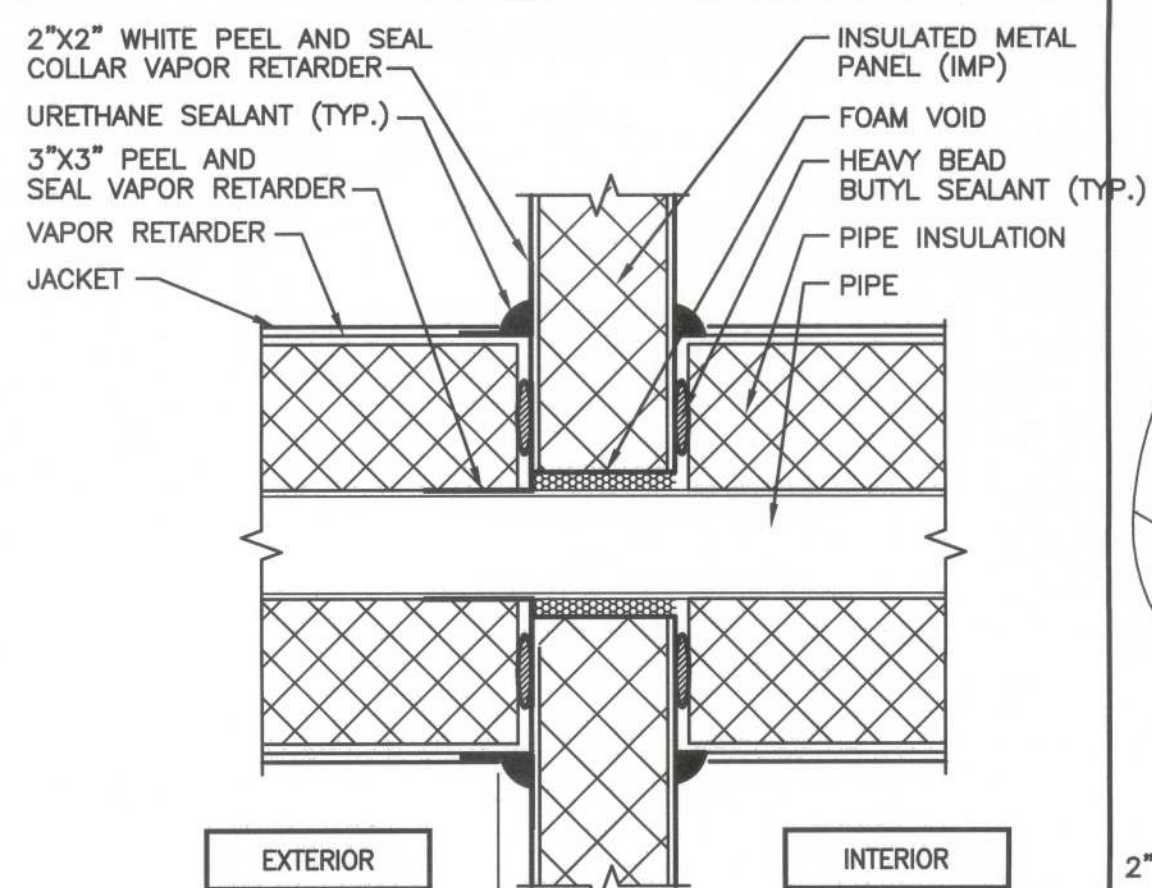
SHIELDS FOR INSULATING PIPE & TUBING				
INSULATION DIAMETER, INCHES	GAUGE METAL	ARC LENGTH INCHES	SADDLE LENGTH INCHES	RADIUS INCHES
2.5	20	2.5	12	1.25
3	20	3	12	1.25
3.5	18	3.5	12	1.75
4	18	4	12	2
4.5	18	5	12	2.25
5	16	5.5	12	2.5
6	16	6.5	12	3
8	16	8.5	18	4
10	14	10.5	18	5
12	14	12.5	18	6
14	14	14.5	18	7
15	14	17	18	8
16	12	19	18	9
20	12	21	18	10



NOTE:
TERMINATE JACKETING
1" ABOVE MEMBRANE

ROOF/PIPE INSULATION PENETRATION DETAIL

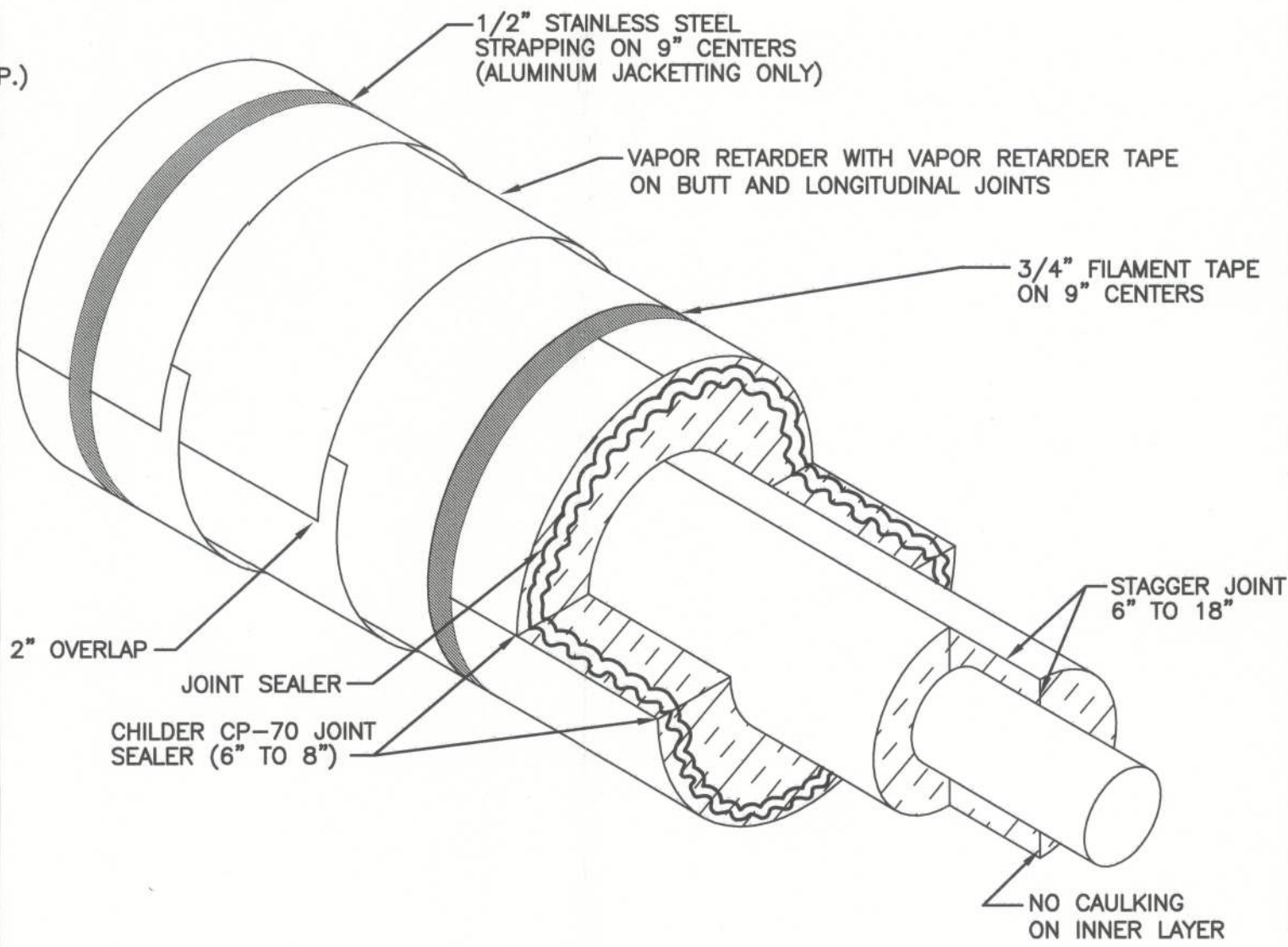
DETAIL ①



- NOTES:
- CUT HOLE IN IMP 1" LARGER THAN PIPE OD.
 - INSTALL PIPE
 - FOAM VOID
 - FLASH PIPE TO IMP WITH 3"x3" PEEL AND SEAL.
 - INSTALL INSULATION/VAPOR RETARDER (INTERIOR AND EXTERIOR)
 - FLASH VAPOR RETARDER TO IMP WITH 2"x2" PEEL AND SEAL.
 - INSTALL PIPE JACKET (HOLD 1" BACK FROM IMP)

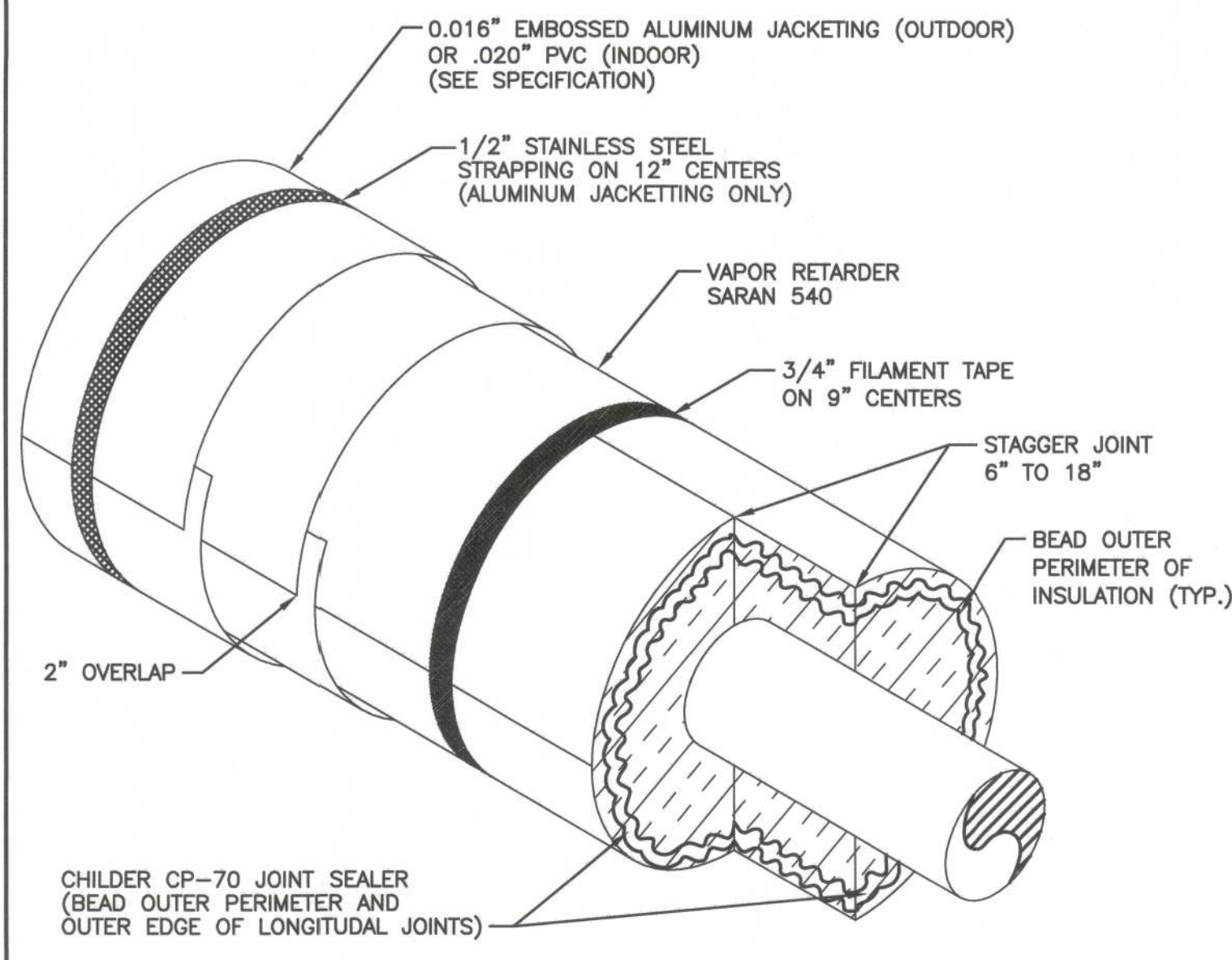
WALL PENETRATION

DETAIL ②



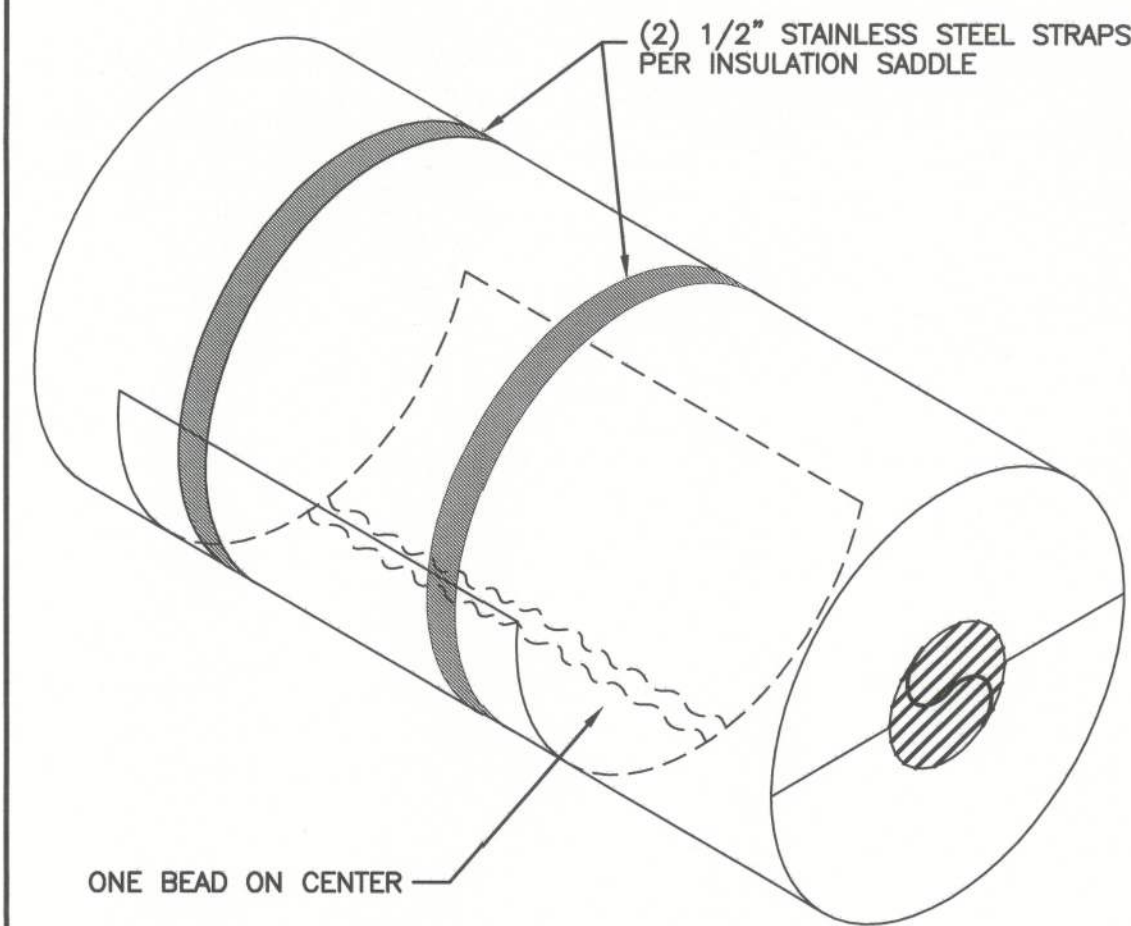
TYPICAL DOUBLE LAYER JOINT
(3" OR GREATER INSULATION THICKNESS)

