

CARWASH VENDOR ELECTRICAL REQUIREMENTS

A. GENERAL PROVISIONS

- THE WORK SHALL CONSIST OF FURNISHING LABOR, EQUIPMENT, AND MATERIALS TO PROVIDE THE COMPLETE INTEGRATED AND PROPER FUNCTIONING SYSTEMS AS SHOWN ON THE DRAWINGS.
- SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO, FURNISHING, INSTALLING AND TERMINATING ALL 3 PHASE, 1 PHASE, COMPUTER/CONTROL POWER PER THESE DRAWINGS, AND SONNY'S INSTALLATION MANUALS.
- ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND ORDINANCES.
- ALL EQUIPMENT AND MATERIALS PROVIDED SHALL BE NEW AND IN CONFORMANCE WITH APPLICABLE PROVISIONS OF N.E.M.A., A.N.S.I., U.L., ETC.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES SO AS TO AVOID INTERFERENCE.
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LAYOUT OF ELECTRICAL SYSTEMS. FIELD VERIFICATIONS OF DIMENSIONS IS DIRECTED.
- SECURE PERMITS AND INSPECTIONS REQUIRED BY STATE AND LOCAL LAWS AND ORDINANCES.
- UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER CERTIFICATES OF FINAL INSPECTIONS AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION.
- ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- ELECTRICAL EQUIPMENT SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS.

B. RACEWAYS

- ALL WIRING SHALL BE INSTALLED IN APPROVED RACEWAYS UNLESS OTHERWISE INDICATED.
- MINIMUM CONDUIT SIZE SHALL BE 1/2" TRADE SIZE.
- USE FLEXIBLE CONDUIT FOR SHORT FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS AND TRANSFORMERS. LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE USED IN DAMP AND WET LOCATIONS. ALL BLOWERS CONNECTION MUST HAVE 24" SERVICE DRIP LOOP TO ALLOW MOVEMENT OR MAINTENANCE. FLEXIBLE CORDS SHALL BE USED WHERE CALLED FOR ON THE PLANS.
- EXPOSED CONDUITS SHALL BE RUN PARALLEL TO BUILDING LINES.
- DO NOT INSTALL CONDUITS LARGER THAN 1/3 THE SLAB THICKNESS IN CONCRETE SLABS.
- PROVIDE APPROVED FIRE STOPPING MATERIALS AT ALL PENETRATIONS THROUGH FIRE RATED FLOORS AND WALLS TO PREVENT THE PASSAGE OF SMOKE, FIRE, TOXIC GAS OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING, OR AFTER A FIRE, AS REQUIRED BY ARTICLE 300-21 OF THE N.E.C.
- PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH ARTICLE 300 OF THE N.E.C.
- PROVIDE EXPANSION FITTINGS IN CONDUIT RUNS CROSSING STRUCTURAL EXPANSION JOINTS.

C. CONDUCTORS

- ALL WIRING SHALL BE COPPER.
- CONDUCTORS SHALL BE RATED 600V. WITH TYPE THWN/THHN INSULATION.
- CARWASH EQUIPMENT WIRING SHALL BE STRANDED CONDUCTOR.

D. CONNECTORS

- ALL WIRE CONNECTIONS FOR 10HP MOTORS OR LARGER MUST BE SPLIT BOLT CONNECTORS OR EQUIVALENT APPROVED BY N.E.C AND/OR MANUFACTURER.

E. LIGHTING PANELS

- PROVIDE LIGHTING PANELS AS INDICATED ON THE PLANS AND AS SPECIFIED HEREIN. ALL PANELS SHALL BE DEAD FRONT, CIRCUIT BREAKER TYPE, AND SHALL BEAR THE U.L. LABEL AS WELL AS MEET ALL APPLICABLE NEMA REQUIREMENTS.
- UNLESS OTHERWISE NOTED, TOP OF PANELS SHALL BE MOUNTED 6'-0" A.F.F.
- ALL PANELS SHALL HAVE TYPED CIRCUIT DIRECTORIES MOUNTED INSIDE OF DOOR.
- PANELS SHALL BE SUITABLE FOR THE SERVICE RATING AND THE A.I.C. RATING INDICATED ON THE PANEL SCHEDULES.
- ALL BREAKERS SHALL BE FULL SPACE, INDIVIDUAL FRAME TYPE, NO "PIGGYBACK" OR TANDEM BREAKERS WILL BE PERMITTED.

