ELECTRICAL MATERIALS & METHODS:

SUBMITTALS:
1. SUBMIT SHOP DRAWINGS & PRODUCT INFORMATION FOR THE FOLLOWING:
* SERVICE & DISTRIBUTION EQUIPMENT
* PROTECTIVE DEVICES
* LIGHTING FIXTURES AND LAMPS
  * WIRING DEVICES AND COVER PLATES

DISTRIBUTION EQUIPMENT:
1. DISTRIBUTION EQUIPMENT; RATED FOR 240 OR 600 VAC, 60 HZ, FAULT CURRENT INTERRUPTING CAPACITY AS INDICATED, IN AMPERES, RMS, SYMMETRICAL, BUT NOT LESS THAN 10,000 AMPS, WITH SOLID NEUTRAL GROUND (S/N); GENERAL ELECTRIC, SQUARE D, CUTLER-HAMMER AND SIEMENS – ITE.

2. DISTRIBUTION EQUIPMENT USING CIRCUIT BREAKER TYPE PROTECTIVE DEVICES; BOLTED-ON OR 'SQUARE D' I-LINE DEVICES.

3. PANELBOARDS; FACTORY ASSEMBLED, MINIMUM WIDTH OF 20 INCHES, A MINIMUM DEPTH OF 5-1 INCHES, AND MINIMUM MAINS RATED 100 AMPERES, WITH POLE 'SPACES'; BUSSED AND READY FOR INSTALLATION OF PROTECTIVE DEVICES. CABINETS; FULL SIZED SINGLE DOORS WITH CHROMIUM PLATED COMBINATION CYLINDER LOCK AND CATCH AND TWO KEYS. "GENERAL ELECTRIC" OR EQUAL: TYPE "NLAB" W/ Q-LINE BRANCH CIRCUIT BREAKERS; TYPE "NHB" WITH E-FRAME BREAKERS.

4. PANELBOARD MAINS; COPPER OR ALUMINUM WITH BRANCH CONNECTIONS IN VERTICALLY DISTRIBUTED CONSECUTIVE PHASE SEQUENCE SUCH THAT ONE OR MULTIPLE POLE BREAKERS CAN BE MOUNTED IN ANY POSITION. SOLID NEUTRAL BUS; WITH A FEEDER LUG AND WITH A SEPARATE SET-SCREW TERMINAL FOR EACH BRANCH CIRCUIT POLE.

5. PANELBOARD MOUNTING; TOP OF ENCLOSURE 78 INCHES ABOVE THE FINISHED FLOOR/GRADE, WITH THE BOTTOM OF THE CABINET NOT CLOSER THAN 6 INCHES TO THE FLOOR/GRADE, PROPERLY ALIGNED AND SUPPORTED INDEPENDENTLY OF THE CONNECTING RACEWAYS. COMPLETE INSIDE CIRCUIT DIRECTORY CARD USING A TYPEWRITER.

6. DISCONNECT SWITCHES; 'HEAVY-DUTY' RATED WITH QUICK-MAKE AND QUICK-BREAK MECHANISMS. PROVIDE GROUND LUGS AND CODE REQUIRED ACCESSORIES. SWITCHES LOCATED OUTSIDE; 'NEMA-3R' ENCLOSED TYPE WITH LOCKING HASP.

7. PROVIDE AN ENCLOSED SWITCH FOR ELECTRICALLY SERVED EQUIPMENT. PROVIDE SWITCHES & FUSES, INCLUDING HEATER ELEMENTS, RATED PER THE CHARACTERISTICS AND NAMEPLATE RATINGS OF EQUIPMENT IN ACCORDANCE WITH CODE REQUIREMENTS, MANUFACTURER'S RECOMMENDATIONS AND CHARTS. PROVIDE SWITCHES WITH CODE REQUIRED ACCESSORIES.

8. FUSED SWITCHES IN BRANCH CIRCUITS; NON-RENEWABLE CARTRIDGE FUSES RATED 250 OR 300 VAC OR 600VAC AS FOLLOWS:
* SIZES 1 – 200 AMPS: DUAL ELEMENT, CURRENT LIMITING FUSES, CLASS 'RK-1', OR 'RK-5', SELECTED TO PROVIDE STARTING AND LIMIT LET-THRU CURRENT.
* OTHER RATINGS, SIZES OR SPECIAL APPLICATIONS AS INDICATED.