DETAIL ③



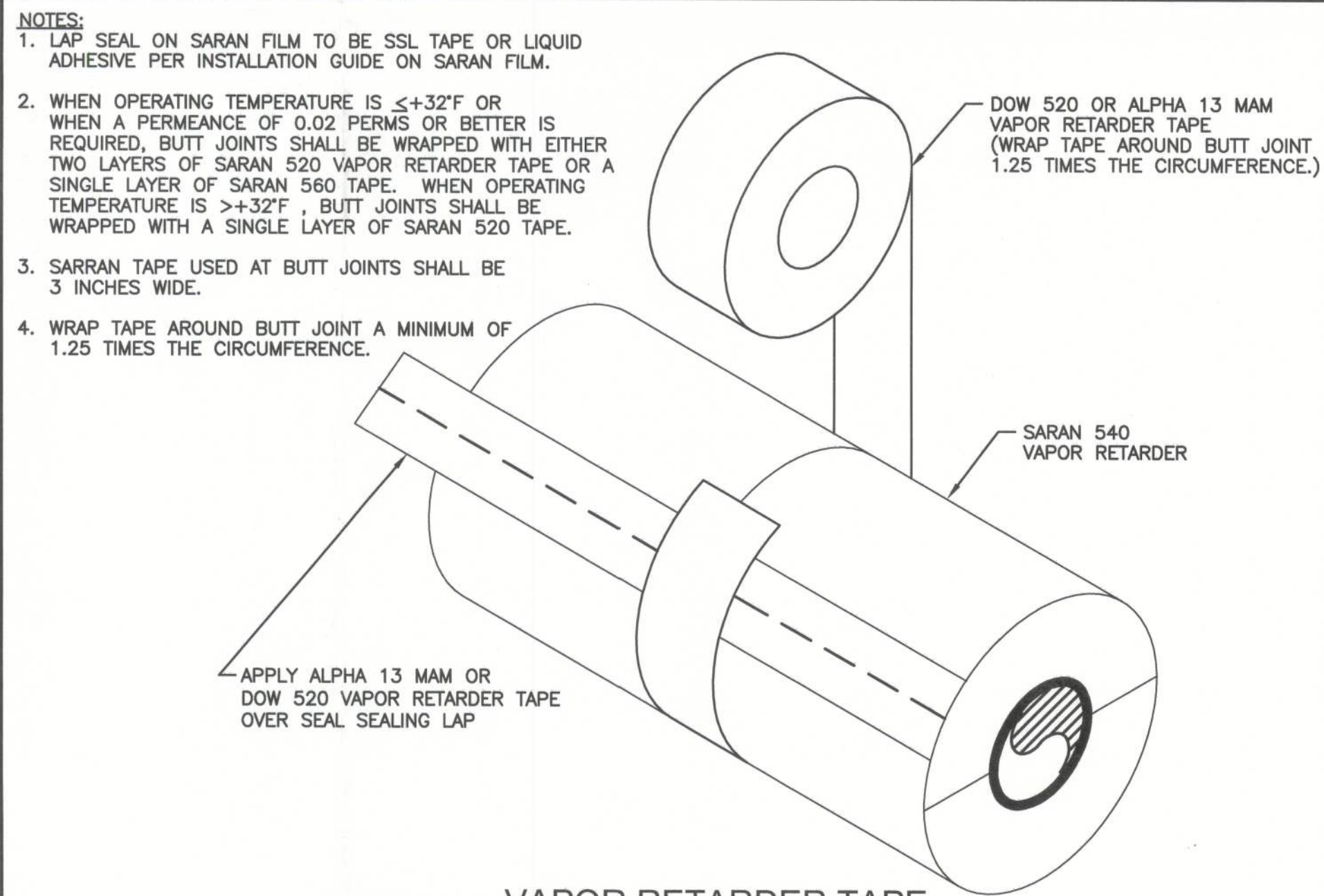
TYPICAL SINGLE LAYER JOINT SECTION
(LESS THAN 3" INSULATION THICKNESS)

