OPTIONAL SINGLE FAMILY CALCULATION

MKE & ASSOCIATES, INC.

UNIT	STUDIO - A1-A3 (WORST CASE)	
LINE TO LINE VOLTAGE, PHASE	208 V	1 Ø
SYSTEM VOLTAGE:	208V	
GENERAL LOADS		
(1) LIGHTING AND APPLIANCE LOAD		
UNIT SQUARE FOOTAGE	484 SQ FT	
CODE LOAD BASED ON SQ FT (3VA/FT SQ)	1,452 VA	
(2) KITCHEN APPLIANCE CIRCUITS	3,000 VA	
(3) LAUNDRY CIRCUIT IF APPLICABLE	1,500 VA	
(4) WATER HEATER	0 VA	
(5) DISPOSAL	750 VA	
(6) DISHWASHER	1,200 VA	
(7) MICROWAVE	1,200 VA	
(8) RANGE	8,200 VA	
(9) DRYER	5,000 VA	
NET CONNECTED LOAD	22,302 VA	
CODE DEMAND LOAD (100% FIRST 10KW, 40% FOR REMAINDER)	14,921 VA	
HEATING AND AIR-CONDITIONING LOAD		
USE THE LARGEST OF THE FOLLOWING SELECTIONS:		
(A) AIR CONDITIONING AND COOLING		
NAME PLATE RATING(S)		
(B) HEAT PUMP (W/ NO SUPPLEMENTAL ELECTRIC HEATING)		
NAME PLATE RATING(S)		
(C) HEAT PUMP (W/ SUPPLEMENTAL ELECTRIC HEATING)		
CAN THE HEAT PUMP RUN SIMULTANEOUSLY W/ ELEC. HEAT?	Y	
NAME PLATE RATING(S) FOR HEAT PUMP	1,768 VA	
NAME PLATE RATING(S) FOR ELECTRIC HEAT	2,000 VA	
(D) ELECTRIC HEATING		
NUMBER OF THERMOSTATS		
NAME PLATE RATING(S)		
(E) ELECTRIC THERMAL STORAGE/OTHER		
NAME PLATE RATING(S)		
HEATING AND AC CODE DEMAND	3,068 VA	
NET DEMAND	**17,989 VA**	
	86 AMPS	

OPTIONAL SINGLE FAMILY CALCULATION

MKE & ASSOCIATES, INC.

UNIT	1 BEDROOM LOFT - B1-B12 (WORST CASE)	
LINE TO LINE VOLTAGE, PHASE	208 V	1 Ø
SYSTEM VOLTAGE:	208V	
GENERAL LOADS		
(1) LIGHTING AND APPLIANCE LOAD		
UNIT SQUARE FOOTAGE	775 SQ FT	
CODE LOAD BASED ON SQ FT (3VA/FT SQ)	2,325 VA	
(2) KITCHEN APPLIANCE CIRCUITS	3,000 VA	
(3) LAUNDRY CIRCUIT IF APPLICABLE	1,500 VA	
(4) WATER HEATER	0 VA	
(5) DISPOSAL	750 VA	
(6) DISHWASHER	1,200 VA	
(7) MICROWAVE	1,200 VA	
(8) RANGE	8,200 VA	
(9) DRYER	5,000 VA	
NET CONNECTED LOAD	23,175 VA	
CODE DEMAND LOAD (100% FIRST 10KW, 40% FOR REMAINDER)	15,270 VA	
HEATING AND AIR-CONDITIONING LOAD		
USE THE LARGEST OF THE FOLLOWING SELECTIONS:		
(A) AIR CONDITIONING AND COOLING		
NAME PLATE RATING(S)		
(B) HEAT PUMP (W/ NO SUPPLEMENTAL ELECTRIC HEATING)		
NAME PLATE RATING(S)		
(C) HEAT PUMP (W/ SUPPLEMENTAL ELECTRIC HEATING)		
CAN THE HEAT PUMP RUN SIMULTANEOUSLY W/ ELEC. HEAT?	Y	
NAME PLATE RATING(S) FOR HEAT PUMP	4,056 VA	
NAME PLATE RATING(S) FOR ELECTRIC HEAT	2,000 VA	
(D) ELECTRIC HEATING		
NUMBER OF THERMOSTATS		
NAME PLATE RATING(S)		
(E) ELECTRIC THERMAL STORAGE/OTHER		
NAME PLATE RATING(S)		
HEATING AND AC CODE DEMAND	5,356 VA	
NET DEMAND	**20,626 VA**	
	99 AMPS	

OPTIONAL SINGLE FAMILY CALCULATION

MKE & ASSOCIATES, INC.

