

GENERAL NOTES

- 1. ALL WIRING SHALL BE RUN CONCEALED UNLESS SPECIFIED OTHERWISE.
2. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTING HEIGHTS AND EXACT LOCATIONS OF ALL DEVICES.
3. ALL FLOOR, MASONRY WALLS AND STRUCTURAL CEILING PENETRATIONS SHALL BE SLEEVED.
4. PROVIDED FIRE/MOISTURE SEAL FOR WALL, FLOOR OR CEILING PENETRATIONS.
5. PLACE ALL CABLE/WIRING IN CONDUIT OR RACEWAY. DO NOT LAY ON, OR SUPPORT CONDUIT FROM SUSPENDED CEILING OR PIPING AND DUCTWORK.
6. OUTLET BOXES SHALL BE MOUNTED FLUSH. CONDUIT SHALL BE RUN CONCEALED. WHERE WALLS ARE BLOCK, DEVICES AND WIRING SHALL BE SURFACE MOUNTED. PROVIDE WIREMOLD OR EQUAL TO SURFACE MOUNTED RACEWAY WITH FINISHED BOXES.
7. ALL WIRING WITHIN UTILITY CLOSETS MAY BE IN SURFACE MOUNTED CONDUIT. EMT MAY BE UTILIZED.
8. FLEXIBLE CONDUIT CONNECTIONS SHALL BE A MAXIMUM OF 6'-0".
9. CIRCUIT NUMBERS SHOWN ARE DIAGRAMMATIC. ELECTRICAL CONTRACTOR SHALL UTILIZE SPARE CIRCUIT AND PROVIDE CIRCUIT BREAKERS TO MATCH EXISTING. MINIMUM AC RATING SHALL BE 10,000.
10. MC TYPE CONDUCTOR WITH INTERNAL GROUND WIRE MAY BE UTILIZED FOR POWER AND LIGHTING CIRCUITS. MC CABLE SHALL BE UTILIZED ONLY WHERE COMPLETELY CONCEALED.

LIGHTING NOTES

- 1. ALL CONDUIT, WIRING AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION, AMERICAN'S WITH DISABILITIES ACT (ADA) AND ANY APPLICABLE LOCAL REGULATIONS.
2. ALL CONDUIT, FIXTURES AND OUTLETS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN.
3. ALL LIGHTING FIXTURE SPACING DIMENSIONS AND MOUNTING HEIGHTS ARE RECOMMENDED LOCATIONS. SLIGHT VARIATIONS WHERE NECESSARY TO AVOID INTERFERENCE SHALL BE DETERMINED IN THE FIELD.
4. THE ELECTRICAL CONTRACTOR SHALL CONSULT AND COOPERATE WITH CONTRACTORS OF OTHER TRADES TO AVOID ANY INTERFERENCE IN THE INSTALLATION OF THEIR RESPECTIVE EQUIPMENT.
5. ALL CONDUIT SHALL BE (EMT), NO CONDUIT SMALLER THAN 3/4 INCH ELECTRICAL TRADE SIZE SHALL BE USED, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS, EXCEPT THAT 1/2 INCH CONDUIT MAY BE USED FOR LIGHTING FIXTURE STEMS WHERE APPLICABLE.
6. MINIMUM SIZE OF CONDUCTOR SHALL BE #12 AWG UNLESS OTHERWISE NOTED.
7. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
a.) LIGHT SWITCHES, 4'-0" FROM FLOOR TO CENTERLINE.
b.) LIGHTING PANELBOARDS, 6'-8" FROM FLOOR TO TOP.
c.) LIGHT FIXTURES - SEE LIGHTING FIXTURE SCHEDULE, MOUNTING HEIGHT OF FIXTURE IS MEASURED TO BOTTOM OF REFLECTOR.
8. WHERE REQUIRED, ADDITIONAL SUPPORT STEEL FOR THE LIGHTING INSTALLATION SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. SEISMIC RESTRAINTS SHALL BE INCLUDED AS PER MAINE STATE BUILDING CODE.
9. PROVIDE SEPARATE UN-SWITCHED NEUTRAL TO ALL EMERGENCY LIGHT FIXTURES CONTAINING EMERGENCY BALLASTS.
10. E.G. SHALL COORDINATE THE UNDERCABINET LIGHTING FIXTURE LOCATIONS WITH THE ARCHITECTURAL UNIT PLANS FOR EXACT LOCATIONS. PROVIDE END CAPS, JOINTS, ETC. FOR FIXTURES AS REQUIRED.

POWER NOTES

- 1. ALL CONDUIT, WIRING AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE NATIONAL & STATE ELECTRICAL CODES AND ANY APPLICABLE LOCAL REGULATIONS.
2. ALL CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATION AND METHOD OF SUPPORT SHALL BE DETERMINED IN THE FIELD, EXCEPT WHERE SPECIFIC DIMENSIONS AND DETAILS ARE SHOWN. ALL CONDUIT RUNS SHALL BE RIGIDLY SUPPORTED.
3. THE ELECTRICAL CONTRACTOR SHALL CONSULT AND COOPERATE WITH CONTRACTORS OF OTHER TRADES TO AVOID ANY INTERFERENCE IN THE INSTALLATION OF THEIR RESPECTIVE EQUIPMENT.
4. ALL CONDUIT SHALL BE EMT. NO CONDUIT SMALLER THAN 3/4 INCH ELECTRICAL TRADE SIZE SHALL BE USED, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS.
5. VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. COMMENCEMENT OF WORK SHALL BE CONSIDERED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY OTHERS.
6. PERFORM WORK AND PROVIDE MATERIALS AND EQUIPMENT TO MAKE INSTALLATION COMPLETE IN EVERY DETAIL UNDER THIS CONTRACT WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS.
7. MATERIAL AND EQUIPMENT SHALL BE UNDERWRITER LABORATORIES LISTED FOR INTENDED SERVICE. MATERIALS AND INSTALLATION SHALL MEET REQUIREMENTS OF STATE ELECTRICAL CODE.
8. WIRING DEVICES SHALL BE SPECIFICATION GRADE, 20 AMP, WITH SMOOTH PLASTIC DEVICE PLATES AS MANUFACTURED BY HUBBELL, OR EQUAL, IN COMMON AREAS AND RESIDENTIAL GRADE 15AMP RECEPTABLES IN THE APARTMENTS. COLOR AS APPROVED BY ARCHITECT.
9. CONDUCTORS AND CABLE SHALL BE MINIMUM #12 AWG, 600 VOLT, COPPER WITH TYPE THHN/THWN INSULATION. PROVIDE SEPARATE GREEN GROUND IN ALL FEEDERS. WIRE SIZE #8 AWG AND LARGER SHALL BE STRANDED, #10 AWG AND SMALLER SHALL BE SOLID. COLOR CODE CONDUCTORS BLACK, RED, BLUE, WITH WHITE NEUTRAL, AND GREEN GROUND EXCEPT AS NOTED FOR 120 VOLT.
10. INTERIOR BRANCH CIRCUITRY SHALL BE RUN IN "EMT", "MC" OR "RGS".
11. MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
a.) CONVENIENCE RECEPTACLE (GENERAL), 1'-6" FROM FLOOR TO CENTERLINE.
b.) CONVENIENCE RECEPTACLE (OFFICE), 1'-6" FROM FLOOR TO CENTERLINE.
c.) TELEPHONE OUTLETS, 1'-6" FROM FLOOR TO CENTERLINE.
12. PROVIDE SEPARATE HOT, GROUND AND NEUTRAL CONDUCTOR FOR ALL CIRCUITS CONNECTED TO ARC-FULT CIRCUIT BREAKERS.

OUTLETS IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, HALLS, LIVING, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS OR SIMILAR AREAS SHALL BE LOCATED WITHIN 6'-0" OF THE ROOM OPENING. ALL SUBSEQUENT OUTLETS SHALL BE SPACED AS TO NOT EXCEED 12'-0" BETWEEN OUTLETS. CONTRACTOR SHALL PROVIDE NECESSARY BLOCKING, SUPPORTS AND HANGERS IF STUDS DO NOT ALLOW THE 12'-0" SPACING TO BE ACHIEVED.

2014 NEC - 210.6(A) GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION IN DWELLING UNITS
ALL 120VOLT SINGLE PHASE 15 AND 20 AMP RECEPTABLES INSTALLED IN DWELLING UNIT SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL. AREAS INCLUDE: KITCHENS, GARDENS, OUTDOORS, COMMON SPACES, UNFINISHED BASEMENTS, KITCHENS, SHOPS, BOAT HOUSES, BATHS OR SHOWER STALLS, LAUNDRY AREAS PER NEC ARTICLE 210.6(A).

821CMR: ACCESSIBLE GROUP 1 AND GROUP 2 UNITS (8.5.8)
ELECTRICAL, TELEPHONE, CABLE TV JACKS AND OTHER WALL OUTLETS SHALL BE LOCATED BETWEEN 15" AND 48" ABOVE THE FLOOR, MEASURED AT THE CENTERLINE OF THE LOWEST RECEPTACLE. ALL OUTLETS SHALL BE LOCATED NO LESS THAN 18" FROM INTERIOR CORNERS. WHEN OUTLETS ARE LOCATED ON WALLS ABOVE COUNTERS OR OTHER FIXTURES THAT ARE 22" OR GREATER IN DEPTH, THEY SHALL BE NO HIGHER THAN 44" IN GROUP 1 AND 2 UNITS. AT LEAST ONE ELECTRICAL OUTLET MUST BE PROVIDED ON THE SAME WALL AS THE TELEPHONE OUTLET AND THE DOOR CHIME. WHEREVER EXTERIOR DECKS, PATIOS AND BALCONIES ARE PROVIDED, AN EXTERIOR ELECTRICAL OUTLET SHALL ALSO BE PROVIDED. CONTRACTOR SHALL PROVIDE NECESSARY BLOCKING, SUPPORTS AND HANGERS IF STUDS DO NOT ALLOW THE 12'-0" SPACING TO BE ACHIEVED.

2014 NEC - 210.12(A) ARC-FULT CIRCUIT-INTERRUPTER PROTECTION IN DWELLING UNITS
PANELBOARD SHALL CONTAIN ARC-FULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKERS FOR ALL 120VOLT SINGLE PHASE 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, HALLS, LIVING, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS OR SIMILAR ROOMS OR AREAS ETC. PER NEC ARTICLE 210.12(A).

2014 NEC - 408.12 TAMPER-RESISTANT RECEPTABLES IN DWELLING UNITS
IN ALL AREAS SPECIFIED IN 210.6.2, ALL NONLOCKING-TYPE, 125 VOLT, 15 AND 20 AMPERE RECEPTABLES SHALL BE LISTED TAMPER RESISTANT RECEPTABLES. AREAS INCLUDE: KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, HALLWAY, DEN, BEDROOM, SUNROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNIT.

FIRE ALARM NOTES

- 1. THE ELECTRICAL CONTRACTOR SHALL COMPLETE A CERTIFICATE CERTIFYING THAT THE SYSTEM HAS BEEN 100 PERCENT TESTED AND FUNCTIONS IN COMPLETE COMPLIANCE WITH THE SYSTEM SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS. THE CERTIFICATE SHALL BE SIGNED BY THE INSTALLER, ELECTRICAL CONTRACTOR AND THE OWNER. AFTER RECEIPT OF THE CERTIFICATION, THE FIRE PREVENTION OFFICER AND/OR THE FIRE ALARM SUPERVISOR WILL CONDUCT AN INSPECTION IN THE COMPANY OF THE INSTALLER AND A REPRESENTATIVE OF THE OWNER WITHIN SCOPE OF WORK.
2. ALL PULL STATIONS MUST BE OF THE DOUBLE ACTION TYPE. BREAKGLASS ROOFS WILL NOT BE PERMITTED.
3. ALL FIRE ALARM VISUAL DEVICES SHALL BE SYNCHRONIZED.
4. ALL WIRING METHODS SHALL BE AS APPROVED BY THE WIRING INSPECTOR AND THE FIRE DEPARTMENT.
5. ALL SYSTEM COMPONENTS SHALL BE UL LISTED.
6. ALL WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NFPA 72 SERIES PAMPHLETS, AND ALL STATE AND LOCAL CODES.
7. THE ELECTRICAL CONTRACTOR MUST OBTAIN AN ELECTRICAL PERMIT FROM THE TOWN BUILDING DEPARTMENT AND A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO COMMENCEMENT OF EQUIPMENT INSTALLATION. A FLOOR PLAN SHOWING ALL ALARM DEVICES, LOCATION OF MASTER BOX, PANELS, ANNUNCIATORS, A ONE-LINE WIRING DIAGRAM AND AN ANNUNCIATOR DETAIL SHOWING ZONE LABELING WILL BE REQUIRED TO BE SUBMITTED BEFORE THE FIRE DEPARTMENT ISSUES A PERMIT.
8. INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
9. ALL FIRE ALARM EQUIPMENT, INSTALLATION AND OPERATION SHALL BE IN CONFORMANCE WITH THE PORTLAND FIRE DEPARTMENT INSTALLATION REQUIREMENTS AND SYSTEM INSTALLATION GUIDELINES.
10. ALL EQUIPMENT SHOWN ON DRAWINGS IS DIAGRAMMATIC.
11. PROVIDE AND INSTALL ALL NECESSARY WIRE, CONDUIT, RELAYS AND CONNECTIONS FROM ALL DUCT SMOKE DETECTORS TO THEIR ASSOCIATED EXHAUST FAN AND SUPPLY FAN CONTROLLERS. UPON ACTIVATION OF A DUCT SMOKE DETECTOR, IN ADDITION TO SOUNDING THE GENERAL ALARM, THE DUCT SMOKE DETECTOR SHALL IMMEDIATELY SHUT DOWN THE ASSOCIATED FAN.
12. THE FIRE ALARM SYSTEM SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY BOTH THE ENGINEER AND THE PORTLAND FIRE DEPARTMENT. THE SHOP DRAWINGS MUST BE SIGNED OFF BY THE FIRE DEPARTMENT AND ENGINEER PRIOR TO ORDERING AND INSTALLATION OF EQUIPMENT.
13. ABSOLUTELY NO CONNECTIONS WILL BE MADE TO THE MUNICIPAL FIRE ALARM CIRCUITS BY PORTLAND FIRE DEPARTMENT PERSONNEL.
14. ALL WORK BEYOND THE MASTER BOX AND INSIDE OF THE BUILDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
15. ALL JOINTS AND SOLDERED CONNECTIONS SHALL BE IN JUNCTION BOXES. ALL CONNECTIONS NOT ON APPROVED TERMINAL STRIPS SHALL BE SOLDERED AND TESTED. ALL JUNCTION BOXES SHALL BE PAINTED RED.
16. ALL EQUIPMENT SHALL BE MADE AVAILABLE FOR TEST AND INSPECTION WHEN REQUIRED BY THE FIRE DEPARTMENT.
17. ALL EQUIPMENT USED SHALL BE OF A TYPE APPROVED BY THE FIRE CHIEF THROUGH THE ALARM SUPERINTENDENT AND THE FIRE PREVENTION OFFICER.
18. ALL SYSTEMS SHALL BE DC, SUPERSEDED, BATTERY STANDBY FIRE ALARM SYSTEM. A SEPARATE AC CIRCUIT MUST BE PROVIDED FOR THE FIRE ALARM SYSTEM. STANDBY BATTERIES AND THE CHARGING SYSTEM SHALL BE SUPERVISED.
19. THE BATTERIES USED WITH THE FIRE ALARM CONTROL PANEL SHALL BE CAPABLE OF OPERATING THE PANEL FOR TWENTY-FOUR (24) HOURS WITH A FIVE (5) MINUTE RING-DOWN AT THE END OF THE TWENTY-FOUR (24) HOUR PERIOD. THE CALCULATION USED TO DETERMINE BATTERY CAPACITY SHALL BE PRESENTED TO THE FIRE DEPARTMENT AT THE TIME OF INSPECTION. PROVIDE BATTERY CALCULATIONS WITH SHOP DRAWINGS.
20. ALL FIRE ALARM CONTROL PANELS SHALL HAVE A SIGN, RED IN COLOR, WITH THE WORDS "FIRE ALARM CONTROL" ENGRAVED ON IT. THE SIGN SHALL BE ON THE FRONT OF THE PANEL WITH MINIMUM ONE (1) INCH LETTERS.
21. UPON ACTIVATION OF ANY FIRE ALARM DEVICE, THE CONTROL PANEL SHALL SOUND THE EVACUATION SIGNALS, FLASH THE EVACUATION LIGHTS, INDICATE THE ZONE OF ACTIVATION AT THE PANEL AND TRIP THE MASTER BOX.
22. THE VISUAL INDICATORS OF THE EVACUATION SIGNALS MUST STAY ILLUMINATED UNTIL THE SYSTEM IS RESET.
23. AUDIBLE DEVICES INSTALLED IN SLEEPING AREAS SHALL HAVE A SOUND LEVEL OF AT LEAST 15dB ABOVE THE AVERAGE AMBIENT SOUND LEVEL, OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 30 SECONDS OR A SOUND LEVEL OF AT LEAST 75dB, WHICHEVER IS GREATER, MEASURED AT THE FELLOW LEVEL IN THE AREA REQUIRED TO BE SERVED BY THE SYSTEM USING THE A-WEIGHTED SCALE (dBA).
24. REFER TO BOOK SPECIFICATIONS FOR PLANS AND SPECIFICATIONS FOR THE BI-AMPLIFICATION SYSTEM PER THE CITY OF PORTLAND.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Description. Includes terms like A/AMP (AMPERE), AC (ALTERNATING CURRENT), AF (AMPERE FRAME), AFF (ABOVE FINISHED FLOOR), AFG (ABOVE FINISHED GRADE), APC (APPROX INTERLUPTING CAPACITY), AL (ALUMINUM), AT (AUTOMATIC TRANSFER SWITCH), ATS (AMERICAN WIRE GAUGE), C (CONDUIT), OKT (CIRCUIT BREAKER), CB (CIRCUIT BREAKER), CU (COPPER), CBL (CENTERLINE), DC (DIRECT CURRENT), DLE (DUAL ELEMENT), DWG (DRAWING), EC (ELECTRICAL CONTRACTOR), EM (ELECTRICAL MANHOLES), EWC (ELECTRIC WATER COOLER), EMT (ELECTRIC METALLIC CONDUIT), FLMT (FLEXIBLE LIQUID TIGHT METALLIC TUBING), GC (GENERAL CONTRACTOR), GND (GROUND), GFI (GROUND FAULT INTERRUPTING), HVAC (HEATING, VENTILATION AND AIR CONDITIONING), HP (HORSEPOWER), IMC (INTERMEDIATE METALLIC CONDUIT), JB (JUNCTION BOX), KVA (KILOWATT-AMPERE), KW (KILOWATT), LTO (LIGHTING), PWR (POWER), MCB (MAIN CIRCUIT BREAKER), MISC (MISC. ELECTRICAL CODE), MLO (MAIN LINES ONLY), MTD (MOUNTED), MOC (MOTOR CONTROL CENTER), NEC (NATIONAL ELECTRICAL CODE), NS (NON-SYSTEM), NTS (NOT TO SCALE), No. # (NUMBER), PC (PLUMBING CONTRACTOR), RPM (REVOLUTIONS PER MINUTE), RMS (ROOT MEAN SQUARE VALUE), RSD (RIGID STEEL CONDUIT), SF (SQUARE FOOT), SN (SOLID NEUTRAL), SWBD (SWITCHBOARD), TYP (TYPICAL), V (VOLTS), VA (VOLT-AMPERE), VFD (VARIABLE FREQUENCY DRIVE), WP (WEATHERPROOF).

