

			F	L	W	120/1/60 (FROM STORE PANELBOARDS)	(FROM STORE PANELBOARDS)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	DEFROST HEATERS (208/1)	CKT TAG
1	A2	SDR ORZH	1.60	0.9	4.37	6.88	17.50	A2
2	A2	SDR ORZH	1.60	0.9	4.37	6.88	17.50	
3	A2	SDR ORZH	1.60	0.9	4.37	6.88	17.50	
4	A2	SDR ORZH	1.60	0.9	4.37	6.88	17.50	
						27.52	(2) 35A (208/3)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	DEFROST HEATERS (208/1)	CKT TAG
1	A5	OWEVZ	0.15		0.81	0.96	8.65	A5
2	A5	12' OWIZV	0.44		2.87	3.31	17.30	
3	A5	12' OWIZV	0.44		2.87	3.31	17.30	
4	A5	OWEVZ	0.15		0.81	0.96	8.65	
						8.54	34.6 (208/3) & 34.6 (208/3)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	DEFROST HEATERS (208/1)	CKT TAG
1	A6	OIZ	0.30	0.0	0.71	1.01	11.60	A6
						1.01	11.6A (208/1)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	DEFROST HEATERS (208/1)	CKT TAG
1	A9	SDR ONRIZ	1.00	0.5	2.47	4.01	10.90	A9
						4.01	10.9A (208/1)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	DEFROST HEATERS (208/1)	CKT TAG
1	AL6	SDR ONRZH	1.00	0.5	2.71	4.25	10.90	AL6
						4.25	10.9A (208/1)	

			F	L	W	120/1/60 (FROM PANELBOARDS)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A14	6' GMD	0.30	0.2		0.50	A14
						0.50	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A15	6' BMD	0.90	0.2		1.14	A15
						1.14	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A16	6' BMD	1.20	0.4		1.56	A16
						1.56	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A16	12' OHPH	2.40	3.36		5.76	A18
2	A18	12' OHPH	2.40	3.36		5.76	
3	A18	12' OHPH	0.90	0.90		1.80	
4	A18	8' OHPH	0.90	0.90		1.80	
						15.12	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A19	8' OWDR L	0.70	0.4		1.07	A19
						1.07	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A20	12' OSDM-NRG	0.70	0.4		1.07	A20
						1.07	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A21	8' OSDM-NRG	0.70	0.4		1.07	A21
2	A21	8' OSDM-NRG	0.70	0.4		1.07	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A22	8' OSDM-NRG	0.70	0.4		1.07	A22
2	A22	12' OSDM-NRG	0.70	0.4		1.07	
						2.14	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A23	8' O3UM-NRG	0.32	0.2		0.52	A23
2	A23	8' O3UM-NRG	0.32	0.2		0.52	
						1.04	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A24	12' O3UM-NRG	0.47	0.3		0.72	A24
						0.72	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A25	12' O3UM-NRG	0.32	0.2		0.52	A25
2	A25	8' O3UM-NRG	0.32	0.2		0.52	
						1.04	

			F	L	W	120/1/60 (FROM PANELBOARDS)	
Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A26	10' ONUM-NRG	0.48	0.4		0.85	A26
						0.85	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A27	12' ONRBH	0.66	0.8	0.68	2.17	A27
2	A27	12' ONRBH	0.66	0.8	0.68	2.17	
						4.34	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A31	12' OHM-NRG	1.40	0.4		1.77	A31
2	A31	12' OHM-NRG	1.40	0.4		1.77	
3	A31	12' OHM-NRG	1.40	0.4		1.77	
						5.31	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A32	8' O3UM-NRG	0.32	0.2		0.52	A32
						0.52	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A33	12' OHM-NRG	1.40	0.4		1.77	A33
2	A33	12' OHM-NRG	1.40	0.4		1.77	
3	A33	8' OHM-NRG	1.40	0.4		1.77	
						5.31	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A34	6' O3.SUM-NRG	0.66	0.8	0.68	2.17	A34
2	A34	12' O3.SUM-NRG	0.66	0.8	0.68	2.17	
3	A34	12' O3.SUM-NRG	0.44	0.6	0.43	1.43	
4	A34	6' O3.SUM-NRG	0.44	0.6	0.43	1.43	
						7.20	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A35	8' ONSDM-NRG	1.20	0.4		1.56	A35
						1.56	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A36	12' SGM-30	0.70	0.4		1.07	A36
2	A36	12' SGM-30	0.47	0.3		0.72	
3	A36	8' SGM-30	0.47	0.3		0.72	
						2.51	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A38	18' SBI	0.66	0.5	0.55	1.67	A38
		VERIFY WITH OEM					
						1.67	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A42	8' O3UM-NRG	0.32	0.2		0.52	A42
						0.52	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A43	8' PTD	1.40	0.4		1.77	A43
2	A43	8' PTD	1.40	0.4		1.77	
3	A43	8' PTD	1.40	0.4		1.77	
						5.31	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A44	8' O2.SUM-NRG	0.32	0.2		0.52	A44
						0.52	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A45	12' O2.SUM-NRG	0.32	0.2		0.52	A45
						0.52	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A46	12' SBI	0.66	0.5		1.12	A46
		VERIFY WITH OEM					
						1.12	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A47	12' ON5DM-NRG	0.70	0.4		1.07	A47
2	A47	8' ON5DM-NRG	0.47	0.4		0.87	
						1.94	

