

ELECTRICAL SYMBOLS

	DUPLEX RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
	DUPLEX RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R) MOUNT 4" ABOVE COUNTER TOP, SINK, OR BACKSPLASH (IF PRESENT)
	SINGLE RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
	FLOOR RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
	SINGLE RECEPTACLE OUTLET (50A, 250V, 3 POLE, 3 WIRE, NEMA 10-50R)
	SINGLE RECEPTACLE OUTLET (20A, 250V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 6-20R)
	SINGLE RECEPTACLE OUTLET (30A, 250V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 6-30R)
	SINGLE RECEPTACLE OUTLET (30A, 250V, 3 POLE, 4 WIRE, TWIST-LOCK, GROUNDING TYPE, NEMA L15-30R)
	SINGLE SPECIAL-PURPOSE RECEPTACLE OUTLET; NUMBER CORRESPONDS TO THE SPECIAL-PURPOSE RECEPTACLE SCHEDULE
	SINGLE RECEPTACLE FOR ELECTRIC RANGE (50A, 125/250V, 3 POLE, 4 WIRE, GROUNDING TYPE, NEMA 14-50R)
	DUPLEX RECEPTACLE MOUNTED IN CEILING (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
	TWO (2) DUPLEX RECEPTACLES MOUNTED IN DOUBLE GANG BACKBOX (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
	TWO (2) DUPLEX RECEPTACLES FLOOR MOUNTED IN DOUBLE GANG BACKBOX (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)

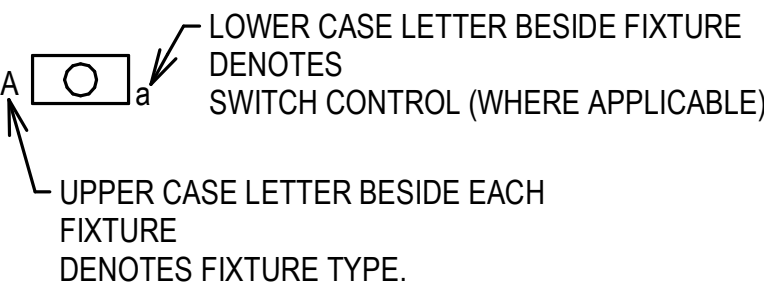
LIGHT FIXTURES (SEE FIXTURE SCHEDULE ON E-601 FOR TYPE)

	LIGHT FIXTURE, CEILING MOUNTED
	LIGHT FIXTURE, CEILING MOUNTED, ON EMERGENCY CIRCUIT
	LIGHT FIXTURE, CEILING MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
	LIGHT FIXTURE, WALL MOUNTED
	LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED
	LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED, ON EMERGENCY CIRCUIT
	LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
	LIGHT FIXTURE, CEILING MOUNTED
	LIGHT FIXTURE, CEILING MOUNTED, ON EMERGENCY CIRCUIT
	LIGHT FIXTURE, CEILING MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
	LIGHT FIXTURE, WALL MOUNTED
	EMERGENCY BATTERY POWERED LIGHTING UNIT, WITH SELF CONTAINED BATTERY, CHARGER, ETC. (REFER TO FIXTURE SCHEDULE FOR BATTERY TYPE, VOLTAGE, LAMP TYPE, WATTAGE, ETC.) TRIANGLES DEPICT QUANTITY AND AIMING OF LAMP HEADS
	EXIT SIGN, LIGHTED, CEILING MOUNTED. SHADED AREA INDICATES FACE. ARROW DEPICTS DIRECTIONAL ARROW ON SIGN. WHEN REQUIRED BY THE FIXTURE SCHEDULE, AN EMERGENCY SELF-CONTAINED BATTERY PACK IS TO REMAIN UNSWITCHED.
	EXIT SIGN, LIGHTED, WALL MOUNTED AT 7'-6" AFF (TO BOTTOM OF SIGN) UNLESS INDICATED OTHERWISE. ARROW DEPICTS DIRECTIONAL ARROW ON SIGN. WHEN REQUIRED BY THE FIXTURE SCHEDULE, AN EMERGENCY SELF-CONTAINED BATTERY PACK IS TO REMAIN UNSWITCHED.
	FLOOD LIGHT, ARROW INDICATES DIRECTION OF BEAM
	DOCK LIGHT
	PARKING AREA LIGHT FIXTURE, POLE MOUNTED

ELECTRICAL SYMBOLS

	TELEPHONE OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD. SUBSCRIPT: W - WALL MOUNTED AT 54" AFF;
	TELEPHONE FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
	DATA OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
	DATA FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
	COMBINATION VOICE/DATA OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
	COMBINATION VOICE/DATA FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
	4'-0" HIGH x 3/4" THICK FIRE-RETARDANT PLYWOOD BACKBOARD. SEE PLANS FOR LENGTH.
	WIRELESS ACCESS POINT OUTLET CEILING MOUNTED. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESS CEILING SPACE AND PULL CORD. NUMBER INDICATES QUANTITY OF DATA JACKS. ABSENCE OF A NUMBER INDICATES ONE DATA JACK.
	CABLE TRAY

LIGHT FIXTURE IDENTIFICATION



SWITCHGEAR

	MAGNETIC MOTOR STARTER (FURNISHED BY DIVISION 23, UNLESS NOTED OTHERWISE)
	ELECTRICAL PANELBOARD, FLUSH MOUNTED
	ELECTRICAL PANELBOARD, SURFACE MOUNTED
	EXISTING ELECTRICAL PANELBOARD, FLUSH MOUNTED
	EXISTING ELECTRICAL PANELBOARD, SURFACE MOUNTED
	SAFETY SWITCH; 30A CURRENT RATING UNLESS NOTED OTHERWISE. +4'-0" TO HANDLE
	FUSIBLE SAFETY SWITCH; CURRENT RATING AND FUSE RATING NOTED. +4'-0" TO HANDLE
	CIRCUIT BREAKER IN WALL MOUNTED ENCLOSURE
	ELECTRICAL TRANSFORMER, FLOOR MOUNTED UNLESS INDICATED OTHERWISE

SWITCHES (MOUNTED AT 46"; UNLESS INDICATED OTHERWISE) (LOWER CASE LETTER INDICATES DEVICES CONTROLLED)

\$a	SWITCH, SINGLE POLE, 20A
\$2	SWITCH, DOUBLE POLE, 20A SWITCH
\$3	3-WAY, 20A SWITCH
\$4	4-WAY, 20A SWITCH
\$K	KEY OPERATED
\$P	SINGLE POLE SWITCH, WITH PILOT LIGHT
\$M	SINGLE POLE MANUAL MOTOR STARTING SWITCH, WITH THERMAL OVERLOAD ELEMENT AND PROVISIONS FOR LOCKING OPEN
\$D	SWITCH, DIMMING (COORDINATE WITH FIXTURE MANUFACTURER)
\$X	SWITCH, MULLION SWITCH
\$LV	LOW VOLTAGE WITH MOMENTARY CONTACTS SWITCH
\$O	OCCUPANCY SENSOR, WALL MOUNTED, DUAL TECHNOLOGY
OS	OCCUPANCY SENSOR, CEILING MOUNTED, DUAL TECHNOLOGY
PC	PHOTOCELL

MULTIPLE DEVICES LOCATED SIDE BY SIDE (OR ABOVE AND BELOW, IF DIFFERENT ELEVATIONS ARE SHOWN) AT THE LOCATION INDICATED)

