

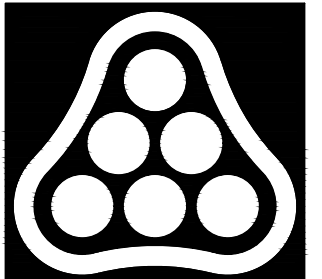
ELECTRICAL GEAR REPLACEMENT

PUMP STATION NO. 10

AT

2590 S HOOVER

CITY OF WICHITA, KANSAS, 67215



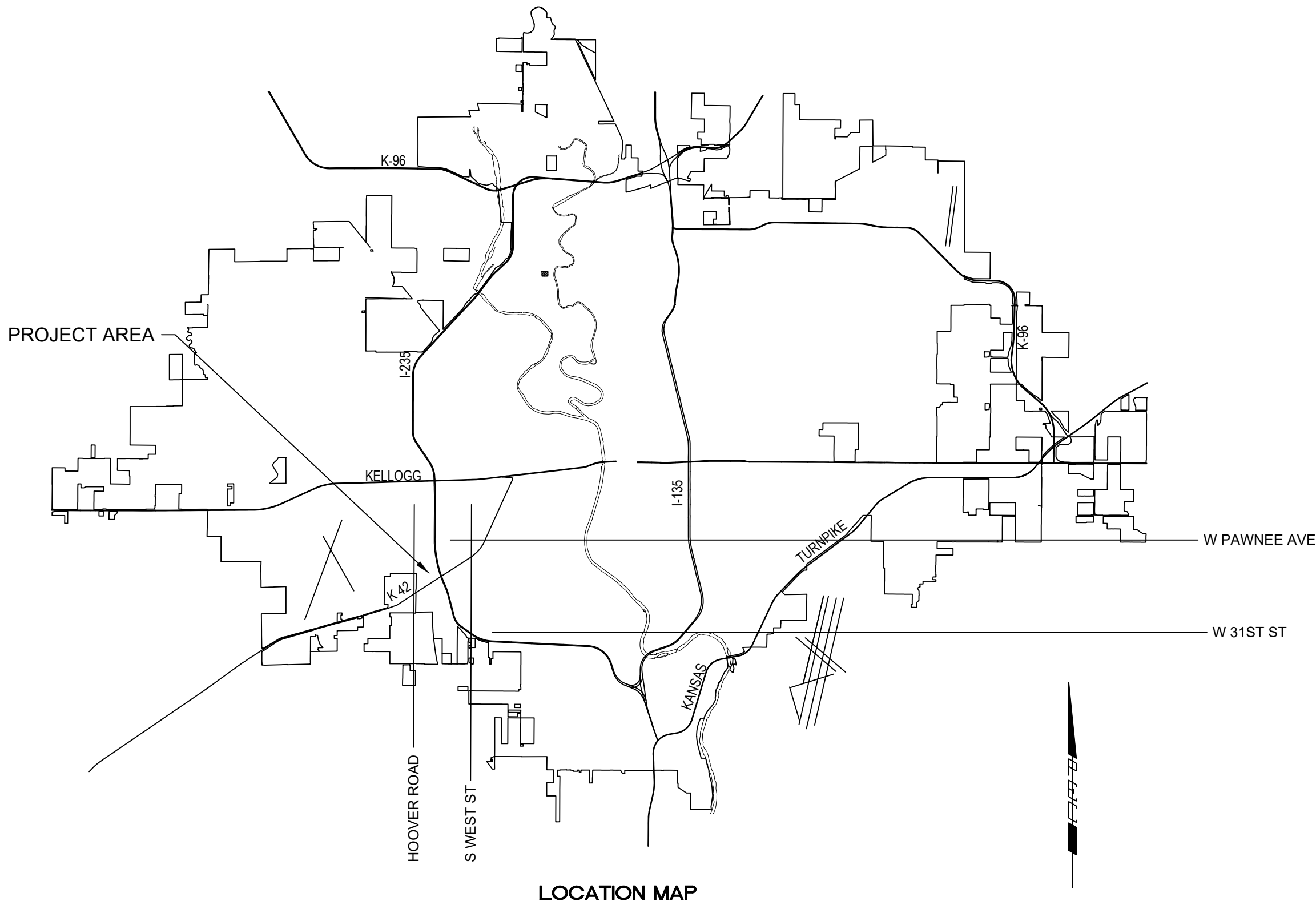
PEC

PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com



ELECTRICAL SHEET INDEX

SHEET NO.	DESCRIPTION
E-001	ELECTRICAL GENERAL NOTES AND SYMBOLS
E-101	ELECTRICAL DEMOLITION PLAN
E-111	POWER PLAN
E-601	ELECTRICAL ONE-LINE DIAGRAMS

