

GENERAL ELECTRICAL NOTES

1.

ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES.
2.

ALL MATERIAL SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL MANUFACTURERS ASSOCIATION.
3.

ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.
4.

DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE ONLY THE GENERAL ARRANGEMENT. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
5.

ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY HE PROJECT IS ACCEPTED BY THE OWNER.
6.

ELECTRICAL CONTRACTOR SHALL MAKE ALL ELECTRICAL POWER CONNECTIONS TO HVAC, PLUMBING, AND OTHER EQUIPMENT AS REQUIRED.
7.

A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
8.

ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
9.

ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT, OR EMT. EMT SHALL NOT BE USED IN OR UNDER CONCRETE SLABS, OR IN MASONRY WALLS. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB.

CONCEALED BRANCH CIRCUITS RATED 30 AMPS OR LESS MAY UTILIZE TYPE MC FLEXIBLE METAL CABLE WHERE CODE ALLOWS. SUPPORT WITHIN 12" OF ALL CONNECTIONS AND NOT MORE THAN 4'-6" ON CENTER.

ALL RACEWAYS (EXCEPT THOSE BELOW SLAB OR GRADE) SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING LINES.
10.

BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS. MINIMUM SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID, UNLESS OTHERWISE NOTED.

FEEDERS RATED GREATER THAN 150 AMPERES MAY UTILIZE 75°C COMPACT ALUMINUM CONDUCTORS OF EQUIVALENT AMPACITY, TYPE XHHW OR XHHW-2 INSULATION, EQUIVALENT TO ALCAN SERIES 8000 CONDUCTORS. CONTRACTOR TO VERIFY CONDUIT SIZES REQUIRED FOR ALUMINUM FEEDERS.
11.

BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE THHN OR THWN AS REQ'D.
12.

PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
13.

PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS.
14.

PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, BLACK LETTERS ON WHITE BACKGROUND.
15.

FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSS, UNLESS NOTED OTHERWISE.
16.

VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.

AVAILABLE FAULT CURRENT AT SERVICE TRANSFORMER TO BE FIELD VERIFIED WITH SERVING UTILITY. ACTUAL FAULT CURRENT VALUES TO BE FIELD MARKED ON ALL GEAR IN ACCORDANCE WITH NEC 110.24.
17.

PROVIDE SCHEDULE 40 PVC CONDUIT UNDERGROUND FROM TELEPHONE EQUIPMENT ROOM TO CONNECTION POINT AS DIRECTED BY LOCAL TELEPHONE COMPANY.
18.

ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC. SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
19.

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.).
20.

PENETRATIONS OF REQUIRED SMOKE PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED.
21.

WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED ASSEMBLIES SUCH AS THE FOLLOWING:
UP TO 1" PENETRATIONS OF 1, 2, 3 & 4 HOUR GYPSUM WALLS - U.L.#WL1001
UP TO 4" PENETRATIONS OF 1 & 2 HOUR GYPSUM WALLS - U.L.#WL1001
UP TO 4" PENETRATIONS OF 1 & 2 HOUR CONC. OR BLOCK WALLS & FLOORS - U.L.#CAJ1009
UP TO 4" PENETRATIONS OF 3 & 4 HOUR CONC. OR BLOCK WALLS & FLOORS - U.L.#CJB1020.
22.

IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQ'D BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
23.

WHERE A HOME RUN IS SHOWN, THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN, THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS:
 - A MAXIMUM OF THREE 20A BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN SHARING A COMMON NEUTRAL OR WITH SEPARATE NEUTRALS FOR A MAXIMUM OF TOTAL OF SIX CURRENT CARRYING CONDUCTORS.
 - 20A BRANCH CIRCUITS SERVING NON-LINEAR LOADS (FLUOR. LIGHTING, EMPLOYEE WORKSTATIONS, DATA SYSTEMS, ETC.) USING SHARED NEUTRALS SHALL UTILIZE #10 CU NEUTRAL, MINIMUM.
 - ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO THE PANEL.
24.

ALL RACEWAYS SHALL BE CONCEALED UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH CONCEALING RACEWAYS AFTER INITIAL CONSTRUCTION.
25.

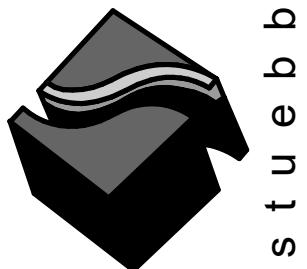
CLOSE OUT DOCUMENTS:
 - AS-BUILTS: WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING:
 - A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND
 - FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
 - OPERATION AND MAINTENANCE MANUALS: AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
 - SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE;
 - OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED;
 - NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
26.

COMMISSIONING:
WHERE OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, PHOTOSENSORS, OR DAYLIGHTING CONTROLS ARE INSTALLED, COMMISSIONING SHALL BE PROVIDED. FOR ANY OCCUPANCY SENSORS, CONFIRM THAT THE PLACEMENT, SENSITIVITY, AND TIME-OUT ADJUSTMENTS YIELD ACCEPTABLE PERFORMANCE. FOR ANY TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS, CONFIRM THAT PROGRAMMING TURNS LIGHTS OFF. FOR ANY PHOTOSENSOR CONTROLS, CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS REDUCE ELECTRIC LIGHTS BASED ON THE AMOUNT OF USABLE DAYLIGHT IN SPACE AS SPECIFIED. COMMISSIONING SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF THE LIGHTING CONTROLS CERTIFIED MANUFACTURER'S REPRESENTATIVE. CERTIFICATE DOCUMENTATION OF THE REPRESENTATIVE SHALL BE INCLUDED IN SHOP DRAWING / PRODUCT DATA SUBMITTAL.

	WIRING AND WIRING DEVICES WIRING SYSTEM CONCEALED IN WALL OR CEILING. DASHED LINES INDICATE WIRING RUN BELOW SLAB / GRADE. LOW VOLTAGE CONTROL WIRING SYSTEM CONCEALED IN WALL OR CEILING. WIRING SYSTEM TO BE RUN EXPOSED. DASHED LINES INDICATE WIRING RUN BELOW SLAB / GRADE. BRANCH CIRCUIT HOMERUN TO PANEL. NUMBER OF ARROWHEADS INDICATE NUMBER OF CIRCUITS. THREE CIRCUITS OF ALTERNATING PHASES MAY BE COMBINED IN ONE CONDUIT, HOWEVER THEY SHALL EITHER BE EQUIPPED W/ DEDICATED NEUTRALS, COMMON TRIP CIRCUIT BREAKERS, OR HANDLE-TIES ON THEIR BREAKERS. MOTOR PROVIDED AND INSTALLED BY MECH. CONTRACTOR, WIRED BY ELEC. CONTRACTOR, NUMERALS INDICATE HORSEPOWER. JUNCTION BOX, CEILING AND WALL MOUNTED. 'P' INDICATES SYSTEMS FURNITURE POWER WHIP, SEE DETAILS. 'C' INDICATES SYSTEMS FURNITURE COMMUNICATIONS WHIP, SEE DETAILS. SINGLE SERVICE FLOORBOX / POKE-THROUGH, JUNCTION BOX. - ON-GRADE: HUBBELL B2536 SERIES BOX OR APPROVED EQUAL, UON. - ABOVE GRADE: HUBBELL S1PT4X4-J BOX SERIES OR APPROVED EQUAL, UON. 'P' INDICATES SYSTEMS FURNITURE POWER WHIP, SEE DETAILS. 'C' INDICATES SYSTEMS FURNITURE COMMUNICATIONS WHIP, SEE DETAILS.	FIRE ALARM DEVICES 'C' INDICATES CEILING MOUNTED. CARBON MONOXIDE DETECTOR WALL OR CEILING MOUNTED. HEAT DETECTOR WALL OR CEILING MOUNTED. SMOKE DETECTOR WALL OR CEILING MOUNTED. SMOKE DETECTOR DUCT MOUNTED. FIRE ALARM CONTROL PANEL. FIRE ALARM ANNUNCIATOR PANEL. FIRE ALARM NOTIFICATION APPLIANCE CABINET. EMERGENCY RESPONDER RADIO COVERAGE SYSTEM. DOOR HOLDER INTERFACE DEVICE. INPUT MODULE INTERFACE DEVICE. RELAY INTERFACE DEVICE. FIRE ALARM FLOW SWITCH. FIRE ALARM PRESSURE SWITCH. FIRE ALARM TAMPER SWITCH. FIRE ALARM PULL STATION. LOW FREQUENCY ALARM DEVICE. VISUAL ONLY ALARM DEVICE. VISUAL / AUDIBLE ALARM DEVICE. BELL ALARM DEVICE. SPEAKER ALARM DEVICE. SPEAKER / STROBE ALARM DEVICE. SINGLE STATION CARBON MONOXIDE ALARM. SINGLE STATION HEAT ALARM. SINGLE STATION SMOKE ALARM. SINGLE STATION DUCT SMOKE ALARM. SINGLE STATION DUCT SMOKE REMOTE ALARM.	SITE BOLLARD LIGHT FIXTURE. GROUND MOUNTED FLOODLIGHT FIXTURE. GROUND MOUNTED LINEAR SIGNLIGHT FIXTURE. POST TOP LIGHT FIXTURE. POLE MOUNTED SITE LIGHT FIXTURE (1 HEAD). POLE MOUNTED SITE LIGHT FIXTURE (2 HEAD).	NURSE CALL NURSE CALL ANNUNCIATOR PANEL (MASTER STATION). NURSE CALL EQUIPMENT CABINET. STAFF DUTY STATION. STAFF ASSIST STATION. EMERGENCY CALL STATION (CODE BLUE). NURSE DOME LIGHT. NURSE ZONE LIGHT. PATIENT CALL STATION. PATIENT CALL BATH STATION. 'T' INDICATES TOILET STATION, INSTALL WITHIN 12" OF TOILET BOWL. 'S' INDICATES SHOWER STATION.	LIGHTNING PROTECTION LIGHTNING PROTECTION AIR TERMINAL. LIGHTNING PROTECTION DOWN CONDUCTOR AND GROUND ROD. LIGHTNING PROTECTION CONDUCTOR.
	RECEPTACLES ALL RECEPTACLES SHALL BE A MINIMUM RATING OF 120 VOLT, 20 AMP, UON. VERTICAL MOUNTED BOX HEIGHTS SHALL BE TO CENTER, HORIZONTAL MOUNTED BOX HEIGHTS SHALL BE TO TOP, UON. 'AFI' INDICATES ARC FAULT CIRCUIT INTERRUPTER. 'GFI' INDICATES GROUND FAULT CIRCUIT INTERRUPTER. 'WP' INDICATES WEATHERPROOF IN USE, WEATHER-RESISTANT RECEPTACLE W/ IN-USE EXTRA DUTY COVER. RECEPTACLES LOCATED IN WET OR DAMP LOCATIONS SHALL BE WP, WHETHER INDICATED OR NOT. 'EW' INDICATES ELECTRIC WATER COOLER. 'EX' INDICATES EXISTING TO BE REUSED. 'HD' INDICATES HAND DRYER CONNECTION. 'TR' INDICATES TAMPER RESISTANT (INTEGRAL TO RECEPTACLE). ALL DWELLING UNIT DUPLEX RECEPTACLES SHALL BE LISTED TAMPER RESISTANT TYPE. ALL NON-LOCKING, 120V, 15A AND 20A RECEPTACLES SHALL BE TAMPER-RESISTANT, EXCEPT IN MECHANICAL ROOMS, ELECTRICAL ROOMS, AND JANITORS CLOSETS, WHETHER INDICATED OR NOT. 'CH' INDICATES HALF CONTROLLED (BOTH PLUGS OF DUPLEX). 'CF' INDICATES FULL CONTROLLED (BOTH PLUGS OF DUPLEX). 'SB' INDICATES RECEPTACLE FOR SMARTBOARD, SEE DETAIL. 'USB' INDICATES POWER/USB CHARGING. SHADING: - CENTER SHADING INDICATES DEVICE MOUNTED ABOVE COUNTER TOP 3'-8" AFF, UON. 1/2 SHADING INDICATES DEVICE TO BE SWITCHED. SIMPLEX RECEPTACLE, CEILING, FLOOR AND WALL MOUNTED. DUPLEX RECEPTACLE, CEILING, FLOOR AND WALL MOUNTED. FLOOR IS SINGLE SERVICE FLOORBOX / POKE-THROUGH, ONE DUPLEX RECEPTACLE. - ON-GRADE: HUBBELL B2536 SERIES BOX OR APPROVED EQUAL, UON. - ABOVE GRADE: HUBBELL S1PT4X4-J SERIES BOX OR APPROVED EQUAL, UON. DOUBLE DUPLEX RECEPTACLE, CEILING, FLOOR AND WALL MOUNTED. 220V RECEPTACLE, CEILING, FLOOR AND WALL MOUNTED. 'DRYER' INDICATES NEMA 14-30R. SPECIAL RECEPTACLE (AS INDICATED), CEILING, FLOOR AND WALL MOUNTED. MULTI-OUTLET ASSEMBLY.				
	MISCELLANEOUS DEVICES 120V FIRE / SMOKE DAMPER (FURNISHED & INSTALLED BY DIV 23, CIRCUITED BY DIV 26). 120V SMOKE DAMPER (FURNISHED & INSTALLED BY DIV 23, CIRCUITED BY DIV 26). 120V MOTORIZED DAMPER (FURNISHED & INSTALLED BY DIV 23, CIRCUITED BY DIV 26). EMERGENCY RELAY.				
	SECURITY INFRASTRUCTURE ALL CONDUITS INDICATED BELOW SHALL BE ROUTED TO THE SECURITY PANEL IN THE COMM ROOM. COORDINATE W/ SECURITY INSTALLER FOR LOCATION OF SECURITY PANEL. CCTV CAMERA. ACCESS CONTROL PANEL. CARD READER, OUTLET BOX AT 3'-10" AFF. DOOR CONTACT. MAGNETIC LOCK. PUSH BUTTON, OUTLET BOX AT 3'-10" AFF. GATE CONTACT. REQUEST TO EXIT. ELECTRIC STRIKE. MOTION SENSOR. GLASS BREAK SENSOR.				