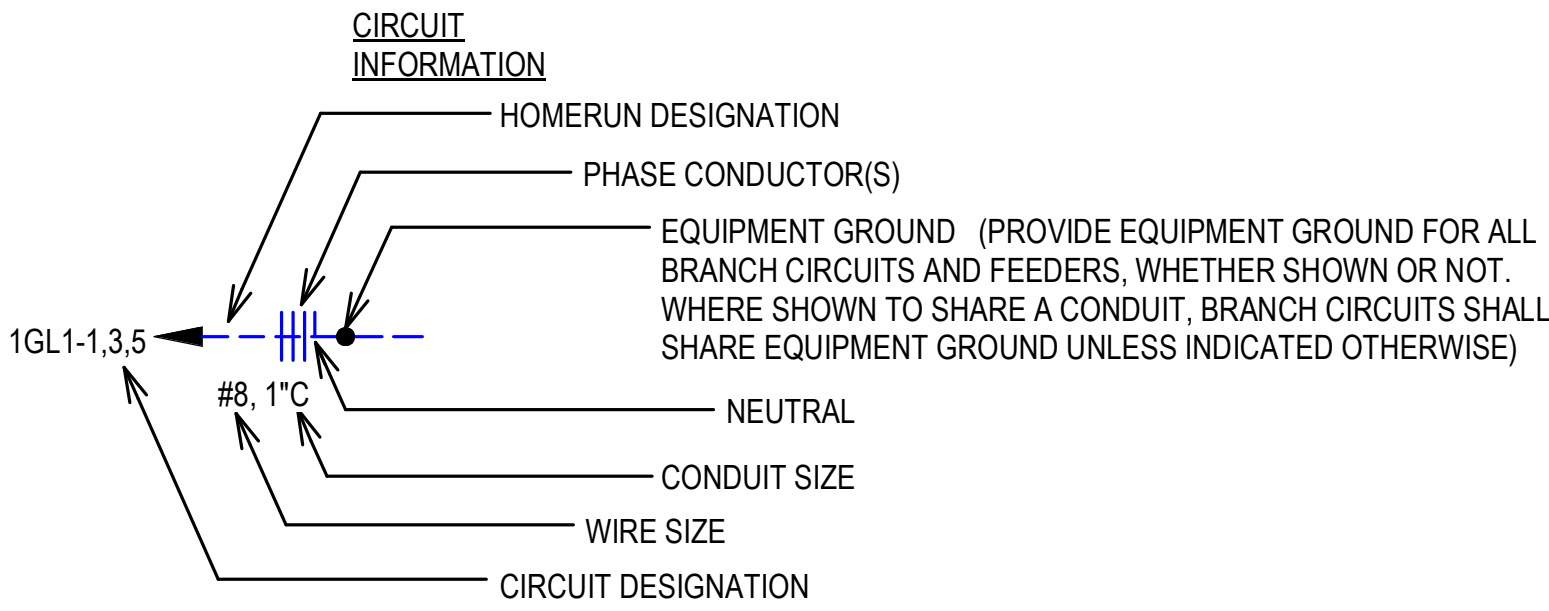
+6' AFF

ELECTRICAL SYMBOLS

WALL MOUNTED VISUAL DEVICES TO BE LOCATED SUCH THAT THE ENTIRE LENS OF THE STROBE IS BETWEEN 80" AND 96" AFF. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT AFF TO ACHIEVE A UNIFORM APPEARANCE OR AS DIRECTED BY THE A/E.

MISCELLANEOUS

	JUNCTION BOX, WALL MOUNT AS INDICATED
	JUNCTION BOX, CEILING MOUNT AS INDICATED
	CLOCK OUTLET, WALL MOUNTED 7'-6" AFF
	MOTOR
	10' BARE #6 COILED & EXOTHERMICALLY WELDED TO COLUMN
	CABLE TELEVISION OUTLET BOX MOUNTED 18" AFF WITH CONDUIT STUBBED ABOVE CEILING. PROVIDE PULL CORD.
	CONDUIT RUN, EXPOSED
	CONDUIT RUN, CONCEALED
	FLEXIBLE CONDUIT



- CIRCUIT DESIGNATION INDICATES PANELBOARD AND CIRCUIT(S) TO WHICH HOMERUN IS CONNECTED.
- WIRE SIZE SHALL BE NO. 12, UNLESS INDICATED OTHERWISE.
- CONDUIT SIZE SHALL BE MINIMUM ALLOWED BY SPECIFICATIONS FOR NO. 12 SIZE WIRE, 3/4" FOR NO. 10, UNLESS INDICATED OTHERWISE.
- CIRCUIT INFORMATION PROVIDED AT THE HOMERUN SYMBOL SHALL APPLY THE ENTIRE LENGTH OF THE CIRCUIT (FROM PANELBOARD TO LAST LOAD).
- WHEN NO PHASE CONDUCTOR OR NEUTRAL IS INDICATED AT THE HOMERUN SYMBOL, PROVIDE ONE PHASE CONDUCTOR AND ONE NEUTRAL, BOTH NO. 12.
- SWITCHING CONDUCTORS, CONDUCTORS FOR NIGHT LIGHT CIRCUITS (UNSWITCHED), ETC. ARE NOT SHOWN, BUT SHALL BE PROVIDED AS NECESSARY.
- WIRE SIZE INDICATED ON THESE DOCUMENTS AS INDICATED BY "NO." OR "#" HAS THE SAME MEANING AS "AWG" (N.E.C. NOMENCLATURE). (I.E."NO. 12" OR "# 12" MEANS "12AWG" IN N.E.C. NOMENCLATURE.)

SECURITY

	MAGNETIC ALARM SWITCH
	DURESS ALARM SWITCH
	MOTION DETECTOR
	CAPACITIVE DETECTOR
	CCTV CAMERA LOCATION, CEILING MOUNTED UNLESS INDICATED OTHERWISE
	KEYPAD ACCESS ALARM OVERRIDE CONTROL
	ELECTRIC PUSH-BUTTON
	CARD READER
	ELECTRIC STRIKE
	REQUEST TO EXIT PUSH BUTTON

ELECTRICAL SYMBOLS

ABBREVIATIONS:

AFF = ABOVE FINISHED FLOOR  
AFL = ABOVE FINISHED LANDING  
GFI = GROUND FAULT INTERRUPTER  
IG = ISOLATED GROUND  
UIO = UNLESS INDICATED OTHERWISE  
WP = WEATHERPROOF CONSTRUCTION  
OF/OI = OWNER FURNISHED / OWNER INSTALLED  
CF/CI = CONTRACTOR FURNISHED / CONTRACTOR INSTALLED  
TYP = TYPICAL  
NIC = NOT IN CONTRACT

GENERAL SYMBOLS NOTES:

- ALL SYMBOLS MAY NOT BE USED.
- MOUNTING HEIGHTS ARE ABOVE FINISHED FLOOR OR GRADE TO THE CENTER LINE OF THE OUTLET, DEVICE, ETC. UNLESS INDICATED OTHERWISE.
- LARGE AMPACITY CIRCUIT DESIGNATION  
EXAMPLE: 4 SETS OF 3#500, #250, #1/0G, 4"C MEANS IN EACH OF FOUR 4" CONDUITS INSTALL THREE 500 kCM CONDUCTORS, ONE 250 kCM NEUTRAL AND ONE #1/0 GROUND.
- FOR CONCRETE SLAB PENETRATIONS WITH PVC, SEE DETAIL x, SHEET E-50x.

SINGLE LINE

	CIRCUIT BREAKER, TRIP RATING AS INDICATED, 3 POLE OR AS INDICATED
	DISCONNECT SWITCH OR LOAD INTERRUPTER SWITCH, CURRENT RATING AS INDICATED, 3 POLE OR AS INDICATED
	SWITCH WITH GROUND FAULT INTERRUPTER
	F30 FRS FUSE, CURRENT RATING AND TYPE WHEN INDICATED
	TRANSFORMER, DESCRIPTION AS NOTED OR PER SCHEDULE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	PHASE SELECTOR SWITCH
	AMMETER
	VOLTMETER
	WATT-HOUR METER
	SURGE PROTECTIVE DEVICE
	AUTOMATIC TRANSFER SWITCH
	GENERATOR

COLOR LEGEND:

	EXISTING TO REMAIN
	DEMOLISH
	NEW CONSTRUCTION

LINESTYLE LEGEND:

	DEMOLISH
	EXISTING TO REMAIN
	NEW

AEROJET BUILDING 2SH8  
COLD BOX  
CONVERSION  
EAST CAMDEN,  
ARKANSAS

Project \_\_\_\_\_  
Design Phase \_\_\_\_\_

CONSTRUCTION DOCUMENTS

Revisions  
No. Date Description

Stamp

CERTIFICATE OF AUTHORIZATION  
CROMWELL ARCHITECTS/ENGINEERS  
#5  
STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 22761  
ALBERT OGENCE  
10-09-2024

Notes  
1. CROMWELL ARCHITECTS ENGINEERS, INC. ALL RIGHTS RESERVED  
2. THIS SHEET DESIGNED FOR COLOR PRINTING. CRITICAL INFORMATION MAY BE LOST WITH BLACK AND WHITE PRINTING.

