


















































































































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POWER DISTRIBUTION	
	MOTOR
	MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD
	30A NON FUSED DISCONNECT SWITCH (AMPERE RATING SHOWN)
	30A FUSED DISCONNECT SWITCH (AMPERE RATING SHOWN)
	30A ENCLOSED CIRCUIT BREAKER (AMPERE RATING SHOWN)
	MAGNETIC MOTOR STARTER
	COMBINATION MAGNETIC MOTOR STARTER/DISCONNECT
	VARIABLE FREQUENCY DRIVE (COORDINATE FURNISHED EQUIPMENT WITH MECHANICAL SCHEDULES) (REFER TO SPECIFICATIONS FOR VFD AND STARTER REQUIREMENTS)
	JUNCTION BOX OR DIRECT CONNECTION POINT
	EMERGENCY POWER OFF STATION
	INDICATES CONDUIT UP
	INDICATES CONDUIT DOWN
	CONCEALED CONDUIT / WIRING IN OR UNDER FLOOR SLAB OR RAISED FLOOR
	FLEXIBLE METAL CONDUIT OR CABLE
	HOME RUN TO PANEL "LH1" CIRCUITS 1 AND 3.
	SURFACE MOUNTED 208 / 120V PANEL BOARD
	SURFACE MOUNTED 480 / 277V PANEL BOARD
	FLUSH MOUNTED 208 / 120V PANEL BOARD
	FLUSH MOUNTED 480 / 277V PANEL BOARD
	POWERED MECHANICAL EQUIPMENT TAG FOR ELECTRICAL CONNECTION, SEE POWERED MECHANICAL EQUIPMENT SCHEDULE AND DISTRIBUTION SCHEDULES.
	TRANSFORMER
ELECTRICAL OUTLETS	
CENTERLINE 1/8" AFF EXCEPT AS NOTED. REFER TO SPECIFICATIONS FOR MANUFACTURER AND CATALOG NUMBER. NUMERAL INDICATES BRANCH CIRCUIT DESIGNATION.	
	OUTLET DESIGNATION
	R RECEPTACLE MOUNTED HIGHER THAN STANDARD 1/8" AFF
	GR RECEPTACLE PROTECTED WITH GROUND FAULT CIRCUIT BREAKER
	IR RECEPTACLE, ISOLATED GROUND
	SP RECEPTACLE WITH SURGE PROTECTION
	TR RECEPTACLE - TAMPER RESISTANT
	EP RECEPTACLE - EXPLOSION PROOF
	P RECEPTACLE - PEDESTAL MOUNTED
	WP RECEPTACLE - WEATHER PROOF IN-USE ENCLOSURE
	UF RECEPTACLE - UNDER FLOOR
	CEILING MOUNTED RECEPTACLE
	FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE
	FLUSH FLOOR BOX WITH QUADRUPLX RECEPTACLE
	STANDARD DUPLEX RECEPTACLE
	STANDARD QUADRUPLX RECEPTACLE
	GFCI DUPLEX RECEPTACLE
	GFCI QUADRUPLX RECEPTACLE
	DUPLEX RECEPTACLE WITH INTEGRAL USB
	DUPLEX RECEPTACLE - ONE OUTLET SWITCHED
	DUPLEX RECEPTACLE - ALL OUTLETS SWITCHED
	QUAD RECEPTACLE - ONE DUPLEX SWITCHED
	QUAD RECEPTACLE - ALL OUTLETS SWITCHED
	SIMPLEX SINGLE RECEPTACLE
	USB ONLY RECEPTACLE
	RECESSED CLOCK RECEPTACLE. SEE SCHEDULE FOR TYPES
	HEAVY DUTY NEMA STRAIGHT BLADE RECEPTACLE. SEE SCHEDULE FOR TYPES
	HEAVY DUTY NEMA TWIST LOCK RECEPTACLE. SEE SCHEDULE FOR TYPES
	AV FLAT PANEL DISPLAY WALL BOX WITH POWER, TELECOM AND/OR AV CONNECTIVITY
	FLUSH WALL MOUNTED JUNCTION BOX WITH CONDUIT OPENINGS FOR FURNITURE FEED WHPS (POWER AND TELECOM)
	SINGLE POINT OUTLET: 120V DATA OUTLET, 1" TELEPHONE OUTLET, 1" FIRE FIGHTERS CALL STATION, CATV-CABLE TV OUTLET, AV OUTLET CONDUIT/BACKBOX REQUIREMENTS (UNLESS OTHERWISE NOTED): 1" 1" CONDUIT, 1-GANG BACKBOX 1" 1" CONDUIT, 1-GANG 1" 1" CONDUIT, 1-GANG BACKBOX CATV 1-1/2" CONDUIT, 2-GANG BACKBOX WITH 1-GANG REDUCER AV COORDINATE WITH AV CONTRACTOR REQUIREMENTS COMBINATION TELEPHONE/DATA OUTLET CONDUIT/BACKBOX REQUIREMENTS (UNLESS OTHERWISE NOTED): 1-1/2" CONDUIT, 2-GANG BACKBOX WITH 1-GANG REDUCER
	OVERHEAD POWER CONNECTION RECEPTACLE AND EXTENSION ARM. HUBBELL H848/123000 EXTENSION CORD REEL 45 FEET 12 GAUGE NEMA 5-20 RECEPTACLE OR APPROVED EQUIVALENT
	CEILING MOUNTED OR ABOVE CEILING MOUNTED MONITOR DISPLAY OR PROJECTOR BOX WITH POWER, TELECOM AND/OR AV CONNECTIVITY
	FLUSH FLOOR BOX ASSEMBLY WITH CONDUIT OPENINGS FOR FURNITURE FEEDS (POWER, TELECOM AND AV) COORDINATE COLOR WITH ARCHITECT.
	FLUSH FLOOR BOX WITH QUAD RECEPTACLE, PROVISIONS FOR TELICOM OUTLETS COORDINATE COLOR WITH ARCHITECT.
	FLUSH FLOOR BOX WITH QUAD RECEPTACLE, PROVISIONS FOR VOICE / DATA AND AV OUTLETS COORDINATE COLOR WITH ARCHITECT.
	CONDUIT STUB-UPS INTO TABLE LEGS FOR POWER, VOICE/DATA AND AV, DATA AND AV
	FLUSH POWER RACK ASSEMBLY WITH SURFACE MOUNTED QUAD RECEPTACLE AND PROVISIONS FOR TELICOM CONNECTIVITY (COORDINATE COLOR WITH ARCHITECT)
	FLUSH POWER RACK ASSEMBLY WITH RECESSED RECEPTACLE AND PROVISIONS FOR TELICOM CONNECTIVITY (COORDINATE COLOR WITH ARCHITECT)

LUMINAIRES	
	1X4 RECESSED TROFFER
	2X4 RECESSED TROFFER
	2X2 RECESSED TROFFER
	1X4 INDUSTRIAL STRIP LIGHT LUMINAIRE
	RECESSED OR PENDANT DOWN LIGHT
	RECESSED WALL WASH LUMINAIRE
	WALL MOUNTED LUMINAIRE
	PENDANT LUMINAIRE
	TRACK LIGHTING
	ELU REMOTE BATTERY BACK UP
	BATTERY BACK UP ELU
	REMOTE BATTERY BACK UP ELU
	WALL MOUNTED EXIT SIGN ARROW DESIGNATES DIRECTION
	CEILING MOUNTED EXIT SIGN ARROW DESIGNATES DIRECTION
SINGLE LINE DIAGRAM	
	GENERATOR
	TRANSFORMER
	2000AF 600AT
	AF - INDICATES AMPERE FRAME AT - INDICATES AMP TRIP
	DRAW-OUT CIRCUIT BREAKER
	CIRCUIT BREAKER: 1P SINGLE POLE 2P TWO POLE 3P THREE POLE
	CIRCUIT BREAKER WITH SHUNT TRIP
	ENCLOSED CIRCUIT BREAKER
	TRANSFER SWITCH
	DISCONNECT DEVICE FOR DRAWOUT EQUIPMENT NON-FUSED SWITCH
	FUSE
	FUSED SWITCH OR FUSED DISCONNECT
	LIGHTNING ARRESTOR
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	POTENTIAL TRANSFORMER WITH FUSE
	DELTA CONNECTION
	GROUNDED WYE CONNECTION
	OVERLOAD RELAY
	CONTACTOR
	RELAY
	ELECTRICALLY OPERATED
	SOLENOID KEY OPERATED RELEASE UNIT
	POWER FACTOR CORRECTION CAPACITOR
	SURGE PROTECTION DEVICE
	INDICATING LAMP
	CONDUIT FEEDER IDENTIFICATION
	DIGITAL MULTI-PURPOSE METER
	AMMETER
	AMMETER SWITCH
	VOLTMETER
	VOLTMETER SWITCH
	KIRK KEY INTERLOCK
	WATTHOUR METER
	STOP BUTTON MOMENTARY CONTACT
	START BUTTON MOMENTARY CONTACT
	GROUND CONNECTION
	BATTERY
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT

LIGHTING CONTROLS	
	REFER TO SPECIFICATIONS FOR MANUFACTURER AND CATALOG NUMBERS
\$a	SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE
\$2a	TWO POLE SWITCH, LOWER CASE LETTERS INDICATES LIGHTING CONTROL ZONE
\$3a	THREE WAY SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE
\$4a	FOUR WAY SWITCH, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE
\$9a	WALL MTD. DIMMER SWITCH CONTROLLER, LOWER CASE LETTER INDICATES LIGHTING CONTROL ZONE
\$KS	KEY OPERATED SWITCH
\$OR	WALL MTD. LIGHTING CONTROL SWITCH FOR LIGHTING CONTROL ZONE OVERRIDE
\$OS	WALL MTD. OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 1-POLE, 277/120V
\$OS2	WALL MTD. OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 2-POLE, 277/120V
\$OS20	WALL MTD. OCCUPANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 1-POLE, 277/120V, 0-10 DIMMING
\$PE	PHOTO CONTROL SWITCH, WEATHER PROOF, 277/120V
\$PL	WALL SWITCH WITH PLOT LIGHT
\$S	WALL MTD., LOW VOLTAGE, REMOTE CONTROL SWITCH FOR SCENE SELECTION, PROVIDE WITH FIVE (5) SCENE SELECTIONS AND RAISE / LOWER
\$TS	TIME SWITCH (WITH DIGITAL, COUNTDOWN AND VISUAL WARNING) 277/120V
\$VS	WALL MTD. VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 1-POLE, 277/120V
\$VS2	WALL MTD. VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 2-POLE, 277/120V
\$VS20	WALL MTD. VACANCY SENSOR WITH PASSIVE INFRARED MOTION SENSOR, 1-POLE, 277/120V, 0-10 DIMMING
◇	LIGHTING CONTROL SEQUENCE OF OPERATION TYPE
LC1	MULTI-ZONE PRESET SCENE CONTROLLER / DIMMER WITH USER PROGRAMMABLE SCENE AND SCENE NAMES, TEMPORARY LOAD OVERRIDES, INDIVIDUAL, RAISE / LOWER BUTTONS TO ALLOW ZONES TO BE ADJUSTED WITHOUT ALTERING SCENE VALUES STORED IN MEMORY
LC2	LIGHTING CONTROL PANEL, WITH REMOTE/ MANUAL SWITCHING AND DIMMING FOR LIGHTING CIRCUITS, INTEGRAL, TIME CLOCK, SYSTEM INPUTS FOR REMOTE OPERATION AND SCHEDULE OVERRIDES, CAPABLE OF CONTROLLING RECEPTACLE LOADS, OPTIONAL, BAS INTEGRATION, CAN BE PART OF A DISTRIBUTED CONTROL STRATEGY
DS	CEILING MTD. DAYLIGHT SENSOR
OS1	CEILING MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH PASSIVE INFRARED (PIR) MOTION SENSOR TO COVER RANGE OF 450 SQ.FT., 277 / 120V POWER PACK
OS2	CEILING MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH PASSIVE INFRARED (PIR) MOTION SENSOR TO COVER RANGE OF 1500 SQ.FT., 277 / 120V POWER PACK
OS10	CEILING MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH DUAL TECHNOLOGY INFRARED (PIR) AND ULTRASOUND MOTION SENSOR TO COVER 180 DEGREE RANGE (SHADED OUTER CIRCLE NOTES COVERAGE DIRECTION), UP TO 400 SQ.FT. WITH INTEGRAL, CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK
OS100	CEILING MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH DUAL TECHNOLOGY INFRARED (PIR) AND ULTRASOUND MOTION SENSOR TO COVER 180 DEGREE RANGE (SHADED OUTER CIRCLE NOTES COVERAGE DIRECTION), UP TO 2000 SQ.FT. WITH INTEGRAL, CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK
OS1000	CEILING MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH DUAL TECHNOLOGY INFRARED (PIR) AND ULTRASOUND MOTION SENSOR TO COVER 360 DEGREE RANGE (SHADED OUTER CIRCLE NOTES COVERAGE DIRECTION), UP TO 2000 SQ.FT. WITH INTEGRAL, CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK
OS10000	WALL MTD. OCCUPANCY SENSOR (OS) VACANCY SENSOR (VS) MANUAL ON WITH PASSIVE INFRARED TECHNOLOGY INFRARED (PIR) MOTION SENSOR TO COVER RANGE UP TO 1000 SQ.FT. WITH INTEGRAL, CONTRACT CLOSURE FOR INTEGRATION WITH HVAC OR SECURITY SYSTEM, 277 / 120V POWER PACK
SECURITY/PAGING	
CR	CARD READER, SHALL BE FAIL SAFE OPEN IN EMERGENCY
DS	DURESS BUTTON
DC	DOOR CONTACT
DM	DOUBLE MAGNETIC LOCK
DR	DOOR RELEASE BUTTON (REMOTE)
EX	EXIT BUTTON
EH	ELECTRIC HANDSET
EL	ELECTRIC LOGBOOK
ES	OVERHEAD DOOR CONTACT
FD	MOTION DETECTOR
FE	REQUEST TO EXIT
SA	SOUNDER (DOOR ALARM)
SM	SINGLE MAGNETIC LOCK
SC	SECURITY CAMERA
SP	SPEAKER
VC	SPEAKER VOLUME CONTROL

POWER AND LIGHTING CIRCUIT DESIGNATIONS

TRPA&2	← TYPICAL CIRCUIT DESIGNATION ADJACENT TO DEVICE NOTING PANELBOARD ID AND CIRCUIT NO.
TRPA&2	← TYPICAL CIRCUIT DESIGNATION NOTING PANELBOARD ID AND CIRCUIT NUMBER FOR ALL DEVICES IN A ROOM OR SPACE
TRPA5	← TYPICAL CIRCUIT DESIGNATION NOTING PANELBOARD ID AND CIRCUIT NUMBER FOR ALL DEVICES IN A ROOM OR SPACE. CIRCUIT NUMBER IS SHOWN ONLY WITH DEVICE

LIGHTING ID AND CIRCUIT DESIGNATIONS

	← LUMINAIRE TYPE
	← SWITCH CONTROL OR LIGHTING CONTROL ZONE
	← BRANCH CIRCUIT DESIGNATION
	← EMERGENCY FIXTURE DESIGNATION
	← LUMINAIRE TYPE
	← BRANCH CIRCUIT DESIGNATION
	← SWITCH CONTROL OR LIGHTING CONTROL ZONE

MOUNTING HEIGHTS - ELECTRICAL EQUIPMENT

0" BELOW FINISH CEILING	<ul style="list-style-type: none"> • WALL MOUNTED BELLS AND FIRE ALARM SOUNDING DEVICES (AS SHOWN ON ARCHITECTURAL DETAILS) • TV MONITOR CULIT AND SERVICE RECEPTACLE FOR SHELF MOUNTED TV
CENTERED ABOVE DOOR OR WINDOW CLOSING	<ul style="list-style-type: none"> • WARNING AND SIGNAGING SYMBOLS / SIGNS
6'-6"	<ul style="list-style-type: none"> • FIRE ALARM STROBES OR COMBINATION DEVICES WITH STROBES SHALL BE MOUNTED SO THAT THE ENTIRE LENS IS NOT LESS THAN 8" AND NOT GREATER THAN 96" ABOVE FINISHED FLOOR. IF CEILING DOES NOT PERMIT A MOUNTING HEIGHT OF AT LEAST 8" ABOVE FINISHED FLOOR, THE LENGTH OF THE DEVICE SHALL BE 8" OFF THE FINISHED CEILING.
6'-6"	<ul style="list-style-type: none"> • TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL LIGHTING OR POWER PANEL BOARDS AND TELEPHONE CABINETS.
6'-6"	<ul style="list-style-type: none"> • TOP OF BACK MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS)
6'-0"	<ul style="list-style-type: none"> • TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, COMBINATION STARTERS, VFDs AND CONTACTORS
4'-6"	<ul style="list-style-type: none"> • TOP OF WALL MOUNTED TELEPHONE AND PAY STATIONS, WALL MOUNTED INTERCOM, NURSE CALL STATIONS AND CLOCK CONTROL PANELS (IF AT ADA LOCATIONS)
4'-0" TO TOP OF BOX	<ul style="list-style-type: none"> • WALL MOUNTED ELECTRICAL DEVICES SUCH AS: LIGHTING SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, AND FIRE ALARM CALL STATIONS. • GFCI OUTLETS IN TOILET ROOMS. • LOAD CENTERS IN DWELLING UNITS. • INCLUDE ALL FLOOR EQUIPMENT LABS AND EQUIPMENT ROOMS.
1'-6"	<ul style="list-style-type: none"> • ELECTRICAL RECEPTACLES INCLUDING THOSE USED WITHIN MECHANICAL SPACES AND ELEVATOR ROOMS • TELEPHONE, DATA AND COMMUNICATION OUTLETS • CATHY AND JUNCTION BOXES

MOUNTING HEIGHT NOTES

1. MOUNTING HEIGHTS SHALL BE 18" TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IF ELECTRICAL OUTLET HEIGHT OR ANGLE VARIES, COORDINATE WITH GC FOR INSTALLATION. IF IN MASONRY CONSTRUCTION, THE ABOVE HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE ARCHITECTURE DRAWING OR SPECIFICATIONS.
3. A "X" RESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE COUNTER OR CASEWORK. COORDINATE THE MOUNTING HEIGHT WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.
4. ALL DEVICES SHOWN ON DRAWINGS ARE DIAGRAMMATIC IN LOCATION AND SHOWN FOR GENERAL WIRING PURPOSES ONLY. ALL DEVICES ADICATED TO BE INSTALLED IN THE SAME LOCATIONS WITH DIFFERENT ELEVATIONS SHALL BE ALIGNED VERTICALLY AND HORIZONTALLY. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS OF SWITCHES, OUTLETS, FIRE ALARM NOTIFICATION DEVICES, FIRE ALARM CALL STATIONS, CLOCKS, CARD READERS AND OTHER SECURITY DEVICES.
5. THERMOSTATS, SENSORS, ETC.
6. COORDINATE ALL LOCATIONS AND MOUNTING HEIGHTS WITH AHA, ADA REQUIREMENTS AND OTHER TRADES.

HEAVY DUTY RECEPTACLE

SINGLE HEAVY DUTY RECEPTACLE WITH CORD AND CORD: 3" X 4" A.F.F. UNLESS NOTED OTHERWISE.

20A-125V, 2P, 3W (5-30P)

30A-125V, 2P, 3W (5-30R) (2#10 TO 30A-1P)

50A-125V, 2P, 3W (5-30R) (2#8 TO 50A-1P)

20A-250V, 2P, 3W (5-30R) (TO 20A-2P)

30A-250V, 2P, 3W (5-30R) (2#10 TO 30A-2P)

50A-250V, 2P, 3W (5-30R) (2#8 TO 50A-2P)

30A-125/250V, 2P, 3W (10-30R) (2#10 TO 30A-2P)

50A-125/250V, 2P, 3W (10-30R) (2#8 TO 50A-2P)

30A-125/250V, 2P, 4W (14-30R) (2#10 TO 30A-2P)

50A-125/250V, 2P, 4W (14-30R) (2#8 TO 50A-2P)

60A-125/250V, 2P, 4W (10-60R) (2#8 TO 60A-2P)

60A-125/250V, 4P, 4W (14-60R) (4#8 TO 60A-3P)

30A-125V, 2P, 3W (1.5-20P) (TWISTLOCK)

30A-125V, 2P, 3W (1.5-30P) (2#10 TO 30A-1P) (TWISTLOCK)

20A-250V, 2P, 3W (1.5-20P) (TO 20A-4P) (TWISTLOCK)

30A-250V, 2P, 3W (1.5-30P) (2#10 TO 30A-2P) (TWISTLOCK)

20A-250V, 3P, 4W (1.5-20P) (TO 20A-3P) (TWISTLOCK)

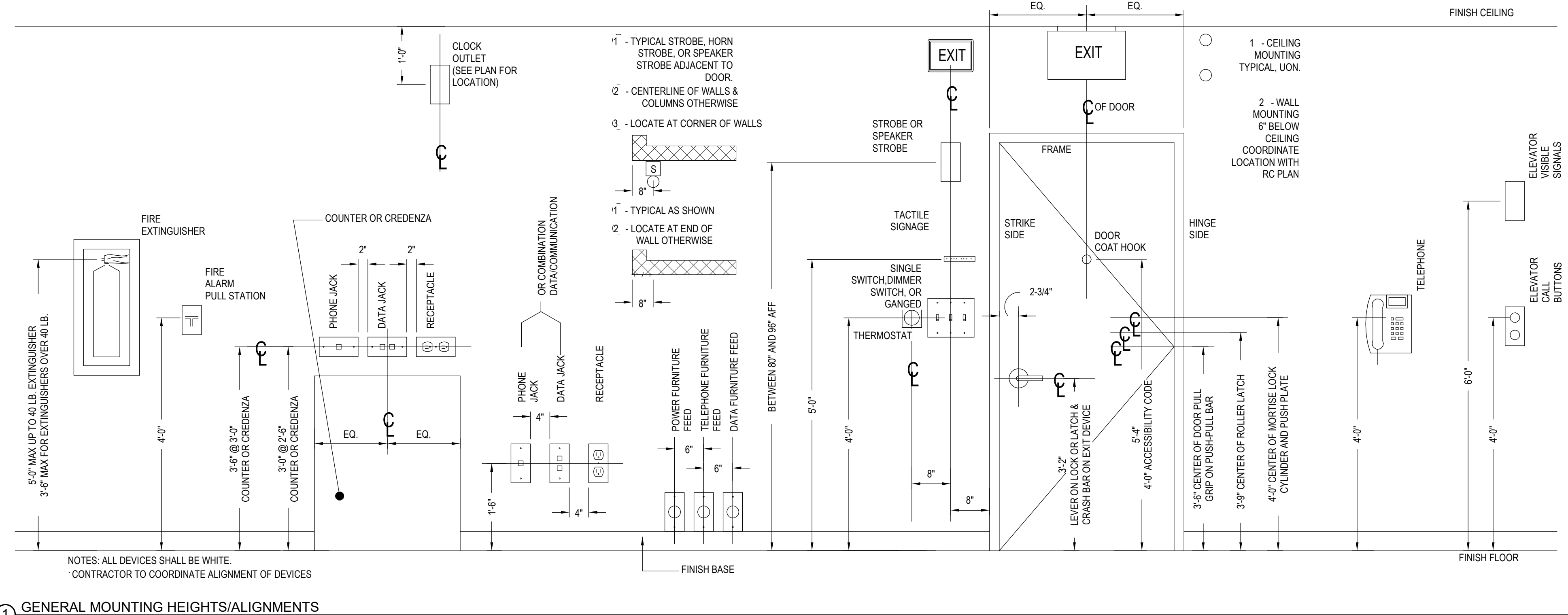
20A-125/250V, 3P, 4W (1.5-20P) (TO 20A-2P) (TWISTLOCK)

30A-125/250V, 3P, 4W (1.5-30P) (2#10 TO 30A-3P) (TWISTLOCK)

COMBINATION 15A, 125V, AND 15A, 250V, REFER TO SPECIFICATIONS.

COMBINATION LIGHTED SWITCH AND 20A, 125V, 3P, 3W (5-30R) 2-N GANG BOX.

② ELECTRICAL HEAVY DUTY RECEPTACLE (BOS)
1/8" = 1'-0"



① GENERAL MOUNTING HEIGHTS/ALIGNMENTS
NOT TO SCALE

[illegible]

ELECTRICAL SCOPE OF WORK

SCOPE OF WORK	SCOPE OF WORK INCLUDED BUT NOT SHOWN, OR UNRESOLVED ISSUES
<p>GENERAL- DESIGN AND INSTALLATION OF THE ELECTRICAL SYSTEMS SHALL BE GOVERNED BY AND COMPLY WITH THE REQUIREMENTS OF THE MASSACHUSETTS STATE BUILDING CODE 9TH EDITION, 2020 NATIONAL ELECTRIC CODE (NEC) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, 2020 MASSACHUSETTS ENERGY CODE, NFPA 72 2013, MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE, LEED RATING SYSTEM, AMERICANS WITH DISABILITIES ACT (ADA), AND ALL LOCAL LAWS HAVING JURISDICTION. REFER TO ARCHITECTURAL DRAWING'S CODE COMPLIANCE SHEETS FOR ALL APPLICABLE CODES.</p> <p>ELECTRIC SERVICE: 1. THERE ARE TWO (2) NEW UNDERGROUND UTILITY ELECTRIC SERVICES BEING PROVIDED THAT WILL SUPPLY POWER TO FOUR (4) SEPARATE EXTERIOR, PAD-MOUNTED UTILITY TRANSFORMERS, WHICH WILL SUPPLY NORMAL AND BACKUP POWER TO THE ATHLETIC BUILDING AND THE NEW SCHOOL. AT 480VOLTS, 3-PHASE, 4-WIRE. THE ELECTRIC SERVICE ROOM IS FED NORMAL POWER BY TWO (2) PAD MOUNTED TRANSFORMERS INSTALLED JUST OUTSIDE THE MAIN ELECTRIC SERVICE ROOM, AND BACKUP POWER IS SUPPLIED BY THE THIRD PAD-MOUNTED TRANSFORMER, WHICH FEEDS INTO THE GENERATOR PANELBOARD ROOM. THE ATHLETIC BUILDING IS SUPPLIED POWER FROM ITS OWN PAD-MOUNTED TRANSFORMER.</p> <p>2. THE TWO (2) NORMAL POWER UTILITY TAKEOFFS TERMINATE AT EITHER END OF A DOUBLE-ENDED SERVICE SWITCHBOARD. THE BACKUP POWER UTILITY TAKEOFF SHALL TERMINATE IN A GENERATOR DISTRIBUTION PANELBOARD.</p> <p>3. EACH EXISTING SERVICE SWITCHBOARD OR PANELBOARD IS DEAD-FRONT ASSEMBLY AND SHALL HAVE AN INDIVIDUALLY MOUNTED POWER CIRCUIT BREAKER MAIN AND DISTRIBUTION SECTIONS CONSISTING OF FIXED, GROUP-MOUNTED MOLDED CASE CIRCUIT BREAKERS TO FEED CONDUIT AND WIRE RISERS, MECHANICAL EQUIPMENT, DISTRIBUTION PANELBOARDS, AND BRANCH CIRCUIT PANELBOARDS.</p> <p>4. FOUR (4) NEW UTILITY METERS ARE TO BE PROVIDED - ONE FOR EACH UTILITY TAKEOFF - TO METER ELECTRIC SERVICE TO THE BUILDING.</p>	<p>1. INFORMATION FROM UTILITY SERVICE PROVIDER, WMGLD, ON THE FINAL PAD-MOUNTED TRANSFORMER CAPACITIES AND REQUIREMENTS.</p> <p>2. A FINAL SINGLE-LINE DIAGRAM AND LAYOUT INFORMATION HAS NOT YET BEEN PROVIDED BY THE UTILITY FOR COORDINATION PURPOSES.</p> <p>3. SPECIFIC ROOFTOP LAYOUT INFORMATION HAS NOT YET BEEN COORDINATED FOR THE PLANNED PHOTOVOLTAIC SYSTEM. AT THIS TIME, THE ENGINEER HAS PLANNED FOR 325KW OF ROOFTOP SOLAR GENERATION TYING INTO THE NEW SCHOOL'S MAIN SERVICE SWITCHBOARD.</p>
<p>ELECTRIC DISTRIBUTION SYSTEM: 1. NEW DISTRIBUTION THROUGH THE BUILDING WILL BE VIA WIRE IN CONDUIT TO DISTRIBUTION AND BRANCH CIRCUIT PANELBOARDS, ETC. LOCATED IN ELECTRICAL CLOSETS AND MECHANICAL ROOMS.</p> <p>2. OVERCURRENT PROTECTION FOR DISTRIBUTION PANELBOARDS WILL BE VIA CIRCUIT BREAKERS PER THE CONTRACT DOCUMENTS. ALL EQUIPMENT WILL BE OF NEMA 1 CONSTRUCTION, FREE STANDING AND TOTALLY FRONT ACCESSIBLE REQUIRING NO REAR ACCESS.</p> <p>3. LIFE SAFETY PANELS TO SERVE BUILDING EGRESS LIGHTING AND FIRE ALARM POWER WILL BE PROVIDED IN 2HR-RATED LIFE SAFETY ELECTRIC ROOMS, DISTRIBUTED AS PER THE RISER DIAGRAM.</p> <p>4. FEEDERS TO ELECTRIC PANELS WILL BE VIA COPPER WIRE IN CONDUITS UNLESS OTHERWISE NOTED. THESE FEEDERS WILL SERVE ALL THE POWER NEEDS OF THE BUILDING.</p> <p>5. DISTRIBUTION FEEDERS WILL BE RATED 480/277V WITH GREEN EQUIPMENT GROUND CONDUCTORS. ALL NEW FEEDERS WILL BE SIZED TO OVERCOME VOLTAGE DROP. FEEDERS WILL BE RIGID STEEL CONDUITS IN AREAS SUBJECT TO DAMAGE, SUCH AS EXTERNALLY OR IN MECHANICAL ROOMS. ELECTRIC METALLIC TUBING TO BE PROVIDED IN OTHER AREAS OF THE BUILDING.</p> <p>6. GENERALLY, ALL MOTORS LESS THAN 1/2HP WILL BE SINGLE-PHASE, 120 VOLT, AND ALL MOTORS 1/2HP AND ABOVE WILL BE 480 VOLT, 3-PHASE.</p>	<p>1. INFORMATION ON ELECTRIC LOADS FROM OTHER TRADES AND FROM OTHER CONSULTANTS IS ONGOING. ELECTRICAL DISTRIBUTION WILL CONTINUE TO BE ADJUSTED BASED ON THE LATEST INFORMATION. LOAD INFORMATION HAS NOT BEEN COORDINATED FOR ANY OF THE VOCATIONAL SHOPS IN THE BUILDING.</p> <p>2. FEEDER ROUTING ARE FOR GENERAL DESIGN INTENT PURPOSES ONLY, AND FEEDER SIZES HAVE NOT BEEN PROVIDED YET. FEEDER ROUTING HAS NOT BEEN COORDINATED WITH OTHER TRADES YET. CONTRACTOR SHALL ASSUME THAT FINAL FEEDER DESIGN ROUTING AND FEEDER SIZES SHALL BE PROVIDED IN THE CD PHASE.</p> <p>3. COORDINATION WITH THE ARCHITECT OF FINAL ELECTRIC CLOSET SIZES AND LOCATIONS FOR THE FIRST FLOOR HAS NOT BEEN COMPLETED YET. GENERAL FUTURE LOCATION OF EQUIPMENT ON THIS FLOOR HAS BEEN INDICATED IN THE PLANS FOR DD PRICING.</p> <p>4. SPACES TO HOUSE MECHANICAL DISTRIBUTION PANEL MPH-4A AND MPH-4B HAVE NOT BEEN COORDINATED YET. COORDINATION WITH THE ARCHITECT TO CREATE ROOMS FOR THESE PANELS IS ONGOING.</p> <p>5. DISTRIBUTION FOR THE MAINTENANCE BUILDING, ATHLETIC BUILDING, AND CONCESSIONS BUILDING HAS NOT YET BEEN SHOWN IN THE SINGLE LINE DIAGRAM OR THE PLANS. CONTRACTOR SHALL INCLUDE COST TO RUN 400AMPS FROM THE MAIN ELECTRIC SERVICE ROOM TO THE MAINTENANCE BUILDING. A 400AMP, 480V, BRANCH CIRCUIT PANELBOARD, A 30kVA STEP-DOWN TRANSFORMER, AND A 100AMP 208V PANELBOARD SHALL BE INCLUDED. CONTRACTOR SHALL INCLUDE COST TO RUN 200AMPS FROM THE ATHLETIC BUILDING MAIN ELECTRIC PANEL TO THE CONCESSIONS BUILDING.</p>
<p>GENERAL ELECTRICAL DISTRIBUTION AND BRANCH CIRCUITS: 1. BRANCH CIRCUIT PANELBOARDS SHALL HAVE COPPER BUS WITH MOLDED CASE, QUICK MAKE, QUICK BREAK THERMAL MAGNETIC BOLT-ON CIRCUIT BREAKERS. DOOR-IN-DOOR ENCLOSURES WILL BE PROVIDED. CIRCUIT BREAKERS 225A AND LARGER SHALL HAVE INTERCHANGEABLE TRIP UNIT MODULES.</p> <p>2. BRANCH CIRCUIT WIRING, IN EMT CONDUIT, SHALL BE USED IN GENERAL AREAS WHERE PERMITTED BY CODE. PROVIDE SET SCREW TYPE FOR 2-1/2-INCH DIAMETER CONDUITS AND LARGER. FOR 2-INCH DIAMETER CONDUIT AND SMALLER, PROVIDE STEEL COMPRESSION GLAND-TYPE CONNECTION.</p> <p>3. OUTLET BOXES SHALL BE GALVANIZED STEEL AND AT LEAST 1 1/2" DEEP AND OF SUFFICIENT SIZE TO ACCOMMODATE WIRING AND DEVICE FOR WHICH THEY ARE PROVIDED. FLUSH MOUNTED OUTLET BOXES FOR SWITCHES, RECEPTABLES, AND TELEPHONES SHALL BE 4" RECTANGULAR OR SQUARE AS APPROPRIATE FOR ARRANGEMENT WITH RAISED COVERS. BOXES FOR LIGHT FIXTURES SHALL BE 4" OCTAGONAL BOXES WITH STUD SUPPORTS AND ATTACHMENTS TO SUPPORT LIGHT FITTINGS.</p> <p>4. WIRING DEVICES SHALL BE SPECIFICATION GRADE OF TYPE REQUIRED FOR DUTY. COVER PLATES SHALL BE RAISED NYLON TYPE IN COLOR TO MATCH DEVICE. SWITCHES SHALL BE QUIET TYPE, RATED FOR 20A, 120V, CONVENIENCE RECEPTACLE OUTLETS SHALL BE GROUNDED TYPE RATED FOR 20A, 120V.</p> <p>5. DISTRIBUTION PANELS SHALL BE 3 PHASE TYPE EITHER FREE STANDING OR WALL MOUNTED CONSTRUCTION WITH FACTORY ASSEMBLED, BOLTED ON, MOLDED CASE CIRCUIT BREAKERS OF THE CURRENT RATING REQUIRED AND A MINIMUM AIC OF 65k AMPERES SYMMETRICAL U.O.N. OR AS REQUIRED BY THE SHORT CIRCUIT STUDY.</p> <p>6. PROVIDE ALL DEVICES, RECEPTABLES, SWITCHES AND WEATHER PROOF RECEPTABLES ON BUILDING EXTERIOR WITH GFCI PROTECTION. PROVIDE GFCI PROTECTOR RECEPTABLES, DISCONNECT SWITCHES, SPECIAL RECEPTABLES, AND WEATHER PROOF DISCONNECT SWITCHES RATED NEMA 4X IN ALL WET AREAS.</p>	<p>1. CIRCUITING IS NOT YET SHOWN FOR ANY POWER DISTRIBUTION. CIRCUITING WILL BE SHOWN IN THE CD PHASE.</p> <p>2. CIRCUIT BREAKER SIZES ARE NOT YET SHOWN ON THE PANEL SCHEDULES. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL ASSUME ANY BLANK SPACES IN THE PANEL SCHEDULES ARE 20A-1P CIRCUIT BREAKERS.</p> <p>3. FINAL VOCATIONAL SHOP WIRING DEVICE REQUIREMENTS HAVE NOT BEEN COORDINATED YET. WIRING DEVICE LAYOUTS SHOWN IN THE PLANS ARE ESTIMATED PROVISIONS BASED ON OTHER, SIMILAR BUILDINGS. FINAL WIRING DEVICE LAYOUTS WILL BE SHOWN WHEN PROVIDED TO THE ENGINEER BY OTHER CONSULTANTS AND INCORPORATED IN THE CD PHASE.</p> <p>4. PROVIDE 120V, 1-POLE CIRCUIT FROM NEAREST ELECTRIC CLOSET NORMAL POWER BRANCH CIRCUIT PANELBOARD TO EACH CCTV CAMERA ON LIGHT POLES, LOCATIONS AS PER LOW VOLTAGE CONSULTANT'S PLANS.</p> <p>5. IT HAS NOT BEEN DECIDED WHETHER MOTORIZED SHADES ARE REQUIRED FOR THIS PROJECT. IF THEY ARE PROVIDED, PROVIDE TWELVE (12) 120V-1P CIRCUITS FROM THE NEAREST NORMAL POWER BRANCH CIRCUIT PANELBOARD PER FLOOR.</p> <p>6. POWER FOR ATHLETIC FIELD LIGHTING AND LIGHTING CONTROLS ARE NOT YET ON THE SINGLE LINE DIAGRAM OR IN THE PLANS.</p>
<p>MECHANICAL AND PLUMBING POWER: 1. PROVIDE WIRING CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT WHICH REQUIRES POWER VIA VARIABLE FREQUENCY DRIVES (VFDs), MOTOR STARTERS, AND/OR ASSOCIATED DISCONNECT SWITCHES.</p> <p>2. PROVIDE THE FOLLOWING: a) POWER TO PRIMARY AND CONDENSER WATER PUMPS, EXHAUST FANS, ELEVATOR EMRs, HOT WATER PUMPS, AND AHU UNITS. b) POWER FOR ALL DISTRIBUTED MECHANICAL LOADS SUCH AS UNIT HEATERS, FANS, FCU, VAV BOXES, CONTROLS, DAMPERS, ETC. c) POWER FOR ALL PLUMBING AND FIRE PROTECTION EQUIPMENT INCLUDING DOMESTIC HOT WATER HEATERS, ELECTRIC HEAT TRACE, ETC. d) EXACT LOCATIONS AND LOADS OF MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT SHALL BE VERIFIED WITH MECHANICAL, PLUMBING, OR FIRE PROTECTION DRAWINGS.</p>	<p>1. POWER FOR DAMPERS, VAVs, AND OTHER MINOR MECHANICAL LOADS HAVE NOT BEEN FULLY COORDINATED YET. REFER TO HVAC, PLUMBING, AND FIRE PROTECTION DRAWINGS FOR FULL SCOPE.</p> <p>2. COORDINATION OF POWER FOR MAJOR MECHANICAL AND PLUMBING AND FIRE PROTECTION EQUIPMENT IS ONGOING. CONTRACTOR SHALL REFER TO HVAC, PLUMBING, AND FIRE PROTECTION DRAWING SETS FOR FULL SCOPE.</p>
<p>EMERGENCY LIFE SAFETY AND STANDBY POWER: 1. THE BACKUP POWER UTILITY FEED WILL PROVIDE BACKUP POWER IN THE EVENT OF A UTILITY NORMAL POWER FAILURE OR A LOCAL FAILURE OF THE INTERIOR NORMAL POWER DISTRIBUTION EQUIPMENT. POWER IS SUPPLIED TO EMERGENCY AND SELECTIVE STANDBY LOADS VIA THE UTILITY PAD-MOUNTED TRANSFORMER. UPON AN EXTENDED POWER OUTAGE, THE ENTIRE BUILDING WILL BE BACKED UP BY UTILITY GENERATOR POWER, UPON WHICH THE BUILDING'S TRANSFER SWITCHES WILL RETURN TO "NORMAL" POWER.</p> <p>2. REQUIRED EMERGENCY LOADS WILL BE SUPPLIED/MAINTAINED VIA AUTOMATIC TRANSFER SWITCHES (ATS) TO PROVIDE EMERGENCY POWER WITHIN 10 SECONDS OF NORMAL POWER LOSS TO SATISFY CODE REQUIREMENTS. THE LOADS ARE AS FOLLOWS: a) ALL EXIT SIGNS b) REQUIRED EMERGENCY EGRESS LIGHTING c) LIFE SAFETY/FIRE ALARM SYSTEM d) FIRE SUPPRESSION SYSTEMS AIR, AND FIRE-SMOKE DAMPERS. e) FIRE PUMP</p> <p>3. THE STANDBY LOADS WILL BE SUPPLIED/MAINTAINED VIA STANDBY ATSs AND WILL HAVE A LOWER PRIORITY THAN EMERGENCY LOADS. THE FOLLOWING LOADS WILL BE SUPPLIED WHERE CAPACITY IS AVAILABLE: a) RACK-MOUNTED UNINTERRUPTIBLE POWER SUPPLY SYSTEMS SERVING IT ROOMS AND THE MAIN DISTRIBUTION FRAME ROOM. b) ELEVATORS - SELECTIVELY SWITCHED VIA THE ELEVATOR CONTROLLERS FOR USE BY FIRE FIGHTERS. c) ELEVATOR SUMP PUMPS d) SEWAGE EJECTOR PUMPS</p>	<p>1. ADDITIONAL COORDINATION IS REQUIRED TO UNDERSTAND WHICH LOADS ARE REQUIRED TO BE CONNECTED TO UTILITY BACKUP POWER.</p> <p>2. FINAL CIRCUITING OF EMERGENCY AND STANDBY LOADS HAS YET TO BE PROVIDED.</p>
<p>ELEVATOR POWER: 1. FURNISH AND INSTALL MAINLINE POWER DISCONNECT SWITCHES FOR ELEVATORS AND FOR CAB LIGHTING. ELEVATOR ASSOCIATED EQUIPMENT SUCH AS CONTROLLERS, ETC SHALL BE PROVIDED BY ELEVATOR DRAWINGS.</p> <p>2. ALL WIRING SHALL BE AS PER APPROVED ELEVATOR SHOP DRAWINGS.</p> <p>3. ELEVATOR SUMP PUMPS AND CONTROLLERS SHALL BE INSTALLED AS PER ELECTRICAL AND PLUMBING DRAWINGS.</p> <p>4. PROVIDE THE FOLLOWING: a) POWER TO ALL ELEVATOR MOTORS b) DISCONNECT SWITCHES, (1) GFCI RECEPTACLE AND LIGHTING IN EACH ELEVATOR CONTROL ROOM c) GFCI RECEPTACLE, LIGHTING AND POWER TO SUMP PUMP IN EACH ELEVATOR PIT d) LIGHTING AND GFI RECEPTACLE IN EACH ELEVATOR SHAFT OVERRUN e) 2" CONDUIT FROM EACH ELEVATOR CONTROL ROOM TO ELEVATOR CONTROL PANEL ADJACENT TO MAIN FIRE ALARM CONTROL PANEL. f) PROVIDE POWER FOR ELEVATOR CONTROL ROOM HVAC SYSTEMS.</p>	<p>1. FINAL ELEVATOR REQUIREMENTS AND ELECTRIC LOADS, INCLUDING LOADS OF MAIN ELEVATOR FEEDS, HAVE NOT BEEN COORDINATED WITH THE ELEVATOR CONSULTANT YET.</p>

SCOPE OF WORK	SCOPE OF WORK INCLUDED BUT NOT SHOWN, OR UNRESOLVED ISSUES
<p>LIGHTING: 1. EMERGENCY LIGHTING a) EMERGENCY EGRESS LIGHTING: TO PROVIDE FOR SAFELY ALLOWING OCCUPANTS TO MOVE FROM PUBLIC AREAS WITHIN THE BUILDING TO DESIGNATED BUILDING EXITS. SUCH EGRESS LIGHTING IS CONNECTED TO THE EMERGENCY SYSTEM. INCLUDED ARE EXTERIOR WALKWAYS TO PROVIDE SAFE EGRESS. b) ILLUMINATED EXIT SIGNS: ALL LIGHTING REQUIRED TO DIRECT OCCUPANTS TO BUILDING EXITS, AS WELL AS ALL ILLUMINATED EXIT SIGNS LED TYPE ARE MAINTAINED AND CONNECTED TO THE EMERGENCY SYSTEM DURING AN ELECTRICAL OUTAGE. c) STAIRWELL LIGHTING FIXTURES ARE CIRCUITED TO LOCAL LIFE SAFETY PANELBOARDS AND FURNISHED WITH INTEGRAL BACKUP BATTERIES. BATTERY POWER SHALL PROVIDE POWER FOR NOT LESS THAN 90 MINUTES UPON LOSS OF NORMAL POWER.</p>	<p>1. THE LIGHTING DESIGN IS STILL IN PROGRESS AND IS NOT CURRENTLY FULLY SHOWN ON THE LIGHTING PLANS. THE ELECTRICAL LIGHTING PLANS CURRENTLY ONLY SHOW LIGHTING SCOPE IN BACK-OF-HOUSE (BOH) AREAS. FOR FULL LIGHTING SCOPE IN AREAS OTHER THAN BACK-OF-HOUSE, REFER TO THE LIGHTING DESIGNER'S WORKING PLANS AND SCHEDULES.</p> <p>2. SITE LIGHTING LAYOUTS HAVE BEEN PROVIDED BY THE LANDSCAPE ARCHITECTS, AND LOCATIONS ARE SHOWN IN THE SITE PLAN. HOWEVER, FINAL INFORMATION ON EXACT SITE LIGHTING FIXTURES HAS NOT BEEN PROVIDED. COORDINATION WITH THE LOW VOLTAGE CONSULTANT, FOR SITE FIXTURES THAT INCLUDE CCTV CAMERAS, IS ONGOING. REFER TO THE SECURITY CONSULTANT'S PLANS FOR LOCATIONS OF SITE LUMINAIRES WITH CCTV INTEGRAL.</p>
<p>LIGHTING CONTROLS: 1. THE LIGHTING CONTROL SYSTEM SHALL CONSIST OF A NETWORK OF LOW VOLTAGE SWITCHES, DAYLIGHT SENSORS AND OCCUPANCY SENSORS, DAYLIGHT DIMMING AND PROGRAMMABLE LIGHTING CONTROL PANELS. LIGHTING PANELS SHALL BE LOCATED IN ELECTRICAL CLOSETS, AS REQUIRED. 2. THE HOUSE LIGHTING CONTROL SYSTEM AT A MINIMUM SHALL COMPLY WITH THE MANDATORY PROVISIONS OF ASHRAE 90.1-2016. 3. UL 92A BYPASS RELAYS SHALL BE PROVIDED FOR ALL EMERGENCY LIGHTING TO OVERRIDE LIGHTING CONTROLS AND TO TURN EM LIGHTING ON TO FULL BRIGHTNESS IN CASE OF LOSS OF NORMAL POWER.</p>	<p>1. LIGHTING CONTROL REQUIREMENTS ARE STILL BEING COORDINATED, PARTICULARLY FOR AREAS SUCH AS VOCATIONAL SHOPS. CONTRACTOR SHALL ASSUME LIGHTING CONTROLS TO BE PROVIDED IN EACH OF THESE AREAS.</p> <p>2. LIGHTING CONTROL FOR SITE LIGHTING HAS NOT BEEN COORDINATED YET. CONTRACTOR SHALL ASSUME THAT SITE LIGHTING WILL BE CONTROLLED BOTH BY INTEGRAL PHOTOCELLS AND BY BUILDING LIGHTING CONTROL PANELS.</p> <p>3. IT HAS NOT BEEN COORDINATED WHETHER ANY MOTORIZED SHADES NEED TO BE INTEGRATED INTO THE LIGHTING CONTROL SYSTEM. IF SO, AN ADDITIONAL UP/DOWN CONTROL INTEGRATED INTO THE LIGHTING CONTROL SYSTEM SHALL BE PROVIDED.</p>
<p>LIGHTING PROTECTION: 1. FURNISH, INSTALL, TEST LIGHTNING PROTECTION SYSTEM AND COMPONENTS ACCORDING TO NFPA 780, RESULTING IN A UL MASTER "C" LABEL. THE SYSTEM WILL CONSIST OF AIR TERMINALS, CONDUCTORS, CONNECTIONS, AND GROUND RODS. THE LIGHTNING PROTECTION SYSTEM WILL BE INTERCONNECTED WITH THE BUILDING'S EQUIPMENT GROUNDING SYSTEM. 2. PROVIDE SURGE PROTECTION SYSTEM AS REQUIRED FOR THE SYSTEMS MASTER "C" LABEL. SURGE PROTECTION SHALL BE PROVIDED ON ELECTRICAL SERVICE EQUIPMENT AND COPPER COMMUNICATIONS WIRING TO PROTECT ELECTRONIC EQUIPMENT FROM TRANSIENTS.</p>	<p>1. THE CURRENT LIGHTNING PROTECTION LAYOUT HAS NOT YET BEEN COORDINATED WITH THE ARCHITECT OR THE STRUCTURAL ENGINEER. FURTHER COORDINATION IS REQUIRED FOR FINAL DOWN CONDUCTOR LOCATIONS. COORDINATION WITH ROOFTOP MECHANICAL EQUIPMENT, THRU-ROOF LOCATIONS, GROUND ROD LOCATIONS, ETC. THE CURRENT LAYOUT IS SHOWN FOR DESIGN INTENT PURPOSES ONLY.</p>
<p>POWER CONNECTIONS FOR EQUIPMENT FURNISHED BY OTHER DRAWINGS INCLUDE, AND NOT LIMITED TO, AS SHOWN ON THE DRAWINGS: 1) PROVIDE POWER WIRING FOR: a) MOTORIZED ROLL-UP DOORS, MOTORIZED SHADES, AND ADA DOORS. b) FIRE ALARM SYSTEM c) SECURITY SYSTEM d) BMS SYSTEM e) HVAC EQUIPMENT f) FRONT OF HOUSE LIGHT FIXTURES g) HEAT TRACING, INCLUDING FOR PIPES, ETC h) PLUMBING EQUIPMENT i) ELEVATORS</p>	<p>1. POWER FOR ADA DOORS IS NOT CURRENTLY SHOWN IN THE DRAWING SET. CONTRACTOR SHALL PRICE COST OF PROVIDING DEDICATED 120V/20A CIRCUIT FROM NEAREST BRANCH CIRCUIT PANEL TO EACH DOOR LEADING TO THE EXTERIOR ON THE FIRST FLOOR.</p> <p>2. REFER TO LOW VOLTAGE CONSULTANTS FOR FULL EXTENT OF SCOPE RELATED TO TELECOM, SECURITY, AND AV. IN THE ABSENCE OF SUCH INFORMATION, CONTRACTOR SHALL CARRY TWELVE (12) L5-30 TWIST-LOCK RECEPTABLES CONNECTED TO STANDBY POWER IN THE MDF AND FOUR (4) L5-30R TWIST-LOCK RECEPTABLES IN EACH IDF.</p>
<p>GROUNDING SYSTEM: 1. PROVIDE AN EQUIPMENT GROUNDING SYSTEM AS PER THE FOLLOWING: A. SEPARATE GROUNDING CONDUCTOR PROVIDED IN ALL RACEWAYS. B. THE SERVICE SYSTEM AND TRANSFORMERS TO BE GROUNDED PER CODE. 2. PROVIDE EQUIPMENT GROUNDING CONDUCTORS FOR EACH FEEDER AND FOR EACH CIRCUIT AS PER NEC REQUIREMENTS. GREEN EQUIPMENT GROUNDING CONDUCTORS SHALL BE COPPER WITH GREEN INSULATION.</p>	
<p>UNINTERRUPTIBLE POWER SYSTEMS (UPS): 1. LOCAL UPSs, IF REQUIRED, SHALL BE SPECIFIED BY THE LOW VOLTAGE CONSULTANTS. PROVIDE NORMAL POWER TO EACH OF THE UPSs AS REQUIRED.</p>	<p>1. COORDINATION REGARDING UPS INFORMATION FROM THE LOW VOLTAGE CONSULTANT IS GOING. HOWEVER, ASSUME ONE (1) 40AMP, 208VOLT, SINGLE-PHASE BRANCH CIRCUIT SHALL BE PROVIDED TO EACH MDF AND IDF FOR POWER TO A RACK-MOUNTED UPS.</p>
<p>MISCELLANEOUS: 1. 50% OF RECEPTABLES IN PRIVATE OFFICES, OPEN OFFICES, AND COMPUTER CLASSROOMS WILL BE AUTOMATICALLY DE-ENERGIZED OUTSIDE OF BUSINESS HOURS TO COMPLY WITH ASHRAE 90.1-2016 REQUIREMENTS. THESE REQUIREMENTS WILL BE ACHIEVED RELAY CONTROL PANELS INTEGRATED WITH THE LIGHTING CONTROL SYSTEM. CONTRACTOR SHALL PROVIDE A PERMANENTLY FIXED LABEL "CONTROLLED" AT ALL RECEPTABLES THAT ARE CONTROLLED BY A RELAY CONTROL PANEL. RECEPTABLES TO BE CONTROLLED HAVE BEEN SHOWN ON THE PLANS. 2. CONDUITS SHALL BE FURNISHED WITH EXPANSION FITTING OR FLEXIBLE CONNECTIONS, AS APPLICABLE, PER THE BUILDING JOINTS SHOWN ON THE STRUCTURAL DRAWINGS. 3. ALL INDIVIDUAL CIRCUITS IN THE BUILDING SHALL BE SUB-METERED IN ACCORDANCE WITH LEED REQUIREMENTS. SUBMETERS SHALL BE SIMILAR SATEC BFM136. WHERE POSSIBLE, BFM MODULES SHALL BE MOUNTED AND BE PRE-INSTALLED WITHIN THE BRANCH CIRCUIT PANELBOARDS. SUB-METERING INFORMATION SHALL CONNECT VIA BACNET TO THE BUILDING'S BMS SYSTEM.</p>	<p>1. SCHEDULES FOR RELAY CONTROL PANELS HAVE NOT YET BEEN PROVIDED.</p> <p>2. GROUPING INFORMATION, FOR PURPOSES OF SUB-METERING INDIVIDUAL TYPES OF LOADS, HAS NOT BEEN INTEGRATED YET, AND WILL BE PROVIDED IN THE CD PHASE.</p> <p>3. CONTRACTOR SHALL INCLUDE EMPTY CONDUITS FOR SITE LOW VOLTAGE SCOPE AS FOLLOWS: -PROVIDE ONE (1) 4-INCH CONDUIT FROM THE MDF TO THE LOCKER BUILDING, MAINTENANCE BUILDING, AND CONCESSIONS BUILDING. -PROVIDE ONE (1) 4-INCH CONDUIT FROM MDF TO EACH ELEVATOR MACHINE ROOM. -PROVIDE ONE (1) 3-INCH CONDUIT FROM MDF TO THE GUARD HOUSE. -PROVIDE ONE (1) 3-INCH CONDUIT FROM MDF TO EACH GROUP OF ELECTRIC VEHICLE CHARGERS. -PROVIDE ONE (1) 2-INCH CONDUIT FROM MDF TO THE CAMPUS' ELECTRONIC SIGN. -PROVIDE ONE (1) 1-INCH CONDUIT FROM MDF TO EACH SITE CCTV CAMERA.</p>
<p>PERFORMANCE AUDIO & VIDEO SYSTEMS: 1. CONTRACTOR SHALL PROVIDE POWER TO ANY AUDIO AND VIDEO SYSTEMS, AS PER AV CONSULTANT'S REQUIREMENTS. 2. CONTRACTOR SHALL PROVIDE POWER TO ANY THEATRICAL LIGHTING, LIGHTING CONTROL, AV SYSTEMS, AS PER THEATER CONSULTANT'S REQUIREMENTS.</p>	<p>1. COORDINATION REGARDING AV OR THEATRICAL LIGHTING POWER REQUIREMENTS IS ONGOING. REFER TO THEATER CONSULTANT'S DRAWINGS FOR FULL SCOPE OF WORK.</p> <p>2. CONTRACTOR SHALL PROVIDE DEDICATED 175AMP FROM DISTRIBUTION PANELBOARD DPH-LLA TO A 112.5kVA STEP-DOWN TRANSFORMER LOCATED WITHIN THE MECHANICAL SPACE OF THE THEATER. ON THE SECONDARY SIDE, PROVIDE TWO (2) 200AMP, 3-POLE FUSED DISCONNECT SWITCHES THAT SUPPLY POWER TO TWO (2) 200AMP, 208V, 3-PHASE THEATER RELAY PANELS. THIS SCOPE WILL BE INTEGRATED IN THE CD PHASE.</p>

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BALA
ENGINEERS

MSBA DESIGN
DEVELOPMENT
SUBMISSION
August 4th, 2022

A

B

C

D

KEY PLAN

PROJECT NORTH

MAGNETIC NORTH

ELECTRICAL
SCOPE OF
WORK

Scale: 1/2" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E0-0-3

ELECTRICAL SITE UTILITIES NOTES

1. ALL SITE UTILITIES INSTALLED BY THE SITE CONTRACTOR SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT AND SITE/CIVIL ENGINEERING DOCUMENTS PRIOR TO ALL WORK.
2. THE ELECTRICAL TRADE CONTRACTOR SHALL PROVIDE ALL CONDUITS. ELECTRICAL TRADE CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUITS WITH MANHOLE, JUNCTION BOX, HANDHOLE, DUCT BANK AND POLE BASE PLACEMENT BY SITE CONTRACTOR. COORDINATE ALL ELECTRICAL UTILITIES WITH THE SITE CONTRACTOR.
3. WMGLD WILL PROVIDE THE FOLLOWING SCOPE: 2000KVA PAD MOUNT TRANSFORMER, 300KVA PAD TRANSFORMER, ALL PRIMARY CABLING TO PADMOUNT TRANSFORMER, ALL SWITCH AND TRANSFORMER 15KV LOADBREAK ELBOWS, AND FINAL CONNECTIONS OF ALL 480V SECONDARY CABLES AT PADMOUNT TRANSFORMER.
4. SITE CONTRACTOR SHALL PROVIDE THE FOLLOWING: PRIMARY 15KV DUCT BANK FROM PROPERTY LINE TO WMGLD UTILITY TRANSFORMER (COORDINATE WITH WMGL PRIOR TO ALL WORK), CONDUIT BY ELECTRICAL TRADE CONTRACTOR, PRIMARY CONDUCTORS BY UTILITY, PAD, SECONDARY 480V DUCT BANK FROM PAD MOUNT TRANSFORMER TO SECONDARY 480V SERVICE ENTRANCE MAIN DISCONNECT - CONDUIT AND CONDUCTORS BY ELECTRICAL TRADE CONTRACTOR, AND TELCOM DUCT BANKS FROM DESIGNATED DEMARCATIONS TO MAIN MDF ROOM - CONDUIT BY ELECTRICAL TRADE CONTRACTOR, TELCOM SERVICE CONDUCTORS BY UTILITY. ELECTRICAL TRADE CONTRACTOR SHALL PROVIDE LOW VOLTAGE CONDUIT AND CONDUCTORS FROM FIRE ALARM CONTROL PANEL TO MDF POTS LINES. DEMARCATION FOR ALL TELCOM UTILITIES SHALL BE INSIDE THE MDF ROOM. ALL SITE LIGHTING UG CONDUITS TO ALL POLE MOUNTED FIXTURES - COORDINATE CONDUIT INTERCONNECTION REQUIREMENTS AT EACH POLE BASE PER DETAILS AND ALL SITE LIGHTING CONDUITS TO HARDSCAPE(STAIRS, WALL, ETC) MOUNTED FIXTURES.
5. ELECTRICAL TRADE CONTRACTOR SHALL PROVIDE THE FOLLOWING: ALL TELCOM UTILITY DUCTBANKS (FIBER OPTIC DATA, FIBER OPTIC TELEPHONE, CATV) WITH ALL WORK TO BE COORDINATED WITH EACH TELCOM UTILITY CO. ALL SECONDARY 480V CABLING FROM PAD MOUNT TRANSFORMER TO SECONDARY 480V SERVICE ENTRANCE MAIN DISCONNECT (USE COPPER 600KCMIL OR LESS FOR ALL SERVICE ENTRANCE CONDUCTORS), ALL 480V SERVICE ENTRANCE CONNECTIONS, CABLE TAGGING, GROUNDING SYSTEM AT THE WMGLD EQUIPMENT PAD (PER WMGLD STANDARDS AND DETAILS SHOWN ON DRAWINGS). GROUNDING ELECTRODE SYSTEM FOR THE BUILDING (PER CODE AND PER DETAILS SHOWN ON DRAWINGS,ALL COPPER CONDUCTORS FOR SITE LIGHTING.
6. COORDINATE CONDUIT ROUTING AND REQUIREMENTS FOR SITE LIGHTING BRANCH CIRCUITS TO SITE LIGHTS.
7. PROVIDE NETWORK BRIDGE AND ROOM CONTROLLER AND ALL REQUIRED INTERCONNECTIONS AND PROGRAMMING FOR ALL EXTERIOR FIXTURES AND EXTERIOR LIGHTING CIRCUITS. ALL CONTROL COMPONENTS SHALL BE LOCATED INSIDE BUILDING AND COORDINATED WITH EXTERIOR LIGHTING CONDUITS ENTERING THE BUILDING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS (TYP).

ELECTRICAL SITE UTILITY PHASING NOTES

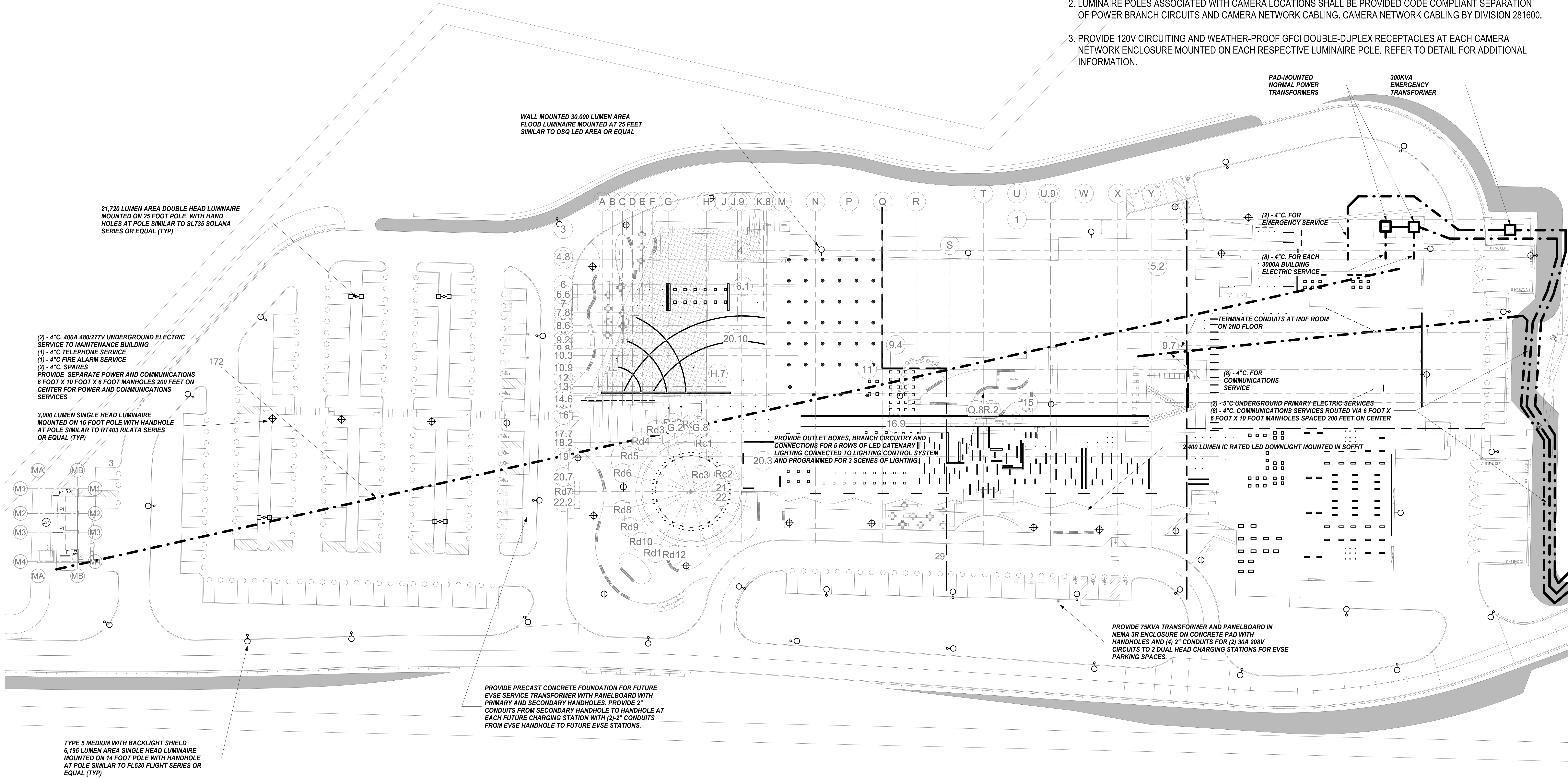
1. ALL TELECOMMUNICATION SERVICES SERVING EXISTING HIGH SCHOOL SHALL REMAIN FULLY OPERATIONAL DURING CONSTRUCTION WITHOUT UNPLANNED OUTAGES OR INTERRUPTION TO SERVICE.
2. ALL TEMPORARY SERVICES, IF NEEDED, FOR TELECOMMUNICATIONS SERVICES SHALL MEET EACH INDIVIDUAL UTILITY'S STANDARDS FOR CONSTRUCTION AND APPROVED MATERIALS AND WORKMANSHIP.

ELECTRICAL SITE PLAN NOTES

1. ALL QUANTITIES, LOCATIONS AND ARRANGEMENTS OF POLE MOUNTED SITE LIGHTING FIXTURES SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT AND THE CIVIL ENGINEERING SITE PLAN.
2. THE ELECTRICAL TRADE CONTRACTOR SHALL FURNISH ALL MANHOLES, JUNCTION BOXES, HANDHOLES AND POLE BASES(CAST IN PLACE AND/OR PRECAST) TO SITE CONTRACTOR FOR INSTALLATION. MANHOLES, HANDHOLES AND POLE BASES SHALL BE PROVIDED PER DETAILS SHOWN ON DRAWINGS. POLE BASES INSTALLED IN ROADWAYS AND PARKING AREAS SHALL UTILIZE TAPERED BASES THAT EXTEND 24" ABOVE FINISHED GRADE. BASES INSTALLED IN PEDESTRIAN ONLY AREAS SHALL BE FLUSH WITH GRADE. BASES SHALL BE SQUARE TO MATCH POLES.
3. PROVIDE 10 FT COPPER GROUND ROD AT END OF EACH LIGHTING CIRCUIT INTERCONNECTED TO POLE BASE, STEEL AND BRANCH CIRCUIT. TYPICAL.
4. PROVIDE ALL CONDUIT, CONDUCTORS AND CONNECTIONS TO TRASH COMPACTOR. COORDINATE WITH MANUFACTURER FOR ALL ELECTRICAL REQUIREMENTS.
5. PROVIDE 2 EA 1" PVC SCHEDULE 40 CONDUIT (1 EA IT, 1 EA POWER)AND 30A RATED XHHW-1 CONDUCTORS AND 1 EA 1" PVC SCHEDULE 40 CONDUIT WITH PULL STRING FROM EV CHARGING STATION PEDESTAL. PROVIDE ALL CONNECTIONS PER MANUFACTURER.
6. PROVIDE 1 EA 2" PVC SCHEDULE 40 CONDUIT WITH PULL STRING FROM BUILDING TO GAS STORAGE AREA.
7. REFER TO DETAIL FOR ALL REQUIRED POLE TOP LIGHTING CONTROL (WIRELESS).
8. PROVIDE (3) IN-GRADE LST11 FIXTURES AT THE PROPOSED FLAGPOLE LOCATION. FIXTURES SHALL BE APPROX. 18" FROM THE CENTER OF THE FLAGPOLE, AND SPACED EVENLY AROUND THE POLE (120 DEGREES APART) FOR EVEN ILLUMINATION. INTERCEPT, EXTEND, AND CONNECT 277V SITE LIGHTING BRANCH WIRING FROM NEAREST HANDHOLE. USING WATERPROOF CONNECTIONS AND 2" PVC CONDUIT. LST11 FIXTURE SHALL BE BK LIGHTING MODEL B-HP2-LED-TR-E65-SP-BZP-12-11-MT-GS OR APPROVED EQUAL. FIXTURES SHALL BE CONTROLLED BY LIGHTING CONTROL PANELS.

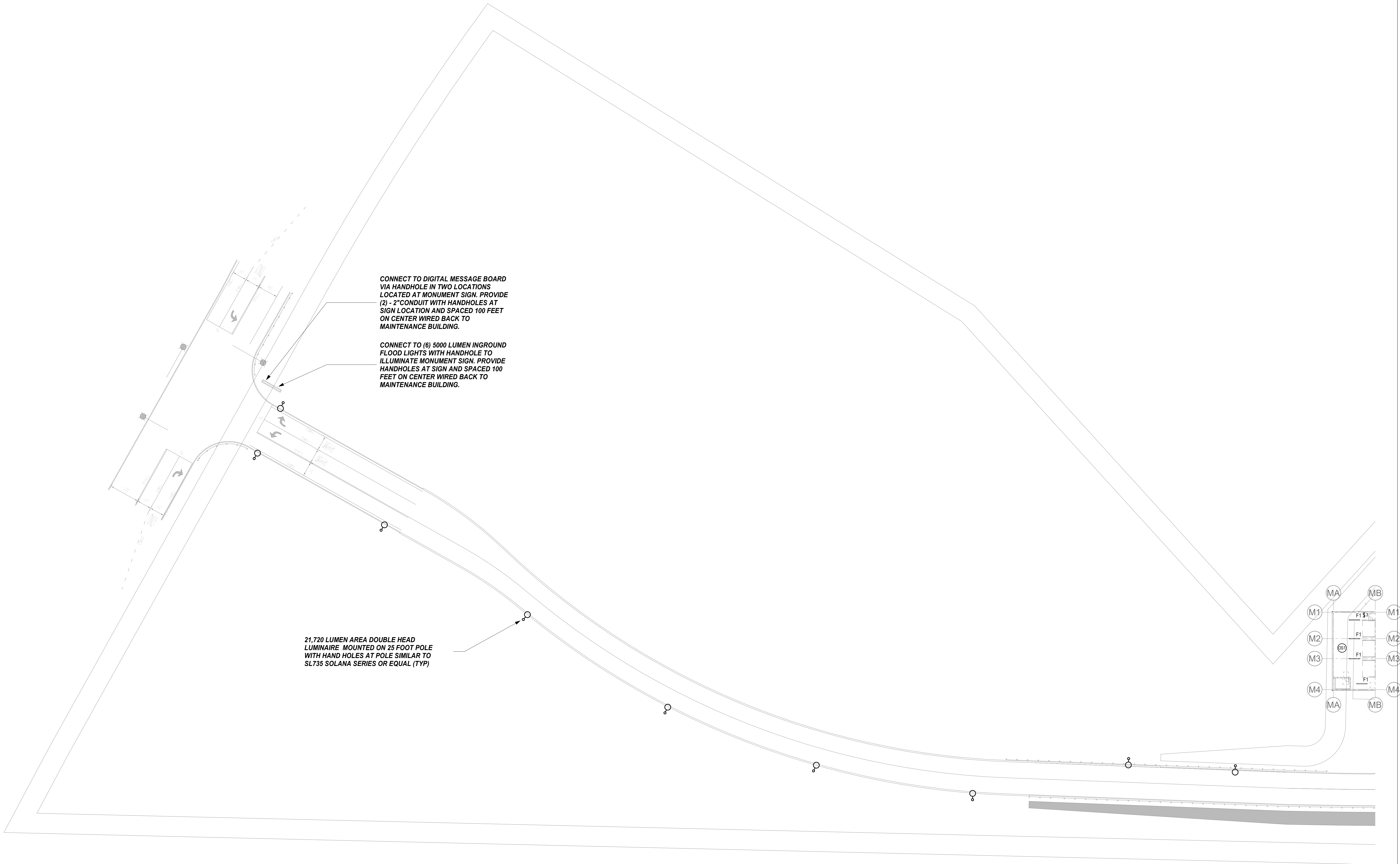
TECHNOLOGY NOTES

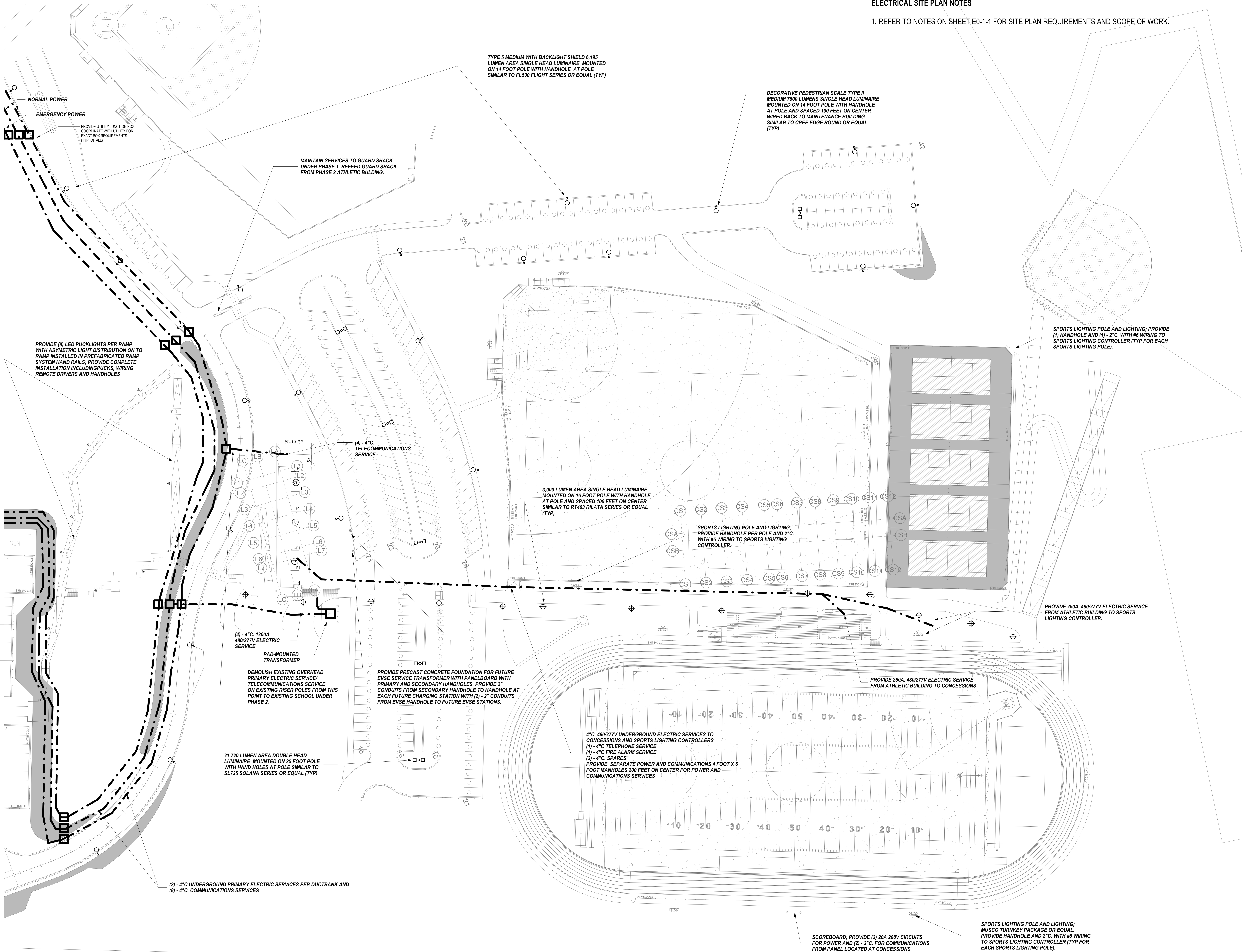
1. PROVIDE MINIMUM 1-1/4" CONDUIT SYSTEM FOR SECURITY CAMERAS ON POLE LUMINAIRES. COORDINATE 1-1/4" CONDUIT SYSTEM FOR CAMERA WITH DRAWING T0-1-1.
2. LUMINAIRE POLES ASSOCIATED WITH CAMERA LOCATIONS SHALL BE PROVIDED CODE COMPLIANT SEPARATION OF POWER BRANCH CIRCUITS AND CAMERA NETWORK CABLING. CAMERA NETWORK CABLING BY DIVISION 281600.
3. PROVIDE 120V CIRCUITING AND WEATHER-PROOF GFCI DOUBLE-DUPLEX RECEPTACLES AT EACH CAMERA NETWORK ENCLOSURE MOUNTED ON EACH RESPECTIVE LUMINAIRE POLE. REFER TO DETAIL FOR ADDITIONAL INFORMATION.