F. SAFETY SWITCHES

- SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE NON-FUSIBLE WITH POLES, AMPERE AND SERVICE RATINGS AS INDICATED ON THE PLANS. LUGS SHALL BE U.L. LISTED FOR CU-AL.
- ENCLOSURES FOR SAFETY SWITCHES SHALL BE NEMA 1, EXCEPT FOR SWITCHES MARKED "WP" (WEATHERPROOF) SHALL BE NEMA 4X.
- (+)---DISCONNECTS TO BE MOUNTED IN TUNNEL OR OTHER AREAS NOT WITHIN 50 L.F. OR L.O.S. OF MCC IN CONFORMANCE WITH N.E.C. AND/OR LOCAL CODES. ALSO TO BE TYPE 4X NON-METALLIC ENCLOSURES, NON-FUSED SIZED FOR LOAD. DISCONNECTING MEANS SHALL NOT BE REQUIRED WHERE SUCH A LOCATION OF THE DISCONNECTING MEANS IS IMPRACTICABLE OR INTRODUCES ADDITIONAL OR INCREASED HAZARDS TO PERSON OR PROPERTY. N.E.C. (ARTICLE 430.102-B-g).

ENERGY CONSERVATION REQUIREMENTS:

- WITHIN 30 DAYS OF SUBSTANTIAL COMPLETION, CONTRACTOR SHALL PROVIDE RECORD DRAWINGS, OPERATING MANUAL, AND MAINTENANCE MANUALS TO THE BUILDING OWNER.
- RECORD DRAWINGS SHALL INCLUDE: A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM; AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
- CONTRACTOR SHALL PROVIDE OPERATION MANUALS AND MAINTENANCE MANUALS TO THE OWNER FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
- CONTRACTOR SHALL PROVIDE TO THE OWNER NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
- CONTRACTOR SHALL CONFIRM THAT THE PLACEMENT, SENSITIVITY AND TIME-OUT ADJUSTMENTS FOR ALL OCCUPANCY SENSORS YIELD ACCEPTABLE RESULTS.
- CONTRACTOR SHALL CONFIRM THAT TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS OFF.
- WHERE DAYLIGHT HARVESTING IS USED, CONTRACTOR SHALL CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED.
- CONTRACTOR SHALL PROGRAM AND ADJUST ALL CONTROLS AS NEEDED TO ACHIEVE PERFORMANCE THAT IS SATISFACTORY TO THE OWNER.
- CONTRACTOR SHALL TEST ALL LIGHTING CONTROL SYSTEMS TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS.
- FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH FLORIDA BUILDING CODE ENERGY CONSERVATION SECTIONS C408.3.1.1 AND C408.3.1.2 FOR THE APPLICABLE CONTROL TYPE, AND CONTRACTOR SHALL DOCUMENT TESTING AS FOLLOWS: FOR EACH ITEM LISTED IN SECTION C408.3.1.1 AND C408.3.1.2, CONTRACTOR SHALL LIST THE TEST REQUIREMENT, INDICATE THAT THE TEST WAS "PASSED" OR WAS "NOT APPLICABLE" TO THE PROJECT; DOCUMENT SHALL BE SIGNED AND DATED BY THE TECHNICIAN PERFORMING THE TEST, AND ELECTRONIC COPY SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO SUBSTANTIAL COMPLETION.
- DOCUMENTS CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET DOCUMENTED PERFORMANCE CRITERIA OF FLORIDA BUILDING CODE ENERGY CONSERVATION SECTION C405 ARE TO BE PROVIDED TO THE BUILDING OWNER WITHIN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