BRANCH CIRCUIT AND FEEDER SYMBOLS

- BRANCH CIRCUIT OR FEEDER CONCEALED UNLESS OTHERWISE NOTED
BRANCH CIRCUIT DIAGONAL LINES INDICATE NUMBER OF CONDUCTORS, NO DIAGONAL LINES INDICATES TWO (2) CONDUCTORS (1 PHASE AND 1 NEUTRAL). GROUND WIRE(S) NOT INDICATED. MINIMUM SIZE CONDUCTOR #12 AWG AND 3/4" CONDUIT, UNLESS OTHERWISE NOTED
#1, #00-1 1/2" INDICATES (3) #1 AWG(PHASE), (1)#1 AWG(NEUTRAL), (1) #6 GROUND IN A 1 1/2" CONDUIT
FLEXIBLE CONNECTION TO MOTOR OR EQUIPMENT
P1-1 20A/1P HOMERUN TO PANELBOARD "P1" CIRCUIT NUMBER 1, DIAGONAL LINES INDICATE (1) PHASE AND (1) NEUTRAL CONDUCTOR, (1) GROUNDING CONDUCTOR UNDERSTOOD.
P1-1,3 (2)20A/1P HOMERUN TO PANELBOARD "P1" CIRCUIT NUMBER 1 & 3, DIAGONAL LINES INDICATE (2) PHASE AND (2) NEUTRAL CONDUCTOR, (2) GROUNDING CONDUCTOR UNDERSTOOD.
P1-1,3,5 (3)20A/1P HOMERUN TO PANELBOARD "P1" CIRCUIT NUMBER 1, 3 & 5, DIAGONAL LINES INDICATE (3) PHASE AND (3) NEUTRAL CONDUCTOR, (3) GROUNDING CONDUCTOR UNDERSTOOD.
P1-1,3,5 20A/3P HOMERUN TO PANELBOARD "P1" CIRCUIT NUMBER 1, 3 & 5, DIAGONAL LINES INDICATE (3) PHASE AND (1) NEUTRAL CONDUCTOR, (1) GROUNDING CONDUCTOR UNDERSTOOD.
P1-1,3,5 20A/3P HOMERUN TO PANELBOARD "P1" CIRCUIT NUMBER 1, 3 & 5, DIAGONAL LINES INDICATE (3) PHASE CONDUCTORS, NEUTRAL CONDUCTOR NOT REQUIRED, (1) GROUNDING CONDUCTOR UNDERSTOOD.

OCCUPANCY SENSORS

- WALL MOUNTED OCCUPANCY SENSOR, 180°, 300SF COVERAGE (20'w x 25'l), BY PHILIPS LIGHTING CONTROLS OR EQUAL: PHILIPS LIGHTING CONTROLS No. ITS2U-COLOR
WALL MOUNTED DUAL CIRCUIT RELAY OCCUPANCY SENSOR, 180°, 300SF COVERAGE (20'w x 25'l), BY PHILIPS LIGHTING CONTROLS OR EQUAL: PHILIPS LIGHTING CONTROLS No. ITSDU-COLOR
WALL MOUNTED DIMMABLE OCCUPANCY SENSOR, 180°, 300SF COVERAGE (20'w x 25'l) BY PHILIPS LIGHTING CONTROLS OR EQUAL: PHILIPS LIGHTING CONTROLS No. ITSDU-COLOR (MARK X BALLAST), No. ITSDU-COLOR (PHILIPS HOF BALLAST) OR No. ITSDU-COLOR (PHILIPS AMSTAR BALLAST)
CEILING MOUNTED OCCUPANCY SENSOR, 360° TWO-SIDED, 1500SF COVERAGE (50' DIAMETER), BY PHILIPS LIGHTING CONTROLS OR EQUAL: PHILIPS LIGHTING CONTROLS No. ITSCS (FOR PARTIAL COVERAGE APPLICATIONS, A PROVIDED MASK CAN BE TRIMMED TO ADJUST COVERAGE)
COVERAGE DIMENSIONS APPLY TO DEVICE BEING CENTERED. ACTUAL COVERAGE'S CAN VARY ON THE SHAPE AND USE OF APPLICABLE SPACE. COVERAGE MAY BE REDUCED IF DEVICE IS MOUNTED GREATER THAN 12 FEET HIGH. SENSORS REQUIRE RELAY PACKS, PHILIPS LIGHTING CONTROLS No. ITSRP1U (SINGLE CIRCUIT), ITSRP2 (TWO CIRCUIT) OR ITSRP4 (FOUR CIRCUIT).

FIRE ALARM SYSTEM

- AUDIBLE/VISUAL DEVICE, TOP OF DEVICE MOUNTED NOT LESS THAN 80" AFF AND NOT LESS THAN 6" BELOW FINISHED CEILING
VISUAL DEVICE, ENTIRE LENS MOUNTED NOT LESS THAN 80" AFF AND NOT MORE THAN 96" AFF
520 Hz LOW FREQUENCY MINIMORN DEVICE, TOP OF DEVICE MOUNTED NOT LESS THAN 90" AFF AND NOT LESS THAN 6" BELOW FINISHED CEILING
CEILING MOUNTED AUDIBLE/VISUAL DEVICE
CEILING MOUNTED VISUAL DEVICE
MANUAL PULL STATION, MOUNTING HEIGHT 48" TO CENTERLINE AFF
SMOKE DETECTOR, "D" INDICATES DUCT MOUNTED SMOKE DETECTOR, "R" INDICATES ELEVATOR RECALL, "NS" INDICATES NON-SYSTEM
HEAT DETECTOR, "T" INDICATES 190° FIXED TEMPERATURE, "C" INDICATES MOUNTED ABOVE HUNG CEILING
COMBINATION SMOKE/CARBON MONOXIDE DETECTOR, 120 VOLT HARDWIRE WITH BATTERY BACKUP, "NS" INDICATES NON-SYSTEM
FLOW SWITCH
PRESSURE SWITCH
TAMPER SWITCH
LOW PRESSURE ALARM SWITCH
ALARM BELL, 120 VOLT HARDWIRED, EXTERIOR MOUNTED, WEATHERPROOF
RED INDICATING BEACON, EXTERIOR MOUNTED, WEATHERPROOF
REMOTE LED INDICATOR
FIRE ALARM MASTER BOX
FIRE DEPARTMENT KEY BOX
MONITOR MODULE
REMOTE TEST STATION
FIRE ALARM ANNUNCIATOR PANEL
FIRE ALARM CONTROL PANEL
FIRE PUMP ANNUNCIATOR PANEL, BY OTHER WIRED BY EC
RADIO MASTER BOX

SITE SYMBOLS

- UNDERGROUND CONDUIT OR DUCTBACK, REFER TO DRAWING E0.07
MANHOLE, "E" DENOTES POWER, "C" DENOTES COMMUNICATIONS. MANHOLES SHALL BE PRECAST CONCRETE AND SHALL MEET OR EXCEED UTILITY REQUIREMENTS
UTILITY POLE
SECTION 7A-A"
SITE LIGHTING FIXTURE, REFER TO LIGHTING FIXTURE SCHEDULE
PAD MOUNTED TRANSFORMER

MISCELLANEOUS

- UTILITY METER
MECHANICAL EQUIPMENT TAG, REFER TO MECHANICAL SCHEDULE
COMMUNICATION SMART PANEL
APARTMENT INTERCOM UNIT BY OTHERS. REFER TO SHEET E0.07 FOR REQUIREMENTS WITH 120V RECEPTACLE
CARD READER
OVERHEAD GARAGE DOOR SENSOR

LIGHTING FIXTURE SYMBOLS

- FLUORESCENT LIGHTING FIXTURE, CEILING/SURFACE/RECESSED/PENDANT OR WALL MOUNTED. "X" DENOTES LIGHTING FIXTURE TYPE (SEE FIXTURE SCHEDULE), "C" DENOTES CIRCUIT NUMBER, "S" DENOTES SWITCH CONTROL.
COMPACT FLUORESCENT LIGHT FIXTURE, CEILING/SURFACE/RECESSED OR PENDANT MOUNTED. "B" DENOTES LIGHTING FIXTURE TYPE, "A" DENOTES CIRCUIT NUMBER, "S" DENOTES SWITCH CONTROL.
FLUORESCENT LIGHTING FIXTURE CONNECTED TO THE EMERGENCY GENERATOR, OR CONTAINS AN EMERGENCY BALLAST. SEE LIGHTING NOTE 9.
EMERGENCY BATTERY UNIT WITH TWO (2) HEADS
EXIT SIGN, SHADOW REGION INDICATES FACE

SWITCHING SYMBOLS

- SINGLE POLE SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "S" DENOTES FIXTURE SWITCH CONTROL.
THREE WAY SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "S" DENOTES FIXTURE SWITCH CONTROL.
FOUR WAY SWITCH, RATED 20A, 120/277V, MOUNTING HEIGHT 48" TO CENTERLINE OF TOGGLE SWITCH IN "ON" POSITION, "S" DENOTES FIXTURE SWITCH CONTROL.
MANUAL MOTOR STARTER, RATED 20A, 250V, COORDINATE MOUNTING HEIGHT IN FIELD, MOUNTING HEIGHT SHALL NOT EXCEED 8'-7" AFF

RECEPTABLES AND OUTLETS

- DUPLEX CONVENIENCE RECEPTACLE OUTLET, GROUNDING TYPE, RATED 20A, 125V TYPE. "S" DENOTES CIRCUIT NUMBER, MOUNTING HEIGHT 18" TO CENTERLINE AFF
GROUND FAULT INTERRUPTING 20A, 125V RECEPTACLE, MOUNTING HEIGHT 18" TO CENTERLINE AFF
DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP. OUTLETS MOUNTED NEXT TO HOSPITAL BEDS SHALL BE MOUNTED 48" TO CENTERLINE AFF
GROUND FAULT DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER TOP
DOUBLE DUPLEX CONVENIENCE OUTLET
SWITCHED DOUBLE DUPLEX OUTLET
DUPLEX CONVENIENCE OUTLET, MOUNTING HEIGHT 42" TO CENTERLINE AFF OR 6" ABOVE COUNTER TOP.
JUNCTION BOX
APARTMENT "SMART" PANEL FOR TEL/COM
VERIZON SUPPLIED APARTMENT "SMART" PANEL FOR TEL/COM

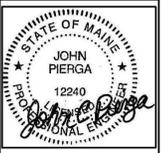
- CABLE TELEVISION CONNECTION, FLUSH MOUNTING 18" TO CENTERLINE AFF WITH 1 GANG REDUCER COVER PLATE
TELEPHONE OUTLET, FLUSH MOUNTING HEIGHT 18" TO CENTERLINE AFF. "M" DENOTES WALL PHONE, MOUNTING HEIGHT 5'-0" TO CENTERLINE AFF, "P" DENOTES PAY PHONE, "F" DENOTES FAX MACHINE.
2 GANG TELEPHONE/COMPUTER OR DATA OUTLET, FLUSH MOUNTING 18" TO CENTERLINE AFF WITH 1 GANG REDUCER COVER PLATE
INDICATES 4"x4" BOX WITH 1" CONDUIT TO ABOVE HUNG CEILING WITH PULL WIRE

MOTOR AND CONTROLS

- MOTOR, NUMERAL INDICATES HORSEPOWER
DISCONNECT SWITCH, NON-FUSIBLE TYPE, RATED 30A/3P, IN NEMA TYPE "1" ENCLOSURE, UNLESS OTHERWISE NOTED. "3P" DENOTES NEMA TYPE ENCLOSURE
DISCONNECT SWITCH, FUSED TYPE, RATED 30A, 20A FUSE, 3 POLE IN NEMA TYPE "1" ENCLOSURE, UNLESS OTHERWISE NOTED
SHUNT TRIP DISCONNECT, REFER TO ELEVATOR MANUFACTURER'S RECOMMENDATIONS
EQUIPMENT CONTROL PANEL
VARIABLE FREQUENCY DRIVE

PANELBOARD AND TERMINAL CABINET

- LIGHTING OR POWER PANEL, SURFACE
TELEPHONE TERMINAL 4"x8" 3/4" PLYWOOD BACKBOARD, PAINTED BLACK



LEGEND OF FEEDER SIZES--ALUMINUM CONDUCTORS

FEEDER SYMBOL	CONDUCTORS (3ø, 3W) WITH GROUND	RACEWAY SIZE	CONDUCTORS (3ø, 4W) WITH GROUND	RACEWAY SIZE	NOMINAL AMPERE RATING
1A	3#4 & 1#8 GND	1" C			60
2A			4#4 & 1#8 GND	1 1/4" C	
3A	3#3 & 1#6 GND	1 1/4" C			70
4A			4#3 & 1#6 GND	1 1/4" C	
5A	3#1 & 1#6 GND	1 1/4" C			100
6A			4#1 & 1#6 GND	1 1/4" C	
7A	3#2/0 & 1#4 GND	2" C			125
8A			4#2/0 & 1#4 GND	2" C	
9A	3#3/0 & 1#4 GND	2" C			150
10A			4#3/0 & 1#4 GND	2" C	
11A	3#4/0 & 1#4 GND	2 1/2" C			175
12A			4#4/0 & 1#4 GND	2 1/2" C	
13A	3-250KCMIL & 1#4 GND	2 1/2" C			200
14A			4-250KCMIL & 1#4 GND	2 1/2" C	
15A	3-300KCMIL & 1#2 GND	2 1/2" C			225
16A			4-300KCMIL & 1#2 GND	2 1/2" C	
17A	3-350KCMIL & 1#2 GND	2 1/2" C			250
18A			4-350KCMIL & 1#2 GND	3" C	
19A	3-500KCMIL & 1#2 GND	3" C			300
20A			4-500KCMIL & 1#2 GND	3" C	
21A	6-4/0 & 2#1 GND	(2) 2" C			350
22A			8-4/0 & 1#1 GND	(2) 2 1/2" C	
23A	6-250KCMIL & 2#1 GND	(2) 2 1/2" C			400
24A			8-250KCMIL & 2#1 GND	(2) 2 1/2" C	
25A	6-350KCMIL & 2#1/0 GND	(2) 2 1/2" C			500
26A			8-350KCMIL & 2#1/0 GND	(2) 3" C	
27A	6-500KCMIL & 2#2/0 GND	(2) 3" C			600
28A			8-500KCMIL & 2#2/0 GND	(2) 3" C	
29A	9-400KCMIL & 3#3/0 GND	(3) 2 1/2" C			800
30A			12-400KCMIL & 3#3/0 GND	(3) 3" C	
31A	9-600KCMIL & 3#4/0 GND	(3) 3" C			1000
32A			12-600KCMIL & 3#4/0 GND	(3) 4" C	
33A	12-500KCMIL & 4-250KCMIL GND	(4) 3" C			1200
34A			16-500KCMIL & 4-250KCMIL GND	(4) 3" C	
35A	18-400KCMIL & 6-350KCMIL GND	(6) 2 1/2" C			1600
36A			24-400KCMIL & 6-350KCMIL GND	(6) 3" C	
37A	18-600KCMIL & 6-400KCMIL GND	(6) 3" C			2000
38A			24-600KCMIL & 6-400KCMIL GND	(6) 4" C	
39A	30-350KCMIL & 10-350KCMIL GND	(10) 2 1/2" C			2500
40A			40-350KCMIL & 10-350KCMIL GND	(10) 3" C	
41A	30-500KCMIL & 10-500KCMIL GND	(10) 3" C			3000
42A			40-500KCMIL & 10-500KCMIL GND	(10) 3" C	
43A	30-600KCMIL & 10-600KCMIL GND	(10) 3" C			3200
44A			40-600KCMIL & 10-600KCMIL GND	(10) 4" C	