ELECTRICAL SITE PLAN NOTES

1. REFER TO NOTES ON SHEET E0-1-1 FOR SITE PLAN REQUIREMENTS AND SCOPE OF WORK.





ELECTRICAL SITE PLAN NOTES

1. REFER TO NOTES ON SHEET E0-1-1 FOR SITE PLAN REQUIREMENTS AND SCOPE OF WORK.

DRA

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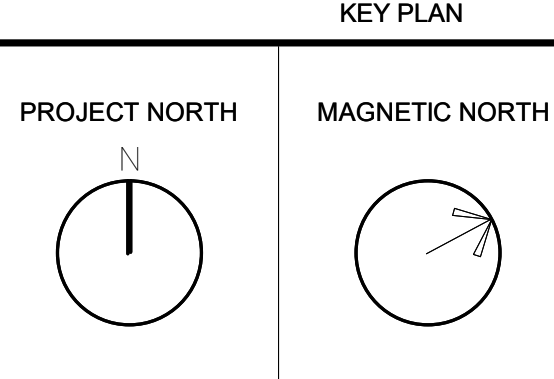
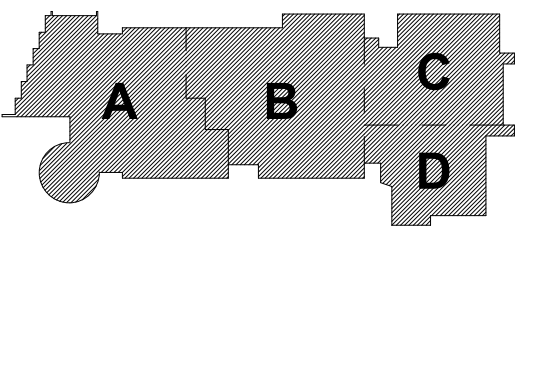
Wakefield, MA 01880

BALA
ENGINEERS

BALA CONSULTING ENGINEERS, INC.
1000 STATE STREET, SUITE 200
WILMINGTON, MA 01897
TEL: 978.683.4444 FAX: 978.683.4445
WWW.BALAE.COM

MSBA DESIGN
DEVELOPMENT
SUBMISSION

August 4th, 2022



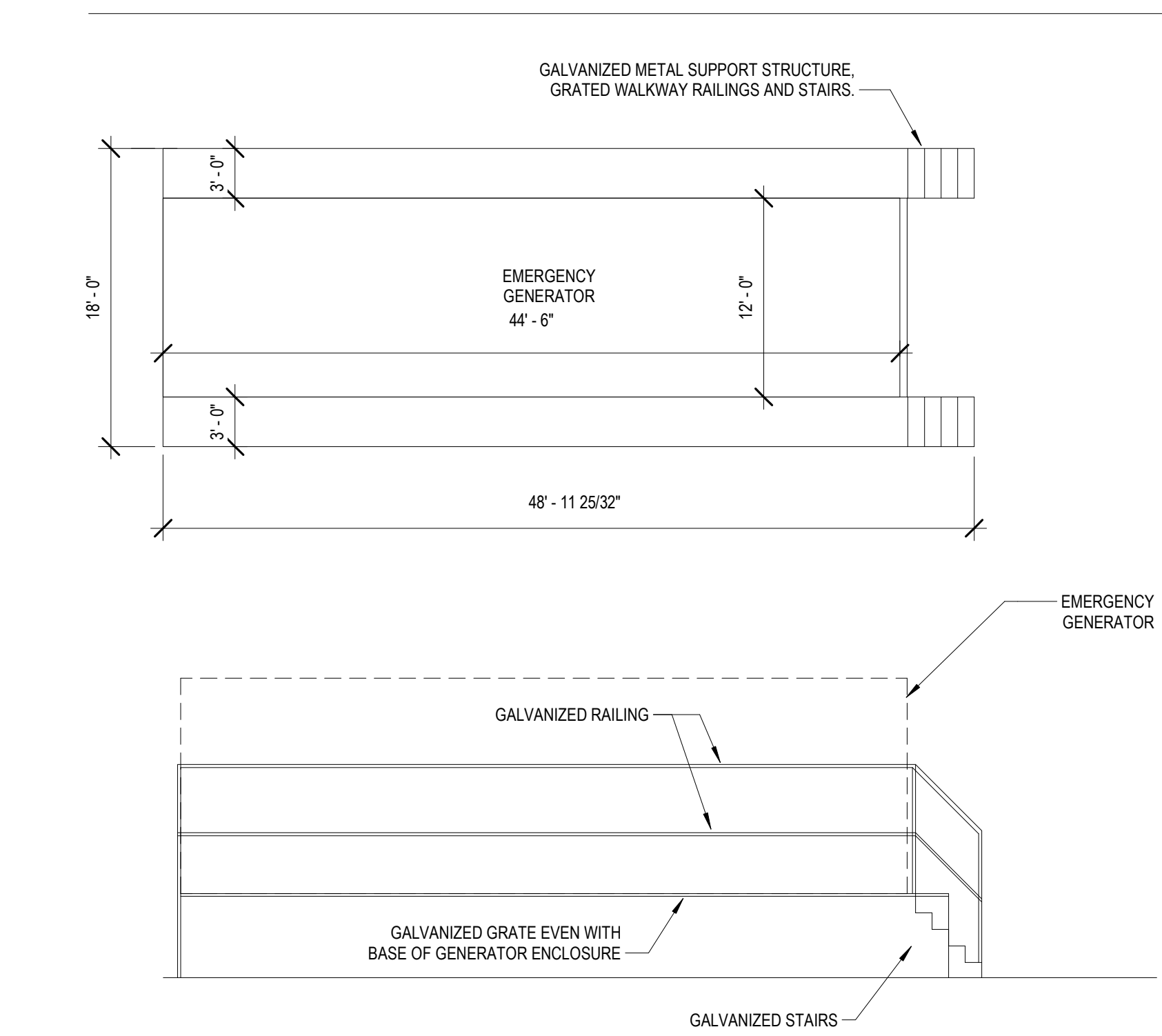
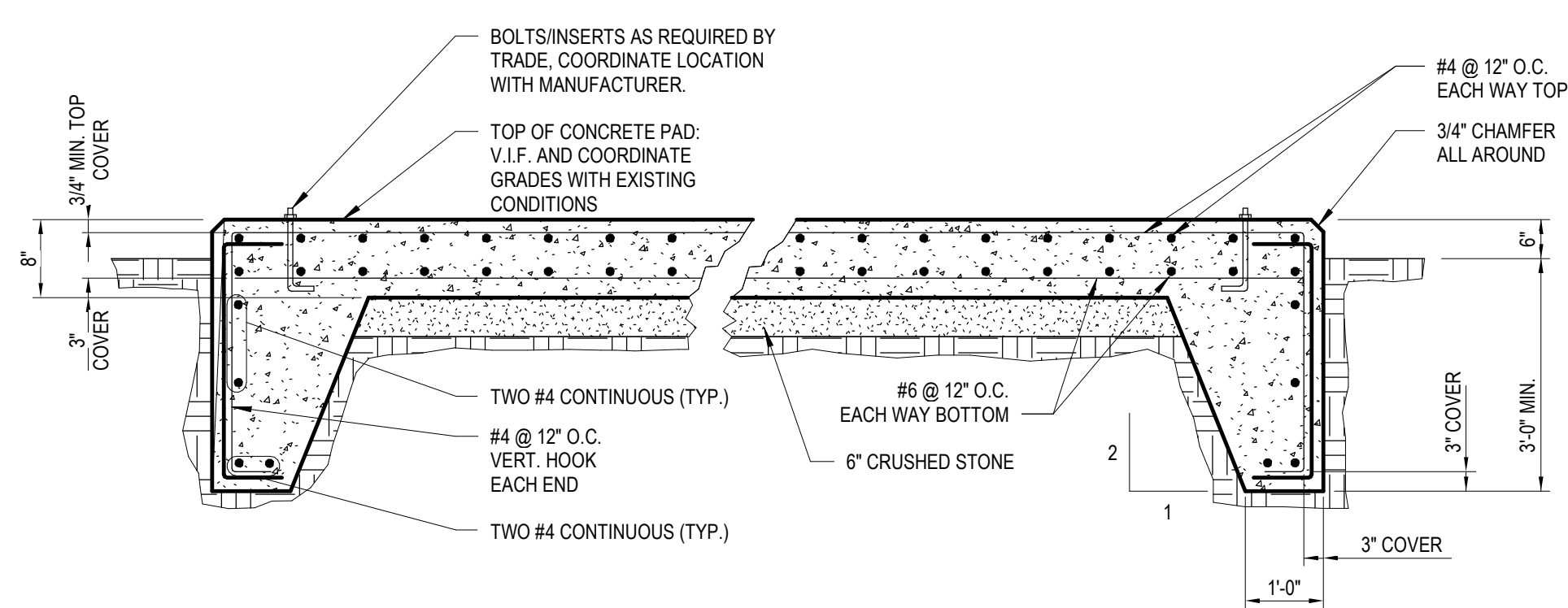
**ELECTRICAL
SITE PLAN**

Scale: 1" = 30'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E0-1-3

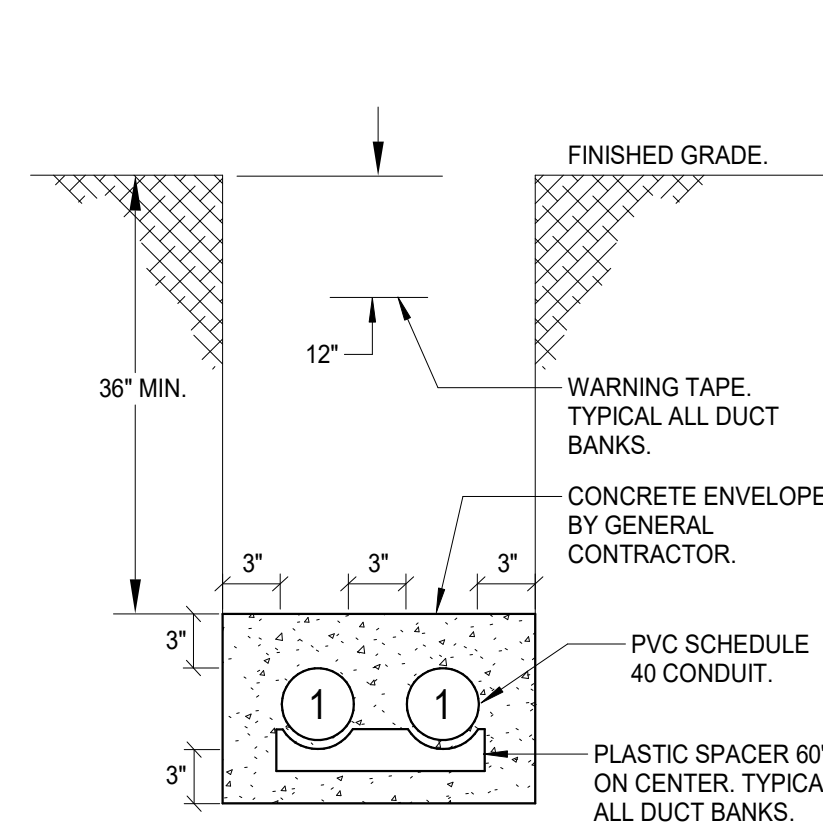
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School

Wakefield, MA 01880

1
ED-1-4
GENERATOR PLATFORM DETAIL
1/8" = 1'-0"

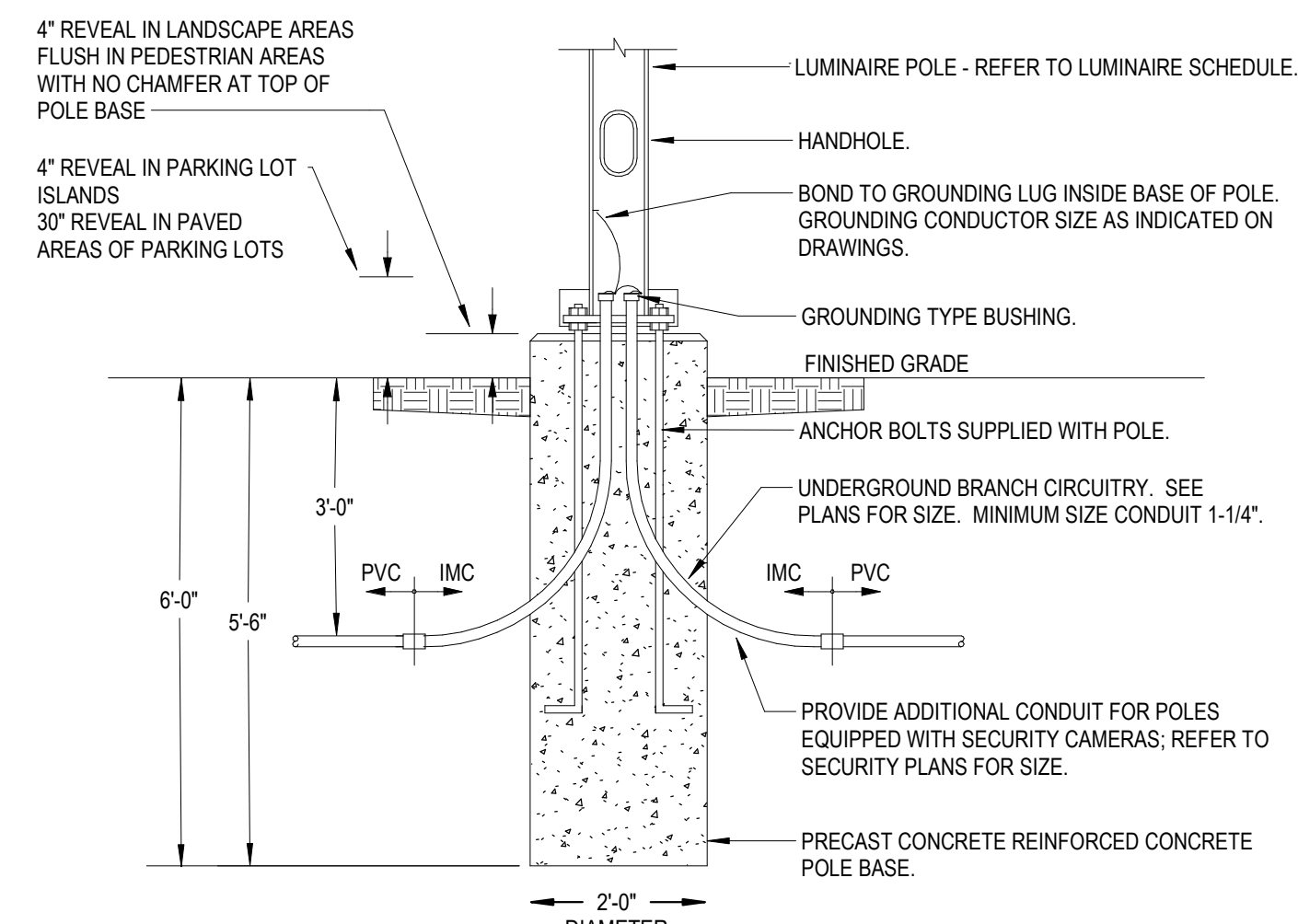
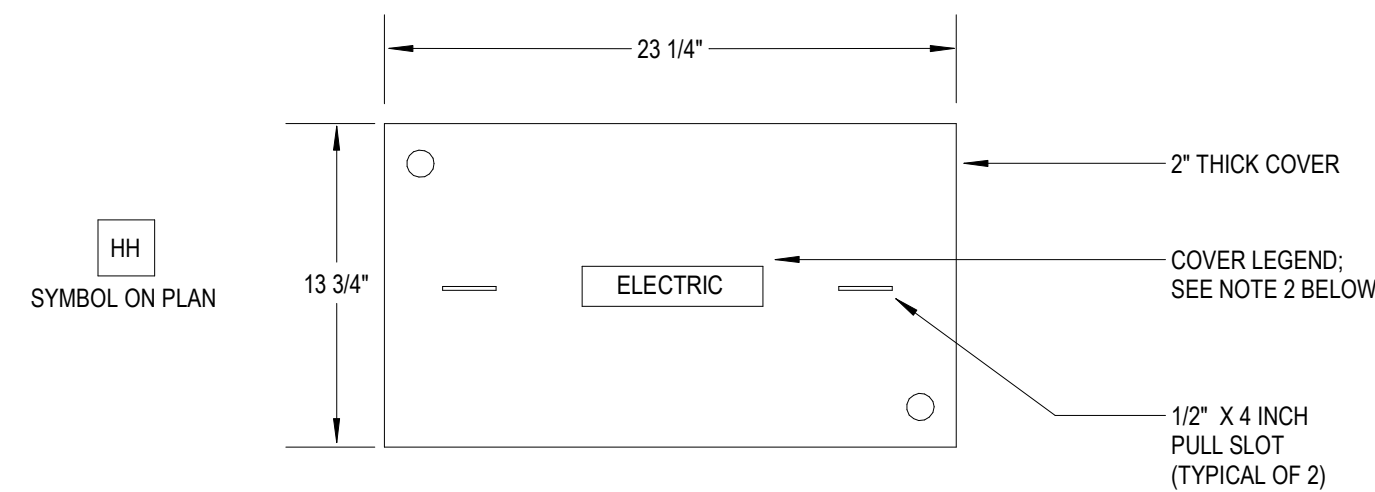
NOTES:

1. SECURE EQUIPMENT TO PAD USING EPOXY ANCHORS. SIZE, QUANTITY AND LOCATION OF ANCHORS TO SUIT EQUIPMENT PURCHASED.
2. COORDINATE PAD FOOTPRINT SIZE WITH NEW EQUIPMENT AND EXISTING EQUIPMENT TO BE RELOCATED.
3. COORDINATE CONDUIT OPENINGS WITH EQUIPMENT.
4. CONFIRM PAD CONFIGURATION WITH MANUFACTURER'S SHOP DRAWINGS. PAD TO BE 2" LARGER THAN EQUIPMENT.
5. CONCRETE TO BE 3000 PSI NORMAL WEIGHT CONCRETE. (W/C = 0.45 MAX., 5% AIR ENTRAINMENT)

4
ED-1-4
GENERATOR CONCRETE PAD DETAIL
NOT TO SCALE6
ED-1-4
TYPICAL DUCTBANK SECTION DETAILS
1/8" = 1'-0"

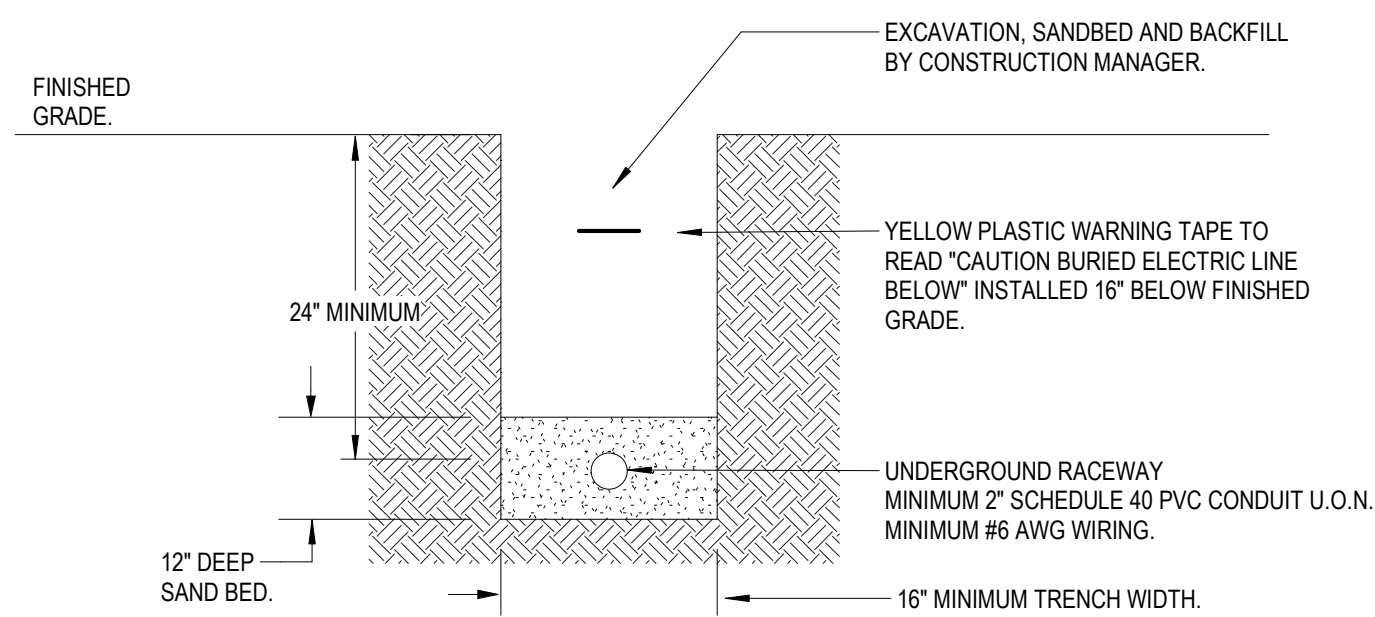
DUCT BANK LEGEND:

- 1 5" PVC PRIMARY ELECTRIC SERVICE
- 2 4" PVC SECONDARY ELECTRIC SERVICE
- 3 4" PVC EMERGENCY SERVICE
- 4 4" LEGALLY REQUIRED STANDBY SERVICE
- 5 4" PVC OPTIONAL STANDBY SERVICE
- 6 2" PVC REMOTE GENERATOR ANNUNCIATOR WIRING
- 7 2" PVC START CIRCUITRY WIRING
- 8 2" PVC GENERATOR LOADCENTER SERVICE.
- 9 4" PVC RGN SERVICE
- 10 4" PVC SPARE CONDUIT
- 11 4" PVC FIRE PUMP SERVICE
- 12 3" PVC EVSE SERVICE
- 13 4" PV SERVICE
- 14 4" COMCAST SERVICE
- 15 4" PVC SPORTS LIGHTING SERVICE
- 16 3" PVC SERVICES
- 17 2" PV SERVICES
- 18 1" PV SERVICES
- 19 4" PV SERVICES

8
ED-1-4
PRECAST CONCRETE POLE BASE DETAIL
1/8" = 1'-0"

NOTES:

1. PROVIDE STACKABLE OPEN BOTTOM HANDHOLES WITH HEAVY DUTY GASKETED LOCKING COVER WITH CONDUIT SIZES PER SITE PLAN.
2. GASKETING LOCKING COVER ID SHALL READ:
"ELEC" FOR POWER DISTRIBUTION
"LIGHTING" FOR SITE LIGHTING
"EVSE" FOR ELECTRIC VEHICLE SERVICE EQUIPMENT.
"CCTV" FOR SECURITY AND CCTV CAMERAS
"FIELD LIGHTING" FOR SPORTS LIGHTING
"COMM" FOR COMMUNICATIONS SYSTEMS
"PV" FOR PHOTOVOLTAIC SYSTEMS
3. HANDHOLE SIZES SHALL BE AS FOLLOWS:
"ELECTRIC" FOR POWER DISTRIBUTION SITE LIGHTING.
12" X 12" FOR SITE LIGHTING
13" X 24" FOR ELECTRIC VEHICLE SERVICE EQUIPMENT.
12" X 12" FOR SECURITY AND CCTV CAMERAS
24" X 24" FOR SPORTS LIGHTING AND PHOTOVOLTAICS
13" X 24" FOR COMMUNICATIONS SYSTEMS

3
ED-1-4
TYPICAL STACKABLE HANDHOLE DETAIL
1/8" = 1'-0"

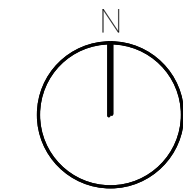
NOTES:

1. EXACT ROUTING OF SITE LIGHTING RACEWAY SHALL BE COORDINATED IN THE FIELD WITH ARCHITECT AND LANDSCAPE ARCHITECT IN ORDER TO AVOID TREE PLANTINGS AND OTHER UNDERGROUND UTILITIES.

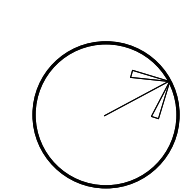
7
ED-1-4
SITE LIGHTING RACEWAY SYSTEM DETAIL
1/8" = 1'-0"

August 4th, 2022

PROJECT NORTH



MAGNETIC NORTH



SITE DETAILS

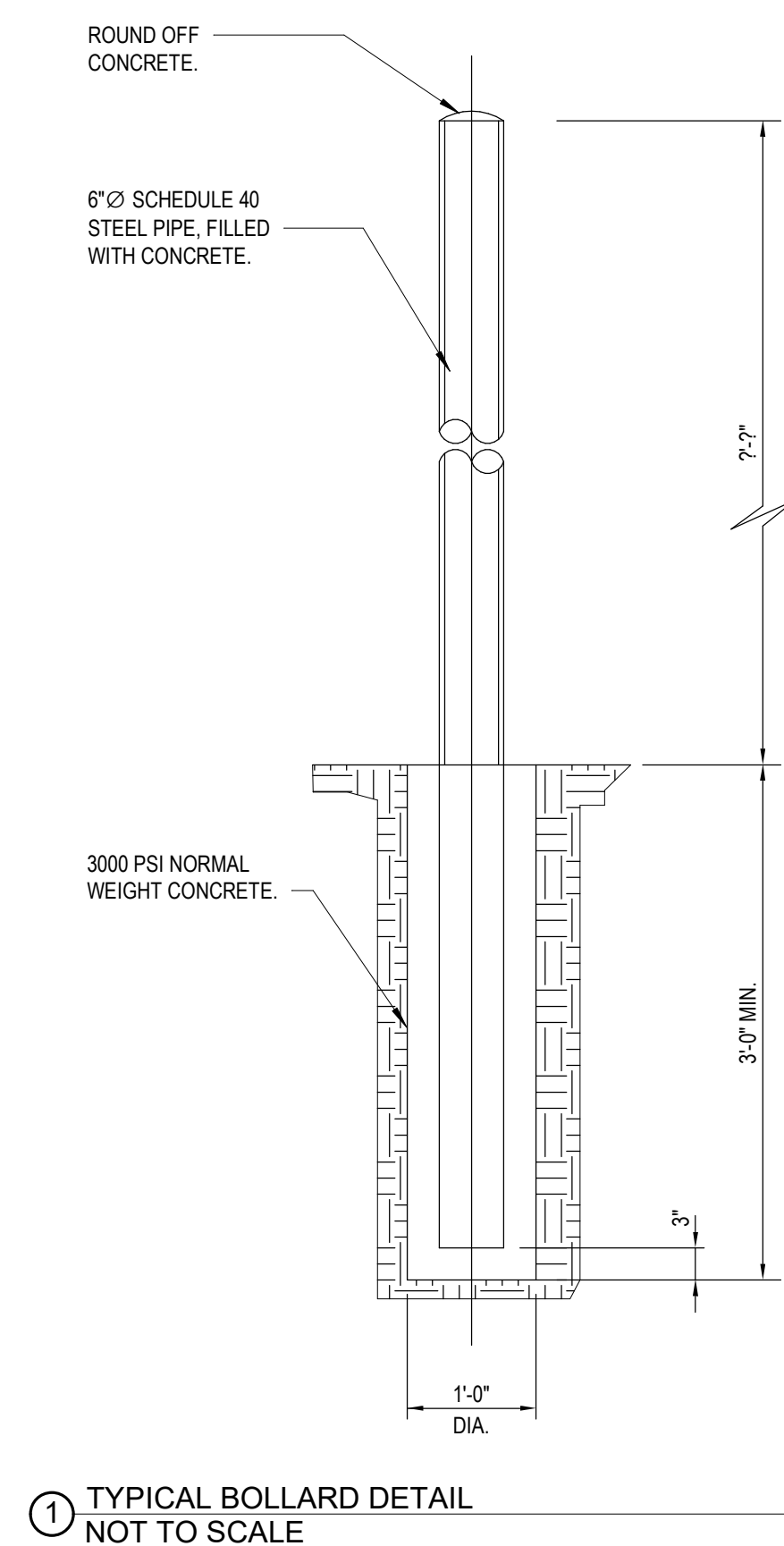
Scale: As indicated

Job No.: 20202

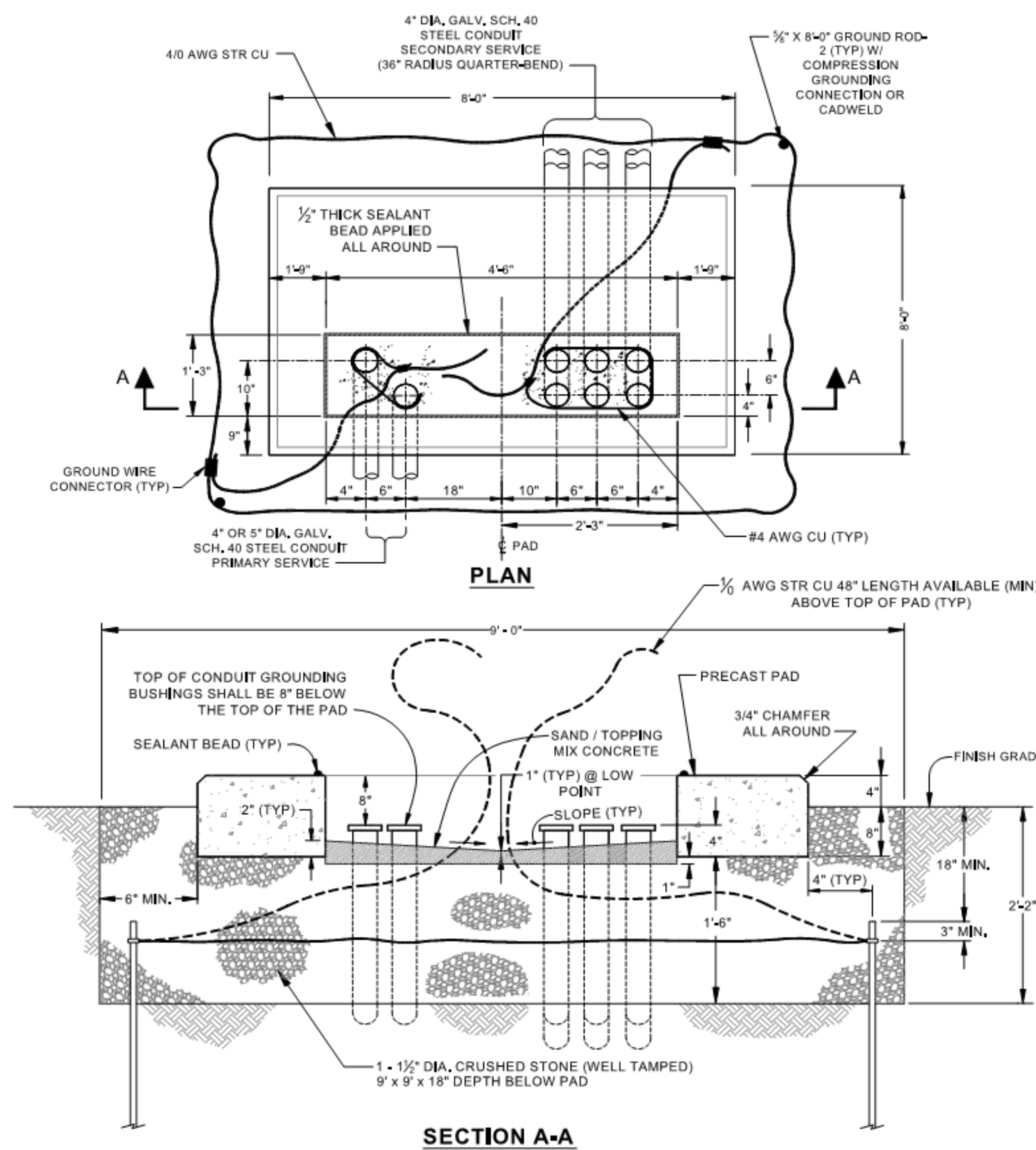
Drawn By: DRA

Date: August 4th, 2022

E0-1-4

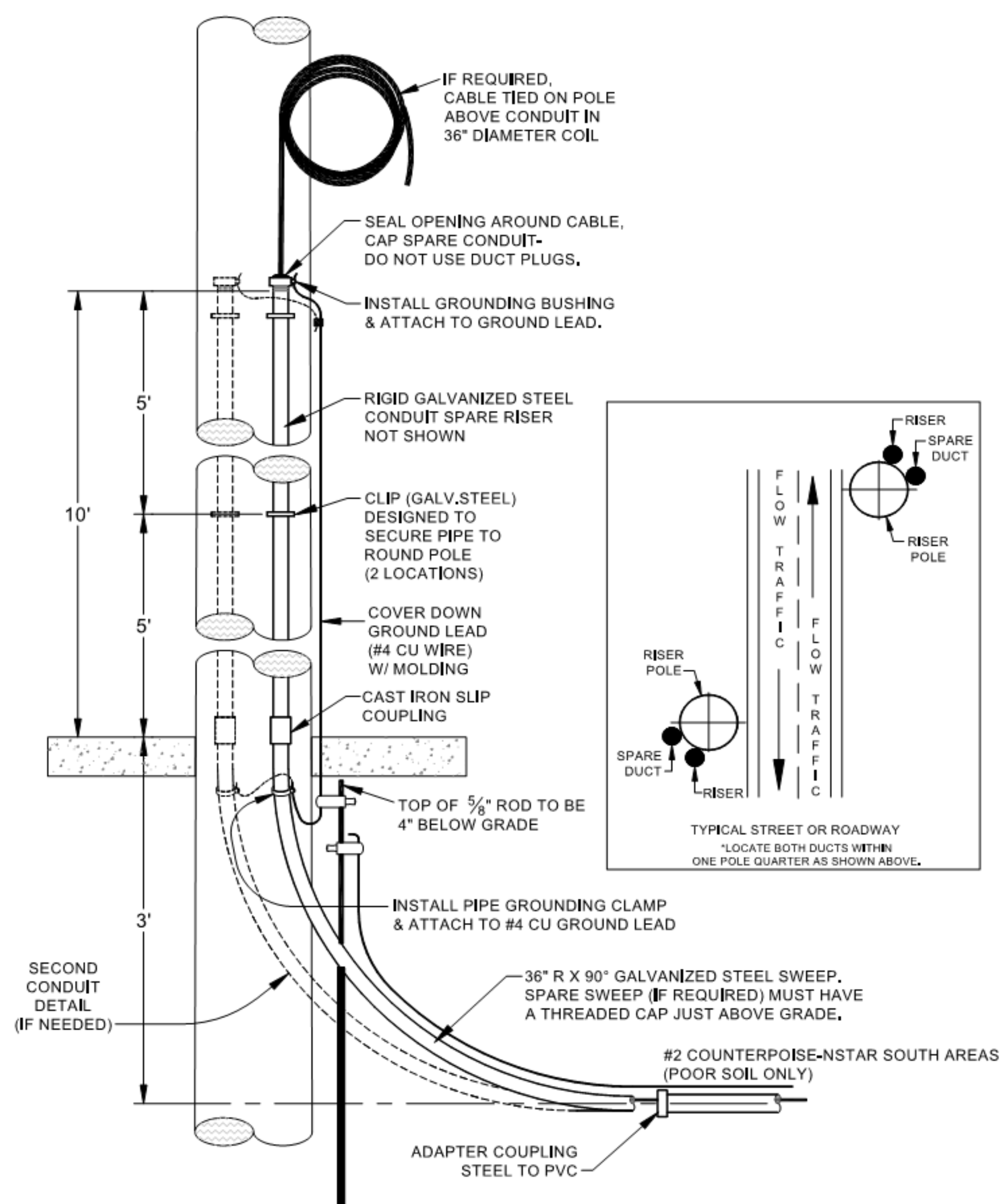


① TYPICAL BOLLARD DETAIL
NOT TO SCALE

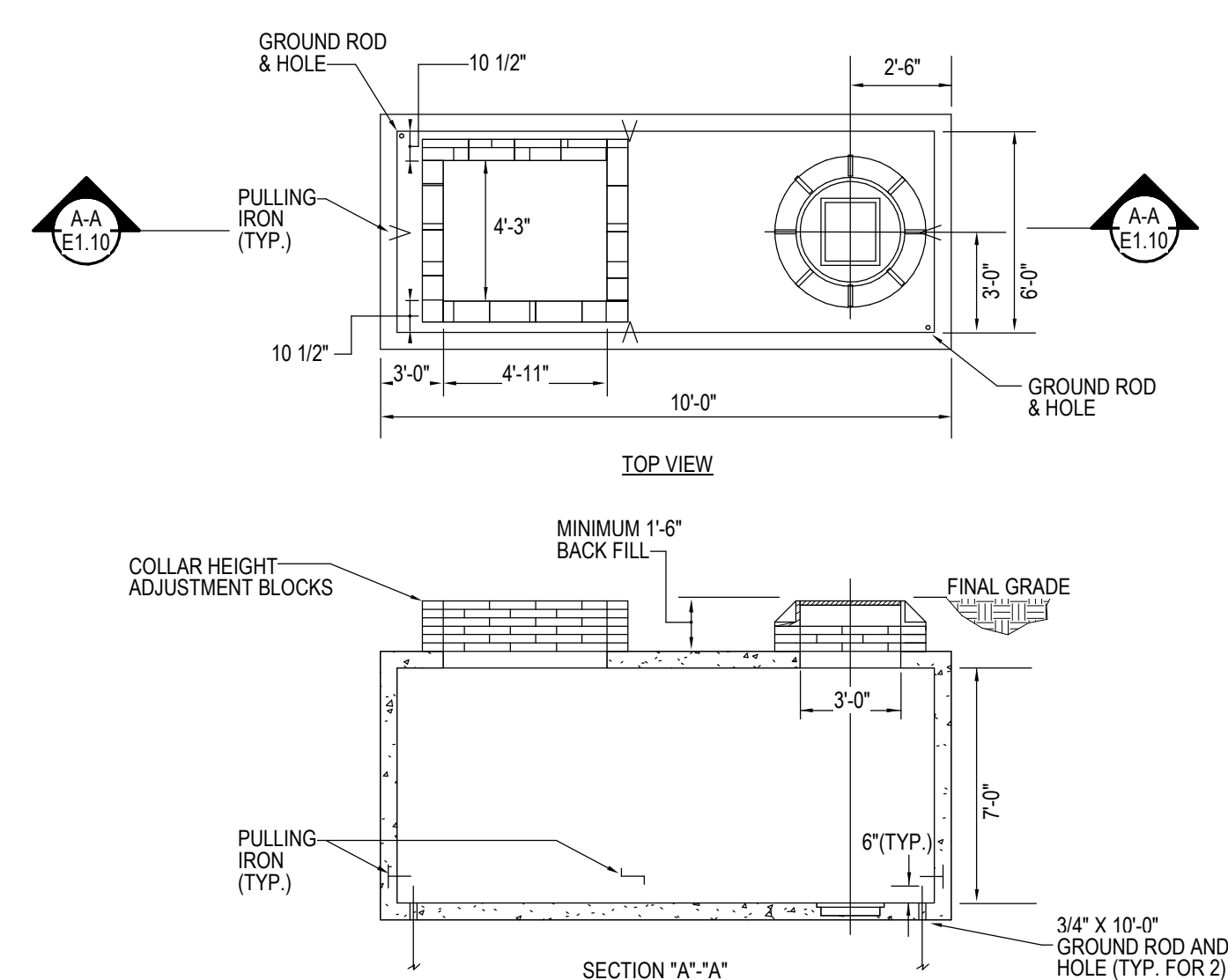


: Three-Phase 500 - 2,500 kVA Transformer Precast Pad Installation & Grounding Detail

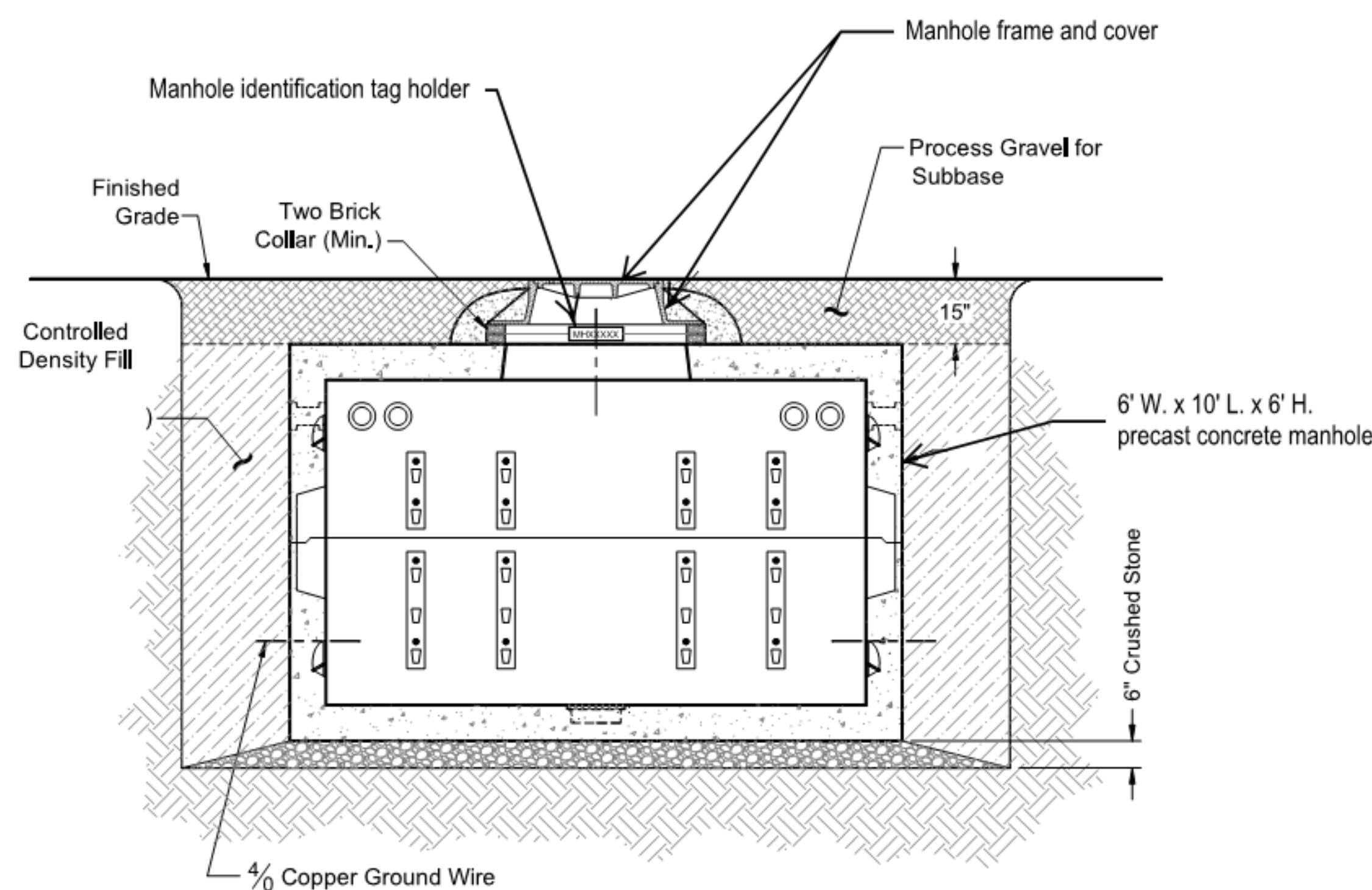
Note: Contractor is responsible to obtain NSTAR approval before backfilling conduit and precast pad.



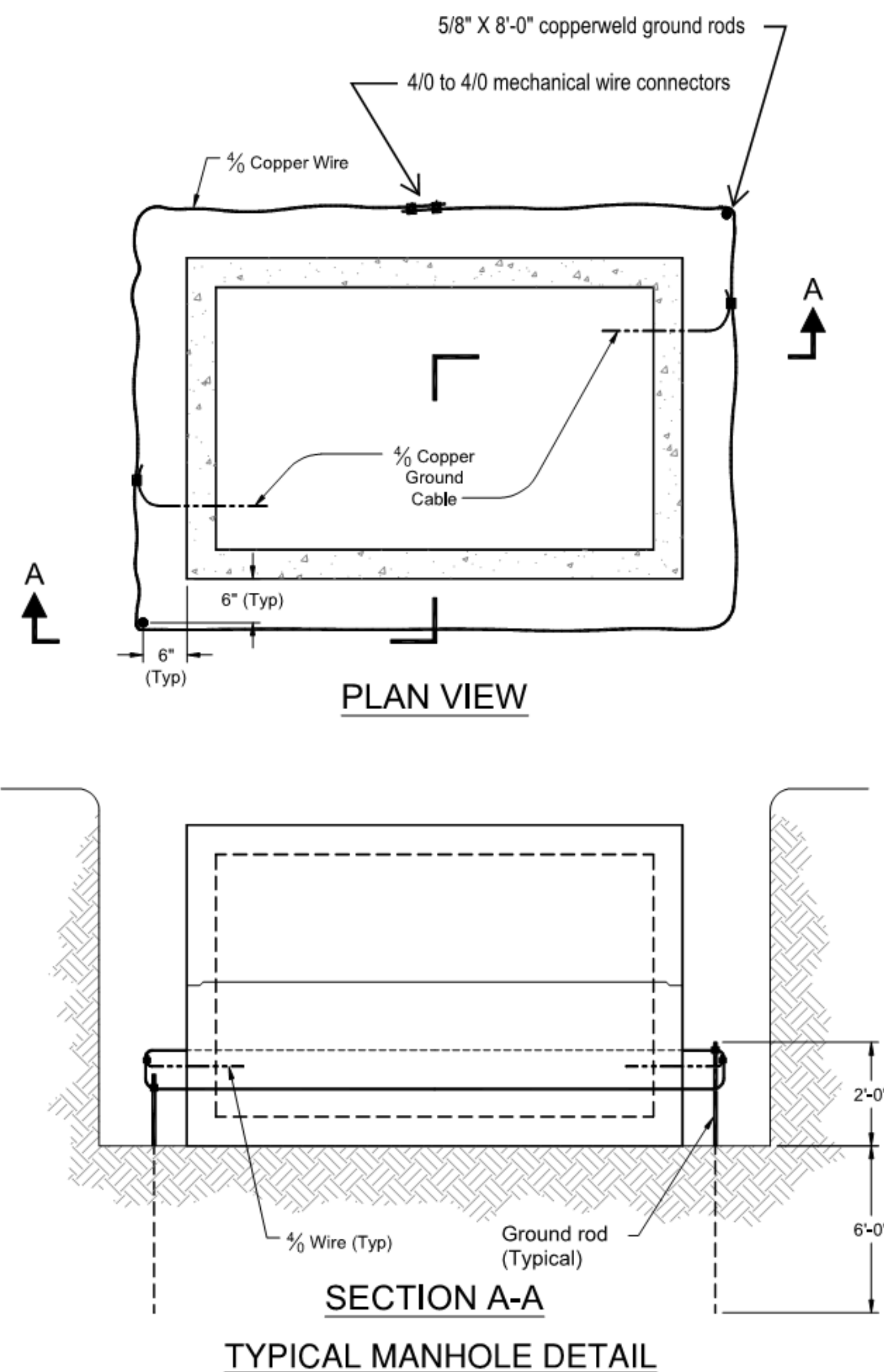
TYPICAL RISER CONSTRUCTION DETAIL



2 REINFORCED CONCRETE MANHOLE

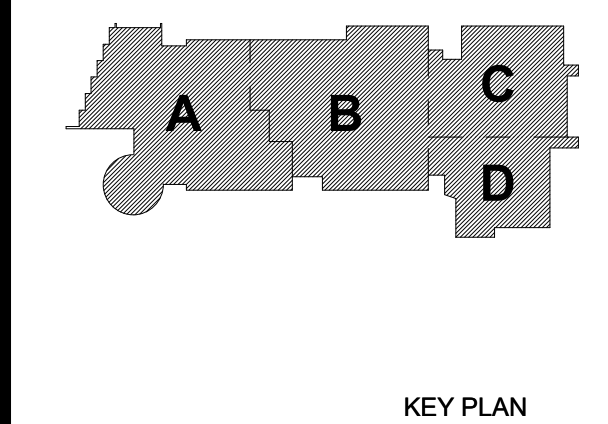
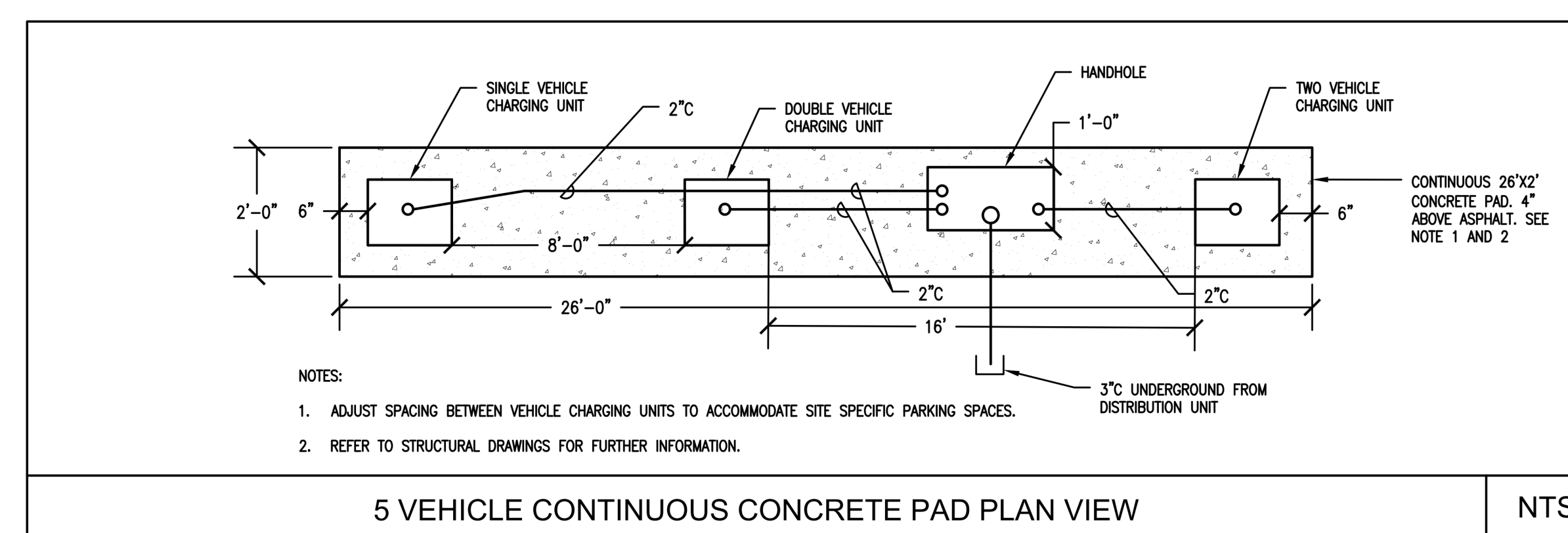
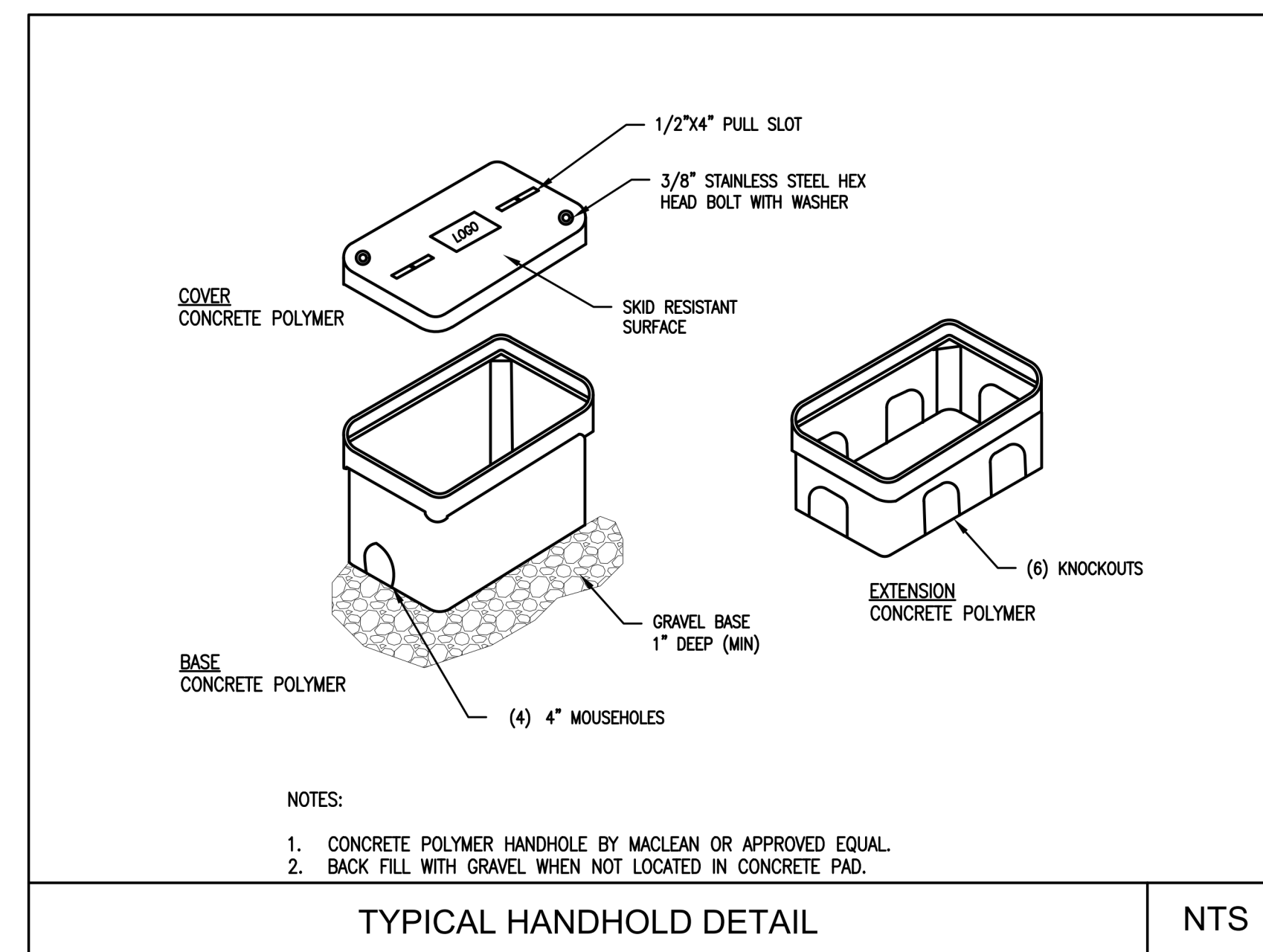
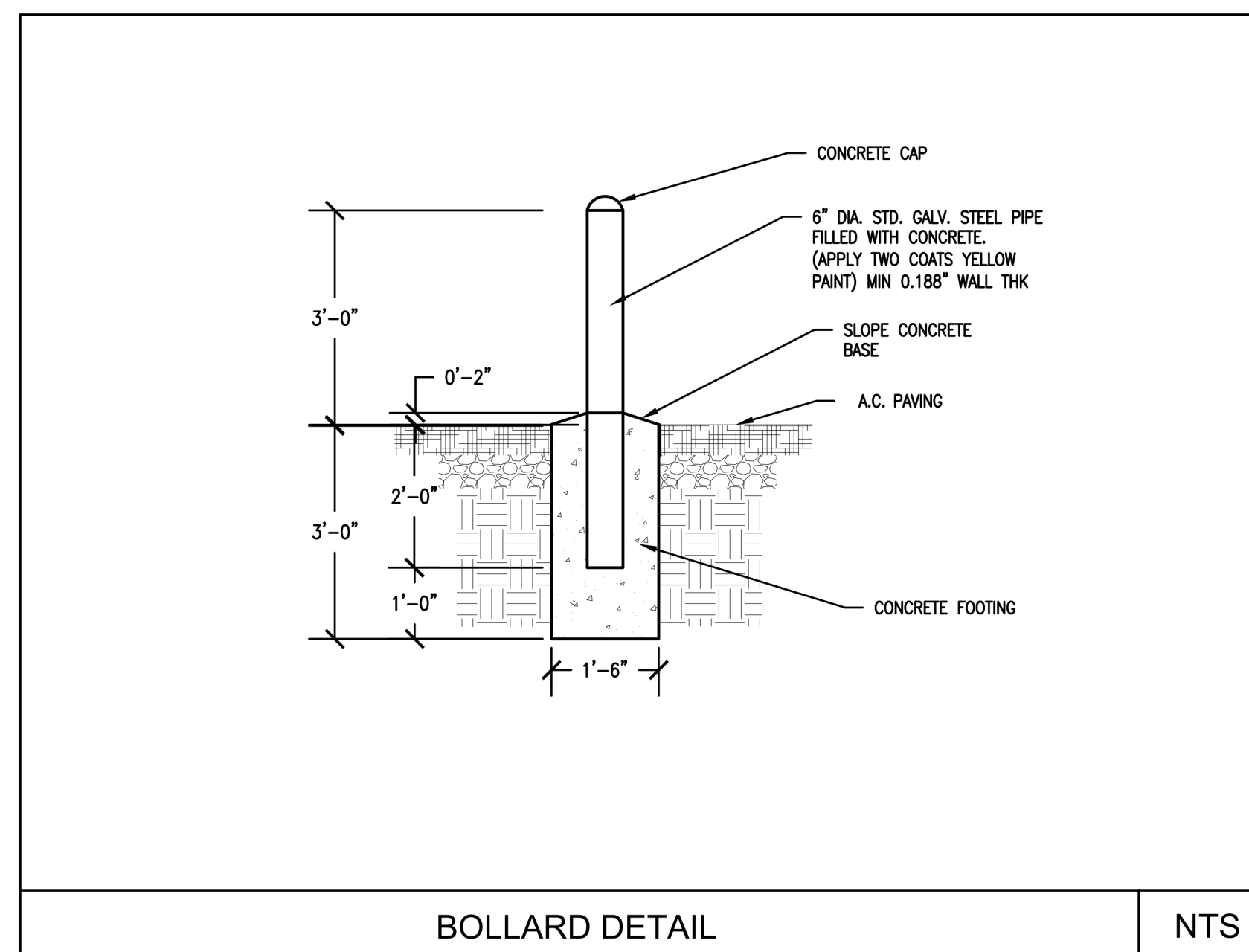
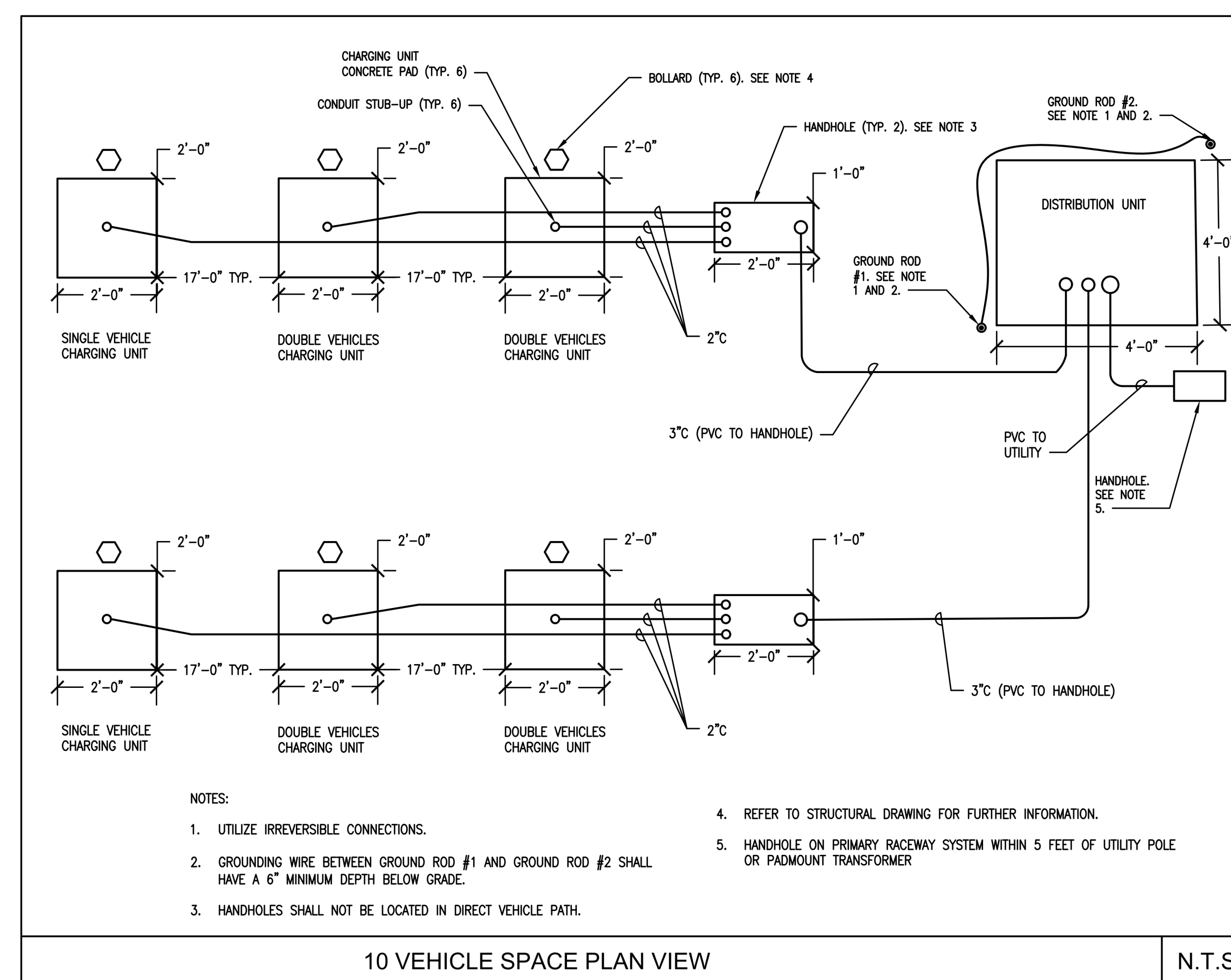
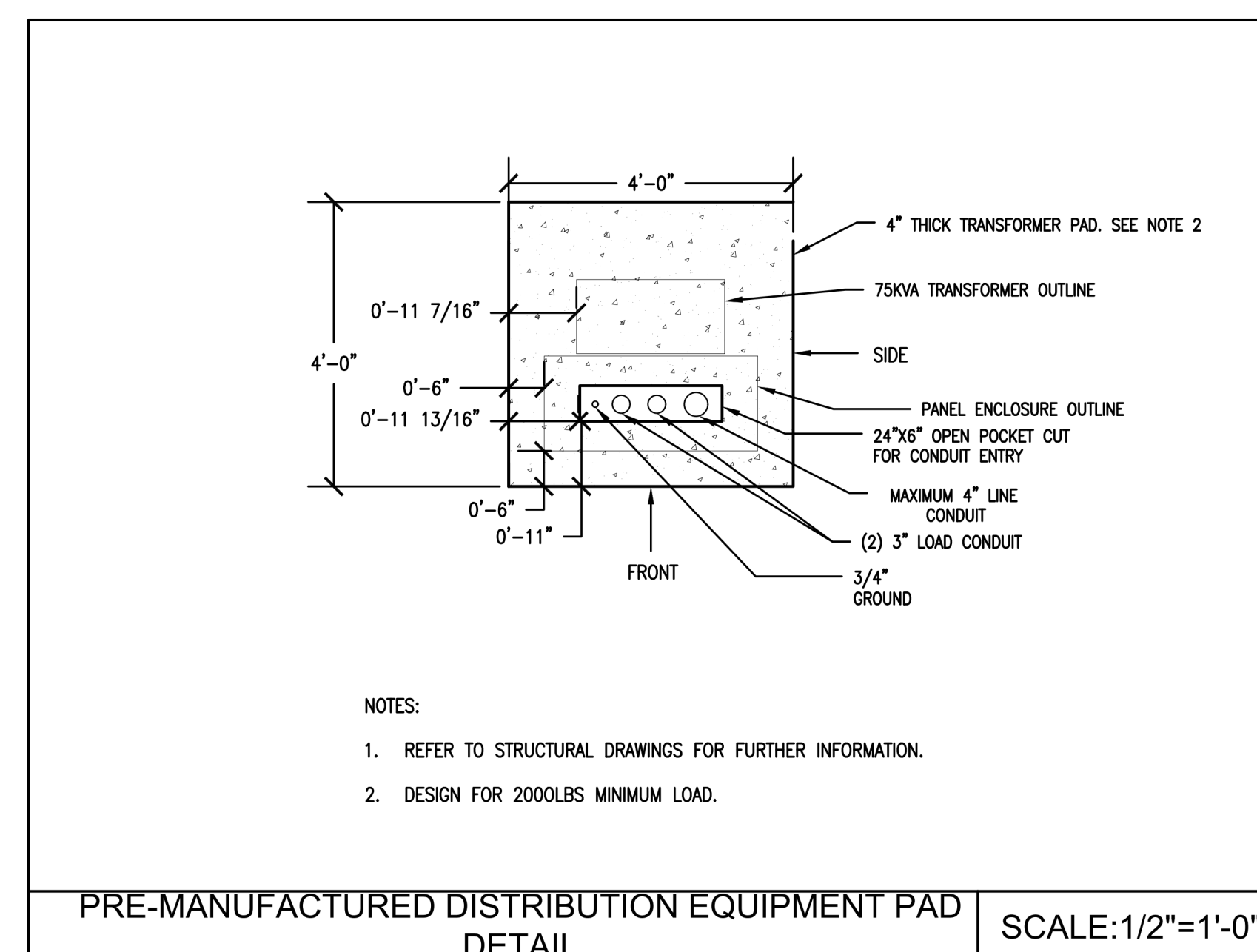
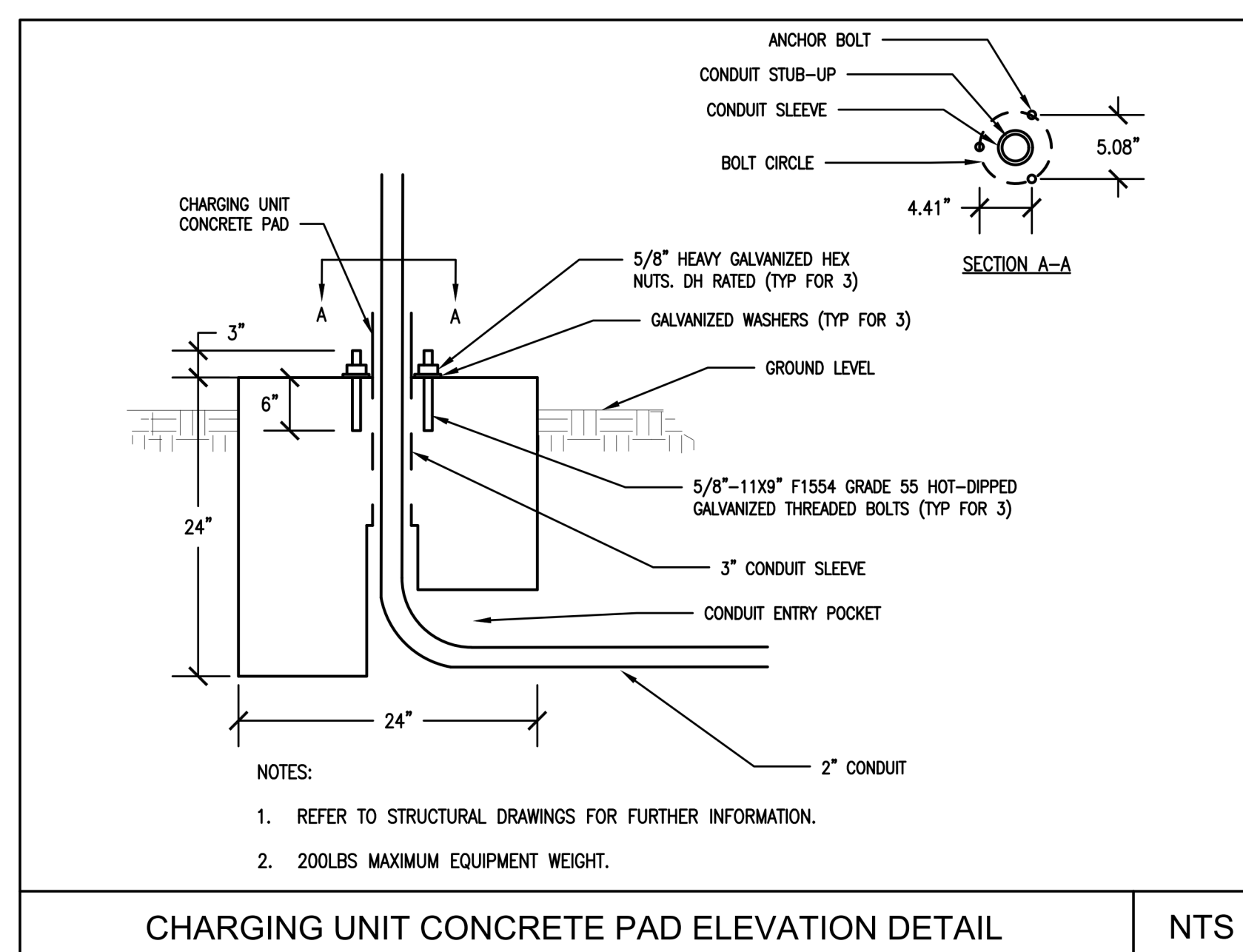
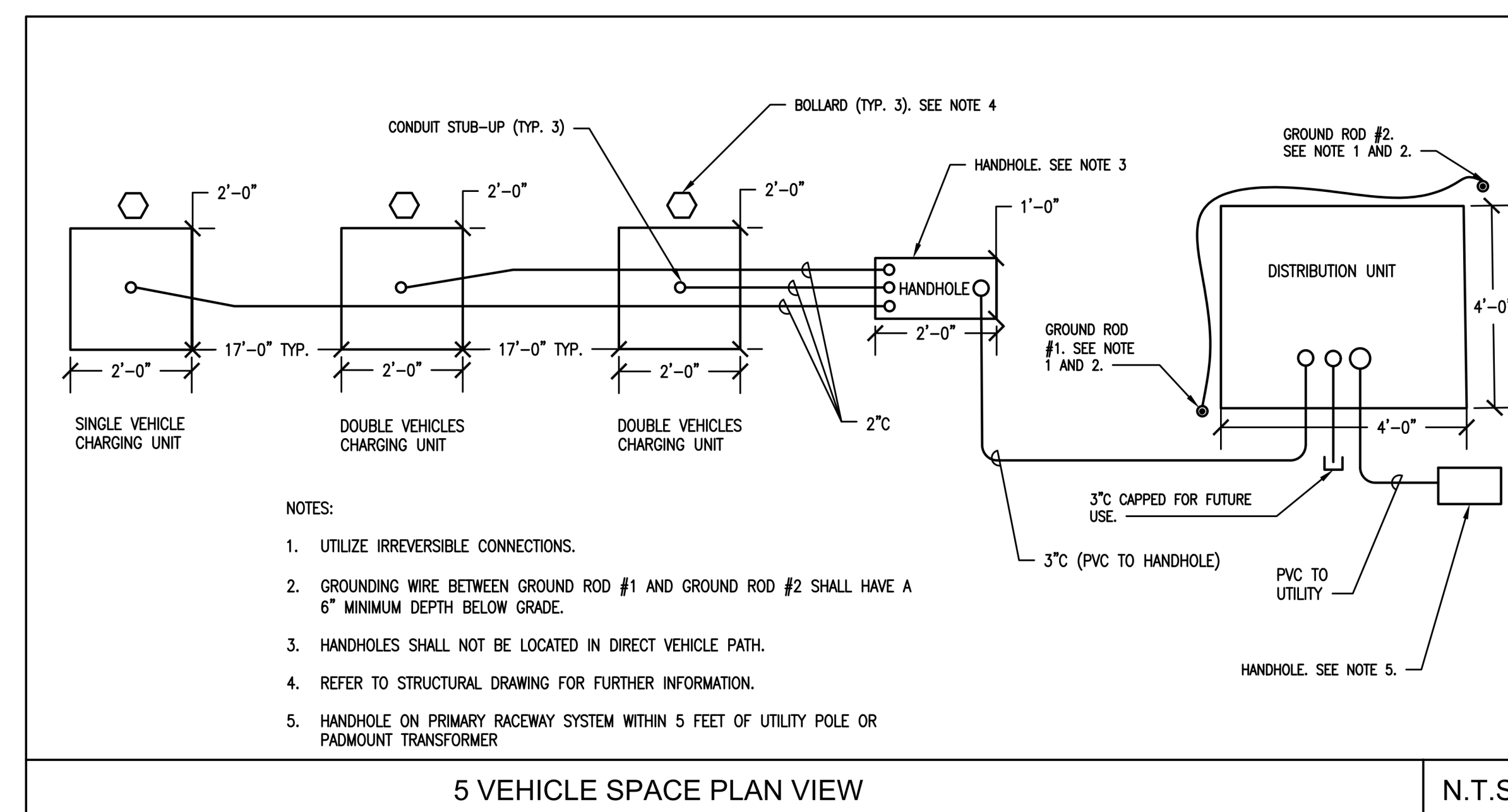
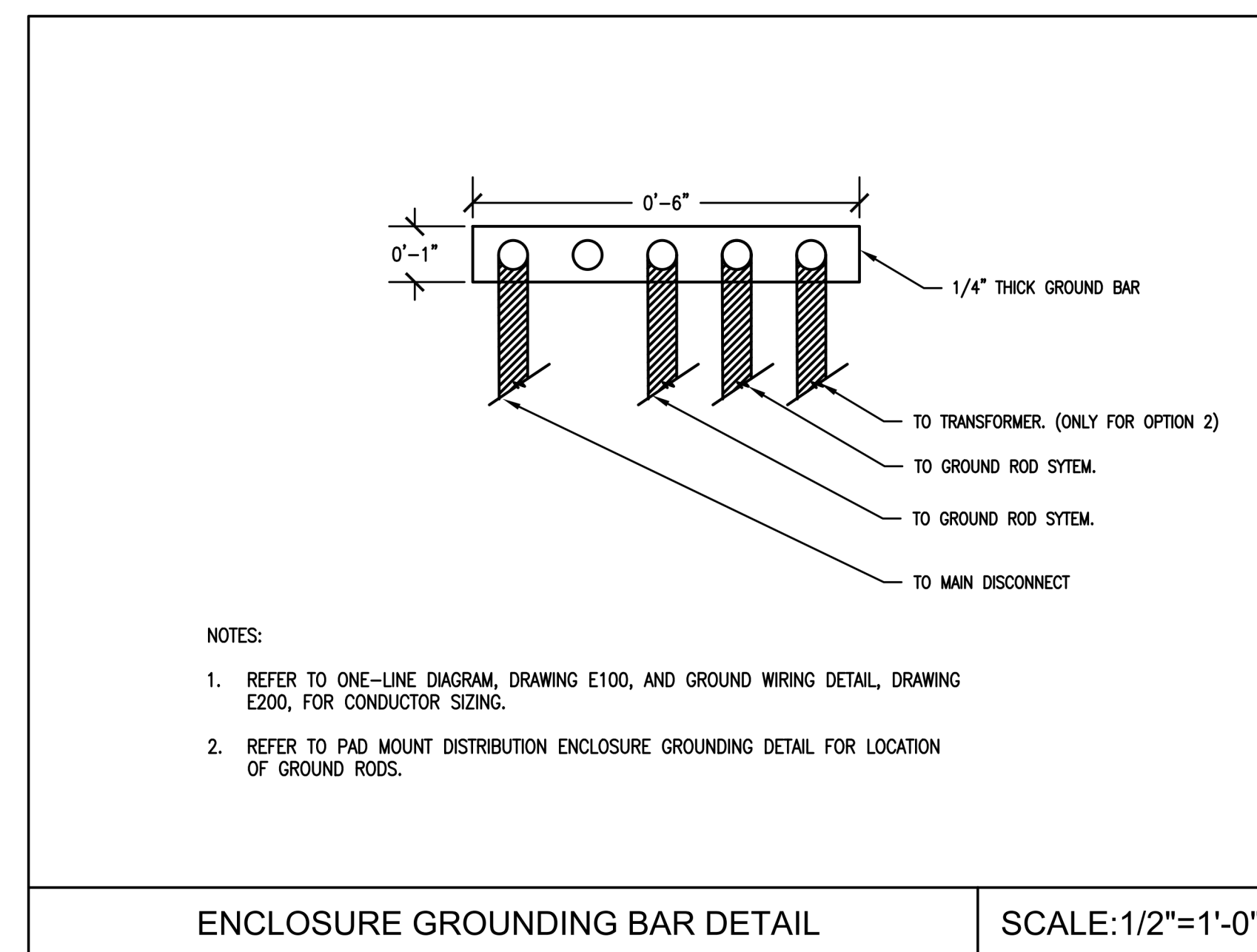
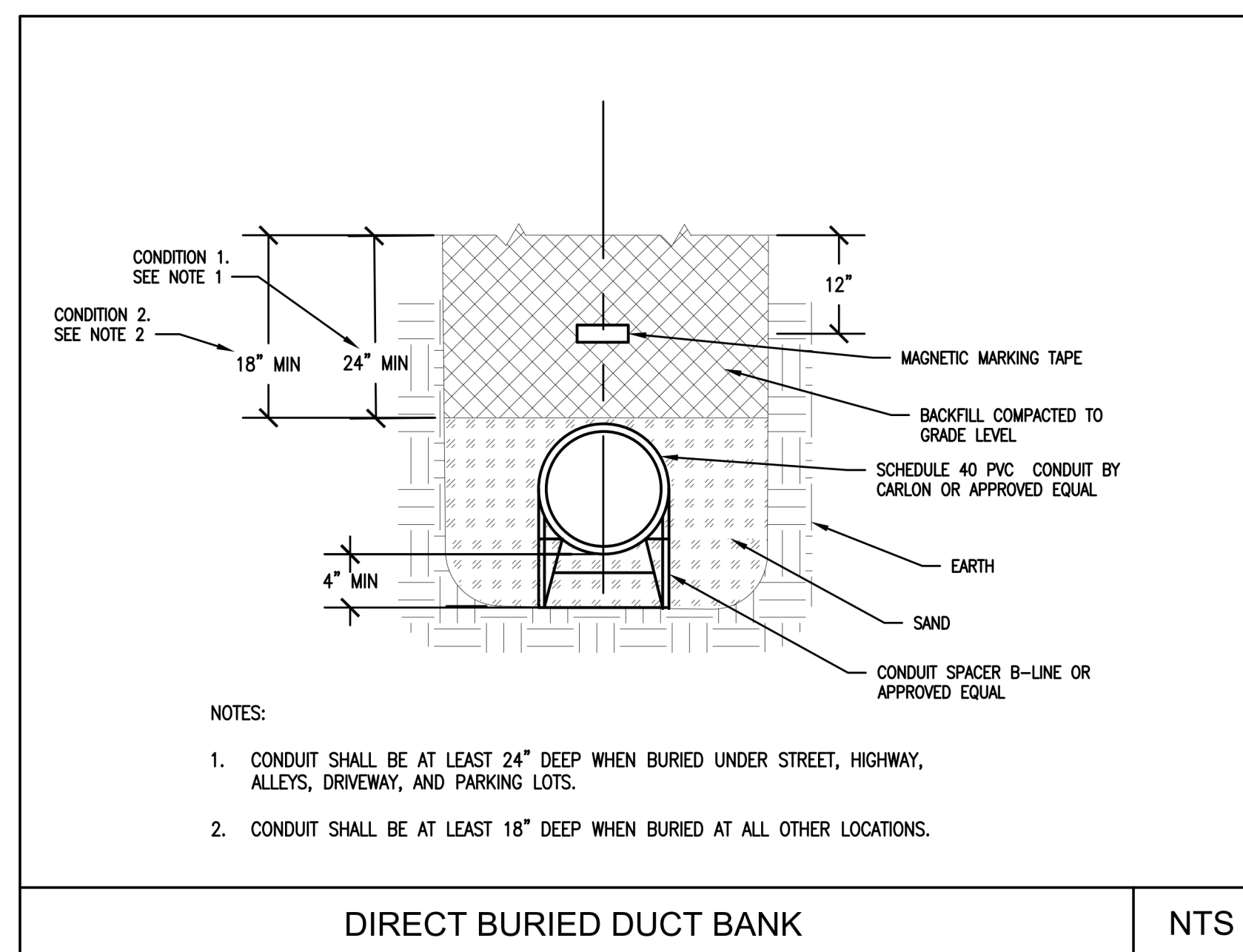