UNIT	1 BEDROOM - C1-C8 (WORST CASE)	
LINE TO LINE VOLTAGE, PHASE	208 V	1 Ø
SYSTEM VOLTAGE:	208V	
GENERAL LOADS		
(1) LIGHTING AND APPLIANCE LOAD		
UNIT SQUARE FOOTAGE	871 SQ FT	
CODE LOAD BASED ON SQ FT (3VA/FT SQ)	2,613 VA	
(2) KITCHEN APPLIANCE CIRCUITS	3,000 VA	
(3) LAUNDRY CIRCUIT IF APPLICABLE	1,500 VA	
(4) WATER HEATER	0 VA	
(5) DISPOSAL	750 VA	
(6) DISHWASHER	1,200 VA	
(7) MICROWAVE	1,200 VA	
(8) RANGE	8,200 VA	
(9) DRYER	5,000 VA	
NET CONNECTED LOAD	23,463 VA	
CODE DEMAND LOAD (100% FIRST 10KW, 40% FOR REMAINDER)	15,385 VA	
HEATING AND AIR-CONDITIONING LOAD		
USE THE LARGEST OF THE FOLLOWING SELECTIONS:		
(A) AIR CONDITIONING AND COOLING		
NAME PLATE RATING(S)		
(B) HEAT PUMP (W/ NO SUPPLEMENTAL ELECTRIC HEATING)		
NAME PLATE RATING(S)		
(C) HEAT PUMP (W/ SUPPLEMENTAL ELECTRIC HEATING)		
CAN THE HEAT PUMP RUN SIMULTANEOUSLY W/ ELEC. HEAT?	Y	
NAME PLATE RATING(S) FOR HEAT PUMP	2,933 VA	
NAME PLATE RATING(S) FOR ELECTRIC HEAT	2,000 VA	
(D) ELECTRIC HEATING		
NUMBER OF THERMOSTATS		
NAME PLATE RATING(S)		
(E) ELECTRIC THERMAL STORAGE/OTHER		
NAME PLATE RATING(S)		
HEATING AND AC CODE DEMAND	4,233 VA	
NET DEMAND	**19,618 VA**	
	94 AMPS	

OPTIONAL SINGLE FAMILY CALCULATION

MKE & ASSOCIATES, INC.

UNIT	2 BEDROOM - D1-D4 (WORST CASE)	
LINE TO LINE VOLTAGE, PHASE	208 V	1 Ø
SYSTEM VOLTAGE:	208V	
GENERAL LOADS		
(1) LIGHTING AND APPLIANCE LOAD		
UNIT SQUARE FOOTAGE	1,283 SQ FT	
CODE LOAD BASED ON SQ FT (3VA/FT SQ)	3,849 VA	
(2) KITCHEN APPLIANCE CIRCUITS	3,000 VA	
(3) LAUNDRY CIRCUIT IF APPLICABLE	1,500 VA	
(4) WATER HEATER	0 VA	
(5) DISPOSAL	750 VA	
(6) DISHWASHER	1,200 VA	
(7) MICROWAVE	1,200 VA	
(8) RANGE	8,200 VA	
(9) DRYER	5,000 VA	
NET CONNECTED LOAD	24,699 VA	
CODE DEMAND LOAD (100% FIRST 10KW, 40% FOR REMAINDER)	15,880 VA	
HEATING AND AIR-CONDITIONING LOAD		
USE THE LARGEST OF THE FOLLOWING SELECTIONS:		
(A) AIR CONDITIONING AND COOLING		
NAME PLATE RATING(S)		
(B) HEAT PUMP (W/ NO SUPPLEMENTAL ELECTRIC HEATING)		
NAME PLATE RATING(S)		
(C) HEAT PUMP (W/ SUPPLEMENTAL ELECTRIC HEATING)		
CAN THE HEAT PUMP RUN SIMULTANEOUSLY W/ ELEC. HEAT?	Y	
NAME PLATE RATING(S) FOR HEAT PUMP	4,056 VA	
NAME PLATE RATING(S) FOR ELECTRIC HEAT	2,000 VA	
(D) ELECTRIC HEATING		
NUMBER OF THERMOSTATS		
NAME PLATE RATING(S)		
(E) ELECTRIC THERMAL STORAGE/OTHER		
NAME PLATE RATING(S)		
HEATING AND AC CODE DEMAND	5,356 VA	
NET DEMAND	**21,236 VA**	
	102 AMPS	

