ELECTRICAL SYMBOLS LIST

- ⇒3 DUPLEX CONVENIENCE OUTLET, +18" A.F.F. U.O.N., NUMBER DENOTES CIRCUIT, (EXAMPLE 3).
- SIMPLEX CONVENIENCE OUTLET, +18" A.F.F. U.O.N., NUMBER DENOTES CIRCUIT, (EXAMPLE 2).
- GFI GFI DENOTES GROUNG FAULT INTERUPTING.
- ⇒IG IG DENOTES ISOLATED GROUND.
- R DENOTES DEVICE TO BE REMOVED.
- SPECIAL RECEPTACLE OUTLET CONFIGURATION.
- DOUBLE DUPLEX RECEPTACLE OUTLET.
- JUNCTION BOX, NUMBER DENOTES CIRCUIT (EXAMPLE 1)
- JUNCTION BOX WITH BLANK COVER PLATE +18" A.F.F U.O.N., PROVIDE PLASTER RING AND PULL STRING TO ACCESSIBLE CEILING SPACE.
- COMBINATION FIRE RATED POWER/TELEPHONE/DATA OUTLET.
- TELEPHONE OUTLET, +18" A.F.F. U.O.N. INSTALL 4" SQUARE EXTRA DEEP BOX WITH SINGLE GANG RAISED COVER (MUD RING) AND 3/4" C. STUBBED INTO ACCESSIBLE CEILING SPACE. IN CEILING PLENUM, THE CONDUIT SHALL BE FURNISHED WITH A PROTECTIVE BUSHING AND PULL STRING. PROVIDE ONE DEDICATED CONDUIT PER OUTLET. FURNISH AND INSTALL TWO (2) PHONE CABLE AND JACK.
- TELEPHONE OUTLET, WALL
 MOUNTED +46" A.F.F. U.O.N. INSTALL 4" SQUARE EXTRA
 DEEP BOX WITH SINGLE GANG RAISED COVER (MUD RING)
 AND 3/4" C. STUBBED INTO ACCESSIBLE CEILING SPACE. IN
 CEILING PLENUM, THE CONDUIT SHALL BE FURNISHED WITH A
 PROTECTIVE BUSHING AND PULL STRING. PROVIDE ONE
 DEDICATED CONDUIT PER OUTLET. FURNISH AND INSTALL
 TWO (2) PHONE CABLE AND JACK.
- COMBINATION TELEPHONE/DATA
 OUTLET, +18" A.F.F. U.O.N. INSTALL 4" SQUARE EXTRA DEEP
 BOX WITH SINGLE GANG RAISED COVER (MUD RING) AND
 3/4" C. STUBBED INTO ACCESSIBLE CEILING SPACE. IN
 CEILING PLENUM, THE CONDUIT SHALL BE FURNISHED WITH A
 PROTECTIVE BUSHING AND PULL STRING. PROVIDE ONE
 DEDICATED CONDUIT PER OUTLET. FURNISH AND INSTALL
 TWO (2) DATA CABLE/JACK AND TWO (2) PHONE
 CABLE/JACK.
- EXTERIOR DATA CABLE SERVICE, +18" A.F.F. U.O.N. PROVIDE DEDICATED CONDUIT, DATA CABLE AND JACK AS INDICATED, REFER TO ELECTRICAL NUMBERED NOTES.
- WAP

 WIRELESS ACCESS POINT AT CEILING. PROVIDE 20' OF
 COILED COMMUNICATION CABLE WITH RJ-45 TERMINATION
 ABOVE CEILING. OWNER TO FURNISH WIRELESS DEVICE.
- OUTLET FOR CABLE
 TV, +18" A.F.F. U.O.N. INSTALL 4" SQUARE EXTRA DEEP BOX
 WITH SINGLE GANG RAISED COVER (MUD RING) AND 3/4" C.
 STUBBED INTO ACCESSIBLE CEILING SPACE. IN CEILING
 PLENUM, THE CONDUIT SHALL BE FURNISHED WITH A
 PROTECTIVE BUSHING AND PULL STRING. PROVIDE ONE
- PROTECTIVE BUSHING AND PULL STRING. PROVIDE ONE DEDICATED CONDUIT PER OUTLET. FURNISH AND INSTALL ONE (1) CABLE TV COAX CABLE AND JACK. PROVIDE COAX CABLE WITH HDTV TRANSMISSION CAPABILITY.
- FIRE ALARM MANUAL PULL STATION, +46" A.F.F. U.O.N.