Project Number 2024-079  
Issue Date 10-09-2024  
Sheet Title

ELECTRICAL LEGEND

Sheet Number

E-001



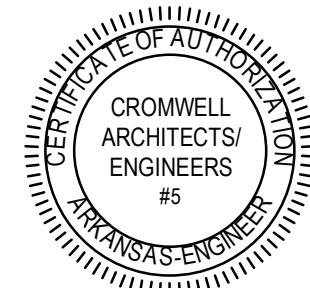
Project  
AEROJET BUILDING 2SH8  
COLD BOX  
CONVERSION  
EAST CAMDEN,  
ARKANSAS

Design Phase

CONSTRUCTION  
DOCUMENTS

Revisions		
No.	Date	Description

Stamp



10-09-2024

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Project Number

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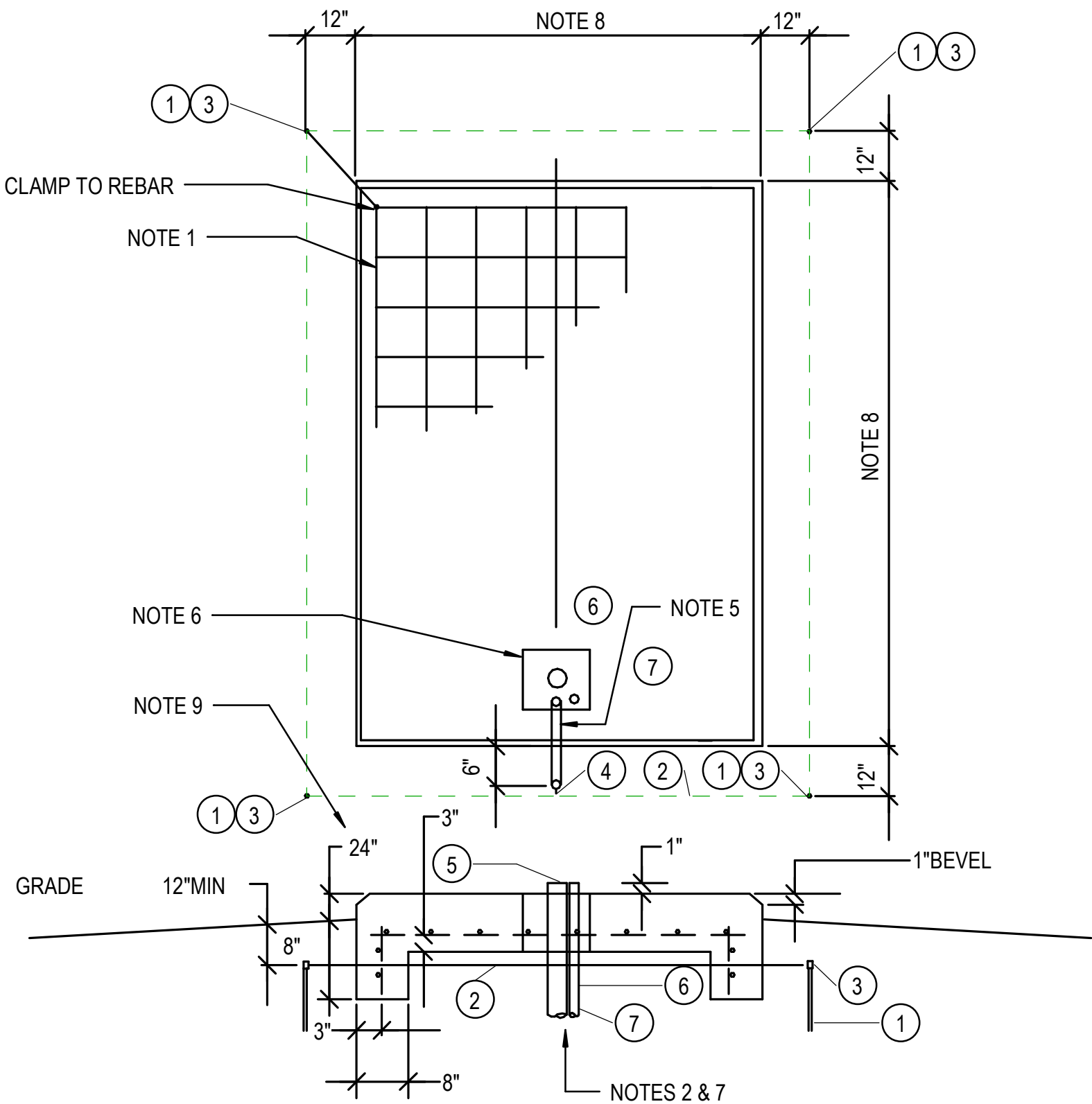
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Sheet Title