ELECTRICAL SYMBOL LEGEND

	COMMUNICATIONS OUTLETS SHALL BE MOUNTED AT SAME HEIGHT AS ADJACENT RECEPTACLE, w/ CONDUIT STUBBED OUT ABOVE ACCESSIBLE CEILING. 'W' INDICATES 48" AFF MOUNTING. 'INT' INDICATES INTERCOM OUTLET. TELEPHONE OUTLET w/ 3/4", CEILING, FLOOR AND WALL MOUNTED. DATA OUTLET w/ 1", CEILING, FLOOR AND WALL MOUNTED. COMBINATION TEL / DATA OUTLET w/ 1", CEILING, FLOOR AND WALL MOUNTED. WALL MOUNTED TV OUTLET w/ 1", UON, SEE ARCH PLANS FOR MOUNTING HEIGHT. RECEPTACLE (SIMPLEX, DUPLEX, DOUBLE DUPLEX, 220V OR SPECIAL), COMBINATION TEL/DATA OUTLET w/ 1", C, AND INTERCOM OUTLET IN FLOOR / WALL BOX, WIREMOLD FB-SERIES OR APPROVED EQUAL, UON. GENERATOR ANNUNCIATOR PANEL. SPEAKER CEILING AND WALL MOUNTED. DISCONNECT SWITCH FOR NOTIFICATION. DOOR BELL PUSH BUTTON. LOW VOLTAGE TRANSFORMER. VISUAL / AUDIBLE DOOR NOTIFICATION. INTERCOMM. VOLUME CONTROL. GROUND BAR. WAP. DATA PATCH PANEL.
	SWITCHING 20A, 120/277 VOLT, +48" AFF TO TOP, UON. '2' INDICATES 2-POLE. '3' INDICATES 3-WAY. '4' INDICATES 4-WAY. 'D' INDICATES 0-10V DIMMER SWITCH. COORDINATE EXACT TYPE AND RATING W/ LIGHTING CONTROLLED. 'T' INDICATES 0-60 MINUTE TIMER SWITCH. 'K' INDICATES KEY OPERATED SWITCH. 'LV' INDICATES LOW VOLTAGE SWITCH. 'LV2' INDICATES 2-RELAY LOW VOLTAGE SWITCH. '[H]' INDICATES LIGHTING CONTROL ZONE. SEE LIGHTING CONTROL SCHEDULE FOR DETAILS. SINGLE POLE SWITCH. LINE VOLTAGE, VACANCY SENSOR SWITCH, MANUAL-ON / AUTO-OFF, DUAL-TECHNOLOGY, PROVIDE COMPLETE ROOM COVERAGE. LINE VOLTAGE, OCCUPANCY SENSOR SWITCH, AUTO-ON / AUTO-OFF, DUAL-TECHNOLOGY, PROVIDE COMPLETE ROOM COVERAGE. LINE VOLTAGE, OCCUPANCY SENSOR SWITCH W/ DIMMING, AUTO-ON / AUTO-OFF, DUAL-TECHNOLOGY, PROVIDE COMPLETE ROOM COVERAGE. LOW VOLTAGE, OCCUPANCY SENSOR SWITCH, AUTO-ON / AUTO-OFF, DUAL-TECHNOLOGY, PROVIDE COMPLETE ROOM COVERAGE. LOW-VOLTAGE CONCEALED POWER PACK FOR OCCUPANCY SENSOR. LOW-VOLTAGE CONCEALED POWER PACK FOR OCCUPANCY SENSOR, AUTO-ON / AUTO-OFF. LOW-VOLTAGE CONCEALED POWER PACK FOR OCCUPANCY SENSOR, MANUAL-ON / AUTO-OFF. LOW-VOLTAGE CONCEALED POWER PACK FOR OCCUPANCY SENSOR, MANUAL-ON / AUTO-OFF, 0-10V DIMMING. LOW-VOLTAGE DUAL-TECHNOLOGY VACANCY SENSOR, CEILING AND WALL MOUNTED, MANUAL-ON / AUTO-OFF w/ EXTENDED RANGE (AT LEAST 56'-0" MINOR MOTION RANGE DIAMETER AT 9'-0" AFF MOUNTING HEIGHT). LOW-VOLTAGE DUAL-TECHNOLOGY OCCUPANCY SENSOR, CEILING AND WALL MOUNTED, AUTO-ON / AUTO-OFF w/ EXTENDED RANGE (AT LEAST 56'-0" MINOR MOTION RANGE DIAMETER AT 9'-0" AFF MOUNTING HEIGHT). NORTH FACING ROOF MOUNTED PHOTOCELL. TIMECLOCK, REFER TO LIGHTING CONTROL DIAGRAM. INVERTER, 50W, 277V, 90 MINUTE BATTERY.
	LIGHTING FIXTURES SEE FIXTURE SCHEDULE FOR DETAILS. 'NL' INDICATES FIXTURE UNSWITCHED (NITE LIGHT). - LOWER CASE LETTERING DENOTES SWITCH / RELAY CONTROLLING THE FIXTURE. SHADING: 1/2 SHADING INDICATES FIXTURE TO BE PROVIDED W/ 90-MINUTE, MINIMUM BATTERY BACKUP. DOWNLIGHT RECESSED FIXTURE, ARROW INDICATES WALL WASH TYPE AND DIRECTION TO AIM FIXTURE. DOWNLIGHT SURFACE MOUNTED FIXTURE. EMERGENCY EGRESS LIGHT FIXTURE. EXIT SIGN FIXTURE, CEILING AND WALL MOUNTED. SHADING INDICATES ILLUMINATED FACE, ARROWS INDICATE CHEVRONS. CEILING FAN. LINEAR PENDANT FIXTURE. 2' x 4' LIGHTING FIXTURE. DIAGONAL INDICATES FIXTURE UNSWITCHED (NITE LIGHT). 2' x 2' LIGHTING FIXTURE. ROUND BOWL / DRUM PENDANT FIXTURE. 4' STRIP FIXTURE. SURFACE FIXTURE. WALL MOUNTED LIGHT FIXTURE. TRACK LIGHT FIXTURE. STEP LIGHT FIXTURE.
	DISTRIBUTION DEVICES - DASHED LINES ADJACET TO EQUIPMENT INDICATES CLEARANCES. - HEAVY DUTY DISCONNECT SWITCH, PROVIDE NEMA 3R ENCLOSURES FOR EXTERIOR DISCONNECTS. - NUMBERS INDICATE AMP FRAME / # POLES / AMP FUSE. 'NF' INDICATES NON-FUSIBLE. 120 / 208V PANELBOARD, SURFACE OR RECESS MOUNTED. SEE SCHEDULE FOR DETAILS. 277 / 480V PANELBOARD, SURFACE OR RECESS MOUNTED. SEE SCHEDULE FOR DETAILS. TRANSFORMER. SWITCHBOARD, SEE SCHEDULE FOR DETAILS. SURGE PROTECTIVE DEVICE. UTILITY METER ENCLOSED CIRCUIT BREAKER



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Designer

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DOCUMENT EDITOR

Author

SCALE:

AS INDICATED

LEGEND AND
GENERAL NOTES

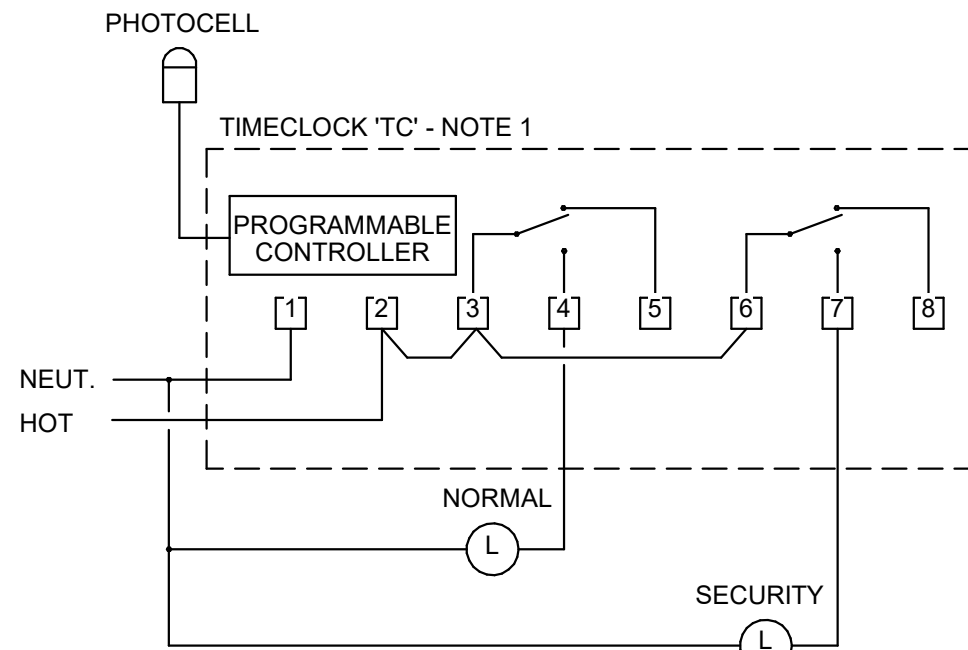
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ELECTRICAL ABBREVIATIONS	
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB, CKT BKR	CIRCUIT BREAKER
CLG	CEILING
CU	COPPER OR CONDENSING UNIT
DISC	DISCONNECT
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NONMETALLIC TUBING
EOR	ENGINEER OF RECORD
ERRCS	EMERGENCY RESPONDER RADIO COVERAGE SYSTEM
ES	ENERGY SAVING
EVC	ELECTRIC VEHICLE CHARGER
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FPC	FIRE PUMP CONTROLLER
FSD	FIRE SMOKE DAMPER
G	GROUND
G, GND	GROUND
GACP	GENERATOR ANNUNCIATOR AND CONTROL PANEL
GD	GENERATOR DISCONNECT
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HT	HEIGHT
IG	ISOLATED GROUND
JB, J-BOX	JUNCTION BOX
JPC	JOCKEY PUMP CONTROLLER
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
kcmil	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERE
LC	LIGHTING CONTRACTOR
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
N/L	NIGHT LIGHT
NAC	NOTIFICATION APPLIANCE CABINET
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
OC	ON CENTER
PANEL	PANEL
PVC	POLY-VINYL-CHLORIDE (SCHEDULE 40, UON)
SE	SERVICE ENTRANCE
TBB	TELECOMMUNICATIONS BACKBONE BONDING
TGB	TELECOMMUNICATIONS GROUND BAR
TMGB	TELECOMMUNICATIONS MAIN GROUND BAR
TR	TAMPER RESISTANT
TTB	TELECOMMUNICATIONS TERMINAL BOARD
TYP	TYPICAL
UD	UTILITY DISCONNECT
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMPERE
W	WATT
WP	WEATHERPROOF

