

GENERAL PROVISIONS

A. GENERAL
1. REQUIREMENTS SPECIFIED ON COVER SHEET, ALONG WITH ELECTRICAL SPECIFICATIONS AND ALL ITS SECTIONS, CONTROL DOCUMENTS FOR THE ELECTRICAL CONTRACT, DRAWINGS AND ALL THEIR REVISIONS UP TO THE BID SUBMITTAL DATE BECOME A BINDING PART OF THE CONTRACT...

B. MOUNTING ACCESSORIES

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL ANGLE IRON, CHANNEL IRON, RODS, SUPPORTS, HANGERS, CONCRETE OR PLYWOOD REQUIRED TO INSTALL, MOUNT AND SUPPORT ANY ELECTRICAL EQUIPMENT OR DEVICE CALLED FOR ON THE PLANS.
2. SUPPORTING MATERIAL SHALL BE COMPLETE WITH HANGERS, CONNECTIONS, BOLTS, CLAMPS AND NECESSARY ACCESSORIES TO MAKE A COMPLETE INSTALLATION...

C. EXECUTION

1. THE ELECTRICAL WORK FOR CONSTRUCTION PROPOSED SHALL CONFORM TO ALL FEDERAL, (OSHA), STATE, ALL SPECIFIC SAFETY REQUIREMENTS AND THE REQUIREMENTS OF THE CURRENT EDITION OF THE NEC.
2. CHECK THE HVAC AND PLUMBING SPECIFICATIONS FOR ELECTRICAL REQUIREMENTS AND INCLUDE THE SAME IN THE CONTRACT COST.
3. EQUIPMENT CONNECTIONS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS AND PUSHBUTTON STATIONS FOR THE EQUIPMENT FURNISHED BY THE OWNER OR UNDER A SEPARATE CONTRACT SHALL BE INSTALLED AND CONNECTED UNDER THIS DIVISION, AS INDICATED ON THE CONTRACT DRAWINGS...

D. MATERIALS AND WORKMANSHIP

1. ALL WORK SHALL BE INSTALLED IN A PRACTICAL AND WORKMANLIKE MANNER, BY MECHANICS SKILLED IN THE SEVERAL TRADES NECESSARY.
2. ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS AND SHALL BE THE BEST OF THEIR SEVERAL KINDS UNLESS SPECIFIED OR INDICATED ON THE DRAWINGS TO THE CONTRARY.
3. DURING EACH PHASE AND AT THE COMPLETION OF THE CONSTRUCTION, THIS CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS CAUSED BY HIS WORK...

E. SCOPE OF WORK

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, STORAGE, UNPACKING AND PLACEMENT, TO INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING ITEMS:
a. EMERGENCY LIGHTING AND POWER.
b. COMPLETE POWER AND LIGHTING DISTRIBUTION SYSTEM INCLUDING ALL PANELS AND FEEDERS.
c. COMPLETE BRANCH CIRCUIT WIRING SYSTEM.
d. COMPLETE POWER WIRING FOR ALL AIR CONDITIONING EQUIPMENT, PLUMBING SYSTEM, HEATING EQUIPMENT, VENTILATING AND EXHAUST EQUIPMENT...

F. TEMPORARY SERVICE

1. THE ELECTRICAL CONTRACTOR SHALL FURNISH, INSTALL AND REMOVE AS REQUIRED ALL TEMPORARY POWER AND TEMPORARY LIGHTING IN ALL AREAS AND INDIVIDUAL ROOMS WHEN NEEDED BY THE INDIVIDUAL TRADES IN THE COURSE OF THEIR WORK. THIS CONTRACTOR SHALL PROVIDE A MINIMUM OF TWENTY (20) FOOTCANDLES OF ILLUMINATION FOR TEMPORARY LIGHTING...

G. ELECTRIC SERVICE

1. PROVIDE TRENCHING AND BACKFILL TO THE POWER COMPANY SPECIFICATIONS.
2. PROVIDE CONDUIT FOR PRIMARY SERVICE WHERE REQUIRED BY THE POWER COMPANY.
3. CONCRETE ENCASE CONDUITS WHERE REQUIRED BY THE POWER COMPANY AND WHERE INDICATED ON THE PLANS.
4. PROVIDE METERING TO POWER COMPANY SPECIFICATIONS.
5. MAKE PROVISIONS FOR THE PAD-MOUNT TRANSFORMER AS REQUIRED BY THE POWER COMPANY INCLUDING THE TRANSFORMER PAD AND GROUNDING.
6. PAY THE COST OF ALL POWER COMPANY CHARGES CONNECTED WITH PERMANENT ELECTRIC SERVICE TO THE BUILDING...