LOAD SUMMARY - PANEL GDP

PANEL	LIGHTS	RECEPT	HEATING	KITCHEN	EQUIP	MOTORS	MISC	TOTAL
	LOAD TYPE							
ATS-EM	14493 VA	1080 VA			2100 VA			17673 VA
ATS-SB		540 VA			22580 VA	103185 VA		126305 VA
FIRE PUMP						27945 VA		27945 VA
TOTAL	14493 VA	1620 VA			24680 VA	103185 VA		171923 VA
CODE FACTOR	125.00%	100.00%			100.00%	100.00%		
CODE LOAD	18116 VA	1620 VA			24680 VA	103185 VA		182533 VA
LARGEST MOTOR	FIRE PUMP ^^							

^^ FIRE PUMP IS LARGEST MOTOR LOAD AND HAS BEEN CALCULATED AT 125% LOAD. — **507 120/208 Wye**

COPPER 3-WIRE FEEDER CONDUCTOR SCHEDULE

(THHN/THWN COPPER PHASE [& NEUTRAL*] CONDUCTOR ONLY)
(THHN/THWN COPPER GROUND CONDUCTOR)

TAG	CONDUIT	CONDUCTOR	EQUIPMENT GROUND
0303	1/2"	3 #10	#10
0403	3/4"	3 #8	#10
0503	3/4"	3 #6	#10
0603	3/4"	3 #6	#10
0703	1"	3 #4	#8
0803	1 1/4"	3 #3	#8
0903	1 1/4"	3 #3	#8
1003	1 1/4"	3 #2	#8
1253	1 1/2"	3 #1	#6
1503	1 1/2"	3 #1/0	#6
1753	2"	3 #2/0	#6
2003	2"	3 #3/0	#6
2253	2"	3 #4/0	#4
2503	2 1/2"	3 #250KCM	#4
3003	3"	3 #350KCM	#4
4003	3"	3 #600KCM	#3
6003	(2) 3" EACH W/	3 #350KCM	#1
8003	(2) 3" EACH W/	3 #600KCM	#1/0
10003	(4) 2 1/2" EACH W/	3 #250KCM	#2/0
12003	(4) 3" EACH W/	3 #350KCM	#3/0
16003	(5) 3" EACH W/	3 #400KCM	#4/0
20003	(6) 3" EACH W/	3 #400KCM	#250KCM
25003	(7) 3" EACH W/	3 #500KCM	#350KCM
30003	(8) 3" EACH W/	3 #500KCM	#400KCM

* NOTE: WHERE FEEDER TYPE IS USED ON A SINGLE PHASE FEEDER THE CONDUCTOR SHOWN IS TWO PHASE CONDUCTORS AND FULL SIZE NEUTRAL CONDUCTOR

ALUMINUM 3-WIRE FEEDER CONDUCTOR SCHEDULE

(ALUMINUM PHASE [& NEUTRAL*] CONDUCTOR ONLY)
(ALUMINUM GROUND CONDUCTOR)

CONDUIT	CONDUCTOR	EQUIPMENT GROUND
1-1/2"	3 #1/0	#6
2"	3 #2/0	#4
2"	3 #3/0	#4
2"	3 #4/0	#4
2"	3 #250KCM	#4
2-1/2"	3 #300KCM	#2
3"	3 #350KCM	#2
3"	3 #500KCM	#2
(2) 3" EACH W/	3 #250KCM	#1
(2) 3" EACH W/	3 #500KCM	#2/0
(3) 3" EACH W/	3 #500KCM	#3/0
(4) 3" EACH W/	3 #350KCM	#4/0
(4) 3" EACH W/	3 #500KCM	#250KCM
(5) 4" EACH W/	3 #600KCM	#350KCM
(6) 4" EACH W/	3 #600KCM	#400KCM
(7) 4" EACH W/	3 #750KCM	#600KCM
(8) 4" EACH W/	3 #750KCM	#600KCM