ELECTRICAL DETAILS

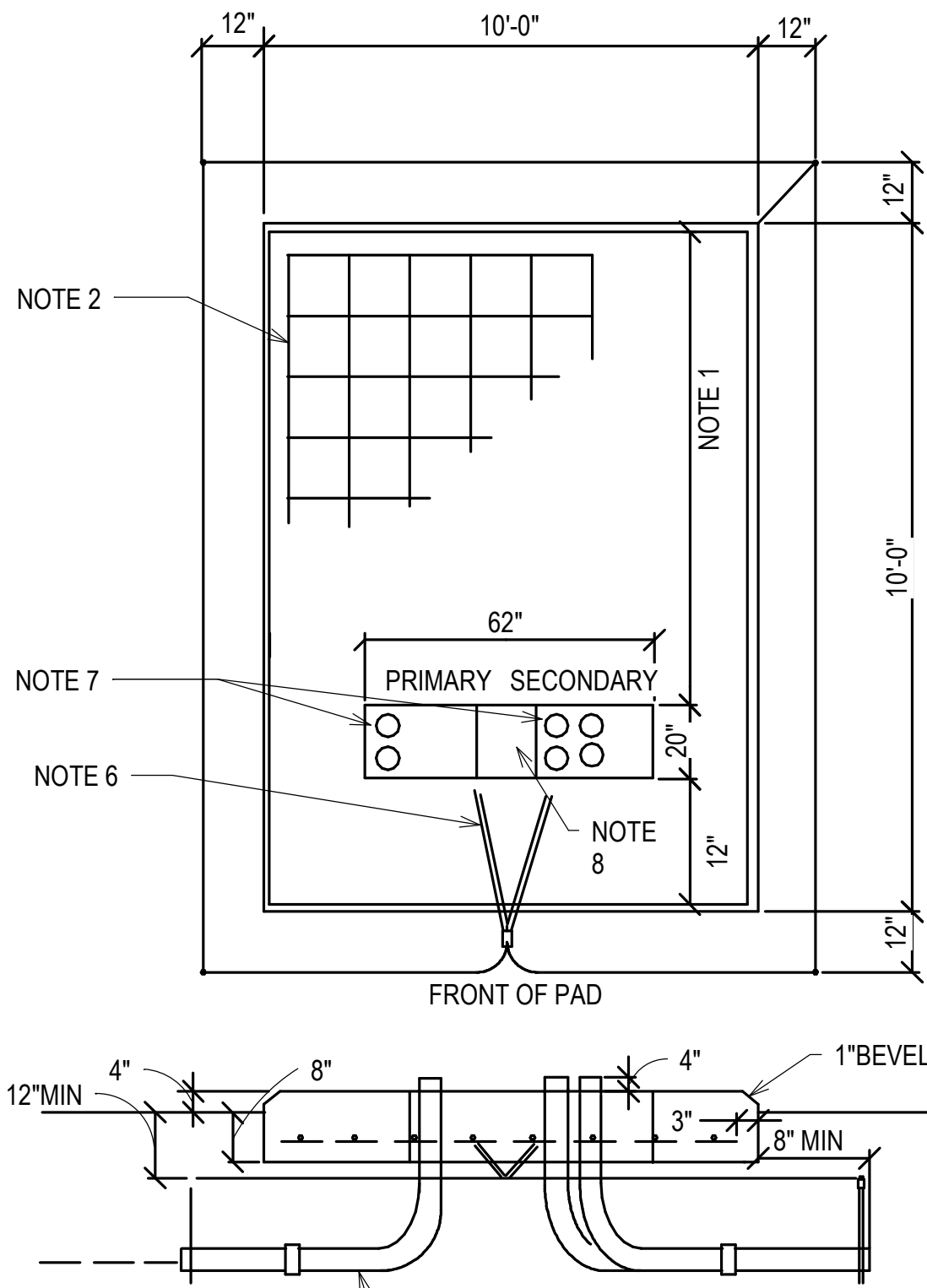
Sheet Number

E-501



SECTIONAL VIEW

1 GENERATOR PAD  
N.T.S.



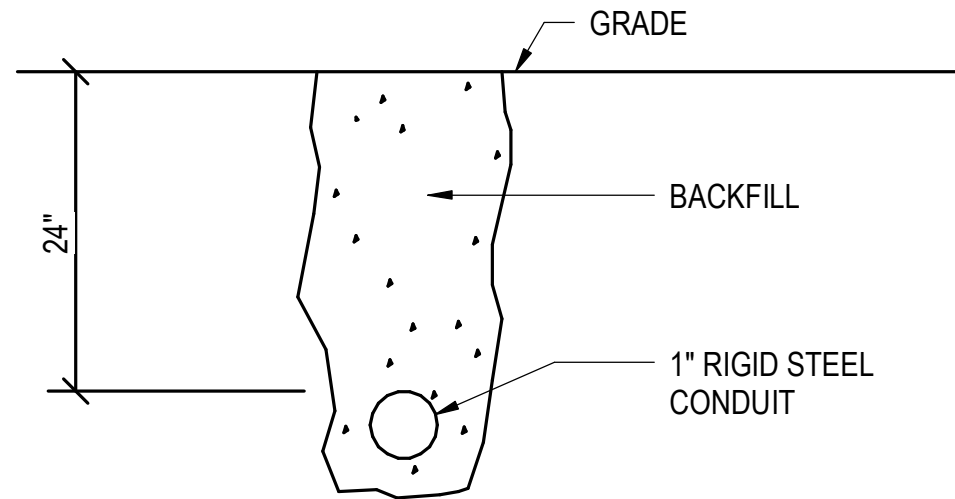
NOTE: BEFORE POURING CONCRETE, AN ENTERGY REP MUST INSPECT PAD FRAMING

2 DT161 - THREE PHASE TRANSFORMER PAD FOUNDATION 150KVA - 2500KVA  
N.T.S.

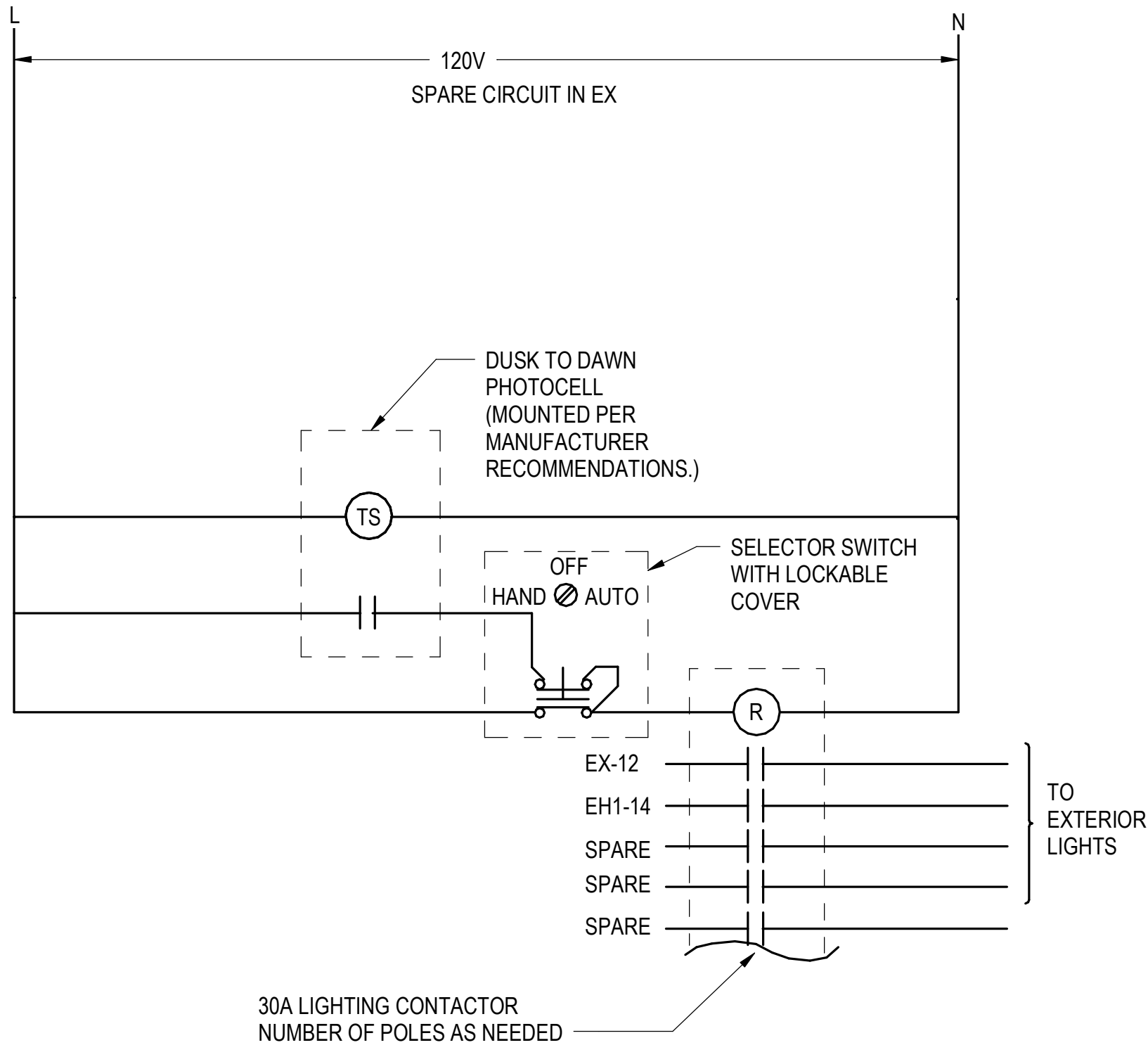
NOTES:

- #4 REINFORCING BARS, 12" CENTER TO CENTER BOTH WAYS.
- WHEN INSTALLING CONDUIT, DISTURB GROUND IN FOUNDATION AREA AS LITTLE AS POSSIBLE.
- TOP OF FOUNDATION TO BE SMOOTH AND LEVEL. FINAL GRADE SHALL SLOPE AWAY FROM PAD.
- CONCRETE SHALL BE 3500 PSI AT 28 DAYS.
- CONTRACTOR SHALL FURNISH 1" CONDUIT UNDER PAD FOR GROUND WIRE.
- OPENING SHALL BE PROVIDED FOR CONDUIT AS SHOWN. CONDUIT SHALL NOT BE CONCRETED IN. CONTRACTOR SHALL VERIFY DIMENSIONS OF OPENINGS AND REQUIRED LOCATIONS.
- STUB OUT 2'-0" BEYOND PAD.
- PAD TO BE 4'-0" GREATER IN WIDTH AND LENGTH THAN OUTSIDE DIMENSIONS OF GENERATOR HOUSING. VERIFY DIMENSIONS OF GENERATOR HOUSING WITH EQUIPMENT MANUFACTURER.
- PAD TO BE RAISED TO PREVENT FLOODING IN CASE OF PUMP FAILURE. DIMENSION SHOULD BE MEASURED ABOVE TOP OF RIM OF DRAIN BASIN.

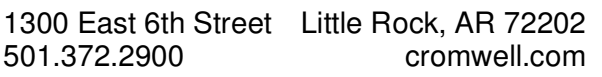
ITEM	DESCRIPTION	QUANTITY
1	ROD, GROUND, 3/4" X 10'-0"	4
2	CONDUCTOR, COPPER #1/0 BARE	
3	CLAMP GROUND ROD	4
4	CONNECTOR, COMPRESSION #1/0 COPPER	1
5	CONDUIT BUSHING	7
6	CONDUIT, 2" RGS	1
7	CONDUIT, 3/4" RGS	1



3 TYPICAL UNDERGROUND RACEWAY  
N.T.S.



4 TIME SWITCH SCHEMATIC DIAGRAM  
N.T.S.



- A. ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL HAVE A NEMA 3R ENCLOSURE.
- B. SPD'S BREAKER AND CABLE SIZES SHALL BE PER MANUFACTURER RECOMMENDATIONS.
- C. PROVIDE CONCRETE PADS FOR ALL GROUND MOUNTED ELECTRICAL EQUIPMENT.
- D. PROVIDE ARC FLASH LABELS ON ALL PANELBOARDS, ALL SAFETY SWITCHES AND TRANSFORMERS.

