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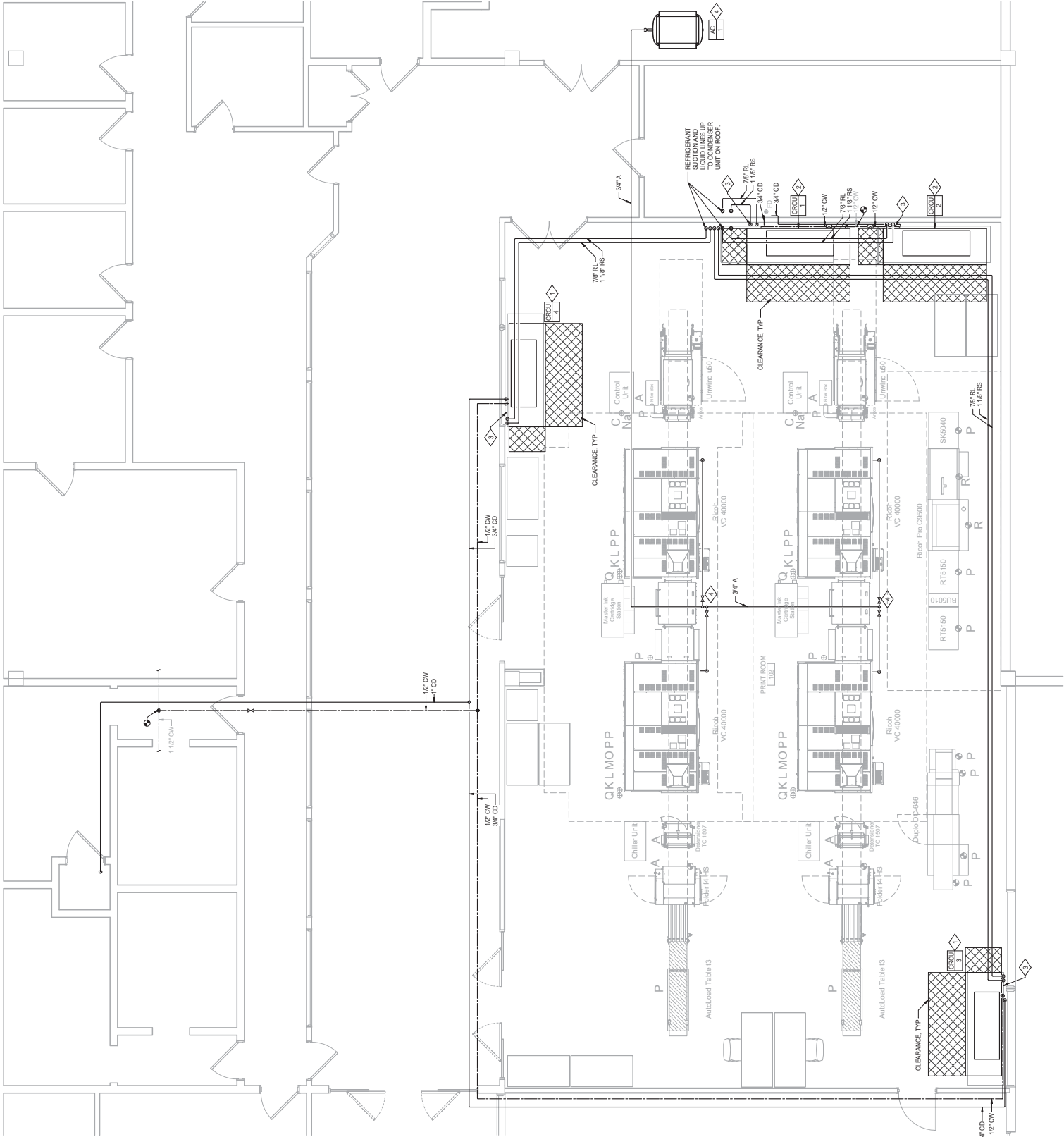
GENERAL NOTES

