

ELECTRICAL NOTES:

- BREAKERS IN METER BANK SHALL HAVE "AIC" RATING GREATER THAN THE AVAILABLE FAULT CURRENT. ELECTRICAL CONTRACTOR IS TO CONTACT POWER COMPANY FOR AVAILABLE FAULT CURRENT AT THE SERVICE DELIVERY POINT AND PROVIDE THAT INFORMATION TO THE ENGINEER ALONG WITH CONDUIT AND CONDUCTOR SIZE AND MATERIAL AND LENGTH OF RUN FROM POINT OF DELIVERY TO METER. AVAILABLE FAULT CURRENT FOR EACH METER BANK AND THE HOUSE PANEL SHALL BE CALCULATED AND EACH METER BANK AND THE HOUSE PANEL SHALL HAVE A LABEL LISTING THE CALCULATED AVAILABLE FAULT CURRENT IN ACCORDANCE WITH NEC ARTICLE 110.24. SERIES RATING IS PERMISSIBLE IN ACCORDANCE WITH NEC ARTICLE 110.22.
- FUSES IN SERVICE DISCONNECTS SHALL BE CURRENT LIMITING TYPE.
- COORDINATE ALL HVAC WIRING WITH MECHANICAL CONTRACTOR.
- EMERGENCY LIGHTING TO BE CONNECTED AHEAD OF ANY SWITCHING.
- ALL APARTMENT WIRING TO BE NM CABLE.
- COORDINATE LOCATION OF ALL DEVICES AND MOUNTING HEIGHTS OF RECEPTACLES WITH OWNER.
- ALL ELECTRICAL COMPONENTS ARE TO BE UL LISTED.
- ALL WIRING AND TERMINATIONS ARE BASED ON 167F RATING.
- EQUIPMENT GROUND CONDUCTOR TO BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250.
- EXHAUST FANS ARE TO BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. FANS TO BE WIRED BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL PROVIDE TWO SWITCHES FOR CEILING FANS (ONE FOR LIGHTING KIT, ONE FOR FAN)
- THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CONDUIT AND EQUIPMENT WITH ALL OTHER TRADES PRIOR TO BEGINNING INSTALLATION TO AVOID CONFLICTS AND INTERFERENCE WITH OTHER TRADES.
- A DEDICATED CIRCUIT IS REQUIRED FOR A PERMANENTLY MOUNTED MICROWAVE. IF MICROWAVE IS NOT PERMANENTLY MOUNTED, THIS CIRCUIT MAY BE OMITTED. RECEPTACLE DOES NOT NEED TO BE TAMPER-RESISTANT.
- FINAL UTILITY CONNECTIONS (GAS, ELECTRIC, WATER, ETC.) TO EQUIPMENT SHALL BE MADE BY THE CONTRACTOR INSTALLING THE EQUIPMENT REQUIRING THE UTILITIES.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THERE IS NO INTENT TO INDICATE ALL FITTINGS REQUIRED. GENERALLY, CONDUIT SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO AND PLUMB WITH WALL CONSTRUCTION.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED LOCATIONS OF WALL AND PARTITIONS AND FOR PARTITION THICKNESS AND CONSTRUCTION MATERIALS.
- TELEPHONE AND CABLE TV SERVICE TO BE GROUNDED IN ACCORDANCE WITH SECTION 800.40 AND 820.40 OF THE NEC.
- ALL GROUND ELECTRODE CONDUCTORS TO BE CONNECTED TO THE SAME ELECTRODE IN ACCORDANCE WITH ARTICLE 250.58.
- ALL RECEPTACLES LOCATED LESS THAN 66" ABOVE THE FLOOR SHALL BE TAMPER-RESISTANT UNLESS OTHERWISE NOTED.
- EACH ELECTRICAL SERVICE TO HAVE PERMANENT PLACARD SHOWING ALL BUILDING SERVICE DISCONNECTS. SEE DETAIL ON SHEET E-4.
- WIRE MAY BE REDUCED TO 1/0 AL IF IT IS NOT RUN IN INSULATION AND OTHERWISE COMPLIES WITH NEC SECTIONS 310.15 (A)(2) AND 338.10 (A)(4). IF USING THE OPTION TO REDUCE CONDUCTOR SIZE, COORDINATE WITH GENERAL CONTRACTOR, INSULATION CONTRACTOR AND LOCAL CODE OFFICIALS PRIOR TO CABLE ROUGH IN TO VERIFY CODE COMPLIANCE.
- IF THE CONTRACTOR ELECTS TO USE FIRE PENETRATION PRODUCTS DIFFERENT THAN WHAT IS SHOWN ON THE DRAWINGS, IT IS THEIR RESPONSIBILITY TO VERIFY IT MEETS UL STANDARDS FOR THE ASSEMBLY AND FIRE RATING VALUE IT IS BEING APPLIED TO.
- ALL 120V CEILING JUNCTION BOXES FURTHER THAN 36" FROM A WALL OR CABINET ARE TO BE RATED TO SUPPORT CEILING FANS. SEE NEC 314.27(C) AND NC DOI INTERPRETATION DATED 11/1/2021.
- ELECTRIC METERS, SERVICE SWITCHES, AND OTHER UTILITY EQUIPMENT SHALL BE CLEARLY AND LEGIBLY MARKED TO IDENTIFY THE UNIT OR SPACE THAT IT SERVES. IDENTIFICATION SHALL BE MADE IN AN APPROVED MANNER, READILY VISIBLE AND SHALL BE MAINTAINED.
- THE DISCONNECTING MEANS FOR EACH SERVICE, FEEDER, OR BRANCH CIRCUIT ORIGINATING ON A SWITCHBOARD OR PANELBOARD SHALL BE LEGIBLY AND DURABLY MARKED TO INDICATE ITS PURPOSE UNLESS SUCH PURPOSE IS CLEARLY EVIDENT.
- ALL ELECTRICAL TO BE INSTALLED IN ACCORDANCE WITH LATEST ADOPTED NEC.
- USE ONLY UL LISTED OUTLET BOXES MARKED "FOR FAN SUPPORT" FOR ALL LIGHT FIXTURES IN LIVING ROOMS, BEDROOMS, KITCHENS, AND DINING ROOMS WHERE THE LIGHT FIXTURE JUNCTION BOX IS LOCATED MORE THAN 36 INCHES FROM A WALL.