EMERGENCY POWER NOTES:

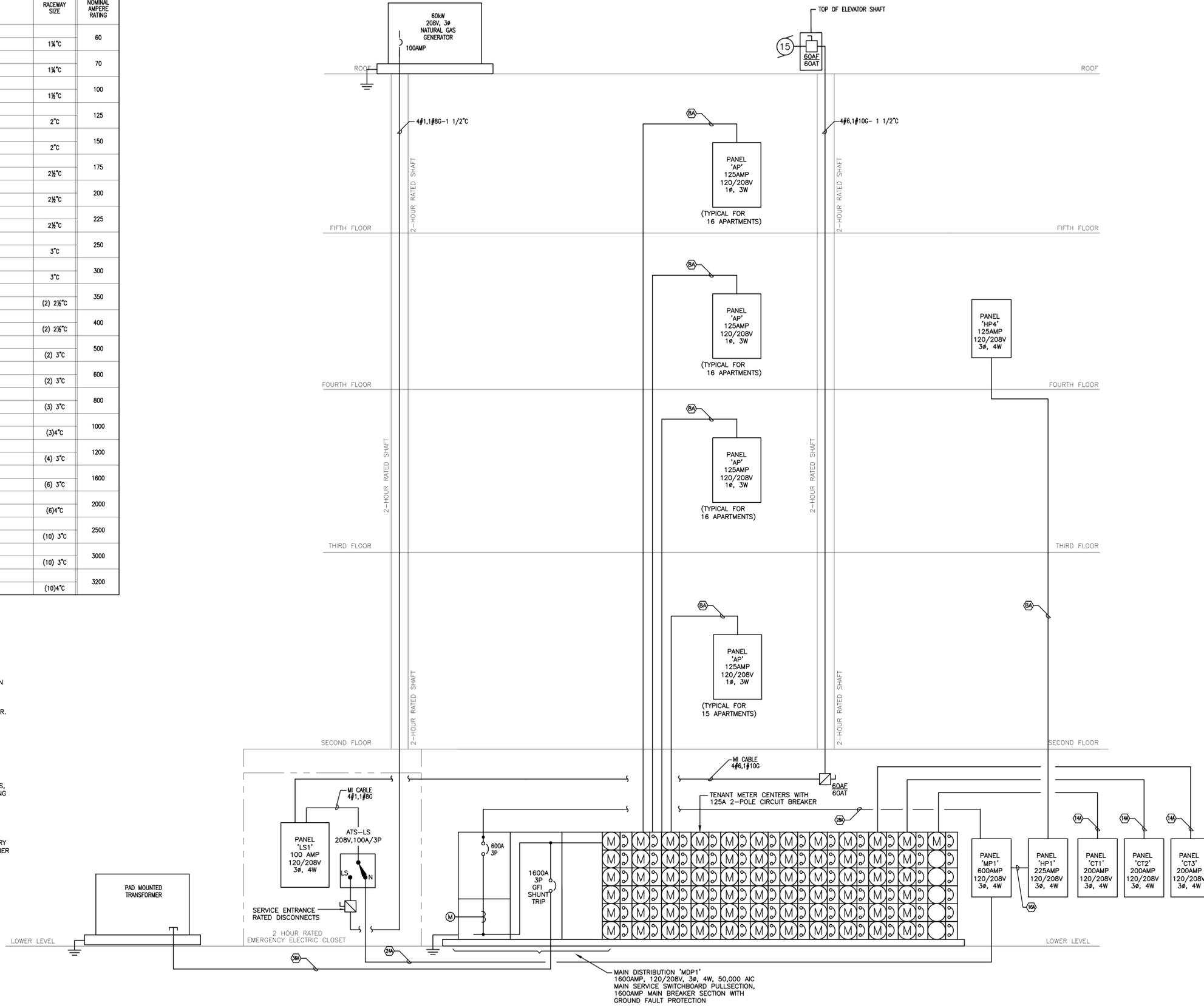
- E1. MI CABLE IS REQUIRED FOR LIFE SAFETY FEEDERS.
- E2. PROVIDE ANNUNCIATOR/INDICATOR LIGHT FOR THE ELEVATOR ON THE EMERGENCY GENERATOR IN ACCORDANCE WITH ASME/ANSI A17.1 "THE ELEVATOR ILLUMINATION SIGNAL REQUIREMENT". ANNUNCIATOR SHALL INDICATE WHEN THE ELEVATOR IS ON EMERGENCY POWER. PROVIDE ALL ASSOCIATED CONTROL CABLING, CONTACTS AND RELAYS AS REQUIRED FOR INTERCONNECTION BETWEEN THE ANNUNCIATOR, THE AUTOMATIC TRANSFER SWITCH AND THE ELEVATOR CONTROLLER.
- E3. PROVIDE SURGE PROTECTION ON ALL EMERGENCY PANELS PER NEC 700.8.
- E4. PROVIDE SERVICE ENTRANCE RATED OUTPUT CIRCUIT BREAKERS WITH GENERATOR.
- E5. PROVIDE VIBRATION SPRING ISOLATOR PER GENERATOR MANUFACTURER'S SPECIFICATIONS. STRUCTURAL SUPPORT BY OTHERS.
- E6. REFER TO DETAIL #1 ON E-0.4. PROVIDE ALL REQUIRED REINFORCEMENT AND FORMWORK. REINFORCING BARS: ASTM A 615/A 615M, GRADE 60 AND BAR SUPPORTS INCLUDING BOLSTERS, CHAIRS, SPACERS AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS. CONTRACTOR SHALL CONFIRM WITH MANUFACTURER'S RECOMMENDATIONS SIZING AND STRENGTH OF PAD FOR WEIGHT OF GENERATOR.

NOTES:

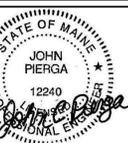
1. PAD MOUNTED TRANSFORMER BY UTILITY. PAD, GROUNDING, PRIMARY CONDUIT, AND SECONDARY CONDUITS/CONDUCTORS BY ELECTRICAL CONTRACTOR. ALL FINAL CONNECTIONS AT TRANSFORMER BY UTILITY. UTILITY COMPANY IS CENTRAL MAINE POWER.
2. ELECTRICAL CONTRACTOR SHALL GROUND IN ACCORDANCE WITH NEC ARTICLE 250 AS AMENDED BY MAINE ELECTRICAL CODE.
3. EACH METER SHALL BE EQUIPPED WITH 150A/2P CIRCUIT BREAKER FOR TENANT FEED.
4. FEEDERS SHOWN ON RISER DIAGRAM ARE BASED ON COPPER.
5. QUANTITY OF CONDUITS PER UTILITY REQUIREMENTS.
6. SHUNT TRIP DEVICES SHALL BE LOCATED AT THE FIRE ALARM CLOSET AT MAIN ENTRANCE. COORDINATE ALL DEVICES AND LOCATIONS WITH THE PORTLAND FIRE DEPARTMENT.
7. COORDINATE GENERAL POWER REQUIREMENTS WITH ELEVATOR

ELEVATOR WIRING NOTES

E.C. SHALL PROVIDE DISCONNECT SWITCH AT THE TOP OF THE SHAFT FOR MOTOR AND A SECOND DISCONNECT SWITCH IN THE ELEVATOR MACHINE ROOM. THE DISCONNECT SWITCHES SHALL BE WIRED IN SERIES TO ALLOW THE ELEVATOR CONTROLLER TO BE POWERED OFF WHEN EITHER DISCONNECT SWITCH IS TURNED OFF.



POWER RISER DIAGRAM
N.T.S.



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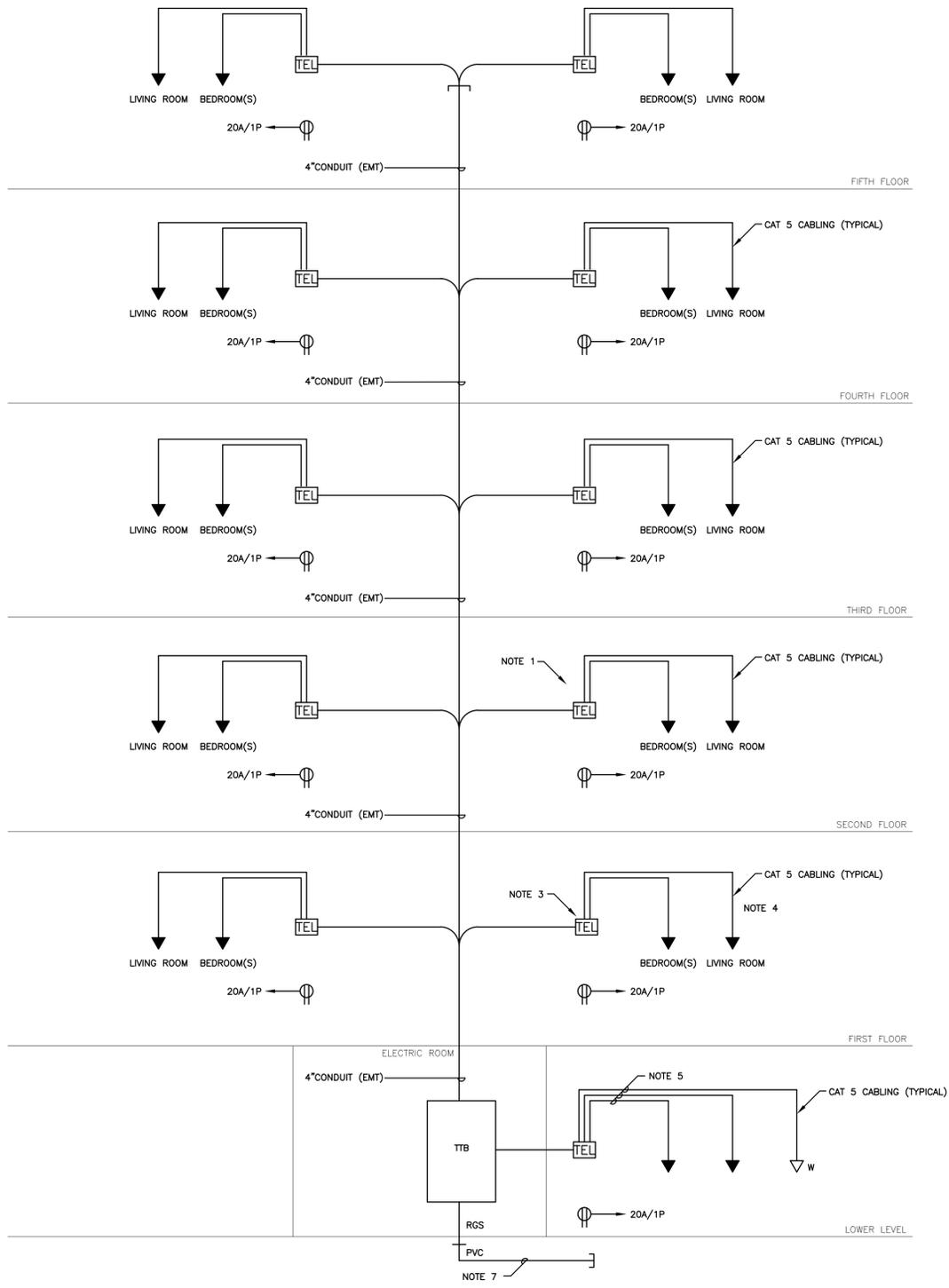
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project architect: ---
drawn by: CMF

ELECTRICAL
POWER RISER
DIAGRAM

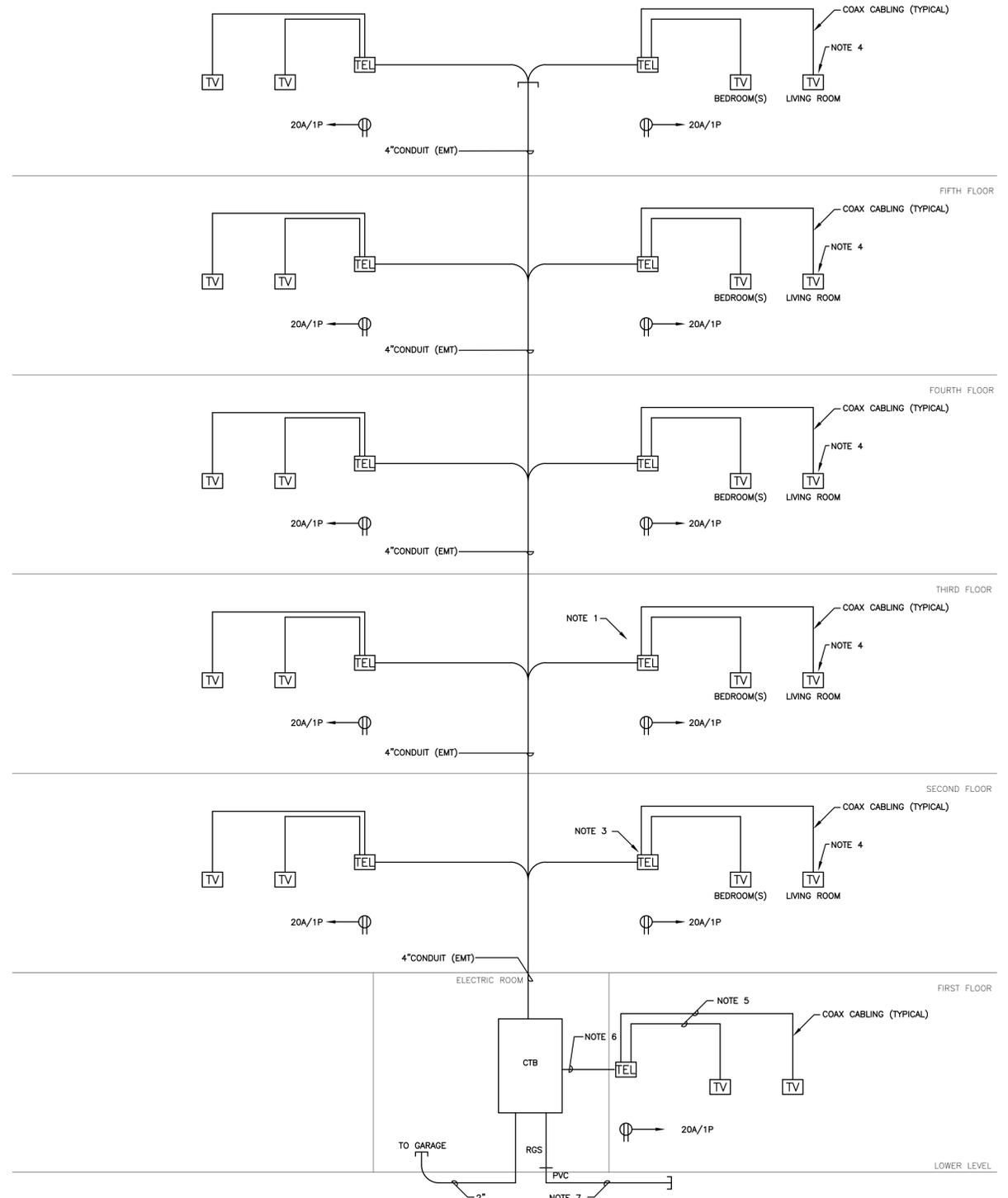
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TELEPHONE SYSTEM RISER DIAGRAM
N.T.S.

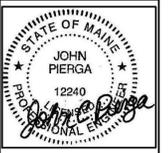
- NOTES:
- 8" x 8" JUNCTION BOX FOR BOTH TELEPHONE AND CATV JUNCTION/SPLITTER BOX (TYPICAL).
 - 24"W x 24"H x 8"D NON-METALLIC NEMA 1 ENCLOSURE, FOR COMMON TERMINAL BLOCKS ACCESSIBLE TO ANY TELEPHONE UTILITY COMPANY, ENCLOSURE PROVIDED BY CONTRACTOR (TYPICAL).
 - CENTRAL TELEPHONE JUNCTION/SPLITTER BOX, LOCATED IN APARTMENT UNIT ENTRY CLOSET, TYPICAL OF ALL APARTMENTS.
 - TELEPHONE JACK AND COVER PLATE, SEE FLOOR PLANS FOR EXACT QUANTITY AND LOCATION (TYPICAL).
 - HOMERUN WIRING FROM EACH TELEPHONE OUTLET TO THE CENTRAL TELEPHONE JUNCTION/TERMINATION BOX (TYPICAL) TERMINATE AT BOTH ENDS WITH PUNCH DOWN AND CONNECTOR AS REQUIRED.
 - 4-PAIR #22AWG SOLID COPPER CONDUCTORS CATEGORY 5 TELEPHONE WIRE, TYPICAL TO EACH CENTRAL TELEPHONE JUNCTION/TERMINATION BOX AT EACH UNIT. QUANTITY AS REQUIRED PER PLANS.
 - (1) EMPTY 4"CONDUIT (PVC) WITH PULLSTRING TO PROPERTY LINE FOR USE BY LOCAL TELEPHONE COMPANY. REFER TO SITE PLAN FOR LOCATION AND PULLBOX/MANHOLE REQUIREMENTS.
 - E.C. TO PROVIDE CABLING AND EQUIPMENT AS SHOWN AND COORDINATE WITH OWNER WITH REGARDS TO SERVICE PROVIDER NEGOTIATIONS.

