PANEL No. PA

BUS 400A
PANEL RATING 42 KAIC
SUPPLY VOLTAGE 120/240V
SERVICE 1 PHASE, 3 WIRE

LOCATION MECHANICAL/ELECTRICAL 115
MOUNTING SURFACE
DRAWING No.

WIRING WIRE	WIRING COND	DESCRIPTION	VA OR W ØA	VA OR W ØB	BREAKER POLE	BREAKER A	CKT. NO	bus conn	CKT. NO	BREAKER POLE	BREAKER A	VA OR W ØA	VA OR W ØB	DESCRIPTION	WIRING COND	WIRING WIRE
3#8,1#8G	1"	MECH – HVAC–1 (5 HP)	1610		2	50	1	x	2	2	15	795		MECH – HRU–1 (3/4 HP)	3/4"	3#12,1#12G
				1610			3	x	4				795			
3#2,1#2G	2"	PANEL PB	14614		2	50	5	x	6	2	15	795		MECH – RF–1 (3/4 HP)	3/4"	3#12,1#12G
				12893			7	x	8				795			
2#12,1#12G	3/4"	RECP – STAFF 105	1260		1	20	9	x	10	1	20	1330		MECH – B–1	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – OFFICE 104		1440	1	20	11	x	12	1	20		1330	MECH – B–2	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – STORAGE 108	1260		1	20	13	x	14	1	20	500		MECH – PUMPS	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – EXHIBIT 101		900	1	20	15	x	16	1	20		300	MECH – MOV JBOX	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – EXHIBIT 101	1080		1	20	17	x	18	1	20	500		MECH – BATHROOMS JBOXES	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – EXHIBIT 101		720	1	20	19	x	20	1	20		500	MECH – BATHROOMS JBOXES	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – EXHIBIT 101	540		1	20	21	x	22	1	20	500		EQUP – SECURITY CAMERAS	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – BATHROOMS 108&9		540	1	20	23	x	24	1	20		360	RECP – ATTIC	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – BATHROOMS 111, 113	720		1	20	25	x	26	2	20	750		MECH – WH–2	3/4"	3#12,1#12G
2#12,1#12G	3/4"	RECP – PAYPHONES		500	1	20	27	x	28				750			
2#12,1#12G	3/4"	RECP – CORR. 'B','C','D'&14	1260		1	20	29		30	1	20	600		MECH – PUMPS	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – VENDING 107		800	1	20	31	x	32	2	60		8000	MECH – CU–1	1 1/4"	3#6,1#6G
2#12,1#12G	3/4"	RECP – VENDING 107	800		1	20	33	x	34			8000				
2#12,1#12G	3/4"	RECP – VENDING 107		800	1	20	35		36	2	60		8000	MECH – CU–2	1 1/4"	3#6,1#6G
2#12,1#12G	3/4"	RECP – MECH/ELEC 115	540		1	20	37	x	38			8000				
2#12,1#12G	3/4"	RECP – EXTERIOR		1080	1	20	39	x	40	1	20		200	MECH – DDC	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – TV EQUIP AT DESK	540		1	20	41		42	1	20			SPARE		
		TOTAL 1	24224	21283					TOTAL	2		21770	21030			
		TOTAL 2	21770	21030												
		TOTAL 1 + 2	45994	42313												
		CONN. LOAD TOTAL	88307													
		AMPERES	368													

MAIN BREAKER 400A
FEEDER ENTRANCE BOTTOM
FEEDER SIZE 3#500KCMIL, 4"C
SOURCE UTILITY TRANSFORMER
PANEL TYPE BOLT–ON

MAIN LUGS N/A
ENCLOSURE TYPE NEMA 1
ACCESSORIES

PANEL No. PB

BUS 150A
PANEL RATING 22 KAIC
SUPPLY VOLTAGE 120/240V
SERVICE 1 PHASE, 3 WIRE

LOCATION MECHANICAL/ELECTRICAL 115
MOUNTING SURFACE
DRAWING No.

