

DIVISION 16

ELECTRICAL GENERAL SPECIFICATION NOTES

- 1. CONTRACTOR RESPONSIBILITY: THE ELECTRICAL NOTES, SPECIFICATIONS, AND PLANS (THE DOCUMENTS) ACCRUE THE RESPONSIBILITIES AND RESPONSIBILITIES OF THE ELECTRICAL CONTRACTOR. UNLESS NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK OF AN ELECTRICAL NATURE. THE TERM "PROVIDE" USED IN THESE DOCUMENTS SHALL BE DEFINED AS "FURNISH AND INSTALL."
- 2. COMPLETE SYSTEMS: PROVIDE LABOR, MATERIALS, EQUIPMENT, AND TRANSPORTATION TO RECEIVE, INSTALL, ADJUST AND PUT INTO OPERATION COMPLETE ELECTRICAL SYSTEMS IN ACCORDANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS. PROVIDE PRODUCTS NOT MENTIONED BUT OBVIOUSLY NECESSARY AND INCIDENTAL TO THE COMPLETION OF THIS WORK.
- 3. SCOPE: WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: ELECTRICAL WORK AS REQUIRED FOR COORDINATION, POWER DISTRIBUTION AND LIGHTING.
- 4. UTILITIES: COORDINATE WITH ALL BUILDING SERVICES AS REQUIRED. NOTIFY OWNER OF COMMENCEMENT OF WORK. MAKE ALL ARRANGEMENTS FOR TEMPORARY SERVICES. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLY WITH ALL OWNER REGULATIONS AND REQUIREMENTS.
- 5. TEMPORARY POWER: THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND UPON COMPLETION, REMOVE SYSTEM OF TEMPORARY LIGHTING AND POWER FOR THE USE OF ALL CONSTRUCTION TRADES AS NECESSARY. COORDINATE TEMPORARY POWER AND LIGHTING WITH BUILDING OWNER AND GENERAL CONTRACTOR.
- WRING SHALL BE PROVIDED FOR TEMPORARY USE DURING BUILDING CONSTRUCTION, INCLUDING GROUNDING AND FUSED MAIN CUT-OFF SWITCHES. TEMPORARY ELECTRIC LINES WITH BRANCH SWITCHES SHALL BE PROVIDED FOR LIGHTING AND FOR LAPS FOR ELECTRIC TOOLS, PUMPS AND OTHER TEMPORARY EQUIPMENT. ALL POWER OUTLETS SHALL BE GROUNDED TO AN EQUIPMENT WIRE IN AN APPROVED MANNER. ELECTRIC LINES SHALL BE EXTENDED TO POWER TOOLS WHICH CANNOT BE LOCATED WITHIN REACH OF EXTENSION CORDS.
- LIGHT BULBS SHALL BE PROVIDED IN SUFFICIENT QUANTITY TO LIGHT THE BUILDING FOR SAFETY PURPOSES. EXTENSION CORDS SHALL BE PROVIDED AS MAY BE ESSENTIAL TO THE PROPER EXECUTION OF THE WORK.
- TEMPORARY LIGHTING SHALL BE PROVIDED FOR ALL STAIRS AND OTHER LOCATIONS WHERE NEEDED FOR SAFETY OR THE PROPER EXECUTION OF THE WORK AND SHALL CONFORM TO ALL OSHA STANDARDS.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN TEMPORARY LIGHTING AND POWER SYSTEMS IN GOOD WORKING CONDITION, INCLUDING THE RELOCATION AND REINSTALLATION WHEN REQUIRED TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- PROVIDE GROUND FAULT PERSONNEL PROTECTION FOR ALL SINGLE PHASE, 15 AMPERE RECEPTACLES AND PORTABLE CORD CONNECTORS SHALL HAVE NEMA STANDARD LOCKING TYPE CONFIGURATIONS AND SHALL CONFORM TO ALL OSHA STANDARDS.