WHERE FEEDER TYPE IS USED ON A SINGLE PHASE FEEDER THE CONDUCTOR SHOWN IS TWO PHASE CONDUCTORS AND FULL SIZE NEUTRAL CONDUCTOR

COPPER 4-WIRE FEEDER CONDUCTOR SCHEDULE

(THHN/THWN COPPER PHASE & NEUTRAL CONDUCTOR ONLY)
(THHN/THWN COPPER GROUND CONDUCTOR)

TAG	CONDUIT	CONDUCTOR	EQUIPMENT GROUND
0304	1/2"	4 #10	#10
0404	3/4"	4 #8	#10
0504	1"	4 #6	#10
0604	1"	4 #6	#10
0704	1 1/4"	4 #4	#8
0804	1 1/4"	4 #3	#8
0904	1 1/4"	4 #3	#8
1004	1 1/2"	4 #2	#8
1254	1 1/2"	4 #1	#6
1504	2"	4 #1/0	#6
1754	2"	4 #2/0	#6
2004	2"	4 #3/0	#6
2254	2 1/2"	4 #4/0	#4
2504	3"	4 #250KCM	#4
3004	3"	4 #350KCM	#4
4004	4"	4 #600KCM	#3
6004	(2) 3" EACH W/	4 #350KCM	#1
8004	(2) 4" EACH W/	4 #600KCM	#1/0
10004	(4) 3" EACH W/	4 #250KCM	#2/0
12004	(4) 3" EACH W/	4 #350KCM	#3/0
16004	(5) 4" EACH W/	4 #400KCM	#4/0
20004	(6) 4" EACH W/	4 #400KCM	#250KCM
25004	(7) 4" EACH W/	4 #500KCM	#350KCM
30004	(8) 4" EACH W/	4 #500KCM	#400KCM

ALUMINUM 4-WIRE FEEDER CONDUCTOR SCHEDULE

(ALUMINUM PHASE & NEUTRAL CONDUCTORS)
(ALUMINUM GROUND CONDUCTOR)

CONDUIT	CONDUCTOR	EQUIPMENT GROUND
2"	4 #1/0	#6
2"	4 #2/0	#4
2"	4 #3/0	#4
2"	4 #4/0	#4
2-1/2"	4 #250KCM	#4
3"	4 #300KCM	#2
3"	4 #350KCM	#2
4"	4 #500KCM	#2
(2) 4" EACH W/	4 #250KCM	#1
(2) 4" EACH W/	4 #500KCM	#2/0
(3) 4" EACH W/	4 #500KCM	#3/0
(4) 3" EACH W/	4 #350KCM	#4/0
(4) 4" EACH W/	4 #500KCM	#250KCM
(5) 4" EACH W/	4 #600KCM	#350KCM
(6) 4" EACH W/	4 #600KCM	#400KCM
(7) 4" EACH W/	4 #750KCM	#600KCM
(8) 4" EACH W/	4 #750KCM	#600KCM

LOAD SUMMARY - PANEL MSB1

PANEL	LIGHTS	RECEPT	HEATING	KITCHEN	EQUIP	MOTORS	MISC	TOTAL
	LOAD TYPE							
FIRE PUMP						27945 VA		27945 VA
SDP-A	16820 VA	35640 VA	9000 VA		178791 VA	244534 VA		484785 VA
MC-03							387260 VA	387260 VA
MC-R (ESTIMATED)	6000 VA	13040 VA	25900 VA	32000 VA	32320 VA	42000 VA		151260 VA
TOTAL	22820 VA	48680 VA	34900 VA	32000 VA	211111 VA	314479 VA	387260 VA	1051250 VA
CODE FACTOR	125.00%	60.27%	125.00%	100.00%	100.00%	100.00%	100.00%	
CODE LOAD	28525 VA	29340 VA	43625 VA	32000 VA	211111 VA	314479 VA	387260 VA	1046340 VA
LARGEST MOTOR	FIRE PUMP ^^							

