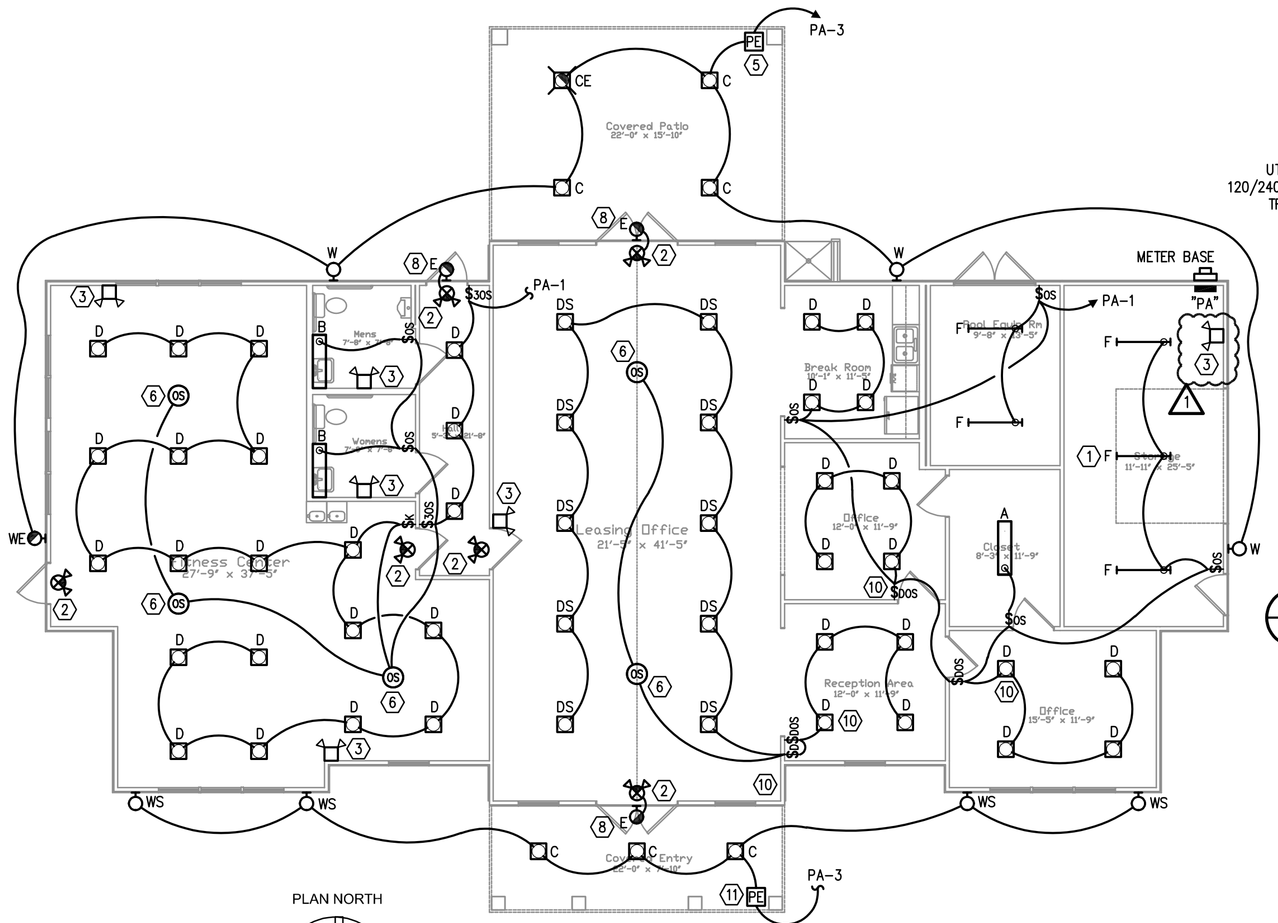
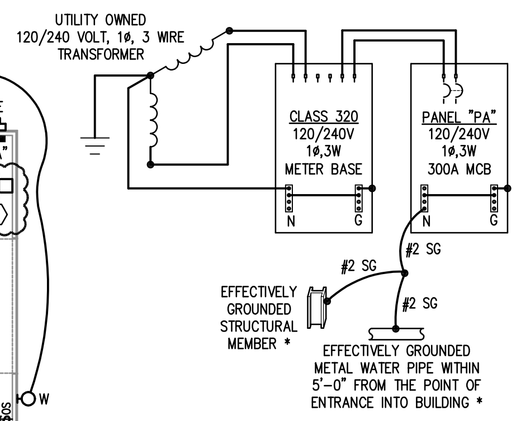