DETAIL ④



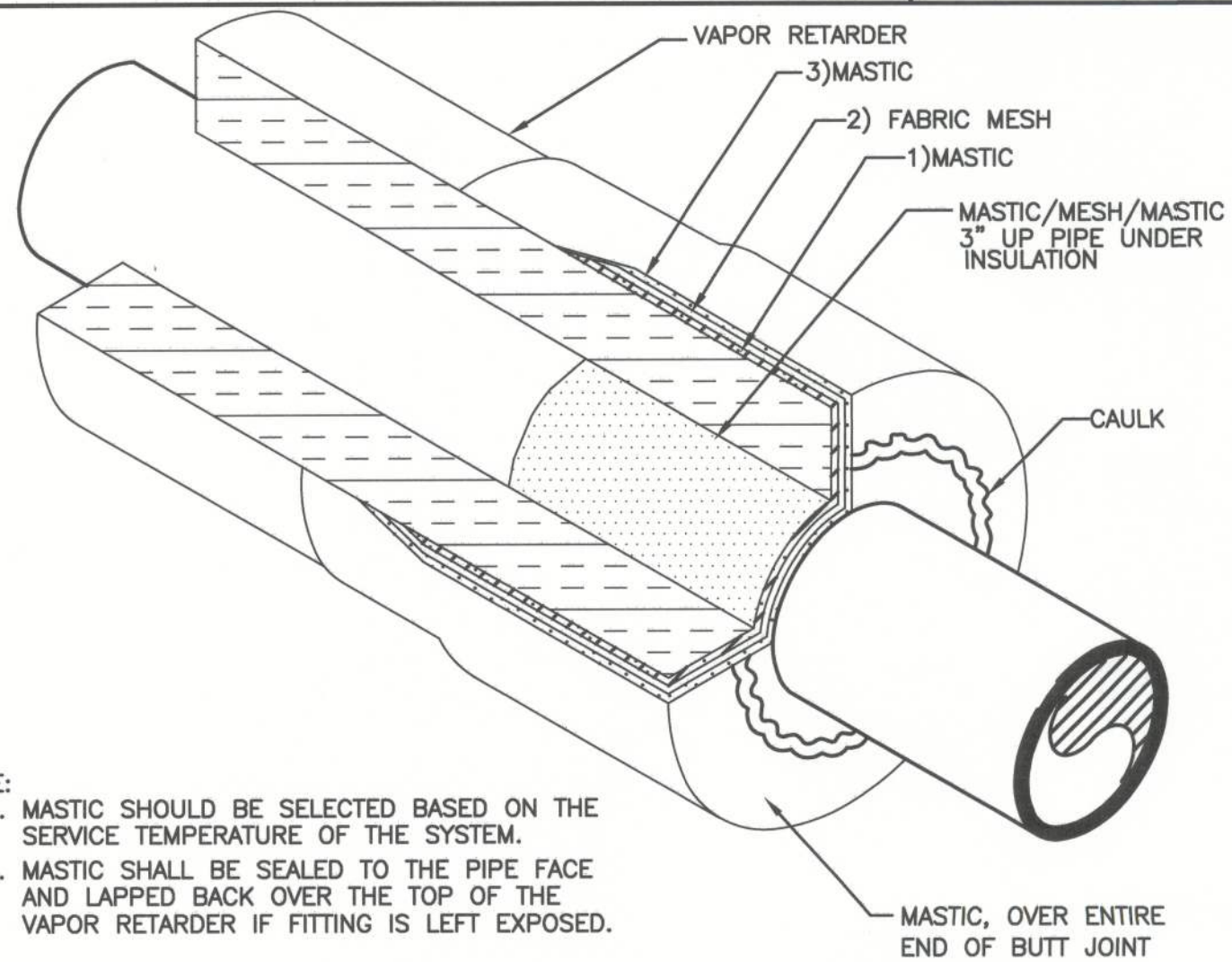
INSULATION SADDLE DETAIL

DETAIL ⑤



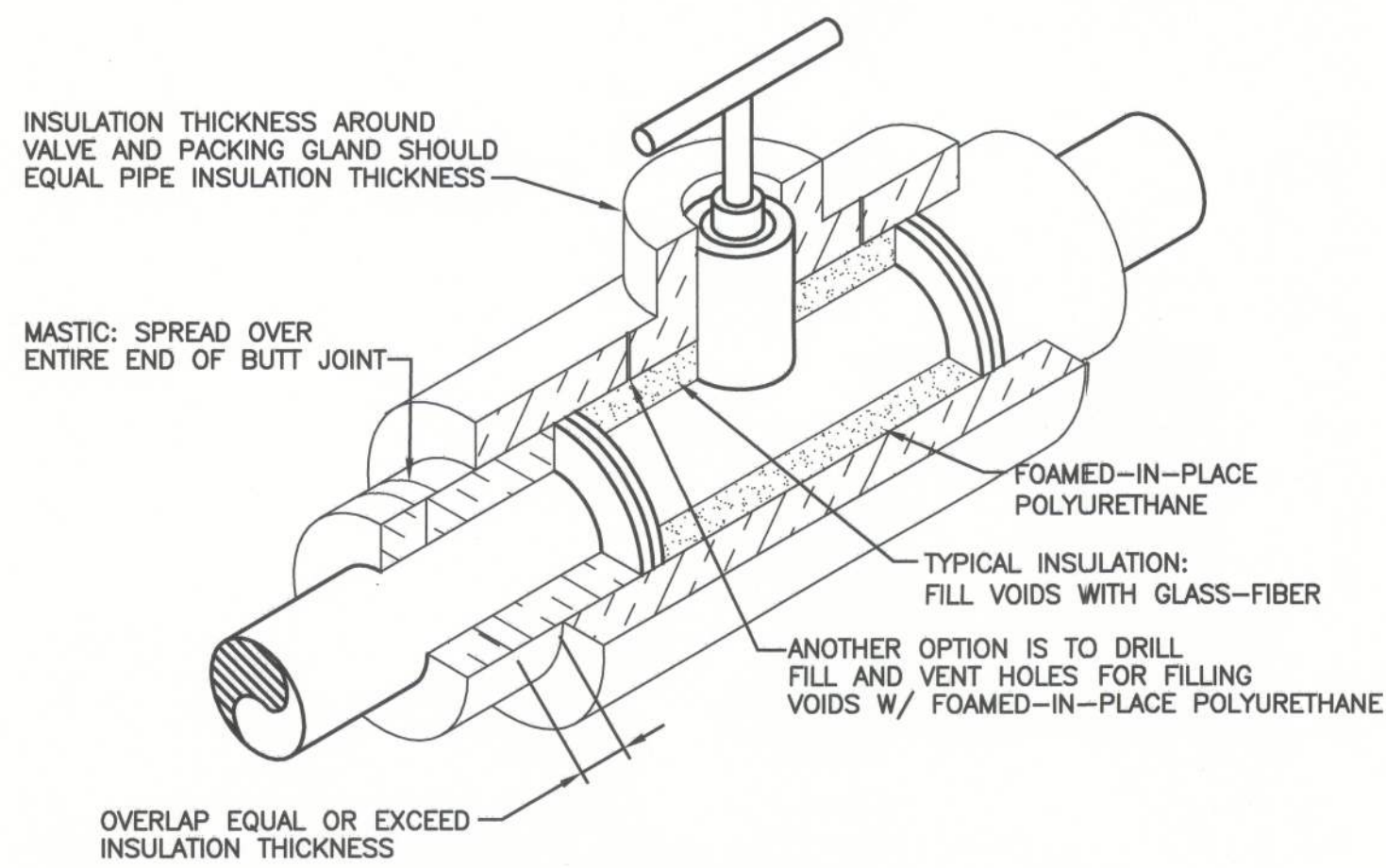
VAPOR RETARDER TAPE

DETAIL ⑥



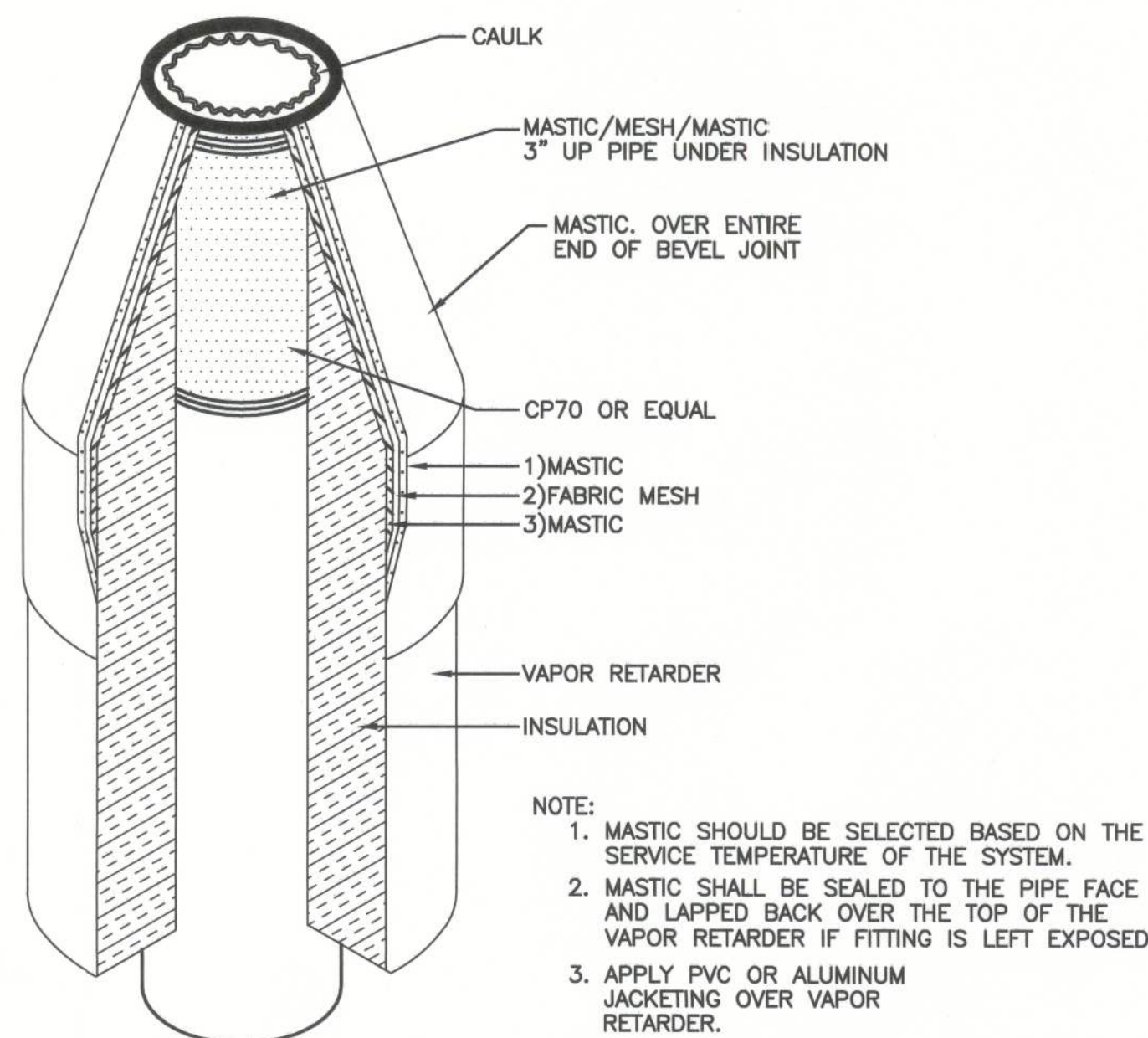
TYPICAL HORIZONTAL VAPOR STOP SECTION

DETAIL ⑦



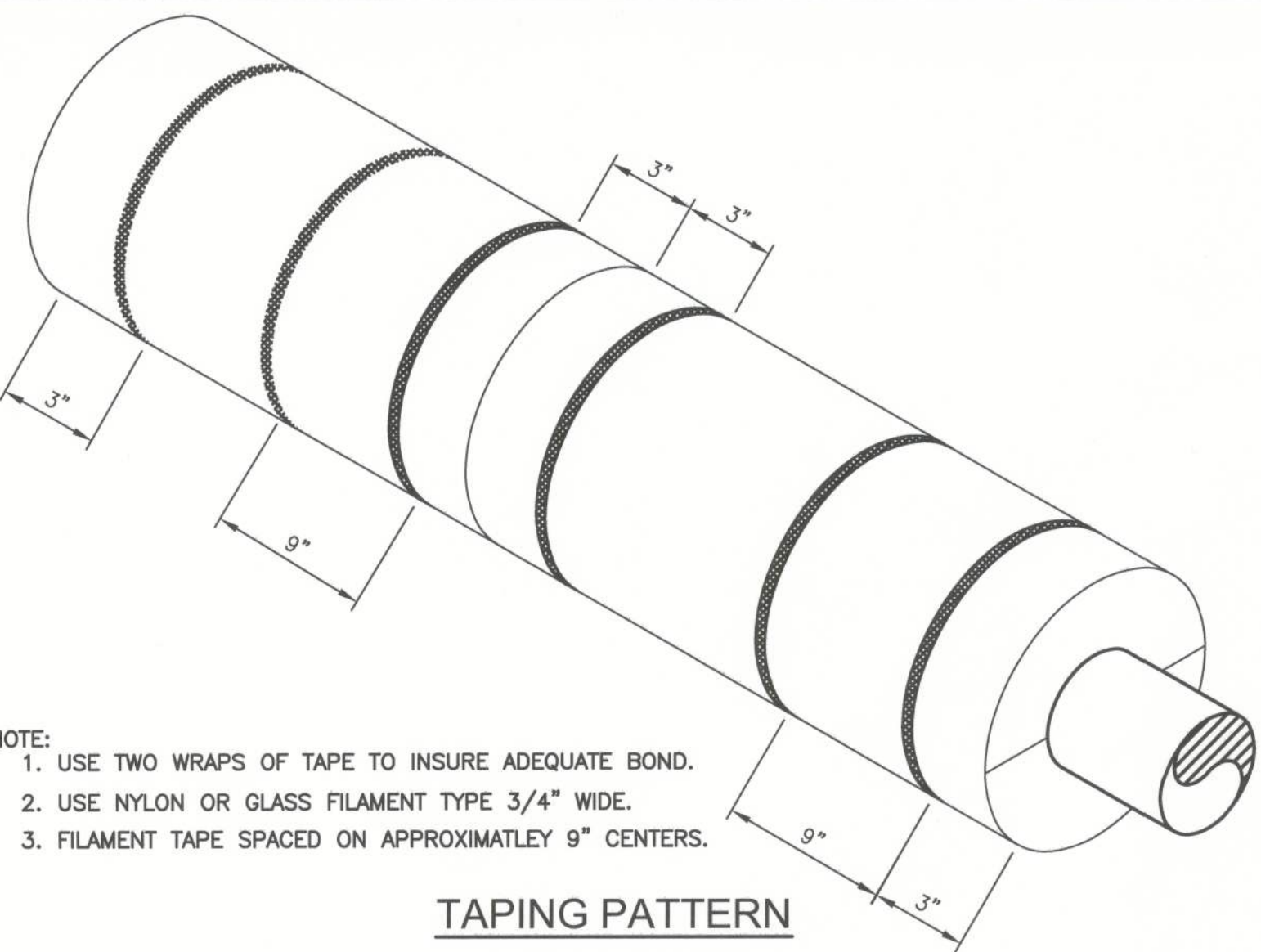
VALVE INSULATION DETAIL
(INCLUDING FILLING OF VOIDS)

DETAIL ⑧



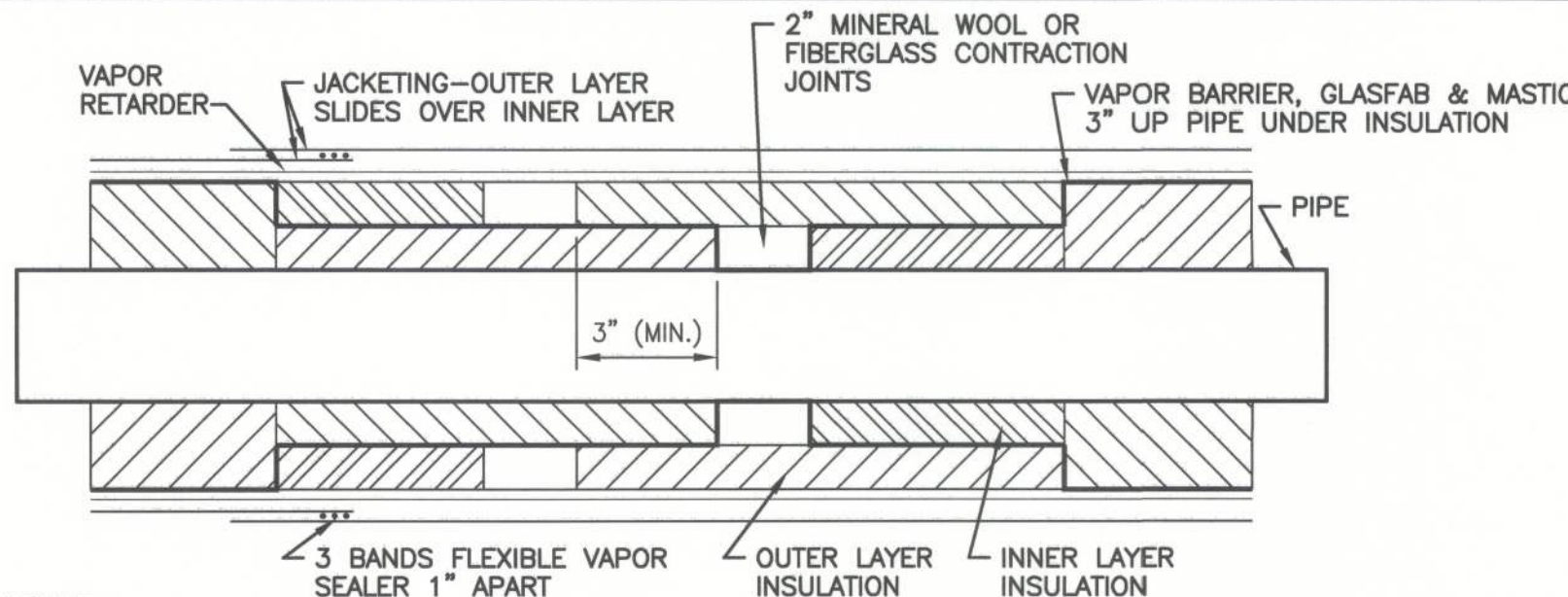
TYPICAL VERTICAL VAPOR STOP SECTION

DETAIL ⑨



TAPING PATTERN

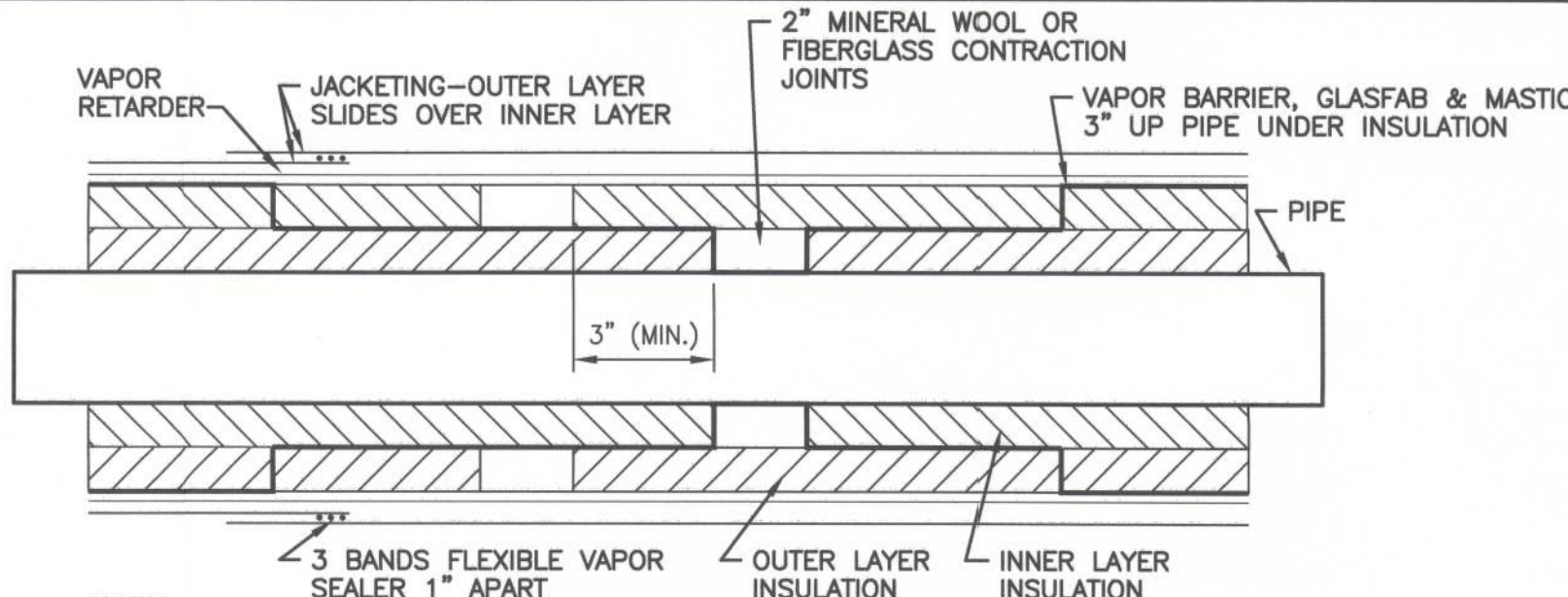
DETAIL ⑩



- NOTES:
- FOR USE IN SINGLE LAYER REFRIGERATION APPLICATIONS BELOW +32°F.
 - ALLOW SEALANT BEADS TO CURE PRIOR TO INSTALLATION OF OUTER LAYER.
 - POSITION OUTER LATER PACKED GLASS FIBER BETWEEN SEALANT DAMS ON INNER LAYER AS SHOWN ABOVE.
 - AFTER GLASS FIBER IN CONTRACTION JOINT IS INSTALLED, INSULATION SECTIONS ON EITHER SIDE OF CONTRACTION JOINT SHALL BE FORCED TOGETHER AS TIGHTLY AS POSSIBLE.

TYPICAL SINGLE LAYER CONTRACTION JOINT SECTION

DETAIL ⑪



- NOTES:
- ALLOW SEALANT BEADS TO CURE PRIOR TO INSTALLATION OF OUTER LAYER.
 - POSITION OUTER LATER PACKED GLASS FIBER BETWEEN SEALANT DAMS ON INNER LAYER AS SHOWN ABOVE.
 - AFTER GLASS FIBER IN CONTRACTION JOINT IS INSTALLED, INSULATION SECTIONS ON EITHER SIDE OF CONTRACTION JOINT SHALL BE FORCED TOGETHER AS TIGHTLY AS POSSIBLE.

TYPICAL DOUBLE LAYER CONTRACTION JOINT SECTION

DETAIL ⑫

REV.	DATE	BY	PERMIT ISSUE DESCRIPTION
A	12-18-12	YJV	

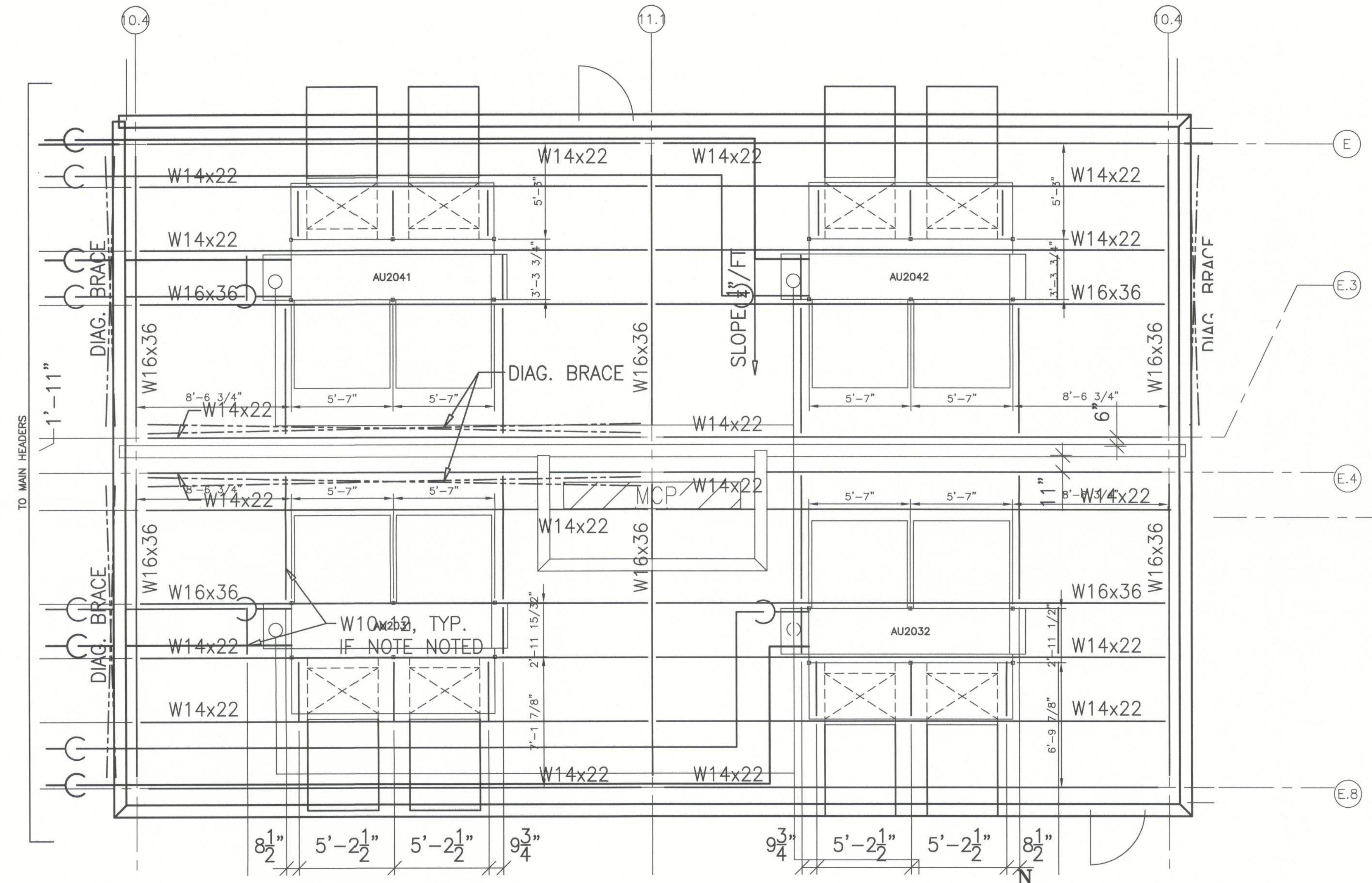
JOB NO. 04224

DRAWN: YJV

CHECKED: BEK

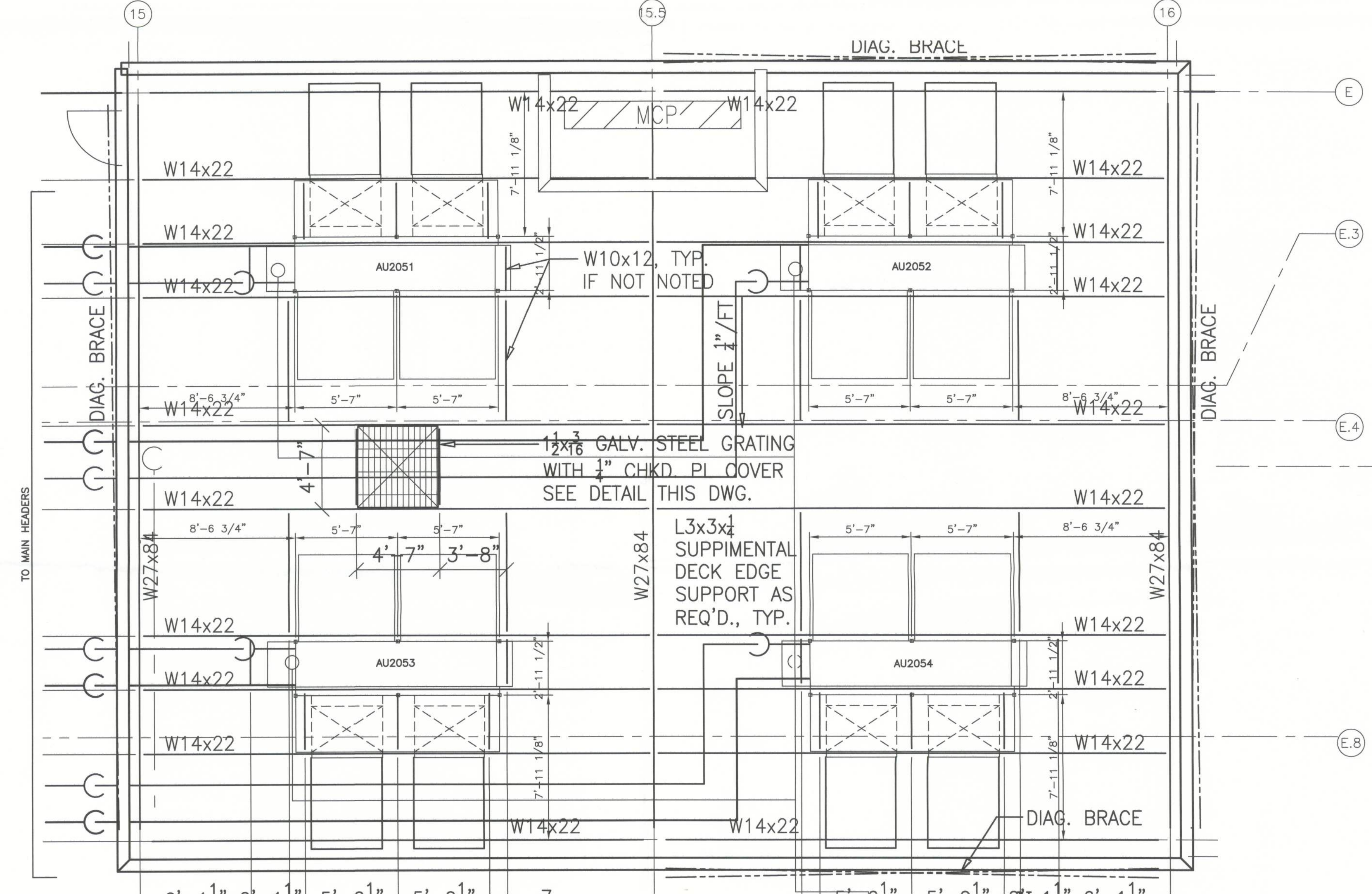
SCALE: 1/4"=1'-0"

R403
 DRAWING NO.