^^ FIRE PUMP IS LARGEST MOTOR LOAD AND HAS BEEN CALCULATED AT 125% LOAD. — **2904 120/208 Wye**

LOAD SUMMARY - PANEL SDP-A

PANEL	LIGHTS	RECEPT	HEATING	KITCHEN	EQUIP	MOTORS	MISC	TOTAL
	LOAD TYPE							
ATS-EM	14493 VA	1080 VA			2100 VA			17673 VA
ATS-SB		540 VA			22580 VA	103185 VA		126305 VA
2H2A	1883 VA	9360 VA	8250 VA		21323 VA	2132 VA		42948 VA
2H2B		7740 VA			25548 VA	104792 VA		138080 VA
2H4		9180 VA			3200 VA			12380 VA
2H7	444 VA	5760 VA			9400 VA	10 VA		15614 VA
2H7M		1980 VA	750 VA		94640 VA	34415 VA		131785 VA
TOTAL	16820 VA	35640 VA	9000 VA		178791 VA	244534 VA		484785 VA
CODE FACTOR	125.00%	64.03%	125.00%		100.00%	100.00%		
CODE LOAD	21025 VA	22820 VA	11250 VA		178791 VA	244534 VA		478420 VA
LARGEST MOTOR	BP-1a ^^							

^^ BP-1a IS LARGEST MOTOR LOAD AND HAS BEEN CALCULATED AT 125% LOAD. — **1328 120/208 Wye**

MECHANICAL EQUIPMENT SCHEDULE

TAG	NUMBER	DESCRIPTION	VOLTAGE (V)	PHASE	HORSEPOWER (HP)	LOAD (VA)	FLA (A)	MCA (A)	FEEDER (CU)	PANEL	CIRCUIT #	COMMENTS
BC	1	BC CONTROLLER	208 V	1	0.00	343	0.00	1.65	1/2"C., #12, #12 GND	2H2A	42,44	
BP	1a	BOOSTER PUMP	208 V	3	25.00	35190	0.00	0.00	1-1/2"C., #1, #6 GND	2H2B	73,75,77	
BP	1b	BOOSTER PUMP	208 V	3	25.00	28152	0.00	0.00	1-1/2"C., #1, #6 GND	2H2B	79,81,83	
CU	1	CONDENSING UNIT	208 V	1	0.00	3952	0.00	19.00	1/2"C., #10, #10 GND	2SB7	38,40	NOTE #1.
CU	2	CONDENSING UNIT	208 V	1	0.00	3952	0.00	19.00	1/2"C., #10, #10 GND	2SB7	42,44	NOTE #1.
CU	3	CONDENSING UNIT	208 V	1	0.00	3952	0.00	19.00	1/2"C., #10, #10 GND	2SB2	39,41	NOTE #1.
DS	1	DUCTLESS SPLIT SYSTEM (INDOOR)	208 V	1	0.00	208	0.00	1.00	1/2"C., #10, #10 GND	2SB7	38,40	NOTE #1, #3.
DS	2	DUCTLESS SPLIT SYSTEM (INDOOR)	208 V	1	0.00	208	0.00	1.00	1/2"C., #10, #10 GND	2SB7	42,44	NOTE #1, #3.
DS	3	DUCTLESS SPLIT SYSTEM (INDOOR)	208 V	1	0.00	208	0.00	1.00	1/2"C., #10, #10 GND	2SB2	39,41	NOTE #1, #3.
EF	1	PARKING GARAGE EXHAUST FAN	208 V	3	2.00	2808	0.00	0.00	1/2"C., #12, #12 GND	2H2B	43,45,47	
EF	2	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	32	NOTE #1, #2.
EF	3A	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	1	NOTE #1, #2.
EF	3B	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	3	NOTE #1, #2.
EF	3C	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	5	NOTE #1, #2.
EF	4A	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	7	NOTE #1, #2.
EF	4B	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	9	NOTE #1, #2.
EF	4C	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	11	NOTE #1, #2.
EF	5A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	13	NOTE #1, #2.
EF	5B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	15	NOTE #1, #2.
EF	5C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	17	NOTE #1, #2.
EF	6A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	19	NOTE #1, #2.
EF	6B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	21	NOTE #1, #2.
EF	6C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	23	NOTE #1, #2.
EF	7A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	25	NOTE #1, #2.
EF	7B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	27	NOTE #1, #2.
EF	7C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	29	NOTE #1, #2.
EF	8A	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	31	NOTE #1, #2.
EF	8B	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	33	NOTE #1, #2.
EF	8C	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	35	NOTE #1, #2.
EF	9A	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	37	NOTE #1, #2.
EF	9B	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	39	NOTE #1, #2.
EF	9C	EXHAUST FAN	120 V	1	0.17	528	0.00	0.00	1/2"C., #12, #12 GND	2SB7	41	NOTE #1, #2.