H. INTERFERENCES

1. BEFORE THE INSTALLATION OF ANY ITEM BEGINS, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY ASCERTAIN THAT IT DOES NOT INTERFERE WITH CLEARANCES FOR THE ERECTION OF FINISH BEAMS, COLUMNS, PILASTERS, WALLS OR OTHER STRUCTURAL OR ARCHITECTURAL MEMBERS AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF ANY WORK IS INSTALLED AND THE ARCHITECTURAL DESIGN CANNOT BE FOLLOWED, THIS CONTRACTOR SHALL, AT HIS OWN EXPENSE, MAKE CHANGES IN HIS WORK AS DIRECTED BY THE ARCHITECT TO PERMIT THE COMPLETION OF THE ARCHITECTURAL WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
2. IT SHALL BE THE DUTY OF THIS CONTRACTOR TO REPORT ANY INTERFERENCES BETWEEN HIS WORK AND THAT OF ANY OF THE OTHER CONTRACTORS AS SOON AS THEY ARE DISCOVERED...

I. QUALITY ASSURANCE

ALL PRODUCTS SHALL BE NEW AND OF THE TYPE AND QUALITY SPECIFIED, WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE OR CATALOG NUMBER, SUCH DESIGNATION SHALL ESTABLISH THE STANDARDS OF THE DESIRED QUALITY AND STYLE. IT IS THE INTENT OF THESE SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY OF MATERIALS AND EQUIPMENT INSTALLED.
BASIC ELECTRICAL MATERIALS AND METHODS
A. NAMEPLATES
1. GENERAL: FURNISH AND MOUNT ON EACH PANELBOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.

J. NAMEPLATES

1. GENERAL: FURNISH AND MOUNT ON EACH PANELBOARD, SWITCHBOARD (INCLUDING BRANCH SWITCHES), LARGE JUNCTION BOX, SAFETY SWITCH, STARTER, REMOTE CONTROL, PUSH BUTTON STATION, AND ALL SIMILAR CONTROLS, A NAMEPLATE DESCRIPTIVE OF THE EQUIPMENT OR EQUIPMENT CONTROLLED.
2. PROVIDE BLACK AND WHITE NAMEPLATES CONSTRUCTED FROM LAMINATED PHENOLIC WITH A WHITE CENTER CORE. LETTERS SHALL BE ENGRAVED IN THE PHENOLIC TO FORM WHITE LETTERS 3/8" HIGH. FASTEN THE NAMEPLATES WITH SCREWS AND AN ADHESIVE TYPE FASTENER.

I. CONNECT #8 AND LARGER WIRES WITH COMPRESSION CONNECTORS OR SPLICES AS MANUFACTURED BY BURNDY OR T&B.
J. INSULATE SPLICING CONNECTORS TO AT LEAST 200% OF THE WIRE INSULATION. USE PRE-STRETCHED TUBING CONNECTOR INSULATORS, 3M PST FOR #2 AND LARGER CONDUCTORS.
K. PULL CONDUCTORS USING RECOGNIZED METHODS AND EQUIPMENT LEAVING AT LEAST 6" WIRE AT ALL JUNCTION BOXES FOR CONNECTIONS.
L. CLEANOUT EACH CONDUIT SYSTEM BEFORE PULLING WIRE.
M. FORM AND TIE ALL WIRE AND CONDUIT SYSTEMS TO PREVENT VOLTAGE DROP BETWEEN THE PANEL AND THE LOADS DOES NOT EXCEED LIMIT OF 3%.