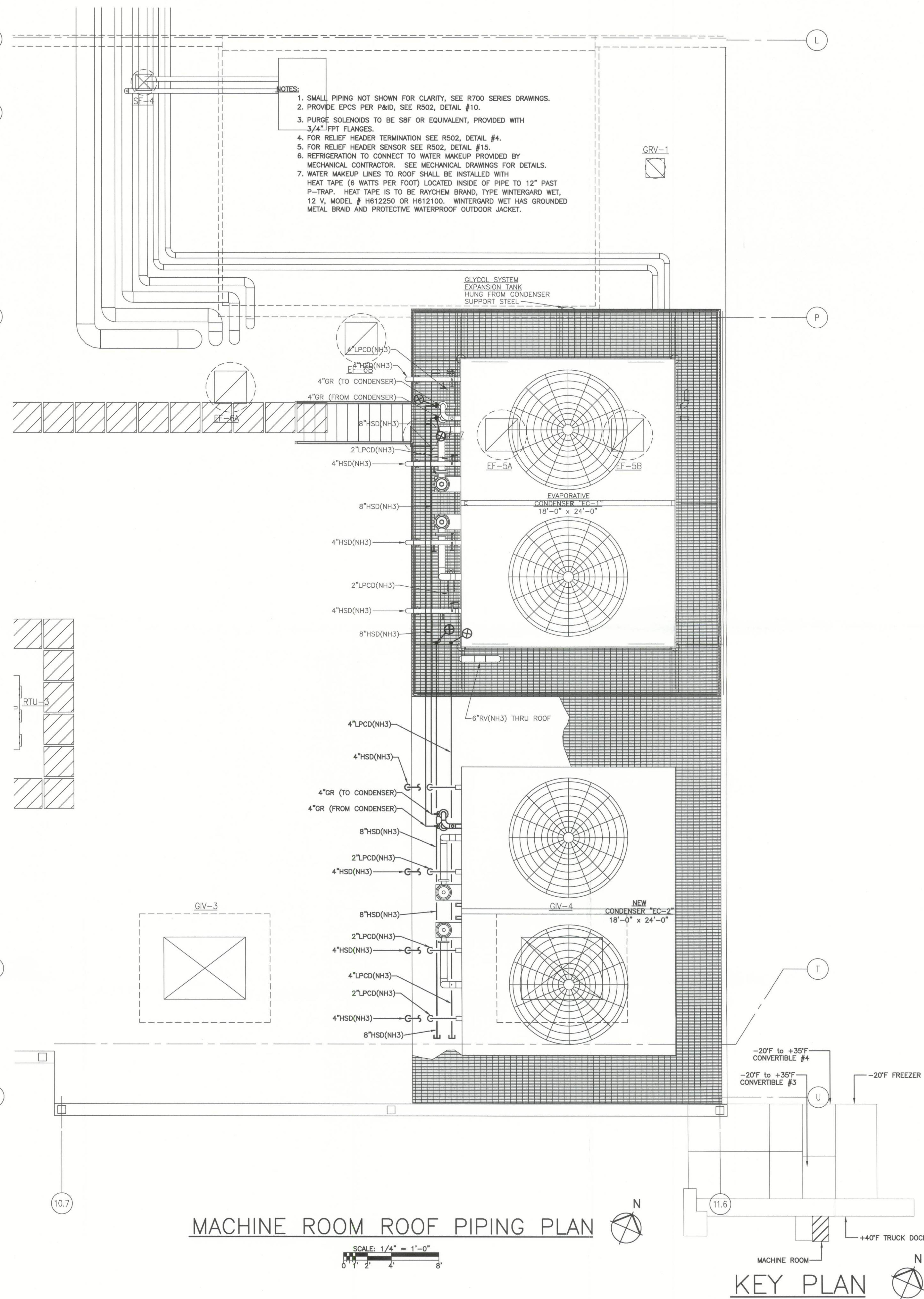
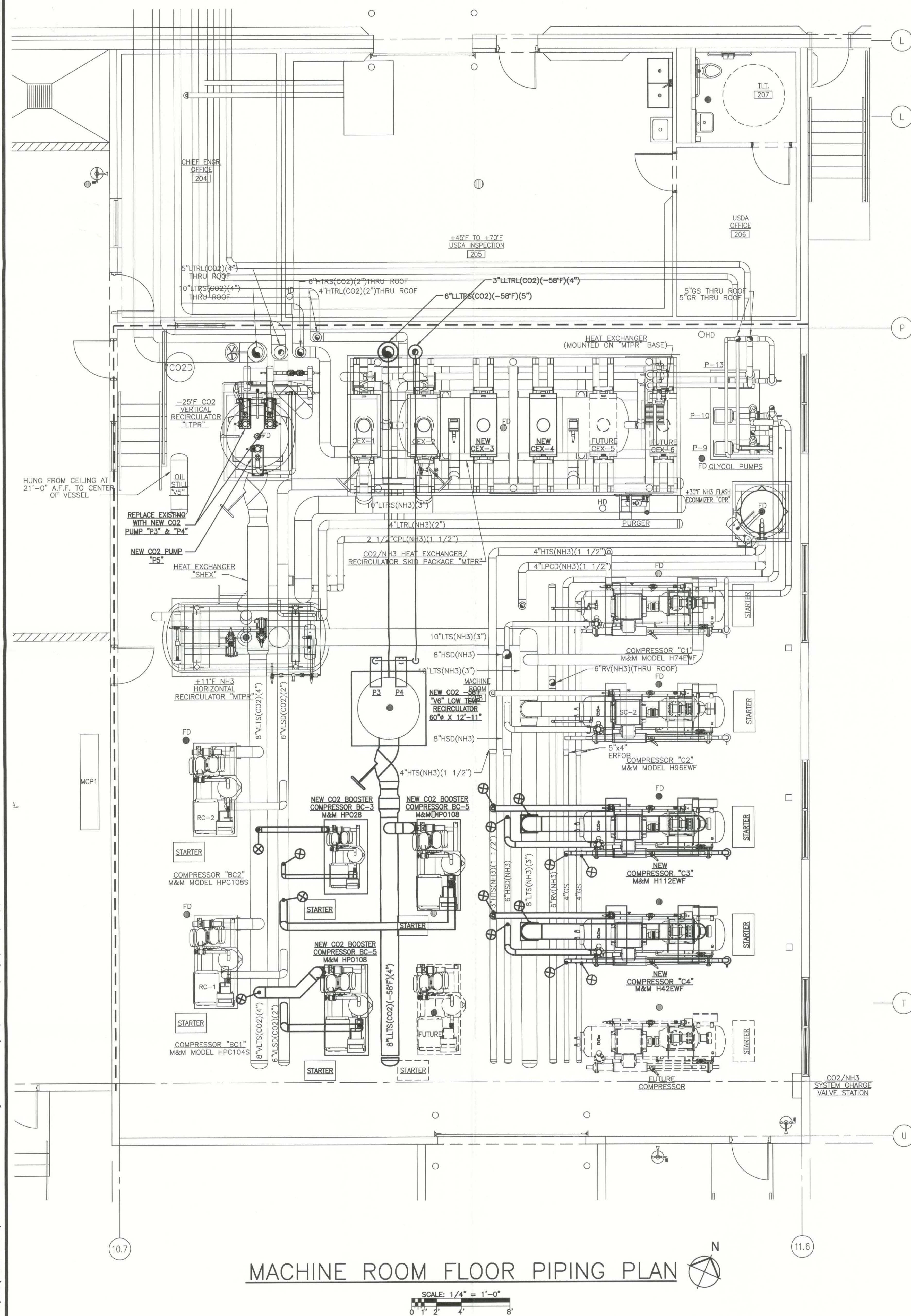
ENLARGED PENTHOUSE FLOOR PLAN
 FREEZER #3

SCALE: 1/4" = 1'-0"



ENLARGED PENTHOUSE FLOOR PLAN
 -20°F FREEZER

SCALE: 1/4" = 1'-0"



UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

MACHINE
ROOM & ROOF
EQUIPMENT
PIPING
PLAN

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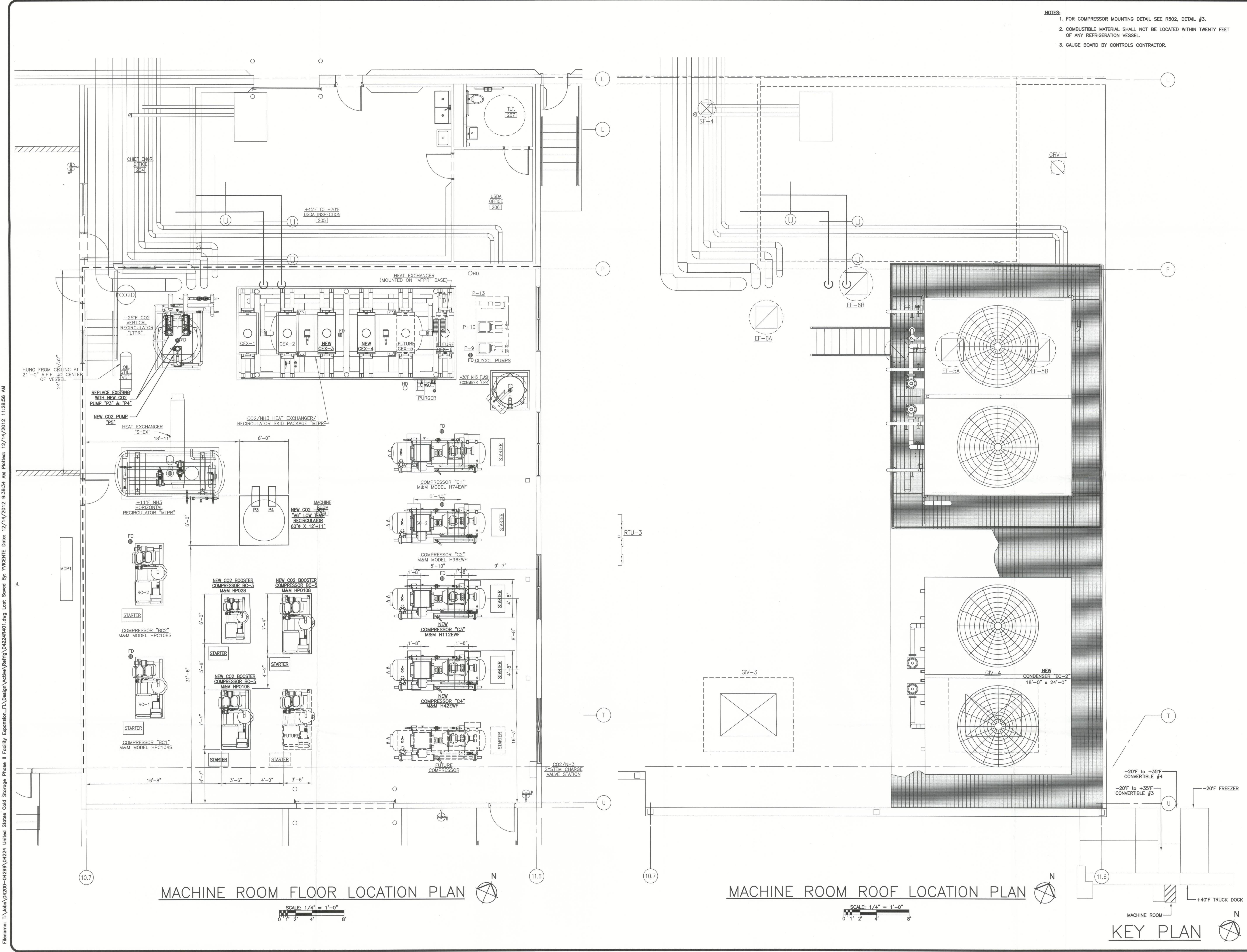
[illegible]

JOB NO.	04224
DRAWN:	ELE
CHECKED:	BEK
SCALE:	AS NOTED

R402
DRAWING NO.



Filename: T:\Jobs\04200-04298\04224 United States Cold Storage Phase II Facility Expansion_F1 Design\Active\Verig 04224\0421.dwg Last Saved By: YMCENTE Date: 12/14/2012 9:38:34 AM Plotted: 12/14/2012 11:28:56 AM



- NOTES:
1. FOR COMPRESSOR MOUNTING DETAIL SEE R502, DETAIL #3.
 2. COMBUSTIBLE MATERIAL SHALL NOT BE LOCATED WITHIN TWENTY FEET OF ANY REFRIGERATION VESSEL.
 3. GAUGE BOARD BY CONTROLS CONTRACTOR.

OPERATING AS THE STELLAR GROUP
3000 HAWLEY ROAD, SUITE 100, WEST PALM BEACH, FL 33411
TEL: 561-833-1234 FAX: 561-833-1235
WWW.STELLAR-FL.COM

UNITED STATES COLD STORAGE, INC.

PHASE II EXPANSION

LAKE CITY, FLORIDA

MACHINE ROOM & ROOF EQUIPMENT LOCATION PLAN

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REV.	DATE	BY	PERMIT ISSUE DESCRIPTION
A	12-14-12	YV	

JOB NO. 04224

DRAWN: ELE

CHECKED: BEK

SCALE: AS NOTED

R401
DRAWING NO.



NOTES:

- NOTES:
1. 30'-0" LENGTH HAS BEEN ADDED TO ACCOMMODATE FOR FIELD CONDITIONS.
 2. GLYCOL PIPING SHALL BE TESTED AND CHARGED PRIOR TO POURING MUD SLAB



NOTES:

1. 30'-0" LENGTH HAS BEEN ADDED TO ACCOMODATE FOR FIELD CONDITIONS.
2. GLYCOL PIPING SHALL BE TESTED AND CHARGED PRIOR TO POURING MUD SLAB.



