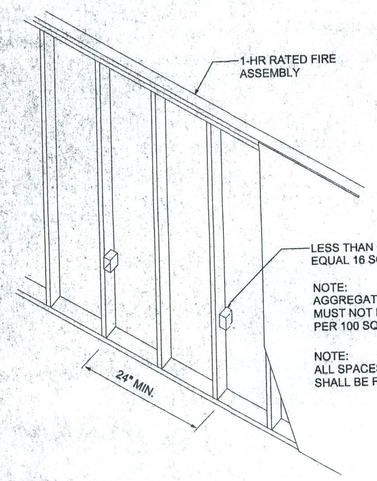


NOTE:
AGGREGATE AREA OF OUTLET BOXES MUST NOT EXCEED 100 SQARE INCHES PER 100 SQ. FT. OF WALL AREA.

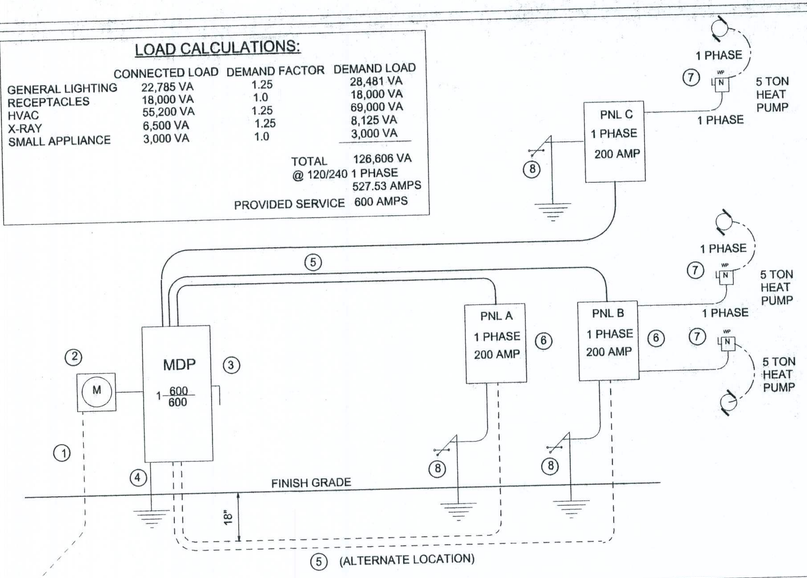
NOTE:
ALL SPACES AROUND PENETRATIONS SHALL BE FILLED WITH 1 HR FIRE CAULK.

1. Service/Feeder Entrance Conductors: 2 1/2" rigid conduit, min 18" deep, w. continuous ground bonding conductor, Service/ Entrance Conductors shall not be spliced except that bolted conections at the Meter, Disconnectiong Devices and Panel shall be allowed.
2. Existing Meter Enclosure, weatherproof, U.L. Listed.
3. Main Disconnect Switch: fused or Main Breaker, weatherproof, U.L. Listed.
4. Service entrance ground: 5/8" diameter iron/steel rod x 8'-0" long and/or concrete encased foundation steel rebar x 20'-0" long. Grounding conductor shall be bonded to each piece of Service/Entrance Equipment, and shall be sized per Item #5 below.
5. 200 Ampere Feeder: 3-3/0-THW-Cu, 1-#2-Cu-GND, 2 1/2" Conduit.
6. House Panel (PNL), U.L. Listed, sized per schedule.
7. Equipment Disconnect Switch: non-fused, in weather proof enclosure, size according to Panel Schedule loads.
8. Provide Ground Bond Wire to metal piping, size in accordance with the Service Ground Conductor.

NOTE:
The minimum AIC rating for panel boards, breakers and disconnect switches shall be 22,000 AIC.

LOAD CALCULATIONS:

	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
GENERAL LIGHTING	22,785 VA	1.25	28,481 VA
RECEPTACLES	18,000 VA	1.0	18,000 VA
HVAC	55,200 VA	1.25	69,000 VA
X-RAY	6,500 VA	1.25	8,125 VA
SMALL APPLIANCE	3,000 VA	1.0	3,000 VA
		TOTAL	126,606 VA
		@ 120/240 1 PHASE	527.53 AMPS
		PROVIDED SERVICE	600 AMPS



PANEL BOARD SCHEDULE

PANEL: PNL A — LOCATION: EQUIPMENT ROOM
TYPE: SQ.D. 'NQOD' — MAIN LUGS: ONLY — MAIN BREAKER: X — AMPS: 200
VOLTS: 120/240 — PHASE: 1 — WIRE: 3 — SINGLE POLES: 40
A.I.C. RATING: 22,000 KVA — FEEDER SIZE: 3 - 3/0 THW
MOUNTING / SURFACE: ____ — FEED / TOP: X — BOTTOM: ____
CABINET / STANDARD: X — FLUSH: X
TOTAL KW LOAD: 46,481

