

# ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLUORESCENT FIXTURE, RECESSED		BRANCH PANELBOARD, SURFACE, FLUSH
	FLUORESCENT FIXTURE, SURFACE		DISTRIBUTION PANELBOARD; SURFACE, FLUSH
	FLUORESCENT FIXTURE, OPEN STRIP		TELEPHONE TERM. CABINET; SURFACE, FLUSH
	INCANDESCENT OR HID FIXTURE, SURFACE/PENDANT		DISCONNECT SWITCH; FUSED
	INCANDESCENT OR HID FIXTURE, RECESSED		DISCONNECT SWITCH; UNFUSED
	INCANDESCENT OR HID FIXTURE, WALL MOUNTED		MOTOR STARTER; MAGNETIC
	PARKING LUMINAIRE		TRANSFORMER; DISTRIBUTION
	SPOT OR FLOODLIGHT		MOTOR OUTLET & CONNECTION
	ROADWAY LUMINAIRE		CONDUIT, CONCEALED; WALL OR CEILING
	POST OR WALKWAY LUMINAIRE		CONDUIT, CONCEALED; FLOOR OR UNDERGROUND
	EXIT LIGHT; CEILING, WALL; ARROW INDICATES DIRECTION		CONDUIT, EXPOSED
	KEYLESS PORCELAIN LAMPHOLDER RATED 550W, 250V, GE #GE5740-7 OR EQUAL WITH 150W LAMP		CONDUIT, TELEPHONE
	LIGHT FIXTURE CONNECTED TO SECURITY "NL" LIGHTING CIRCUIT		CONDUIT, UP
	EMERGENCY LIGHTING UNIT		CONDUIT, DOWN
	LETTER ADJACENT SYMBOL INDICATES FIXTURE TYPE, NUMBER INDICATES INPUT WATTS		BRANCH CIRCUIT HOMERUN, CROSS HATCHING INDICATES NUMBER OF #12 AWG WIRES WHEN MORE THAN TWO, PANEL A, CIRCUIT NO. 5
	LIGHT SWITCH S.P.S.T.; +48" U.O.N.		INDICATES NUMBER OF DETAIL NOTE
	LIGHT SWITCH 2 P.S.T.; +48" U.O.N.		MECHANICAL EQUIPMENT DESIGNATION
	LIGHT SWITCH 3-WAY; +48" U.O.N.		SUBSCRIPT LETTER ADJACENT SYMBOL INDICATES CONTROL
	LIGHT SWITCH 4-WAY; +48" U.O.N.		NUMBER ADJACENT SYMBOL INDICATES CIRCUIT NO. ON PANELBOARD
	SWITCH, DIMMING, SIZED TO SERVE THE CONNECTED LOAD		INDICATES MOUNTING HEIGHT TO CENTER OUTLET A.F.F.
	SWITCH W/ PILOT LIGHT		UNLESS OTHERWISE NOTED
	THERMAL OVERLOAD SWITCH		ABOVE FINISHED FLOOR
	TWO SWITCHES AT LOCATION		ABOVE FINISHED GRADE
	HP RATED SWITCH OR MANUAL MOTOR STARTER		NOT IN CONTRACT
	OUTLET, DUPLEX CONVENIENCE, 20A, 125V; 15" A.F.F. U.O.N.		ADJACENT TO SYMBOL INDICATES WEATHERPROOF OUTLET OR DEVICE
	OUTLET, DUPLEX CONVENIENCE MOUNTED ON COUNTER, SEE ARCHITECT FOR MOUNTING HEIGHT		GROUND FAULT INTERRUPTER
	OUTLET, DUPLEX CONVENIENCE, DEDICATED EQUIPMENT		BATTERY PACK
	OUTLET, DUPLEX CONVENIENCE, ISOLATED FOR COMPUTERS WITH SEPARATE GROUND		LIGHT SWITCH & OUTLET COMBINATION
	OUTLET, FOURPLEX CONVENIENCE; +12" U.O.N.		CLOCK OUTLET, +7"-0" U.O.N.
	OUTLET, SINGLE, 250V, 3W, CURRENT RATING INDICATED ADJACENT SYMBOL; +12" U.O.N.		PULLBOX, STATE SPEC. NO. AS NOTED
	OUTLET, THERMOSTAT; +60" U.O.N.		BYPASS TIMER
	JUNCTION BOX; CEILING, WALL		COMB. OUTLET, CAT 5 DATA/PHONE, +12" U.O.N.
	OUTLET, FLOOR POWER		DUCT SMOKE DETECTOR
	OCCUPANCY SENSOR, WATTSTOPPER OR EQUIM		OUTLET, TELEVISION, AT+12" U.O.N.
	JUNCTION BOX FOR OVERHEAD MEDICAL LIGHT; SWITCH PROVIDED IN FIXTURE; FIXTURE PROVIDED BY OWNER.		END OF SECTION

