

ELECTRICAL NOTES:

PART 1 - GENERAL:

- 1- THE GENERAL AND SPECIAL CONDITIONS AND REQUIREMENTS OF THE CONTRACT AND SPECIFICATION AS WELL AS PLANS AND SPECIFICATIONS OF OTHER DISCIPLINES AND TRADES SHALL APPLY AND BE PART OF THE WORK HEREBY SPECIFIED. THESE SPECIFICATIONS AND THE ACCOMPANYING PLANS ARE INTENDED TO PROVIDE FOR THE COMPLETE FURNISHING AND INSTALLATION OF THE ELECTRICAL SYSTEMS.
- 2- COMPLIANCE: WORKMANSHIP, MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF 2004 NFPA 70E, IEEE, OTHER APPLICABLE NATIONAL STATE & LOCAL CODES, AND PERTAINING REGULATIONS ESTABLISHED BY AUTHORITIES HAVING JURISDICTION, AND SHALL MEET THE REQUIREMENTS OF OTHER RECOGNIZED STANDARDS WHERE "PART 1 - GENERAL" THE REQUIREMENTS ARE MORE STRINGENT THAN THOSE CITED ABOVE.
- 3- WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS MANNER AND SHALL BE COMPLETED AND FULLY OPERATIVE TO THE ACCEPTANCE OF THE ARCHITECT/ENGINEER.
- 4- MATERIALS: CONTRACTOR SHALL PROVIDE ALL NEW MATERIALS, BEARING THE UNDERWRITER'S LABORATORY (UL) LABEL AS APPLICABLE. MATERIALS SHALL BE ACCEPTABLE AND ABOVE STANDARD QUALITY NORMALLY USED FOR THE PURPOSES AS CALLED FOR ON PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE DELIVERY SCHEDULES OF MATERIALS.
- 5- DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE EQUIPMENT LOCATIONS AND ARRANGEMENTS, NOT TO SHOW EVERY MINOR DETAIL. PLANS SHALL NOT BE SCALED TO DETERMINE EXACT LOCATION AND DIMENSIONS. PROVIDE ALL OFFSETS, FITTINGS AND ACCESSORIES REQUIRED FOR A COMPLETE, ACCEPTABLE, WORKING INSTALLATION.
- 6- SUPPLEMENTAL MATERIALS OR MANUFACTURED PRODUCTS NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DRAWINGS OR SPECIFICATIONS, BUT NOT NOTED OR SPECIFIED ON THESE SECTIONS, SHALL BE PROVIDED AS REQUIRED TO COMPLETE THE INSTALLATION AT NOT ADDITIONAL COST TO THE OWNER.
- 7- EXISTING CONDITIONS: BEFORE BIDDING CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN ALL EXISTING CONDITIONS, WHICH WILL AFFECT HIS WORK. FAILURE TO DO SO WILL NOT BE ACCEPTED AS A REASON FOR REQUESTING EXTRA PAY WHERE THE EXISTING CONDITIONS RESULT IN EXTRA MATERIAL OF LABOR. ANY EXISTING CONDITION FOUND BY THE CONTRACTOR WHICH WILL ADVERSELY AFFECT THE WORK SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS OR REPAIRS OF ANY OTHER PHASES OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- 8- UTILITY COMPANIES: BEFORE SUBMITTING BID CONTRACTOR SHALL CHECK WITH ELECTRICAL, TELEPHONE, CABLE TV AND OTHER UTILITY COMPANIES SUPPLYING SERVICE TO THIS INSTALLATION TO DETERMINE INSTALLATION STANDARDS AND EQUIPMENT REQUIREMENTS AND COST TO BE INCLUDED IN THE BID. EXCEPT WHERE UTILITY REQUIREMENTS CHANGE AFTER SUBMITTAL, NO EXTRA PAYMENT WILL BE MADE TO THE CONTRACTOR FOR SUCH ITEMS. PROVIDE TEMPORARY ELECTRICAL SERVICES FOR ALL TRADES.