TYPICAL MANHOLE DETAIL



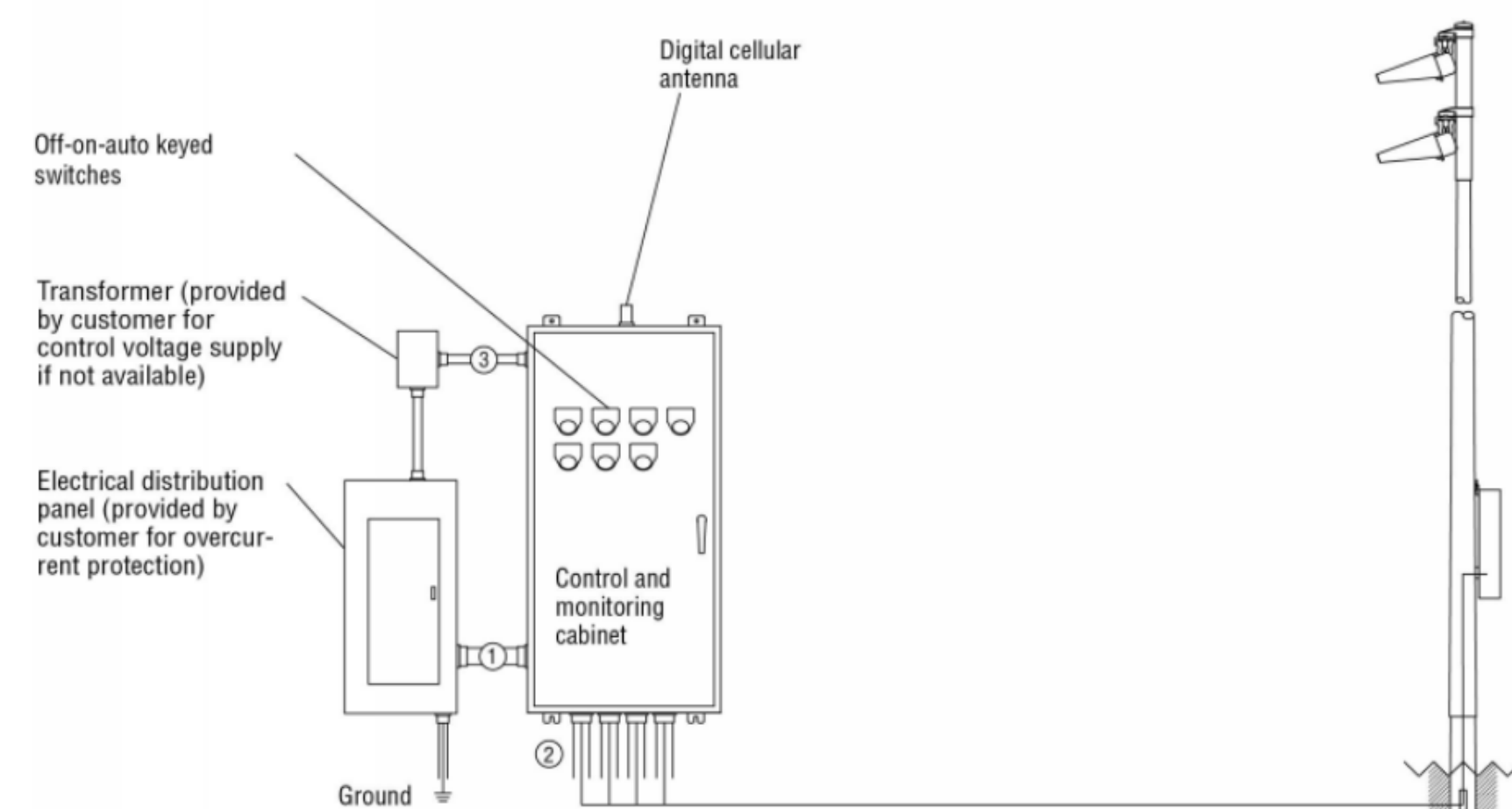
TYPICAL MANHOLE DETAIL





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Control-Link.
Control and Monitoring System

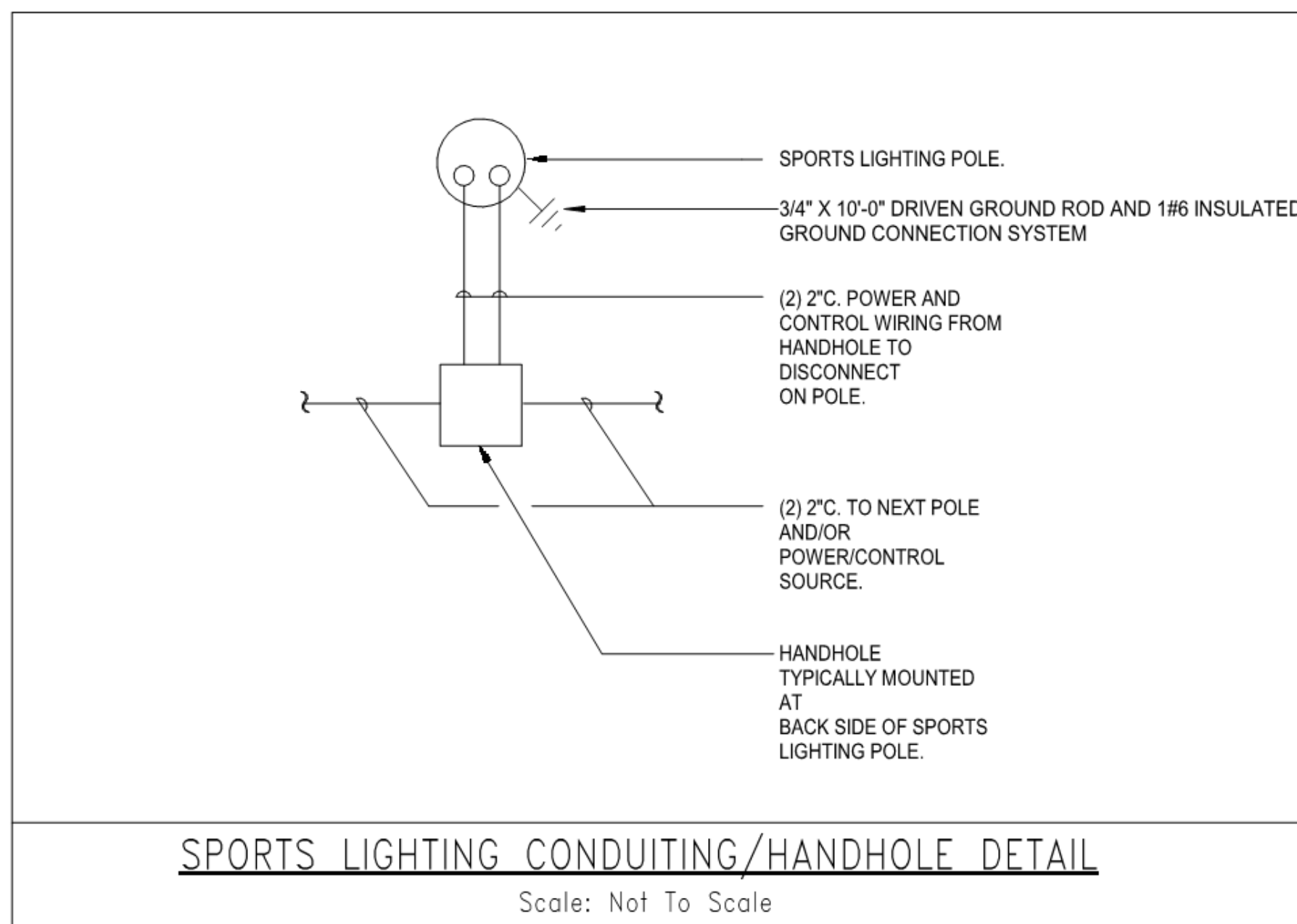
Conduit ID	Description	# of Wires	Wire (AWG)	Conduit (in)	Max. Wire Length (ft)	MUSCO Supplied	Notes
1	Line power to contactors, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
1	Power-line Communication Connection (dedicated, 20A)	*A	12	*C	N/A	No	A-E
2	Load power to lighting circuits, and equipment grounding conductor	*A	*B	*C	N/A	No	A-E
3	Control power (dedicated, 20A)	3	12	*C	N/A	No	C-E

* Notes:
A. See voltage and phasing per the notes on cover page.
B. Calculate per load and voltage drop.
C. All conduit diameters should be per code unless otherwise specified to allow for connector size.
D. Equipment grounding conductor and any splices must be insulated.
E. Refer to control and monitoring system installation instructions for more details on equipment information and the installation requirements.

IMPORTANT: Control wires (3) must be in separate conduit from line and load power wires (1, 2).

EQUIPMENT LOCATED IN CONCESSIONS

CONTROL AND MONITORING SYSTEM DETAIL



LIGHTING SYSTEM DETAILS

NOT TO SCALE

Panel: HSP

Location:

Volts: 480/277 Wye

A.I.C. Rating:

Enclosure: Type 1

MCB Rating: 250 A

CKT	Circuit Description	Type	Trip	Poles	A	B	C	Poles	Trip	Type	Circuit Description	CKT				
1	CONTACTOR	30 A	3		553... 0 VA					3	30 A	CONTACTOR	2			
3						553... 0 VA						4				
5								553... 0 VA					6			
7					0 VA 0 VA								8			
9	CONTACTOR	30 A	3		0 VA 0 VA	0 VA 0 VA				3	30 A	CONTACTOR	10			
11							0 VA 0 VA						12			
13					0 VA 0 VA									14		
15					0 VA 0 VA			0 VA 0 VA						16		
17	CONTACTOR	30 A	3					0 VA 0 VA		3	30 A	CONTACTOR	18			
19					0 VA 0 VA								20			
21				CONTACTOR	30 A	3			0 VA 0 VA						22	
23												0 VA 0 VA				24
25		0 VA 0 VA									26					
27	SPARE	30 A	3						0 VA 0 VA				28			
29							0 VA 0 VA				30					
31				SPACE AND HARDWARE	--	--	--	0 VA 0 VA			0 VA 0 VA	--	--	--	SPACE AND HARDWARE	32
33				SPACE AND HARDWARE	--	--	--		0 VA 0 VA			--	--	--	SPACE AND HARDWARE	34
35	SPACE AND HARDWARE	--	--	--			0 VA 0 VA			--	--	--	SPACE AND HARDWARE	36		
37	SPACE AND HARDWARE	--	--	--	0 VA 0 VA					--	--	--	SPACE AND HARDWARE	38		
39	SPACE AND HARDWARE	--	--	--		0 VA 0 VA				--	--	--	SPACE AND HARDWARE	40		
41	SPACE AND HARDWARE	--	--	--			0 VA 0 VA			0 VA 0 VA	--	--	--	SPACE AND HARDWARE	42	
												Panel Totals				
Legend:																
AF	Arc Fault	ST	Shunt Trip													
GF	Ground Fault	Blank	Standard									Total Conn. Current: 200 A				

CONTROL SYSTEM SUMMARY

NOT TO SCALE

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS	DISTRIBUTION PANEL ID (BY OTHERS)	CIRCUIT BREAKER POSITION (BY OTHERS)
1	1	C1	Pole S1	21.74		
1	1	C2	Pole S2	21.74		
1	1	C3	Pole S3	23.69		
1	1	C4	Pole S4	23.69		
1	1	C5	Pole S1	2.60		
1	1	C6	Pole S2	2.60		
1	1	C7	Pole S3	2.60		
1	1	C8	Pole S4	2.60		

ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION	
			POLE ID	CONTACTOR ID
Zone 1	1	Soccer/Football	S1	C1
			S2	C2
			S3	C3
			S4	C4
Zone 2	2	Track	S1	C5
			S2	C6
			S3	C7
			S4	C8

SWITCHING SCHEDULE

Field/Zone Description	Zones
Soccer/Football	1
Track	2

CONTROL POWER CONSUMPTION	
120V Single Phase	
VA loading of Musco Supplied Equipment	INRUSH: 2533.0 SEALED: 283.8

CIRCUIT SUMMARY BY ZONE

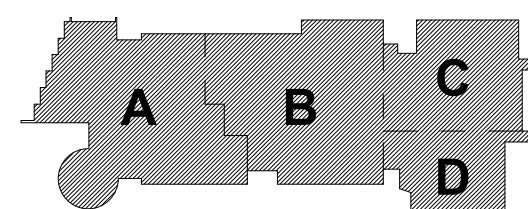
POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	# OF DRIVERS	*FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
S1	Soccer/Football	11	11	21.7	30	C1	1
S2	Soccer/Football	11	11	21.7	30	C2	1
S3	Soccer/Football	12	12	23.7	30	C3	1
S4	Soccer/Football	12	12	23.7	30	C4	1
S1	Track	3	2	2.6	30	C5	2
S2	Track	3	2	2.6	30	C6	2
S3	Track	3	2	2.6	30	C7	2
S4	Track	3	2	2.6	30	C8	2

*Full Load Amps based on amps per driver.

TYPICAL INSTALLATION FOR BASEBALL/SOCCER FIELD AND FOOTBALL FIELD

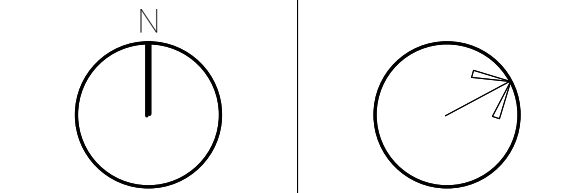
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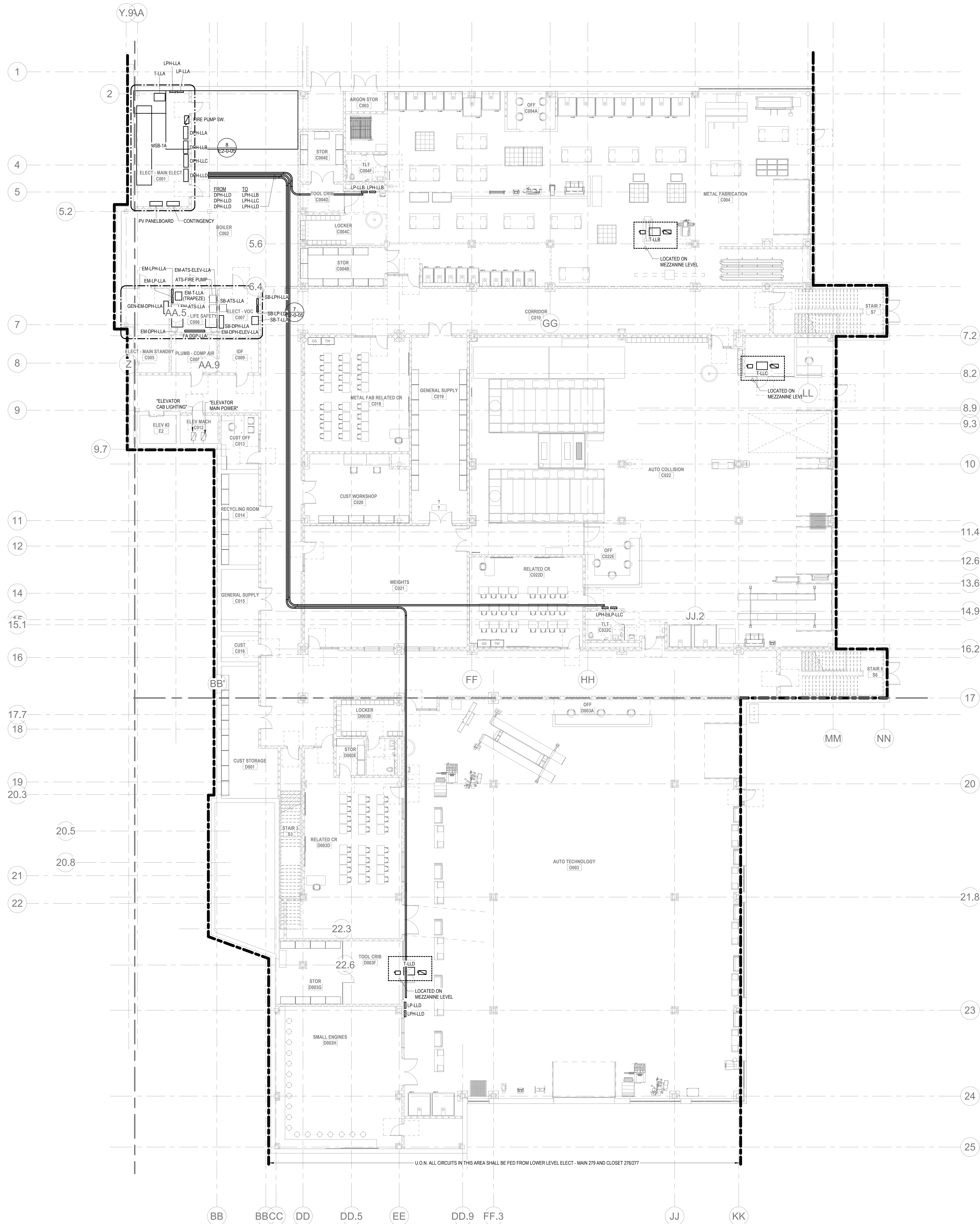


KEY PLAN

PROJECT NORTH MAGNETIC NORTH

TYPICAL
SPORTS
LIGHTING
DETAILSScale:
Job No.: 20022
Drawn By: DRA
Date: August 4th, 2022

E0-1-7



1 ELECTRICAL Level 0 OVERALL
1" = 10'-0"

GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0.1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFER SWITCHES, TRANSFORMERS, PANELBOARDS, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

DRA

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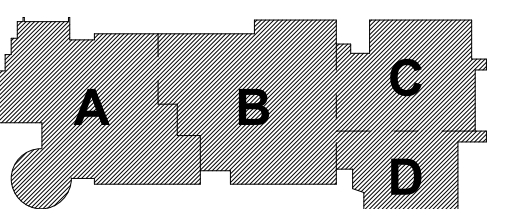
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School**

Wakefield, MA 01880

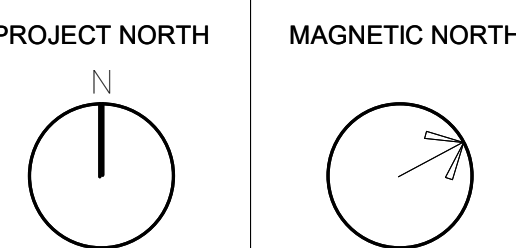
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DEVELOPMENT
SUBMISSION
August 4th, 2022



KEY PLAN



**ELECTRICAL
LOWER LEVEL
FLOOR PLAN -
OVERALL PLAN**

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-0

DRA

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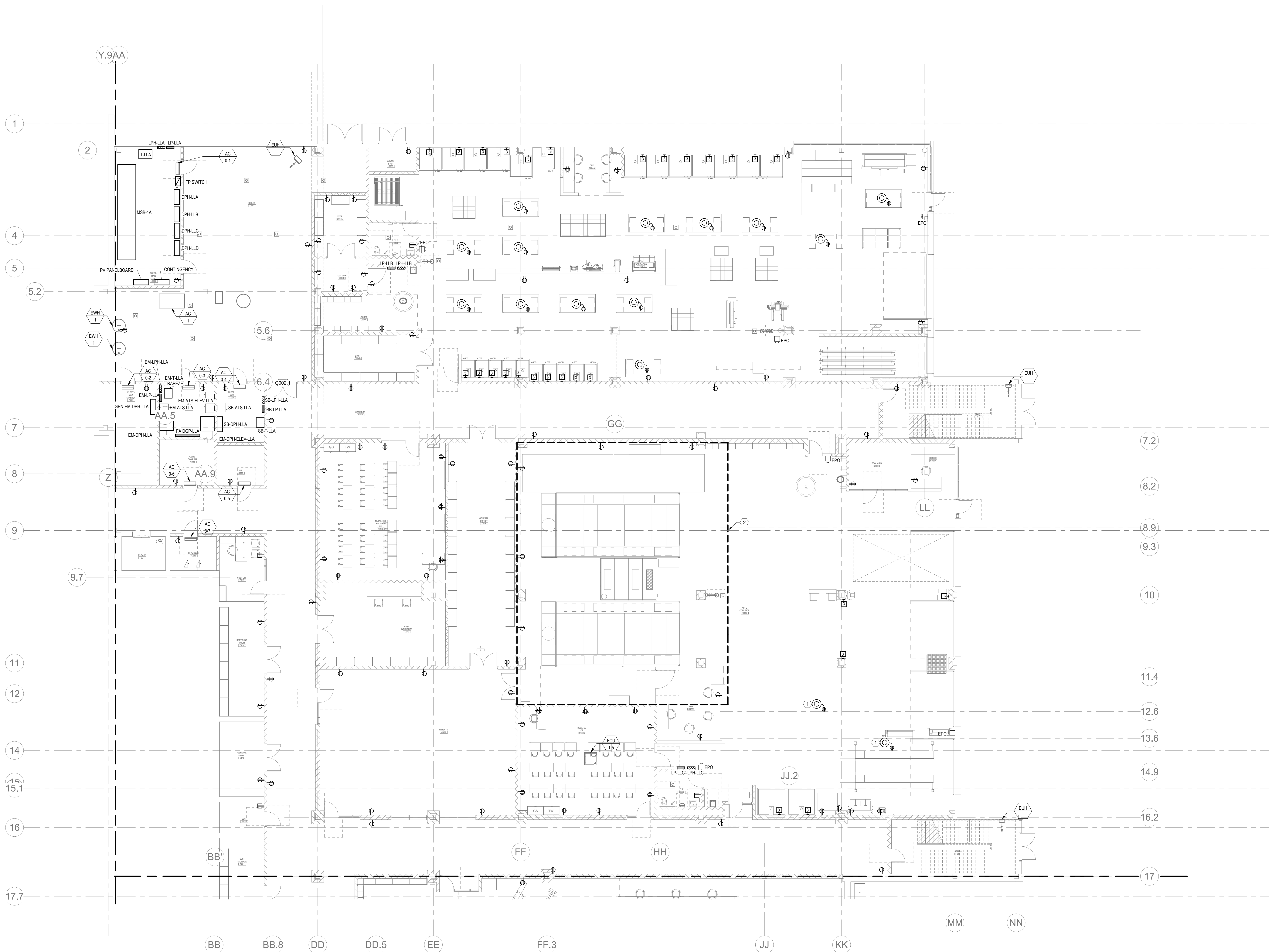
Wakefield, MA 01880

POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

KEY NOTES: (X)

1. PROVIDE 110/220V TYPE PULL DOWN RECEPTACLE.
2. PROVIDE EXPLOSION PROOF TYPE DEVICES AND FITTINGS WITHIN 10FT OF SPRAY BOOTH.

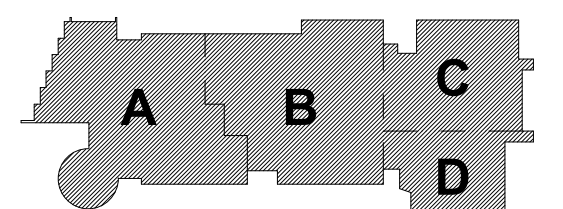


2 ELECTRICAL POWER Level 0 Area C
1/8" = 1'-0"

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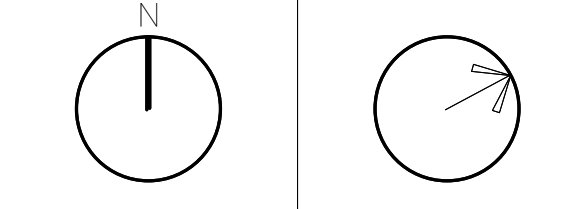
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SUBMISSION
August 4th, 2022



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
POWER LOWER
LEVEL FLOOR
PLAN - AREA C

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-0C

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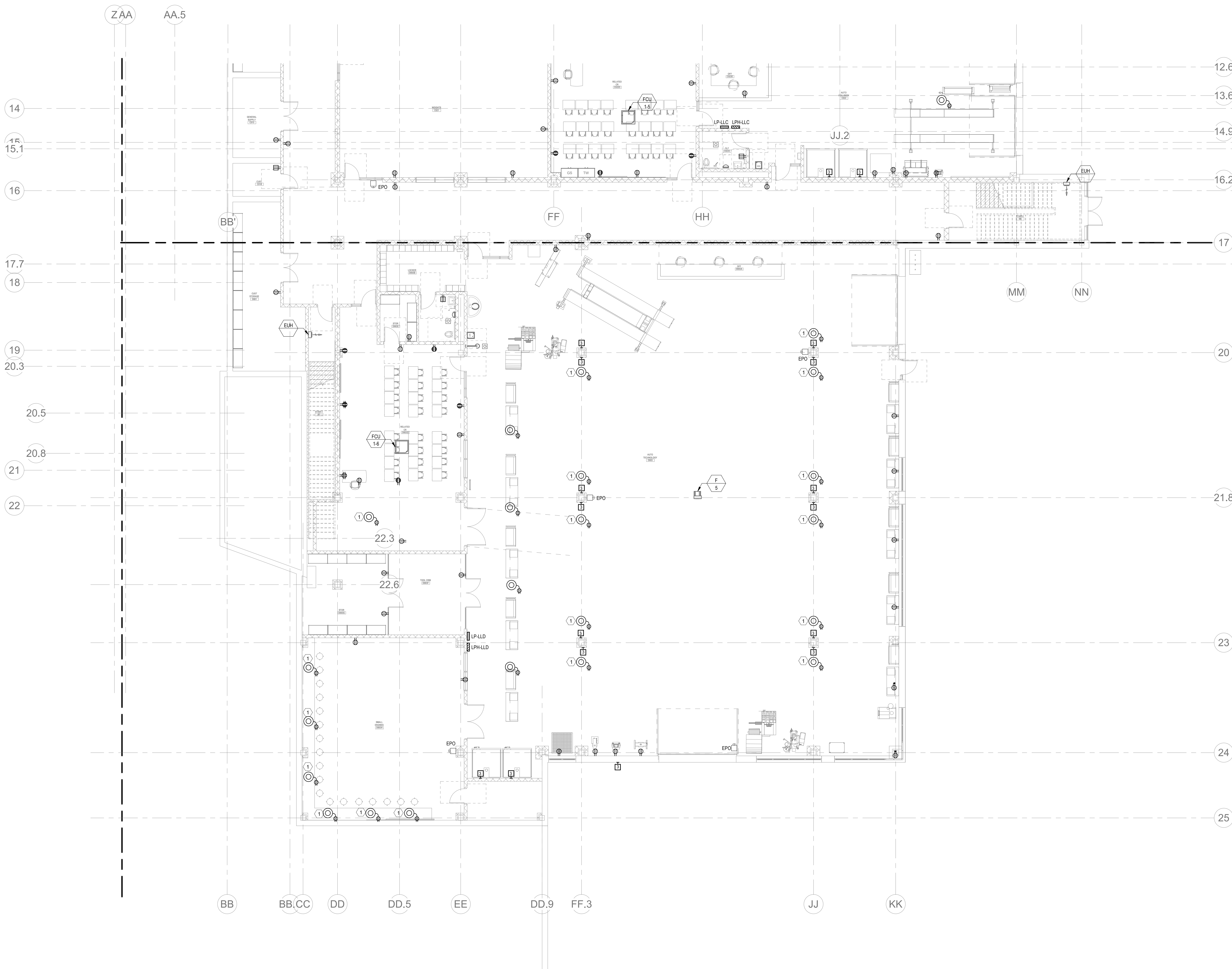
Wakefield, MA 01880

POWER GENERAL NOTES:

1. REFER TO E0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
3. REFER TO MECHANICAL FIRE PROTECTION AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
4. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
5. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

KEY NOTES: (X)

1. PROVIDE 110/220V TYPE PULL DOWN RECEPTACLE.
2. PROVIDE EXPLOSION PROOF TYPE DEVICES AND FITTINGS WITHIN 10FT OF SPRAY BOOTHS.

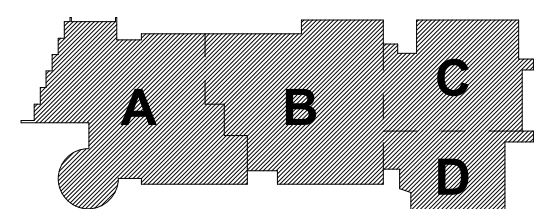


2 ELECTRICAL POWER Level 0 Area D
1/8" = 1'-0"

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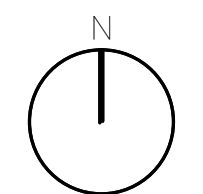
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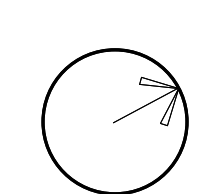


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



**ELECTRICAL
POWER LOWER
LEVEL FLOOR
PLAN - AREA D**

Scale: 1/8" = 1'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E1-1-0D

POWER GENERAL NOTES:

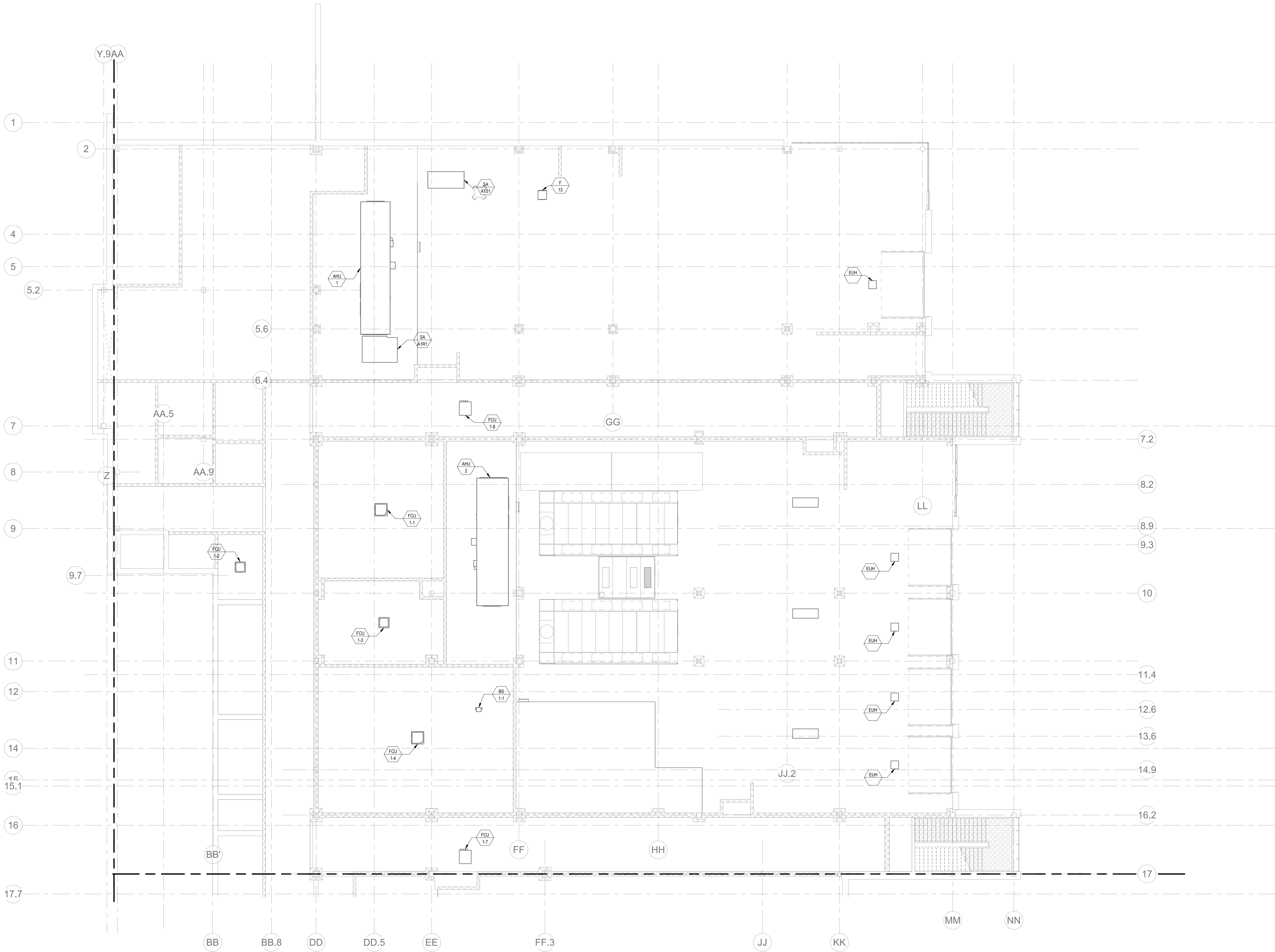
1. REFER TO E3-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E3-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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Wakefield, MA 01880

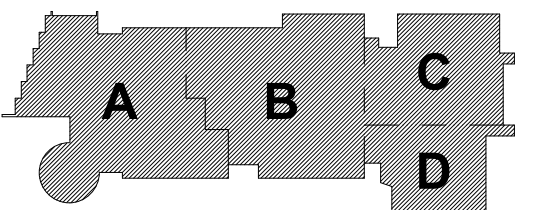


2 ELECTRICAL POWER 0.5-Lower Level Mezzanine - Area C
1/8" = 1'-0"

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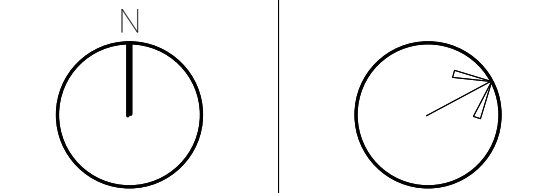
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KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
POWER LOWER
LEVEL
MEZZANINE
PLAN - AREA C

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-MC

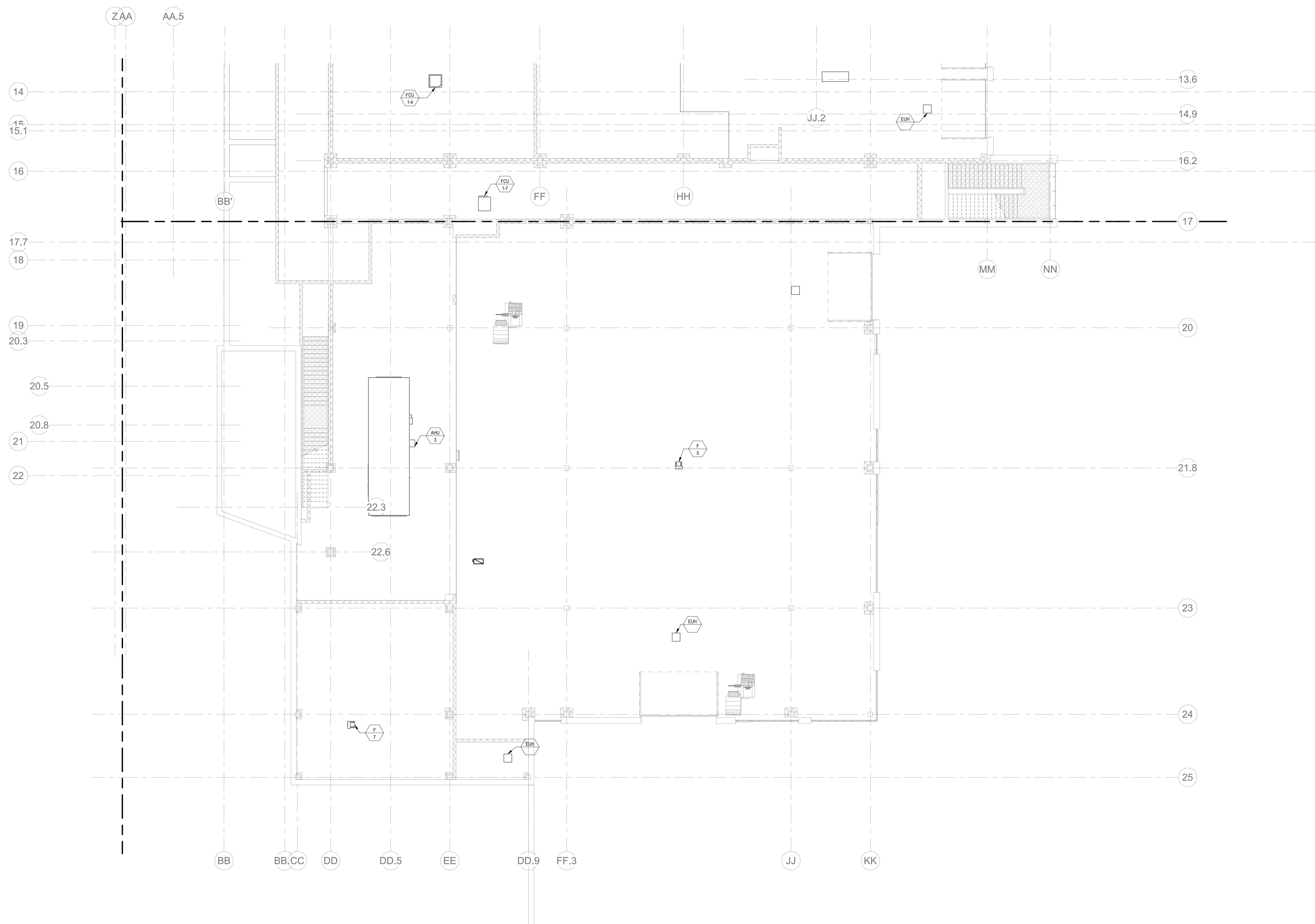
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- ## **POWER GENERAL NOTES:**
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO E0-0.1, 1 AND 2 FOR SINGLE LINE DIAGRAMS.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E0-0.3 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH TAGS.
 5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH TAGS. FOR EACH PAGE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATED AS RECOMMENDED BY MANUFACTURER.
 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



① ELECTRICAL POWER 0.5-Lower Level Mezzanine - Area D
1/8" = 1'-0"

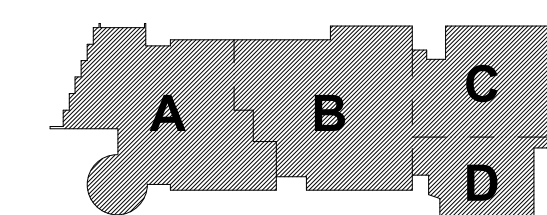
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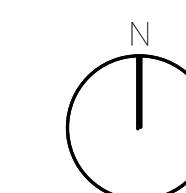
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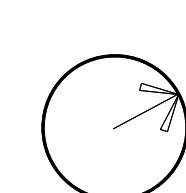


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



**ELECTRICAL
POWER LOWER
LEVEL
MEZZANINE
PLAN - AREA D**

Scale: $1/8'' = 1'-0''$

DATE: 11-01-10

TIME: 000000

Job No.: 20202

Drawn By: DR.

E1-1-MD

DRA

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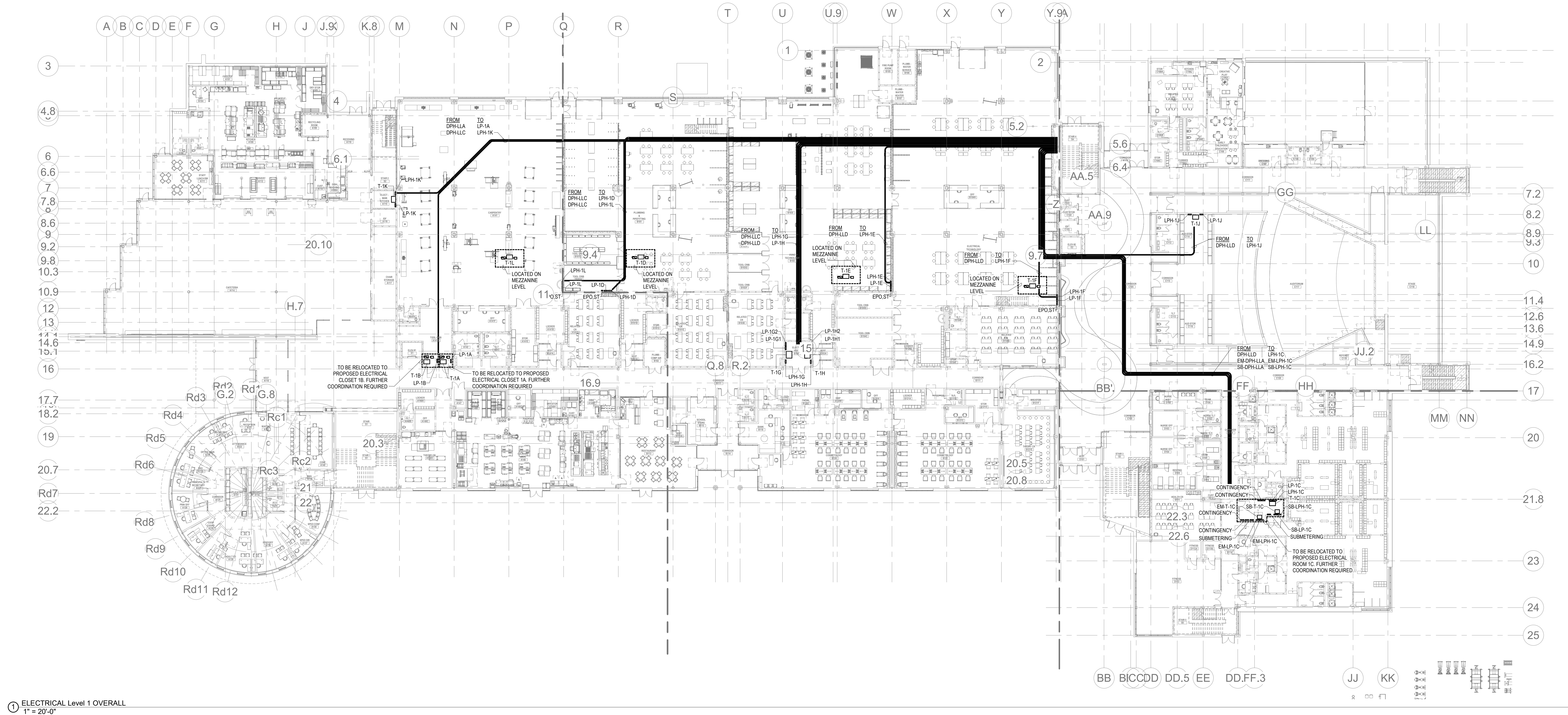
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GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0.1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFORMERS, TRANSFORMERS, PANELBOARDS, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

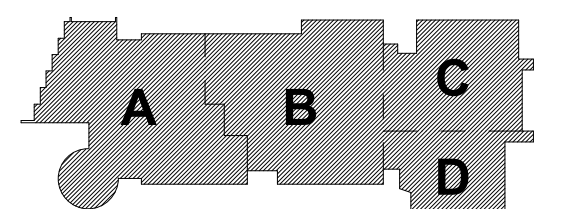


1 ELECTRICAL Level 1 OVERALL
1" = 20'-0"

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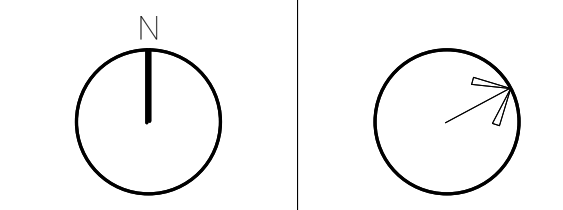
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SUBMISSION
August 4th, 2022



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



**ELECTRICAL
FIRST FLOOR
PLAN - OVERALL
PLAN**

Scale: 1" = 20'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-1

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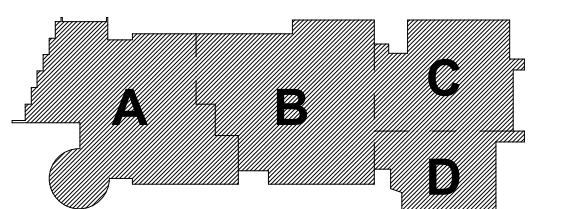
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.1, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND AV RELATED DEVICES. REFER TO E0-0 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH KEY TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL ELECTRICAL AND PLUMBING EQUIPMENT INCLUDING PLANS WITH KEY TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A "FLEXIBLE DISCONNECT" SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



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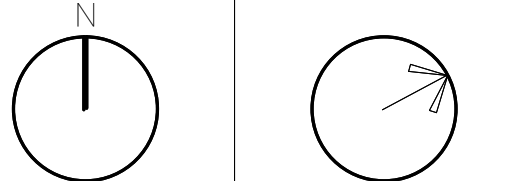
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August 4th, 2022



KEY PLAN

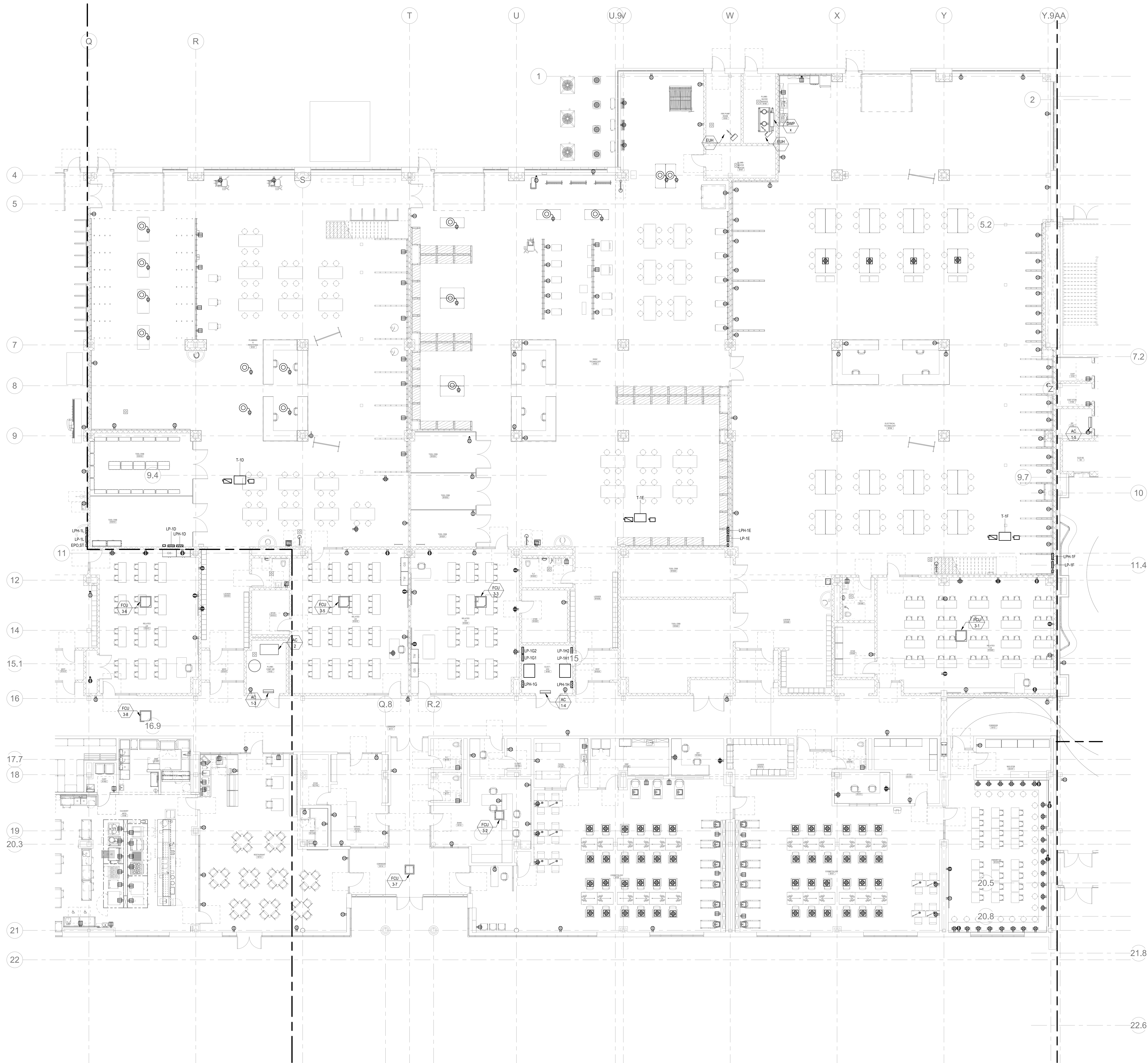
PROJECT NORTH	MAGNETIC NORTH
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**ELECTRICAL
POWER FIRST
FLOOR PLAN -
AREA A**

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-1A



1 ELECTRICAL POWER Level 1 Area B
1/8" = 1'-0"

- POWER GENERAL NOTES:**
1. REFER TO E&S-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO E&S-4, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E&S-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
 5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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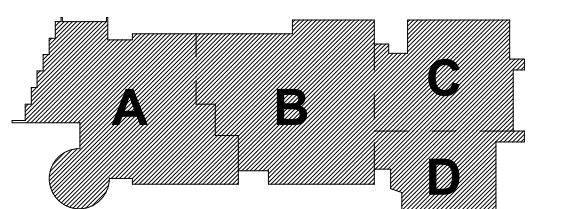
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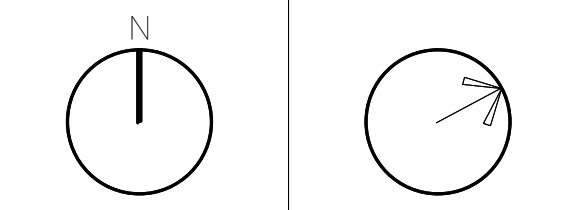
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SUBMISSION**
August 4th, 2022



PROJECT NORTH
MAGNETIC NORTH



**ELECTRICAL
POWER FIRST
FLOOR PLAN -
AREA B**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-1B

POWER GENERAL NOTES:

1. REFER TO E0-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

DRA

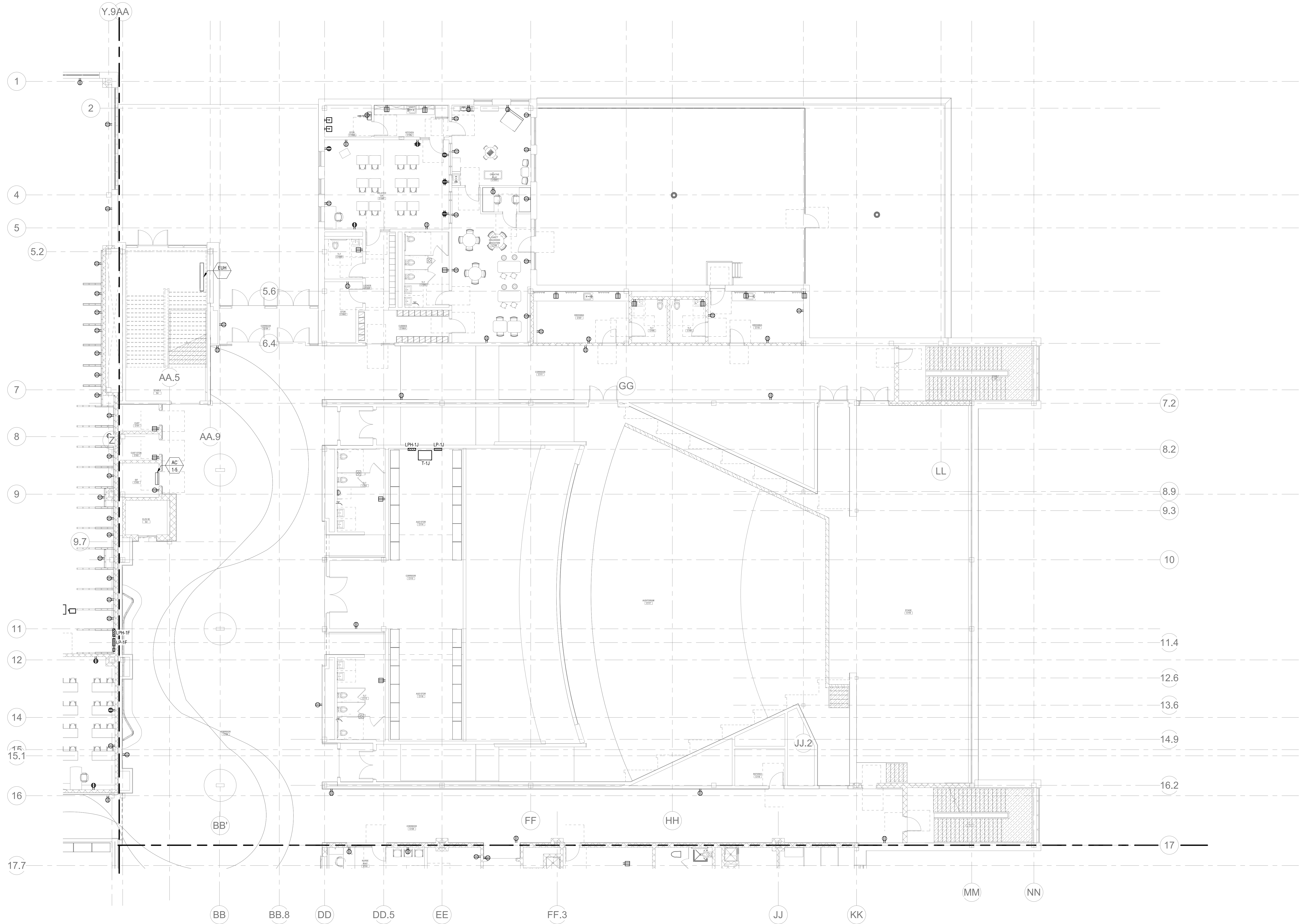
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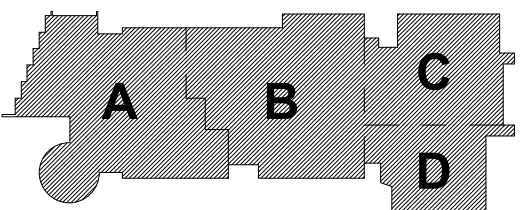


1
E1-1-1C
ELECTRICAL POWER Level 1 Area C
1/8" = 1'-0"

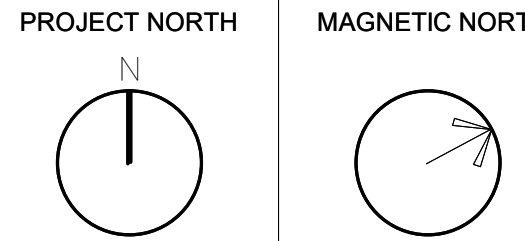
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August 4th, 2022



KEY PLAN



ELECTRICAL
POWER FIRST
FLOOR PLAN -
AREA C

Scale: 1/8" = 1'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E1-1-1C

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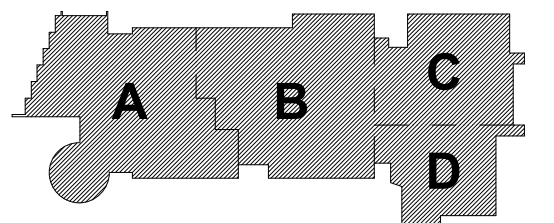
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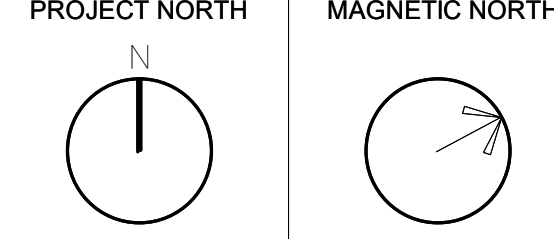
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DESIGNED: CONCEPT, SCHEMATIC, PRELIMINARY
DESIGNED: CONCEPT, SCHEMATIC, PRELIMINARY

MSBA DESIGN
DEVELOPMENT
SUBMISSION
August 4th, 2022



KEY PLAN

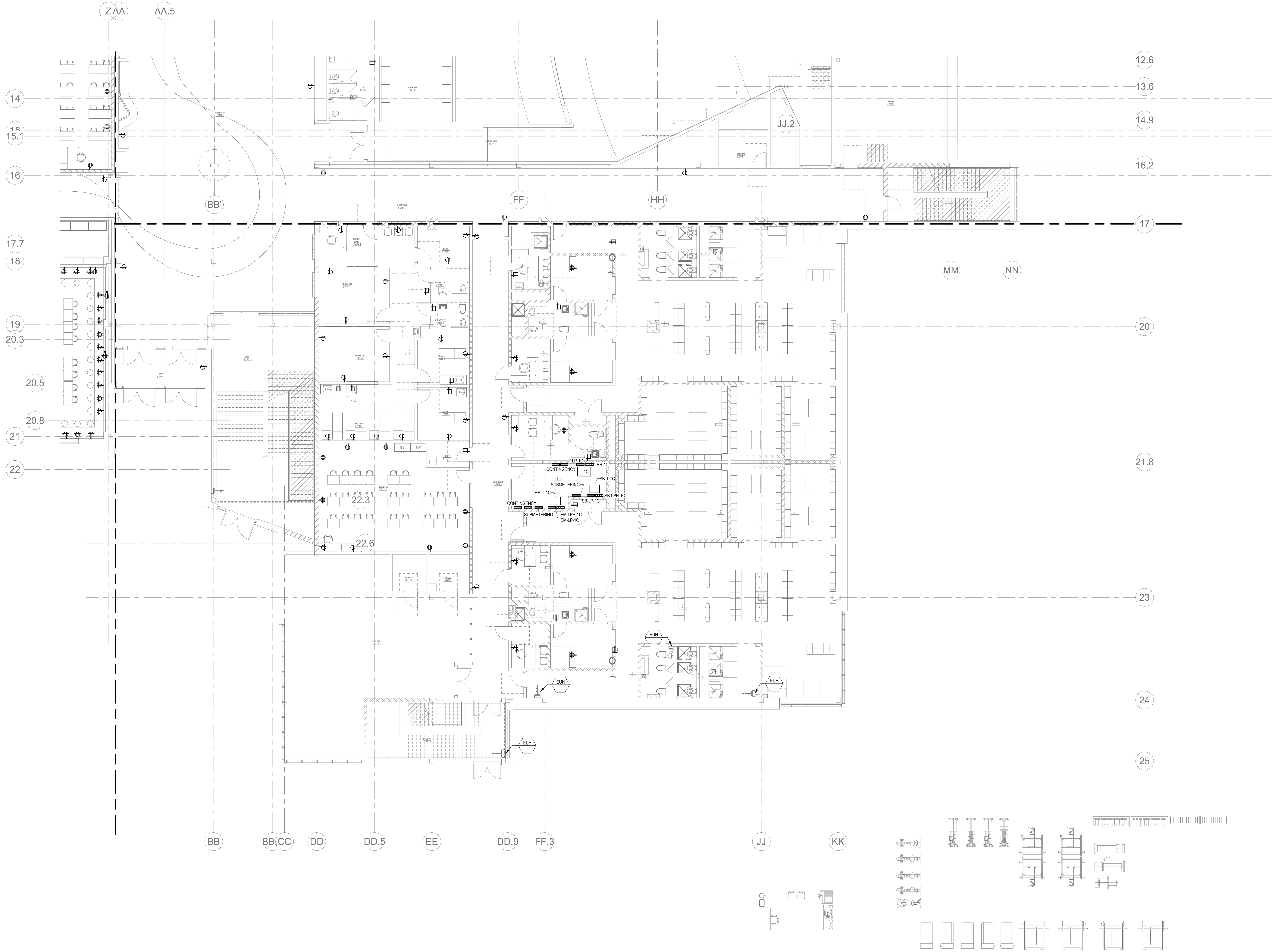


**ELECTRICAL
POWER FIRST
FLOOR PLAN -
AREA D**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-1D

- POWER GENERAL NOTES:**
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
 5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



1 ELECTRICAL POWER Level 1 Area D
1/8" = 1'-0"

1. REFER TO E0-4.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0.1, 1 AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND 4V/ RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. PROVIDE A PRICE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

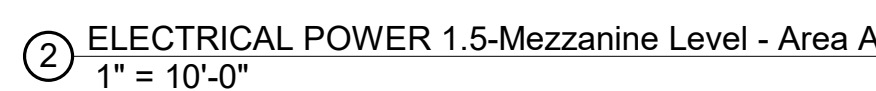
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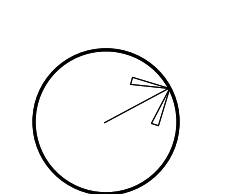
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KEY PLAN

PROJECT NORTH	MAGNETIC NORTH
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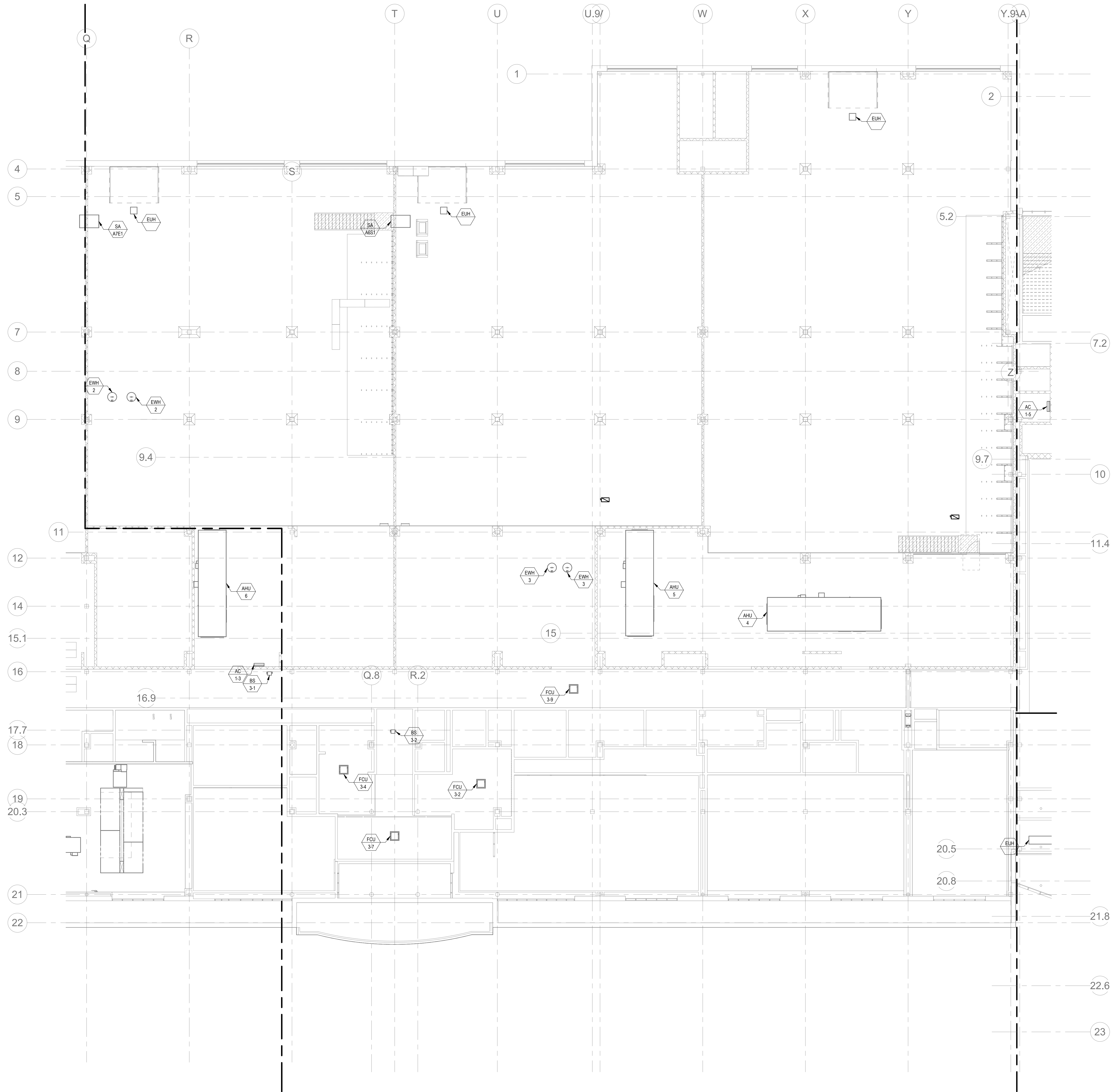
scale: $1'' = 10^{-6}''$

Job No.: 20202

Drawn By: DRA

ate: August 4th, 2022

E1-1-1MA



Ⓢ ELECTRICAL POWER 1.5-Mezzanine Level - Area B
1" = 10'-0"

POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.1, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



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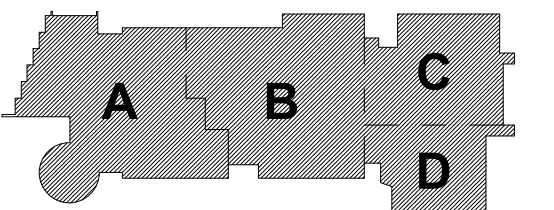
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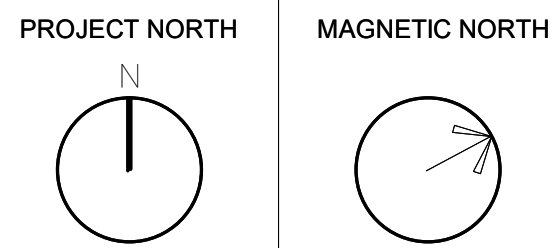
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August 4th, 2022



KEY PLAN



**ELECTRICAL
POWER FIRST
FLOOR
MEZZANINE
PLAN - AREA B**

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-1MB

GENERAL NOTES:

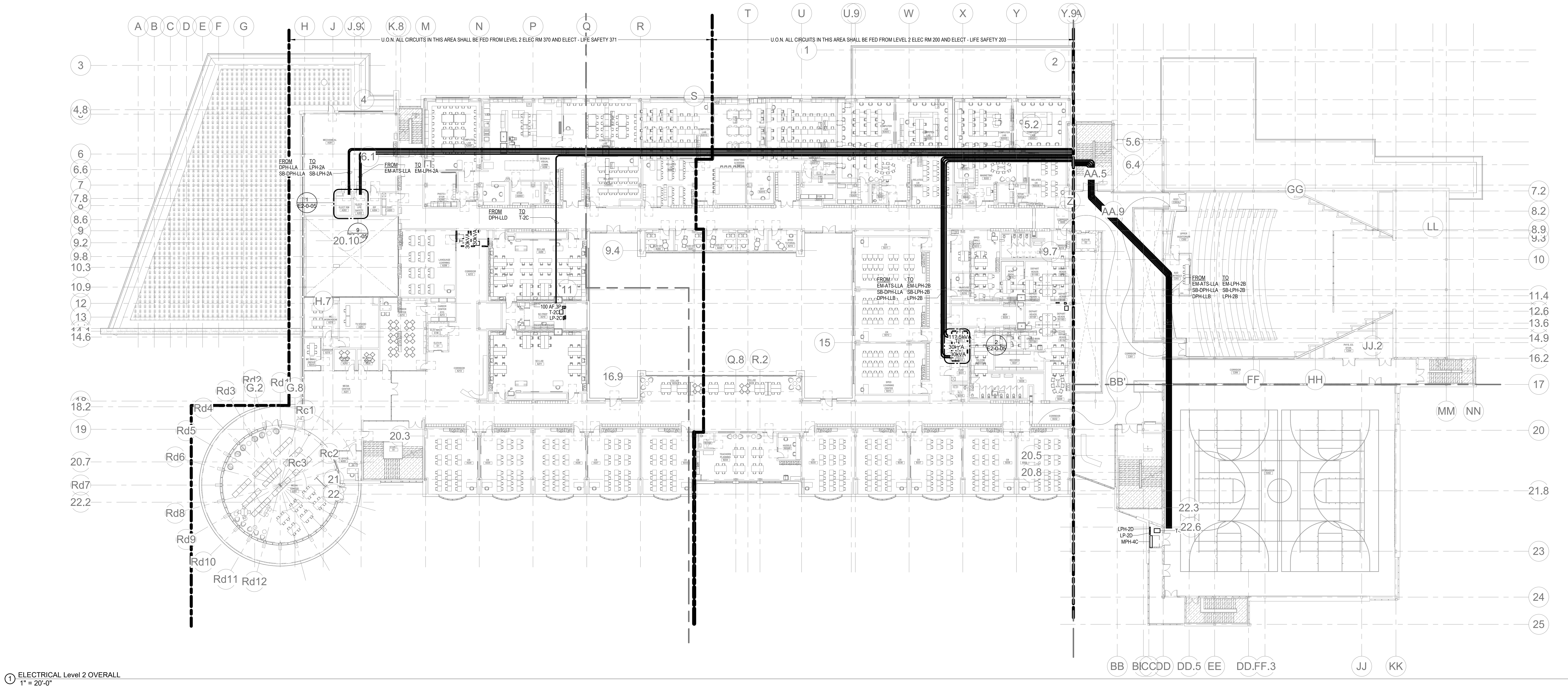
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0.1, AND 2 FOR SINGLE LINE DIAGRAM.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFER SWITCHES, TRANSFORMERS, PANELBOARDS, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

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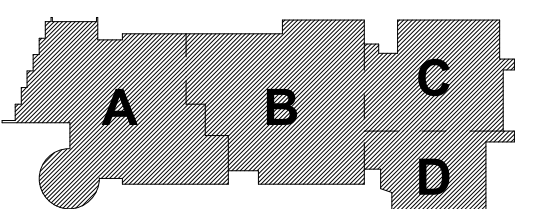
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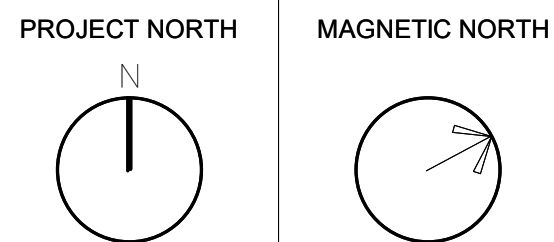
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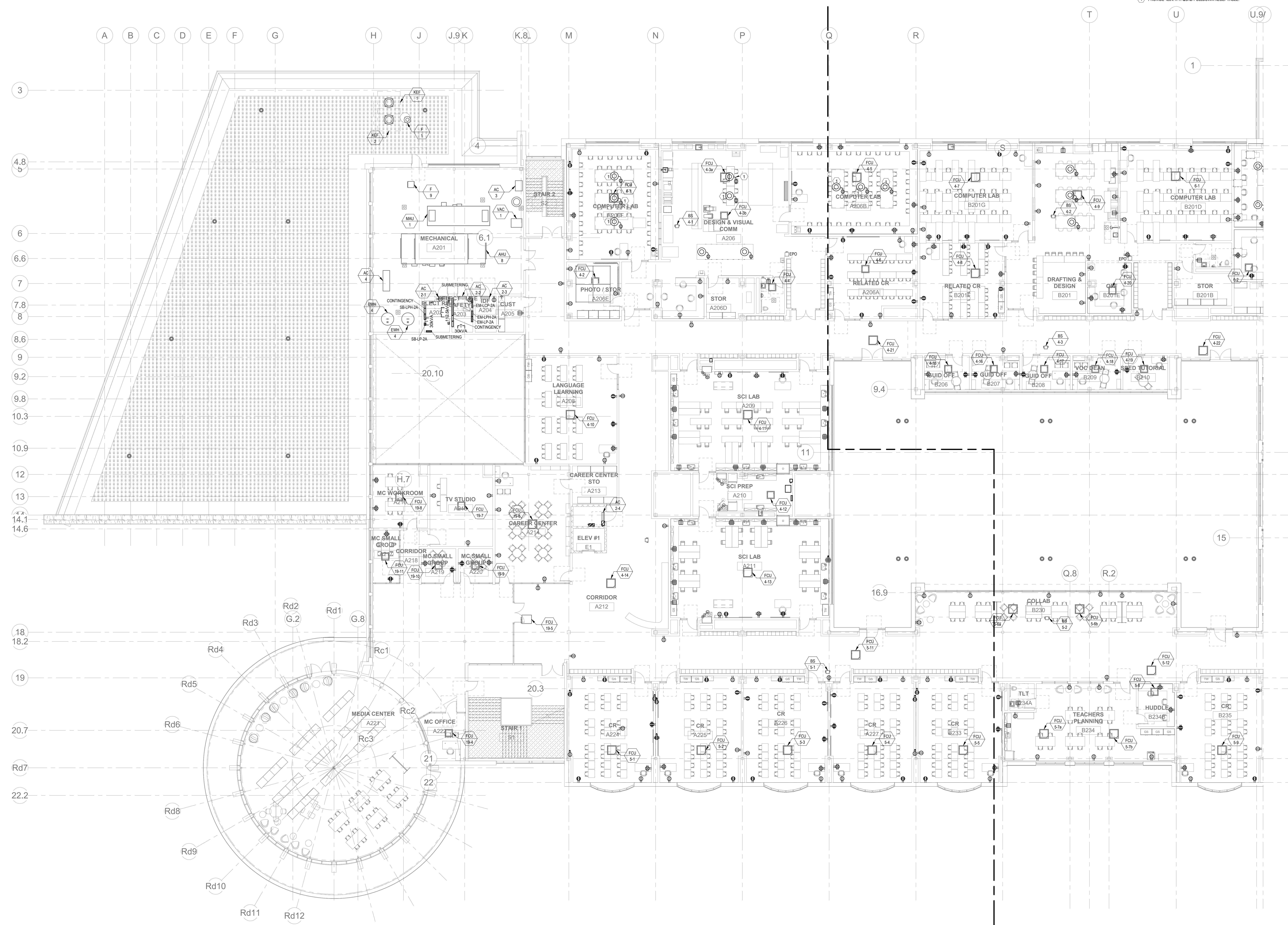
KEY PLAN



ELECTRICAL
SECOND FLOOR
PLAN - OVERALL
PLAN

Scale: 1" = 20'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-2



ELECTRICAL POWER Level 2 Area A
1" = 10'-0"

- POWER GENERAL NOTES:**
- REFER TO E0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 - REFER TO E0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
 - REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 - REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
 - PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
 - REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.
- KEY NOTES:** (X)
- PROVIDE 120V/1PH QUAD PULLDOWN RECEPTACLE.