ELECTRICAL SPECIFICATIONS

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

- ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
- IDENTIFICATION DEVICE COLORS: USE THOSE PRESCRIBED BY ANSI A13.1, NFPA 70, AND THESE SPECIFICATIONS.
- COLOR ADHESIVE MARKING TAPE FOR RACEWAYS, WIRES, AND CABLES: SELF-ADHESIVE VINYL TAPE, NOT LESS THAN 1 INCH WIDE BY 3 MILS THICK (25 MM WIDE BY 0.08 MM THICK).
- TAPE MARKERS FOR CONDUCTORS: VINYL OR VINYL-CLOTH, SELF-ADHESIVE, WRAPAROUND TYPE WITH PREPRINTED NUMBERS AND LETTERS.
- ENGRAVED-PLASTIC LABELS, SIGNS, AND INSTRUCTION PLATES: ENGRAVING STOCK, MELAMINE PLASTIC LAMINATE PUNCHED OR DRILLED FOR MECHANICAL FASTENERS 1/16-INCH (1.6-MM) MINIMUM THICKNESS FOR SIGNS UP TO 20 SQ. IN. (129 SQ. CM) AND 1/8-INCH (3.2-MM) MINIMUM THICKNESS FOR LARGER SIZES. ENGRAVED LEGEND IN BLACK LETTERS ON WHITE BACKGROUND.
- PULL STRINGS: PROVIDE PULL STRINGS IN ALL SPARE OR EMPTY CONDUITS AND RACEWAYS.
- COORDINATE NAMES, ABBREVIATIONS, COLORS, AND OTHER DESIGNATIONS USED FOR ELECTRICAL IDENTIFICATION WITH CORRESPONDING DESIGNATIONS INDICATED IN THE CONTRACT DOCUMENTS OR REQUIRED BY CODES AND STANDARDS. USE CONSISTENT DESIGNATIONS THROUGHOUT PROJECT.
- CUT, CHANNEL, CHASE, AND DRILL FLOORS, WALLS, PARTITIONS, CEILINGS, AND OTHER SURFACES REQUIRED TO PERMIT ELECTRICAL INSTALLATIONS. PERFORM CUTTING BY SKILLED MECHANICS OF TRADES INVOLVED. SLEEVE ALL CABLE PENETRATIONS OF WALLS. SEAL ALL CONDUIT PENETRATIONS.
- REPAIR, REFINISH AND TOUCH UP DISTURBED FINISH MATERIALS AND OTHER SURFACES TO MATCH ADJACENT UNDISTURBED SURFACES.
- ALL WORK SHALL COMPLY WITH CODES AND STANDARDS LISTED ON PLANS.
- WITHIN 30 DAYS OF COMMENCEMENT, CONTRACTOR SHALL ARRANGE AND ATTEND A MEETING ON-SITE WITH A REPRESENTATIVE OF THE ELECTRIC UTILITY TO COORDINATE SCHEDULE AND REQUIREMENTS FOR INSTALLATION OF NEW SERVICE.