SCALE: $1/2" = 1'-0"$



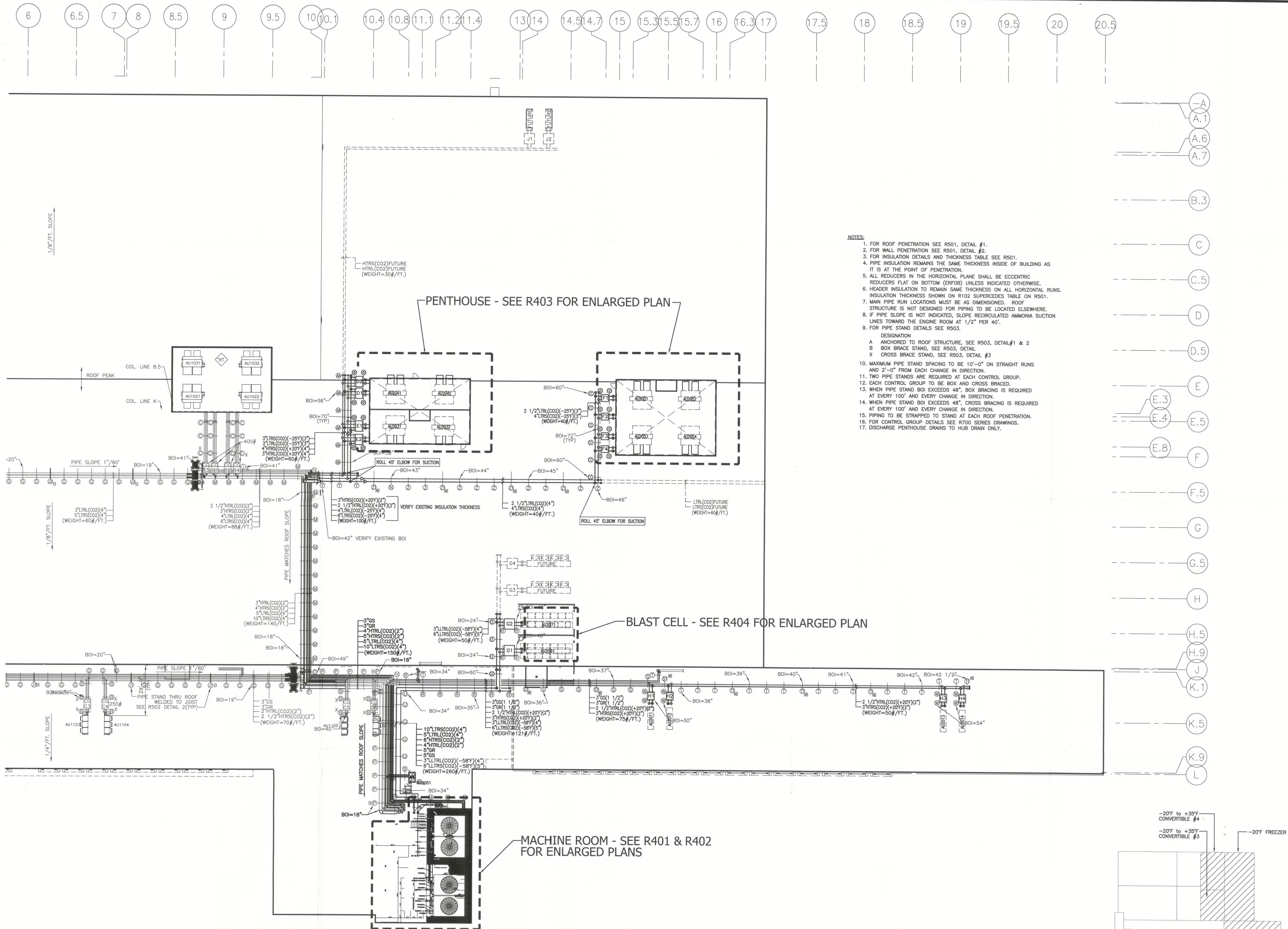
1. ENSURE AT LEAST 10' CLEARANCE FROM EXTERNAL HEAT SOURCES (I.E. DOORS, TRANSFORMERS)
2. COLUMN MOUNTED TEMPERATURE TRANSMITTERS MUST BE INSTALLED ON SIDE NOT FACING ISLE OR RACK SYSTEM.
3. SOLDER ALL CONNECTIONS BETWEEN EXTENSION Belden CABLE AND TEMP. SENSOR WIRES.
4. INSTALL ALL UNDERFLOOR TEMP. SENSORS IN 3/4" R.G.C.
5. SENSOR CABLES MAY BE COMBINED IN GROUPS AND RUN TO RCP.
6. SEE EC DRAWINGS FOR SENSOR LOCATIONS.

UNDERFLOOR TEMPERATURE TRANSMITTER WIRING AND INSTALLATION

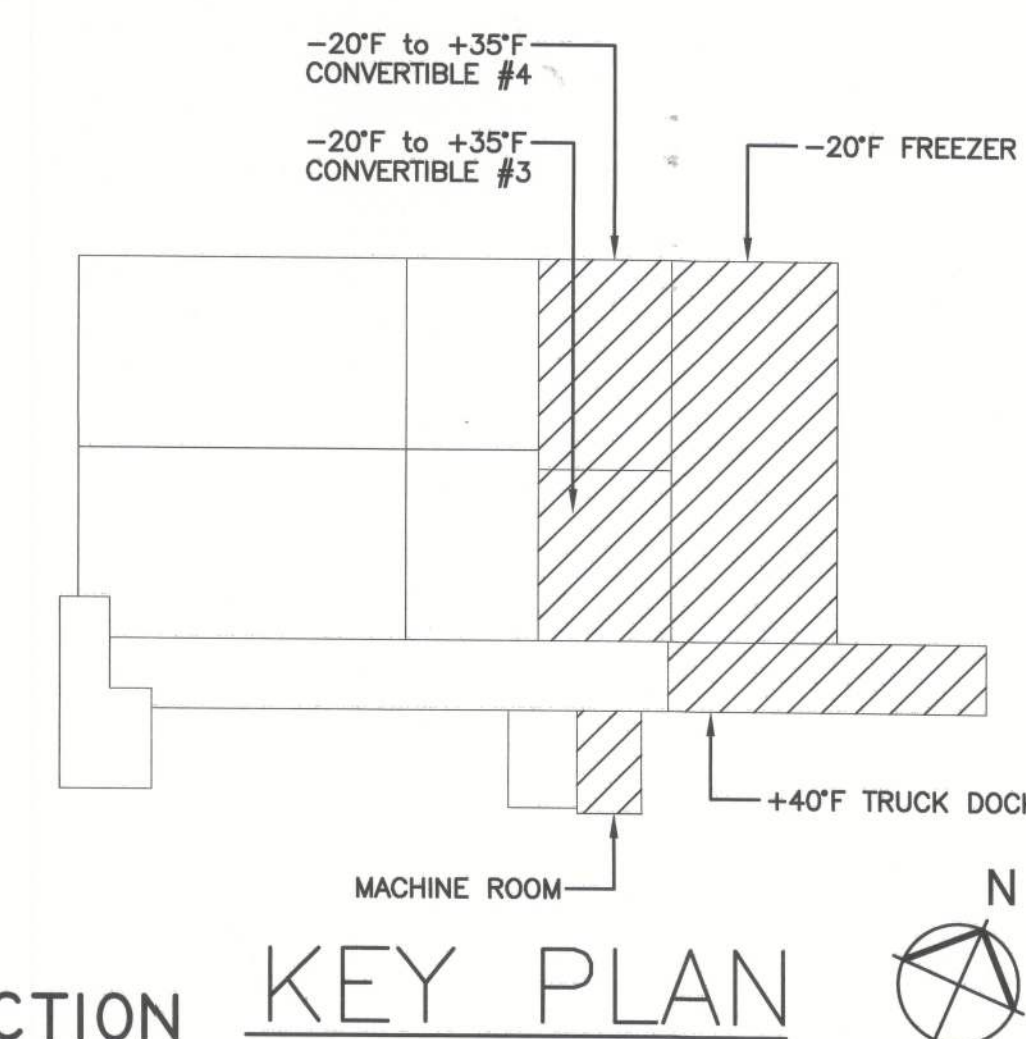
NOT TO SCALE



Filename: T:\Jobs\04200-04299\04224 United States Cold Storage Phase II Facility Expansion_F1\Design\Active\Refring\04224R102.dwg Last Saved By: YMCENTE Date: 12/14/2012 10:17:17 AM Plotted: 12/14/2012 11:27:45 AM



- NOTES:
1. FOR ROOF PENETRATION SEE R501, DETAIL #1.
 2. FOR WALL PENETRATION SEE R501, DETAIL #2.
 3. FOR INSULATION DETAILS AND THICKNESS TABLE SEE R501.
 4. PIPE INSULATION REMAINS THE SAME THICKNESS INSIDE OF BUILDING AS IT IS AT THE POINT OF PENETRATION.
 5. ALL REDUCERS IN THE HORIZONTAL PLANE SHALL BE ECCENTRIC REDUCERS FLAT ON BOTTOM (ERF08) UNLESS INDICATED OTHERWISE.
 6. HEADER INSULATION TO REMAIN SAME THICKNESS ON ALL HORIZONTAL RUNS. INSULATION THICKNESS SHOWN ON R102 SUPERCEDES TABLE ON R501.
 7. MAIN PIPE RUN LOCATIONS MUST BE AS DIMENSIONED. ROOF STRUCTURE IS NOT DESIGNED FOR PIPING TO BE LOCATED ELSEWHERE.
 8. IF PIPE SLOPE IS NOT INDICATED, SLOPE RECIRCULATED AMMONIA SUCTION LINES TOWARD THE ENGINE ROOM AT 1/2" PER 40'.
 9. FOR PIPE STAND DETAILS SEE R503.
- DESIGNATION
- A ANCHORED TO ROOF STRUCTURE, SEE R503, DETAIL #1 & 2
 - B BOX BRACE STAND, SEE R503, DETAIL
 - X CROSS BRACE STAND, SEE R503, DETAIL #3
10. MAXIMUM PIPE STAND SPACING TO BE 10'-0" ON STRAIGHT RUNS AND 2'-0" FROM EACH CHANGE IN DIRECTION.
 11. TWO PIPE STANDS ARE REQUIRED AT EACH CONTROL GROUP.
 12. EACH CONTROL GROUP TO BE BOX AND CROSS BRACED.
 13. WHEN PIPE STAND BOI EXCEEDS 48", BOX BRACING IS REQUIRED AT EVERY 100' AND EVERY CHANGE IN DIRECTION.
 14. WHEN PIPE STAND BOI EXCEEDS 48", CROSS BRACING IS REQUIRED AT EVERY 100' AND EVERY CHANGE IN DIRECTION.
 15. PIPING TO BE STRAPPED TO STAND AT EACH ROOF PENETRATION.
 16. FOR CONTROL GROUP DETAILS SEE R700 SERIES DRAWINGS.
 17. DISCHARGE PENTHOUSE DRAINS TO HUB DRAIN ONLY.



OVERALL REFRIGERATION ROOF PLAN

SCALE: 1" = 20'-0"



NOT FOR CONSTRUCTION

KEY PLAN



UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

OVERALL
REFRIGERATION
ROOF
PLAN

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JOB NO. 04224

DRAWN: ELE

CHECKED: BEK

SCALE: AS NOTED

R102
DRAWING NO.



UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

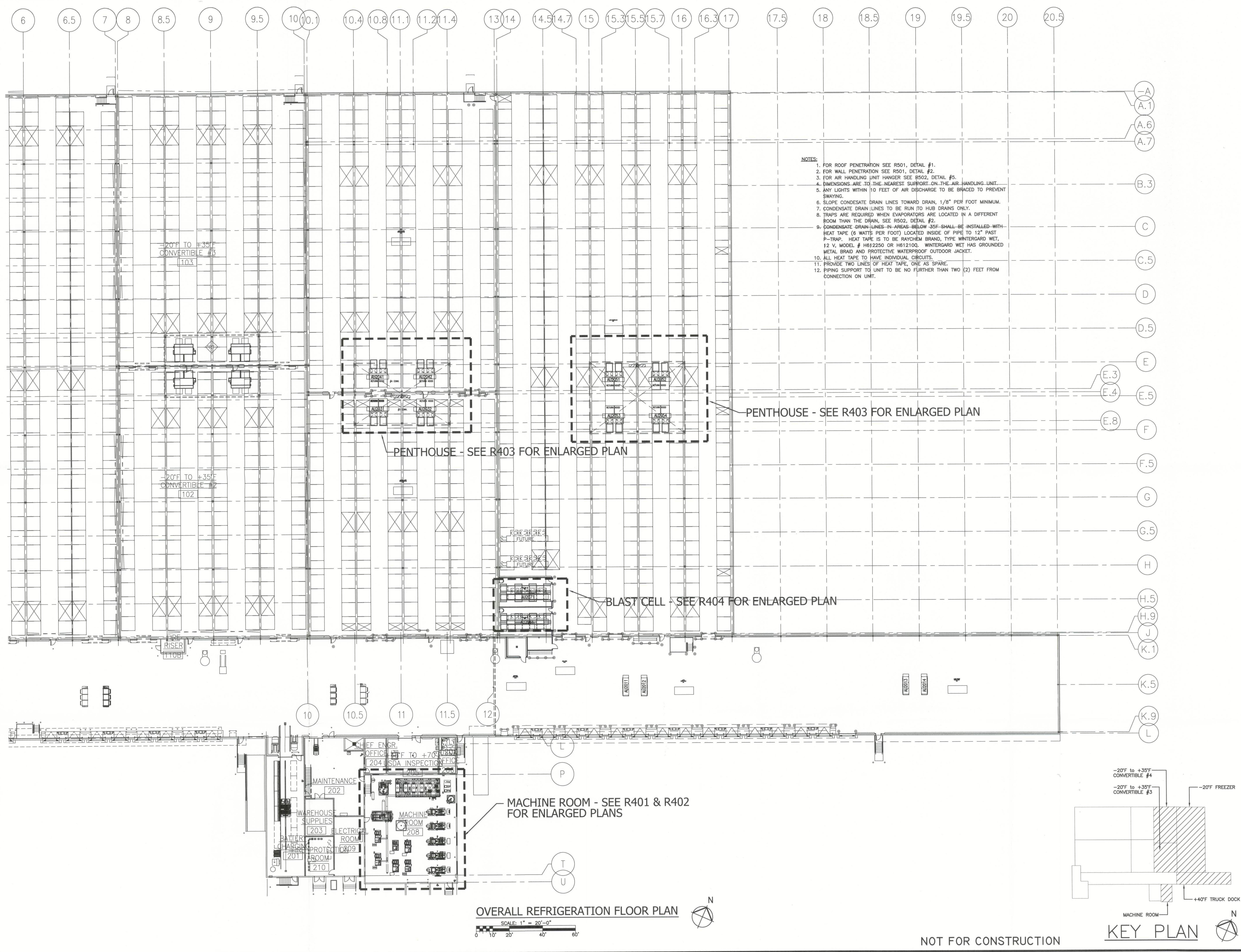
OVERALL
REFRIGERATION
FLOOR
PLAN

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REV.	DATE	BY	PERMIT ISSUE	DESCRIPTION
A	12-18-12	Y/V		

JOB NO. 04224
DRAWN: ELE
CHECKED: BEK
SCALE: AS NOTED

R101
DRAWING NO.