WIRE	GND.	COND.	APPLICATION	LOAD	CIR.	BRK.	BRK.	CIR.	LOAD	APPLICATION	COND.	GND.	WIRE
12	12	1/2"	LIGHTING		1	20/1	20/1	2		LIGHTING	1/2"	12	12
12	12	1/2"	LIGHTING		3	20/1	20/1	4		LIGHTING	1/2"	12	12
12	12	1/2"	LIGHTING		5	20/1	20/1	6		LIGHTING	1/2"	12	12
12	12	1/2"	LIGHTING		7	20/1	20/1	8		LIGHTING	1/2"	12	12
12	12	1/2"	LIGHTING		9	20/1	20/1	10		LIGHTING	1/2"	12	12
12	12	1/2"	LIGHTING		11	20/1	20/1	12		LIGHTING	1/2"	12	12
12	12	1/2"	RECEPT.		13	20/1	20/1	14		RECEPT.	1/2"	12	12
12	12	1/2"	RECEPT.		15	20/1	20/1	16		RECEPT.	1/2"	12	12
12	12	1/2"	RECEPT.		17	20/1	20/1	18		RECEPT.	1/2"	12	12
12	12	1/2"	RECEPT.		19	20/1	20/1	20		RECEPT.	1/2"	12	12
12	12	1/2"	EM. LIGHTS		21	20/1	20/1	22		BATHROOM	1/2"	12	12
12	12	1/2"	SM. APPLIANCE		23	20/1	20/1	24		SM. APPLIANCE	1/2"	12	12
12	12	1/2"			25	20/1	20/1	26			1/2"	12	12
			SPACE		27			28		SPACE			
			SPACE		39			40		SPACE			

LOAD CALCULATIONS:

	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
GENERAL LIGHTING	22,785 VA	1.25	28,481 VA
RECEPTACLES	18,000 VA	1.0	18,000 VA
		TOTAL	46,481 VA
		@ 120/240 1 PHASE	193.67 AMPS
		PROVIDED SERVICE	200 AMPS

PANEL BOARD SCHEDULE

PANEL: PNL B — LOCATION: EQUIPMENT ROOM
TYPE: SQ.D. 'NQOD' — MAIN LUGS: ONLY — MAIN BREAKER: X — AMPS: 200
VOLTS: 120/240 — PHASE: 1 — WIRE: 3 — SINGLE POLES: 40
A.I.C. RATING: 22,000 KVA — FEEDER SIZE: 3 - 3/0 THW
MOUNTING / SURFACE: ____ — FEED / TOP: X — BOTTOM: ____
CABINET / STANDARD: X — FLUSH: X
TOTAL KW LOAD: 46,000

WIRE	GND.	COND.	APPLICATION	LOAD	CIR.	BRK.	BRK.	CIR.	LOAD	APPLICATION	COND.	GND.	WIRE
8	10	3/4"	5 TON HEAT PUMP		1	40/2		2	40/2	5 TON HEAT PUMP	3/4"	10	8
					3			4					
4	6	1 1/4"	5 TON AIR HANDLER		5	80/2		6	80/2	5 TON AIR HANDLER	1 1/4"	6	4
					7			8					
					9								
					11								
			SPACE							SPACE			
			SPACE		39			40		SPACE			

LOAD CALCULATIONS:

	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
HVAC	36,800 VA	1.25	46,000 VA
		TOTAL	46,000 VA
		@ 120/240 1 PHASE	191.67 AMPS
		PROVIDED SERVICE	200 AMPS

PANEL BOARD SCHEDULE

PANEL: PNL C — LOCATION: EQUIPMENT ROOM
TYPE: SQ.D. 'NQOD' — MAIN LUGS: ONLY — MAIN BREAKER: X — AMPS: 200
VOLTS: 120/240 — PHASE: 1 — WIRE: 3 — SINGLE POLES: 40
A.I.C. RATING: 22,000 KVA — FEEDER SIZE: 3 - 3/0 THW
MOUNTING / SURFACE: ____ — FEED / TOP: X — BOTTOM: ____
CABINET / STANDARD: X — FLUSH: X
TOTAL KW LOAD: 44,250

WIRE	GND.	COND.	APPLICATION	LOAD	CIR.	BRK.	BRK.	CIR.	LOAD	APPLICATION	COND.	GND.	WIRE
8	10	1"	5 TON HEAT PUMP		1	40/2	80/2	2		5 TON AIR HANDLER	1 1/4"	6	4
					3			4					
10	12	3/4"	WATER HEATER		5	30/2	30/2	6		WATER HEATER	3/4"	12	10
					7			8					
10	12	3/4"	WATER HEATER		9	30/2	20/1	10		EM. LIGHTING	1/2"	12	12
					11		20/1	12		EXT. LIGHTING	1/2"	12	12
12	12	1/2"	EXT. LIGHTING		13	20/1	20/1	14		LANDSCAPE	1/2"	12	12
12	12	1/2"	LANDSCAPE		15	20/1	20/1	16		EXT. SIGNAGE	1/2"	12	12
8	10	1"	X-RAY		17	50/2		18		SPACE			
					19								
			SPACE		21								
			SPACE		39			40		SPACE			

LOAD CALCULATIONS:

	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
X-RAY	5,000 VA	1.25	5,625 VA
LIGHTING	12,500 VA	1.25	15,625 VA
HVAC	18,400 VA	1.25	23,000 VA
		TOTAL	44,250 VA
		@ 120/240 1 PHASE	184.38 AMPS
		PROVIDED SERVICE	200 AMPS

Withdrawn per 9/2/04

DR. GIEBEIG OFFICE

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Freeman Design Group inc.

CERTIFICATE OF AUTHORIZATION # 00008701

DATE	DRAWN BY
6/22/04	W.H.F.

REVISIONS

SHEET A-12
OF 12

PROJECT NO.