- 6. PERMITS: OBTAIN ALL NECESSARY PERMITS TO BEGIN AND CONTINUE WITH WORK. PAY ALL ASSOCIATED FEES FOR PERMITS AND OTHER MUNICIPAL AND GOVERNING REQUIREMENTS.
- 7. EXPERIENCE: ALL WORK DONE SHALL BE PERFORMED BY QUALIFIED ELECTRICIANS UNDER THE SUPERVISION AND DIRECTION OF A SUPERINTENDENT HAVING SUCCESSFUL EXPERIENCE INSTALLING AND SUPERVISING EQUIPMENT AND SYSTEMS OF SIMILAR TYPE AND SIZE AS INDICATED BY CONTRACT DOCUMENTS.
- 8. REGULATIONS: ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT RULES, REGULATIONS AND INDUSTRY STANDARDS OF THE NATIONAL ELECTRICAL CODE (NEC), UL, NEMA, NFPA 70A, NATIONAL ELECTRICAL SAFETY CODE, TIA/EIA, AND ANY LOCAL CODES, LAWS, OR ORDINANCES. IN THE EVENT THAT A DISCREPANCY IS FOUND IN THE CONTRACT DOCUMENTS, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- 9. COSTS AND CONDITIONS: LEARN AND BECOME FAMILIAR WITH ALL CONTRACT DOCUMENTS IN THEIR ENTIRETY. SURVEY THE PROJECT AND BECOME FAMILIAR WITH EXISTING CONDITIONS AND SCOPE OF WORK. ALL COSTS SUBMITTED SHALL BE BASED ON A THOROUGH KNOWLEDGE OF ALL WORK AND MATERIALS REQUIRED. ANY ADDITIONAL COSTS DUE TO FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 10. SPECIFICATIONS: BECOME FAMILIAR WITH ALL SPECIFICATIONS, INSTALLATION REQUIREMENTS, AND EQUIPMENT REQUIREMENTS PRIOR TO ANY EQUIPMENT PURCHASE OR INSTALLATION. REFERENCE SPECIFICATIONS FOR DEVICES, MATERIALS, AND WORKMANSHIP REQUIREMENTS. ADDITIONAL REQUIREMENTS ARE GIVEN IN THESE NOTES AND THE DRAWINGS. THERE SHALL BE NO DEVIATION FROM SPECIFICATIONS WITHOUT THE APPROVAL OF THE OWNER.
- 11. COORDINATION: COORDINATE WORK AND SCHEDULING WITH ALL OTHER TRADES. GIVE SPECIAL CONSIDERATION TO COORDINATING INSTALLATION OF LIGHTING, PLUMBING PIPING, AND DUCTWORK. COORDINATE WALL OUTLET LOCATIONS WITH MILLWORK. COORDINATE WALL SWITCHES WITH DOOR SWINGS. VERIFY EXACT LOCATION, COLOR, AND FINISH OF OUTLETS AND DEVICES WITH DESIGNATED OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- 12. PRODUCTS: ALL PRODUCTS SHALL BE NEW, UL APPROVED, AND OF A SPECIFICATION GRADE. PROVIDE THE STANDARD PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SPECIFIED PRODUCTS, UNLESS OTHERWISE REQUIRED BY DRAWINGS. ALL PRODUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH NATIONALLY RECOGNIZED AND ACCEPTED STANDARDS AND PROCEDURES. CONFORM WITH ALL MANUFACTURERS' REQUIREMENTS AND RECOMMENDATIONS. CONTRACTOR SHALL NOT MAKE PRODUCT SUBSTITUTIONS WITHOUT THE OWNER'S APPROVAL.
