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### ELECTRICAL SYMBOLS

NOT ALL SYMBOLS ARE NECESSARILY USED ON DRAWINGS. ALL MOUNTING HEIGHTS ARE TO BE FROM THE CENTER OF THE DEVICE, UNLESS NOTED OTHERWISE.

#### LIGHTING FIXTURES

**D LP-21g**

**●** HIGH BAY LIGHT

**○** PENDANT LIGHT

**○** REMOTE EMERGENCY HEAD

**□** EXTERIOR WALL PACK

**□** POLE MOUNTED SITE LIGHT

**—** 4' LINEAR LIGHT WITH EMERGENCY BATTERY BACKUP

**⏏** EMERGENCY LIGHT WITH BATTERY BACK-UP

**⏏** EXIT SIGN WITH EMERGENCY BATTERY BACKUP (HATCH INDICATES ILLUMINATED FACE. DIRECTIONAL ARROWS ON SIGN AS INDICATED)

#### SWITCHES

**⏏** SINGLE-POLE SWITCH (MOUNTED AT 48" AFF) (LOWER CASE LETTER INDICATES SWITCHING)

**⏏-PL** SINGLE-POLE SWITCH WITH PILOT LIGHT (MOUNTED AT 48" AFF)

**⏏-3** 3-WAY SWITCH (MOUNTED AT 48" AFF)

**⏏-OC** OCCUPANCY SENSOR SWITCH

**⏏-M** SINGLE-POLE, MOTOR-RATED SWITCH

**⏏-2** 2-POLE, MOTOR-RATED SWITCH

#### POWER AND CONTROL

**⏏** TRANSFORMER

**⏏** PANEL

**⏏** MOTOR

**⏏** DISCONNECT SWITCH (NON-FUSED EXCEPT AS NOTED)

**⏏** COMBINATION STARTER DISCONNECT SWITCH

#### MISCELLANEOUS

**⊙** JUNCTION BOX

**⊙** EXTERIOR PHOTOCELL

**n⊙** CEILING MOUNTED OCCUPANCY SENSOR (LOWER CASE LETTER INDICATES SWITCHING)

**n⊙** CORNER MOUNTED OCCUPANCY SENSOR (LOWER CASE LETTER INDICATES SWITCHING)

**■** PUSH BUTTON STATION (MOUNTING HEIGHT 48" AFF)

**▲** TELEPHONE OUTLET BOX, WALL-TYPE WITH 3/4" CONDUIT STUBBED UP IN WALL AND TURNED OUT IN CEILING AREA WITH INSULATED BUSHING. (MOUNTING HEIGHT 18" AFF)

**▲** TELEPHONE DATA TERMINAL BOX, WALL-TYPE WITH 3/4" CONDUIT STUBBED UP IN WALL AND TURNED OUT IN CEILING AREA WITH INSULATED BUSHING. (MOUNTING HEIGHT 18" AFF)

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**EF 1** MECHANICAL EQUIPMENT TAG (UPPER HALF INDICATES EQUIPMENT TYPE, BOTTOM HALF INDICATES EQUIPMENT NUMBER) \*REFER TO MECHANICAL SCHEDULES ON SHEET M3.

**XX** EQUIPMENT TAG \*REFER TO EQUIPMENT SCHEDULE ON SHEET E2.

#### RECEPTACLES\*

**⊙** SINGLE RECEPTACLE (GROUND TYPE)

**⊙** DUPLEX RECEPTACLE (GROUND TYPE)

**⊙** DUPLEX RECEPTACLE IG

**⊙** DUPLEX RECEPTACLE GFCI

**⊙** QUAD RECEPTACLE

**⊙** QUAD RECEPTACLE IG

**⊙** QUAD RECEPTACLE GFCI

**⊙** SPECIAL RECEPTACLE (AS NOTED)

\*REFERENCE SHEET E2 FOR SPECIFIC ROOM MOUNTING HEIGHT REQUIREMENTS.