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August 4th, 2022

KEY PLAN

PROJECT NORTH

MAGNETIC NORTH

ELECTRICAL POWER SECOND FLOOR PLAN - AREA A

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-2A

POWER GENERAL NOTES:

1. REFER TO E3-0-1, 1, AND 2 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0-1, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E3-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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1. REFER TO 00-3 FOR NOTES ON ELECTRICAL SCOPES OF WORK.
2. REFER TO E3-0.1, E-2, AND E-3 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND LV RELATED DEVICES. REFER TO E3-0.1 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT NEAR OR PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FLEXIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATED AS RECOMMENDED BY THE MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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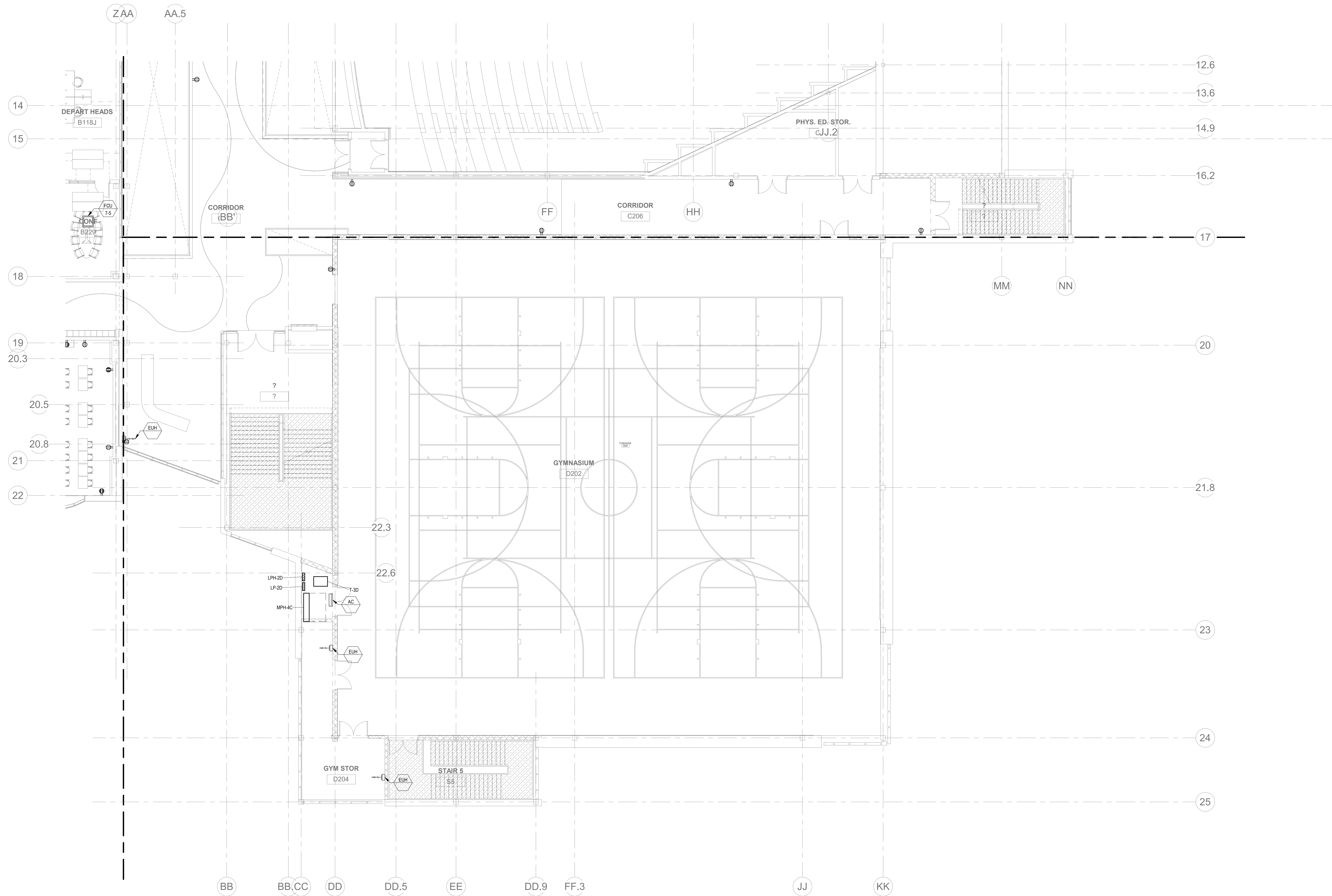
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POWER GENERAL NOTES:

1. REFER TO E3-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E3-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
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6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

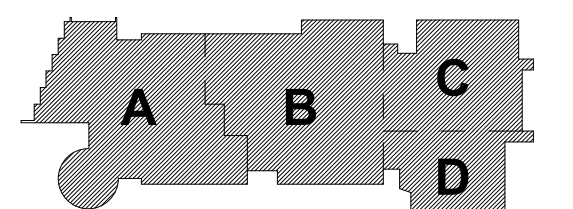


1 ELECTRICAL POWER Level 2 Area D
1/8" = 1'-0"

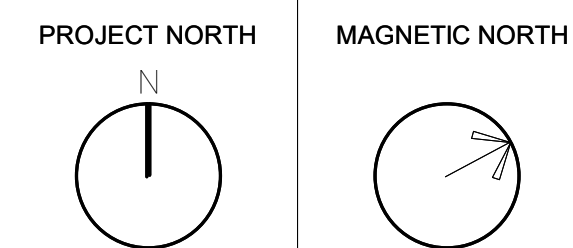
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August 4th, 2022



KEY PLAN



ELECTRICAL
POWER SECOND
FLOOR PLAN -
AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E1-1-2D

GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0.1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFER SWITCHES, TRANSFORMERS, PANELBOARDS, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

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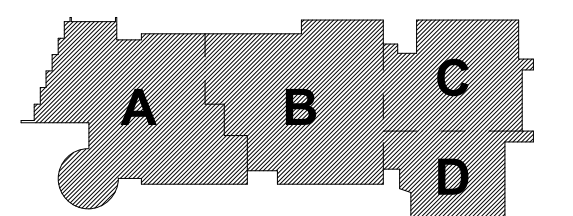
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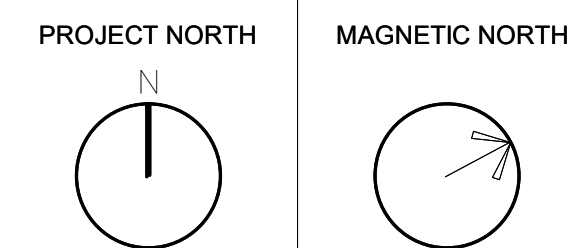
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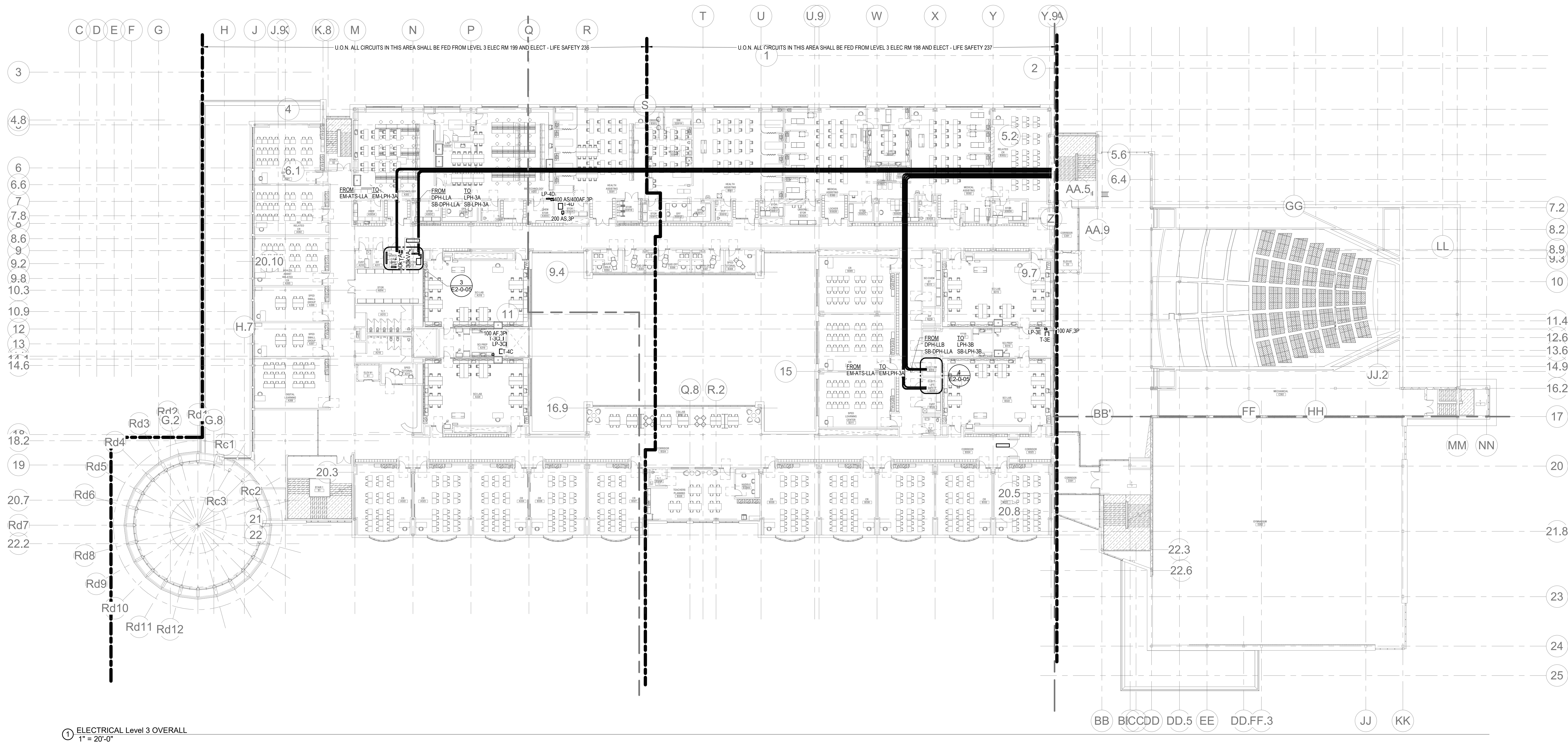
KEY PLAN



ELECTRICAL
THIRD FLOOR
PLAN - OVERALL
PLAN

Scale: 1" = 20'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-3



① ELECTRICAL Level 3 OVERALL
1" = 20'-0"

POWER GENERAL NOTES:

1. REFER TO E3-0.1 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0.1, 1 AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E3-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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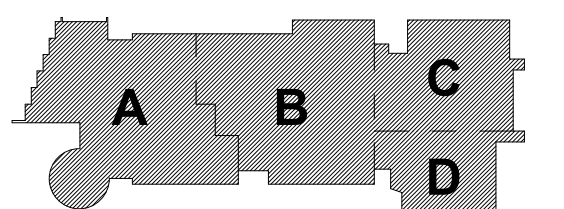
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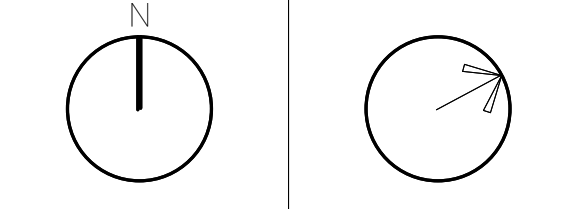
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August 4th, 2022



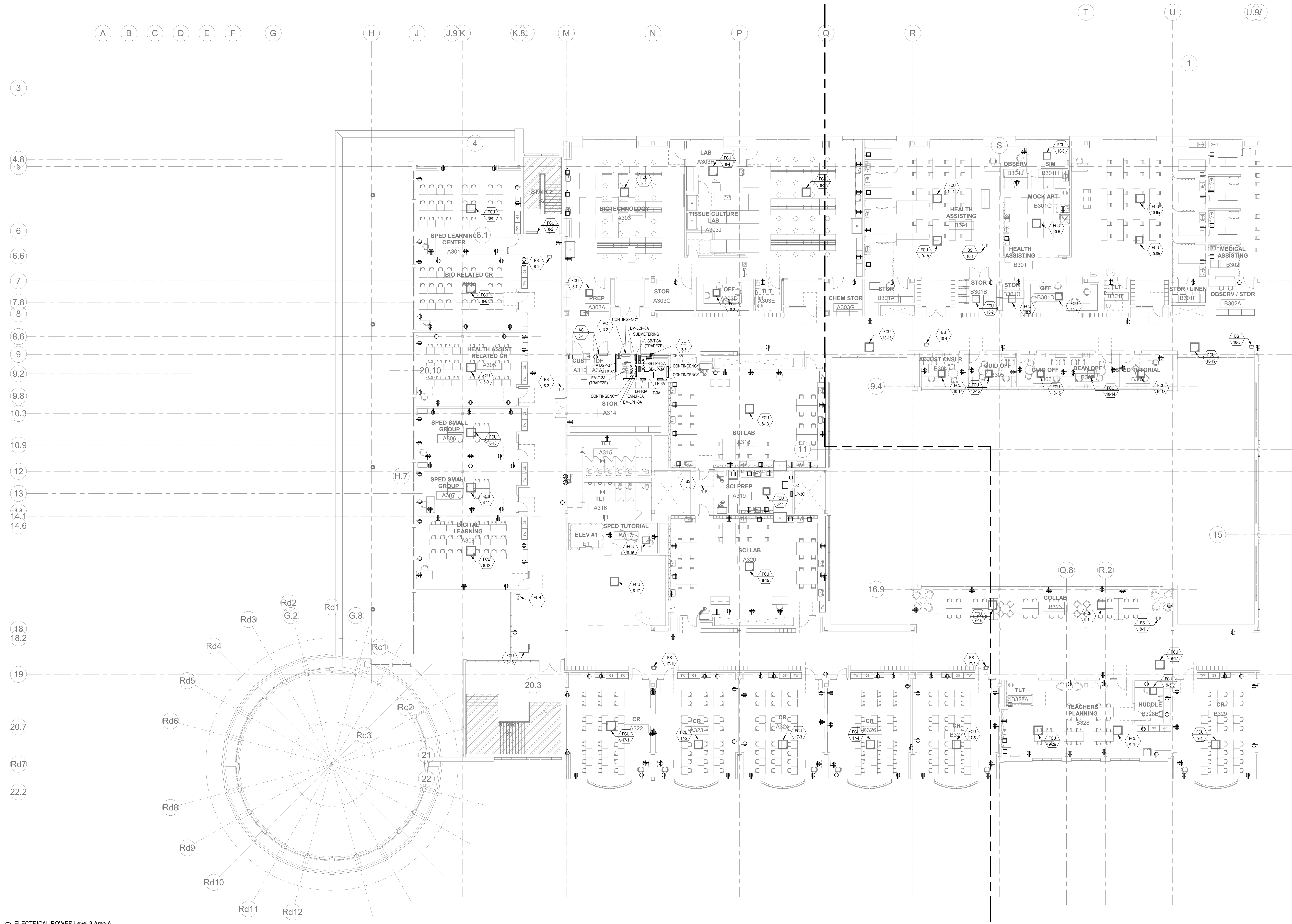
KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
POWER THIRD
FLOOR PLAN -
AREA A

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E1-1-3A



1 ELECTRICAL POWER Level 3 Area A
1" = 10'-0"



- POWER GENERAL NOTES:**
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
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 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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August 4th, 2022

KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

ELECTRICAL
POWER THIRD
FLOOR PLAN -
AREA B

Scale: 1/8" = 1'-0"
Job No.: 20022
Drawn By: DRA
Date: August 4th, 2022

E1-1-3B

POWER GENERAL NOTES:

1. REFER TO E0-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
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6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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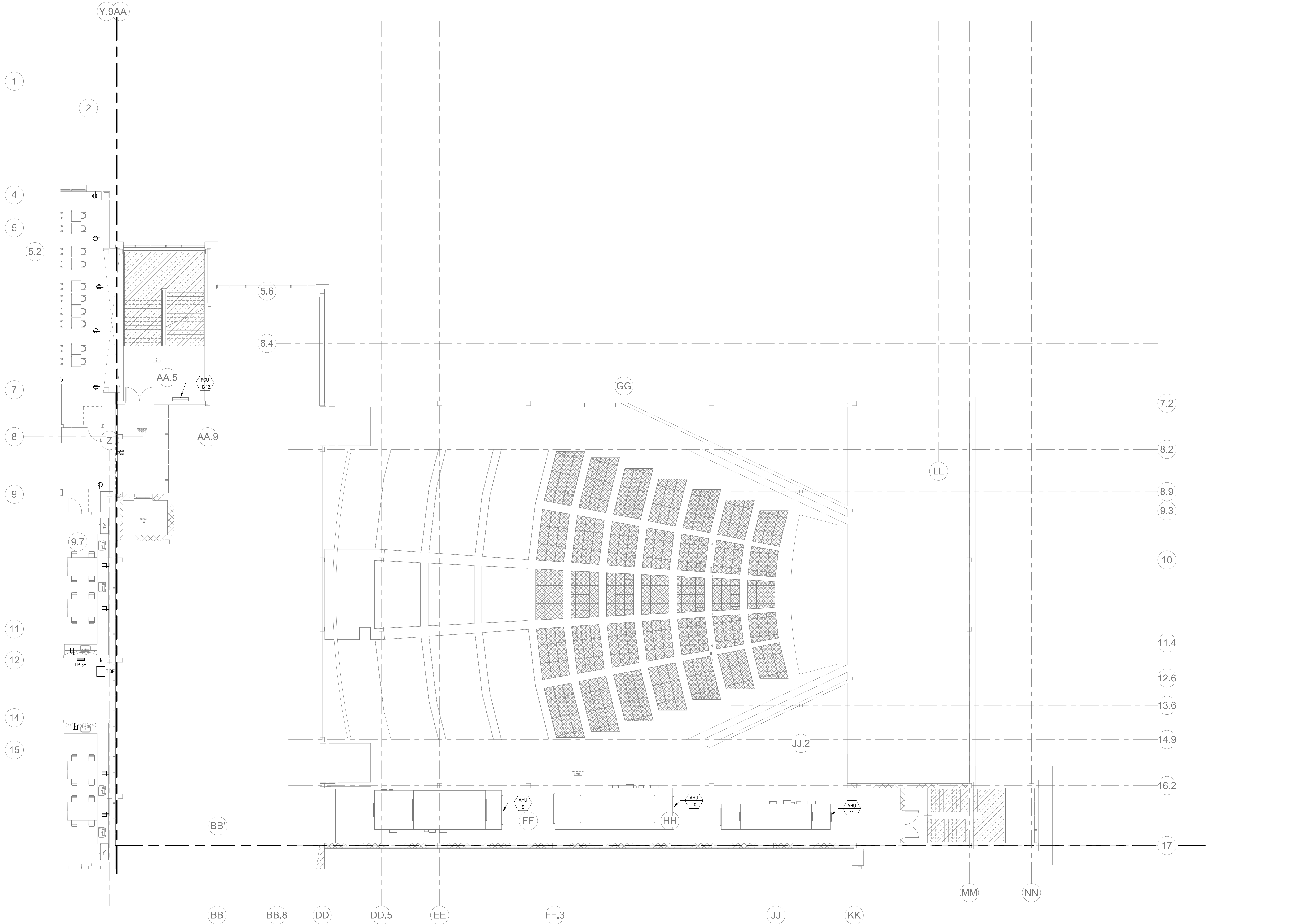
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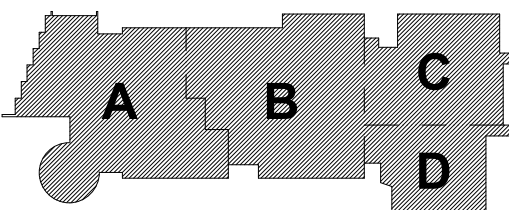


1 ELECTRICAL POWER Level 3 Area C
1/8" = 1'-0"

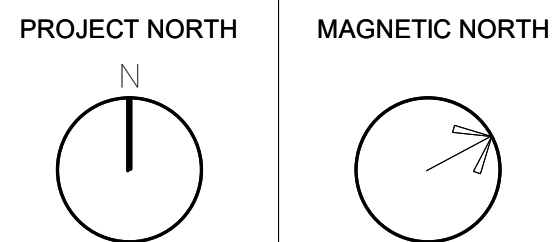
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KEY PLAN



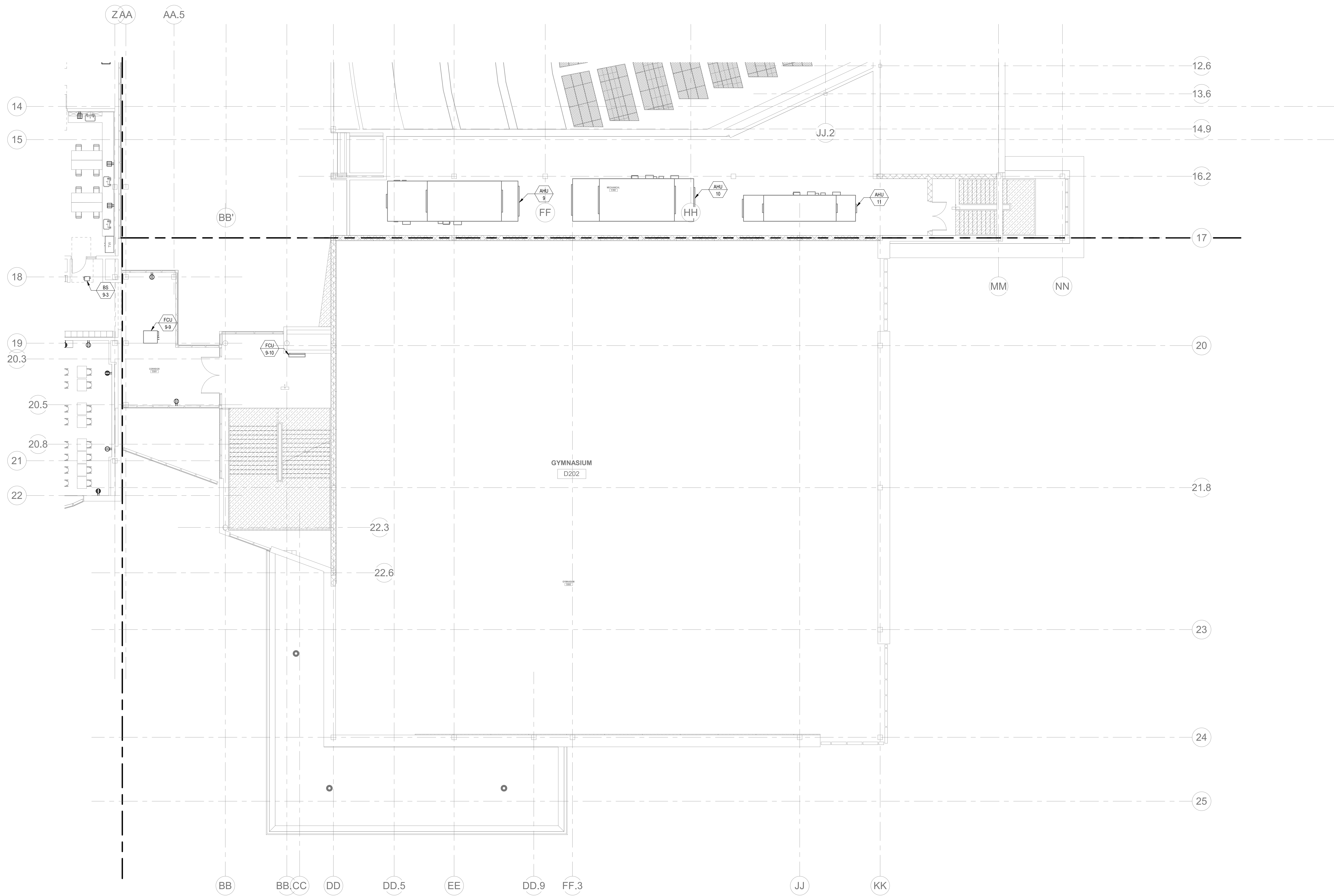
**ELECTRICAL
POWER THIRD
FLOOR PLAN -
AREA C**

Scale: 1/8" = 1'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E1-1-3C

POWER GENERAL NOTES:

1. REFER TO E3-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0-1, 1, AND 2 FOR SINGLE LINE DIAGRAM.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E3-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



1 ELECTRICAL POWER Level 3 Area D
1/8" = 1'-0"

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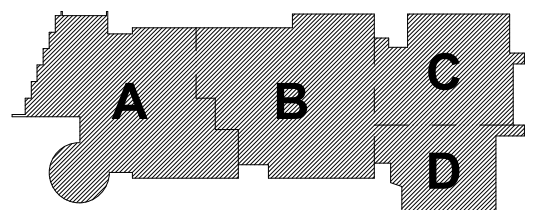
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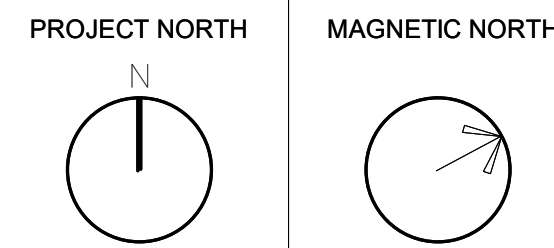
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August 4th, 2022



KEY PLAN



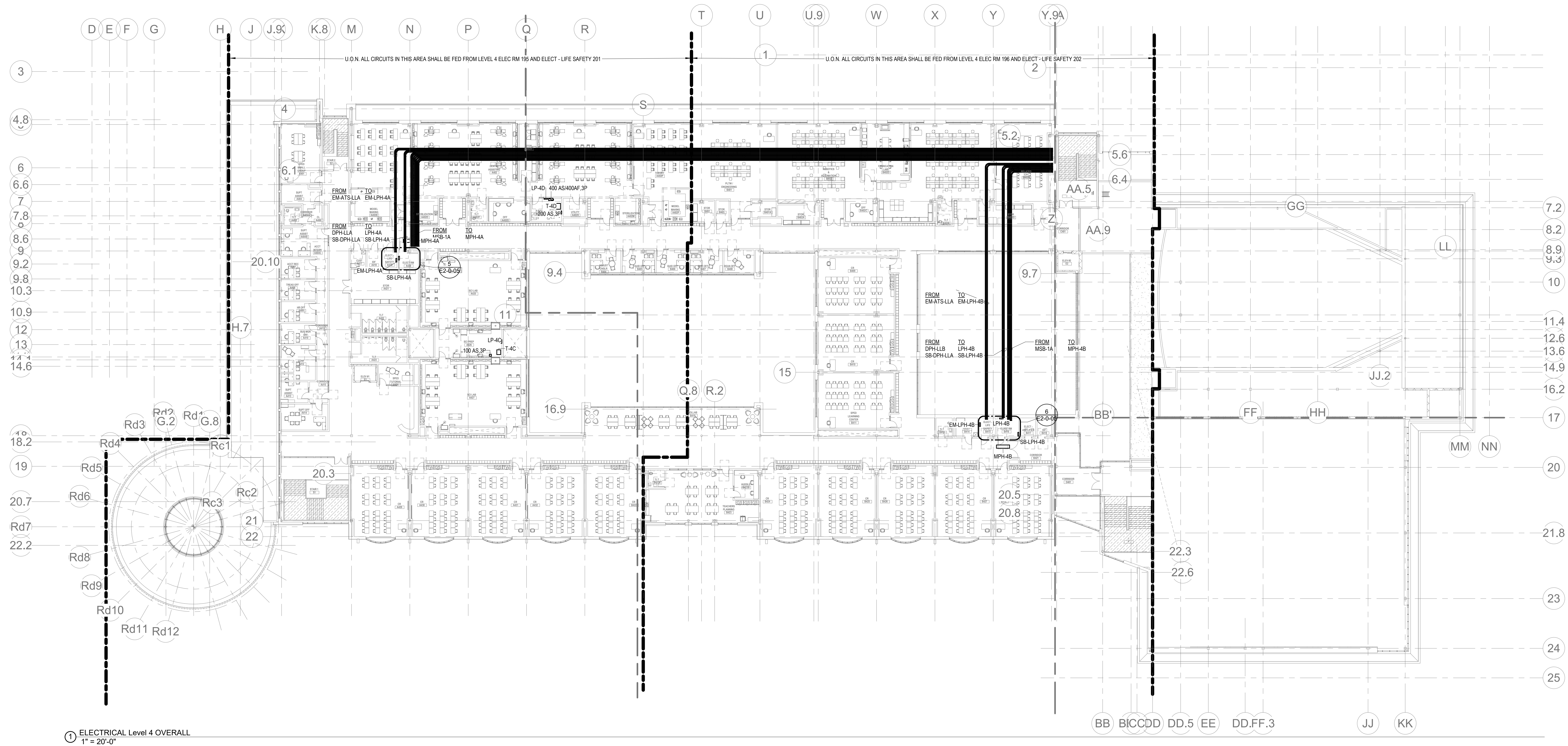
ELECTRICAL
POWER THIRD
FLOOR PLAN -
AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-3D

GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFER SWITCHES, TRANSFORMERS, PANELCHARGES, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

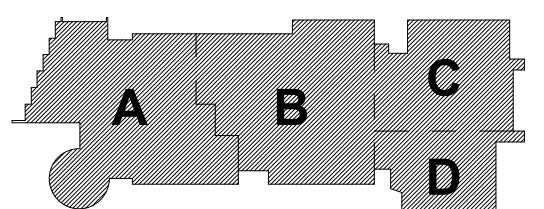


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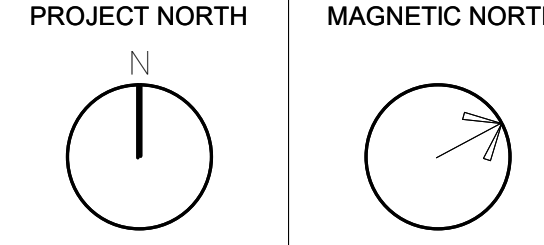
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August 4th, 2022



KEY PLAN



**ELECTRICAL
FOURTH FLOOR
PLAN - OVERALL
PLAN**

Scale: 1" = 20'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E1-1-4

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South Windsor, CT
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Studio 300
Waltham, MA
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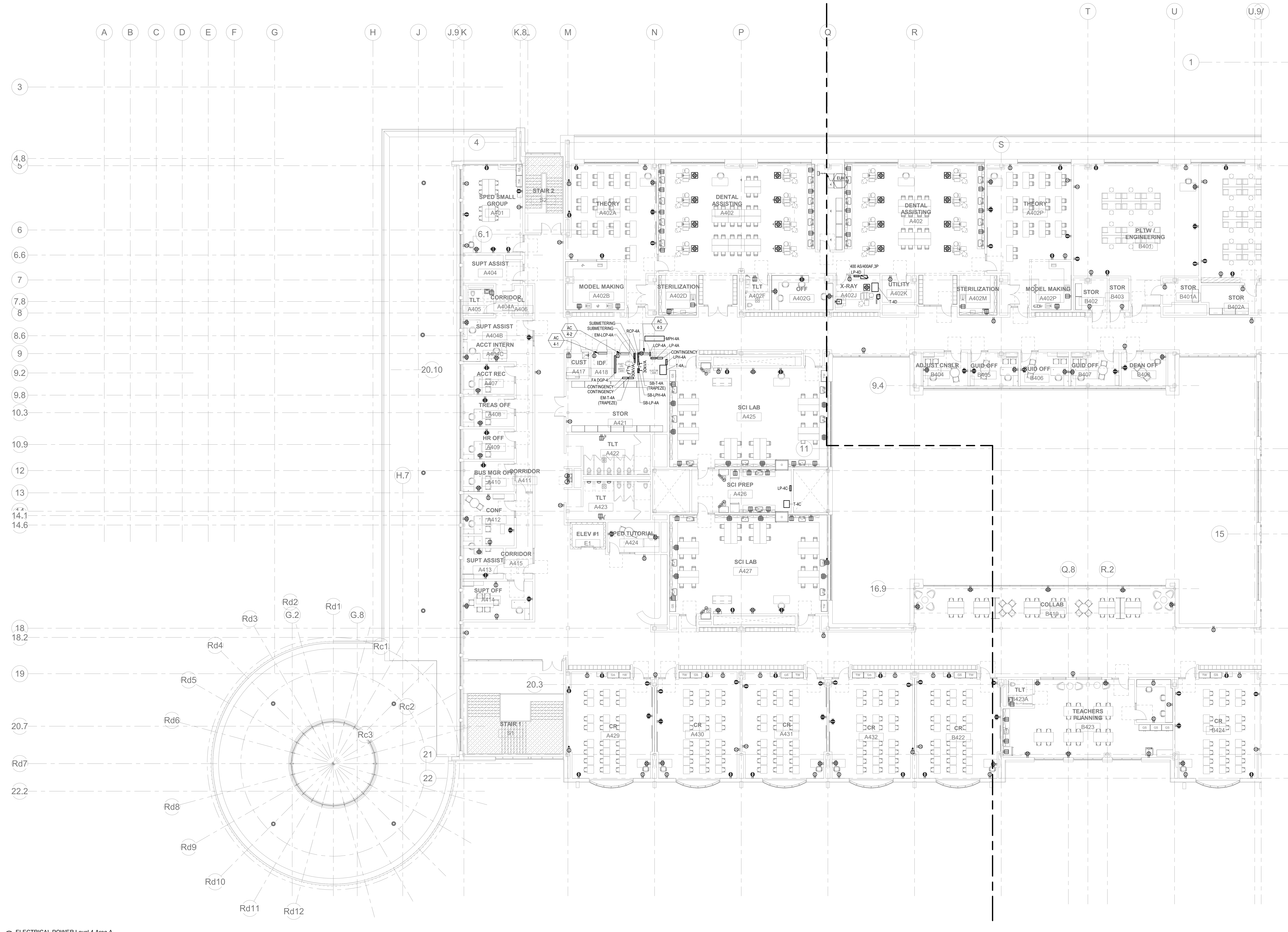
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POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

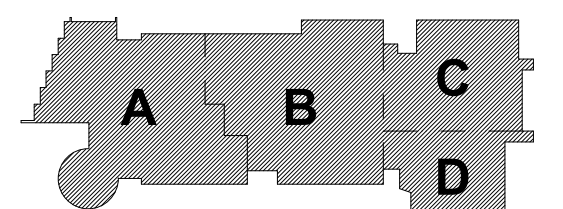


1 ELECTRICAL POWER Level 4 Area A
1" = 10'-0"

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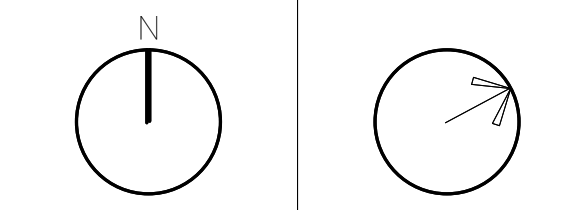
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August 4th, 2022



KEY PLAN

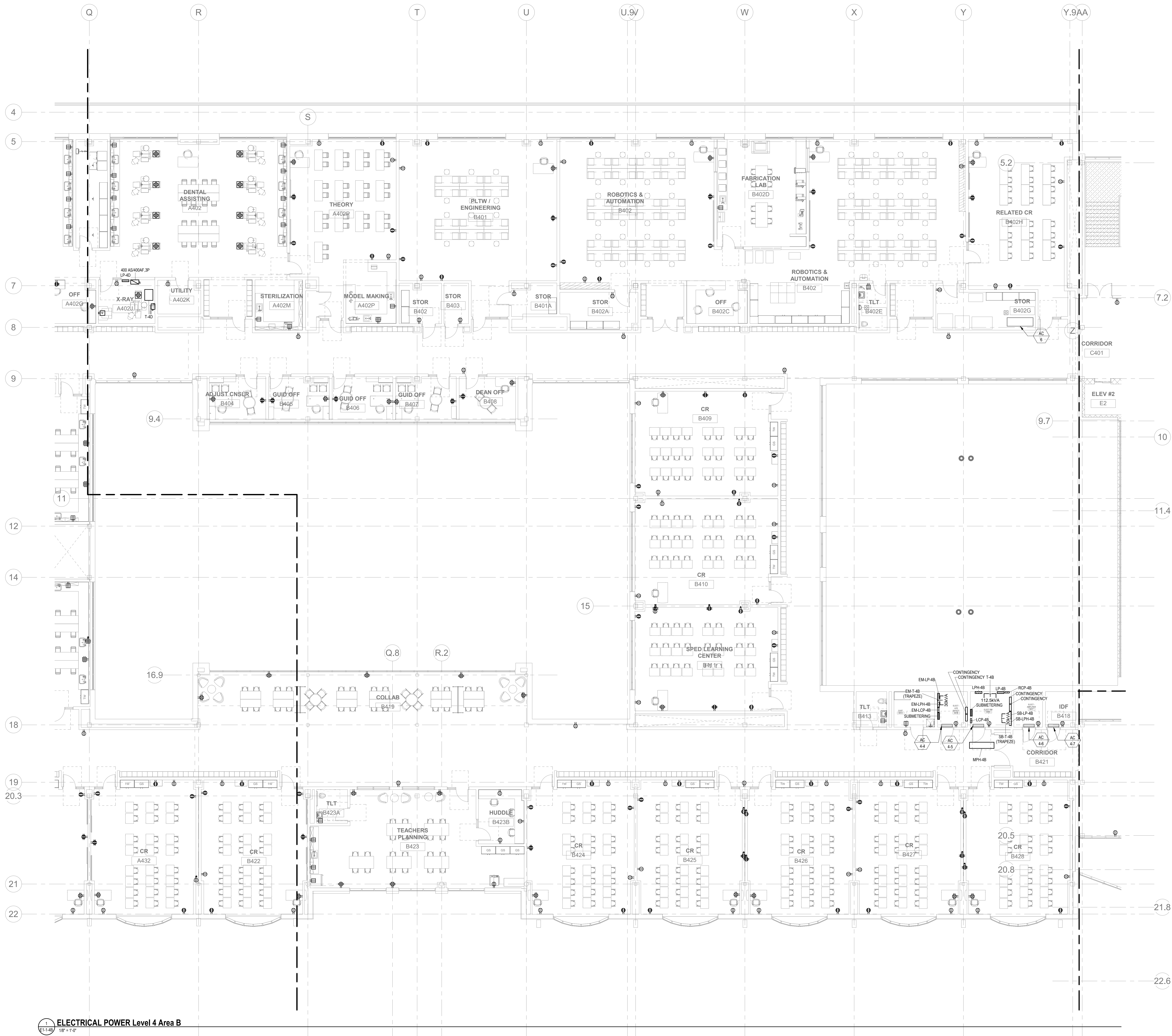
PROJECT NORTH MAGNETIC NORTH



**ELECTRICAL
POWER FOURTH
FLOOR PLAN -
AREA A**

Scale: 1" = 10'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E1-1-4A



- POWER GENERAL NOTES:**
1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
 5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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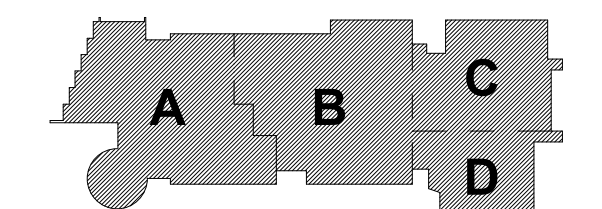
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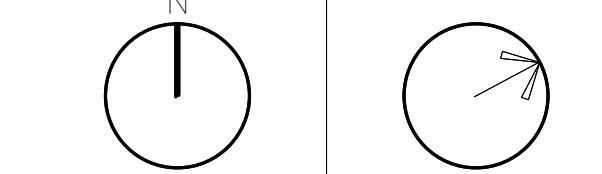
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KEY PLAN

PROJECT NORTH MAGNETIC NORTH



**ELECTRICAL
POWER FOURTH
FLOOR PLAN -
AREA B**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-4B

- POWER GENERAL NOTES:**
1. REFER TO ES-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
 2. REFER TO ES-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAM.
 3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO ES-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
 4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
 5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
 6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

DRA

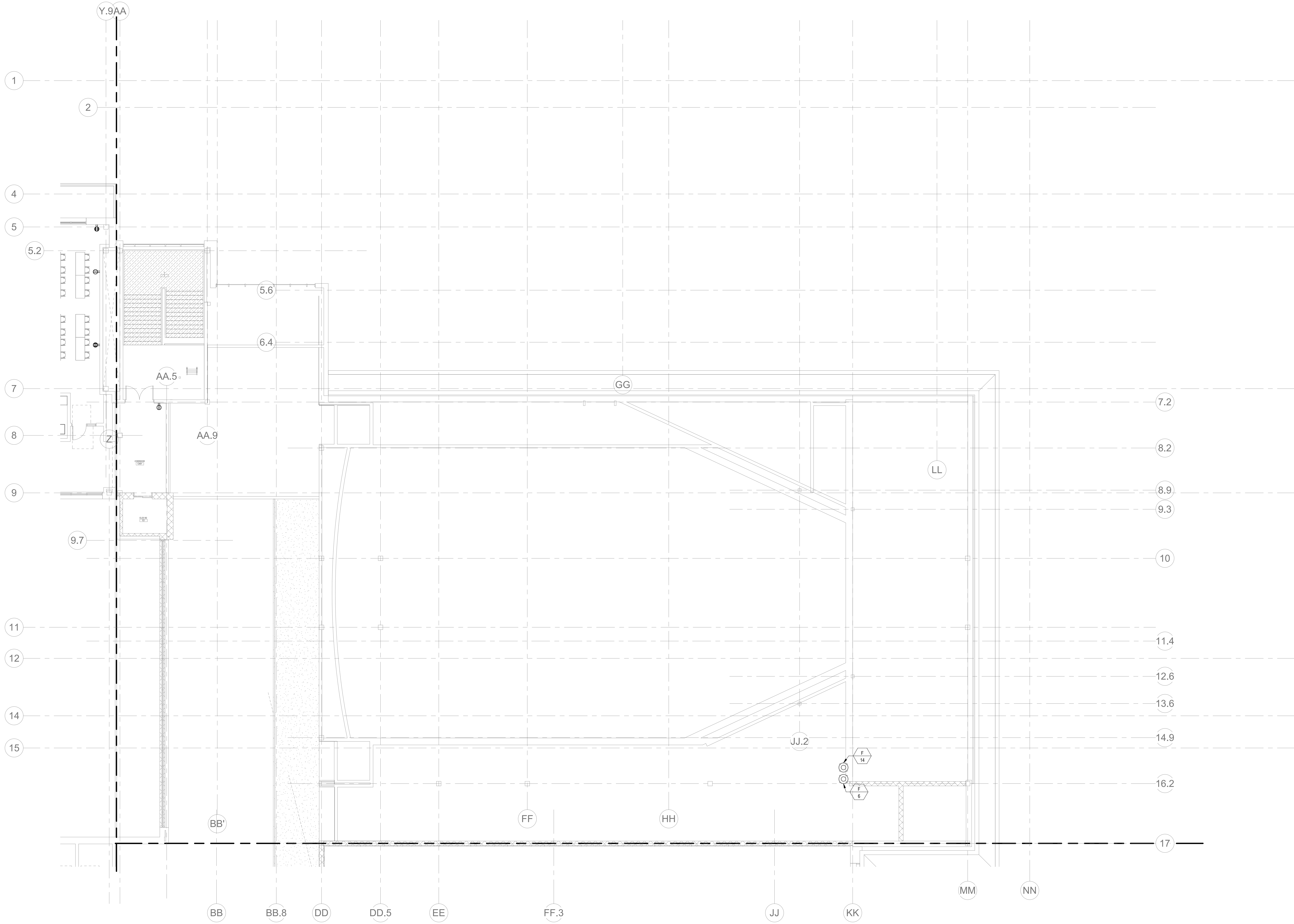
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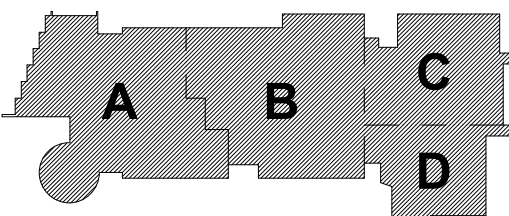


1 ELECTRICAL POWER Level 4 Area C
1/8" = 1'-0"

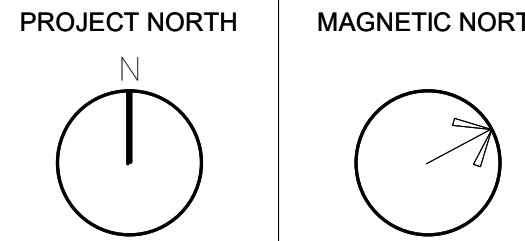
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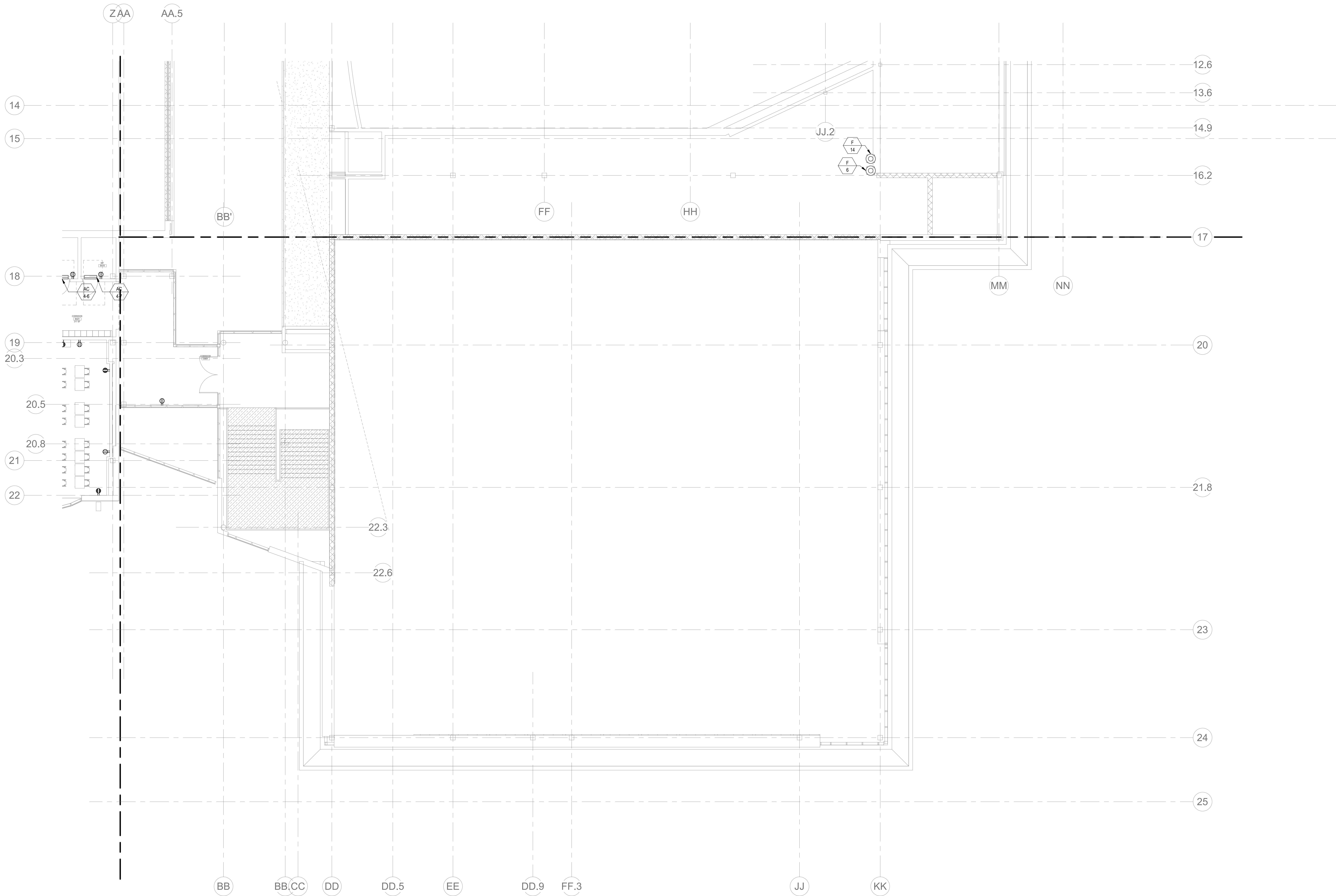
**ELECTRICAL
POWER FOURTH
FLOOR PLAN -
AREA C**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-4C

POWER GENERAL NOTES:

1. REFER TO ES-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO ES-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO ES-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



1 ELECTRICAL POWER Level 4 Area D
1/8" = 1'-0"

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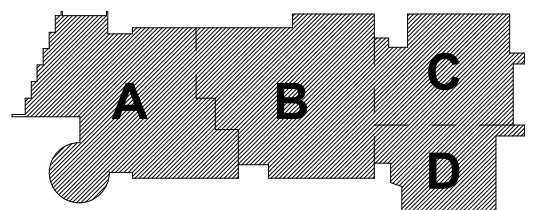
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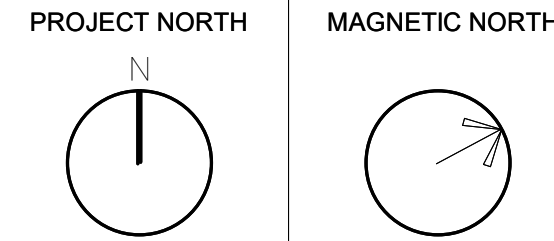
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KEY PLAN



ELECTRICAL
POWER FOURTH
FLOOR PLAN -
AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E1-1-4D

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GENERAL NOTES:

1. REFER TO E0-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. OVERALL ELECTRICAL FLOOR PLANS SHOW LOCATIONS OF MAJOR DISTRIBUTION EQUIPMENT - SWITCHBOARDS, TRANSFER SWITCHES, TRANSFORMERS, PANELBOARDS, AND CONDUIT RUNS FOR MAIN FEEDERS. REFER TO POWER AND LIGHTING AREA PLANS AND ENLARGED PLANS FOR LOCATIONS OF OTHER ELECTRICAL EQUIPMENT.

① ELECTRICAL POWER Main Roof OVERALL
1/16" = 1'-0"

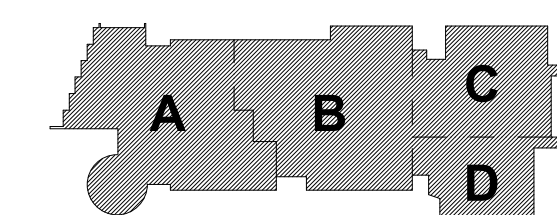
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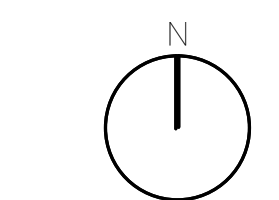
MECHANICAL ELECTRICAL PLUMBING FIRE PROTECT
STRUCTURAL TOWERWORK CONSTRUCTIONMSBA DESIGN
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SUBMISSION

August 4th, 2022

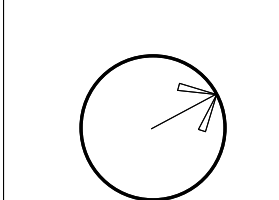


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



**ELECTRICAL
POWER ROOF
PLAN - OVERALL
PLAN**

Scale: 1/16" = 1'-0"

Job No - 20202

DOI: 10.1002/for

Drawn By: DRA
Date: August 4th, 2023

E1-2-1

DRA

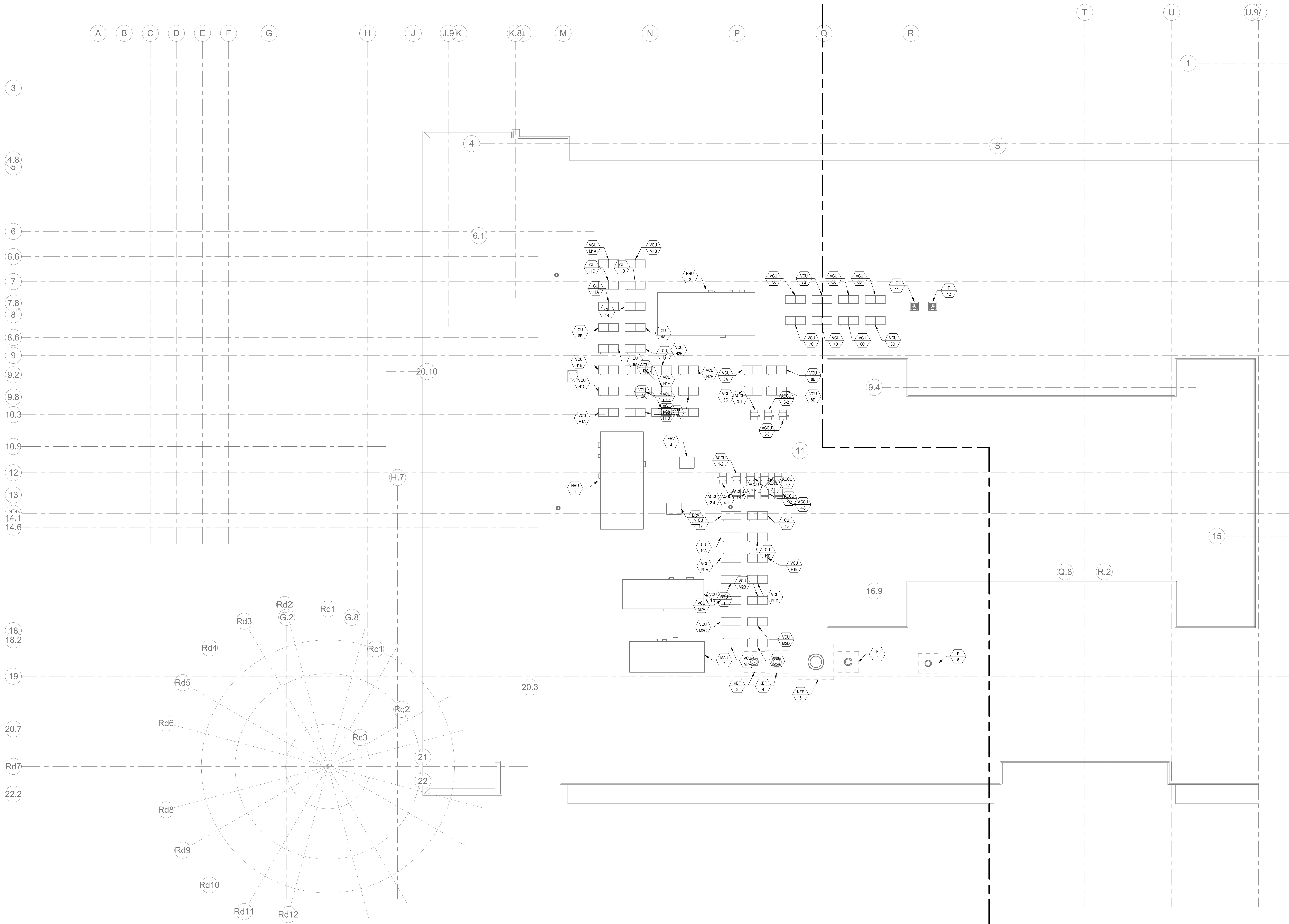
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POWER GENERAL NOTES:

1. REFER TO E3-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E3-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

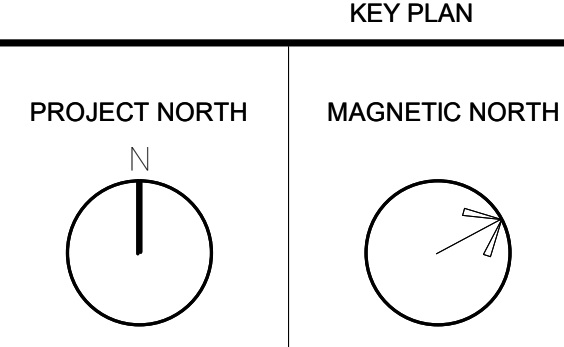
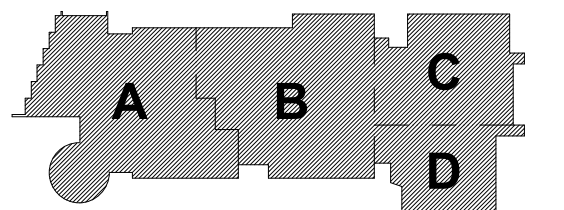


1 ELECTRICAL POWER Main Roof Area A
1" = 10'-0"

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ELECTRICAL
POWER ROOF
PLAN - AREA A

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E1-2-1A

POWER GENERAL NOTES:

1. REFER TO E3-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E3-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

DRA

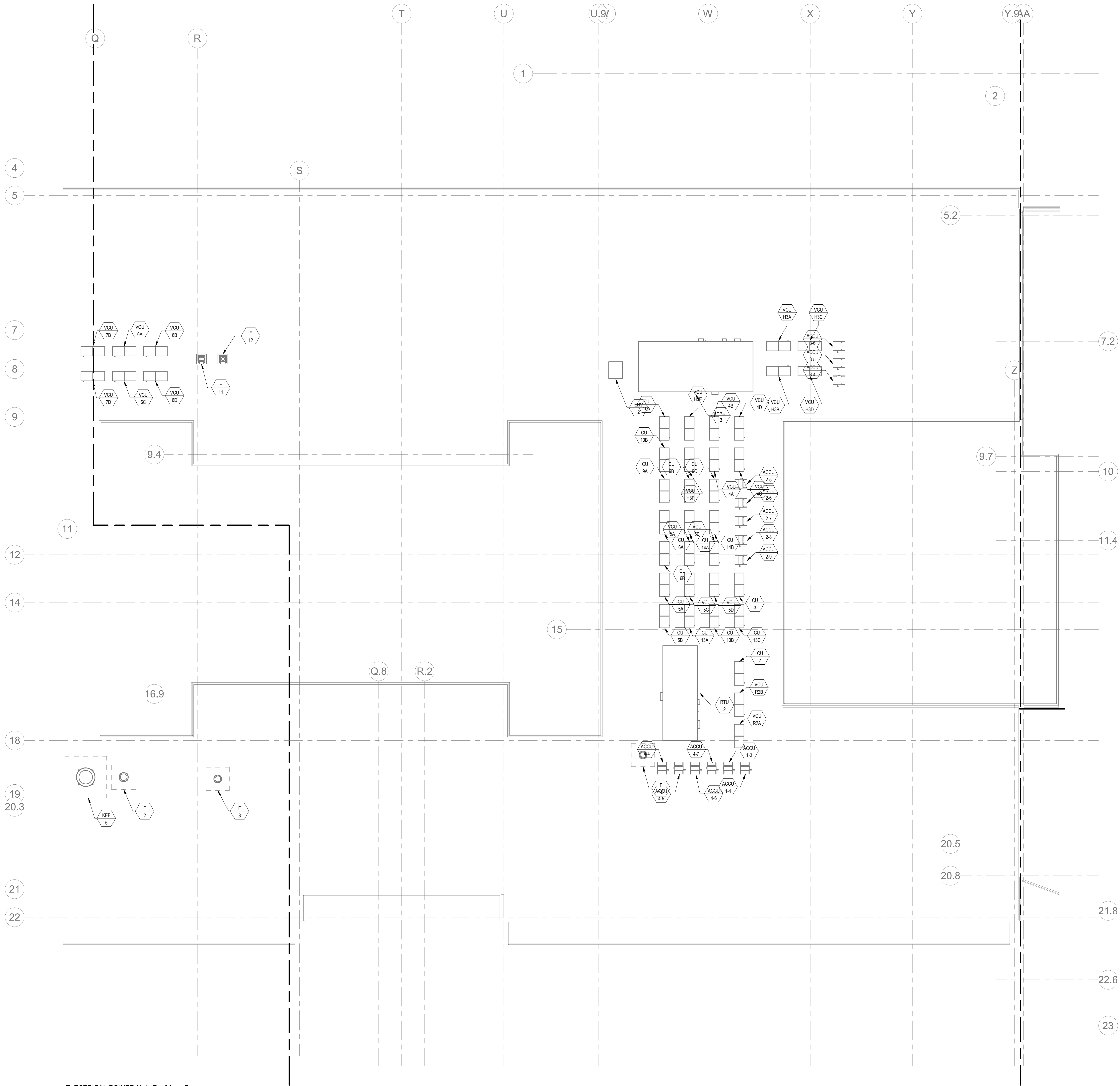
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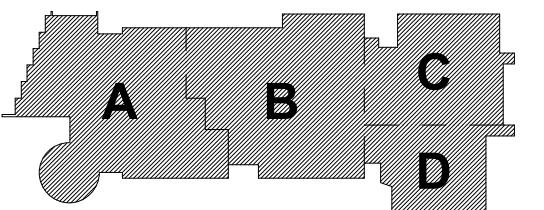


1 ELECTRICAL POWER Main Roof Area B
1" = 10'-0"

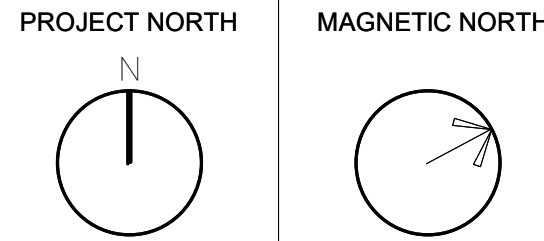
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KEY PLAN



ELECTRICAL
POWER ROOF
PLAN - AREA B

Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-2-1B

POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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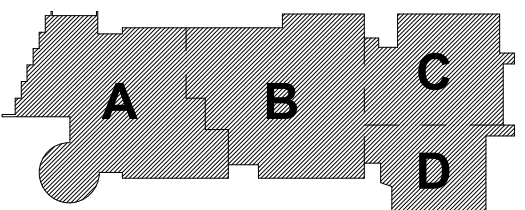
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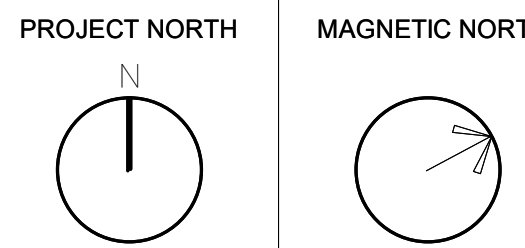
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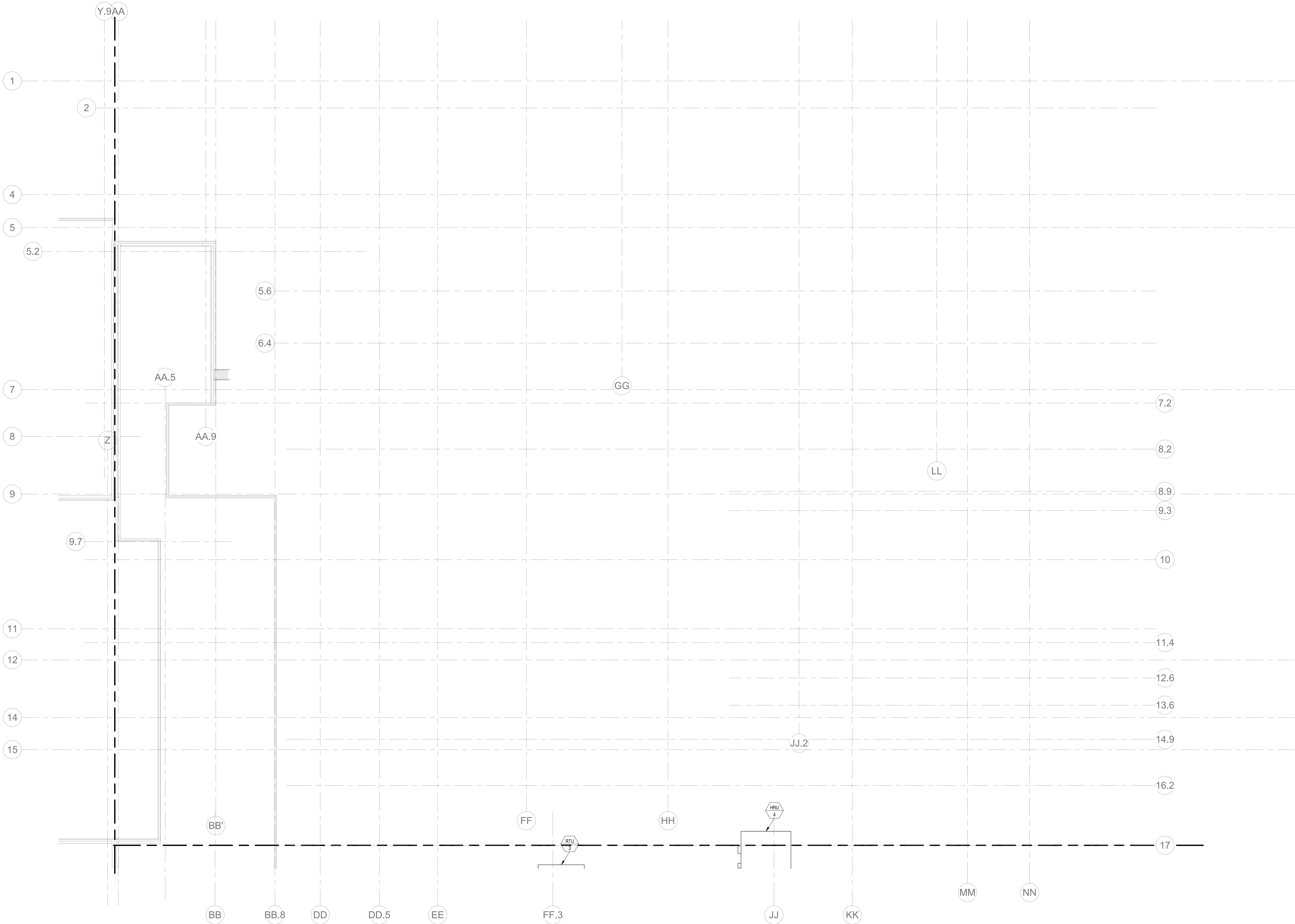


KEY PLAN



ELECTRICAL
POWER ROOF
PLAN - AREA C

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E1-2-1C



1 ELECTRICAL POWER Main Roof Area C
1/8" = 1'-0"

1. REFER TO E3-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK
2. REFER TO E3-0.2.1, 2 AND 3 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND I/V RELATED DEVICES. REFER TO E3-0.4 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT NEARBY OR PLANS WITH THE EQUIPMENT.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH FACE OF EQUIPMENT, PROVIDE A FLEXIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATING AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.