1. ELECTRICAL CONTRACTOR TO PROVIDE CABLING (CAT 5 AND COAX), INSTALL WITHIN UNITS, TERMINATE AND PULL BACK TO TEL/DATA CLOSETS ON EACH FLOOR.



CABLE TELEVISION RISER DIAGRAM
N.T.S.

- NOTES:
- 8" x 8" JUNCTION BOX FOR BOTH TELEPHONE AND CATV JUNCTION/SPLITTER BOX (TYPICAL).
 - 24"W x 24"H x 8"D NON-METALLIC NEMA 1 ENCLOSURE FOR CABLE COMPANY, ENCLOSURE PROVIDED BY CONTRACTOR (TYPICAL).
 - CENTRAL CATV JUNCTION/SPLITTER BOX, LOCATED IN APARTMENT UNIT ENTRY CLOSET, TYPICAL OF ALL APARTMENTS.
 - CATV OUTLET PROVIDED BY CABLE COMPANY. CONTRACTOR SHALL PROVIDE A LOW VOLTAGE MOUNTING BRACKET "MUD-RING" FOR EACH OUTLET. FINAL CONNECTION BY CABLE COMPANY. SEE FLOOR PLANS FOR EXACT QUANTITY AND LOCATION (TYPICAL).
 - RG59/U 75 OHM COAXIAL CABLE FURNISHED BY THE CABLE COMPANY, INSTALLED BY THE CONTRACTOR (TYPICAL).
 - RG59/U 75 OHM COAXIAL CABLE FURNISHED BY CABLE COMPANY, INSTALLED BY CONTRACTOR (TYPICAL TO EACH CENTRAL CATV JUNCTION/SPLITTER BOX AT EACH UNIT, QUANTITY AS REQUIRED PER PLANS).
 - EMPTY (1)4"CONDUIT (PVC) WITH PULLSTRING TO PROPERTY LINE FOR USE BY LOCAL CABLE COMPANY. REFER TO SITE PLAN FOR LOCATION AND PULLBOX/MANHOLE REQUIREMENTS.
 - CTB'S SHALL BE LOCATED IN TEL/DATA ROOMS ON EACH FLOOR.
 - E.C. TO PROVIDE CABLING AND EQUIPMENT AS SHOWN AND COORDINATE WITH OWNER WITH REGARDS TO SERVICE PROVIDER NEGOTIATIONS.



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sheet number:
E0.04

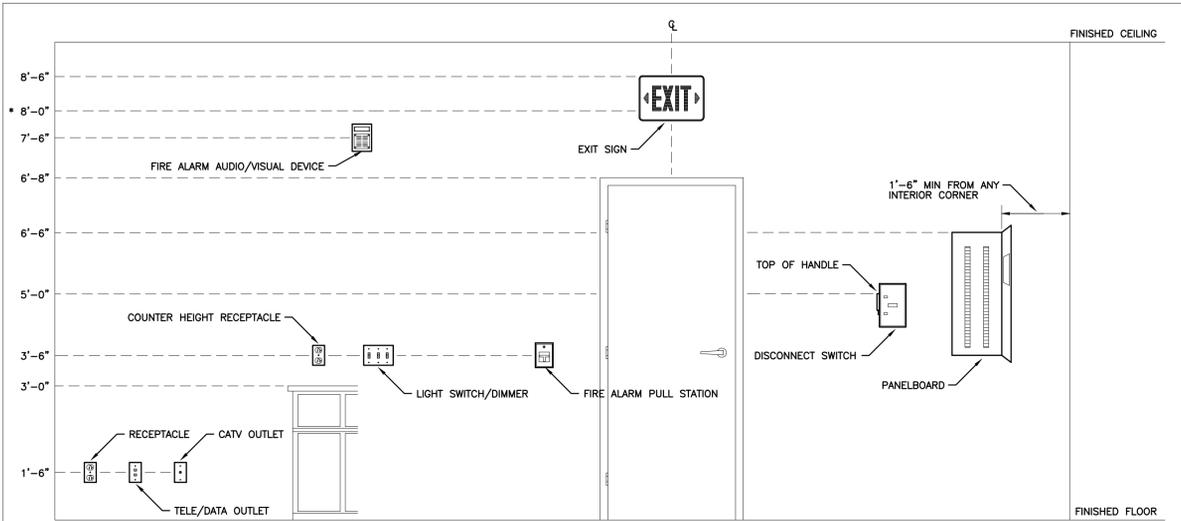
PANEL 'UP', 125 AMP, 120/208 VOLT, 1 PHASE, 3 WIRE AND GROUND														
LOAD DESCRIPTION			KVA LOAD			CB/ PHASE			CIRC NO.			PH		
A	B	C	A	B	C	1	2	3	4	5	6	7		
LIGHTING	1.00					15	1	A	2			20		
REFRIGERATOR		1.20				15	3	B	4			0.80		
KITCHEN GFI RECEPTS.	0.90					15	5	A	6			2.00		
KITCHEN GFI RECEPTS.		0.90				15	7	B	8			2.00		
KITCHEN HOOD	0.40					15	9	A	10			30		
STOVE		4.00				11	B	12				2.00		
DISPOSAL			1.00			15	15	B	16			15		
ISLAND GFI	0.18					15	17	A	18			30		
LIVING ROOM RECEPTS.		1.10				15	19	B	20			1.80		
BATHROOM GFI RECEPTS.	0.18					15	21	A	22					
BEDROOM RECEPTS.		1.30				15	23	B	24					
2ND BEDROOM RECEPTS.	1.30					15	25	A	26					
2ND BATHROOM RECEPTS.		0.18				15	27	B	28					
						29	A	30						
						31	A	32						
						33	A	34						
						35	A	36						
						37	A	38						
						39	A	40						
						41	A	42						
	7.96	9.68										7.60		
												6.75		
SUBTOTALS														
PHASE A 15.56 KVA			TOTAL LOAD 31.99 KVA			OPTIONS:								
PHASE B 16.43 KVA														

PANEL 'HP1', 225 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND														
LOAD DESCRIPTION			KVA LOAD			CB/ PHASE			CIRC NO.			PH		
A	B	C	A	B	C	1	2	3	4	5	6	7		
EXTERIOR LIGHTING	1.20					20	1	A	2			0.80		
EXTERIOR LIGHTING		1.20				20	3	B	4			0.80		
EXTERIOR GFI RECEPTS			0.36			20	5	C	6			0.90		
EXTERIOR GFI RECEPTS	0.36					20	7	A	8			0.36		
ELEVATOR PIT AND GFI		0.50				20	9	B	10					
ELEVATOR SUMP PUMP			1.00			20	11	C	12					
STAIR NO. 1 LIGHTING	0.90					20	13	A	14			0.50		
STAIR NO. 1 LIGHTING		0.90				20	15	B	16			1.10		
ELEC. ROOM LIGHTING			0.60			20	17	C	18			1.10		
ELEC. ROOM RECEPTS.	0.36					20	19	A	20			1.10		
SPARE						20	21	B	22					
SPARE						20	23	C	24			0.90		
GARAGE LIGHTING	1.40					20	25	A	26			0.90		
GARAGE LIGHTING		1.40				20	27	B	28			0.90		
GARAGE LIGHTING			1.40			20	29	C	30			0.90		
GARAGE DOOR	1.20					20	31	A	32			0.90		
GARAGE DOOR		1.20				20	33	B	34			0.90		
CF-2						20	35	C	36			20		
CF-1						20	37	A	38			4.00		
GE-1						20	39	B	40			4.00		
						41	C	42				4.00		
	5.42	5.20	3.36									8.56		
												7.70		
SUBTOTALS														
PHASE A 13.98 KVA			TOTAL LOAD 38.04 KVA			OPTIONS:								
PHASE B 12.90 KVA														
PHASE C 11.16 KVA														

PANEL 'HP4', 125 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND														
LOAD DESCRIPTION			KVA LOAD			CB/ PHASE			CIRC NO.			PH		
A	B	C	A	B	C	1	2	3	4	5	6	7		
3RD FLOOR LIGHTING	1.40					20	1	A	2			1.40		
3RD FLOOR LIGHTING		1.40				20	3	B	4			1.40		
3RD FLOOR RECEPTS.			1.10			20	5	C	6			1.10		
SPARE						20	7	A	8					
SPARE						20	9	B	10					
3RD FLOOR LIGHTING		1.40				20	11	C	12					
3RD FLOOR LIGHTING	1.40					20	13	A	14					
3RD FLOOR RECEPTS.			1.10			20	15	B	16					
						20	17	C	18					
						20	19	A	20					
						20	21	B	22					
						20	23	C	24					
						20	25	A	26					
						20	27	B	28					
						20	29	C	30					
						20	31	A	32					
						20	33	B	34					
						20	35	C	36					
						20	37	A	38					
						20	39	B	40					
						41	C	42						
	2.80	2.50	2.50									1.40		
												1.40		
												1.10		
SUBTOTALS														
PHASE A 4.20 KVA			TOTAL LOAD 11.70 KVA			OPTIONS:								
PHASE B 3.90 KVA														
PHASE C 3.60 KVA														

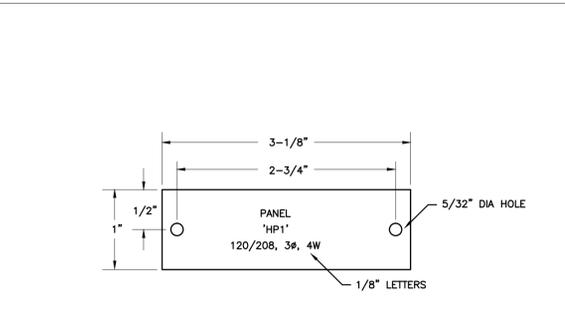
PANEL 'LS1', 100 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND														
LOAD DESCRIPTION			KVA LOAD			CB/ PHASE			CIRC NO.			PH		
A	B	C	A	B	C	1	2	3	4	5	6	7		
SPARE						20	1	A	2			20		
ELEVATOR						60	3	B	4					
SPARE						20	5	C	6					
SPARE						20	7	A	8					
SPARE						20	9	B	10					
SPARE						20	11	C	12					
SPARE						20	13	A	14					
SPARE						20	15	B	16					
SPARE						20	17	C	18					
						20	19	A	20					
						20	21	B	22					
						20	23	C	24					
						20	25	A	26					
						20	27	B	28					
						20	29	C	30					
						20	31	A	32					
						20	33	B	34					
						20	35	C	36					
						20	37	A	38					
						20	39	B	40					
						41	C	42						
	0.00	0.00	0.00									0.00		
												0.00		
SUBTOTALS														
PHASE A 0.00 KVA			TOTAL LOAD 0.00 KVA			OPTIONS:								
PHASE B 0.00 KVA														
PHASE C 0.00 KVA														

PANEL 'MP1', 600 AMP, 120/208 VOLT, 3 PHASE, 4 WIRE AND GROUND														
LOAD DESCRIPTION			KVA LOAD			CB/ PHASE			CIRC NO.			PH		
A	B	C	A	B	C	1	2	3	4	5	6	7		
EH-2	1.00					20	1	A	2			20		
		1.00				20	3	B	4			20		
			1.50			20	5	C	6			7.70		
EH-3			1.50			20	7	A	8			110		
				1.50		20	9	B	10			7.70		
					1.50	20	11	C	12			2.40		
AH-1	1.30					20	13	A	14			35		
		1.30				20	15	B	16			2.40		
			1.50			20	17	C	18			1.00		
EH-4			1.50			20	19	A	20			2.70		
		1.30				20	21	B	22			2.70		
				1.30		20	23	C	24			2.70		
AH-2	1.20					20	25	A	26			7.70		
EF-10, EF-9, EF-8				1.20		20	27	B	28			110		
EF-15, EF-12, EF-11					1.20	20	29	C	30			7.70		
EF-14, EF-15, EF-16						20	31	A	32			7.70		
						20	33	B	34			110		
						20	35	C	36			7.70		
						20	37	A	38			2.40		
HP1					12.60	20	39	B	40			35		
						41	C	42				2.40		
	19.10	18.90	19.60									31.80		
												31.80		
SUBTOTALS														
PHASE A 50.90 KVA			TOTAL LOAD 152.80 KVA			OPTIONS:								



1 DEVICE MOUNTING HEIGHT DETAIL

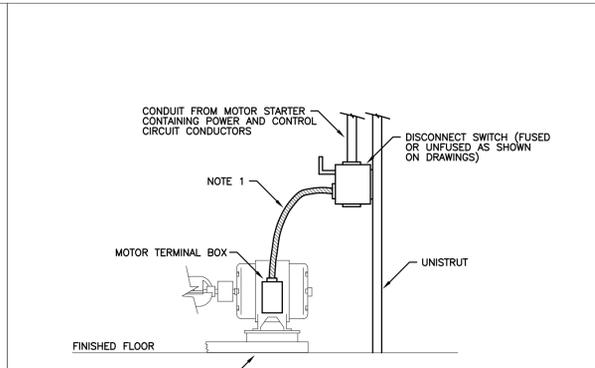
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- NOTES:
1. NAMEPLATE TO BE CONSTRUCTED OF 1/16" THICK WHITE SURFACE WITH LETTER ENGRAVED INTO BLACK LAMINATIONS.
 2. ALL NAMEPLATES SHALL BE SECURED BY MACHINE SCREWS.
 3. NO NAMEPLATES SHALL BE PASTED ON.
 4. APARTMENT LOAD CENTERS SHALL HAVE FACTORY INSTALLED LOCKS. PANELBOARDS WILL NOT BE ALLOWED TO BE RETROFITTED WITH LOCKS IN THE FIELD.

2 TYPICAL NAMEPLATE DETAIL

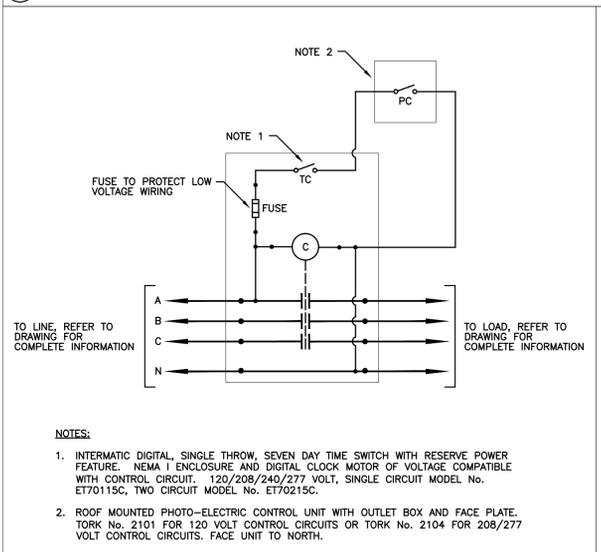
N.T.S.



- NOTES:
1. FLEXIBLE LIQUIDTIGHT CONDUIT CONNECTION CONTAINING POWER CIRCUIT CONDUCTORS (MAXIMUM LENGTH SHALL BE 36").

3 MOTOR DISCONNECT SWITCH MOUNTING DETAIL

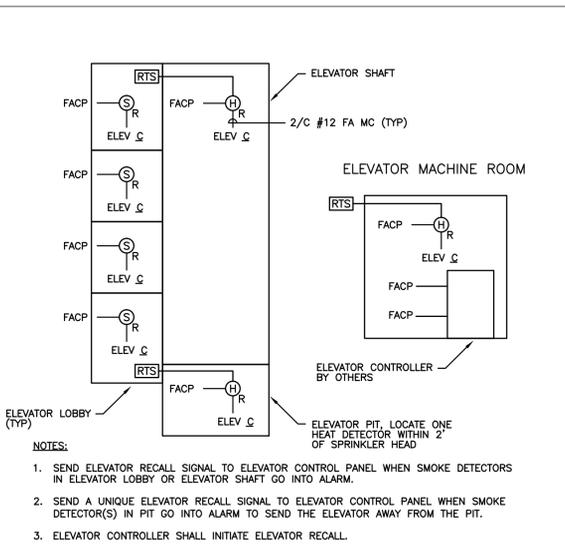
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- NOTES:
1. INTERMATIC DIGITAL, SINGLE THROW, SEVEN DAY TIME SWITCH WITH RESERVE POWER FEATURE. NEMA 1 ENCLOSURE AND DIGITAL CLOCK MOTOR OF VOLTAGE COMPATIBLE WITH CONTROL CIRCUIT. 120/208/240/277 VOLT, SINGLE CIRCUIT MODEL No. ET70115C, TWO CIRCUIT MODEL No. ET70215C.
 2. ROOF MOUNTED PHOTO-ELECTRIC CONTROL UNIT WITH OUTLET BOX AND FACE PLATE. TORK No. 2101 FOR 120 VOLT CONTROL CIRCUITS OR TORK No. 2104 FOR 208/277 VOLT CONTROL CIRCUITS. FACE UNIT TO NORTH.