FIRE ALARM CONTROL PANEL.

- INTERFACE TO BASE BUILDING FIRE ALARM SYSTEM.
- ADA APPROVED STROBE LIGHT. MATCH BUILDING STANDARD.

 MOUNT BOTTOM OF DEVICE AT 80" A.F.F. INTERCONNECT TO
 BASE BUILDING FIRE ALARM SYSTEM. VERIFY CAPACITY OF
 POWER SUPPLY. PROVIDE NEW POWER SUPPLY AS
 REQUIRED.
- ADA APPROVED STROBE LIGHT WITH SPEAKER. MATCH BUILDING STANDARD. MOUNT BOTTOM OF DEVICE AT 80" A.F.F. INTERCONNECT TO BASE BUILDING FIRE ALARM SYSTEM. VERIFY CAPACITY OF POWER SUPPLY. PROVIDE NEW POWER SUPPLY AS REQUIRED.

- DISCONNECT SWITCH, FUSED.
- DISCONNECT SWITCH, NON-FUSED.
- COMBINATION STARTER, FUSED.
- COMBINATION STARTER, NON-FUSED.
 - MANUAL MOTOR STARTER WITH THERMAL OVERLOAD.
- ELECTRIC MOTOR, NEC, MAKE CONNECTIONS ONLY. NUMBER DENOTES CIRCUIT. (EXAMPLE: 2)
- PANELBOARD, SURACE MOUNTED.
- PANELBOARD, RECESSED MOUNTED.
- CONDUIT HOMERUN, CONTINUOUS RUN TO PANEL OR EQUIPMENT CABINET.
- CROSSMARKS ON BRANCH CIRCUIT CONDUIT RUNS INDICATE THE QUANTITY OF CONDUCTORS, EXCEPT NO CROSSMARKS INDICATE TWO #12 AWG CONDUCTORS.
 - LONG CROSSMARKS INDICATE PHASE CONDUCTORS AND SHORT CROSSMARKS WITHOUT DESIGNATION ARE NEUTRAL CONDUCTORS. SHORT CROSSMARKS WITH "G" ARE SEPARATE EQUIPMENT GROUNDING CONDUCTORS.
 - ALL CONDUCTORS SHALL BE #12 AWG U.O.N.
 - ALL PVC CONDUITS SHOULD HAVE SEPARATE GROUNDING CONDUCTOR.
- FLEXIBLE METALLIC CONDUIT.
- HE EMERGENCY POWER OFF PUSHBUTTON WITH LIFT COVER +46" A.F.F. U.O.N.
 - SINGLE POLE TOGGLE OR MOMENTARY CONTACT SWITCH, +46" A.F.F. U.O.N. "a" INDICATES FIXTURES SWITCHED. ALSO USED IN LOW VOLTAGE SWITCHING TO CONTROL REMOTE CONTACTOR OR IN DIRECT LINE VOLTAGE SWITCHING.
- S3 THREE-WAY TOGGLE SWITCH, +46" A.F.F. U.O.N.
- SD WALL BOX DIMMER SWITCH, +46" A.F.F. U.O.N.
 - LED FIXTURE. LOWER CASE LETTER INDICATES CONTROLLING SWITCH, "a". UPPER CASE LETTER INDICATES FIXTURE TYPE, i.e. "B". NUMERAL INDICATES PANEL CIRCUIT NUMBER, i.e. "3". SWITCH, FIXTURE TYPE, AND CIRCUIT NUMBERS ARE TYPICAL FOR ALL LIGHTING FIXTURES. WHERE TWO SWITCHING DESIGNATIONS ARE SHOWN CIRUCIT ONE LAMP OF TWO LAMP FIXTURES AND OUTER LAMPS OF 3 AND 4 LAMP FIXTURES TO THE FIRST SWITCHING DESIGNATION SHOWN. AND THE REMAINING LAMP(S) TO THE SECOND DESIGNATION SHOWN.
- ⊨ LED FIXTURE.
 - LED, INCANDESCENT, FLUORESCENT OR H. I. D. FIXTURE.
 - LED, INCANDESCENT, FLUORESCENT OR H. I. D. FIXTURE, WALL MOUNTED.
- LED, INCANDESCENT, FLUORESCENT OR H. I. D. SCONCE.
- LED, INCANDESCENT, FLUORESCENT OR H. I. D. WALL WASHER.
- SINGLE FACE EXIT FIXTURE, CEILING OR WALL MOUNTED, PROVIDE DIRECTIONAL ARROW IF SHOWN. BRACKET DENOTES WALL MOUNTING. MOUNT FIXTURE FACE PARALLEL TO ADJACENT DOOR WHERE APPLICABLE.
- DOUBLE FACE EXIT FIXTURE, CEILING OR WALL MOUNTED, PROVIDE DIRECTIONAL ARROWS AS SHOWN. BRACKET DENOTES WALL MOUNTING. MOUNT FIXTURE FACE PERPENDICULAR TO ADJACENT DOOR WHERE APPLICABLE.
- NUMBERED NOTE: REFER TO SHEET CONTAINING NUMBERED NOTES.
- (H) HEAT DETECTOR, INTERCONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- SMOKE DETECTOR, INTERCONNECT TO BASE BUILDING FIRE ALARM SYSTEM.
- SOUND SYSTEM OR VOICE ALARM/PAGING SPEAKER. INTERFACE WITH FIRE ALARM SYSTEM.