SECTION 16060 - GROUNDING AND BONDING

- EQUIPMENT GROUNDING CONDUCTORS: COMPLY WITH NFPA 70, ARTICLE 250, FOR TYPES, SIZES, AND QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, UNLESS SPECIFIC TYPES, LARGER SIZES, OR MORE CONDUCTORS THAN REQUIRED BY NFPA 70 ARE INDICATED.
- INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS IN ALL FEEDERS AND BRANCH CIRCUITS.
- ALL GROUNDING CONDUCTORS SHALL BE COPPER; COMPLY WITH DIVISION 16 SECTION "CONDUCTORS AND CABLES" AND ASTM B, AS APPLICABLE.
- EQUIPMENT GROUNDING CONDUCTORS: INSULATED WITH GREEN-COLORED INSULATION.
- GROUNDING ELECTRODE CONDUCTORS: STRANDED COPPER CABLE.
- UNDERGROUND CONDUCTORS: BARE, TINNED, STRANDED, UNLESS OTHERWISE INDICATED.
- CONNECTORS: COMPLY WITH IEEE 837 AND UL 467; LISTED FOR USE FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND CONNECTED ITEMS.
- IN RACEWAYS, USE INSULATED EQUIPMENT GROUNDING CONDUCTORS.
- EXOTHERMIC-WELDED CONNECTIONS: USE FOR CONNECTIONS TO STRUCTURAL STEEL AND FOR UNDERGROUND CONNECTIONS.
- GROUNDING CONDUCTORS: ROUTE ALONG SHORTEST AND STRAIGHTEST PATHS POSSIBLE, UNLESS OTHERWISE INDICATED. AVOID OBSTRUCTING ACCESS OR PLACING CONDUCTORS WHERE THEY MAY BE SUBJECTED TO STRAIN, IMPACT, OR DAMAGE.
- BONDING STRAPS AND JUMPERS: INSTALL SO VIBRATION BY EQUIPMENT MOUNTED ON VIBRATION ISOLATION HANGERS OR SUPPORTS IS NOT TRANSMITTED TO RIGIDLY MOUNTED EQUIPMENT

SECTION 16120 - CONDUCTORS AND CABLES

- CONDUCTOR MATERIAL: COPPER COMPLYING WITH NEMA WC 5 OR 7.
- CONDUCTOR INSULATION TYPES: TYPE THHN-THWN COMPLYING WITH NEMA WC 5 OR WC 7.
- TYPE MC CABLE SHALL BE PERMITTED IN CONCEALED LOCATIONS, WHERE PERMITTED BY CODE.
- BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY; TYPE MC CABLE.
- CONCEAL CABLES AND RACEWAYS IN FINISHED WALLS, CEILINGS, AND FLOORS.
- USE MANUFACTURER-APPROVED PULLING COMPOUND OR LUBRICANT WHERE NECESSARY; COMPOUND USED MUST NOT DETERIORATE CONDUCTOR OR INSULATION. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM PULLING TENSIONS AND SIDEWALL PRESSURE VALUES.
- IN EXPOSED LOCATIONS, ALL CONDUCTORS AND CABLES SHALL BE INSTALLED IN RACEWAY.
- MAKE SPLICES AND TAPS THAT ARE COMPATIBLE WITH CONDUCTOR MATERIAL AND THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN UNSPLICED CONDUCTORS.
- WIRING AT OUTLETS: INSTALL CONDUCTOR AT EACH OUTLET, WITH AT LEAST 6 INCHES (150 MM) OF SLACK.

SECTION 16130 - RACEWAYS AND BOXES

- PERMANENTLY LABEL ALL RACEWAYS AND JUNCTION/PULL BOX COVERS TO INDICATE PANEL/CIRCUIT NUMBERS CONTAINED.
- UNLESS OTHERWISE NOTED, PROVIDE NEMA 1 ENCLOSURES IN INDOOR LOCATIONS, NEMA 3R ENCLOSURES IN OUTDOOR LOCATIONS.
- MINIMUM RACEWAY SIZE: 1/2" TRADE SIZE.
- KEEP RACEWAYS AT LEAST 6 INCHES (150 MM) AWAY FROM PARALLEL RUNS OF HOT-WATER PIPES. INSTALL HORIZONTAL RACEWAY RUNS ABOVE WATER PIPING.
- PROTECT STUB-UPS FROM DAMAGE WHERE CONDUITS RISE THROUGH FLOOR SLABS. ARRANGE SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE FINISHED SLAB.
- MAKE BENDS AND OFFSETS SO ID IS NOT REDUCED. KEEP LEGS OF BENDS IN SAME PLANE AND KEEP STRAIGHT LEGS OF OFFSETS PARALLEL, UNLESS OTHERWISE INDICATED.
- CONCEAL CONDUIT AND EMT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS.
- INSTALL EXPOSED RACEWAYS PARALLEL OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS AND FOLLOW SURFACE CONTOURS AS MUCH AS POSSIBLE.
- INSTALL RACEWAY SEALING FITTINGS AT SUITABLE, APPROVED, AND ACCESSIBLE LOCATIONS AND FILL THEM WITH UL-LISTED SEALING COMPOUND. INSTALL RACEWAY SEALING FITTINGS WHERE CONDUITS PASS FROM WARM TO COLD LOCATIONS, SUCH AS BOUNDARIES OF REFRIGERATED SPACES AND WHERE OTHERWISE REQUIRED BY NFPA 70.
- FLEXIBLE CONNECTIONS: USE MAXIMUM OF 72 INCHES (1830 MM) OF FLEXIBLE CONDUIT FOR RECESSED AND SEMIRECESSED LIGHTING FIXTURES; FOR EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR ALL MOTORS. USE LMC IN DAMP OR WET LOCATIONS. INSTALL SEPARATE GROUND CONDUCTOR ACROSS FLEXIBLE CONNECTIONS.