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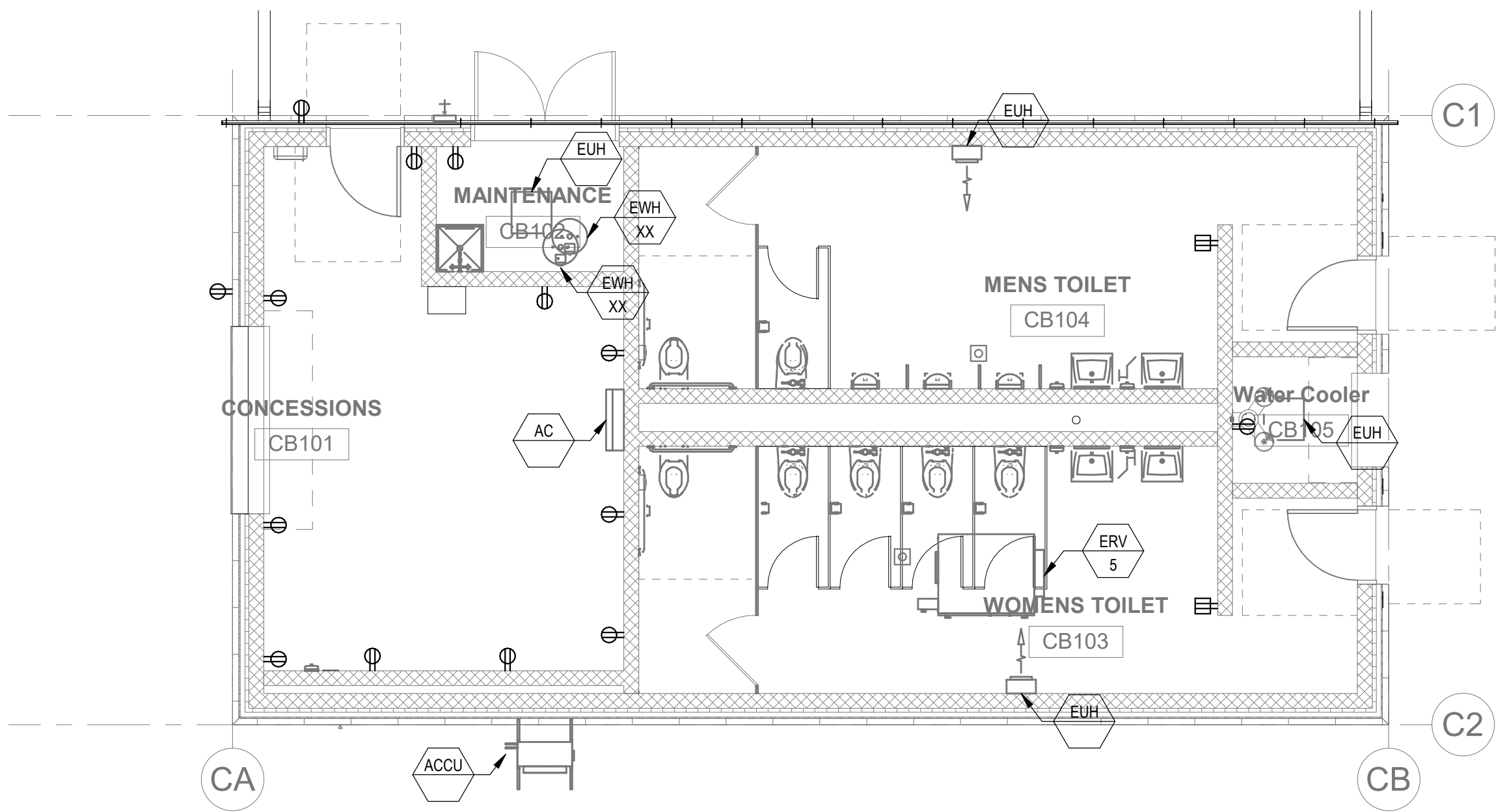
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BOSTON, MA 02115 USA
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WWW.BALA.COM

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POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E0-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ALL RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



1 ELECTRICAL - CONCESSIONS FLOOR LEVEL POWER PLAN
E1-1-CB 3/16" = 1'-0"

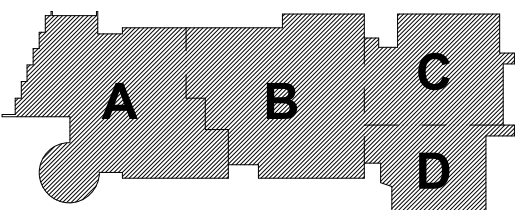
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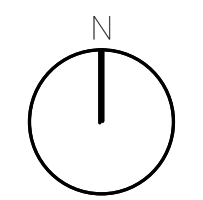
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August 4th, 2022

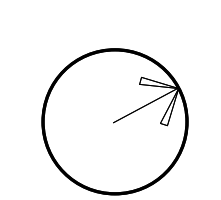


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



ELECTRICAL
POWER
CONCESSIONS
BUILDING PLAN

Scale: 3/16" = 1'-0"

Job No.: 20202

Drawn By: DRA

Date: August 4th, 2022

E1-1-CB

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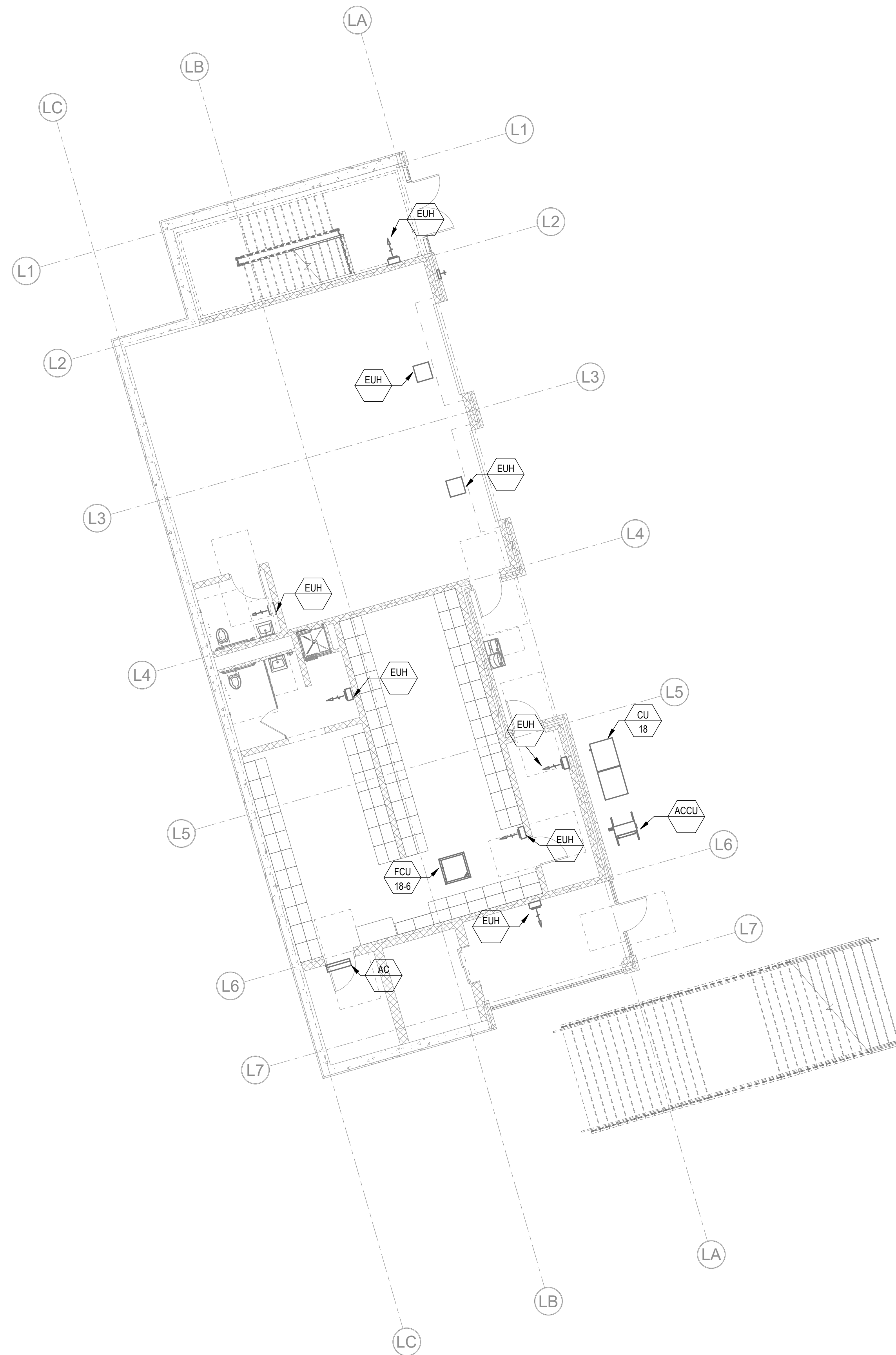
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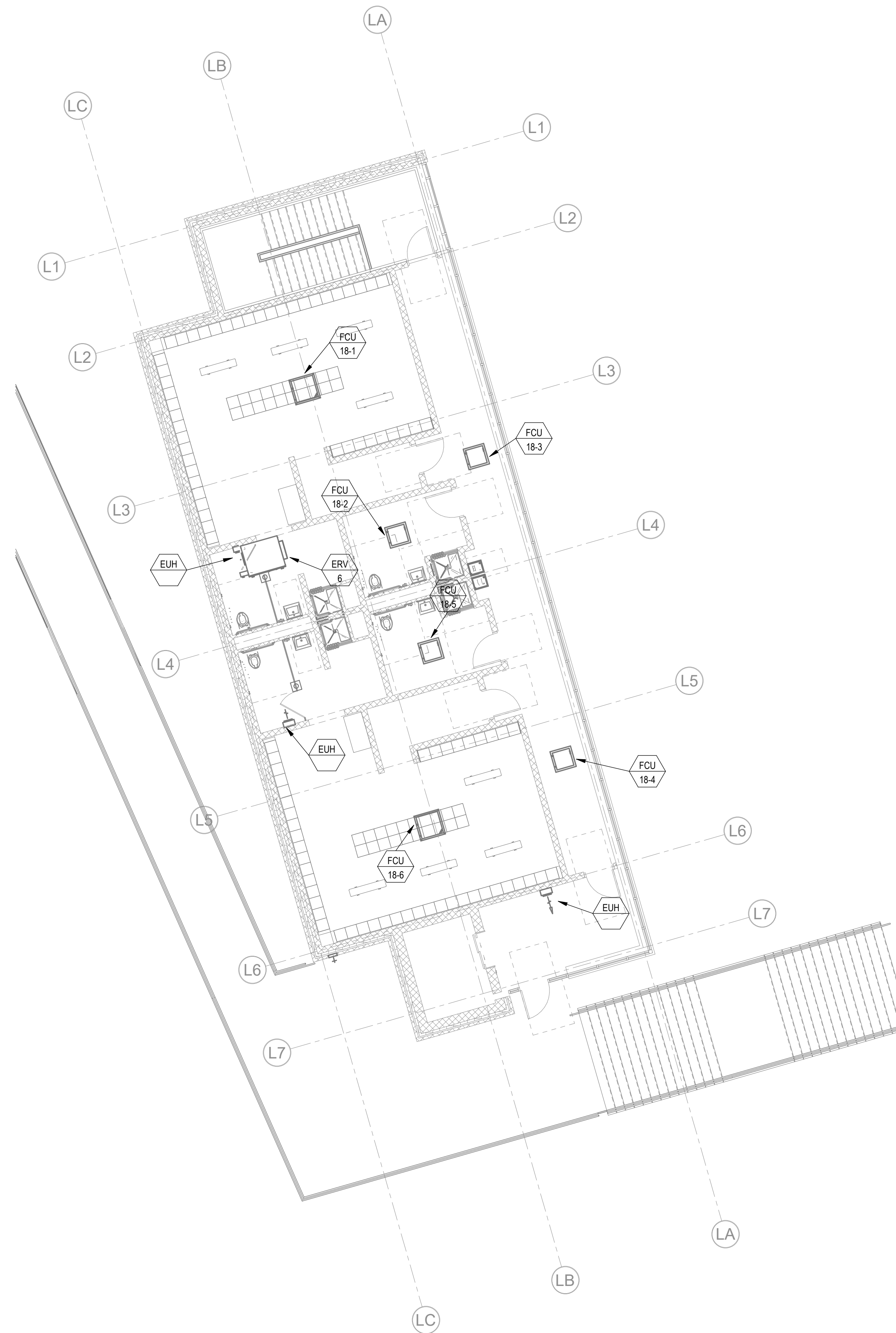
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POWER GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E3-0.0, 1, AND 2 FOR SINGLE LINE DIAGRAM.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E0-0.2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
4. REFER TO MECHANICAL, FIRE PROTECTION, AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION, INCLUDING ELECTRICAL CHARACTERISTICS, OF EQUIPMENT INDICATED ON PLANS WITH HEX TAGS.
5. PROVIDE FLEXIBLE CONNECTIONS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT INDICATED ON PLANS WITH HEX TAGS. FOR EACH PIECE OF EQUIPMENT, PROVIDE A FUSIBLE DISCONNECT SWITCH (WITH FUSES) WITH OVERCURRENT PROTECTION RATINGS AS RECOMMENDED BY MANUFACTURER.
6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



1 ELECTRICAL POWER Locker Building First Floor
E1-1-LB
1/8" = 1'-0"

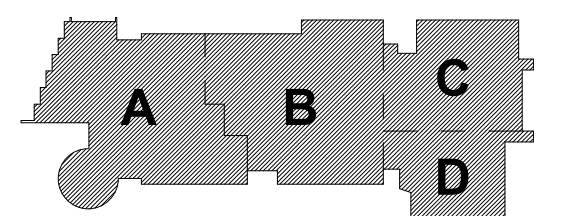


2 ELECTRICAL POWER Locker Building Second Level
E1-1-LB
1/8" = 1'-0"

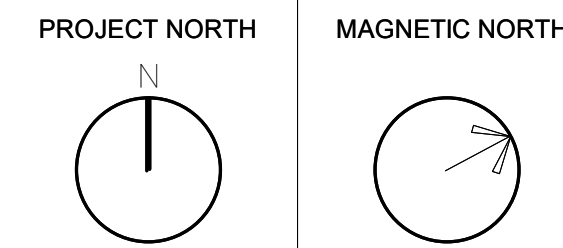
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August 4th, 2022



KEY PLAN



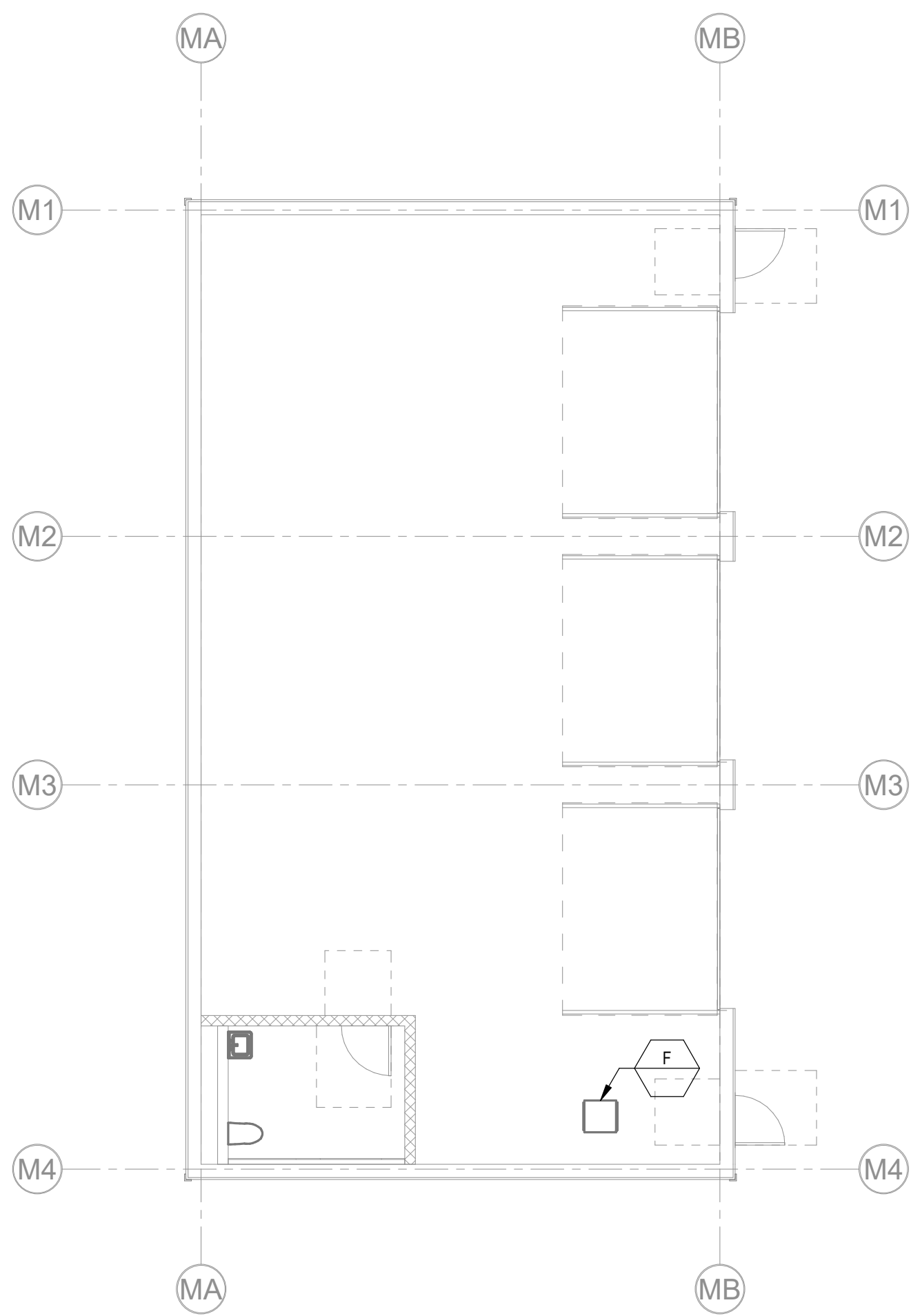
**ELECTRICAL
POWER LOCKER
BUILDING PLAN**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E1-1-LB

POWER GENERAL NOTES:

1. REFER TO EG-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO EG-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO EG-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
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6. REFER TO ELECTRICAL DETAIL SHEETS FOR REQUIREMENTS FOR LEAK DETECTION SYSTEMS TO BE PROVIDED WITH PLUMBING EQUIPMENT.



2 ELECTRICAL POWER Maintenance Building Plan
1/8" = 1'-0"



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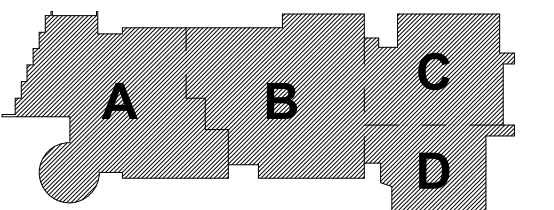
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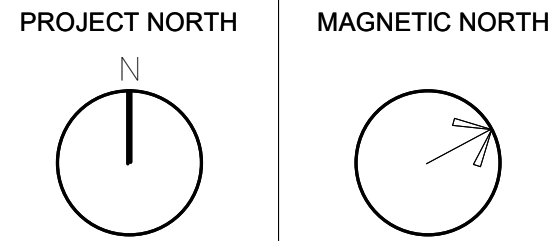
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ENGINEERS: JAMES H. BALA, P.E., F.A.S.C.E.
PLANNERS: JAMES H. BALA, P.E., F.A.S.C.E.

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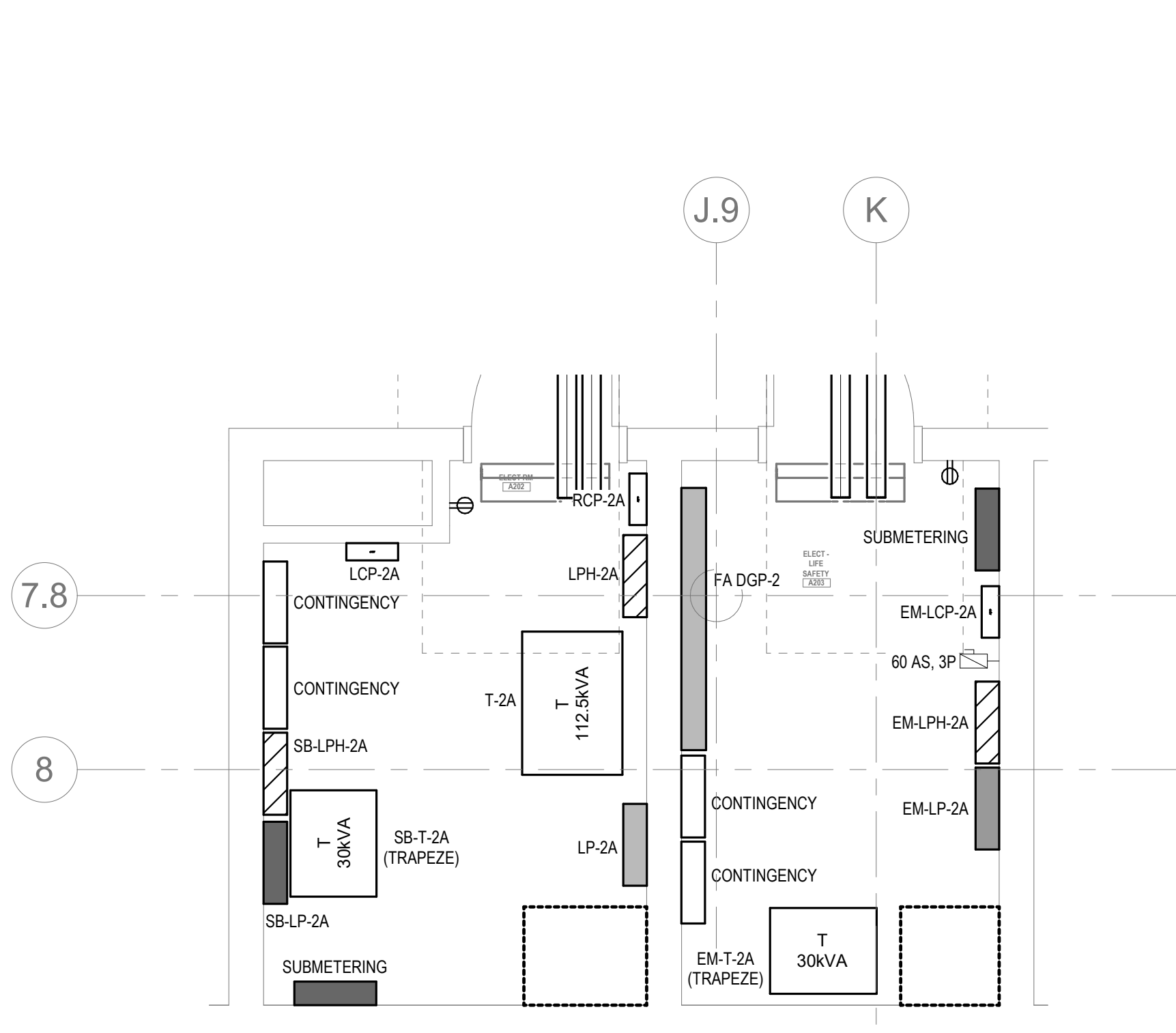
KEY PLAN



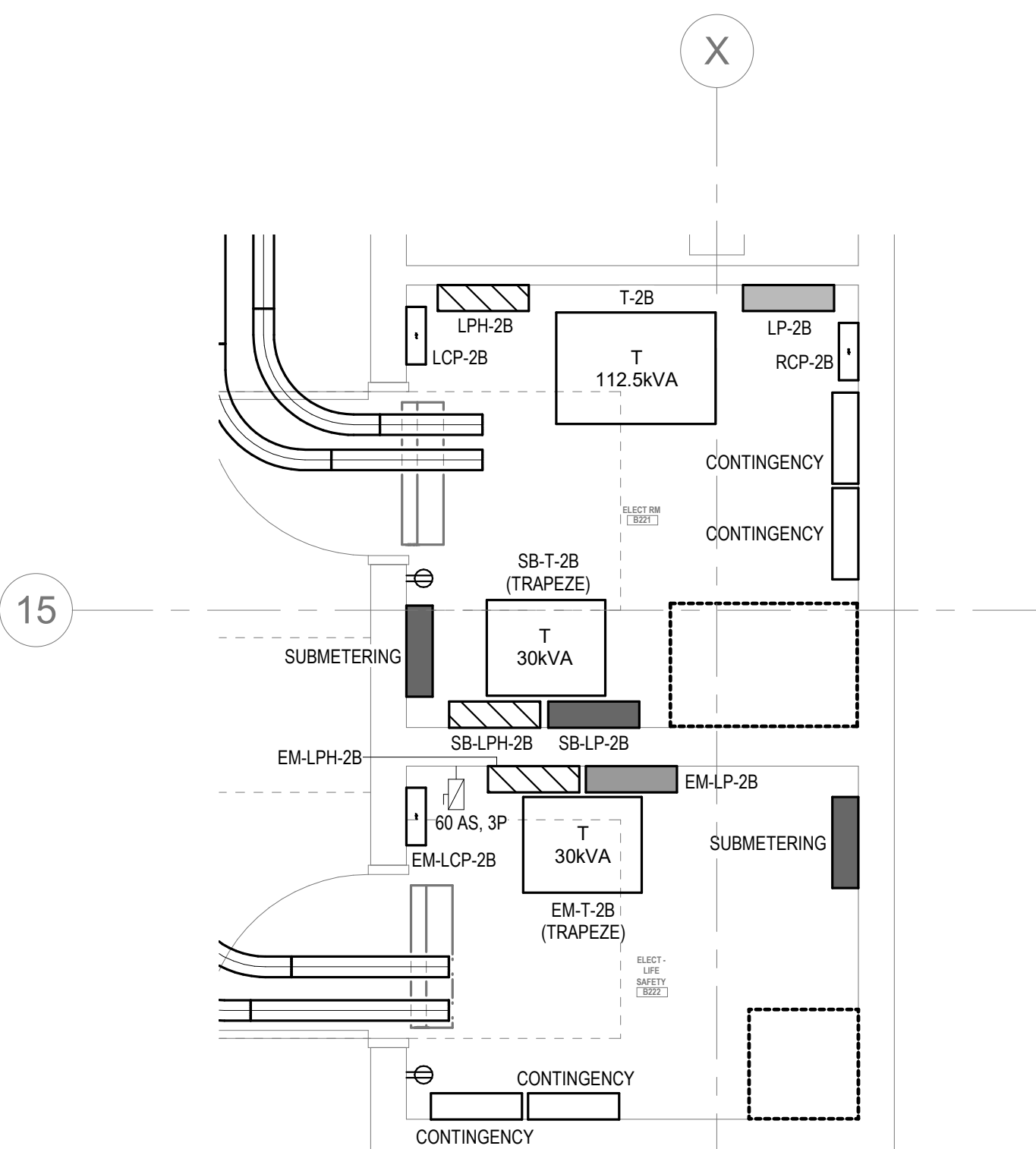
ELECTRICAL
POWER
MAINTENANCE
BUILDING PLAN

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

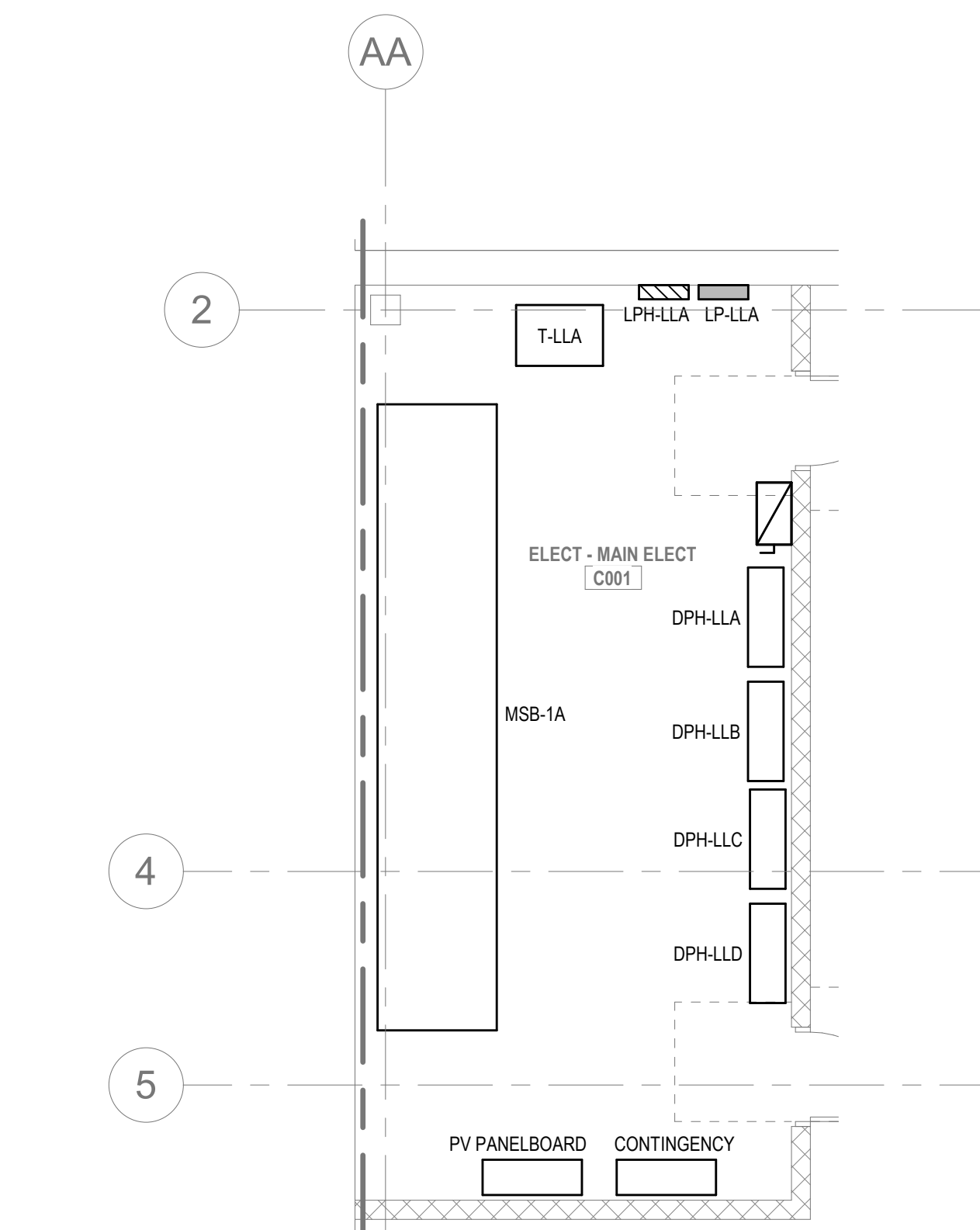
E1-1-MB



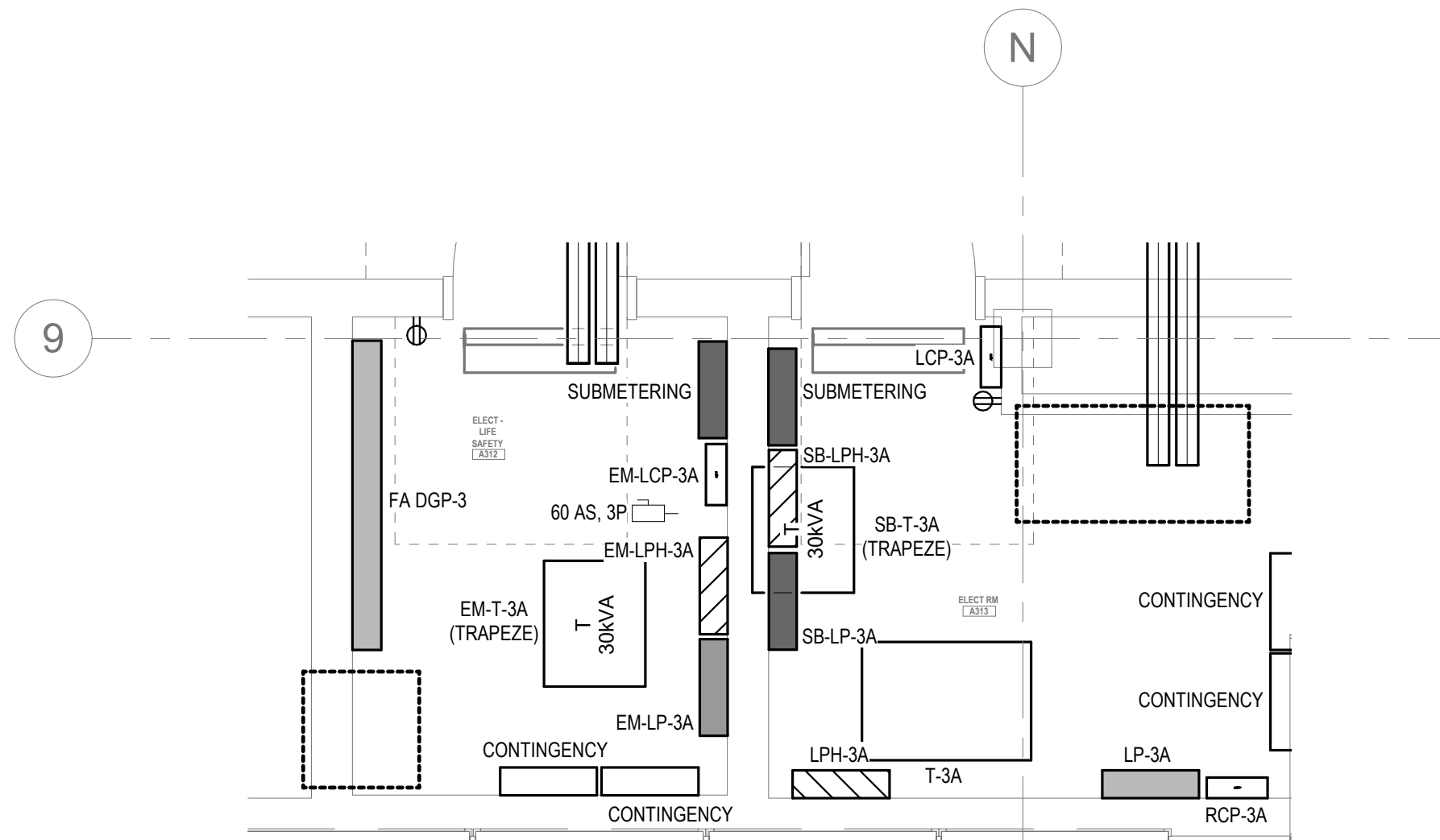
ELECTRICAL Level 2 OVERALL - ELECTRICAL ROOMS PART PLAN - 2A
E2-0-5 3/8" = 1'-0"



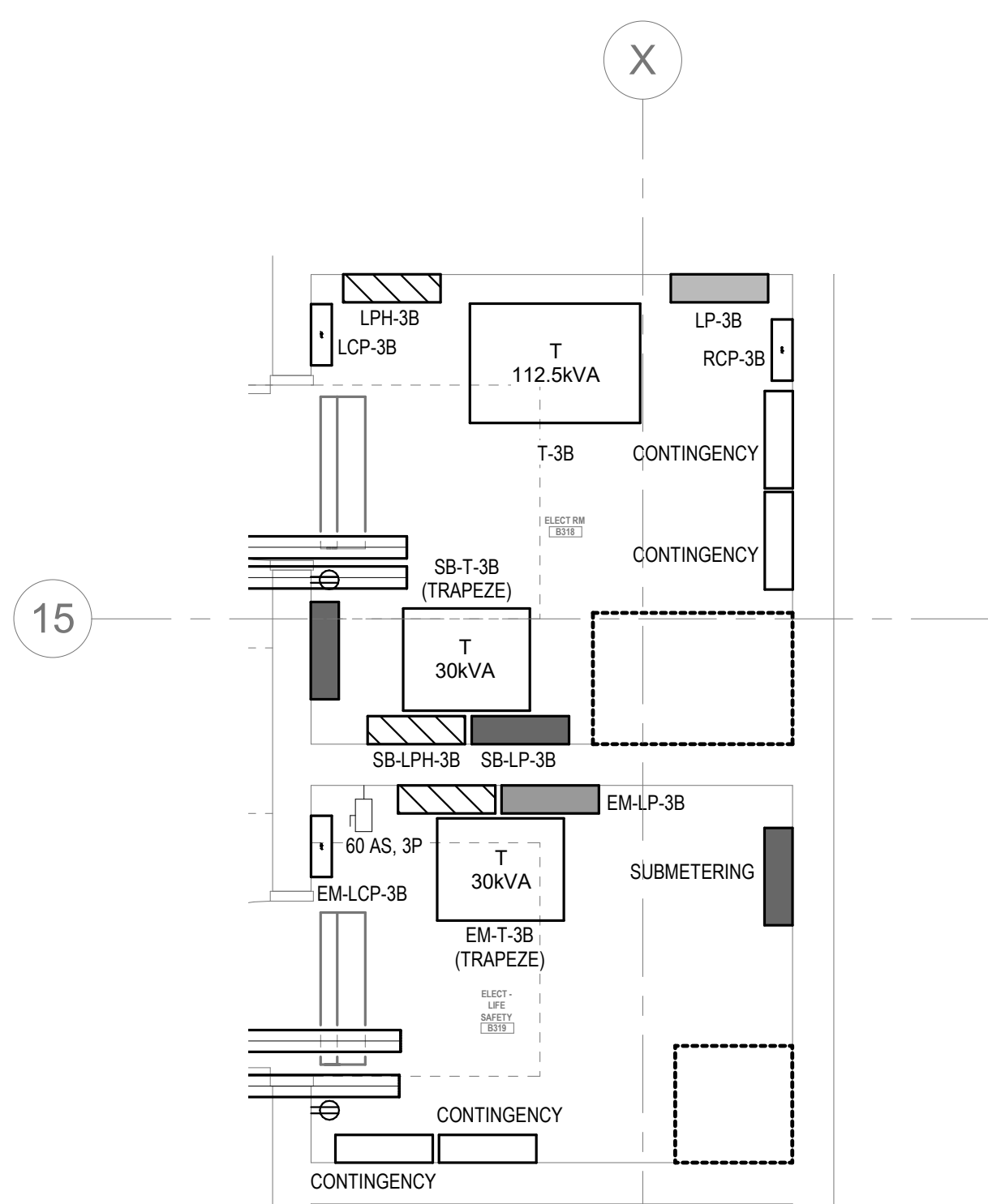
ELECTRICAL Level 2 OVERALL - ELECTRICAL ROOMS PART PLAN - 2B
E2-0-5 3/8" = 1'-0"



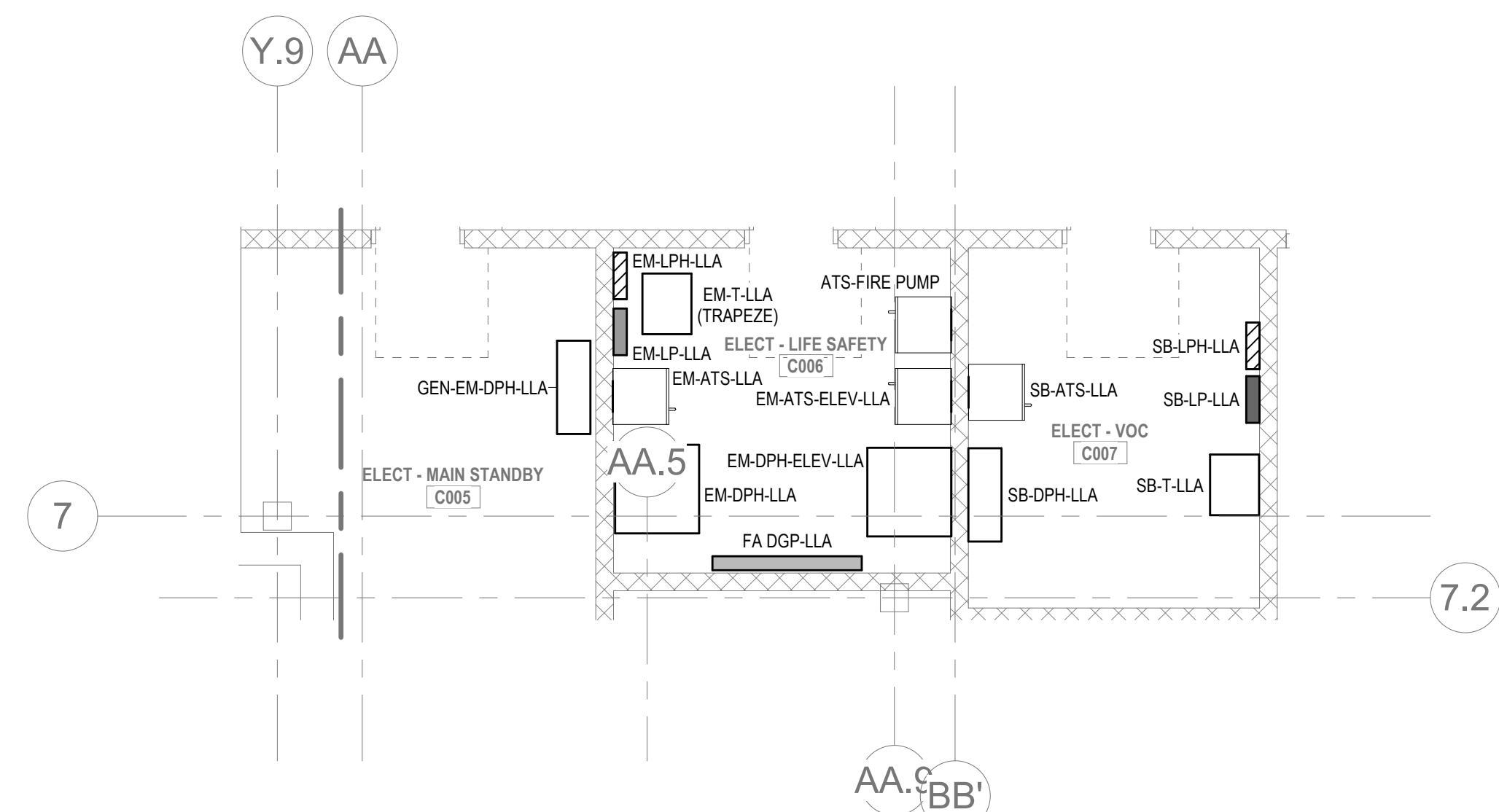
ELECTRICAL Level 0 OVERALL - MAIN ELECTRIC ROOM
E2-0-5 1:80



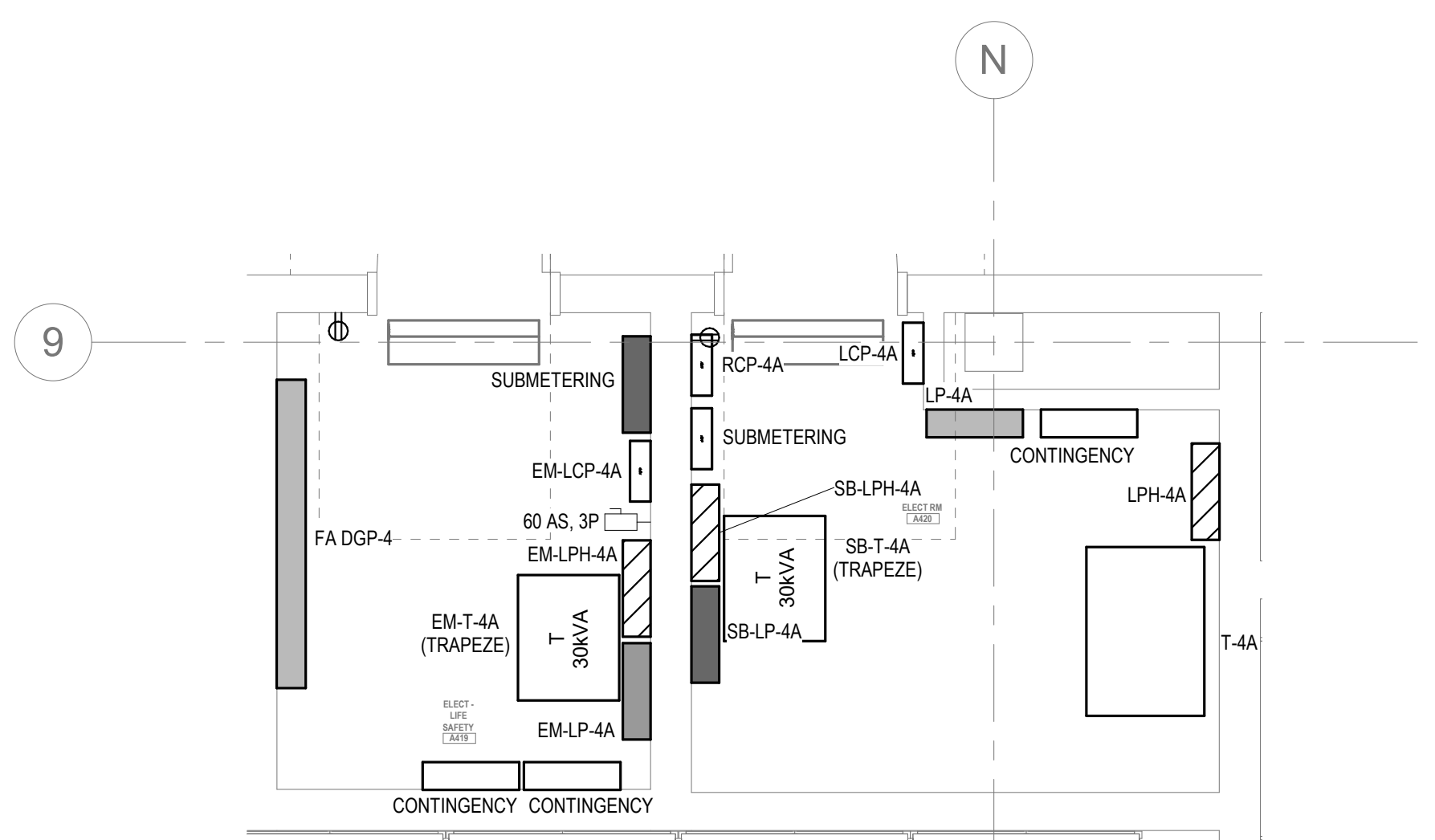
ELECTRICAL Level 3 OVERALL - ELECTRICAL ROOMS PART PLAN - 3A
E2-0-5 3/8" = 1'-0"



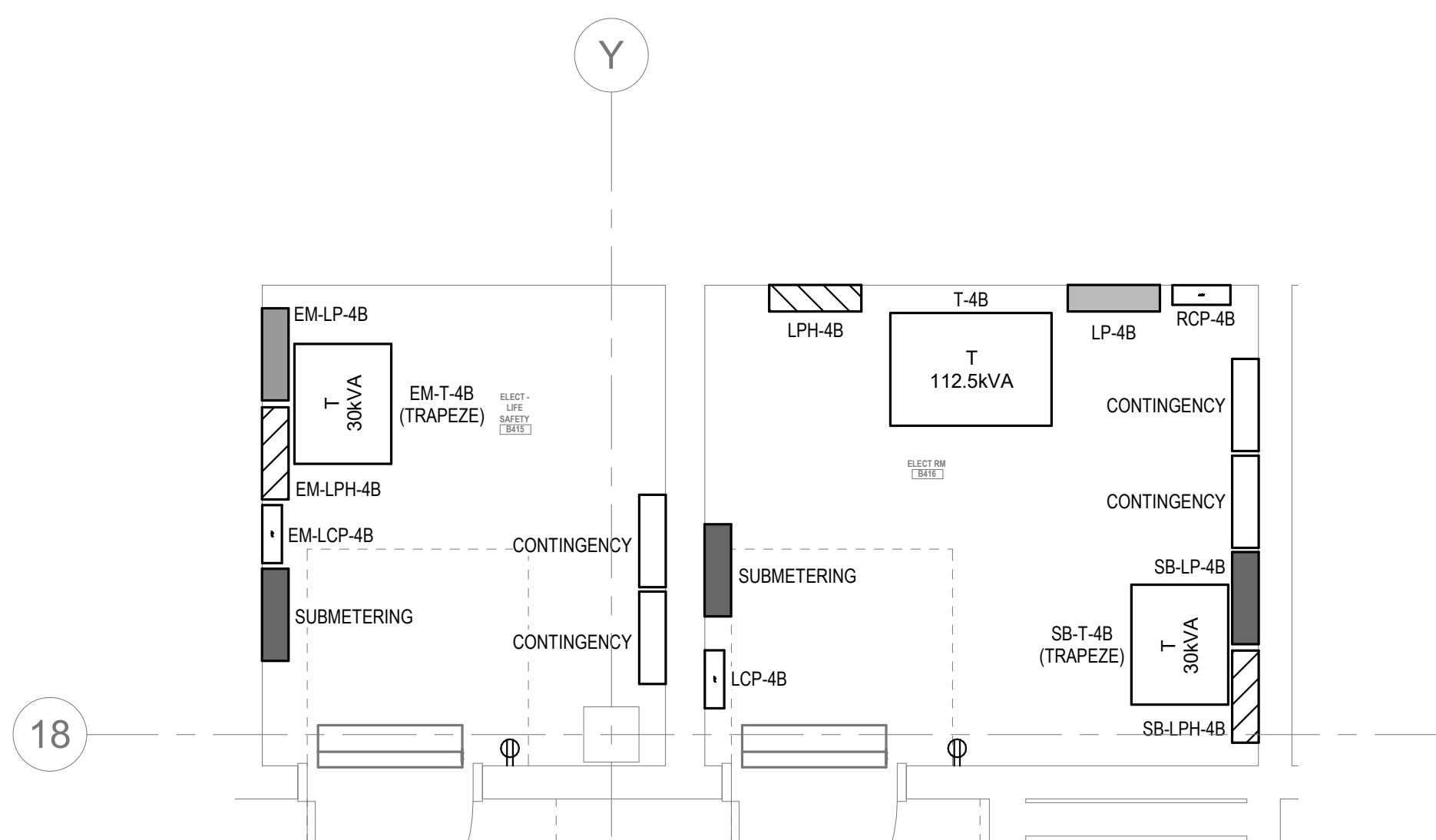
ELECTRICAL Level 3 OVERALL - ELECTRICAL ROOMS PART PLAN - 3B
E2-0-5 3/8" = 1'-0"



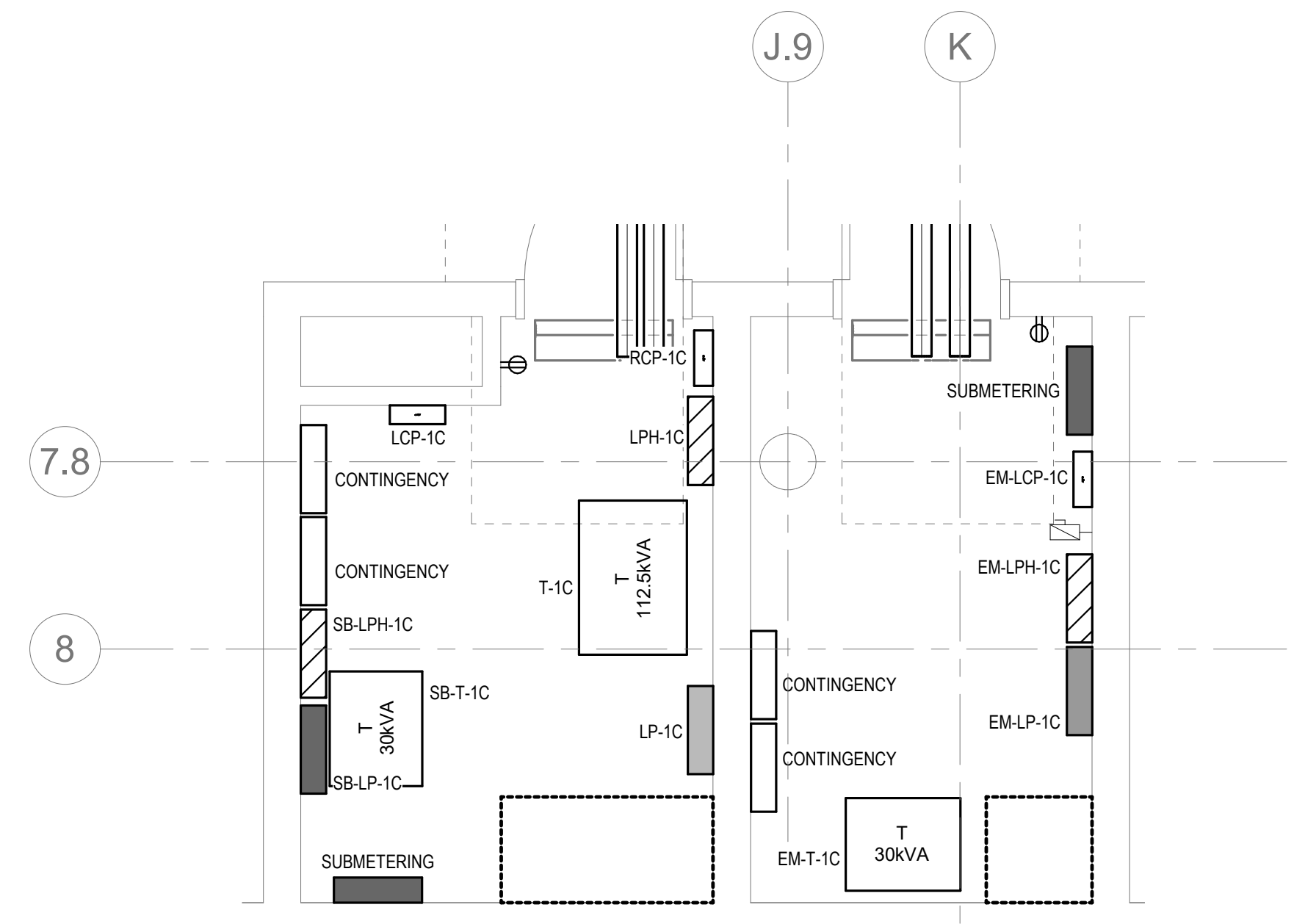
ELECTRICAL Level 0 OVERALL - ELECTRIC ROOMS
E2-0-5 1:80



ELECTRICAL Level 4 OVERALL - ELECTRICAL ROOMS PART PLAN - 4A
E2-0-5 3/8" = 1'-0"



ELECTRICAL Level 4 OVERALL - ELECTRICAL ROOMS PART PLAN - 4B
E2-0-5 3/8" = 1'-0"



ELECTRICAL Level 1 OVERALL - PROPOSED ELECTRICAL ROOMS PART PLAN - 1C
E2-0-5 3/8" = 1'-0"

POWER GENERAL NOTES:

1. REFER TO E2-0-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK.
2. REFER TO E2-0-0, 1, AND 2 FOR SINGLE LINE DIAGRAMS.
3. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT HEIGHTS AND LOCATIONS FOR POWER AND ANY RELATED DEVICES. REFER TO E2-0-2 FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.
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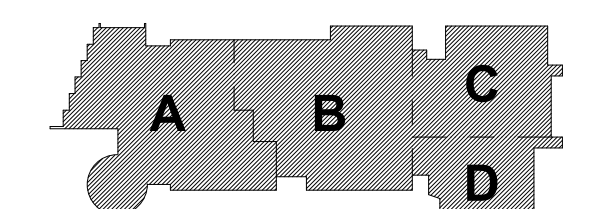
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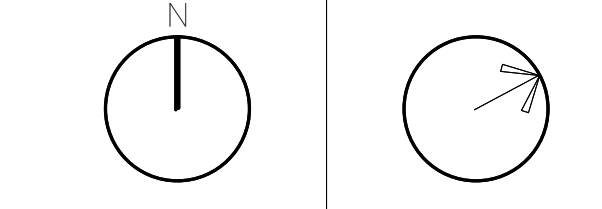
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August 4th, 2022



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
ROOMS POWER
PART PLANS

Scale: As indicated
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022
E2-0-05

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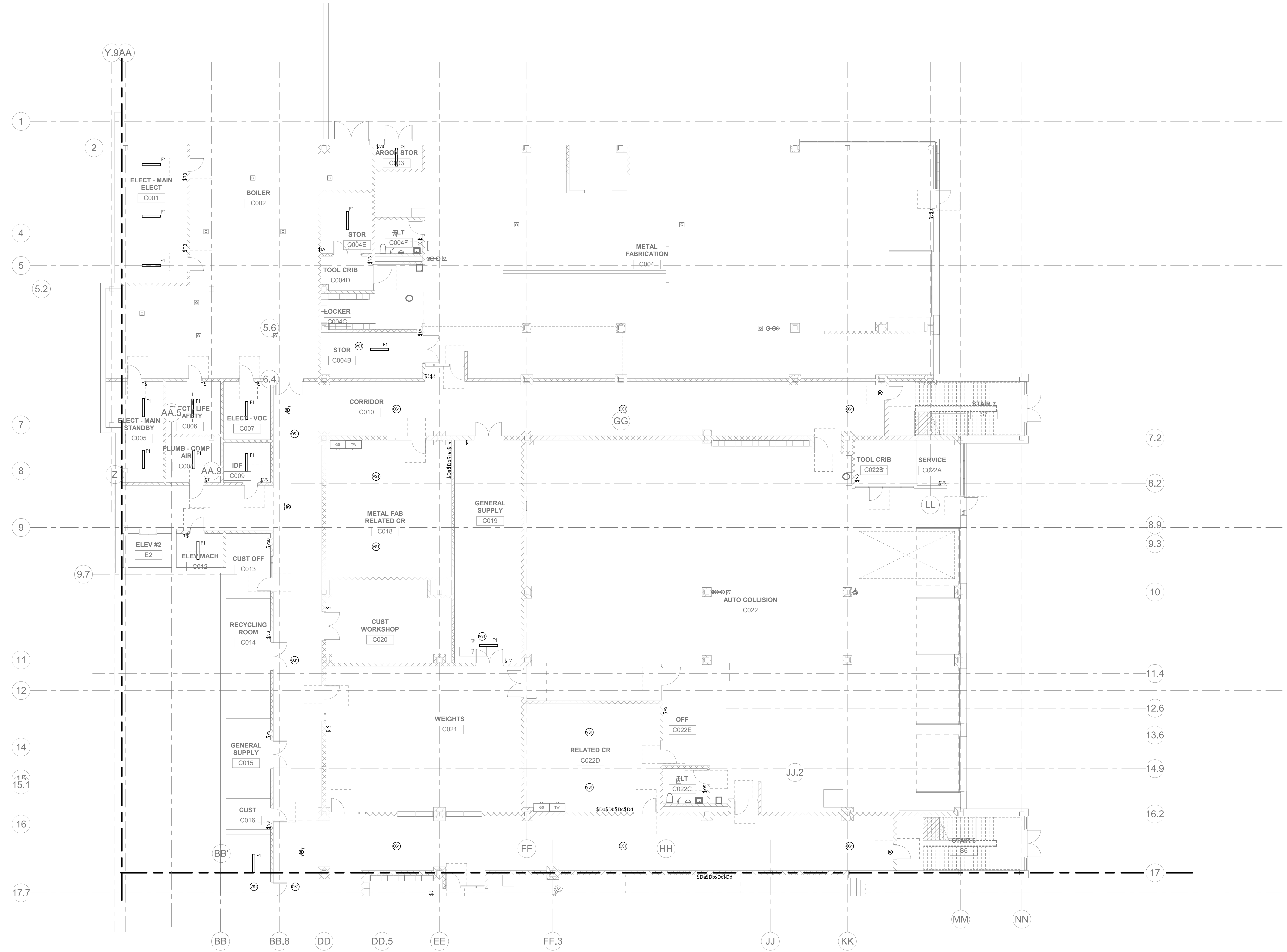
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LIGHTING GENERAL NOTES:

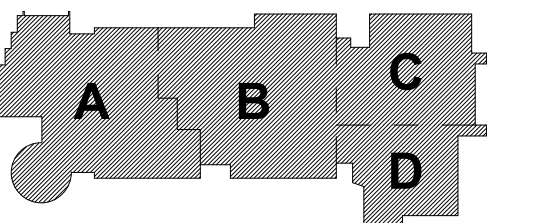
1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-3 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCPs FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
4. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM. PROVIDE EXACT TYPES AND QUANTITIES OF DEVICES RECOMMENDED BY MANUFACTURER FOR A COMPLETE SYSTEM.
5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.



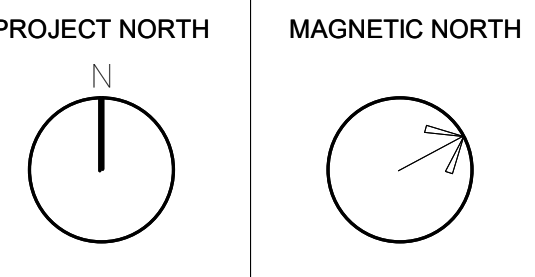
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SUBMISSION
August 4th, 2022



KEY PLAN



**ELECTRICAL
LIGHTING
LOWER LEVEL
FLOOR PLAN -
AREA C**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-0C

2 ELECTRICAL LIGHTING Level 0 Area C
1/8" = 1'-0"



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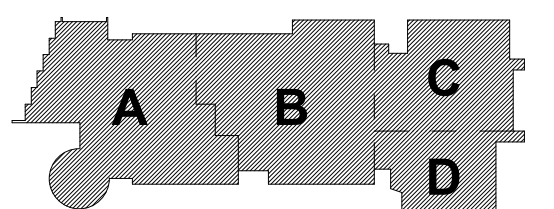
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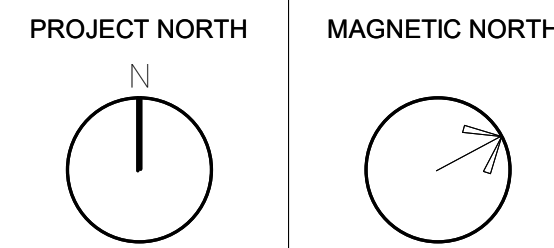
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SUBMISSION
August 4th, 2022



KEY PLAN



**ELECTRICAL
LIGHTING
LOWER LEVEL
FLOOR PLAN -
AREA D**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-0D

LIGHTING GENERAL NOTES:

1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-4-0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-8-16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCP'S FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
4. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM. PROVIDE EXACT TYPES AND QUANTITIES OF DEVICES RECOMMENDED BY MANUFACTURER FOR A COMPLETE SYSTEM.
5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.



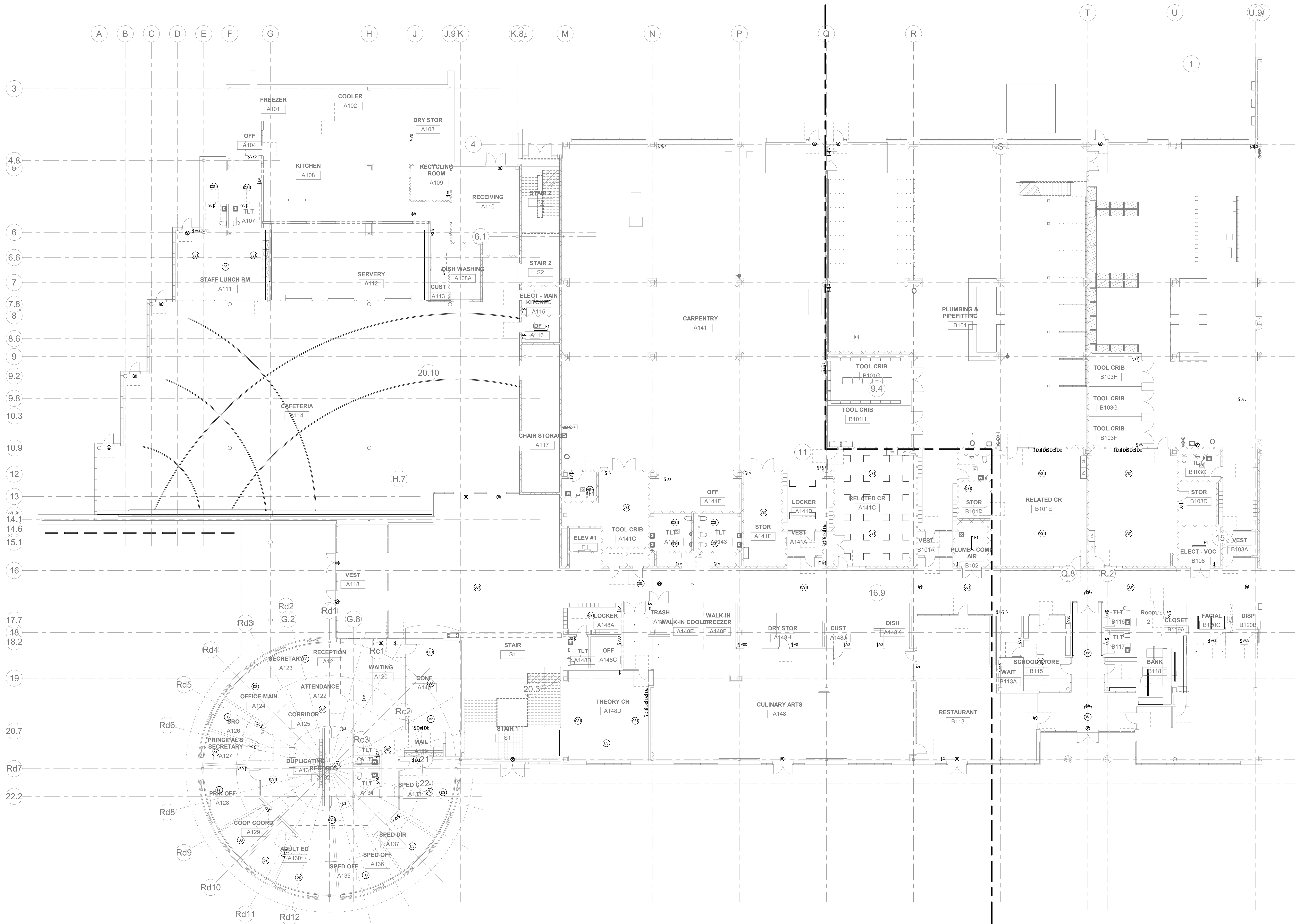
② ELECTRICAL LIGHTING Level 0 Area D
1/8" = 1'-0"

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LIGHTING GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-0.0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-0.16 FOR LIGHTING CONTROL RISER DIAGRAM.
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LIGHTING GENERAL NOTES:

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2. REFER TO E4-3 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-3-16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL ROP'S FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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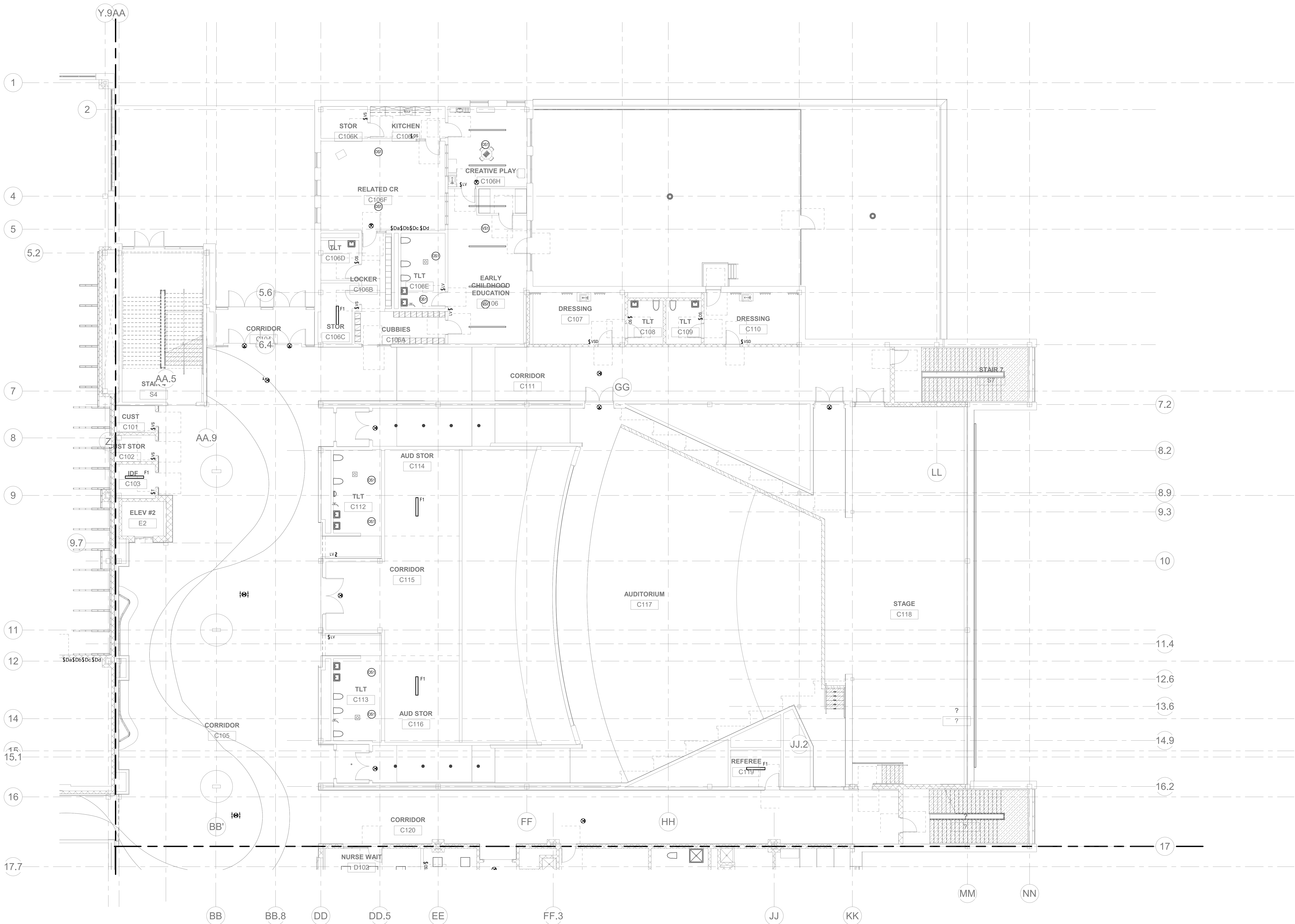
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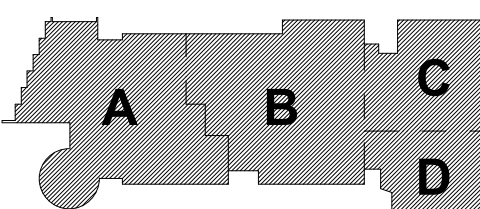


ELECTRICAL LIGHTING Level 1 Area C
E2-1-1C
1/8" = 1'-0"

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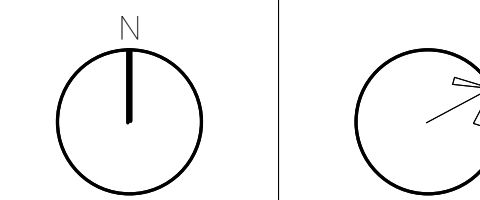
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August 4th, 2022



KEY PLAN

PROJECT NORTH
MAGNETIC NORTH



**ELECTRICAL
LIGHTING FIRST
FLOOR PLAN -
AREA C**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-1C

DRA

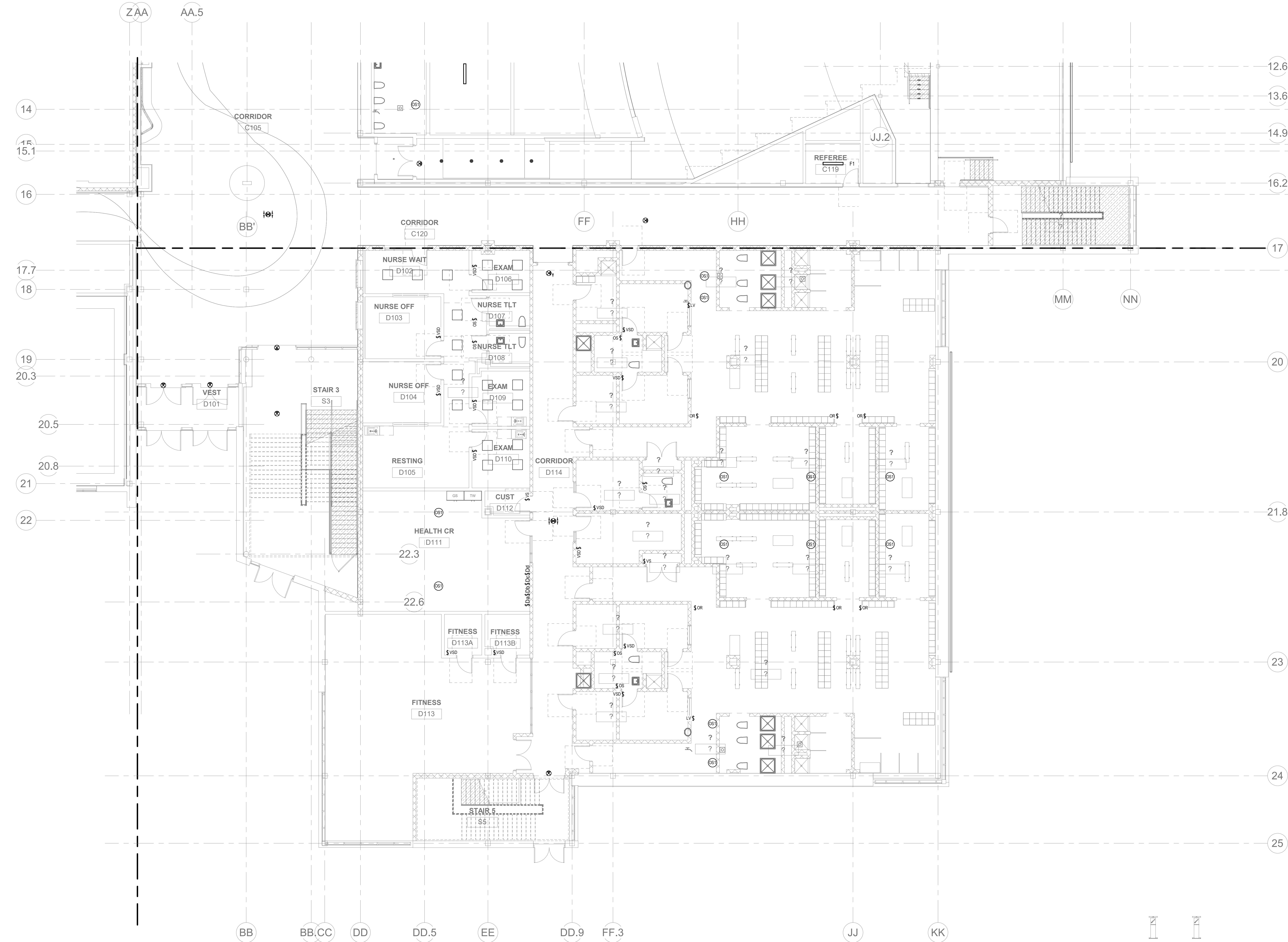
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1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-4 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-5 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCP'S FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.



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1. REFER TO 603.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT ON THE ELECTRICAL PLANS.
2. REFER TO 604.0 FOR LIGHTING FIXTURES SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO 604.0-6 FOR LIGHTING CONTROL, RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCPs FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER CEILING. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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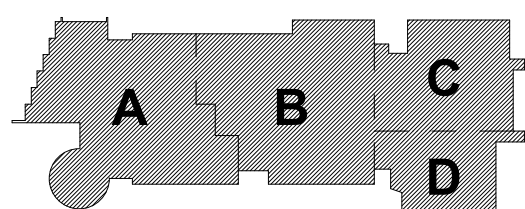


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KEY PLAN

PROJECT NORTH

MAGNETIC NORTH

**ELECTRICAL
LIGHTING
SECOND FLOOR
PLAN - AREA A**

Scale: 1" = 10'-0"

Job No.: 70303

JED NO. 20202

Drawn By: DR.

