

ELECTRICAL NOTES

- THESE NOTES APPLY TO ENTIRE PROJECT:
- A. CODES. ALL ELECTRICAL WORK SHALL COMPLY WITH THE DRAWINGS AND SPECIFICATIONS, THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES, WHICHEVER IS MORE STRINGENT.
- B. ENERGY CODE. LIGHT FIXTURES ARE TO COMPLY WITH THE FLORIDA ENERGY CODE. FULL COMPLIANCE WITH THE ENERGY CODE IS REQUIRED, WITH PROVISIONS FOR AUTOMATIC SHUT OFF OF LIGHTING.
- C. CONDUCTORS. ALL CONDUCTORS ARE TO BE COPPER THWN UNLESS OTHERWISE SHOWN OR REQUIRED BY CODES. ALL POWER CONDUITS ARE TO CONTAIN A GROUND WIRE.
- D. RACEWAYS. RIGID GALVANIZED CONDUIT AND ELECTRICAL METAL TUBING IS TO BE USED IN INTERIOR SPACES.
- E. HVAC. THE ELECTRICAL CONTRACTOR IS TO COORDINATE WITH THE HEATING, VENTILATING AND AIR CONDITIONING (HVAC) TRADE TO MAKE CERTAIN ALL POWER CIRCUITS, CONTROL CIRCUITS AND CONDUITS ARE INCLUDED IN THE BIDS. ALL HVAC EQUIPMENT IS TO BE PROTECTED WITH FUSES (ELECTRICALLY) AND LABELLED AT THE ELECTRICAL CONTRACTOR'S EXPENSE. SPLIT SYSTEM AIR HANDLERS AND CONDENSING UNITS ARE TO BE CONNECTED WITH CONTROL CIRCUITS. DISCONNECTS ARE TO BE LOCATED WHERE REQUIRED BY THE HVAC CONTRACTOR. UNDER NO CONDITIONS WILL OWNER PAY ADDITIONAL CHARGES FOR HVAC ELECTRICAL WORK.
- F. SHOP DRAWINGS. SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL FOR ALL ELECTRICAL MATERIALS.
- G. POWER COMPANY. THE ELECTRICAL CONTRACTOR IS TO COORDINATE ALL SERVICE REQUIREMENTS WITH THE POWER COMPANY BEFORE BIDDING TO BE CERTAIN ALL WORK NECESSARY TO MEET POWER COMPANY SPECIFICATIONS IS IN THE BID. ALL ELECTRICAL GEAR SHALL BE APPROVED BY THE POWER COMPANY. THE ELECTRICAL CONTRACTOR SHALL MEET WITH THE POWER COMPANY PRIOR TO BIDDING TO DETERMINE ALL FEATURES, FUNCTIONS AND LOCATIONS OF SERVICE. FURTHERMORE, THE ELECTRICAL CONTRACTOR IS TO MAINTAIN CONTINUOUS CONTACT WITH THE POWER COMPANY DURING THE PROJECT, AND IS TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY CHANGE PROPOSED. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE SERVICE THROUGHOUT AND DOCUMENT THE COORDINATION.
- H. TELEPHONE. THE ELECTRICAL CONTRACTOR IS TO ARRANGE FOR TELEPHONE SERVICE. PRIOR TO BIDDING, THE ELECTRICAL CONTRACTOR IS TO MEET WITH THE TELEPHONE COMPANY AND COORDINATE THE LOCATION OF THE SERVICE POINT ON THE SWITCHPOINT LINE. THE INCOMING SERVICE CABLES, GROUNDING, ETC. IN ADDITION, THE ELECTRICAL CONTRACTOR IS TO INSTALL TELEPHONE CABLES (8x24 CATEGORY 6 CABLE) TO TELEPHONE OUTLET POINTS THROUGHOUT THE PROJECT. ALL CABLES ARE TO BE RADIAL-WITH INDIVIDUAL HOME RUNS TO TELEPHONE BACKBOARD OR TERMINAL. DO NOT LOOP FROM OUTLET TO OUTLET.
- I. DRAWINGS. THE ELECTRICAL CONTRACTOR IS TO OBTAIN A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING, AND IS TO BECOME THOROUGHLY FAMILIAR WITH THE ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND LANDSCAPING FEATURES OF THE PROJECT. PRIOR TO BIDDING, THE ELECTRICAL CONTRACTOR IS TO HAVE A COMPLETE UNDERSTANDING OF CEILING CONFIGURATIONS, WIRING SPACES, FIRE RATED SURFACES, STRUCTURAL FEATURES, AIR CONDITIONING WORK, TEMPORARY POWER REQUIREMENTS, PIPING, PLUMBING AND ALL OTHER FEATURES WHICH BEAR ON THE ELECTRICAL WORK. UNDER NO CONDITION IS THIS PROJECT TO BE BID WITHOUT A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS.
- J. SCALES. DO NOT SCALE OR TAKE DIMENSIONS FROM ELECTRICAL DRAWINGS.
- K. MAIN DISCONNECTS. MAIN DISCONNECTS MAY BE HEAVY DUTY FUSED SWITCHES OR CIRCUIT BREAKERS PROPERLY COORDINATED. FUSES ARE TO BE BUSSMAN TYPE LPN-R, LPS-R, OR RXP-C. CIRCUIT BREAKERS ARE TO BE RATED FOR THE AIC SHORT CIRCUIT INDICATED.
- L. UNDERGROUND WORK. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT ROUTES OF ALL UNDERGROUND WORK. ROUTES SHOWN ARE APPROXIMATE. POWER, TELEPHONE, CABLE COMPANIES, AND ALL OTHER UTILITY COMPANIES SHALL BE CONSULTED, AND LINES SHALL BE STAKED. DIGGING BY HAND IS REQUIRED AROUND EXISTING UTILITIES.
- M. TVSS. THE POWER SERVICE IS TO BE PROTECTED FROM LIGHTNING WITH SURGE SUPPRESSORS THROUGH A 30A/3P BREAKER (42,000A).
- N. LED LIGHT FIXTURES. LED LIGHTS ARE TO BE CAPABLE OF DIMMING 0-100 WITH DRIVERS AND DIMMERS PROVIDED BY SAME MANUFACTURER. THE CONTRACTOR IS TO INSTALL MULTIPLE CONDUCTORS REQUIRED BY DRIVERS, AND IS TO FIELD MEASURE ALL LOCATIONS AND DIMENSIONS. ALL LENSES, ADJUSTABLE MOUNTING HARDWARE, POWER SUPPLIES, METALLIC HOUSINGS TO BE INCLUDED.
- O. LIGHT FIXTURE VOLTAGES. OBTAIN LIGHT FIXTURE VOLTAGES FROM CIRCUITS ON PLANS. DO NOT OBTAIN FROM MODEL NUMBERS ON LIGHT FIXTURE SCHEDULE.
- P. RECEPTACLE HEIGHTS. COORDINATE WITH BUILDING DEPARTMENT THE MINIMUM HEIGHT FOR RECEPTACLES. AMERICAN DISABILITY ACT REQUIRES 18" ABOVE FINISHED FLOOR.
- Q. EQUIPMENT DISCONNECTS. DISCONNECTS SHOWN CAN BE DELETED IF DISCONNECTING MEANS BUILT IN AND PERMITTED BY THE BUILDING DEPARTMENT.
- R. COMPLETION REQUIREMENTS. WITHIN 30 DAYS AFTER SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR TO BUILDING OWNER WITH A SINGLE LINE DIAGRAM OF THE DISTRIBUTION SYSTEM PLUS FLOOR PLANS SHOWING LOCATIONS AND AREAS SERVED.
- S. OPERATING AND MAINTENANCE MANUALS. OPERATING AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT SHALL BE TURNED OVER BY THE CONTRACTOR TO OWNER WITH SUBMITTAL DATA AND REQUIRED MAINTENANCE PROCEDURES. THE NAME AND ADDRESS OF A QUALIFIED SERVICE AGENCY SHALL BE PROVIDED.
- T. SHARED NEUTRALS. WHENEVER THE CONTRACTOR USES SHARED NEUTRALS, BREAKERS ARE TO HAVE A COMMON HANDLE (E.G. 2 POLE OR 3 POLE).
- U. GFCI. OUTLETS INSTALLED OUTDOORS, WITHIN 6' OF A SINK, AND OTHERWISE REQUIRED BY CODE ARE TO BE GFCI TYPE CIRCUIT BREAKERS.
- V. WHERE DISCREPANCY EXISTS BETWEEN DRAWINGS, SPECIFICATION, CODES, STANDARDS, QUANTITIES AND THE LIKE THE MORE STRINGENT REQUIREMENT SHALL BE APPLIED.

ELECTRICAL SPECIFICATIONS

GENERAL PROVISIONS. PROVIDE ALL LABOR, MATERIALS, TOOLS, SUPPLIES, EQUIPMENT AND TEMPORARY POWER FACILITIES TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND SPECIFICATIONS. ALL SYSTEMS ARE TO BE COMPLETELY OPERATIONAL. ALL ELECTRICAL WORK SHALL COMPLY WITH THE DRAWINGS AND SPECIFICATIONS, THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES, WHICHEVER IS MOST STRINGENT.

OPERATING CONDITIONS. INSTALL ALL WORK NEATLY SO AS TO BE PROPERLY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.

JOB SITE VISIT. VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID. VERIFY ALL DIMENSIONS AND DETERMINE THE CHARACTERISTICS OF EXISTING FACILITIES WHICH WILL AFFECT THE PERFORMANCE OF THE WORK, INCLUDING THOSE NOT SHOWN ON DRAWINGS OR SPECIFICATIONS.

SUBSTITUTIONS. ALL EQUIPMENT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO BIDDING.

TEMPORARY LIGHT AND POWER. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF FURNISHING, INSTALLING, MAINTAINING AND REMOVING ALL MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE LIGHT AND POWER TO PERFORM ALL WORK OF ALL TRADES DURING CONSTRUCTION AND UNTIL WORK IS COMPLETE. COST OF ALL POWER CONSUMED DURING CONSTRUCTION SHALL BE PAID BY THE PARTY DESIGNATED BY THE PRIME CONTRACTOR.

MATERIAL SUBMITTALS. SUBMIT ELECTRONIC PDF SHOP DRAWINGS AND EQUIPMENT DESCRIPTIONS FOR ALL ELECTRICAL WORK PRIOR TO ORDERING. ELECTRICAL MATERIALS FOUND ON THE PROJECT WHICH DO NOT HAVE THE ENGINEER'S APPROVAL MUST BE REMOVED AND REPLACED AT THE ELECTRICAL CONTRACTOR'S EXPENSE.

TRENCHING, BORING AND BACKFILLING. EXCAVATION OR BORING, BACKFILLING AND REPAIRING OF PAVING AND GRASSING IS TO BE IN THE BID OF THE ELECTRICAL CONTRACTOR. THE ACTUAL WORK NEED NOT BE PERFORMED BY THE ELECTRICAL TRADES. HOWEVER, THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL EXCAVATION, BORING, DOWATERING, BACKFILLING, TAMPING AND REPAIR OF PAVEMENTS AND GRASSING REQUIRED IN SUPPORT OF ELECTRICAL WORK. LOCATE AND PROTECT EXISTING UTILITIES AND OTHER UNDERGROUND WORK IN A MANNER WHICH WILL ENSURE THAT NO DAMAGE OR SERVICE INTERRUPTION OCCURS DURING CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS COMPLETELY RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OR PROPERTY. PROTECT PROPERTY FROM DAMAGE WHICH MIGHT RESULT FROM EXCAVATING, BORING OR BACKFILLING. PROTECT PERSONS FROM INJURY AT EXCAVATIONS BY BARRICADES WITH WARNINGS AND ILLUMINATION. IN THE EVENT IT IS SUSPECTED THAT ACTIVE ELECTRICAL LINES ARE BURIED IN THE AREA OF WORK, POWER IS TO BE DISCONNECTED. AN UNDERGROUND LOCATOR SERVICE SHALL BE EMPLOYED.

TESTS. CONDUCT OPERATING TESTS FOR APPROVAL. THE SYSTEMS SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE SPECIFICATIONS AND MANUFACTURERS INSTRUCTIONS. TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER OR AN AUTHORIZED REPRESENTATIVE. FURNISH ALL ITEMS REQUIRED TO PERFORM TESTS.

DIVISION OF WORK. ALL POWER WIRING IS TO BE BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF DISCONNECTS, STARTERS, THERMOSTATS, FIRES, STOPS, CONTROL TRANSFORMERS, SWITCHES, ETC. WITH THE OTHER CONTRACTORS TO MAKE CERTAIN NO ITEMS ARE LEFT OUT OF THE BIDS. THE PRIME CONTRACTOR SHALL MAKE ANY SPECIAL DECISIONS REGARDING THE DIVISION OF WORK BETWEEN CONTRACTORS. IN NO EVENT SHALL SUCH WORK REQUIRE ADDITIONAL EXPENSE TO THE OWNER.

LOCATIONS. THE ENGINEER MAY MOVE ANY ELECTRICAL DEVICES BY AS MUCH AS TEN (10) FEET PRIOR TO ROUGH-IN AT NO ADDITIONAL COST.

CIRCUITS. ALL OUTLETS, LIGHT FIXTURES AND OTHER ITEMS OF EQUIPMENT SHOWN ON DRAWINGS ARE TO BE CIRCUITED.

BIDDING FROM A FULL SET OF DRAWINGS. THE ELECTRICAL CONTRACTOR IS TO OBTAIN A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING, AND IS TO BECOME THOROUGHLY FAMILIAR WITH THE ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, AND LANDSCAPING FEATURES OF THE PROJECT.

PRIOR TO BIDDING, THE ELECTRICAL CONTRACTOR IS TO HAVE A COMPLETE UNDERSTANDING OF CEILING CONFIGURATIONS, WIRING SPACES, FIRE RATED SURFACES, FOUNDATIONS, AIR CONDITIONING DUCTWORK, SPRINKLER PIPING, PLUMBING AND ALL OTHER FEATURES WHICH BEAR ON THE ELECTRICAL WORK. UNDER NO CONDITIONS IS THIS PROJECT TO BE BID WITHOUT A COMPLETE SET OF DRAWINGS AND SPECIFICATIONS.

FIRE RATED SURFACES. FIRE WALL, CEILING AND FLOOR PENETRATIONS ARE TO BE MADE WITH METALLIC RACEWAYS IN A U.L. APPROVED MANNER. DO NOT KNOCK HOLES INTO VOID SPACES OR OTHERWISE DEGRADE FIRE WALLS. ALL PASSAGES INTO OR THROUGH FIRE WALLS ARE TO BE PERFORMED IN A MANNER ACCEPTABLE TO THE BUILDING DEPARTMENT. (NO PENETRATIONS ARE PERMITTED THROUGH FOUR (4) HOUR WALLS). ONE (1) HOUR FIRE WALLS ARE TO BE PENETRATED IN EACH STUD CAVITY FROM ONLY ONE (1) SIDE IN A U.L. APPROVED MANNER.

BASIC MATERIALS AND METHODS

U.L. APPROVALS. ALL ELECTRICAL MATERIALS ARE TO BE APPROVED BY THE UNDERWRITER'S LABORATORIES.

GALVANIC ACTION (CORROSION). GALVANIC ACTION (CORROSION) IS TO BE AVOIDED BY JOINING METALS WHICH ARE COMPATIBLE. FOR EXAMPLE, ALUMINUM CONDUITS ARE NOT TO MAKE CONTACT WITH BARE STEEL, GALVANIZED STEEL, OR BRASS. STAINLESS STEEL FITTINGS AND HARDWARE ARE REQUIRED OUTSIDE.

GALVANIZED RIGID CONDUITS. RIGID STEEL CONDUIT 'GRC' AND FITTINGS ARE TO BE SCHEDULE 40 MILD STEEL PIPE, GALVANIZED. UNDERGROUND GRC CONDUITS ARE TO BE COATED WITH ASPHALT EMULSION TO RESIST CORROSION.

ELECTRICAL METAL TUBING. TUBING 'EMT' SHALL BE STEEL TUBING, ZINC-COATED INSIDE AND OUTSIDE. FITTINGS SHALL BE ZINC-COATED. BENDS WHICH TURN UP OUT OF CONCRETE SHALL BE TREATED WITH ASPHALT EMULSION TO RESIST CORROSION.

PVC CONDUITS. NON-METALLIC CONDUITS SHALL BE POLYVINYL CHLORIDE (PVC), U.L. APPROVED FOR 90C. SCHEDULE 40 RIGID, EXCEPT SERVICES TO BE SCHEDULE 80. STRAIGHT RUNS ARE TO HAVE EXPANSION COUPLINGS EVERY 40 FEET.

NON-METALLIC TUBING. EMT MAY NOT BE USED.

RACEWAY LOCATIONS. LOCATION REQUIREMENTS SET FORTH BY THE BUILDING DEPARTMENT SHALL PREVAIL IF MORE STRINGENT. ALL CONDUITS SHALL BE GRC EXCEPT WHERE OTHERWISE SHOWN ON DRAWINGS, AND AS FOLLOWS: EMT MAY BE USED ONLY IN DOORS. IN DRY LOCATIONS OUT OF SOIL, WHERE NOT PHYSICALLY SUBJECT TO DAMAGE, A FLEXIBLE CONDUIT SHALL BE USED ONLY IN SHORT LENGTHS FOR MAKING EQUIPMENT CONNECTIONS. PVC CONDUITS SHALL BE USED ONLY UNDERGROUND OR IN METALLIC RACEWAYS ARE REQUIRED IN CEILING SPACES WHICH SERVE AS RETURN AIR FLEXUMS. CONDUITS SHALL NOT BE RUN ABOVE ROOFS.

ELECTRICAL SPECIFICATIONS

RACEWAY INSTALLATION. WHERE CONDUITS CROSS EXPANSION JOINTS, INSTALL OFFSET EXPANSION JOINTS OR SLOPING EXPANSION JOINTS WITH BONDING STRAPS AND CLAMPS. EXPOSED RUNS OF CONDUIT OR TUBING SHALL BE INSTALLED WITH RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS, WITH RIGHT ANGLE TURNS. CONDUITS IN STRUCTURAL SLABS SHALL BE PLACED BETWEEN THE UPPER AND LOWER LAYERS OF REINFORCING STEEL. CONDUIT RUNS SHALL ALWAYS BE CONCEALED EXCEPT WHERE INDICATED ON PLANS. A PULL WIRE SHALL BE INSTALLED IN ALL EMPTY CONDUITS. CONDUITS SHALL BE SUPPORTED BY APPROVED FIRE STRAPS, SECURED BY MEANS OF TOGGLE BOLTS ON METAL SURFACES, AND WOOD SCREWS ON WOOD CONSTRUCTION. THE USE OF PERFORATED STRAP OR WIRES WILL NOT BE PERMITTED. UNDERGROUND CONDUITS NOT UNDER CONCRETE SLABS ARE TO BE BURIED AT LEAST TWO (2) FEET BELOW FINISHED GRADE FOR CIRCUITS RATED 800 VOLTS OR LESS.

CABINETS. CABINETS FOR OUTDOOR SWITCHES, PANELBOARDS, BREAKERS, WIREWAYS, RECEPTACLES, FIRE ALARM EQUIPMENT, ETC., SHALL BE RATED WEATHERPROOF. STAINLESS STEEL IS REQUIRED FOR ALL EXTERIOR MOUNTED ELECTRICAL EQUIPMENT ENCLOSURES UNLESS OTHERWISE NOTED OR SPECIFIED.

MAIN DISCONNECTS. UNLESS SPECIFICALLY SHOWN OTHERWISE, ALL MAIN DISCONNECTS ARE TO BE HEAVY DUTY FUSED SWITCHES OR CIRCUIT BREAKERS. GENERAL DUTY SWITCHES SHALL BE REMOVED AND REPLACED AT THE ELECTRICAL CONTRACTOR'S EXPENSE. FUSES SHALL BE REJECTION TYPE, U.L. CLASS RK1, UNLESS SHOWN OTHERWISE.

SHORT CIRCUIT DESIGN. THE DESIGN CALLS FOR A NUMBER OF SPECIAL CONDITIONS IN ORDER TO HANDLE THE SHORT CIRCUITS AVAILABLE THROUGHOUT THE ELECTRICAL SYSTEM. UNDER NO CONDITIONS MAY THE ELECTRICAL CONTRACTOR DEVIATE FROM THE DESIGN IN TYPES OF SWITCHES, FUSES, CONDUCTORS, BREAKERS OR AIC RATINGS OF INTERRUPTING DEVICES.

WIRING DEVICES GENERAL. WIRING DEVICES SHALL BE RATED FOR CURRENT, VOLTAGE AND PHASES AS APPLICABLE FOR THE LOADS. WHERE BOXES ARE TO BE MOUNTED ON OPPOSITE SIDES OF A WALL, A MINIMUM SEPARATION OF TWELVE (12") INCHES SHALL BE MAINTAINED. NO THROUGH BOXES ARE PERMITTED. BOXES SHALL BE MOUNTED LEVEL AND PLUMB.

SWITCHES ARE TO BE SILENT, 20A, 120V.

RECEPTACLES. NEMA 5-20R RECEPTACLES SHALL BE STANDARD TYPES EXCEPT WHERE SPECIAL RECEPTACLES ARE SHOWN. SPECIAL RECEPTACLES ARE TO MATCH EQUIPMENT PLUGS AS COORDINATED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR IS TO FURNISH AND INSTALL PLUGS AND CORDS ON WATER HEATERS, DISHWASHERS, DISPOSALS, CLOTHES WASHERS, DRYERS, ETC., UNLESS PROVIDED BY OTHER TRADES. COORDINATE PRIOR TO BIDDING.

FACE PLATES. FACE PLATES ARE REQUIRED IN INTERIOR SPACES. COLORS ARE TO BE SELECTED BY THE ARCHITECT. OUTSIDE PLATES AND COVERS SHALL BE MOUNTED PLUMB, STRAIGHT, AND FIT FLUSH WITH FINISHED SURFACES WITHOUT THE USE OF SHIMS OR MATS. PLATES SHALL NOT SUPPORT WIRING DEVICES. COMMON GANGED PLATES ARE TO BE EMPLOYED WHEREVER TWO (2) OR MORE DEVICES ARE SHOWN ON THE DRAWINGS IN THE SAME LOCATIONS.

PANELBOARDS. PANELBOARDS SHALL BE DEAD-FRONT, CIRCUIT BREAKER TYPE. DIRECTORIES SHALL BE COMPLETE AND TYPEWRITTEN. LOADCENTERS ARE NOT PERMITTED.

MOLDED CASE CIRCUIT BREAKERS. BREAKERS SHALL BE THERMAL-MAGNETIC OPERATED, WITH SHORT CIRCUIT RATINGS IN SYMMETRICAL AMPERES EQUAL TO OR GREATER THAN THE AIC RATINGS SHOWN ON THE DRAWINGS.

MOTOR PROTECTION. ALL MOTORS ON THIS PROJECT ARE TO BE FULLY PROTECTED IN ACCORDANCE WITH THE NEC. EVERY MOTOR IS TO BE PROTECTED FROM OVERCURRENTS BY THE INSTALLATION OF FUSED SWITCHES LOCATED IN SIGHT OF MOTORS. EACH AIR HANDLING UNIT IS TO BE FED WITH A FUSED SWITCH FOR THE HEATER, AND A SECOND FUSED SWITCH FOR THE MOTOR (MOTOR SWITCH MAY BE ELIMINATED IF THE AHU IS EQUIPPED WITH INTEGRAL PROTECTION COORDINATED PRIOR TO BIDDING).

IN APPLICATIONS WITH MOTORS OVER ONE (1) HORSEPOWER, AND WHERE CONTROLS OTHER THAN MANUAL 'ON' AND 'OFF' ARE REQUIRED, MAGNETIC CONTROLS OPERATORS ARE REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR PROPER VOLTAGES, ENCLOSURE TYPES AND START-STOP OR HAND-OFF-AUTO SWITCHES AS REQUIRED BY THE APPLICATION. OVERLOAD ELEMENTS ARE REQUIRED FOR ALL ABOVE-GROUND. STARTERS SHALL BE ALLEN-BRANDY OR SQUARE D.

CONDUCTORS. CONDUCTORS SHALL BE RATED FOR 800 VOLTS. ALL CONDUCTORS ARE TO BE COPPER. INSULATION SHALL BE TYPE THWN, EXCEPT WHERE SHOWN OTHERWISE. EVERY RACEWAY IS TO HAVE A GROUND WIRE (EXCEPT SERVICES).

TWO-WAY EMERGENCY PUBLIC RADIO DESIGN CRITERIA

- THIS BUILDING SHALL REQUIRE THE INSTALLATION OF A TWO-WAY PUBLIC RADIO ENHANCEMENT SYSTEM WHICH COMPLIES WITH THE FOLLOWING REQUIREMENTS:
1. THE INSTALLER SHALL DETERMINE THE LOCAL AGENCY THAT RESPONDS TO THE SPECIFIC LOCATION WHERE THE NEW SYSTEM WILL BE DEPLOYED (I.E. POLICE, FIRE DEPT., ETC) AND SHALL CONTACT THEM TO DETERMINE THE FREQUENCY BAND THAT IS REQUIRED. MOST PUBLIC AGENCIES UTILIZE 800 MHZ, BUT THIS SHALL BE VERIFIED PRIOR TO INSTALLATION.
 2. THE IN-BUILDING PUBLIC SAFETY RADIO CONVERSE SYSTEM AND OTHER RADIO SYSTEMS OPERATING WITHIN (OR IN THE VICINITY OF) THE FACILITY SHALL NOT INTERFERE WITH EACH OTHER.
 3. CONTRACTOR SHALL DETERMINE THE EXISTING SIGNAL STRENGTH AT THE SITE, PRIOR TO CONSTRUCTION.
 4. FOR THE DOWNLINK SIGNAL, A MINIMUM SIGNAL STRENGTH OF NEGATIVE (-95 DBM THROUGHOUT THE FACILITY WITH A DAQ OF 3.4 OR BETTER IS REQUIRED 100% OF THE TIME.
 5. FOR GENERAL STRUCTURE AREAS, THE IN-BUILDING RF SOLUTION SHALL PROVIDE THE ABOVE SPECIFIED COVERAGE IN 95% OF THE FLOOR AREA. GENERAL STRUCTURE AREAS ARE DEFINED AS: LIVING AREAS, BASEMENTS, PARKING GARAGES, ADMINISTRATIVE OFFICES AND CONFERENCE ROOMS.
 6. FOR CRITICAL AREAS, THE IN-BUILDING RF SOLUTION SHALL PROVIDE THE ABOVE SPECIFIED COVERAGE IN 99% OF THE FLOOR AREA. CRITICAL AREAS ARE DEFINED AS MECHANICAL AND UTILITY ROOMS, PUBLIC BATHROOMS, EMPLOYEE ONLY ACCESS AREAS, STAIRWELLS, EXIT STAIRS, EXIT PASSAGeways, POLICE HOLDING AREAS, ELEVATOR LOBBIES, FIRE PLANT ROOMS, SPRINKLER SECTIONAL, VALVE LOCATIONS, AND OTHER AREAS CONSIDERED BY THE AHJ. THE CONTRACTOR SHALL CONTACT THE AHJ TO CONFIRM CRITICAL AREAS IN THE NEW CONSTRUCTION.
 7. THE SYSTEM SHALL PROVIDE THE REQUIRED COVERAGE IN THE FREQUENCY BANDS OR CHANNELS AS SPECIFIED BY THE AHJ.
 8. SIGNAL BOOSTERS SHALL BE FCC-TYPE ACCEPTED AND MUST OPERATE IN ACCORDANCE WITH FCC RULES.
 9. ALL ACTIVE COMPONENTS SHALL BE POWERED VIA DEDICATED CIRCUITS (HOME RUN) AND TWELVE-HOUR BATTERY BACKUP FOR THE IN-BUILDING SYSTEM OPERATING AT 100% CAPACITY.
 10. NEMA TWIST-LOCK ELECTRICAL PLUG AND RECEPTACLE SET SHALL BE UTILIZED TO CONNECT THE ACTIVE COMPONENTS OF THE SYSTEM TO THE AC POWER.
 11. SURGE PROTECTION DEVICES (S) SHALL BE UTILIZED TO PROTECT ACTIVE COMPONENTS OF THE SYSTEM FROM ELECTRICAL TRANSIENTS.
 12. THE SYSTEM MUST MONITOR AND PRODUCE AN ALARM IN THE EVENT OF ANTENNA SYSTEM MALFUNCTION OR SIGNAL BOOSTER FAILURE. ADDITIONALLY, IN CASE THAT AN IN-BUILDING SOLUTION BASED ON RFI/EMR OPTICS CONVERTERS IS SELECTED, THE SYSTEM SHALL ALSO BE CAPABLE OF ALARMING IN THE EVENT OF A MALFUNCTION OF THE MAIN AND THE EXPANSION HUBS.
 13. THE MAXIMUM RADIO SIGNAL PROPAGATION DELAY INTRODUCED BY THE IN-BUILDING COVERAGE SOLUTION SHALL NOT EXCEED 15 US. IF A DELAY GREATER THAN 15 US IS EXPECTED BY DESIGN, THEN FURTHER ANALYSIS SHALL BE CONDUCTED IN CONJUNCTION WITH THE AHJ TO EVALUATE POTENTIAL SIGNAL DEGRADATION IN AREAS WHERE THE DIRECT SIGNAL COMING FROM A RADIO SITE COINCIDES WITH THE SYSTEM OUTPUT SIGNAL.
 14. AN EXTERIOR ANTENNA SYSTEM (DONOR ANTENNA) SHALL BE INSTALLED ON THE ROOF FOR RECEIPT OF SIGNAL. THE ORIENTATION OF THE DONOR ANTENNA SHALL BE DETERMINED IN COORDINATION WITH THE AHJ. IF REQUIRED BY FAA REGULATIONS, OBSTRUCTION LIGHTING AND/OR MARKING SHALL BE INSTALLED.
 15. ALL EXTERIOR ANTENNAS ARE TO BE NARROWBAND, HIGH-GAIN, VERTICALLY POLARIZED AND DESIGNED FOR THE SPECIFIED FREQUENCY BAND. VANDY OR CORNER REFLECTOR-TYPE ANTENNAS ARE RECOMMENDED. MULTIBAND ANTENNAS ARE NOT AN ADVISABLE OPTION AND ITS USE SHALL BE LIMITED TO, FOR EXAMPLE, A BUILDING WHERE BOTH 700 AND 800 MHZ BANDS SHALL BE IMPLEMENTED.
 16. THE ANTENNA INSTALLATION, INCLUDING THE SHIELD OF THE COAXIAL CABLE, SHALL BE SUITABLY CONNECTED TO THE BUILDING'S ELECTRICAL GROUND SYSTEM AT THE BASE OF THE ANTENNA MAST AND AT A COAXIAL LIGHTNING PROTECTOR DESIGNED FOR THE PROPER FREQUENCY BAND SHALL BE INSTALLED IN THE COAXIAL CABLE FEED OUTSIDE THE FACILITY.
 17. THE IN-BUILDING ANTENNA SYSTEM SHALL CONSIST OF A SUFFICIENT BUT NOT EXCESSIVE NUMBER OF IN-DOOR ANTENNAS. THEY SHALL BE DISTRIBUTED THROUGHOUT THE BUILDING IN A MANNER WHICH MEETS THE COVERAGE CRITERIA PREVIOUSLY SPECIFIED.
 18. SPLITTERS AND ANY OTHER ACTIVE OR PASSIVE COMPONENTS INSTALLED IN LOCATIONS OTHER THAN COMMUNICATION CLOSETS SHALL BE IDENTIFIED BY COLOR CODE. JUNCTION BOX CONSPICUOUSLY LOCATED SO AS TO BE EASILY ACCESSIBLE FOR MAINTENANCE WHILE MAINTAINING THEM SECURE FROM UNAUTHORIZED TAMPERING.
 19. ALL CABLING/CONDUIT SHALL UTILIZE 2-HOUR FIRE RATED CABLE OR BE INSTALLED IN A 2-HOUR ROOM OR SHED, AND HAVE A PATHWAY SURVIVABILITY OF LEVEL 3, PER NFPA 72, 24.5.3.8.1.
 20. PRIMARY POWER SUPPLY FOR BDA SHALL COMPLY WITH NFPA 72, 24.5.2.5.5.1 AND 10.6.5.1.
 21. SECONDARY POWER SUPPLY SHALL CONSIST OF A BATTERY WITH A MINIMUM SUPPLY OF 12 HOURS OF 100% OPERATING CAPACITY PER NFPA 72, 24.5.2.5.5.2. BATTERY SHALL BE ARRANGED PER NFPA 72, 10.6.10.
 22. SIGNAL ISOLATION SHALL BE MAINTAINED BETWEEN THE DONOR ANTENNA AND ALL INSIDE ANTENNAS, AND SHALL BE A MINIMUM OF 15 dB ABOVE THE SIGNAL BOOSTER GAIN UNDER ALL OPERATING CONDITIONS.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE OUTLET NEMA 5-20R
	DUPLEX RECEPTACLE OUTLET NEMA 5-20R SPLIT WIRED
	DUPLEX RECEPTACLE OUTLET NEMA 5-20R OVER COUNTER
	DUPLEX RECEPTACLE OUTLET NEMA 5-20R UNDER COUNTER
	SPECIAL PURPOSE OUTLET MUST MATCH EQUIP. PLUG
	FLOOR OUTLET W/ BRASS PLATE & CARPET RING
	SPST SWITCH
	3-WAY SWITCH
	4-WAY SWITCH
	SPST SWITCH W/ PILOT LIGHT
	DIMMER SWITCH WATTAGE AS NOTED
	LIGHT FIXTURE (SURFACE / RECESSED)
	LIGHT FIXTURE WALL MOUNTED
	FLUORESCENT LIGHT FIXTURE (SURFACE / RECESSED)
	FLUORESCENT LIGHT FIXTURE (SURFACE / RECESSED) EMERG.
	FLUORESCENT STRIP LIGHT FIXTURE
	EMERGENCY BATTERY PACK LIGHT FIXTURE W/ (2) 25W LTS.
	EXIT SIGN, UNIVERSAL MOUNTING (DOUBLE / SINGLE FACE) ARROWS AS INDICATED
	FUSED SWITCH 30A SWITCH, 20A FUSES, 2 POLES
	MOTOR STARTER NEMA SIZE 1
	SWITCH/STARTER, 30A, NEMA 1, 3 POLE
	PANELBOARDS, SEE SCHEDULES
	TIME CLOCK SWITCH, 4P-ASTRONOMIC WIRESERVE
	TELEPHONE RECEPT-4x4 BOX WITH SINGLE GANG ADAPTER AND 3/4" EMT TO ACCESSIBLE CEILING SPACE
	DATA RECEPT-4x4 BOX WITH SINGLE GANG ADAPTER AND 3/4" EMT TO ACCESSIBLE CEILING SPACE
	MOTOR
	STRIP HEATER W/ INTEGRAL CONTACTOR
	ELECTRIC WATER COOLER
	ELECTRIC WATER HEATER
	FUSE
	FIRE ALARM
	FAULT CURRENT AVAILABLE
	FAULT CURRENT RATING
	FEDDER
	FULL LOADS AMPS
	FUSED SAFETY SWITCH
	FEET
	FEED THRU LUGS
	FUSE
	FULL VOLTAGE NON REVERSING
	GROUND
	GROUND FAULT INTERRUPT
	GROUND FAULT PROTECTION
	HEAT
	HORSEPOWER
	INTERNATIONAL BUILDING CODE
	ISOLATED GROUND
	JUNCTION BOX
	KILOVOLT
	KILOVOLT-AMPERE
	KILOWATT
	LOCAL CONTROL PANEL
	LIGHTING PANEL
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	SMOKE DETECTOR W/ BASE
	HEAT DETECTOR W/ BASE
	DUCT DETECTOR
	REMOTE TEST STATION
	PULL STATION
	CONTROL RELAY MODULE
	SINGLE INPUT MODULE
	DUAL INPUT MODULE
	TAMPER SWITCH
	WATERFLOW SWITCH
	HORN STROBE
	WEATHERPROOF HORN STROBE
	STROBE
	VOLTAGE SURGE PROTECTOR - 120 VAC
	VOLTAGE SURGE PROTECTOR - TELEPHONE LINES
	SYSTEM RECORD DOCUMENTS
	CELL DIALER

DEVICE MOUNTING HEIGHTS

LIGHT SWITCHES	48" A.F.F. TO CENTER LINE OF BOX, UON
RECEPTACLES	18" A.F.F. TO CENTER LINE, UON
COUNTER HEIGHT RECEPTACLES	48" A.F.F. TO CENTER LINE OR 2" ABOVE SPLASHBOARD, UON
DATA OUTLETS	18" A.F.F. TO CENTER LINE, UON
TELEPHONES	48" A.F.F. TO CENTER LINE OF BOX, UON
EXTERIOR RECEPTACLES	24" A.F.G. TO BOTTOM, UON

ALL HEIGHTS ARE BASED ON NON-OBSTRUCTED REACH. MODIFY MOUNTING HEIGHTS IF/AS NECESSARY PER ADA AS REQUIRED. REFER TO ARCHITECTURAL ELEVATION FOR SPECIFIC HEIGHTS SPECIFIED THEREIN.