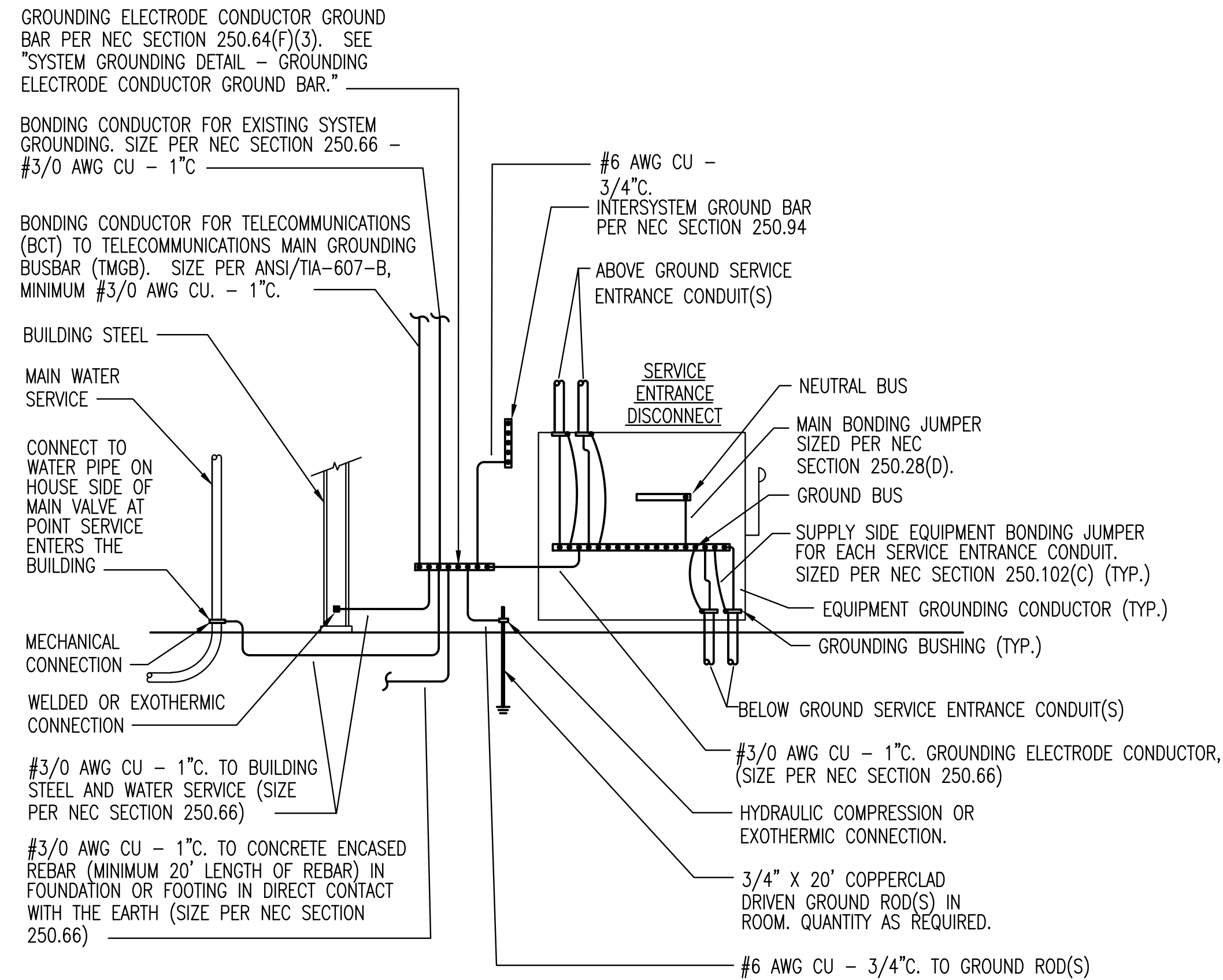


LOCATION MAP

**COW - PUMP STATION
NO. 10 IMPROVEMENT**
2590 S HOOVER
WICHITA, KANSAS, 67215

Issue:		
1	BID SET	04/24/25
JOB NO.	237043-015	
DATE	24 APR 2025	
PM	SCU	
DESIGNED BY	SPG	
DRAWN BY	JSH	
CHECKED BY	RWW	

COVER SHEET
G-001



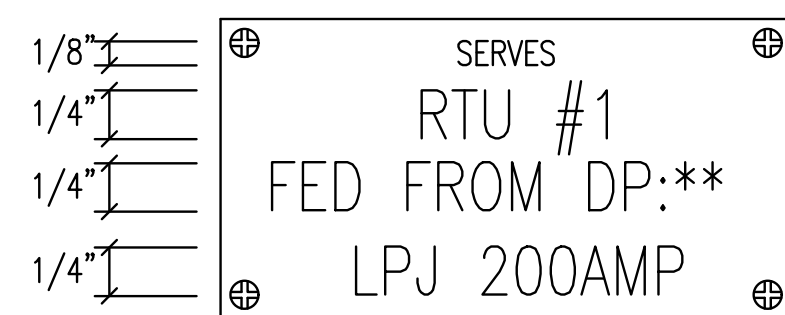
NOTES:

1. PROVIDE OTHER GROUNDING CONNECTIONS AS SPECIFIED IN NEC SECTION 250.50.
2. LABEL EACH GROUNDING ELECTRODE CONDUCTOR AND BONDING JUMPER.
3. WHERE CONDUCTORS ARE ROUTED IN FERROUS CONDUIT, BOND BOTH ENDS OF THE CONDUIT TO THE CONDUCTOR.

1 SYSTEM GROUNDING DETAIL - DISCONNECT
NO SCALE



SWITCHBOARD/DISTRIBUTION PANEL/MOTOR CONTROL CENTER BREAKER/SWITCH



DISCONNECT SWITCH

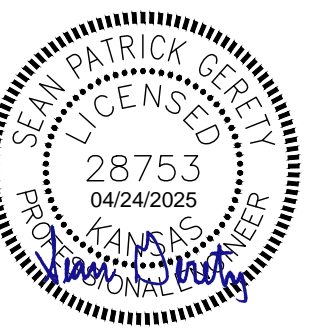
2 TYPICAL NAME PLATES
NO SCALE

SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING
	DUPLEX GROUNDED RECEPTACLE	17" AFF
	SPECIAL DEVICE (AS NOTED)	
	JUNCTION BOX	
	FUSTAT BUSS #SSY	
	BRANCH CIRCUIT PANEL & PANEL DESIG.	72" TO TOP
	ELECTRICAL DISTRIBUTION EQUIPMENT	
	FEEDER DESIGNATION	
	EMERGENCY	
	REDUCED VOLTAGE AUTO TRANSFORMER	
	GFCI DUPLEX GROUNDED RECEPTACLE	17" AFF
	CONDUIT RUN 2#12 & 1#12 GRD.-1/2"	CEIL./WALL