- 9- PERMITS: CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTION, TESTS, FINES AND OTHER ITEMS AS REQUIRED FOR THE INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS OUTLINED HERE IN AND SHOWN ON PLANS. PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- 10- INTERFERENCE: PLANS ARE GENERALLY DIAGRAMMATIC AND THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES, SO THAT INTERFERENCES WITH EXISTING CONDITIONS, CONDUITS, PIPING, EQUIPMENT, ARCHITECTURAL, STRUCTURAL AND WORK WITH OTHER TRADES WILL BE AVOIDED.
- 11- SUBMITTALS: PRIOR TO PLACING AN ORDER AND BEFORE INSTALLATION, SUBMIT FOR REVIEW PROPERLY IDENTIFIED AND BOUND, SHOP DRAWINGS AND MANUFACTURER'S LITERATURE GIVING SPECIFICATIONS, DETAILS, COMPLIANCE, UP APPROVAL, MATERIALS, FINISHES, ACCESSORIES AND INSTALLATION DIRECTIONS WHERE REQUIRED OF THE EQUIPMENT SPECIFIED.
- 12- SUBSTITUTIONS: PRODUCTS AND MATERIALS CALLED OUT BY TRADE NAME AND/OR CATALOG NUMBERS ESTABLISH A STANDARD OF QUALITY, APPEARANCE, PERFORMANCE AND DIMENSION. CONTRACTOR SHALL BASE HIS PROPOSAL ON THOSE ITEMS AS THEY SHALL BE CONSIDERED AS A STANDARD BASIS OF BIDDING. REQUEST FOR SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER, DEMONSTRATING THAT PRODUCT IS OF COMPARABLE AND BASIC DESIGN, CONSTRUCTION STANDARDS AND WARRANTIES, DIMENSIONS TO FIT WITHOUT CHANGE, AND DOES NOT CAUSE EXTRA WORK FOR OTHER TRADES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVING EQUALITY OF SUBSTITUTIONS; ARCHITECT/ENGINEER WILL UNDER NO CIRCUMSTANCES, BE REQUIRED TO PROVE SUCH ITEM IS OR IS NOT OF EQUAL QUALITY TO THE SPECIFIED ITEM. CONTRACTOR SHALL PAY FOR ARCHITECT/ENGINEER EXPENSES INCURRED DUE TO CONTRACTOR'S REQUESTED REVISIONS OR SUBSTITUTIONS.
- 13- GUARANTEES: AFTER THE SYSTEM IS INSTALLED, THE CONTRACTOR SHALL CONDUCT AN OPERATIVE TEST FOR APPROVAL AND ACCEPTANCE BY THE OWNER. ENTIRE ELECTRICAL WORK, INCLUDING PARTS AND LABOR, SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL WRITTEN ACCEPTANCE THEREOF AGAINST DEFECTIVE MATERIALS, CONSTRUCTION AND WORKMANSHIP. WHERE APPLICABLE, LONGER GUARANTEES FOR CERTAIN COMPONENTS SHALL APPLY AS REQUIRED AND NOT BE REDUCED IN ANY WAY. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS AND/OR REPAIR OF ANY OTHER PHASES OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- 14- K&IC NOTE: THIS CONTRACTOR SHALL COORDINATE WITH FPL THE K&IC AVAILABLE AND INCREASE OR DECREASE THE K&IC ACCORDINGLY IN ALL DISCONNECTS, BREAKERS, ETC.