RAYWAYS AND BOXES

A. RAYWAYS
1. ALL WIRE SHALL BE RUN IN ACCORDANCE WITH CODE IN CORROSION RESISTANT, RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (E.M.T.) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
2. CONDUIT IN EXTERIOR WALLS, BELOW FLOOR SLAB, OR UNDERGROUND SHALL BE RIGID, THREADED, GALVANIZED, HEAVY WALL TYPE.
3. CARLON PVC TYPE 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN LIEU OF RIGID, THREADED, GALVANIZED CONDUIT. PVC 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB. PVC CONDUIT SHALL TERMINATE BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ADAPTER. CONDUIT ABOVE SLAB SHALL BE METAL.
4. CONDUIT RUN EXPOSED TO THE WEATHER SHALL BE HEAVY WALL, METAL, THREADED TYPE.
5. CONDUIT SIZE SHALL BE 3/4" MINIMUM.
6. CONDUIT SHALL BE SECURELY FASTENED IN PLACE.
7. APPROVAL OF THE ARCHITECT REQUIRED IN WALLS, FLOOR AND CEILINGS WHEREVER POSSIBLE. EXPOSED CONDUIT IN FINISHED AREAS WILL NOT BE PERMITTED. EXPOSED CONDUIT WILL BE PERMITTED IN UNFINISHED AREAS WITH THE SPECIFIC APPROVAL OF THE ARCHITECT.

DISTRIBUTION AND PANELBOARDS

A. PANELBOARDS
1. MAIN DISTRIBUTION PANEL (MDP) SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT AT THE TERMINALS.
2. PANELBOARDS SHALL BE LABELED WITH PHENOLIC NAMEPLATES INSCRIBED AS INDICATED ON THE DRAWINGS. PROVIDE LABELS AFFIXED TO PANELBOARDS AS REQUIRED BY NFPA 70E.
3. PANELBOARDS SHALL BE ENCLOSED DEAD FRONT SAFETY TYPE WITH FEATURES AND RATINGS AS SCHEDULED ON THE DRAWINGS.
4. PANELS KNOWN AS "LOAD CENTERS" ARE UNACCEPTABLE.
5. MOLDED CASE CIRCUIT BREAKERS SHALL BE AS SCHEDULED ON THE DRAWINGS AND SPECIFIED IN THIS DIVISION.
6. ALL BUS BARS SHALL BE RECTANGULAR SOLID COPPER.
7. SPACE, WHERE SHOWN IN PANEL SCHEDULES, DESIGNATES SPACE FOR FUTURE PROTECTIVE DEVICES AND SHALL INCLUDE BUS AND SUPPORT.
8. INSTALL CABINETS SO THAT CENTER OF THE TOP BREAKER DOES NOT EXCEED 6'-6" ABOVE THE FINISHED FLOOR.
9. ENTRIES ON DIRECTORY CARDS SHALL BE TYPED, COMPLETE AND ACCURATE.
10. ALL BOLTED CONNECTIONS SHALL BE TORQUED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
11. ELECTRICAL CONTRACTOR SHALL ARRANGE CIRCUITS AS NEAR AS POSSIBLE TO CIRCUIT NUMBERS ON THE DRAWINGS. AT COMPLETION OF JOB, ELECTRICAL CONTRACTOR SHALL TAKE CURRENT READING CHECKS OF RESPECTIVE PHASES. A MINIMUM OF CIRCUIT CONNECTIONS SHALL BE REARRANGED TO BALANCE, AS CLOSELY AS POSSIBLE, THE LOAD IN THE PANEL.
12. ALL BREAKERS SHALL BE BOLT-ON TYPE.
13. PROVIDE (3) SPARE 1" CONDUITS INTO ACCESSIBLE CEILING SPACE WHERE PANELS ARE FLUSH-MOUNTED. PROVIDE REMOVABLE CAP OR PLUG AT CONDUIT AND ABOVE CEILING.
14. MANUFACTURER SHALL BE SQUARE D, SIEMENS, OR CUTLER-HAMMER.

FUSES

A. THE CONTRACTOR SHALL FURNISH A COMPLETE SET OF FUSES FOR ALL SWITCHES, PLUS FUSIBLE EQUIPMENT FURNISHED BY OTHER TRADES. UNLESS INDICATED OTHERWISE ON PLANS, THE FUSES SHALL BE OF THE FOLLOWING TYPES:
1. FUSES 601 TO 6000 AMPS SHALL BE UL CLASS, TRADE TYPE SHALL BE KRP-C AS MANUFACTURED BY THE BUSSMANN COMPANY.
2. FUSES 1/10 TO 600 AMPS SHALL BE UL CLASS RK1, TRADE TYPE SHALL BE LOW PEAK LPS-RM (600) AND LPR-K (250V) AS MANUFACTURED BY BUSSMANN COMPANY.
3. ALL OTHER FUSES SHALL BE DUAL-ELEMENT CURRENT-LIMITING TYPE WITH 200,000 AMPERES SYMMETRICAL INTERRUPTING CAPACITY.
B. FUSES SHALL BE MANUFACTURED BY BUSSMANN, GOLD-SHAUMITT, OR RELANCE.
C. SPARE FUSES AMOUNTING TO A DUPLICATE SET OF EACH SIZE INSTALLED SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF THE PROJECT. PROVIDE AND PLACE IN A SPARE FUSE CABINET SIMILAR TO BUSSMANN #SFC. THIS CONTRACTOR SHALL REPLACE ALL FUSES BLOWN DURING CONSTRUCTION.