1 E-1 ELECTRICAL LIGHTING PLAN

1/8"=1'-0"

* IF INDICATED GROUNDING ELECTRODES ARE NOT AVAILABLE, CONNECT TO OTHER ELECTRODES AS SPECIFIED BY NEC 250.52

UTILITY TRANSFORMER PROVIDED BY DUKE ENERGY. INSTALLATION TO BE COORDINATED WITH DUKE-ENERGY.



4 E-1 SERVICE GROUNDING DETAIL

NO SCALE

PANEL-PA

MAKE: –
TYPE: –
RATING: 120/240V 1ø 3W
MOUNTING: SURFACE
300A MAIN CIRCUIT BREAKER (FRAME _____)
EQUIPMENT GROUND BUS ☒ YES ☐ NO

LOAD SERVED	VA PER PHASE A	VA PER PHASE B		CKT BRKR	CKT NO.	NEUTRAL A B	CKT NO.	CKT BRKR		VA PER PHASE A	VA PER PHASE B	LOAD SERVED
INTERIOR LIGHTING	1325		LO	20/1	1		2	20/1		1080		STORAGE RECEPTACLES
EXTERIOR LIGHTING		481	LO	20/1	3		4	20/1			1260	EXTERIOR/GENERAL RECEPTACLES
OFFICE RECEPTACLES	720			20/1	5		6	20/1		360		BREAKROOM RECEPTACLES
RECEPTION RECEPTACLES		540		20/1	7		8	20/1	GF		700	DISHWASHER
LEASING OFFICE RECEPTACLES	1080			20/1	9		10	20/1		1200		REFRIGERATOR
OFFICE RECEPTACLES		540		20/1	11		12	20/1			1080	LEASING OFFICE RECEPTACLES
FITNESS CENTER RECEPTACLES	1080			20/1	13		14	20/1		360		TTB QUAD
FITNESS CENTER RECEPTACLES		900		20/1	15		16	20/1			1080	FITNESS CENTER RECEPTACLES
SPARE	–			20/1	17		18	20/1		–		SPARE
SPARE		–		20/1	19		20	20/1			–	SPARE
SPARE	–			20/1	21		22	20/1		–		SPARE
POOL PUMP		960		15/2	23		24	20/1			–	SPARE
	960				25		26	20/1		–		SPARE
POOL FILTER		960		15/2	27		28	30/2	HACR		2268	HP-1
	960				29		30			2268		
WATER HEATER		1500		20/2	31		32	35/2	HACR		2652	HP-2
	1500				33		34			2652		1/2"C – 2#10 & 1#10 EG
FCU-1		4000	HACR	50/2	35		36	15/2	HACR		954	HP-3
3/4"C – 2#8 & 1#10 EG	4000				37		38			954		
FCU-2		4000	HACR	50/2	39		40	–			–	SPACE ONLY
3/4"C – 2#8 & 1#10 EG	4000				41		42	–		–		SPACE ONLY
REMARKS	15625	13881	SUB-TOTAL "B"		400A	BUS	SUB-TOTAL "A"			8874	9994	MIN. 22,000 A.I.C.
					400A	LUGS	SUB-TOTAL "B"			15625	13881	SYM. AMPERES
					400A	S/N	GRAND TOTAL			24499	23875	LUGS/PHASE #3/0 AWG
					BOTTOM	FEED	AMPS / PHASE			204	199	LUGS/NEUT. #3/0 AWG

PROVIDE PANEL WITH SERVICE ENTRANCE LABEL.
ALL CIRCUITS SHALL BE MC-2#12 & 1#12 EG UNLESS NOTED OTHERWISE
(LO) = INDICATES PROVIDE CIRCUIT BREAKER WITH LOCK-ON DEVICE.
(HACR) = INDICATES PROVIDE HACR RATED CIRCUIT BREAKER.
(GF) = INDICATES PROVIDE GFCI CIRCUIT BREAKER.