9. STATIONARY FRACTIONAL HORSEPOWER MOTORS NOT PROVIDED WITH INTEGRAL MOTOR RUNNING OVERLOAD PROTECTION, OR INHERENTLY PROTECTED BY DESIGN; SWITCHED BY A FRACTIONAL HORSEPOWER STARTER PROVIDING SUPPLEMENTARY PROTECTION.

10. STARTERS AND DISCONNECT SWITCHES; ENCLOSED QUICK-MAKE AND QUICK-BREAK MECHANISMS.

11. BRANCH CIRCUIT BREAKERS; MOLDED CASE, AUTOMATIC TRIPPING TYPE, BOLT-ON OR I-LINE CONSTRUCTION, MINIMUM FRAME SIZE OF 100 AMPS AND A MINIMUM TRIP SIZE OF 15 AMPS, CALIBRATED FOR 40oC. PROVIDE SUITABLE TYPE BREAKERS SERVING HIGH INRUSH CIRCUITS FOR INCANDESCENT LIGHTING.

12. GROUP SINGLE-POLE BREAKERS USED FOR MULTI-WIRE CIRCUITS CONSECUTIVELY ON THE SAME SIDE OF THE CABINET.

CONDUCTORS:
1. CONDUCTORS; SOFT DRAWN, ANNEALED COPPER WITH CONDUCTIVITY OF NOT LESS THAN 98 % BY 'ASTM' STANDARDS.

2. CONDUCTOR SIZE NUMBERS; AMERICAN WIRE GAUGE (AWG. SYSTEM, STANDARD TRADE SIZES.

3. CONDUCTORS; COLOR CODED PER CODE AND UTILITY CO.

4. CONDUCTORS;
* No.12 AWG SIZE AND SMALLER; SOLID.
* No.10 AWG SIZE; SOLID OR STRANDED.
* No.8 AWG SIZE AND LARGER; STRANDED. STRANDED CONDUCTORS; CLASS 'B' OR 'C'.
* CONDUCTORS FOR FIRE "ALARM" SYSTEMS; SOLID COPPER.
* CONTROL CIRCUITS; MINIMUM AWG No.14.
* POWER AND LIGHTING BRANCH CIRCUITS; AWG # 12 FOR GENERAL CIRCUITS NOT REQUIRING DERATING OR SIZE INCREASE TO REDUCE VOLTAGE DROP.

5. USE A SPERATE LUG FOR EACH CONDUCTOR WHERE MULTIPLE CONDUCTORS ARE CONNECTED TO THE SAME ELECTRICAL TERMINAL POSITION

6. FEEDER CONDUCTORS (TO INCLUDE SUB-FEEDER); UNSPLICED THROUGHOUT THEIR LENGTH.

7. BRANCH CIRCUIT CONDUCTORS; UNSPLICED EXCEPT WHERE CIRCUITS ARE SHOWN TO DIVIDE BY THE PLANS.

8. GENERAL WIRING CONDUCTORS OPERATING AT 600 VOLTS AND BELOW; RATED 60 HERTZ, 600 VOLTS, WITH 75oC OR 90oC INSULATION AS FOLLOWS:
A. FEEDER CONDUCTORS: RATED FOR WET LOCATIONS OF 'THW', 'THWN' OR 'XHHW'.
B. BRANCH CONDUCTORS RATED FOR:
* WET LOCATIONS, OR LOCATIONS LOCATED BELOW GRADE OR ENCASED IN SLAB ON GRADE, OF 'THW', 'THWN' OR 'XHHW'.
* DRY LOCATIONS OF 'THW', 'THWN', 'XHHW' OR 'THHN'.
C. RATED LIGHTING CONDUCTORS FOR CIRCUITS REQUIRING 90oC RATING; 'THHN' OR 'XHHW', OR OTHER APPROVED TYPE.
D. JOINTS ON CONDUCTORS RATED ABOVE 75oC; TAPED OR MADE-UP WITH MATERIALS HAVING A SUITABLE HIGH TEMPERATURE RATING

RACEWAYS:
1. INSTALL WIRING IN METALLIC, RIGID TYPE RACEWAYS.