PART 2 - PRODUCTS:

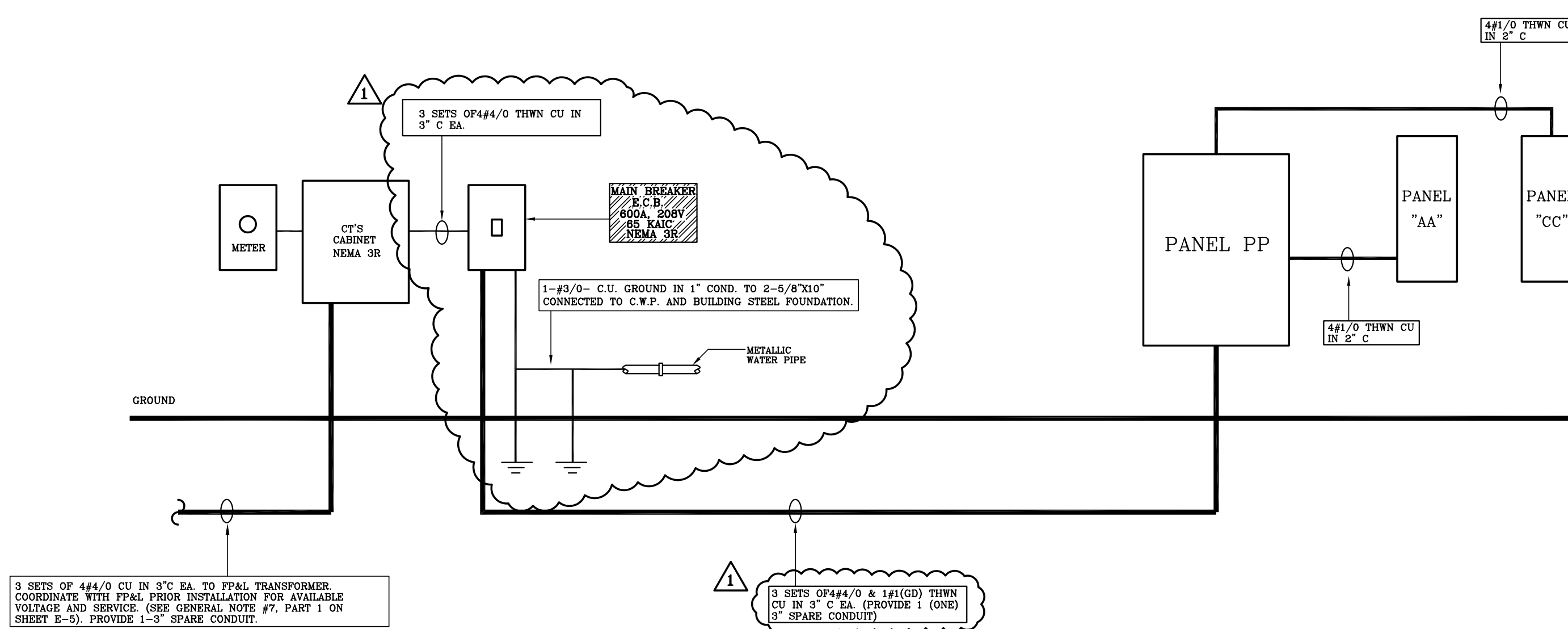
- 1- SHOP DRAWINGS: SUBMIT SHOP DRAWINGS OF THE FOLLOWING PRODUCTS:
 - A. WIRING, CABLING, CONDUITS, RACEWAYS, FLOOR AND OUTLET BOXES.
 - B. WIRING DEVICES: RECEPTACLES, OUTLETS, LIGHTSWITCHES, PLATES, TIME CLOCKS, PHOTOCELLS, DIMMERS, PULLCHORD.
 - C. LIGHTING FIXTURES, LAMPS, POLES AND BASES.
- 2- DISCONNECT SWITCHES SHALL BE CONTINUOUS DUTTY, QUICK-MADE, QUICK-BRAKE ACTION, LOCKABLE TYPE, AS MANUFACTURED BY GE, SQUARE-D. PROVIDE CURRENT LIMITING BUSS FUSES FOR MAIN SERVICE. DISCONNECTS DUAL ELEMENT FUSES FOR MOTOR DRIVEN MECHANICAL EQUIPMENT SIZED PER MANUFACTURER'S RATING BEFORE ACTUAL INSTALLATION.
- 3- CONDUCTORS SHALL BE THW/THWN SOFT-DRAWN 95% CONDUCTIVITY COPPER INSTALLED IN CONDUIT, COLOR CODED PER "NEC" AND TRADE STANDARDS. MINIMUM SIZE SHALL BE #12 FOR POWER WIRING AND #14 FOR CONTROL CIRCUITS. PROVIDE #10 WIRES FOR 120V POWER CIRCUIT HOMERUNS LONGER THAN 100 FEET.
- 4- CONDUIT SHALL BE "RGS" OR "IMC" HOT-DIPPED GALVANIZED FOR ALL EXTERIOR LOCATIONS, WHERE EXPOSED TO PHYSICAL DAMAGE. ALL FITTING SHALL BE STEEL. "PVC" SCHEDULE 40 SHALL BE USED WHERE CONDUIT IS RUN IN CONCRETE SLABS. "PVC" MAY BE RUN UNDERGROUND WHERE BURIED 18" BELOW FINISHED GRADE. 