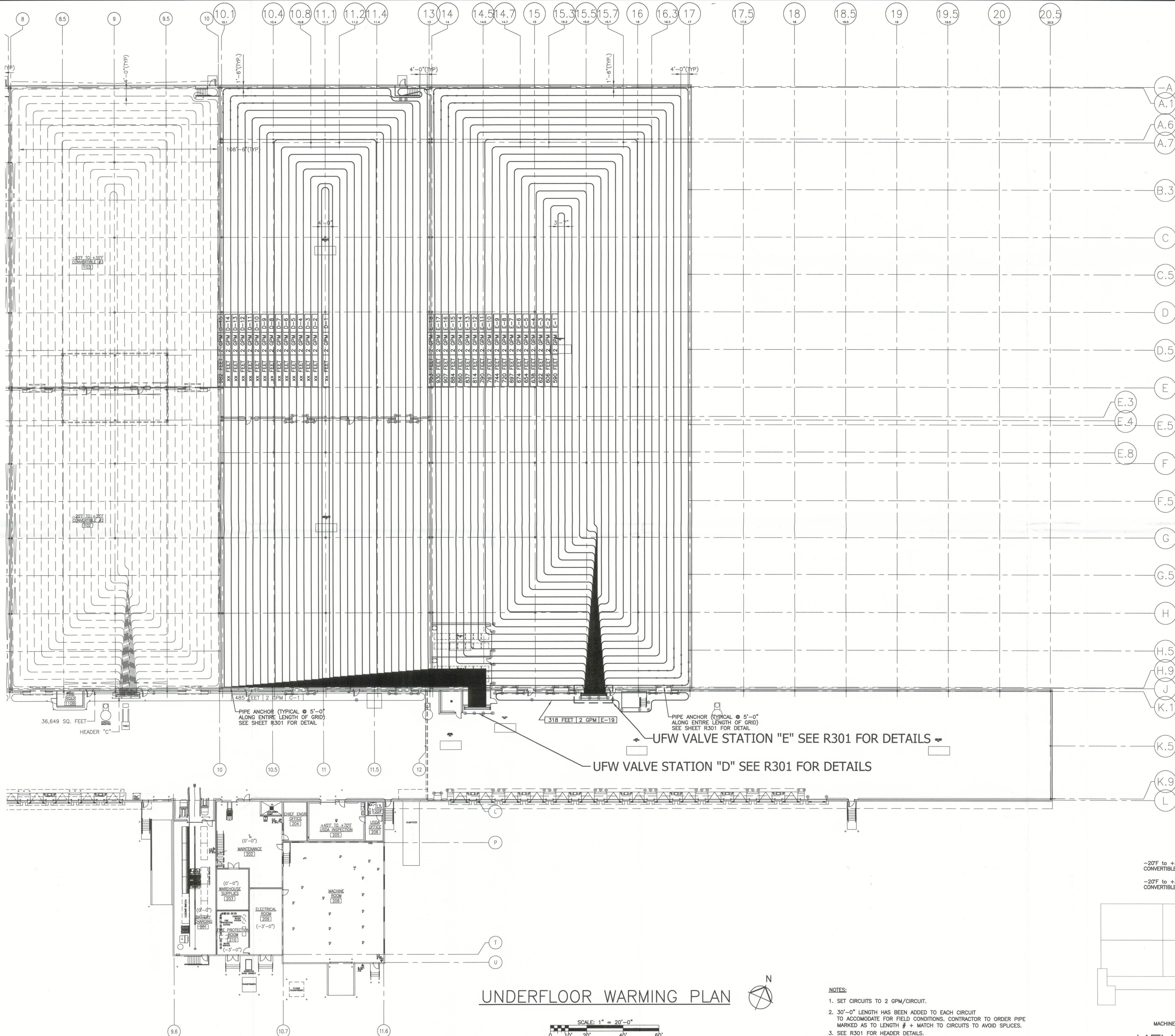
UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

UNDERFLOOR
WARMING
PLAN

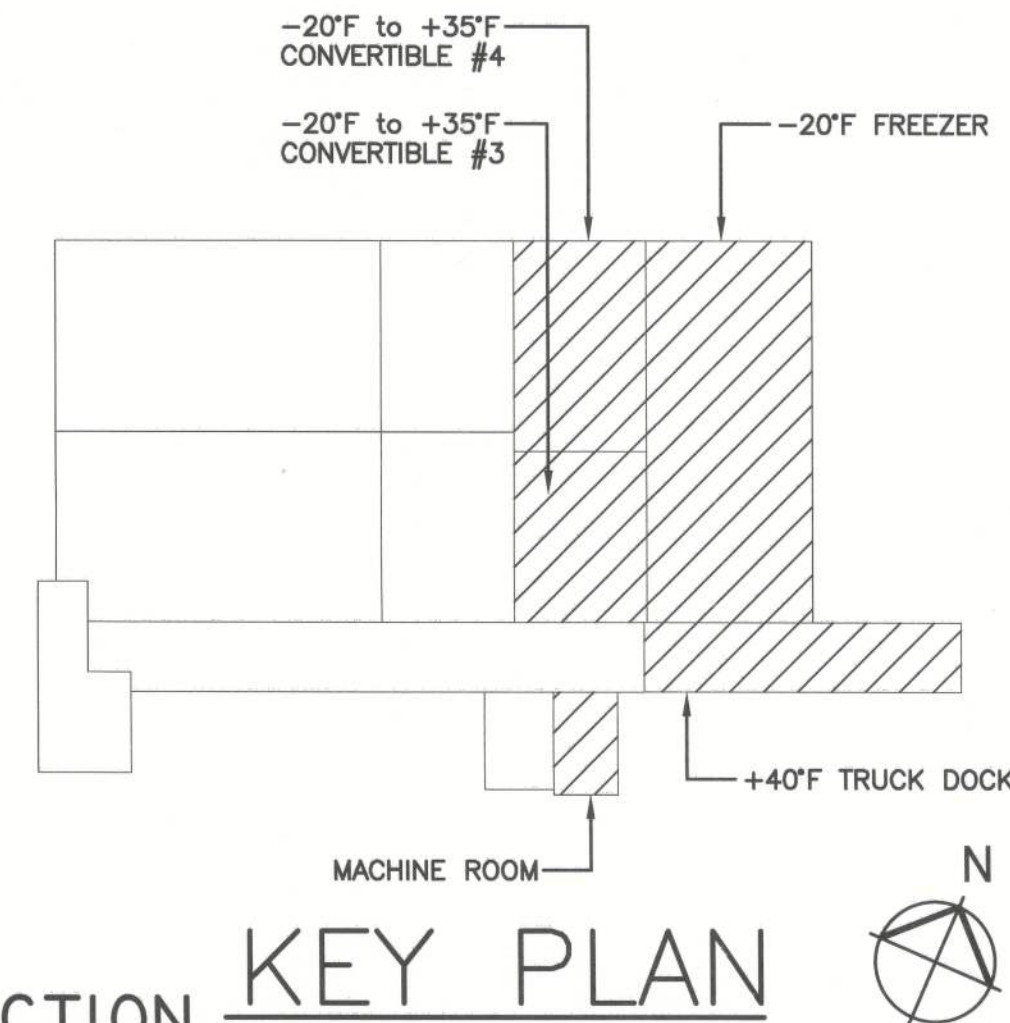
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REV.	DATE	BY	PERMIT	ISSUE	DESCRIPTION
A	12-12-12	YV			

JOB NO. 04224
DRAWN: MAC
CHECKED: BEK
SCALE: 1"=20'
R100
DRAWING NO.



- NOTES:
1. SET CIRCUITS TO 2 GPM/CIRCUIT.
 2. 30'-0" LENGTH HAS BEEN ADDED TO EACH CIRCUIT TO ACCOMMODATE FOR FIELD CONDITIONS. CONTRACTOR TO ORDER PIPE MARKED AS TO LENGTH # + MATCH TO CIRCUITS TO AVOID SPLICES.
 3. SEE R301 FOR HEADER DETAILS.



NOT FOR CONSTRUCTION

EX. MSB1		480/277 VOLTS, 3Ø 4 WIRE		65,000 AIC	
LOCATION: ELECTRICAL ROOM 209		4000 AMPS MAIN BREAKER		M.L.O.	
FED FROM: UTILITY TRANSFORMER		GND. FAULT		SHUNT-TRIP	
		TOP FED		BOTTOM FED	
CKT NO.	DESCRIPTION OF LOAD	NO. POLES	FRAME	TRIP	NO. SETS
1	PANEL L1	3	100	100	1
2	PANEL L2	3	100	100	1
3	PANEL H1	3	400	400	1
4	PANEL H2	3	600	600	1
5	PANEL H3	3	400	400	1
6	COMPRESSOR RC1 (100HP)	3	400	300	1
7	COMPRESSOR RC2 (200HP)	3	600	500	1
8	COMPRESSOR SC1 (350HP)	3	800	800	1
9	COMPRESSOR SC2 (400HP)	3	1200	1200	1
10	WIREWAY (BATTERY CHARGING)	3	250	225	1
11	WIREWAY (BATTERY CHARGING)	3	250	225	1
12	MCP1	3	600	500	1
13	MCP2	3	400	300	1
14	MCP3	3	400	300	1
15	MCP4	3	600	500	1
16	SPARE	3	-	-	1
17	SURGE SUPPRESSOR	3	100	60	1
18	PANEL H4	3	400	400	1
19	COMPRESSOR C3 (450HP)	3	1200	1000	1
20	COMPRESSOR C4 (150HP)	3	400	350	1
21	COMPRESSOR BC4 (100HP)	3	400	300	1
22	MCP5	3	250	250	1
23	MCP6	3	600	500	1
24	MCP7	3	400	300	1
25	MCP8	3	400	300	1
26	SPARE				
27					
28					
29					
30					
TOTAL CONNECTED KVA:					4815.8

MPZ3		120/240 VOLTS, 1Ø 3 WIRE - S/N		10,000 AIC	
LOCATION: PENTHOUSE 3 ROOF		80 AMPS MAIN BREAKER OR M.L.O.		240 VOLTS	
FED FROM: PANEL H4		FLUSH OR SURFACE MOUNTED		TOP OR BOTTOM FED	
KVA	DESCRIPTION OF LOAD	TRIP	CKT	TRIP	DESCRIPTION OF LOAD
0.4	HEAT - PENTHOUSE DOORS (2)	10	20	1	HEAT TAPE - CONDENSATE DRAIN LINE
-	SPARE	20	3	4	HEAT TAPE - CONDENSATE DRAIN LINE
0.4	HEAT - PENTHOUSE DOORS (2)	10	20	5	HEAT TAPE - CONDENSATE DRAIN LINE
0.4	RECEPTS. - PENTHOUSE	20	7	8	HEAT TAPE - CONDENSATE DRAIN LINE
0.4	RECEPTS. - PENTHOUSE	20	9	10	LIGHTING - PENTHOUSE
0.6	HEAT TAPE - FREEZER DOORS	10	20	11	LIGHTING - PENTHOUSE
0.6	HEAT TAPE - FREEZER DOORS	10	20	13	SPARE
2.4	HEAT TAPE - FREEZER DOORS	10	25	15	SPARE
2.4	HEAT TAPE - FREEZER DOORS	10	25	17	SPARE
-	SPARE	20	19	20	SPARE
-	SPARE	20	21	22	SPARE
-	SPARE	20	23	24	SPARE
-	SPARE	20	25	26	SPARE
-	SPARE	20	27	28	SPARE
-	SPARE	20	29	30	SPARE
-	SPARE	-	31	32	SPARE
-	SPARE	-	33	34	SPARE
-	SPARE	-	35	36	SPARE
-	SPARE	-	37	38	SPARE
-	SPARE	-	39	40	SPARE
-	SPARE	-	41	42	SPARE
TOTAL LOAD KVA:					12.2

MSB2		480/277 VOLTS, 3Ø 4 WIRE		100,000 AIC	
LOCATION: ELECTRICAL ROOM 209		4000 AMPS MAIN BREAKER		M.L.O.	
FED FROM: UTILITY TRANSFORMER		GND. FAULT		SHUNT-TRIP	
		TOP FED		BOTTOM FED	
CKT NO.	DESCRIPTION OF LOAD	NO. POLES	FRAME	TRIP	NO. SETS
1	COMPRESSOR BC3 (200HP)	3	600	500	1
2	WIREWAY (BATTERY CHARGING)	3	400	300	1
3	COMPRESSOR BC5 (100HP)	3	400	300	1
4	SURGE SUPPRESSOR	3	100	60	1
5	SPACE	3	-	-	1
6	SPACE	3	-	-	1
7					
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TOTAL CONNECTED KVA:					495.6

MPZ4		120/240 VOLTS, 1Ø 3 WIRE - S/N		10,000 AIC	
LOCATION: PENTHOUSE 4 ROOF		80 AMPS MAIN BREAKER OR M.L.O.		240 VOLTS	
FED FROM: PANEL H4		FLUSH OR SURFACE MOUNTED		TOP OR BOTTOM FED	
KVA	DESCRIPTION OF LOAD	TRIP	CKT	TRIP	DESCRIPTION OF LOAD
0.6	HEAT TAPE - CONDENSATE DRAIN LINE	10	20	1	RECEPTS. - PENTHOUSE
0.6	HEAT TAPE - CONDENSATE DRAIN LINE	10	20	3	RECEPTS. - PENTHOUSE
0.6	HEAT TAPE - CONDENSATE DRAIN LINE	10	20	5	LIGHTING PENTHOUSE
0.6	HEAT TAPE - CONDENSATE DRAIN LINE	10	20	7	LIGHTING PENTHOUSE
0.4	HEAT TAPE - PENTHOUSE DOOR (2)	10	20	9	SPARE
-	SPARE	20	11	12	SPARE
-	SPARE	20	13	14	SPARE
-	SPARE	20	15	16	SPARE
-	SPARE	20	17	18	SPARE
-	SPARE	20	19	20	SPARE
-	SPARE	20	21	22	SPARE
-	SPARE	20	23	24	SPARE
-	SPARE	20	25	26	SPARE
-	SPARE	20	27	28	SPARE
-	SPARE	20	29	30	SPARE
-	SPARE	-	31	32	SPARE
-	SPARE	-	33	34	SPARE
-	SPARE	-	35	36	SPARE
-	SPARE	-	37	38	SPARE
-	SPARE	-	39	40	SPARE
-	SPARE	-	41	42	SPARE
TOTAL LOAD KVA:					6.2

H4		480/277 VOLTS, 3Ø 3 WIRE		18,000 AIC	
SECTION 1		400 AMPS MAIN BREAKER		M.L.O.	
LOCATION: DOCK 201		GND. FAULT		SHUNT-TRIP	
FED FROM: MSB2		TOP FED		BOTTOM FED	
CKT NO.	DESCRIPTION OF LOAD	NO. POLES	FRAME	TRIP	NO. SETS
1	FREEZER DOORS-203/204	3	20	20	1
2	FREEZER DOORS-DOCK 201	3	20	20	1
3	FREEZER DOORS-DOCK 201	3	20	20	1
4	DOCK COMMANDERS (2)	3	20	20	1
5	DOCK COMMANDERS (2)	3	20	20	1
6	DOCK COMMANDERS (2)	3	20	20	1
7	EUH-	3	20	15	1
8	FP AIR COMPRESSOR (5 HP)	3	20	15	1
9	DOCK COMMANDERS (2)	3	20	20	1
10	DOCK COMMANDERS (2)	3	20	20	1
11	DOCK COMMANDERS (2)	3	20	20	1
12	PANEL R4 (VIA TRANSFORMER T4)	3	250	175	1
13	PANEL MPZ3	2	100	100	1
14	PANEL MPZ4	2	100	100	1
SECTION 1 TOTAL CONNECTED KVA:					181.4

R4		208/120 VOLTS, 3Ø 4 WIRE		10,000 AIC	
LOCATION: DOCK 201		400 AMPS MAIN BREAKER		M.L.O.	
FED FROM: PANEL H4 VIA TRANS.		FLUSH		SURFACE MOUNTED	
		TOP FED		BOTTOM FED	
KVA	DESCRIPTION OF LOAD	TRIP	CKT	TRIP	DESCRIPTION OF LOAD
2.4	HEAT TAPE FREEZER DOOR	10	25	1	ROUTE TRUCK RECEPTACLE
2.4	HEAT TAPE FREEZER DOOR	10	25	3	ROUTE TRUCK RECEPTACLE
2.4	HEAT TAPE FREEZER DOOR	10	25	5	ROUTE TRUCK RECEPTACLE
2.4	HEAT TAPE FREEZER DOOR	10	25	7	ROUTE TRUCK RECEPTACLE
0.6	HEAT TAPE FREEZER DOOR	10	20	9	ROUTE TRUCK RECEPTACLE
0.6	HEAT TAPE FREEZER DOOR	10	20	11	ROUTE TRUCK RECEPTACLE
1.2	STRETCH WRAP - DOCK	20	13	14	ROUTE TRUCK RECEPTACLE
1.2	STRETCH WRAP - DOCK	20	15	16	ROUTE TRUCK RECEPTACLE
0.7	RECEPTS-DOCK	20	17	18	ROUTE TRUCK RECEPTACLE
0.2	RECEPT-SUPERVISOR	20	19	20	ROUTE TRUCK RECEPTACLE
0.5	RECEPTS-DOCK	20	21	22	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	23	24	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	25	26	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	60	27	28	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	29	30	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	31	32	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	33	34	ROUTE TRUCK RECEPTACLE
0.8	DOCK DOOR LIGHTS	20	35	36	ROUTE TRUCK RECEPTACLE
0.5	DOCK DOOR	20	37	38	ROUTE TRUCK RECEPTACLE
0.5	FA PRE-ACTION PANEL	20	39	40	ROUTE TRUCK RECEPTACLE
0.5	FA PRE-ACTION PANEL	20	41	42	ROUTE TRUCK RECEPTACLE
2.4	HEAT TAPE FREEZER DOOR	10	25	43	ROUTE TRUCK RECEPTACLE
-	SPACE	20	45	46	ROUTE TRUCK RECEPTACLE
-	SPACE	20	47	48	ROUTE TRUCK RECEPTACLE
-	SPACE	20	49	50	ROUTE TRUCK RECEPTACLE
-	SPACE	20	51	52	ROUTE TRUCK RECEPTACLE
-	SPACE	20	53	54	REC-CONTROL GROUPS
TOTAL LOAD KVA:					98.1