4 TIME SWITCH PHOTOCELL CONTROLLED CONTACTOR DETAIL

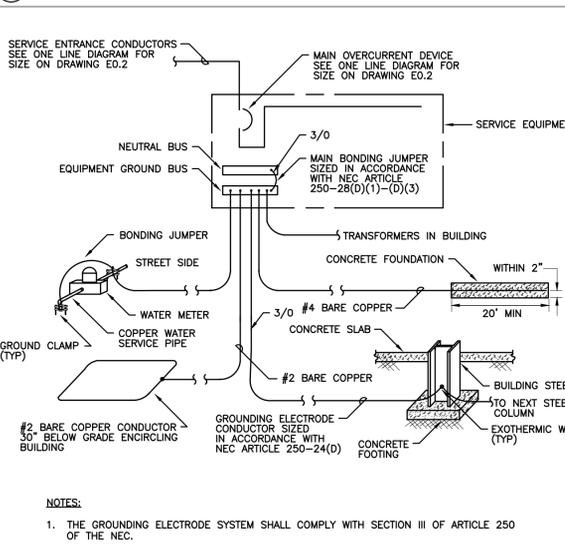
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- NOTES:
1. SEND ELEVATOR RECALL SIGNAL TO ELEVATOR CONTROL PANEL WHEN SMOKE DETECTORS IN ELEVATOR LOBBY OR ELEVATOR SHAFT GO INTO ALARM.
 2. SEND A UNIQUE ELEVATOR RECALL SIGNAL TO ELEVATOR CONTROL PANEL WHEN SMOKE DETECTOR(S) IN PIT GO INTO ALARM TO SEND THE ELEVATOR AWAY FROM THE PIT.
 3. ELEVATOR CONTROLLER SHALL INITIATE ELEVATOR RECALL.

5 ELEVATOR RECALL WIRING DETAIL

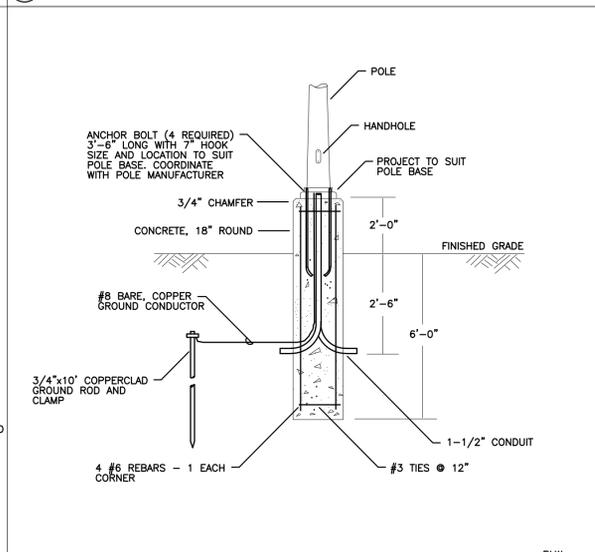
N.T.S.



- NOTES:
1. THE GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH SECTION III OF ARTICLE 250 OF THE NEC.

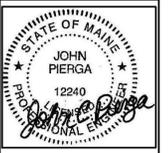
6 SERVICE GROUNDING DETAIL

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BLW
N.T.S.

7 LIGHTING POLE BASE DETAIL



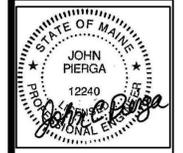
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ELECTRICAL
DETAILS

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ELECTRICAL LOWER LEVEL

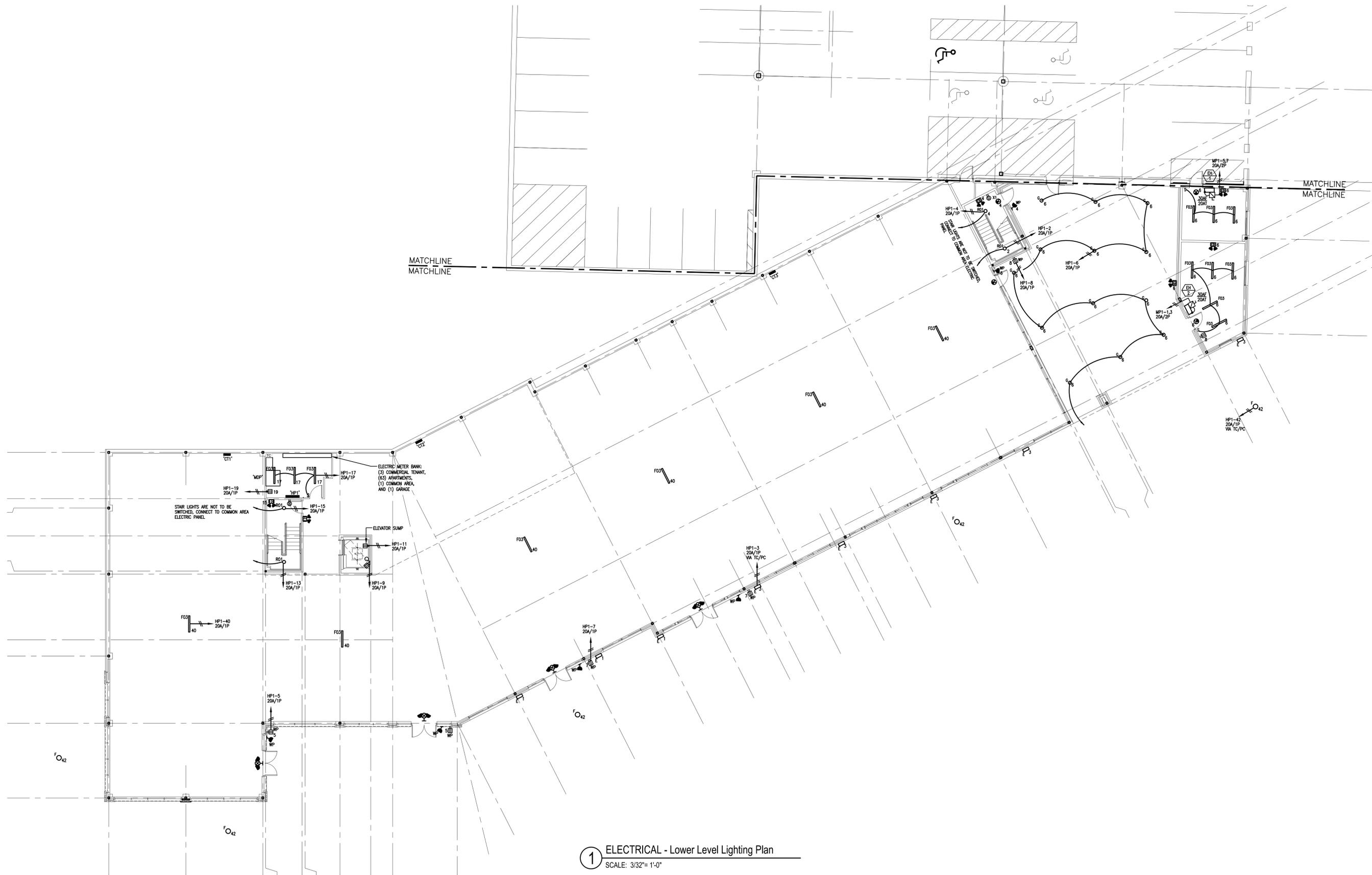
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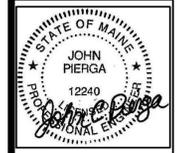
CARBON MONOXIDE CONTROL

- It will be the Mechanical Contractor's responsibility to provide and install all controls and all control wiring.
- All control wiring that is run in concealed spaces to be plenum rated.
- All control wiring that is run exposed shall be in electrical conduit provided and installed by the mechanical contractor.
- Sequence of Operation
 - GE-1 to run continuously - 24/7.
 - GE-2&3 to run any time any of the Carbon Monoxide sensors sense CO levels exceeding 25 ppm.
 - CF-1&2 to run any time any of the Carbon Monoxide sensors sense VCO levels exceeding 25 ppm.
 - Control Panel to provide visual and audio alarm any time any of the sensors detect CO levels above 50 ppm for more than 5 minutes (adjustable).

1 ELECTRICAL - Lower Level Lighting and Power Plan
 SCALE: 3/32" = 1'-0"



1 ELECTRICAL - Lower Level Lighting Plan
SCALE: 3/32" = 1'-0"



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Portland, Maine

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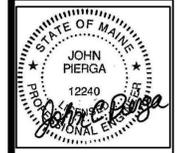
project architect: ---
drawn by: CMF

**ELECTRICAL
LEGEND &
NOTES**

sheet number:
E1.01a



1 ELECTRICAL -Second Level Lighting Plan
 SCALE: 3/32" = 1'-0"



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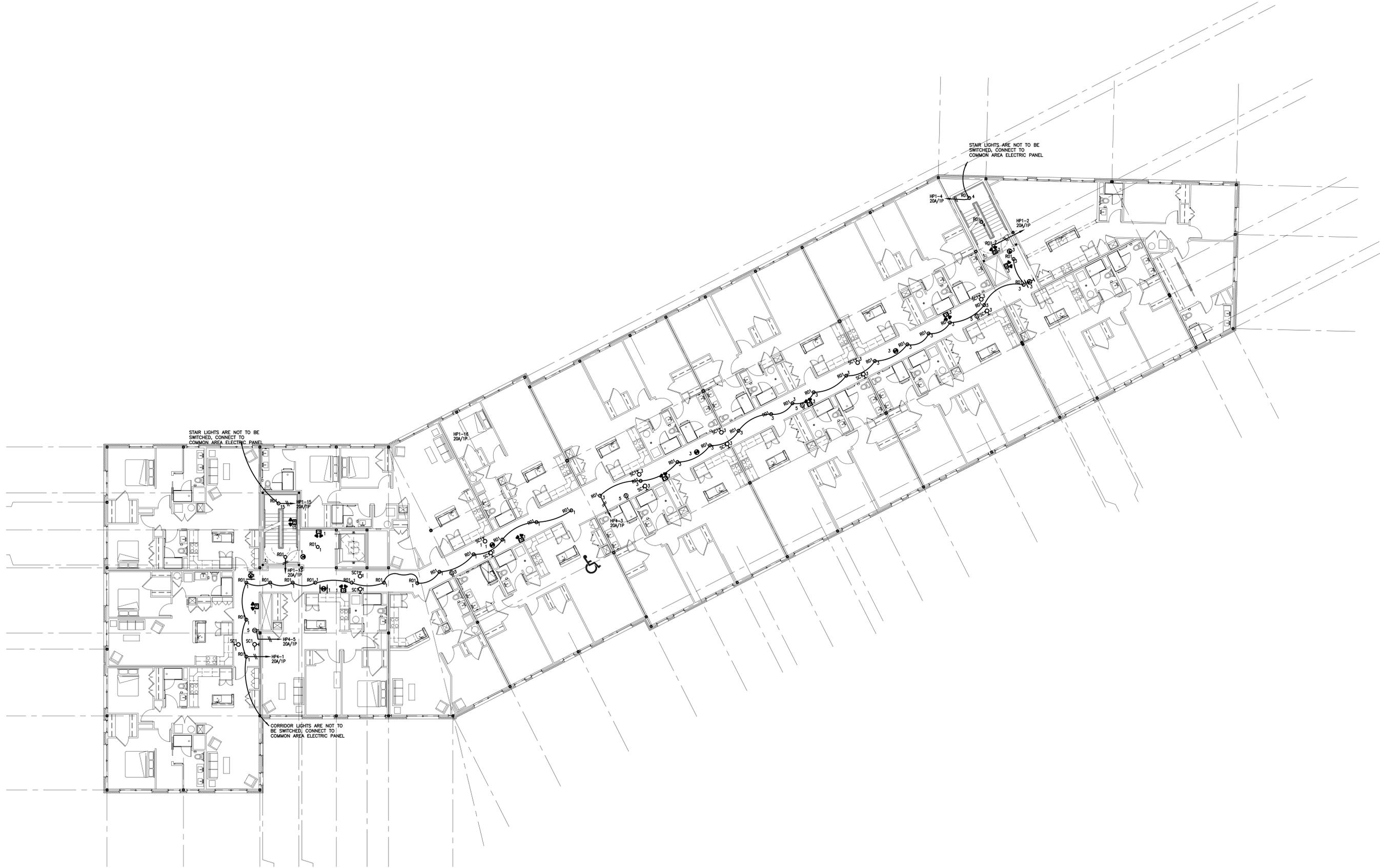
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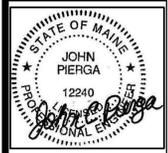
project architect: ---
 drawn by: CMF

ELECTRICAL
 2ND LEVEL
 LTG. PLAN

sheet number:
E1.02a



1 ELECTRICAL -Third Level Lighting and Power Plan
 SCALE: 3/32" = 1'-0"



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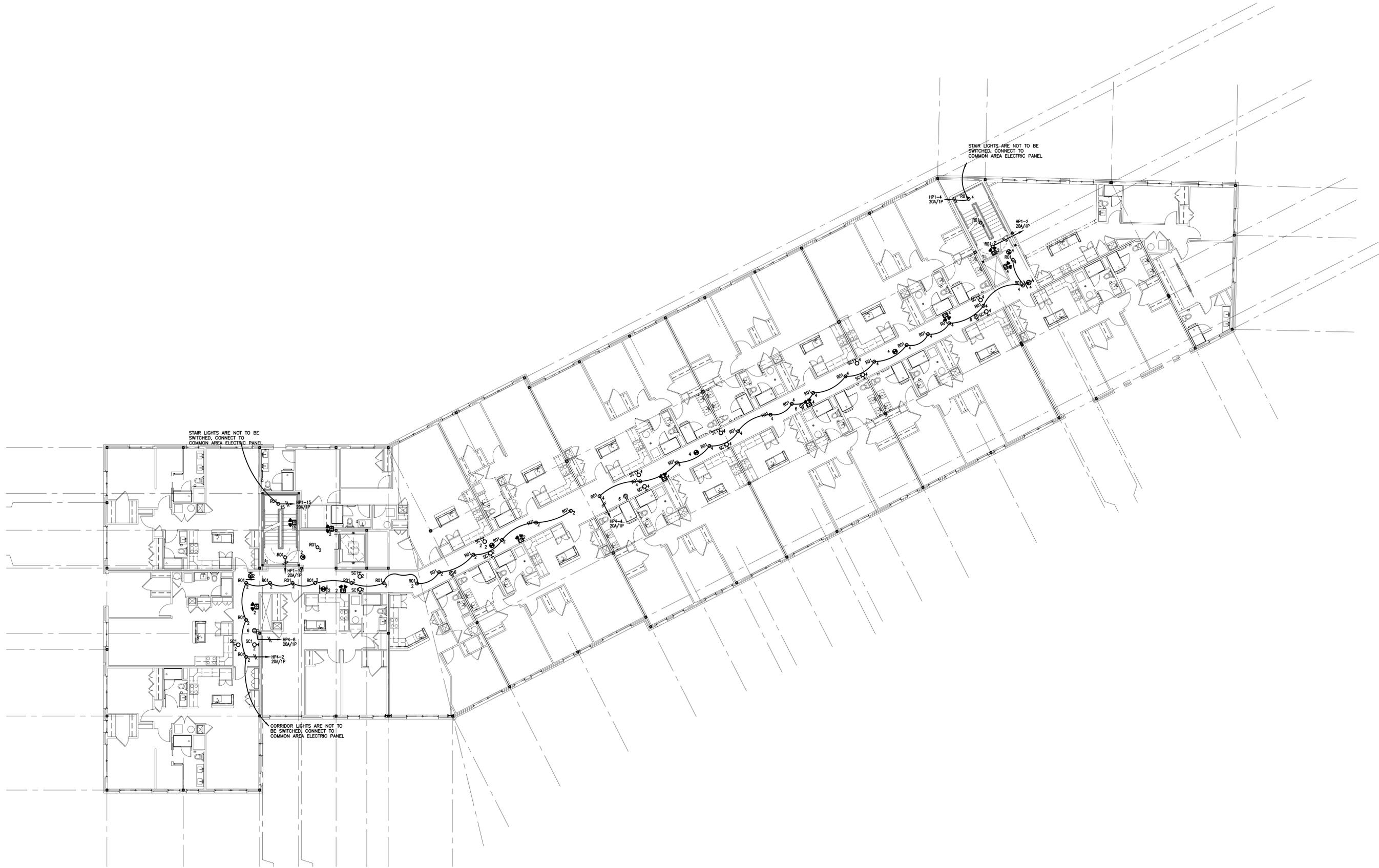
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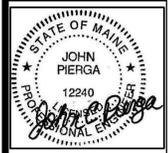
project architect: ---
 drawn by: CMF

ELECTRICAL
 3RD LEVEL
 PLAN

sheet number:
E1.03



1 ELECTRICAL -Fourth Level Lighting and Power Plan
 SCALE: 3/32"= 1'-0"



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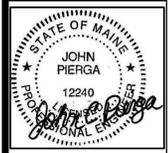
project architect: ---
 drawn by: CMF