- 13. IDENTIFICATION: ALL ELECTRICAL EQUIPMENT, SUCH AS PANELS, AND ALL OTHER SIMILAR ITEMS WHICH ARE FURNISHED UNDER THIS HEADING OF THE SPECIFICATIONS SHALL BE ADEQUATELY IDENTIFIED WITH ENGRAVED OR LAMINATED PLASTIC NAMEPLATES HAVING BLACK BACKGROUNDS AND WHITE LETTERS. MOUNTING ON THE NAMEPLATES SHALL CLEARLY INDICATE THE NAMES AND FUNCTIONS OF THE EQUIPMENT. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL FIVE COPIES OF A LIST OF ALL EQUIPMENT TO BE IDENTIFIED TOGETHER WITH THE WORKING TO BE USED ON THE NAMEPLATES BEFORE ORDERING.
- THE TYPES OF NAMEPLATES AND THE CHARACTER OF LETTERS SHALL NOT BE LESS THAN 2-1/2" X 3/4" X 1/8" THICK WITH BEVELED EDGES, AS MANUFACTURED BY SETON NAMEPLATE COMPANY, NEW HAVEN, CONNECTICUT, OR AS APPROVED.
- 14. WIRING: ALL CONDUCTORS CARRYING GREATER THAN 50 VOLTS SHALL BE MINIMUM #12 AWG. CONDUCTOR SIZES #10 AWG AND SMALLER SHALL BE SOLID COPPER, SOFT DRAWN OF 98% CONDUCTIVITY, UNLESS NOTED OTHERWISE. CONDUCTORS OF SIZE #8 AWG OR LARGER SHALL BE CONCENTRIC LAY STRANDED. PROVIDE MINIMUM #14 AWG CONDUCTORS, CARRYING LESS THAN LINE VOLTAGE, FOR COMMUNICATIONS, CONTROLS, OR LOW VOLTAGE LIGHTING, UNLESS NOTED OTHERWISE.
- CABLES: TYPE NM (RMC) AND MC CABLES ARE PROHIBITED.
- INSULATION: PROVIDE TYPE THHN OR THWN TYPE INSULATIONS. COORDINATE INSULATION TYPES WITH CONDITIONS, NEC REQUIREMENTS, AND CONDUIT FILL REQUIREMENTS. ALL WIRING SIZES ARE BASED ON 60C OR 75C INSULATION, REGARDLESS OF ACTUAL INSULATION USED. COMPLY WITH ALL UL "GREEN BOOK" REQUIREMENTS. REFERENCE CONDUIT NOTES BELOW.
- HOMERUNS: PROVIDE MINIMUM #10 AWG WIRING ON ALL 120 V HOMERUNS 100 FEET OR GREATER.
- NEUTRALS: SIZE ALL NEUTRALS FULL UNLESS SPECIFICALLY REDUCED ON PLANS. PROVIDE OVERSIZED NEUTRALS FOR FEEDERS AND SEPARATE NEUTRALS FOR BRANCH CIRCUITS SERVING HID LIGHTING, ELECTRONIC BALLASTS, AND OTHER EQUIPMENT PRODUCING ADVERSE HARMONICS. IF COMMON NEUTRALS ARE USED, USE NEXT HIGHER NEUTRAL CONDUCTOR SIZE. (E. 2#12, 1#10N; 3#12, 1#10N)
- COLORS: 120/208V, 3 PHASE, 4 WIRE
 PHASE A - BLACK
 PHASE B - RED
- 15. GROUNDING: ALL CIRCUITS SHALL BE RUN WITH A MINIMUM #12 AWG INSULATED GREEN COPPER GROUND WIRE, UNLESS OTHER WIRE SIZE IS NOTED. USE OF CONDUIT AS A GROUND IS UNACCEPTABLE.
- 16. CONDUIT: ALL WIRING SHALL BE IN CONDUIT. MINIMUM 1/2" EMT CONDUIT IS ACCEPTABLE INDOORS FOR SIZES UP TO 3" IN DIAMETER. MINIMUM 3/4" FLEXIBLE METAL CONDUIT IS ACCEPTABLE ONLY WITH SEPARATE INSULATED GROUND WIRE FOR SWITCH DROPS OR LIGHTING FIXTURE WIRES. EMT, ALUMINUM CONDUIT, NM (RMC), MC, AND SWM ARE NOT ACCEPTABLE. ALL EXPOSED AND ACCESSIBLE CONDUITS SHALL BE RIGID STEEL.