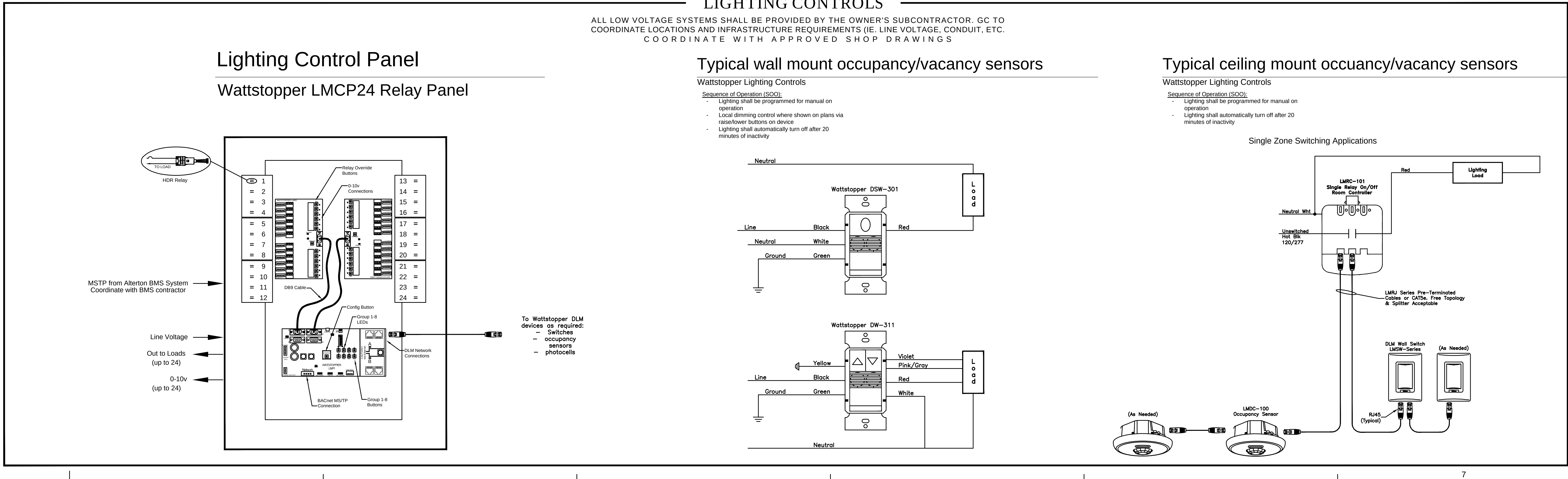
MINIMUM CONDUCTOR SIZING FOR 120V/1Ø BRANCH CIRCUITS	MINIMUM CONDUCTOR SIZING FOR 208V/3Ø BRANCH CIRCUITS
(FOR FBC 13-413.BC.1.2 COMPLIANCE) DESIGN LOAD ON CIRCUIT IN VA (FROM PANELBOARD SCHEDULE) UP TO	(FOR FBC 13-413.BC.1.2 COMPLIANCE) DESIGN LOAD ON CIRCUIT IN VA (FROM PANELBOARD SCHEDULE) UP TO
UP TO 500 LENGTH OF CIRCUIT 50' 12 12 12 10 10 10 10 100' 12 12 12 10 8 8 8 8 150' 12 12 10 8 8 8 8 8 200' 10 8 6 4 4 4 4 4 250' 10 6 6 4 4 4 4 3 300' 8 6 4 4 4 3 2	UP TO 5000 LENGTH OF CIRCUIT 50' 12 12 12 12 12 12 12 12 12 12 100' 12 12 12 12 12 12 12 12 12 12 150' 12 12 12 12 12 12 12 10 10 10 200' 12 12 12 12 10 10 10 10 10 8 250' 12 12 10 10 10 10 10 8 8 8 300' 12 10 10 8 8 6 6 6 6 4
VOLTAGE DROP CONSIDERATIONS CONDUCTORS SHOWN ON CONTRACT DOCUMENTS ARE MINIMUM SIZE BASED ON OVER-CURRENT PROTECTION PROVIDED. EACH FEEDER AND BRANCH CIRCUIT CONDUCTOR SIZE IS TO BE DETERMINED BY THE CONTRACTOR AFTER ACTUAL CIRCUIT CONDUCTOR LENGTH IS KNOWN AND VOLTAGE DROP CALCULATIONS PERFORMED. PROVIDE REDLINE AS-BUILT INFORMATION TO ENGINEER FOR INCORPORATION ON OWNERS RECORD SET WITH ACTUAL CONDUCTOR SIZES USED.	MINIMUM CONDUCTOR SIZING FOR 208V/1Ø BRANCH CIRCUITS DESIGN LOAD ON CIRCUIT IN VA (FROM PANELBOARD SCHEDULE) UP TO
	UP TO 5000 LENGTH OF CIRCUIT 50' 12 12 12 12 12 12 10 10 10 8 100' 12 12 12 12 12 10 10 10 10 8 150' 12 12 12 12 10 10 8 8 8 8 200' 12 12 10 10 10 8 8 6 6 6 250' 12 10 10 8 8 6 6 6 6 6 300' 12 10 8 8 6 6 6 6 4 4

ELECTRICAL ABBREVIATIONS

A OR AMP	-AMPERE	LCC	LOCAL CONTROL STATION
AL	-ALTERNATING CURRENT	LTS	-LIGHTING
AF	-AMP FRAME	M	-METER
AFF	-ABOVE FINISHED FLOOR	MC	-MOTOR CONTROL
AHU	-AIR HANDLING UNIT	MCA	-MAIN CIRCUIT AMPACITY
JURISDICTION	-CIRCUIT BREAKER	MCC	-MAIN CIRCUIT BREAKER
AHU	-AIR HANDLING UNIT	MCCP	-MOTOR CONTROL CENTER
AT	-AMP TRIP	MCP	-MOTOR CIRCUIT PROTECTION
ATCBMS/EMCS	-HVAC CONTROLS	MDS	-MAIN DISTRIBUTION SWITCHBOARD
ATS	-AUTOMATIC TRANSFER SWITCH	MFR	-MANUFACTURER
AIC	-AMPS INTERRUPTING CAPACITY	*, MH	-MOUNTING HEIGHT
BRKR	-BREAKER	MI	-MINERAL INSULATED
C or CONO	-CONDUIT	MO	-MAIN LUGS ONLY
CB	-CIRCUIT BREAKER	MOM	-MOMENT
CD	-CANDULA	MOP	-MAXIMUM OVERCURRENT PROTECTION
CKT	-CIRCUIT	MSP	-MOTOR STARTER
CP	-CONTROL PANEL	MSB	-MAIN SWITCHBOARD
CPY	-CURRENT POWER TRANSFORMER	NA	-NEW
CT	-CURRENT TRANSFORMER	NI	-NOT APPLICABLE
CU	-COPPER	NC	-NORMALLY CLOSED
CUL	-CONDENSING UNIT	NEL	-NATIONAL ELECTRICAL CODE
DC	-DIRECT CURRENT	NEMA	-NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
DISC OR DS	-DISCONNECT	NF	-NON-FUSED
DIV	-DIVISION	NFPA	-NATIONAL FIRE PROTECTION ASSOCIATION
DVY	-DRY RISE VULVE CABINET	NFSS	-NON-FUSED SAFETY SWITCH
DWG	-DRAWING	NO	-NOT IN CONTRACT
(E) EXIST	-EXISTING	NORM	-NORMAL / OPEN
EC	-ELECTRICAL CONTRACTOR	OCPO	-OVERCURRENT PROTECTION DEVICE
EL	-ELEVATOR	P	-POLE
ELEC	-ELECTRICAL	PH OR Ø	-PHASE
EMER	-EMERGENCY	PP	-POWER POLE
EMR	-ELEVATOR MACHINE ROOM	NEMA	-NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
EMT	-ELECTRIC METALLIC TUBING	PC	-PULL BOX
EP	-EXPLOSION PROOF	PF	-PAD MOUNTED TRANSFORMER
EPO	-ELECTRIC POWER OFF	PNC	-PANELBOARD
EUH	-ELECTRIC UNIT HEATER	PL	-PROGRAMMABLE LOGIC CONTROLLER
EWC	-ELECTRIC WATER COOLER	POT	-POTENTIAL TRANSFORMER
EWH	-ELECTRIC WATER HEATER	PRL	-PANELBOARD
F	-FUSE	PLC	-PROGRAMMABLE LOGIC CONTROLLER
FA	-FIRE ALARM	PT	-POTENTIAL TRANSFORMER
FCA	-FAULT CURRENT AVAILABLE	RCPT OR RECEPT	-RECEPTACLE
FDR	-FAULT CURRENT RATING	RM	-ROOM
FDR	-FEEDER	RVS	-REDUCED VOLTAGE SOLID STATE (MOTOR STARTER)
FLA	-FULL LOADS AMPS	SCHD	-SCHEDULE
FSS	-FUSED SAFETY SWITCH	SPD	-SURGE PROTECTIVE DEVICES
FT	-FEET	SWBD	-SWITCHBOARD
FTL	-FEED THRU LUGS	TBD	-TO BE DETERMINED
FU	-FUSE	TBD	-TOTAL HARMONIC DISTORTION
FVR	-FULL VOLTAGE NON REVERSING	THB	-TELEPHONE TERMINAL BOARD
G, GND	-GROUND	TVSS	-TRANSIENT VOLTAGE SURGE SUPPRESSOR</

CARDINAL ENGINEERING ASSOCIATES INC.-21-03-34-00 FPL COLUMBIA- Wed, 10 Dec 2025 - 4:32pm

COLUMBIA STORM PROCESSING									
LIGHTING FIXTURE SCHEDULE									
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMPS		VOLTS	DIM TYPE	MOUNTING	REMARKS
				Type	Total Wattage				
A	HE WILLIAMS	FT-24-LS-8CS-AF-DIM-UNV-27W	2X4 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP	LED/4K	47MAX	UNV	0-10V	RECESSED	
AE	HE WILLIAMS	FT-24-LS-8CS-AF-EM/10W-DIM-UNV-27W	2X4 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP W/ BATTERY	LED/4K	47MAX	UNV	0-10V	RECESSED	
A2	HE WILLIAMS	FT-24-LS-8CS-AF-DIM-UNV-39W	2X4 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP	LED/4K	47MAX	UNV	0-10V	RECESSED	
A2E	HE WILLIAMS	FT-24-LS-8CS-AF-EM/10W-DIM-UNV-39W	2X4 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP W/ BATTERY	LED/4K	47MAX	UNV	0-10V	RECESSED	
B	HE WILLIAMS	FT-22-LS-8CS-AF-DIM-UNV-24W	2X2 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP	LED/4K	47MAX	UNV	0-10V	RECESSED	
BE	HE WILLIAMS	FT-22-LS-8CS-AF-EM/10W-DIM-UNV-24W	2X2 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP W/ BATTERY	LED/4K	47MAX	UNV	0-10V	RECESSED	
B2	HE WILLIAMS	FT-22-LS-8CS-AF-DIM-UNV-33W	2X2 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP	LED/4K	47MAX	UNV	0-10V	RECESSED	
B2E	HE WILLIAMS	FT-22-LS-8CS-AF-EM/10W-DIM-UNV-33W	2X2 LED BASKET W/ FIELD SELECTABLE LUMENS AND COLOR TEMP W/ BATTERY	LED/4K	47MAX	UNV	0-10V	RECESSED	
C	BEGHELLI	BS100LED-4-HT-LO-WT40-120-277	4' LED VAPOR PROOF	LED/4K	40	UNV	0-10V	SURFACE	
CE	BEGHELLI	BS100LED-4-SA-LO-WT40-120-277	4' LED VAPOR PROOF W/ BATTERY	LED/4K	40	UNV	0-10V	SURFACE	
C2	BEGHELLI	BS100LED-4-HT-MO-WT40-120-277	4' LED VAPOR PROOF	LED/4K	50	UNV	0-10V	SURFACE	
C2E	BEGHELLI	BS100LED-4-SA-MO-WT40-120-277	4' LED VAPOR PROOF W/ BATTERY	LED/4K	50	UNV	0-10V	SURFACE	
D	HE WILLIAMS	17-4-L55-840-AF-DIM-UNV	4' LED WRAP	LED/4K	42.3	UNV	0-10V	SURFACE	
DE	HE WILLIAMS	17-4-L55-840-AF-EM/10W-DIM-UNV	4' LED WRAP W/ BATTERY	LED/4K	42.3	UNV	0-10V	SURFACE	
D2	HE WILLIAMS	17-2-L27-840-AF-DIM-UNV	2' LED WRAP	LED/4K	21.3	UNV	0-10V	SURFACE	
D2E	HE WILLIAMS	17-2-L27-840-AF-EM/10W-DIM-UNV	2' LED WRAP W/ BATTERY	LED/4K	21.3	UNV	0-10V	SURFACE	
F	FC LTG	FCSL1016-120-3K-CR190-08L-FINISH-PE+PIR	LED STEP LIGHT W/ SENSOR	LED/3K	2.2	120	N/A	RECESSED	
G	LITON	LCMPD12R-FINISH-UE-D10-TS40	12" ROUND LED SHALLOW	LED/4K	22	UNV	0-10V	J-BOX	
H	LITON	LCMPD5R-FINISH-UE-D10-TS35	5" ROUND LED SHALLOW	LED/35K	11	UNV	0-10V	J-BOX	
K	HE WILLIAMS	6DR-TL-L15-840-DIM-UNV/S-W-OF-WH-MWT/N-F1	6" LED SHOWER RATED DOWN LIGHT	LED/4K	13.8	UNV	0-10V	RECESSED	
W	GARDCO	GWS-A02-740-T4M-UNV-FINISH	LED WALL PACK	LED/4K	17	UNV	0-10V	WALL	
W2	GARDCO	GWS-A05-740-T4M-UNV-FINISH	LED WALL PACK	LED/4K	41	UNV	0-10V	WALL	
EX	BEGHELLI	EPX-SA	LED PLASTIC EXIT	LED	3	UNV	N/A	SURFACE	
LIGHTING SCHEDULE NOTES:									
1. CONTACT SESCO LIGHTING (PATTY ROSSIELLO) @ 561-632-4192 OR prossiello@sescolighting.com									
2. THE ABOVE FIXTURE SCHEDULE IS PREDICATED ON PERFORMANCE AND IS DESIGNED TO MEET CERTAIN AESTHETIC CRITERIA. ALL ALTERNATIVE SELECTIONS MUST BE SUBMITTED TO THE ARCHITECT FOR APPROVAL TEN (10) DAYS PRIOR TO BID DATE.									
3. SUBMITTAL MUST INCLUDE ITL CERTIFIED PHOTOMETRIC FILES FOR REVIEW OF EQUALITY.									
4. NO SUBSTITUTIONS ALLOWED.									
SESCO LIGHTING									



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T: 704.525.5550

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ISSUE FOR
100% CONSTRUCTION
DOCUMENTS

ISSUE DATE
12.03.2025

REVISIONS

NO.	REASON	DATE

PROJECT TEAM

PRINCIPAL IN CHARGE
DAVID LITHGOW

PROJECT MANAGER
DAVID LITHGOW

DESIGN TEAM
CEA

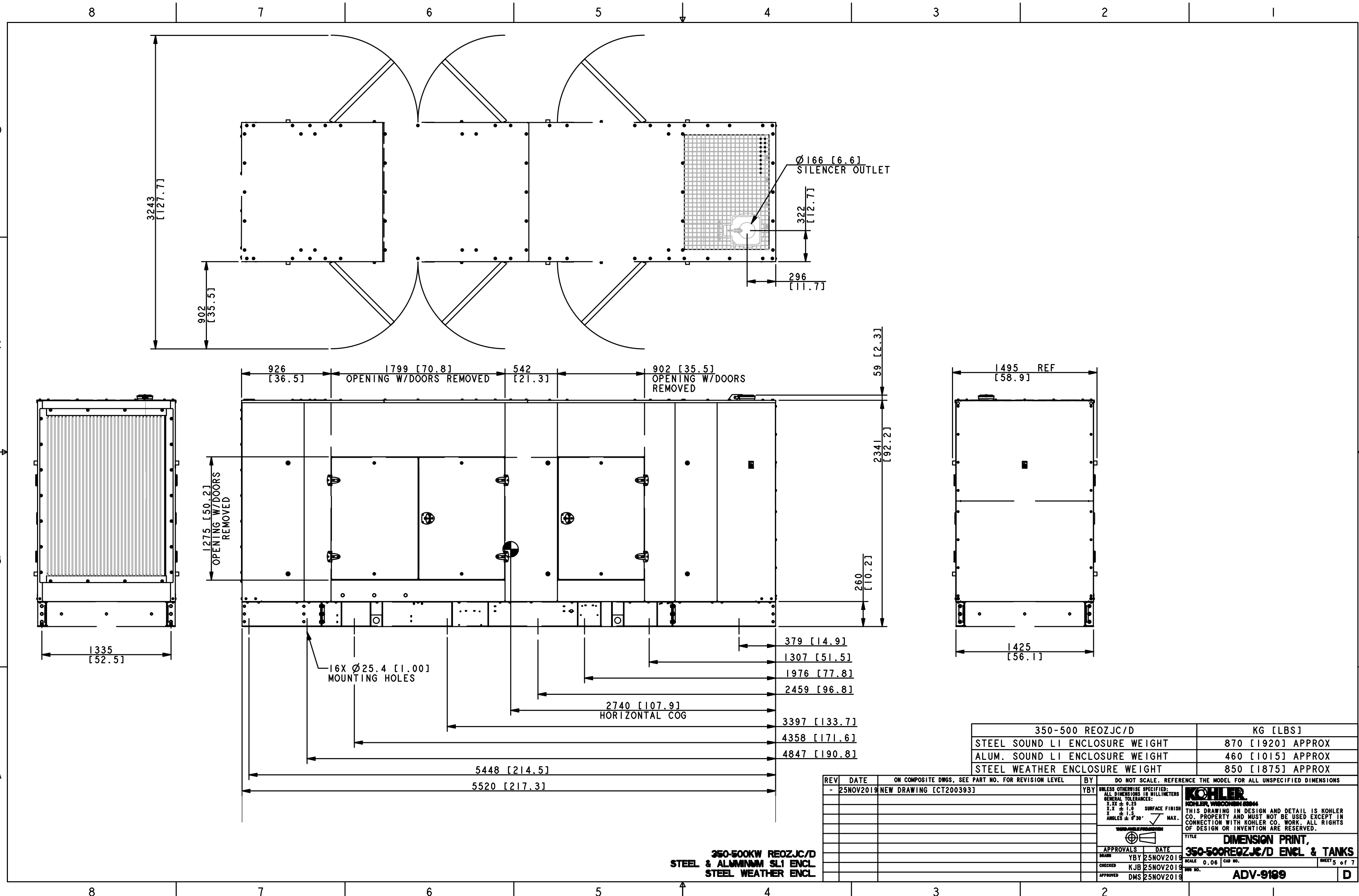
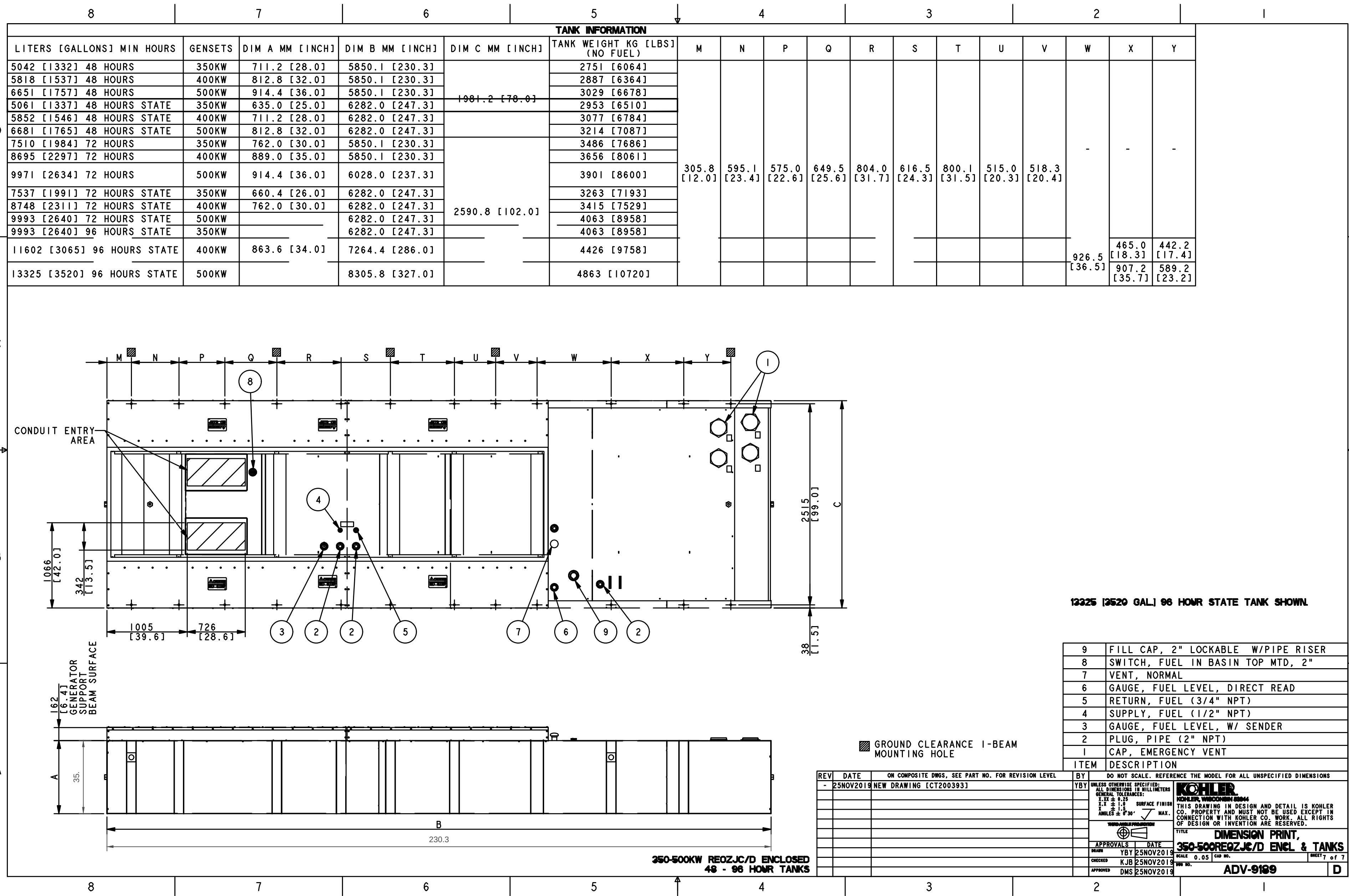
PROJECT NAME
FPL Columbia Storm
Processing Facility Phase 2

1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
LIGHT FIXTURE
SCHEDULE

SHEET NUMBER
F-E002



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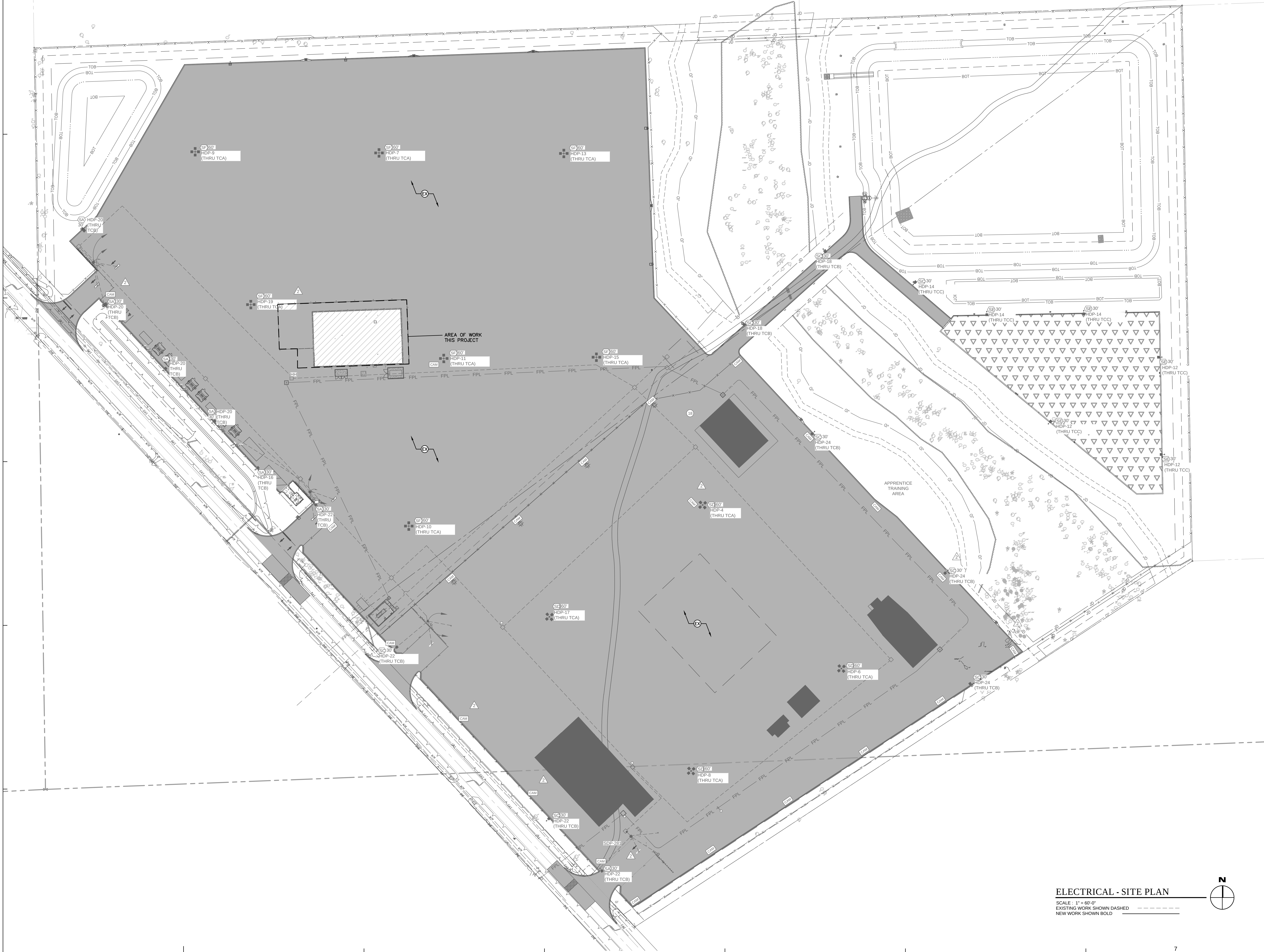
REVISIONS
NO. REASON DATE

PROJECT TEAM
PRINCIPAL IN CHARGE
DAVID LITHGOW
PROJECT MANAGER
DAVID LITHGOW
DESIGN TEAM
CEA
PROJECT NAME
FPL Columbia Storm Processing Facility Phase 2
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01
SHEET TITLE
LIGHT FIXTURE SCHEDULE

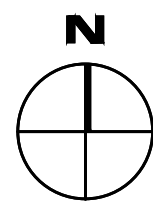
SHEET NUMBER
F-E003

CARDINAL ENGINEERING ASSOCIATES INC. 21-03-34-00 FPL COLUMBIA: Wed, 10 Dec 2025 - 4:32pm



ELECTRICAL - SITE PLAN

SCALE: 1" = 60'-0"
EXISTING WORK SHOWN DASHED
NEW WORK SHOWN BOLD



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ISSUE DATE
12.03.2025

REVISIONS

NO.	REASON	DATE
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PROJECT TEAM

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PROJECT MANAGER
DAVID LITHGOW

DESIGN TEAM
CEA

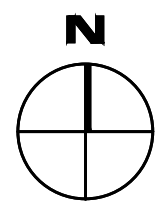
PROJECT NAME
FPL Columbia Storm Processing Facility Phase 2

1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

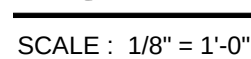
SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NUMBER
F-ES101



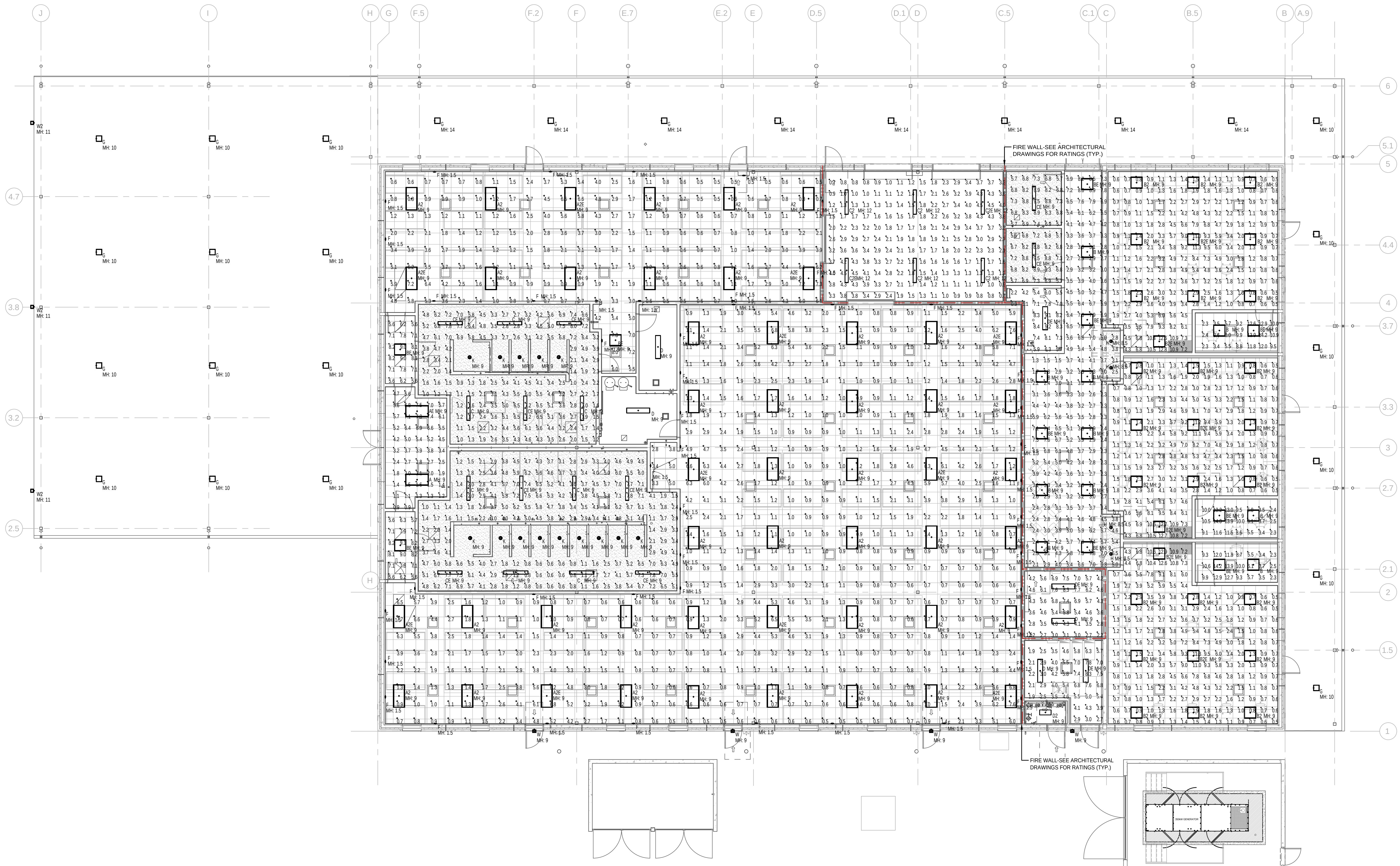
SCALE : 1/8" = 1'-0'

NO.	DATE:	DESCRIPTION	BY
REVISONS			
EVALUATION: LIGHTNING PROTECTION SYSTEM			
PROJECT: FPL COLUMBIA STORM PROCESSING FACILITY PHASE 2			
FLORIDA			
INSTALLER & DESIGNER: BONDED LIGHTNING PROTECTION LIGHTNING PROTECTION SYSTEMS, INC. INSTALLING MEMBER OF THE LIGHTNING PROTECTION INSTITUTE PHONE: 561-746-4336 FAX: 561-747-8233 2080 W. INDIANWOOD ROAD SUITE 100 JUPITER, FLORIDA 33458 333 N. FALKENBURG ROAD UNIT D-401 TAMPA, FLORIDA 33619 1508 CAPITAL CIRCLE NW UNIT B TALLAHASSEE, FLORIDA 32303			
JOB NO.	MANUFACTURER	EAST COAST LIGHTNING EQUIPMENT® L.P. - MEMBER - U.L.P.A. PHONE: 1-800-880-8462 E-MAIL: info@ecle.biz 24 LANSOW DRIVE WINSTED, CT. 06098	
BLD25050			
DWN. BY	RES		
CHK. BY	PCD		
DATE:			
30.OCT.25			
SCALE AS SHOWN			
SHEET NO.			
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-OF-			
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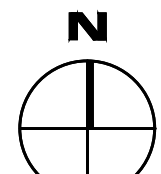
SEE F-E002 FOR CONTROL DETAILS