2. RUN RACEWAYS AND CABLE CONCEALED, EXCEPT RACEWAYS IN EQUIPMENT ROOMS RUN EXPOSED.

3. RACEWAYS IN ORDINARY LOCATIONS:
* BURIED BELOW GRADE OR SLAB; SCH. 40 PVC CONDUIT, EXCEPT WHERE SCH. 80 IS REQUIRED BY THE UTILITY CO. OR CODE DUE TO INSTALLATION CONFIGURATION.
* TYPE EMT WIRING SHALL BE USED FOR ALL INTERIOR WIRING UNLESS OTHERWISE NOTED.

* EXPOSED OUTSIDE, THROUGH OUTSIDE WALL OR ROOF, OR THROUGH TWO-HOUR OR MORE RATED FIRE BARRIERS; GALVANIZED RIGID STEEL (GRS) CONDUIT MADE UP WATER TIGHT.
* FINAL CONNECTION IN DRY LOCATIONS SERVING LIGHTING FIXTURES; FLEXIBLE METAL CONDUIT OR FLEXIBLE METALLIC TUBING.
* CONNECTIONS TO MOTORS, OR TO COMPONENTS IN WET OR DAMP LOCATIONS, LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LT FLEX).

4. RIGID STEEL GRS, AND STEEL IMC; HOT DIP GALVANIZED

5. TYPE RMC GALVANIZED CONDUIT SHALL BE USED FOR EXTERIOR WORK

6. EMT COUPLINGS AND CONNECTORS; METAL AS FOLLOWS:
* RAINTIGHT, HEX-NUT, EXPANSION- GLAND COMPRESSION STEEL, FOR ANY WET OR DAMP LOCATION OR FEEDER (OR SUB-FEEDER..
* SET-SCREW OR TAP-ON, STEEL OR CAST METAL, FOR DRY LOCATIONS.

7. RACEWAYS; MINIMUM TRADE SIZE AS FOLLOWS:
* 1"-INCH; GENERAL.
* 1-INCH; 'HOMERUN' CIRCUIT WIRING;
MORE THAN (3) CONDUCTORS.

8. PROVIDE JUNCTION OR PULL BOXES TO AVOID EXCESSIVE RUNS OR BENDS BETWEEN OUTLETS, AND AT LOW POINTS IN RACEWAY RUNS.

9. SUPPORT CONCEALED CONDUIT ABOVE THE CEILING INDEPENDENTLY OF CEILING CONSTRUCTION. INSTALL CONDUITS HIGH ABOVE LAY-IN CEILINGS TO PERMIT REMOVAL OF CEILING PANELS OR EQUIPMENT.

10. INSTALL EXPOSED RACEWAYS PARALLEL OR PERPENDICULAR TO STRUCTURAL MEMBERS AND ARCHITECTURAL FEATURES. INSTALL CONCEALED CONDUIT RACEWAYS WITH AS FEW BENDS AS FEASIBLE, COORDINATED WITH STRUCTURAL, MECHANICAL AND ARCHITECTURAL REQUIREMENTS. ROUTE RACEWAYS TO AVOID 'TRAPPING' WHERE PRACTICABLE.

ENCLOSURES AND BOXES:
1. EQUIPMENT ENCLOSURES, BOXES, & COVERS; GALVANIZED STEEL, MALLEABLE IRON, GRAY IRON, OR COPPER-FREE ALUMINUM. SCREWS; STAINLESS STEEL; ALUMINUM FOR ALUMINUM BOXES.

2. ENCLOSURES:
* FLUSH MOUNTED WITH CONCEALED RACEWAYS OR FLUSH MOUNTED DEVICES.
* SURFACE MOUNTED TYPE IN EQUIPMENT ROOMS, WITH EXPOSED RACEWAYS AND OTHER SURFACE MOUNTED DEVICES.

3. BOXES FOR USE WITH GENERAL RACEWAY SYSTEMS; 4 INCHES SQUARE OR OCTAGONAL SIZE, NOT BE LESS THAN 1-1/2 INCHES DEEP, EXCEPT WHERE SHALLOWER BOXES ARE REQUIRED BY STRUCTURAL CONDITIONS. 4 BY 2 INCH BOXES; WHERE ONLY ONE RACEWAY ENTERS AN OUTLET BOX, OR WHERE NEEDED TO MATCH DEVICES AND/OR MOUNTING HARDWARE.