BRANCH CIRCUIT VOLTAGE DROP TABLE									
NOTES: A. BRANCH CIRCUIT UNGROUNDED AND NEUTRAL CONDUCTORS ADJUSTED FOR VOLTAGE DROP OF 3%. B. EQUIPMENT GROUNDING CONDUCTOR SIZE INCREASE IN PROPORTION TO UNGROUNDED CONDUCTORS PER NEC 250.122(B). C. VOLTAGE DROP CALCULATIONS BASED ON 100% CIRCUIT LOAD, 100% POWER FACTOR, AND 6 OR LESS CURRENT CARRYING CONDUCTORS PER RACEWAY. D. DISTANCE INDICATES CONDUCTOR LENGTH FROM OVERCURRENT DEVICE TO LAST DEVICE / OUTLET / EQUIPMENT. E. THE LARGER OF THE CONDUCTOR SIZES INDICATED IN THE PANEL SCHEDULES AND THE VOLTAGE DROP TABLE ABOVE, SHALL BE USED. F. WHERE THE WIRE SIZE IS LARGER THAN THE MAXIMUM WIRE SIZE TERMINAL OF THE EQUIPMENT, PROVIDE A JUNCTION BOX AND SPLICE DOWN TO THE LARGEST WIRE SIZE POSSIBLE. THE BOX SHALL BE LOCATED AS CLOSE TO THE TERMINATION AS POSSIBLE, BUT NO FARTHER THAN 15 FEET. G. WHERE BRANCH CIRCUIT EXCEEDS DISTANCES NOTED ABOVE AND SIZES ARE NOT OTHERWISE NOTED ON PLANS, NOTIFY ENGINEER.									
OVER-CURRENT PROTECTION	BRANCH CIRCUIT		MAXIMUM LENGTH						
	CONDUCTOR (PH&N / G)	RACEWAY	120V, 1Ø	208V, 1Ø	208V, 3Ø	277V, 1Ø	480V, 1Ø	480V, 3Ø	
15A	#12 / #12	1/2"	60'	105'	121'	140'	242'	280'	
	#10 / #10	1/2"	96'	167'	193'	222'	386'	445'	
	#8 / #8	3/4"	153'	266'	307'	354'	614'	709'	
20A	#6 / #6	1"	244'	423'	488'	563'	976'	1127'	
	#12 / #12	1/2"	45'	78'	91'	105'	182'	210'	
	#10 / #10	1/2"	72'	125'	144'	167'	289'	334'	
30A	#8 / #8	3/4"	115'	199'	230'	265'	460'	532'	
	#6 / #6	1"	183'	317'	366'	422'	732'	845'	
	#10 / #10	1/2"	48'	83'	96'	111'	193'	222'	
40A	#8 / #8	3/4"	76'	133'	153'	177'	307'	354'	
	#6 / #6	1"	122'	211'	244'	281'	488'	563'	
	#4 / #4	1-1/4"	194'	336'	388'	448'	776'	896'	
50A	#8 / #10	3/4"	57'	99'	115'	132'	230'	266'	
	#6 / #6	1"	91'	158'	183'	211'	366'	422'	
	#4 / #4	1-1/4"	145'	252'	291'	336'	582'	672'	
60A	#6 / #10	1"	73'	126'	146'	169'	292'	338'	
	#4 / #6	1-1/4"	116'	201'	233'	268'	465'	538'	
	#3 / #6	1-1/4"	146'	254'	293'	338'	587'	678'	
70A	#2 / #4	1-1/4"	185'	320'	370'	427'	740'	855'	
	#6 / #10	1"	61'	105'	122'	140'	244'	281'	
	#4 / #6	1-1/4"	97'	168'	194'	224'	388'	448'	
80A	#3 / #6	1-1/4"	122'	212'	244'	282'	489'	565'	
	#2 / #4	1-1/4"	154'	267'	308'	356'	617'	712'	
	#4 / #8	1-1/4"	83'	144'	166'	192'	332'	384'	
90A	#3 / #6	1-1/4"	104'	181'	209'	242'	419'	484'	
	#2 / #4	1-1/4"	132'	229'	264'	305'	529'	610'	
	#1 / #4	1-1/2"	166'	298'	333'	385'	667'	770'	
100A	#3 / #8	1-1/4"	91'	159'	183'	211'	367'	423'	
	#2 / #6	1-1/4"	115'	200'	231'	267'	462'	534'	
	#1 / #4	1-1/2"	145'	253'	292'	336'	583'	674'	
100A	#1/0 / #4	1-1/2"	184'	319'	368'	425'	736'	850'	
	#2 / #8	1-1/4"	102'	178'	205'	237'	411'	475'	
	#1 / #6	1-1/2"	129'	224'	259'	299'	519'	599'	
100A	#1/0 / #4	1-1/2"	163'	283'	327'	377'	654'	756'	
	#2/0 / #4	2"	206'	357'	413'	476'	825'	953'	
	#2 / #8	1-1/4"	92'	160'	185'	213'	370'	427'	
100A	#1 / #6	1-1/2"	116'	202'	233'	269'	467'	539'	
	#1/0 / #4	1-1/2"	147'	255'	294'	340'	589'	680'	
	#2/0 / #4	2"	185'	321'	371'	428'	742'	857'	

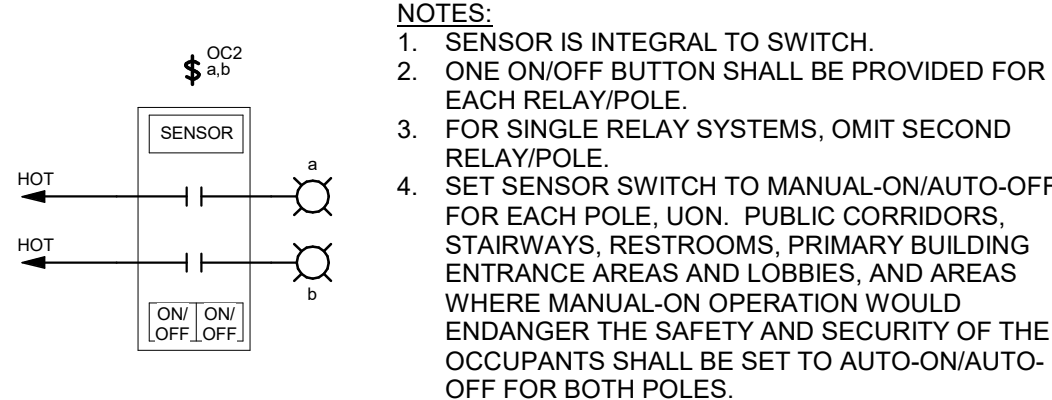
GENERAL SYMBOLS	
	PLAN OR DETAIL NO. SHEET NUMBER
	KEYED NOTE TO PLAN
	REVISION NUMBER
	NORTH ARROW



NOTES:
1. "TC" IS A 2-CIRCUIT, SEVEN DAY ASTRO. TIME CLOCK WITH POWER RESERVE EQUAL TO TORK DGLC200A-NC WITH PHOTOCELL EPC-A. TIME CLOCK SHALL PROVIDE ONE SUNSET-ON, TIME OFF (NORMAL) AND ONE SUNSET-ON SUNRISE-OFF (SECURITY) CIRCUIT, EACH INDEPENDENTLY PROGRAMMED. MANUAL OVERRIDE SHALL BE PROVIDED FOR EACH CIRCUIT.

5 EXTERIOR LIGHTING CONTROL DETAIL

E-002 SCALE: NTS



4 OCCUPANCY SENSOR SWITCH DETAIL

E-002 SCALE: NTS

LIGHTING FIXTURE SCHEDULE									
LAMP DATA		VOLTS	BALLAST DATA		FIXTURE WATTS	MOUNTING	DESCRIPTION		
NUMBER	TYPE		NUMBER	TYPE					
LED	5,000L 35K 80CRI	120	LED	DRIVER	41	SUSPENDED	4' STRIP FIXTURE		
LED	5,000L 35K 80CRI	120	LED	DRIVER	41	SUSPENDED	SAME AS 'A1' EXCEPT WITH 90 MINUTE EMERGENCY BATTERY		
LED	1,500L 35K 80CRI	120	LED	DRIVER	18	RECESSED	6" RECESSED DOWNLIGHT WITH 90 MINUTE BATTERY BACKUP		
LED	1,300L 30K 90CRI	120	LED	DRIVER	18	SURFACE	2' LINEAR VANITY LIGHT		
LED	7,200L 35K 80CRI	120	LED	DRIVER	59	SURFACE	4' STAIR LIGHT WITH INTEGRAL MOTION SENSOR		
LED	8,000L 40K 80CRI	120	LED	DRIVER	51	SURFACE	4' VAPOR TIGHT		
LED	9,800L 40K 70CRI	120	LED	DRIVER	92	30' AFG ON POLE	SITE POLE LIGHT		
--	--	--	--	--	--	DIRECT BURIAL	TAPERED FIBERGLASS POLE FOR 30 FT MOUNTING HEIGHT		
LED	RED	120	LED	DRIVER	--	UNIVERSAL	EXIT SIGN WITH 90 MINUTE BATTERY BACKUP - NOTE 1		
FY INTENDED FIXTURE TYPE. APPROVED EQUALS ARE ALLOWED.									
GRID. FIXTURES SHALL BE PROVIDED WITH SPRING STEEL CLIPS AND CLIPPED TO GRID.									
ITY/DIRECTION.									

LIGHTING SYSTEMS COMMISSIONING REQUIREMENTS

LIGHTING CONTROL SYSTEM SHALL UNDERGO FUNCTIONAL TESTING AS DESCRIBED BELOW. TESTING SHALL BE BY THE CONTRACTOR UNDER THE SUPERVISION OF A CERTIFIED REPRESENTATIVE OF THE LIGHTING CONTROL SYSTEMS MANUFACTURER(S).

PRIOR TO PASSING FINAL INSPECTION, THE LIGHTING CONTROL SYSTEMS SHALL HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL SUBMIT A LETTER CERTIFYING THE SUCCESSFUL COMPLETION OF FUNCTIONAL TESTING TO THE ENGINEER AT LEAST 2 DAYS PRIOR TO FINAL INSPECTION. THIS CERTIFICATION LETTER MUST BE AVAILABLE TO THE INSPECTOR AT THE TIME OF FINAL INSPECTION.

OCCUPANT SENSOR CONTROLS
1. CERTIFY THAT THE OCCUPANT SENSORS HAVE BEEN LOCATED AND AIMED FOR PROPER COVERAGE OF THE INTENDED AREA IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2. FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
3. FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT, BUT IN NO CASE LESS THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

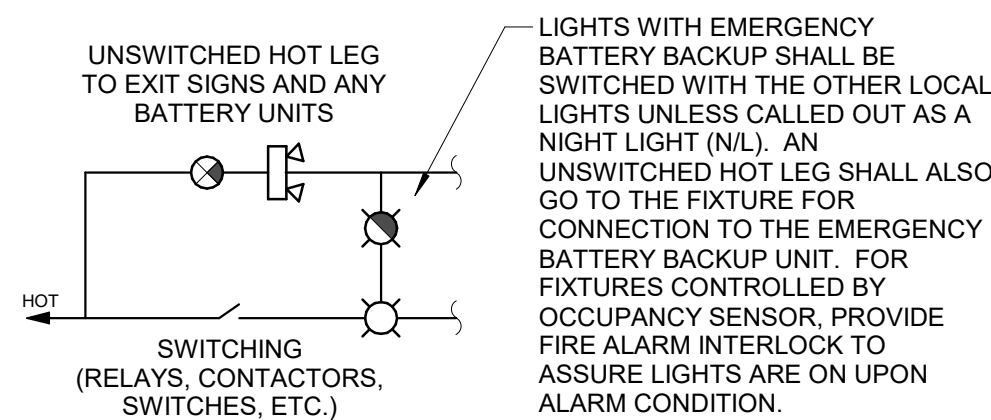
FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:
1. WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
2. THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
3. FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
4. FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
5. THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

TIME-SWITCH CONTROLS
1. CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
2. PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS ARE AS DIRECTED BY THE OWNER.
3. VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
4. VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
5. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS (OR KEY SWITCH OVERRIDE PROVISION IN RETAIL APPLICATIONS).
6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
a. ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
b. THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
7. SIMULATE NOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
a. NONEXEMPT LIGHTING TURNS OFF.
b. MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.

DAYLIGHT RESPONSIVE CONTROLS
1. CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SETPOINTS AND THRESHOLD LIGHT LEVELS.
2. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SET POINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
3. THE LOCATIONS OF CALIBRATION ADJUSTMENT EQUIPMENT ARE READILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

EXTERIOR LIGHTING CONTROLS
1. PHOTOCELL/SENSORS HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SETPOINTS AND THRESHOLD LIGHT LEVELS.
2. TIME SWITCH CONTROL AS DESCRIBED ABOVE.
3. AFTER-HOURS LIGHTING LEVEL REDUCTION IS IMPLEMENTED IN ACCORDANCE WITH THE OWNER'S SCHEDULE DIRECTION (EITHER FROM MIDNIGHT TO 6AM OR, FROM ONE HOUR AFTER TO ONE HOUR PRIOR TO BUSINESS HOURS.)
4. THE LOCATIONS OF CALIBRATION ADJUSTMENT EQUIPMENT ARE READILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

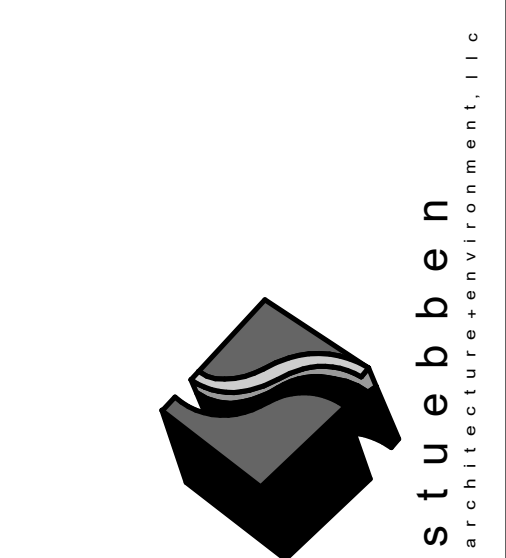
AS-BUILT DOCUMENTATION
DOCUMENTS CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET THE DOCUMENTED PERFORMANCE CRITERIA OF FBC ENERGY CODE SECTION C405 SHALL BE PROVIDED IN THE PROJECT AS-BUILT DOCUMENTATION. DELIVERY OF AS-BUILT DOCUMENTATION SHALL BE PROVIDED TO THE BUILDING OWNER WITHIN 30 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.