ELECTRICAL ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	GFCI	GROUND FAULT INTERRUPTER
BFC	BELOW FINISHED CEILING	IC	INTERRUPTING CAPACITY
C	CONDUIT	IG	ISOLATED GROUND
CB	CIRCUIT BREAKER	MTD	MOUNT OR MOUNTED
CLG	CEILING	NC (N.C.)	NORMALLY CLOSED
EC	EMPTY CONDUIT	NF	NON FUSED
EOL	END OF LINE	NIC	NOT IN CONTRACT
EWL	ELECTRIC WATER COOLER	NL	NIGHT LIGHT
(G)	GROUND (EQUIPMENT)	NO (N.O.)	NORMALLY OPEN
SW	SWITCH	TR	TAMPER RESISTANT
TYP	TYPICAL	UF	UNDER FLOOR
UG	UNDERGROUND	UG	UNDERGROUND
UNO (U.N.O.)	UNLESS NOTED OTHERWISE	WG	WIRE GUARD
WP	WEATHERPROOF	XFMR	TRANSFORMER

LIGHT FIXTURE SCHEDULE									
FIXTURE TAG	MANUFACTURER	MODEL #	LAMP	VOLTAGE	INSTALLATION	DESCRIPTION	WATTS	QUANTITY	NOTES
A	ALCON	12304	LED BULB 50W PAR20 EQUIV	120V	80" AFF TO BOTTOM	LED PENDANT	9	7	7
D	CREE	LS4C-40L-39K-10V	LED	120V	CEILING AND SUSPENDED	4' LINEAR LED FIXTURE	34	36	3.6
DE	CREE	LS4C-40L-39K-10V-EB14	LED	120V	CEILING AND SUSPENDED	4' LINEAR LED FIXTURE WITH EMERGENCY BACKUP	34	10	3.6
E	CREE	E-XML1W	LED	120V	SEE NOTES	EMERGENCY LIGHTING UNIT	1.8	10	1
EA	CREE	E-XHL2WW	LED	120V	SEE NOTES	EMERGENCY EXTERIOR REMOTE HEADS	2	3	2
F	CREE	KBL-A-JV-M-40K-8-UL-10V-AP-L1515A C-XBA16N-WG-A	LED	120V	13'-0" AFF	HIGH BAY LED LIGHTING FIXTURE	142	21	3
K	PROVIDED BY OWNER	FIRESTONE REEL CORD LIGHT	INTEGRAL LED	120V	SUSPEND	PROVIDED BY OWNER	5	8	5
N	CREE	XSPW-B-WM-3ME-2L-57K-LL	LED	120V	SEE ARCH ELEVATIONS	EXTERIOR LED WALL PACK	19	12	7
X	CREE	E-XCL2RRCW	LED	120V	SEE NOTES	EXIT SIGN WITH REMOTE CAPABILITY (SEE TYPE)	3.4	7	4

- NOTES:**
- FIXTURE IS TO BE INSTALLED ON WALL OR PENDANT MOUNTED FROM CONDUIT ON CEILING, MINIMUM OF 12" BELOW CEILING.
  - REMOTE HEAD WALL MINIMUM OF 12" ABOVE DOOR JAMB CONNECTED TO BATTERY SIDE OF EXIT LIGHT.
  - INSTALL LIGHTS AT 13'-0" AFF IN THE FOLLOWING AREAS (UNLESS NOTED OTHERWISE): SERVICE BAY.
  - INSTALL ON WALL 6" ABOVE DOOR OR SURFACE MOUNT ON CEILING AS APPLICABLE.
  - COORDINATE EXACT FIXTURE PLACEMENT WITH ARCHITECTURAL DRAWINGS.
  - INSTALL LIGHTS AT 8'-0" AFF IN THE FOLLOWING AREAS: UTILITY AREA, SHOP TOILET AND OFFICE TOILET. INSTALL LIGHTS AT STRUCTURE LEVEL IN THE FOLLOWING AREAS: INVENTORY.
  - INSTALL LIGHTS AT 10'-0" AFF IN THE FOLLOWING AREAS: CUSTOMER SHOW ROOM, OFFICE.
  - REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.