- PVC CONDUIT: PVC CONDUIT, MINIMUM SCHEDULE 40, IS ACCEPTABLE ONLY FOR USE BELOW GRADE, AND ONLY WHEN INSTALLED WITH WIDE RADIUS RIGID STEEL TURNS.
- ROUTING: CONDUIT ROUTING SHOWN IS SYMBOLIC AND DIAGRAMMATIC. INSTALL CONDUIT TO FIT ACTUAL FIELD CONDITIONS. COORDINATE ROUTING WITH ENGINEER IN FIELD WHERE DRAWINGS DO NOT REFLECT ACTUAL CONDITIONS. NOTE SUCH CONDITIONS IN SHOP DRAWINGS. CONDUIT SHALL NOT BE RUN IN OR THROUGH DUCTWORK.
- BELOW GRADE: USE PVC COATED RIGID METALLIC CONDUIT, OR COVER METALLIC CONDUIT BELOW GRADE WITH ASPHALTUM OR BITUMASTIC TAPE. USE ONLY WATERTIGHT JOINTS. USE ONLY FITTINGS APPROVED FOR PVC TO METAL CONDUIT WHEN SUCH TRANSITIONS ARE MADE.
- FITTINGS: USE ONLY FITTINGS APPROPRIATE FOR TYPES OF CONNECTIONS TO BE MADE. ALL FITTINGS SHALL BE COMPRESSION OR THREADED TYPE. USE OF SET SCREW FITTINGS IS ACCEPTABLE ONLY IF APPROVED BY OWNER AND LOCAL AUTHORITIES. FITTINGS FOR PVC, WHEN ALLOWED, SHALL BE APPROVED FOR USE WITH PVC AND WATERTIGHT. ALL FITTINGS MADE BELOW GRADE SHALL BE WATERTIGHT.
- 21. CONDUIT FILL: CONDUIT FILL IS CALCULATED BASED ON TYPE THW INSULATION AND CONCENTRIC STRANDED CONDUCTORS. IF ALTERNATE CONDUIT SIZING IS DESIRED BY CONTRACTOR BASED ON THIN INSULATION, CONTRACTOR IS RESPONSIBLE FOR CALCULATING ALTERNATE CONDUIT SIZES, SUBJECT TO APPROVAL BY ENGINEER.
- 21. PENETRATIONS: COORDINATE FLOOR PENETRATIONS WITH STRUCTURAL ENGINEER OR ARCHITECT. ALL PENETRATIONS THROUGH FIRE RATED SLABS AND PARTITIONS SHALL BE FIREPROOFED TO THE SAME OR GREATER RATING THAN THAT OF THE SLAB OR PARTITION. WHERE CONFLICTS OCCUR, NOTIFY ARCHITECT AND ENGINEER. COORDINATE WITH ALL LOCAL REGULATIONS AND ORDINANCES.
- 21. PROJECT RECORD DOCUMENTS: UPON COMPLETION OF WORK, PREPARE LIGHTING AND POWER PROJECT RECORD DOCUMENTS ("AS-BUILTS") ON A SUITABLE REPRODUCIBLE MEDIUM. PRESENT COMPLETED DRAWINGS TO OWNER AND TWO SETS OF PRINTS TO ENGINEER. "AS-BUILT" DRAWINGS SHALL INCLUDE ALL BRANCH CIRCUIT WORK, ALL PANELBOARD INFORMATION AVAILABLE, FINAL SWITCHING, AND ALL SUBMITTAL AND SHOP DRAWING MATERIALS.
- 22. WARRANTY: WARRANTY ALL MATERIALS, EQUIPMENT, AND INSTALLATION FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER.
- 22. TELEPHONE/DATA RECEPTACLES: TELEPHONE/DATA OUTLETS, RECEPTACLES, AND RACEWAYS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. VERIFY EXACT REQUIREMENTS WITH OWNER'S REPRESENTATIVE. COMMUNICATION WIRING SHALL BE INSTALLED IN A SEPARATE CONTRACT.
- 22. OVERCURRENT PROTECTION DEVICES:
 FUSES: ALL FUSES 600 AMPERES OR LESS SHALL BE UL LISTED, CLASS R, CURRENT LIMITING, TIME DELAY, REJECTION TYPE, 250 VOLT.
 ACCEPTABLE MANUFACTURERS: BUSSMANN, GOULD SHAWMUT.
- CIRCUIT BREAKERS: FURNISH AND INSTALL NEW CIRCUIT BREAKERS AS INDICATED ON THE DRAWINGS. PROVIDE THERMAL-MAGNETIC, MOLDED CASE CIRCUIT BREAKERS OF FRAME AND TRIP RATINGS AS SHOWN ON THE DRAWINGS.
- THE FRONT FACES OF ALL CIRCUIT BREAKERS SHALL BE FLUSH WITH EACH OTHER. LARGE PERMANENT IDENTIFIER CIRCUIT NUMBERS SHALL BE AFFIXED TO EACH BREAKER IN A UNIFORM POSITION. TRIPPED INDICATION SHALL BE CLEARLY SHOWN BY THE BREAKER HANDLE TAKING A POSITION BETWEEN ON AND OFF.
- EACH CIRCUIT BREAKER SHALL HAVE A RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING OF ALL EXISTING EQUIPMENT FRAME AND GARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE PANEL DOOR. THE DIRECTORY CARD SHALL PROVIDE A SPACE AT LEAST 1/4" HIGH AND 3" LONG OR EQUIVALENT FOR EACH CIRCUIT. THE DIRECTORY SHALL BE TYPED TO IDENTIFY THE LOAD FED BY EACH CIRCUIT.
- SPLICES WITHIN PANELBOARDS ARE PROHIBITED.