Case#	SYS NO	DESCRIPTION	FANS	LTS	WRMS	F+L+W	CKT TAG
1	A49	8' OSDMH-NRG	0.47	0.4		0.84	A49
						0.84	

WIRING NOTES

- ALL LINE VOLTAGE TO THE DFC PANEL BY THE ELECTRICAL CONTRACTOR.
- ALL WIRING/CONDUIT FROM DFC TO EVAPORATOR BY THE REFRIGERATION CONTRACTOR.
- REFRIGERATION CONTRACTOR RESPONSIBLE FOR FINAL TERMINATIONS ON WALK-IN BOX EVAPORATORS.
- ELECTRICAL CONTRACTOR RESPONSIBLE FOR FINAL TERMINATIONS ON REFRIGERATED DISPLAY CASES.
- ALL WIRING TO THE DFC TO BE IN CONDUIT OR MEET LOCAL CODE, ALL CONDUIT SUPPLIED AND INSTALLED BE THE E.C.

NOTES: (ALL NOTES MAY NOT APPLY TO THIS PROJECT.)

- CONTROL PANELS ARE INTERNALLY PRE-WIRED, FURNISHED AS PART OF CONDENSING UNITS. ALL BREAKERS ARE RATED AT 10,000 AMPS. I.C. REFER TO WIRING DIAGRAMS.
- 1-PT. ELECTRICAL CONNECTION IS AVAILABLE FOR 208/230 VOLTS ONLY. 2-PT. ELECTRICAL CONNECTIONS ARE REQUIRED WHEN 480V IS USED FOR COMPRESSOR AND 208V/230V IS USED FOR DEFROST. REFER TO WIRING DIAGRAMS.
- FAN MOTORS AND CONSTANT ON WARNERS IN CASES MUST OPERATE CONTINUOUSLY. DO NOT CONNECT ANY OTHER LOAD ON SAME CIRCUIT. PANEL FOR THESE ITEMS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- CYCLING WARNERS ARE CONNECTED TO A CONTACTOR CONTROLLED BY HUMIDISTAT OR EQUAL. PANEL, CONTACTOR AND HUMIDISTAT FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- LIGHTS MUST BE ON A SEPARATE CIRCUIT FROM FANS AND WARNERS. PANEL FOR THESE ITEMS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- MAXIMUM OVERCURRENT PROTECTION FOR 120V CASE FAN CIRCUIT IS 30 AMP.
- DEFROST HEATERS, FAN MOTORS, WARNERS AND CASE LIGHT CONNECTIONS ON HILL PHOENIX CASES TO BE MADE AT FRONT LEFT-HAND END OF CASE. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL WIRING FOR CASE TO CASE "HOOK-UP".

- ALL CONDUIT, WIRING, OUTLETS, CONTROL PANEL (OTHER THAN THOSE FURNISHED BY OWNER OR REFRIGERATION CONTRACTOR), ETC. ARE TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO CONNECT ALL EQUIPMENT FURNISHED BY FIXTURE CONTRACTOR, OWNER AND/OR TENANT.
- DEFROST HEATERS IN CASES AND/OR COILS TO BE WIRED DIRECT BY ELECTRICAL CONTRACTOR FROM CASES AND/OR COILS TO DEFROST CONTROL PANEL LOCATED AT OR NEAR CONDENSING UNIT.
- ELECTRICAL CONTRACTOR TO CONNECT LIGHTS FOR SUPERSTRUCTURE WHEN ASSEMBLED IN THE FIELD.
- ELECTRICAL CONTRACTOR TO RUN CONDUIT FULL LENGTH OF PRODUCE CASES, MAKING CONNECTION AT "J" BOX ON LEFT HAND END OF EACH CASE FOR FANS AND LIGHTS.
- SOLENOID VALVES, DEFROST TERMINATION CONTROLS, ETC. FURNISHED AND INSTALLED BY REFRIGERATION CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
- THERMOSTAT FURNISHED BY REFRIGERATION CONTRACTOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL DISCONNECT SWITCHES, DOOR LIMIT SWITCHES, AND KEY OPERATED SWITCHES. REFER TO WIRING DIAGRAM.
- (2) WIRES REQUIRED FROM EACH CONTROL PANEL WITH ALARM CIRCUIT. INTERCONNECT ALL ALARM CIRCUITS AND CONNECT TO ALARM PANEL.