- ## KEY NOTES

1. PROVIDE 15KVDA PUMP PROVIDE BRANCO CIRCUIT TO NEW PRINTING EQUIPMENT.
2. PROVIDE NEW COLLANT LINE TO BE FED FROM MDP2 LOCATED IN THE MEZZANINE 1131. PROVIDE 114"MC, 30" & 60"MC.
3. PROVIDE 350VDA UPS. PROVIDE (2) 40AMP FEEDERS TO UPS FROM MDP 2.
4. PROVIDE 400AMP BREAKER AND FEEDER TO EACH PULP.
5. EXISTING LIGHTING AND CONTROLS IN PRINT ROOM SHALL BE RE-CIRCUIT TO CONTROL EXISTING MEA.
6. PROVIDE 280V/1P/15A CIRCUIT. NEMA 15-50C DOWD RE-CECTACLE.
7. CONTROL LINE PROVIDE 280V/1P/15A CIRCUIT. HARD WIRED.
8. DRYER. PROVIDE 280V/3PH/10AMP CIRCUIT. 444 * 60C. HARD WIRED.
9. ELECTRONIC. PROVIDE 280V/3P/50AMP CIRCUIT. 446 * 60C CONDUCTORS.
10. CHILLER UNIT. PROVIDE 280V/3P/24, 410 * 60C CONDUCTORS HARD WIRED.
11. PROVIDE DATA CONNECTION.
12. MASTER KICK CARTRIDGE STATION. PROVIDE 280V/1P/24A CIRCUIT. 3162 * 40C. HARD WIRED.
13. PROVIDE 280V/1P/50AMP CIRCUIT. NEMA 5-30C DOWD DOWN CORD.
14. EXISTING UPS-1.

OPTION G ALTERNATE COMPUTER ROOM COOLING UNIT SCHEDULE																			
LOCATION			AMBIENT			COOLING COIL DATA			HUMIDIFIER		SUPPLY FAN								
TAG	MANUFACTURER	MODEL NUMBER	ROOM NAME	ROOM NUMBER	DB, °F	WB, °F	MBHS	MBHT	REF. TYPE	TYPE	#/	CFM	SP, WC	V, FPM	Hz	FLA	VSA	MOCP	NOTES
CRCL1	LIBERT	DA300U	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CRCL2	LIBERT	DA300U	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CRCL3	LIBERT	DA300U	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CRCL4	LIBERT	DA300U	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
NOTES:																			
1. PROVIDE UPFLOW CIRCUIT WITH INFRARED HUMIDIFIER WITH HUMIDIFIER LOCKOUT, ELECTRIC REHEAT, AND ELECTRICAL DISCONNECT.																			

OPTION G ALTERNATE CONDENSING UNIT SCHEDULE																			
LOCATION			AMBIENT			COOLING COIL DATA			HUMIDIFIER		SUPPLY FAN								
TAG	MANUFACTURER	MODEL NUMBER	ROOM NAME	ROOM NUMBER	DB, °F	WB, °F	MBHS	MBHT	REF. TYPE	TYPE	#/	CFM	SP, WC	V, FPM	Hz	FLA	VSA	MOCP	NOTES
CU1	LIBERT	MCN160	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CU2	LIBERT	MCN160	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CU3	LIBERT	MCN160	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
CU4	LIBERT	MCN160	PRINT ROOM	102	75	81	250.0	249.0	RH10a	INFRARED	11	9600	0.50	480	0	60	0.0	0	0
NOTES:																			
1. PROVIDE WITH RECEIVER AND ELECTRICAL DISCONNECT.																			