3 LIFE SAFETY LTG DETAIL

E-002 SCALE: NTS

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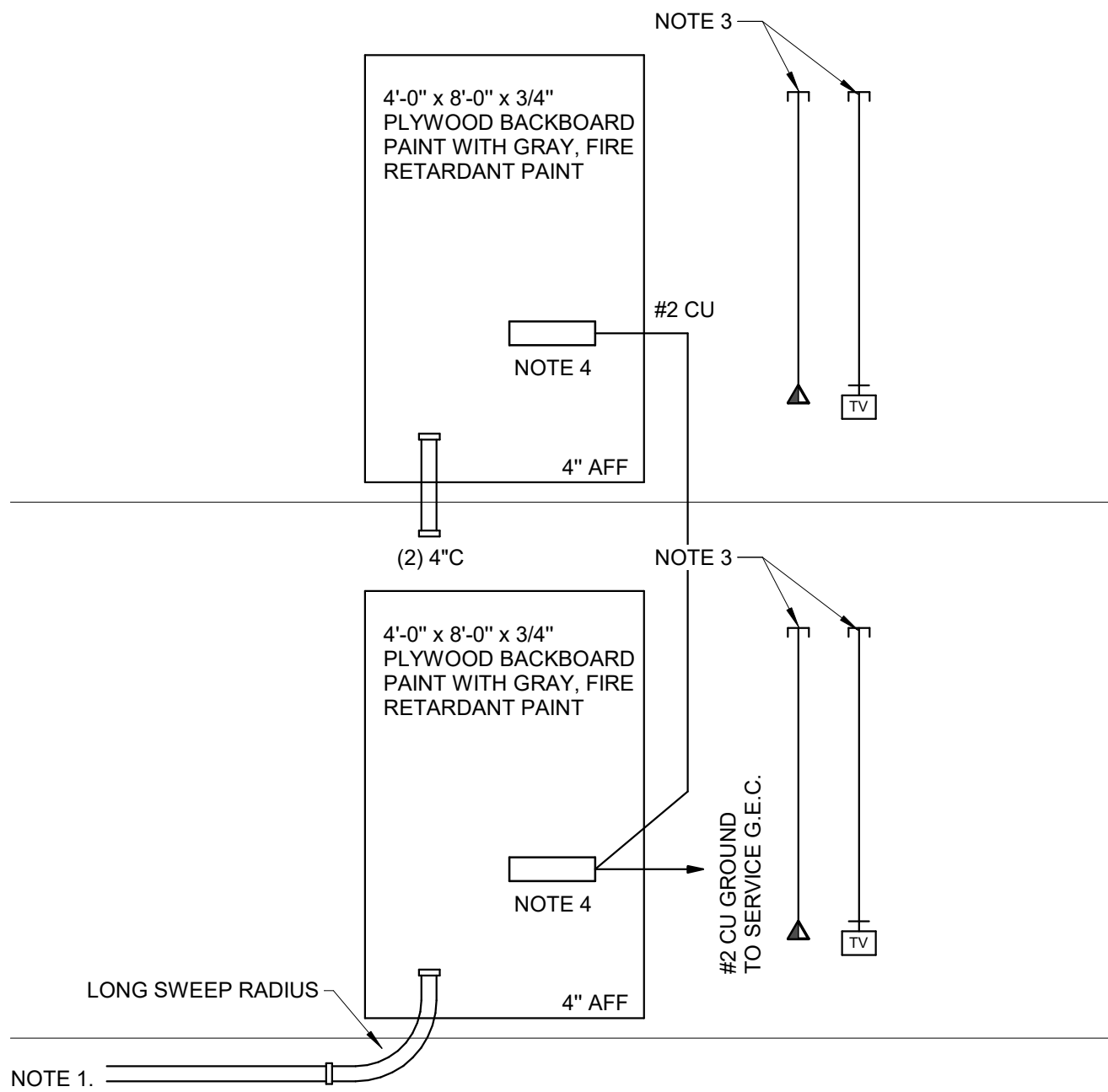
4266 PABLO
PROFESSIONAL CT
JACKSONVILLE FL
32224

REVISIONS		
NO.	DATE	DESCRIPTION
0	03/26/2021	PERMIT BID SET

DESIGNER
Designer
ISSUE DATE
2021-03-26
DOCUMENT EDITOR
Author
SCALE:
AS INDICATED

NOTES, SCHEDULES, AND ABBREVIATIONS

E-002

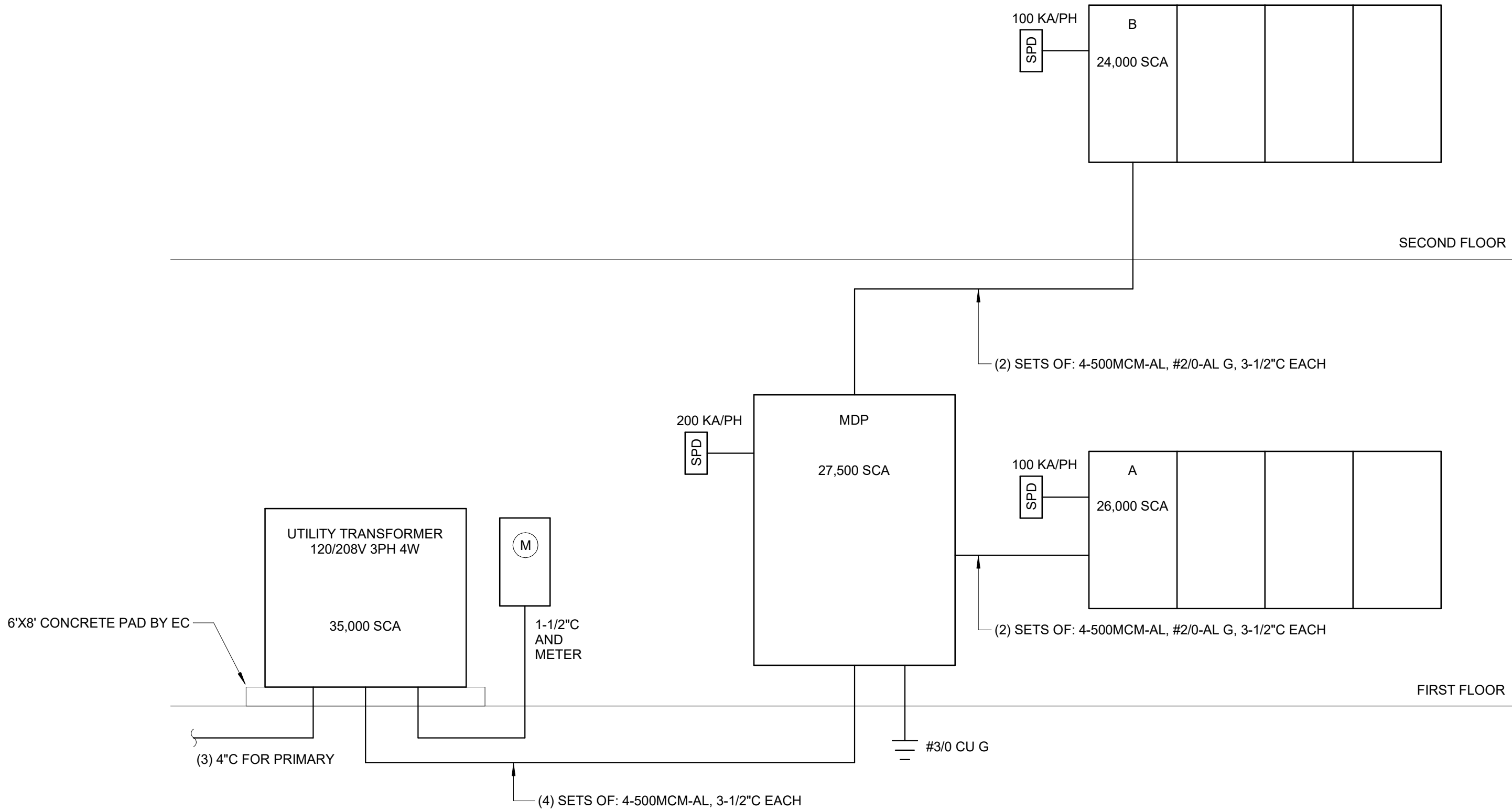


- TELEPHONE RISER NOTES:
1. TWO 4" C TO PROPERTY LINE FOR SERVICE. COORDINATE WITH TELEPHONE UTILITY FOR LOCATION OF TERMINATION POINT.
 2. PROVIDE (2) DUPLEX RECEPTACLES ON A DEDICATED CIRCUIT FOR TELEPHONE AND OTHER COMMUNICATION EQUIPMENT.
 3. PROVIDE 4-11/16" SQUARE BOX AND 1-1/4" C STUBBED TO ABOVE ACCESSIBLE CEILING FOR COMMUNICATIONS OUTLETS.
 4. 4" HIGH X 1/4" THICK X 12' LONG COPPER GROUND BAR
 5. PROVIDE INSULATING BUSHING ON ENDS OF ALL CONDUITS.

2
E-010

COMMUNICATIONS RISER DIAGRAM

SCALE: NTS

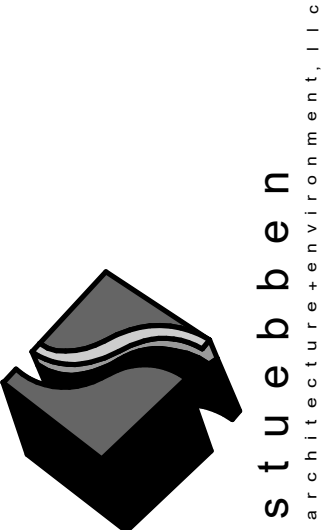


1
E-010

POWER RISER

SCALE: NTS

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REVISIONS		
NO.	DATE	DESCRIPTION
0	03/26/2021	PERMIT BID SET

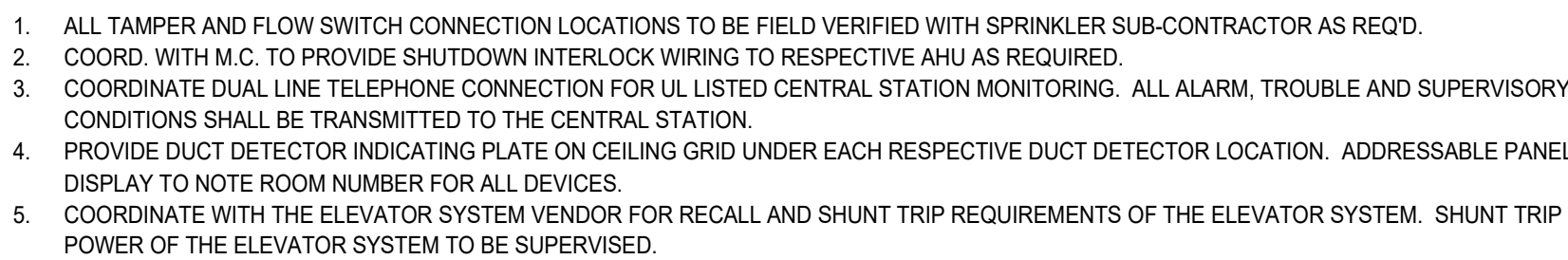
DESIGNER
Designer
ISSUE DATE
2021-03-26
DOCUMENT EDITOR
Author
SCALE:
AS INDICATED
RISERS
E-010

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FIRE ALARM RISER
E-011

[illegible]

IN ADDITION, CONTRACTOR TO INCLUDE TURNKEY DESIGN/BUILD NFPA 780 LIGHTNING PROTECTION SYSTEM, WHICH SHALL BE CERTIFIED BY A RECOGNIZED INDEPENDENT TESTING AGENCY ACCEPTABLE TO THE AHJ.



PANEL "MDP"						208/120V, 3 PHASE, 4 WIRE		1200 AMP BUS	
						3P-1200A MAIN BREAKER WITH ARC FLASH SWITCH		35 KAIC MINIMUM	
CKT	POLE	TRIP	WIRE	GND	CONDUIT	KVA	AMPS	DESCRIPTION	
1	3	600	(2)350	1	(2)3	45.1	125	PANEL A	
2	3	600	(2)350	1	(2)3	36.9	102	PANEL B	
3	3	60	6	6	1	--	--	SPD	
4	3	300-ST	350	4	3	44.0	122	ELEVATOR (40 HP) WITH SHUNT-TRIP	
5	3	300	350	4	3	--	--	RTU-1	
6	3	300	350	4	3	--	--	RTU-2	
7	3	--	--	--	--	--	--	SPACE FOR UP TO 250 AMPS	
8	3	--	--	--	--	--	--	SPACE FOR UP TO 250 AMPS	
SEE BUILDING SERVICE LOAD CALCULATION									

BUILDING SERVICE CALCULATION

BUILDING AREA = 14000 S.F.