EF	10A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	43	NOTE #1, #2.
EF	10B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	45	NOTE #1, #2.
EF	10C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	47	NOTE #1, #2.
EF	11A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	49	NOTE #1, #2.
EF	11B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	51	NOTE #1, #2.
EF	11C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	53	NOTE #1, #2.
EF	12A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	55	NOTE #1, #2.
EF	12B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	57	NOTE #1, #2.
EF	12C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	59	NOTE #1, #2.
EF	13A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	61	NOTE #1, #2.
EF	13B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	63	NOTE #1, #2.
EF	13C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	65	NOTE #1, #2.
EF	14A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	67	NOTE #1, #2.
EF	14B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	69	NOTE #1, #2.
EF	14C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	71	NOTE #1, #2.
EF	15A	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	2	NOTE #1, #2.
EF	15B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	4	NOTE #1, #2.
EF	15C	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	6	NOTE #1, #2.
EF	16A	EXHAUST FAN	120 V	1	0.50	1176	0.00	0.00	1/2"C., #12, #12 GND	2SB7	8	NOTE #1, #2.
EF	16B	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	10	NOTE #1, #2.
EF	16C	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	12	NOTE #1, #2.
EF	17A	EXHAUST FAN	120 V	1	0.50	1176	0.00	0.00	1/2"C., #12, #12 GND	2SB7	14	NOTE #1, #2.
EF	17B	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	16	NOTE #1, #2.
EF	17C	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	18	NOTE #1, #2.
EF	18	EXHAUST FAN	120 V	1	0.00	166	0.00	0.00	1/2"C., #12, #12 GND	2H2A	3	NOTE #2, #7.
EF	19A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	20	NOTE #1, #2.
EF	19B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	22	NOTE #1, #2.
EF	19C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	24	NOTE #1, #2.
EF	20A	EXHAUST FAN	120 V	1	0.33	864	0.00	0.00	1/2"C., #12, #12 GND	2SB7	26	NOTE #1, #2.
EF	20B	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	28	NOTE #1, #2.
EF	20C	EXHAUST FAN	120 V	1	0.25	696	0.00	0.00	1/2"C., #12, #12 GND	2SB7	30	NOTE #1, #2.
EF	21	BATHROOM EXHAUST FAN	120 V	1	0.00	10	0.00	0.00	1/2"C., #12, #12 GND	2H2A	43	NOTE #4.
EF	22	EXHAUST FAN	120 V	1	0.00	161	0.00	0.00	1/2"C., #12, #12 GND	2H2A	46	NOTE #2, #7, #9.
EF	23	BATHROOM EXHAUST FAN	120 V	1	0.00	10	0.00	0.00	1/2"C., #12, #12 GND	2H2A	23	NOTE #5, #6.
EF	24	EXHAUST FAN	120 V	1	0.00	306	0.00	0.00	1/2"C., #12, #12 GND	2SB2	36	NOTE #1, #6.
EF	25	EXHAUST FAN	120 V	1	0.00	10	0.00	0.00	1/2"C., #12, #12 GND	2H7	29	
EF	26	EXHAUST FAN	120 V	1	0.00	10	0.00	0.00	1/2"C., #12, #12 GND	2H2B	26	NOTE #4.
EF	27	EXHAUST FAN	120 V	1	0.50	1176	0.00	0.00	1/2"C., #12, #12 GND	2H2B	49	
EF	28	EXHAUST FAN	120 V	1	0.50	1176	0.00	0.00	1/2"C., #12, #12 GND	2H2B	51	
EFC	1	ELECTRIC FAN COIL	208 V	1	0.00	5000	0.00	24.00	3/4"C., #8, #10 GND	2H2A	22,24	
EUH	1	ELECTRIC UNIT HEATER	208 V	3	0.00	5000	0.00	0.00	1/2"C., #10, #10 GND	2EVC	2,4,6	
EUH	2	ELECTRIC UNIT HEATER	208 V	3	0.00	3300	0.00	0.00	1/2"C., #10, #10 GND	2EVC	8,10,12	
EUH	14	ELECTRIC UNIT HEATER	208 V	3	0.00	3300	0.00	0.00	1/2"C., #10, #10 GND	2EVC	14,16,18	
EUH	15	ELECTRIC UNIT HEATER	208 V	3	0.00	3300	0.00	0.00	1/2"C., #10, #10 GND	2EVC	20,22,24	
EUH	16	ELECTRIC UNIT HEATER	208 V	3	0.00	5000	0.00	0.00	1/2"C., #10, #10 GND	2EVC	26,28,30	
EWH	3	ELECTRIC UNIT HEATER	120 V	1	0.00	1500	0.00	0.00	1/2"C., #12, #12 GND	2H2A	63	