MECHANICAL GENERAL NOTES

- A. ALL CUTTING AND PATCHING RELATED TO NEW MECHANICAL WORK SHALL BE BY MECHANICAL CONTRACTOR. PATCH TO MATCH ADJACENT SURFACES. FINISH PAINTING BY GENERAL CONTRACTOR.
- B. MECHANICAL CONTRACTOR SHALL CORE DRILL FLOOR/WALL 1/2 MAXIMUM LARGER THAN REQUIRED. PATCH TO MATCH ADJACENT SURFACES. FINISH PAINTING BY GENERAL CONTRACTOR.
- C. SEAL ALL DUCT PIPE PENETRATIONS THROUGH WALL AND CEILINGS AS SPECIFIED AND/OR DETAILED ON THE DRAWINGS.
- D. COORDINATE WITH STRUCTURAL DRAWINGS AND ARCHITECTURAL REFLECTED CEILING PLANS AND PROVIDE ALL NECESSARY DUCTPIPE OFFSETS AS REQUIRED TO ACCOMMODATE NEW DUCTWORK PIPING TO BE LOCATED ABOVE NEW CEILINGS.
- E. MECHANICAL CONTRACTOR SHALL FIELD MEASURE FOR ALL DUCTWORK BEFORE ANY DUCTWORK IS INSTALLED. MECHANICAL CONTRACTOR SHALL PROVIDE BE ACCEPTED FOR ADDITIONAL DROPS, TRANSITIONS, RISERS, ETC. AS REQUIRED FOR COMPLETE INSTALLATION.
- F. THE GENERAL CONTRACTOR SHALL PROVIDE ALL ACCESS PANELS IN ACCESSIBLE AREAS FOR ACCESS TO MECHANICAL EQUIPMENT DAMPERS, VALVES, CONTROLS, ETC. COORDINATE THE LOCATIONS WITH THE GENERAL CONTRACTOR AND ARCHITECT.
- G. KEEP THE PRINTERS SPACE OPERATIONAL AS LONG AS POSSIBLE. PLAN TO HAVE THE MECHANICAL SHUTDOWN TIME IN THE PRINT ROOM FOR AS SHORT AS POSSIBLE.

KEY NOTES

1. PROVIDE NEW CIRCUIT ROUTE 3/4 INCH CONDENSATE TO THE JANTOR SINK AND TERMINATE WITH CODE REQUIRED AIR GAP. CONNECT 1/2 INCH DOMESTIC COLD WATER TO EXISTING 1 1/2 INCH PIPE NEAR THE RESTROOMS IN THE CEILING. PROVIDE 3 FEET CLEARANCE IN FRONT OF THE CIRCUIT FOR SERVICE. PROVIDE CONDENSATE PUMP WITH HEIGHT (AT LEAST 16').
2. PROVIDE NEW CIRCUIT ROUTE 3/4 INCH CONDENSATE TO THE FLOOR DRAIN AND TERMINATE WITH CODE REQUIRED AIR GAP. CONNECT 1/2 INCH DOMESTIC COLD WATER TO EXISTING 1 1/2 INCH PIPE FROM PREVIOUS CIRCUITS. CONNECT REFRIGERANT PIPING TO NEW CU LOCATED ON THE ROOF. PROVIDE 3 FEET CLEARANCE IN FRONT OF THE CIRCUIT FOR SERVICE.
3. PROVIDE A RAIN UNDER ANY REFRIGERANT, DOMESTIC COLD WATER AND CONDENSATE PIPING LOCATED IN THE PRINT ROOM.
4. PROVIDE 10 SCH 40 AIR COMPRESSOR AND ROUTE 1/4 INCH COPPER PIPE TO EACH PRINTER.