4. BOXES FOR RACEWAY SYSTEMS SERVING CEILING 'POWER' GRID SYSTEMS OR LIGHTING FIXTURES; SIZE 4-11/16 INCH SQUARE BOXES, 42 CU. IN. USE EXTENSION RINGS OR LARGER BOXES IF NECESSARY TO MEET CU. IN. CAPACITY REQUIRED BY CODE.

5. INSTALL FLOOR BOXES OR THRU-FLOOR RACEWAYS CENTERED BETWEEN CONCRETE JOISTS. ALIGN TWO OR MORE FLOOR BOXES IN AN AREA WITH WALLS.

6. ENCLOSURES AND BOXES; VOLUME AND REQUIRED WIRE BENDING AND GUTTER SPACE AND FEATURES TO SUIT CODE REQUIREMENTS.

7. DO NOT INSTALL BOXES BACK-TO-BACK. DO NOT USE THRU-WALL TYPE BOXES. SEPARATE BOXES IN THE SAME FIRE RATED WALL BY EITHER SOLID STUDS, OR A MINIMUM DISTANCE ESTABLISHED BY LOCAL BUILDING OFFICIALS; SEAL CONNECTING CONDUIT TO PREVENT THE TRANSMISSION OF HEAT, SMOKE, AND NOISE, WITH SEALING METHOD AS APPROVED BY THE FIRE MARSHAL.

8. DO NOT USE SUSPENDED CEILING CONSTRUCTION TO SUPPORT RACEWAYS, BOXES OR OTHER ITEMS, EXCEPT AS ALLOWED BY CODE AND ACCEPTED BY THE ARCHITECT IN WRITING.

RECEPTACLES AND WALL SWITCHES:

1. RECEPTACLES AND WALL SWITCHES: THE TYPE AND SIZE INDICATED ON THE DRAWINGS. EQUAL BY BRYANT, EAGLE OR P & S.
A. SWITCHES SHALL BE 20 AMP 120/277 VOLT SPECIFICATION GRADE. NUMBER OF POLES: AS INDICATED ON DRAWINGS.
B. DUPLEX OUTLETS SHALL BE 20 AMP 125 VOLT AC 3 WIRE SPECIFICATION GRADE STRAIGHT BLADE.
C. SINGLE OUTLETS SHALL BE 20 AMP 125 VOLT AC 3 WIRE SPECIFICATIONS GRADE STRAIGHT BLADE.
D. DEVICE PLATES: ONE PIECE SINGLE OR MULTI-GANG TYPE SELECTED TO MATCH THE SPECIFIC DEVICE OR COMBINATION OF DEVICES. DEVICES FLUSH MOUNTED IN EXPOSED MASONRY CONSTRUCTION SHALL BE JUMBO TYPE. DEVICE PLATES FOR SURFACE MOUNTED DEVICES SHALL BE USED WITH THE TYPE OF OUTLET OR OUTLET BOX IN WHICH THE DEVICE IS MOUNTED. PROVIDE DEVICES INSTALLED IN AREAS EXPOSED TO THE WEATHER WITH A WEATHERPROOF DEVICE PLATE. DEVICE PLATES SHALL BE METAL.
E. FINISHES: SEE ARCHITECTURAL PLANS FOR FINISH OF SWITCH HANDLES, DEVICE FACES, AND FLUSH MOUNTED COVER PLATES.

2. MOUNT DEVICES RECESSED FOR FLUSH INSTALLATION. PROVIDE COVER PLATES FOR EACH DEVICE.

3. ALIGN DEVICES AT DIFFERENT LEVELS VERTICALLY. GROUP DEVICES AT THE SAME LEVEL USING SECTIONAL GANG BOXES. CENTER DEVICES IN ARCHITECTURAL FEATURES.

4. LOCATE WALL SWITCHES ON THE STRIKE SIDE OF A DOOR, SIX (6) INCHES FROM THE OPENING.

5. MOUNT SMALL FLUSH MOUNTED MOTOR DEVICES IN STANDARD DEVICE BOXES.

6. INSTALL WIRING DEVICES WITH TOP-OF-BOX MOUNTING HEIGHTS ABOVE FINISHED FLOORS BETWEEN 18 INCHES AND 48 INCHES, AS REQUIRED BY HANDICAPPED CODES.

7. COVER PLATES FOR FLUSH, DRY, ORDINARY LOCATIONS; STANDARD SIZE ONE PIECE. WIRING DEVICES AND COVER PLATE FINISHES; AS INDICATED BY THE PLANS.