GROUNDING AND BONDING

A. GROUND ALL EQUIPMENT PER N.E.C.
B. GROUND EACH OUTSIDE LIGHTING POLE SEPARATELY.
C. ALL CONDUITS SHALL CONTAIN A CODE-SIZED GROUND WIRE SIZE PER N.E.C. IN ADDITION TO THE CONDUCTORS SHOWN ON THE PLANS. WHERE CIRCUIT CONDUCTORS INCLUDING POWER FOR THE LIGHTING, THE GROUND WIRE SIZE SHALL BE INCREASED PROPORTIONATELY.
D. WHERE AN ISOLATED, INSULATED GROUND IS REQUIRED A SEPARATE ISOLATED GREEN GROUND IN ADDITION TO THE EQUIPMENT GROUND WIRE SHALL BE RUN FROM THE PANEL ISOLATED GROUND BUS TO THE ISOLATED GROUND CONNECTION OF THE DEVICE SERVED. IN NO CASE SHALL THE SYSTEM GROUND (GREEN WIRE AND ASSOCIATED OUTLET BOXES, CONDUIT AND BUILDING STEEL) BE ALLOWED TO CONTACT THE ISOLATED GROUND (GREEN WIRE WITH WHITE STRIPE).
E. AFTER INSTALLING GROUNDING SYSTEM BUT BEFORE PERMANENT ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR COMPLIANCE WITH REQUIREMENTS.

WIRING DEVICES

A. WIRING DEVICE COLOR SHALL BE SELECTED BY ARCHITECT, UNLESS OTHERWISE INDICATED.
B. PROVIDE TOTALLY ENCLOSED, 20 AMPERE, 120/277 VOLT, QUIET AC GENERAL USE SNAP SWITCHES.
C. SWITCHES SHALL BE COMMERCIAL GRADE AS MANUFACTURED BY HUBBELL, P&S, OR LEVITON.
D. PROVIDE NEMA CONFIGURATION 5-20R DUPLEX 125 VOLT GROUNDING TYPE RECEPTACLES RATED FOR 20 AMPERES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
E. RECEPTACLES SHALL BE COMMERCIAL GRADE AS MANUFACTURED BY HUBBELL, P&S OR LEVITON.
F. RECEPTACLES REQUIRING AMPERAGES, VOLTAGES OR CONFIGURATIONS DIFFERENT FROM THE DUPLEX CONVENIENCE RECEPTACLES ABOVE SHALL BE AS INDICATED ON THE DRAWINGS.
G. PROVIDE OTHER RECEPTACLES OF A QUALITY, MATERIAL AND WORKMANSHIP EQUIVALENT TO THAT SPECIFIED FOR DUPLEX CONVENIENCE RECEPTACLES.
H. PROVIDE COVER OR DEVICE PLATES FOR OUTLET BOXES AS FOLLOWS UNLESS OTHERWISE NOTED:
1. FINISHED AREAS: THERMOPLASTIC - COLOR TO MATCH DEVICE.
2. UNFINISHED AREAS: ZINC COATED SHEET METAL, ALUMINUM, OR CAST METAL, AS APPROPRIATE FOR THE TYPE OF BOX.
3. EXTERIOR AREAS: COPPER FREE ALUMINUM WITH GRAY, POWDER EPOXY FINISH, GASKET, WEATHERPROOF, CROUSE-HINDS "WLRD" FOR DUPLEX RECEPTACLES AND WLRs FOR SINGLE RECEPTACLES OR EQUAL.
4. TELEPHONE, COMMUNICATION, AND SIGNAL OUTLET PLATES, SHALL MATCH THOSE USED FOR RECEPTACLES AND SWITCHES. ALL OUTLET AND/OR JUNCTION BOXES SHALL BE COMPLETE WITH A COVER PLATE BY THIS CONTRACTOR.
5. WHERE DEVICES ARE GANGED, THEY SHALL BE INSTALLED UNDER A COMMON COVER.