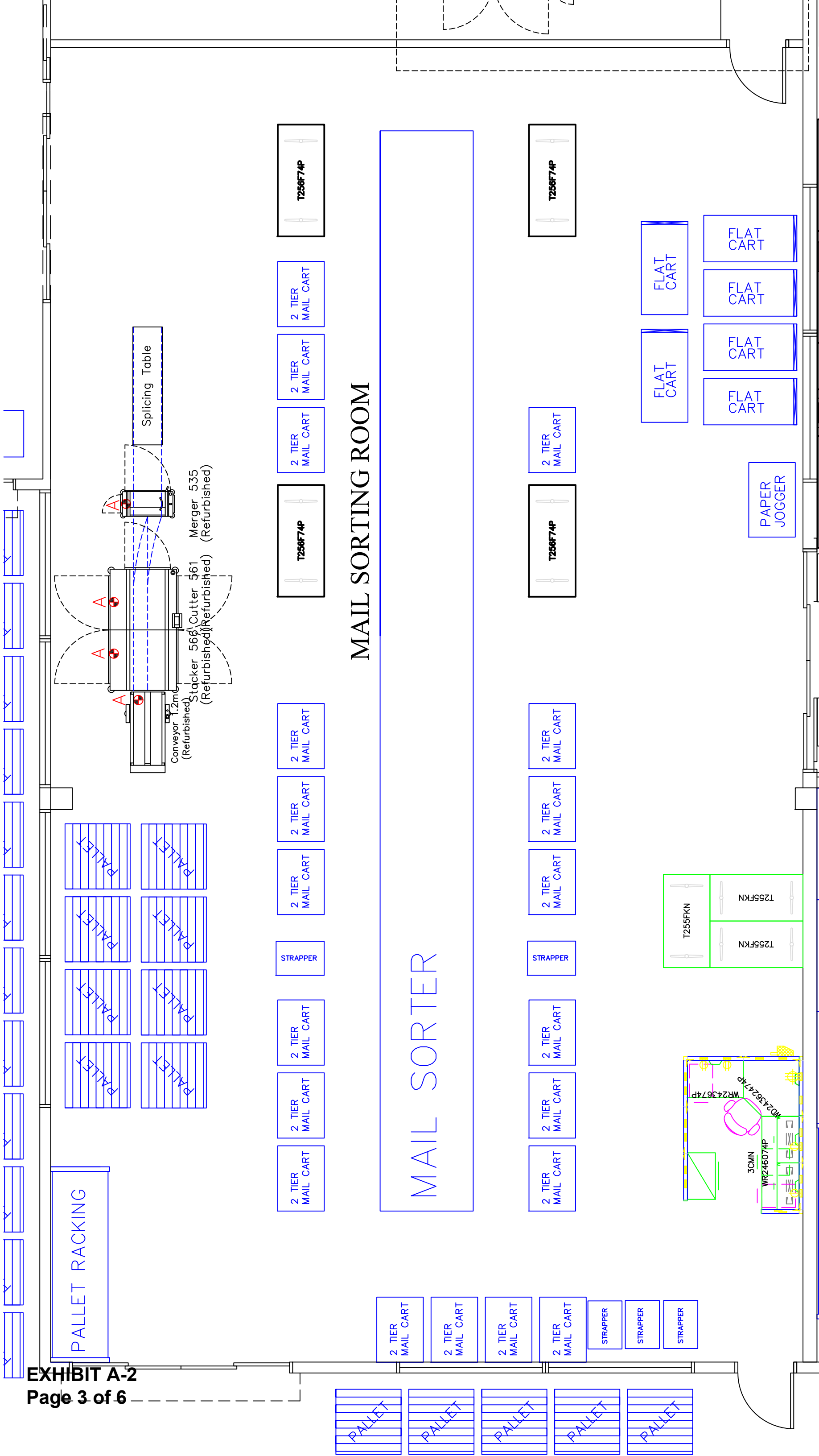


Exhibit A2
Sorting Equipment Electrical, Mechanical

1 Vantage Operational Specifications



State of Minnesota IOC is responsible for meeting all operational requirements.



1.1.1 Electrical Requirements

Electrical Requirements	
Maximum Configuration	208V, 3-Phase, WYE, 60 Hz, 80 amps, 26,300 BTUs
BTU value assume 82% efficiency and 0.95 PF.	