- GENERAL LIGHTING NOTES**
- 1. FIXTURE TYPES: IN GENERAL, FIXTURE TYPES ARE TO BE AS SPECIFIED OR APPROVED EQUAL VERIFY REQUIREMENTS WITH OWNER.
 - DESIGNATIONS: REFERENCE LIGHTING FIXTURE SCHEDULE AND REFLECTED CEILING PLAN FOR COMPLETE DESCRIPTION OF EACH FIXTURE TYPE. LIGHT FIXTURES ARE IDENTIFIED BY LETTERS AND SYMBOLS.
 - 2. ALL INTERIOR LIGHTING SHALL BE CONTROLLED BY INDIVIDUAL WALL SWITCHES OR OCCUPANCY SENSORS AS SHOWN ON THE DRAWINGS.
 - 3. SWITCH LOCATIONS: TYPICAL SWITCHING SHALL BE LOCATED INSIDE EACH ROOM NEAR THE STRIKE SIDE OF EACH DOOR, UNLESS OTHERWISE SHOWN OR NOTED ON PLANS. MOUNT SWITCHES AT 48" AFF OR AS DIRECTED BY OWNER.
 - 4. SWITCHES: PROVIDE SPECIFICATION GRADE TOGGLE STYLE, SILENT SWITCHES, RATED 20 AMPERES, 120 VOLTS. PROVIDE POLE AND THROW COMBINATIONS AS INDICATED. SINGLE POLE SWITCHES EQUAL TO LEVITON #1221-2W. SINGLE POLE THERMAL ELEMENT SWITCHES EQUAL TO SQUARE D, CLASS 2510. TYPE WALL SWITCH OCCUPANCY SENSOR EQUAL TO LEVITON #0045-ID. CEILING MOUNTED OCCUPANCY SENSOR EQUAL TO LEVITON #00C20-MOW. THREE-WAY SWITCH EQUAL TO LEVITON #1223-2W.
 - PLATES: PROVIDE NYLON SWITCH PLATES. VERIFY DEVICE AND PLATE COLOR WITH ARCHITECT.
 - APPROVED MANUFACTURERS: HUBBELL, LEVITON, LUTRON, PASS & SEYMOUR, OR APPROVED EQUAL.
 - 5. EXIT SIGNS: PROVIDE EXIT SIGNS PER LIGHT FIXTURE SCHEDULE WITH INTEGRAL 90 MINUTE BATTERY BASED EMERGENCY POWER SOURCE WITH BATTERY INDICATOR LIGHT AND TEST SWITCH.
 - 6. FIXTURE LOCATIONS: REFERENCE REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF LIGHT FIXTURES. COORDINATE INSTALLATION IN FIELD WITH OWNER AND ENGINEER.
 - 7. INSTALLATION: WIRE FROM JUNCTION BOXES TO FIXTURES OR SWITCHES AS INDICATED. ADDITIONAL JUNCTION BOXES WILL BE REQUIRED BEYOND THOSE SHOWN.
 - SUPPORT: ALL 2x4 FLUORESCENT LIGHT FIXTURES SHALL BE INDEPENDENTLY SUPPORTED FROM BUILDING STRUCTURE WITH TWO TIRES ON DIAGONAL CORNERS. TIRES SHALL BE EQUAL TO THOSE USED TO SUPPORT CEILING.
 - 8. ENERGY EFFICIENCY: ALL FLUORESCENT AND H.I.D. FIXTURES AND EXIT SIGNS SHALL BE ENERGY EFFICIENT TYPE, AND ALL FLUORESCENT FIXTURES SHALL HAVE PROGRAMMED START ELECTRONIC BALLASTS.