E2-1-2A



LIGHTING GENERAL NOTES:

1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-4 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCPs FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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① ELECTRICAL LIGHTING Level 2 Area B
1/8" = 1'-0"

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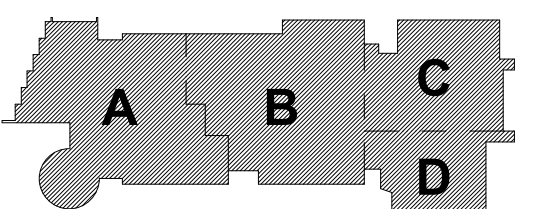
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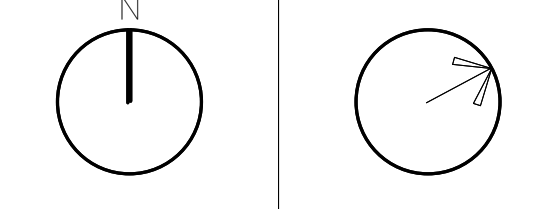
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KEY PLAN

PROJECT NORTH MAGNETIC NORTH



**ELECTRICAL
LIGHTING
SECOND FLOOR
PLAN - AREA B**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-2B



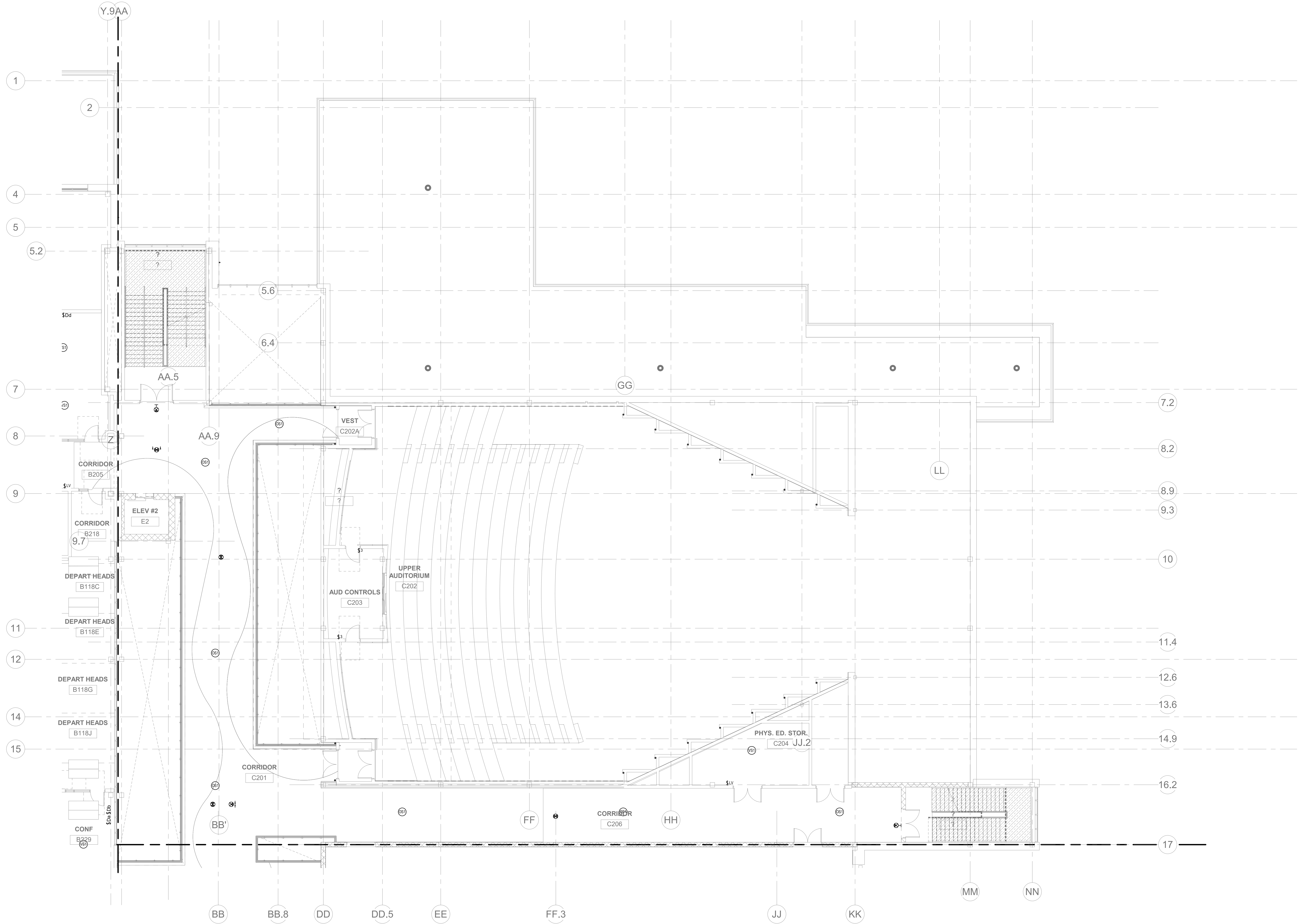
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LIGHTING GENERAL NOTES:

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2. REFER TO E4-0-0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-0-16 FOR LIGHTING CONTROL RISER DIAGRAM.
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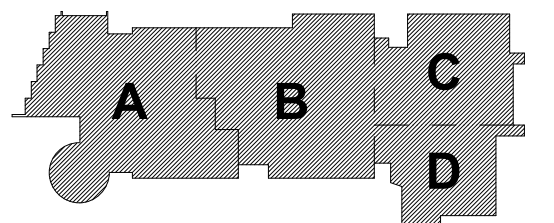


ELECTRICAL LIGHTING Level 2 Area C
1/8" = 1'-0"

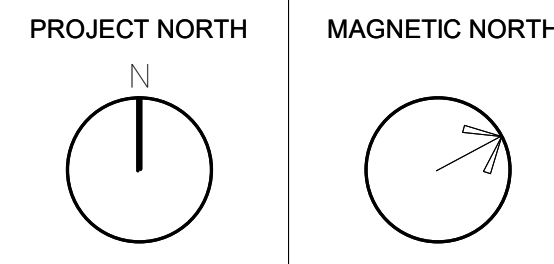
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KEY PLAN



**ELECTRICAL
LIGHTING
SECOND FLOOR
PLAN - AREA C**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-2C

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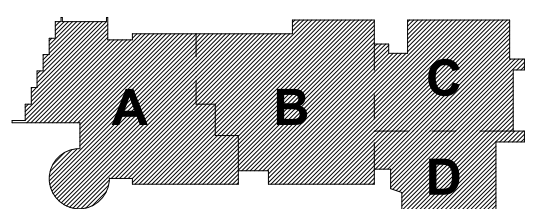
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1. REFER TO EA-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNERS PLANS BUT NOT THE ELECTRICAL PLANS.
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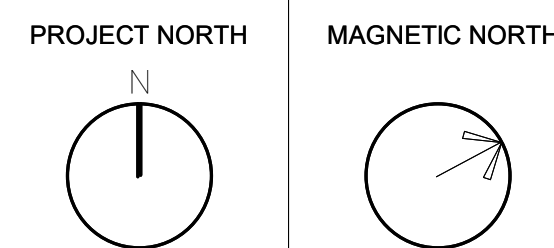
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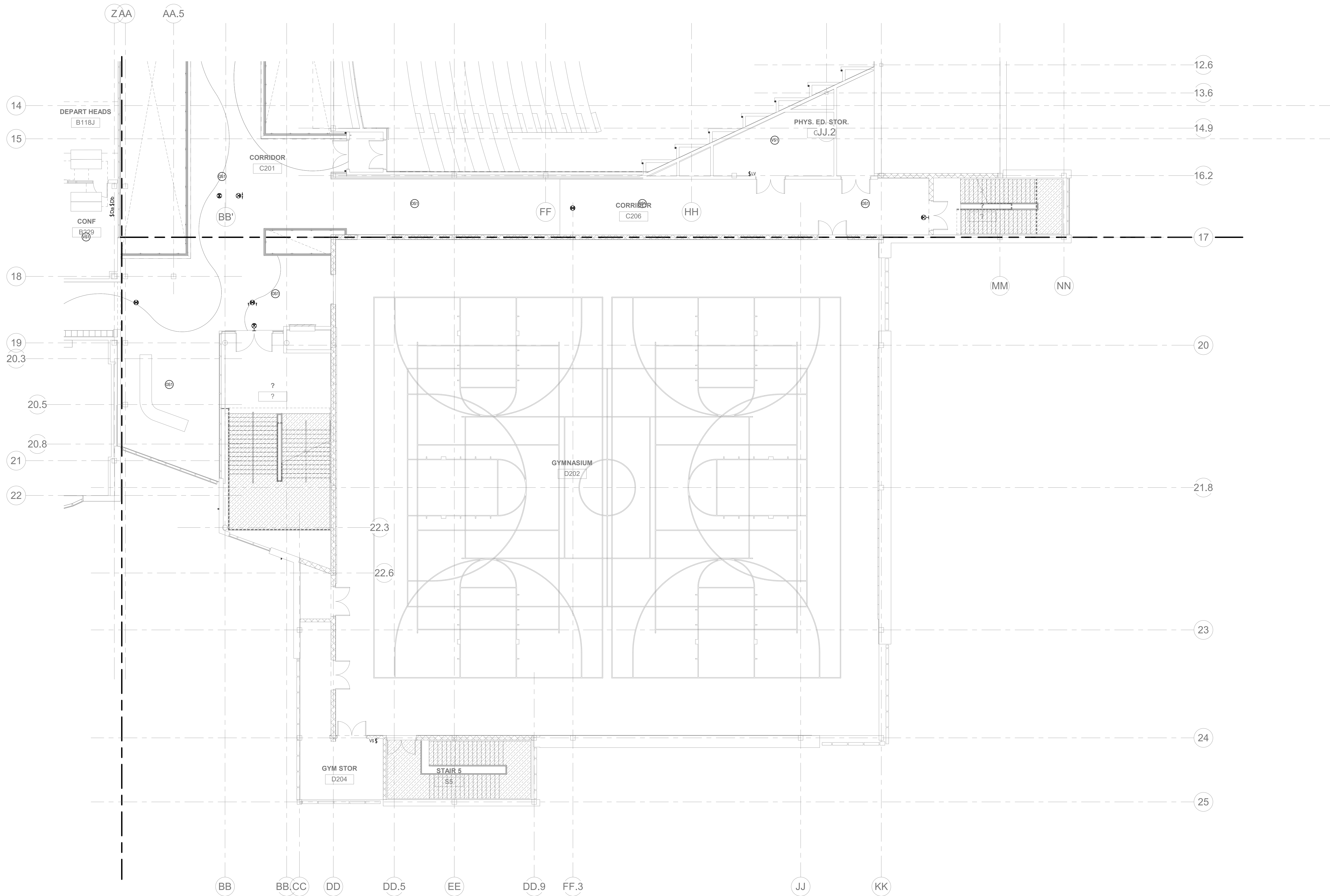


KEY PLAN



ELECTRICAL
LIGHTING
SECOND FLOOR
PLAN - AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-2D



1 ELECTRICAL LIGHTING Level 2 Area D
1/8" = 1'-0"

1. REFER TO 0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO 0-0.4 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO 0-0.4-16 FOR LIGHTING CONTROL, RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL, RCPs FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER MECHANICAL. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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Scale: 1" = 10'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-3A

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LIGHTING GENERAL NOTES:

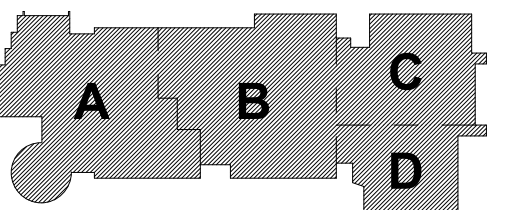
1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNERS PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-4 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-16 FOR LIGHTING CONTROL RISER DIAGRAM.
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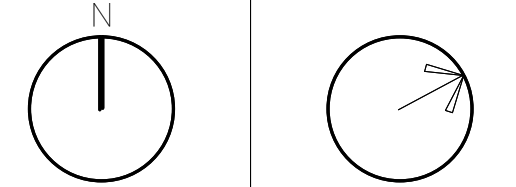
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August 4th, 2022



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



**ELECTRICAL
LIGHTING THIRD
FLOOR PLAN -
AREA B**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-3B

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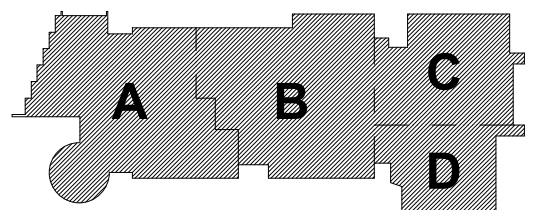
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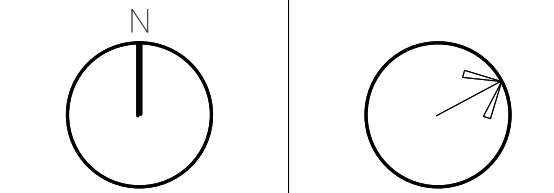
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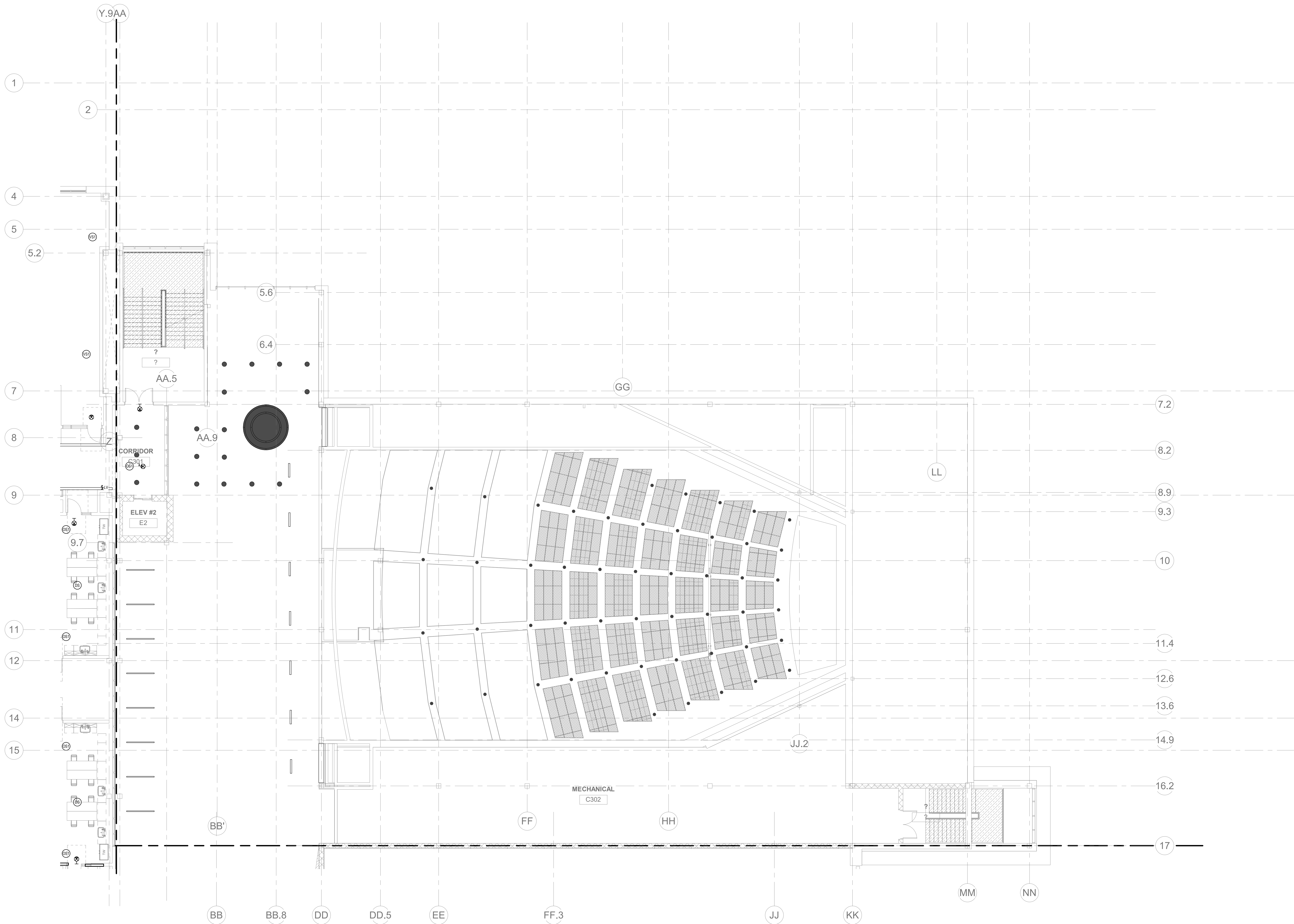
KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
LIGHTING THIRD
FLOOR PLAN -
AREA C

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-3C



1 ELECTRICAL LIGHTING Level 3 Area C
1/8" = 1'-0"



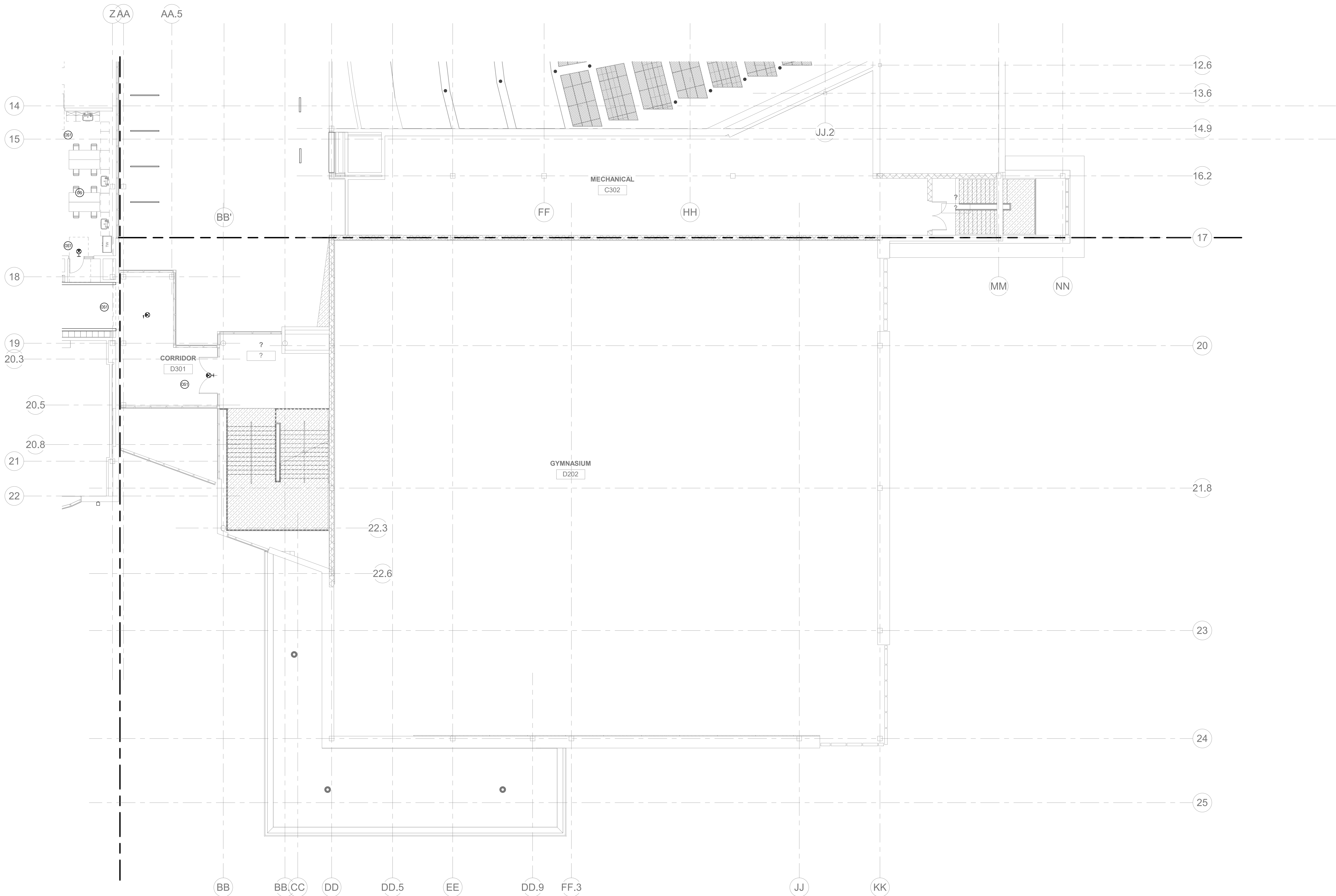
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LIGHTING GENERAL NOTES:

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2. REFER TO E4-0-0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-0-16 FOR LIGHTING CONTROL RISER DIAGRAM.
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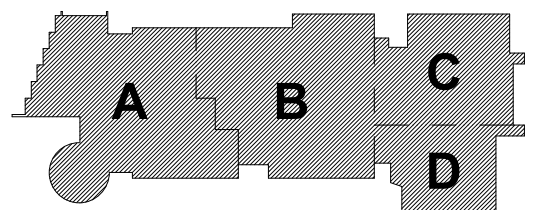


1 ELECTRICAL LIGHTING Level 3 Area D
1/8" = 1'-0"

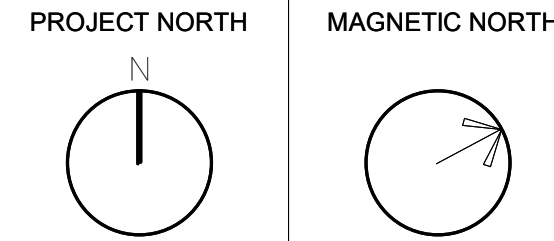
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August 4th, 2022



KEY PLAN



ELECTRICAL
LIGHTING THIRD
FLOOR PLAN -
AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-3D

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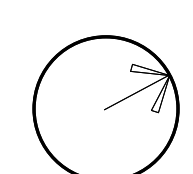
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MAGNETIC NORTH



**ELECTRICAL
LIGHTING
FOURTH FLOOR
PLAN - AREA A**

Printed by: DRA
Date: August 14, 2008

E2-1-4A

LIGHTING GENERAL NOTES:

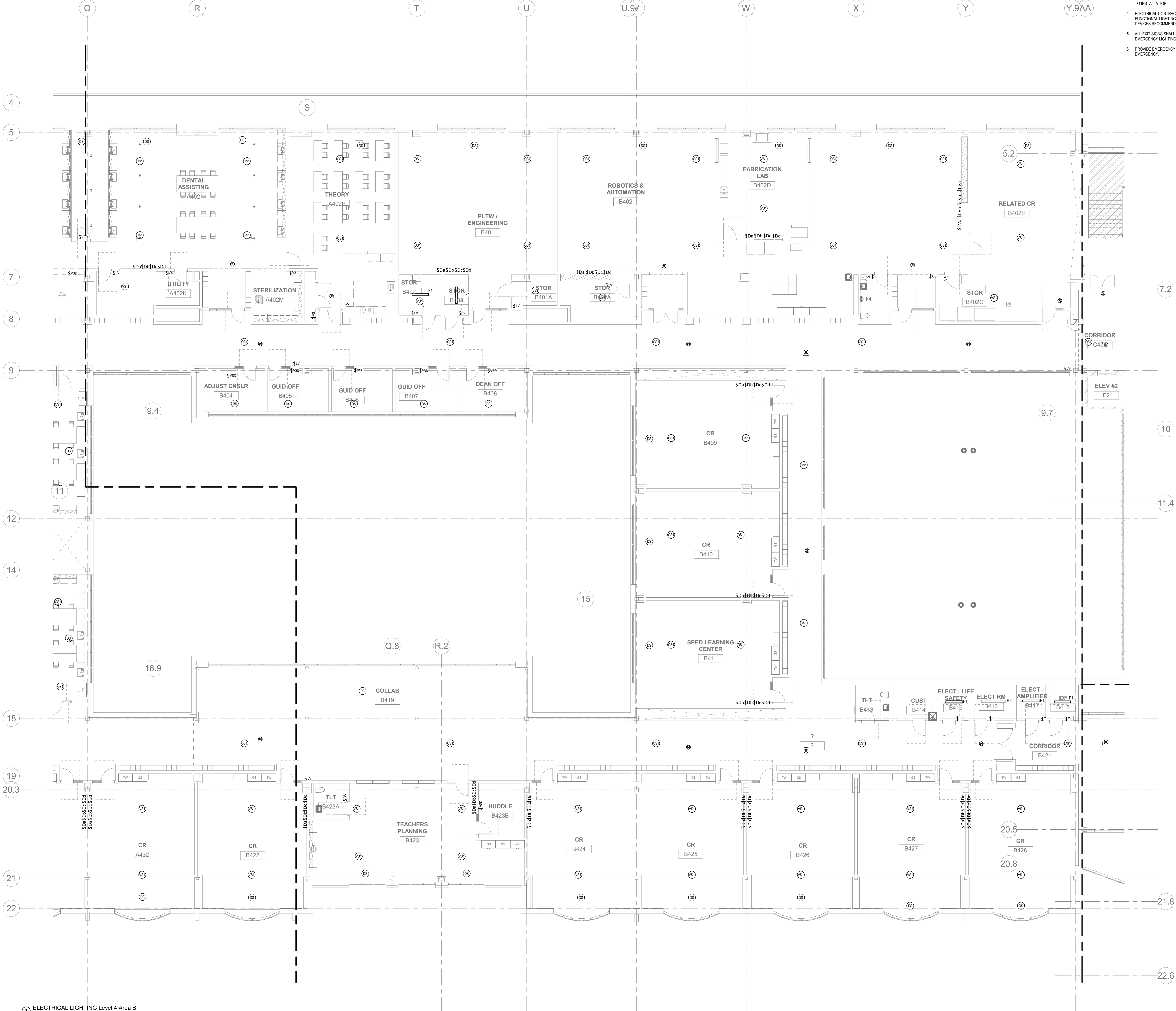
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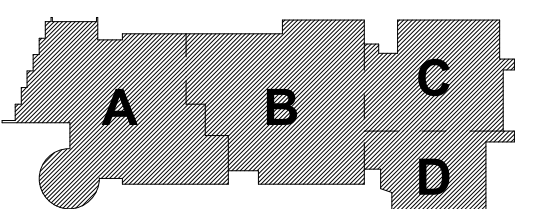


1 ELECTRICAL LIGHTING Level 4 Area B
1/8" = 1'-0"

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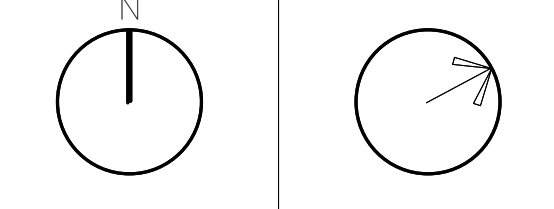
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SUBMISSION
August 4th, 2022



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



ELECTRICAL
LIGHTING
FOURTH FLOOR
PLAN - AREA B

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-4B



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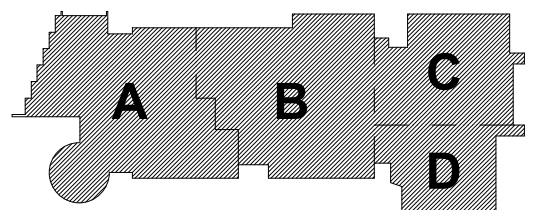
LIGHTING GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-0.0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-0.16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RIPS FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
4. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM. PROVIDE EXACT TYPES AND QUANTITIES OF DEVICES RECOMMENDED BY MANUFACTURER FOR A COMPLETE SYSTEM.
5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.

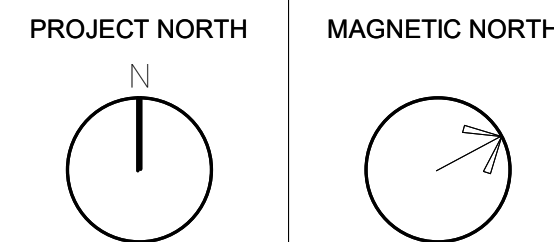
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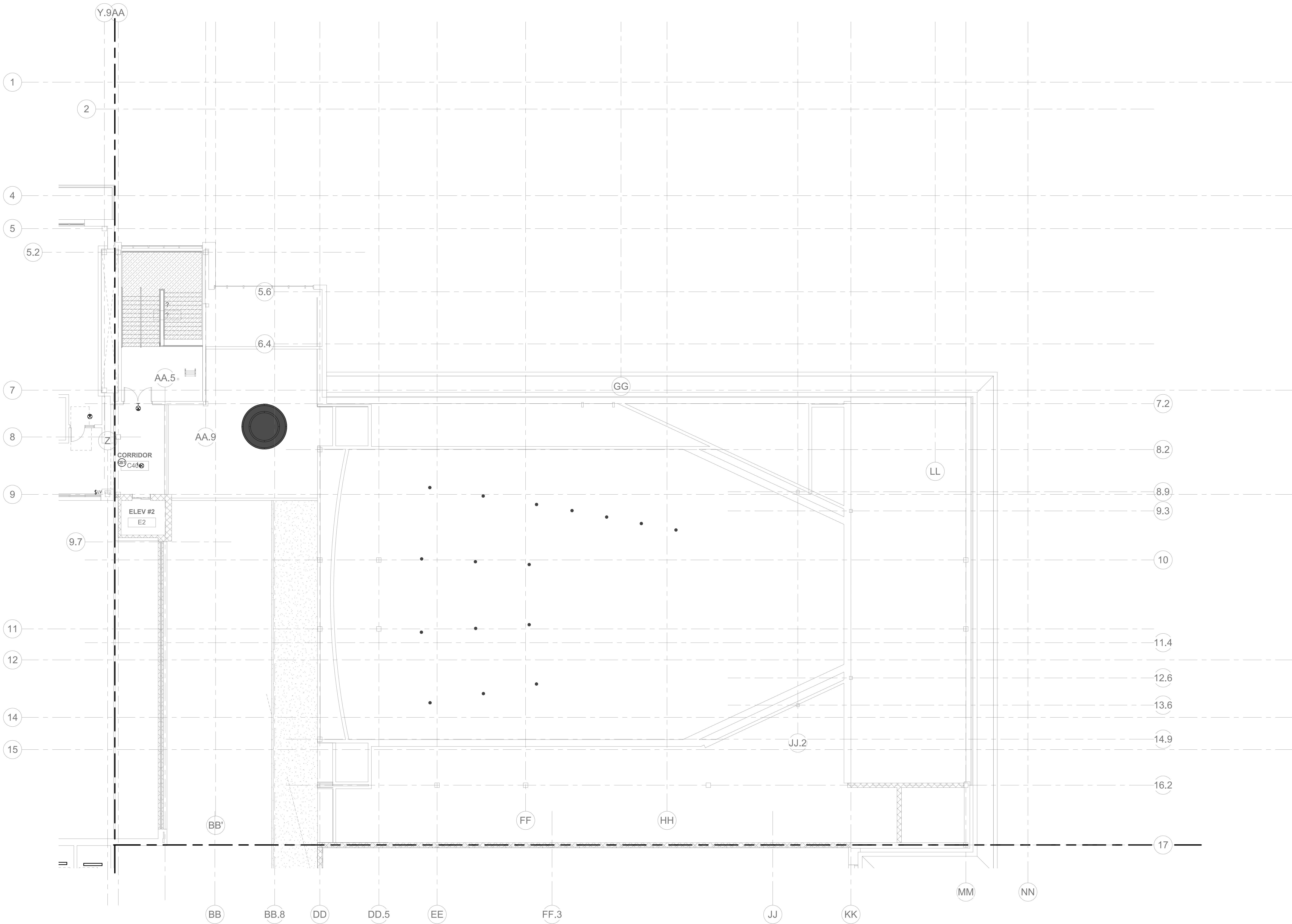


KEY PLAN



**ELECTRICAL
LIGHTING
FOURTH FLOOR
PLAN - AREA C**

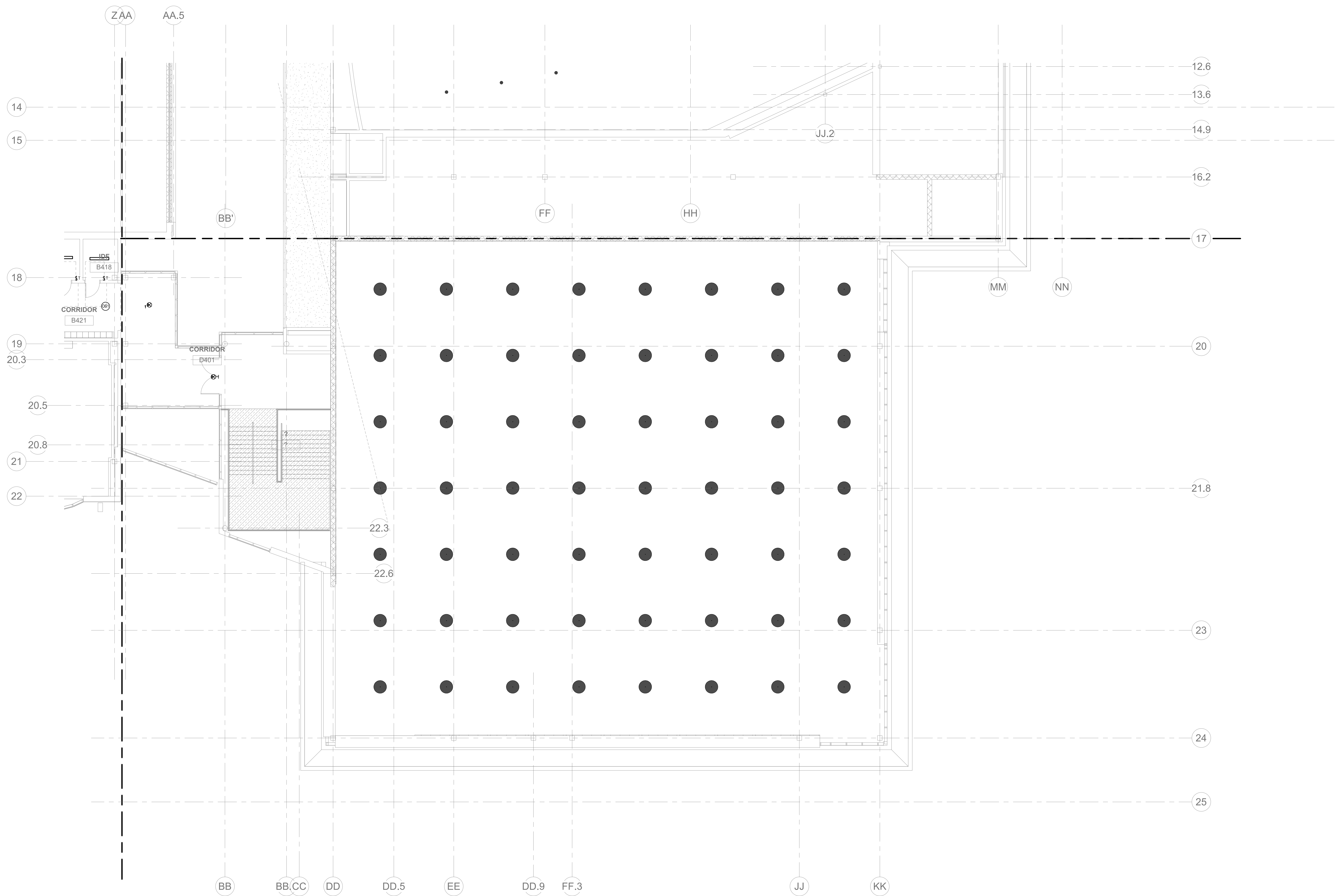
Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-4C



1 ELECTRICAL LIGHTING Level 4 Area C
1/8" = 1'-0"

LIGHTING GENERAL NOTES:

1. REFER TO E4-3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNERS PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E4-4-0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO E4-5-16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNERS PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS. REFER TO ARCHITECTURAL RCP'S FOR CEILING TYPES, HEIGHTS, AND CONDITIONS. COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM, AND OTHER EQUIPMENT. COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
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5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.



① ELECTRICAL LIGHTING Level 4 Area D
1/8" = 1'-0"

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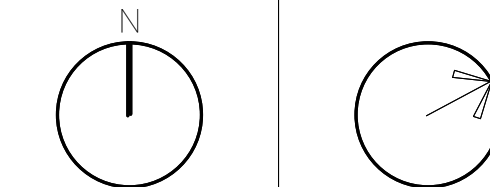
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August 4th, 2022

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SUBMISSION
August 4th, 2022

A B C
D

KEY PLAN

PROJECT NORTH
MAGNETIC NORTH



ELECTRICAL
LIGHTING
FOURTH FLOOR
PLAN - AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E2-1-4D

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1. REFER TO E-0.3 FOR NOTES ON ELECTRICAL SCOP, WORK, AND SCOPE OF WORK CURRENTLY SHOWN FOR THE LIGHTING DESIGNERS PLANS BUT NOT THE ELECTRICAL PLANS.
2. REFER TO E-4.0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS; REFER TO E-4.16 FOR LIGHTING CONTROL RISER DIAGRAM.
3. REFER TO LIGHTING DESIGNER'S PLANS FOR LIGHT FIXTURE TYPES, QUANTITIES, AND LOCATIONS; REFER TO ARCHITECTURAL ROPS FOR CEILING TYPES, HEIGHTS, AND CONDITIONS; COORDINATE LOCATION OF FIXTURES WITH CEILING SYSTEM AND OTHER EQUIPMENT; COORDINATE EXACT MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
4. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND FULLY FUNCTIONAL LIGHTING CONTROL SYSTEM PROVIDE EXACT TYPES AND QUANTITIES OF DEVICES AND EQUIPMENTED AS MANUFACTURER'S CATALOGS AND SPECIFICATIONS.
5. ALL EXIT SIGNS SHALL BE CONNECTED TO LINE SIDE (UNSWITCHED) OF NEARBY EMERGENCY LIGHTING BRANCH CIRCUIT.
6. PROVIDE EMERGENCY BYPASS RELAY FOR ALL FIXTURES DESIGNATED AS EMERGENCY.



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KEY PLAN

PROJECT NORTH

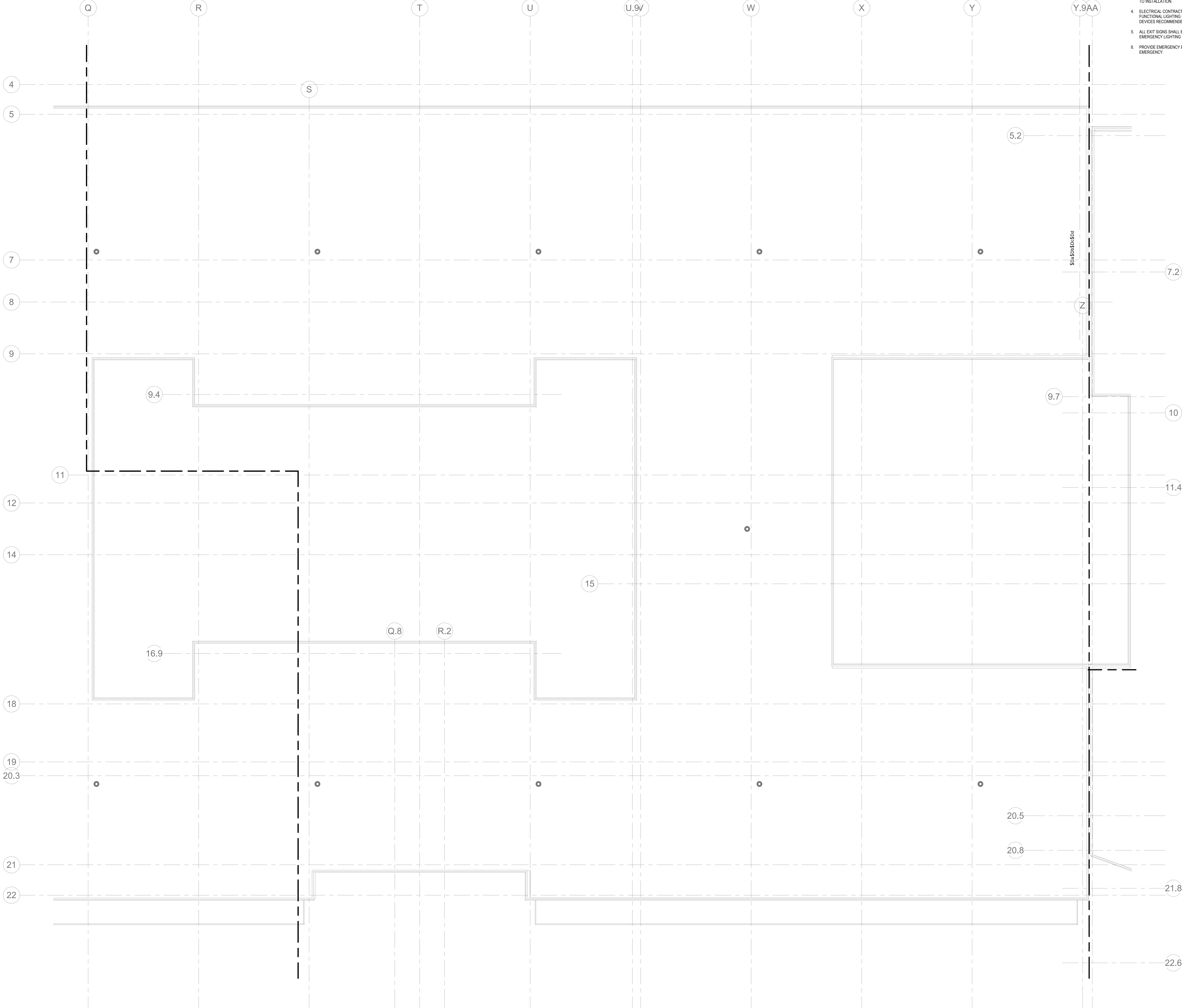
MAGNETIC NORTH

Scale: $1'' = 10^{+0}''$
 No.: 20202
 Drawn By: DRA
 Date: August 4th, 2022

E2-2-1A

LIGHTING GENERAL NOTES:

1. REFER TO ED-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
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KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

ELECTRICAL
LIGHTING ROOF
PLAN - AREA B

Scale: 1/8" = 1'-0"
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E2-2-1B

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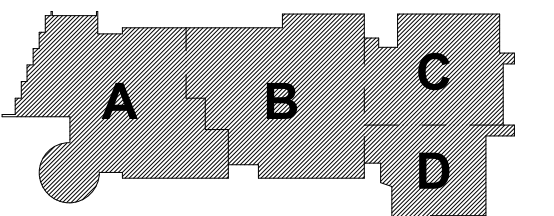
LIGHTING GENERAL NOTES:

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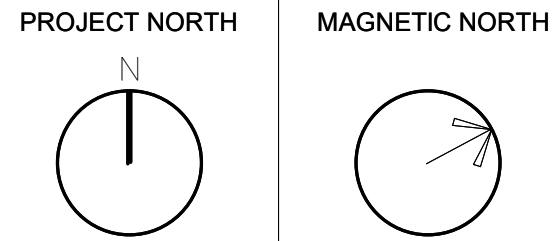
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August 4th, 2022

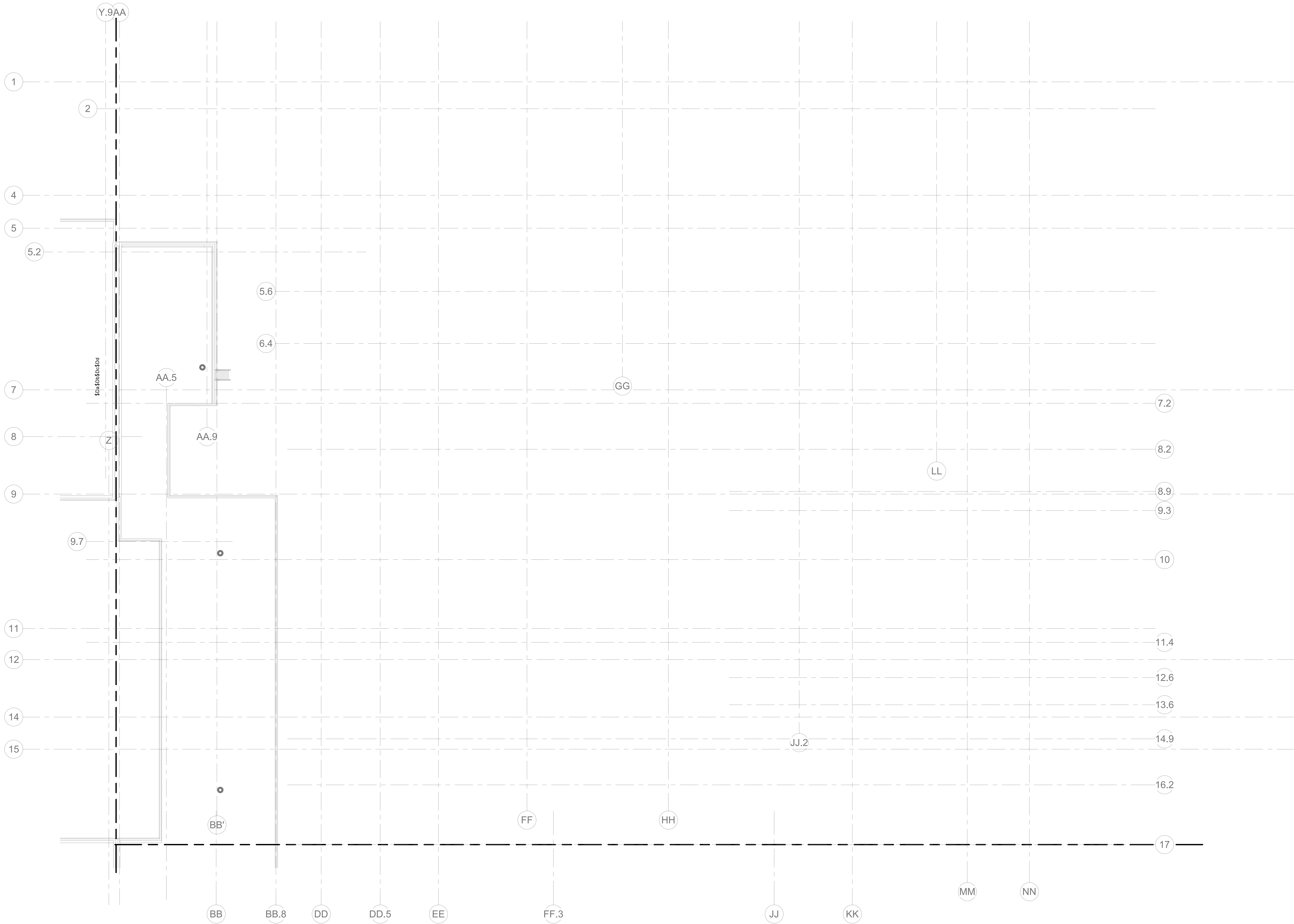


KEY PLAN



ELECTRICAL
LIGHTING ROOF
PLAN - AREA C

Scale: 1/8" = 1'-0"
Job No.: 20022
Drawn By: DRA
Date: August 4th, 2022
E2-2-1C



1 ELECTRICAL LIGHTING Main Roof Area C
1/8" = 1'-0"



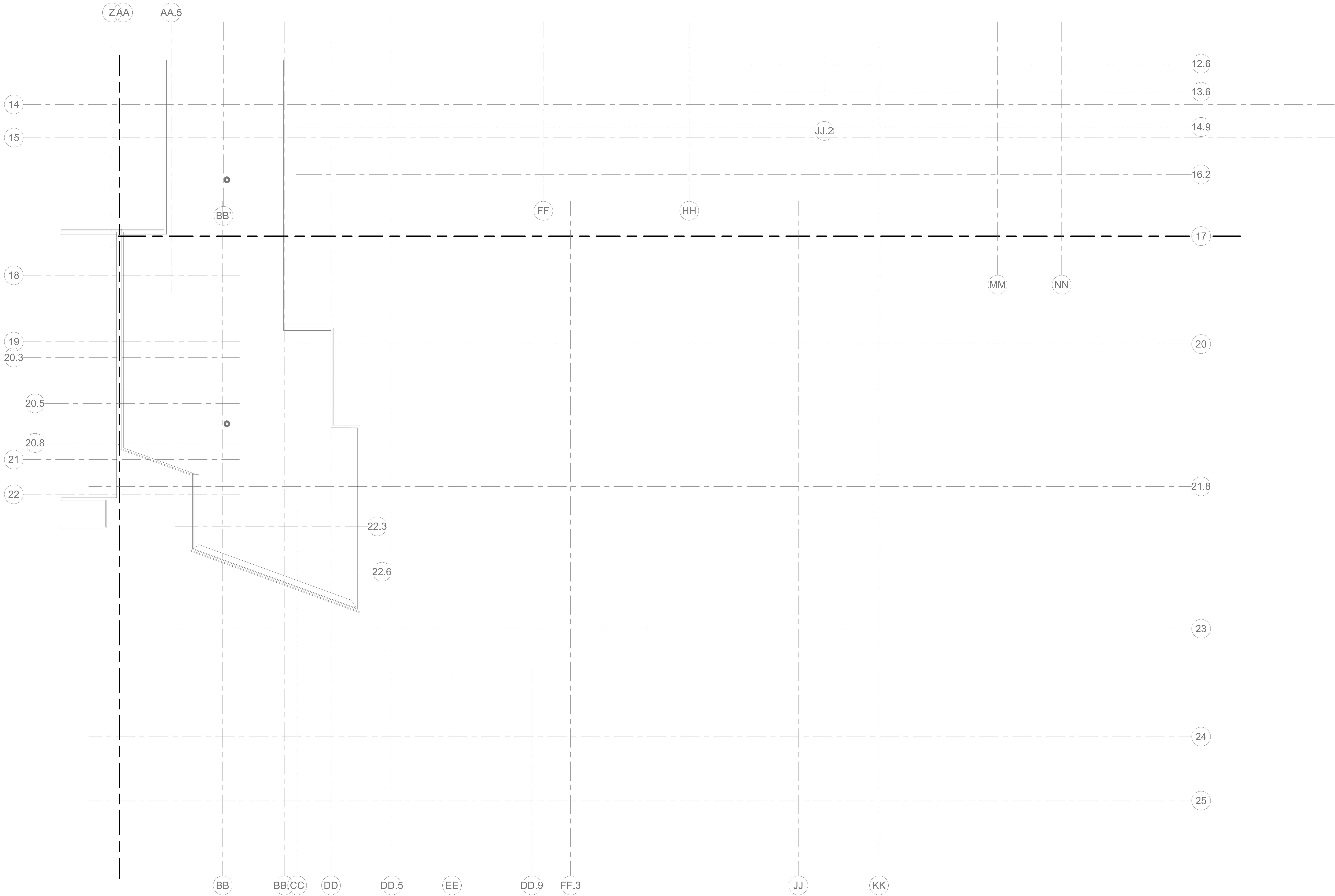
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LIGHTING GENERAL NOTES:

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2. REFER TO EA-4-0 FOR LIGHTING FIXTURE SCHEDULE AND LIGHTING SEQUENCE OF OPERATIONS. REFER TO EA-6-16 FOR LIGHTING CONTROL RISER DIAGRAM.
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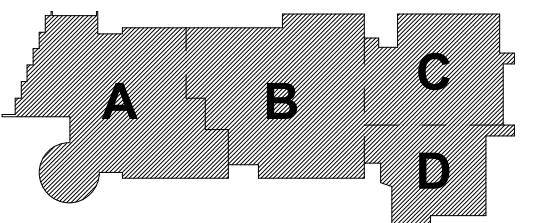


1 ELECTRICAL LIGHTING Main Roof Area D
1/8" = 1'-0"

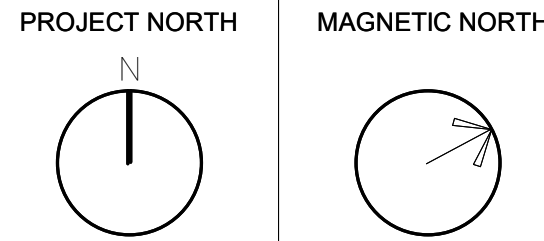
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KEY PLAN

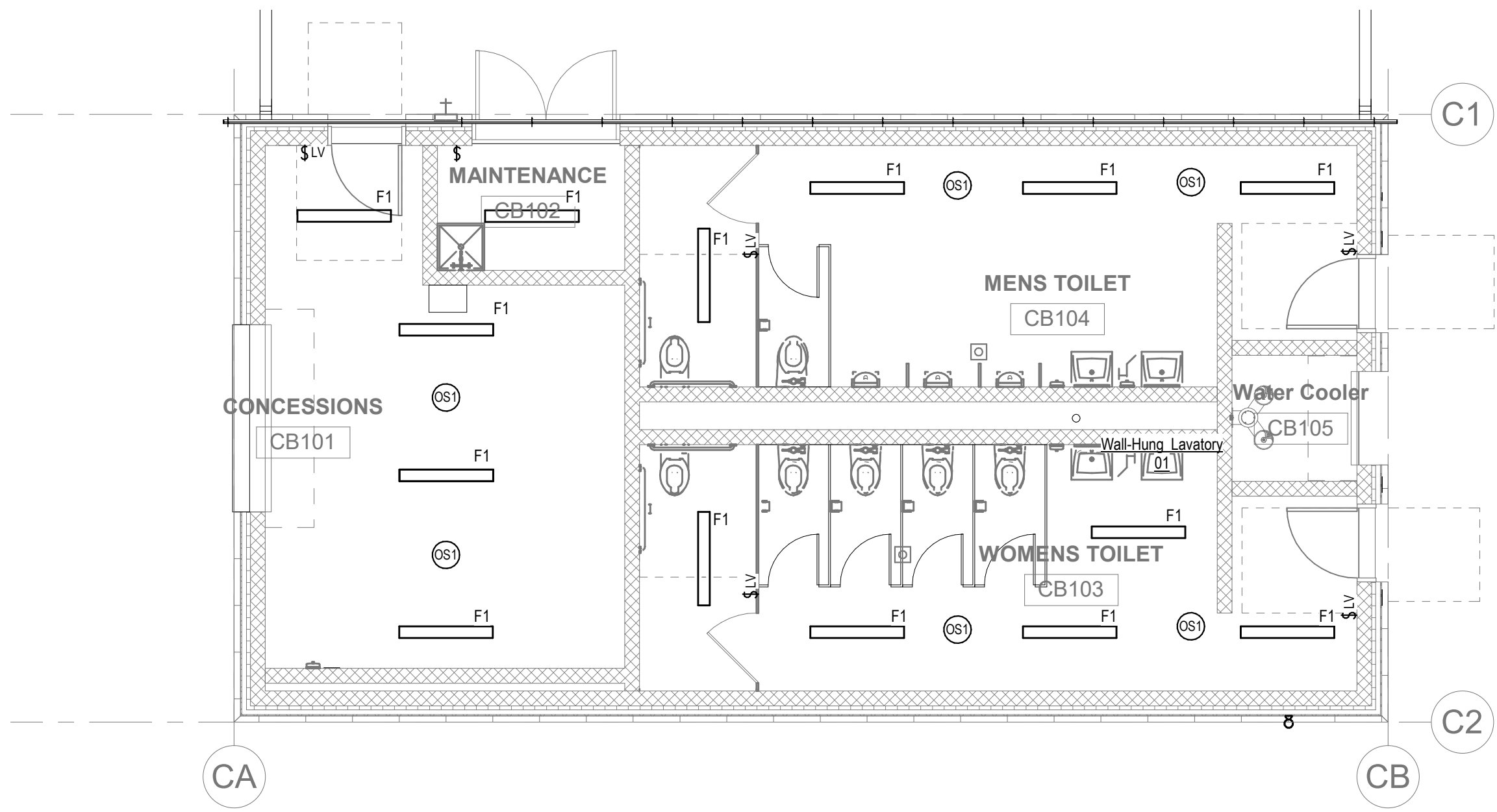


ELECTRICAL
LIGHTING ROOF
PLAN - AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-2-1D

LIGHTING GENERAL NOTES:

1. REFER TO E0-0.3 FOR NOTES ON ELECTRICAL SCOPE OF WORK, AND SCOPE OF WORK CURRENTLY SHOWN ON THE LIGHTING DESIGNER'S PLANS BUT NOT THE ELECTRICAL PLANS.
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1 ELECTRICAL - CONCESSIONS FLOOR LEVEL LIGHTING PLAN
E2-1-CB 3/16" = 1'-0"

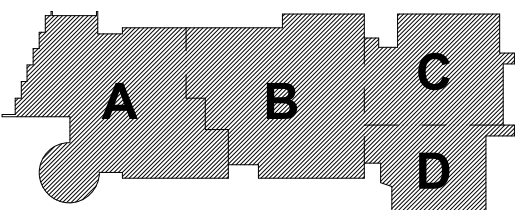
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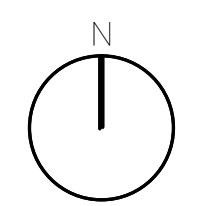


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August 4th, 2022

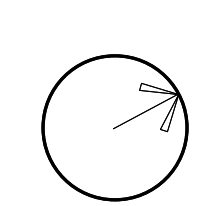


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



ELECTRICAL
LIGHTING
CONCESSIONS
BUILDING PLAN

Scale: 3/16" = 1'-0"

Job No.: 20202

Drawn By: DRA

Date: August 4th, 2022

E2-1-CB



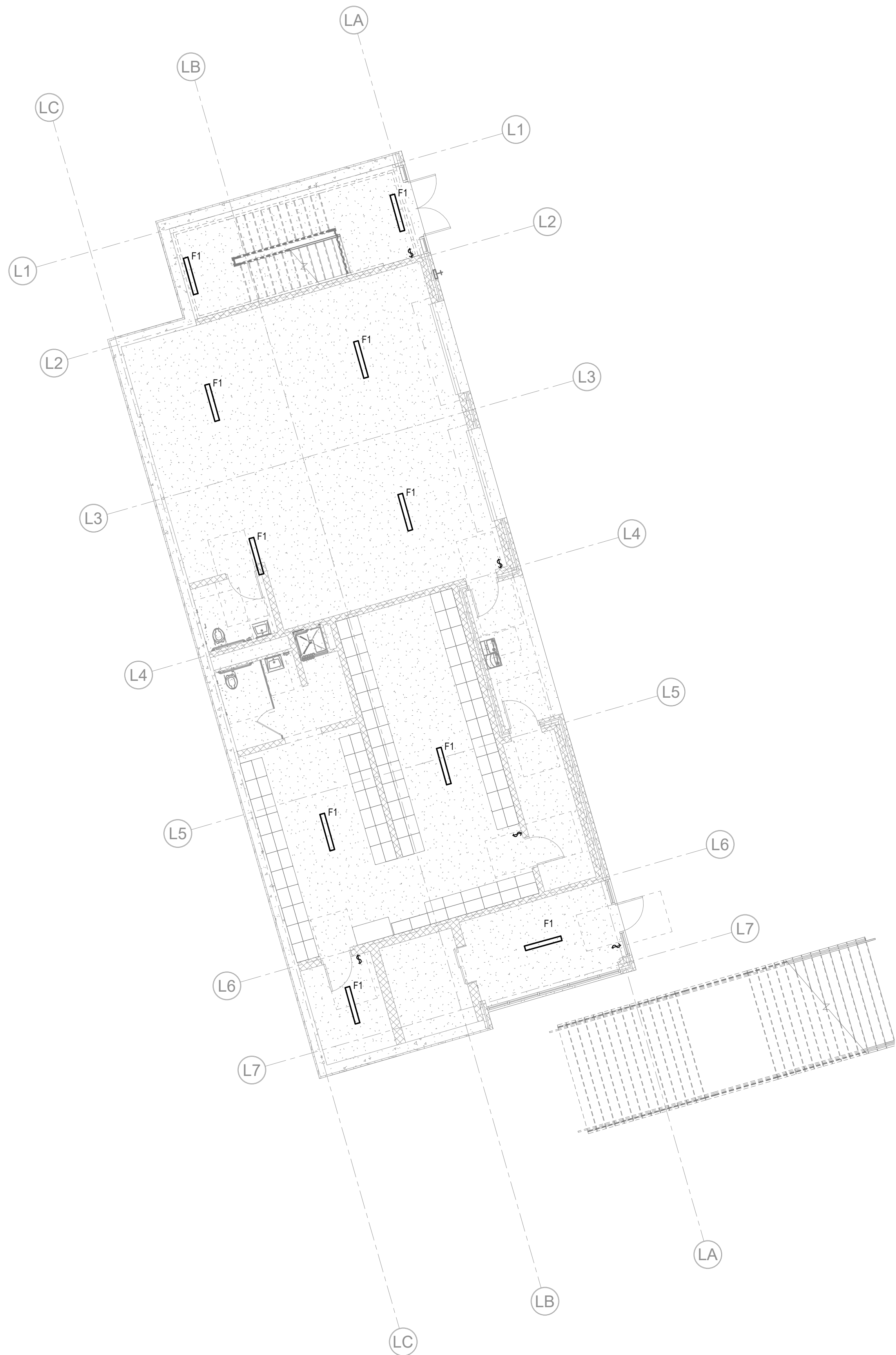
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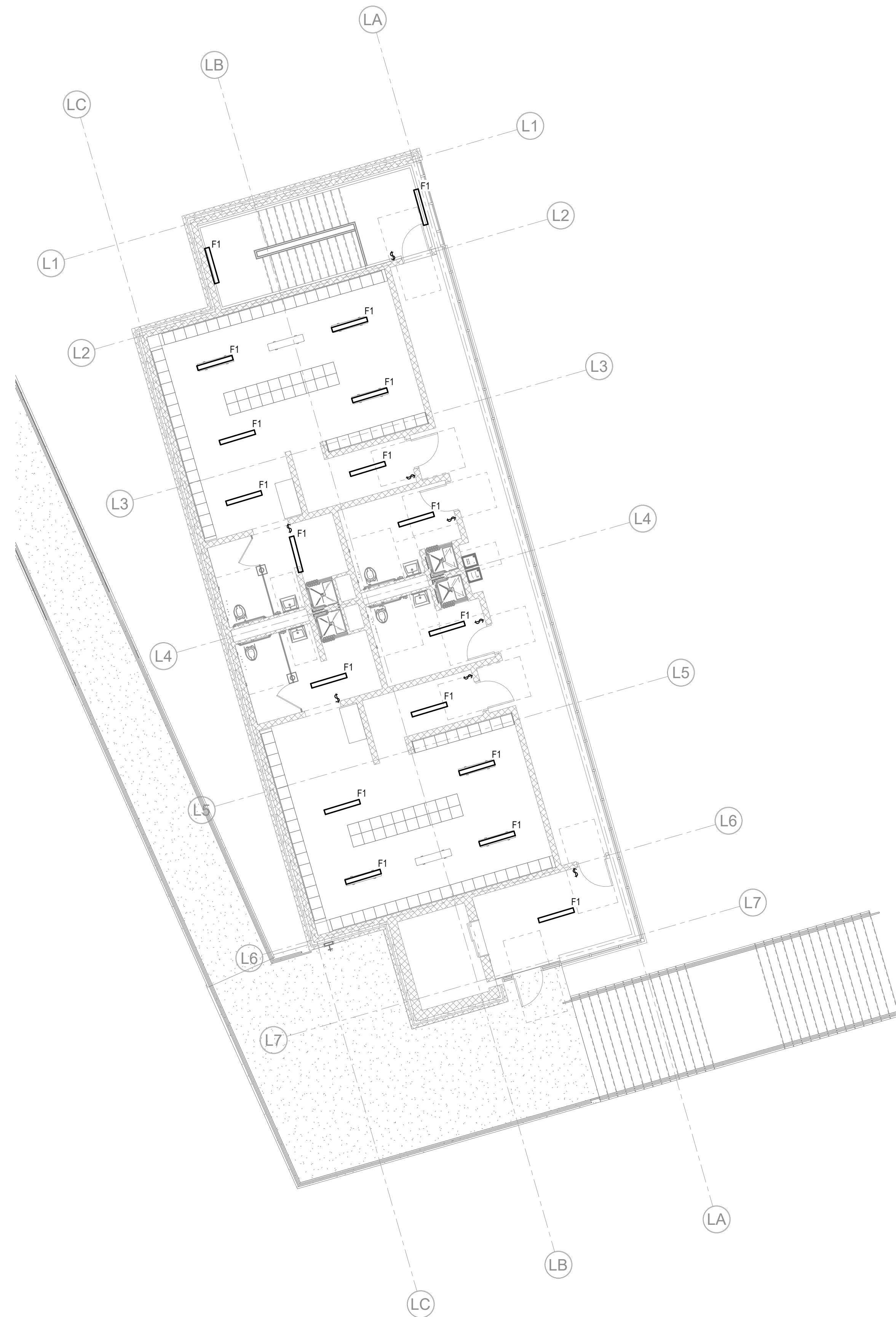
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LIGHTING GENERAL NOTES:

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1 ELECTRICAL LIGHTING Locker Building First Floor
E2-1-LB
1/8" = 1'-0"

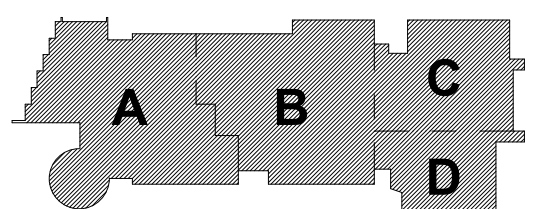


2 ELECTRICAL LIGHTING Locker Building Second Level
E2-1-LB
1/8" = 1'-0"

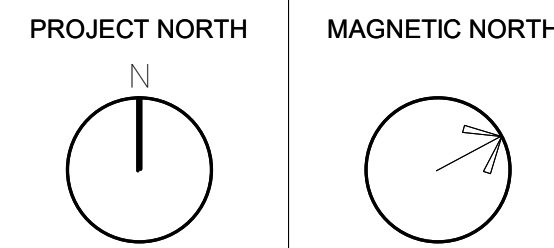
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DESIGNERS: ARCHITECTS, ENGINEERS, PLANNERS
CONSULTANTS: ARCHITECTS, ENGINEERS, PLANNERS

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SUBMISSION
August 4th, 2022



KEY PLAN



ELECTRICAL
LIGHTING
LOCKER
BUILDING PLAN

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-1-LB

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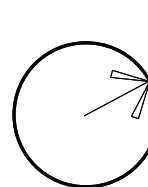
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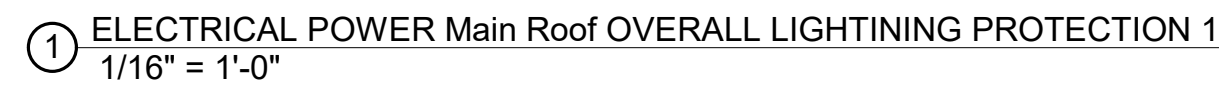
August 4th, 2022



MAGNETIC NORTH



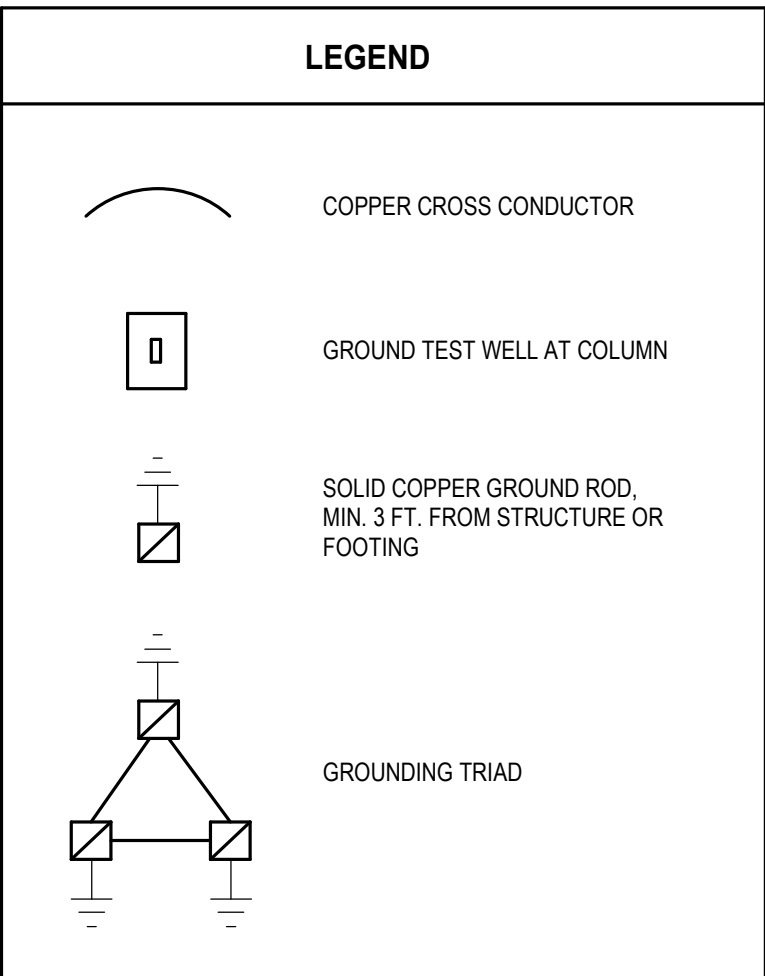
E2-1-MB



LIGHTNING PROTECTION NOTES:

1. REFER TO DRAWING E4-0.14 FOR LIGHTNING PROTECTION DETAILS.
2. LIGHTNING PROTECTION AIR TERMINAL LAYOUT AND THRU-ROOF LOCATIONS ARE PRELIMINARY ONLY. FINAL SYSTEM SHALL BE DESIGNED BY LIGHTNING PROTECTION CONTRACTOR.
3. AIR TERMINALS MUST BE OF TIP-OVER TYPE (SPRING ADAPTOR AND LANYARD).
4. ELECTRICAL CONTRACTOR SHALL TIE-IN PV SYSTEM TO LIGHTNING PROTECTION SYSTEM.

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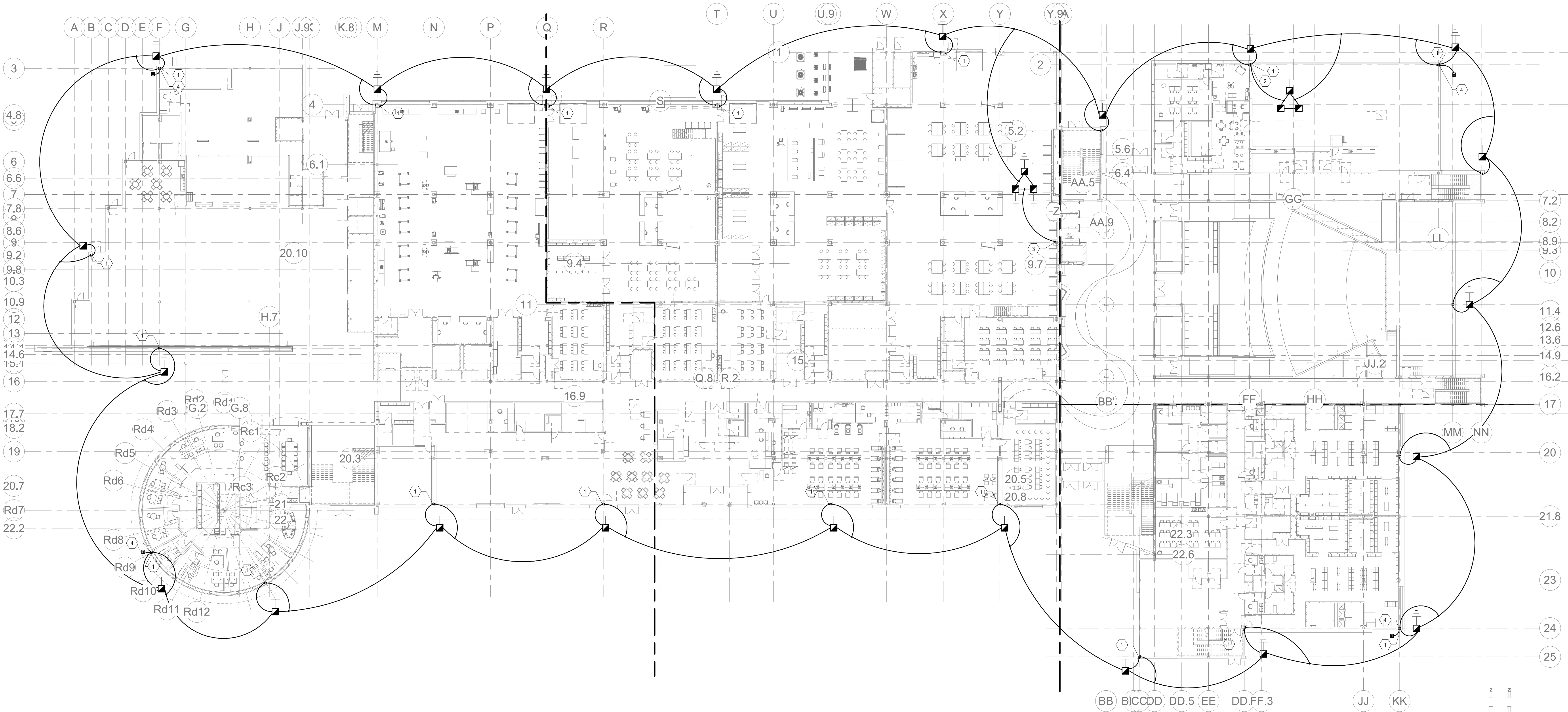


LIGHTNING PROTECTION GENERAL NOTES:

1. THE LIGHTNING PROTECTION SYSTEM AS SHOWN ON DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH UL96 & NFPA-780 LIGHTNING PROTECTION SYSTEM STANDARDS.
2. CONDUCTORS SHALL MAINTAIN A HORIZONTAL OR DOWNWARD COURSE, FREE FROM "U" OR "V" DOWN AND UP POCKETS.
3. NO BEND OF CONDUCTOR SHALL FORM AN ANGLE OF LESS THAN 90° NOR SHALL HAVE A RADIUS OF BEND LESS THAN 12".
4. ACTUAL JOBSITE CONDITIONS MAY REQUIRE SLIGHT ALTERATIONS IN DOWN CONDUCTOR, AND GROUND GROUND PLATES OR GROUNDING TRAD LOCATIONS.
5. BARE COPPER MATERIALS SHALL NOT BE INSTALLED ON ALUMINUM OR GALVUM SURFACES AND ALUMINUM MATERIALS SHALL NOT BE INSTALLED ON COPPER SURFACES.
6. ALL BOLTS ON BOLT-PRESSURE CONNECTORS SHALL BE TORQUED AT 150 POUND-INCHES (17N-m).
7. ALL CONNECTIONS MUST BE USED WITH UL LISTED CLASS II CABLE OF SAME METAL TYPE.
8. METALLIC BODIES OF INDUCTANCE SITUATED WITHIN 6" OF A LIGHTNING CONDUCTOR OR ANOTHER BONDED METAL BODY SHALL BE INTERCONNECTED TO THE LIGHTNING CONDUCTOR SYSTEM, UNLESS INHERENTLY GROUND.
9. CONNECTIONS TO GROUND RODS SHALL BE MADE AT A POINT NOT LESS THAN 1'-0" BELOW FINISHED GRADE AND AT LEAST 2'-0" AWAY FROM FOUNDATION WALL.
10. BOND TO WATERLINES (DOMESTIC & FIRE) AND GAS SERVICE LINES.
11. A LIGHTNING ARRESTOR, PROTECTOR OR ANTENNA DISCHARGE UNIT SHALL BE INSTALLED ON EACH ELECTRIC AND TELEPHONE SERVICE AND RADIO AND TELEVISION ANTENNA LEAD-IN BY THE ELECTRICAL CONTRACTOR, IN ACCORDANCE WITH NFPA-70.
12. THE INSTALLATION SHALL MEET THE REQUIREMENTS OF NFPA-780 STANDARD. CERTIFICATION SHALL BE PROVIDED UPON COMPLETION OF INSTALLATION.
13. PROVIDE GROUNDING TRAD WITH CONNECTION FOR ELECTRIC AND TELECOM SERVICE.
14. ELECTRICAL CONTRACTOR SHALL TEST RESISTANCE TO EARTH OF EQUIPMENT GROUNDING SYSTEM TO ENSURE COMPLIANCE WITH NEC ARTICLE 250 PRIOR TO POURING CONCRETE. CONTRACTOR TO ADD GROUND PLATES, IF REQUIRED, TO MEET MINIMUM RESISTANCE REQUIREMENTS.