WIRING WIRE	WIRING COND	DESCRIPTION	VA OR W ØA	VA OR W ØB	BREAKER POLE	BREAKER A	CKT. NO	bus conn	CKT. NO	BREAKER POLE	BREAKER A	VA OR W ØA	VA OR W ØB	DESCRIPTION	WIRING COND	WIRING WIRE
2#12,1#12G	3/4"	LTS – ROOMS 101–105	981		1	20	1	x	2	1	20	400		EQUP – DOOR HOLDERS	3/4"	2#12,1#12G
2#12,1#12G	3/4"	LTS – EXHIBIT 101		1098	1	20	3	x	4	1	30		858	LTS – ALWAYS ON LIGHTS	3/4"	2#12,1#12G
2#12,1#12G	3/4"	LTS – EXHIBIT 101	1400		1	20	5	x	6	1	20	523		LTS – EAST PORCH	3/4"	2#12,1#12G
2#12,1#12G	3/4"	LTS – MECHANICAL ROOMS		409	1	20	7	x	8	1	20		564	LTS – SITE LIGHTS	SEE	DWG ES1
2#12,1#12G	3/4"	LTS – BATHROOMS	832		1	20	9	x	10	2	20	660		LTS – SITE LIGHTS	SEE	DWG ES1
2#12,1#12G	3/4"	LTS – CORR. "B" 106		126	1	20	11		12				840			
2#12,1#12G	3/4"	LTS – CORR. "B" 106&VEST	922		1	20	13	x	14	2	20	300		LTS – SITE LIGHTS	SEE	DWG ES1
2#12,1#12G	3/4"	LTS – EXIT		12	1	20	15	x	16				300			
2#12,1#12G	3/4"	LTS – ATTIC 201	256		1	20	17	x	18	2	20	360		LTS – SITE LIGHTS	SEE	DWG ES1
2#10,1#10G	1"	PICNIC AREA		548	1	20	19	x	20				360			
2#10,1#10G	1"	STORAGE BUILDING	274		1	20	21	x	22	1	20	376		LTS – PICNIC PAVILION	1"	2#10,1#10G
2#12,1#12G	3/4"	JBOX – HAND DRYERS		1150	1	20	23	x	24	1	20		188	LTS – STORAGE BLD EXTERIOR	1"	2#10,1#10G
2#12,1#12G	3/4"	JBOX – HAND DRYERS	1150		1	20	25	x	26	1	20	500		EQUP – TIME CLOCK	3/4"	2#12,1#12G
2#12,1#12G	3/4"	JBOX – HAND DRYERS		1150	1	20	27	x	28	1	20		500	EQUP – FIRE ALARM	3/4"	2#12,1#12G
2#12,1#12G	3/4"	JBOX – HAND DRYERS	1150		1	20	29	x	30	1	20	500		EQUP – SECURITY EQUIPMENT	3/4"	2#12,1#12G
2#12,1#12G	3/4"	RECP – BIRD CONTROL		360	1	20	31	x	32	1	20		400	EQUP – PEOPLE COUNTER	3/4"	2#12,1#12G
2#12,1#12G	3/4"	EQUIP – AUTO DOORS	1130		1	20	33	x	34	2	20	1020		LTS – SITE LIGHTS	SEE	DWG ES1
2#12,1#12G	3/4"	EQUIP – AUTO DOORS		1130	1	20	35	x	36				1020			
2#12,1#12G	3/4"	EQUIP – AUTO DOORS	1130		1	20	37	x	38	1	20			SPARE		
2#12,1#12G	3/4"	EQUIP – AUTO DOORS		1130	1	20	39	x	40	2	20		750	LTS – SITE LIGHTS	SEE	DWG ES1
		SPARE			1	20	41	x	42			750				
		TOTAL 1	9225	7113					TOTAL	2		5389	5780			
		TOTAL 2	5389	5780												
		TOTAL 1 + 2	14614	12893												
		CONN. LOAD TOTAL	27507													
		AMPERES	115													

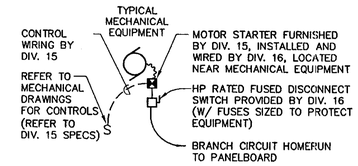
MAIN BREAKER N/A
FEEDER ENTRANCE TOP
FEEDER SIZE 3#1/0, 1#6G, 2"C
SOURCE PANEL PA
PANEL TYPE BOLT–ON