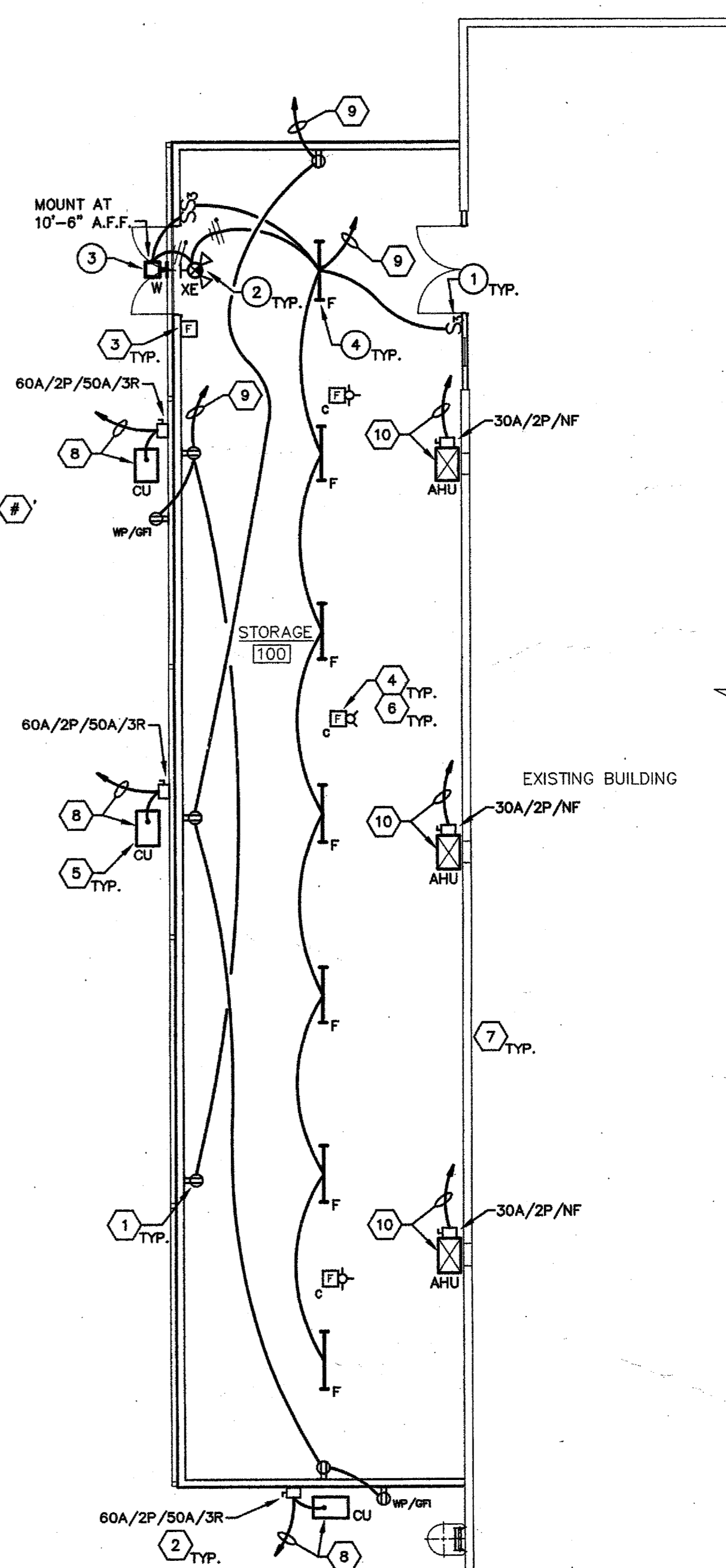
- GENERAL POWER NOTES**
- 1. GENERAL: VERIFY EXACT LOCATION OF OUTLETS AND DEVICES WITH OWNER PRIOR TO ROUGH-IN. PROVIDE OUTLETS, BOXES, DEVICES, COVERPLATES, AND PLASTER RINGS AS REQUIRED.
 - 2. COORDINATION: MOUNT ALL OUTLETS AT HEIGHT AND ORIENTATION AS SHOWN ON PLANS. COORDINATE ALL HEIGHTS, DIMENSIONS, AND CONFIGURATION OF DEVICES NOT INDICATED ON THESE DRAWINGS WITH OWNER.
 - 3. CONVENIENCE OUTLETS: ALL CONVENIENCE OUTLETS SHOWN SHALL BE NEMA TYPE 5-20R SPECIFICATION GRADE DUPLEX RECEPTACLES (LEVITON #5362W OR EQUAL) WITH NYLON COVERPLATES. INSTALL AT ADA REQUIRED 18" AFF, UNLESS NOTED OTHERWISE. VERIFY DEVICE AND PLATE COLOR WITH ARCHITECT.
 - 4. GFI RECEPTACLES: ALL GROUND FAULT INTERRUPT (GFI) DEVICES SHALL BE RATED AT 20 AMPERES AND SHALL HAVE A DEDICATED GROUND WIRE. THE GROUND WIRE SHALL BE RUN CONTINUOUS AND UNINTERRUPTED BETWEEN DEVICE AND PANEL GROUND BUS. RECEPTACLES EQUAL TO LEVITON #8899W.
 - 5. PHOTOCELL: PHOTOCELL UNITS SHALL BE USED TO CONTROL EXTERIOR LIGHTING, REFER TO FIXTURE SCHEDULE.
 - 6. INSTALLATION: DROP FROM JUNCTION BOXES TO DEVICES AS INDICATED. ADDITIONAL JUNCTION BOXES MAY BE REQUIRED BEYOND THOSE SHOWN.
 - 7. CONTROL WIRING: PROVIDE CONTROL WIRING AND CONDUIT FROM ALL NECESSARY AIR CONDITIONING CONTROLS. VERIFY EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER, HVAC CONTRACTOR, AND OWNER.
 - 8. EXPOSED EQUIPMENT: EQUIPMENT EXPOSED TO WEATHER SHALL BE WEATHERPROOF, NEMA 3R, OR AS SPECIFIED ON PLANS.
 - 9. DISTRIBUTION EQUIPMENT: PROVIDE ONLY COMMERCIAL GRADE DISTRIBUTION EQUIPMENT PURCHASED FOR USE ON THIS PROJECT.
 - DISCONNECT SWITCHES: PROVIDE HEAVY DUTY RATED DISCONNECT SWITCHES, FUSED OR NONFUSED AS NOTED, AND VOLTAGE AS APPROPRIATE OR INDICATED ON PLANS, RATED AT 200,000 AIC.
 - ACCEPTABLE MANUFACTURERS: SQUARE D, GENERAL ELECTRIC, SIEMENS I-T-E, OUTLER-HAMMER.