LIGHTING:
1. FLUORESCENT BALLASTS; HIGH POWER FACTOR (HPF) TYPE, CLASS 'P' PROTECTED, SOUND RATING 'A', AND ENERGY SAVING TYPE.

2. FLUORESCENT BALLASTS FOR THE MINI-LAMPS; U.L. LABELED OR ACCEPTABLE TO BUILDING OFFICIALS, ENCAPSULATED, QUIET OPERATING DESIGN IF AVAILABLE.

3. ORIENT FLUORESCENT LAMPS WITHIN THE SAME VISUAL SPACE IN THE SAME DIRECTION.

GROUNDING:
1. GROUND ELECTRICAL SYSTEMS, EQUIPMENT, AND SUPPORTING STRUCTURES. PROVIDE BONDING JUMPERS WHERE NECESSARY. MECHANICALLY AND ELECTRICALLY SECURE METAL RACEWAYS AND FITTINGS, JOINTS AND CONNECTIONS AT EQUIPMENT TO PROVIDE AN GROUNDING MEANS. METAL RACEWAYS; ELECTRICALLY CONTINUOUS THROUGHOUT THEIR LENGTH FOR AN EFFECTIVE GROUNDING PATH TO THE POWER SERVICE DISCONNECT SWITCH IN ACCORDANCE WITH NEC ARTICLE 250

2. PROVIDE FOR EACH RACEWAY A GREEN #12 GROUNDING CONDUCTOR IN ADDITION TO BRANCH. CONNECTIONS OF CONDUIT JOINTS AND CONNECTIONS OF CONDUIT TO OTHER METALLIC COMPONENTS OF THE POWER DISTRIBUTION SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM
3. DO NOT SPLICE MAIN BONDING JUMPER. CONFIRM THAT A MAIN BONDING JUMPER IS PROVIDED AT THE POINT OF SERVICE ONLY. CONNECTIONS OF CONDUIT JOINTS AND CONNECTIONS OF CONDUIT TO OTHER METALLIC COMPONENTS OF THE POWER DISTRIBUTION SYSTEM SHALL BE MECHANICALLY SOUND IN ORDER TO PROVIDE ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM

4. GROUND BOTH NEUTRAL AND GREEN ISOLATED GROUNDING TYPE CONDUCTORS FOR ISOLATED GROUNDING CIRCUITS AT ONE POINT OF GROUND OF SEPARATELY DERIVED ELECTRICAL SYSTEM.

TESTING:
1. TEST INDIVIDUAL SYSTEMS AND COMPONENTS FOR FULL FUNCTIONAL REQUIREMENTS. PERFORM TESTS AS REQUIRED BY CODE, LOCAL PRACTICES, OR AS REASONABLY REQUIRED BY THE OWNER'S REPRESENTATIVE WHERE A QUESTION ARISES AS TO THE PROPER INSTALLATION OR OPERATION OF MATERIALS.

2. PROVIDE TESTING INSTRUMENTS, PROCEDURES, AND DOCUMENTATION.

MISCELLANEOUS:
1. SELECT, SIZE, AND ASSEMBLE FOUNDATIONS, SUPPORTS, AND FASTENERS.

2. FASTENINGS FOR SECURING CONDUIT RUNS, LIGHT APPARATUS.
* BOLTS, BEAM CLAMPS, OR DRIVEN OR WELDED STUDS ON STEEL WORK
* TOGGLE BOLTS ON HOLLOW TILE OR CONCRETE BLOCKS
* STEEL ANCHORS OF THE SELF-DRILLING OR NON-DRILLING TYPES ON SOLID CONCRETE OR MASONRY.
* POWER DRIVEN STUDS MAY BE USED ON STEEL AND SOLID CONCRETE WHERE ACCEPTED BY THE OWNER'S REPRESENTATIVE.

3. MAJOR COMPONENTS OF THE DISTRIBUTION SYSTEM SUCH AS THE PANELBOARD SHALL HAVE PERMANENT NAMEPLATES FOR EQUIPMENT IDENTIFICATION.

4. SEAL CONDUITS ROUTED BETWEEN SPACES OF DIFFERENT AMBIENT TEMPERATURES, SUCH AS REFRIGERATED SPACES OR OUTDOOR AREAS,TO PREVENT CIRCULATION OF AIR.