PANELBOARD SCHEDULE							
PANEL: A		VOLTS: 208/120		MOUNT: RECESS			
MAIN: MLO		AMPS: 125		AIC: (NOTE 1)			
		PHASE: 1		LOC.: LIV. AREA			
CIR.	AMPS/POLES	DESCRIPTION OF LOAD	LOAD BY PHASE, VA	DESCRIPTION OF LOAD	AMPS/POLES	CIR.	
1	*15/1	KITCHEN LIGHTS	A B	BATHROOM RECEPT.	*20/1	2	
3	*15/1	LIVING ROOM LIGHTS	-- --	WASHER	*20/1	4	
5	*20/1	LIVING ROOM RECEPT.	-- --	DRYER	30/2	6	
7	*20/1	KITCHEN RECEPT.	-- --			8	
9	*20/1	MICROWAVE/HOOD RECEPT.	-- --	REFRIGERATOR/DISPOSAL(LO)	*20/1	10	
11	40/2	RANGE	-- --	WATER. HTR (EWH-1) (LO)	25/2	12	
13			-- --			14	
15	25/2	AIR HANDLER UNIT (AHU-1)	-- --	HEAT PUMP (HP-1)	20/2	16	
17			-- --			18	
19	*20/1	DISHWASHER	-- --			20	
21			-- --			22	
23			-- --			24	

* MUST INSTALL COMBINATION ARC FAULT CIRCUIT INTERRUPTER (CAFCI BREAKER)
(LO) - DENOTES BREAKER LOCK-OUT

PANELBOARD SCHEDULE							
PANEL: B		VOLTS: 208/120		MOUNT: RECESS			
MAIN: MLO		AMPS: 125		AIC: (NOTE 1)			
		PHASE: 1		LOC.: LIV. AREA			
CIR.	AMPS/POLES	DESCRIPTION OF LOAD	LOAD BY PHASE, VA	DESCRIPTION OF LOAD	AMPS/POLES	CIR.	
1	*15/1	KITCHEN LIGHTS	A B	BATHROOM RECEPT.	*20/1	2	
3	*15/1	LIVING ROOM LIGHTS	-- --	WASHER	*20/1	4	
5	*20/1	LIVING ROOM RECEPT.	-- --	DRYER	30/2	6	
7	*20/1	KITCHEN RECEPT.	-- --			8	
9	*20/1	MICROWAVE/HOOD RECEPT.	-- --	REFRIGERATOR/DISPOSAL(LO)	*20/1	10	
11	40/2	RANGE	-- --	WATER. HTR (EWH-1) (LO)	25/2	12	
13			-- --			14	
15	25/2	AIR HANDLER UNIT (AHU-1)	-- --	HEAT PUMP (HP-1)	20/2	16	
17			-- --			18	
19	*20/1	DISHWASHER	-- --			20	
21			-- --			22	
23			-- --			24	