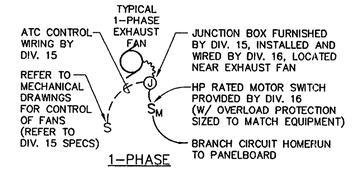
MAIN LUGS 150A
ENCLOSURE TYPE NEMA 1
ACCESSORIES

MECHANICAL EQUIPMENT – ELECTRICAL REQUIREMENTS SCHEDULE

MECHANICAL EQUIPMENT EQUIPMENT	MECHANICAL EQUIPMENT DESCRIPTION	ELECTRICAL EQUIPMENT DISCONNECT	ELECTRICAL EQUIPMENT CONTROLS	NOTES
HVAC–1	AIR HANDLING UNIT 5 HP, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 60A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
CU–1	CONDENSING UNIT 69.4A, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 60A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
CU–2	CONDENSING UNIT 69.4A, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 60A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
HRU–1	HEAT RECOVERY UNIT 3/4 HP, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 30A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
RF–1	RETURN FAN 3/4 HP, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 30A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
WH–2	WATER HEATER 1500W, 240V, 1P, 60HZ	3P, NEMA 1, 250V, HD, 30A NON–FUSED (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
B–1	BOILER 1 1/4 HP, 120V, 1P, 60HZ	1P, 120V, MOTOR RATED SERVICE SWITCH (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
B–2	BOILER 1 1/4 HP, 120V, 1P, 60HZ	1P, 120V, MOTOR RATED SERVICE SWITCH (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
PUMPS	PUMPS 1/6 HP, 120V, 1P, 60HZ	1P, 120V, MOTOR RATED SERVICE SWITCH (FURNISH & INSTALLED BY DIV 16)	FURNISHED BY DIV. 15, INSTALLED BY DIV 15	NOTES 1, 2
JBOXES	FOR CONTROLS 120V, 1P, 60HZ	(FURNISH & INSTALLED BY DIV 16)		NOTES 2

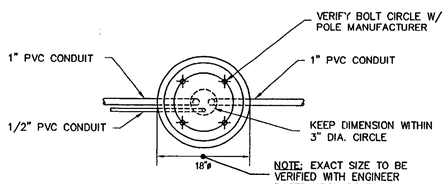
NOTES:
1. PROVIDE PROPERLY SIZED FUSES (MATCH EQUIPMENT NAMEPLATE) TYPICAL FOR EACH DISCONNECT.
2. ALL MECHANICAL EQUIPMENT SHALL HAVE HACR TYPE BREAKERS.

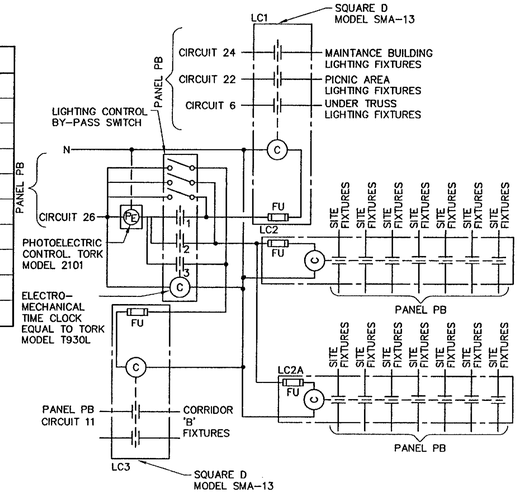




TYPICAL WIRING DIAGRAMS FOR EXHAUST FANS AND MOTORS (R / E2.1)

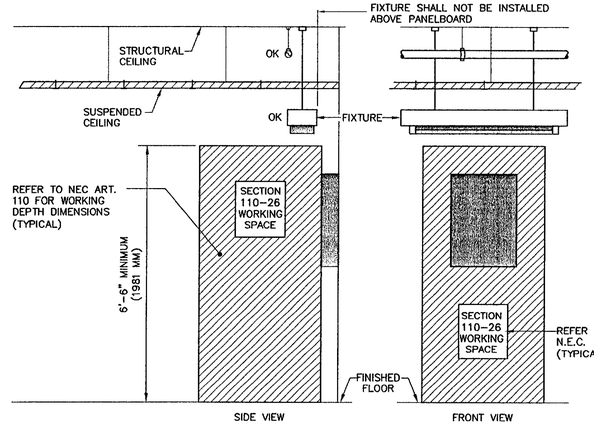
NOT TO SCALE



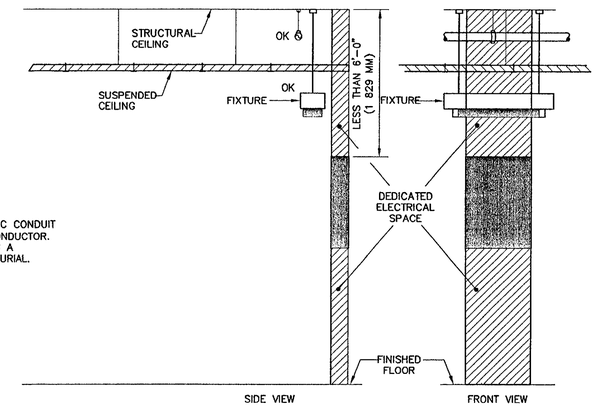


LIGHTING CONTACTOR SCHEMATIC WIRING DIAGRAM (T / E2.1)

