

REVISIONS				
REV	DATE	BY	APP	DESCRIPTION OF REVISION
00	14 FEB 22	GH		DRAWING CREATED

NOTES	
OVERVIEW	

TEMPERATURE: -40°C TO -80°C ± 5.0°C VOL. UNIFORMITY
-20°C ± 5.0°C VOL. UNIFORMITY UNCONDITIONED ANTEROOM
PRODUCT: PRODUCT AT TEMPERATURE WHEN LOADED INTO FREEZER. NO PRODUCT LOAD ASSUMED
L.T. FREEZER STORAGE: 85 FT³ PER SIDE 170 FT³ TOTAL
680 FT³ PER SIDE, 1,360 FT³ TOTAL AT 8'-0" (HEIGHT) OF STORAGE
CONDENSERS: WATER-COOLED
DOOR OPENING: -20°C = 15 SECONDS
-20°C = 30 SECONDS
DOOR RECOVER TIME: -20°C = 3 MINUTES (OPEN TO ANTEROOM)
L.T. FREEZER = 3 MIN. (OPEN TO -20°C)

ARCHITECTURAL
PANEL FINISH: INTERIOR/EXTERIOR = EMBOSSED GALVANIZED STEEL PRE-PAINTED WHITE
DOOR SIZE: 3'-0" WIDE X 7'-6" TALL (ANTEROOM)
3'-0" WIDE X 7'-6" TALL (-20°C CORRIDOR)
3'-0" WIDE X 8'-0" TALL (LOW TEMP STORAGE FREEZER)
FM 4880: OUTSIDE CHAMBER ONLY (4" PANELS)
FLOOR RATING: 600 LBS/SQ.FT.
CEILING RATING: 15 LBS/SQ.FT. (5 LBS/SQ.FT. DEAD LOAD/ 10 LBS/SQ.FT. LIVE LOAD)

MECHANICAL
REFRIGERATION: REDUNDANT MECHANICAL REFRIGERATION SYSTEM FOR -20°C AND LOW TEMP. FREEZER CHAMBERS.
PIPING: MAX. DISTANCE FROM SKID TO CHAMBER NOT TO EXCEED 50' HORIZ./50' VERTICAL

ELECTRICAL
CONTROLS: ALLEN-BRADLEY COMPACTLOGIX PLC (NON-REDUNDANT)
CONTROL PANELS: NEMA 412 (GRAY)
LIGHTING: LED LIGHTING

SAFETY
PERSON-IN-BOX: TIMED OCCUPANCY ALARM OF CORRIDOR
PERSONNEL ALARM: EMERGENCY PUSH-BUTTON LOCATED IN THE CORRIDOR AT THE DOOR LOCATION 16" A.F.F.

OPTIONS
PANEL FINISH: 304 STAINLESS STEEL INTERIOR OR EXTERIOR
FLOOR RATING: 1,000 LBS/SQ.FT. (OVERLAY)
RAMP: DIAMOND TREAD OR NON-SKID STRIPS
CEILING RATING: 20 LBS/SQ.FT.
FM 4880: OPTION TO NOT INCLUDE CUSTOMER TO SPECIFY NUMBER OF TIERS & IF COIL GUARD IS PREFERRED.
AIR-COOLED CONDENSERS: OPTIONAL IF WATER IS NOT AVAILABLE.
LOW RISE DEFROST: OPTIONAL FOR CORRIDOR (-20°C) ONLY.
CONDENSATE PUMP: OPTIONAL
LN2: TERTIARY BACKUP INCLUDES OXYGEN MONITOR INSIDE THE CORRIDOR AND AT THE LN2 VALVE RACK.
CONTROL PANEL: NEMA 4X
UPS BACKUP: CONTROLS ONLY (20 MINUTE)
EMERGENCY LIGHTING: BATTERY BACKUP YOKOGAWA
RECORDER:

ALARM CONTACTS - FORM-C (N.C./N.O.) CONNECTION BY OTHERS

-20°C CORRIDOR
• HIGH TEMPERATURE DEVIATION
• LOW TEMPERATURE DEVIATION
• HIGH TEMPERATURE LIMIT
• LOW TEMPERATURE LIMIT
• DOOR AJAR
• EVAPORATOR FAN FAILURE (SYSTEM 1)
• EVAPORATOR FAN FAILURE (SYSTEM 2)
• CONDENSER FAILURE (SYSTEM 1)
• CONDENSER FAILURE (SYSTEM 2)
• PERSONNEL/PERSON-IN-BOX ALARM

LOW TEMP. FREEZER
• HIGH TEMPERATURE DEVIATION
• LOW TEMPERATURE DEVIATION
• HIGH TEMPERATURE LIMIT
• LOW TEMPERATURE LIMIT
• DOOR AJAR
• CONDENSER FAILURE (SYSTEM 1)
• CONDENSER FAILURE (SYSTEM 2)

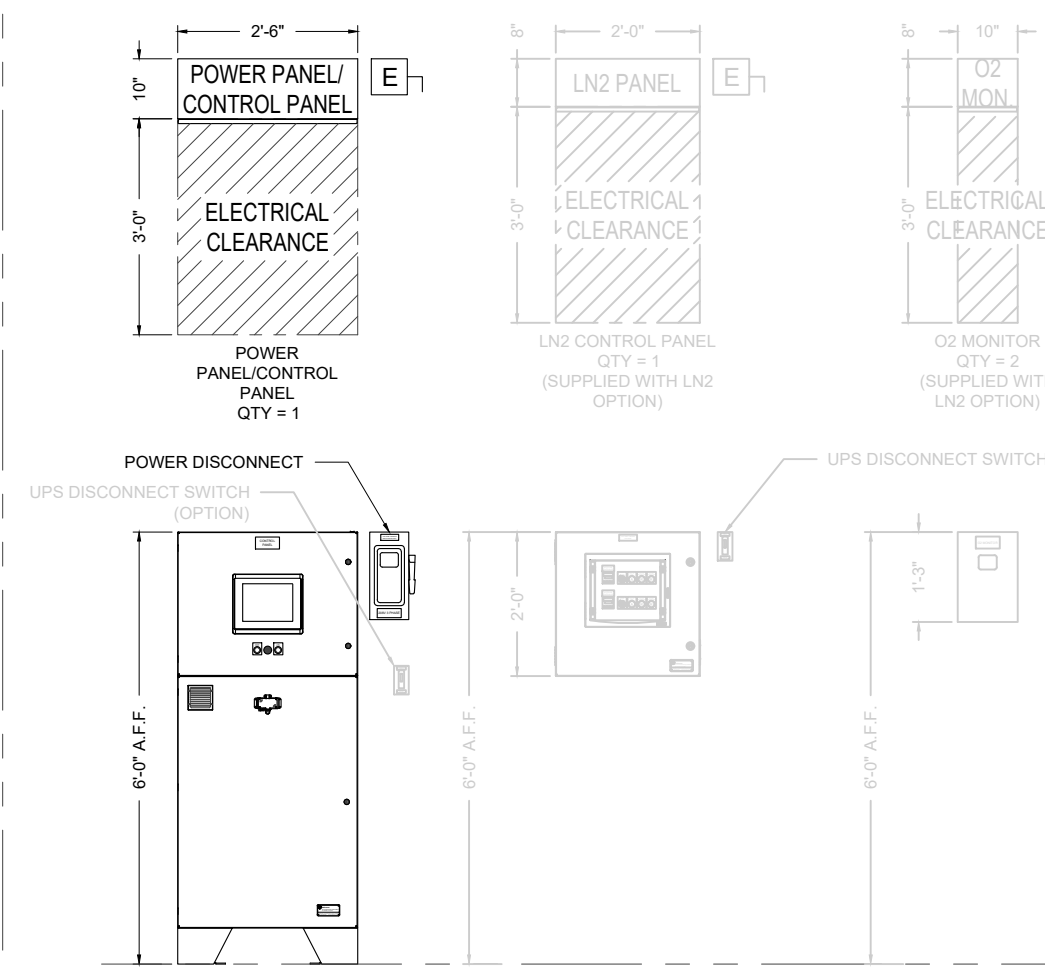
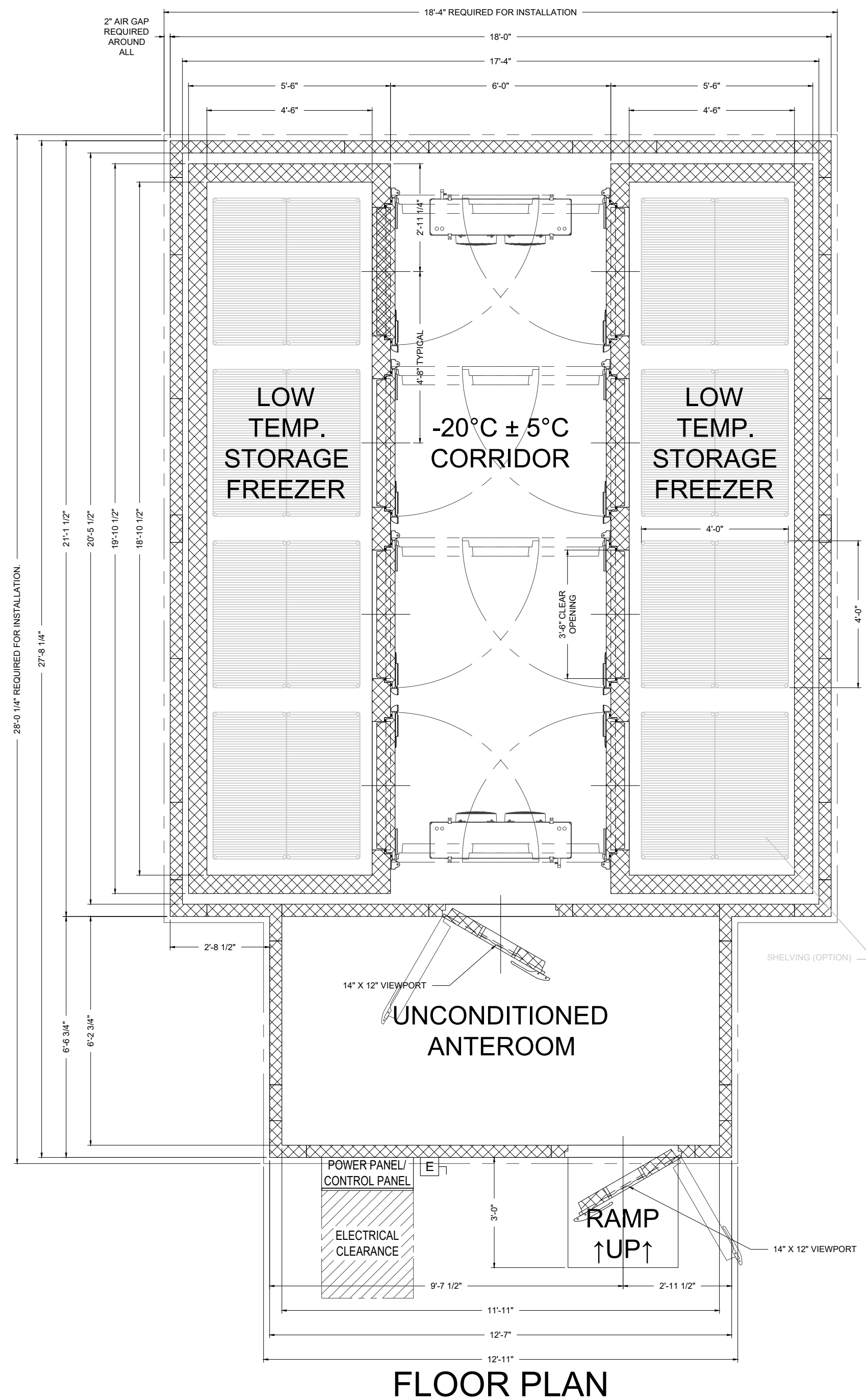
LN2 (OPTION)
• O2 ALARM
• LN2 EMERGENCY VALVE CLOSED
• LN2 ACTIVE
• LN2 OFFLINE