LIGHTING FIXTURE SCHEDULE		
TYPE	DESCRIPTION	LAMPS
F	FLUORESCENT 4" INDUSTRIAL FIXTURE WITH 2 LAMPS AND SOLID REFLECTOR. LITHONIA #L-232-MVOLT-GE-B	(2) F32T8/735
W	FLUORESCENT CUTOFF WALL MOUNT FIXTURE WITH DIE-CAST HOUSING, GLASS LENS, PHOTOCELL AND EMERGENCY BATTERY PACK, 120V. LITHONIA #WSR-42TRT-FT-120-ELDWC-PE- * - OWNER TO SELECT COLOR FROM STANDARD LIST COMBINATION L.E.D. EXIT SIGN AND EMERGENCY LIGHTING UNIT WITH WHITE IMPACT RESISTANT POLYCARBONATE HOUSING, SINGLE STENCIL FACE, RED LETTERS, TOP/BACK MOUNTING, UNIVERSAL ARROW KNOCKOUTS AND FULL RANGE OF DIRECTION IN LAMP HEAD ADJUSTMENT.	(1) 42W TRT
XE	LITHONIA #LHQM-S-W-1R-120/277	INCLUDED

ELECTRICAL SYMBOLS	
SYMBOLS	DESCRIPTION
○	CEILING LIGHTING FIXTURE
○	WALL MOUNTED LIGHTING FIXTURE
○	FLUORESCENT LTG. FIXTURE OF TYPE INDICATED
○	FIXTURE ON NIGHT LTG. OR EMERGENCY CIRCUIT
○	EXIT LIGHT
○	TRACK WITH LIGHT FIXTURES
○	EMERGENCY BATTERY PACK LIGHT
○	JUNCTION BOX
○	DUPLEX RECEPTACLE
○	DUPLEX RECEPTACLE ABOVE COUNTER & BACKSPASH
○	ISOLATED GROUND RECEPTACLE
○	DUPLEX RECEPTACLE IN FLOOR
○	SIMPLEX RECEPTACLE
○	SPECIAL PURPOSE OUTLET
○	COMBINATION TELEPHONE/DATA OUTLET IN WALL
○	ISOLATED GROUND RECEPTACLE
○	TELEPHONE OUTLET IN WALL
○	CALL IN STATION
○	TELEPHONE OUTLET IN FLOOR
○	CONDUIT HOMERUN TO PANEL INDICATED
○	ELECTRICAL CONNECTION TO EQUIPMENT INDICATED
○	MULTI OUTLET ASSEMBLY
○	TELEPHONE BACKBOARD OR CABINET
○	PANEL OR SWITCHBOARD - 250V. OR BELOW
○	PANEL OR SWITCHBOARD - 480V. OR 600V.
○	DRY TYPE TRANSFORMER
○	CEILING MOUNTED OCCUPANCY SENSOR
○	WALL MOUNTED OCCUPANCY SENSOR
○	AUTOMATIC AREA OVERRIDE SWITCH
○	SINGLE POLE SWITCH
○	TWO POLE SWITCH
○	THREE-WAY SWITCH
○	FOUR-WAY SWITCH
○	SINGLE POLE SWITCH & PILOT
○	SINGLE THROW THERMAL SWITCH
○	WALL DIMMER SWITCH
○	KEY OPERATED SWITCH
○	VOLUME CONTROL SWITCH
○	FAN SWITCH
○	WEATHERPROOF SWITCH
○	MAGNETIC MOTOR STARTER
○	DISCONNECT SWITCH
○	COMBINATION MOTOR STARTER & DISCONNECT SWITCH
○	MOTOR
○	T.V. OUTLET
○	SPEAKER
○	MICROPHONE JACK IN WALL OR FLOOR
○	CLOCK
○	CLOCK HANGER OUTLET
○	FIRE ALARM MANUAL PULL STATION
○	FIRE ALARM BELL
○	VISUAL FIRE ALARM (CEILING MOUNT)
○	AUDIO-VISUAL FIRE ALARM (CEILING MOUNT)
○	SMOKE DETECTOR
○	DUCT SMOKE DETECTOR
○	BELL
○	HORN
○	BUZZER
○	PUSHBUTTON
○	SEE NOTE #3
○	INTRUSION SYSTEM DETECTOR
○	SECURITY SYSTEM DOOR MONITOR
○	AFB ABOVE FINISHED FLOOR
○	FACP FIRE ALARM CONTROL PANEL
○	GFI GROUND FAULT INTERRUPTOR
○	MGB MAIN CIRCUIT BREAKER
○	MLO MAIN LUGS ONLY
○	NIC NOT IN CONTRACT
○	NIGHT LIGHT
○	REFER TO DETAIL 2 ON SHEET E4
○	UNLESS NOTED OTHERWISE
○	WP WEATHERPROOF
○	XFMR TRANSFORMER