— C O O R D I N A T E W I T H A P P R O V E D S H O P D R A W I N G S —



Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	
	1	A	Single	FT-24-LS-BCS-AF-DIM-INV_27W_4000K		
	39	A2	Single	FT-24-LS-BCS-AF-DIM-INV_39W_4000K		
	10	B	Single	FT-22-LS-BCS-AF-DIM-INV_24W_4000K		
	24	B2	Single	FT-22-LS-BCS-AF-DIM-INV_33W_4000K		
	7	C	Single	BS100LED4 HT LO W40 120V-27V		
	4	C2	Single	BS100LED4 HT MO W40 120-27V 2CH48		
	4	D	Single	17-4-LS-840-AF-DIM-INV		
	1	D2	Single	17-2-127-840-AF-DIM-INV		
	49	F	Single	FCSS-1016-120V-3K-CR89-08L-WH-PE+PIR		
	26	G	Single	LCMPOL2QW-740		
	14	H	Single	LCMP2BRW-010-7540		
	4	K	Single	626-TL-4-LS-840-DIM-INV-LW-OF-CS		
	4	W	Single	GWS-A02-840-74M		
	3	W2	Single	GWS-A05-840-74M		
	1	AE	Single	FT-24-LS-BCS-AF-EM10W-DIM-INV		
	11	AE2	Single	FT-24-LS-BCS-AF-EM10W-DIM-INV		
	1	BE	Single	FT-22-LS-BCS-AF-EM10W-DIM-INV		
	6	BE2	Single	FT-22-LS-BCS-AF-EM10W-DIM-INV		
	9	CE	Single	BS100LED4 SA LO W40 120V-27V		
	2	C2E	Single	BS100LED4 SA LO W40 120-27V 2CH48 BATTERY		
	3	DE	Single	17-4-LS-840-AF-EM10W-INV (EMER MODE)		
Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
CORRIDOR_FLOOR	Illuminance	Fc	4.4	8.9	1.3	6.9
ELECTRICAL_FLOOR	Illuminance	Fc	4.7	8.3	1.9	4.4
FINANCE_PROCESSING_Workplane	Illuminance	Fc	2.9	12.9	0.5	25.8
Huddle 1_Workplane	Illuminance	Fc	8.1	14.2	2.3	3.5
Huddle 2_Workplane	Illuminance	Fc	8.1	14.0	2.3	3.5
Huddle 3_Workplane	Illuminance	Fc	8.1	14.2	2.3	3.5
TOP_FLOOR	Illuminance	Fc	4.9	8.3	2.2	3.8
JANITOR ROOF ACCESS_FLOOR	Illuminance	Fc	6.3	9.2	0.9	7.0
MENS QUARTERS_FLOOR	Illuminance	Fc	1.9	7.7	0.5	3.8
MENS QUARTERS_Workplane	Illuminance	Fc	2.2	8.0	0.5	4.4
MENS RR_FLOOR	Illuminance	Fc	7.4	9.5	5.6	1.3
MENS SHOWERS_Workplane	Illuminance	Fc	3.9	7.8	0.6	6.4
MENS VESTIBULE_FLOOR	Illuminance	Fc	7.2	9.1	5.6	1.3
PD PROCESSING_Workplane	Illuminance	Fc	3.0	12.7	0.5	25.4
STORAGE_FLOOR	Illuminance	Fc	2.3	4.5	0.7	3.3
VEGETATION_PROCESSING_Workplane	Illuminance	Fc	2.9	12.8	0.5	25.6
VESTIBULE_FLOOR	Illuminance	Fc	3.8	7.8	0.9	4.3
WOMENS RR_FLOOR	Illuminance	Fc	7.4	9.5	5.7	1.7
WOMENS SHOWERS_Workplane	Illuminance	Fc	3.8	8.0	0.9	4.2
WOMENS VESTIBULE_FLOOR	Illuminance	Fc	7.2	9.0	5.6	1.3

PHOTOMETRIC
SCALE: 1/8" = 1'-0"



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ISSUE FOR
100% CONSTRUCTION
DOCUMENTS

ISSUE DATE
12.03.2025

REVISIONS

NO.	REASON	DATE
-----	--------	------

PROJECT TEAM
PRINCIPAL IN CHARGE
DAVID LITHGOW

PROJECT MANAGER
DAVID LITHGOW

DESIGN TEAM
CEA

PROJECT NAME
FPL Columbia Storm
Processing Facility Phase 2

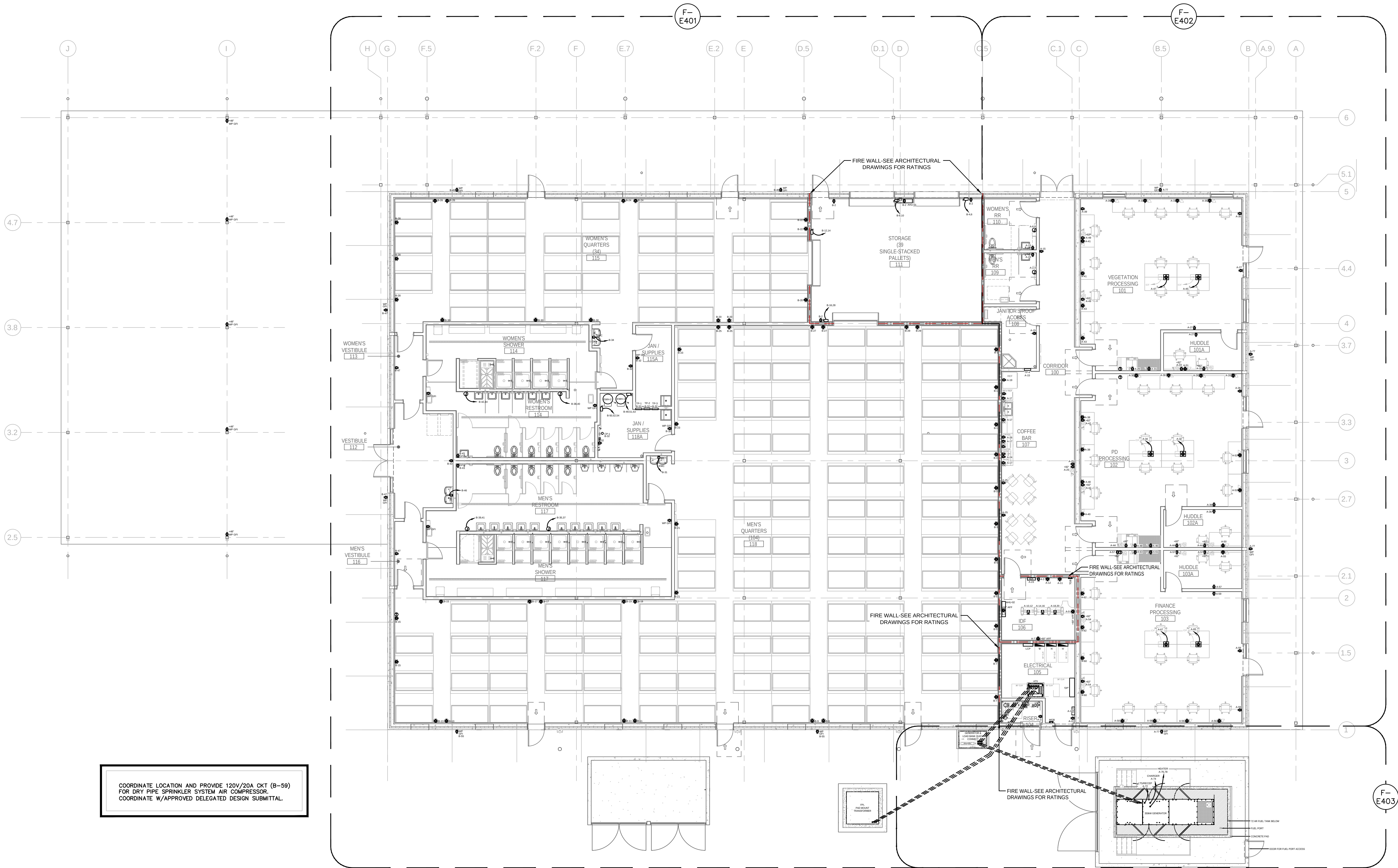
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
LIGHTING
PLAN

SHEET NUMBER
F-EL102

7



ELECTRICAL - OVERALL POWER PLAN

SCALE: 1/8" = 1'-0"

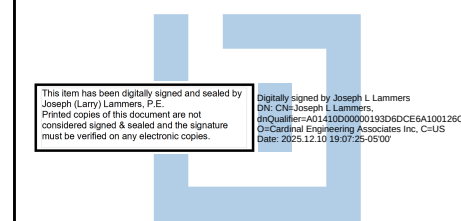


GENERAL NOTES THIS DRAWING

- CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS PLANS (F-T101 - F-T102) WILL BE PROVIDED BY THE DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
- REFER TO SYSTEMS PLANS (F-T101 THRU F-T102) FOR COMMUNICATIONS DEVICES. WHERE 120V RECEPTACLE ARE IN CLOSE PROXIMITY TO COMMUNICATIONS DEVICES, SUCH DEVICES SHALL BE INSTALLED AT THE SAME HEIGHT AS RECEPTACLES WITH NO MORE THAN 2" OF SEPARATION BETWEEN THEM.
- COORDINATE LOCATION OF FLOOR BOXES WITH OWNER AND FURNITURE PROVIDERS. LOCATIONS SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION.

KEYED NOTES (X)

- ALL GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HOUSEKEEPING PAD.



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PROJECT MANAGER
DAVID LITHGOW
DESIGN TEAM
CEA

FPL Columbia Storm
Processing Facility Phase 2
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
OVERALL
POWER PLAN

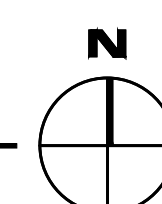
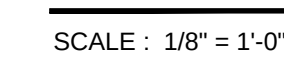
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F-EP101

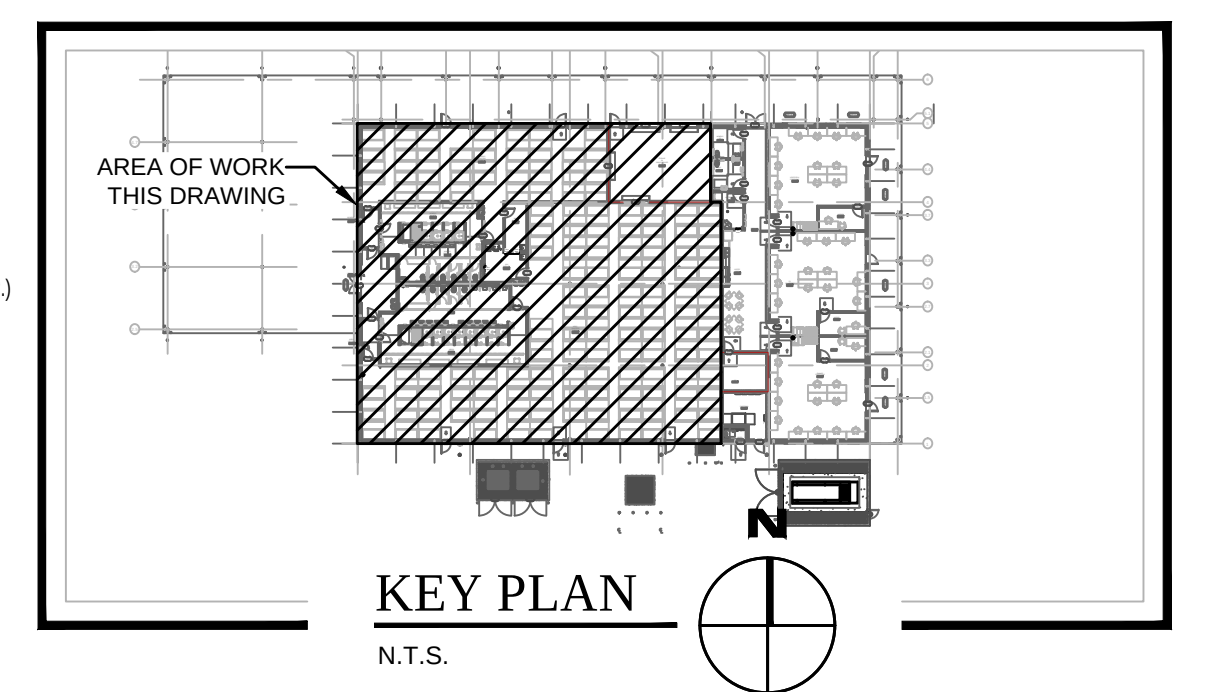
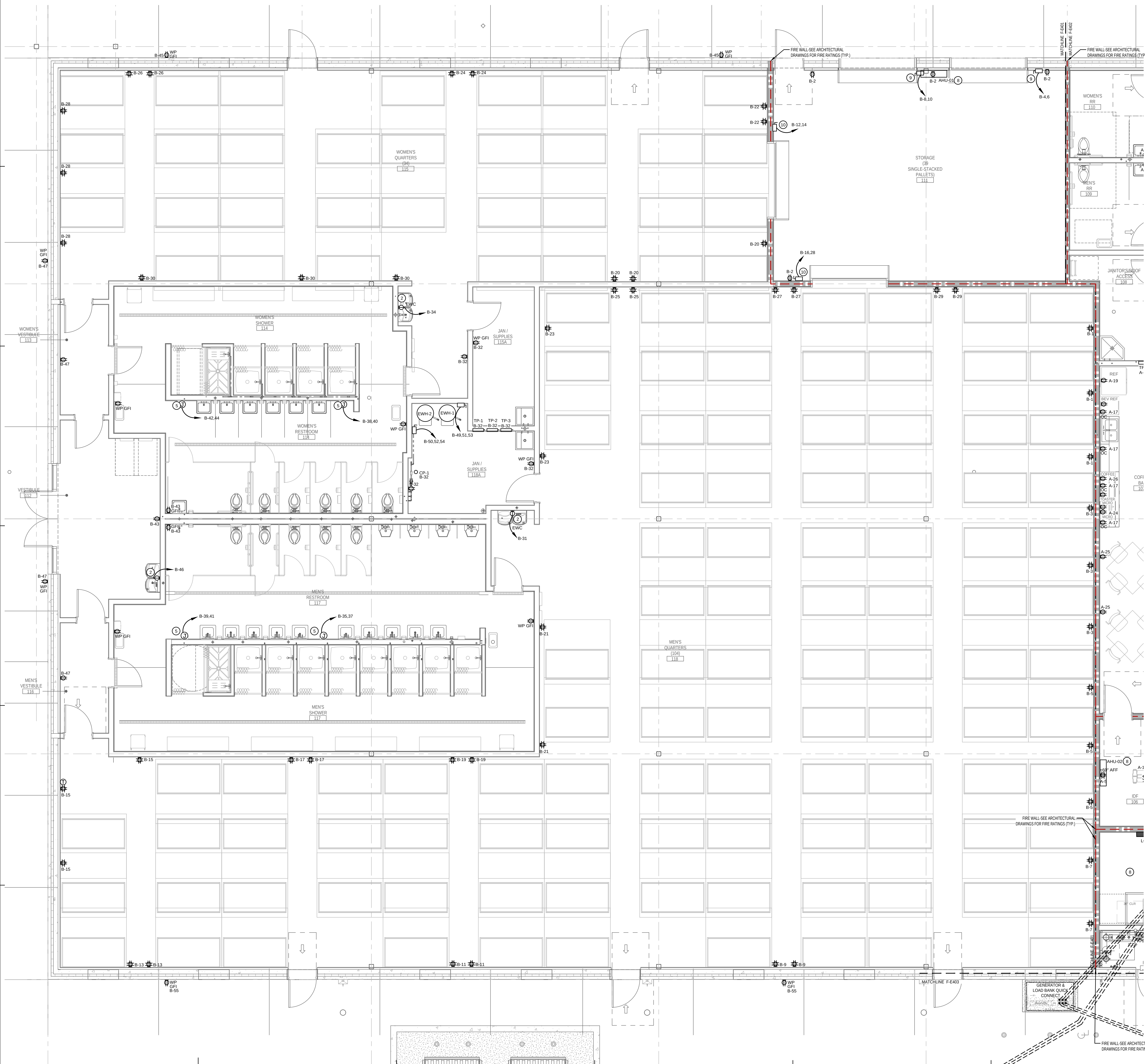
COORDINATE WITH MECHANICAL & PLUMBING TRADES.

COORDINATE WITH MECHANICAL & PLUMBING TRADES.

- ① EXHAUST FAN TO SHUT DOWN UPON SIGNAL FROM FIRE ALARM.
- ② EXHAUST FAN CONTROL VIA OCCUPANCY SENSOR SWITCH WITH OPTIONAL TIME DELAY SHUTDOWN OR LIGHT IN AREA SERVED.
- ③ UNIT SHALL SHUT DOWN UPON SIGNAL FROM BUILDING FIRE ALARM SYSTEM (PASSIVE SMOKE CONTROLS). INPUT PROVIDED BY FIRE ALARM CONTRACTOR.

SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.





- ### GENERAL NOTES THIS DRAWING
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 - REFER TO F-FA01: FIRE ALARM DEVICE LAYOUT FOR FIRE ALARM DEVICES. COORDINATE WITH MECHANICAL TRADE AND APPROVED FIRE ALARM SHOP DRAWINGS.

- ### KEYED NOTES (X) NOT ALL KEYED NOTES PERTAIN TO CURRENT SHEET
- ALL GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HOUSEKEEPING PAD.
 - PROVIDE GFCI TYPE BRANCH CIRCUIT BREAKER AT SOURCE PANELBOARD FOR RECEPTACLES AS INDICATED.
 - TV RECEPT. COORDINATE WITH ARCHITECT FOR EXACT HEIGHT & LOCATION.
 - LEGEND FOUR COMPARTMENT FLOOR BOXES DESIGN TO INCLUDE POWER, COMMUNICATIONS AND AV DEVICES. COORDINATE EXACT LOCATION WITH OWNER, ARCHITECT & FURNITURE SUPPLIER IN FIELD PRIOR TO ROUGH-IN.
 - AUTOMATIC TOUCHLESS ROLL TOWEL DISP. PROVIDE CONNECTIONS PER MANUFACTURER.
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 - ALLOCATE 3'-0" OF WALL SPACE FROM FLOOR TO CEILING FOR BDA (BIDIRECTIONAL AMPLIFIER), PROVIDE 3" CONDUIT WITH NYLON PULLSTRING FROM LOCATION OF BDA TO THE DONOR ANTENNA LOCATION.
 - AHU WITH SINGLE POINT OF UTILITY POWER CONNECTION AT CONDENSING UNIT. SEE EP-102 ROOF PLAN.
 - CONNECT OVERHEAD DOOR OPERATOR, CONTROLS AND SAFETY INTERLOCKS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTALLATION DRAWINGS.
 - CONNECT FIRE SHUTTER OPERATOR, CONTROLS AND SAFETY INTERLOCKS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTALLATION DRAWINGS.

ELECTRICAL - PARTIAL POWER PLAN
SCALE: 1/4" = 1'-0"

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REVISIONS
NO. REASON DATE

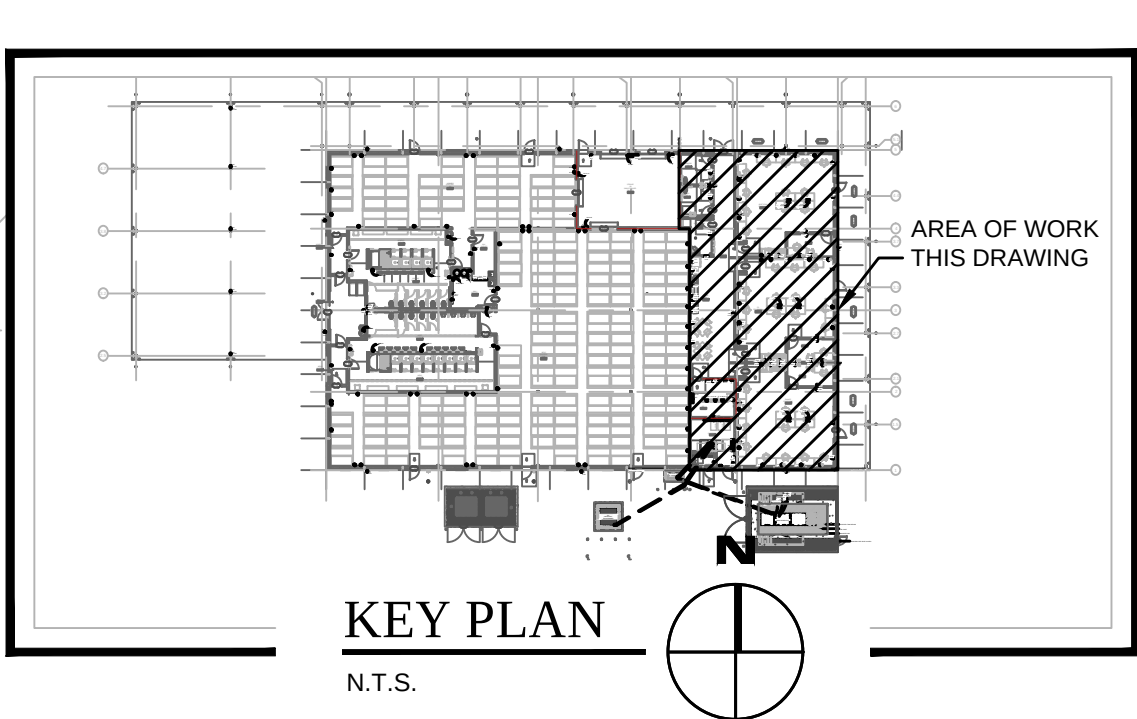
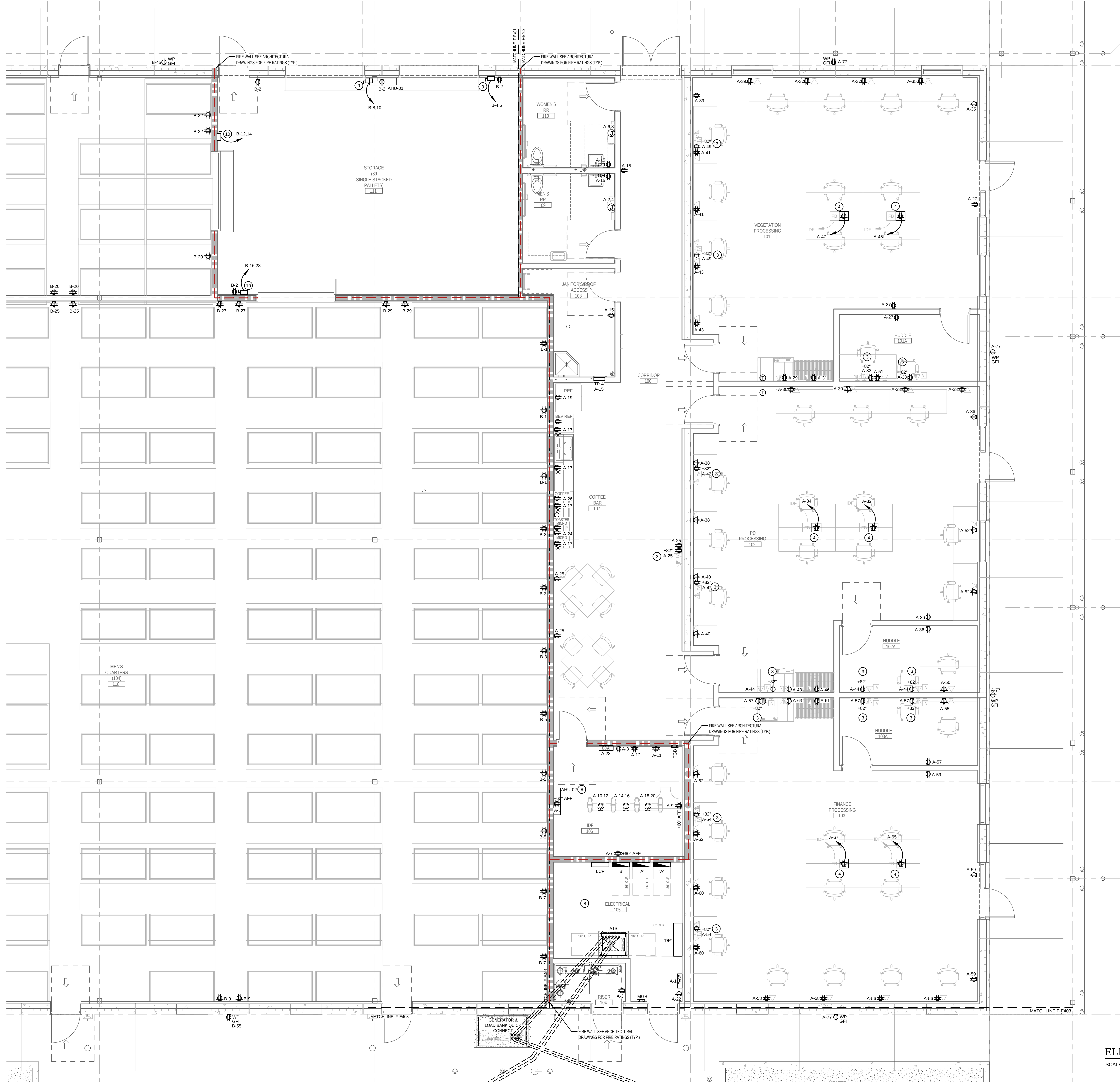
PROJECT TEAM
PRINCIPAL IN CHARGE
DAVID LITHGOW
PROJECT MANAGER
DAVID LITHGOW
DESIGN TEAM
CEA
PROJECT NAME

FPL Columbia Storm Processing Facility Phase 2
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
PARTIAL POWER PLAN

SHEET NUMBER
F-E401



- ### GENERAL NOTES THIS DRAWING
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 - REFER TO F-FA101 FIRE ALARM DEVICE LAYOUT FOR FIRE ALARM DEVICES. COORDINATE WITH MECHANICAL TRADE AND APPROVED FIRE ALARM SHOP DRAWINGS.

- ### KEYED NOTES (X) NOT ALL KEYED NOTES PERTAIN TO CURRENT SHEET
- ALL GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HOUSEKEEPING PAD.
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 - ALLOCATE 3'-0" OF WALL SPACE FROM FLOOR TO CEILING FOR BDA (BIODIRECTION AMPLIFIER). PROVIDE 3" CONDUIT WITH NYLON PULLSTRING FROM LOCATION OF BDA TO THE DONOR ANTENNA LOCATION.
 - AHU WITH SINGLE POINT OF UTILITY POWER CONNECTION AT CONDENSING UNIT. SEE EP-102 ROOF PLAN.
 - CONNECT OVERHEAD DOOR OPERATOR, CONTROLS AND SAFETY INTERLOCKS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTALLATION DRAWINGS.
 - CONNECT FIRE SHUTTER OPERATOR, CONTROLS AND SAFETY INTERLOCKS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTALLATION DRAWINGS.

ELECTRICAL - PARTIAL POWER PLAN
SCALE: 1/4" = 1'-0"

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ISSUE DATE: 12.03.2025		
NO.	REASON	DATE

PROJECT TEAM

PRINCIPAL IN CHARGE: DAVID LITHGOW

PROJECT MANAGER: DAVID LITHGOW

DESIGN TEAM: CEA

PROJECT NAME:

FPL Columbia Storm Processing Facility Phase 2

1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.:

814.C6328.01

SHEET TITLE:

PARTIAL POWER PLAN

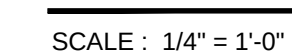
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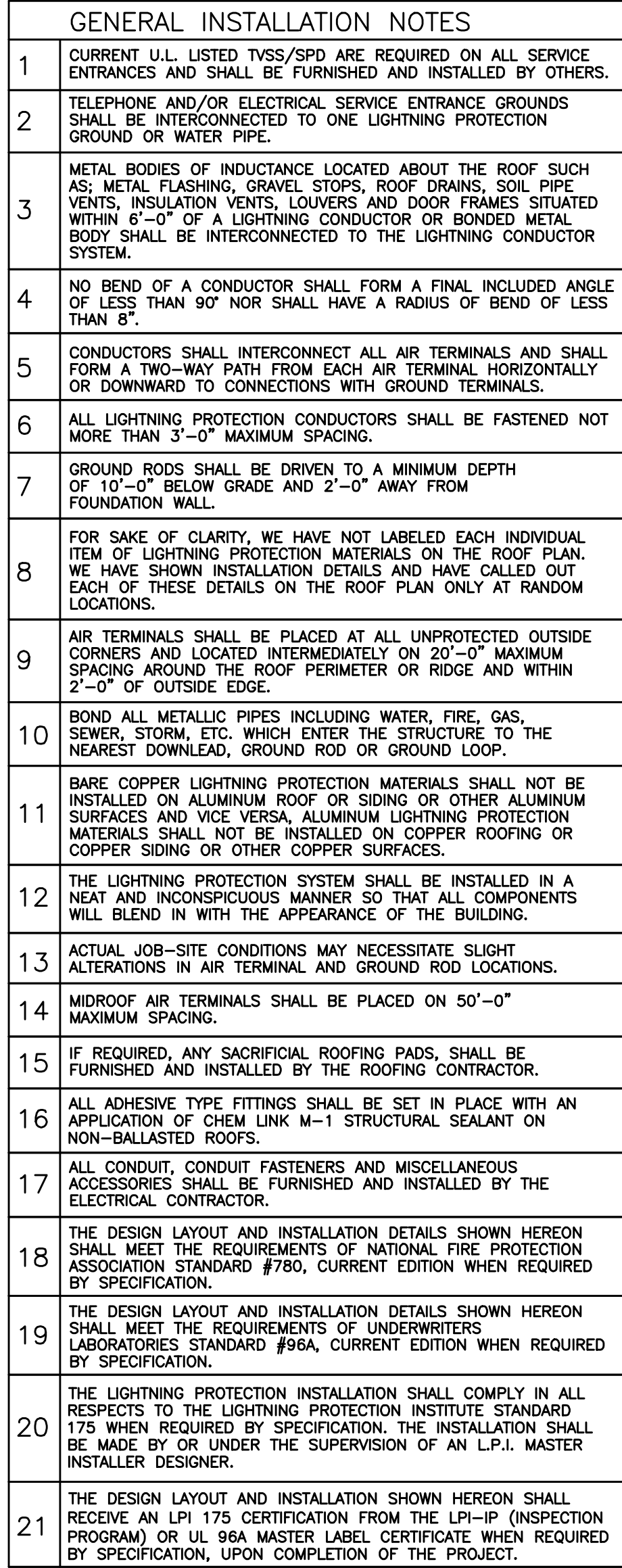
F-E402



1. CONTROL WIRING FOR MECHANICAL EQUIPMENT AND SYSTEMS PLANS (F-T101)
- F-T102 WILL BE PROVIDED BY THE DIVISION 23 CONTRACTOR UNLESS OTHERWISE NOTED.
2. REFER TO SYSTEMS PLANS (F-T101 THRU F-T102) FOR COMMUNICATIONS DEVICES, WHERE 120 RECEPTACLE ARE IN CLOSE PROXIMITY TO COMMUNICATIONS DEVICES, SUCH DEVICES SHALL BE INSTALLED AT THE SAME HEIGHT AS RECEPTACLES WITH NO MORE THAN 2" OF SEPARATION BETWEEN THEM.
3. COORDINATE LOCATION OF FLOOR BOXES WITH OWNER AND FURNITURE PROVIDERS. LOCATIONS SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION.
4. REFER TO F-TA01 FIRE ALARM DEVICE LAYOUT FOR FIRE ALARM DEVICES. COORDINATE WITH MECHANICAL TRADE AND APPROVE FIRE ALARM SHOP DRAWINGS.