NOTES:
1. THE MAXIMUM DESIGN NOISE LEVEL OF THE EQUIPMENT MAY EXCEED 80 DBA, MEASURED AT 3'-0" AWAY.
2. REFRIGERANT RELIEF PIPING IF REQUIRED IS BY OTHERS.
3. CONDENSATE DRAIN CONNECTION TO BE WITHIN 10' OF THE CHAMBER.

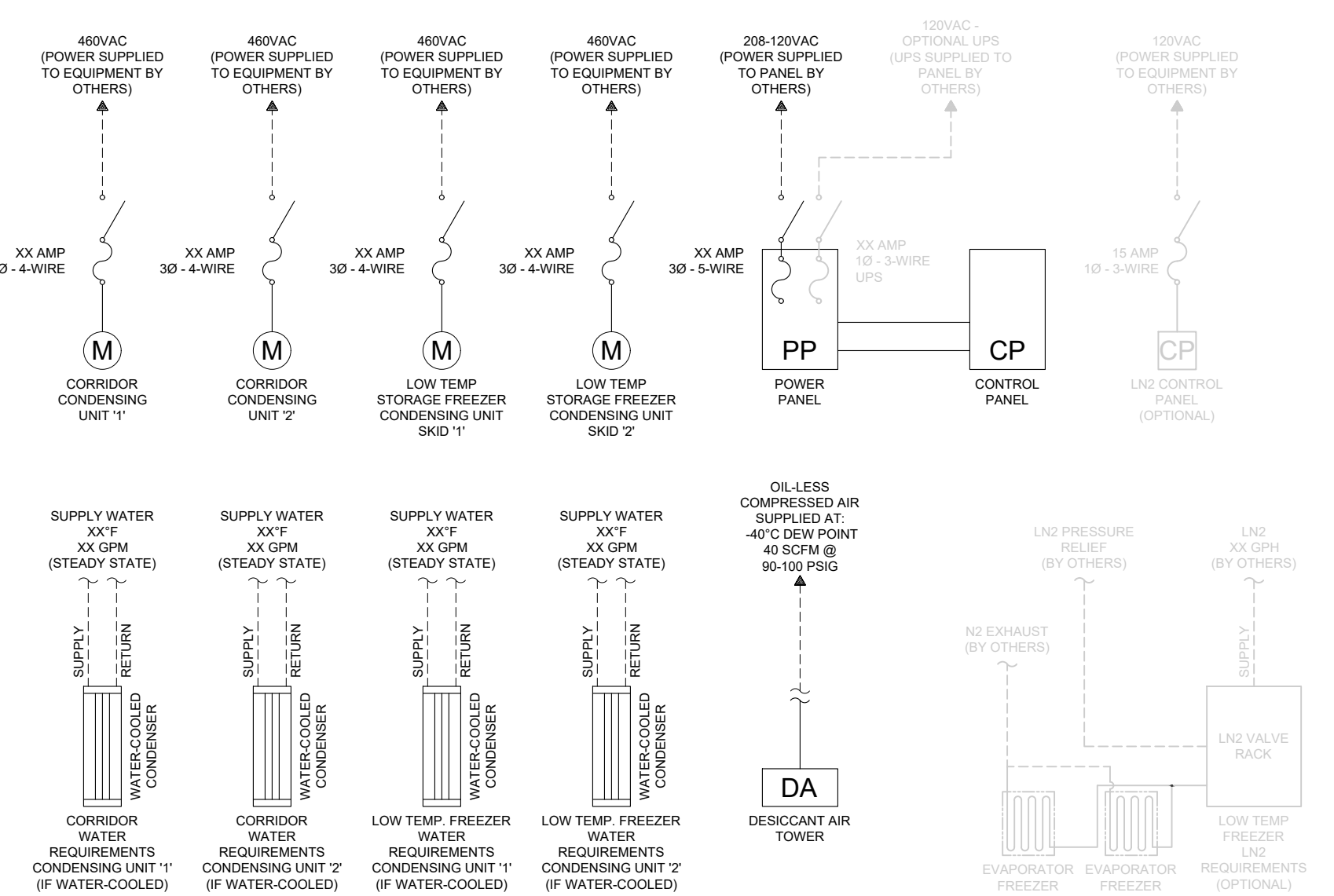
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THIS DRAWING IS TO BE USED IN CONJUNCTION WITH PROJECT SUBMITTAL TEXT FOR COMPLETE CHAMBER DETAILS.