EWH	4	ELECTRIC UNIT HEATER	120 V	1	0.00	1500	0.00	0.00	1/2"C., #12, #12 GND	2H2A	65	
EWH	5	ELECTRIC UNIT HEATER	208 V	1	0.00	3000	0.00	0.00	1/2"C., #12, #12 GND	2H2A	69,71	
EWH	6	ELECTRIC UNIT HEATER	120 V	1	0.00	1500	0.00	0.00	1/2"C., #12, #12 GND	2H2A	67	
EWH	12	ELECTRIC WALL HEATER	208 V	1	0.00	750	0.00	0.00	1/2"C., #12, #12 GND	2H2A	50,52	
EWH	13	ELECTRIC UNIT HEATER	208 V	1	0.00	750	0.00	0.00	1/2"C., #12, #12 GND	2H7M	32,34	
FC	1-1	FAN COIL UNIT	208 V	1	0.00	104	0.00	0.50	1/2"C., #12, #12 GND	2H2A	14,16	
FC	1-2	FAN COIL UNIT	208 V	1	0.00	709	0.00	3.41	1/2"C., #12, #12 GND	2H2A	18,20	
FC	1-3	FAN COIL UNIT	208 V	1	0.00	689	0.00	3.31	1/2"C., #12, #12 GND	2H2A	14,16	
FC	1-4	FAN COIL UNIT	208 V	1	0.00	691	0.00	3.32	1/2"C., #12, #12 GND	2H2A	18,20	
FC	2-1	FAN COIL UNIT	208 V	1	0.00	859	0.00	4.13	1/2"C., #12, #12 GND	2H2A	30,32	
FC	2-2	FAN COIL UNIT	208 V	1	0.00	1171	0.00	5.63	1/2"C., #12, #12 GND	2H2A	34,36	
FC	2-3	FAN COIL UNIT	208 V	1	0.00	1171	0.00	5.63	1/2"C., #12, #12 GND	2H2A	38,40	
HP	1A	HEAT PUMP	208 V	3	0.00	18720	0.00	52.00	1-1/4"C., #4, #8 GND	2H7M	20,22,24	
HP	1B	HEAT PUMP	208 V	3	0.00	15480	0.00	43.00	1"C., #6, #10 GND	2H7M	26,28,30	
RCP	1	RECIRCULATION PUMP	120 V	1	0.00	215	0.00	0.00	1/2"C., #12, #12 GND	2H7M	1	
RCP	2	RECIRCULATION PUMP	120 V	1	0.00	215	0.00	0.00	1/2"C., #12, #12 GND	2H2A	8	
RTU	1	ROOFTOP UNIT	208 V	3	0.00	37080	0.00	103.00	1-1/2"C., #1, #6 GND	2H7M	2,4,6	
RTU	2	ROOFTOP UNIT	208 V	3	0.00	37080	0.00	103.00	1-1/2"C., #1, #6 GND	2H7M	8,10,12	
RTU	3	ROOFTOP UNIT	208 V	3	0.00	15480	0.00	43.00	1"C., #6, #10 GND	2H7M	14,16,18	
SD	1-1	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB2	35	
SD	1-2	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB2	35	
SD	9-1	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB7	34	NOTE #1.
SD	9-2	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB7	36	NOTE #1, #8.
SD	9-3	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB7	36	NOTE #1, #8.
SD	9-4	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB7	36	NOTE #1, #8.
SD	9-5	SMOKE DAMPER	120 V	1	0.00	200	0.00	0.00	1/2"C., #12, #12 GND	2SB7	36	NOTE #1, #8.
SF	1	SUPPLY FAN	120 V	1	0.50	1176	0.00	0.00	1/2"C., #12, #12 GND	2H2A	54	NOTE #2, #10.
SF	2	GENERATOR ROOM TRANSFER SWITCH	208 V	3	0.00	1450	0.00	0.00	1/2"C., #12, #12 GND	2SB2	38,40,42	NOTE #1, #2.
SP	1	ELEVATOR PIT SUMP PUMP	208 V	3	1.00	3240	0.00	0.00	1/2"C., #12, #12 GND	2SB2	8,10,12	NOTE #1.
SP	2	CAR STACKER PIT SUMP PUMP	208 V	3	1.00	3240	0.00	0.00	1/2"C., #12, #12 GND	2H2B	7,9,11	
SP	3	CAR STACKER PIT SUMP PUMP	208 V	3	1.00	3240	0.00	0.00	1/2"C., #12, #12 GND	2H2B	13,15,17	
SP	4	CAR STACKER PIT SUMP PUMP	208 V	3	1.00	3240	0.00	0.00	1/2"C., #12, #12 GND	2H2B	19,21,23	
SPF	1	STAIR PRESSURIZATION FAN	208 V	3	7.50	9108	0.00	0.00	1"C., #6, #10 GND	2SB7	68,70,72	NOTE #1, #2, #8.
SPF	1A	EXIT PASSAGEWAY PRESSURIZATION FAN	120 V	1	0.00	305	0.00	0.00	1/2"C., #12, #12 GND	2SB2	37	NOTE #1, #2, #8.
SPF	2	STAIR PRESSURIZATION FAN	208 V	3	7.50	9108	0.00	0.00	1"C., #6, #10 GND	2SB7	74,76,78	NOTE #1, #2, #8.
WH	1a	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	5	
WH	1b	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	9	
WH	1c	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	13	
WH	1d	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	17	
WH	1e	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	21	
WH	1f	GAS WATER HEATER	120 V	1	0.00	600	0.00	0.00	1/2"C., #12, #12 GND	2H7M	25	
WH	2	ELECTRIC WATER HEATER	208 V	3	0.00	6000	0.00	0.00	1/2"C., #10, #10 GND	2H2A	2,4,6	
WH	3	ELECTRIC WATER HEATER	120 V	1	0.00	1400	0.00	0.00	1/2"C., #12, #12 GND	2H7M	29	