24" UNDER VEHICULAR TRAFFIC AREAS. GREENFIELD TYPE FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR MOTORS AND VIBRATING EQUIPMENT CONNECTIONS, NOT TO EXCEED 18", PROVIDE "PVC" JACKETED TYPE FOR EXTERIOR AND/OR MOISTURE EXPOSED LOCATIONS.
- 5- WIRING DEVICES SHALL BE SPECIFICATION GRADE, FLUSH MOUNTED, AS MANUFACTURED BY HUBBELL OR SLATER. DIMMERS SHALL BE DITRON OR APPROVED EQUAL. 600V MINIMUM. SWITCHES SHALL BE GANGED TOGETHER IN THE SAME BOX. DIMMERS SHALL BE GANGED TOGETHER IN SEPARATE BOXES. 600V DIMMERS MAY BE GANGED TOGETHER NO MORE THAN TWO IN A BOX WHERE PREVIOUSLY APPROVED BY MANUFACTURER AND ENGINEER.
- 6- LIGHTING FIXTURES SHALL BE COMPLETE WITH ALL NECESSARY, BALLAST, WIRING, LAMP HOLDERS REFLECTORS, GLASSWARE, POLES AND MOUNTING ACCESSORIES AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR, FINISH AND EXACT MOUNTING DETAILS.
- 7- THIS CONTRACTOR SHALL COORDINATE WITH FPL THE CONNECTION FOR THIS SERVICE AND REVISE INTERRUPTING CAPACITY AVAILABLE PRIOR INSTALLATION OF ALL DISCONNECTING DEVICES, AND INCREASE THE INTERRUPTING CAPACITY IN PANELS AND DISCONNECTING DEVICES IF REQUIRED.