# GENERAL ELECTRICAL NOTES

SECTION 16100  
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS  
A. REFER TO DRAWINGS AND CONTRACT FOR MATERIALS FURNISHED BY OWNER, INSTALLED BY CONTRACTOR OR FURNISHED AND INSTALLED BY OWNER.

1.2 SCOPE OF WORK  
A. SECTION 16200 APPLIES TO ALL WORK HERE UNDER AND SHALL INCLUDE CONDUIT, BOXES, WIRE, WIRING DEVICES, MOTOR STARTERS, LIGHTING FIXTURES, HEAT TRACE AND RELATED MATERIALS.

PART 2 - PRODUCTS

2.1 RACE WAY  
A. SHALL BE AS INDICATED ON THE DRAWINGS  
B. FLEXIBLE CONDUIT: UL LISTED LIQUID TIGHT CONDUIT WITH LIQUID TIGHT CONDUCTORS.  
C. RIGID CONDUIT: RIGID GALVANIZED THREADED THICKWALL CONDUIT WITH THREADED FITTINGS SHALL BE PROVIDED IN SLABS ON GRADE, CONDUITS BELOW SLABS ON GRADE OR IN EARTH OUTSIDE OF BUILDINGS SHALL BE SCHEDULE 40 PVC WITH SEPARATE GROUNDING CONDUCTOR PER NEC, WHERE ACCEPTABLE BY LOCAL CODES. WHERE THE USE OF PVC CONFLICTS WITH LOCAL CODES, SUBSTITUTE RIGID GALVANIZED THREADED THICKWALL CONDUIT PAINTED WITH 2 COATS OF ASPHALTUM AND WITH 2 COATS APPLIED AT JOINTS AFTER INSTALLATION.  
D. ELECTRIC METALLIC TUBING: ALL OTHER CONDUIT SHALL BE ELECTRIC METALLIC TUBING WITH COMPRESSION TYPE FITTINGS  
E. CONCEALED BOXES SHALL BE 4" SQUARE GALVANIZED STEEL WITH GALVANIZED EXTENSION RINGS, TOTAL DEPTH OF NOT LESS THAN 2-1/2". SURFACE MOUNTED BOXES SHALL BE CAST WEATHERPROOF ALUMINUM.

2.2 WIRING  
A. WIRING: CONDUCTORS SHALL BE 98% CONDUCTIVITY COPPER OF #12 AWG-MINIMUM SIZE.  
B. INSULATION SHALL BE COLOR CODED, AND RATED FOR 600 VOLTS MINIMUM TYPE THHN OR THWN SHALL BE USED WHERE CONDUIT SIZES ARE LIMITED, AT OTHER LOCATIONS, TYPE TW MAY BE USED IN SIZES #10 AND #12 AWG AND TYPE THW FOR LARGER SIZES.  
C. WIRE CONNECTORS FOR SIZES #10 AWG AND LESS SHALL BE BUCHANAN "PRESS-SHURE", IDEAL "WRAP-CAP", T&B "STAKONS" OR 3M "SCOTCHLOK", CONNECTORS FOR WIRE SIZE #8 AND LARGER SHALL BE T&B OR BURNDY METHODS USING HYDRAULIC PRESSES.  
D. ELECTRIC METALLIC TUBING: ALL OTHER CONDUIT SHALL BE ELECTRIC METALLIC TUBING WITH COMPRESSION TYPE FITTINGS  
E. CONCEALED BOXES SHALL BE 4" SQUARE GALVANIZED STEEL WITH GALVANIZED EXTENSION RINGS, TOTAL DEPTH OF NOT LESS THAN 2-1/2". SURFACE MOUNTED BOXES SHALL BE CAST WEATHERPROOF ALUMINUM.