ELECTRICAL
 4TH LEVEL
 PLAN

sheet number:
E1.04



1 ELECTRICAL -Fifth Level Lighting and Power Plan
 SCALE: 3/32"= 1'-0"



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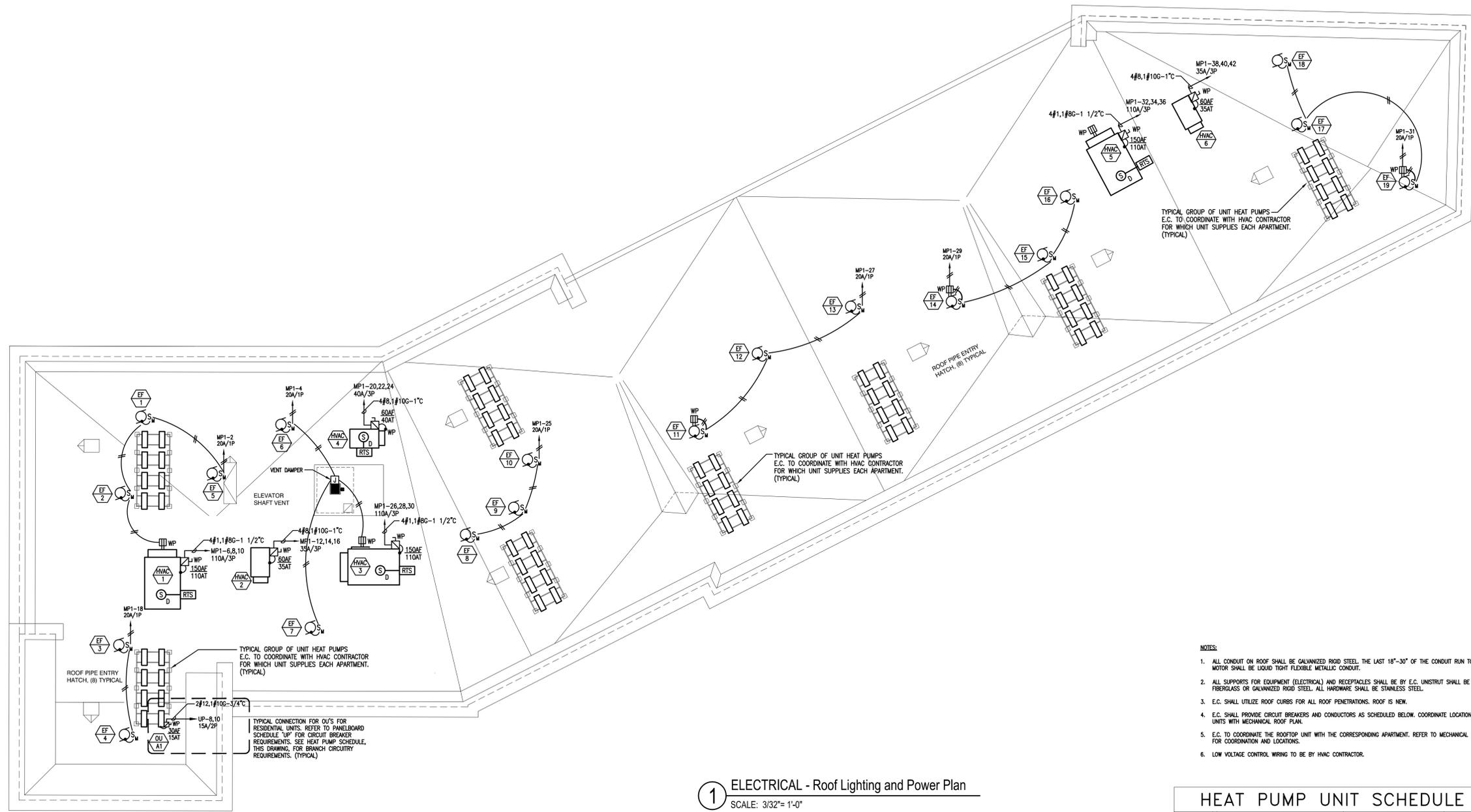
REVISION:

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project architect: ---
 drawn by: CMF

ELECTRICAL
 5TH LEVEL
 PLAN

sheet number:
E1.05

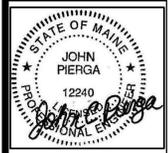


1 ELECTRICAL - Roof Lighting and Power Plan
SCALE: 3/32"= 1'-0"

- NOTES:
1. ALL CONDUIT ON ROOF SHALL BE GALVANIZED RIGID STEEL. THE LAST 18"-30" OF THE CONDUIT RUN TO EACH MOTOR SHALL BE LIQUID TIGHT FLEXIBLE METALLIC CONDUIT.
 2. ALL SUPPORTS FOR EQUIPMENT (ELECTRICAL) AND RECEPTACLES SHALL BE BY E.C. UNISTRUT SHALL BE FIBERGLASS OR GALVANIZED RIGID STEEL. ALL HARDWARE SHALL BE STAINLESS STEEL.
 3. E.C. SHALL UTILIZE ROOF CURBS FOR ALL ROOF PENETRATIONS. ROOF IS NEW.
 4. E.C. SHALL PROVIDE CIRCUIT BREAKERS AND CONDUCTORS AS SCHEDULED BELOW. COORDINATE LOCATION OF UNITS WITH MECHANICAL ROOF PLAN.
 5. E.C. TO COORDINATE THE ROOFTOP UNIT WITH THE CORRESPONDING APARTMENT. REFER TO MECHANICAL PLANS FOR COORDINATION AND LOCATIONS.
 6. LOW VOLTAGE CONTROL WIRING TO BE BY HVAC CONTRACTOR.

TAG	ELECTRIC			CONDUCTOR AND CONDUIT	PANEL AND CIRCUIT
	POWER	MGP	MCA		
OU-A1	208/60/1	15	9.4	2#12, 1#12G-3/4\"C	UP
OU-A2	208/60/1	15	9.4	2#12, 1#12G-3/4\"C	UP
OU-A3	208/60/1	15	9.4	2#12, 1#12G-3/4\"C	UP
OU-A4	208/60/1	15	9.4	2#12, 1#12G-3/4\"C	UP
OU-B1	208/60/1	20	13.6	2#12, 1#12G-3/4\"C	UP
OU-B2	208/60/1	20	13.6	2#12, 1#12G-3/4\"C	UP
OU-B3	208/60/1	20	13.6	2#12, 1#12G-3/4\"C	UP
OU-B4	208/60/1	35	21.7	2#8, 1#10G-3/4\"C	UP
OU-B5	208/60/1	20	13.6	2#12, 1#12G-3/4\"C	UP
OU-C1	208/60/1	35	21.7	2#8, 1#10G-3/4\"C	UP
OU-1	208/60/1	---	---	---	UP
OU-2	208/60/1	---	6	---	UP

* FIELD VERIFY WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN.



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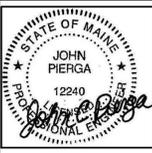
project architect: ---
drawn by: CMF

ELECTRICAL ROOF PLAN

sheet number:
E1.06

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311 Great Road, Post Office Box 1651
Lisbon, Maine 04040
Tel: 603.883.1667
www.blwengineers.com

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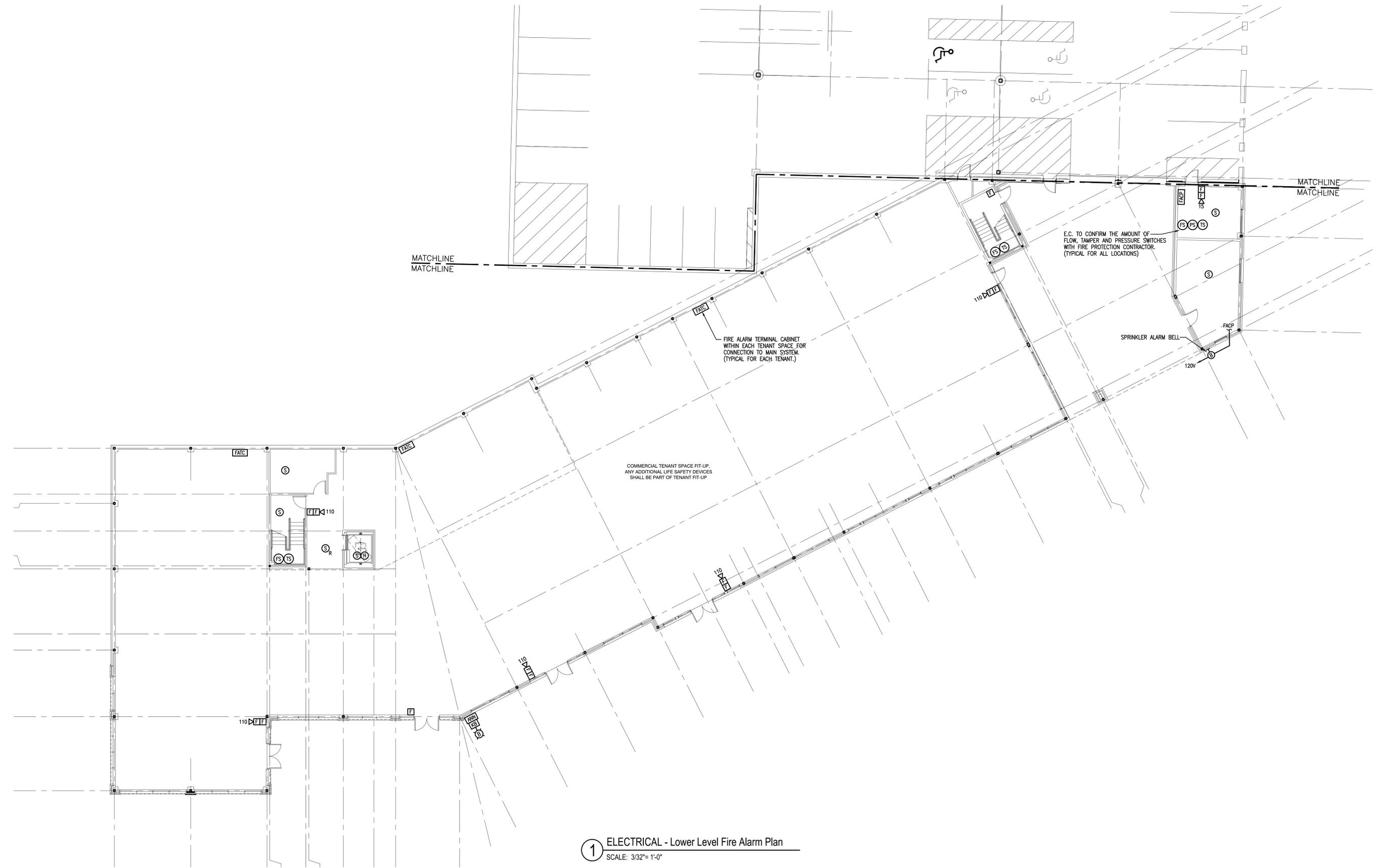
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project architect: ---
drawn by: CMF

ELECTRICAL
1ST FLOOR
PLAN

sheet number:
E2.01a



1 ELECTRICAL - Lower Level Fire Alarm Plan
SCALE: 3/32" = 1'-0"



1 ELECTRICAL - Lower Level Fire Alarm Plan
 SCALE: 3/32" = 1'-0"

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 12240
John Pierga

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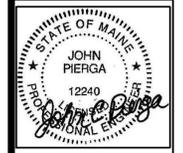
ELECTRICAL
 1ST FLOOR
 PLAN

sheet number:
E2.01b



1 ELECTRICAL -Second Level Fire Alarm Plan
 SCALE: 3/32" = 1'-0"

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 Lebanon, Massachusetts 01460
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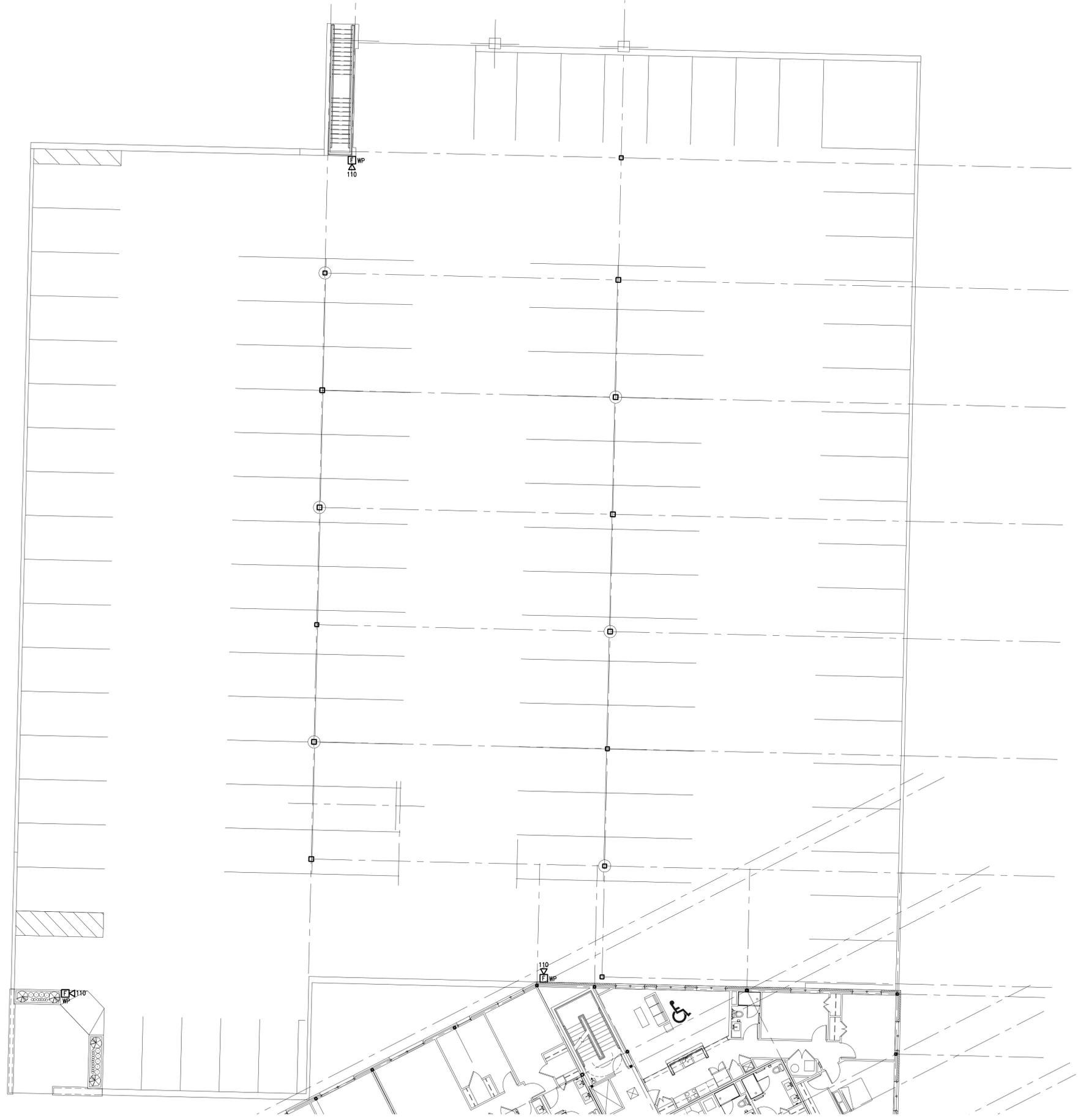
project architect: ---
 drawn by: CMF

ELECTRICAL
 2ND LEVEL
 PLAN

sheet number:
E2.02a

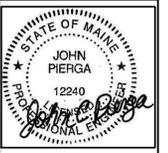
Opushee Construction Corporation
1000 Congress Street
Portland, ME 04101
www.opushee.com

BLW Engineers, Inc.
311 Great Road, Post Office Box 1651
Lisbon, Maine 04040
Tel: 603-883-1100
www.blwengineers.com