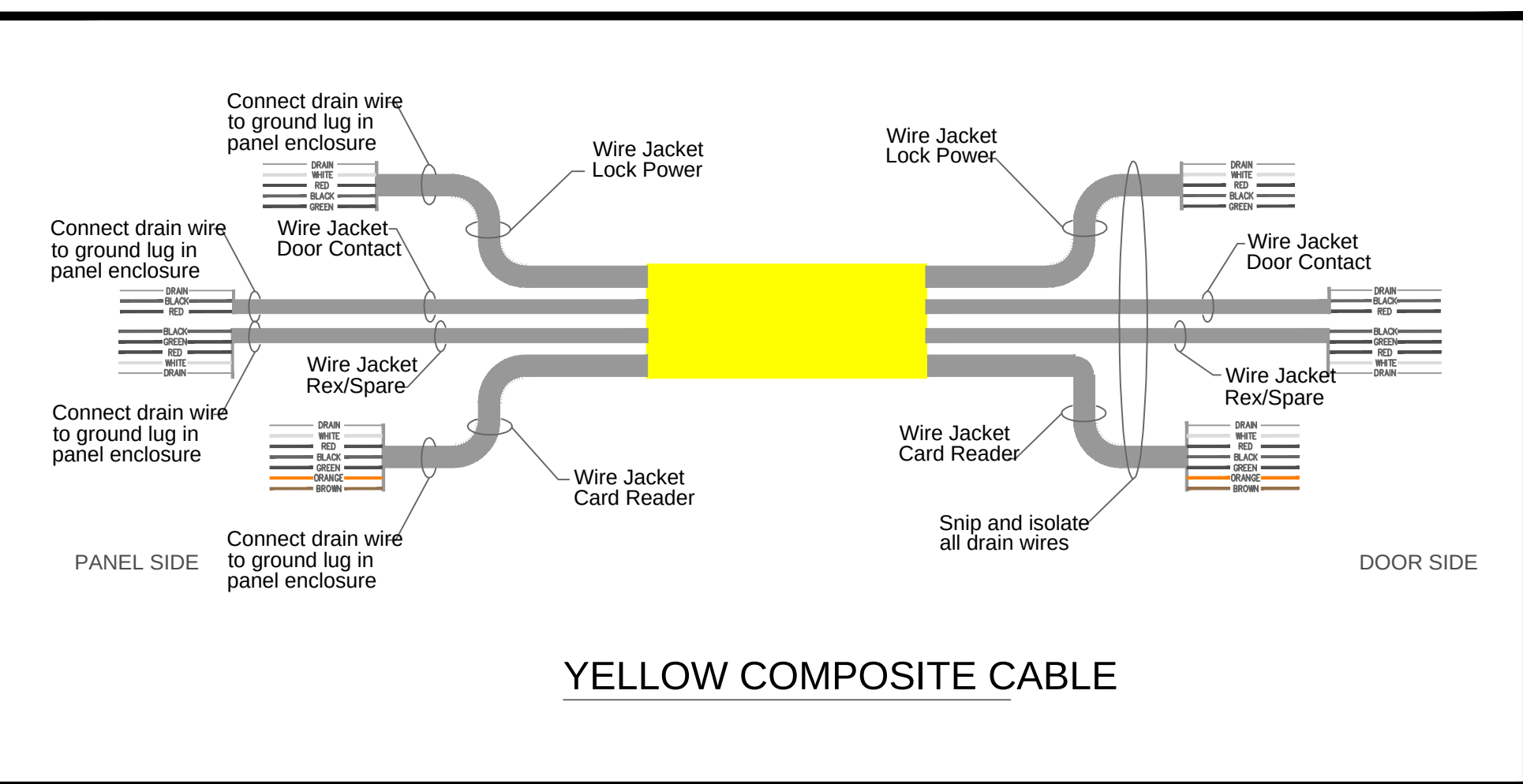
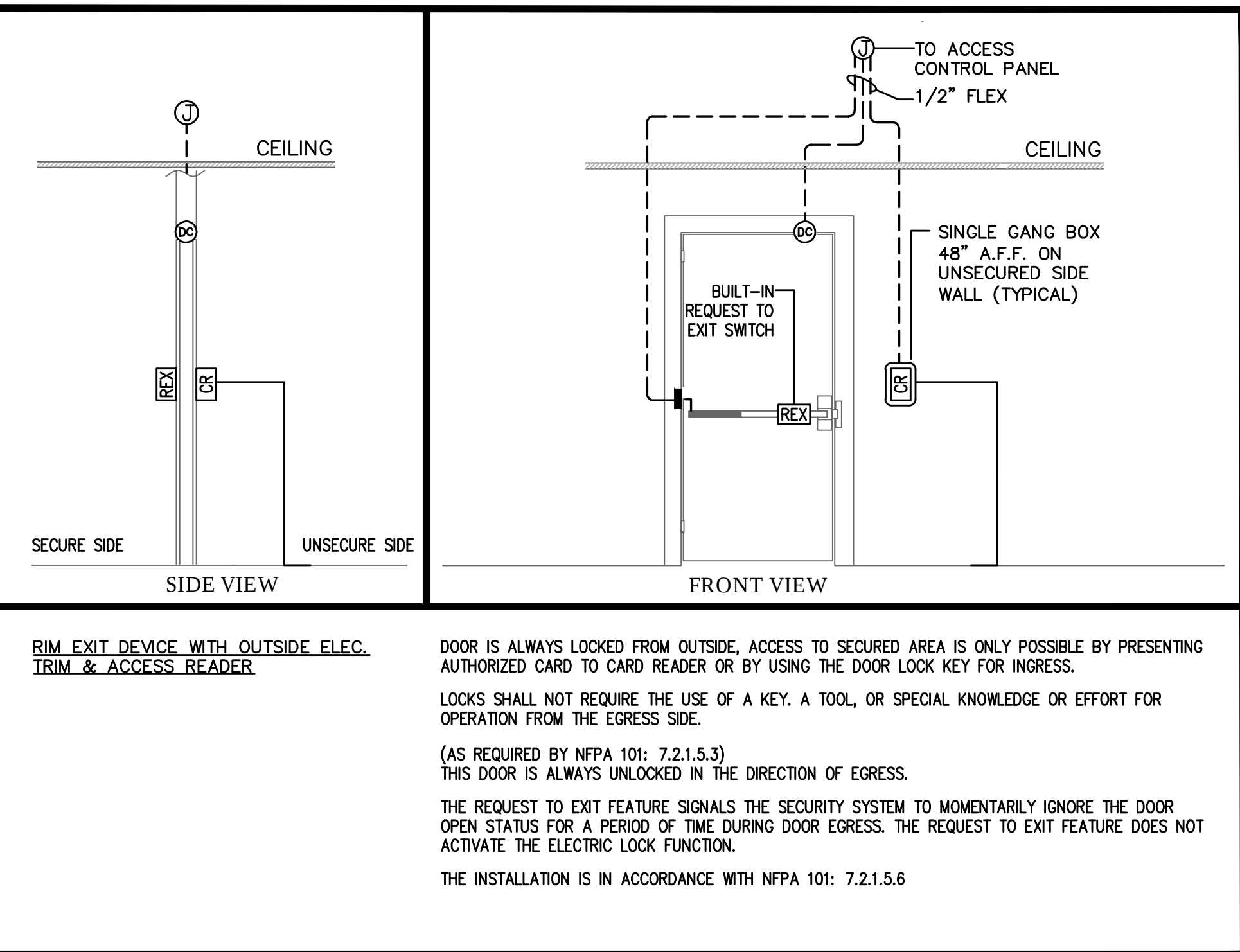
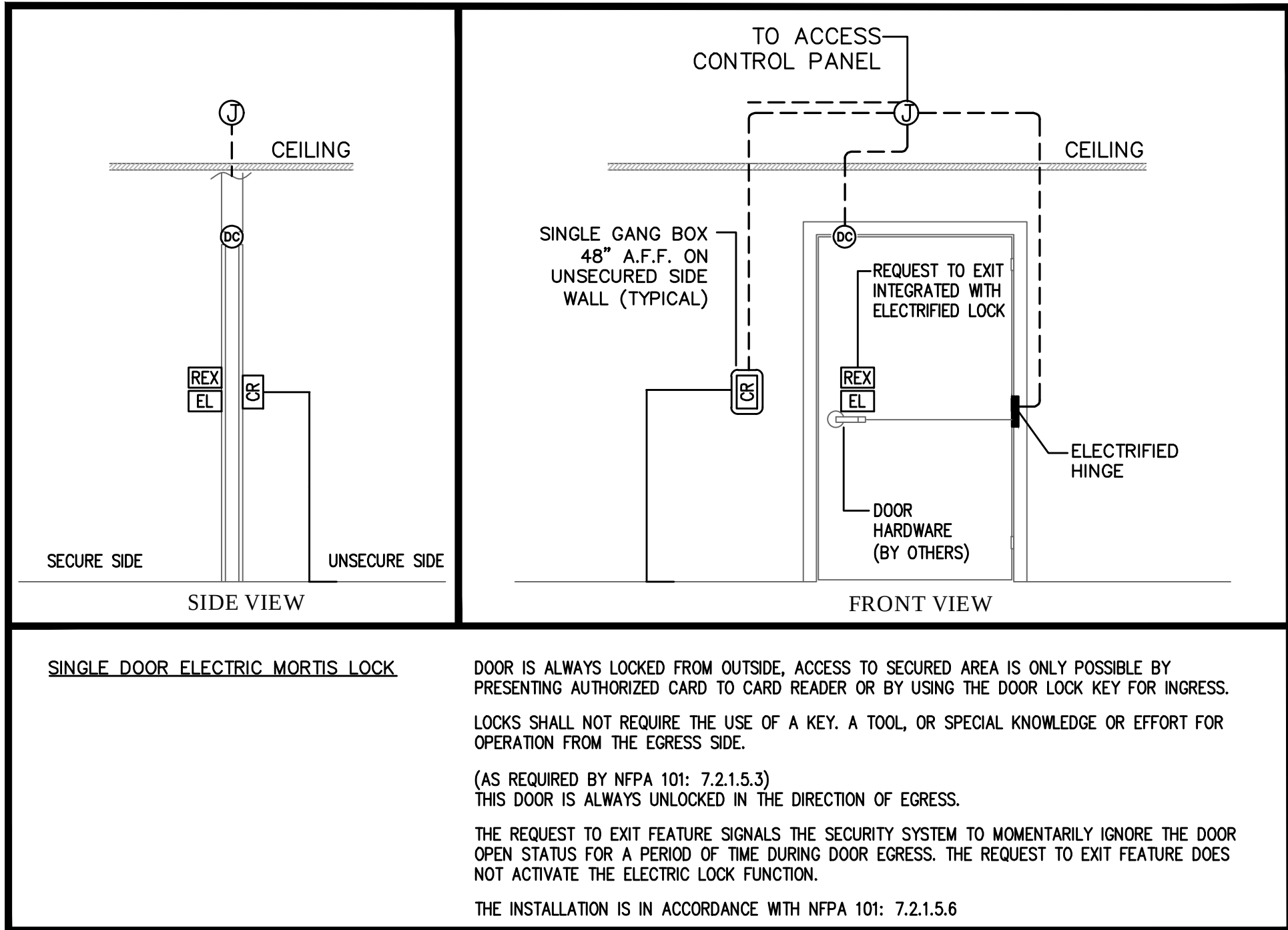
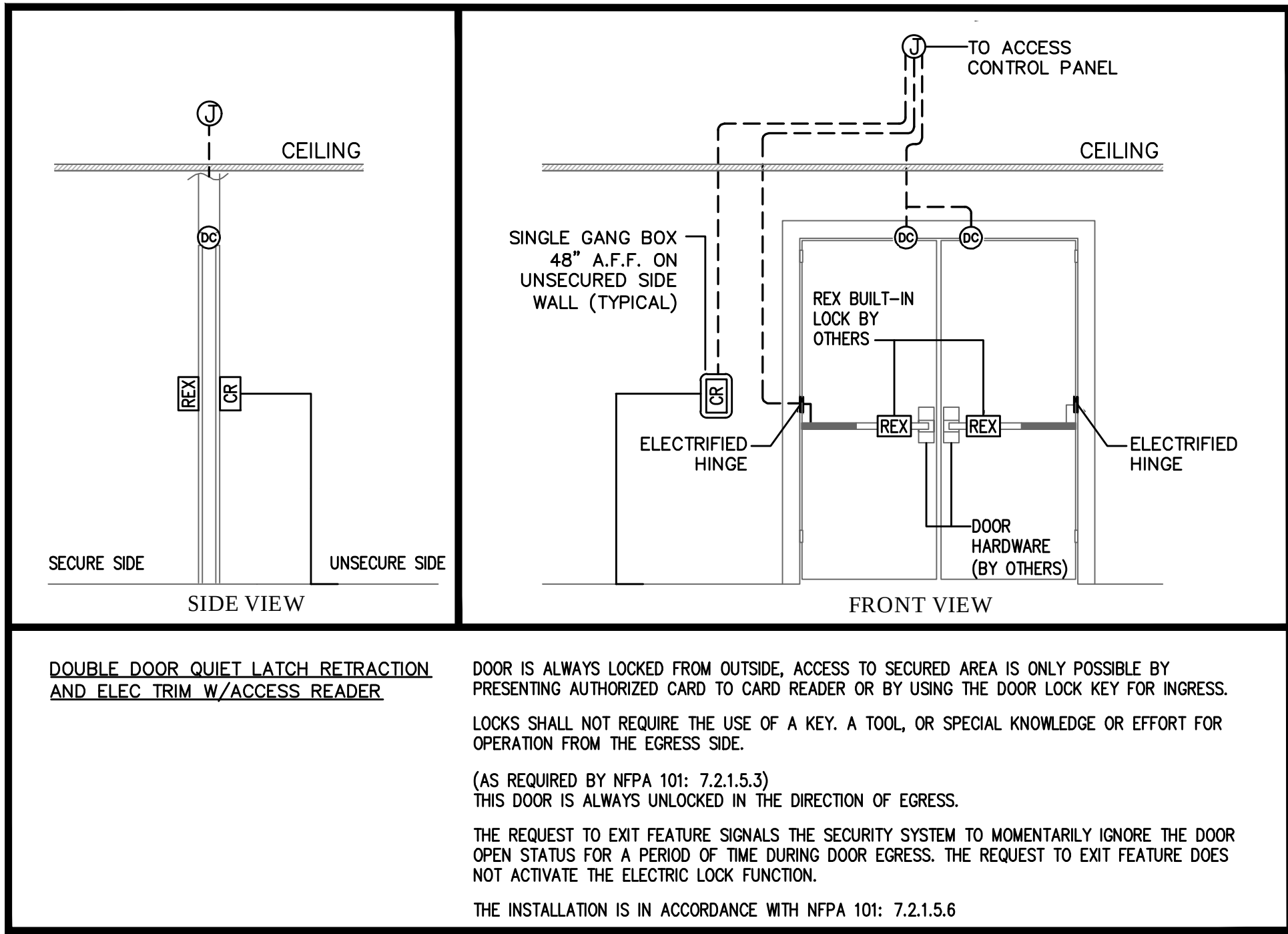
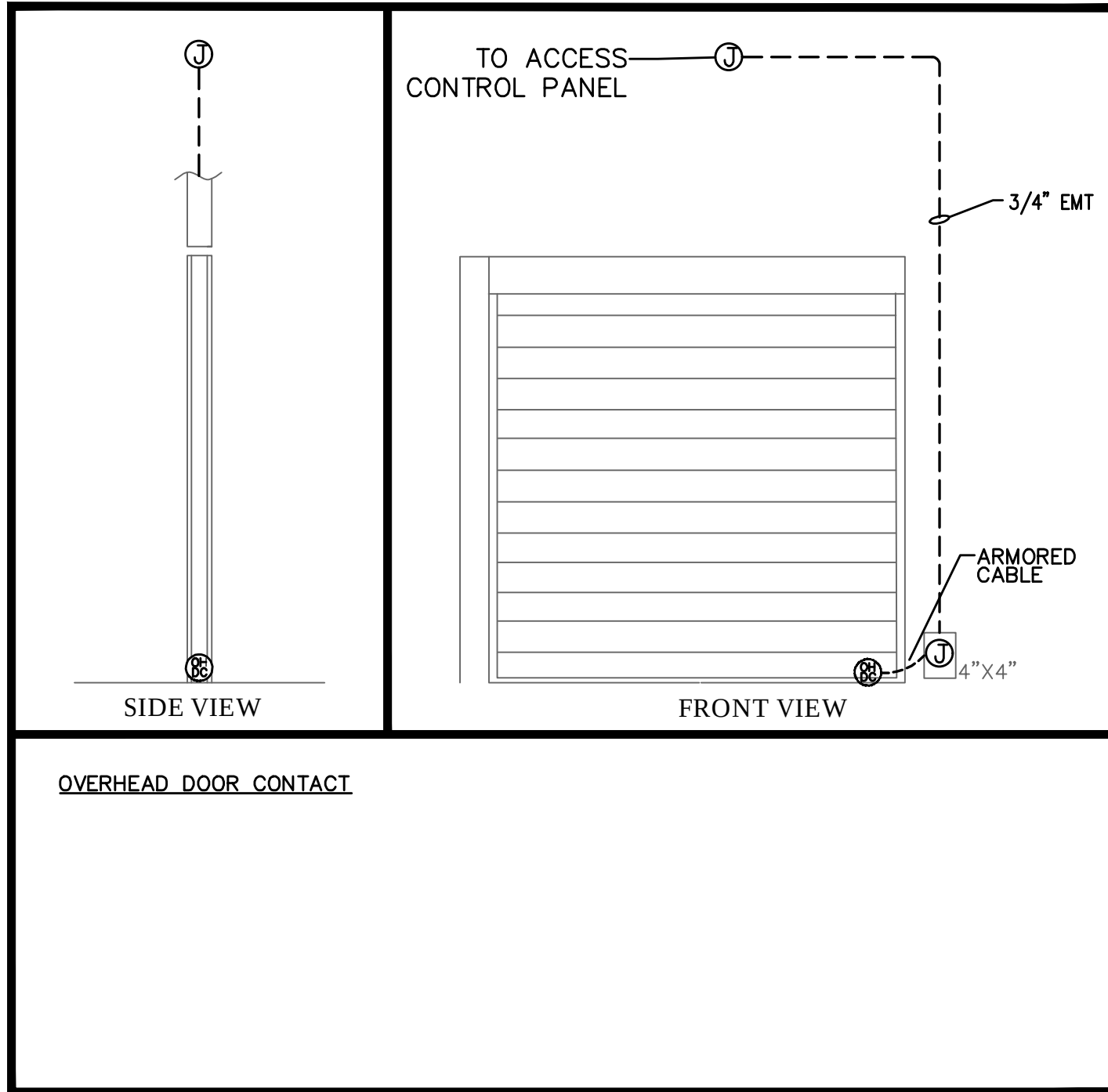
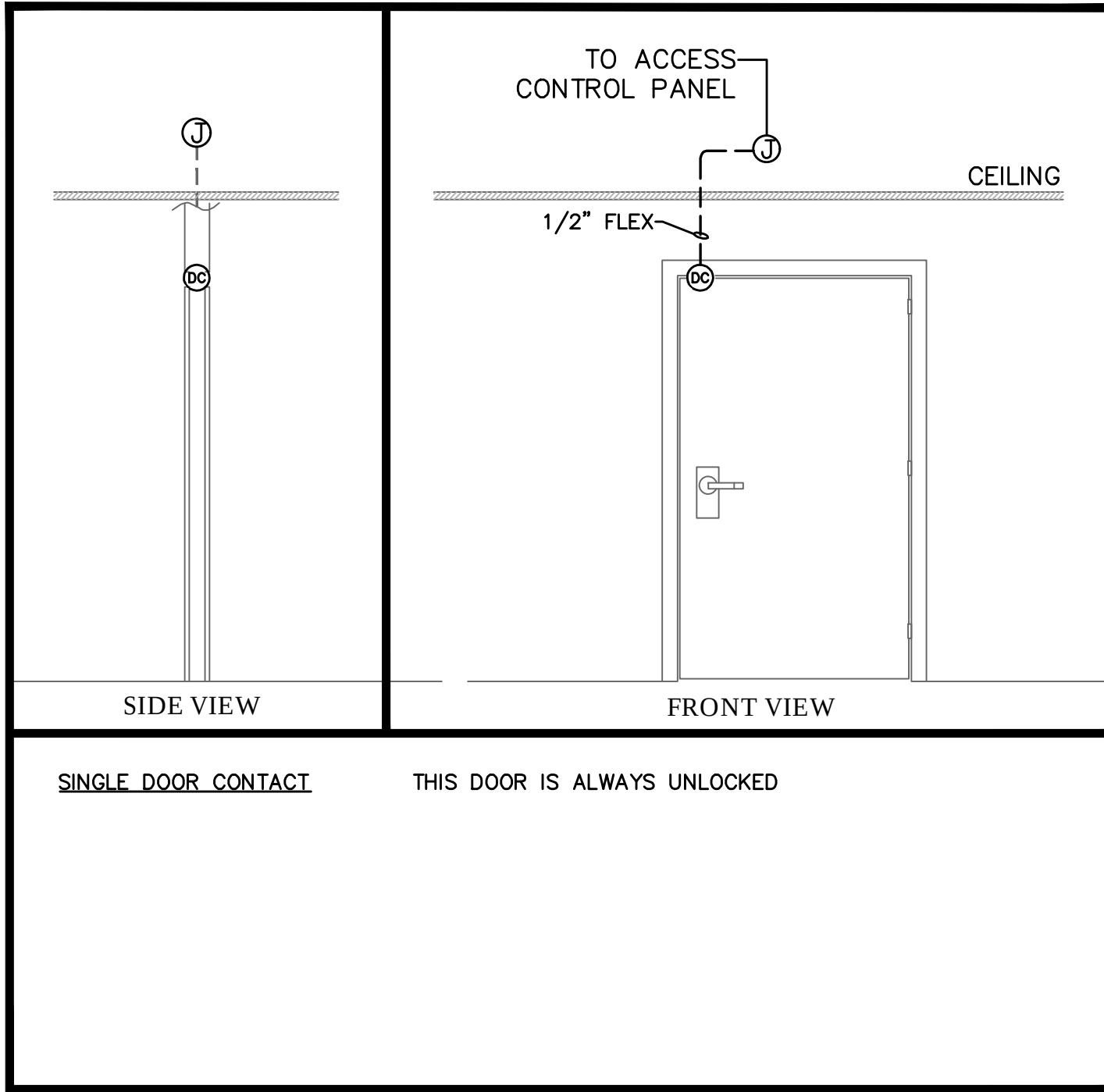
- 1 ALL GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HOUSEKEEPING PAD.
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- 8 AHU WITH SINGLE POINT OF UTILITY POWER CONNECTION AT COOLING UNIT. SEE GP-UD ROOF PLAN.
- 9 CONNECT OVERHEAD DOW OPERATOR, CONTROLS AND SAFETY INTERLOCKS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTALLATION DRAWINGS.
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LEGEND	
●	AIR TERMINAL LOCATION
□	THRU-ROOF LOCATION
⌚	THRU-WALL LOCATION
⏏	GROUND ROD LOCATION
---	NO. C29 COPPER CABLE (CLASS I), 29 ST., 17 GA., 192 LBS./1,000 FT., 59K CMIL.
.....	NO. C29 COPPER CABLE (CLASS I) SAME SPECS AS ABOVE. CABLE COURSED CONCEALED FROM VIEW SHOWN.
---	NO. A24 ALUMINUM CABLE (CLASS I), 24 ST., 14 GA., 102 LBS./1,000 FT., 89K CMIL.
⊙	EXHAUST FAN
⏏	MISC. MECHANICAL EQUIPMENT
A.F.F.	Above FIRST FLOOR

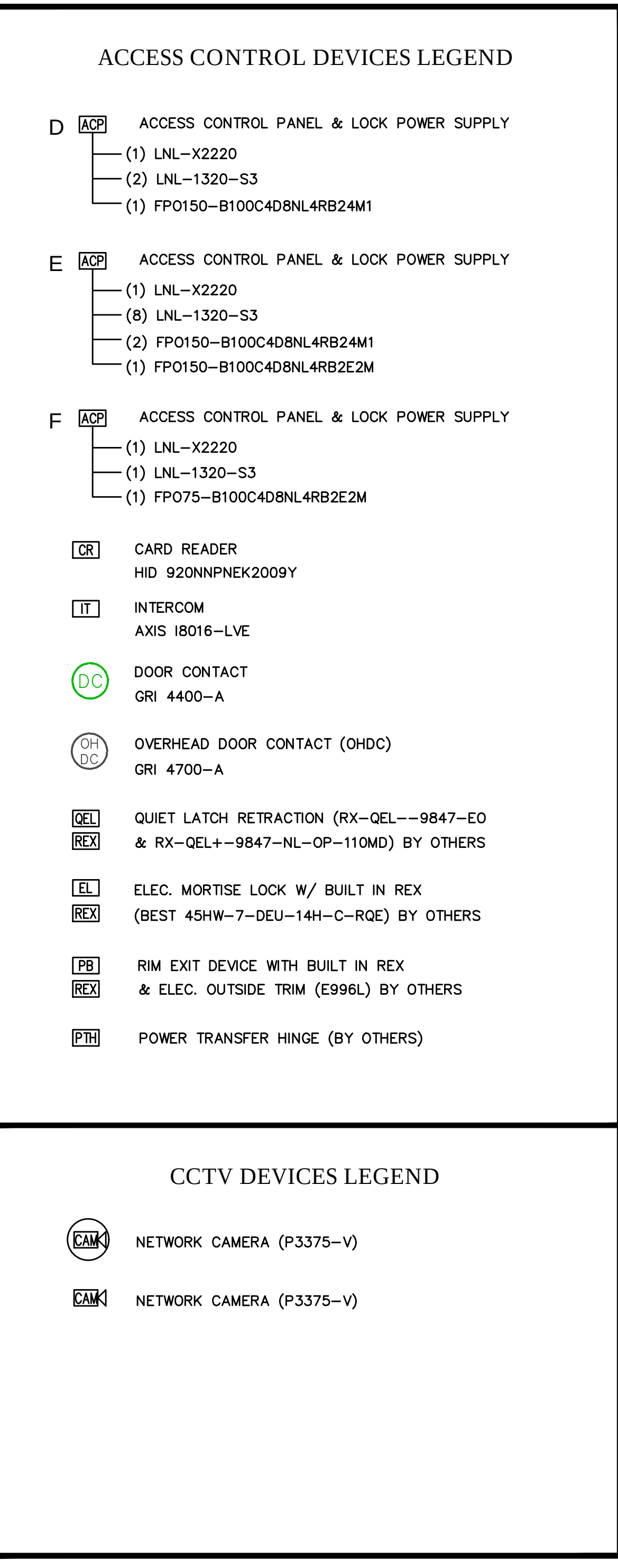
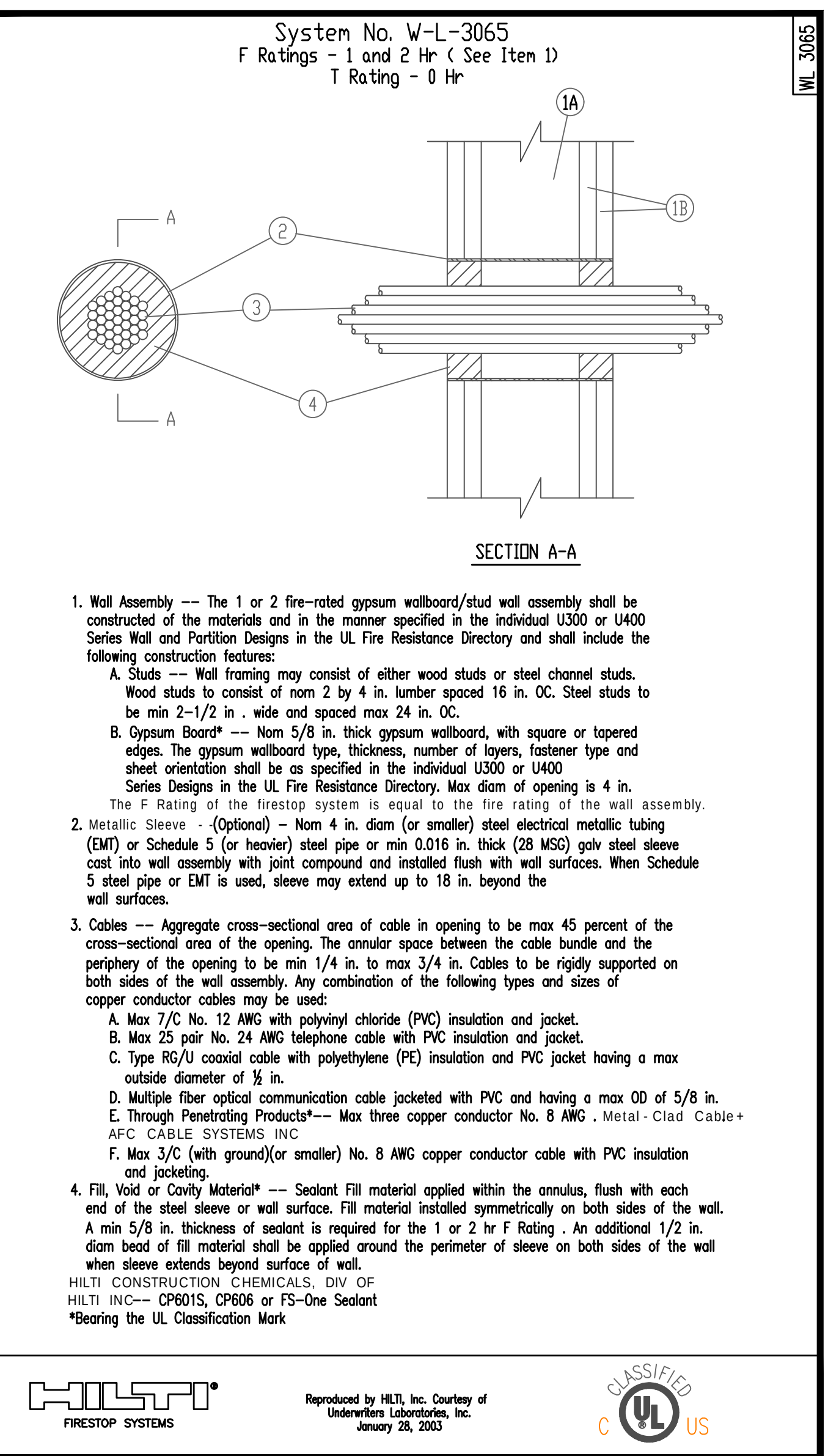
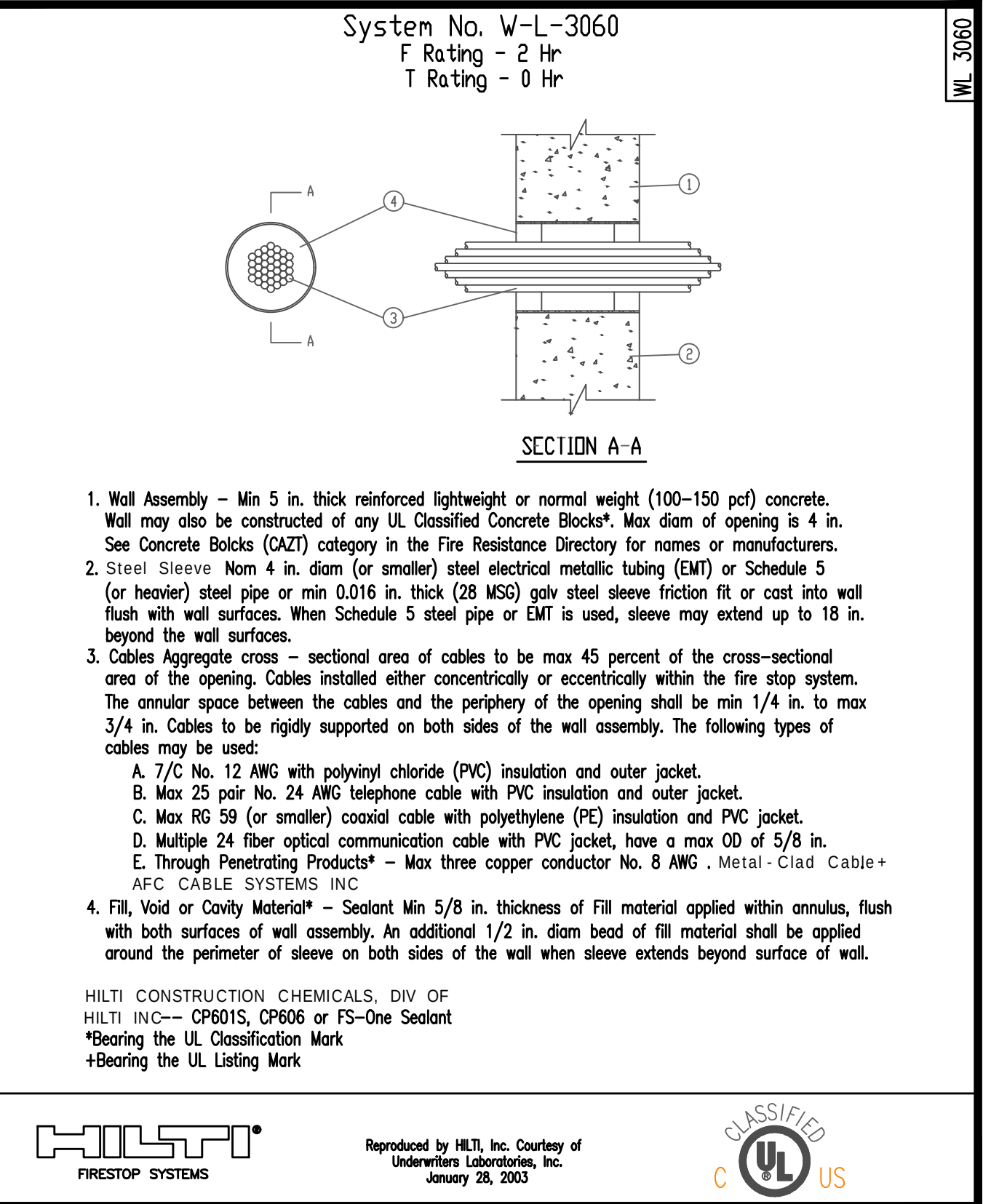
NO.	DATE:	DESCRIPTION	BY
REVISIONS			
EVALUATION:			
LIGHTNING PROTECTION SYSTEM			
PROJECT:			
FPL COLUMBIA STORM PROCESSING			
FACILITY PHASE 2			
FLORIDA			
INSTALLER & DESIGNER:			
3ONDED LIGHTNING PROTECTION LIGHTNING PROTECTION SYSTEMS, INC.			
INSTALLING MEMBER OF THE LIGHTNING PROTECTION INSTITUTE PHONE: 561-746-4336 FAX: 561-747-8233 2050 W. INDIANTOWN ROAD SUITE 100 JUPITER, FLORIDA 33458 333 N. FALCKENBERG ROAD UNIT D-401 TAMPA, FLORIDA 33619 1505 CAPITAL CIRCLE NW UNIT B-401 TALLAHASSEE, FLORIDA 32303			
JOB NO.	MANUFACTURER	 EAST COAST LIGHTNING EQUIPMENT L.P.I. MEMBER - U.L.P.A. PHONE: 1-800-880-9462 E-MAIL: info@ecsl-02 24 NASHION DRIVE WINSTED, CT. 06098	
BLD/25050			
DWN. BY			
RES			
CHK. BY			
PCD			
DATE:			
30.OCT.25			
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1			
OF			
1			



SYSTEMS TO BE INSTALLED WILL COMPLY WITH NFPA 101 2018 SECTION 7.2.1.5.6 (1-6)

7.2.1.5.6 DOOR HARDWARE RELEASE OF ELECTRICALLY LOCKED EGRESS DOOR ASSEMBLIES. DOOR ASSEMBLIES IN THE MEANS OF EGRESS SHALL BE PERMITTED TO BE EQUIPPED WITH APPROVED ELECTRICAL LOCKING SYSTEMS RELEASED BY THE OPERATION OF DOOR HARDWARE PROVIDED THAT ALL THE FOLLOWING CONDITIONS ARE MET:

- (1) THE HARDWARE FOR EGRESS-SIDE OCCUPANT RELEASE OF THE ELECTRICAL LOCK IS AFFIXED TO THE DOOR LEAF.
- (2) THE HARDWARE HAS AN OBVIOUS METHOD OF OPERATION THAT IS READILY OPERATED IN THE DIRECTION OF EGRESS UNDER ALL LIGHTING CONDITIONS.
- (3) THE HARDWARE IS CAPABLE OF BEING OPERATED WITH ONE HAND IN THE DIRECTION OF EGRESS.
- (4) OPERATION OF THE HARDWARE DIRECTLY INTERRUPTS THE POWER SUPPLY TO THE ELECTRIC LOCK AND UNLOCKS THE DOOR ASSEMBLY IN THE DIRECTION OF EGRESS.
- (5) LOSS OF POWER TO THE LISTED RELEASING HARDWARE AUTOMATICALLY ELECTRICALLY UNLOCKS THE DOOR ASSEMBLY IN THE DIRECTION OF EGRESS.
- (6) HARDWARE FOR NEW INSTALLATIONS IS LISTED IN ACCORDANCE WITH ANSI/UL 294, STANDARD FOR ACCESS CONTROL SYSTEM UNITS.