2.3 WIRING DEVICES  
A. WALL SWITCHES SHALL BE COLOR PER ARCH AND SHALL BE AS FOLLOWS OR APPROVED EQUAL.  
20 A SP, 125/277 V---A 4H #1991W, BRYANT #4901W, OR HUBBELL #1221W.  
TO A 3W, 125/277 V ---A4H #1993W, BRYANT #4903W, OR HUBBELL #1223W.  
20 A 4W, 125/277 V ---A4H #1994W, BRYANT #4904W, OR HUBBELL #1224W.  
20 A SP, 125/277V WITH PILOT LIGHT---ARROW-HART #1991-PL, BRYANT #4901-PL, OR HUBBELL #1221-PL  
20 A SP, 125/277V, WEATHERPROOF---ARROW HART #1991/2891-C OR HUBBELL #1281/1795.  
B. RECEPTACLES SHALL BE WHITE AND SHALL BE AS FOLLOWS OR APPROVED EQUAL. PROVIDE OTHER RECEPTACLES AS INDICATED ON THE DRAWINGS.  
20A, 125V DUPLEX --- A4H #5362W (1), BRYANT #5362W 20A, 125V TWISTLOCK --- HUBBELL 2310  
30A, 250V, 3W - G --- A & H #5700, BRYANT 9630R OR HUBBELL #4430  
50A, 250V, 3P, 4W - G --- A & H, P & S OR HUBBELL 8450 WITH 8452 PLUG & 4/C #8 SO CORD.  
GROUND FAULT --- A & H #536F62, BRYANT #536F62 OR HUBBELL #GF 5362. PROVIDE SPRING LOADED WEATHERPROOF COVERS WHERE REQUIRED BY CODE.  
CLOCK & SIGN HANGER --- A & H #5708, BRYANT #2828-GS OR HUBBELL #5235.  
C. PROVIDE FACE PLATES FOR ALL DEVICES INCLUDING WALL SWITCHES, RECEPTACLES, AND TELEPHONE OUTLETS AND ALL WALL OUTLETS. FACEPLATES SHALL BE WHITE SATIN FINISHED STAINLESS STEEL.  
D. DIMMERS SHALL BE WHITE --- #0-18P.  
E. PHOTO CELLS SHALL BE RATED 16.6 AMPS 120 VOLTS. LIGHTS SHALL BE 1.5 FOOTCANDLES FOR TURN ON AND 10 FOOTCANDLES FOR TURN OFF. SUITABLE FOR TEMPERATURE RANGES FOR -30 DEGREES F TO +140 DEGREES F AND WEATHERPROOF ENCLOSED. LOAD TO REMAIN ON IN CASE OF CELL FAILURE. SHALL HAVE A MINIMUM TIME DELAY OF 15 SECONDS. PROVIDE PARAGON CATALOG #C201-00 OF EQUAL.