#### LIGHTING GENERAL NOTES

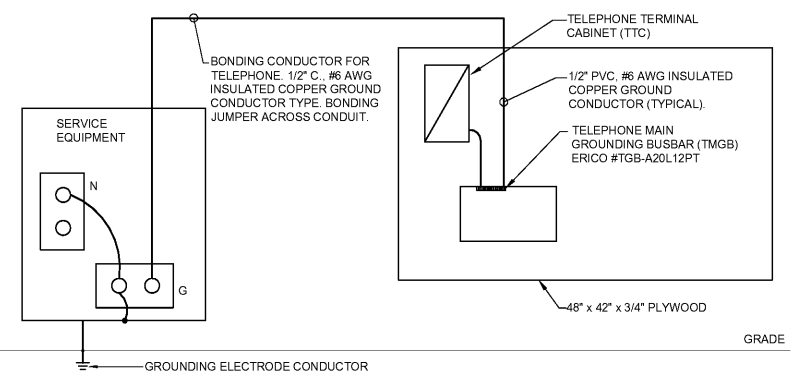
- ALL LIGHTING FIXTURES SHALL BE RATED FOR BUILDING SYSTEM VOLTAGE. CONTRACTOR MUST VERIFY ALL LOCATIONS. CONTRACTOR SHALL FURNISH AND INSTALL EACH LIGHTING FIXTURE COMPLETE WITH PLASTER FRAME AND ALL OTHER INSTALLATION AND HANGING HARDWARE AS REQUIRED FOR COMPLETE AND FINISHED INSTALLATION AT EACH FIXTURE LOCATION.
- VERIFY AND COORDINATE ALL LIGHTING FIXTURE CATALOG NUMBERS AND SPECIFICATIONS WITH THE INTENT OF FIXTURE DESCRIPTIONS LISTED, AND VERIFY FIXTURE QUANTITIES. FIXTURE QUANTITIES SHOWN ARE FOR INFORMATION ONLY. ANY DISCREPANCY SHALL BE REPORTED IN WRITING TO THE ARCHITECT PRIOR TO INSTALLATION.
- ALL FIXTURES SHALL BE "U.L." LABELED. ALL LIGHTING FIXTURES EXPOSED TO WEATHER OR MOISTURE SHALL BEAR U.L. "WET LOCATION" LABEL, AND LIGHTING FIXTURES EXPOSED TO DAMPNESS SHALL BEAR U.L. "DAMP LOCATION" LABEL.
- ALL EXIT SIGNS SHALL BE INSTALLED COMPLETE WITH ALL INSTALLATION AND HANGING ACCESSORIES TO PROVIDE AN UNOBSTRUCTED VIEW OF EACH SIGN FACE AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND LOCATION OF ALL EXIT SIGNS WITH LOCAL AUTHORITIES. MOUNT SIGNS AT MAXIMUM 8'-0". EXIT SIGNS WILL BE ADJUSTED AS NECESSARY WITHOUT ADDITIONAL COST.
- REFER TO APPLICABLE SECTIONS OF THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR LIGHTING FIXTURES.
- ALL EXIT SIGNS AND BATTERY EMERGENCY UNITS MUST BE APPROVED BY LOCAL CODE, AND MAINTAIN A MINIMUM OF 90 MINUTES OF CONTINUOUS ILLUMINATION, AND SHALL PROVIDE A MINIMUM OF 1 FOOT-CANDLE AT THE WALKING SURFACE LEVEL IN SPACES THAT REQUIRE TWO OR MORE MEANS OF EGRESS. THE CONTRACTOR WILL FURNISH AND INSTALL ANY ADDITIONAL EMERGENCY UNITS AS REQUESTED BY THE LOCAL AUTHORITY HAVING JURISDICTION AT THE FINAL INSPECTION ANY ADDITIONAL COST TO BE APPROVED BY THE OWNER.
- FIELD ADJUST AIMING PATTERN OF EXTERIOR LIGHTS AT NIGHT SESSION. OWNER AND ARCHITECT TO DETERMINE TIME AND DATE.
- ALL WALL WASH LIGHTING TO BE ON SEPARATE SWITCHES.