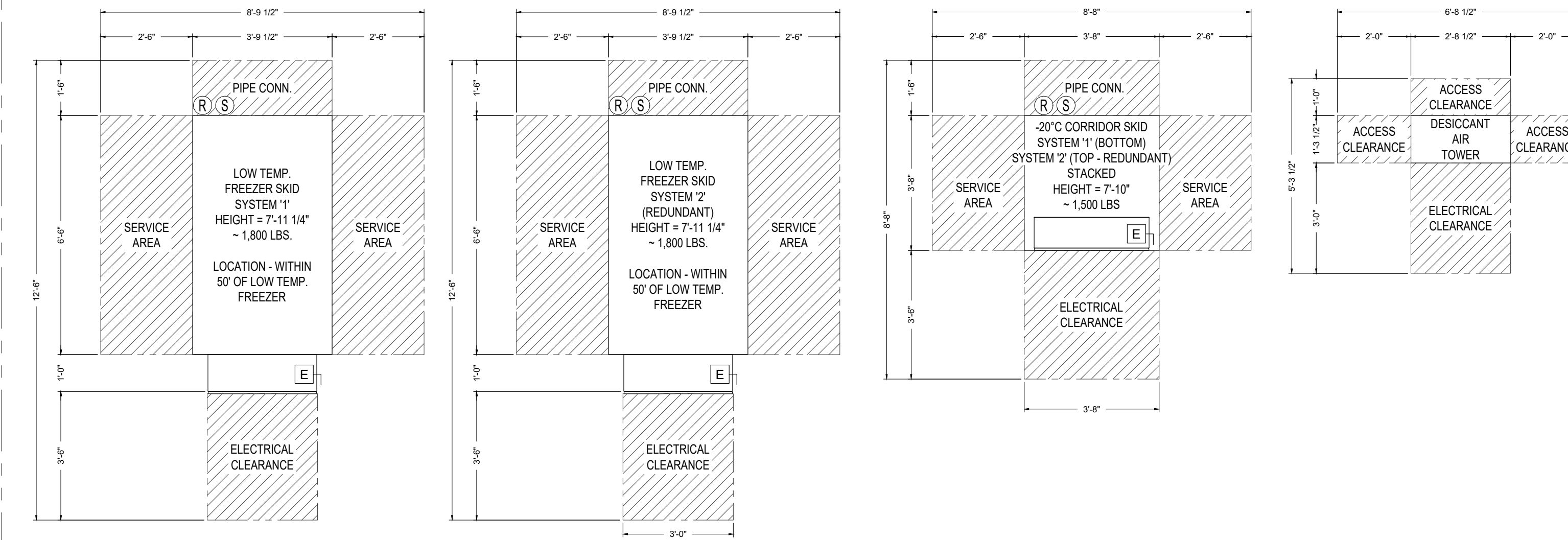
ENVIRONMENTAL SPECIALTIES			
4412 TRYON RD. RALEIGH, NC 27806		DRAWN BY: HERR SCALE: 3/8" = 1'-0"	
STANDARD MODEL 8 DOOR ULTRA-LOW			
APPROVED BY:	DRAWN BY:	DATE CREATED:	REVISION:
		14 FEB 22	BAHN - 08D 00