EXCAVATION AND BACKFILLING

A. THE ELECTRICAL CONTRACTOR SHALL HAVE THE ENTIRE SITE MARKED PRIOR TO PERFORMING ANY DIGGING & EXCAVATION NECESSARY TO FACILITATE HIS WORK.
B. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS INVOLVED WITH THE REPAIRING OF EXISTING UTILITIES AND SERVICES IN THE EVENT OF DAMAGE OCCURRING AS A RESULT OF HIS WORK.
C. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FOR ALL FILL AND COMPACTION OF EXCAVATED AREAS ASSOCIATED WITH HIS WORK TO THE STANDARDS OF THE CIVIL ENGINEER FOR SPECIFIC AREAS ASSOCIATED WITH THIS PROJECT.

ELECTRICAL NOTES AND SPECIFICATIONS

1. LOCATE THE SWITCHES APPROXIMATELY 4'-0" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS OTHERWISE INDICATED. THE LONG DIMENSION OF THE SWITCHES SHALL BE VERTICAL.
J. LOCATE RECEPTACLES APPROXIMATELY 1'-6" ABOVE THE FINISHED FLOOR ELEVATION OR NEAREST BLOCK COURSE (WITHIN A.D.A. REQUIREMENTS), UNLESS NOTED OTHERWISE. THE LONG DIMENSION OF RECEPTACLES SHALL BE VERTICAL.
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SAFETY SWITCHES

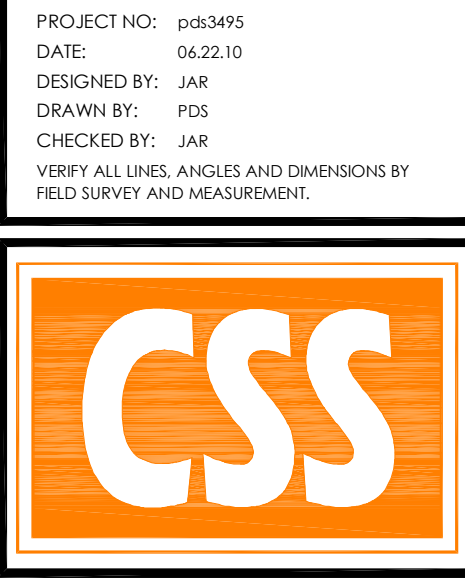
A. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE (TYPE HD) WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD LOCKABLE OPERATING HANDLE.
B. SAFETY SWITCHES SHALL BE RATED FOR 240 OR 600 VOLTS AS APPLICABLE. THEY SHALL BE HORSEPOWER RATED WHEN USED IN MOTOR CIRCUITS.
C. SAFETY SWITCHES SHALL BE FUSIBLE OR NON-FUSIBLE, 2, 3, OR 4 POLE AS INDICATED ON THE DRAWINGS.
D. SAFETY SWITCHES SHALL BE SINGLE THROW UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
E. ENCLOSURES SHALL BE NEMA 1 INDOORS AND NEMA 3R OUTDOORS UNLESS OTHERWISE INDICATED ON DRAWINGS.
F. MANUFACTURER SHALL BE SQUARE D, SIEMENS, CHALLENGER OR CUTLER-HAMMER. ALL SAFETY SWITCHES SHALL BE BY ONE MANUFACTURER.
G. MOUNT THE SAFETY SWITCHES SECURELY BETWEEN 3' X 6' LEVELS ABOVE THE FLOOR UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
H. SWITCHES ON BLOCK WALLS SHALL BE MOUNTED ON A 3/4" PLYWOOD BACKBOARD, WHERE LOCATED INDOORS.

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PROJECT NO: p03495
DATE: 04/21/10
DESIGNED BY: JAR
DRAWN BY: PDS
CHECKED BY: JAR
VERIFY ALL LINES, ANGLES AND DIMENSIONS BY FIELD SURVEY AND MEASUREMENT.



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PARKSIDE APARTMENTS
700 Parkside Avenue
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