- 1 PROVIDE 480V,1200AMP, 3PHASE, NEMA 3R DISCONNECT SWITCH TO DISCONNECT POWER PER UTILITY REQUIREMENTS.
- 2 PROVIDE THREE SETS OF 4#400 KCMIL IN 3" CONDUIT. PROVIDE A SPARE 3" CONDUIT.
- 3 SIZE PER MANUFACTURERS RECOMMENDATIONS.
- 4 ROUTE UNDERGROUND CONDUITS TO UTILITY TIE IN LOCATION.
- 5 UTILITY OWNED PAD MOUNTED TRANSFORMER, COORDINATE WITH UTILITY ON REQUIREMENTS. PROVIDE PAD PER UTILITY REQUIREMENTS REFER TO E-501 DETAIL 2 FOR REQUIREMENTS.
- 6 PANEL EX IS EXISTING TO REMAIN. THIS PANEL WAS NOT LABELED AND WAS REFERRED TO AS "EX" FOR CLARIFICATION PURPOSES. PROVIDE NEW NAMEPLATE WITH NAME "EX", VOLTAGE, SOURCE AND PROVIDE NEW TYPEWRITTEN PANELBOARD SCHEDULE.
- 7 PANELBOARD FPH SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ELECTRICAL ENGINEER AS PART OF THE FIRE PUMP HOUSE DELEGATED DESIGN. PANEL SHALL HAVE COPPER BUSSES INCLUDING NEUTRAL AND GROUND, BE NEMA 3R RATED IF LOCATED OUTDOORS OR IN A DAMP OR WET LOCATION. LOAD CENTER TYPE PANELBOARD SHALL NOT BE ACCEPTABLE. PANEL SHALL HAVE AIC RATING THAT EXCEEDS AVAILABLE FAULT CURRENT AS DETERMINED BY A STUDY COMPLETED BY A REGISTERED PROFESSIONAL ELECTRICAL ENGINEER (STUDY IS ALSO PART OF THE DELEGATED DESIGN). SERIES RATING IS NOT ACCEPTABLE. PANEL SHALL HAVE BRANCH BREAKERS TO FEED ALL LOADS IN/NEAR FIRE PUMP HOUSE BUILDING, INCLUDED BUT NOT LIMITED TO: DIESEL FIRE PUMP ACCESSORIES (BLOCK HEATER, BATTERY CHARGER, ETC), CONTROLS, JOCKEY PUMP, UNIT HEATER, LIGHTING FIXTURES, MAINTENANCE RECEPTACLES, AND A MINIMUM OF THREE SPARE 20 AMP SINGLE POLE BREAKERS. PANEL BUS AND MAIN CIRCUIT BREAKER SIZE SHALL BE BASED ON FULL LOAD OF ALL CONNECTED DEVICES PLUS 25% SPARE CAPACITY THEN ROUNDED UP TO THE NEXT STANDARD SIZE. EXACT LOCATION OF PANELBOARD FPH IS TO BE DETERMINED BY THE DELEGATED DESIGN REGISTERED PROFESSIONAL ELECTRICAL ENGINEER CONSIDERING ALL NEC REQUIREMENTS. IF PANELBOARD IS LOCATED OUTDOORS, IN ADDITION TO BEING NEMA 3R, PROVIDE LOCKABLE COVER. PANELBOARD SHALL HAVE A NAMEPLATE WITH PANELBOARD NAME, VOLTAGE, SOURCE. PANELBOARD SHALL HAVE A TYPEWRITTEN PANELBOARD SCHEDULE. SEE CIVIL FOR APPROXIMATE LOCATION OF FIRE PUMP HOUSE.
- 8 FEEDER SIZE (CONDUCTORS AND CONDUIT) SHALL BE DESIGNED BY A REGISTRED PROFESSIONAL ELECTRICAL ENGINEER AS PART OF THE FIRE PUMP HOUSE DELEGATED DESIGN. FEEDER SHALL BE ROUTED UNDERGROUND FROM MDP TO THE PANELBOARD LOCATION AND SHALL CONSIST OF COPPER CONDUCTORS (INCLUDING GROUND) IN CONDUIT. CONDUIT SHALL NOT BE USED AS A GROUND CONDUCTOR. FEEDER SIZE SHALL BE BASED ON MAIN CIRCUIT BREAKER SIZE AND SHALL BE INCREASED IN SIZE AS REQUIRED TO ACHIEVE LESS THAN 2 PERCENT VOLTAGE DROP FROM MDP TO PANELBOARD FPH.
- 9 DESIGN OF BRANCH CIRCUIT BREAKERS, BRANCH CIRCUITS, AND ELECTRICAL DEVICES, INCLUDING LIGHT FIXTURES, LIGHT FIXTURE CONTROL DEVICE(S), RECEPTACLE(S) FOR MAINTENANCE, DISCONNECTING MEANS FOR MOTORS, CONDUITS, CONDUCTORS, ETC, AND ALL ACCESSORIES ARE REQUIRED AS PART OF THE DELEGATED DESIGN AND SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ELECTRICAL ENGINEER. ALL CIRCUIT BREAKERS SHALL BE SIZED PER NEC, ALL CONDUCTORS SHALL BE COPPER (INCLUDING GROUND) IN CONDUIT. LIGHT FIXTURES SHALL BE LED AND APPROPRIATE FOR THE SPACE. LIGHT FIXTURE CONTROLS SHALL MEET THE ENERGY CODE. RECEPTACLES SHALL BE GFI FOR INTERIOR AND GFI WITH WEATHERPROOF WHILE IN USE COVERS FOR EXTERIOR. INSTALLATION SHALL BE IN ACCORDANCE WITH NEC.

GENERAL NOTES:-

1. ELECTRICAL CONTRACTOR TO COORDINATE THE MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS WITH UTILITY AND SWITCHBOARD EQUIPMENT PROVIDER.
2. ELECTRICAL CONTRACTOR TO COORDINATE AND PROVIDE APPROPRIATE LUG SETS AS REQUIRED FOR ALL TERMINATIONS SUITABLE TO CONDUCTOR TYPE, WIRE SPACE, AND ALL OTHER REQUIREMENTS.
3. FIELD CONDITIONS OF ACTUAL INSTALLATION MAY REQUIRE ELECTRICAL CONTRACTOR TO ADJUST CONDUCTOR AND CONDUIT SIZES UPWARD PER NEC REQUIREMENTS FOR DERATINGS, VOLTAGE DROP, ETC.
4. ALL RACEWAY SIZES (EMT/GRSC/PVC) AND ARE TO BE BASED ON THE NEC TABLE 4 (CHAPTER 9), 40% FILL COLUMN.

N.T.S.



PANEL		MDP		MOUNTING		SURFACE		LOCATION		EXT		MAIN BUS RATING		1200		AMPS		
MAIN		CB				POLES		FRAME		TRIP		1000						
VOLTAGE		208Y/120				PHASE						MINIMUM BREAKER INTERRUPTING CAPACITY		35KAIC				
ACCESSORIES SN + EQP GND + SPD																		
DEVICE			BRANCH CIRCUIT					PHASE LOAD				BRANCH CIRCUIT				DEVICE		
AMPS TRIP	POLES	TYPE	LOAD	DESCRIPTION		VOLT AMPS	NO	A	B	C	NO	VOLT AMPS	DESCRIPTION		LOAD	TYPE	POLES	AMPS TRIP
150	3		H	CU-1		12735	1	23437			2	10702	CU-03		H		3	150
-	-		H	-		12735	3		23437		4	10702	-		H		-	-
-	-		H	-		12735	5			23437	6	10702	-		H		-	-
150	3		H	CU-2		12735	7	23437			8	10702	CU-04		H		3	150
-	-		H	-		12735	9		23437		10	10702	-		H		-	-
-	-		H	-		12735	11			23437	12	10702	-		H		-	-
200	3		S	PANEL A		18099	13	18099			14		PANEL FPH		S		3	
-	-		S			17099	15		17099		16				S		-	-
-	-		S			16310	17			16310	18				S		-	-
100	3		S	PANEL EX		5419	19	5419			20		SPACE					
-	-		S			4705	21		4705		22		SPACE					
-	-		S			5175	23			5175	24		SPACE					
				SPACE			25				26		SPACE					
				SPACE			27				28		SPACE					
				SPACE			29				30		SPACE					
				SPACE			31				32		SPACE					
				SPACE			33				34		SPACE					
				SPACE			35				36		SPACE					
				SPACE			37				38		SPACE					
				SPACE			39				40		SPACE					
				SPACE			41				42		SPACE					
TOTAL								70392	68678	68359	207 KVA (CONNECTED) 141 KVA (DEMAND)				576 AMPS (CONNECTED) 390 AMPS (DEMAND)			