	CONDUIT RUN TWO (2) CIRCUITS	CEIL./WALL
	PHASE CONDUCTORS (#12 UON)	
	NEUTRAL CONDUCTOR (#12 UON)	
	SWITCH LEGS (#12 UON)	
	GROUND CONDUCTOR (#12 UON)	
	ISOLATED GROUND CONDUCTOR (#12 UON)	
	INFRARED OCCUPANCY SENSOR (SECURITY)	WALL 96"
	MAN DOWN ALARM PUSH BUTTON	WALL 48"
	THERMAL OVERLOAD SENSOR	AT MOTOR
	LEAK DETECTION	AT MOTOR
	SOLENOID OILIER	AT MOTOR
	EXISTING TO REMAIN	
	CIRCUIT BREAKER ACCESSORIES: LSIG = LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND FAULT	
	GFI = GROUND FAULT	
	ST = SHUNT TRIP	
	K = KIRK KEY INTERLOCK	
	INDICATOR LIGHT (G=GREEN, R=RED)	
	CONTACTS (NORMALLY OPEN, CLOSED)	
	FUSE	
	CIRCUIT BREAKER	
	OVERLOADS	
	DRAWOUT CONTACTS	
	GROUND CONNECTION	
	LIGHTNING ARRESTOR	
	FEEDER DESIGNATION	
	SURGE PROTECTIVE DEVICE	
	STARTER WITH FUSIBLE SWITCH (CIRCUIT NUMBER / SWITCH SIZE / FUZE SIZE / # OF POLES / STARTER SIZE) (# OF POLES IF OTHER THAN 3)	PANEL
	3Ø TRANSFORMER (DELTA PRIMARY / WYE SECONDARY)	
	PANELBOARD (WITH BUILT-IN SPD)	
	METER (UTILITY / PANEL MOUNTED)	
	EQUIPMENT (SINGLE MOTOR / MULTI- MOTOR OR OTHER TYPE AS NOTED)	
	MOTOR STARTER [SINGLE SPEED ACROSS-THE-LINE (UON)] (SIZE / RV = REDUCED VOLTAGE / AT = AUTO-TRANSFORMER / SS = SOLID STATE)	FIELD