INTERIOR LIGHTING (3.5 VA/SF PER NEC 220.12): 49 KVA
EXTERIOR LIGHTING: 1 KVA
RECEPTACLE LOAD (3 VA/SF ESTIMATE): 42 KVA
HVAC (15 VA/SF ESTIMATE): 210 KVA
EQUIPMENT LOAD (5 VA/SF ESTIMATE): 70 KVA
ELEVATOR, 40HP ESTIMATE: 44 KVA

SERVICE DEMAND LOAD 416 KVA
SERVICE AMPS @ 120/208V, 3ø 1156 AMPS

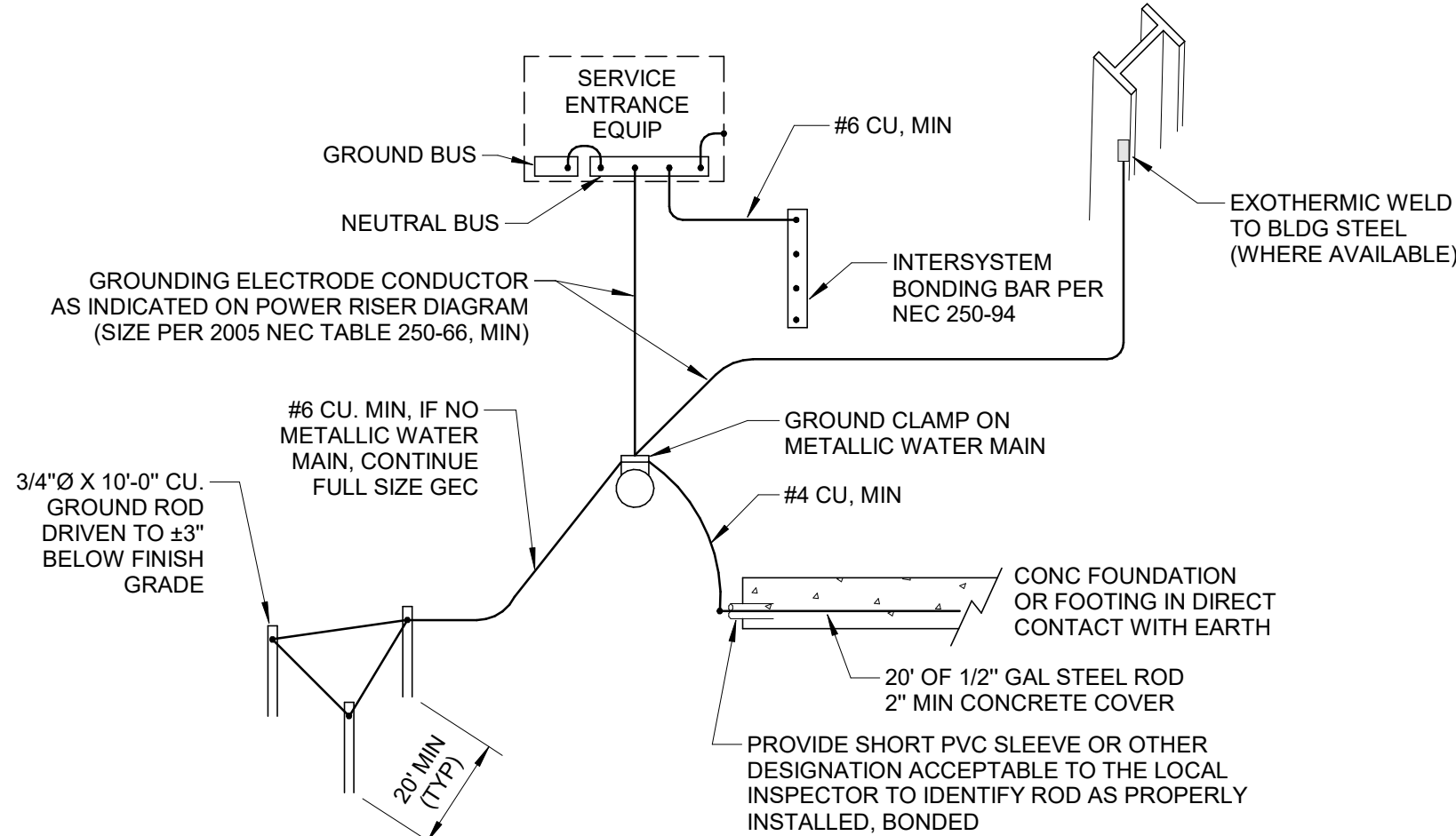
VOLTAGE: 208/120										PH: 3 WIRE: 4										ENCLOSURE: NEMA 1										MOUNTING: SURFACE									
BUSSING: 600 A CU										MLO										BRACING: 35 KAIC. SYM.										GROUND BAR									
MAINS: 600 A																																							
INCOMING: BOTTOM																																							
SECTION 1																																							
LOAD PER PHASE																																							
DESCRIPTION		POLE	NOTES	CONDUIT	WIRE	GND	TRIP	CKT	A		B		C		CKT	TRIP	GND	WIRE	CONDUIT	NOTES	POLE	DESCRIPTION																	
LTG		1	--	1/2	12	12	20	1	0.8	--					2																								
LTG		1	--	1/2	12	12	20	3			0.6	--			4	30	10	10	1/2	--	3		SPD																
LTG-SITE (NORMAL)		1	--	1/2	12	12	20	5					0.3		--	6																							
LTG-SITE (SECURITY)		1	--	1/2	12	12	20	7	0.2	3.4					8																								
FACP		1	1	1/2	12	12	20	9			0.3	2.2			10	40	10	8	3/4	--	3		FTU-1-1																
REC-TELE/DATA		1	--	1/2	12	12	20	11					0.5	2.2	12																								
REC		1	--	1/2	12	12	20	13	0.5	3.4					14																								
EWC		1	--	1/2	12	12	20	15			0.5	2.2			16	40	10	8	3/4	--	3		FTU-1-2																
EWH (WATER HEATER)		2	--	1/2	12	12	20	17					1.5	2.2	18																								
SPARE		1	--	--	--	--	20	19	1.5	3.4					20																								
REC-ELEV. SHAFT		1	--	--	--	--	20	21			--	2.2			22	40	10	8	3/4	--	3		FTU-1-3																
ELEV. SUMP PUMP		1	--	1/2	12	12	20	23					0.4	2.2	24																								
ELEV. CAB		1	--	1/2	12	12	20	25	1.0	3.4					26																								
LTG-ELEV. SHAFT		1	--	1/2	12	12	20	27			0.4	2.2			28								FTU-1-4																
REC-RCP		1	--	1/2	12	12	20	29					0.4	2.2	30																								
REC-EXTERIOR		1	--	1/2	12	12	20	31	0.8	3.0					32	35	10	8	3/4	--	1		VAV-1-1																
SPARE		1	--	1/2	12	12	20	33			0.7	--			34	20	--	--	--	--	1		SPARE																
SPARE		1	--	--	--	--	20	35					--	--	36	20	--	--	--	--	1		SPARE																
SPARE		1	--	--	--	--	20	37	--	--			--	--	38	20	--	--	--	--	1		SPARE																
SPARE		1	--	--	--	--	20	39			--	--			40	20	--	--	--	--	1		SPARE																
SPARE		1	--	--	--	--	20	41			--	--			42	20	--	--	--	--	1		SPARE																
KVA PER PHASE THIS SECTION									21.4		11.3		11.9																										
KVA PER PHASE FEED-THRU																																							
TOTAL CONNECTED KVA									44.6																														
NOTES:										LIGHTING LOAD										1.9 1.25 2.4																			
1. PROVIDE PERMANENT LOCK-ON/OFF FOR BREAKER. COLOR RED FOR FIRE ALARM.										RECEPT LOAD										2.9 NEC 2.9																			
2. PROVIDE 'HACR' RATED BREAKERS FOR HVAC EQUIPMENT.										HVAC LOAD										34.2 1.0 34.2																			
3. ALL SINGLE POLE BREAKERS SHALL BE 'SWD' RATED.										EQUIPMENT LOAD										5.6 1.0 5.6																			
4. PROVIDE GFCI BREAKER.										KITCHEN LOAD										-- 0.65 --																			
5. PROVIDE HANDLE TIES FOR MULTIWIRED BRANCH CIRCUITS.										TOTAL LOAD										44.6 45.1																			
										DEMAND AMPS										125																			

VOLTAGE: 208/120		PH: 3 WIRE: 4		PANEL: A								ENCLOSURE: NEMA 1							
BUSSING: 600 A		CU										MOUNTING: SURFACE							
MAINS: 600 A		MLO										BRACING: 35 KAIC. SYM.							
INCOMING: TOP												GROUND BAR							
SECTION 2																			
LOAD PER PHASE																			
DESCRIPTION	POLE	NOTES	CONDUIT	WIRE	GND	TRIP	CKT	A	B	C	CKT	TRIP	GND	WIRE	CONDUIT	NOTES	POLE	DESCRIPTION	
SPARE	1	--	--	--	--	20	1	--	--		2	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	3	--	--		4	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	5	--	--		6	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	7	--	--		8	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	9	--	--		10	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	11	--	--		12	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	13	--	--		14	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	15	--	--		16	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	17	--	--		18	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	19	--	--		20	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	21	--	--		22	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	23	--	--		24	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	25	--	--		26	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	27	--	--		28	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	29	--	--		30	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	31	--	--		32	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	33	--	--		34	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	35	--	--		36	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	37	--	--		38	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	39	--	--		40	20	--	--	--	--	1	SPARE	
SPARE	1	--	--	--	--	20	41	--	--		42	20	--	--	--	--	1	SPARE	
KVA PER PHASE THIS SECTION								--	--										
KVA PER PHASE FEED-THRU																			
TOTAL CONNECTED KVA																			
NOTES:																			
1. PROVIDE PERMANENT LOCK-ON/OFF FOR BREAKER. COLOR RED FOR FIRE ALARM.																			
2. PROVIDE 'HACR' RATED BREAKERS FOR HVAC EQUIPMENT.																			
3. ALL SINGLE POLE BREAKERS SHALL BE 'SWD' RATED.																			
4. PROVIDE GFCI BREAKER.																			
5. PROVIDE HANDLE TIES FOR MULTIWIRED BRANCH CIRCUITS.																			
												</							

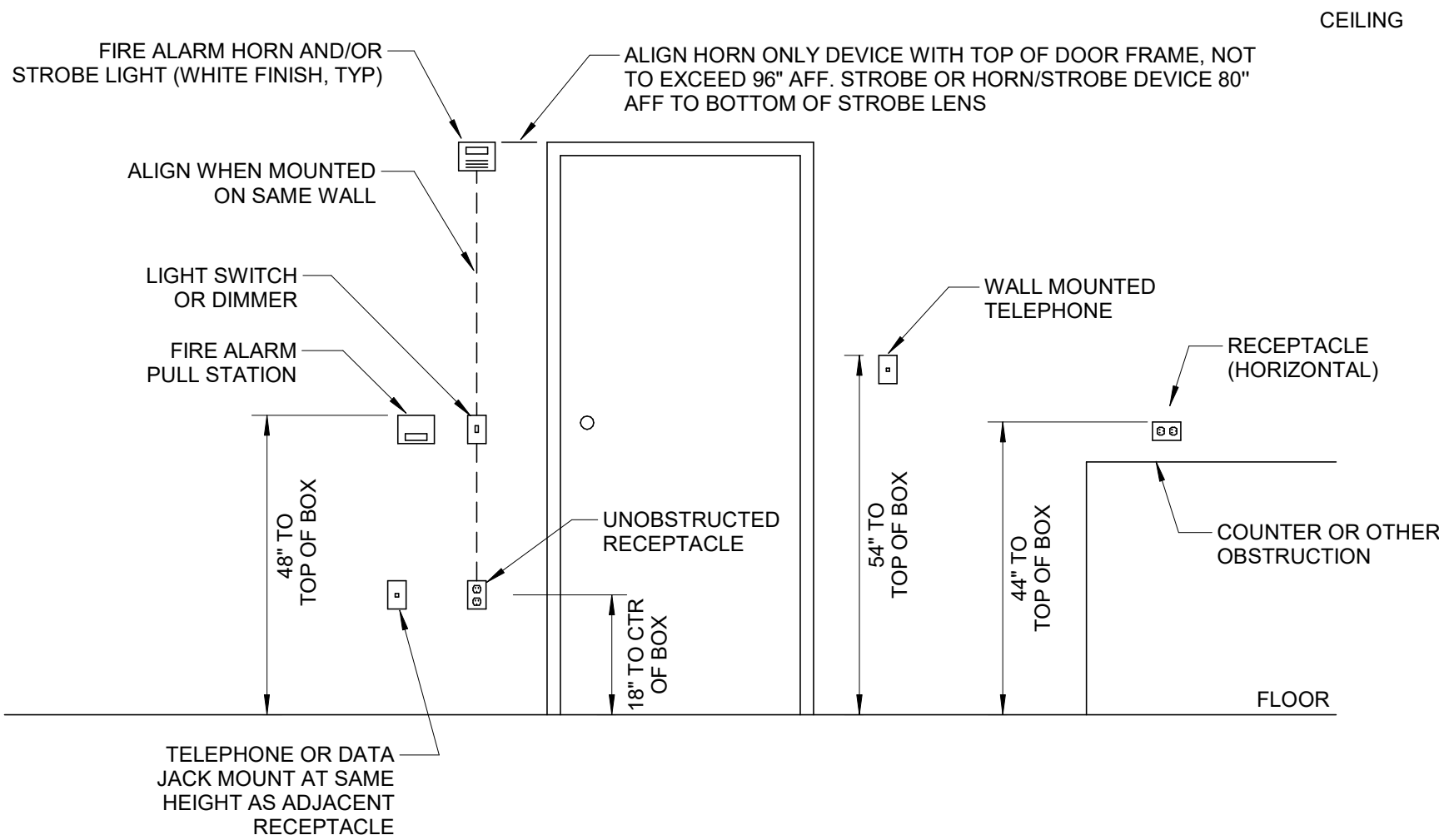
VOLTAGE:		208/120		PH: 3 WIRE: 4		PANEL: B						ENCLOSURE:		NEMA 1						
BUSSING:		600 A		CU								MOUNTING:		SURFACE						
MAINS:		600 A		MLO								BRACING:		35 KAIC. SYM.						
INCOMING:		BOTTOM								GROUND BAR										
SECTION 1																				
LOAD PER PHASE																				
DESCRIPTION		POLE	NOTES	CONDUIT	WIRE	GND	TRIP	CKT	A	B	C	CKT	TRIP	GND	WIRE	CONDUIT	NOTES	POLE	DESCRIPTION	
LTG		1	--	1/2	12	12	20	1	1.0	--		2								
REC-TELE/DATA		1	--	1/2	12	12	20	3		0.5	--	4	30	10	10	1/2	--	3	SPD	
REC		1	--	1/2	12	12	20	5			0.5	6								
EWC		1	--	1/2	12	12	20	7	0.5	3.4	--	8								
SPARE		1	--	--	--	--	20	9		--	2.2	10	40	10	8	3/4	--	3	FTU-2-1	
SPARE		1	--	--	--	--	20	11			--	12								
SPARE		1	--	--	--	--	20	13	--	3.4	--	14								
SPARE		1	--	--	--	--	20	15		--	2.2	16	40	10	8	3/4	--	3	FTU-2-2	
SPARE		1	--	--	--	--	20	17			--	18								
SPARE		1	--	--	--	--	20	19	--	3.4	--	20								
SPARE		1	--	--	--	--	20	21		--	2.2	22	40	10	8	3/4	--	3	FTU-2-3	
SPARE		1	--	--	--	--	20	23			--	24								
SPARE		1	--	--	--	--	20	25	--	3.4	--	26								
SPARE		1	--	--	--	--	20	27		--	2.2	28	40	10	8	3/4	--	3	FTU-2-4	
SPARE		1	--	--	--	--	20	29			--	30								
SPARE		1	--	--	--	--	20	31	--	3.0	--	32	35	10	8	3/4	--	1	VAV-2-1	
SPARE		1	--	--	--	--	20	33			--	34	20	--	--	--	--	1	SPARE	
SPARE		1	--	--	--	--	20	35			--	36	20	--	--	--	--	1	SPARE	
SPARE		1	--	--	--	--	20	37	--	--	--	38	20	--	--	--	--	1	SPARE	
SPARE		1	--	--	--	--	20	39			--	40	20	--	--	--	--	1	SPARE	
SPARE		1	--	--	--	--	20	41			--	42	20	--	--	--	--	1	SPARE	
KVA PER PHASE THIS SECTION									18.1	9.3	9.3	LIGHTING LOAD RECEPT LOAD HVAC LOAD EQUIPMENT LOAD KITCHEN LOAD TOTAL LOAD DEMAND AMPS								
KVA PER PHASE FEED-THRU																				
TOTAL CONNECTED KVA									36.7											
NOTES:																				
1. PROVIDE PERMANENT LOCK-ON/OFF FOR BREAKER. COLOR RED FOR FIRE ALARM.																		0.8 1.25 1.0		
2. PROVIDE 'HACR' RATED BREAKERS FOR HVAC EQUIPMENT.																		1.0 NEC 1.0		
3. ALL SINGLE POLE BREAKERS SHALL BE 'SWD' RATED.																		34.2 1.0 34.2		
4. PROVIDE GFCI BREAKER.																		0.7 1.0 0.7		
5. PROVIDE HANDLE TIES FOR MULTIWIRED BRANCH CIRCUITS.																		-- 0.65 --		
																		36.7 36.9		
																		102 102		