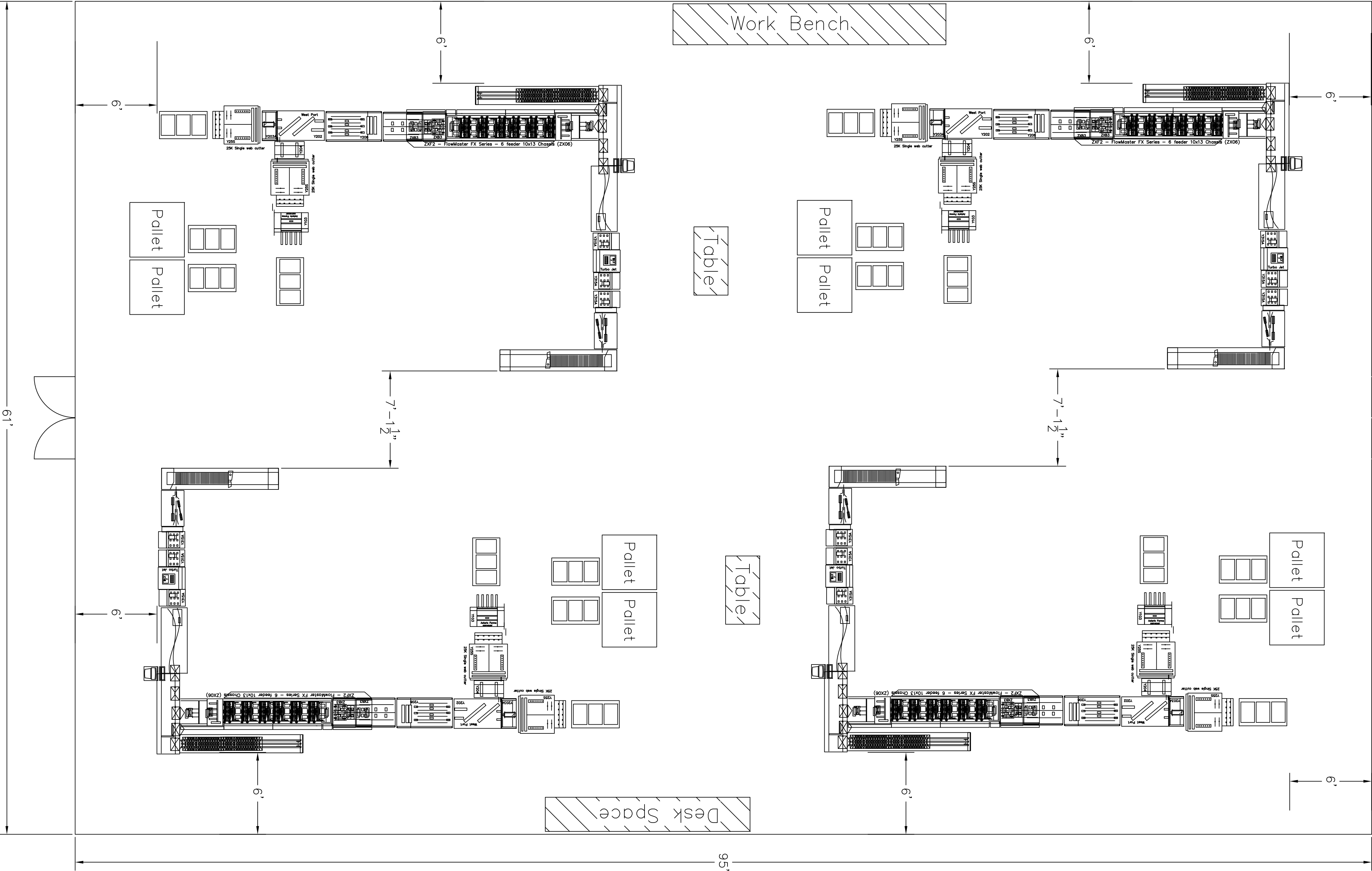
1.1.2 Air Requirements

Air Requirements	
Air Consumption	4CFM @ 90PSI for maximum machine configuration
Air Supply	90 PSI Clean/Dry Air, Min 1/2" ID supply tubing. Machine side tubing is 12mm OD
Air Compressor	Internal air compressor supplied meets air supply and air quality requirements

1.1.3 Environmental

Environmental Specifications			
Operational Environment		Storage Environment	
Minimum Temperature	10 Deg. C	Minimum Temperature	5 Deg. C
Standard Max Temperature	35 Deg. C	Std. Max Temperature	35 Deg, C
Extreme Environment Option Max Temp	N/A		
Minimum Humidity	30% RH	Minimum Humidity	10% RH
Maximum Humidity	90% RH	Maximum Humidity	95% RH Non Condensing

Exhibit A2
Insertion Room Equipment Electrical, Mechanical



Insertion Equipment
Electrical, Mechanical
Specifications