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITY ACT (ADA).
2. REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
3. ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
4. CONDUIT RUN W/CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250-95. CONDUIT SIZE AS REQUIRED.
5. SEPARATE GREEN GROUND CONDUCTOR SHALL BE ROUTED IN ALL CONDUITS WITH ALL PHASE CONDUCTORS.



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ELECTRICAL GENERAL NOTES AND SYMBOLS

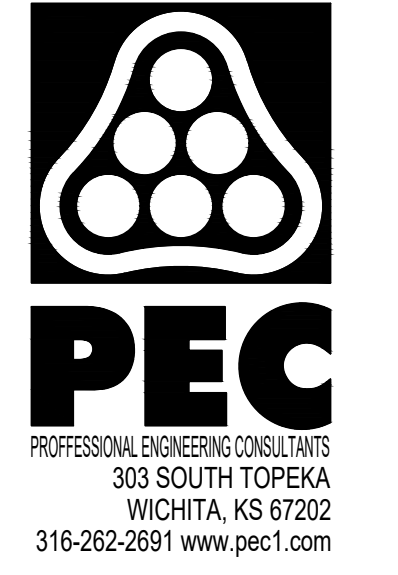
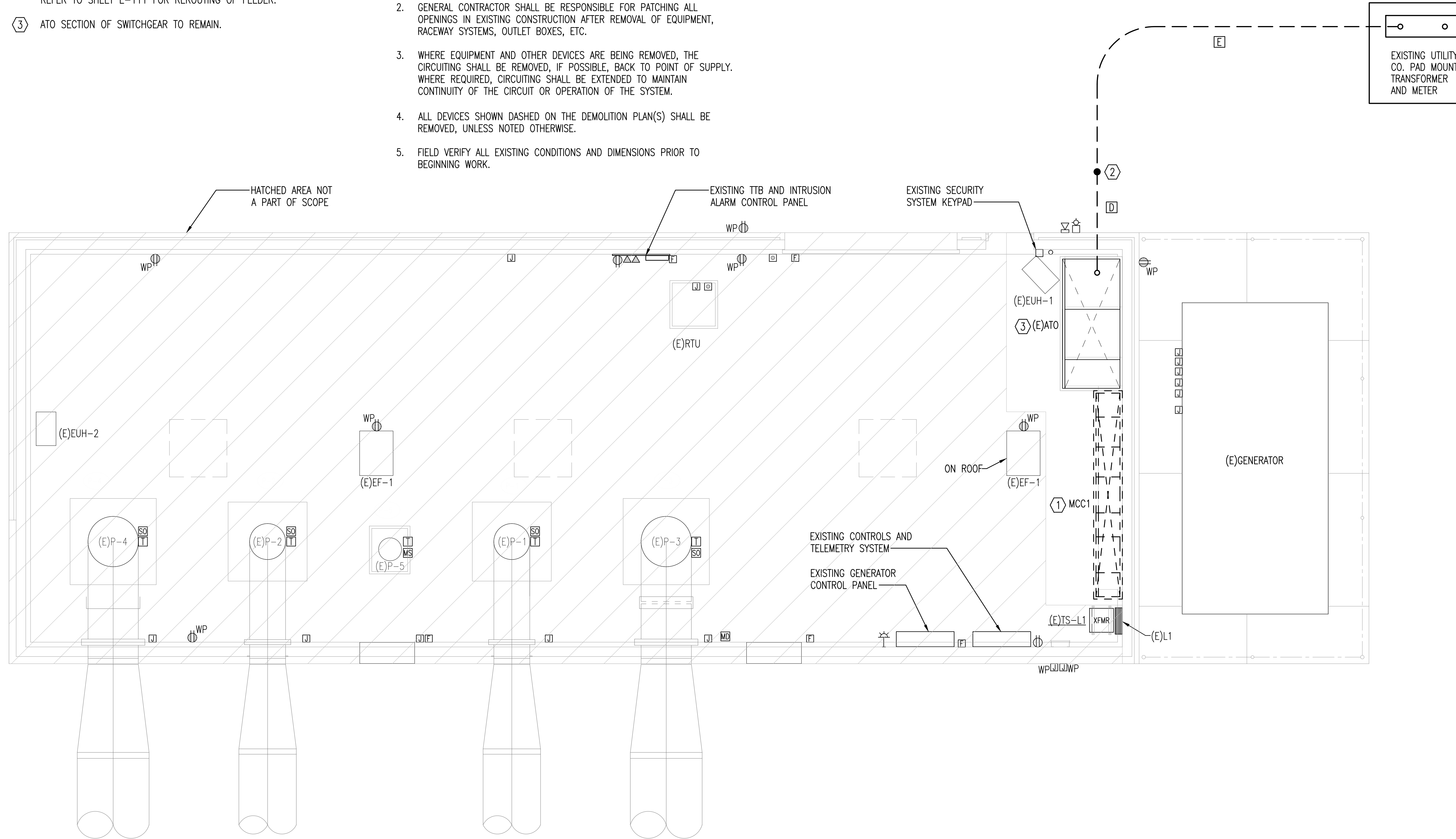
E-001