SYMBOL SCHEDULE

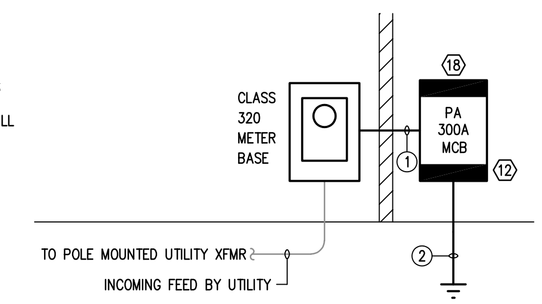
- CONDUIT CONCEALED ABOVE CEILING AND/OR IN WALLS
- CONDUIT CONCEALED BELOW AND/OR IN FLOOR
- HOMERUN TO PANELBOARD. # OF ARROWS INDICATES # OF CKT'S
- PHASE WIRES
- NEUTRAL
- EQUIPMENT GROUND

NOTE: ALL CONDUITS TO BE 1/2"C – 2#12 AWG & 1#12 AWG EG (OR APPROVED EQUAL WIRING METHOD) UNLESS OTHERWISE INDICATED BY HASH MARKS OR CONDUIT & WIRE SCHEDULE

- LED 1'x4' SURFACE MOUNTED LIGHTING FIXTURE
- LED STRIP LIGHTING FIXTURE
- WALL MOUNTED LIGHTING FIXTURE
- LED EXIT FIXTURE
- 2-HEAD BATTERY POWERED EMERGENCY LTG FIXTURE – WALL MTD
- $D 0-10 VOLT DIMMER SWITCH
- $K 20A SINGLE POLE KEYED SWITCH
- OS LINE VOLTAGE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR (SENSOR SWITCH #CMR PDT 9 OR EQUIVALENT)
- $OS 20A SINGLE BUTTON DUAL-TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR (SENSOR SWITCH #WSX PDT WH OR EQUIVALENT)
- $3OS 20A SINGLE BUTTON DUAL-TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR UTILIZED AS A THREE-WAY SWITCH (CONNECT IN SERIES). (SENSOR SWITCH #WSX PDT WH OR EQUIVALENT)
- $DOS 20A SINGLE BUTTON DUAL-TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR (SENSOR SWITCH #WSX PDT D WH OR EQUIVALENT)
- 20A DUPLEX RECEPTACLE
- 20A DOUBLE DUPLEX RECEPTACLE
- WP INDICATES WEATHERPROOF DEVICE, EQUIPMENT OR ENCLOSURE
- GF INDICATES GROUND FAULT CIRCUIT INTERRUPTING DEVICE
- JUNCTION OR PULL BOX, SIZE AS INDICATED OR REQUIRED
- PANELBOARD:120/240V-1ø-3W
- SAFETY SWITCH AS NOTED ON PLAN OR SCHEDULED
- 1 EXHAUST FAN CONNECTION – FAN BY MECHANICAL CONTRACTOR
- 5 MOTOR CONNECTION, NUMBER INDICATES HORSEPOWER
- TELEPHONE/DATA MOUNTED 18" AFF UNLESS NOTED OTHERWISE. 4" SQUARE BOX W/ SINGLE GANG PLASTER RING & 1" EMPTY CONDUIT STUBBED 6" ABOVE LAY-IN CEILING

KEYED ELECTRICAL PLAN NOTES:

1. COORDINATE LIGHTING FIXTURE LOCATION WITH ROLL-UP DOOR..
2. THERMOPLASTIC COMBINATION LED EXIT/2-HEAD EMERGENCY LIGHTING UNIT. CONNECT UN-SWITCHED TO THE LOCAL LIGHTING CIRCUIT SERVING THE AREA IN WHICH IT IS LOCATED.
3. 2-HEAD EMERGENCY LIGHTING UNIT. CONNECT UN-SWITCHED TO THE LOCAL LIGHTING CIRCUIT SERVING THE AREA IN WHICH IT IS LOCATED.
4. LIGHTING FIXTURE AND LAMP SPECIFICATIONS SHALL BE PER THE LIGHTING FIXTURE SCHEDULE OR EQUAL TO INSURE BUILDING WILL ADHERE TO THE NORTH CAROLINA ENERGY CODE. FIXTURE AND LAMP QUANTITIES SHALL BE PER THIS DRAWING TO INSURE ADHERENCE TO ENERGY CODE.
5. PROVIDE PHOTOCELL NEAR THE COVERED PATIO TO CONTROL THE EXTERIOR CAN LIGHTS(S) AND EXTERIOR WALL PACKS.
6. PROVIDE LINE VOLTAGE OCCUPANCY SENSOR TO CONTROL THE LIGHTING IN THIS SPACE. CONNECT THE OCCUPANCY SENSOR IN SERIES WITH LOCAL SWITCHED TO ALLOW FOR MANUAL ON/OFF OVER-RIDE CONTROLS.
7. CONNECT 120V EXHAUST FAN TO WALL MOUNTED OCCUPANCY SENSOR. EXHAUST FAN TO RUN WHEN THE LIGHTS ARE "ON".
8. CONNECT EXTERIOR EMERGENCY LIGHTING FIXTURE TO THE CIRCUIT SERVING THE NEAREST EXIT SIGN.
9. PROVIDE LOW VOLTAGE OCCUPANCY SENSORS CONNECTED TO A POWER PACK RELAY TO ALLOW THE LOW VOLTAGE OCCUPANCY SENSORS TO CONTROL THE LIGHTING IN THE SANCTUARY.
10. PROVIDE 0-10V DIMMING SWITCH(ES) AND 0-10 VOLT PURPLE/GRAY WIRING TO CONTROL THE LEASING OFFICE LIGHTING AS INDICATED.
11. PROVIDE PHOTOCELL NEAR COVERED ENTRY TO CONTROL THE EXTERIOR CAN LIGHT(S) AND DECORATIVE WALL SCONCES ON THE FRONT OF THE BUILDING.
12. PROVIDE A LABEL WHICH READS "THE MAXIMUM AVAILABLE FAULT CURRENT AT THIS LOCATION IS 12,000 AMPS." THE MAXIMUM AVAILABLE FAULT CURRENT IS BASED ON A 50 KVA SINGLE PHASE PHASE UTILITY TRANSFORMER.
13. PROVIDE ELECTRICAL CONNECTION FOR HVAC UNIT. ELECTRICAL CONNECTION INDICATED IS BASED ON THE INFORMATION OBTAINED DURING DESIGN. COORDINATE ALL ELECTRICAL CONNECTIONS ASSOCIATED WITH THE HVAC EQUIPMENT ACTUALLY BEING SUPPLIED PRIOR TO ROUGH-IN. COORDINATE ALL WORK WITH THE MC.
14. PROVIDE SERVICE RECEPTACLE FOR THE HVAC UNIT.
15. PROVIDE ELECTRICAL CONNECTION FOR ELECTRIC WATER HEATER. ELECTRICAL CONNECTION INDICATED IS BASED ON THE INFORMATION OBTAINED DURING DESIGN. COORDINATE ALL ELECTRICAL CONNECTIONS ASSOCIATED WITH THE WATER HEATER ACTUALLY BEING SUPPLIED PRIOR TO ROUGH-IN. COORDINATE ALL WORK WITH THE PC.
16. MOUNT GFI RECEPTACLE BELOW WATER COOLER FOR EASE OF RESET. COORDINATE GFI RECEPTACLE LOCATION WITH THE OWNER AND PC.
17. PROVIDE 4'x4'x3/4" PLYWOOD BACKBOARD AND 2" CONDUIT TO PROPERTY LINE AND TAG FOR TELEPHONE SERVICE.
18. ENSURE THAT PANELS "PA" WILL HAVE A 30" WIDE BY 6.5 FEET TALL BY 36" DEEP WORKING SPACE TO COMPLY WITH NEC ARTICLE 110.26. ENSURE THAT THE SPACE ABOVE PANELS "PA" WILL BE DEDICATED FOR ELECTRICAL CONDUITS TO COMPLY WITH NEC ARTICLE 110.26.
19. PROVIDE ELECTRICAL CONNECTION FOR POOL EQUIPMENT. COORDINATE ALL WORK WITH THE EQUIPMENT SUPPLIED PRIOR TO ROUGH-IN.
20. PROVIDE 120-VOLT ELECTRICAL CONNECTION FOR EXHAUST FAN (1/30 HP). FAN TO RUN CONTINUOUSLY. COORDINATE WITH MC.