2.4 LIGHTING  
A. LIGHTING FIXTURES SHALL BE FURNISHED BY CONTRACTOR AS SCHEDULED ON DRAWINGS EXCEPT FOR THOSE INDICATED TO BE FURNISHED BY OWNER. CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES AND PROVIDE NECESSARY MOUNTING HARDWARE. ALL RECESSED LIGHTING FIXTURES SHALL BE THERMALLY PROTECTED AND IC RATED AS REQUIRED BY CODE.  
B. CONTRACTOR SHALL FURNISH AND INSTALL ONE COMPLETE SET OF LAMPS FOR ALL LIGHTING FIXTURES SUPPLIED BY THE CONTRACTOR. FIXTURES SUPPLIED BY THE OWNER OR OTHERS SHALL BE FURNISHED WITH LAMPS BY EACH RESPECTIVE FIXTURE SUPPLIER. PROVIDE LABEL IN EACH FIXTURE INDICATING SIZE AND TYPE OF LAMP CORRESPONDING WITH SCHEDULE ON DRAWING.  
C. FLUORESCENT LAMPS SHALL BE COLOR SHOWN IN SCHEDULE, ENERGY EFFICIENT, MANUFACTURED BY GENERAL ELECTRIC WATT MISER II  
D. INCANDESCENT LAMPS SHALL BE INSIDE FROSTED WITH 2500-HOUR LAMP LIFE RATED 130 VOLTS.  
E. FLUORESCENT BALLAST'S SHALL BE ENERGY EFFICIENT. MANUFACTURED BY GENERAL ELECTRIC. MAKI-MISER II

2.5 STARTERS  
A. STARTERS: THREE-PHASE UNITS SHALL BE SQUARE D TYPE 8536 WITH 120 VOLTS COIL, N.O. AUXILIARY CONTACT, AND WITH RED PILOT (N COVER)

2.6 TIME CLOCK  
A. PROVIDE TIME CLOCK AS SHOWN ON DRAWINGS.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL  
A. RACEWAY SYSTEM SHALL BE INSTALLED TO MAINTAIN THE MAXIMUM HEADROOM. COMMON SUPPORTS MAY BE USED FOR MECHANICAL AND ELECTRICAL EQUIPMENT BY COORDINATING THE WORK WITH ALL TRADES.  
B. USE ONLY TYPE WIRE PULLING LUBRICANTS FOR WIRE #4 AWG OR LARGER. SPLICE WIRE ONLY IN ACCESSIBLE BOXES. MAKE WIRE JOINTS MECHANICALLY STRONG BEFORE APPLYING THE CONNECTOR, AND WHERE TAPE IS USED, WRAP EACH JOINT TO THE THICKNESS OF THE ORIGINAL INSULATION CLEAN AND POLISH METALLIC SURFACES BEFORE INSTALLING CONDUCTORS. APPLY PRESSURE TYPE LUGS ON STANDARD CONDUCTORS CONNECTED TO SCREW OR BOLT TYPE CONNECTIONS.  
C. ALL WIRE SHALL BE INSTALLED IN A CONDUIT AND SHALL BE CONCEALED. IF UNFORESEEN CONDITION REQUIRES WIRE TO BE EXPOSED TO RACEWAY SHALL BE INSTALLED AS INCONSPICUOUSLY AS POSSIBLE. CUT RACEWAY SQUARES; REAM SMOOTH AND MAKE UP TIGHT. FLUG ENDS OF RACEWAYS DURING CONSTRUCTION AND SWAB CLEAN BEFORE PULLING WIRE OF CABLE.