#### GENERAL ELECTRICAL NOTES

- THESE GENERAL NOTES APPLY TO ALL WORK IN THIS PROJECT, AND THE WORD "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
- REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
  - NOTES ON DRAWINGS MAY APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
  - THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE A.D.A.A.G. (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
  - WHERE SEVERAL DEVICES ARE GANGED TOGETHER, THE COVER PLATE SHALL BE OF THE GANGED STYLE FOR THE NUMBER OF DEVICES USED.
  - CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL.
  - BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITH OUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
  - VERIFY TOTAL CONNECTED LOADS AND HORSE POWER WITH OTHER TRADES CONTRACTORS PRIOR TO WIRING OF ALL EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES OR FEEDER SIZE PER LOCAL ELECTRICAL CODE.
  - COORDINATE THE LOCATION OF ALL DETECTORS WITH LIGHT FIXTURES, AND CEILING DIFFUSERS.
  - ALL TEMPERATURE CONTROL WIRING AND CONDUIT SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL ADJUST CONDUIT ROUTING TO NOT INTERFERE WITH ANY HANGING SIGNS OR BOARDS. COORDINATE ALL CONDUIT LOCATIONS WITH THE "F" DRAWING PRIOR TO ROUGH-IN TO ENSURE NO ENCRoACHMENT OF CONDUIT OR DEVICE WITH SIGNS OR BOARDS.
  - VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
  - FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF AN HVAC DIFFUSER (SUPPLY OR RETURN), IN A DIRECT AIR FLOW OR WITHIN 36" OF A SPRINKLER HEAD.
  - THE COLOR OF ALL ISOLATED GROUND RECEPTACLES AND COVER PLATES SHALL MATCH THOSE OF OTHER DEVICES ON THE JOB.
  - ROUTE ALL CONDUITS CONCEALED ABOVE LAY-IN CEILING. ONLY IN SERVICE BAY AREA, AND INVENTORY AREA CONDUIT SHOULD BE ROUTED 1-1/2" AWAY OR AS TIGHT AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE. IN A CLEAN AND ORDERLY MANNER. ROUTE CONDUIT AND UNISTRUT TIGHT TO BOTTOM OF STRUCTURE. IN A CLEAN AND ORDERLY MANNER. ABSOLUTELY NO CONDUITS ARE TO BE ROUTED UNDER OR IN THE BUILDING SLAB. SEE ARCHITECTURAL PLANS FOR LOCATION OF ACCESS PANELS IN CEILING.
  - ALL ELECTRICAL WORK AND MATERIALS SHALL COMPLY WITH LATEST "N.E.C." AND ALL LOCAL CODES AND ORDINANCE. IN CASE OF CONFLICT AMONG REQUIREMENTS THE MORE RESTRICTING SHALL APPLY. ALL WORKING CLEARANCES AROUND THE PANELS SHALL CONFORM TO NEC ARTICLE 110 WHICH INCLUDES ALL TRADES. CONTRACTOR MAY USE PULL BOXES, WIREWAYS ETC. AS NECESSARY TO MANAGE CONDUIT ROUTING CLEAR OF THE WORK SPACE AS DEFINED BY THE NEC. THIS SHALL BE CONSIDERED "MEANS AND METHODS".

#### NOTES:

- INSULATED #6 AWG IN 1/2" C. ROUTED OVERHEAD.
- INCLUDE NONMETALLIC LABEL "WARNING IF THIS CONNECTOR ON CABLE IS LOOSE OR MUST BE REMOVED PLEASE CALL THE BUILDING MANAGER." AT ALL GROUND BARS.
- RUN CONDUCTOR FROM GROUND TO TELEPHONE TERMINAL CABINET.
- ALL CONNECTORS TO GROUND BARS SHALL BE 2 HOLE COMPRESSION TYPE.
- GROUNDING BARS SHALL BE ELECTROLYTIC COPPER, MOUNTED ON FIBERGLASS INSULATORS, AND NEMA BOLT HOLE SIZING AND SPACING.
- ALL BONDING CONDUCTORS SHALL BE CONTINUOUS AND ROUTED IN THE SHORTEST POSSIBLE STRAIGHT LINE PATH.
- ROUTE INSULATED #6 AWG FROM EACH "TMGB" AND "TTC" TO NEAREST VERTICAL STRUCTURAL STEEL MEMBER AND CADWELD.
- ROUTE CONDUCTOR FROM "TMGB" AND "TTC" TO RELAY RACK IN IT CLOSET AND CADWELD TO RACK.
- ALL TELEPHONE CLOSETS WITH MULTIPLE WIRE MANAGEMENT RACKS WILL HAVE BONDING JUMPER INSTALLED.

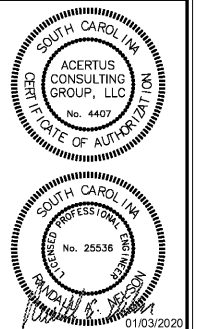


**1 E3 TELEPHONE GROUNDING DETAIL AND NOTES**  
 SCALE: NONE



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