NOTES:
1. EMERGENCY POWER.
2. PROVIDED WITH FAN SPEED CONTROLLER.
3. FED FROM OUTDOOR UNIT.
4. CONNECT TO LOCAL LIGHTING CIRCUIT / SWITCH.
5. CONNECT TO LOCAL RECEPTACLE CIRCUIT.
6. INTERLOCK WITH LOCAL LIGHT SWITCH.
7. CONTROL WITH WALL MOUNTED SWITCH.
8. CONTROL AND POWER WIRING SHALL BE ENCLOSED IN A 2 HOUR FIRE BARRIER CONSTRUCTION.
9. INTERLOCK WITH FC 2-3.
10. INTERLOCK WITH FC 2-1.

3

City Of Portland
REVIEWED FOR CODE COMPLIANCE
Date: 02/11/20
Project: 19-106743-REV-01-CO

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PORTLAND, OREGON, 97219
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PHONE: (503) 892-1188

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 20, 1993
STEPHEN M. LOCKHART
EXPIRES 12-31-20

18TH & SALMON

GREYSTAR
1715 SW Salmon St
Portland, OR 97205

REVISIONS

B	PERMIT RESPONSE 2	07/26/2019
D	ELECT PLAN REVIEW	10/02/2019
3	AB-01	09/27/2019

CHECKED BY: SL
ISSUE DATE: 27 SEP 2019
PROJECT NO: 1803002

ELECTRICAL SCHEDULES

E00.03

CONSTRUCTION SET

10/31/2019 10:35:57 AM