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DAVID LITHGOW
PROJECT MANAGER
DAVID LITHGOW
DESIGN TEAM
CEA

PROJECT NAME
FPL Columbia Storm Processing Facility Phase 2

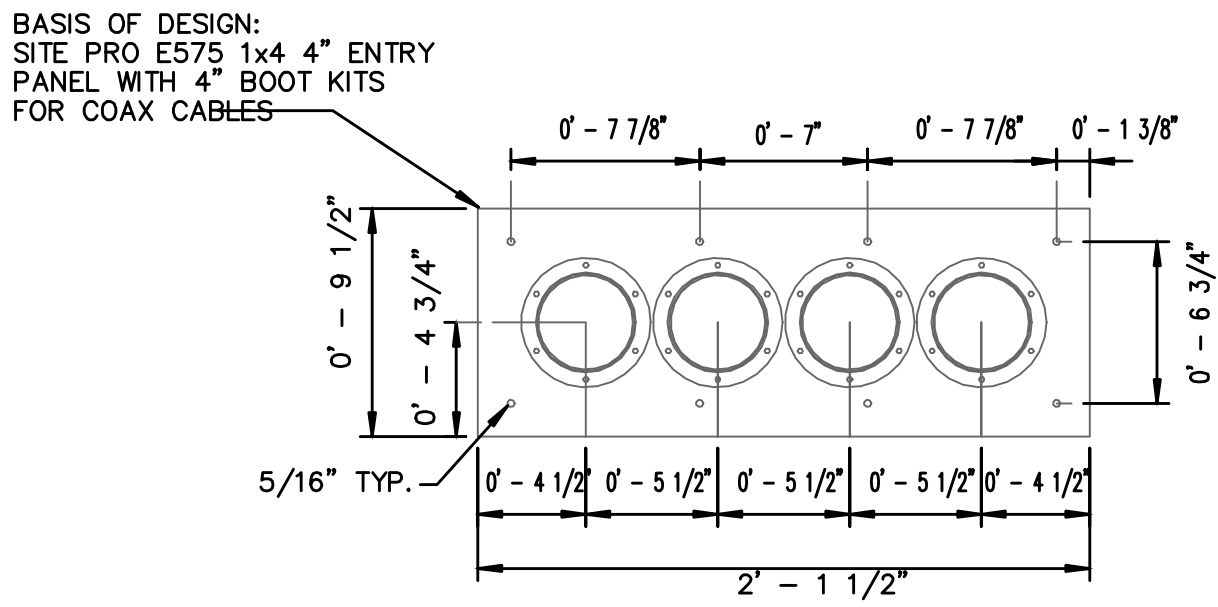
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

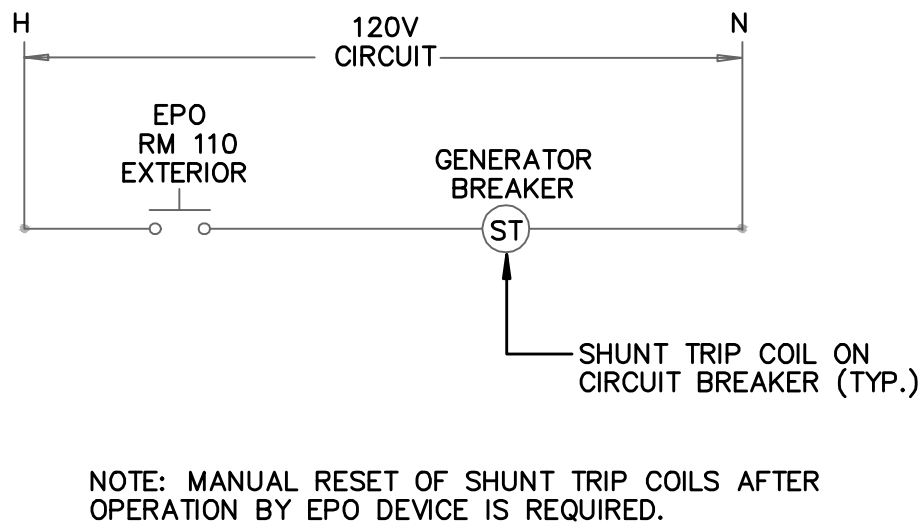
SHEET TITLE
DETAILS

SHEET NUMBER
F-E503

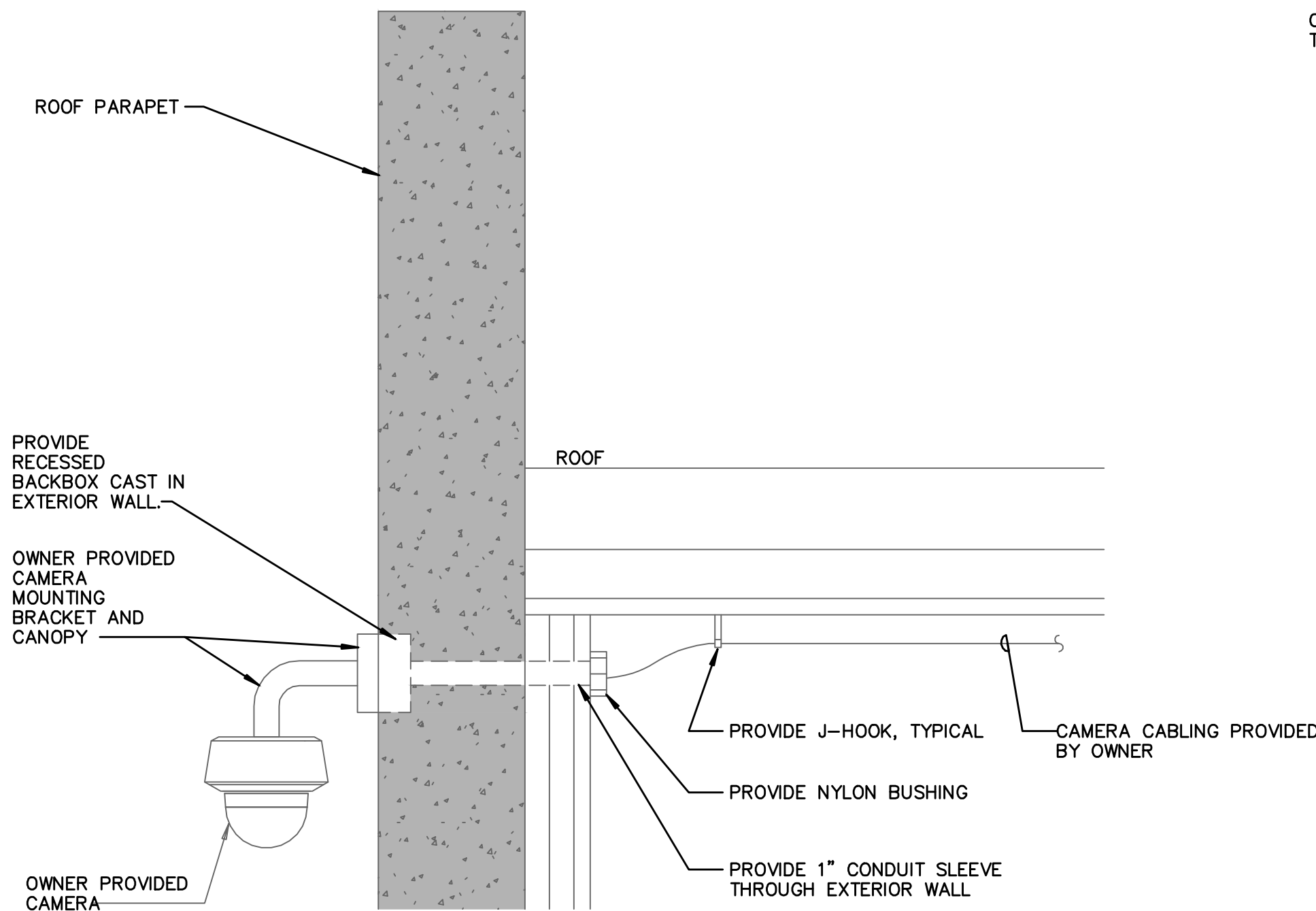
7



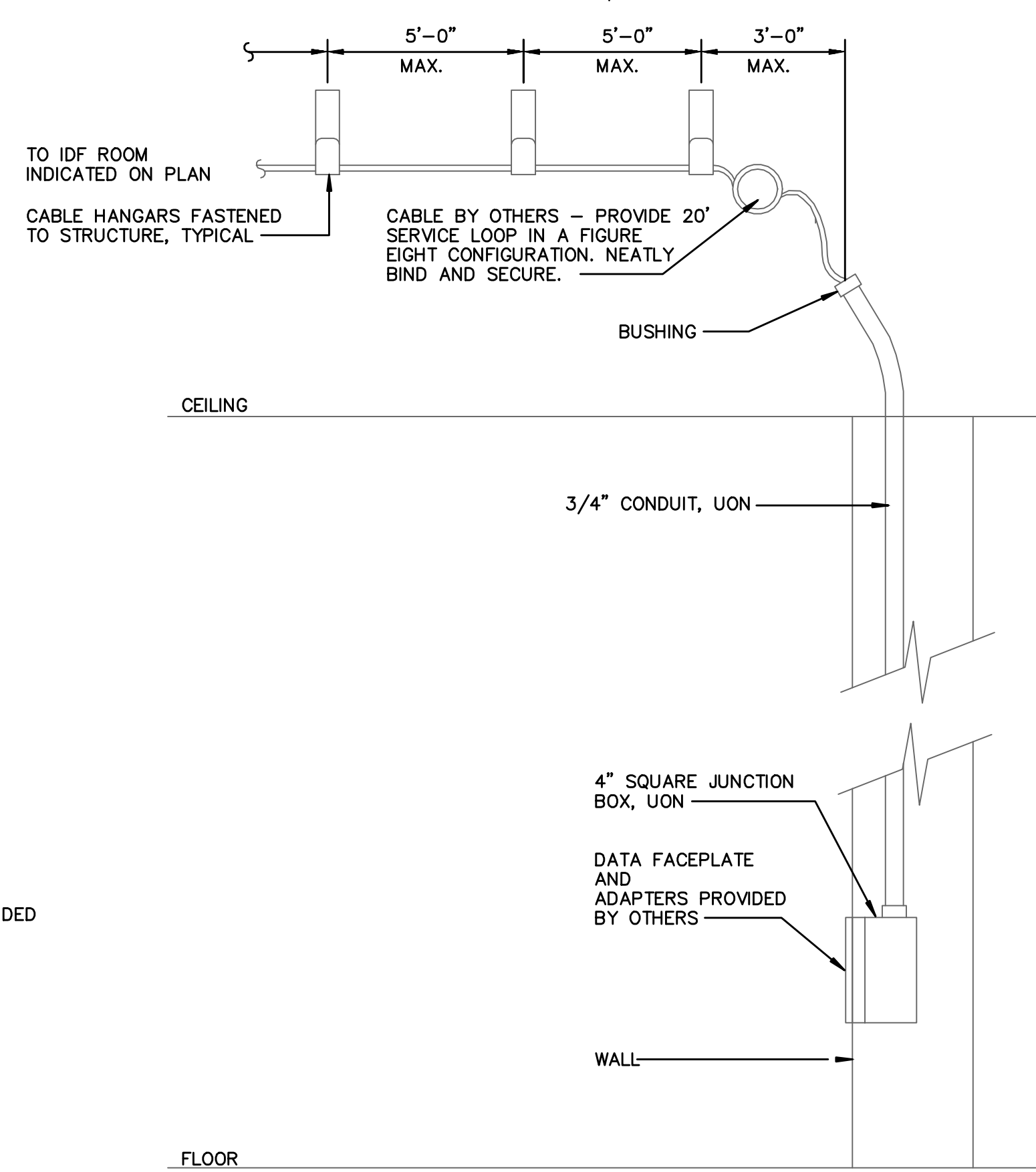
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F-E504 NTS



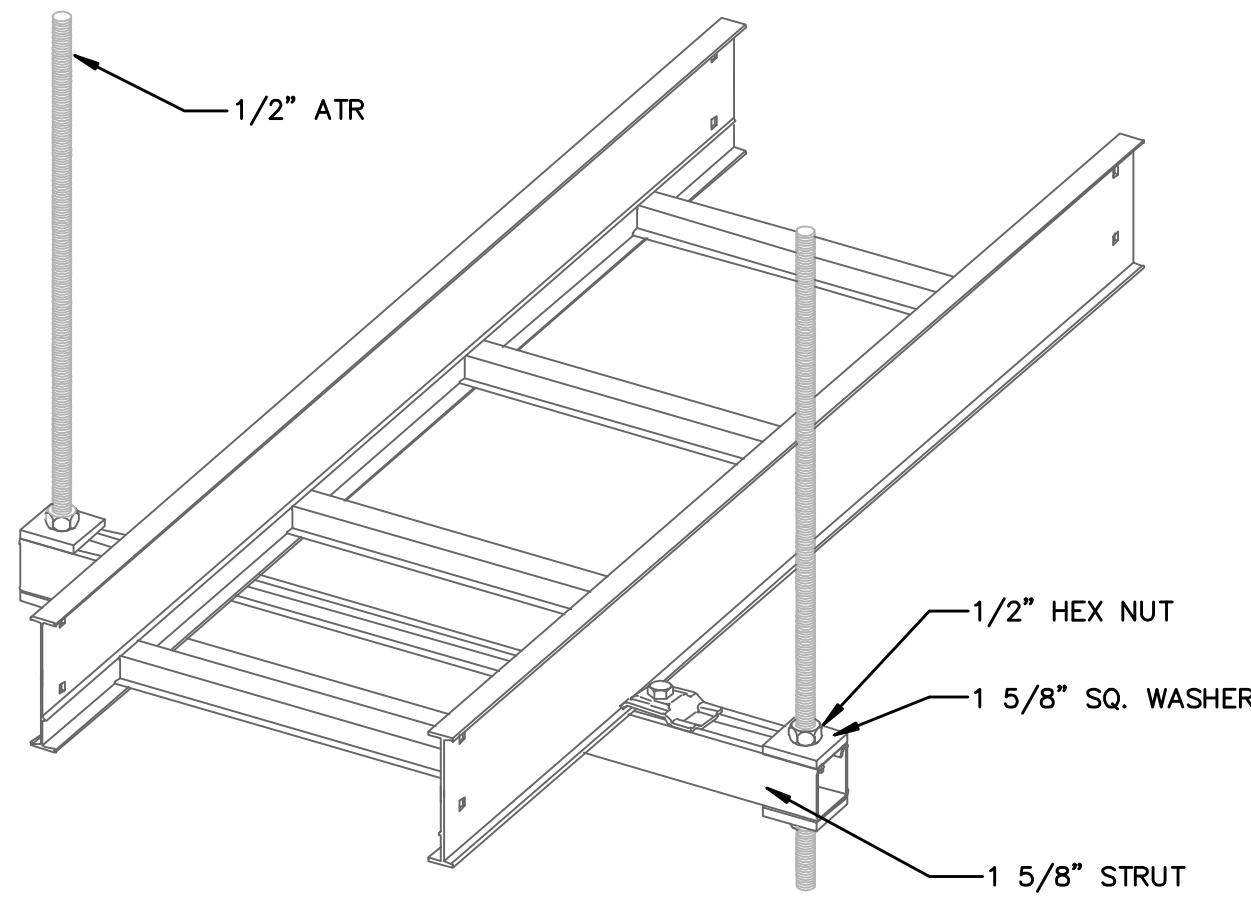
2 EPO SHUNT TRIP WIRING DIAGRAM
F-E504 NTS



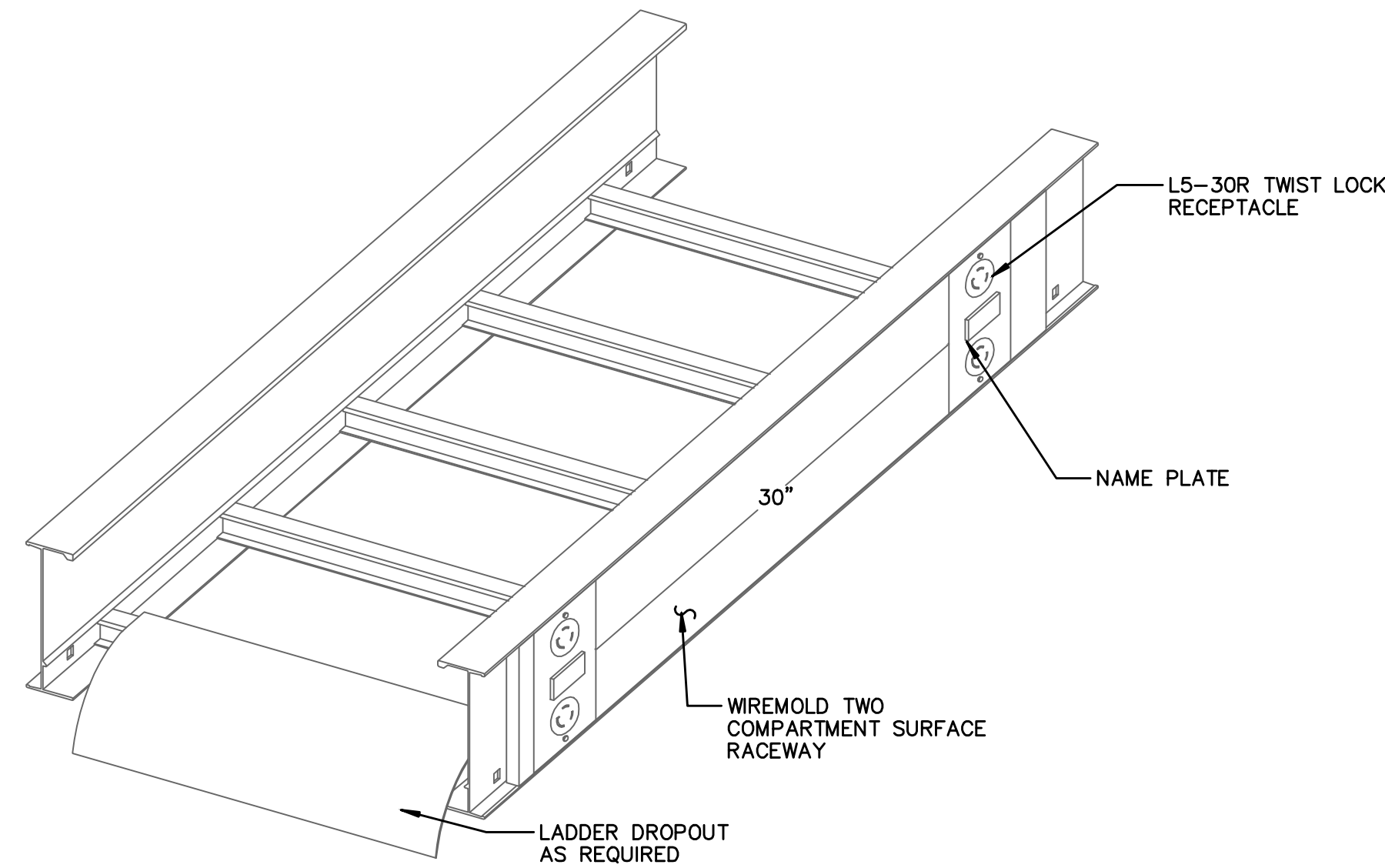
3 EXTERIOR CAMERA MOUNTING DETAIL
F-E504 NTS



4 DATA OUTLET RACEWAY DETAIL
F-E504 NTS



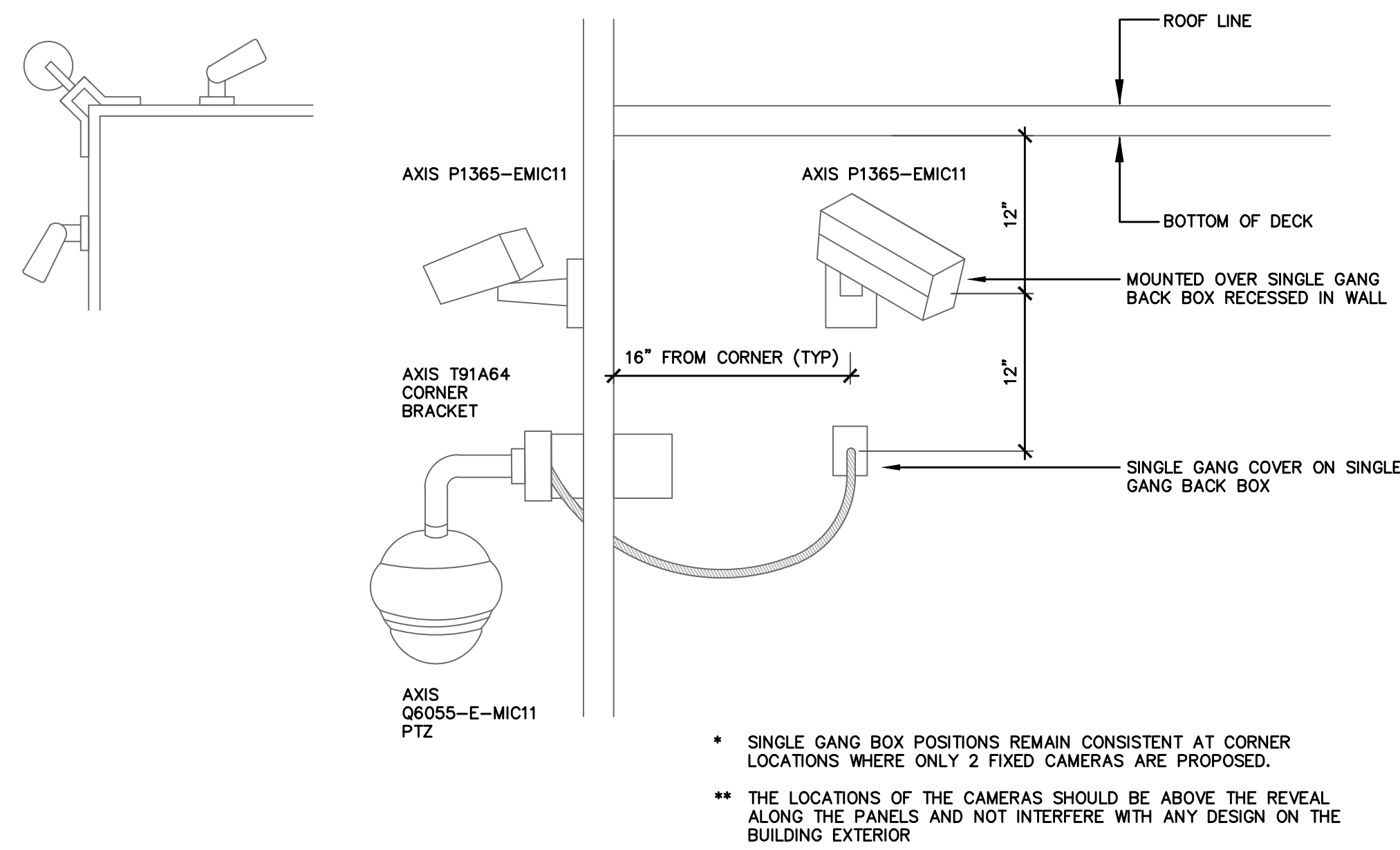
6 SINGLE TRAY TRAPEZE HANGER DETAIL
F-E504 NTS



CABLE TRAY RECEPTACLE DETAIL

5 NOT USED
F-E504 NTS

7 CABLE TRAY RECEPTACLE DETAIL
F-E504 NTS



8 EXTERIOR CAMERA MOUNTING
F-E504 NTS

LITTLE

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ISSUE FOR
100% CONSTRUCTION
DOCUMENTS

ISSUE DATE
12.03.2025

NO.	REASON	DATE
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PROJECT TEAM