- ELECTRICAL CONTRACTOR TO WIRE CONTROL WIRES FROM CASES AND/OR COILS TO DEFROST CONTROL PANEL LOCATED AT OR NEAR CONDENSING UNIT. REFER TO WIRING DIAGRAM.
- ALARM PANEL IS INTERNALLY PRE-WIRED, FURNISHED BY OWNER OR REFRIGERATION CONTRACTOR, INSTALLED AND CONNECTED ON WALL BY ELECTRICAL CONTRACTOR. SEE PLAN FOR LOCATION. REFER TO WIRING DIAGRAM.
- ELECTRICAL CONTRACTOR TO WIRE AND CONNECT LIGHT AND FAN MOTOR IN EGG INSERT.
- LIGHTS FOR CORNICE OF HIGH WALL SHELVING TO BE FURNISHED BY OTHERS. ELECTRICAL CONTRACTOR TO INSTALL AND CONNECT THESE LIGHTS.
- ELECTRICAL CONTRACTOR TO FURNISH, INSTALL AND CONNECT LIGHT FIXTURES.
- ELECTRICAL CONTRACTOR TO FURNISH, INSTALL AND CONNECT DUPLEX PLUG-IN OUTLETS IN BASE OF GONDOLAS FROM "J" BOX SHOWN.
- ELECTRICAL CONTRACTOR TO PROVIDE FUSED DISCONNECT AND STARTER WITH OVERLOADS FOR STANDARD "MEKA" MOTOR. REFER TO WIRING DIAGRAM FOR CONTROL REQUIREMENTS.

LEGEND:

- SYSTEM NUMBER OR UNIT NUMBER.
- ◇ ITEM NUMBER AS SHOWN ON ELECTRICAL FLOOR PLAN (SHEET R4.0) AND ON MECHANICAL EQUIPMENT ROOM PLAN UNLESS NOTED OTHERWISE.
- ▽ NOTE NUMBER AS LISTED ON THIS SHEET.

GENERAL REQUIREMENTS:

- ELECTRICAL CONTRACTOR TO DO ALL WIRING AND CONNECTIONS INCLUDING CONDUITS, OUTLETS, BOXES IN ACCORDANCE WITH CODE REQUIREMENTS.
- ELECTRICAL CONTRACTOR TO VERIFY VOLTAGE, PHASE AND AMPERAGE REQUIREMENTS WITH CUSTOMER AND/OR SUPPLIER.
- IF VOLTAGE IS OTHER THAN 208V, USE THE FOLLOWING MULTIPLIERS TO GET AMPERAGE LOAD FOR DEFROST HEATER 1.06 FOR 220V, 1.1 FOR 230V, 1.15 FOR 240V.
- NO ALUMINUM WIRE TO BE CONNECTED TO HILL PHOENIX FURNISHED EQUIPMENT.

NOTE TO CONTRACTORS:
IT IS THE RESPONSIBILITY OF EACH CONTRACTOR TO OBTAIN AND USE THE LATEST PLANS. **ARCTIC COOLING SYSTEMS** WILL NOT BE RESPONSIBLE FOR ANY CONSTRUCTION WORK PERFORMED WITH OBSOLETE PLANS.

REVISIONS:



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SCALE:



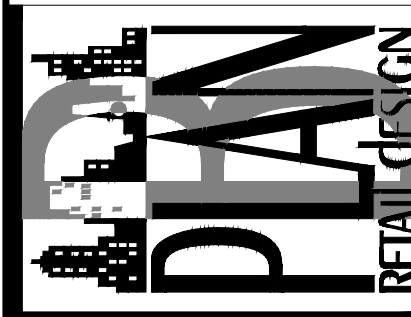
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PROJECT NAME:

ELECTRICAL REQUIREMENTS

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SHEET NO: R4.0