SECTION 16140 - WIRING DEVICES

- STRAIGHT-BLADE-TYPE RECEPTACLES: COMPLY WITH NEMA WD 1, NEMA WD 6, DSCC W-C-596G, AND UL 498. STRAIGHT-BLADE AND LOCKING RECEPTACLES: HEAVY-DUTY GRADE.
- GFCI RECEPTACLES: STRAIGHT BLADE, HEAVY-DUTY GRADE, WITH INTEGRAL NEMA WD 6, CONFIGURATION 5-20R DUPLEX RECEPTACLE, COMPLYING WITH UL 498 AND UL 943.
- SINGLE- AND DOUBLE-POLE SWITCHES: COMPLY WITH DSCC W-C-896F AND UL 20.
- SNAP SWITCHES: HEAVY-DUTY GRADE, QUIET TYPE.
- DIMMERS SHALL BE SLIDE-TYPE, WITH PRESET. DIMMERS SHALL BE RATED FOR THE LOAD TYPE CONTROLLED (E.G., INCANDESCENT, LED, FLUORESCENT). DIMMERS SHALL BE RATED FOR 500W, MINIMUM; DERATE, AS PER MANUFACTURER'S RECOMMENDATIONS, FOR GANG INSTALLATION.
- DEVICE & COVERPLATE FINISH: MATCH EXISTING, UNLESS OTHERWISE INDICATED OR REQUIRED BY NFPA 70.
- INSTALL DEVICES AND ASSEMBLIES LEVEL, PLUMB, AND SQUARE WITH BUILDING LINES.
- ARRANGEMENT OF DEVICES: UNLESS OTHERWISE INDICATED, MOUNT FLUSH, WITH LONG DIMENSION VERTICAL GROUP ADJACENT SWITCHES UNDER SINGLE, MULTIGANG WALL PLATES.
- REMOVE WALL PLATES AND PROTECT DEVICES AND ASSEMBLIES DURING PAINTING.
- AFTER INSTALLING WIRING DEVICES AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR PROPER POLARITY, GROUND CONTINUITY, AND COMPLIANCE WITH REQUIREMENTS.
- TEST GFCI OPERATION WITH BOTH LOCAL AND REMOTE FAULT SIMULATIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

SECTION 16410 - ENCLOSED SWITCHES

- ENCLOSED SWITCHES SHALL BE MANUFACTURED BY SQUARE-D, CUTLER-HAMMER, GE, OR SIEMENS.
- ALL ENCLOSED SWITCHES SHALL BE LOCKABLE.
- MOUNT INDIVIDUAL WALL-MOUNTING SWITCHES WITH TOPS AT UNIFORM HEIGHT, UNLESS OTHERWISE INDICATED.
- ENCLOSED SWITCHES SHALL BE UL LISTED FOR THE APPLICATION USED; ENCLOSURES SHALL BE NEMA-3R UNLESS NOTED OTHERWISE.
- MOTOR STARTERS SHALL BE NEMA-RATED, WITH OVERLOADS SIZED PER LOAD. COORDINATE COIL VOLTAGE WITH CONTROLS.