VOLTAGE:		208/120		PH: 3 WIRE: 4		PANEL: B					ENCLOSURE:		NEMA 1						
BUSSING:		600 A		CU							MOUNTING:		SURFACE						
MAINS:		600 A		MLO							BRACING:		35 KAIC. SYM.						
INCOMING:		BOTTOM							LOAD PER PHASE		GROUND BAR								
DESCRIPTION		POLE	NOTES	CONDUIT	WIRE	GND	TRIP	CKT	A	B	C	CKT	TRIP	GND	WIRE	CONDUIT	NOTES	POLE	DESCRIPTION
SPARE		1	--	--	--	--	20	1	--	--	--	2	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	3				4	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	5				6	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	7	--	--	--	8	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	9				10	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	11				12	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	13	--	--	--	14	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	15				16	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	17				18	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	19	--	--	--	20	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	21				22	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	23				24	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	25	--	--	--	26	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	27				28	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	29				30	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	31	--	--	--	32	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	33				34	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	35				36	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	37				38	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	39				40	20	--	--	--	--	1	SPARE
SPARE		1	--	--	--	--	20	41				42	20	--	--	--	--	1	SPARE
KVA PER PHASE THIS SECTION										--	--	--				CONN	DEM	DEM	
KVA PER PHASE FEED-THRU																LOAD	FACT	LOAD	
TOTAL CONNECTED KVA																			
NOTES:																			
1. PROVIDE PERMANENT LOCK-ON/OFF FOR BREAKER. COLOR RED FOR FIRE ALARM.													LIGHTING LOAD			--	1.25	--	
2. PROVIDE 'HACR' RATED BREAKERS FOR HVAC EQUIPMENT.													RECEPT LOAD			--	NEC	--	
3. ALL SINGLE POLE BREAKERS SHALL BE 'SWD' RATED.													HVAC LOAD			--	1.0	--	
4. PROVIDE GFCI BREAKER.													EQUIPMENT LOAD			--	1.0	--	
5. PROVIDE HANDLE TIES FOR MULTIWIRED BRANCH CIRCUITS.													KITCHEN LOAD			--	0.65	--	
													TOTAL LOAD			--	--	--	
													DEMAND AMPS			--	--	--	

VOLTAGE:	208/120	PH: 3 WIRE: 4	ENCLOSURE:	NEMA 1														
BUSSING:	600 A	CU	MOUNTING:	SURFACE														
MAINS:	600 A	MLO	BRACING:	35 KAIC. SYM.														
INCOMING:	TOP		GROUND BAR															
PANEL: B SECTION 2 LOAD PER PHASE																		
DESCRIPTION	POLE	NOTES	CONDUIT	WIRE	GND	TRIP	CKT	A	B	C	CKT	TRIP	GND	WIRE	CONDUIT	NOTES	POLE	DESCRIPTION
SPARE	1	--	--	--	--	20	1	--	--	--	2	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	3		--	--	4	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	5			--	6	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	7	--	--		8	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	9				10	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	11				12	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	13	--	--		14	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	15			--	16	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	17				18	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	19	--	--		20	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	21		--	--	22	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	23			--	24	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	25	--	--		26	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	27		--	--	28	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	29			--	30	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	31	--	--		32	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	33		--	--	34	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	35			--	36	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	37	--	--		38	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	39				40	20	--	--	--	--	1	SPARE
SPARE	1	--	--	--	--	20	41				42	20	--	--	--	--	1	SPARE
KVA PER PHASE THIS SECTION								--	--	--								
KVA PER PHASE FEED-THRU																		
TOTAL CONNECTED KVA								--										
NOTES:											LIGHTING LOAD		CONN		DEM		DEM	
1. PROVIDE PERMANENT LOCK-ON/OFF FOR BREAKER. COLOR RED FOR FIRE ALARM.											RECEPT LOAD		LOAD		FACT		LOAD	
2. PROVIDE 1/2ACR RATED BREAKERS FOR HVAC EQUIPMENT.											HVAC LOAD		--		1.25		--	
3. ALL SINGLE POLE BREAKERS SHALL BE 1/2SWD RATED.											EQUIPMENT LOAD		--		NEC		--	
4. PROVIDE GFCI BREAKER.											KITCHEN LOAD		--		1.0		--	
5. PROVIDE HANDLE TIES FOR MULTI-WIRE BRANCH CIRCUITS.											TOTAL LOAD		--		0.65		--	
											DEMAND AMPS		--		--		--	



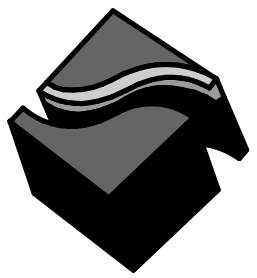
1
E-030
GROUNDING DETAIL
SCALE: NTS



2
E-030
MOUNTING HEIGHT DIAGRAM
SCALE: NTS



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Designer

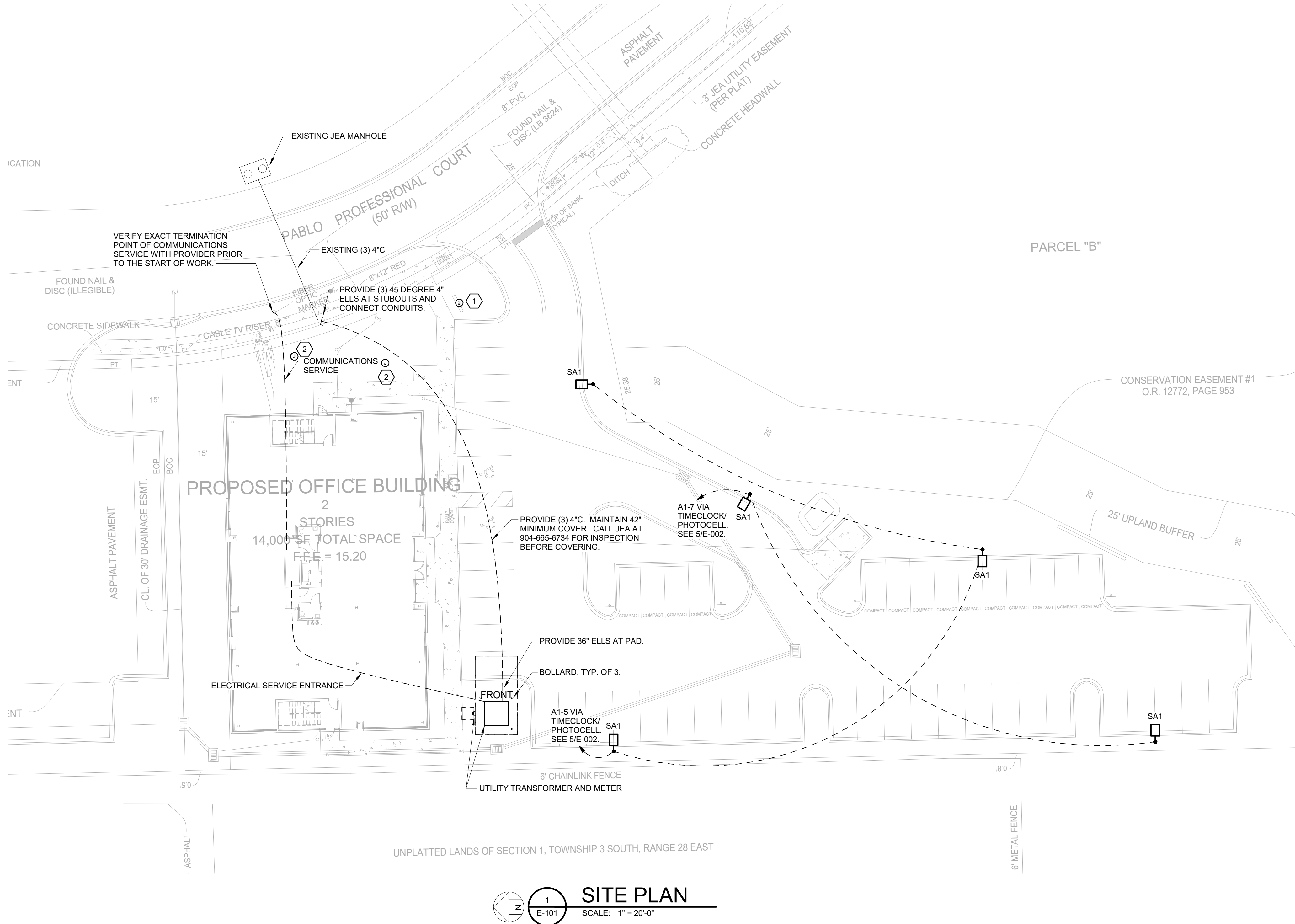
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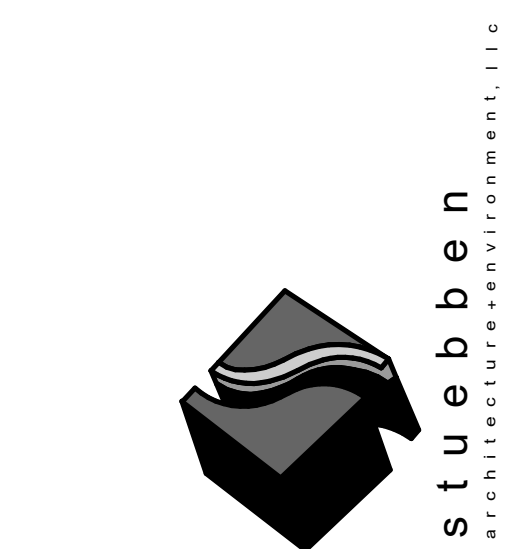
SCALE:
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DETAILS

E-030



- # KEYED NOTES:
1. PROVIDE 3/4\"C TO FIRST FLOOR ELECTRICAL ROOM FOR FUTURE BUILDING SIGN.
 2. PROVIDE 3/4\"C TO FIRST FLOOR ELECTRICAL ROOM FOR FUTURE USE.