PRINCIPAL IN CHARGE
DAVID LITHGOW

PROJECT MANAGER
DAVID LITHGOW

DESIGN TEAM
CEA

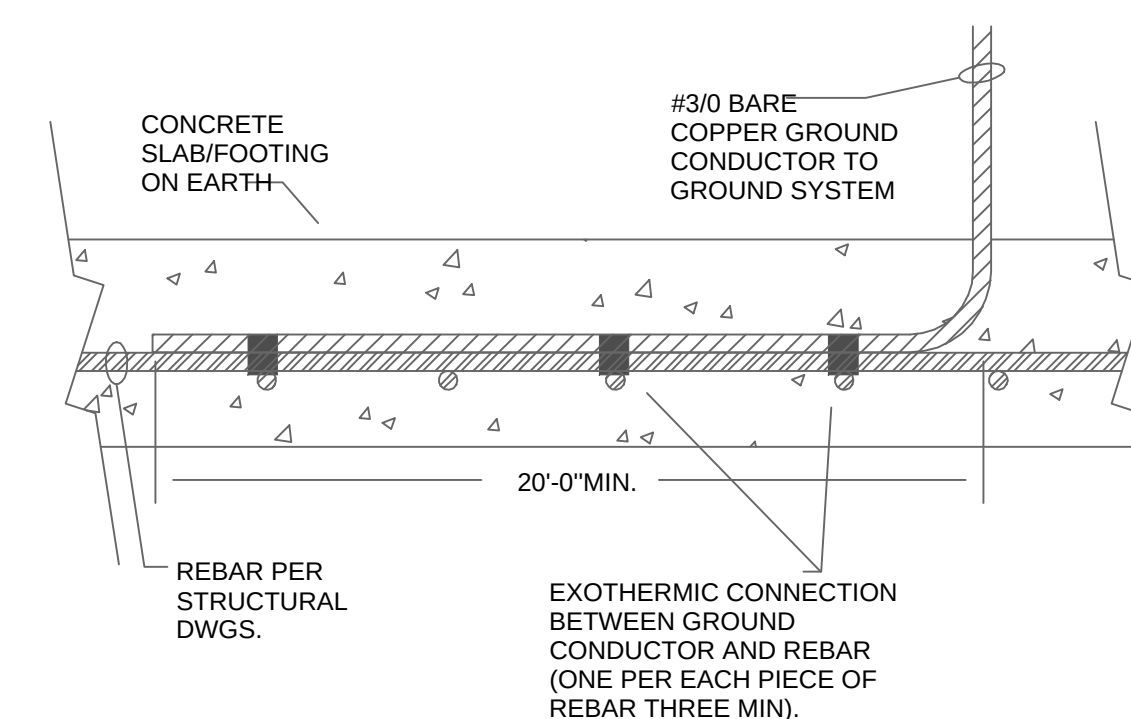
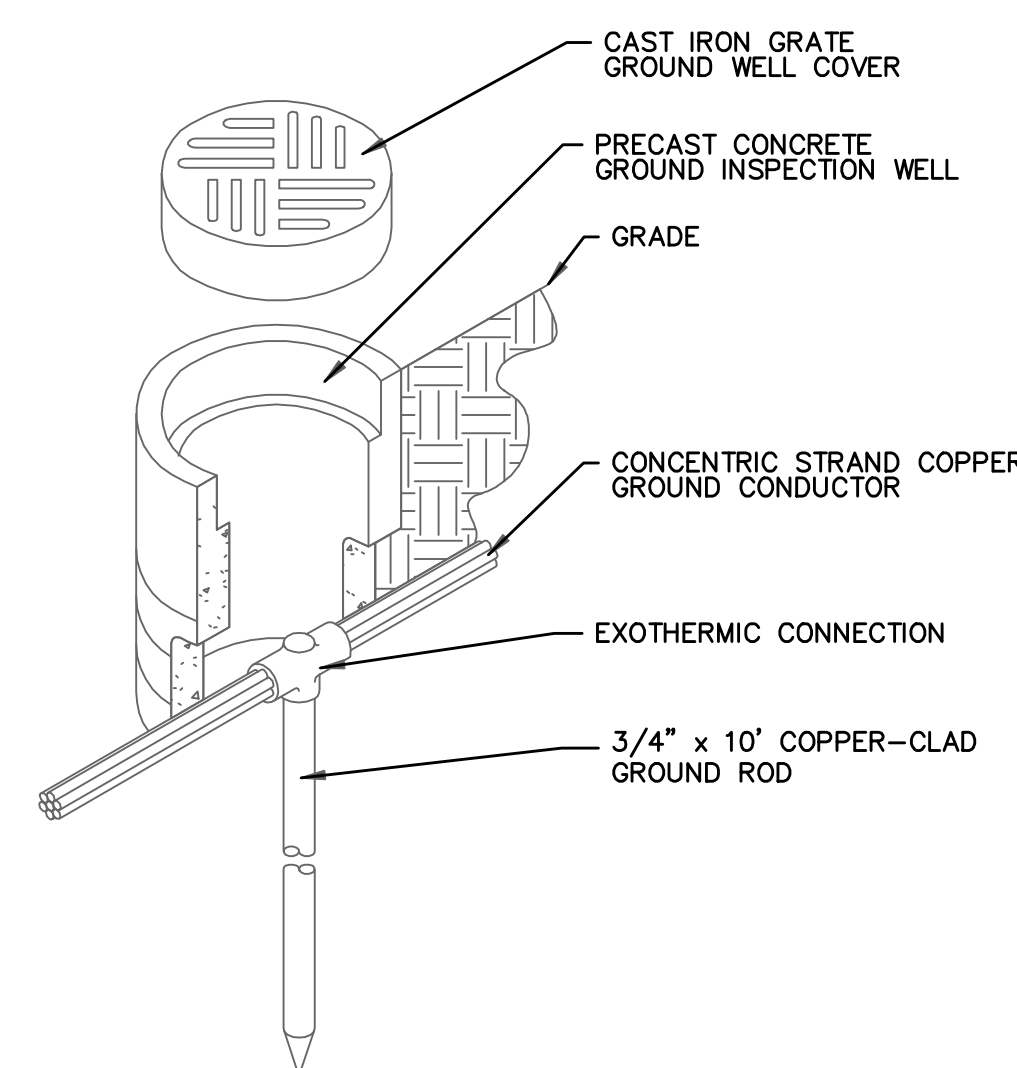
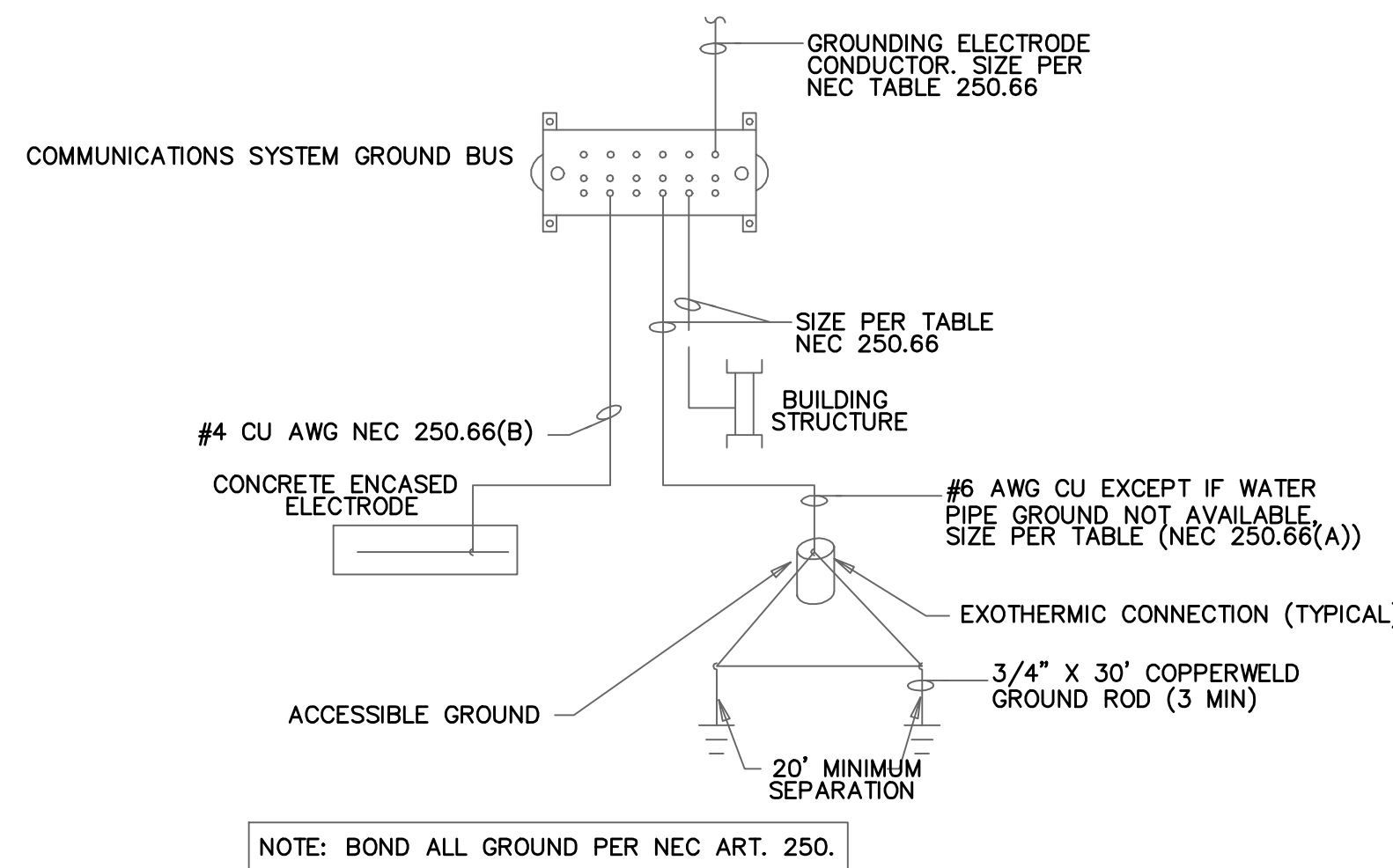
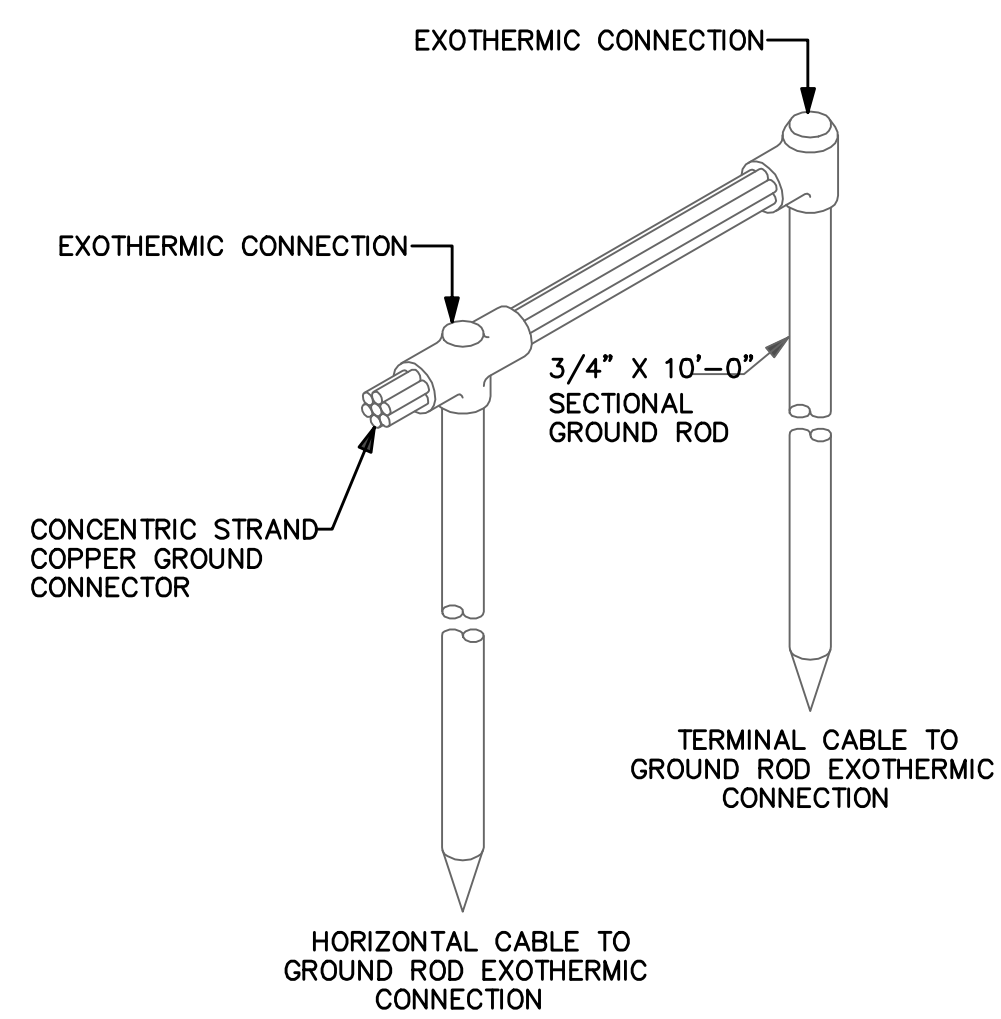
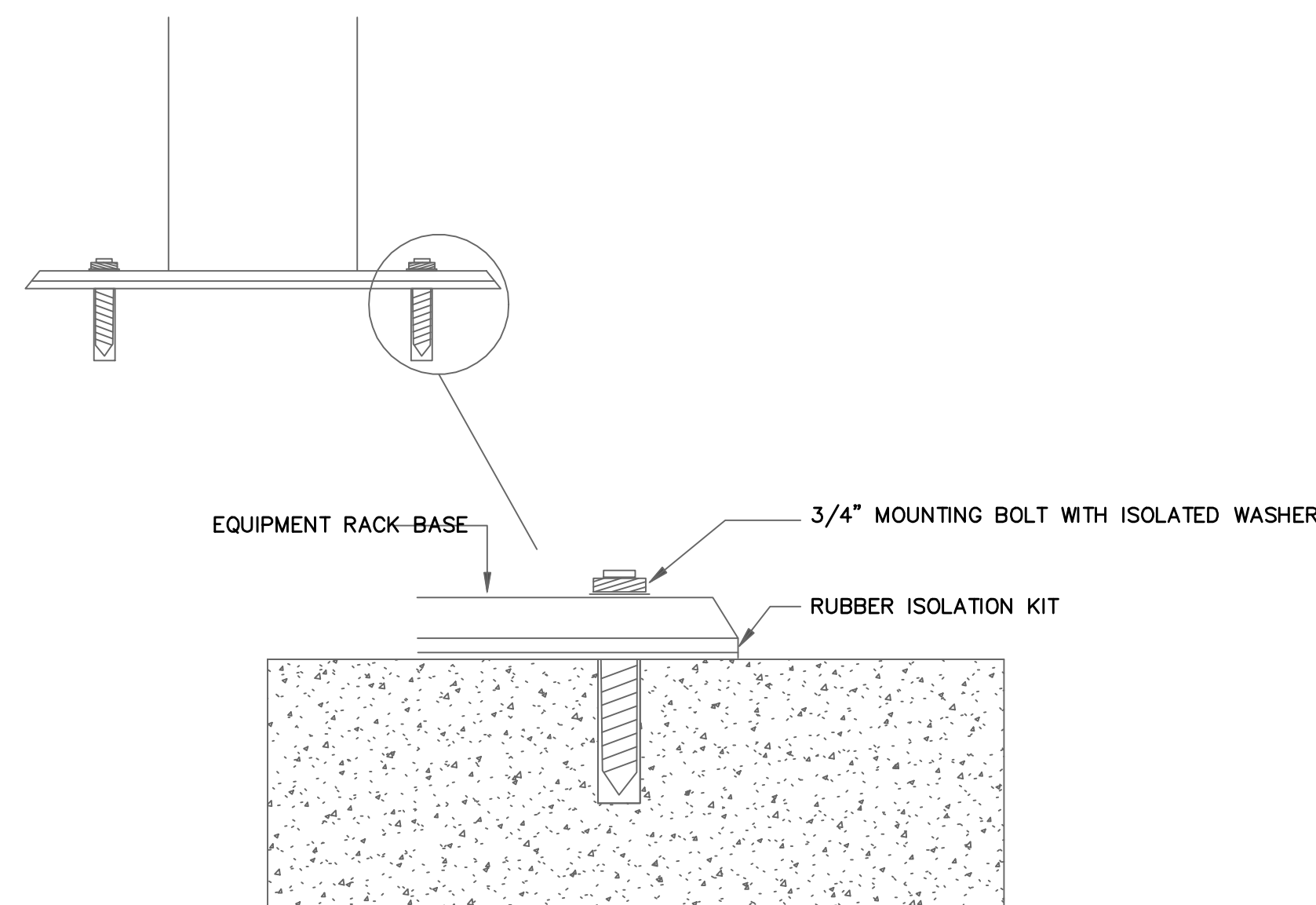
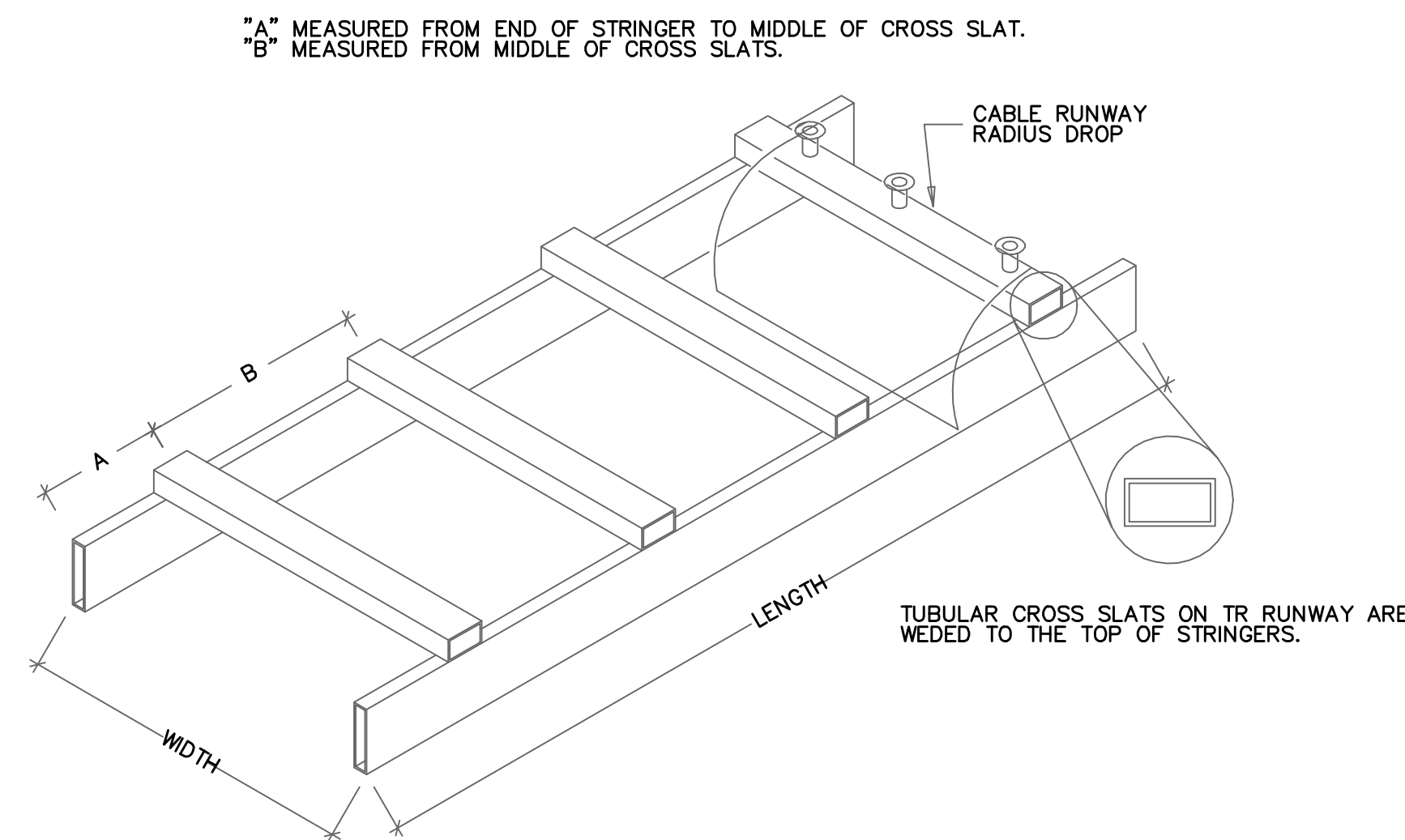
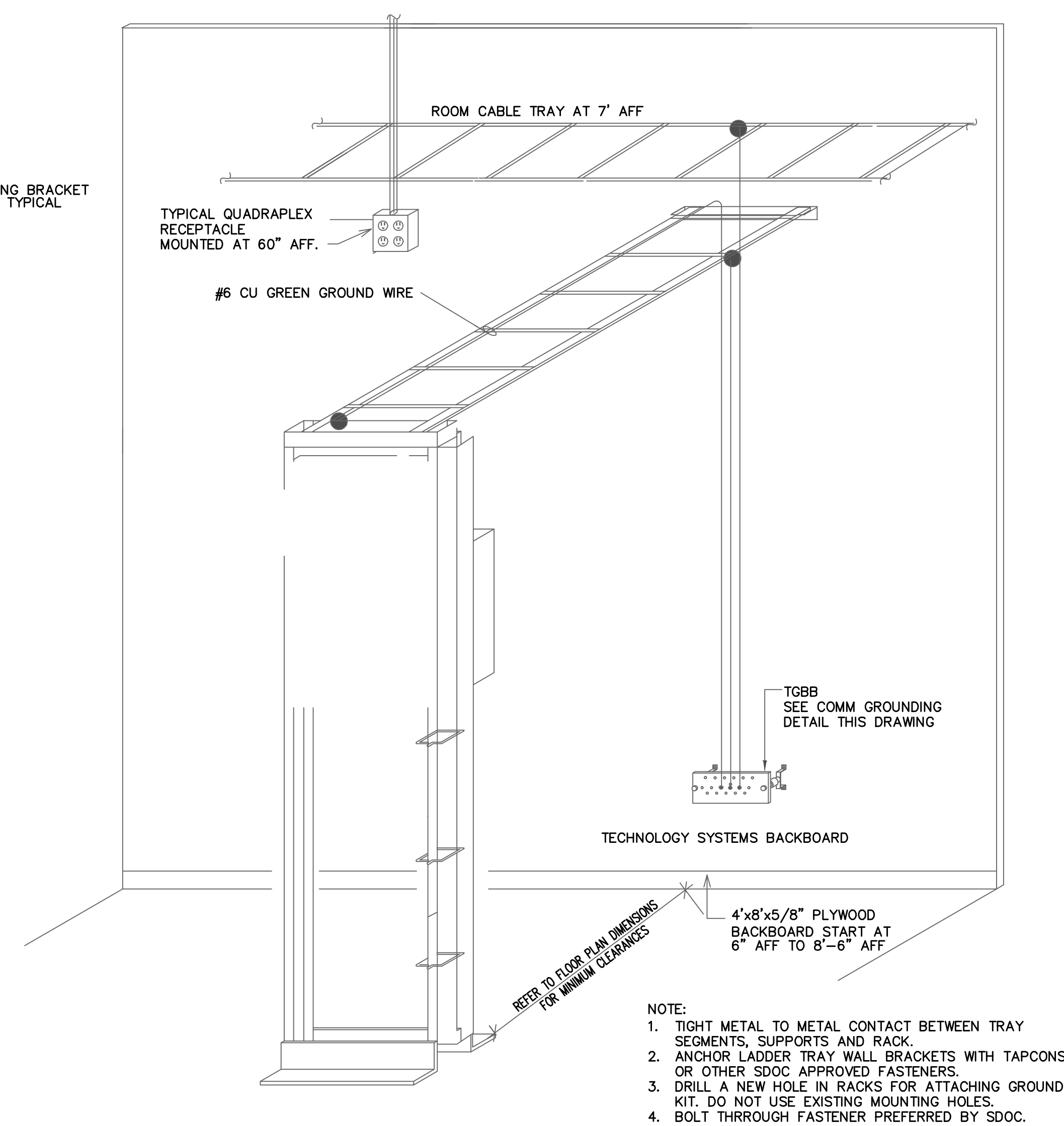
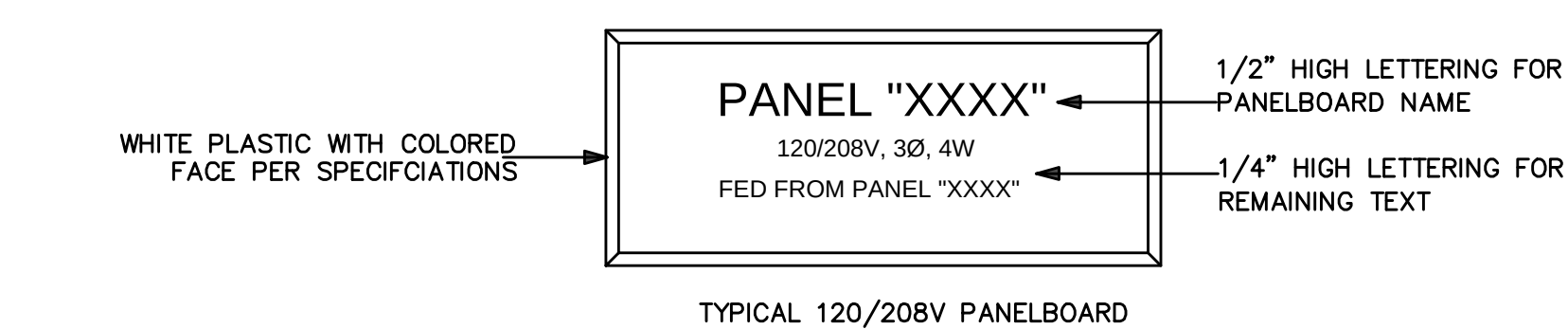
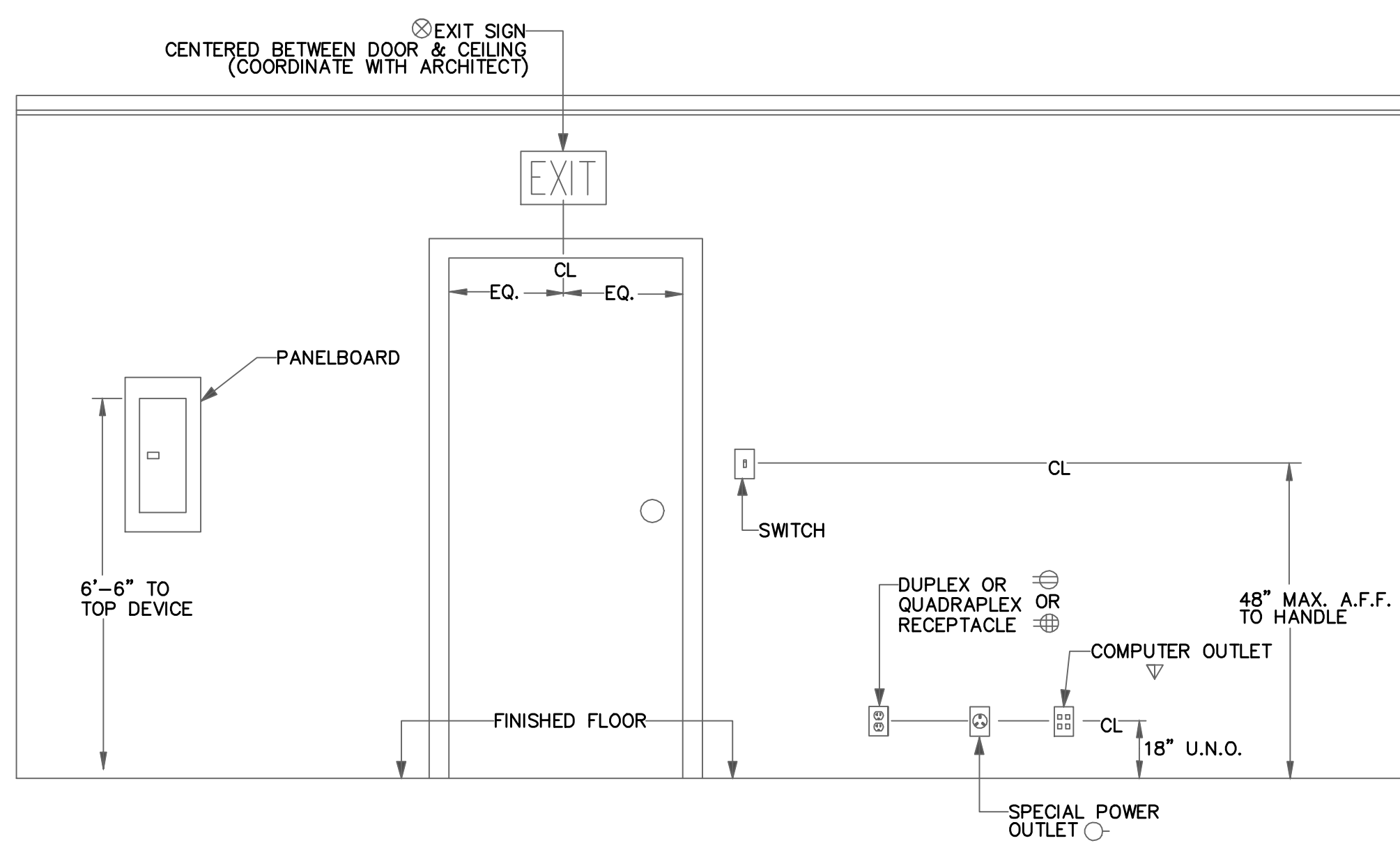
PROJECT NAME
FPL Columbia Storm
Processing Facility Phase 2

1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
DETAILS

SHEET NUMBER
F-E504



SECTION 1																							
PANELBOARD SCHEDULE 'A'																							
CONNECTED VOLTAMPS			LOAD DESCRIPTION			WRES AWG			POLES AMPS			LOAD DESCRIPTION			WRES AWG			CONNECTED VOLTAMPS					
AØ	BØ	CØ																					
500			FACE 1			12	1	20	1	2	20	2	UNISEX RH-HAND DRYER	12	500								
	720		RISER RM-RECEPS			12	1	20	1	2	20	2		12		500							
		360	IOF-DED RECP			12	1	20	5	6	20	2	UNISEX RH-HAND DRYER	12			500						
360			IOF-DED RECP			12	1	20	2	2	8	2		12	500								
	360		IOF-DED RECP			12	1	20	2	2	10	2	IDF-TWIST LOCKS	12			1500						
		360	IOF-DED RECP			12	1	20	11	12	10	2		12			1500						
			UNISEX RH-HAND LAMPS-STP-4			12	1	20	13	14	30	2	IDF-TWIST LOCKS	12	1500								
360	720		IOF-DED RECP			12	1	20	13	14	30	2		12			1500						
		720	BREAKROOM/C RECEPTS			12	1	20	15	18	30	2	IDF-TWIST LOCKS	12			1500						
			BREAKROOM/REF			12	1	20	10	20	20	1		12	1500								
1200			BREAKROOM- BEV REF			12	1	20	21	22	20	1	COFFEE BAR MICRO	12		1200							
	1200		IOF-DED			12	1	20	21	22	20	1	COFFEE BAR MICRO	12			1200						
		500	COFFEE BAR-CONVTV RECP			12	1	20	25	26	20	1	COFFEE BAR COFFEE	12	1200								
720			VEGETATION PROCHUDLE-CONV RECEPTS			12	1	20	27	28	20	1	PD PROCESSING-RECEPS	12		360							
	540		VEGETATION PRO-PRINTER			12	1	20	31	32	20	1	PD PROCESSING-FLR RECP	12	360								
		1500	VEGETATION PRO-PROCESSING-RECEPS			12	1	20	33	34	20	1	PD PROCESSING-FLR RECP	12		360							
1500			VEGETATION PRO-PROCESSING-RECEPS			12	1	20	35	36	20	1	PD PROCESSING-FLR RECP	12			540						
	360		VEGETATION PRO-PROCESSING-RECEPS			12	1	20	37	38	20	1	PD PROCESSING-TR RECP	12	360								
		360	VEGETATION PRO-PROCESSING-RECEPS			12	1	20	39	40	20	1	PD PROCESSING-TR RECP	12		360							
		360	VEGETATION PRO-PROCESSING-RECEPS			12	1	20	41	42	20	1		12		360							
5000	4260	4160	TOTAL CONNECTED VA			10920	1040	10250					TOTAL DEMAND VA		5920	5780	5960						
SUB-TOTAL VA			TOTAL CONNECTED AMPS			91	84	84					TOTAL DEMAND AMPS										
PANELBOARD RATINGS												PANELBOARD FEATURES											
VOLTAGE				BUS AMPS				MAIN DEVICE				ENCLOSURE				BRANCH POLES				BRANCH DEVICES			
120/208 3Ø, 4W				100A 400A				MAIN LUGS ONLY				FLUSH				12 36				CIRCUIT BREAKERS FUSES			
120/240 3Ø, 4W				200A 600A				A CIRCUIT BREAKER				SURFACE				18 42				TO BE GFCI BREAKERS			
277/480 3Ø, 4W				225A A				A FUSED SWITCH				NEMA 1				24				LOAD CENTER PERMITTED			
INTERRUPTING RATING (AIC SYM)				SERIES RATING PERMITTED				SERIES ENTRANCE RATED				HINGED DOOR				NOTES				CIRCUIT BREAKER FOR FIRE ALARM CONTROL PANEL SHALL BE PERMANENTLY MARKED RED AND LABELED "FIRE ALARM CIRCUIT" PER NFPA 4.4.1.4.2 BREAKER SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN.			
10,000A 30,000A 65,000A				NEUTRAL BUS 50% 200% COPPER				KEYED LATCH				DOOR-IN-DOOR											
14,000A 42,000A 100,000A				100% ALUMINUM								STAINLESS STEEL											
22,000A 50,000A 100,000A				GROUND BUS REQUIRED								PAINTED STEEL											
1 & 2 PANELS IN PARALLEL				THROUGH FEED LUGS REQUIRED								NAMEPLATE											

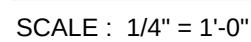
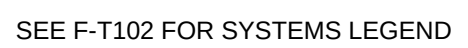
SECTION 2															
PANELBOARD SCHEDULE 'A'															
CONNECTED VOLTAMPS						CONNECTED VOLTAMPS									
AØ	BØ	CØ	LOAD DESCRIPTION			WRES	AMPS	POLES	LOAD DESCRIPTION	WRES	AMPS				
AØ	BØ	CØ				AWG				AWG					
360			VEGETATION PROC-REC-FLR	12	1	20	43	44	20	1	PD PROCESSING-MODULE-TV/CYCON RECEPS	12	540		
	360		VEGETATION PROC-FLR RECEP	12	1	20	45	46	20	1	PD PROCESSING-PRINTER	12		1500	
		360	VEGETATION PROC-FLR RECEP	12	1	20	47	48	20	1	PD PROCESSING-PRINTER	12		1500	
			VEGETATION PROC-TV RECEPS	12	1	20	49	50	20	1	PD PROCESSING-HIGH-DECEPS	12	360		
	360		VEGETATION PROC-HIGH-DECEPS	12	1	20	51	52	20	1	PD PROCESSING-RECEPS	12	360		
		0	SPARE	12	1	20	53	54	20	1	FINANCE PROC-TV RECEPS	12		360	
360			FINANCE PROC-HIGH-DECEPS	12	1	20	55	56	20	1	FINANCE PROC-RECEPS	12	360		
	540		FINANCE PROC-HIGH-DECEPS	12	1	20	57	58	20	1	FINANCE PROC-RECEPS	12		360	
		540	FINANCE PROC-MECH-CON RECEPS	12	1	20	59	60	20	1	FINANCE PROC-RECEPS	12		360	
1500			FINANCE PROC-PRINTER	12	1	20	61	62	20	1	FINANCE PROC-RECEPS	12	360		
	1500		FINANCE PROC-FLR RECEP	12	1	20	63	64	20	1					
		540	FINANCE PROC-FLR RECEP	12	1	20	65	66	20	1					
540			FINANCE PROC-FLR RECEP	12	1	20	67	68	20	1					
	1368		L1G-ELECT/FINANCE/HIGH-DECEPS	12	1	20	69	70	20	1					
		1440	L1G-CF6-COR30-EGV-CONV-MEN/RSTOR	12	1	20	71	72	20	1	GENERATOR L1S & RECEPS	12		600	
51			L1G-GENERATOR ENCLOSURE	12	1	20	73	74	20	1	GENERATOR CHATER	12	1400		
				75				76	20	2	GENERATOR HEATER	12		1500	
				77				78	20	2					
				79				80	30	2	SPD	10	0		
				81				82	30	2			0		
				83				84	30	2			0		
3171	4128	3600	TOTAL CONNECTED VA	6191	7848	7920		TOTAL DEMAND VA				3020	3720	4320	
SUB-TOTAL VA			TOTAL CONNECTED AMPS				52	65	66	TOTAL DEMAND AMPS				SUB-TOTAL VA	

PANELBOARD RATINGS				PANELBOARD FEATURES							
VOLTAGE		BUS AMPS		MAIN DEVICE		ENCLOSURE		BRANCH POLES		BRANCH DEVICES	
120/208 3Ø, 4W		100A 400A		MAIN LUGS ONLY		FLUSH		12 36		CIRCUIT BREAKERS FUSES	
120/240 3Ø, 4W		200A 600A		A CIRCUIT BREAKER		SURFACE		18 42		TO BE GFCI BREAKERS	
277/480 3Ø, 4W		225A A		A FUSED SWITCH		NEMA 1		24		LOAD CENTER PERMITTED	
INTERRUPTING RATING (AIC SYM)				ENCLOSURE				NOTES			
10,000A 30,000A 65,000A				HINGED DOOR							
14,000A 42,000A 100,000A				KEYED LATCH							
22,000A 50,000A 100,000A				DOOR-IN-DOOR							
SERIES RATING PERMITTED				STAINLESS STEEL							
1 & 2 PANELS IN PARALLEL				PAINTED STEEL							
				NAMEPLATE							

PANELBOARD 'A'	CONNECTED VA	SECTION 1 TOTAL DEMAN VA	DEMAND VA
SECTION 1 TOTAL CONNECTED VA	10920 10040 10120		
SECTION 2 TOTAL CONNECTED VA	6191 7848 7920		
TOTAL CONNECTED VA	17111 17888 18040		
TOTAL CONNECTED AMPS	243 149 155		
TOTAL DEMAND AMPS			

PANELBOARD SCHEDULE 'B'														
CONNECTED VOLTAMPS			LOAD DESCRIPTION			WRES	POLES	AMPS	BUS	Wires	CONNECTED VOLTAMPS			
AØ	BØ	CØ				A/B/C			A/B/C		AØ	BØ	CØ	
1080			MEN'S QUARTERS-QUAD RECEPS	12	1	20	1	2	20	1	STORAGE RM RECEPS	12	720	
	1080		MEN'S QUARTERS-QUAD RECEPS	12	1	20	3	4	20	1	STOR RM-OVERHEAD DR	✓	600	
		1080	MEN'S QUARTERS-QUAD RECEPS	12	1	20	5	6	20	1	STOR RM-OVERHEAD DR	✓	600	
720			MEN'S QUARTERS-QUAD RECEPS	12	1	20	7	8	20	1	STOR RM-OVERHEAD DR	✓	600	
	720		MEN'S QUARTERS-QUAD RECEPS	12	1	20	9	10	20	1	STOR RM-OVERHEAD DR	✓	600	
	720		MEN'S QUARTERS-QUAD RECEPS	12	1	20	11	12	20	1	STOR RM-OVERHEAD DR	✓	600	
720			MEN'S QUARTERS-QUAD RECEPS	12	1	20	13	14	20	1	STOR RM-OVERHEAD DR	✓	600	
	1080		MEN'S QUARTERS-QUAD RECEPS	12	1	20	15	16	20	1	STOR RM-OVERHEAD DR	✓	600	
	720		MEN'S QUARTERS-QUAD RECEPS	12	1	20	17	18	20	1	STOR RM-OVERHEAD DR	✓	600	
			MEN'S QUARTERS-QUAD RECEPS	12	1	20	19	20	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	1080	
			MEN'S QUARTERS-QUAD RECEPS	12	1	20	21	22	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	1080	
			MEN'S QUARTERS-QUAD RECEPS	12	1	20	23	24	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	720	
720			MEN'S QUARTERS-QUAD RECEPS	12	1	20	25	26	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	720	
	720		MEN'S QUARTERS-QUAD RECEPS	12	1	20	27	28	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	1080	
			MEN'S QUARTERS-QUAD RECEPS	12	1	20	29	30	20	1	WOMEN'S QUARTERS-QUAD RECEPS	12	1080	
600			MEN'S QUARTERS-ECWC	12	1	20	31	32	20	1	JAN/SUPPLIES RECEPS/SCP-ITP-1.2.3	12	900	
			MEN'S RR-HAND DRIVER	12	2	20	33	34	20	1	WOMEN'S QUARTERS-ECWC	12	600	
500			MEN'S RR-HAND DRIVER	12	2	20	35	36	20	2	WOMEN'S RR-HAND DRIVER	12	500	
	500		MEN'S RR-HAND DRIVER	12	2	20	37	38	20	2	WOMEN'S RR-HAND DRIVER	12	500	
			MEN'S RR-HAND DRIVER	12	2	20	39	40	20	2	WOMEN'S RR-HAND DRIVER	12	500	
			MEN'S WOMEN'S RRVEST RECEPS	12	1	20	41	42	20	1	RR VESTIBULE ECWC	12	500	
540	360		EXTERIOR RECEPS	12	1	20	43	44	20	1	RR VESTIBULE ECWC	12	600	
		720	VESTIBULE EXTERIOR RECEPS	12	1	20	45	46	20	1				
1419			LTG-MEN'S QRTS SOUTH	12	1	20	47	48	20	1				
	1061		LTG-MEN'S SHOWER/VEST	12	1	20	49	50	20	1				
		1360	LTG-WOMEN'S QRTS SOUTH	12	1	20	51	52	20	1				
1101			LTG-EXT OWNERS TRAIL PAQ/RECEPS	12	1	20	53	54	30	2	SPD	10	0	
	229	500	LTG-MEN'S QRTS STRTS STEPS	12	1	20	55	56	30	2		0	0	
		500	DRY TYPE SPRINKLER AIR COMPRESSOR	12	1	20	57	58	30	2		0	0	
TOTAL CONNECTED VA				13740	12130	11540			TOTAL DEMAND VA			5620	5650	4100
SUB-TOTAL VA				115	101	141			TOTAL DEMAND AMPS			5620	5650	4100
SUB-TOTAL VA														







ELECTRICAL - PARTIAL SYSTEMS PLAN
SCALE: 1/4" = 1'-0"

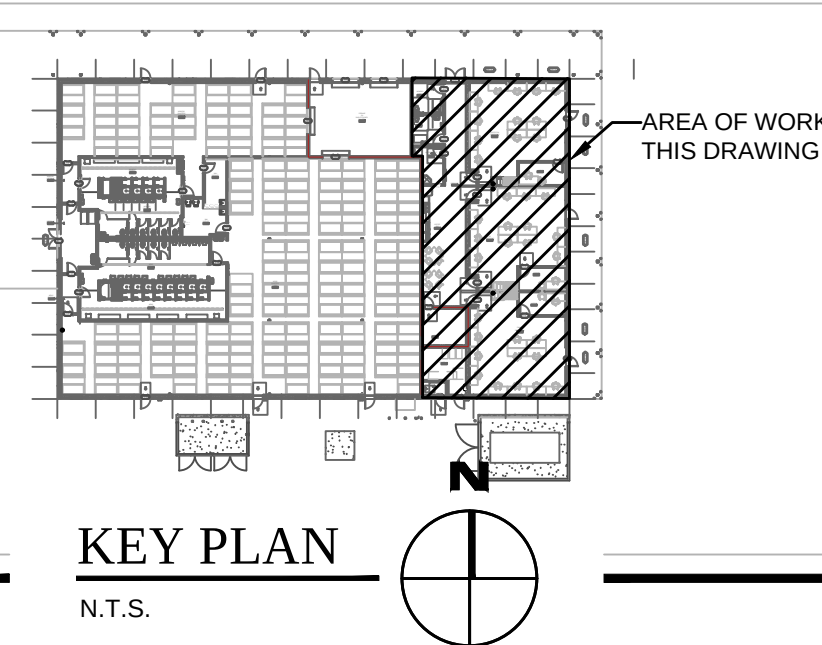
SYSTEMS LEGEND

- UNDERGROUND COMMUNICATIONS
- 2-PORT DATA OUTLET BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - 4-PORT DATA OUTLET BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET FOR RADIO COMMUNICATION BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 1" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET FOR BUILDING AUTOMATION SYSTEM BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - TELEPHONE OUTLET. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - (2) TELEPHONE VOICE JACKS IN (1) 4" SQUARE BOX WITH SINGLE GANG COVER. PROVIDE SEPARATE DEDICATED OUTSIDE PHONE LINES FOR EACH JACK. PROVIDE 3/4" CONDUIT.
 - POINT OF CONNECTION FOR DATA SYSTEM RACEWAY TO FURNITURE. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 1" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - AUDIO/VISUAL ROUGH-IN OUTLET BOX FOR INSTALLATION OF AV OUTLETS BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING MOUNTED AT 18" A.F.F. UNLESS OTHERWISE NOTED ON PLANS.
 - MODULAR FIRE RATED PATHWAY. BASIS OF DESIGN HILTI CP 653 4 OR APPROVED EQUAL.
 - 12"x4" LADDER TYPE CABLETRAY. MOUNT CABLETRAY AT 8'-3" A.F.F. TO CENTER OF TRAY. UNLESS NOTED OTHERWISE.
 - COMM RACK WITH VERTICAL WIRE MANAGERS PROVIDED BY OWNER.
 - 4"x8"x3/4" FIRE RETARDANT PLYWOOD BACKBOARD.
 - WIRELESS ACCESS POINT PROVIDED BY OWNER.
 - TV. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING FOR CABLE TELEVISION OUTLET BY OWNER. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET, VGA AND HDMI (BY OWNER). PROVIDE 4" SQUARE BOX WITH DOUBLE GANG MUD RING. PROVIDE (1) 3/4" CONDUIT WITH PULL STRING FOR DATA AND (1) 1/2" CONDUIT WITH STRING FOR VGA/HDMI CABLES.
 - DATA OUTLETS, VGA AND HDMI (BY OWNER) INSTALLED IN FOUR COMPARTMENT FLOOR BOX, FURNISHED BY DIVISION 26 CONTRACTOR. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING. REFER TO a-E504 FOR ADDITIONAL DETAIL.
 - DATA OUTLETS, VGA AND HDMI (BY OWNER) INSTALLED IN POKE-THRU TYPE FLOOR BOX, FURNISHED BY DIVISION 26 CONTRACTOR. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING. REFER TO a-E504 FOR ADDITIONAL DETAIL.
 - DUAL SERVICE MODULAR FURNITURE POKE-THRU, FURNISHED BY DIVISION 26 CONTRACTOR. ALIGN POKE THRU FEED HOLES WITH CENTER OF MODULAR FURNITURE. REFER TO a-E504 FOR ADDITIONAL INFORMATION.
 - 2-GANG JUNCTION BOX. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS.
 - SCREEN LOW VOLTAGE INTERFACE WITH MOTOR AND INTERFACE MOUNTS ABOVE FINISHED CEILING. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS FOR EXACT LOCATION.
 - CEILING MOUNTED SPEAKER. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS FOR EXACT LOCATION.
 - PROVIDE WIRING ACCESS AND NETWORK CONNECTIVITY FOR SECURITY CAMERA'S IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
 - PULL AREA AT PROJECTOR LOCATION. COORDINATE EXACT LOCATION WITH APPROVED AV DRAWINGS.