H4		480/277 VOLTS, 3Ø 3 WIRE		18,000 AIC	
SECTION 2		400 AMPS MAIN BREAKER		M.L.O.	
LOCATION: DOCK 201		GND. FAULT		SHUNT-TRIP	
FED FROM: MSB2		TOP FED		BOTTOM FED	
CKT NO.	DESCRIPTION OF LOAD	NO. POLES	FRAME	TRIP	NO. SETS
15	DOCK COMMANDERS (2)	3	20	20	1
16	DOCK DOOR	3	20	15	1
17	PANEL L4	3	100	100	1
18	BLAST FREEZER DOOR	3	20	20	1
19	BLAST FREEZER DOOR	3	20	20	1
20	TILT TABLE	3	100	30	1
21	FREEZER DOORS-DOCK 201	3	20	20	1
22	SPACE	3	-	-	1
23	SPACE	3	-	-	1
24	SPACE	3	-	-	1
25	SPACE	3	-	-	1
26	SPACE	3	-	-	1
27	SPACE	3	-	-	1
28	SPACE	3	-	-	1
SECTION 2 TOTAL CONNECTED KVA:					84.8

L4		480/277 VOLTS, 3Ø 4 WIRE		18,000 AIC	
LOCATION: DOCK 201		100 AMPS MAIN BREAKER		M.L.O.	
FED FROM: PANEL H4		FLUSH		SURFACE MOUNTED	
		TOP FED		BOTTOM FED	
KVA	DESCRIPTION OF LOAD	TRIP	CKT	TRIP	DESCRIPTION OF LOAD
5.6	LIGHTING - 201	20	1	2	EXTERIOR BUILDING LIGHTING
5.4	LIGHTING - 201	20	3	4	EXTERIOR BUILDING LIGHTING
5.9	LIGHTING - 201	20	5	6	EXTERIOR BUILDING LIGHTING
2.1	LIGHTING - NIGHT LIGHTS 201	13	20	7	LIGHTING - NIGHT LIGHTS - 205
-	SPARE	20	9	10	LIGHTING - NIGHT LIGHTS - 203/204
0.5	EMERGENCY EGRESS LIGHTING	20	11	12	LIGHTING - NIGHT LIGHTS - 203/204
2.0	LIGHTING - 205	20	13	14	SPARE
2.0	LIGHTING - 205	20	15	16	SPARE
2.0	LIGHTING - 205	20	17	18	SPARE
2.0	LIGHTING - 205	20	19	20	SPARE
2.0	LIGHTING - 205	20	21	22	SPARE
2.0	LIGHTING - 203	20	23	24	SPARE
2.0	LIGHTING - 203	20	25	26	SPARE
2.9	LIGHTING - 204	20	27	28	SPARE
2.9	LIGHTING - 204	20	29	30	SPARE
-	SPARE	-	31	32	SPARE
-	SPARE	-	33	34	SPARE
-	SPARE	-	35	36	SPARE
-	SPARE	-	37	38	SPARE
-	SPARE	-	39	40	SPARE
-	SPARE	-	41	42	SPARE
TOTAL LOAD KVA:					42.6

ELECTRICAL LOAD CALCULATION (MSB1)

stellar

OPERATING AS THE STELLAR GROUP
 2800 HARTLEY ROAD, JACKSONVILLE, FL 32257 (904) 260-2900
WWW.STELLAR.NET
 FLORIDA ARCHITECTURAL LICENSE NO. AA-F000112
 FLORIDA ENGINEERING LICENSE NO. 9630

DRAWING LIST

1. ALL REFRIGERATION CONSTRUCTION SHALL COMPLY WITH APPLICABLE SECTIONS OF THE 2010 FBC (2009 IBC), ANS/ASHRAE 15-2010, IAR 2 2009 AND ANY OTHER ORDINANCES IN EFFECT AT THE PLACE OF WORK. NOTHING SHALL BE INTERPRETED TO ALLOW WORK NOT CONFORMING.
2. MANUFACTURERS: THE DESIGN SHOWN ON THE DRAWINGS ARE BASED UPON PRODUCTS OF THE MANUFACTURERS SCHEDULED.
3. ALTERNATE EQUIPMENT MANUFACTURES WILL BE ACCEPTABLE IF EQUIPMENT MEETS THE SCHEDULE PERFORMANCE AND COMPLIES WITH THE SPECIFICATIONS. IF EQUIPMENT MANUFACTURED BY MANUFACTURER OTHER THAN THAT SCHEDULED IS UTILIZED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE GENERAL CONTRACTOR AND/OR ALL AFFECTED SUBCONTRACTORS TO ENSURE PROPER PROVISIONS FOR INSTALLATION OF THE FURNISHED UNIT. THIS COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. STRUCTURAL SUPPORTS
 - B. ELECTRICAL POWER REQUIREMENTS AND WIRE/CONDUIT AND OVER CURRENT PROTECTION SIZES
 - C. PIPING SIZE AND CONNECTION LOCATIONS
 - D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COST INCURRED BY THE GENERAL CONTRACTOR, SUBCONTRACTORS AND CONSULTANTS TO MODIFY THE BUILDING PROVISIONS TO ACCEPT THE ALTERNATE FURNISHED UNITS
4. ALL AMMONIA REFRIGERATION PIPING SHALL BE SUITABLE FOR REFRIGERATION SERVICE AND INSTALLED PER ASME B31.5-2010.
5. ALL WELDERS/WELDING OPERATORS SHALL BE QUALIFIED AND CERTIFIED BY THE CONTRACTOR IN ACCORDANCE WITH ASME SECTION IX, AS WELL AS ANY STATE OR LOCAL REQUIREMENTS, PRIOR TO PERFORMING ANY WELDING. CERTIFICATION DOCUMENTS SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROJECT AND AVAILABLE TO OWNER ON REQUEST.
6. WELDED SHALL STAMP PIPE NEXT TO EACH WELD WITH A UNIQUE MARK. CONTRACTOR SHALL PROVIDE OWNER WITH A LIST OF ALL WELDED JOINTS AND THE RESPECTIVE STAMP MARKS.
7. INSTALL PIPING AND DUCTWORK TO PROVIDE THE MAXIMUM POSSIBLE CLEAR HEIGHT UNLESS OTHERWISE NOTED. DO NOT RUN EITHER BELOW 7'-3" CLEARANCE WITHOUT APPROVAL.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS DURING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR ALL DISCREPANCIES BETWEEN THE DRAWING AND ACTUAL DIMENSIONS. ENGINEER TO BE NOTIFIED IMMEDIATELY OF ANY CONFLICTS.
9. THE CONTRACTOR SHALL VERIFY THE REFRIGERATION SYSTEM DESIGN AND SHALL BE RESPONSIBLE TO MAKE THE REFRIGERATION SYSTEM OPERATIONAL.
10. CONDUIT DROPPING DOWN FROM THE CEILING SHALL NOT BLOCK REQUIRED SERVICE CLEARANCES.
11. VALVES AND STRAINERS
12. ALL FUTURE VALVES TO BE CAPPED AND HAVE 1/2" OR LARGER, BLEED VALVES WITH COUPLINGS.
13. ALL REFRIGERANT AND OIL CHARGES TO BE PROVIDED BY REFRIGERATION CONTRACTOR.
14. REFRIGERATION CONTRACTOR SHALL PROVIDE AND INSTALL VALVE TAGS AND LABELS PER IAR BULLETIN 114.
15. ALL PRESSURE GAUGES INSTALLED ON THE HIGH SIDE OF THE SYSTEM SHALL BE GRADUATED TO A MINIMUM OF 360 PSIG.
16. DRY NITROGEN TO BE USED FOR TESTING.
17. REFRIGERANT DRYERS TO BE REPLACED AFTER SYSTEM EVACUATION.
18. UNIONS ARE NOT TO BE USED ON NON-ATMOSPHERIC PIPING, FLANGES ARE ACCEPTABLE ON LEVEL COLUMN AND FLOAT PIPING.
19. ALL CIRCUIT SETTERS ARE TO BE PIPED WITH AT LEAST FIVE (5) PIPE DIAMETERS OF STRAIGHT PIPE UPSTREAM AND DOWNSTREAM.

REV	DWG	DESCRIPTION
A	R001	COVER SHEET
A	R100	UNDERFLOOR WARMING PLAN
A	R101	OVERALL FLOOR PLAN
A	R102	OVERALL ROOF PLAN
A	R301	UNDERFLOOR WARMING DETAILS
A	R401	MACHINE ROOM AND ROOF EQUIPMENT LOCATION PLANS
A	R402	MACHINE ROOM AND ROOF PIPING PLANS
A	R403	ENLARGED PENTHOUSE PLANS & SECTIONS
A	R501	INSULATION DETAILS
A	R502	INSULATION AND REFRIGERATION DETAILS
A	R503	PIPE STAND DETAILS
A	R504	CO2/NH3 heat EXCHANGER/RECIRCULATOR & -25F CO2 PUMP PACKAGE "LTRP" DETAILS
A	R505	M&M MODEL HPC104S AND HPC108S RECIPROCATING COMPRESSOR DETAIL
A	R601	REFRIGERATION SCHEDULES
A	R602	EXISTING REFRIGERATION SCHEDULES
A	R700	CO2 / NH3 BLOCK FLOW DIAGRAM
A	R701	NH3 P & ID
A	R702	CO2 P & ID
A	R703	PLANT P & ID
A	R704	PLANT P & ID
A	R705	PLANT P & ID
A	R706	CONTROL GROUP P & ID

MATERIALS

CHAPTER 11 – REFRIGERATION			
2010 FLORIDA MECHANICAL CODE –		CODE COMPLIANCE SUMMARY	
SECTION AND DESCRIPTION		COMPLIANCE	REFERENCE
SECTION 1101	GENERAL	COMPLIES	
SECTION 1102	SYSTEM REQUIREMENTS	COMPLIES	REFRIGERANTS ARE R-717 & R-744
SECTION 1103	REFRIGERATION SYSTEM CLASSIFICATION	COMPLIES	R-717 is "G2", R-744 is "A1" – HIGH PROBABILITY
SECTION 1104	SYSTEM APPLICATION REQUIREMENTS	COMPLIES	
SECTION 1105	MACH ROOM, GENERAL REQUIREMENTS	COMPLIES	MECHANICAL VENTILATION PROVIDED
SECTION 1106	MACH ROOM, SPECIAL REQUIREMENTS	COMPLIES	VAPOR DETECTOR PROVIDED
SECTION 1107	REFRIGERANT PIPING	COMPLIES	
SECTION 1108	FIELD TEST	COMPLIES	TEST CERTIFICATE TO BE PROVIDED
SECTION 1109	PERIODIC TESTING	WILL COMPLY	BY OTHERS

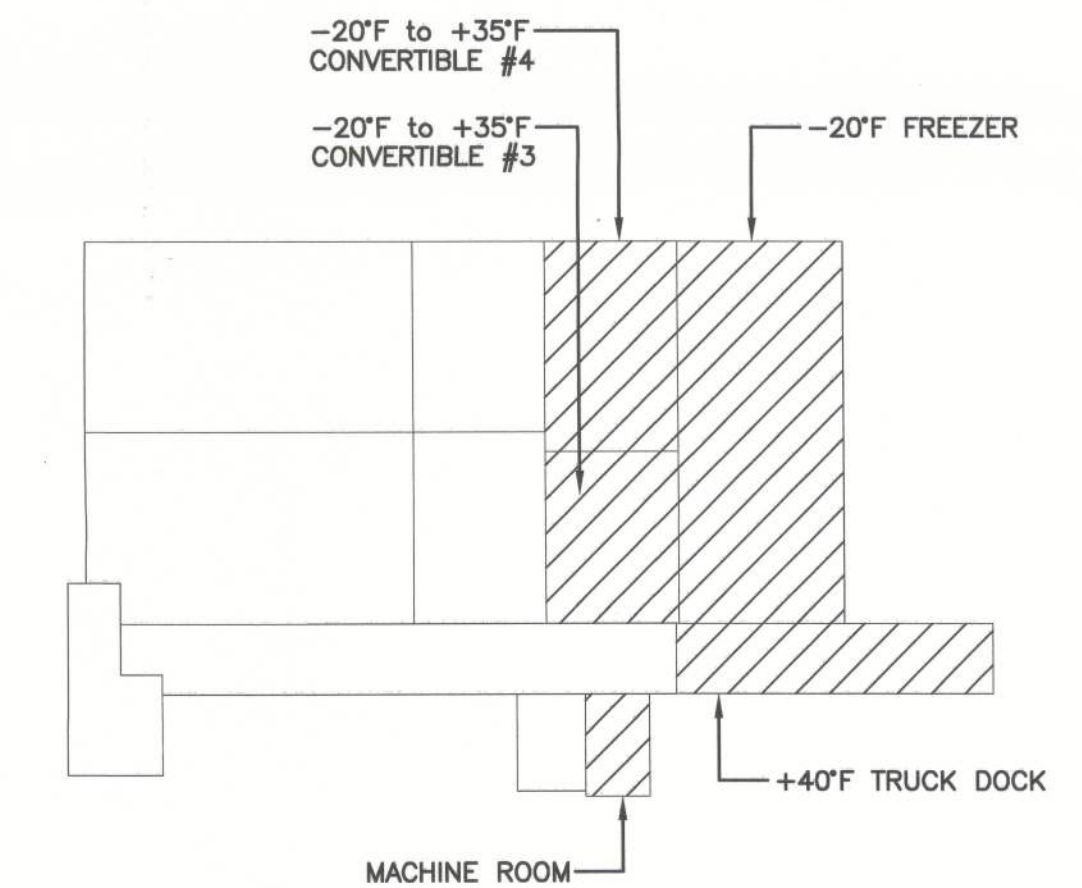
NOTE: SECTIONS WITHOUT REFERENCE NOTES ARE NOT SPECIFIC TO A SINGLE LOCATION IN THE FACILITY AND ARE GENERAL ITEMS.

SERVICE:	AMMONIA	
DESIGN PRESSURE:	250 PSIG	
DESIGN TEMP:	-25F TO +300F	
TEST PRESSURE:	300 PSIG	
ITEM	SIZES	DESCRIPTION
PIPE	1/2" - 2"	ASTM A106, GRADE B, SEAMLESS, SCHEDULE 80, PLAIN ENDS TO MATCH FITTINGS.
	2 1/2" & LARGER	ASTM A106, GRADE B, SEAMLESS, SCHEDULE 40, BUTT WELD ENDS.
FITTINGS	2" & SMALLER	ASTM A105, CLASS 3000, SOCKET WELD CONFORMING TO ANSI B16.11.
	2 1/2" & LARGER	ASTM A234, GRADE WPB SEAMLESS, BUTT WELD ENDS WITH SAME SCHEDULE AS THE CONNECTION PIPE.
NOTE: STRESS CALCULATION OR IMPACT TESTING REQUIRED ON PIPING BELOW -20F		

SERVICE:	CO2/PIPING STAINLESS STEEL	
DESIGN PRESSURE:	600 PSIG	
DESIGN TEMP:	-42°F TO 300°F TEST 660 PSIG	
ITEM	SIZES	DESCRIPTION
PIPE	1/2" - 1 1/2"	ASTM A 312, GRADE 304, 304L, 316 OR 316L, SEAMLESS, SCHEDULE 40, PLAIN ENDS TO MATCH FITTINGS
	2"	ASTM A 312, GRADE 304, 304L, 316 OR 316L, SEAMLESS, SCHEDULE 10, PLAIN ENDS TO MATCH FITTINGS
	2 1/2" - 14"	ASTM A 312, GRADE 304, 304L, 316 OR 316L, SEAMLESS, SCHEDULE 10, BUTT WELD ENDS TO MATCH FITTINGS
	16" & LARGER	ASTM A 312, GRADE 304, 304L, 316 OR 316L, SEAMLESS, SCHEDULE 20, BUTT WELD ENDS TO MATCH FITTINGS
FITTINGS	2" & SMALLER	ASTM A 403, GRADE WPB, SOCKET WELD ENDS CONFORMING TO ANSI B16.11
	2 1/2" & LARGER	ASTM A 403, GRADE WPB, BUTT WELD ENDS WITH SAME SCHEDULE AS THE CONNECTION PIPE CONFORMING TO ANSI B16.19

SERVICE:	CONDENSER WATER, GLYCOL	
DESIGN PRESSURE:	125 PSIG	
DESIGN TEMP:	100F	
ITEM	SIZES	DESCRIPTION
PIPE	1/2" - 2"	A120, SCHEDULE THREADED.
	2 1/2" & LARGER	A120, SCHEDULE 40, BEVELED ENDS.
FITTINGS	2" & SMALLER	150# MALLEABLE IRON, THREADED A-192
	2 1/2" & LARGER	CS, A234-WPB SEAMLESS, STANDARD WT, BEVELED ENDS.