PART 3 - EXECUTION:

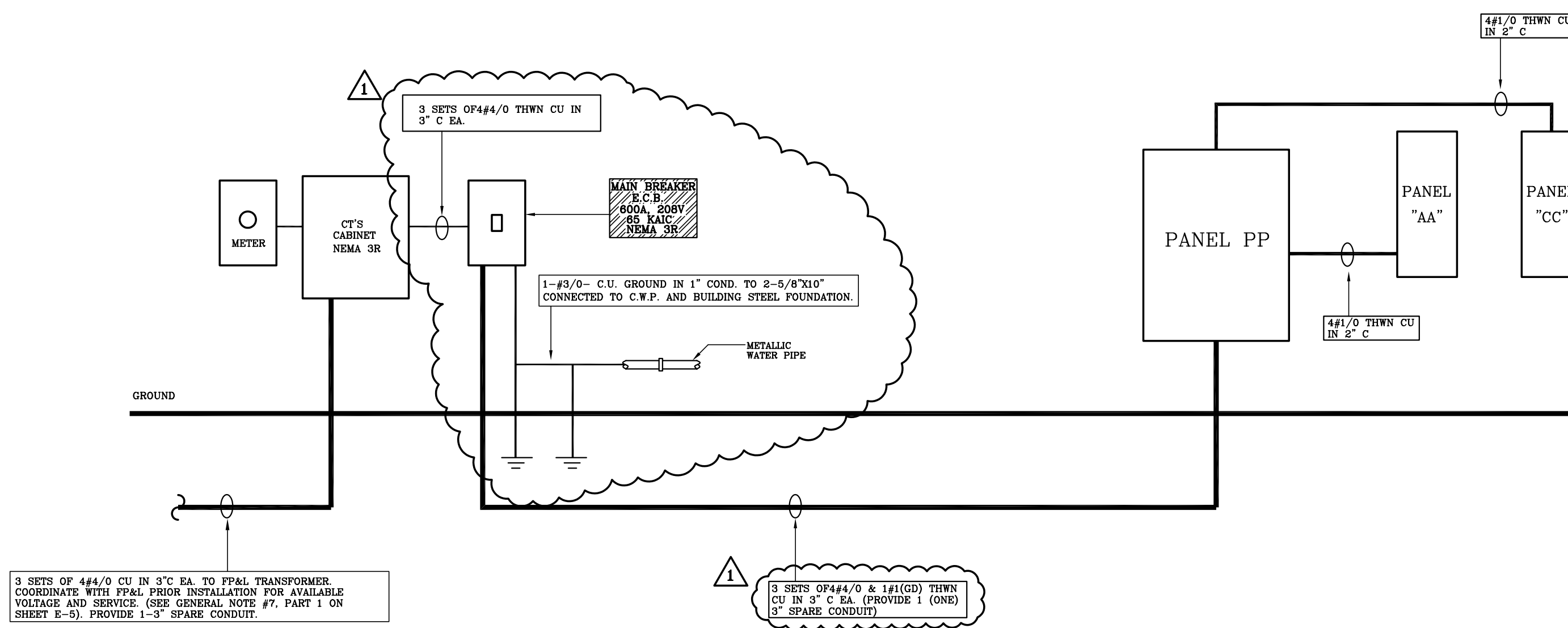
- 1- CONDUIT RUNS, RACEWAYS AND PIPING SHALL BE CONCEALED IN WALLS, CEILINGS, SLABS AND PARTITIONS; NO RACEWAYS SHALL BE EXPOSED WITHIN INTERIOR SPACES EXCEPT FOR OPEN CEILING AREAS.
- 2- ALL FEEDER SPLICES AND TERMINATIONS SHALL BE MADE MECHANICALLY USING COMPRESSION TYPE SLEEVES OR LUGS AND CONNECTION TO PANELS AND SWITCHES AS MANUFACTURED BY BUNDDY SERVITS TYPE OR APPROVED EQUAL. ALL CABLES SHALL BE COPPER.
- 3- GROUNDING AND BONDING SHALL COMPLY WITH "NEC 250". ALL METALLIC RACEWAYS SHALL BE GROUNDING AND BONDED PER "NEC 250". NON-METALLIC RACEWAYS SHALL BE PROVIDED WITH A GROUNDING CONDUCTOR SIZED PER "NEC 250.122".
- 4- MOTORS, TRANSFORMERS AND MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH GREENFIELD FLEXIBLE CONNECTIONS, WATERLIGHT WHERE EXPOSED TO MOISTURE AND WEATHER CONDITIONS.
- 5- ELECTRICAL EQUIPMENT SPACE AND INSTALLATION SHALL BE ACCORDANCE WITH "NEC 110.26 AND 405". WIRING IN DUCTS, FLEUM AND OTHER AIR HANDLING SPACES SHALL COMPLY WITH "NEC 300.22".
- 6- ELECTRICAL COMPONENTS AND EQUIPMENT SHALL BE CLEARLY AND PERMANENTLY IDENTIFIED BY CONTRACTOR, USING THE UNIT OR APARTMENT NUMBER. INDICATE CIRCUIT DESIGNATION ON GLASS COVERED TYPED DIRECTORY HOLDER INSIDE ON PANELBOARD DOOR. MARK CONDUCTORS WITH PREPRINTED ADHESIVE MARKERS AS MANUFACTURED BY W.H. BRADY Co. OR THOMAS & BETTS.
- 7- CONTRACTOR SHALL MAKE ALL NECESSARY EXCAVATIONS, CUTTING AND REPATCHING AS REQUIRED FOR THE PROPER EXECUTION OF THIS WORK. PROVIDE PACKING AND FIRE RATED RETARDANT SEALER IN JOINTS AROUND SLEEVES, PIPING AND CONDUITS PENETRATING FIRE RATED FLOORS AND WALLS.
- 8- TELEPHONE, SPEAKER AND OTHER SYSTEMS: PROVIDE PULL WIRE IN EMPTY CONDUIT AS NOTED ON PLANS. COORDINATE INSTALLATION WITH OWNER TO ASSURE INSTALLATION MEETS EQUIPMENT VENDOR'S REQUIREMENTS.
- 9- OUTLETS AND ANY OTHER EQUIPMENT INSTALLED IN DEMISED FIRE RATED PARTITIONS, CAN NOT INSTALLED BACK-TO-BACK, BUT MUST BE MINIMUM 24" APART.
- 10- RECEPTACLES SHALL BE GROUND TYPE. CONTRACTOR SHALL GROUND ALL RECEPTACLES AS PER 2005 NEC CODE SECTION 250.130.
- 11- CONNECT ALL EMERGENCY AND EXIT LIGHTS AHEAD OF SWITCHES AND/OR TIMER/CLOCKS.