KEY NOTES:

- MCC1 TO BE REPLACED ONE FOR ONE. CONTRACTOR TO COORDINATE DOWNTIME WITH CITY FOR REPLACEMENT OF EQUIPMENT.
- EXISTING UNDERGROUND CONDUIT AND CONDUCTORS TO BE REWORKED AND EXTENDED AS REQUIRED TO FEED NEW 'MCB'. CONTRACTOR TO MINIMIZE DOWNTIME OF SERVICE WITH OWNER PRIOR TO DEMOLITION WORK. REFER TO SHEET E-111 FOR REROUTING OF FEEDER.
- ATO SECTION OF SWITCHGEAR TO REMAIN.

DEMOLITION NOTES:

- DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
- WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
- ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
- FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.



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A ELECTRICAL DEMOLITION PLAN
0' 2' 4' 6' 1/4"=1'-0"

SAVED 4/23/2025 4:35:20 PM BY SEAN GRETY
PLOTTED 4/24/2025 3:36:29 PM BY SEAN GRETY
U:\WICHITA-CIVIL\2023\237043\015\2PD4_PLANS\020E-101 ELECTRICAL DEMOLITION PLAN.DWG

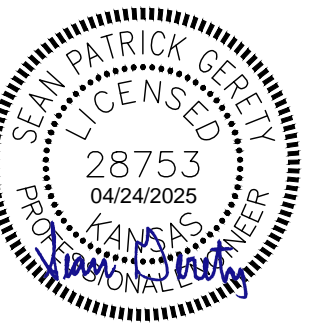
ELECTRICAL DEMOLITION PLAN

KEY NOTES:

- ① EXISTING UNDERGROUND CONDUIT FROM UTILITY TRANSFORMER TO BE REWORKED FOR ROUTING TO NEW 'MCB'. NEW CONDUCTORS SHALL BE INSTALLED FROM SECONDARY OF 'MCB' TO 'MCC1'.

PLAN NOTES:

1. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS FOR CLARITY ONLY. CONTRACTOR MAY GROUP SINGLE POLE BRANCH CIRCUITS IN MULTIPLE CIRCUIT HOME RUNS. (3 CIRCUITS MAXIMUM). A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
2. ALL PENETRATIONS IN THE RATED WALLS AND CEILINGS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. THE SEALANT SHALL HAVE A T-RATING OF ONE HOUR.
3. ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN THE RATED WALLS OR CEILING SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
4. CONTROL WIRES QUANTITIES SHALL BE VERIFIED WITH EQUIPMENT PROVIDED PRIOR TO INSTALLATION.