3 E-1 POWER RISER DIAGRAM

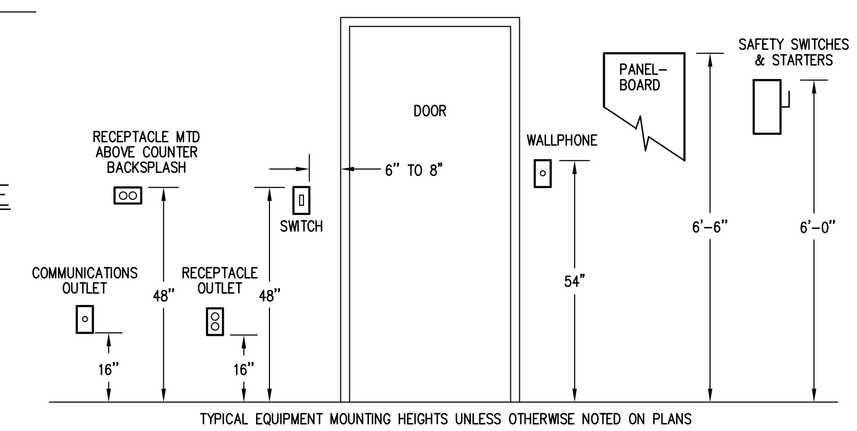
NO SCALE

CONDUIT & WIRE SCHEDULE

THIS SHEET ONLY

1. 2 SETS OF (2"C – 3#1/0)
2. 3/4"C – 1#2 GROUNDING ELECTRODE
3. 3/4"C – 2#8 & 1#10 EG
4. 1/2"C – 2#10 & 1#10 EG

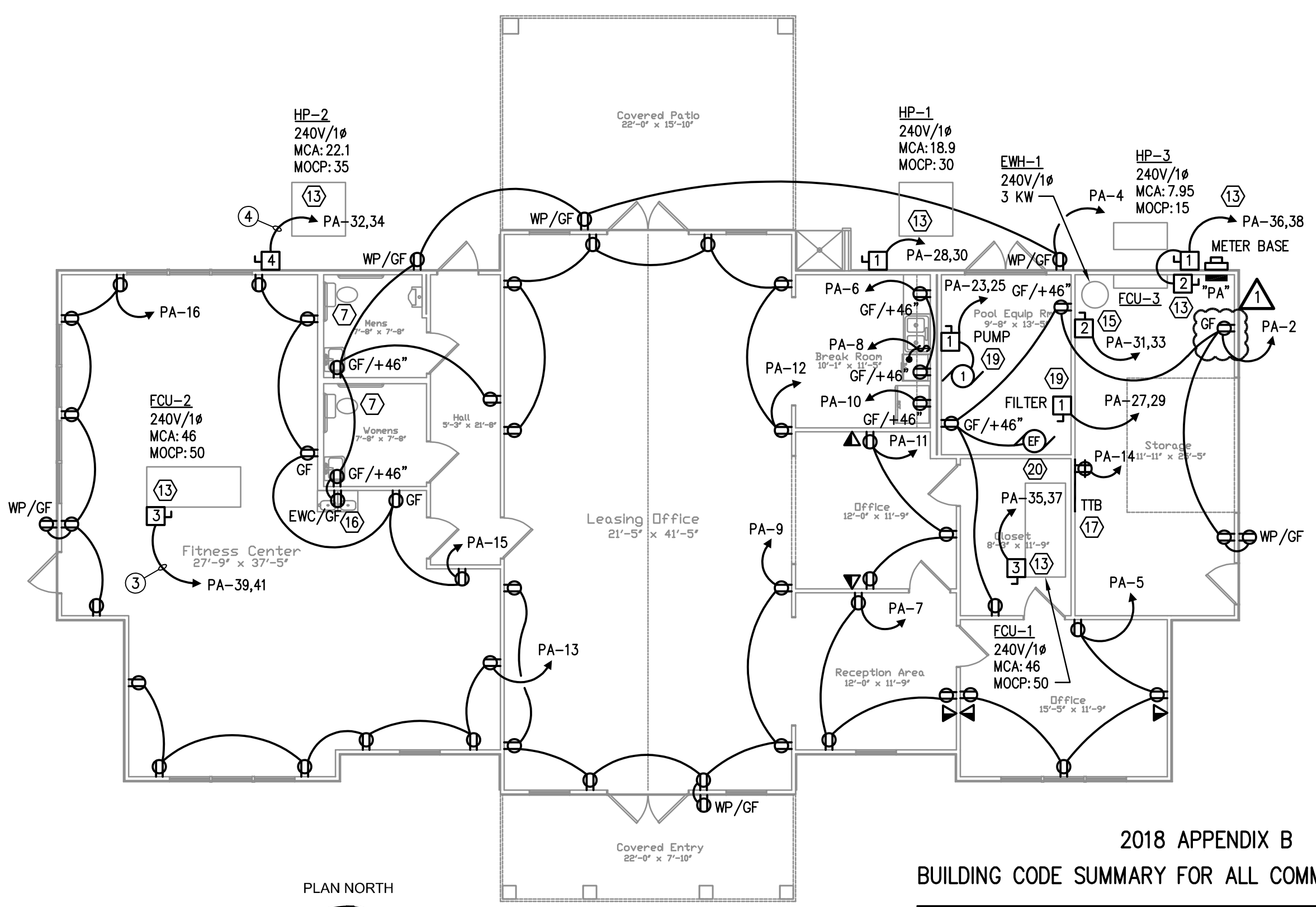
UNLESS NOTED OTHERWISE: ALL CIRCUITS ARE 1/2"C – 2#12 & 1#12 EG



TYPICAL EQUIPMENT MOUNTING HEIGHTS UNLESS OTHERWISE NOTED ON PLANS

EQUIPMENT MOUNTING HEIGHTS

NO SCALE



2 E-1 ELECTRICAL POWER PLAN

1/8"=1'-0"

GENERAL NOTES:

1. A FIRE ALARM SYSTEM IF REQUIRED IS NOT INCLUDED IN THESE DRAWNGS.
2. PROVIDE THHN/THWN COPPER CONDUCTORS RATED FOR 75 DEGREE C TERMINATIONS.
3. INTERIOR CONDUIT: PROVIDE EMT WHERE EXPOSED AND MC CABLE WHERE CONCEALED.
4. EXTERIOR CONDUIT: PROVIDE PVC BELOW GRADE AND IMC WHERE EXPOSED.
5. COORDINATE THE LOCATION OF ALL RECEPTACLES, TELE/DATA OUTLETS AND LIGHT SWITCHES WITH OWNER PRIOR TO ROUGH-IN.

2018 APPENDIX B

BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL SUMMARY
ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

☒ C4205.4.2.1 BUILDING AREA METHOD

LIGHTING SCHEDULE

LAMP TYPE REQUIRED IN FIXTURE
NUMBER OF LAMPS IN FIXTURE
BALLAST TYPE USED IN FIXTURE
NUMBER OF BALLASTS IN FIXTURE
TOTAL WATTAGE PER FIXTURE
TOTAL INTERIOR WATTAGE SPECIFIED VS ALLOWED
TOTAL EXTERIOR WATTAGE SPECIFIED VS ALLOWED
} SEE FIXTURE SCHEDULE ON THIS SHEET