D. ALL ELECTRICAL BOXES SHALL BE SUPPORTED FROM BUILDING STRUCTURAL MEMBERS INDEPENDENTLY OF THE CONDUIT RACEWAY. MECHANICAL SYSTEMS OF SUSPENDED CEILING SUPPORTS. RECESSED BOXES SHALL BE FLUSH WITH SURROUNDING SURFACES. ALL BOXES AND CABINETS SHALL BE PROTECTED DURING CONSTRUCTION AND SHALL BE CLEANED BEFORE PULLING WIRE AND INSTALLING DEVICES.  
E. UNLESS NOTED OTHERWISE, RECEPTACLES NOTED ABOVE FINISHED FLOOR AND SWITCHES SHALL BE 48" ABOVE FINISH FLOOR. RECEPTACLES NOTED ABOVE WORK COUNTER AND CABINETS SHALL BE MOUNTED ABOVE THE BACKPLASH. WEATHERPROOF RECEPTACLES SHALL BE INSTALLED SO THAT THE COVER PROTECTS THE DEVICE IN THE OPEN POSITION. RECEPTACLES SHALL BE BONDED TO METALLIC BOXES OR TO SEPARATE GROUND CONDUCTOR PER NEC.  
F. EQUIPMENT CONNECTIONS: PROVIDE ALL NECESSARY MOTOR STARTERS, DISCONNECT SWITCHES, CONTROLS, CONDUIT, BOXES WIRE, ETC., AND CONNECT COMPLETE TO EACH PIECE OF EQUIPMENT REQUIRING CONNECTIONS INDICATED ON THE DRAWINGS. WHERE EQUIPMENT RATINGS DIFFER FROM THAT INDICATED, CONSULT CONSTRUCTION MANAGER, WHERE EQUIPMENT IS NOTED AS FUTURE, TERMINATE CIRCUIT IN JUNCTION BOX AND TAPE ENDS OF THE CONDUCTORS.  
G. LIGHTING FIXTURES: FIXTURES SUPPORTED IN EXPOSED GRID CEILINGS SHALL BE PROVIDED WITH CLIPS, FIXTURES MOUNTED IN OR ON TILE CEILINGS SHALL BE ALIGNED WITH TILES. LIGHTING FIXTURES SHALL BE SUPPORTING WIRE SHALL BE PROVIDED AT EACH FIXTURE CORNER. SURFACE MOUNTED LIGHT FIXTURES SHALL BE SECURED PER MANUFACTURER'S RECOMMENDATIONS.  
H. CLEANING: ALL EQUIPMENT INCLUDING PANELBOARDS, SWITCHES, WIRING DEVICES, LIGHTING FIXTURES, WALL PLATES, ETC. SHALL BE FREE OF CORROSION, DIRT, POINT SPATTER OR DAMAGE OF ANY SORT AT FINAL ACCEPTANCE OF THE WORK. CONTRACTOR SHALL CLEAN, REPAIR OR REPLACE SOME AS INSTRUCTED BY THE CONSTRUCTION MANGER BEFORE FINAL PAYMENT.  
I. CONNECTIONS TO EQUIPMENT SHALL BE MADE WITH A 3"-0" FLEXIBLE LIQUID TIGHT CONDUIT WITH LIQUID TIGHT CONNECTORS.  
J. CONNECTIONS TO RECESSED LIGHTING FIXTURES SHALL BE MADE WITH 6"-0" OF FLEXIBLE CONDUIT FROM A BOX WITH 2"-0" OF THE FIXTURE.  
K. INSTALLATION, HEAT TRACE - NOT USED  
L. PROVIDE 7 DAY CALENDAR DIAL TIME CLOCK WITH BYPASS PROVISIONS FOR EXTERIOR LIGHTS.  
M. UPON COMPLETION OF THE INSTALLATION, SET THE TIME CONTROLS PER THE OWNERS REPRESENTATIVE'S SCHEDULE.  
N. INSTALLATION, TELEPHONE SYSTEM  
O. FURNISH AND INSTALL THE TELEPHONE EMPTY CONDUIT, PULL WIRE, TERMINAL BOXES, JUNCTION BOXES, AND OUTLET BOXES, IN BUILDING WHERE INDICATED ON THE DRAWINGS.  
P. INSTALLATION, SOUND SYSTEM - NOT USED  
Q. INSTALLATION, COMPUTER CASH REGISTER SYSTEM - NOT USED

SECTION 16400  
SERVICE AND DISTRIBUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS  
A. REFER TO DRAWINGS AND CONTRACT FOR MATERIALS FURNISHED AND INSTALLED BY CONTRACTOR OR FURNISHED AND INSTALLED BY OWNER.