ELECTRICAL LEGEND

- 120 V TOGGLE SWITCH, SINGLE POLE (+48" AFF UNLESS OTHERWISE NOTED). VOLTAGE AS PER CIRCUIT DESIGNATION. LETTER "M" INDICATE MOTORIZED (ATED). LETTER "S" MEANS MOTION SENSOR.
- 120 V THREE WAY TOGGLE SWITCH, SINGLE POLE (+48" AFF UNLESS OTHERWISE NOTED). VOLTAGE AS PER CIRCUIT DESIGNATION.
- DIMMER SWITCH, SINGLE POLE (+48" AFF UNLESS OTHERWISE NOTED.) LOAD AS PER CIRCUIT LOAD. DO NOT OVERLOAD DIMMER OVER BOX OF DIMMER RATED CAPACITY.
- GROUND TYPE DUPLEX RECEPTACLE, WALL (+18" AFF UNLESS OTHERWISE NOTED.) LETTER "D" DESIGNATION MEANS DEDICATED; LATTER "T" DESIGNATION MEANS ISOLATED GROUND.
- GROUND TYPE DUPLEX RECEPTACLE, WALL (+4" ABOVE COUNTER UNLESS OTHERWISE NOTED.) LETTER "D" DESIGNATION MEANS DEDICATED; LATTER "T" DESIGNATION MEANS ISOLATED GROUND.
- GROUND TYPE DUPLEX RECEPTACLE, WALL HALF SWITCHED.
- JUNCTION BOX. INSTALL FAN TYPE JUNCTION BOX (FOR 50 LBS) IN ALL FANS.
- TELEPHONE OUTLET, WALL (+18" AFF)
- 2X4 FLUORESCENT LIGHT WITH 4-32W LAMPS AND BATTERY BACK UP
- CONDUIT CONCEALED IN OR UNDER FLOOR SLABS.
- CONDUIT CONCEALED ABOVE CEILING OR IN WALL.
- PANEL.
- DISCONNECT SWITCH.
- 2 OR 3 POLES, 208V ENCLOSED CIRCUIT BREAKER
- GROUND CONNECTION.
- ELECTRIC MOTOR CONNECTION.
- WALL SCONCE (TO BE SELECTED)
- STD. SURF. MTD. FIXT.
- EMERGENCY LIGHT WITH BATTERY BACK UP



ELECTRICAL RISER DIAGRAM
NO SCALE



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NO SCALE

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REVISIONS:

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2	BLDG DEPT COMM	08-31-09
3	BLDG DEPT COMM	11-07-09

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DESIGN - INSPECTIONS