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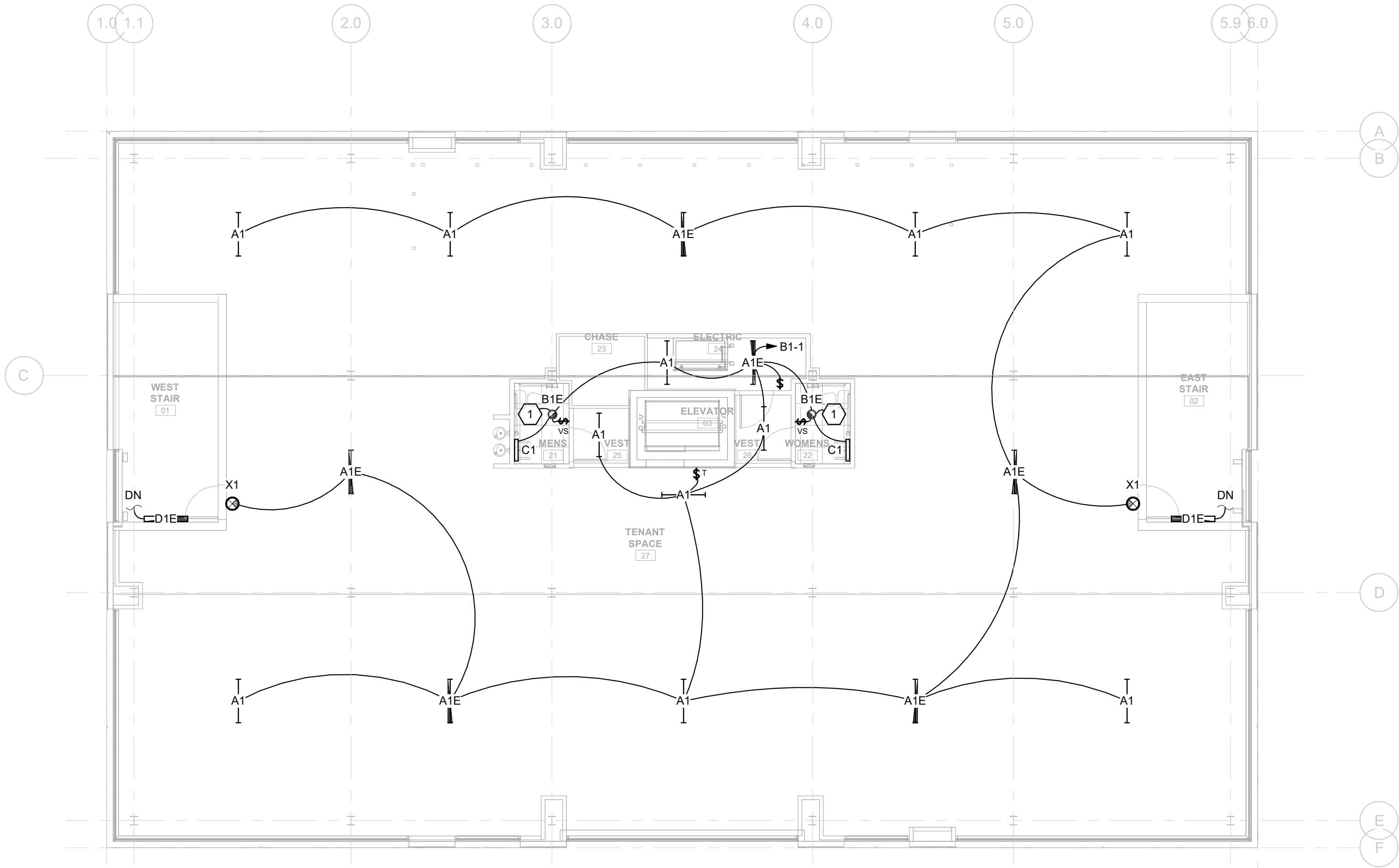
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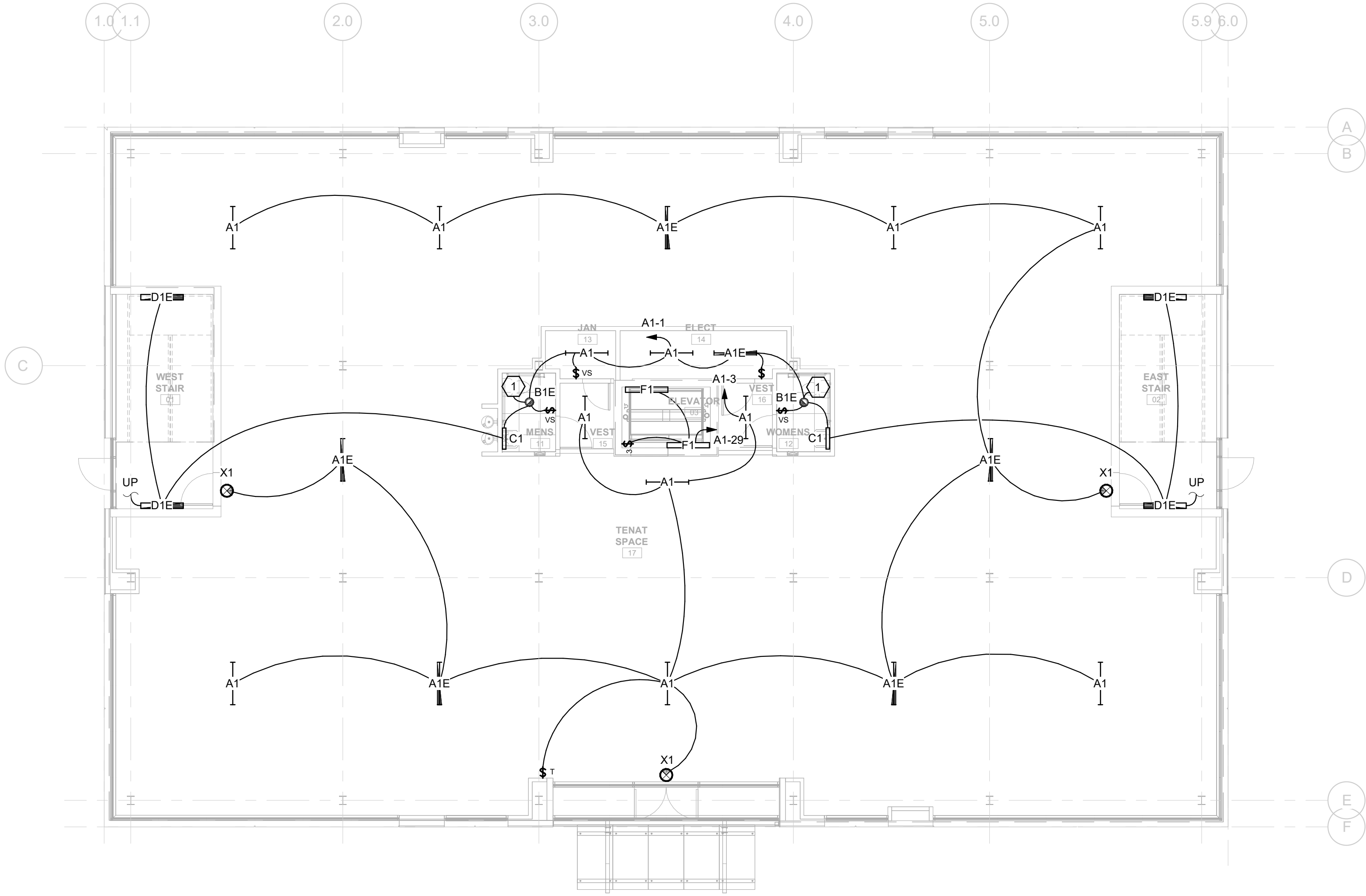
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2 SECOND FLOOR LIGHTING PLAN
E-201 SCALE: 1/8" = 1'-0"

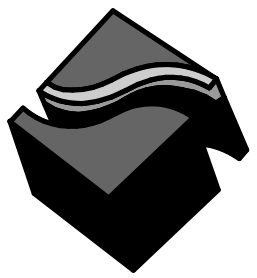
GENERAL NOTES:
1. PROVIDE UNSWITCHED HOT LEG TO ALL EXIT SIGNS AND EMERGENCY LIGHTING BATTERY UNITS.

KEYED NOTES:
1. WIRE EXHAUST FAN SHOWN ON POWER PLAN.
2. TO RECEPTACLE IN SHAFT.



1 FIRST FLOOR LIGHTING PLAN
E-201 SCALE: 1/8" = 1'-0"

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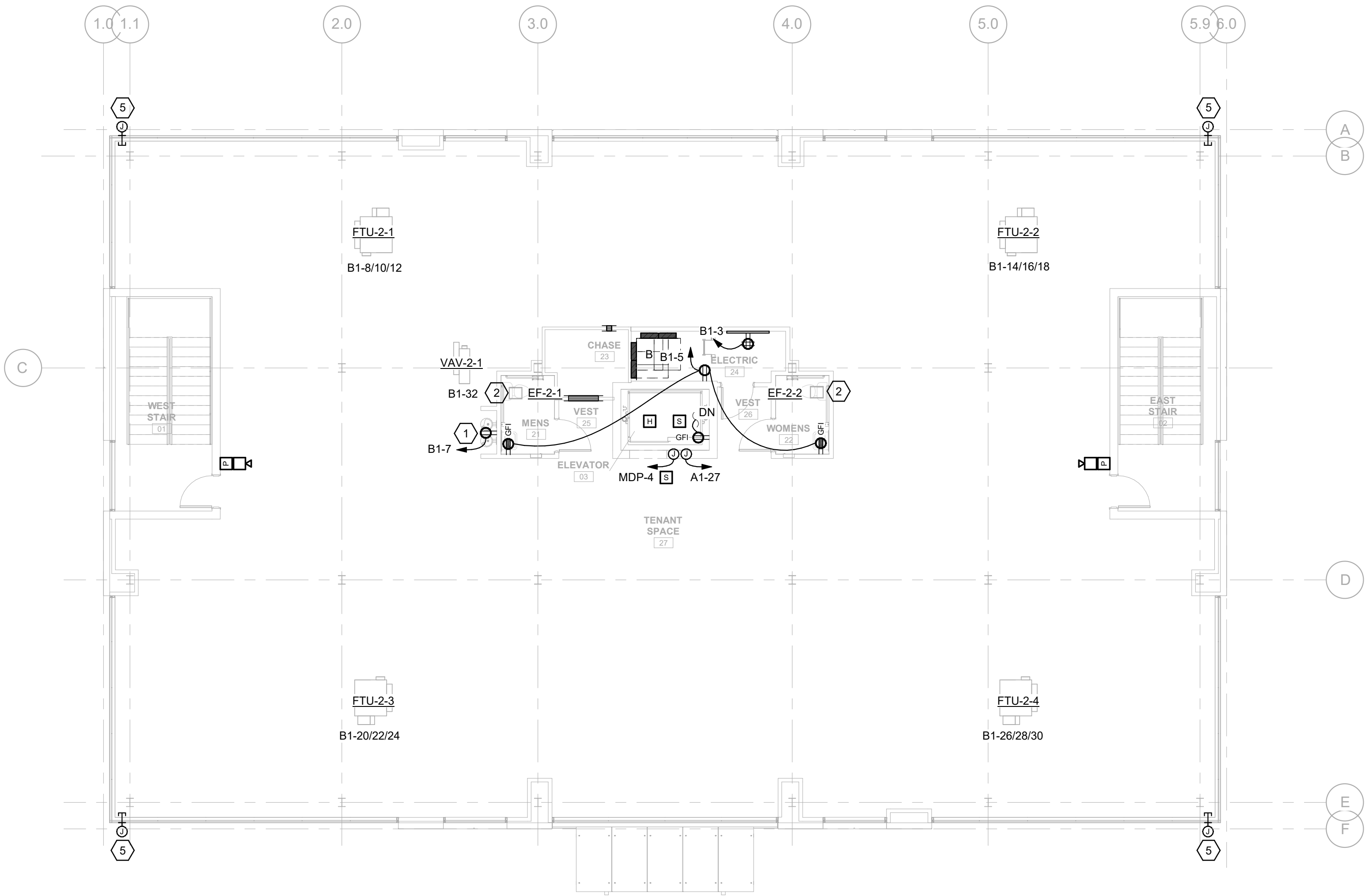
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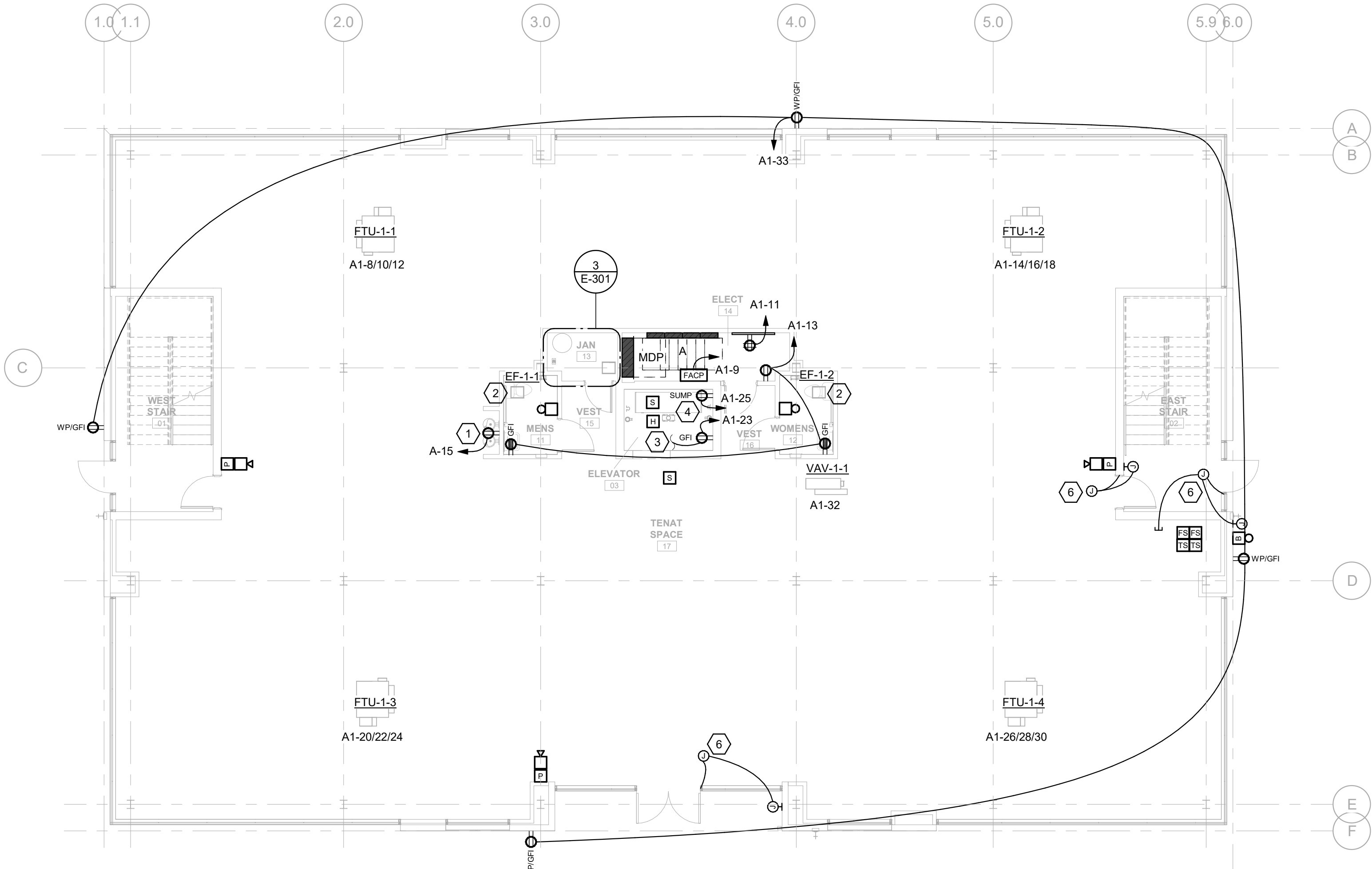
SCALE:
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LIGHTING PLANS