1

PANEL		EX		MOUNTING		SURFACE		LOCATION		HALLWAY		MAIN BUS RATING		100		AMPS		
MAIN		LO				POLES		FRAME		TRIP								
VOLTAGE		208Y/120				PHASE		3				MINIMUM BREAKER INTERRUPTING CAPACITY		10KA				
ACCESSORIES SN + EQP GND																		
DEVICE			BRANCH CIRCUIT					PHASE LOAD			BRANCH CIRCUIT					DEVICE		
AMPS TRIP	POLES	TYPE	LOAD	DESCRIPTION		VOLT AMPS	NO	A	B	C	NO	VOLT AMPS	DESCRIPTION		LOAD	TYPE	POLES	AMPS TRIP
20	1		L	LTS GRID 9.5-11		1017	1	1807			2	790	OVERHEAD DOOR		M		2	15
20	1		L	LTS GRID 7.5-9		1017	3		1807		4	790	-		M			-
20	1		L	LTS GRID 5.5-7.5		1017	5			1377	6	360	RECEPTACLES		R	G	1	20
20	1		L	LTS GRID 4-5.5		1017	7	1557			8	540	RECEPTACLES		R	G	1	20
20	1		L	LTS GRID 2-3		678	9		1038		10	360	RECEPTACLES		R	G	1	20
20	1		L	LTS GRID 1-2		678	11			938	12	260	EXT LIGHTS		L		1	20
20	1		R	EXT RECEPTS		360	13	555			14	195	EXT LIGHTS		L		1	20
20	1		R	EXT RECEPTS		360	15		860		16	500	HVAC CONTROL PANEL		M		1	20
20	1		R	EXT RECEPTS		360	17			1860	18	1500	L630R IT ROOM				2	30
20	1						19	1500			20	1500	-					-
20	1						21		1000		22	1000	IT ROOM RECEPT				1	20
20	1						23			1000	24	1000	IT ROOM RECEPT				1	20
20	1						25				26						1	20
20	1						27				28						1	20
20	1						29				30						1	20
20	1						31				32						1	20
20	1						33				34						1	20
20	1						35				36						1	20
20	1						37				38						1	20
20	1						39				40						1	20
20	1						41				42						1	20
TOTAL								5419	4705	5175	15 KVA (CONNECTED)		42 AMPS (CONNECTED)		10 KVA (DEMAND)			29 AMPS (DEMAND)

PANEL		A		MOUNTING		SURFACE		LOCATION		HALLWAY		MAIN BUS RATING		225		AMPS	
MAIN		LO		POLES		FRAME		TRIP									
VOLTAGE		208Y/120		PHASE		3						MINIMUM BREAKER INTERRUPTING CAPACITY		10KA			
ACCESSORIES SN + EQP GND																	
DEVICE			BRANCH CIRCUIT					PHASE LOAD			BRANCH CIRCUIT					DEVICE	
AMPS TRIP	POLES	TYPE	LOAD	DESCRIPTION	VOLT AMPS	NO	A	B	C	NO	VOLT AMPS	DESCRIPTION	LOAD	TYPE	POLES	AMPS TRIP	
20	2		H	UC1.1	656	1	2008			2	1352	MSFC-1	H		2	20	
-	-		H		656	3		2008		4	1352		H		-	-	
20	2		H	UC2.3	656	5			1656	6	1000	EF-1	H		1	40	
-	-		H		656	7	1656			8	1000	UH-1	H		1	20	
20	2		H	UC1.3	656	9		1093		10	437	UC3.1	H		2	20	
-	-		H		656	11			1093	12	437		H		-	-	
20	2		H	UC2.2	656	13	1093			14	437	UC4.1	H		2	20	
-	-		H		656	15		1093		16	437		H		-	-	
20	2		H	UC1.2	656	17			3609	18	2953	UC3.1 DEFROST HTR	H		3	30	
-	-		H		656	19	3609			20	2953		H		-	-	
20	2		H	UC2.1	656	21		3609		22	2953		H		-	-	
-	-		H	-	656	23			1093	24	437	UC3.2	H		2	20	
3	30		H	UC4.1 DEFROST HTR	2953	25	3390			26	437		H		-	-	
-	-		H	-	2953	27		5906		28	2953	UC3.2 DEFROST HTR	H		3	30	
-	-		H	-	2953	29			5906	30	2953		H		-	-	
3	30		H	UC4.2 DEFROST HTR	2953	31	5906			32	2953		H		-	-	
-	-		H	-	2953	33		2953		34		SPARE	H		1	20	
-	-		H	-	2953	35			2953	36		SPARE	H		1	20	
2	20		H	UC 4.2	437	37	437			38		SPARE	H		1	20	
-	-		H		437	39		437		40		SPARE	H		1	20	
1	20			SPARE		41				42		SPARE	H		1	20	
TOTAL							18099	17099	16310	52 KVA (CONNECTED) 52 KVA (DEMAND)				143 AMPS (CONNECTED) 143 AMPS (DEMAND)			

1

CIRCUIT BREAKER SIZE IS PART OF THE FIRE PUMP HOUSE DELEGATED DESIGN. SIZE SHALL BE DETERMINED BY REGISTERED PROFESSIONAL ELECTRICAL ENGINEER BASED ON FIRE PUMP, ACCESSORIES, AND JOCKEY PUMP. SEE E-601, FX101, PROJECT MANUAL/SPECIFICATIONS, ETC FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

### KEYED NOTES:

### LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	VOLTAGE	SOURCE	TOTAL FIXTURE LUMENS	MAXIMUM FIXTURE WATTAGE	DESCRIPTION	KEYED NOTES
A	COOPER LIGHTING	4-ILED-16-W-FL-UV-L840	UNV	LED	9000	113	4 STRIP LIGHT	
AE	COOPER LIGHTING	4-ILED-16-W-FL-UV-L840-EL14W	UNV	LED	9000	113	5 STRIP LIGHT	1
X	COOPER LIGHTING	EDG-1-R-EL	120/277	LED	N/A	3.1	EXIT LIGHT, ARROWS AND FACES PER PLANS	1
W1	COOPER LIGHTING	PRV-P-PA1B-740-U-T4W-WM-BK	UNV	LED	4000	59	EXTERIOR WALL PACK	
S1	COOPER LIGHTING	4VT3-LD5-5-W-UNV-L835-CD1	UNV	LED	5000	44	STRIP LIGHT	
S1E	COOPER LIGHTING	4VT3-LD5-5-W-UNV-EL10W-L835-CD1	UNV	LED	5000	44	STRIP LIGHT	1

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. PROVIDE FLANGE KIT AS REQUIRED

LIGHTING FIXTURE SCHEDULE KEYED NOTES:

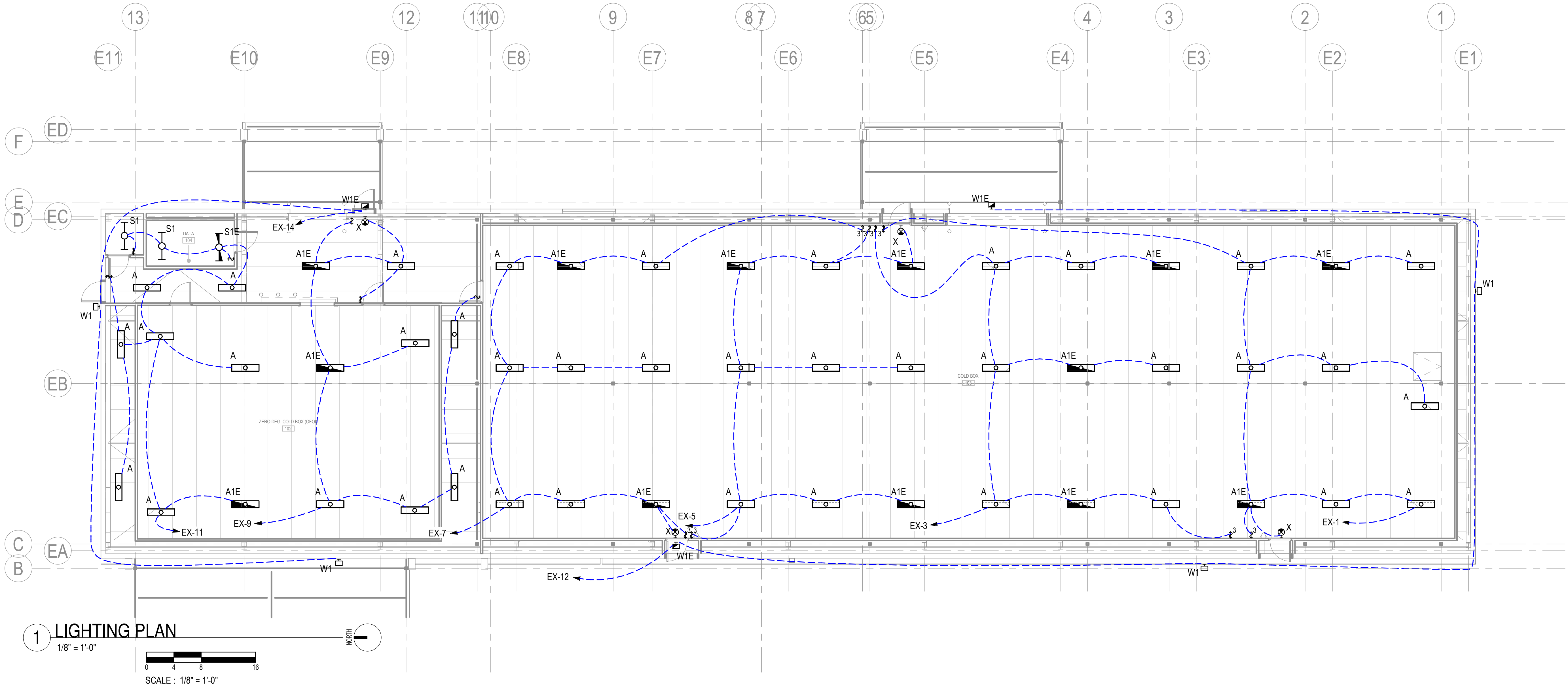
1. BATTERY BACK UP. ARROWS AND FACES PER PLANS

2. CHAIN MOUNT AT 9'-0" AFF UNLESS NOTED OTHERWISE

### PANEL SCHEDULE LEGEND

MAIN  
CB = CIRCUIT BREAKER  
LO = LUGS ONLY

BRANCH CIRCUIT BREAKER TYPE  
A = ARC FAULT CIRCUIT INTERRUPTER  
G = GROUND FAULT CIRCUIT



GENERAL NOTES:

- A. ALL EXIT LIGHTS AND EMERGENCY LIGHTING UNIT TYPE EL SHALL BE POWERED FROM UNSWITCHED LIGHTING CIRCUIT INDICATED.
- B. MOUNT ALL EXIT LIGHTS 1' ABOVE DOOR JAMB.
- C. MOUNT TYPE W1 & W1E 8'-0" ABOVE FINISHED GRADE.
- D. ALL EXTERIOR LIGHTING SHALL BE POWERED THROUGH A LIGHTING CONTACTOR. REFER TO E-501 DETAIL 4.

Project

AEROJET BUILDING 2SH8

COLD BOX  
CONVERSION  
EAST CAMDEN,  
ARKANSAS

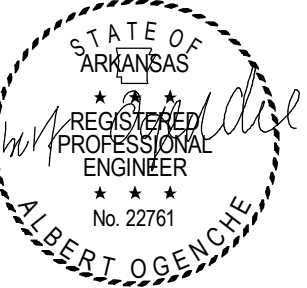
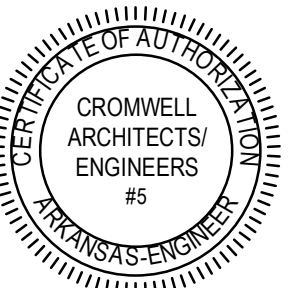
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CONSTRUCTION  
DOCUMENTS

Revisions

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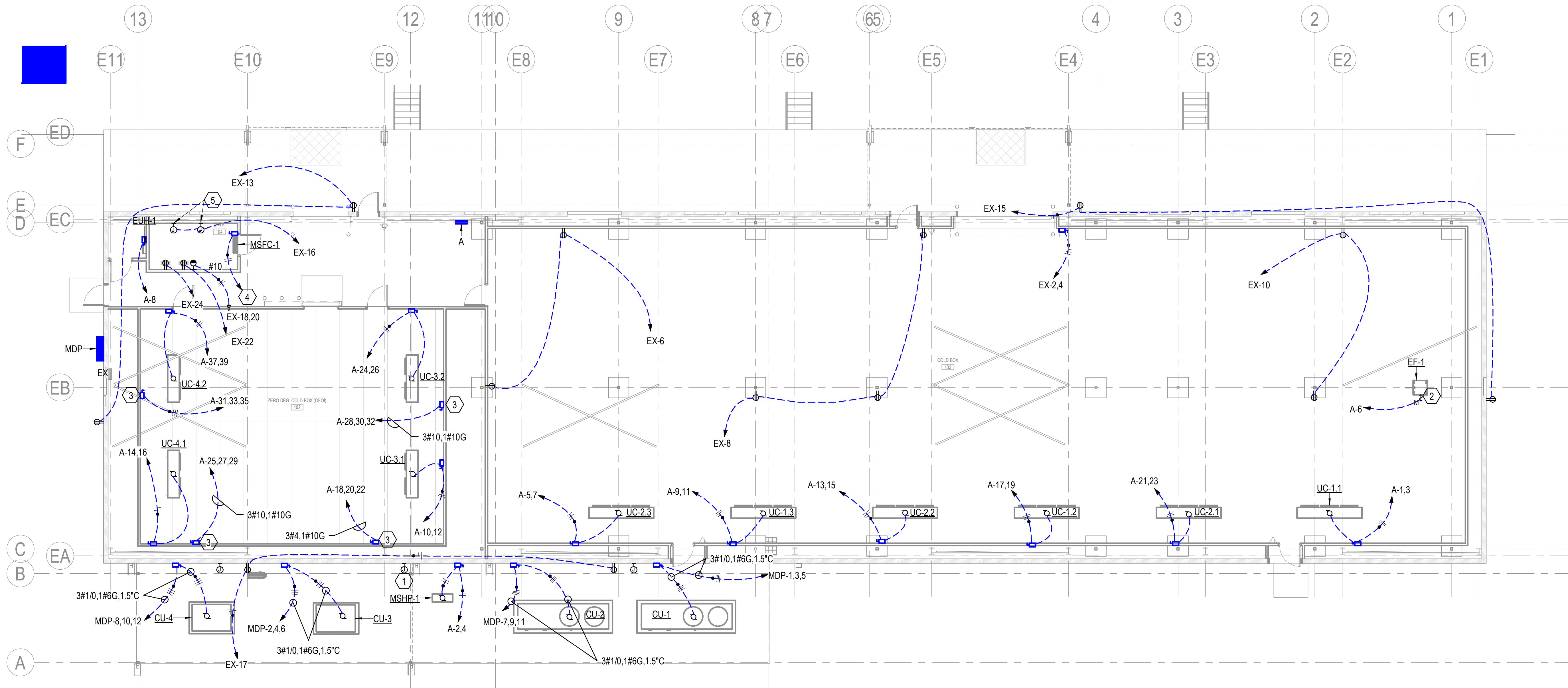
Sheet Title

LIGHTING PLAN

Sheet Number

EL101





1 POWER PLAN  
1/8" = 1'-0"  
SCALE: 1/8" = 1'-0"  
NORTH

GENERAL NOTES:

- A. COORDINATE EXACT LOCATION OF DISCONNECTS POWERING MECHANICAL EQUIPMENT WITH INSTALLER. MAKE FINAL CONNECTIONS TO EQUIPMENT.
- B. CONTRACTOR SHALL WIRE EQUIPMENT PER MANUFACTURER INSTRUCTIONS. ALL WIRING AND CONNECTIONS SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
- C. COORDINATE ALL CONDUIT LOCATIONS WITH OTHER DISCIPLINES.
- D. ALL EXTERIOR RECEPTACLES SHALL BE GFI TYPE WITH HEAVY DUTY WEATHERPROOF IN USE COVER.
- E. POWER INDICATED ON PLANS IS BASED ON BASIS OF DESIGN. IF DIFFERENT EQUIPMENT IS USED CONTRACTOR SHALL PROVIDE POWER PER MANUFACTURER'S RECOMMENDATIONS AT NO EXTRA CHARGE.
- F. ALL ELECTRICAL DISCONNECTS SHALL BE NEMA 3R RATED.