LIGHTNING PROTECTION KEY NOTES:

1. SURFACE MOUNTED LIGHTNING PROTECTION DOWN CONDUCTOR, UP TO STEEL COLUMN AT LOWER OR GROUND LEVEL.
2. SURFACE MOUNTED GROUNDING ELECTRODE CONDUCTOR, UP TO STEEL COLUMN AT LOWER OR GROUND LEVEL. FOR CONNECTION TO GROUND BAR IN MAIN ELECTRICAL ROOM. SEE DETAIL # ON E-#4. PROVIDE BLACK ENAMEL EQUIPMENT TAG ON BOX WITH WHITE ENGRAVED UPPER CASE LETTERS. TAG SHALL SAY "GROUNDING ELECTRODE CONDUCTOR FOR EQUIPMENT GROUNDING SYSTEM".
3. SURFACE MOUNTED GROUNDING ELECTRODE CONDUCTOR, UP TO STEEL COLUMN AT LOWER OR GROUND LEVEL. FOR CONNECTION TO GROUND BAR IN MAIN ELECTRICAL ROOM. SEE DETAIL # ON E-#4. PROVIDE BLACK ENAMEL EQUIPMENT TAG ON BOX WITH WHITE ENGRAVED UPPER CASE LETTERS. TAG SHALL SAY "GROUNDING ELECTRODE CONDUCTOR FOR EQUIPMENT GROUNDING SYSTEM".
4. CONNECTION TO GROUND TEST WELL.



1 ELECTRICAL Level 1 OVERALL - LIGHTNING PROTECTION PLAN
1" = 20'-0"

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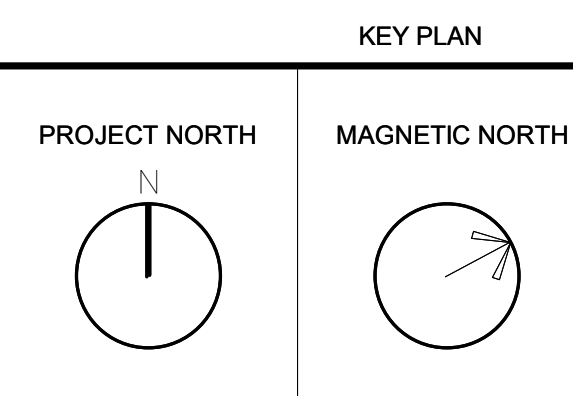
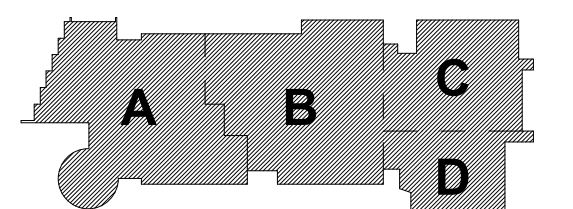
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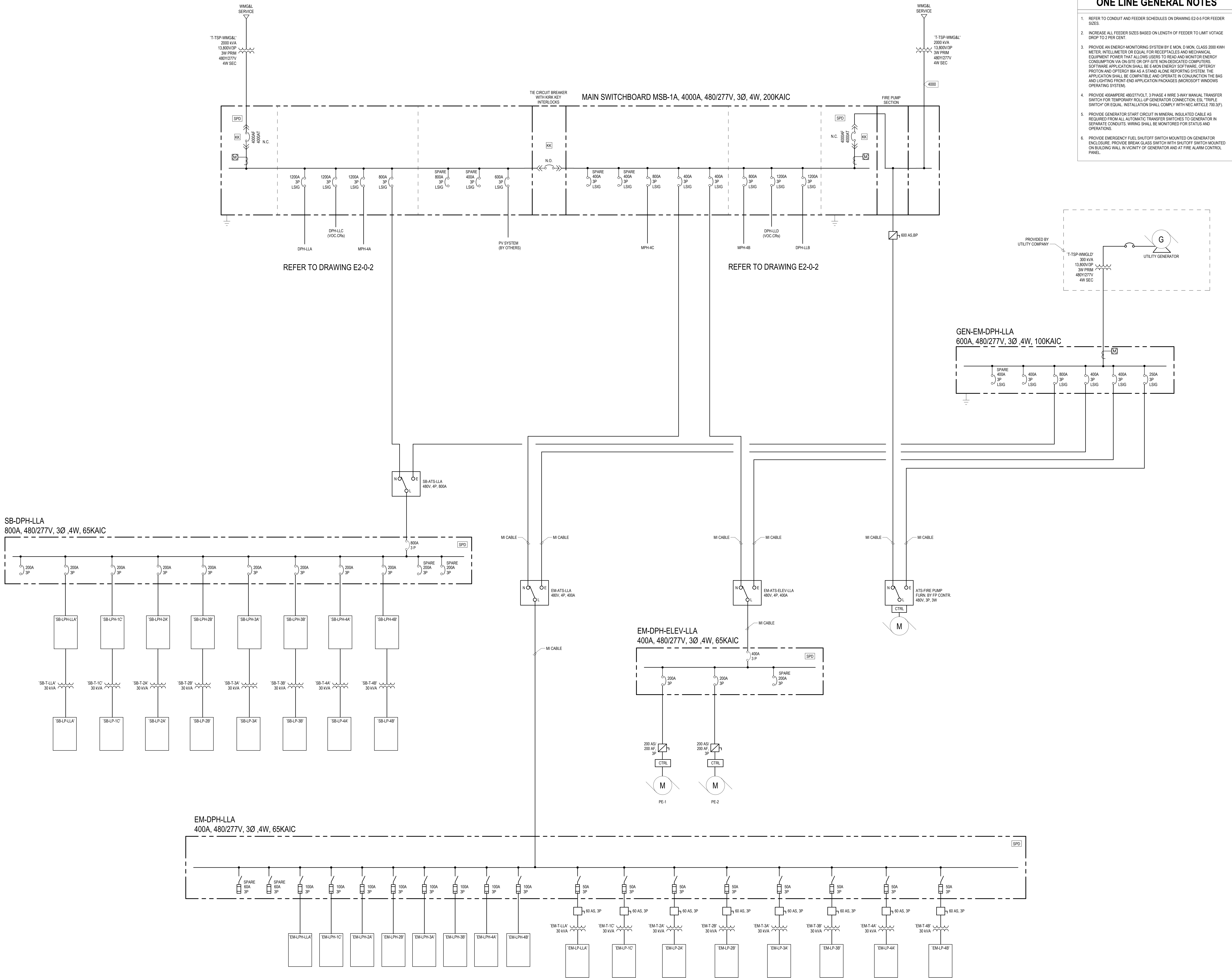
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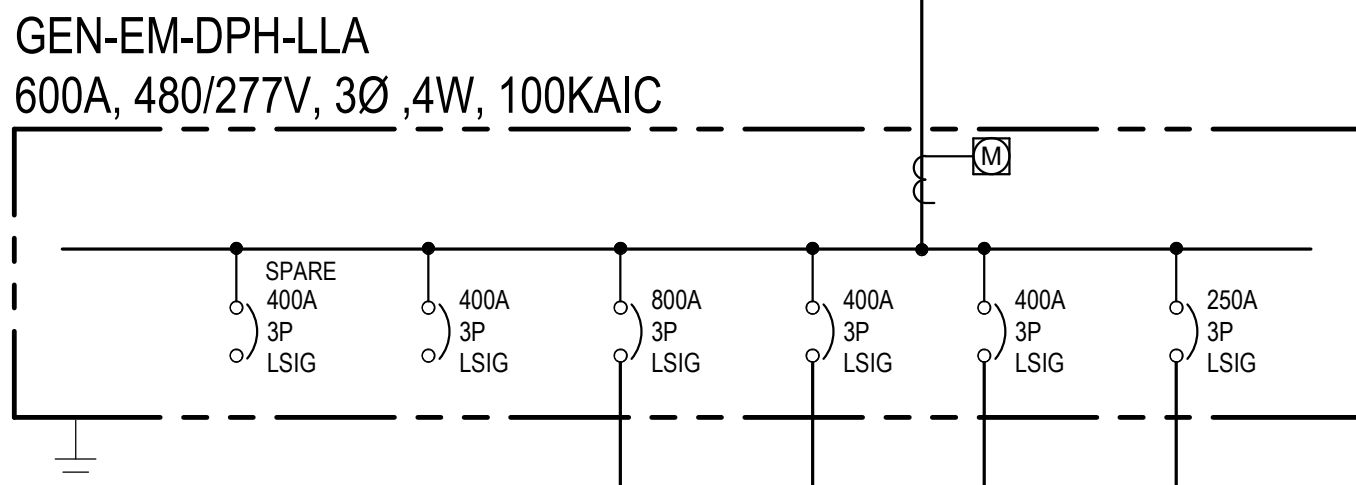
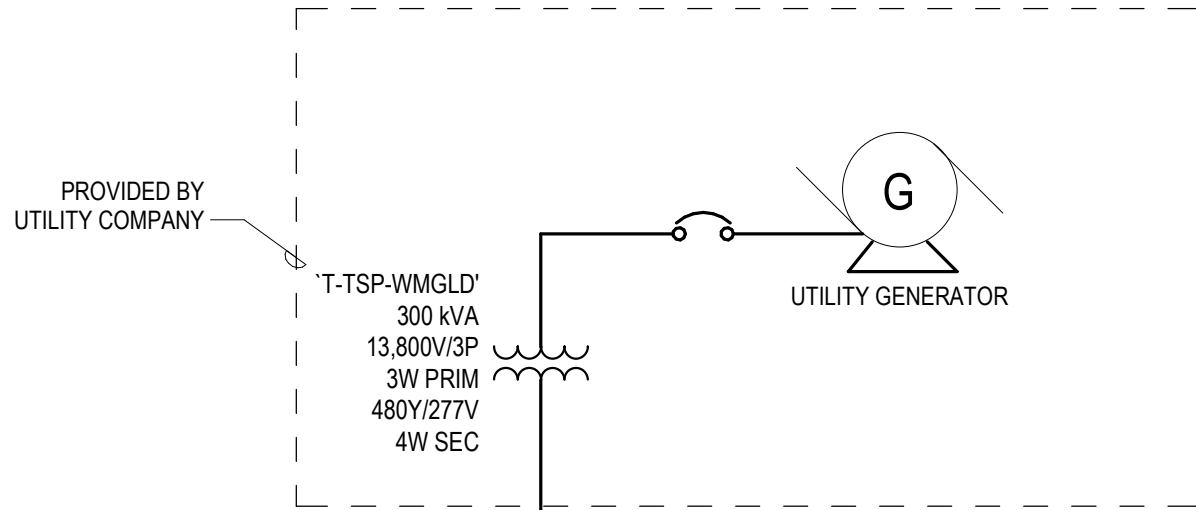


LIGHTNING
PROTECTION
PLAN -
UNDERSLAB
LAYOUT

Scale: 1" = 20'-0"
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E2-3-2



- ONE LINE GENERAL NOTES**
1. REFER TO CONDUIT AND FEEDER SCHEDULES ON DRAWING E2-0.5 FOR FEEDER SIZES.
 2. INCREASE ALL FEEDER SIZES BASED ON LENGTH OF FEEDER TO LIMIT VOLTAGE DROP TO 2 PER CENT.
 3. PROVIDE AN ENERGY MONITORING SYSTEM BY E-MON, D-MON, CLASS 2000 KWH METER, INTELLEMETER OR EQUAL FOR RECEPTACLES AND MECHANICAL EQUIPMENT POWER THAT ALLOWS USERS TO READ AND MONITOR ENERGY CONSUMPTION VIA ON-SITE OR OFF-SITE NON-DEDICATED COMPUTERS. SOFTWARE APPLICATION SHALL BE E-MON ENERGY SOFTWARE, OPTERGY PROTON AND OPTERGY 864 AS A STAND ALONE REPORTING SYSTEM. THE APPLICATION SHALL BE COMPATIBLE AND OPERATE IN CONJUNCTION THE BAS AND LIGHTING FRONT-END APPLICATION PACKAGES (MICROSOFT WINDOWS OPERATING SYSTEM).
 4. PROVIDE 400AMPERE 480/277VOLT, 3 PHASE 4 WIRE 3-WAY MANUAL TRANSFER SWITCH FOR TEMPORARY ROLL-UP GENERATOR CONNECTION, ESL, TRIPLE SWITCH OR EQUAL. INSTALLATION SHALL COMPLY WITH NEC ARTICLE 700.3(F).
 5. PROVIDE GENERATOR START CIRCUIT IN MINERAL INSULATED CABLE AS REQUIRED FROM ALL AUTOMATIC TRANSFER SWITCHES TO GENERATOR IN SEPARATE CONDUITS. WIRING SHALL BE MONITORED FOR STATUS AND OPERATIONS.
 6. PROVIDE EMERGENCY FUEL SHUTOFF SWITCH MOUNTED ON GENERATOR ENCLOSURE. PROVIDE BREAK GLASS SWITCH WITH SHUTOFF SWITCH MOUNTED ON BUILDING WALL IN VICINITY OF GENERATOR AND AT FIRE ALARM CONTROL PANELS.



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August 4th, 2022

PROJECT NORTH
MAGNETIC NORTH

ELECTRICAL SINGLE LINE DIAGRAM SHEET #1

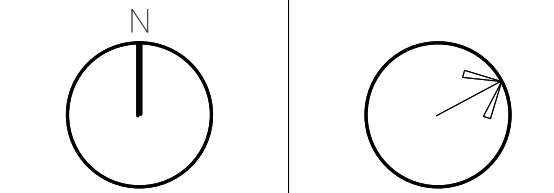
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Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E3-0-0

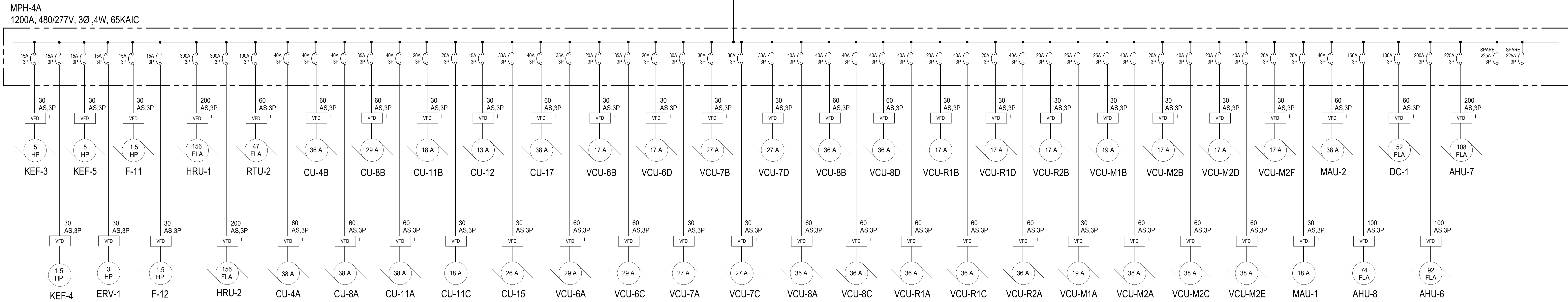
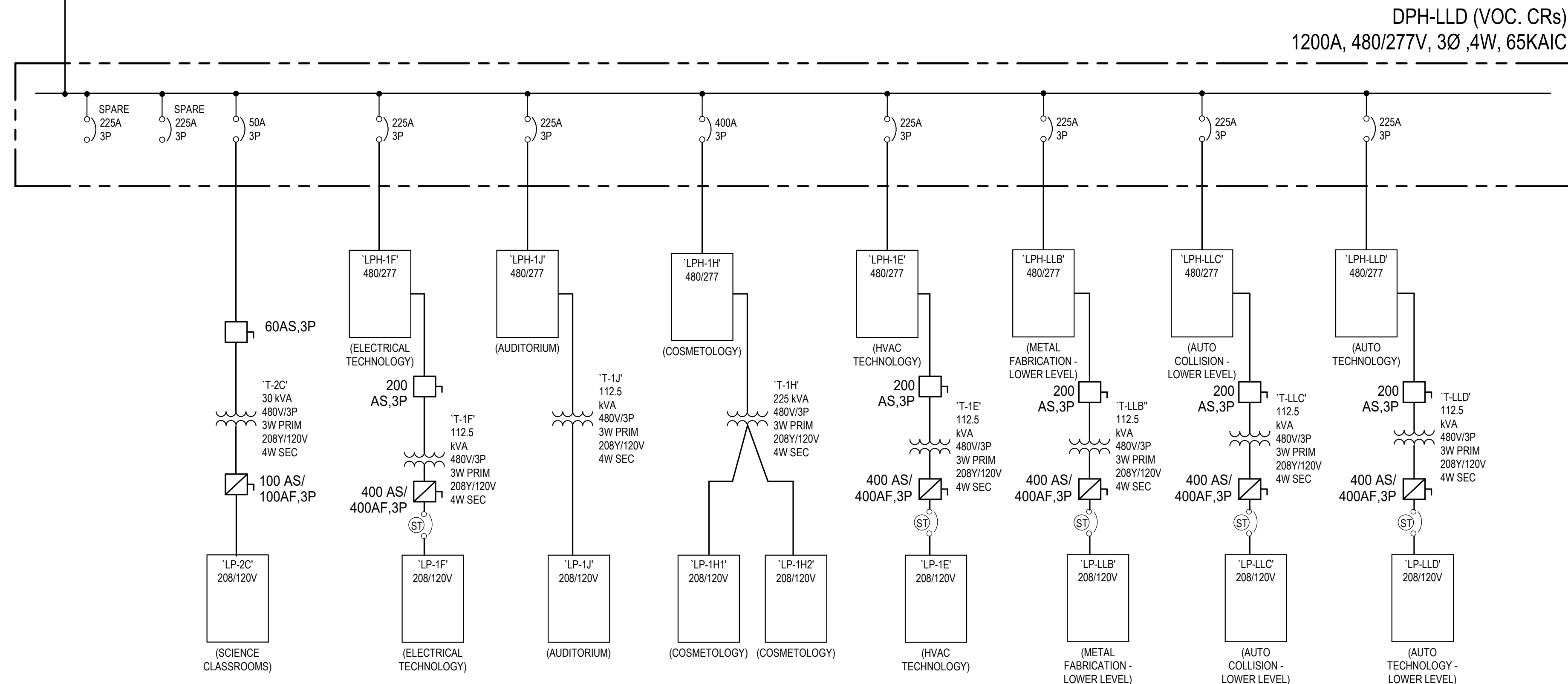
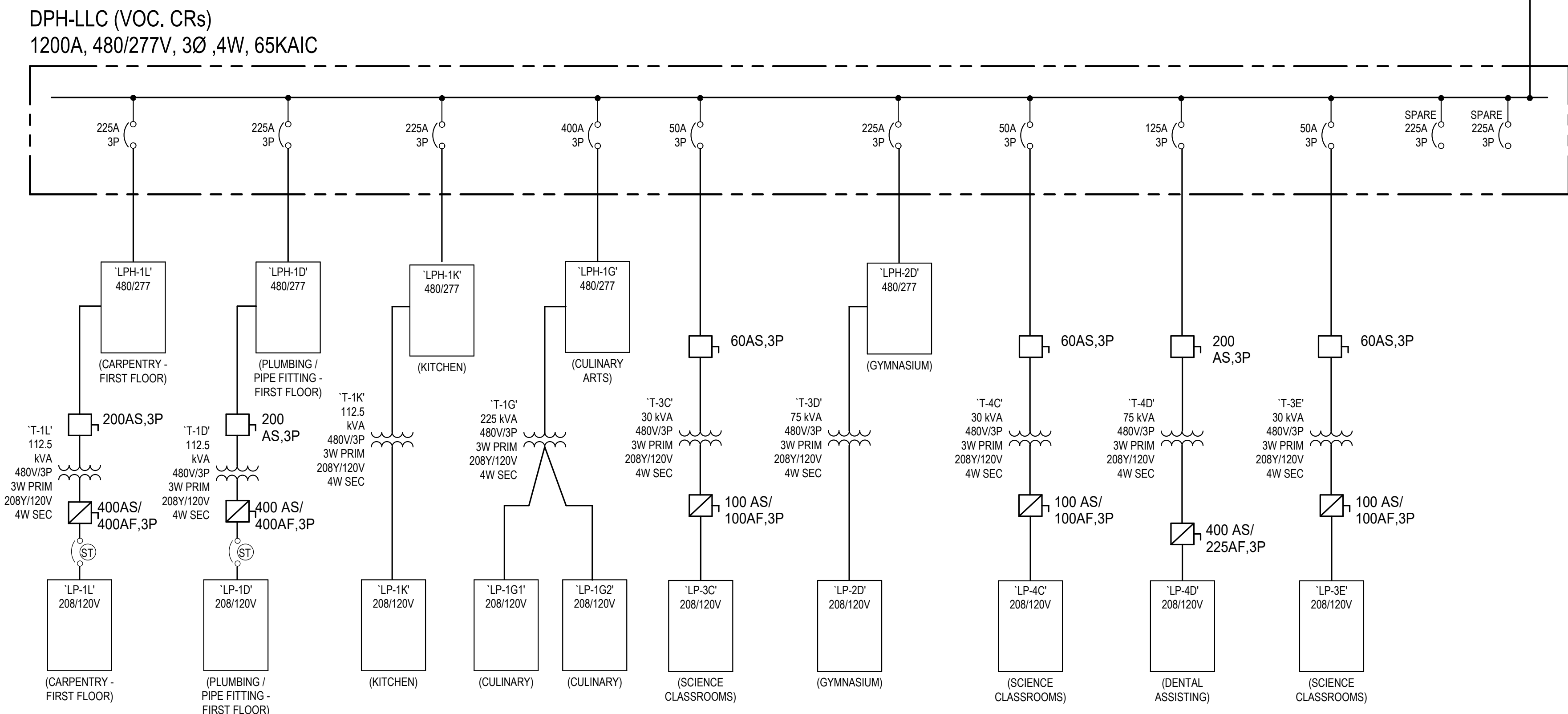
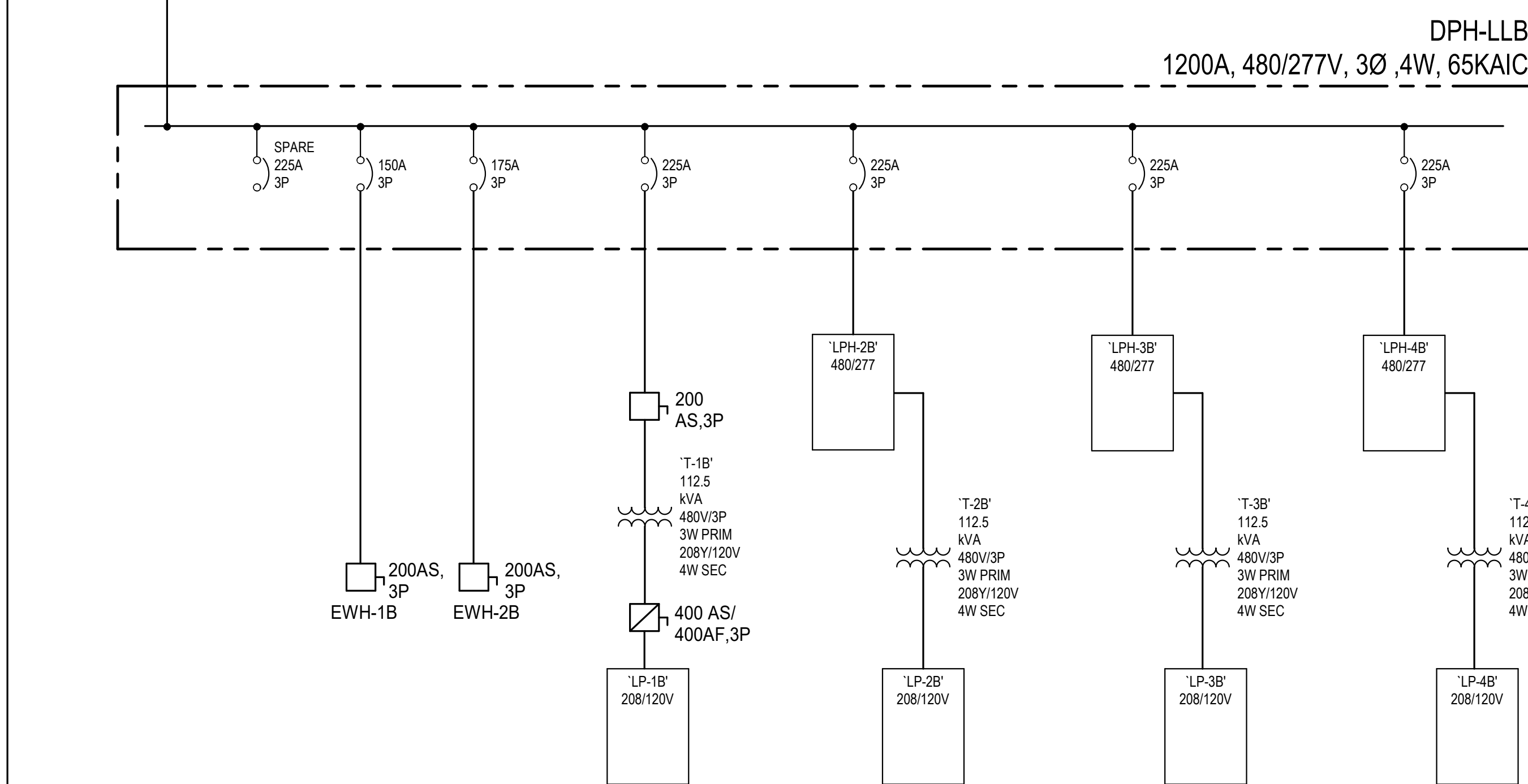
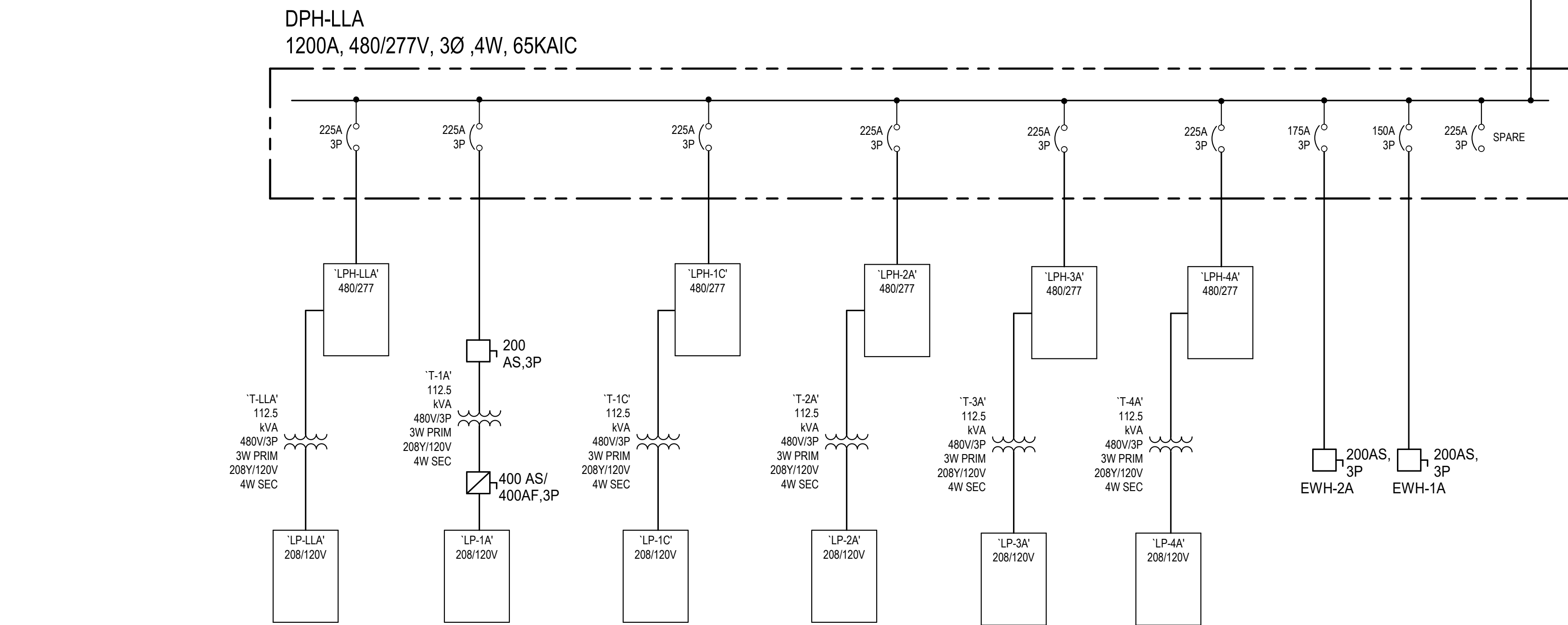
ONE LINE GENERAL NOTES

1. REFER TO CONDUIT AND FEEDER SCHEDULES ON DRAWING E2-0-5 FOR FEEDER SIZES.
2. INCREASE ALL FEEDER SIZES BASED ON LENGTH OF FEEDER TO LIMIT VOLTAGE DROP TO 2 PER CENT.
3. PROVIDE AN ENERGY MONITORING SYSTEM BY E-MON, D-MON, CLASS 2000 KWH METER, INTELLIMETER OR EQUAL, FOR RECEPTACLES AND MECHANICAL EQUIPMENT POWER THAT ALLOWS USERS TO READ AND MONITOR ENERGY CONSUMPTION VIA ON-SITE OR OFF-SITE NON-DEDICATED COMPUTERS. SOFTWARE APPLICATION SHALL BE E-MON ENERGY SOFTWARE, OPTENERGY PROTON AND OPTENERGY 884 AS A STAND ALONE REPORTING SYSTEM. THE APPLICATION SHALL BE COMPATIBLE AND OPERATE IN CONJUNCTION THE BAS AND LIGHTING FRONT-END APPLICATION PACKAGES (MICROSOFT WINDOWS OPERATING SYSTEM).
4. PROVIDE ALL REQUIRED ELECTRICAL EQUIPMENT REQUIRED FOR MECHANICAL UNIT INSTALLATIONS INCLUDING GFCI SERVICE RECEPTACLES, DISCONNECT SWITCH SUPPORTS, VANDERPOOF LIGHTING AT UNITS AND AT TOP OF ROOF HATCHES WITH 20A WEATHERPROOF SWITCHES AND GFCI RECEPTACLES.

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ELECTRICAL
SINGLE LINE
DIAGRAM SHEET
#2

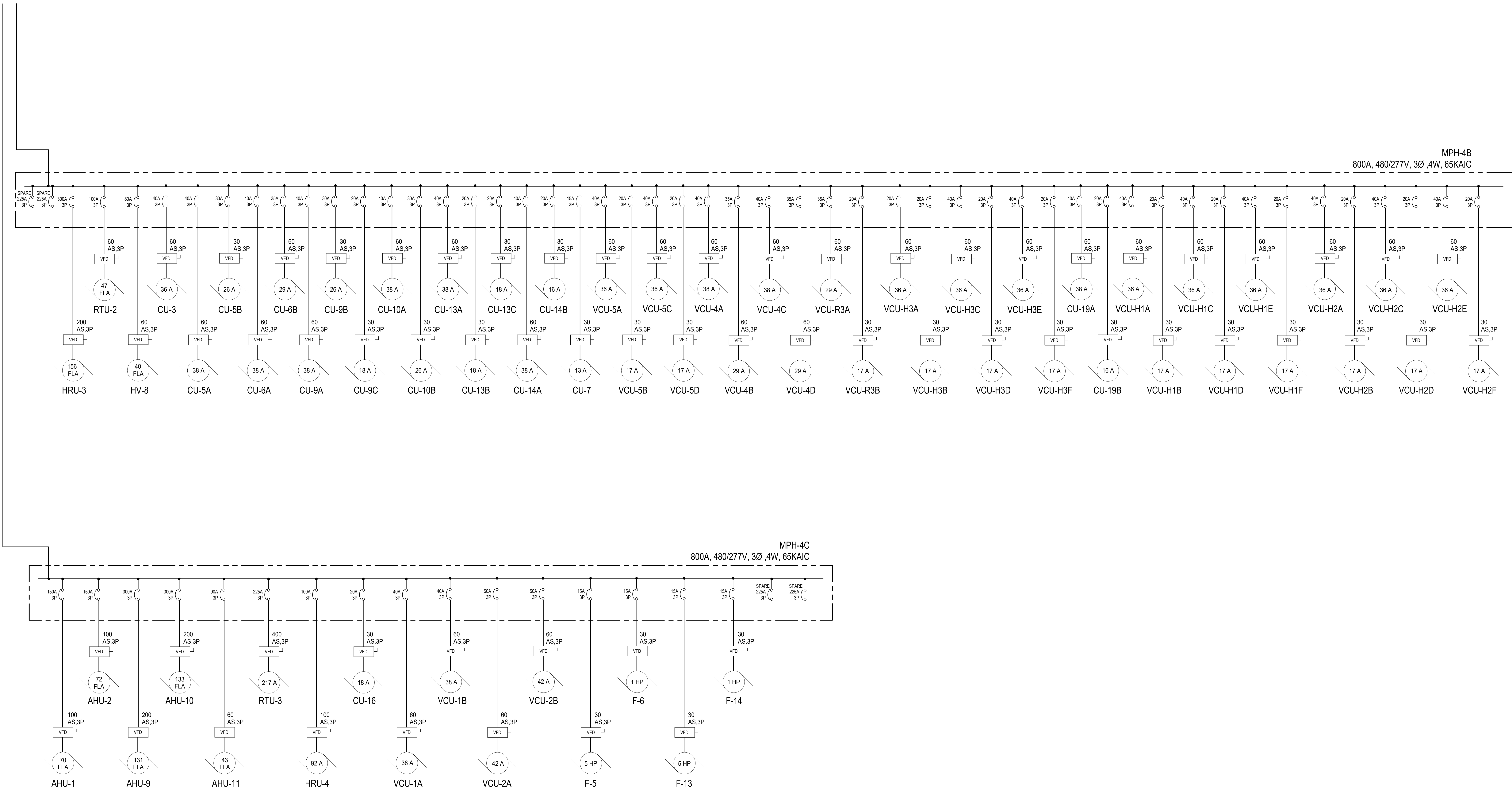




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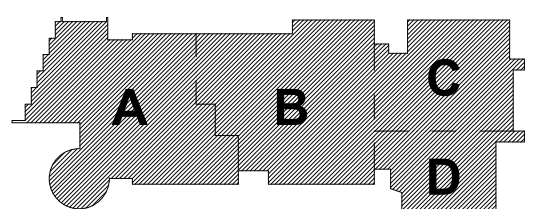
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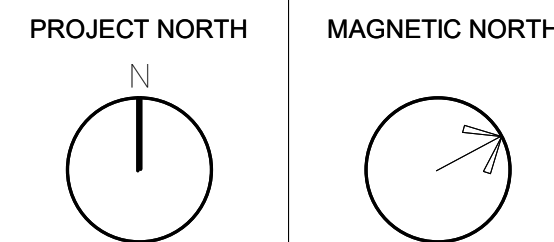
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August 4th, 2022



KEY PLAN



ELECTRICAL
SINGLE LINE
DIAGRAM SHEET
#3

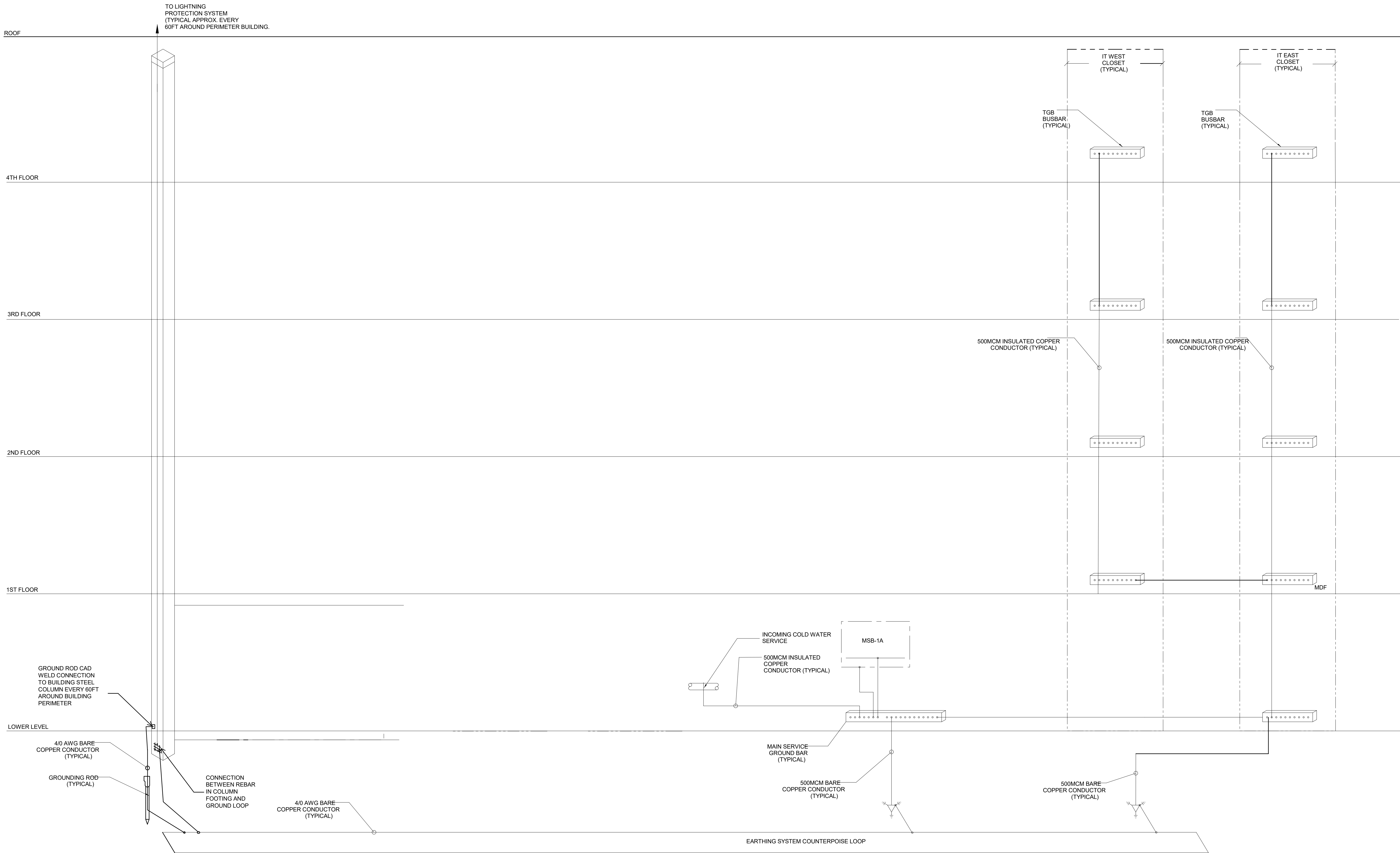
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Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E3-0-2



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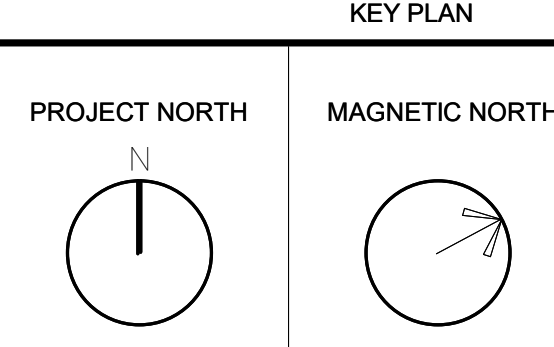
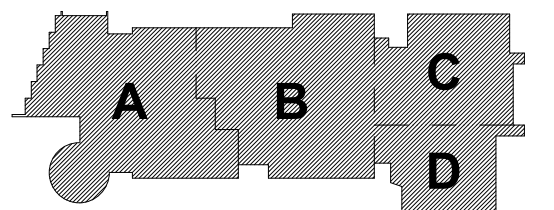
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August 4th, 2022



GROUNDING
RISER DIAGRAM

Scale:
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022
E3-0-3

CONDUIT AND FEEDER SCHEDULE - WITH 200% NEUTRAL								
AMPS	1P+N-G	1P+N+G+G	2P+G	2P+N+G	3P+G	3P+N+G	3P+200%N+G	3 PHASE MOTORS
	A	B	C	D	E	F	F2	M
15	2#12+1#12G, 3/4"C	2#12+1#12G+1#12G, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C
20	2#12+1#12G, 3/4"C	2#12+1#12G+1#12G, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C
30	2#10+1#10G, 3/4"C	2#10+1#10G+1#10G, 3/4"C	2#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	4#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C
50	2#8+1#10G, 3/4"C	2#8+1#10G+1#10G, 3/4"C	2#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	4#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C
60	2#8+1#8G, 1"C	2#8+1#8G+1#8G, 1"C	2#8+1#8G, 1"C	3#8+1#8G, 1"C	3#8+1#8G, 1"C	4#8+1#8G, 1"C	3#8+1#8G, 1"C	3#8+1#8G, 1"C
70	2#4+1#8G, 1"C	2#4+1#8G+1#8G, 1 1/4"C	2#4+1#8G, 1"C	3#4+1#8G, 1"C	3#4+1#8G, 1"C	4#4+1#8G, 1 1/4"C	3#4+1#8G, 1 1/4"C	3#4+1#8G, 1"C
80	2#4+1#8G, 1 1/2"C	2#4+1#8G+1#8G, 1 1/4"C	2#4+1#8G, 1 1/4"C	3#4+1#8G, 1 1/4"C	3#4+1#8G, 1 1/4"C	4#4+1#8G, 1 1/4"C	3#4+1#8G, 1 1/4"C	3#4+1#8G, 1 1/4"C
90	2#3+1#8G, 1 1/4"C	2#3+1#8G+1#8G, 1 1/4"C	2#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	4#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C
100	2#3+1#8G, 1 1/4"C	2#3+1#8G+1#8G, 1 1/4"C	2#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	4#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C	3#3+1#8G, 1 1/4"C
125	2#1+1#8G, 1 1/4"C	2#1+1#8G+1#8G, 1 1/4"C	2#1+1#8G, 1 1/4"C	3#1+1#8G, 1 1/4"C	3#1+1#8G, 1 1/4"C	4#1+1#8G, 1 1/2"C	3#1+1#8G, 1 1/2"C	3#1+1#8G, 1 1/2"C
150	2#10+1#8G, 1 1/4"C	2#10+1#8G+1#8G, 1 1/2"C	2#10+1#8G, 1 1/4"C	3#10+1#8G, 1 1/2"C	3#10+1#8G, 1 1/2"C	4#10+1#8G, 2"C	3#10+1#8G, 1 1/2"C	3#10+1#8G, 1 1/2"C
175	2#20+1#8G, 1 1/2"C	2#20+1#8G+1#8G, 2"C	2#20+1#8G, 1 1/2"C	3#20+1#8G, 2"C	3#20+1#8G, 2"C	4#20+1#8G, 2"C	3#20+1#8G, 2"C	3#20+1#8G, 2"C
200	2#30+1#8G, 1 1/2"C	2#30+1#8G+1#8G, 2"C	2#30+1#8G, 1 1/2"C	3#30+1#8G, 2"C	3#30+1#8G, 2"C	4#30+1#8G, 2"C	3#30+1#8G, 2"C	3#30+1#8G, 2"C
225	2#40+1#4G, 2"C	2#40+1#4G+1#4G, 2"C	2#40+1#4G, 2"C	3#40+1#4G, 2"C	3#40+1#4G, 2"C	4#40+1#4G, 2 1/2"C	3#40+1#4G, 2 1/2"C	3#40+1#4G, 2 1/2"C
250	2#250+1#4G, 2"C	2#250+1#4G+1#4G, 2"C	2#250+1#4G, 2"C	3#250+1#4G, 2 1/2"C	3#250+1#4G, 2 1/2"C	4#250+1#4G, 2 1/2"C	3#250+1#4G, 2 1/2"C	3#250+1#4G, 2 1/2"C
300	2#350+1#4G, 2"C	2#350+1#4G+1#4G, 2"C	2#350+1#4G, 2"C	3#350+1#4G, 2 1/2"C	3#350+1#4G, 2 1/2"C	4#350+1#4G, 3"C	3#350+1#4G, 2 1/2"C	3#350+1#4G, 2 1/2"C
400	2#500+1#3G, 3"C	2#500+1#3G+1#3G, 3"C	2#500+1#3G, 3"C	3#500+1#3G, 3"C	3#500+1#3G, 3 1/2"C	4#500+1#3G, 3 1/2"C	3#500+1#3G, 3 1/2"C	3#500+1#3G, 3 1/2"C
500			4#250+1#2G, 2 1/2"C	(2 SETS)3#250+1#2G, (2) 2 1/2"C	(2 SETS)3#250+1#2G, (2) 2 1/2"C	(2 SETS)3#250+1#2G, (2) 2 1/2"C	(2 SETS)3#250+1#2G, (2) 2 1/2"C	(2 SETS)3#250+1#2G, (2) 2 1/2"C
600			4#350+1#1G, 3"C	(2 SETS)3#350+1#1G, (2) 3 1/2"C	(2 SETS)3#350+1#1G, (2) 3 1/2"C	(2 SETS)3#350+1#1G, (2) 3 1/2"C	(2 SETS)3#350+1#1G, (2) 3 1/2"C	(2 SETS)3#350+1#1G, (2) 3 1/2"C
700			4#500+1#10G, 3 1/2"C	(2 SETS)3#500+1#10G, (2) 3 1/2"C	(2 SETS)3#500+1#10G, (2) 3 1/2"C	(2 SETS)3#500+1#10G, (2) 3 1/2"C	(2 SETS)3#500+1#10G, (2) 3 1/2"C	(2 SETS)3#500+1#10G, (2) 3 1/2"C
800			4#800+1#10G, 3 1/2"C	(2 SETS)3#800+1#10G, (2) 3 1/2"C	(2 SETS)3#800+1#10G, (2) 3 1/2"C	(2 SETS)3#800+1#10G, (2) 3 1/2"C	(2 SETS)3#800+1#10G, (2) 3 1/2"C	(2 SETS)3#800+1#10G, (2) 3 1/2"C
900				(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C
1000				(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C	(3 SETS)3#400+1#20G, (3) 2 1/2"C
1200				(3 SETS)3#600+1#40G, (3) 3 1/2"C	(3 SETS)3#600+1#40G, (3) 3 1/2"C	(3 SETS)3#600+1#40G, (3) 3 1/2"C	(3 SETS)3#600+1#40G, (3) 3 1/2"C	(3 SETS)3#600+1#40G, (3) 3 1/2"C
1600				(4 SETS)3#600+1#40G, (4) 3 1/2"C	(4 SETS)3#600+1#40G, (4) 3 1/2"C	(4 SETS)3#600+1#40G, (4) 3 1/2"C	(4 SETS)3#600+1#40G, (4) 3 1/2"C	(4 SETS)3#600+1#40G, (4) 3 1/2"C
2000				(5 SETS)3#600+1#250G, (5) 3 1/2"C	(5 SETS)3#600+1#250G, (5) 3 1/2"C	(5 SETS)3#600+1#250G, (5) 3 1/2"C	(5 SETS)3#600+1#250G, (5) 3 1/2"C	(5 SETS)3#600+1#250G, (5) 3 1/2"C
2400				(6 SETS)3#600+1#350G, (6) 3 1/2"C	(6 SETS)3#600+1#350G, (6) 3 1/2"C	(6 SETS)3#600+1#350G, (6) 3 1/2"C	(6 SETS)3#600+1#350G, (6) 3 1/2"C	(6 SETS)3#600+1#350G, (6) 3 1/2"C
3000				(8 SETS)3#500+1#400G, (8) 3 1/2"C	(8 SETS)3#500+1#400G, (8) 3 1/2"C	(8 SETS)3#500+1#400G, (8) 3 1/2"C	(8 SETS)3#500+1#400G, (8) 3 1/2"C	(8 SETS)3#500+1#400G, (8) 3 1/2"C

NOTES:
1. ADJUST SIZE OF GROUNDING CONDUCTOR FOR SEPARATELY DERIVED SYSTEMS ACCORDING TO NEC TABLE 250.66.
2. INCREASE SIZE OF UNGROUNDED CONDUCTORS FOR VOLTAGE DROP ACCORDING TO NEC 250.122(B).

LIGHTING FIXTURE SCHEDULE				
FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	LAMP	BALLAST/DRIVER
EC1	EMERGLITE	LX-1-N-R-C-UAA		EDGE-LIT EXIT SIGN - INDICATING CHEVRONS AND FACE SHADING AS SHOWN ON PLAN
F1	LITHONIA LIGHTING	FMLVWL 48 840 2T MVOLT	LED	6-10V 4FT SURFACE MOUNTED LINEAR LED

LIGHTING SEQUENCE OF OPERATION			
TYPE	CONTROL DEVICES	SEQUENCE OF OPERATION - ASHRAE 90.1 2016	TYPICAL USE
01	WALL SWITCH OCCUPANCY SENSOR WITH INTEGRAL OVERRIDE SWITCH	WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH TO FULL ON AND SHADE OVERRIDE SWITCH SHALL BE CAPABLE OF TURNING OFF ALL LIGHTING IN THE ROOM. RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Small Restrooms, Copy/Print Room
02	CEILING OR WALL MOUNTED OCCUPANCY SENSOR WITH POWER-PACK OR RELAY AND WALL MOUNTED OVERRIDE SWITCH	WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH TO FULL ON AND SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Large, Multi-Stall Restrooms
03	CEILING OR WALL MOUNTED OCCUPANCY SENSORS WITH POWER-PACK OR RELAY AND WALL MOUNTED DIMMING / OVERRIDE SWITCH	WHEN OCCUPIED, ALL LIGHTING IN ROOM SHALL AUTOMATICALLY SWITCH ON TO 50% OF MAXIMUM OUTPUT. OVERRIDE SWITCH SHALL BE CAPABLE OF ADJUSTING LIGHT OUTPUT TO FULL ON, FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Open Office, Larger Storage Rooms, Fitness Room, Large Breakroom
V1	WALL SWITCH VACANCY SENSOR WITH INTEGRAL OVERRIDE SWITCH	OVERRIDE SWITCH SHALL BE CAPABLE OF SWITCHING ALL LIGHTING TO FULL ON OR FULL OFF. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Storage Rooms <50 Sq. Ft.
V2	CEILING OR WALL MOUNTED VACANCY SENSOR WITH POWER-PACK OR RELAY AND WALL MOUNTED OVERRIDE SWITCH	OVERRIDE SWITCH SHALL BE CAPABLE OF SWITCHING ALL LIGHTING TO FULL ON OR FULL OFF. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Restrooms, Corridors, Lobbies, Healthcare facility
V3	WALL SWITCH VACANCY SENSOR WITH INTEGRAL DIMMING / OVERRIDE SWITCH	OVERRIDE SWITCH SHALL BE CAPABLE OF SWITCHING ALL LIGHTING TO FULL ON (OR PRESET), FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Small office
V4	CEILING OR WALL MOUNTED VACANCY SENSORS WITH WALL MOUNTED DIMMING / OVERRIDE SWITCHES FOR EACH CONTROL ZONE	OVERRIDE SWITCH FOR EACH CONTROL ZONE SHALL BE CAPABLE OF SWITCHING ALL LIGHTING TO FULL ON (OR PROGRAMMED PRESET), FULL OFF, AND DIMMING. ROOM LIGHTING SHALL RETURN TO FULL OFF WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES.	Conference room, classrooms Multiple lighting control zones
T1	TIME CLOCK CONTROL WITH SCHEDULED AUTOMATIC FULL ON AND AUTOMATIC FULL OFF	SCHEDULE TO ACCOUNT FOR NORMAL WORKING HOURS, WEEKENDS AND HOLIDAYS. PROVIDE OVERRIDE SWITCHES AS SHOWN ON PLAN TO OVERRIDE SCHEDULED OFF PERIODS FOR NOT MORE THAN TWO HOURS PER ACTIVATION. WHEN OVERRIDE IS USED PROVIDE FLASH FUNCTION 10 MINUTES BEFORE TIMEOUT.	Corridors, Lobbies
D1	SIDELIGHT DAYLIGHT HARVESTING. PROVIDE PRIMARY ZONE AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS AND CONTINUOUS DIMMING	PROVIDE DIMMABLE LIGHT FIXTURES AND CONTROLS TO CONTINUOUSLY ADJUST THE LIGHT OUTPUT BASED ON THE AMOUNT OF AVAILABLE DAYLIGHT. DAYLIGHT SENSORS SHOWN ON LIGHTING PLANS ARE PLACED AT SUGGESTED LOCATIONS AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS. CONTROL DEVICES SHALL BE IN READILY ACCESSIBLE LOCATION AND MOUNTED NO HIGHER THAN 11 FEET ABOVE FINISHED FLOOR.	For Sidelighted areas with a lighting load of 150 Watts, but less than 300 Watts
D2	SIDELIGHT DAYLIGHT HARVESTING. PROVIDE PRIMARY AND SECONDARY ZONE AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS AND CONTINUOUS DIMMING	PROVIDE DIMMABLE LIGHT FIXTURES AND CONTROLS TO CONTINUOUSLY ADJUST THE LIGHT OUTPUT BASED ON THE AMOUNT OF AVAILABLE DAYLIGHT. PRIMARY ZONE SHALL BE SEPARATELY CONTROLLED FROM SECONDARY ZONE WITH PRIMARY ZONE HAVING MORE GAIN (REACTING MORE TO DAYLIGHT) THAN SECONDARY ZONE. DAYLIGHT SENSORS SHOWN ON LIGHTING PLANS ARE PLACED AT SUGGESTED LOCATIONS AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS. CONTROL DEVICES SHALL BE IN READILY ACCESSIBLE LOCATION AND MOUNTED NO HIGHER THAN 11 FEET ABOVE FINISHED FLOOR.	For Sidelighted areas with a lighting load of 300 Watts or more
D3	TOPLIGHT DAYLIGHT HARVESTING. PROVIDE AUTOMATIC DAYLIGHT RESPONSIVE CONTROLS AND CONTINUOUS DIMMING	PROVIDE DIMMABLE LIGHT FIXTURES AND CONTROLS TO CONTINUOUSLY ADJUST THE LIGHT OUTPUT BASED ON THE AMOUNT OF AVAILABLE DAYLIGHT. WHERE TOP LIGHTING OVERLAPS, SIDELIGHTING, THE LIGHTING SERVING THE OVERLAPPING AREAS SHALL BE CONTROLLED TOGETHER. DAYLIGHT SENSORS SHOWN ON LIGHTING PLANS ARE PLACED AT SUGGESTED LOCATIONS AND SHALL BE INSTALLED ACCORDING TO MANUFACTURER INSTRUCTIONS. CONTROL DEVICES SHALL BE IN READILY ACCESSIBLE LOCATION AND MOUNTED NO HIGHER THAN 11 FEET ABOVE FINISHED FLOOR.	For Toplighting areas with a lighting load of 150 Watts or more
M1	MANUAL LIGHT SWITCHES USED TO CONTROL ROOM LIGHTING	MANUAL LIGHT SWITCHES USED TO CONTROL ROOM LIGHTING. ALL LIGHTING IN ROOM SHALL MANUALLY SWITCH TO FULL ON, AND MANUALLY SWITCH TO FULL OFF. MANUAL SWITCH USED WHERE AUTOMATIC SHUTOFF WOULD ENDANGER THE SAFETY OR SECURITY OF ROOM OR BUILDING OCCUPANTS.	Kitchen food prep room, shops
M2	TIMER SWITCH	TIMER LIGHT SWITCHES USED TO CONTROL ROOM LIGHTING. ALL LIGHTING IN ROOM SHALL MANUALLY SWITCH TO FULL ON, AND CAN BE MANUALLY SWITCHED TO FULL OFF OR SWITCHED TO FULL OFF AFTER TIME-OUT.	Electrical rooms, mechanical rooms, IT rooms
S1	STAIRWELL INTEGRAL FIXTURE CONTROLS	LIGHTING ALWAYS ON AT REDUCED LEVEL (30% - 50% OF FULL LEVEL) WHEN UNOCCUPIED. PROVIDE LIGHT FIXTURES WITH INTEGRAL OCCUPANCY SENSOR TO RAISE THE LIGHT OUTPUT TO 100% WHEN OCCUPIED. STAIRWELL LIGHTING SHALL RETURN TO REDUCED LEVEL WHEN UNOCCUPIED FOR NO MORE THAN 20 MINUTES. LIGHTING TO BE ON EMERGENCY POWER, WHEN GENERATOR IS USED FOR EMERGENCY POWER, PROVIDE INTEGRAL BATTERY IN EACH LIGHT FIXTURE.	Stairwell
R1	AUTOMATIC RECEPACLE CONTROL USING TIME CLOCK	AN INDEPENDENT PROGRAM SHALL BE PROVIDED FOR CONTROLLED AREAS UP TO 5000 SQUARE FEET. PROVIDE OVERRIDE SWITCHES AS SHOWN ON PLAN TO OVERRIDE SCHEDULED OFF PERIODS FOR NOT MORE THAN TWO HOURS PER ACTIVATION. ALL CONTROLLED RECEPACLES SHALL BE PERMANENTLY MARKED PER NEC 406.4(E), TO VISUALLY DIFFERENTIATE THEM FROM UNCONTROLLED RECEPACLES.	Time clock control Private offices, conference rooms, printing and copying rooms, break rooms, classrooms and individual workstations.
E1	EXTERIOR BUILDING FACADE AND LANDSCAPE LIGHTING CONTROL, PHOTOCELL, AND TIME CLOCK	PROVIDE RELAY CONTROLS USING PHOTOCELL TO TURN LIGHTS ON AND ASTRONOMICAL TIME CLOCK TO TURN LIGHTS OFF, AND OCCUPANCY SENSORS TO DETECT ACTIVITY. ALL BUILDING FACADE AND LANDSCAPE LIGHTING SHALL AUTOMATICALLY TURN OFF AT MIDNIGHT OR BUILDING CLOSING (WHICHEVER IS LATER), AND 6AM OR BUSINESS OPENING (WHICHEVER COMES FIRST) OR TIMES ESTABLISHED BY AIA.	Exterior building facade and landscape lighting
E2	EXTERIOR PARKING LOT LIGHTING CONTROL, PHOTOCELL, TIME CLOCK AND OCCUPANCY SENSORS	PROVIDE RELAY CONTROLS USING PHOTOCELL TO TURN LIGHTS ON AND ASTRONOMICAL TIME CLOCK TO TURN LIGHTS OFF, AND OCCUPANCY SENSORS TO DETECT ACTIVITY. PROVIDE CONTROLS TO REDUCE POWER AT EACH LUMINAIRE BY 50% OR MORE WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME NO LONGER THAN 15 MINUTES.	Exterior parking lots

NOTES:
1. PER ASHRAE 90.1 2016, 3.4.3, ALL LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE FUNCTIONALLY TESTED FOR PROPER OPERATION BY AN INDEPENDENT PARTY THAT IS NOT DIRECTLY INVOLVED WITH EITHER THE DESIGN OR THE CONSTRUCTION OF THE LIGHTING SYSTEM.
2. ALL CALIBRATION MECHANISMS SHALL BE IN ACCESSIBLE LOCATIONS.
3. ALL TIME SWITCHES SHALL BE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTINGS DURING LOSS OF POWER FOR A PERIOD OF AT LEAST 10 HOURS.
4. LIGHTING CONTROLS SHALL BE CONFIGURED SUCH THAT DAYLIGHT RESPONSIVE CONTROL ARE ONLY ACTIVE WHEN OCCUPANCY FOR THE SAME ROOMS OR SPACES IS DETECTED.
5. FIXTURES NOTED WITH 'EM' (SWITCHED OR DIMMED EMERGENCY) OR 'EMNL' (NIGHT LIGHT) ARE FOR EMERGENCY EGRESS LIGHTING. NIGHT LIGHTS SHALL BE DIMMED TO MATCH PRESETS FOR LIKE TYPES OF ADJACENT LIGHTING. PROVIDE EMERGENCY POWER FOR THESE FIXTURES AND EXIT SIGNS FROM AVAILABLE CIRCUITS OF EMERGENCY PANELS LOCATED. PROVIDE STEP DOWN TRANSFORMER FOR 150V FIXTURES DESIGNATED FOR EMERGENCY.

COPPER BRANCH AND FEEDER SCHEDULE					
AMPS	1P+N+G	2P+G	2P+N+G	3P+G	3P+N+G
	A	C	D	E	F
15	2#12+1#12G, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C
20	2#12+1#12G, 3/4"C	2#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	3#12+1#12G, 3/4"C	4#12+1#12G, 3/4"C
25	2#10+1#10G, 3/4"C	2#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	4#10+1#10G, 3/4"C
30	2#10+1#10G, 3/4"C	2#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	3#10+1#10G, 3/4"C	4#10+1#10G, 3/4"C
35	2#8+1#10G, 3/4"C	2#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	4#8+1#10G, 3/4"C
40	2#8+1#10G, 3/4"C	2#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	3#8+1#10G, 3/4"C	4#8+1#10G, 3/4"C
45	2#6+1#10G, 3/4"C	2#6+1#10G, 3/4"C	3#6+1#10G, 1"C	3#6+1#10G, 1"C	4#6+1#10G, 1"C
50	2#6+1#10G, 3/4"C	2#6+1#10G, 3/4"C	3#6+1#10G, 1 1/4"C	3#6+1#10G, 1 1/4"C	4#6+1#10G, 1 1/4"C
60	2#4+1#10G, 1"C	2#4+1#10G, 1"C	3#4+1#10G, 1"C	3#4+1#10G, 1"C	4#4+1#10G, 1-1/4"C
70	2#4+1#8G, 1"C	2#4+1#8G, 1"C	3#4+1#8G, 1-1/4"C	3#4+1#8G, 1-1/4"C	4#4+1#8G, 1-1/4"C
80	2#3+1#8G, 1"C	2#3+1#8G, 1"C	3#3+1#8G, 1-1/4"C	3#3+1#8G, 1-1/4"C	4#3+1#8G, 1-1/4"C
90	2#2+1#8G, 1"C	2#2+1#8G, 1"C	3#2+1#8G, 1-1/4"C	3#2+1#8G, 1-1/4"C	4#2+1#8G, 1-1/2"C
100	2#1+1#8G, 1-1/4"C	2#1+1#8G, 1-1/4"C	3#1+1#8G, 1-1/2"C	3#1+1#8G, 1-1/2"C	4#1+1#8G, 2"C
110		2#2+1#8G, 1-1/4"C	3#2+1#8G, 1-1/4"C	3#2+1#8G, 1-1/4"C	4#2+1#8G, 1-1/2"C
125		2#1+1#8G, 1-1/4"C	3#1+1#8G, 1-1/2"C	3#1+1#8G, 1-1/2"C	4#1+1#8G, 2"C
150		2#10+1#6G, 1-1/2"C	3#10+1#6G, 1-1/2"C	3#10+1#6G, 1-1/2"C	4#10+1#6G, 2"C
175		2#20+1#6G, 1-1/2"C	3#20+1#6G, 2"C	3#20+1#6G, 2"C	4#20+1#6G, 2"C
200		2#30+1#6G, 1-1/2"C	3#30+1#6G, 2"C	3#30+1#6G, 2"C	4#30+1#6G, 2-1/2"C
225		2#40+1#4G, 2"C	3#40+1#4G, 2"C	3#40+1#4G, 2"C	4#40+1#4G, 2-1/2"C
250		2#250+1#4G, 2"C	3#250+1#4G, 2-1/2"C	3#250+1#4G, 2-1/2"C	4#250+1#4G, 3"C
300		2#350+1#4G, 2"C	3#350+1#4G, 3"C	3#350+1#4G, 3"C	4#350+1#4G, 3"C
350		2#500+1#3G, 2-1/2"C	3#500+1#3G, 3"C	3#500+1#3G, 3"C	4#500+1#3G, 3-1/2"C
400		2#600+1#3G, 3"C	3#600+1#3G, 3-1/2"C	3#600+1#3G, 3-1/2"C	4#600+1#3G, 4"C
450			(2 Sets) 3#40+1#2G, (2) 2"C	(2 Sets) 4#40+1#2G, (2) 2-1/2"C	
500			(2 Sets) 3#250+1#2G, (2) 2-1/2"C	(2 Sets) 4#250+1#2G, (2) 3-1/2"C	
600			(2 Sets) 3#350+1#1G, (2) 3"C	(2 Sets) 4#350+1#1G, (2) 3"C	
700			(2 Sets) 3#500+1#10G, (2) 3"C	(2 Sets) 4#500+1#10G, (2) 3-1/2"C	
800			(2 Sets) 3#600+1#10G, (2) 3-1/2"C	(2 Sets) 4#600+1#10G, (2) 4"C	
1000			(3 Sets) 3#400+1#20G, (3) 3"C	(3 Sets) 4#400+1#20G, (3) 3-1/2"C	
1200			(3 Sets) 3#600+1#30G, (3) 3-1/2"C	(3 Sets) 4#600+1#30G, (3) 4"C	
1600			(4 Sets) 3#600+1#40G, (4) 3-1/2"C	(4 Sets) 4#600+1#40G, (4) 4"C	
2000			(5 Sets) 3#600+1#250G, (5) 3-1/2"C	(5 Sets) 4#600+1#250G, (5) 4"C	
2500			(6 Sets) 3#600+1#350G, (6) 3-1/2"C	(6 Sets) 4#600+1#350G, (6) 4"C	
3000			(8 Sets) 3#500+1#400G, (8) 3-1/2"C	(8 Sets) 4#500+1#400G, (8) 3-1/2"C	
4000			(10 Sets) 3#600+1#500G, (10) 3-1/2"C	(10 Sets) 4#600+1#500G, (10) 4"C	

NOTES:
1. DESIGN BASIS:
a. CONDUCTOR SIZES BASED ON AMBIENT TEMPERATURE OF 78F TO 86F (26C TO 30C). FOR AMBIENT TEMPERATURES ABOVE 30C, THE AMPACITY SHALL BE REDUCED PER NEC TABLE 310.15(B)(2)(a). WIRE SIZES SHALL NOT BE REDUCED BELOW THE 30C RATING.
b. OCPD SIZES FOR SMALL CONDUCTORS BASED ON NEC 240.4(D)(3), NEC 240.4(D)(5) AND NEC 240.4(D)(7).
c. CONDUCTOR SIZES BASED ON 60C COLUMN OF NEC 2017 TABLE 310.15(B)(16) FOR 100A AND SMALLER OCPDS. WIRES ARE ALLOWED TO BE SIZED BASED ON THE 75C COLUMN AS PERMITTED BY THE NEC AND WHEN COORDINATED WITH EQUIPMENT TERMINATION TEMPERATURE RATINGS AT EACH WIRE TERMINATION POINT.