5. INSTALL RACEWAY OR CABLE, ETC. THAT PENETRATES A FIRE BARRIER, WITH MATERIALS AND METHODS APPROVED FOR APPLICATION BY BUILDING OFFICIALS. IDENTIFY EACH FIRE BARRIER FROM THE ARCHITECTURAL PLANS, AND FOR SECURE APPROVAL OF MATERIALS AND METHODS FOR EACH TYPE PENETRATION.

NAMEPLATES:

PROVIDE NAMEPLATES FOR THE FOLLOWING EQUIPMENT.:

-EQUIPMENT INDENTIFICAITON NAMEPLATES FOR ALL NORMAL AND EMERGENCY POWER ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO, SUBSTATIONS EQUIPMENT, SWITCHGEAR, SWITCHBOARDS, PANEL BOARDS, MOTOR CONTROL CETNERS, NON-FUSIBLE DISCONNECT SWITCHES, FUSIBLE DISCONNECT SWITCHES, WIRE WAYS, BUS DUCTS, CABLE TRAYS, AUTOMATIC TRANSFER SWITCHES, TRANSFORMERS, UNINTERRUPTIBLE POWER SUPPLIES, GENERATORS, ETC.

-FOR ALL NEW INSTALLATIONS CUBILCE/SPACE LABLES FOR ALL MCC.

-IDENTIFY FUSE TYPE AND SIZE ON THE COVER OF FUSIBLE EQUIPMENT

-TIME DELAY: PROVIDE 1/8TH INCH LETTERING AT THE CONTOL LOCATION TO IDENTIFY A MOTOR HAVING A TIME DELAY RELAY.

=ALL NAMEPLATES SHALL BE ENGRAVED. SECURELY ATTACHED ENGRAVED NAMEPLATES WITH RIVETS OR SCREWS.

-NO TEMPORAR MARKINGS PERMITTED TO REMAIN ON EQUIPMENT. REMOVE ALL TEMPRARY MARKINGS WHERE POSSIBLE.

COLOR SCHEME FOR ENGRAVED ELECTRICAL NAMEPLATE LABELS

-208/120 VOLTS, THREE PHASE – NORMAL – BLACK LABEL, WHITE LETTERING
-480/277 VOLTS, THREE PHASE – NORMAL – BLACK LABEL, WHITE LETTERING

NAMEPLATES: ELECTRICAL EQUIPMENT IDENTIFICATION METHODOLOGY

-ALL NEW ELECTRICAL EQUIPMENT SHALL HAVE A UNIQUE IDENTIFICATION NUMBER ASSIGNED. THE IDENTIFICAITON NUMBER SHALL BE ANNOTATED ON TWO LINES, CENTERED WITHIN A NAMEPLATE WITH A 1/2 INCH MARGIN MAINTAINED AROUND THE OUTER EDGES. REFER TO DESIGN GUIDELINES PAGE 18 SECTION 1.13, TABLE 3 FOR NAMEING REQUIREMENTS AND PROVIDE AS REQUIRED UPON JOB COMPLETION.

RENOVATION NOTES:

- ATTENTION IS DRAWN TO THE FACT THAT THIS PROJECT INVOLVES RENOVATION OF AN EXISTING FACILITY.
- CONTRACTOR SHALL VISIT THE SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS, VERIFY LOCATIONS, CONDUIT ROUTING, ETC. BEFORE SUBMITTING A BID. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT BEFORE THE BID DATE.
- EXISTING CIRCUITS INDICATED ARE DIAGRAMMATIC ONLY. VERIFY EXACT ROUTING OF EXISTING CONDUIT RUNS AND NUMBERS OF CONDUCTORS AND EXTEND EXISTING CIRCUITS TO NEW PANELBOARD LOCATIONS AS REQUIRED TO ACCOMPLISH DESIGN INTENT.
- RE-USE EXISTING BRANCH CIRCUIT CONDUITS WHERE POSSIBLE. ALL UNUSED CONDUIT SHALL BE REMOVED.
- UP-DATE DIRECTORIES IN EXISTING PANELBOARDS TO REFLECT CHANGES, DELETIONS AND ADDITIONS BY THE RENOVATION.
- ANY ELECTRICAL DEVICES LEFT WITHOUT POWER DUE TO THIS RENOVATION SHALL BE RECONNECTED TO SAME SIZE CIRCUIT(S) AS PREVIOUSLY SERVED. NO ELECTRICAL DEVICES SHALL BE LEFT WITHOUT POWER.
- ALL COVERPLATES FOR ALL TELEPHONE/DATA, SWITCH AND OUTLET PLATES SHALL BE REPLACED WITH NEW AND MATCH EXISTING.