E-201

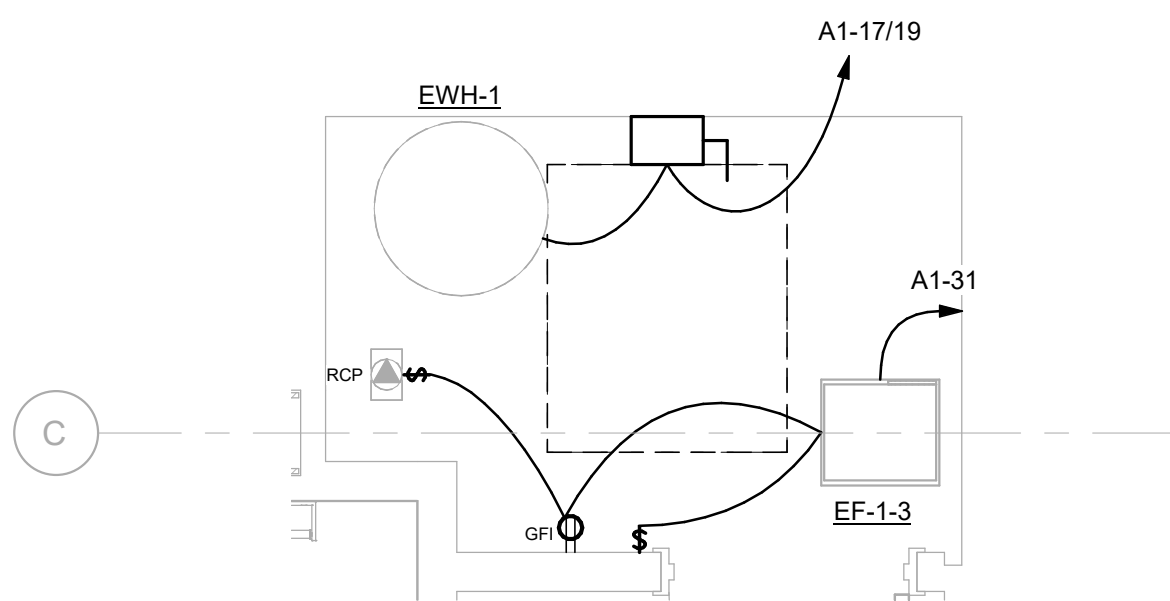


2 SECOND FLOOR POWER PLAN
E-301 SCALE: 1/8" = 1'-0"

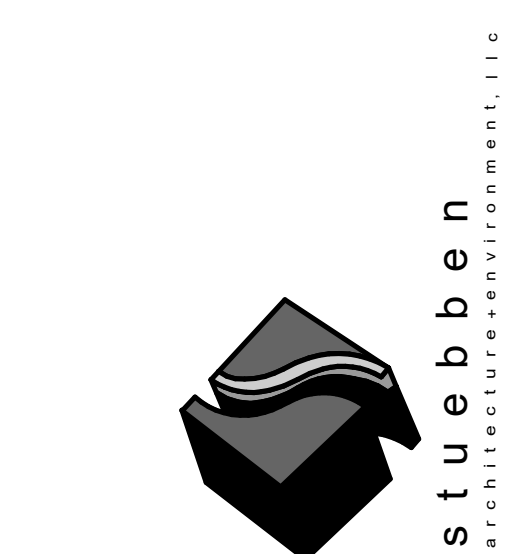


1 FIRST FLOOR POWER PLAN
E-301 SCALE: 1/8" = 1'-0"

- # KEYED NOTES:
1. PHENOLIC LABEL "GFI PROTECTED"
 2. EXHAUST FAN WIRED TO LIGHT SWITCH.
 3. WIRE UP TO RECEPTACLE IN SHAFT SHOWN ON SECOND FLOOR PLAN.
 4. VERIFY EXACT LOCATION AND QUANTITY OF RECEPTACLES FOR SUMP PUMP / OIL MINDER SYSTEM WITH PLUMBING CONTRACTOR PRIOR TO THE START OF WORK.
 5. J-BOX AND 3/4" SLEEVE FOR EXTERIOR CAMERA.
 6. COORDINATE WITH GC TO PROVIDE 3/4" C ROUGH-IN TO DOOR FRAMES AND FUTURE ACCESS CONTROL JUNCTION BOXES. STUB CONDUITS TO 12 FEET AFF INSIDE BUILDING.



3 ENLARGED JANITOR CLOSET
E-301 SCALE: 1/2" = 1'-0"



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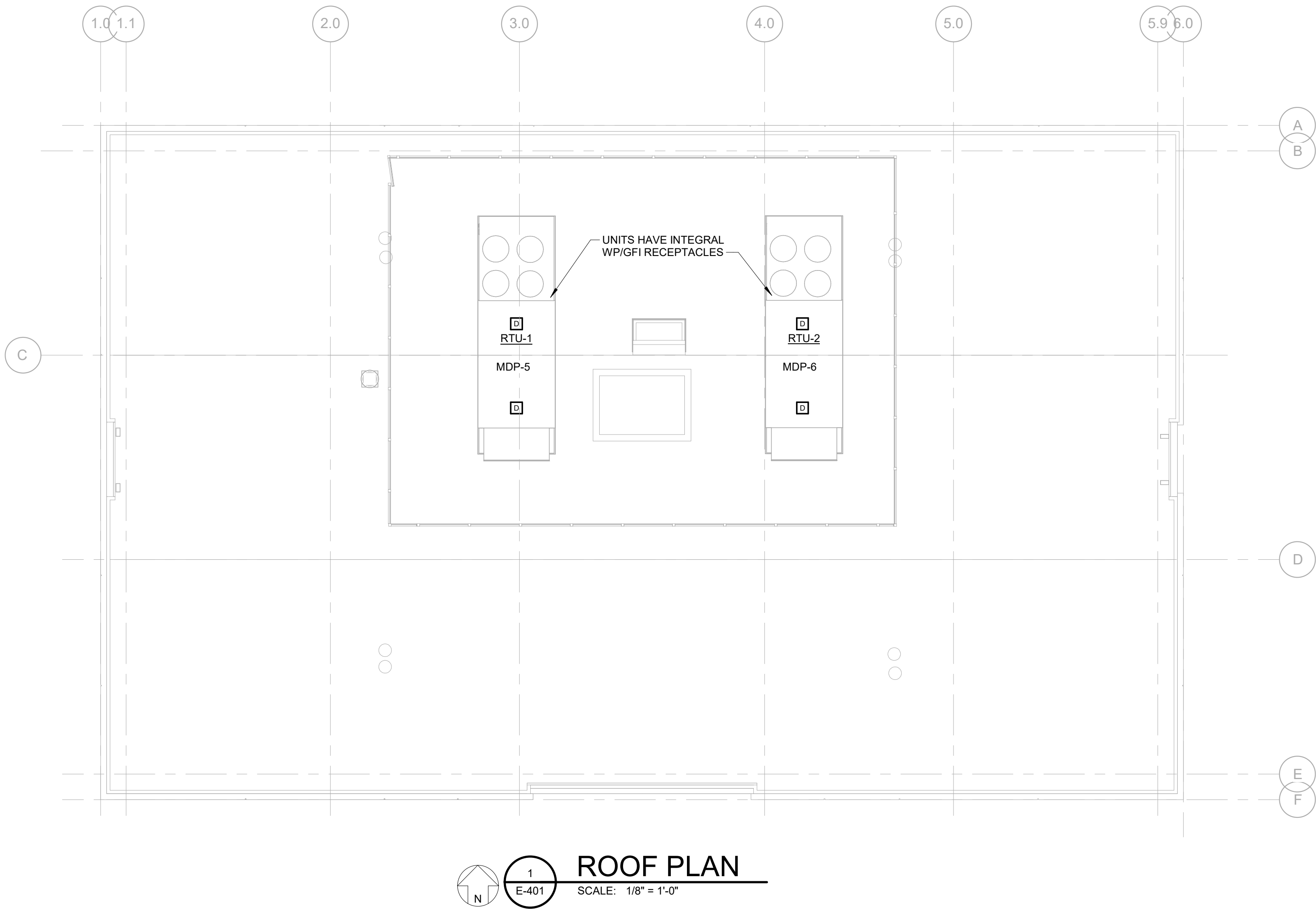
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POWER PLANS

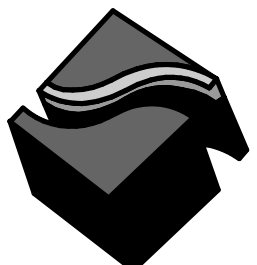
E-301



- LIGHTNING PROTECTION SYSTEM NOTES:**
1. PROVIDE LIGHTNING PROTECTION SYSTEM.
 2. THE COMPLETED INSTALLATION SHALL MEET THE "INSTALLATION REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEMS, UL96A" OF UNDERWRITERS LABORATORIES. THE UL MASTER LABEL SHALL BE FURNISHED TO THE OWNER UPON COMPLETION.
 3. COPPER LIGHTNING PROTECTION SYSTEM COMPONENTS SHALL NOT BE MOUNTED TO ALUMINUM SURFACES. ALUMINUM COMPONENTS SHALL BE USED TO AVOID ELECTROLYTIC CORROSION.
 4. GROUNDED METAL BODIES WITHIN THE BONDING DISTANCE DETERMINED BY NFPA 780 SHALL BE BONDED TO THE SYSTEM IN ACCORDANCE WITH CODE REQUIREMENTS.
 5. UNDERGROUND METALLIC PIPING ENTERING THE BUILDING SHALL BE BONDED TO THE NEAREST DOWN CONDUCTOR OR GROUND ELECTRODE.
 6. ADHESIVE USED WITH ADHESIVE AIR TERMINAL BASES AND CONDUCTOR FASTENERS SHALL BE COMPATIBLE WITH ROOFING MEMBRANE - VERIFY WITH ROOFING CONTRACTOR.
 7. AIR TERMINALS HAVE BEEN LOCATED ON THE ROOF TOP EQUIPMENT AS REQUIRED. IF THE METAL THICKNESS OF AN OBJECT IS 3/16" OR GREATER, AIR TERMINALS MAY BE ELIMINATED IF THE OBJECT IS PROPERLY CONNECTED TO THE SYSTEM.
 8. THE DESIGNS SHOWN FOR THESE SYSTEMS ARE SCHEMATIC AND ARE INTENDED TO SHOW BASIC SYSTEM DESIGN. CONTRACTOR SHALL VERIFY DIMENSIONS AND SITE CONDITIONS AND PROVIDE SYSTEMS THAT COMPLY WITH CODE REQUIREMENTS.
 9. CONTRACTOR TO PROVIDE LIGHTNING PROTECTION SYSTEM AS REQUIRED TO ATTAIN UL MASTER LABEL. FULL SHOP DRAWINGS BY CERTIFIED SYSTEM INSTALLER REQUIRED. SEE ALSO ARCHITECTURAL, MECHANICAL AND PLUMBING PLANS FOR ANY EQUIPMENT TO BE BONDED TO THE SYSTEM.



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ROOF PLAN

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