KEYED NOTES:

- 1 JUNCTION BOX FOR HEAT TRACING. COORDINATE EXACT LOCATION WITH INSTALLER. VERIFY POWER REQUIREMENTS AND CIRCUIT PER CODE.
- 2 MANUAL MOTOR STARTER TO POWER FAN, COORDINATE EXACT LOCATION WITH INSTALLER.
- 3 240V,60A,3POLE NEMA 3R NON FUSED DISCONNECT TO POWER DEFROST HEATER.
- 4 INDOOR UNIT IS POWERED FROM OUTDOOR UNIT. COORDINATE WITH INSTALLER ON EXACT LOCATION.
- 5 CONTROL PANEL FOR HVAC CONTROL UNIT. COORDINATE EXACT LOCATION WITH INSTALLER.

Project

AEROJET BUILDING 2SH8

Design Phase

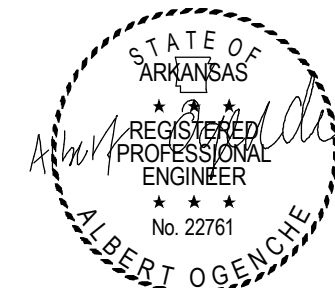
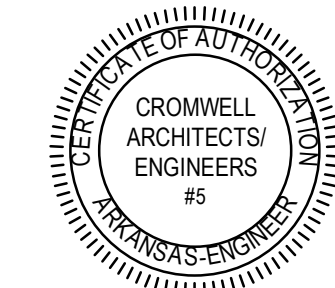
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CONVERSION  
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POWER PLAN

Sheet Number

EP101

GENERAL NOTES:

- A. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT CONTRACTORS EXPENSE
- B. COORDINATE WITH EACH LOCAL UTILITY COMPANY FOR CONNECTION OF NEW LINES AND METERS. PAY COSTS IF ANY.
- C. ALL UTILITIES ROUTED UNDERGROUND MAY REQUIRE SAW CUTTING EXISTING PAVEMENTS AND ROAD. PATCH ALL PAVEMENTS AND ROAD TO MATCH EXISTING.
- D. REFER TO E-501 DETAIL 1 & 2 FOR GENERATOR AND TRANSFORMER PAD DETAIL.
- E. REFER E-501 DETAIL 3 FOR UNDERGROUND CONDUIT.

KEYED NOTES:

- 1 UNDERGROUND CONDUITS FROM EXTERIOR ATS-1. MINIMUM BURY DEPTH IS 3'-0" BELOW GRADE.

AEROJET BUILDING 2SH8  
COLD BOX  
CONVERSION  
EAST CAMDEN,  
ARKANSAS

Project

Design Phase

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CERTIFICATE OF AUTHORIZATION  
CROMWELL  
ARCHITECTS/  
ENGINEERS  
#5  
ARKANSAS-ENGINEER

STATE OF  
ARKANSAS

REGISTERED  
PROFESSIONAL  
ENGINEER  
No. 22761  
ALBERT OGENCE

10-09-2024

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Sheet Title

ELECTRICAL SITE  
PLAN

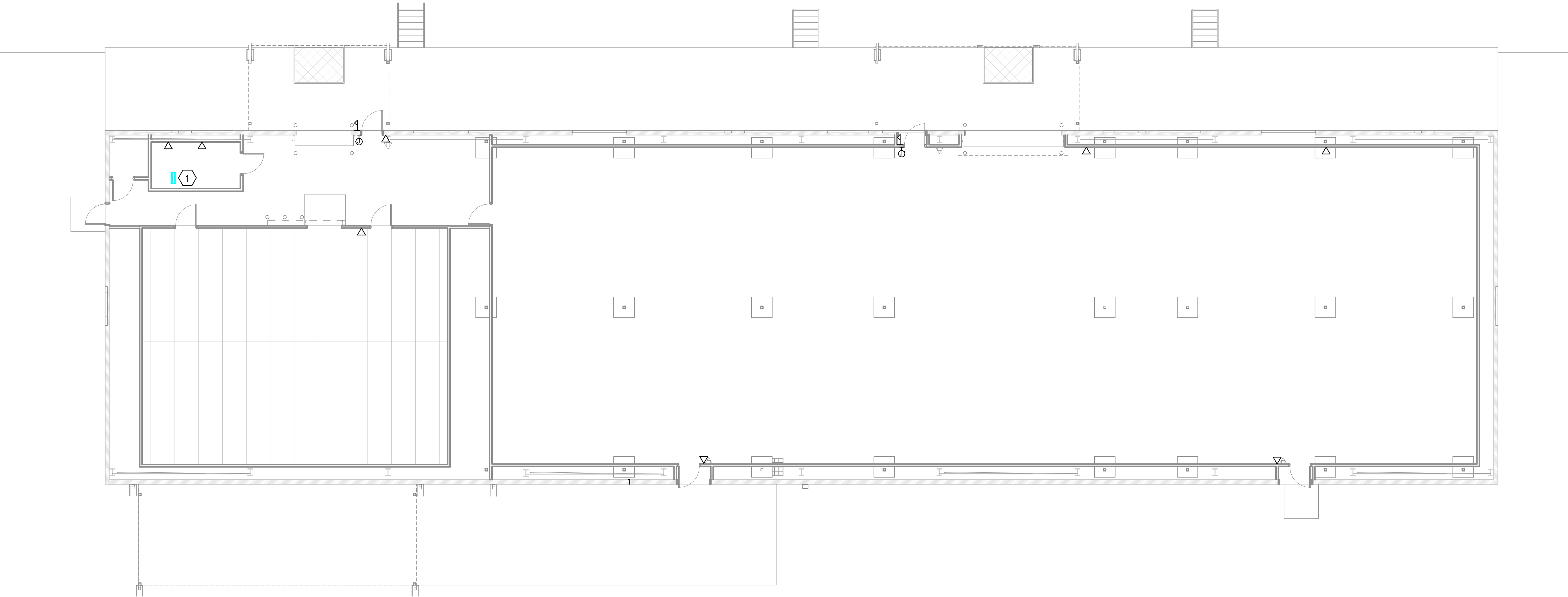
Sheet Number

ES101

1 ELECTRICAL SITE PLAN

1/16" = 1'-0"

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



KEYED NOTES:

- 1 PROVIDE 4 POST RACK PER AEROJET STANDARDS FOR TERMINATING ALL IT TERMINATIONS.

GENERAL NOTES:

- A. PROVIDE 2 DATA DROPS FOR EACH DATA OUTLET INDICATED IN THE DRAWINGS.
- B. ROUTE ALL DATA AND ACCESS CONTROL CABLES IN CONDUITS BACK TO DATA ROOM.
- C. PROVIDE 24 PORT FIBER OPTIC AND COPPER PATCH PANEL IN THE 4 POST PATCH PANEL. TERMINATE ALL COPPER TO THE COPPER PATCH PANEL. ALL INCOMING FIBER SHALL BE TERMINATED IN THE FIBER OPTIC PATCH PANEL. ALL EQUIPMENT SHALL BE PER AEROJET IT STANDARDS.

Project  
AEROJET BUILDING 2SH8  
COLD BOX  
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CROMWELL ARCHITECTS/ENGINEERS #5  
STATE OF ARKANSAS  
REGISTERED PROFESSIONAL ENGINEER  
No. 22761  
ALBERT OGENCE  
10-09-2024

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SYSTEMS PLAN

Sheet Number  
ET101