1 ELECTRICAL -Second Level Fire Alarm Plan
SCALE: 3/32" = 1'-0"

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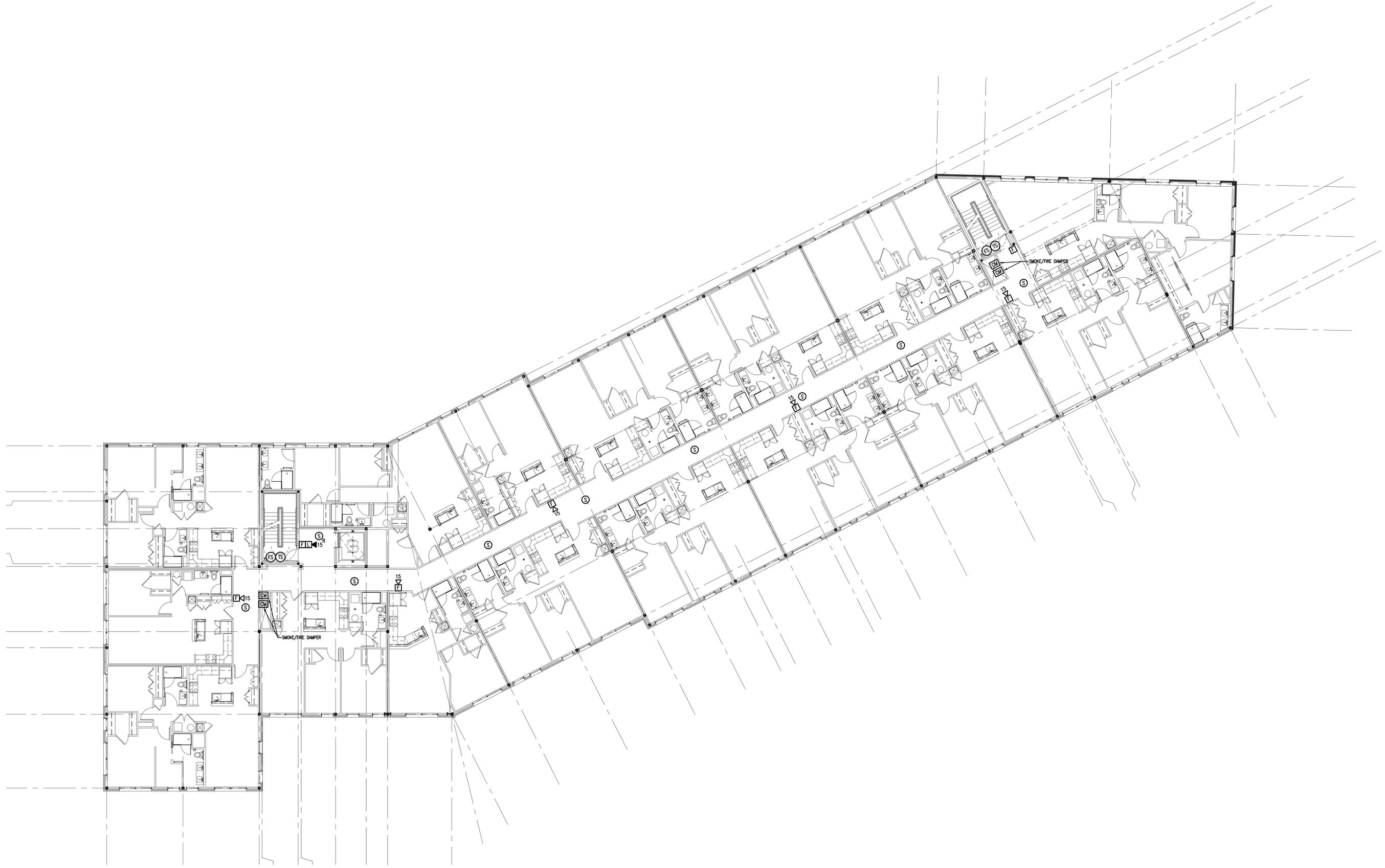
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project architect: ---
drawn by: CMF

ELECTRICAL
2ND LEVEL
PLAN

sheet number:
E2.02b



1 ELECTRICAL -Fourth Level Fire Alarm Plan
 SCALE: 3/32"= 1'-0"

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 311 Central Street, Suite 1051
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 T: 978.486.4301 F: 978.428.0067
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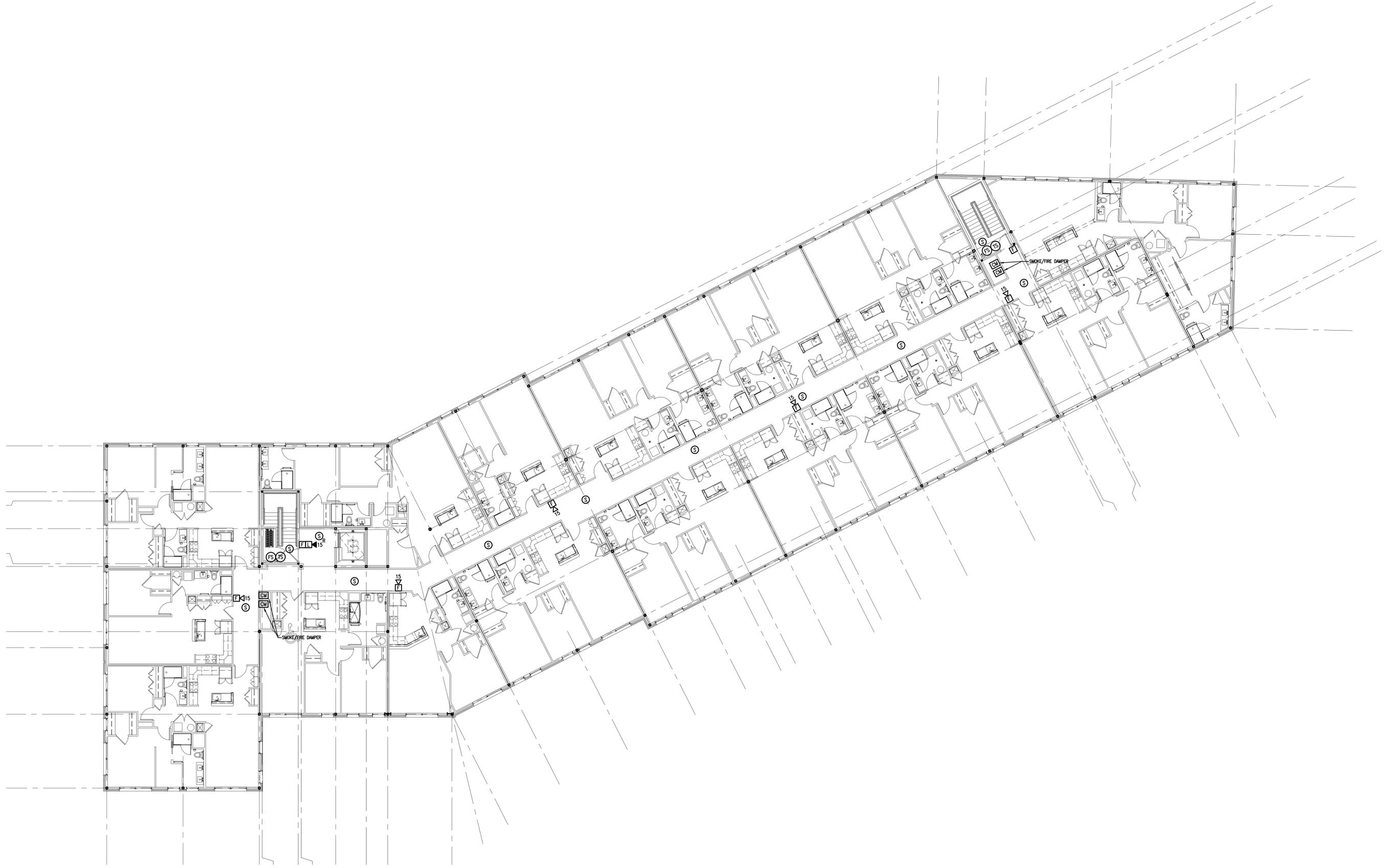
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 drawn by: CMF

**ELECTRICAL
 4TH LEVEL
 PLAN**

sheet number:

E2.04



1 ELECTRICAL -Fifth Level Fire Alarm Plan
 SCALE: 3/32"= 1'-0"

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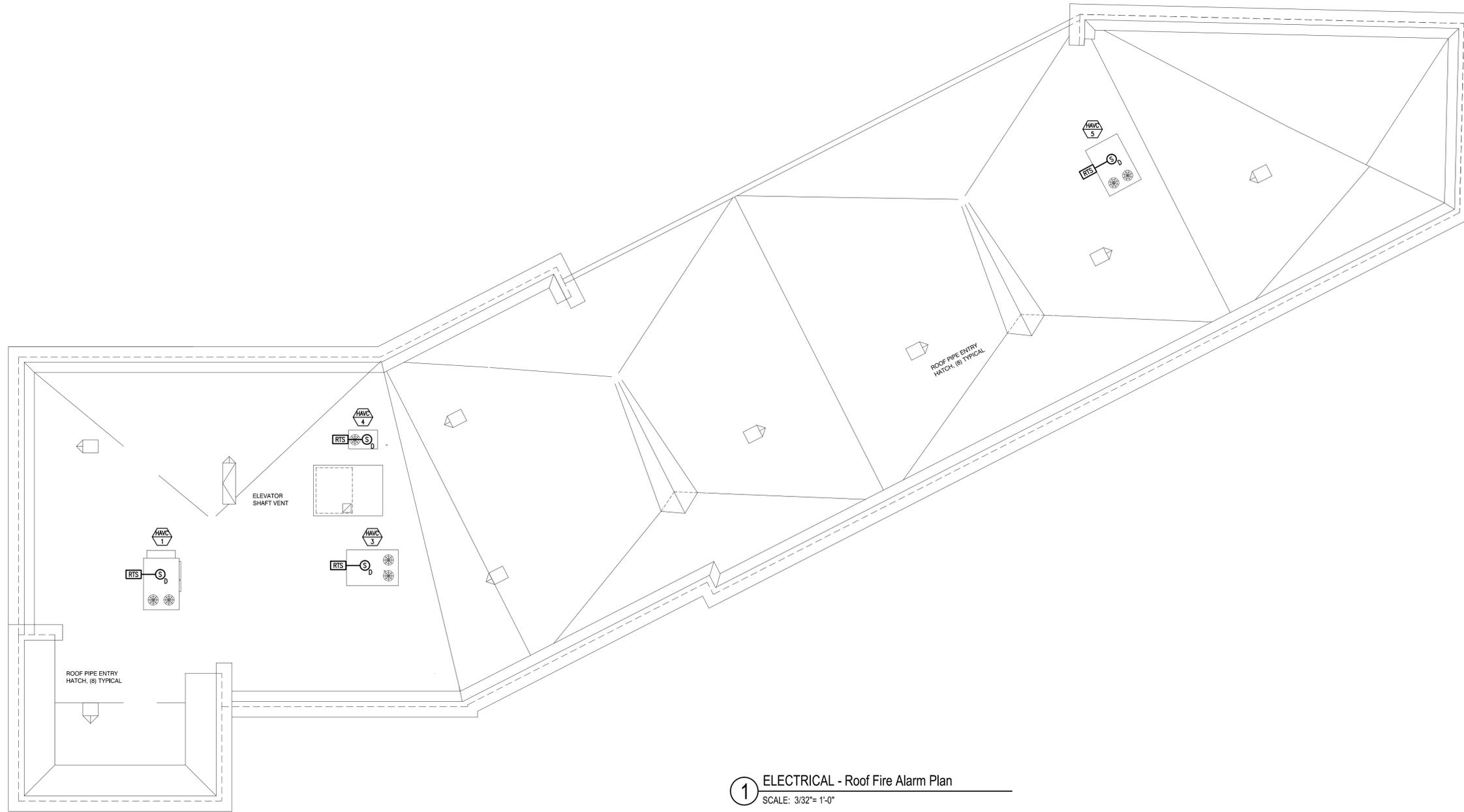
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ELECTRICAL
5TH LEVEL
PLAN

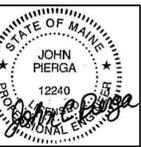
sheet number:
E2.05



1 ELECTRICAL - Roof Fire Alarm Plan
 SCALE: 3/32"= 1'-0"

NOTES:

- ALL CONDUIT ON ROOF SHALL BE GALVANIZED RIGID STEEL. THE LAST 18"-30" OF THE CONDUIT RUN TO EACH MOTOR SHALL BE LIQUID TIGHT FLEXIBLE METALLIC CONDUIT.
- E.C. SHALL UTILIZE ROOF CURBS FOR ALL ROOF PENETRATIONS. ROOF IS NEW.
- DUCT MOUNTED SMOKE DETECTORS SHALL BE PROVIDED BY E.C., INSTALLED BY M.C., WIRED BY E.C. ALL DUCT MOUNTED SMOKE DETECTORS SHALL HAVE REMOTE TEST STATION AND LED ON THE FLOOR BELOW, GROUP BY AREA AND INSTALL IN A CORRIDOR OR OTHER COMMON AREA. ALL TEST STATIONS SHALL BE PERMANENTLY LABELED WITH UNIT SERVED. "RTU-1 DUCT MOUNTED SMOKE DETECTOR". LABEL SHALL BE RED PLASTIC WITH 1/8" TALL (WHITE) LETTERS.



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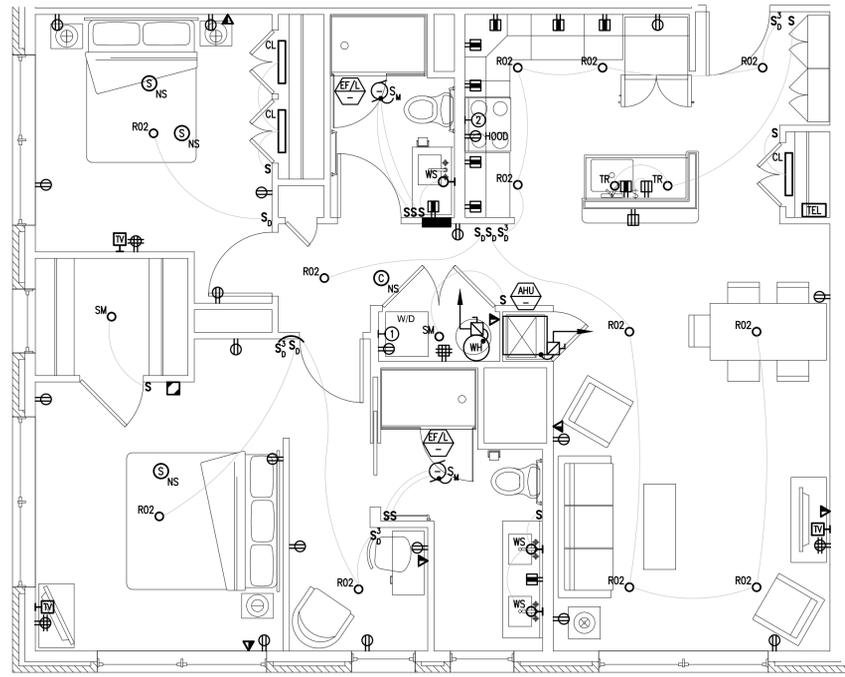
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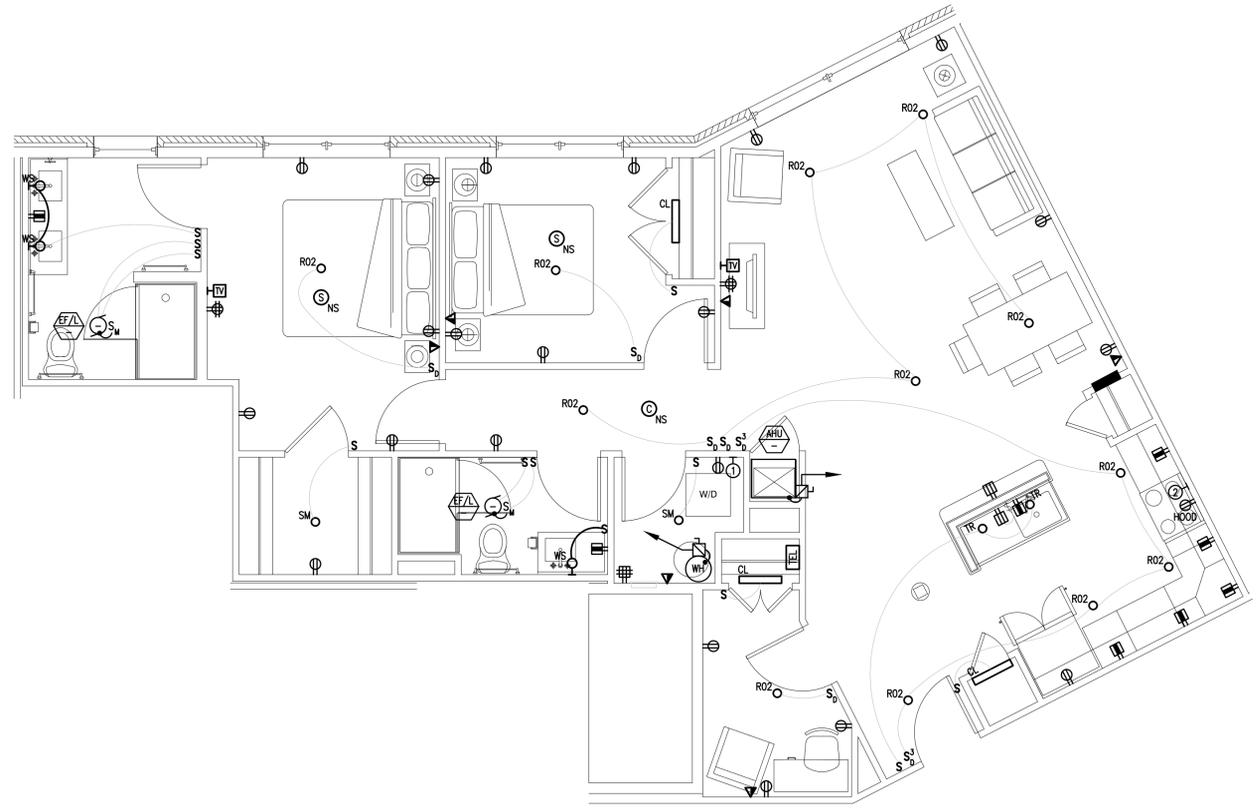
**ELECTRICAL
 ROOF
 PLAN**

sheet number:

E2.06

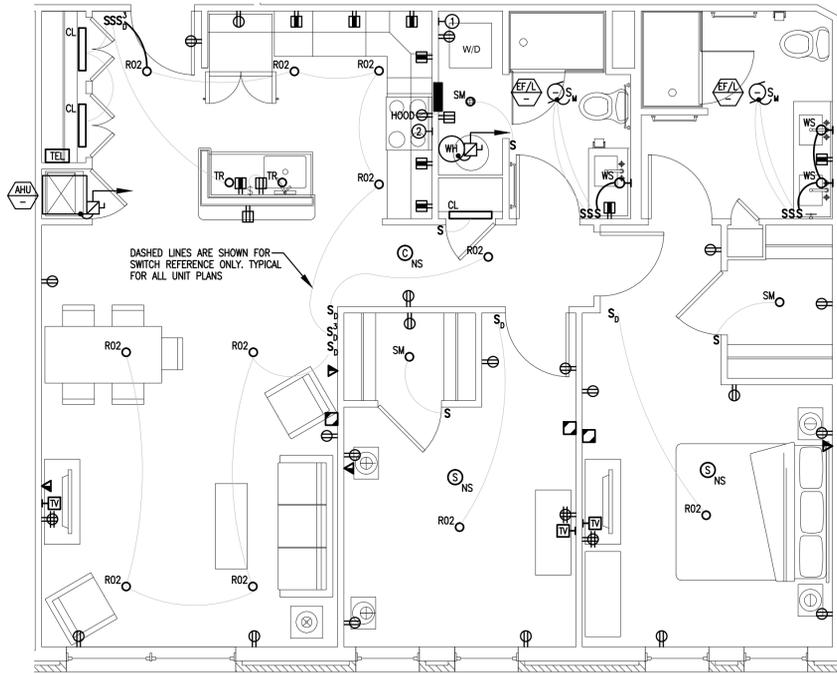


B5 2 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 201, 203, 301, 303, 401, 403, 501, & 503

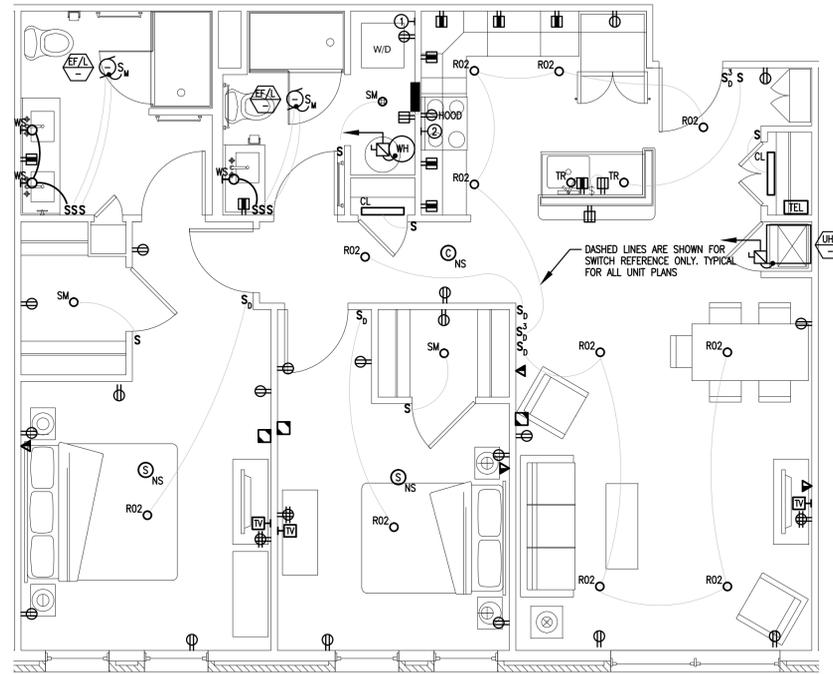


B4 2 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 305, 405, & 505

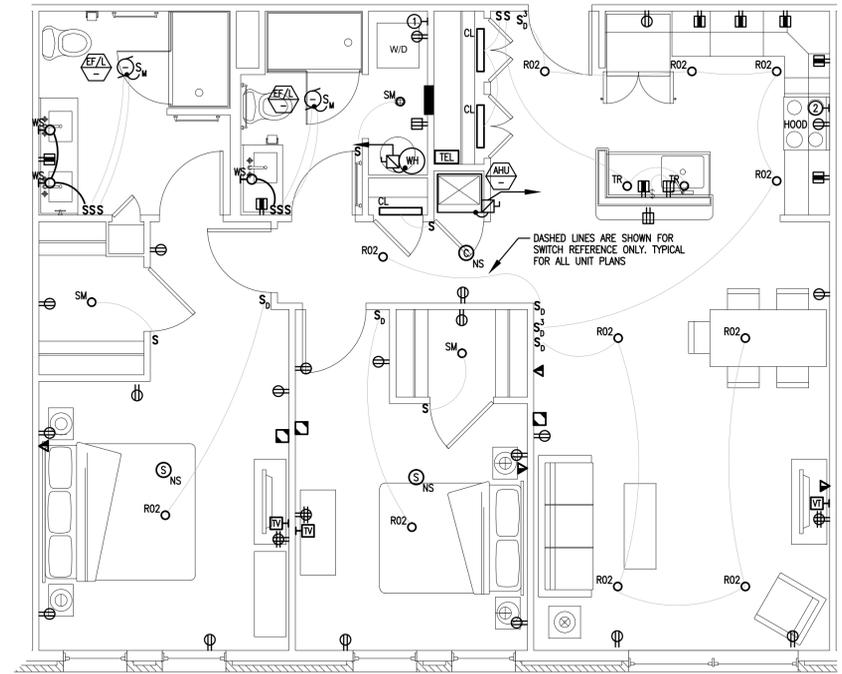
REFER TO SHEET E3.03 FOR TYPICAL UNIT PLAN WITH CIRCUITING SHOWN AS REQUIRED.



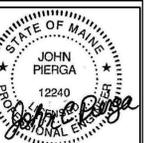
B3 2 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 216, 316, 416, & 516



B2 2 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 208, 209, 309, 408, 409, 508, & 509



B1 2 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 210, 211, 212, 213, 214, 310, 311, 312, 313, 314, 410, 411, 412, 413, 414, 510, 511, 512, 513, & 514



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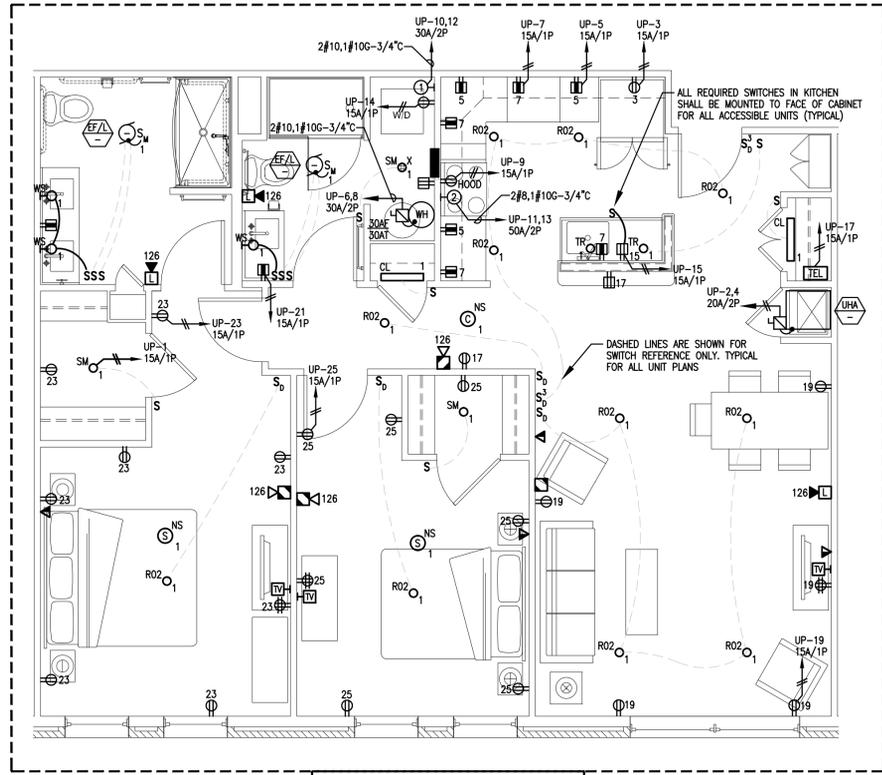
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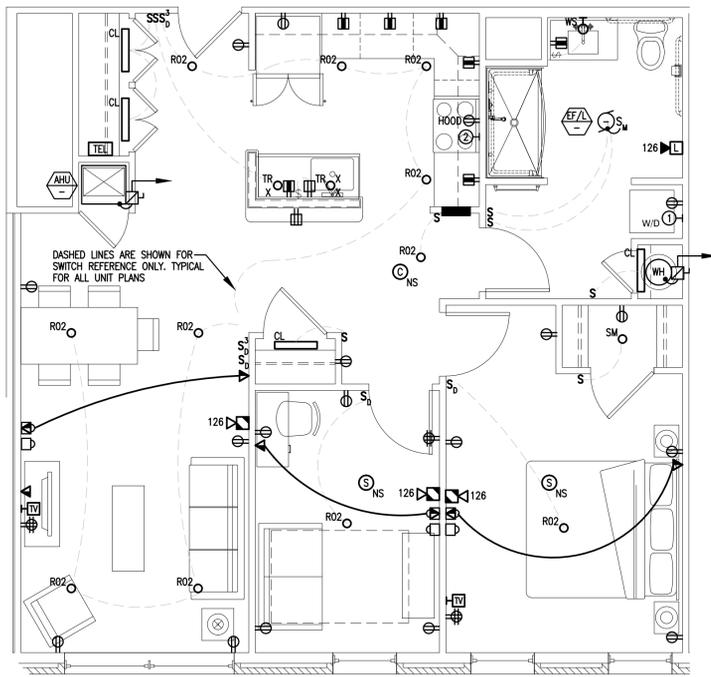
ELECTRICAL UNITS

sheet number:
E3.02

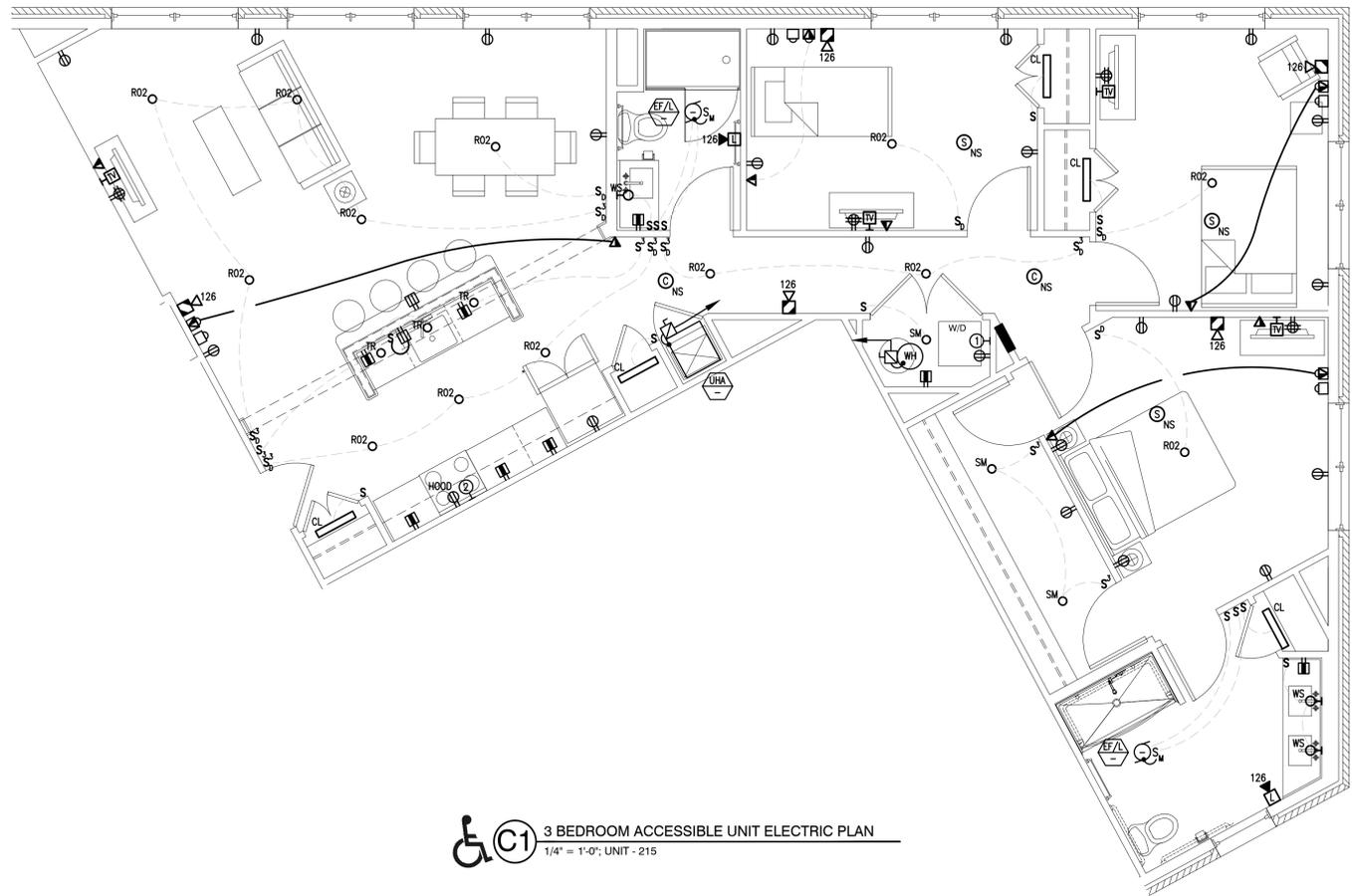


TYPICAL UNIT PLAN WITH CIRCUITING SHOWN AS REQUIRED.

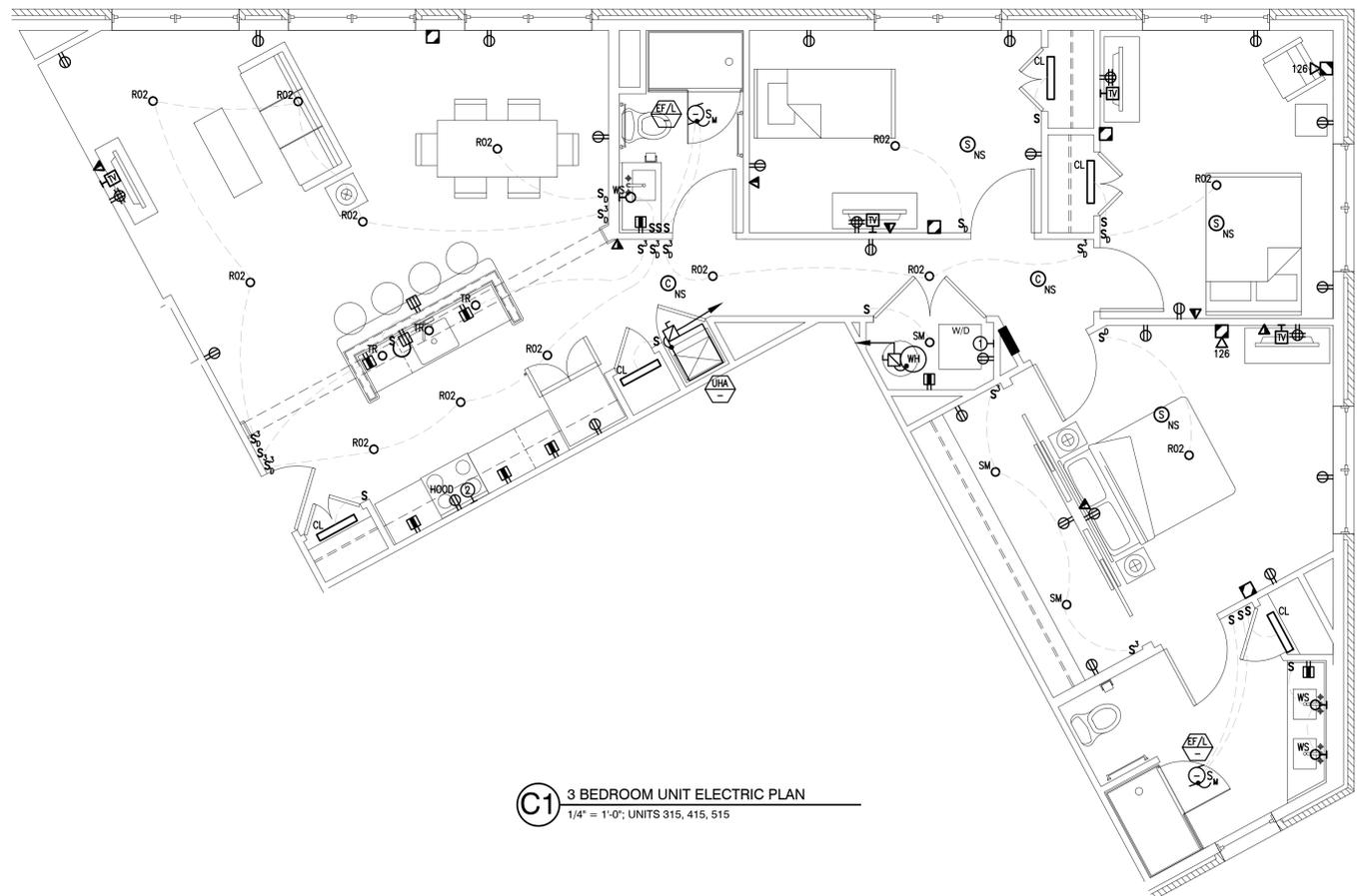
B2 2 BEDROOM ACCESSIBLE UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNIT 308



A4 1 BEDROOM ACCESSIBLE UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNIT 504



C1 3 BEDROOM ACCESSIBLE UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNIT - 215



C1 3 BEDROOM UNIT ELECTRIC PLAN
1/4" = 1'-0"; UNITS 315, 415, 515