Switchboard: MSB-1A						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 65kAIC	
Supply From: MSB-1A			Phases: 3		Maine Type: MLO	
Mounting: Enclosure:			Wires: 4		Maine Rating: 1200 A	
					MCB Rating: 4000 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	MPH-4B	3	800 A	800 A	0 VA	
2	MPH-4A	3	1200 A	1200 A	0 VA	
3	DPH-LLD	3	1200 A	1200 A	0 VA	
4	DPH-LLC	3	1200 A	1200 A	0 VA	
5	DPH-LLB	3	1200 A	1200 A	0 VA	
6	DPH-LLA	3	1200 A	1200 A	0 VA	
7	EMATS-LLA	3	400 A	400 A	0 VA	
8	EMATS-LLB	3	800 A	800 A	0 VA	
9	EMATS-ELEV-LLA	3	400 A	400 A	0 VA	
10	MPH-4C	3	400 A	20 A	0 VA	
11	PV SYSTEM	3	600 A	600 A	0 VA	
12	SPARE	3	800 A	800 A	0 VA	
13	SPARE	3	400 A	400 A	0 VA	
14	SPARE	3	400 A	400 A	0 VA	
15	SPARE	3	400 A	400 A	0 VA	
16						
17						
18						
19						
20						
21						
22						
23						
24						
					Total Conn. Load:	0 VA
					Total Amps:	0 A
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS	
					Total Conn. Load:	0 VA
					Total Est. Demand:	0 VA
					Total Conn. Current:	0 A
					Total Est. Demand Current:	0 A
NOTES:						

Switchboard: DPH-LLA						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 65kAIC	
Supply From: MSB-1A			Phases: 3		Maine Type: MLO	
Mounting: Enclosure:			Wires: 4		Maine Rating: 1200 A	
					MCB Rating: 1200 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	LPH-2A	3	225 A	225 A	0 VA	
2	LPH-3A	3	225 A	225 A	0 VA	
3	LPH-4A	3	225 A	225 A	0 VA	
4	T-1A	3	225 A	225 A	0 VA	
5	LPH-LLA	3	225 A	225 A	0 VA	
6	LPH-1C	3	400 A	20 A	0 VA	
7	EWB-1A	3	150 A	150 A	0 VA	
8	EWB-2A	3	175 A	175 A	0 VA	
9	SPARE	3	225 A	225 A	0 VA	
10						
					Total Conn. Load:	0 VA
					Total Amps:	0 A
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS	
					Total Conn. Load:	0 VA
					Total Est. Demand:	0 VA
					Total Conn. Current:	0 A
					Total Est. Demand Current:	0 A
NOTES:						

Switchboard: DPH-LLB						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 65kAIC	
Supply From: MSB-1A			Phases: 3		Maine Type: MLO	
Mounting: Enclosure:			Wires: 4		Maine Rating: 1200 A	
					MCB Rating: 1200 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	LPH-2B	3	225 A	225 A	0 VA	
2	LPH-3B	3	225 A	225 A	0 VA	
3	LPH-4B	3	225 A	225 A	0 VA	
4	T-1B	3	225 A	225 A	0 VA	
5	EWB-1B	3	150 A	150 A	0 VA	
6	EWB-2B	3	175 A	175 A	0 VA	
7	SPARE	3	225 A	225 A	0 VA	
8						
					Total Conn. Load:	0 VA
					Total Amps:	0 A
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS	
					Total Conn. Load:	0 VA
					Total Est. Demand:	0 VA
					Total Conn. Current:	0 A
					Total Est. Demand Current:	0 A
NOTES:						

Switchboard: DPH-LLC						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 65kAIC	
Supply From: MSB-1A			Phases: 3		Maine Type: MLO	
Mounting: Enclosure:			Wires: 4		Maine Rating: 1200 A	
					MCB Rating: 1200 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	LPH-2D	3	225 A	225 A	0 VA	
2	LPH-1L	3	225 A	225 A	0 VA	
3	LPH-1D	3	225 A	225 A	0 VA	
4	LPH-1K	3	225 A	225 A	0 VA	
5	LPH-1G	3	400 A	400 A	0 VA	
6	T-3E	3	50 A	50 A	0 VA	
7	T-4C	3	50 A	50 A	0 VA	
8	T-4D	3	125 A	125 A	0 VA	
9	T-3C	3	50 A	50 A	0 VA	
10	SPARE	3	225 A	225 A	0 VA	
11	SPARE	3	225 A	225 A	0 VA	
12						
					Total Conn. Load:	0 VA
					Total Amps:	0 A
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS	
					Total Conn. Load:	0 VA
					Total Est. Demand:	0 VA
					Total Conn. Current:	0 A
					Total Est. Demand Current:	0 A
NOTES:						

Switchboard: DPH-LLD						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 65kAIC	
Supply From: MSB-1A			Phases: 3		Maine Type: MLO	
Mounting: Enclosure:			Wires: 4		Maine Rating: 1200 A	
					MCB Rating: 1200 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	LPH-1H	3	225 A	225 A	0 VA	
2	LPH-1F	3	225 A	225 A	0 VA	
3	LPH-1J	3	225 A	225 A	0 VA	
4	LPH-LLD	3	225 A	225 A	0 VA	
5	LPH-1E	3	225 A	225 A	0 VA	
6	LPH-LLC	3	225 A	225 A	0 VA	
7	LPH-LLB	3	225 A	225 A	0 VA	
8	T-2C	3	50 A	50 A	0 VA	
9	SPARE	3	225 A	225 A	0 VA	
10	SPARE	3	225 A	225 A	0 VA	
					Total Conn. Load:	0 VA
					Total Amps:	0 A
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	TOTALS	
					Total Conn. Load:	0 VA
					Total Est. Demand:	0 VA
					Total Conn. Current:	0 A
					Total Est. Demand Current:	0 A
NOTES:						

Panelboard: LPH-1L						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 42kAIC	
Supply From: DPH-LLC			Phases: 3		Maine Type: MLO	
Mounting: SURFACE			Wires: 4		Maine Rating: 225 A	
Enclosure: TYPE 1					MCB Rating:	
Notes	Wiring	CKT No.	Load Description	Trip	Poles	Load Description
		1				
		2				
		3				
		4				
		5				
		6				
		7				
		8				
		9				
		10				
		11				
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		28				
		29				
		30				
		31				
		32				
		33	SPARE	20 A	1	
		34	SPARE	20 A	1	
		35	SPARE	20 A	1	
		36	SPARE	20 A	1	
		37	SPARE	20 A	1	
		38	SPARE	20 A	1	
		39	SPARE	20 A	1	
		40	SPARE	20 A	1	
		41	SPARE	20 A	1	
			Load Per...	0 VA	0 VA	0 VA
Load Classification		Connected...	Demand...	Est. Demand	Panel Totals	
					TOTAL CONNECTED LOAD:	0 VA
					TOTAL ESTIMATED DEMAND:	0 VA
					TOTAL CONNECTED CURRENT:	0 A
					TOTAL ESTIMATED DEMAND CURRENT:	0 A
NOTES:						

Panelboard: LPH-1D						
Location: Space 581			Volts: 480/277 Wye		A.I.C. Rating: 42kAIC	
Supply From: DPH-LLC			Phases: 3		Maine Type: MLO	
Mounting: SURFACE			Wires: 4		Maine Rating: 225 A	
Enclosure: TYPE 1					MCB Rating:	
Notes	Wiring	CKT No.	Load Description	Trip	Poles	Load Description
		1				
		2				
		3				
		4				
		5				
		6				
		7				
		8				
		9				
		10				
		11				
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		23				
		24				

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Wakefield, MA 01880

Panelboard: LPH-1G															
Location: Supply From: DPH-LLC Mounting: SURFACE Enclosure: TYPE 1			Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:						A.I.C. Rating: 42kAIC Mains Type: MCB Mains Rating: 400 A MCB Rating: 400 A						
Load Description			Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description			Chk. No.	Wiring	Notes
Notes	Wiring	Chk. No.													
		1											2		
		3											4		
		5											6		
		7											8		
		9											10		
		11											12		
		13											14		
		15											16		
		17											18		
		19											20		
		21											22		
		23											24		
		25											26		
		27											28		
		29											30		
		31											32		
--	--	33	SPARE		20 A	1	0 / 0			1	20 A	SPARE	34	--	--
--	--	35	SPARE		20 A	1		0 / 0		1	20 A	SPARE	36	--	--
--	--	37	SPARE		20 A	1	0 / 0						38		
--	--	39	SPARE		20 A	1	0 / 0			3	350 A	T-1G	40		
--	--	41	SPARE		20 A	1		0 / 0					42		
Load Per...					0 VA		0 VA			0 VA					
Load Classification			Connected...			Demand...			Est. Demand			Panel Totals			
												TOTAL CONNECTED LOAD: 0 VA			
												TOTAL ESTIMATED DEMAND: 0 VA			
												TOTAL CONNECTED CURRENT: 0 A			
												TOTAL ESTIMATED DEMAND CURRENT: 0 A			
NOTES:															

Panelboard: LPH-1K																
Location: Supply From: DPH-LLC Mounting: SURFACE Enclosure: TYPE 1			Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Mains Type: MLO Mains Rating: 225 A MCB Rating:								
Load Description			Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description			Chk. No.	Wiring	Notes	
Notes	Wiring	Chk. No.											Chk. No.			
		1											2			
		3											4			
		5											6			
		7											8			
		9											10			
		11											12			
		13											14			
		15											16			
		17											18			
		19											20			
		21											22			
		23											24			
		25											26			
		27											28			
		29											30			
		31											32			
		--	--	33	SPARE	20 A	1	0 / 0		1	20 A	SPARE	34	--	--	
		--	--	35	SPARE	20 A	1		0 / 0	1	20 A	SPARE	36	--	--	
		--	--	37	SPARE	20 A	1	0 / 0					38			
		--	--	39	SPARE	20 A	1	0 / 0		3	175 A	1-K	40			
		--	--	41	SPARE	20 A	1		0 / 0				42			
		Load Per...				0 VA	0 VA	0 VA								
		Load Classification			Connected...	Demand...	Est. Demand	Panel Totals								
								TOTAL CONNECTED LOAD: 0 VA								
								TOTAL ESTIMATED DEMAND: 0 VA								
								TOTAL CONNECTED CURRENT: 0 A								
								TOTAL ESTIMATED DEMAND CURRENT: 0 A								
		NOTES:														

Panelboard: LPH-3A														
Location: Supply From: DPH-LLA Mounting: SURFACE Enclosure: TYPE 1			Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Mains Type: MLO Mains Rating: 225 A MCB Rating:						
Notes	Wiring	Chk. No.	Load Description	Trip	Poles	LOAD	LOAD	LOAD	Poles	Trip	Load Description	Chk. No.	Wiring	Notes
						PHASE-A (VA)	PHASE-B (VA)	PHASE-C (VA)						
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1		0 / 0					38		
--	--	39	SPARE	20 A	1			0 / 0	3	175 A	T-3A	40		
--	--	41	SPARE	20 A	1			0 / 0				42		
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: LPH-1H														
Location: Supply From: DPH-LLD Mounting: SURFACE Enclosure: TYPE 1			Distribution System: 480/277 Wye Phases: 3 Wires: 4					A.I.C. Rating: 42kAIC Mains Type: MCB Mains Rating: 400 A MCB Rating: 400 A						
Modifications:			LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description						
Notes	Wiring	Chk. No.										Chk. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1			0 / 0			1	20 A	SPARE	--
--	--	35	SPARE	20 A	1				0 / 0		1	20 A	SPARE	--
--	--	37	SPARE	20 A	1			0 / 0						--
--	--	39	SPARE	20 A	1				0 / 0		3	350 A	T-1H	--
--	--	41	SPARE	20 A	1					0 / 0				--
Load Per...			0 VA	0 VA	0 VA							42		
Load Classification			Connected...	Demand...	Est. Demand	Panel Totals								
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: LPH-4B														
Location:			Distribution System: 480/277 Wye			A.I.C. Rating: 42kAIC			Location:			A.I.C. Rating: 42kAIC		
Supply From: DPH-LLB			Phases: 3			Mains Type: MLO			Supply From: DPH-LLB			Mains Type: MCB		
Mounting: SURFACE			Wires: 4			Mains Rating: 225 A			Mounting: SURFACE			Mains Rating: 225 A		
Enclosure: TYPE 1			Modifications:			MCB Rating:			Enclosure: TYPE 1			MCB Rating:		
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0						38		
--	--	39	SPARE	20 A	1		0 / 0		3	175 A	T-4B	40		
--	--	41	SPARE	20 A	1			0 / 0				42		
Load Per...						0 VA		0 VA						
Load Classification						Connected...	Demand...	Est. Demand				Panel Totals		
												TOTAL CONNECTED LOAD: 0 VA		
												TOTAL ESTIMATED DEMAND: 0 VA		
												TOTAL CONNECTED CURRENT: 0 A		
												TOTAL ESTIMATED DEMAND CURRENT: 0 A		
NOTES:														

Panelboard: LPH-LLB														
Location:			Distribution System: 480/277 Wye						A.I.C. Rating: 42kAIC					
Supply From: DPH-LLD			Phases: 3						Mains Type: MLO					
Mounting: SURFACE			Wires: 4						Mains Rating: 225 A					
Enclosure: TYPE 1			Modifications:						MCB Rating:					
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0						38		
--	--	39	SPARE	20 A	1		0 / 0		3	175 A	T-LLB	40		
--	--	41	SPARE	20 A	1			0 / 0				42		
Load Per...						0 VA		0 VA						
Load Classification						Connected...		Demand...			Est. Demand	Panel Totals		
												TOTAL CONNECTED LOAD: 0 VA		
												TOTAL ESTIMATED DEMAND: 0 VA		
												TOTAL CONNECTED CURRENT: 0 A		
												TOTAL ESTIMATED DEMAND CURRENT: 0 A		
NOTES:														

Panelboard: LPH-2D														
Location:			Distribution System: 480/277 Wye						A.I.C. Rating: 42kAIC					
Supply From: DPH-LLC			Phases: 3						Mains Type: MCB					
Mounting: SURFACE			Wires: 4						Mains Rating: 225 A					
Enclosure: TYPE 1			Modifications:						MCB Rating: 225 A					
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3	T-3D	20 A	3	0 / 0	0 / 0	0 / 0				4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	--	--
--	--	39	SPARE	20 A	1		0 / 0		1	20 A	SPARE	40	--	--
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	--	--
Load Per...			0 VA			0 VA		0 VA						
Load Classification			Connected...		Demand...		Est. Demand		Panel Totals					
									TOTAL CONNECTED LOAD: 0 VA					
									TOTAL ESTIMATED DEMAND: 0 VA					
									TOTAL CONNECTED CURRENT: 0 A					
									TOTAL ESTIMATED DEMAND CURRENT: 0 A					
NOTES:														

Panelboard: LPH-LLC														
Location: Supply From: DPH-LLD Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Mains Type: MLO Mains Rating: 225 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0		20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0						38		
--	--	39	SPARE	20 A	1		0 / 0		3	175 A	T-LLC	40		
--	--	41	SPARE	20 A	1			0 / 0				42		
			Load Per...			0 VA	0 VA	0 VA						
Load Classification						Connected...			Demand...			Est. Demand		
						Panel Totals								
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: LP-LLB														
Location: Supply From: T-LLB Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10kAIC Mains Type: MLO Mains Rating: 400 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
		35										36		
		37										38		
		39										40		
		41										42		
		43										44		
		45										46		
		47										48		
		49										50		
		51										52		
		53										54		
		55										56		
		57										58		
		59										60		
		61										62		
		63										64		
		65										66		
		67										68		
		69										70		
		71										72		
--	--	73	SPARE	20 A	1	0 / 0				1	20 A	SPARE	74	--
--	--	75	SPARE	20 A	1		0 / 0			1	20 A	SPARE	76	--
--	--	77	SPARE	20 A	1			0 / 0		1	20 A	SPARE	78	--
--	--	79	SPARE	20 A	1	0 / 0				1	20 A	SPARE	80	--
--	--	81	SPARE	20 A	1		0 / 0			1	20 A	SPARE	82	--
--	--	83	SPARE	20 A	1			0 / 0		1	20 A	SPARE	84	--
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: LP-1C														
Location: Supply From: T-1C Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10kAIC Mains Type: MLO Mains Rating: 300 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
		35										36		
		37										38		
		39										40		
		41										42		
		43										44		
		45										46		
		47										48		
		49										50		
		51										52		
		53										54		
		55										56		
		57										58		
		59										60		
		61										62		
		63										64		
		65										66		
		67										68		
		69										70		
		71										72		
		73										74		
		75										76		
		77										78		
		79										80		
		81										82		
		83										84		
Load Per--						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: LP-4D													
Location: Supply From: T-4D Mounting: SURFACE Enclosure: TYPE 1				Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:				A.I.C. Rating: 10kAIC Mains Type: MLO Mains Rating: 125 A MCB Rating:					
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.	Wiring Notes
		1										2	
		3										4	
		5										6	
		7										8	
		9										10	
		11										12	
		13										14	
		15										16	
		17										18	
		19										20	
		21										22	
		23										24	
		25										26	
		27										28	
		29										30	
		31										32	
		33										34	
		35										36	
		37										38	
		39										40	
		41										42	
		43										44	
		45										46	
		47										48	
		49										50	
		51										52	
		53										54	
		55										56	
		57										58	
		59										60	
		61										62	
		63										64	
		65										66	
		67										68	
		69										70	
		71										72	
--	--	73	SPARE	2..	1	0 / 0			1	20 A	SPARE	74	-- --
--	--	75	SPARE	2..	1		0 / 0		1	20 A	SPARE	76	-- --
--	--	77	SPARE	2..	1			0 / 0	1	20 A	SPARE	78	-- --
--	--	79	SPARE	2..	1	0 / 0			1	20 A	SPARE	80	-- --
--	--	81	SPARE	2..	1		0 / 0		1	20 A	SPARE	82	-- --
--	--	83	SPARE	2..	1			0 / 0	1	20 A	SPARE	84	-- --
Lead Per...						0 VA	0 VA	0 VA					
Load Classification				Connected...	Demand...	Est. Demand	Panel Totals						
							TOTAL CONNECTED LOAD: 0 VA						
							TOTAL ESTIMATED DEMAND: 0 VA						
							TOTAL CONNECTED CURRENT: 0 A						
							TOTAL ESTIMATED DEMAND CURRENT: 0 A						
NOTES:													



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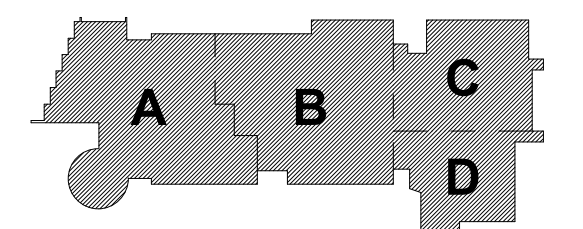
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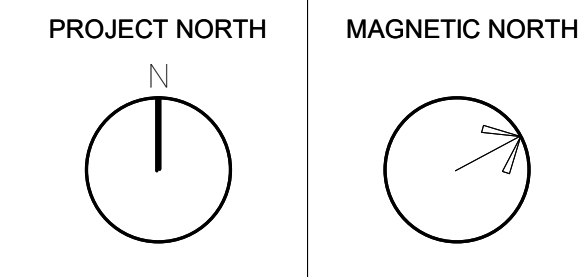
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MSBA DESIGN
DEVELOPMENT
SUBMISSION
August 4th, 2022



KEY PLAN



ELECTRICAL SCHEDULES SHEET 7

Scale:
Job No.: 2002
Drawn By: DRA
Date: August 4th, 2022

E4-0-7

Switchboard: EM-DPH-LLA						
Location: Space 969 Supply From: EM-ATS-LLA Mounting: Enclosure:			Volts: 480/277 Wye Phases: 3 Wires: 4		A.I.C. Rating: 65kAIC Main Type: MLO Main Rating: 400 A MCB Rating: 400 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	EM-LPH-2B	3	100 A	100 A	0 VA	
2	EM-LPH-3B	3	100 A	100 A	0 VA	
3	EM-LPH-4B	3	100 A	100 A	0 VA	
4	EM-LPH-2A	3	100 A	100 A	0 VA	
5	EM-LPH-3A	3	100 A	100 A	0 VA	
6	EM-LPH-4A	3	100 A	100 A	0 VA	
7	EM-LPH-1C	3	100 A	100 A	0 VA	
8	EM-LPH-LLA	3	100 A	100 A	0 VA	
9	EM-T-2A (TRAPEZE)	3	50 A	50 A	0 VA	
10	EM-T-2B (TRAPEZE)	3	50 A	50 A	0 VA	
11	EM-T-3A (TRAPEZE)	3	50 A	50 A	0 VA	
12	EM-T-3B (TRAPEZE)	3	50 A	50 A	0 VA	
13	EM-T-4A (TRAPEZE)	3	50 A	50 A	0 VA	
14	EM-T-4B (TRAPEZE)	3	50 A	50 A	0 VA	
15	EM-T-LLA	3	50 A	50 A	0 VA	
16	EM-T-1A	3	50 A	50 A	0 VA	
17	SPARE	3	60 A	60 A	0 VA	
18	SPARE	3	60 A	60 A	0 VA	
19						
20						
21						
22						
23						
24						
Total Conn. Load:					0 VA	
Total Amps:					0 A	
LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS	
					Total Conn. Load: 0 VA	
					Total Est. Demand: 0 VA	
					Total Conn. Current: 0 A	
					Total Est. Demand Current: 0 A	
NOTES:						

Switchboard: EM-DPH-E...							
Location: Space 969 Supply From: EM-ATS-ELEV-LLA Mounting: Enclosure:			Volts: 480/277 Wye Phases: 3 Wires: 4		A.I.C. Rating: 65kAIC Main Type: MLO Main Rating: 400 A MCB Rating: 400 A		
CKT	CIRCUIT DESCRIPTION		POLES	FRAME	TRIP	LOAD	REMARKS
1	PE-1		3	200 A	200 A	0 VA	
2	PE-2		3	200 A	200 A	0 VA	
3	SPARE		3	200 A	200 A	0 VA	
Total Conn. Load:					0 VA		
Total Amps:					0 A		
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS	
						Total Conn. Load:	0 VA
						Total Est. Demand:	0 VA
						Total Conn. Current:	0 A
						Total Est. Demand Current:	0 A
NOTES:							

Switchboard: GEN-EM-D...						
Location: Space 964 Supply From: Mounting: Enclosure:			Volts: 480/277 Wye Phases: 3 Wires: 4		A.I.C. Rating: 65kAIC Main Type: MLO Main Rating: 600 A MCB Rating: 600 A	
CKT	CIRCUIT DESCRIPTION	POLES	FRAME	TRIP	LOAD	REMARKS
1	EM-ATS-ELEV-LLA	3	400 A	400 A	0 VA	
2	EM-ATS-LLA	3	400 A	400 A	0 VA	
3	ATS-FIRE PUMP	3	250 A	250 A	0 VA	
4	SB-ATS-LLA	3	800 A	800 A	0 VA	
5	SPARE	3	400 A	400 A	0 VA	
6	SPARE	3	400 A	400 A	0 VA	
Total Conn. Load:					0 VA	
Total Amps:					0 A	
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS
						Total Conn. Load: 0 VA
						Total Est. Demand: 0 VA
						Total Conn. Current: 0 A
						Total Est. Demand Current: 0 A
NOTES:						

Panelboard: EM-LPH-1C													
Location: Supply From: EM-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 100 A MCB Rating:			
Notes	Wiring	CKT No.	Load Description	Tripp	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Tripp	Load Description	CKT No.	Wiring Notes
		1										2	
		3										4	
		5										6	
		7										8	
		9										10	
		11										12	
		13										14	
		15										16	
		17										18	
		19										20	
		21										22	
		23										24	
		25										26	
		27										28	
		29										30	
		31										32	
		33										34	
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	-- --
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	-- --
--	--	39	SPARE	20 A	1		0 / 0		1	20 A	SPARE	40	-- --
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	-- --
			Load Per...			0 VA	0 VA	0 VA					
Load Classification					Connected...		Demand...		Est. Demand		Panel Totals		
											TOTAL CONNECTED LOAD: 0 VA		
											TOTAL ESTIMATED DEMAND: 0 VA		
											TOTAL CONNECTED CURRENT: 0 A		
											TOTAL ESTIMATED DEMAND CURRENT: 0 A		
NOTES:													

Panelboard: EM-LPH-2A													
Location: Supply From: EM-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 100 A MCB Rating:			
Notes	Wiring	Ckt No.	Load Description	Tripp	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Tripp	Load Description	Ckt No.	Wiring Notes
		1										2	
		3										4	
		5										6	
		7										8	
		9										10	
		11										12	
		13										14	
		15										16	
		17										18	
		19										20	
		21										22	
		23										24	
		25										26	
		27										28	
		29										30	
		31										32	
		33										34	
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	-- --
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	-- --
--	--	39	SPARE	20 A	1		0 / 0		1	20 A	SPARE	40	-- --
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	-- --
Load Per...						0 VA	0 VA	0 VA					
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals				
						TOTAL CONNECTED LOAD: 0 VA							
						TOTAL ESTIMATED DEMAND: 0 VA							
						TOTAL CONNECTED CURRENT: 0 A							
						TOTAL ESTIMATED DEMAND CURRENT: 0 A							
NOTES:													

Panelboard: EM-LPH-2B						Distribution System: 480/277 Wye				A.I.C. Rating: 42kAIC				
Location: EM-DPH-LLA						Phases: 3				Main Type: MLO				
Mounting: SURFACE						Wires: 4				Main Rating: 100 A				
Enclosure: TYPE 1						Modifications:				MCB Rating:				
Notes	Wiring	Ckt No.	Load Description	Tripp	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Tripp	Load Description	Ckt No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE		20 A 1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE		20 A 1	0 / 0			1	20 A	SPARE	38	--	--
--	--	39	SPARE		20 A 1		0 / 0		1	20 A	SPARE	40	--	--
--	--	41	SPARE		20 A 1			0 / 0	1	20 A	SPARE	42	--	--
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...		Demand...		Est. Demand		Panel Totals		
												TOTAL CONNECTED LOAD: 0 VA		
												TOTAL ESTIMATED DEMAND: 0 VA		
												TOTAL CONNECTED CURRENT: 0 A		
												TOTAL ESTIMATED DEMAND CURRENT: 0 A		
NOTES:														

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Panelboard: EM-LP-1C														
Location: Supply From: EM-T-1C Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10kAIC Mains Type: MCB Mains Rating: 100 A MCB Rating: 100 A				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE		20 A	1		0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE		20 A	1			1	20 A	SPARE	38	--	--
--	--	39	SPARE		20 A	1		0 / 0	1	20 A	SPARE	40	--	--
--	--	41	SPARE		20 A	1			1	20 A	SPARE	42	--	--
					Load Per...	0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: EM-LP-3A														
Location: Supply From: EM-T-3A (TRAPEZE) Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10kAIC Mains Type: MCB Mains Rating: 100 A MCB Rating: 100 A				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE		20 A	1		0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE		20 A	1			1	20 A	SPARE	38	--	--
--	--	39	SPARE		20 A	1		0 / 0		20 A	SPARE	40	--	--
--	--	41	SPARE		20 A	1			1	20 A	SPARE	42	--	--
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: EM-LP-2B														
Location: Supply From: EM-T-2B (TRAPEZE) Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10KAIC Mains Type: MCB Mains Rating: 100 A MCB Rating: 100 A				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0			1	20 A	SPARE	38	--	--
--	--	39	SPARE	20 A	1		0 / 0			20 A	SPARE	40	--	--
--	--	41	SPARE	20 A	1			0 / 0	1	20 A	SPARE	42	--	--
			Load Per...			0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: EM-LP-2A														
Location: Supply From: EM-T-2A (TRAPEZE) Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 120/208 Wye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 10kAIC Mains Type: MCB Mains Rating: 100 A MCB Rating: 100 A				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	A	B	C	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
		33										34		
--	--	35	SPARE		20 A	1		0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE		20 A	1	0 / 0		1	20 A	SPARE	38	--	--
--	--	39	SPARE		20 A	1		0 / 0	1	20 A	SPARE	40	--	--
--	--	41	SPARE		20 A	1		0 / 0	1	20 A	SPARE	42	--	--
			Load Per...			0 VA	0 VA	0 VA						
Load Classification					Connected...	Demand...	Est. Demand	Panel Totals						
								TOTAL CONNECTED LOAD: 0 VA						
								TOTAL ESTIMATED DEMAND: 0 VA						
								TOTAL CONNECTED CURRENT: 0 A						
								TOTAL ESTIMATED DEMAND CURRENT: 0 A						
NOTES:														

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Switchboard: SB-DPH-LLA							
Location: Space 910 Supply From: SB-ATS-LLA Mounting: Enclosure:			Volts: 480/277 Vye Phases: 3 Wires: 4		A.I.C. Rating: 69kAAC Main Type: MLO Main Rating: 800 A MCB Rating: 800 A		
CKT	CIRCUIT DESCRIPTION		POLES	FRAME	TRIP	LOAD	REMARKS
1	SB-LPH-2B		3	200 A	200 A	0 VA	
2	SB-LPH-3B		3	200 A	200 A	0 VA	
3	SB-LPH-4B		3	200 A	200 A	0 VA	
4	SB-LPH-2A		3	200 A	200 A	0 VA	
5	SB-LPH-3A		3	200 A	200 A	0 VA	
6	SB-LPH-4A		3	200 A	200 A	0 VA	
7	SB-LPH-LLA		3	200 A	200 A	0 VA	
8	SB-LPH-1C		3	200 A	200 A	0 VA	
9	SPARE		3	200 A	200 A	0 VA	
10	SPARE		3	200 A	200 A	0 VA	
Total Conn. Load:					0 A		
Total Amps:					0 A		
LOAD CLASSIFICATION		CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND		TOTALS	
						Total Conn. Load: 0 VA	
						Total Est. Demand: 0 VA	
						Total Conn. Current: 0 A	
						Total Est. Demand Current: 0 A	
NOTES:							

Panelboard: SB-LPH-2B														
Location: Supply From: SB-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Vye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 200 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--	--
--	--	35	SPARE	20 A	1			0 / 0	1	20 A	SPARE	36	--	--
--	--	37	SPARE	20 A	1	0 / 0						38		
--	--	39	SPARE	20 A	1		0 / 0		3	50 A	SB-T-2B (TRAPEZE)	40		
--	--	41	SPARE	20 A	1			0 / 0				42		
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
						TOTAL CONNECTED LOAD: 0 VA								
						TOTAL ESTIMATED DEMAND: 0 VA								
						TOTAL CONNECTED CURRENT: 0 A								
						TOTAL ESTIMATED DEMAND CURRENT: 0 A								
NOTES:														

Panelboard: SB-LPH-4A													
Location: Supply From: SB-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Vye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 200 A MCB Rating:			
Notes	Wiring	CKT. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	CKT. No.	
		1										2	
		3										4	
		5										6	
		7										8	
		9										10	
		11										12	
		13										14	
		15										16	
		17										18	
		19										20	
		21										22	
		23										24	
		25										26	
		27										28	
		29										30	
		31										32	
--	--	33	SPARE	20 A	1		0 / 0		1	20 A	SPARE	34	--
--	--	35	SPARE	20 A	1			0 / 0		20 A	SPARE	36	--
--	--	37	SPARE	20 A	1		0 / 0					38	
--	--	39	SPARE	20 A	1		0 / 0		3	50 A	SB-T-4A (TRAPEZE)	40	
--	--	41	SPARE	20 A	1			0 / 0				42	
Load Per...						0 VA	0 VA	0 VA					
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals				
									TOTAL CONNECTED LOAD: 0 VA				
									TOTAL ESTIMATED DEMAND: 0 VA				
									TOTAL CONNECTED CURRENT: 0 A				
									TOTAL ESTIMATED DEMAND CURRENT: 0 A				
NOTES:													

Panelboard: SB-LPH-1C														
Location: Supply From: SB-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Vye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 200 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0			1	20 A SPARE	34	--	--
--	--	35	SPARE	20 A	1		0 / 0			1	20 A SPARE	36	--	--
--	--	37	SPARE	20 A	1		0 / 0			3	50 A SB-T-1C	38		
--	--	39	SPARE	20 A	1		0 / 0					40		
--	--	41	SPARE	20 A	1		0 / 0					42		
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
									TOTAL CONNECTED LOAD: 0 VA					
									TOTAL ESTIMATED DEMAND: 0 VA					
									TOTAL CONNECTED CURRENT: 0 A					
									TOTAL ESTIMATED DEMAND CURRENT: 0 A					
NOTES:														

Panelboard: SB-LPH-3A														
Location: Supply From: SB-DPH-LLA Mounting: SURFACE Enclosure: TYPE 1					Distribution System: 480/277 Vye Phases: 3 Wires: 4 Modifications:					A.I.C. Rating: 42kAIC Main Type: MLO Main Rating: 200 A MCB Rating:				
Notes	Wiring	Ckt. No.	Load Description	Trip	Poles	LOAD PHASE-A (VA)	LOAD PHASE-B (VA)	LOAD PHASE-C (VA)	Poles	Trip	Load Description	Ckt. No.	Wiring	Notes
		1										2		
		3										4		
		5										6		
		7										8		
		9										10		
		11										12		
		13										14		
		15										16		
		17										18		
		19										20		
		21										22		
		23										24		
		25										26		
		27										28		
		29										30		
		31										32		
--	--	33	SPARE	20 A	1		0 / 0			1	20 A SPARE	34	--	--
		35	SPARE	20 A	1			0 / 0		1	20 A SPARE	36		--
		37	SPARE	20 A	1	0 / 0						38		
		39	SPARE	20 A	1		0 / 0			3	50 A SB-T-3A (TRAPEZE)	40		
		41	SPARE	20 A	1			0 / 0				42		
Load Per...						0 VA	0 VA	0 VA						
Load Classification						Connected...	Demand...	Est. Demand	Panel Totals					
									TOTAL CONNECTED LOAD: 0 VA					
									TOTAL ESTIMATED DEMAND: 0 VA					
									TOTAL CONNECTED CURRENT: 0 A					
									TOTAL ESTIMATED DEMAND CURRENT: 0 A					
NOTES:														

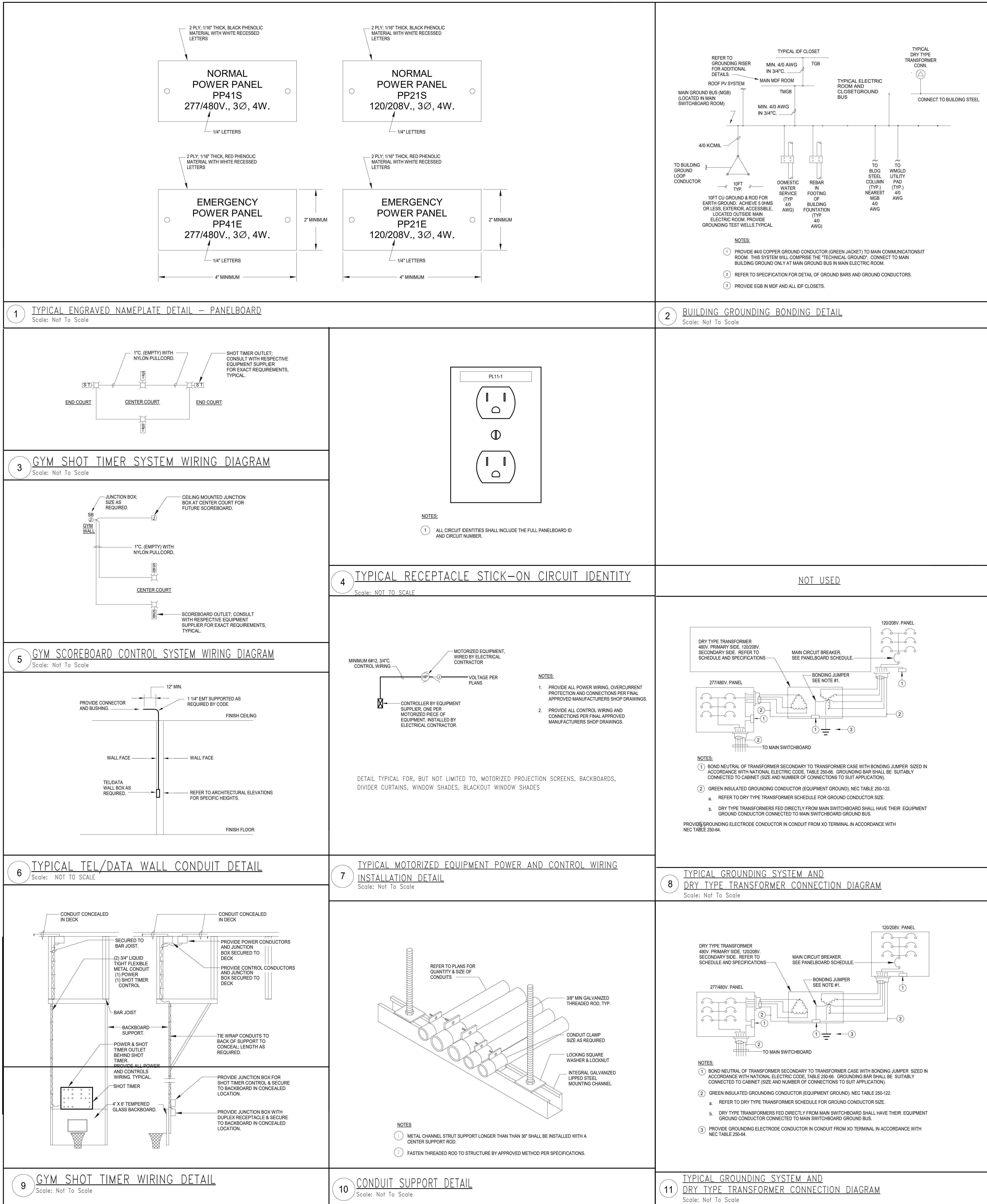
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PROJECT NORTH

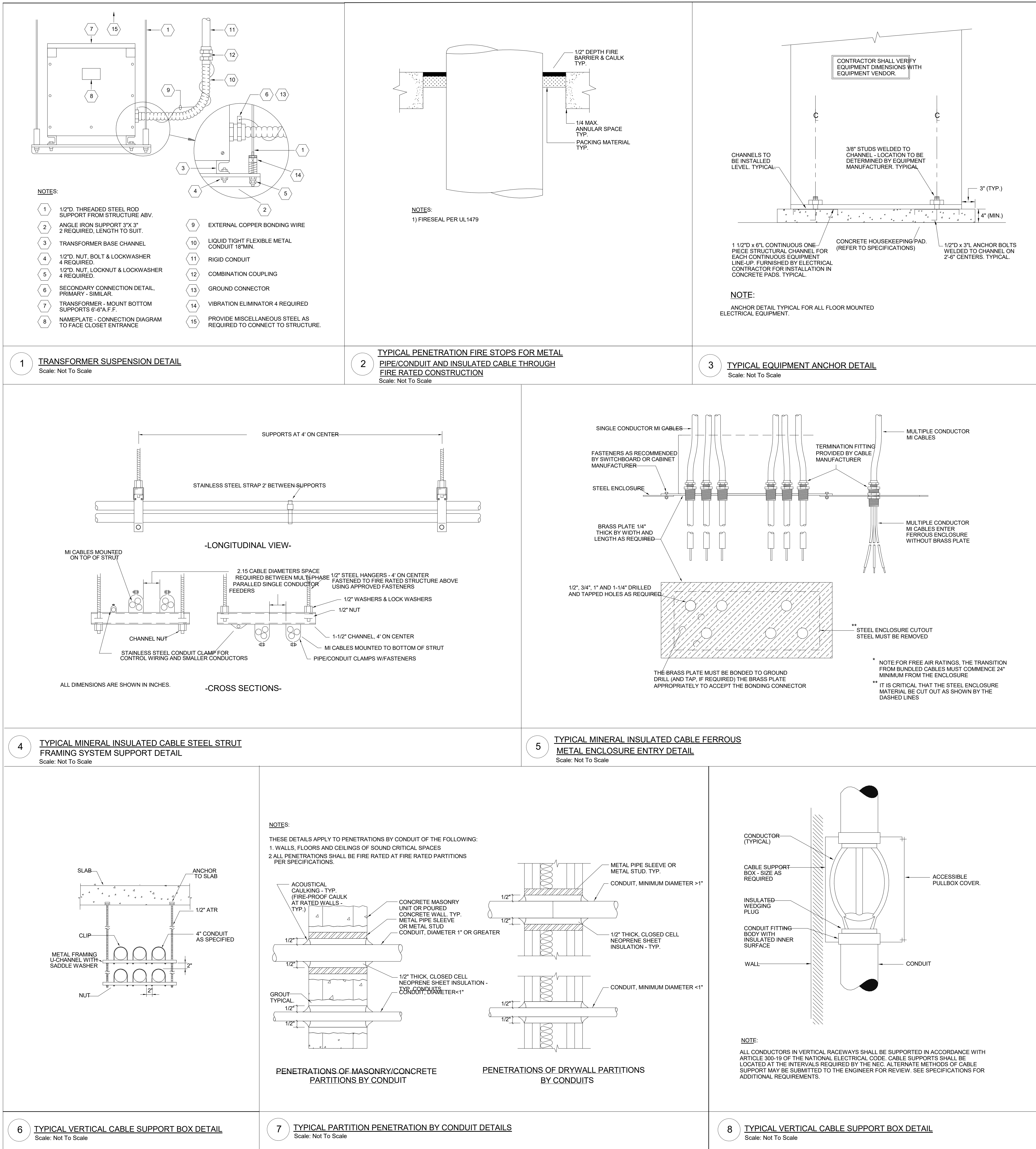
MAGNETIC NORTH

ELECTRICAL
DETAIL SHEET 1

Scale: NONE
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E4-0-12

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ENGINEERS

MSBA DESIGN
DEVELOPMENT
SUBMISSION
August 4th, 2022

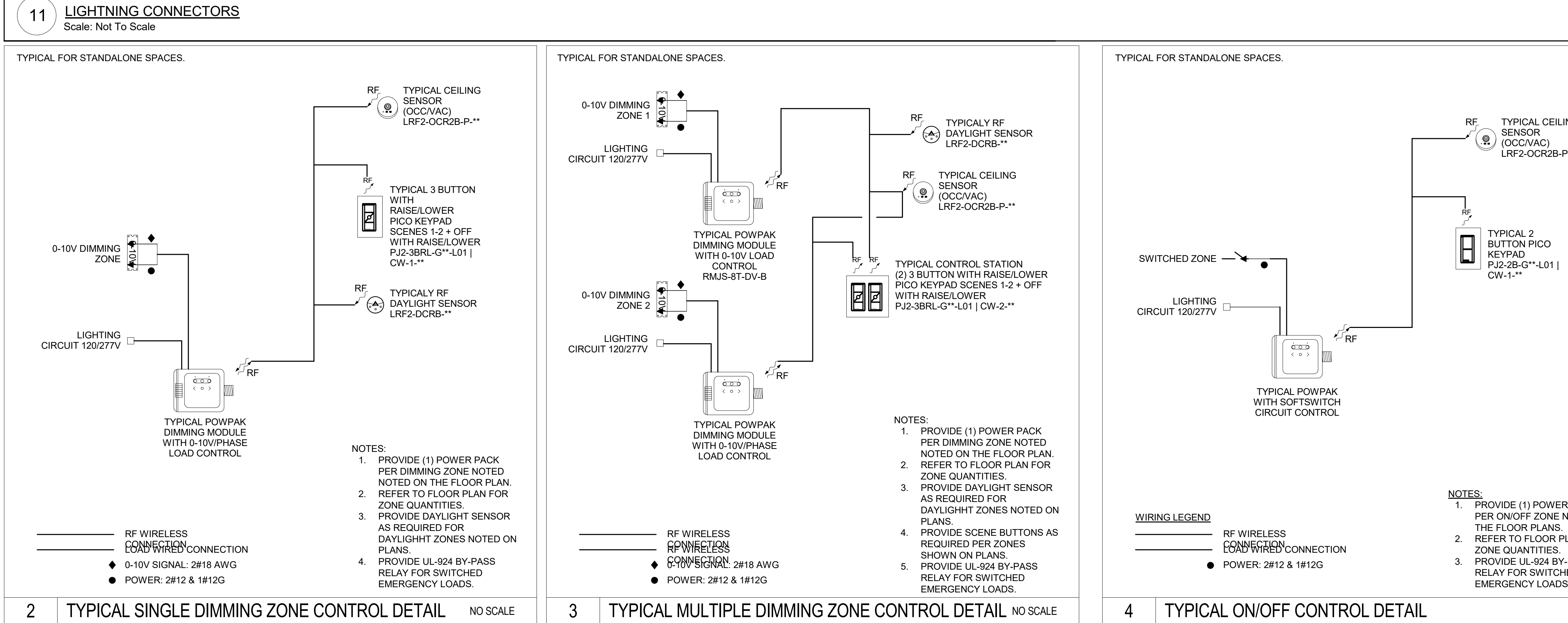
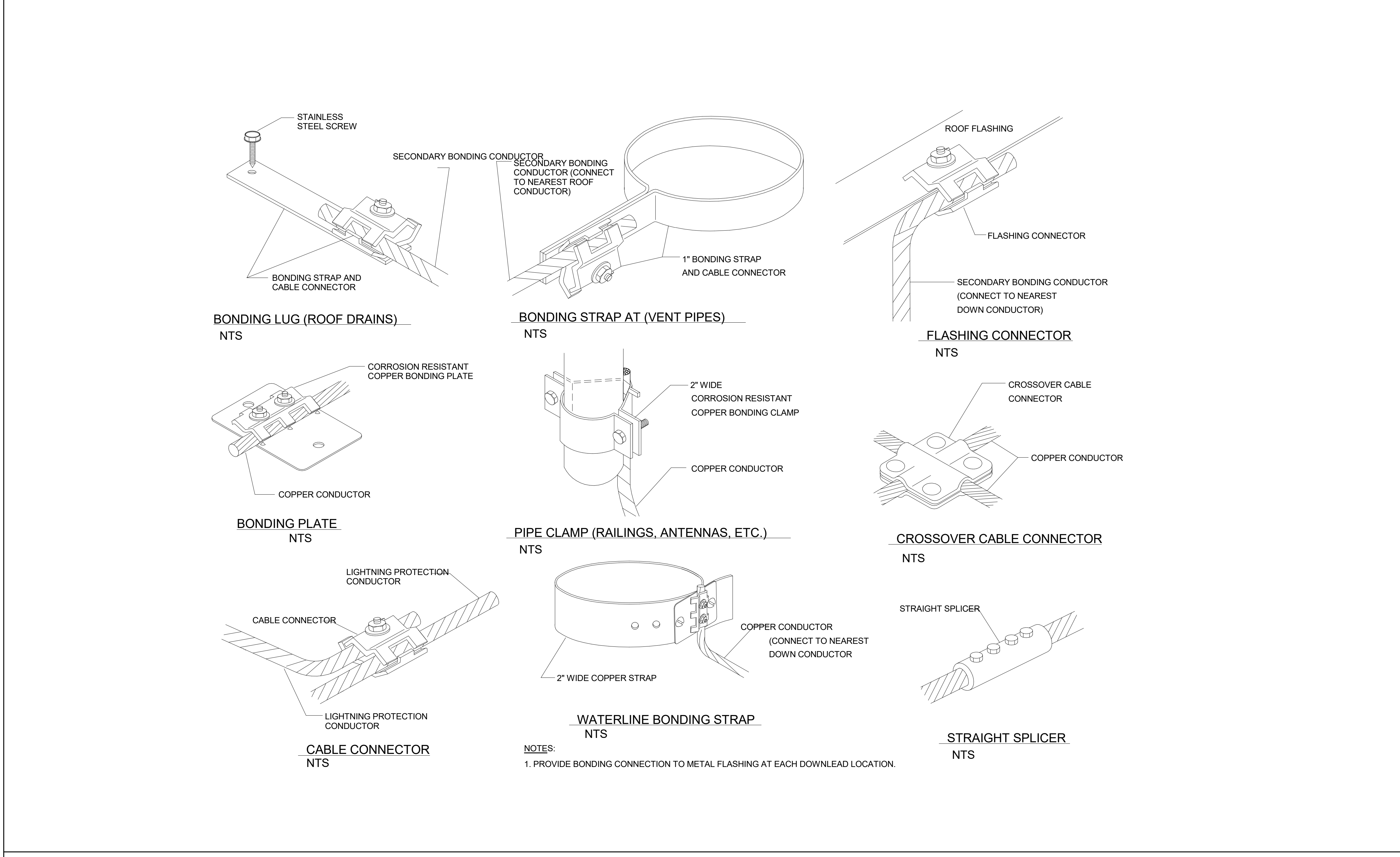
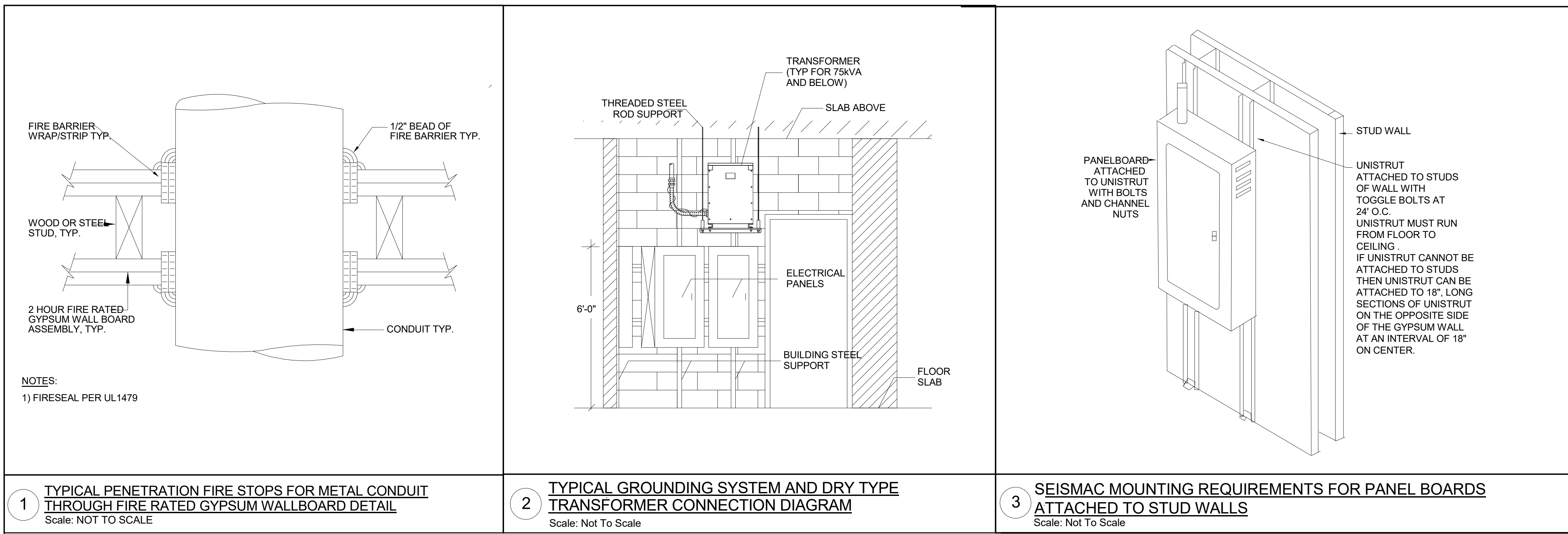
KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

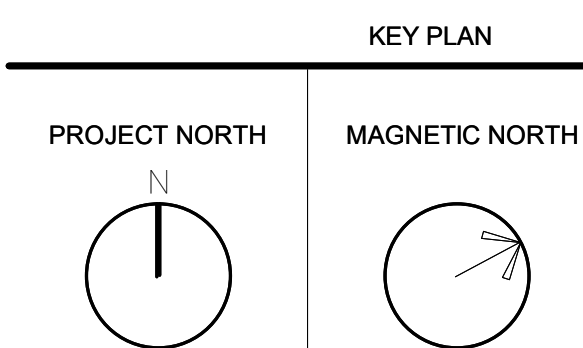
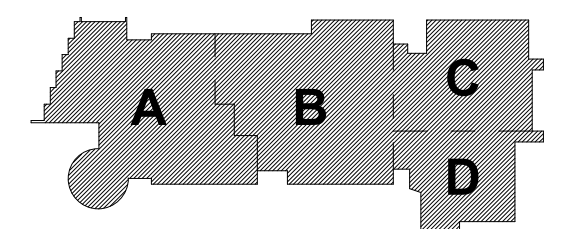
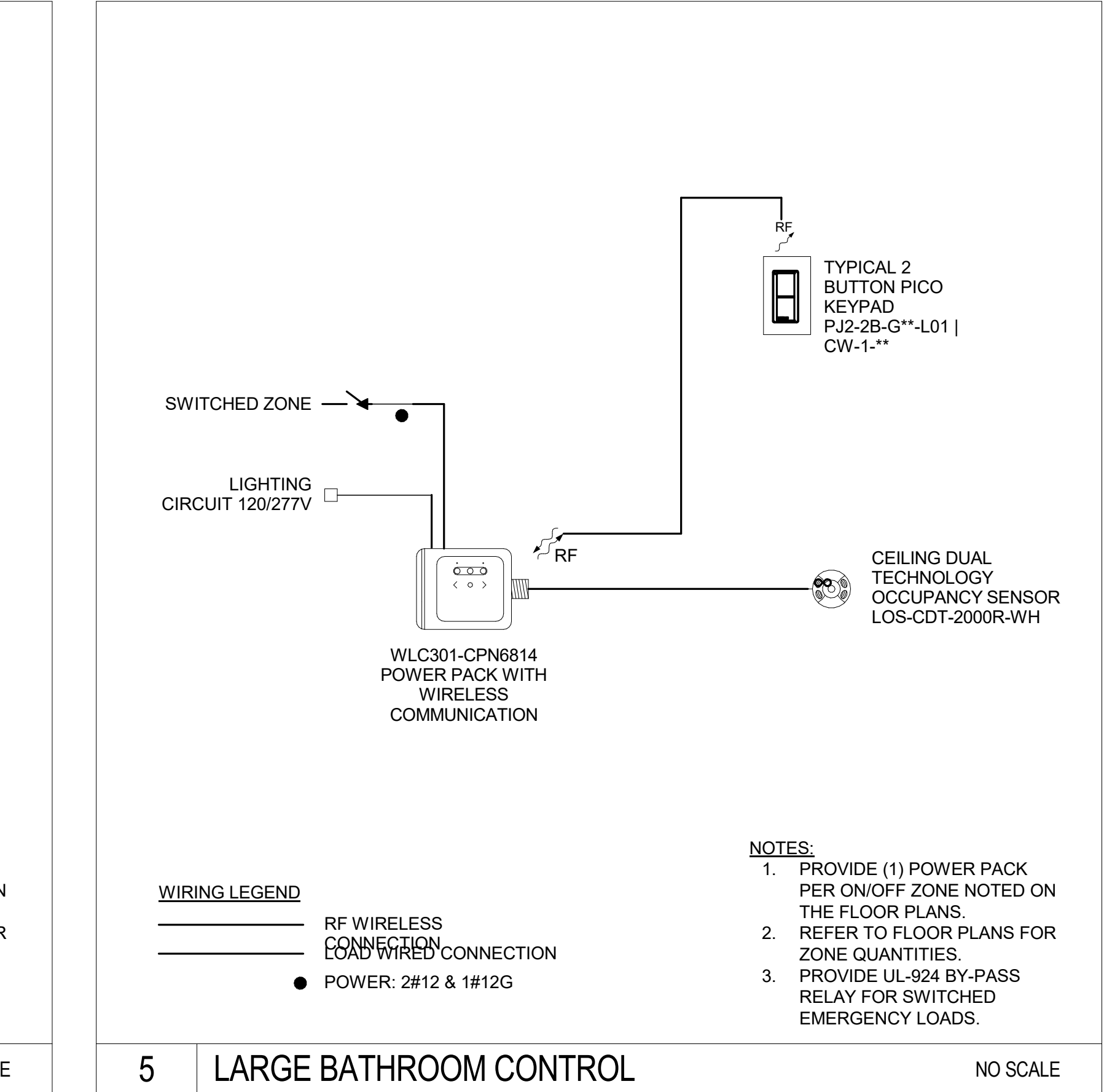
ELECTRICAL
DETAIL SHEET 2

Scale:
Job No.: 20202
Drawn By: DRA
Date: August 4th, 2022

E4-0-13



LUTRON SERVICES		
QTY	SERVICE TITLE (MODEL NUMBER)	SERVICE DESCRIPTION
THE QUANTITY OF SERVICES BELOW ARE TO BE INCLUDED AS PART OF THIS PROJECT'S SCOPE OF WORK AND SPECIFIED INTO THE WRITTEN SPEC DOCUMENTS		
PRE-STARTUP SERVICES		
1	ONSITE PRE-WIRE VISIT (LSC-PREWIRE)	AN ONSITE VISIT WITH THE ELECTRICAL CONTRACTOR TO DISCUSS LOGISTICAL CONSTRUCTION CONSIDERATIONS INCLUDING THE WIRING AND MOUNTING OF SYSTEM DEVICES, THE CONSTRUCTION SCHEDULE, AND LUTRON DOCUMENTATION. QUANTITY DICTATES THE NUMBER OF VISITS PURCHASED.
	SYSTEM & NETWORK INTEGRATION CONSULTATION (LSC-INT-VISIT)	A CONSULTATIVE VISIT WITH THIRD PARTY INTEGRATORS TO CONFIRM THE SPECIFIED SEQUENCE OF OPERATION AND DISCUSS INTEGRATION PROCEDURES NEEDED IN ORDER TO INTEGRATE WITH THE LUTRON EQUIPMENT. THIS MAY INCLUDE ANY OF THE FOLLOWING THIRD PARTY SYSTEMS: BMS, BMS, IT, NON-LUTRON SMOKE, SMOKE, AV, OR ENERGY DASHBOARDS.
	SENSOR LAYOUT & TUNING (LSC-SENS-L)	LUTRON WILL TAKE RESPONSIBILITY FOR LUTRON-PROVIDED SENSOR PLACEMENT AND PERFORMANCE BY CREATING SENSOR LAYOUTS AND COORDINATING SENSOR PLACEMENT BEFORE AND AFTER INSTALLATION. ONCE THE BUILDING IS OCCUPIED, LUTRON WILL RETURN UP TO TWO TIMES TO PERFORM SENSOR FINE-TUNING.
(THESE SERVICES ARE ADDITIONAL TO YOUR SPECIFIED STARTUP BASED ON YOUR REQUIREMENTS)		
	STARTUP SUPPORT SERVICES	STARTUP PROVIDED BETWEEN THE HOURS OF 5:00PM - 7:00AM, MONDAY - FRIDAY. THIS SCOPE OF WORK DOES NOT INCLUDE HOLIDAY OR WEEKEND WORK. ADDITIONAL FEES MAY APPLY FOR WORK TO BE COMPLETED ON WEEKENDS (FRIDAY 5:00PM - MONDAY 7:00AM).
1	ONSITE SCENE & LEVEL TUNING (LSC-AF-VISIT)	AN ONSITE VISIT WITH THE SCHEDULER OR CUSTOMER REPRESENTATIVE TO REVIEW THE DESIGN INTENT, FINE-TUNE THE SCENE LEVEL PROGRAMMING, AND MAKE ADJUSTMENTS TO TIMELOCKS.
	ONSITE PERFORMANCE-VERIFICATION WALKTHROUGH (LSC-WALK)	AN ONSITE WALKTHROUGH WITH FACILITY REPRESENTATIVES OR PROJECT COMMISSIONING AGENTS TO DEMONSTRATE THAT THE SYSTEM FUNCTIONALITY MEETS THE DESIGN INTENT. THIS MAY INCLUDE ANY OF THE FOLLOWING ONSITE ACTIVITIES - CONSULTATION/TRAINING DEMOS, FUNCTIONAL TESTING ASSISTANCE, OR INVENTORY OF LUTRON EQUIPMENT.
	SYSTEM PERFORMANCE-VERIFICATION DOCUMENTATION (LSC-SPV-DOC)	COMPLETION OF DOCUMENTATION WHICH PROVIDES PERFORMANCE VERIFICATION CERTIFYING THE LUTRON EQUIPMENT HAS BEEN THOROUGHLY TESTED. IT SUPPORTS THE DOCUMENTATION REQUIREMENTS OF MANY BUILDING STANDARDS.
POST-STARTUP SERVICES		
1	CUSTOMER-SITE SOLUTION TRAINING (LSC-TRAINING-SP)	A VISIT TO TEACH SYSTEM USERS HOW TO OPERATE AND MAINTAIN THE LIGHTING CONTROL SYSTEM.
1	SYSTEM OPTIMIZATION (LSC-SYSOPT-SP)	AN ONSITE CONSULTATIVE VISIT TO IDENTIFY AND IMPLEMENT LIGHTING CONTROL ADJUSTMENTS TO SAVE ADDITIONAL ENERGY AND CREATE A MORE PRODUCTIVE WORK ENVIRONMENT.
MAINTENANCE & SUPPORT SERVICES		
	SOFTWARE MAINTENANCE AGREEMENT (LSC-SMA-SP)	PROVIDES COMPATIBILITY TESTING RESULTS OF QUANTUM WITH OPERATING SYSTEM PATCHES AND WEB BROWSER UPDATES. INCLUDES AN ELECTIVE FREE SOFTWARE UPGRADE LICENSE.
1	COMMERCIAL SYSTEMS 2-YEAR LIMITED WARRANTY (LSC-B2)	A 2-YEAR SYSTEM WARRANTY PROVIDING 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME.
	ENHANCED SILVER (LSC-ESB)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A FIRST-AVAILABLE RESPONSE TIME; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	ENHANCED GOLD (LSC-EBG)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A 72-HOUR RESPONSE TIME AND AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	ENHANCED PLATINUM (LSC-EBP)	YEARS 1-2 - 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR COVERAGE WITH A 24-HOUR RESPONSE TIME AND AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT; YEARS 3-5 - 50% PARTS ONLY COVERAGE; YEARS 6-8 - 25% PARTS ONLY COVERAGE.
	SILVER TECHNOLOGY SUPPORT PLAN (LSC-SILV-W)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR WITH A FIRST-AVAILABLE ONSITE OR REMOTE RESPONSE TIME.
	GOLD TECHNOLOGY SUPPORT PLAN (LSC-GOLD-W)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON LABOR WITH A 72-HOUR ONSITE OR REMOTE RESPONSE TIME. ALSO INCLUDES AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT EACH YEAR.
	PLATINUM TECHNOLOGY SUPPORT PLAN (LSC-PLAT-W)	AN ANNUAL SERVICE PLAN THAT COVERS 100% REPLACEMENT PARTS AND 100% LUTRON DIAGNOSTIC LABOR WITH A 24-HOUR ONSITE OR REMOTE RESPONSE TIME. ALSO INCLUDES AN ANNUAL (1-DAY) SCHEDULED PREVENTIVE MAINTENANCE VISIT EACH YEAR.
	PREVENTIVE MAINTENANCE VISIT(S) (LSC-SCH-MANT)	SCHEDULED MAINTENANCE VISIT TO PERFORM PREVENTIVE MAINTENANCE, MINOR PROGRAMMING, AND CONDUCT SYSTEM TRAININGS. QUANTITY IS IN ADDITION TO ANY YEARLY VISITS SPECIFIED WITH AN ENHANCED WARRANTY OR TECHNOLOGY SUPPORT PLAN.
PLEASE GO TO WWW.LUTRON.COM/SERVICES FOR FURTHER INFORMATION.		



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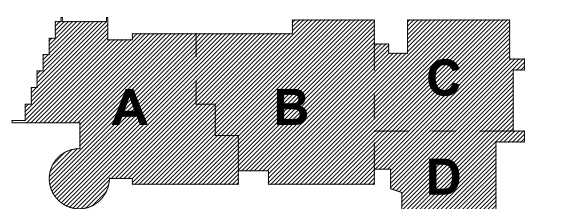
Northeast
Metropolitan
Regional
Vocational High
School

Wakefield, MA 01880

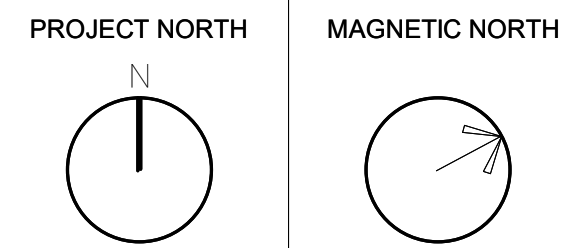
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CHECKED: CONSULTING ENGINEERS
APPROVED: CONSULTING ENGINEERS

MSBA DESIGN
DEVELOPMENT
SUBMISSION
August 4th, 2022

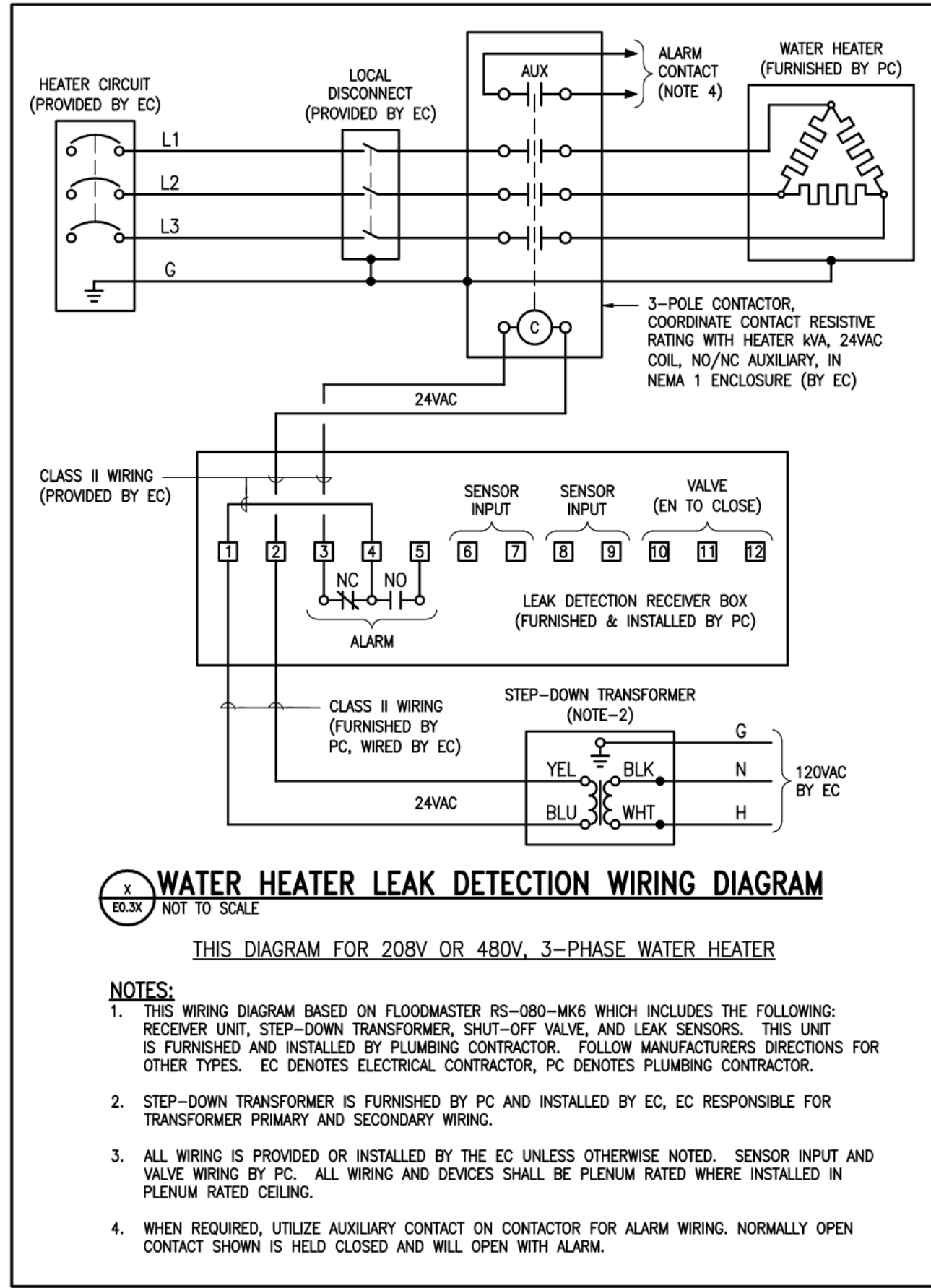
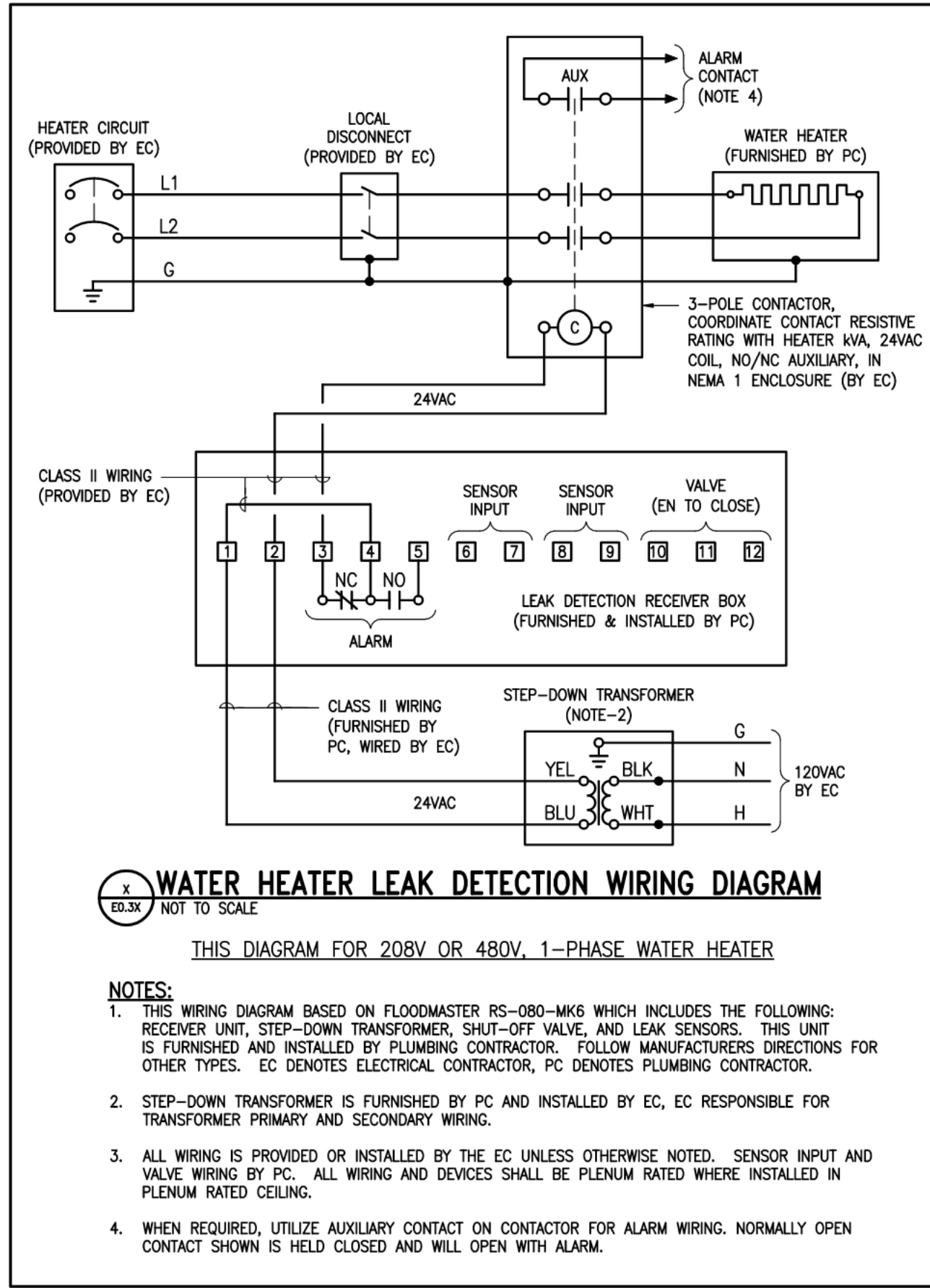
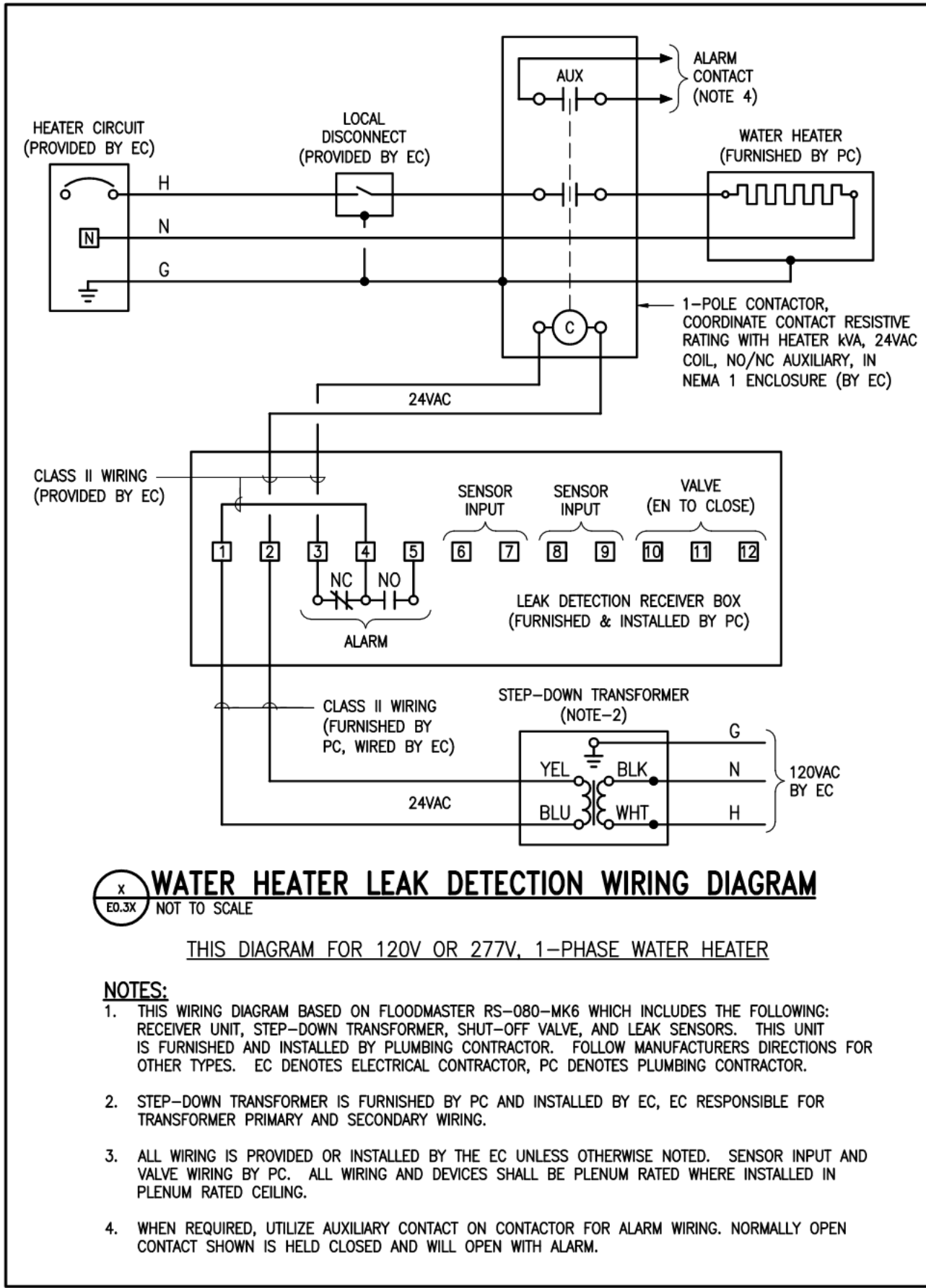


KEY PLAN



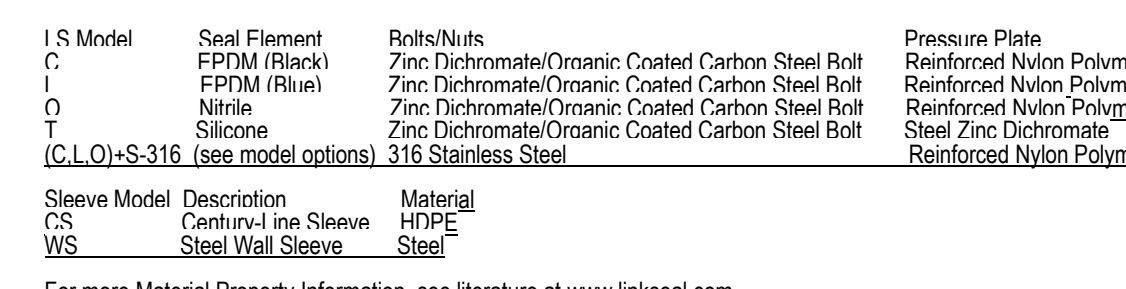
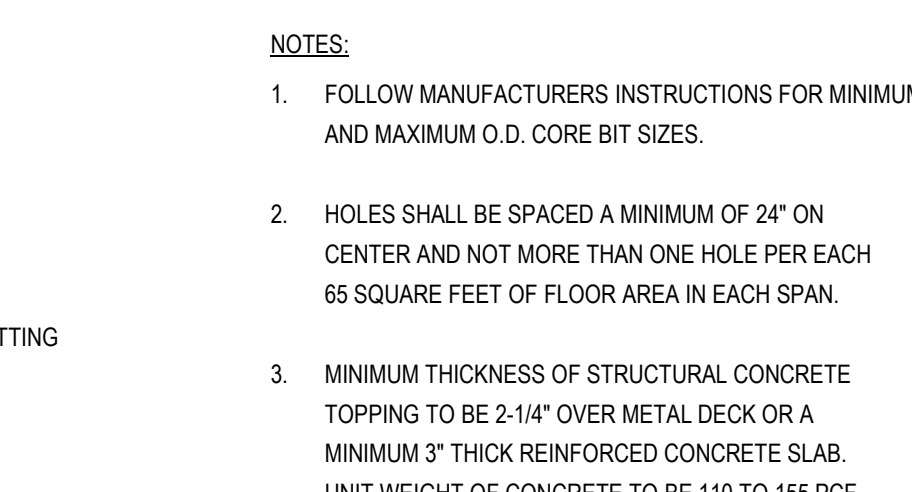
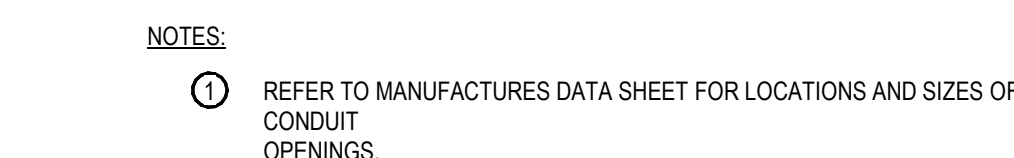
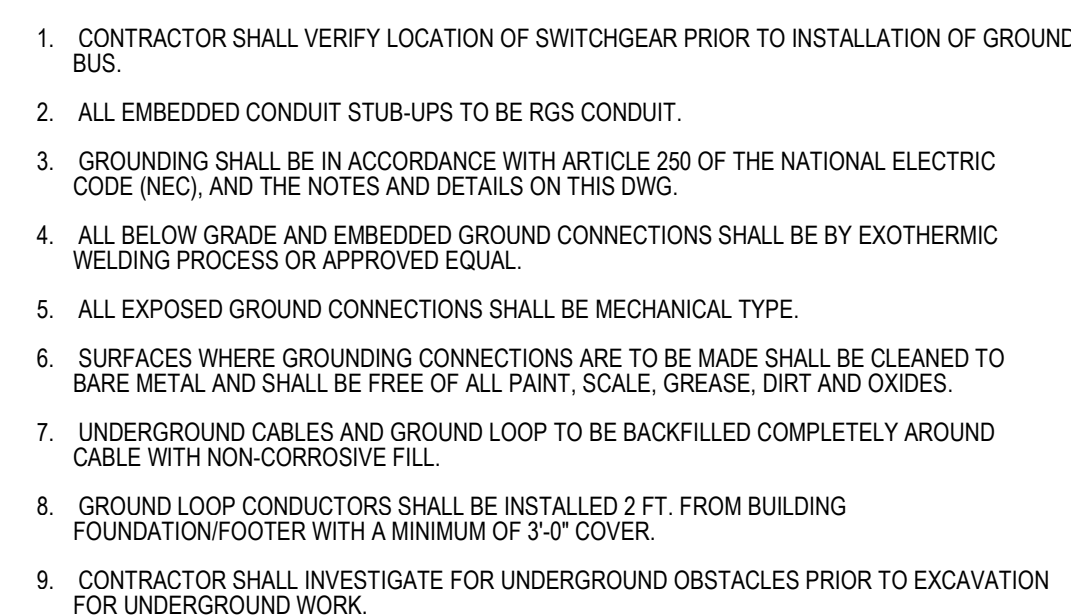
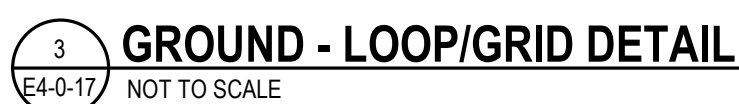
ELECTRICAL
DETAIL SHEET 4

Scale: 6" = 1'-0"
Job No.: 20022
Drawn By: DRA
Date: August 4th, 2022
E4-0-15



Wakefield, MA 01880





1. ACTUATION OF ANY OF THE SMOKE DETECTORS SHALL START INITIATE ELEVATOR RECALL. ACTIVATION OF SMOKE DETECTORS (ON DESIGNATED LEVEL) SHALL CAUSE THE ELEVATOR TO RETURN TO AN AVAILABLE FLOOR DESIGNATED AND A VARIANTE LEVELS TO BE DETERMINED BY THE ELEVATOR INSPECTOR AND FIRE MARSHAL.
2. IF THE HOST-WAY OR MACHINE-CONTROL ROOM IS SPRINKLERED, THERE MUST BE A 1% DEGREE RATE OF RISE OR RATE COMPENSATION HEAT DETECTOR INSTALLED WITHIN 4' OF EACH SPRINKLER HEAD. THE SHUNT TRIP BREAKER TRIP CIRCUIT SHALL BE WIRING TO THE HEAT DETECTOR. IN ADDITION, PRIMARY ELEVATOR POWER SHALL BE SHUT DOWN VIA A SHUNT TRIP BREAKER SUPPLYING THE ELEVATOR EQUIPMENT. THE SHUNT TRIP BREAKER MUST BE 120VAC (EMERGENCY LIFE SAFETY CIRCUIT) AND BE SUPPLIED BY THE ALARM PANEL.
3. DAMPER 1' TOP OF SHAFT SHALL BE MANUALLY CONTROLLED FROM FIRE ALARM PANEL.
4. FUSIBLE ELEVATOR DISCONNECT, LOCATE ADJACENT TO DOOR ENTRANCE MACHINE ROOM, PROVIDE WITH MARKS FOR LOCKING IN OPEN POSITION PROVIDED WITH CLASS D DUAL-ENDING, TIME DELAY FUSES.
5. CONTROL AND COMMUNICATION WIRING: PROVIDE THE FOLLOWING TO EACH ELEVATOR CONTROLLER:
 - 5.1 SHUNT TRIP CONTROL WIRES TO HEAT DETECTORS OR CONTROL PANEL
 - 5.2 AUXILIARY CONTACTS FOR POWER TO ELEVATOR CONTROLLER (IF APPLICABLE)
 - 5.3 TELEPHONE AND DATA CABLES
 - 5.4 COMMUNICATION WIRES FROM AUTOMATIC TRANSFER SWITCH
 - 5.5 COMMUNICATION WIRES FROM FIRE ALARM PANEL