ELECTRICAL GENERAL NOTES

- 1. THE SPACE ALLOCATION SHOWN ON THE PLAN DRAWINGS ARE BASED ON ONLY ONE MANUFACTURER. THE CONTRACTOR SHALL VERIFY THAT THE PROPOSED SWITCHGEAR (INCLUDING SWITCHBOARDS, PANELBOARDS AND TRANSFORMERS) WILL SATISFY THE SPACE REQUIREMENTS SHOWN ON THE DRAWINGS.
- 2. WHERE CEILING SPACE IS A RETURN AIR PLENUM, ALL WIRING IN CEILING SPACE MUST BE IN CONDUIT OR USE TEFLON JACKETED CABLE TO MEET RETURN AIR PLENUM REQUIREMENTS.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR SURVEYING THE SITE TO DETERMINE ALL EXISTING CONDITIONS RELATED TO THE NEW CONSTRUCTION.
- 4. SURFACE MOUNTED PANELS, DEVICES, AND RACEWAY WILL ONLY BE ALLOWED IN MECHANICAL AREAS.
- 5. COMBINATION OF HOMERUN CIRCUITS SHALL BE AS FOLLOWS:
- A. ALL CIRCUITS WITH SEPARATE HOMERUN ARROWS SHALL BE INSTALLED IN DEDICATED CONDUITS. DO NOT COMBINE WITH OTHER BRANCH CIRCUITS.
- B. ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO PANEL.
- C. A MAXIMUM OF SIX 20A BRANCH CIRCUIT PHASE CONDUCTORS IN COMMON HOMERUN.
- D. MINIMUM BRANCH CIRCUIT CONDUCTOR SHALL BE #12AWG, THHN.
- E. ALL 120V CIRCUITS SERVING NON-LIGHTING BRANCH CIRCUITS SHALL HAVE SEPARATE #12 AWG EQUIPMENT GROUNDING CONDUCTOR.
- 6. ELECTRICAL CONTRACTOR TO COORDINATE THE MOUNTING HEIGHTS OF ALL COMMUNICATION OUTLETS AND RECEPTACLES WITH ARCHITECTURAL DETAILS.
- 7. IN AREAS WHERE COMMUNICATION OUTLETS ARE INSTALLED IN WALLS THAT DO NOT GO UP TO THE CEILING OR IN WALLS OF ROOM WITH A GYPBOARD CEILING, CONTRACTOR SHALL INSTALL 3/4" CONDUIT FROM OUTLET TO ACCESSIBLE CEILING.
- 8. ALL 120V BRANCH CIRCUITS GREATER THAN 100' SHALL BE #10 THHN, MINIMUM.
- 9. CONTRACTOR SHALL INSTALL A PULL STRING IN ALL EMPTY CONDUITS.
- 10. CONTRACTOR SHALL MAINTAIN MINIMUM SEPARATION OF 24"
 BETWEEN TELEPHONE CONDUIT AND PRIMARY CONDUIT.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING STARTER TYPE, OVERLOAD SIZE, AND DISCONNECT SIZE FOR ALL MOTORS IN EACH AIR HANDLER UNIT ROOM WITH MECHANICAL CONTRACTOR.
- 12. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL FLOOR DEVICES. LOCATIONS SHALL BE IN ACCORDANCE WITH ALL UNDERWRITERS LABORATORIES AND LOCAL AUTHORITY REQUIREMENTS. IN NO CASE SHALL FIRE RATED POKE—THROUGH DEVICES BE INSTALLED LESS THAN 24" ON CENTER AND/OR MORE THAN ONE (1) PENETRATION PER 65 SQUARE FEET OF FLOOR AREA OF BEAM SPACE.
- 13. CONTRACTOR TO LOCATE ALL LIGHTING FIXTURES PER ARCHITECTURAL REFLECTED CEILING PLANS.
- 14. ALL DEVICES IN ONE ROOM SHALL BE INSTALLED AT THE SAME HEIGHT. REFER TO SYMBOLS LIST FOR PREFERRED MOUNTING HEIGHTS OF DEVICES. MAXIMUM MOUNTING HEIGHT OF SWITCHES/OUTLETS SHALL BE 48". MAXIMUM MOUNTING HEIGHT OF RECEPTACLES/OUTLETS SHALL BE 18", MINIMUM MOUNTING HEIGHT SHALL BE 14".