ELECTRONIC DOOR SYMBOL LEGEND

- | | |
|-----------------------|--------------------------|
| CARD READER | PANIC BAR |
| DOOR CONTACT | POWER OPERATOR |
| ELECTRIC LOCK | PUSH PAD OPERATOR |
| MAGNETIC HOLDER | PTH POWER TRANSFER HINGE |
| OBSTRUCTION SENSOR | REX REQUEST-TO-EXIT |
| OVERHEAD DOOR CONTACT | |

AT ALL CAMERA LOCATIONS ASSOCIATED WITH BUILDING, CONTRACTOR SHALL PROVIDE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING. EXTERIOR CONDUITS TURN UP IN IT ROOM.



GENERAL NOTES THIS DRAWING

- REFER TO POWER PLANS FOR RECEPTACLE LOCATIONS. WHERE 120V RECEPTACLES ARE IN CLOSE PROXIMITY TO COMMUNICATIONS DEVICES, SUCH DEVICES SHALL BE INSTALLED AT SAME HEIGHT AS RECEPTACLES WITH NO MORE THAN 2" OF SEPARATION BETWEEN THEM.
- CONDUITS FOR DATA SHALL BE INCREASED BY ONE STANDARD TRADE SIZE FOR ALL RUNS WHICH REQUIRE MORE THAN (1) 90 DEGREE BEND.
- PROVIDE CONDUIT SLEEVES FOR DATA CABLE PENETRATIONS THROUGH FULL HEIGHT WALL. COORDINATE SIZES AND LOCATIONS WITH DATA CABLE INSTALLER. PROVIDE FIRE STOPPING WHERE NECESSARY TO MAINTAIN FIRE RATING OF WALLS.

ALL LOW VOLTAGE SYSTEMS (WIFI, AUDIO/VISUAL, SECURITY, TELECOM, ACCESS CONTROL, BDA, ETC.) SHALL BE PROVIDED BY THE OWNER'S SUBCONTRACTOR. GENERAL CONTRACTOR TO COORDINATE LOCATIONS AND INFRASTRUCTURE REQUIREMENTS (I.E. LINE VOLTAGE, CONDUIT, ETC.) COORDINATE AND PROVIDE WIRING ACCESS AND NETWORK CONNECTIVITY AS REQUIRED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COORDINATING DEVICE PLACEMENT WITH APPROVED AUDIO VISUAL DRAWINGS AND SUBJECT TO OWNER'S APPROVAL.

KEYED NOTES X NOT ALL KEYED NOTES PERTAIN TO CURRENT SHEET

- PROVIDE MULTIPLE 4'X8'X3/4" THICK AC GRADE PLYWOOD BACKBOARDS WITH 2 COATS OF WHITE FIRE RETARDANT PAINT ON ALL SIDES. INSTALL WITH THE 8" DIMENSION MOUNTED VERTICALLY.
- COPPER PHONE BLOCKS & COAX CABLE SERVICES.
- IT RACKS ARE TO BE GROUNDED BY THE ELECTRICIAN TO THE GROUNDING BAR. SEE DETAIL 4, F-E505.
- INCOMING 4" CONDUITS FROM SITE. COORDINATE CONDUITS TO BE AS CLOSE TO WALL AS POSSIBLE PRIOR TO INSTALLATION.
- OVERHEAD DOORS TO RECEIVE PROXIMITY SENSOR. COORDINATE WITH APPROVED SHOP DRAWINGS.
- PROVIDE WIRING ACCESS FOR SECURITY CAMERA'S IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COORDINATING DEVICE PLACEMENT WITH APPROVED AUDIO VISUAL DRAWINGS AND SUBJECT TO OWNER'S APPROVAL.
- CARD READER TIED INTO FIRE ALARM SYSTEM TO RELEASE WHEN ALARM SIGNALS.
- PROVIDE (1) 2" CONDUIT WITH PULL CORD FROM FLOOR BOX TO EACH TV OUTLET LOCATED WITHIN ROOM.
- ALLOCATE 3'-0" OF WALL SPACE FROM FLOOR TO CEILING FOR BDA (BIDIRECTIONAL AMPLIFIER). PROVIDE 3" CONDUIT WITH NYLON PULL STRING FROM LOCATION OF BDA TO THE DONOR ANTENNA LOCATION ON THE ROOF.
- REFER TO F-E503 FOR ADDITIONAL REQUIREMENTS. COORDINATE WITH OWNERS SECURITY SYSTEM INSTALLER AND APPROVED SHOP DRAWINGS.
- CONNECT GENERATOR AND ATS TO BUILDING MANAGEMENT SYSTEM FOR OFF-SITE ALARM AND MONITORING CONNECTIONS.
- COORDINATE FINAL THERMOSTAT LOCATIONS WITH HVAC AND CONTROLS TRADES. PROVIDE ROUGH-IN BOX AND 3/4" EMPTY CONDUIT WITH PULL STRING TO ACCESSIBLE CEILING SPACE.

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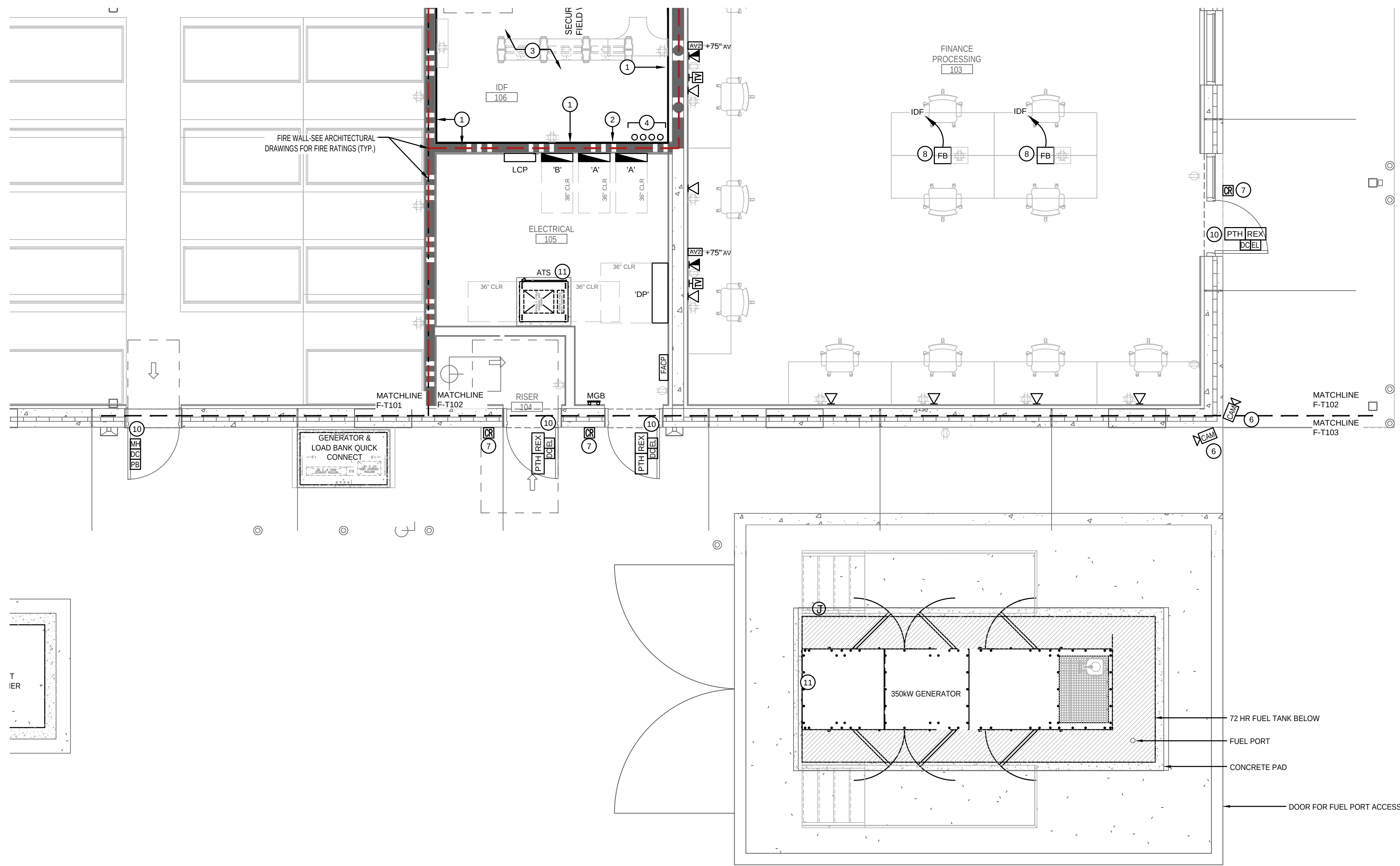
PROJECT TEAM
PRINCIPAL IN CHARGE
DAVID LITHGOW
PROJECT MANAGER
DAVID LITHGOW
DESIGN TEAM
CEA
PROJECT NAME

FPL Columbia Storm Processing Facility Phase 2
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
PARTIAL SYSTEMS PLAN

SHEET NUMBER
F-T102



ELECTRICAL - PARTIAL SYSTEMS PLAN
SCALE: 1/4" = 1'-0"

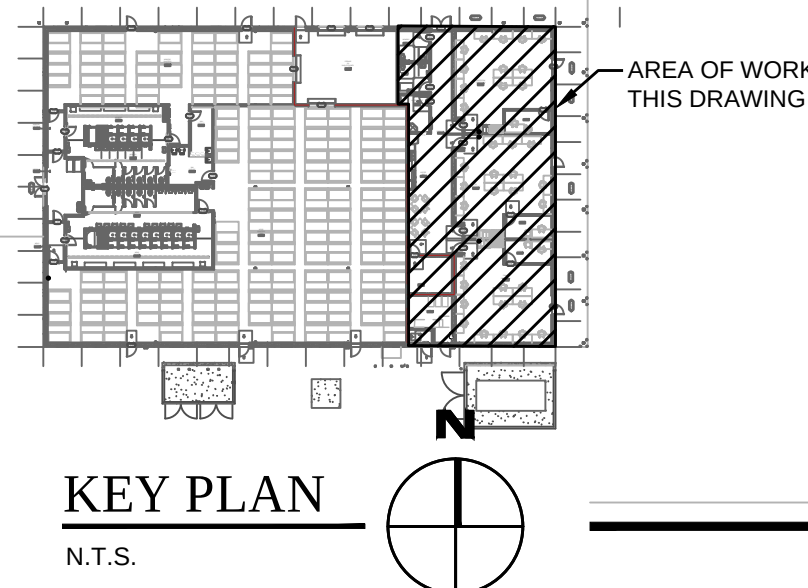
SYSTEMS LEGEND

- UNDERGROUND COMMUNICATIONS
- 2-PORT DATA OUTLET BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - 4-PORT DATA OUTLET BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET FOR RADIO COMMUNICATION BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 1" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET FOR BUILDING AUTOMATION SYSTEM BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - TELEPHONE OUTLET. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - (2) TELEPHONE VOICE JACKS IN (1) 4" SQUARE BOX WITH SINGLE GANG COVER. PROVIDE SEPARATE DEDICATED OUTSIDE PHONE LINES FOR EACH JACK. PROVIDE 3/4" CONDUIT.
 - POINT OF CONNECTION FOR DATA SYSTEM RACEWAY TO FURNITURE. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING AND 1" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - AUDIO/VISUAL ROUGH-IN OUTLET BOX FOR INSTALLATION OF AV OUTLETS BY OWNER. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING MOUNTED AT 18" A.F.F. UNLESS OTHERWISE NOTED ON PLANS.
 - MODULAR FIRE RATED PATHWAY. BASIS OF DESIGN HILTI CP 653 4 OR APPROVED EQUAL.
 - 12"x4" LADDER TYPE CABLETRAY. MOUNT CABLETRAY AT 8'-3" A.F.F. TO CENTER OF TRAY. UNLESS NOTED OTHERWISE.
 - COMM RACK WITH VERTICAL WIRE MANAGERS PROVIDED BY OWNER.
 - 4"x8"x3/4" FIRE RETARDANT PLYWOOD BACKBOARD.
 - WIRELESS ACCESS POINT PROVIDED BY OWNER.
 - TV. PROVIDE 4" SQUARE BOX WITH SINGLE GANG MUD RING FOR CABLE TELEVISION OUTLET BY OWNER. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING.
 - DATA OUTLET, VGA AND HDMI (BY OWNER). PROVIDE 4" SQUARE BOX WITH DOUBLE GANG MUD RING. PROVIDE (1) 3/4" CONDUIT WITH PULL STRING FOR DATA AND (1) 1/2" CONDUIT WITH STRING FOR VGA/HDMI CABLES.
 - DATA OUTLETS, VGA AND HDMI (BY OWNER) INSTALLED IN FOUR COMPARTMENT FLOOR BOX. PROVIDE (1) 3/4" CONDUIT WITH PULL STRING FOR DATA AND (1) 1/2" CONDUIT WITH STRING FOR VGA/HDMI CABLES. REFER TO a-E504 FOR ADDITIONAL DETAIL.
 - DATA OUTLETS, VGA AND HDMI (BY OWNER) INSTALLED IN POKE-THRU TYPE FLOOR BOX. FURNISHED BY DIVISION 26 CONTRACTOR. PROVIDE 3/4" CONDUIT WITH PULL STRING FROM BOX TO ACCESSIBLE LOCATION ABOVE CEILING. REFER TO a-E504 FOR ADDITIONAL DETAIL.
 - DIAL SERVICE MODULAR FURNITURE POKE-THRU. FURNISHED BY DIVISION 26 CONTRACTOR. ALIGN POKE THRU FEED HOLES WITH CENTER OF MODULAR FURNITURE. REFER TO a-E504 FOR ADDITIONAL INFORMATION.
 - 2-GANG JUNCTION BOX. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS.
 - SCREEN LOW VOLTAGE INTERFACE WITH MOTOR AND INTERFACE MOUNTS ABOVE FINISHED CEILING. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS FOR EXACT LOCATION.
 - CEILING MOUNTED SPEAKER. COORDINATE WITH AV INSTALLER AND APPROVED SHOP DRAWINGS FOR EXACT LOCATION.
 - PROVIDE WIRING ACCESS AND NETWORK CONNECTIVITY FOR SECURITY CAMERA'S IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
 - PULL AREA AT PROJECTOR LOCATION. COORDINATE EXACT LOCATION WITH APPROVED AV DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COORDINATING DEVICE PLACEMENT WITH APPROVED AUDIO VISUAL DRAWINGS AND SUBJECT TO OWNER'S APPROVAL.

ELECTRONIC DOOR SYMBOL LEGEND

- | | |
|-----------------------|--------------------------|
| CARD READER | PANIC BAR |
| DOOR CONTACT | POWER OPERATOR |
| ELECTRIC LOCK | PUSH PAD OPERATOR |
| MAGNETIC HOLDER | PUSH PAD OPERATOR |
| OBSTRUCTION SENSOR | PTH POWER TRANSFER HINGE |
| OVERHEAD DOOR CONTACT | REX REQUEST-TO-EXIT |

AT ALL CAMERA LOCATIONS ASSOCIATED WITH BUILDING, CONTRACTOR SHALL PROVIDE 3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING. EXTERIOR CONDUITS TURN UP IN IT ROOM.



GENERAL NOTES THIS DRAWING

- REFER TO POWER PLANS FOR RECEPTACLE LOCATIONS. WHERE 120V RECEPTACLES ARE IN CLOSE PROXIMITY TO COMMUNICATIONS DEVICES, SUCH DEVICES SHALL BE INSTALLED AT SAME HEIGHT AS RECEPTACLES WITH NO MORE THAN 2" OF SEPARATION BETWEEN THEM.
- CONDUITS FOR DATA SHALL BE INCREASED BY ONE STANDARD TRADE SIZE FOR ALL RUNS WHICH REQUIRE MORE THAN (1) 90 DEGREE BEND.
- PROVIDE CONDUIT SLEEVES FOR DATA CABLE PENETRATIONS THROUGH FULL HEIGHT WALL. COORDINATE SIZES AND LOCATIONS WITH DATA CABLE INSTALLER. PROVIDE FIRE STOPPING WHERE NECESSARY TO MAINTAIN FIRE RATING OF WALLS.

ALL LOW VOLTAGE SYSTEMS (WIFI, AUDIO/VISUAL, SECURITY, TELECOM, ACCESS CONTROL, BDA, ETC.) SHALL BE PROVIDED BY THE OWNER'S SUBCONTRACTOR. GENERAL CONTRACTOR TO COORDINATE LOCATIONS AND INFRASTRUCTURE REQUIREMENTS (I.E. LINE VOLTAGE, CONDUIT, ETC.) COORDINATE AND PROVIDE WIRING ACCESS AND NETWORK CONNECTIVITY AS REQUIRED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR REVIEWING AND COORDINATING DEVICE PLACEMENT WITH APPROVED AUDIO VISUAL DRAWINGS AND SUBJECT TO OWNER'S APPROVAL.

KEYED NOTES NOT ALL KEYED NOTES PERTAIN TO CURRENT SHEET

- PROVIDE MULTIPLE 4"x8"x3/4" THICK AC GRADE PLYWOOD BACKBOARDS WITH 2 COATS OF WHITE FIRE RETARDANT PAINT ON ALL SIDES. INSTALL WITH THE 8" DIMENSION MOUNTED VERTICALLY.
- COPPER PHONE BLOCKS & COAX CABLE SERVICES.
- IT RACKS ARE TO BE GROUNDED BY THE ELECTRICIAN TO THE GROUNDING BAR. SEE DETAIL 4, F-E505.
- INCOMING 4" CONDUITS FROM SITE. COORDINATE CONDUITS TO BE AS CLOSE TO WALL AS POSSIBLE PRIOR TO INSTALLATION.
- OVERHEAD DOORS TO RECEIVE PROXIMITY SENSOR. COORDINATE WITH APPROVED SHOP DRAWINGS.
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ISSUE DATE
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REVISIONS