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(LO) - DENOTES BREAKER LOCK-OUT

Electrical Load Calculation Unit A (Panel A)	
Item	VA
Heating and Cooling (HVAC)	
Air Handler (AHU-1)	5,179
Heat Pump (HP-1)	2,579
General Lighting/Receptacle Load	
Area	582
Area x 3 Watts/SF	1,746
Small Appliances	
Kitchen Appliance	1,500
Kitchen Appliance	1,500
Range	8,000
Dryer	5,000
Washing Machine	1,500
Dishwasher	1,500
Water Heater	4,500
Sub Total (General + Small Appl.)	25,246
First 10,000 VA @100%	10,000
Remaining VA	15,246
Remaining VA @40%	6,098
Total	16,098
Total VA w/HVAC	23,856
Total Amps (VA/208V)	115
Non derated Load (Panel A)	33,004

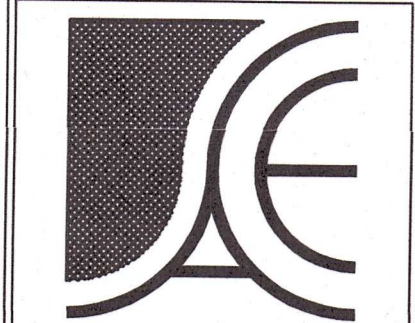
Electrical Load Calculation Unit B (Panel B)	
Item	VA
Heating and Cooling (HVAC)	
Air Handler (AHU-1)	5,179
Heat Pump (HP-1)	2,579
General Lighting/Receptacle Load	
Area	473
Area x 3 Watts/SF	1,419
Small Appliances	
Kitchen Appliance	1,500
Kitchen Appliance	1,500
Range	8,000
Dryer	5,000
Washing Machine	1,500
Dishwasher	1,500
Water Heater	4,500
Sub Total (General + Small Appl.)	24,919
First 10,000 VA @100%	10,000
Remaining VA	14,919
Remaining VA @40%	5,968
Total	15,968
Total VA w/HVAC	23,726
Total Amps (VA/208V)	114
Non derated Load (Panel A)	32,677

Meter Bank Electrical Load Calculation			
Unit Type	Load (VA)	# of Units	Load (VA)
Panel A (Apartment)	33,004	1	33,004
Panel B (Apartment)	32,677	1	32,677
Panel C (Retail)	43,232	1	43,232
Total VA			108,913
Total Amps = VA/(208 x √3)			302

OVERCURRENT PROTECTION	FEEDER TABLE			
	TYPE			
	COPPER		ALUMINUM	
	WIRE*	CONDUIT*	WIRE*	CONDUIT*
15	#14	1/2"	#12	1/2"
20	#12	1/2"	#10	1/2"
25	#10	1/2"	#10	1/2"
30	#10	1/2"	#8	3/4"
35	#8	1/2"	#8	3/4"
40	#8	3/4"	#8	3/4"
45	#8	3/4"	#6	1"
50	#8	3/4"	#6	1"
55	#6	1"	#4	1-1/4"
60	#6	1"	#4	1-1/4"
70	#4	1-1/4"	#3	1-1/4"
80	#4	1-1/4"	#2	1-1/4"
90	#3	1-1/4"	#2	1-1/4"
100	#3	1-1/4"	#1	1-1/2"
110	#2	1-1/4"	#1/0	2"
125	#1	1-1/2"	#2/0	2"
150	#1/0	2"	#3/0	2"
175	#2/0	2"	#4/0	2-1/2"
200	#3/0	2"	#250	2-1/2"
225	#4/0	2"-1/2"	#300	2"-1/2"

*UNLESS OTHERWISE NOTED

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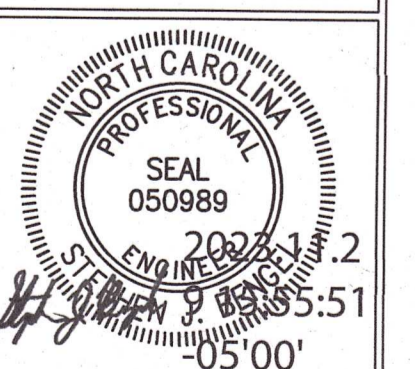
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BENFIELD APARTMENTS

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DRAWING NAME
ELECTRICAL NOTES AND DETAILS



DRAWN: HLD
CHECKED: JNK
DATE: 11/29/23
SCALE: AS NOTED
JOB NO: 23052
SHEET

E-2