1.2 SCOPE OF WORK  
A. SECTION 16400 APPLIES TO ALL WORK HERE UNDER AND SHALL INCLUDE WORK REQUIRED FOR METERING, GROUND RODS, PANEL BOARDS, DISCONNECT SWITCHES AND RELATED MATERIALS.

PART 2 - PRODUCTS

2.1 SERVICE ENTRANCE  
A. CONTRACTOR SHALL VERIFY SERVICE VOLTAGE AND TYPE OF TERMINATION WITH LOCAL UTILITY COMPANY AND SHALL PROVIDE NECESSARY REVISIONS AND MODIFICATIONS REQUIRED. SERVICE TERMINATION'S MAY EITHER BE UNDERGROUND OR OVERHEAD DEPENDING ON THE UTILITY COMPANIES REQUIREMENT AND APPROVAL BY CONSTRUCTION MANAGER.  
B. CONTRACTOR SHALL PROVIDE NECESSARY METERING FACILITIES INCLUDING METER SOCKET, CURRENT TRANSFORMER CABINET, CONDUIT AND OTHER WORK FOR METERING REQUIRED BY THE LOCAL UTILITY COMPANY.  
C. DISCONNECT SWITCHES SHALL BE FURNISHED BY THE CONTRACTOR, UNLESS NOTED AS SUPPLIED BY OWNER. FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR UNLESS INDICATED OTHERWISE ON DRAWINGS. ALL DISCONNECT SWITCHES WILL BE NORMAL DUTY TYPE NEMA NO. FUSED UNLESS NOTED OTHERWISE. WAND WITH OPERATOR INTERLOCKED WITH THE DOOR SO DOOR CAN BE OPENED ONLY IN THE "OFF" POSITION.  
D. HVAC DISCONNECT SWITCHES SHALL BE FURNISHED BY THE CONTRACTOR, UNLESS NOTED AS SUPPLIED BY OWNER. FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR UNLESS INDICATED OTHERWISE ON DRAWINGS. ALL DISCONNECT SWITCHES WILL BE NORMAL DUTY TYPE NEMA NO. FUSED UNLESS NOTED OTHERWISE. WAND WITH OPERATOR INTERLOCKED WITH THE DOOR SO DOOR CAN BE OPENED ONLY IN THE "OFF" POSITION.

2.2 UTILITY COMPANY METERING  
A. CONTRACTOR SHALL PROVIDE NECESSARY METERING FACILITIES INCLUDING METER SOCKET, CURRENT TRANSFORMER CABINET, CONDUIT AND OTHER WORK FOR METERING REQUIRED BY THE LOCAL UTILITY COMPANY.

2.3 GROUNDING  
A. ALL EXPOSED NON CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAY SYSTEMS, GROUNDING CONDUCTOR IN RACEWAYS AND NEUTRAL CONDUCTOR OF THE WIRING SYSTEM SHALL BE GROUNDED. THE GROUND CONNECTION SHALL EXTEND TO THE POINT OF ENTRANCE OF THE METALLIC WATER SERVICE. SHALL BE GROUNDED AS DESCRIBED BY NFPA 70 WHERE THERE ARE NO METALLIC WATER SERVICES TO THE BUILDINGS GROUND CONNECTIONS SHALL BE MADE TO DRIVEN GROUND RODS ON THE EXTERIOR OF THE BUILDING.  
B. GROUND RODS SHALL BE OF ZINC-COATED COPPER CLAD STEEL, NOT LESS THAN 3/4" IN DIAMETER, 8' LONG DRIVEN FULL LENGTH INTO THE EARTH. THE MAXIMUM RESISTANCE OF A DRIVEN GROUND ROD SHALL NOT EXCEED 25 OHMS UNDER NORMALLY DRY CONDITIONS. IF THIS RESISTANCE CANNOT BE OBTAINED WITH A SIGNAL ROD, ADDITIONAL RODS MAY BE COUPLED AND DRIVEN WITH THE FIRST ROD.  
C. GROUND RODS SHALL BE OF ZINC-COATED COPPER CLAD STEEL, NOT LESS THAN 3/4" IN DIAMETER, 8' LONG DRIVEN FULL LENGTH INTO THE EARTH. THE MAXIMUM RESISTANCE OF A DRIVEN GROUND ROD SHALL NOT EXCEED 25 OHMS UNDER NORMALLY DRY CONDITIONS. IF THIS RESISTANCE CANNOT BE OBTAINED WITH A SIGNAL ROD, ADDITIONAL RODS MAY BE COUPLED AND DRIVEN WITH THE FIRST ROD.