ELECTRICAL DEMOLITION NOTES

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING ELECTRICAL SERVICE TO ALL REMAINING AREAS OF THE FACILITY THROUGHOUT THE PROJECT EXCEPT DURING SCHEDULED SHUTDOWN TIMES. ANY SHUTDOWNS OF THE EXISTING FACILITY SHALL BE MUTUALLY AGREED UPON BY OWNER AND CONTRACTOR. CONTRACTOR SHALL GIVE OWNER MINIMUM OF TWO WEEKS NOTICE OF ANY SHUTDOWNS OF EXISTING FACILITY.
- 2. CONTRACTOR SHALL SURVEY THE SITE TO CONFIRM FIELD CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THESE CONDITIONS.
- 3. UNLESS OTHERWISE NOTED ALL EXISTING ELECTRICAL EQUIPMENT/DEVICES, FIRE ALARM EQUIPMENT/DEVICES, AND COMMUNICATIONS EQUIPMENT/DEVICES SHALL BE REMOVED. EQUIPMENT/DEVICES SHALL INCLUDED, BUT NOT BE LIMITED TO: SWITCH BOARDS, PANELBOARDS, FEEDERS, TRANSFORMERS, DISCONNECTS, ELECTRICAL OUTLETS, CONDUITS, JUNCTION BOXES, CONDUCTORS, LIGHT FIXTURES, FIRE ALARM CABLES, SMOKE DETECTORS, PULL STATIONS, HORNS, STROBES, COMMUNICATION CABLES, COMMUNICATION OUTLETS.
- ITEMS TO REMAIN SHALL INCLUDE:
- A. EXTERIOR "PERIOD" FIXTURES AND THEIR ASSOCIATED

 CONDUITS (REMOVE EXISTING EXTERIOR SURFACE MOUNTED HID

 FIXTURES AND SURFACE MOUNTED CONDUIT). CONTRACTOR SHALL
- PROVIDE A PULL STRING IN CONDUITS SERVING FIXTURES.

 B. EXISTING UNDERGROUND, IN-SLAB, AND SERVICE ENTRANCE CONDUITS.
- C. EXISTING COMMUNICATION (COPPER AND FIBER) SERVICE ENTRANCES.
- 4. CONTRACTOR TO COORDINATE DEMOLITION WITH OWNER.
- 5. CONTRACTOR SHALL COORDINATE WITH THE OWNER AS TO DISPOSITION OF ANY EXISTING SALVAGEABLE ELECTRICAL DEVICES, LIGHT FIXTURES, OR ELECTRICAL EQUIPMENT.
- 6. CONTRACTOR SHOULD NOT START ANY OF THE DEMOLITION UNTIL ALL EQUIPMENT AND DEVICES ARE REMOVED THAT THE OWNER WANTS TO SALVAGE.
- 7. CONTRACTOR SHOULD NOT BEGIN REMOVAL OF ANY OF THE TELEPHONE, DATA OR FIRE ALARM SYSTEMS UNTIL:
- A. OWNER HAS REMOVED TELEPHONE OR DATA DEVICES.
 B. CONTRACTOR HAS COORDINATED WITH OWNER THE DISPOSITION OF ALL TELEPHONE, DATA AND FIRE ALARM EQUIPMENT.
- 8. REFER TO THE ARCHITECTURAL DEMOLITION PLANS AND DIVISION 1 SPECIFICATION FOR FURTHER INFORMATION.
- 9. CONTRACTOR COORDINATE THE REUSE OF ANY EXISTING
 OUTLET/SWITCH BOXES IN WALLS SCHEDULED TO REMAIN. REFER TO
 THE ARCHITECTURAL DEMOLITION DOCUMENTS. CONTRACTOR SHALL
 REMOVE BRANCH CIRCUIT WIRING TO NEAREST ACCESSIBLE JUNCTION
- 10. CONTRACTOR SHALL DIRECTLY SUPERVISE THE WORK FROM BEGINNING TO COMPLETION.
- 11. ALL EXISTING FLOOR OUTLETS SHALL BE REMOVED AND THE SLAB PENETRATION SHALL BE REPAIRED TO RESTORE ORIGINAL FIRE RESISTANCE AND STRUCTURAL INTEGRITY.