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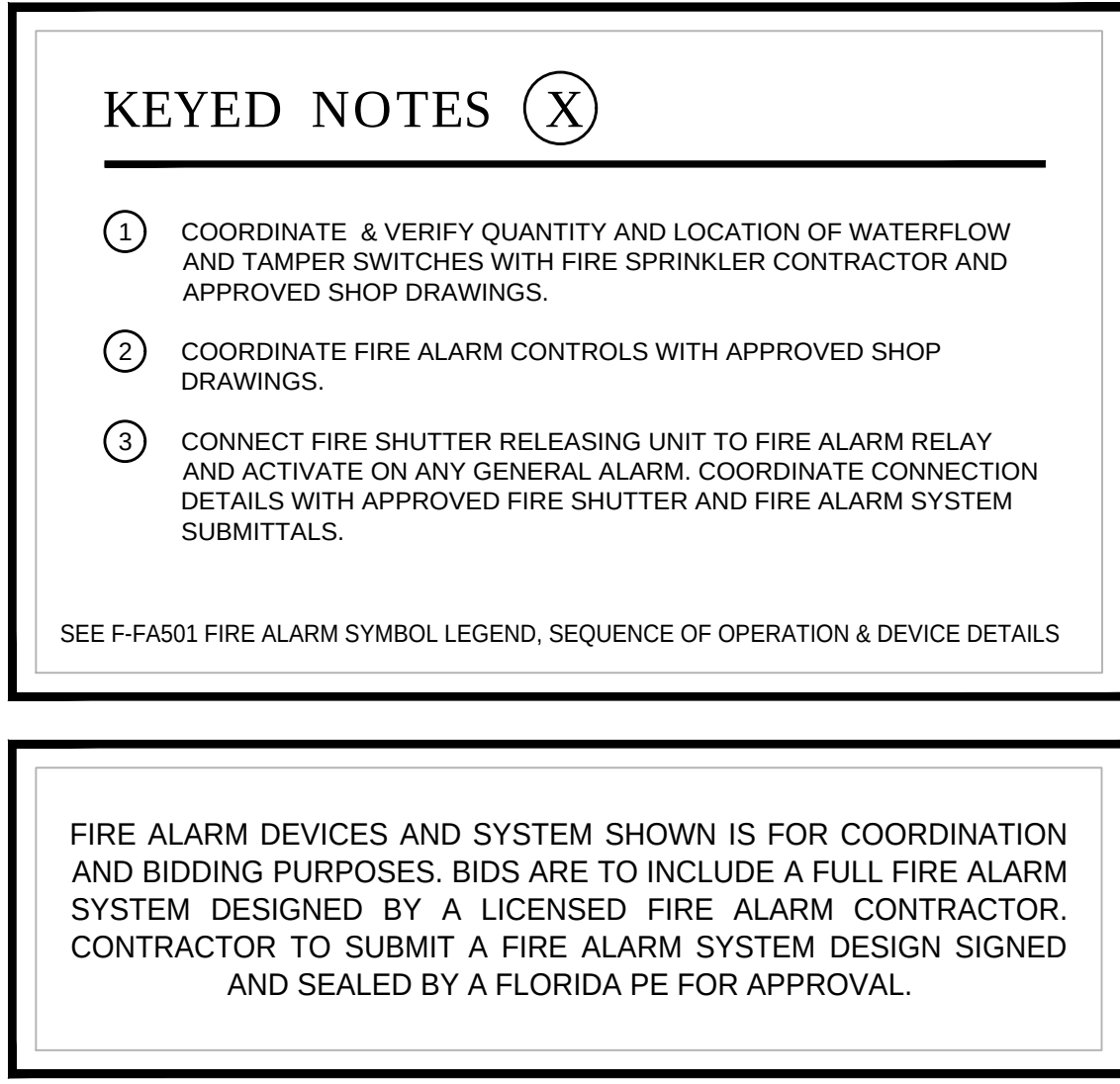
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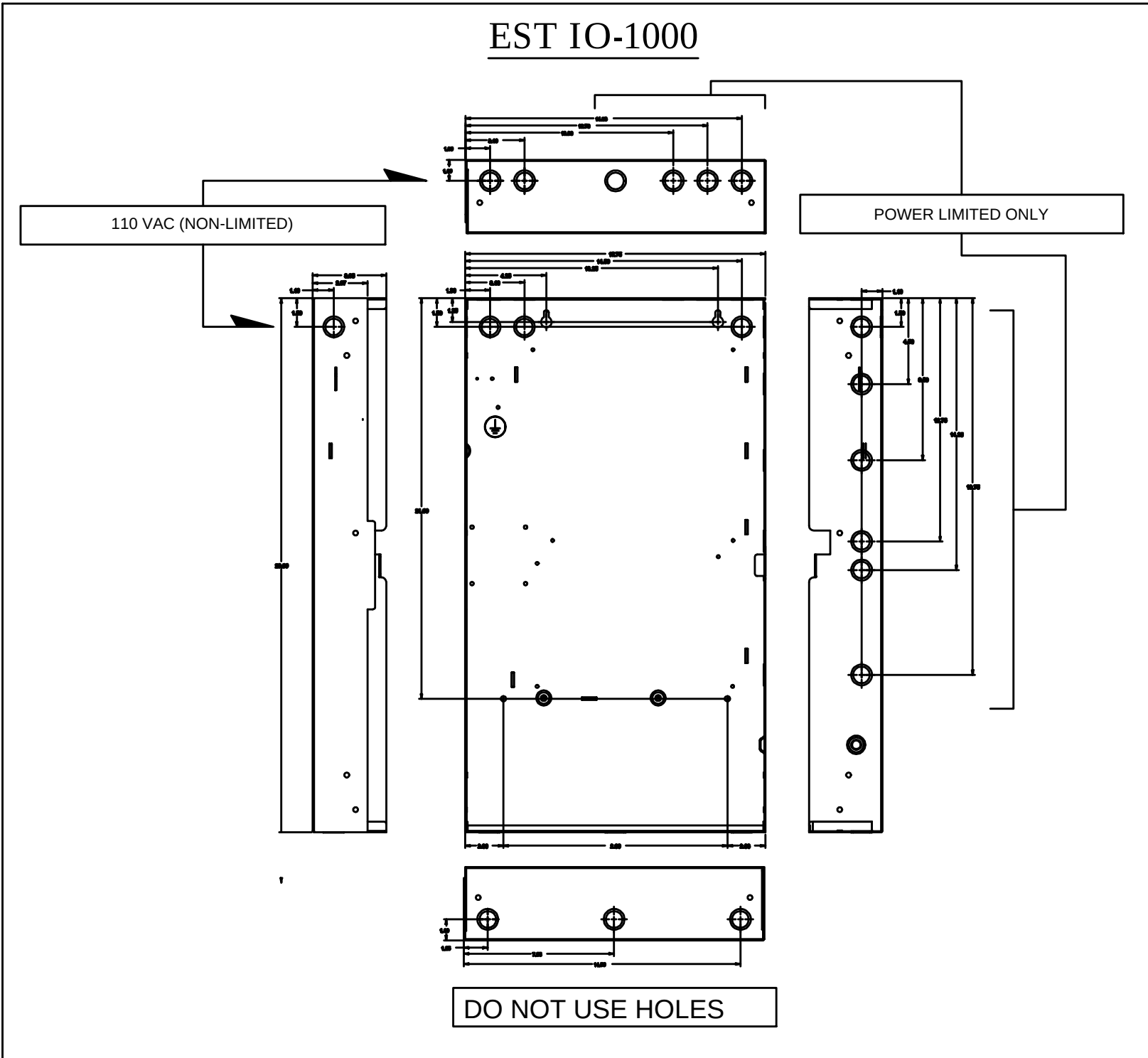
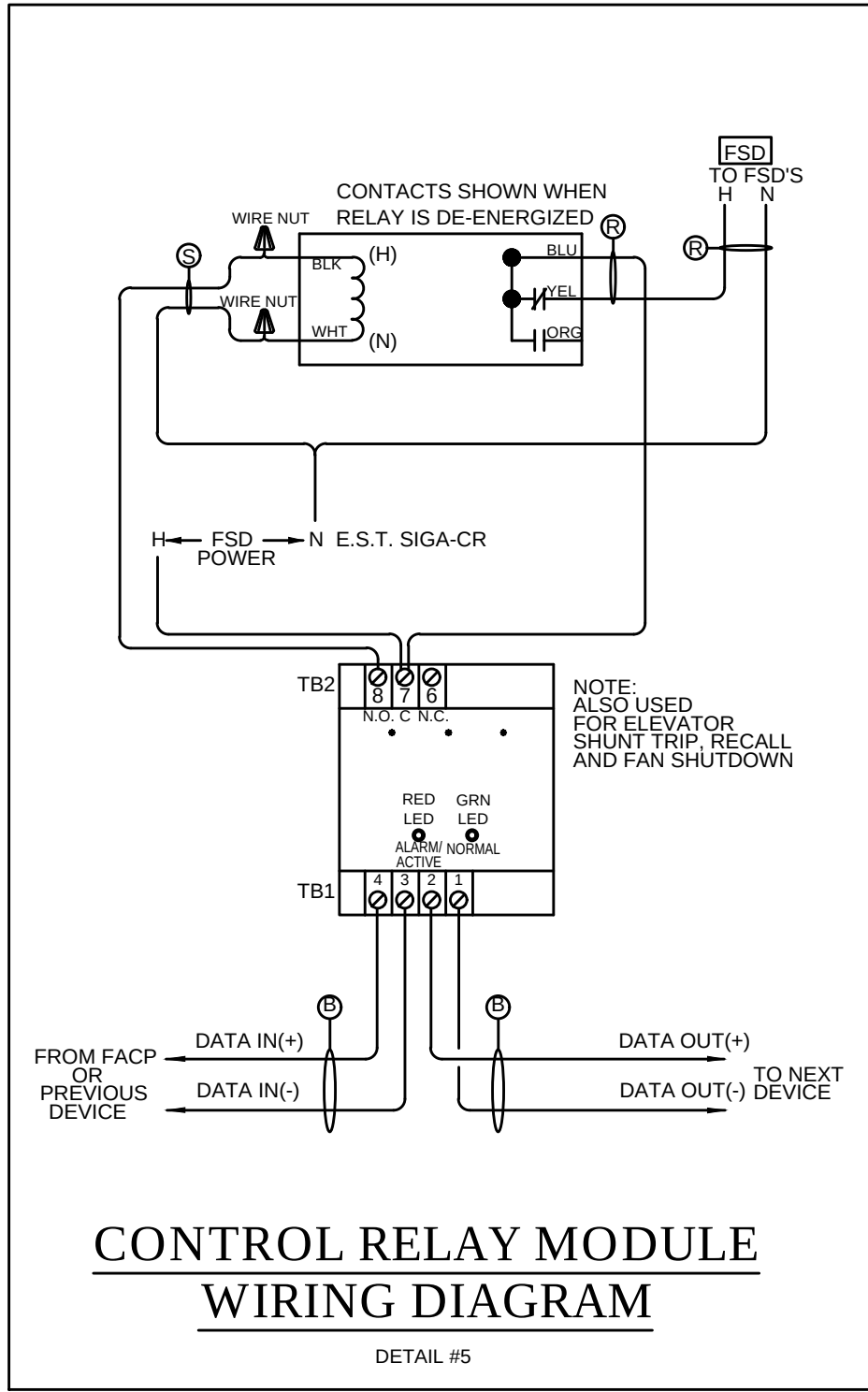
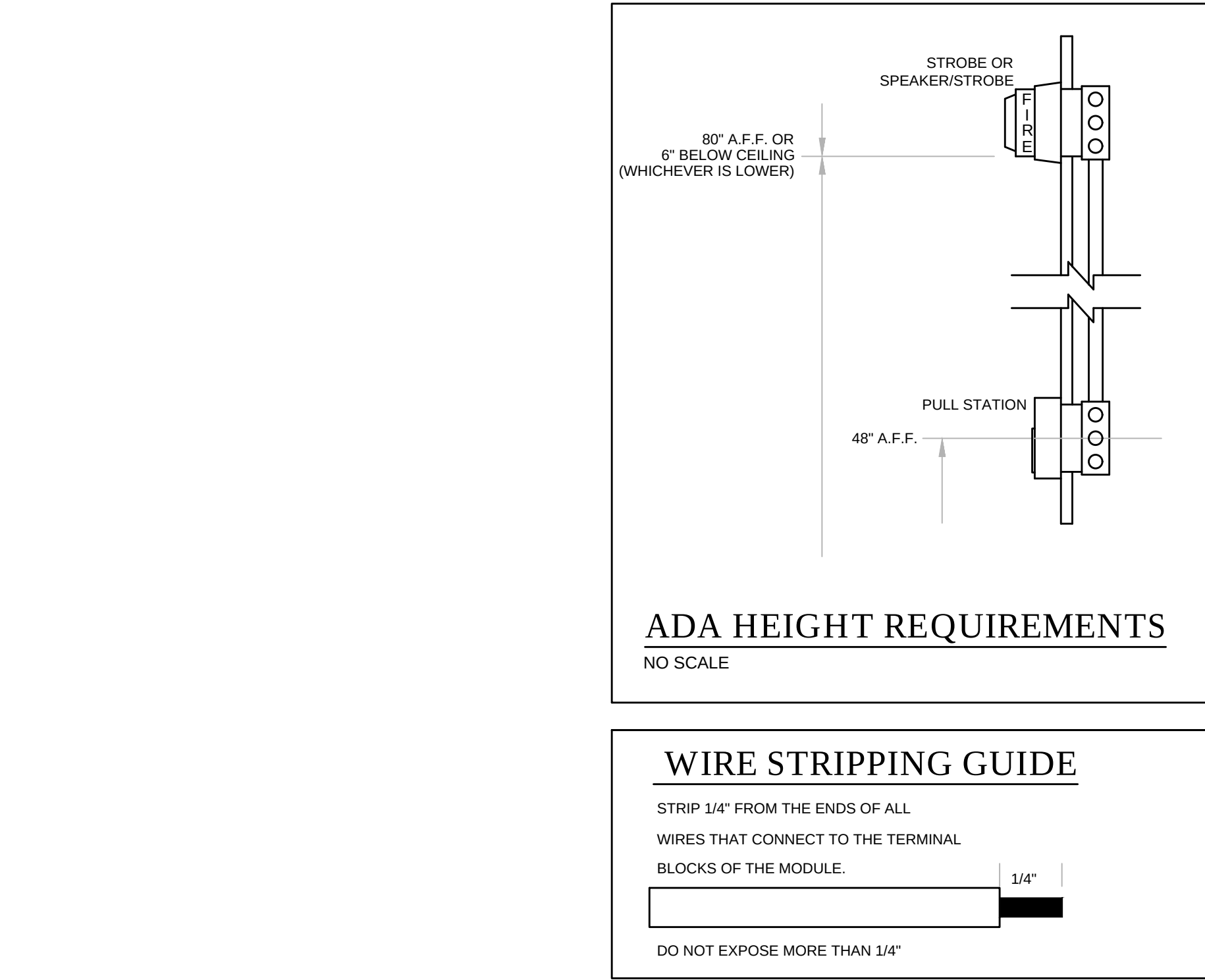
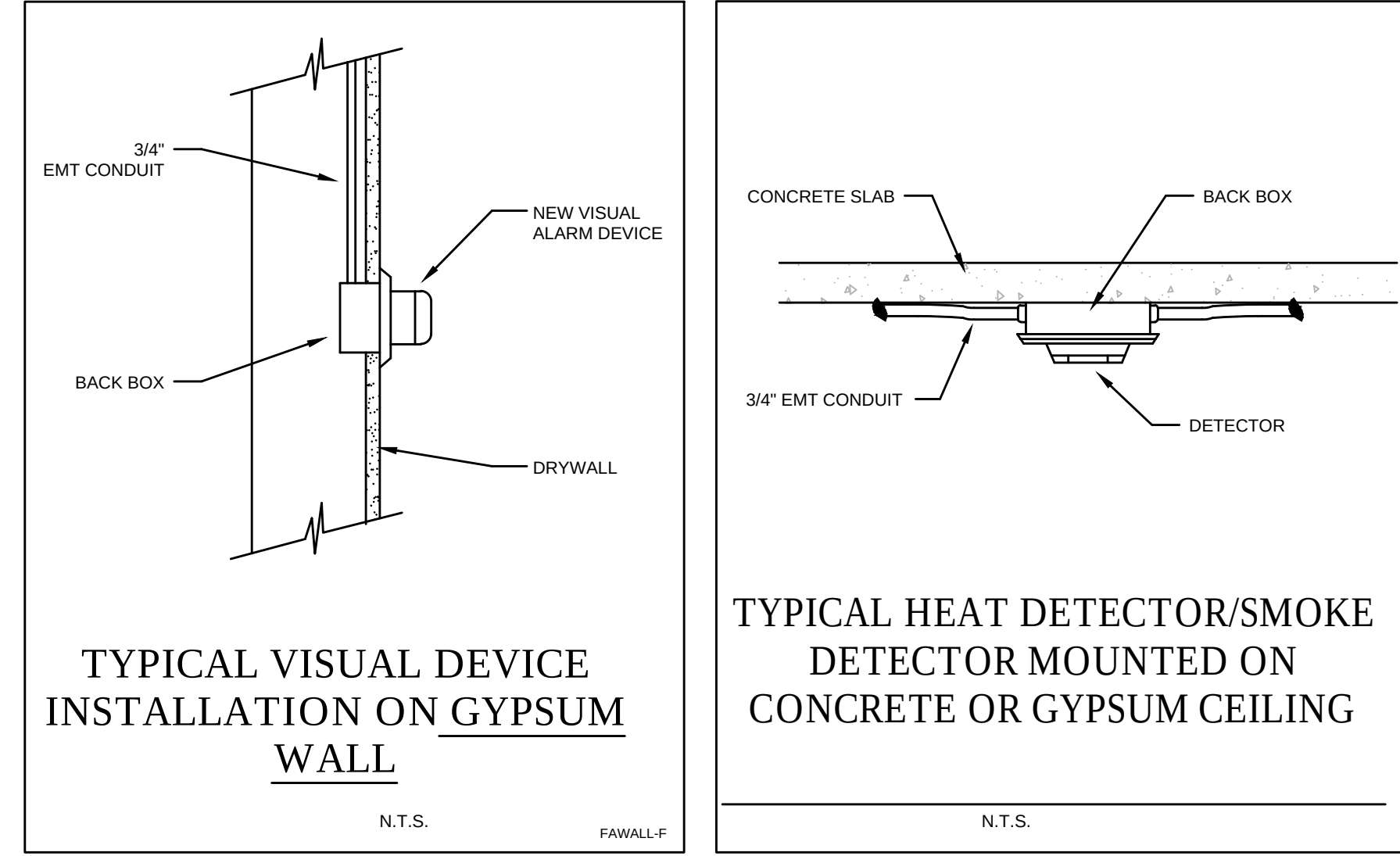
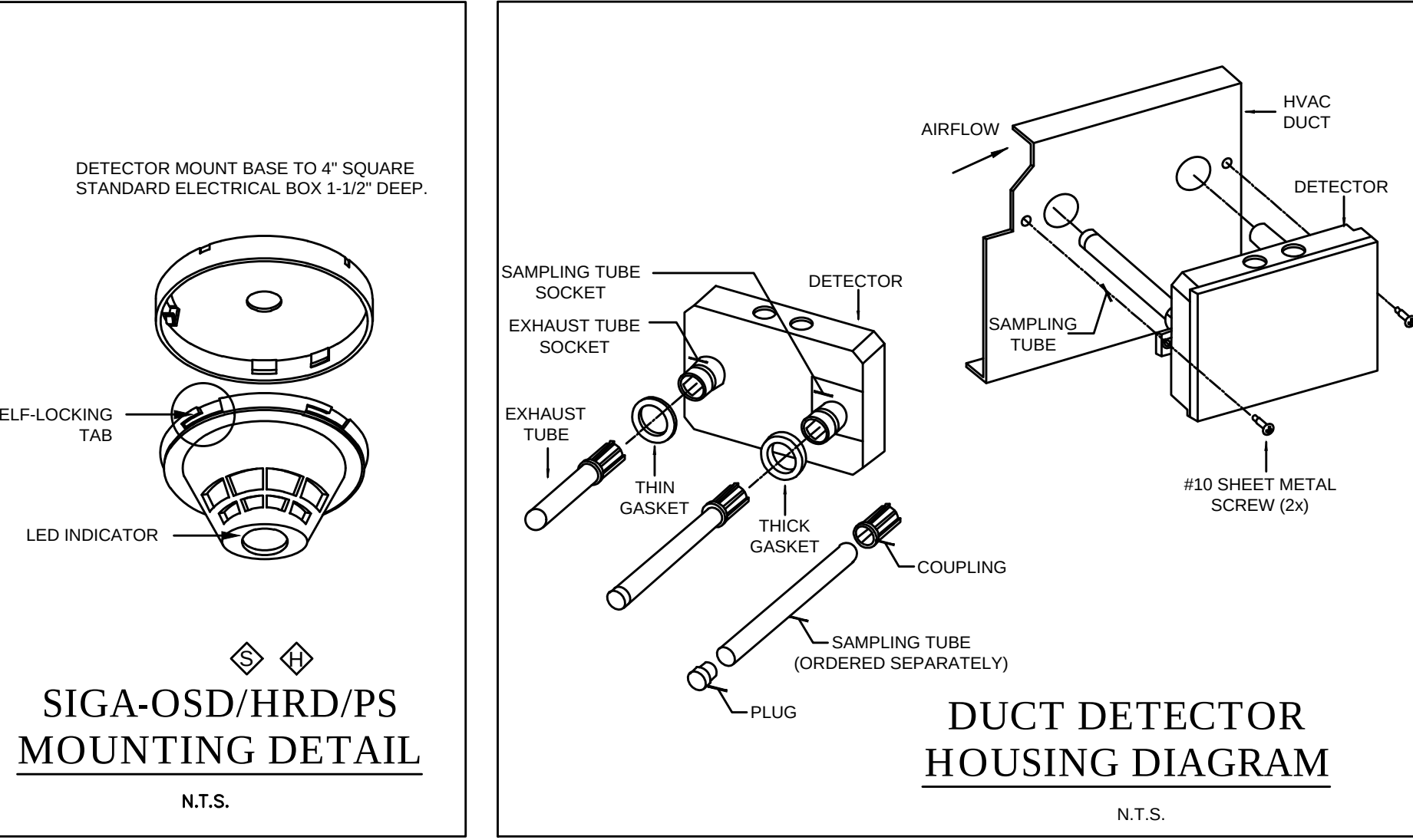
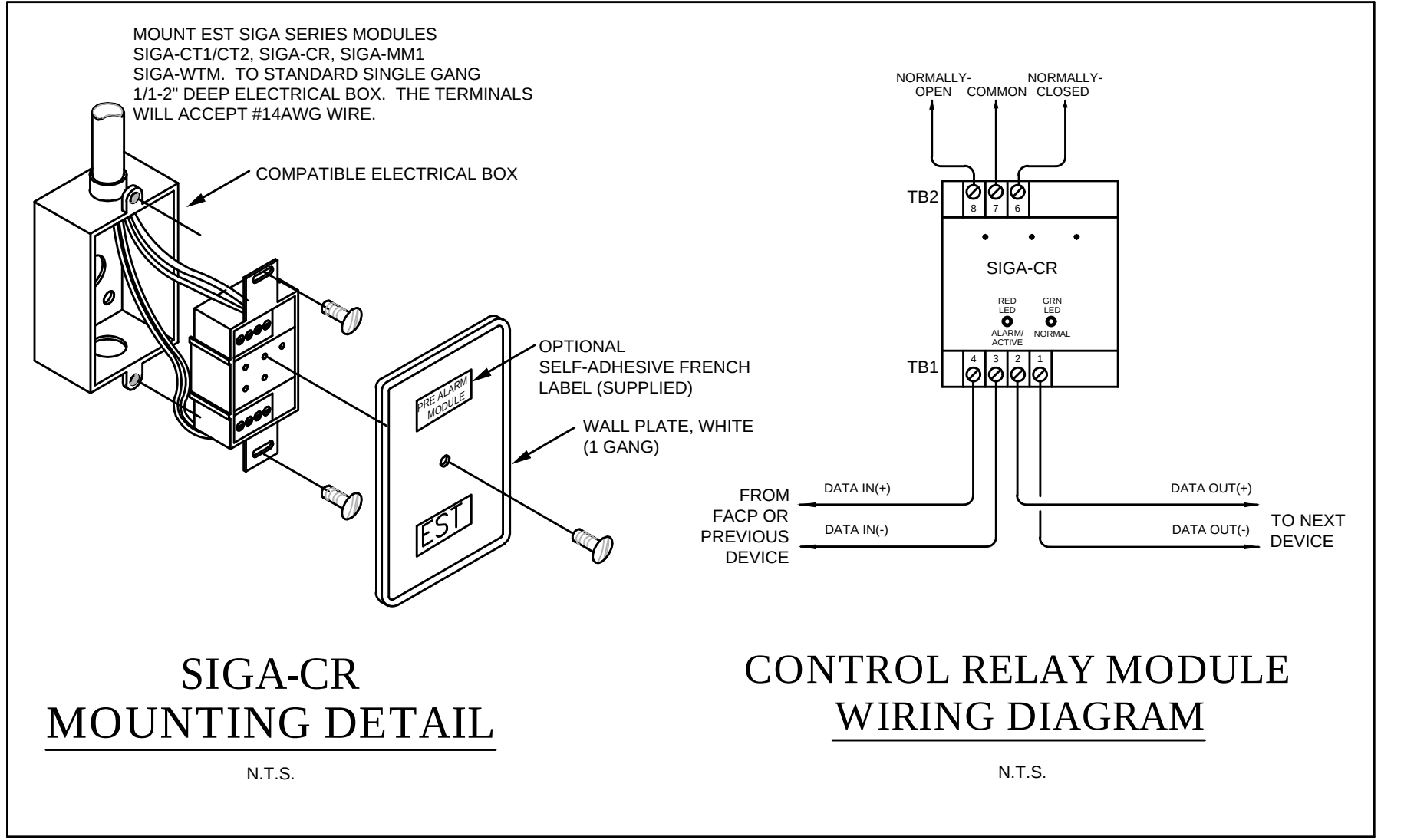
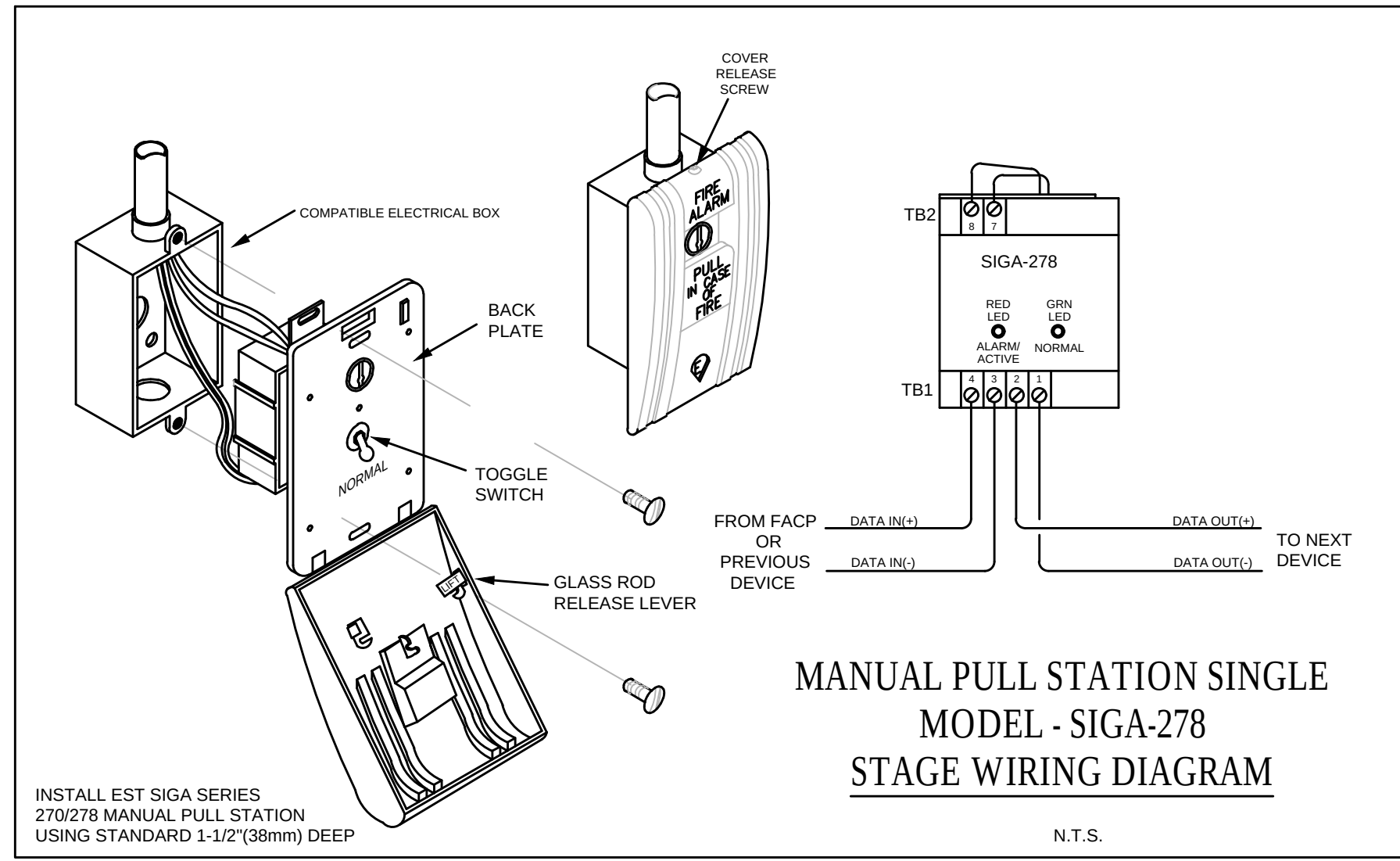
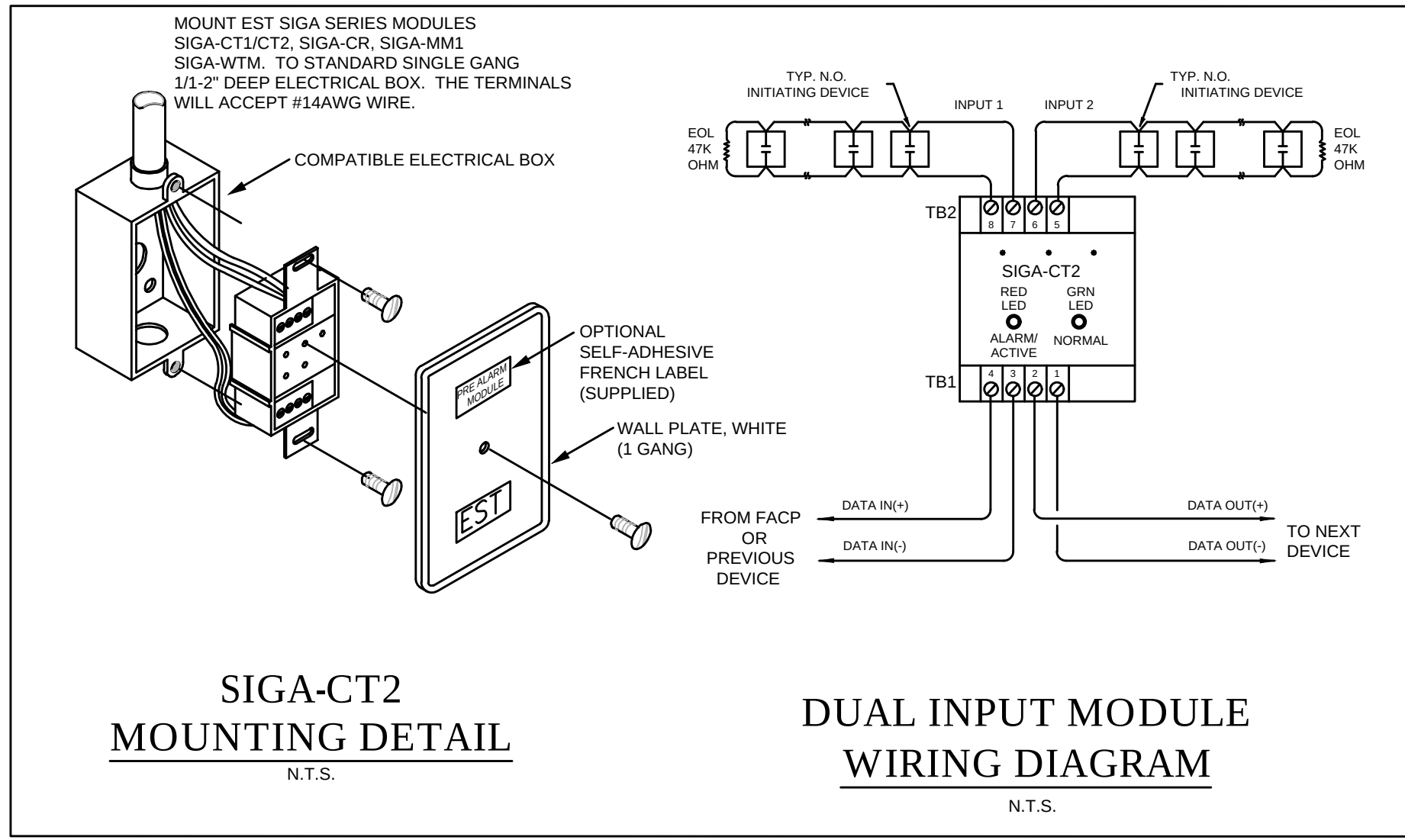
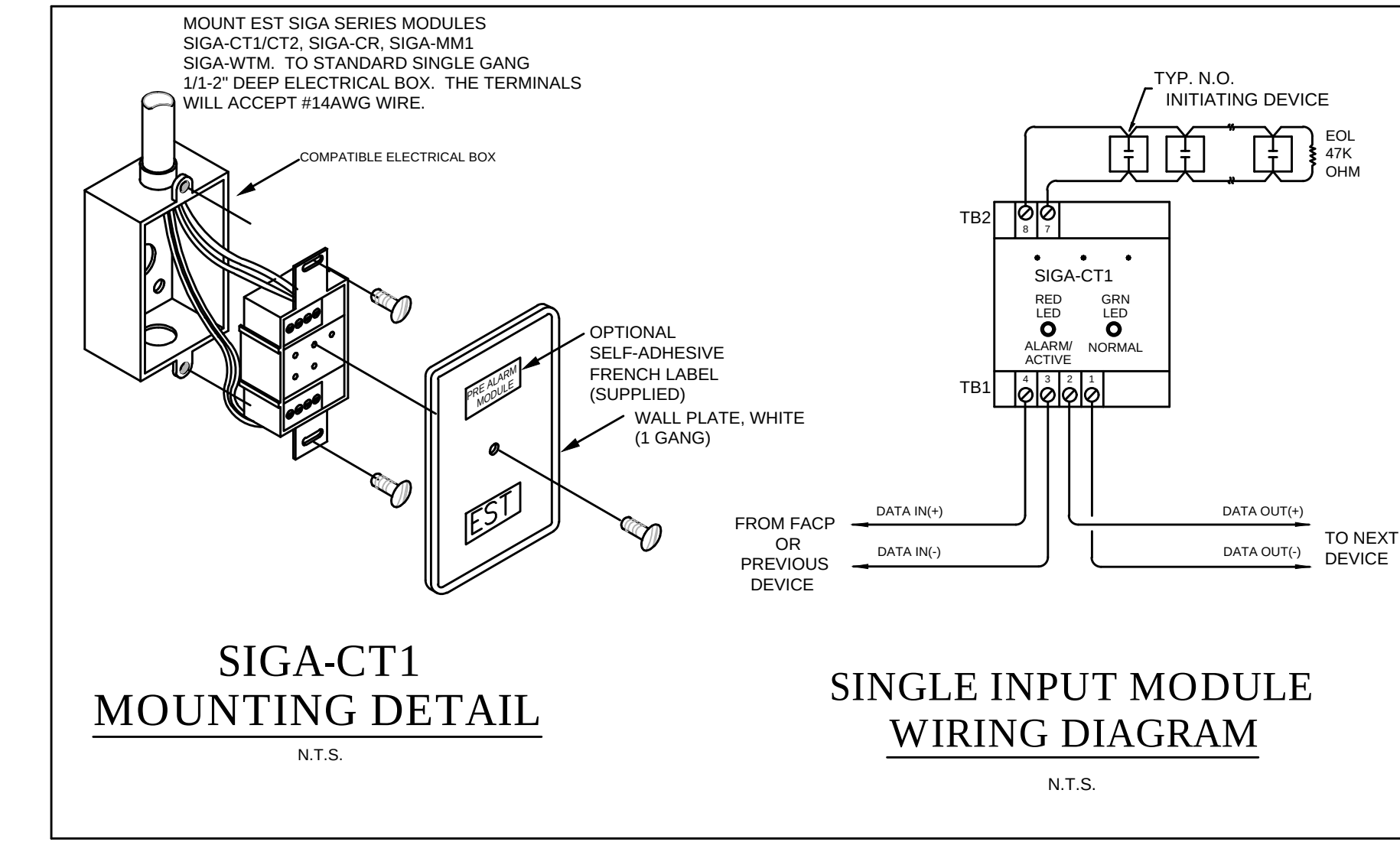
FPL Columbia Storm
Processing Facility Phase 2
1185 NW 25A
LAKE CITY, FL 32055

PROJECT NO.
814.C6328.01

SHEET TITLE
PARTIAL
SYSTEMS PLAN

SHEET NUMBER
F-T103



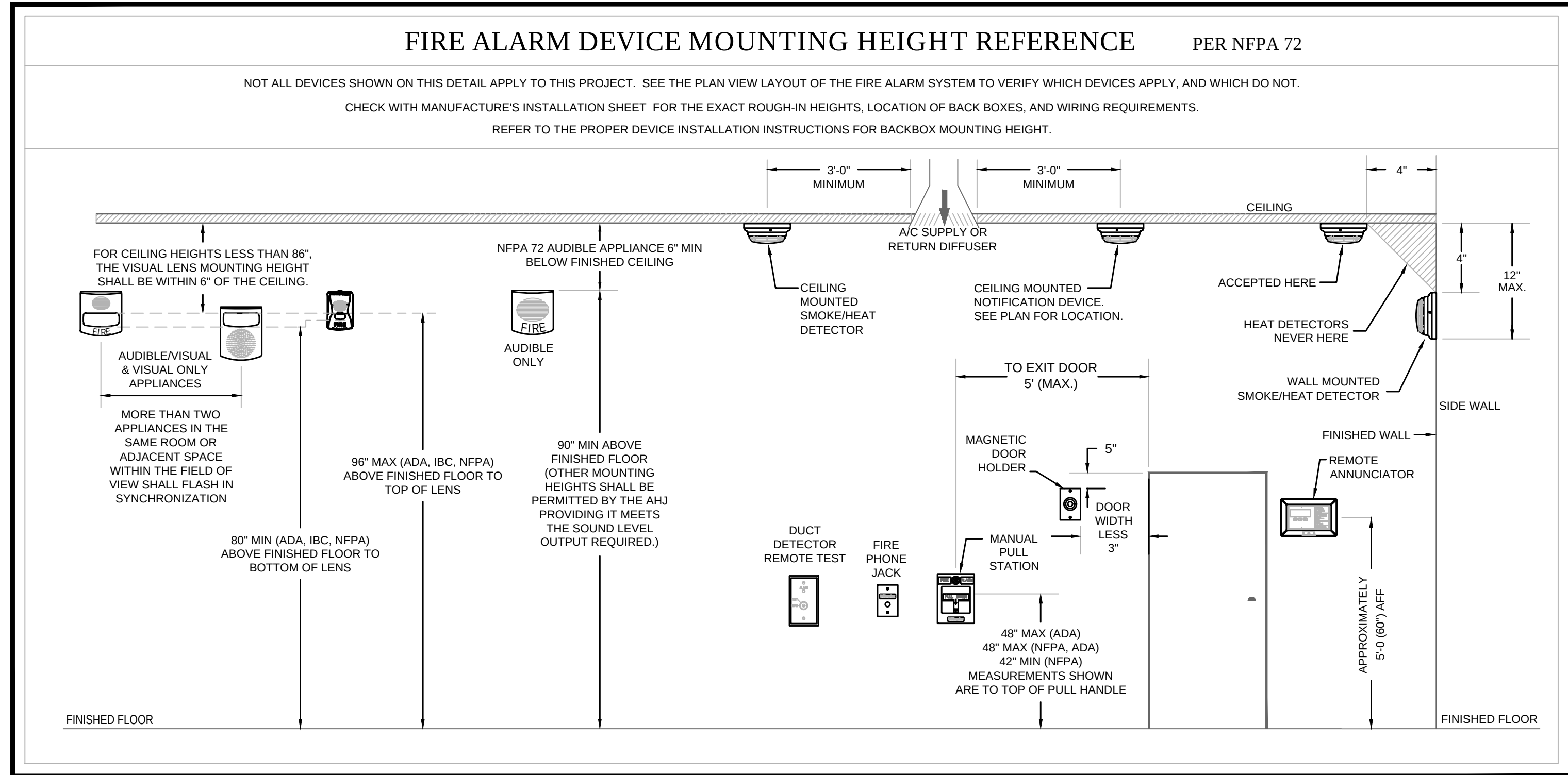


FIRE ALARM WIRE LEGEND	
WIRE TAG	WIRE USE
A	(NAC) 14-2 FPL OR EQUIVALENT
B	(SLC DATA LOOP) 18-2 FPL OR EQUIVALENT
C	(REMOTE TEST STATION) 22-4 FPL OR EQUIVALENT
ALL CONDUITS 3/4" EMT, MINIMUM UNLESS OTHERWISE NOTED. 40% FILLED MAX.	

- ### FIRE ALARM SYSTEM GENERAL NOTES
- ALL WALL-MOUNTED VISUAL, SIGNALING APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80 IN. (2.03m) AND NOT GREATER THAN 96 IN. ABOVE THE FINISHED FLOOR (A.F.F.) PER NFPA 72 2022 CH 18.5.5 ALL WALL MOUNTED AUDIBLE DEVICES SHALL BE A MINIMUM OF 80" A.F.F. TO THE TOP OF DEVICE PER NFPA 72 2022 SECTION 4.8.3.1. AREAS HAVING MORE THAN 2 STROBES IN THE FIELD OF VIEW SHALL BE SYNCHRONIZED PER NFPA 72, SECTION 18.5.5.4.2.
 - SMOKE DETECTORS AND HEAT DETECTORS LOCATIONS ARE BASED ON SMOOTH CEILING WITH MAXIMUM HEIGHT OF 10 FEET UNLESS OTHERWISE NOTED.
 - STROBE LOCATION IS BASED ON 10 FOOT CEILING HEIGHT AND ARE INSTALLED ACCORDING TO NFPA 72 REQUIREMENTS UNLESS OTHERWISE NOTED. ANY DEVICES ON CEILING OVER 10 FT. WILL BE DERATED PER NFPA 72.
 - MANUAL PULL STATIONS SHALL BE MOUNTED AT 42-48" TO PULL LEVER ABOVE FINISHED FLOOR LEVEL.
 - ALL EQUIPMENT SHALL BE U.L. LISTED.
 - ALL WIRING SHALL BE IN ACCORDANCE WITH N.E.C. AND AUTHORITIES HAVING JURISDICTION.
 - ALL JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C.
 - ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLE SHOOTING, ETC.
 - DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR-FLOW, NOR CLOSER THAN 3 FEET (900mm) FROM AN AIR SUPPLY DIFFUSER.
 - ALL DUCT SMOKE DETECTORS SHALL BE MOUNTED BY THE MECHANICAL CONTRACTOR. DUCT DETECTORS EXPOSED TO THE WEATHER SHALL BE WEATHER PROTECTED BY THE MECHANICAL CONTRACTOR. ALL AIR VELOCITY TESTING SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.
 - ALL 120 VAC POWER REQUIREMENTS FOR THE FIRE ALARM SYSTEM SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR AND SHALL MEET ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
 - ALL FIRE ALARM DEVICE BACK BOXES, FIRE ALARM TERMINAL CABINETS, GUTTERS, JUNCTION BOXES AND ASSOCIATED SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. REFER TO FIRE ALARM SYMBOL LIST AND/OR INSTALLMENT DETAILS FOR ADDITIONAL INFORMATION. SYSTEM SUPPLIER PROVIDED BACK BOXES SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
 - SMOKE DETECTOR TESTING SHALL BE ACCOMPLISHED WITH SMOKE OR LISTED AEROSOL, APPROVED BY THE MANUFACTURER PER NFPA 72, AS ACCEPTABLE BY THE A.H.J.
 - ALL WIRING SHALL BE CUT FOR IN AND OUT. WIRING SHALL NOT BE LOOPED THROUGH DEVICES.
 - POINT AND COMMON ANNUNCIATION AND T-TAPPING ARE PROHIBITED. (T-TAPPING IS ALLOWABLE ON ADDRESSABLE STYLE & SLC LOOPS).
 - THE ALARM SYSTEM SHALL HAVE AN AUDIBILITY OF NOT LESS THAN 15db ABOVE AMBIENT NOISE LEVELS, BUT NOT LESS THAN 75db THROUGHOUT AREA OF ALARM. TESTING SHALL BE ACCOMPLISHED WITH A db METER, WHERE APPLICABLE, AUDIBLE TONE WILL BE TEMPORAL PATTERN.
 - FIRE ALARM SIGNAL SHALL MEET ANSI S3.41. AUDIBILITY EMERGENCY EVACUATION SIGNAL (TEMPORAL PATTERN)
 - ALL CONDUITS ARE 3/4" UNLESS OTHERWISE NOTED.
 - ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED PER MANUFACTURERS SPECIFICATIONS.
 - SYSTEM SHALL BE FURNISHED AND INSTALLED BY AN AUTHORIZED DISTRIBUTOR.
 - TAMPER PROOF SCREWS OR OTHER APPROVED MECHANICAL MEANS SHALL BE USED ON ALL COVERS OF EXTERIOR ELECTRICAL JUNCTION BOXES IN LIEU OF ELECTRICAL SUPERVISION OF THE COVERS, PER THE 2022 NFPA 72 23.8.5.11.1.
 - ELECTRICAL POWER SERVICE SHALL BE ON A DEDICATED BRANCH CIRCUIT(S) AND CONNECTIONS SHALL BE MECHANICALLY PROTECTED (CIRCUIT BREAKERS SHALL BE LOCKED IN THE ON POSITION WITH AN APPROVED MECHANICAL CLIP). CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT." THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
 - UPON COMPLETION OF ALL INSTALLATION AND TESTING, THE CONTRACTOR SHALL PROVIDE TO THE AUTHORITY HAVING JURISDICTION AND THE BUILDING OWNER A COMPLETED AND SIGNED NFPA 72 CERTIFICATE OF COMPLETION.
 - SECTION 17.7.11.3 OF THE 2022 EDITION OF NFPA 72 STATES THAT "WHERE DETECTION IS NOT REQUIRED DURING CONSTRUCTION, DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER ALL OTHER CONSTRUCTION TRADES HAVE COMPLETED CLEANUP."
 - IN-BUILDING PUBLIC SAFETY RADIO SYSTEM ENHANCEMENT, IF REQUIRED, SHALL BE MONITORED BY FIRE ALARM SYSTEM.
 - FIRE ALARM BASIS OF DESIGN IS AN EDWARDS EST4.
 - PROVIDE SIGN INDICATING THE FACP LOCATION ON THE DOOR TO ELEC. ROOM 103.
 - PROVIDE SIGN INDICATING FIRE DEPARTMENT CONNECTION (FDC).
 - CELLULAR COMMUNICATOR TO BE PROVIDED FOR CENTRAL STATION MONITORING.

APPLICABLE CODES / STANDARDS	
PARTIAL LIST OF APPLICABLE NFPA STANDARDS	
NFPA 72-National Fire Alarm codes (2022 Edition)	
NFPA 101-Life Safety Code (2021 Edition)	
2023 Florida Fire Prevention Code 8th Edition	
BUILDING INFORMATION	
BUILDING CONSTRUCTION TYPE: II-B	AREA OF BUILDING: 36,533 sf
BUILDING OCCUPANCY: S-2 & HIGH-PILED	NO. OF STORIES: 2
OCCUPANT LOAD: 137	OWNER: John McGowan
SPRINKLERED: YES	PE # 78477 SEAL

FIRE ALARM SYMBOL LEGEND		
SYMBOL	DESCRIPTION	MODEL #
FACP	FIRE ALARM CONTROL PANEL	EST-IO1000
SD	SMOKE DETECTOR W/BASE	SIGA-OSD/ SIGA-SB4
HD	HEAT DETECTOR W/BASE	SIGA-HRD/ SIGA-SB4
SD	DUCT DETECTOR	SIGA-SD
FACP	FIRE ALARM SYSTEM CONTROL RELAY	
RTS	REMOTE TEST STATION	SD-TRK
F	PULL STATION	SIGA-278
CR	CONTROL RELAY MODULE	SIGA-CR
CT1	SINGLE INPUT MODULE	SIGA-CT1
CT2	DUAL INPUT MODULE	SIGA-CT2
SV	SPRINKLER VALVE TAMPER SWITCH	F.B.O
WS	SPRINKLER WATERFLOW SWITCH	F.B.O
VP	HORN STROBE	G4AVRF
WP	WEATHERPROOF HORN STROBE	WG4RF-HVMC
F	STROBE	G4VRF
SL	FIRE STROBE LIGHT WALL MOUNTED AT 80" A.F.F.	
SUR-1	VOLTAGE SURGE PROTECTOR - 120 VAC	DITEK DTK-120HW
SUR-2	VOLTAGE SURGE PROTECTOR - TELEPHONE LINES	DITEK DTK-MR31XSCPPW
DOC	SYSTEM RECORD DOCUMENTS	SSU0689
CD	CELL DIALER	SLE-LTEA-CFB-PS



SYSTEM INPUTS		SYSTEM OUTPUTS													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.	MANUAL FIRE ALARM BOXES														
2.	SMOKE DETECTOR														
3.	IN-DUCT SMOKE DETECTOR														
4.	HEAT DETECTOR														
5.	WATERFLOW														
6.	SPRINKLER CONTROL VALVE (TAMPER SWITCH)														
7.	NOT USED														
8.	NOT USED														
9.	FIRE ALARM AC POWER FAILURE														
10.	FIRE ALARM SYSTEM LOW BATTERY														
11.	OPEN CIRCUIT														
12.	GROUND FAULT														
13.	NOTIFICATION APPLIANCE CIRCUIT SHORT														

SEQUENCE OF OPERATION

FIRE ALARM DEVICES AND SYSTEM SHOWN IS FOR COORDINATION
AND BIDDING PURPOSES. BIDS ARE TO INCLUDE A FULL FIRE ALARM
SYSTEM DESIGNED BY A LICENSED FIRE ALARM CONTRACTOR.
CONTRACTOR TO SUBMIT A FIRE ALARM SYSTEM DESIGN SIGNED
AND SEALED BY A FLORIDA PE FOR APPROVAL.

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DAVID LITHGOW

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814.C6328.01

SHEET TITLE
FIRE ALARM
SYMBOL LEGEND,
SEQUENCE OF
OPERATION &
DEVICE DETAILS

SHEET NUMBER
F-FA501