2.4 PANELBOARDS  
A. BRANCH PANELBOARDS WILL BE FURNISHED TO THE CONTRACTOR, UNLESS NOTED AS SUPPLIED BY OWNER, FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR UNLESS INDICATED OTHERWISE ON DRAWINGS. THEY WILL BE UNASSEMBLED BOLT ON CIRCUIT BREAKER TYPE, MINIMUM OF 14" WIDE AND 5 3/4" DEEP. RECESSED OR SURFACE MOUNTED AS INDICATED. PROVIDE TYPED CIRCUIT DIRECTORY ON INSIDE DOOR PROTECTED WITH CLEAR PLASTIC SHIELD IN A CARDHOLDER CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC FULL SIZE, COMMON TRIP ON 2 AND 3 POLE WITH TRIP FREE HANDLES, RATED NOT LESS THAN 10,000 RMS AMPERES.  
B. BRANCH PANELBOARDS WILL BE FURNISHED TO THE CONTRACTOR, UNLESS NOTED AS SUPPLIED BY OWNER, FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR UNLESS INDICATED OTHERWISE ON DRAWINGS. THEY WILL BE UNASSEMBLED BOLT ON CIRCUIT BREAKER TYPE, MINIMUM OF 14" WIDE AND 5 3/4" DEEP. RECESSED OR SURFACE MOUNTED AS INDICATED. PROVIDE TYPED CIRCUIT DIRECTORY ON INSIDE DOOR PROTECTED WITH CLEAR PLASTIC SHIELD IN A CARDHOLDER CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC FULL SIZE, COMMON TRIP ON 2 AND 3 POLE WITH TRIP FREE HANDLES, RATED NOT LESS THAN 10,000 RMS AMPERES.

2.5 DISCONNECT SWITCHES  
A. HVAC DISCONNECT SWITCHES SHALL BE FURNISHED BY THE CONTRACTOR, UNLESS NOTED AS SUPPLIED BY OWNER. FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR UNLESS INDICATED OTHERWISE ON DRAWINGS. ALL DISCONNECT SWITCHES WILL BE NORMAL DUTY TYPE NEMA NO. FUSED UNLESS NOTED OTHERWISE. WAND WITH OPERATOR INTERLOCKED WITH THE DOOR SO DOOR CAN BE OPENED ONLY IN THE "OFF" POSITION.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL  
A. PANELBOARDS SHALL BE INSTALLED AT HEIGHT INDICATED. DISCONNECT SWITCHES SHALL BE INSTALLED 4'-0" ABOVE FINISHED FLOOR WHERE POSSIBLE. ALL CABINETS SHALL BE VACUUM CLEANED BEFORE PULLING WIRE.

END OF SECTION



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NO.	DATE

**SUBWAY**  
**SUITE B**  
**8960 FLETCHER PKWY**  
**LA MESA, CA 91942**

THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS A "WET STAMP & SIGNATURE" FROM BOTH THE ENGINEER OF RECORD AND A APPROVAL STAMP WITH A "WET STAMP & SIGNATURE" FROM THE LOCAL GOVERNING AGENCY ARE PRESENT.

DWG. BY	J.P.
CHK'D BY	
DATE	7/30/2010
JOB NO.	6190
FILE NO.	619022

EXP. 12/31/10

SHEET  
**E-1**