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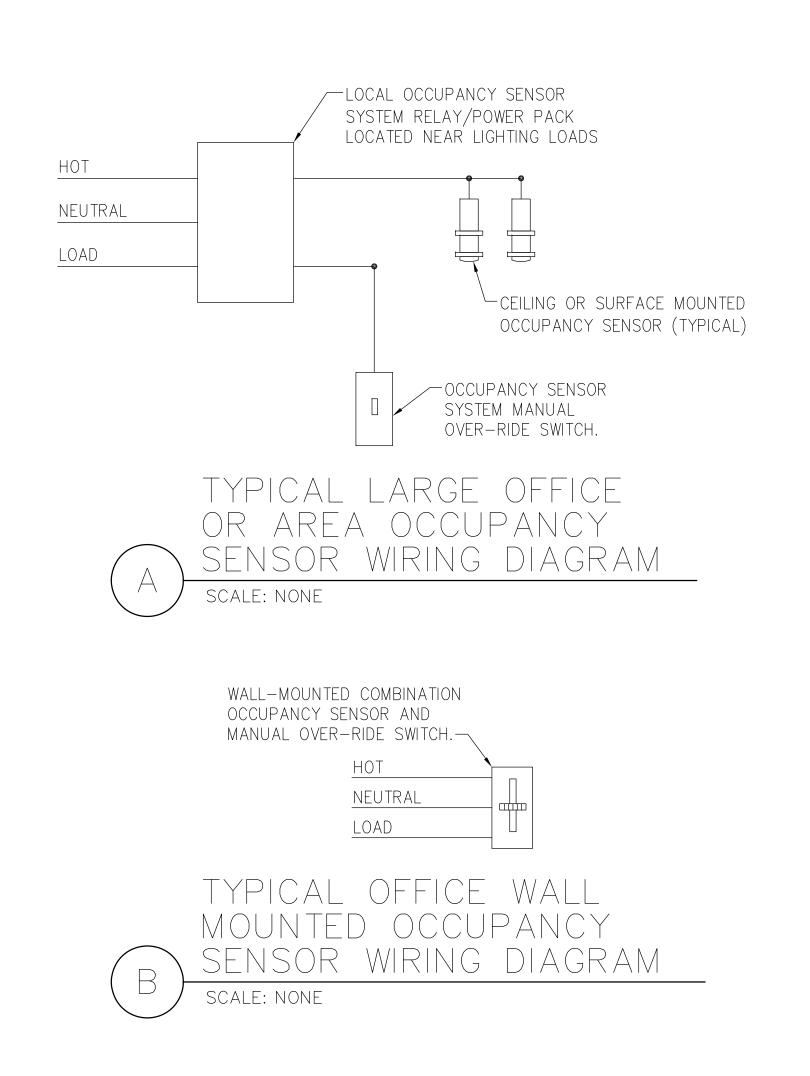
. Description

SHEET TITLE
SYMBOLS LIST,
GENERAL NOTES

OWNER REVIEW SET

E001

1/8" = 1'-0"



ELECTRICAL NUMBERED NOTES

FIXTURE SCHEDULE

TYPE MANUFACTURER & LAMP QUANTITY/TYPE DESCRIPTION

MANUFACTURER

MANUFACTURER



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No. Description Date

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