SECTION 16442 - PANELBOARDS

- MANUFACTURERS: PANELBOARDS SHALL BE MANUFACTURED BY SQUARE-D, CUTLER-HAMMER, GE, OR SIEMENS.
- ENCLOSURES: FLUSH- AND SURFACE-MOUNTED CABINETS. NEMA PB 1, TYPE 1.
- PHASE AND GROUND BUSES: HARD-DRAWN COPPER, 98 PERCENT CONDUCTIVITY.
- CONDUCTOR CONNECTORS: SUITABLE FOR USE WITH CONDUCTOR MATERIAL.
- SERVICE EQUIPMENT LABEL: UL LABELED FOR USE AS SERVICE EQUIPMENT FOR PANELBOARDS WITH MAIN SERVICE DISCONNECT SWITCHES.
- FUTURE DEVICES: MOUNTING BRACKETS, BUS CONNECTIONS, AND NECESSARY APPURTENANCES REQUIRED FOR FUTURE INSTALLATION OF DEVICES.
- PANELBOARD SHORT-CIRCUIT RATING: SERIES RATED TO INTERRUPT SYMMETRICAL SHORT-CIRCUIT CURRENT AVAILABLE AT TERMINALS.
- MAIN OVERCURRENT PROTECTIVE DEVICES: CIRCUIT BREAKER.
- MOLDED-CASE CIRCUIT BREAKER: UL 489, WITH INTERRUPTING CAPACITY TO MEET AVAILABLE FAULT CURRENTS.
- MOUNT TOP OF TRIM ENCLOSURE 72" INCHES (1880 MM) ABOVE FINISHED FLOOR, UNLESS OTHERWISE INDICATED.
- MOUNT PLUMB AND RIGID WITHOUT DISTORTION OF BOX. MOUNT RECESSED PANELBOARDS WITH FRONTS UNIFORMLY FLUSH WITH WALL FINISH.
- INSTALL FILLER PLATES IN UNUSED SPACES.
- PROVIDE NEW TYPE-WRITTEN PANEL DIRECTORIES, SHOWING ALL EXISTING AND NEW CIRCUITS.
- PANELBOARD NAMEPLATES: LABEL EACH PANELBOARD WITH ENGRAVED METAL OR LAMINATED-PLASTIC NAMEPLATE MOUNTED WITH CORROSION-RESISTANT SCREWS.
- WHERE BREAKER IS SERVING HARD-WIRED APPLIANCE WITHOUT A SEPARATE DISCONNECT, PROVIDE A PERMANENTLY INSTALLED PROVISION TO LOCK THE BREAKER IN THE "OFF" POSITION.

SECTION 16511 - INTERIOR LIGHTING

- LIGHTING FIXTURES: PER FIXTURE SCHEDULE ON PROJECT PLANS.
- WHERE EXIT SIGNS ARE USED, THEY SHALL BE LED-TYPE.
- FIXTURES: SET LEVEL, PLUMB, AND SQUARE WITH CEILINGS AND WALLS. INSTALL LAMPS IN EACH FIXTURE.
- FOR EMERGENCY LIGHTING FIXTURES, PROVIDE UNSWITCHED HOT CONDUCTOR AS INDICATED ON THE PLANS.
- PROVIDE ALL BACKBOXES, SUPPORTS, STEMS, ROUGH-INS, TRIMS, HARDWARE, LAMPS, DRIVERS, AND BALLASTS FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
- LIGHTING POLES SHALL BE RATED FOR 140MPH, MINIMUM (1.3 GUST FACTOR) INCLUDING FIXTURES AND MOUNTING HARDWARE.

ARD PROJECT #0052

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ELECTRICAL SPECIFICATIONS AND REQUIREMENTS

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DRAWN BY
MRC/JML

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This item has been digitally signed and sealed by James M. Lamb on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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