- ELECTRICAL POWER AND SIGNAL NOTES INDICATED BY SYMBOL:**
- 1. ALL RECEPTACLES SHALL BE INSTALLED AT 18" A.F.F. TO ACCOMMODATE A.D.A. REQUIREMENTS, UNLESS NOTED OTHERWISE.
 - 2. ALL EXTERIOR DISCONNECT SWITCHES AND CONTROL DEVICES SHALL BE WEATHERPROOF. DISCONNECT SWITCHES FOR MECHANICAL EQUIPMENT SHALL NOT BE INSTALLED ON MOVING PARTS, REMOVABLE ACCESS PANELS, OR ON THE EQUIPMENT NAMEPLATE.
 - 3. FIRE ALARM PULL STATIONS SHALL BE MOUNTED AT 48" A.F.F.
 - 4. FIRE ALARM VISUAL AND AUDIO/VISUAL DEVICES SHALL BE MOUNTED TO CEILING.
 - 5. VERIFY EXACT MECHANICAL EQUIPMENT LOCATIONS WITH MECHANICAL PLANS.
 - 6. FIRE ALARM PANEL IS EXISTING. CONNECT NEW DEVICES TO EXISTING CIRCUITS. REPROGRAM SYSTEM AND PROVIDE ALL WORK AS REQUIRED FOR A FUNCTIONING SYSTEM.
 - 7. RELOCATE/REROUTE EXISTING WORK AS REQUIRED TO ALLOW FOR NEW WORK.
 - 8. RECONNECT RELOCATED CONDENSER UNIT. REMOVE EXISTING CIRCUIT BREAKERS IN PANEL AT WHICH FED CONDENSER UNITS - (2) 30A/2P & (1) 40A/2P. PROVIDE (3) NEW 50A/2P BREAKERS. CONNECT CONDENSER UNIT TO NEW CIRCUIT BREAKER VIA NEW BRANCH CIRCUIT WIRING (1" C-246,486).
 - 9. PROVIDE NEW 20A/1P CIRCUIT BREAKER IN EXISTING PANEL A1 AND NEW BRANCH CIRCUIT WIRING (3/4" C-2#12, #10C) AS REQUIRED.
 - 10. RECONNECT RELOCATED AIR HANDLER UNIT. CONNECT UNIT TO EXISTING CIRCUIT BREAKER VIA NEW BRANCH CIRCUIT WIRING (3/4" C-2#10, #10C)
- LIGHTING NOTES INDICATED BY SYMBOL:**
- 1. ALL LIGHT SWITCHES SHALL BE INSTALLED AT 48" A.F.F. TO ACCOMMODATE A.D.A. REQUIREMENTS, UNLESS NOTED OTHERWISE.
 - 2. ALL EMERGENCY FIXTURES AND EXIT LIGHTS SHALL BE CONNECTED TO THE UNSWITCHED HOMERUN OF THE LOCAL LIGHTING CIRCUIT FOR CONSTANT POWER TO THE BATTERY.
 - 3. EMERGENCY FLUORESCENT FIXTURES SHALL BE PURCHASED AND WIRED SUCH THAT THE FIXTURE CAN BE SWITCHED OFF BUT WILL ILLUMINATE DURING AN ACTUAL POWER OUTAGE.
 - 4. PROVIDE CHAIN MANAGERS FOR TYPE "F" FIXTURES.

FIRE ALARM DESIGN NOTE:
 THE DEVICES AND NOTES SHOWN ON THESE DRAWINGS RELATING TO THE FIRE ALARM SYSTEM ARE PROVIDED, AS A MINIMUM, TO INDICATE SYSTEM INTENT ONLY. THE FIRE ALARM CONTRACTOR SHALL BE A STATE LICENSED FIRE ALARM CONTRACTOR AND SHALL BE RESPONSIBLE FOR ALL REQUIRED SYSTEM DESIGN TO MEET ALL APPLICABLE CODES AND ORDINANCES. ANY DEVICES OR SYSTEM APPURTENANCES REQUIRED TO MEET APPLICABLE CODES AND ORDINANCES AND NOT SHOWN ON THESE DRAWINGS SHALL BE DEEMED IMPLICITLY REQUIRED OF THE CONTRACTOR TO PROVIDE. CONTRACT REQUIRED SUBMITTALS SHALL ONLY BE SUBMITTED FOR ENGINEERING REVIEW AFTER THE CONTRACTOR HAS RECEIVED WRITTEN APPROVAL OF THE SYSTEM FROM THE LOCAL AUTHORITY HAVING JURISDICTION (A.H.).



**PARTIAL FLOOR PLAN -
 1 NEW ADDITION - ELECTRICAL**
 SCALE: 1/8"=1'-0"

DALE W. CAFFEY
 CONSULTING
 ENGINEERS, INC
 3116 KELLWAY DRIVE, SUITE 102
 PH. 972/818-0264
 CARROLLTON, TEXAS 75006
 FAX 972/818-6523

DWC

PROJECT: 0728

ISSUED DATE: 11/20/07

REVISION: 1

CHECKED BY: SGC
 DATE: 11/20/07

TRINITY CHRISTIAN ACADEMY

NO. 1

6332 BRIMWOOD DRIVE
 PLANO, TEXAS 75063-2144-3356-6468
 gsmwarchitect@aol.com

11-20-07

STATE OF TEXAS
 ARCHITECT
 STACY G. CARR
 94803

SHEET: **E1**

OF 1