POWER

DUPLEX GROUNDING TYPE RECEPTACLE, 20A, 125 VOLT, NEMA 5-20R, 18" A.F.F., U.O.N..

PANELBOARD, VOLTAGE AND PHASE PER PANEL SCHEDULE.

ELECTRICAL CIRCUIT RUN IN CONDUIT AND CIRCUIT HOMERUN TO PANELBOARD (PANEL AND CIRCUIT DESIGNATION AS INDICATED). EACH SINGLE PHASE CIRCUIT SHALL HAVE ONE #12 PHASE CONDUCTOR, ONE #12 NEUTRAL CONDUCTOR, AND ONE #12 GROUNDING CONDUCTOR IN 3/4" CONDUIT. ADDITIONAL #12 "SWITCH LEG" CONDUCTOR SHALL BE PROVIDED TO THE LIGHT FIXTURE CONTROL INDICATED. BRANCH CIRCUIT CONDUCTORS IN CONDUIT SHALL BE RUN CONCEALED IN WALLS AND/OR ABOVE CEILINGS, IN/OR BELOW FLOORS, EXCEPT IN EXPOSED CONSTRUCTION AREAS. CONDUCTOR AND CONDUIT SIZES OTHER THAN #12 AND 3/4" SHALL BE AS INDICATED. NO SHARED NEUTRALS.

JUNCTION BOX.

ELECTRICAL NOTES:

1. COORDINATE LOCATION OF POWER REQUIREMENTS IN CASEWORK WITH ARCHITECTURAL DRAWINGS.
2. ALL FLOOR CORING REQUIRES THE APPROVAL OF DEPARTMENT OF AVIATIONS OPERATIONS AND AIRPORT ENGINEERING DEPARTMENT. FOR APPROVAL AN ULTRASOUND OR X-RAY REPORT MUST BE SUBMITTED TO AIRPORT ENGINEERING DEPARTMENT ENGINEERING 72 HOURS PRIOR TO THE DATE OF WORK.
3. E.C. TO PROVIDE ALL NEW CONDUITS FOR ALL LINE VOLTAGE AND LOW VOLTAGE COMMUNICATIONS WIRING. PROVIDE PULLSTRINGS IN ALL EMPTY CONDUITS.
4. MAIN TELEPHONE DISTRIBUTION LINE CONDUITS TO BE PROVIDED BY TENANT E.C.
5. CIRCUITS FOR STOREFRONT SIGNS TO BE ON 24HR. 7-DAY TIME CLOCK BY E.C..
6. ELECTRICIAN TO BE SUBCONTRACTED BY TENANT'S GENERAL CONTRACTOR
7. E.C. IS RESPONSIBLE FOR ALL FINAL CONNECTIONS TO LIGHT FIXTURES ON THE POWER/SIGNAL PLAN.
8. ALL WIRING, LOW OR HIGH VOLTAGE, LOCATED ABOVE OR BELOW CEILING SHALL BE IN CONDUIT.
9. MC CABLE SHALL BE ALLOWED FOR RUNS FROM JUNCTION BOX TO LIGHTING FIXTURES WITH A 6 FOOT MAXIMUM RUN.
10. MC CABLE FACTORY WHIPS SHALL BE ALLOWED TO BE 3/8" OR GREATER FOR CONNECTIONS TO LIGHTING FIXTURES.
11. MC CABLE 3/8" OR GREATER SHALL BE ALLOWED FOR CONNECTION OF ELECTRICAL DEVICES INSIDE MILLWORK.

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DRAWING ISSUE	DATE
75% SUBMITTAL	02.12.10
95% PERMIT SUBMITTAL - LL REVIEW	02.24.10

PRE-SECURITY VENDING SHOP

Portland International Jetport
1001 Westbrook Street
Portland, Maine

THE PARADIES SHOPS

SEAL:

REVIEWED & APPROVED BY: _____
PROJECT MANAGER INITIALS: _____
DATE: _____

PROJECT NUMBER:
2780

DRAWING NAME:
Specifications Legends and Schedule

DRAWING NUMBER:
E-2