SERVICE:		RELIEF
DESIGN PRESSURE:		ATMOSPHERIC
DESIGN TEMP:		AMBIENT
ITEM	SIZES	DESCRIPTION
PIPE	1 1/4" & SMALLER	ASTM A53, SCHEDULE 80, SCREWED ENDS.
	1 1/2" & LARGER	ASTM A53, SCHEDULE 40, WELDED (NO SW COUPLINGS)
FITTINGS	1 1/4" & SMALLER	SCREW BLACK STEEL
	1 1/2" & LARGER	BUTT WELDED, BLACK STEEL



KEY PLAN

NOT FOR CONSTRUCTION

UNITED STATES COLD STORAGE, INC.
PHASE II EXPANSION
LAKE CITY, FLORIDA

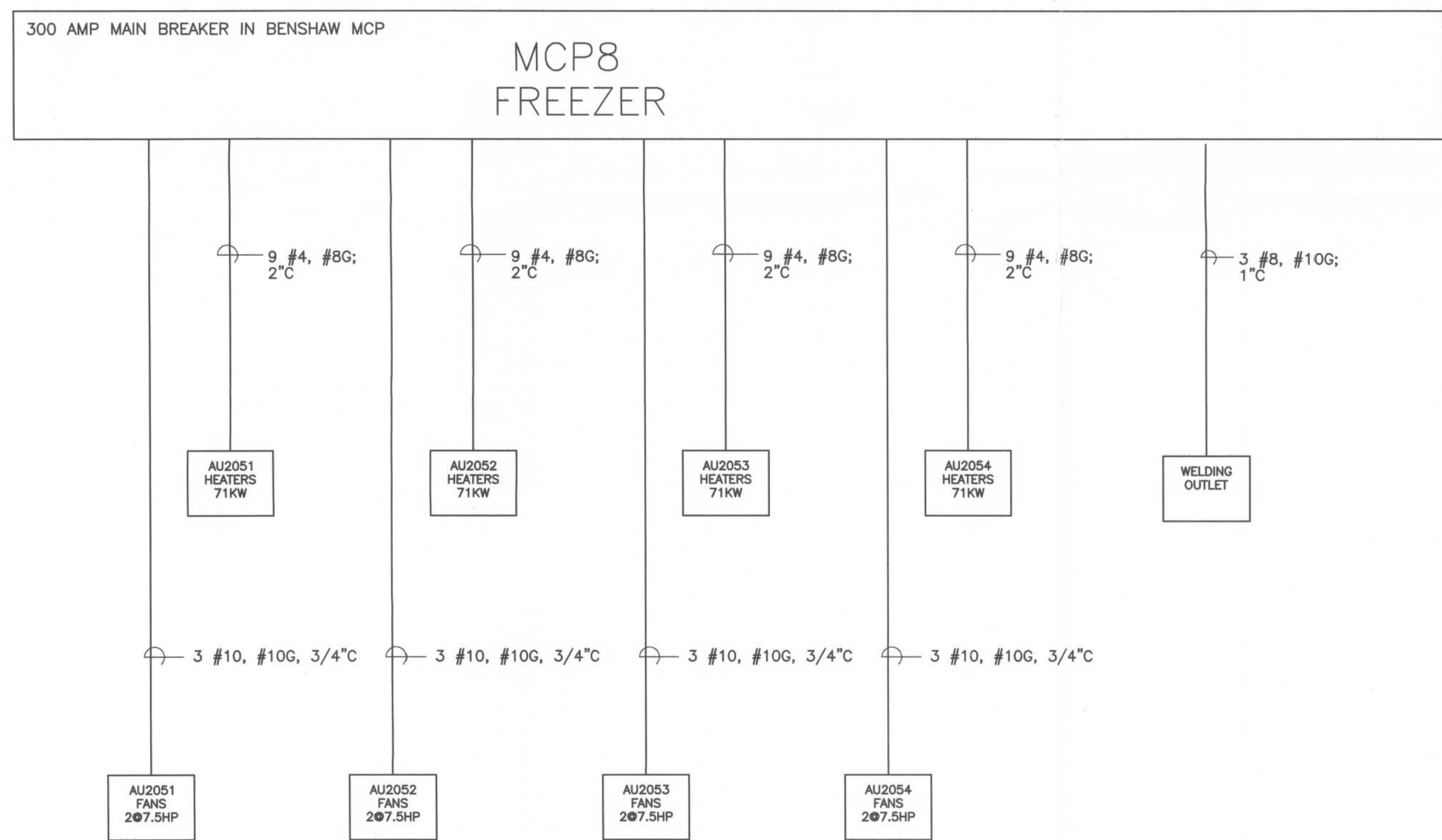
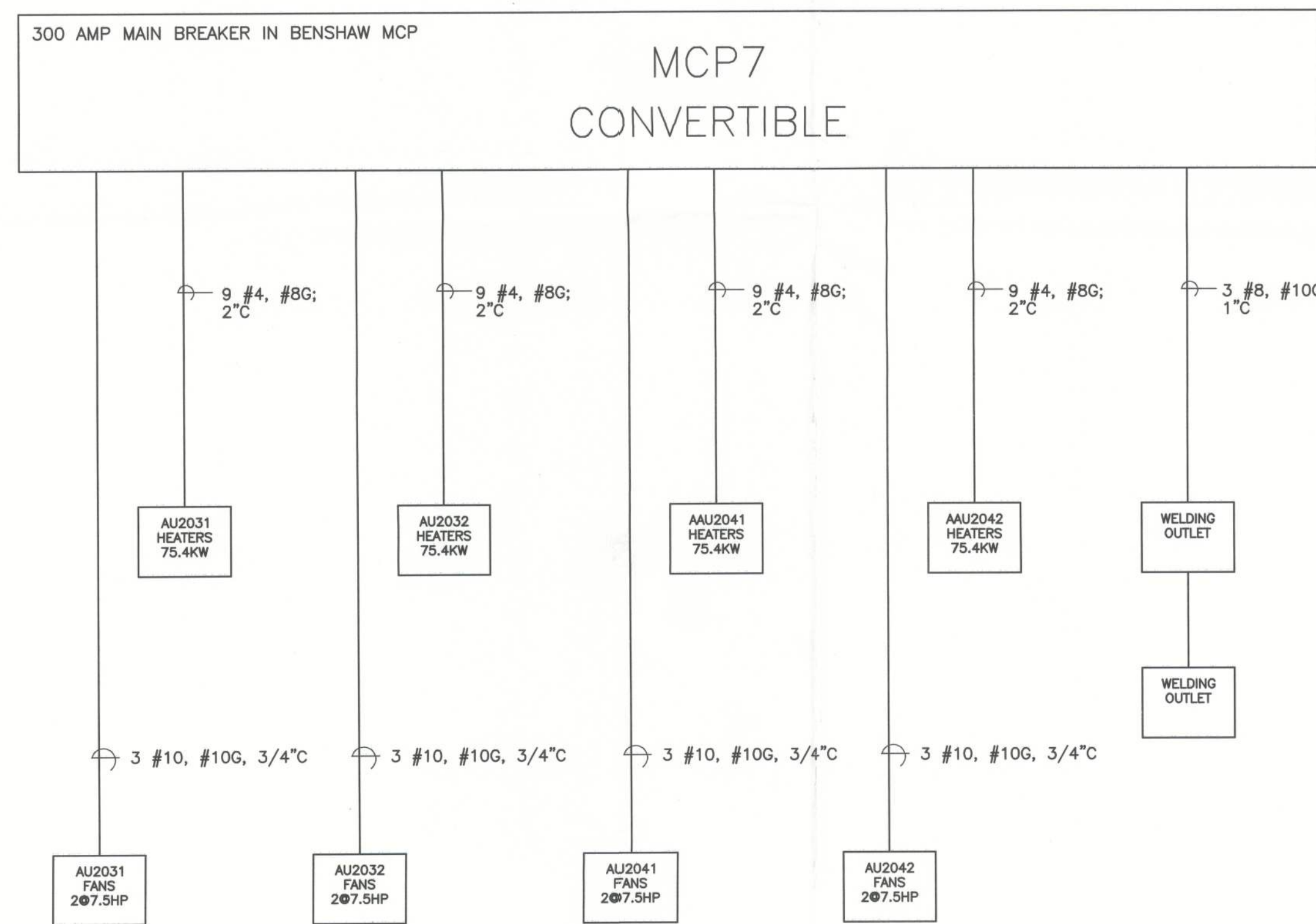
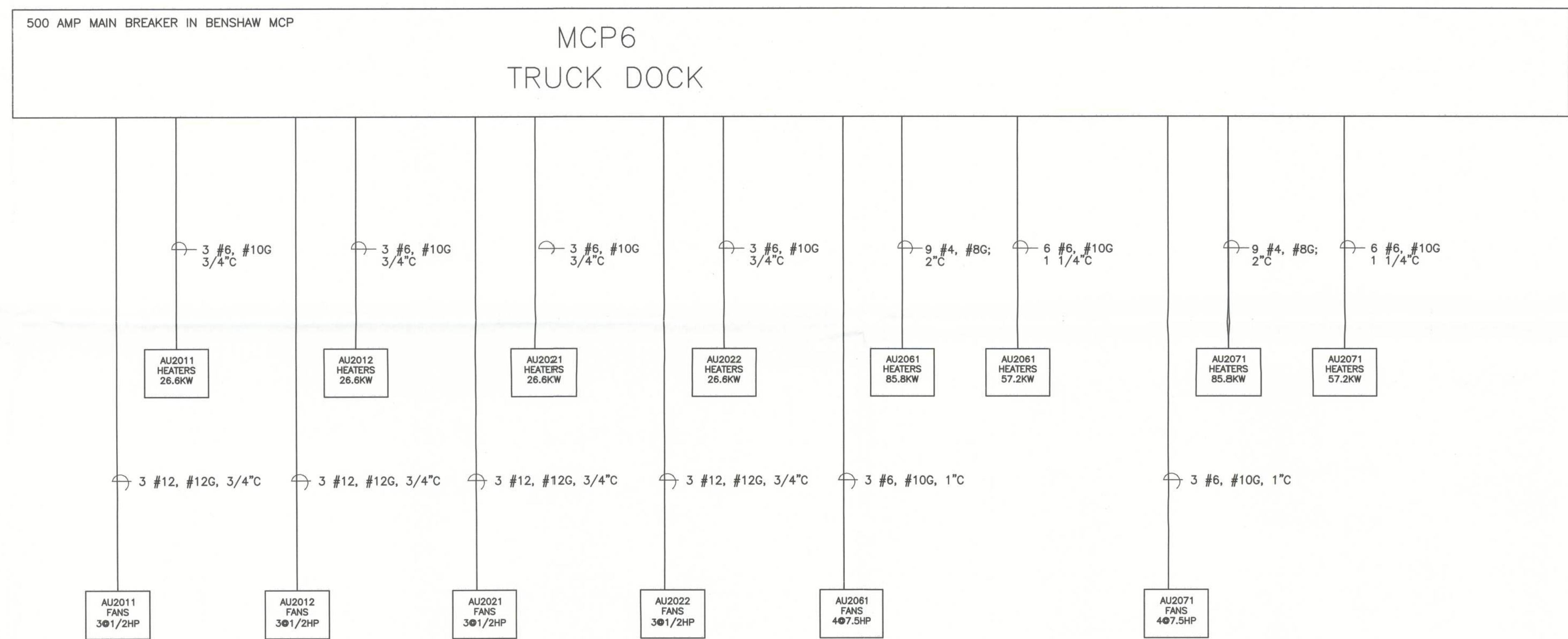
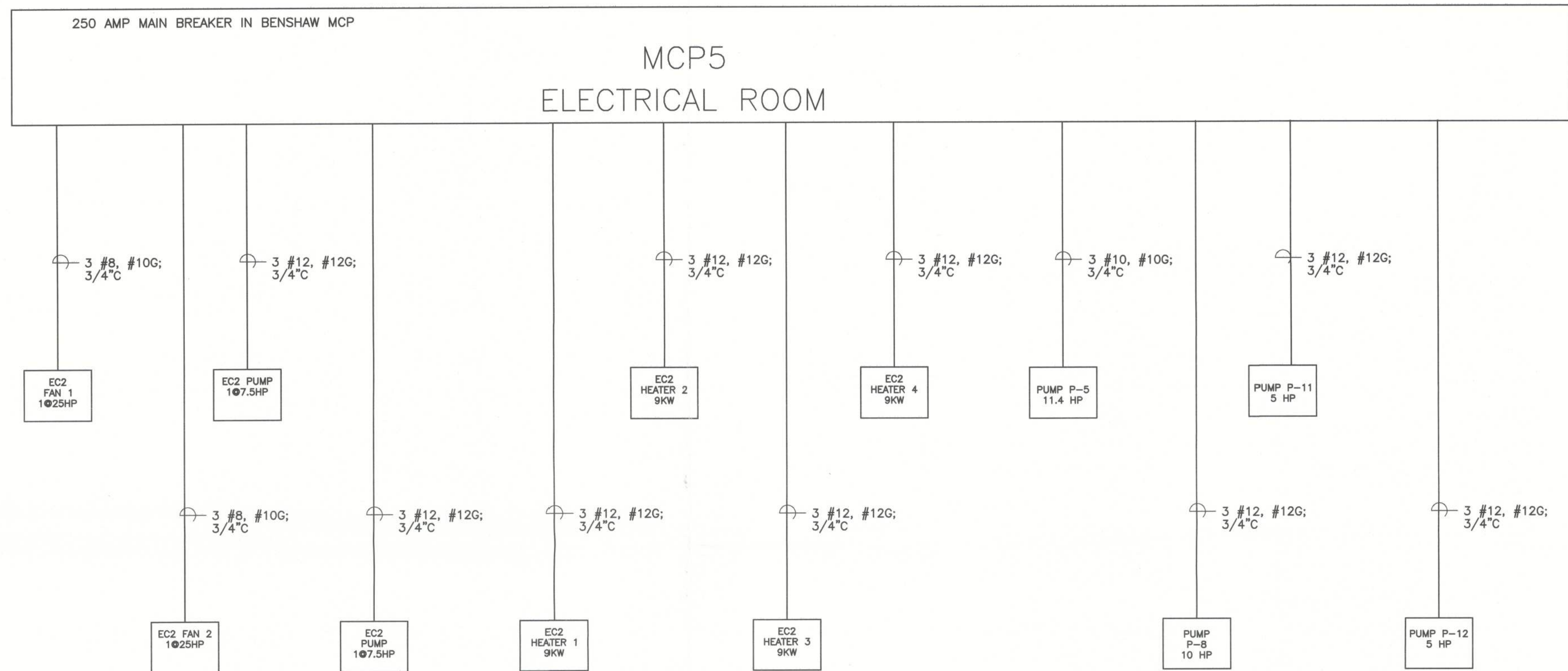
OVER SHEET

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[illegible]

OB NO.	04224
RAWN:	YJV
CHECKED:	BEK
SCALE:	NONE

0001
DRAWING NO.



REV.	DATE	BY	DESCRIPTION
1	02/14/02	JBS	ISS
2			
3			
4			
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6			
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8			
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10			



NOT TO SCALE

NOTES:

1. ALL COMPRESSOR STARTERS PROVIDED BY THE REFRIGERATION CONTRACTOR, INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. SEE DETAIL 10/E501.
3. SEE DETAIL 3/E503.



NOT TO SCALE

NOTES:

1. ALL COMPRESSOR STARTERS PROVIDED BY THE REFRIGERATION CONTRACTOR, INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. INSTALL NEW BREAKERS AS INDICATED AND PROVIDE NEW SWITCHBOARD SECTIONS AS REQUIRED. MAINTAIN AIC RATING OF EXISTING SWITCHBOARD.

[illegible]