NO SCALE



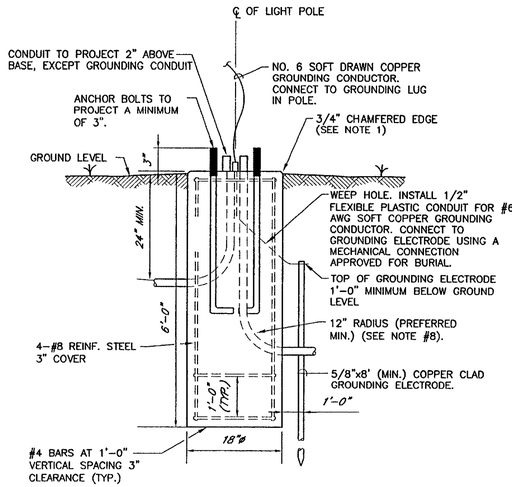
WORKING SPACE REQUIREMENTS



DEDICATED ELECTRICAL SPACE REQUIREMENTS

ELECTRICAL WORKING AND DEDICATED SPACE AT PANELBOARDS AND SWITCHBOARDS (Q / E2.1)

NOT TO SCALE



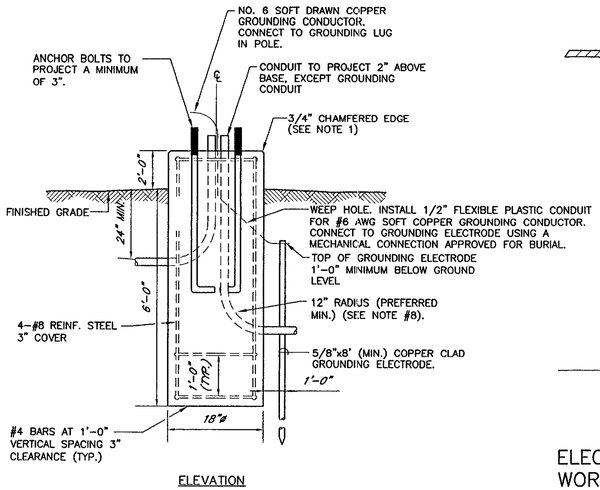
ELEVATION

STANDARD SIDEWALK CONCRETE BASE DETAIL (S / ES1)

NOT TO SCALE

CONCRETE BASE AND GENERAL NOTES:

1. ALL CONCRETE BASES TO BE CONCRETE CLASS B, AND SHALL HAVE A SMOOTH LEVEL TOP SURFACE FINISHED WITH A 3/4" RADIUS EDGING TOOL.
2. ALL REINFORCING STEEL TO CONFORM TO THE REQUIREMENTS FOR "REINFORCING STEEL".
3. TEMPLATE FOR ANCHOR BOLTS, STAINLESS STEEL ANCHOR BOLTS, NUTS AND WASHERS TO BE OBTAINED BY CONTRACTOR PRIOR TO CONSTRUCTION OF BASES.
5. CONDUIT SIZE – AS SHOWN ON THE PLANS.
6. ALL EXPOSED METAL HARDWARE EXCEPT ANCHOR BOLTS SHALL BE GALVANIZED STEEL.
7. IF THE ELECTRICAL CONDUIT IN THE CONCRETE BASE IS GALVANIZED STEEL, GROUNDING BUSHINGS SHALL BE USED.
8. THE MINIMUM RADIUS FOR RIGID METALLIC OR NONMETALLIC ELECTRICAL CONDUIT SHALL BE SIX TIMES THE INSIDE DIAMETER OF THE CONDUIT.
9. GROUT TO ELIMINATE ANY SPACE BETWEEN CONCRETE BASE AND METAL BASE OF FIXTURE.



ELEVATION

STANDARD PARKING AREA CONCRETE BASE DETAIL (P / ES1)

NOT TO SCALE

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REVISIONS

PROJECT

DERBY WELCOME CENTER
PROJECT #IM 091–3(8)

NEW FACILITY

DERBY VERMONT

DATE: 01/07/02
SCALE: NONE
CHECKED:
PROJECT NO: 2008

ELECTRICAL DETAILS

E4.1

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