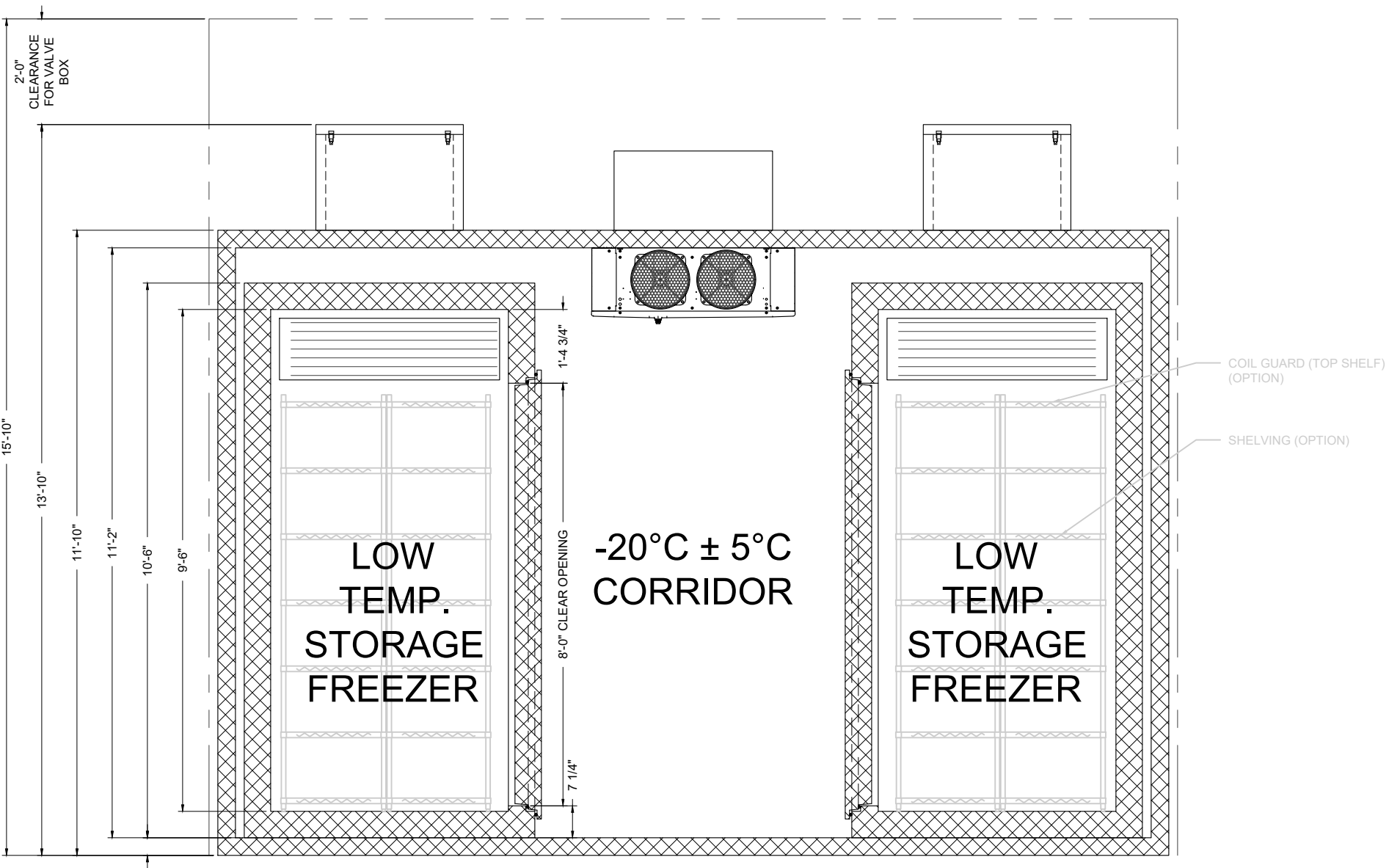
CONTROL PANELS



UTILITIES



EQUIPMENT SIZE



ELEVATION VIEW

NOT APPROVED FOR
CONSTRUCTION