ADDITIONAL EFFICIENCY PACKAGE OPTIONS

☒ C406.3 REDUCED LIGHTING POWER DENSITY

4 FIXTURE SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	LAMP(S) #	LAMP(S) TYPE	LAMP(S) WATT.	BALLAST(S) #	BALLAST(S) TYPE	BALLAST(S) WATT.	FIXTURE WATT.	FIXTURE VOLTAGE	MOUNTING	REMARKS
A	LITHONIA	BLWP4 40L ADP GZ10 LP830	–	LED, 3000'K	–	–	–	–	35	120/277	CEILING, SURFACE	4' LOW PROFILE LED WRAPAROUND WITH 4,000 LUMEN OUTPUT
B	LITHONIA	BLWP4 40L ADP GZ10 LP830	–	LED, 3000'K	–	–	–	–	35	120/277	WALL, ±8' AFF	4' LOW PROFILE LED WRAPAROUND WITH 3,000 LUMEN OUTPUT
C	LITHONIA	LDN6 30/20 L06AR LSS 120 GZ10	–	LED, 3000'K	–	–	–	–	22.5	120	CEILING, RECESSED	6" LED DOWNLIGHT/2,000 LUMEN OUTPUT/
CE	LITHONIA	LDN6 30/20 L06AR LSS 120 GZ10 EL	–	LED, 3000'K	–	–	–	–	22.5	120	CEILING, RECESSED	6" LED DOWNLIGHT/2,000 LUMEN OUTPUT/EMERGENCY BATTERY PACK/
D	LITHONIA	WF8 LED 30K MVOLT 90CRI MW	–	LED, 3000'K	–	–	–	–	20	120	CEILING, RECESSED	8" LED WAFER DOWNLIGHT/1,620 LUMEN OUTPUT/
DS	INDY	L8 23LM 30K 120 G4 90CRI ZT/L8 HM CS FM/	–	LED, 3000'K	–	–	–	–	23	120	CEILING, RECESSED	8" LED DOWNLIGHT/3,300 LUMEN OUTPUT/SLOPED CLG ADAPTOR/
–	–	INSA8/30 (SLOPED CEILING ADAPTER FOR "DS")	–	–	–	–	–	–	–	–	–	–
E	LITHONIA	AFB PEL DDBTXD UVOLT N WT CW	2	LED	5.4	–	–	–	10.8	120/6	OVER DOOR	EXTERIOR DARK BRONZE LED EMERG. LTG UNIT W/ INTEGRAL PHOTOCELL
F	LITHONIA	MNSL L48 2LL MVOLT 40K 80CRI M6			–	–	–	–	50	120/277	CEILING, SURFACE	4 FOOT LED STRIPLIGHT WITH 4,500 LUMEN OUTPUT, DAMP LABEL
W	LITHONIA	WST LED P2 40K VW MVOLT DDBXD	–	LED, 4100'K	–	–	–	–	30	120	WALL, ±10'-0" AFF	EXTERIOR 3,000 LUMEN LED WALL PACK WITH DARK BRONZE FINISH
WE	LITHONIA	WST LED P2 40K VW MVOLT DDBXD E20WC	–	LED, 4100'K	–	–	–	–	30	120	WALL, ±10'-0" AFF	SAME AS TYPE "W" EXCEPT PROVIDE WITH EMERGENCY BATTERY PACK
WS	LITHONIA	OLCS 8 DDB	–	LED, 4000'K	–	–	–	–	9	120	WALL, ±8'-0" AFF	LED WALL SCONCE WITH DARK BRONZE FINISH, 513 LUMEN OUTPUT
	LITHONIA	EU2C	2	LED	1.5	–	–	–	3	120/9.6	WALL, ±8'-0" AFF	2-HEAD EMERGENCY LIGHTING UNIT W/ NiCad BATTERY
	LITHONIA	ECR LED M6	–/2	LED/LED	–/1.5	–	–	–	3	120/9.6	CEILING, SURFACE	COMBINATION LED EXIT/EMERGENCY LTG UNIT (WHITE) W/ NiCad BATTERY

INTERIOR LIGHTING ALLOWANCE (WATTS): 2,706 (0.82 W/SQ. FT. FOR 3,300 SQ. FT. OFFICE)

INTERIOR LIGHTING LOAD SPECIFIED (WATTS): 1,325

SAFETY SWITCH SCHEDULE

* FUSE SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS
* * FUSE SIZE AS NOTED ON PLANS.
NF NON-FUSED

MARK	POLE	AMPS	VOLTS	NEMA	FUSE	COMMENTS
1	2	30	250	3R	NF	POOL PUMP/FILTER/HP-1/HP-3
2	2	30	250	1	NF	EWH-1
3	2	60	250	1	NF	FCU-1/FCU-2
4	2	60	250	3R	NF	HP-2
5	–	–	–	–	–	–

REV	DESCRIPTION	DATE	BY
1	PLAN REVIEW COMMENTS	5/12/23	RES

PLOT SCALE: 1/8" = 1'-0" PLOT DATE: 5/12/23

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20172 TIMOTHY D. HOLLEMAN
5/12/23

ELECTRICAL PLAN
LEGACY AT HAW RIVER CLUBHOUSE

BURLINGTON NC

ENGINEERING SERVICES PROVIDED BY
HOLLEMAN CORPORATION
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(336) 337-6334; firm license # C-1381
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DATE: 4/17/23
JOB NO.: hc23036
SCALE: AS NOTED
CHECKED BY: TDH
APPROVED BY:
ACAD NO.: hc22049E
DWG. NO.: E-1