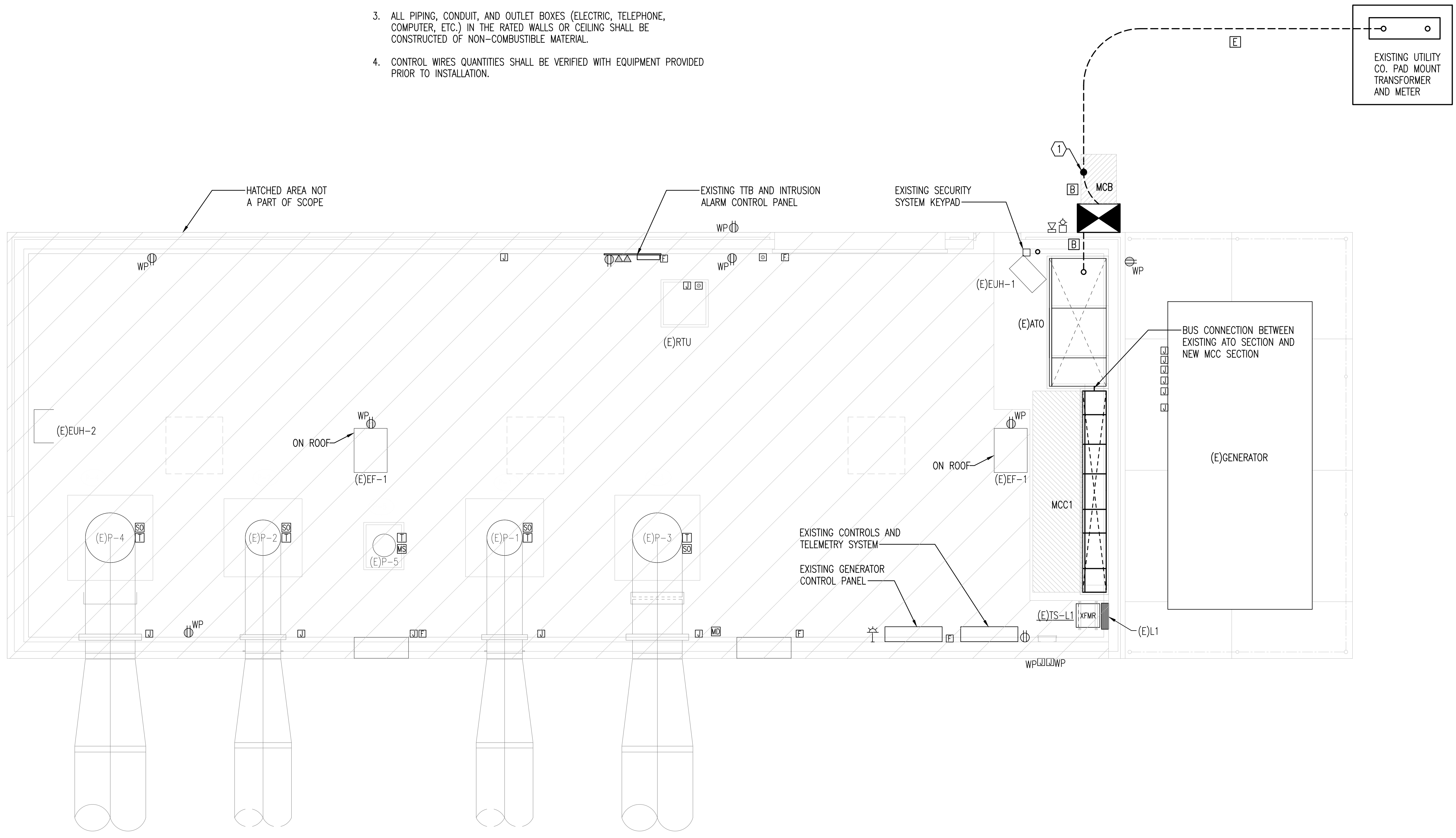


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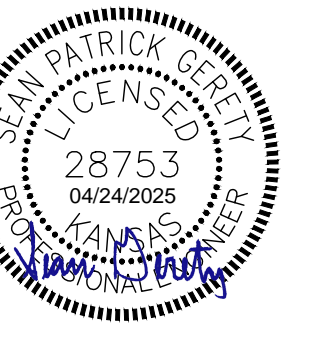
POWER PLAN

E-111



A POWER PLAN
0' 2' 4' 6' 1/4"=1'-0"

SAVED 4/23/2025 4:36:33 PM BY SEAN GRETY
 PLOTTED 4/24/2025 3:36:34 PM BY SEAN GRETY
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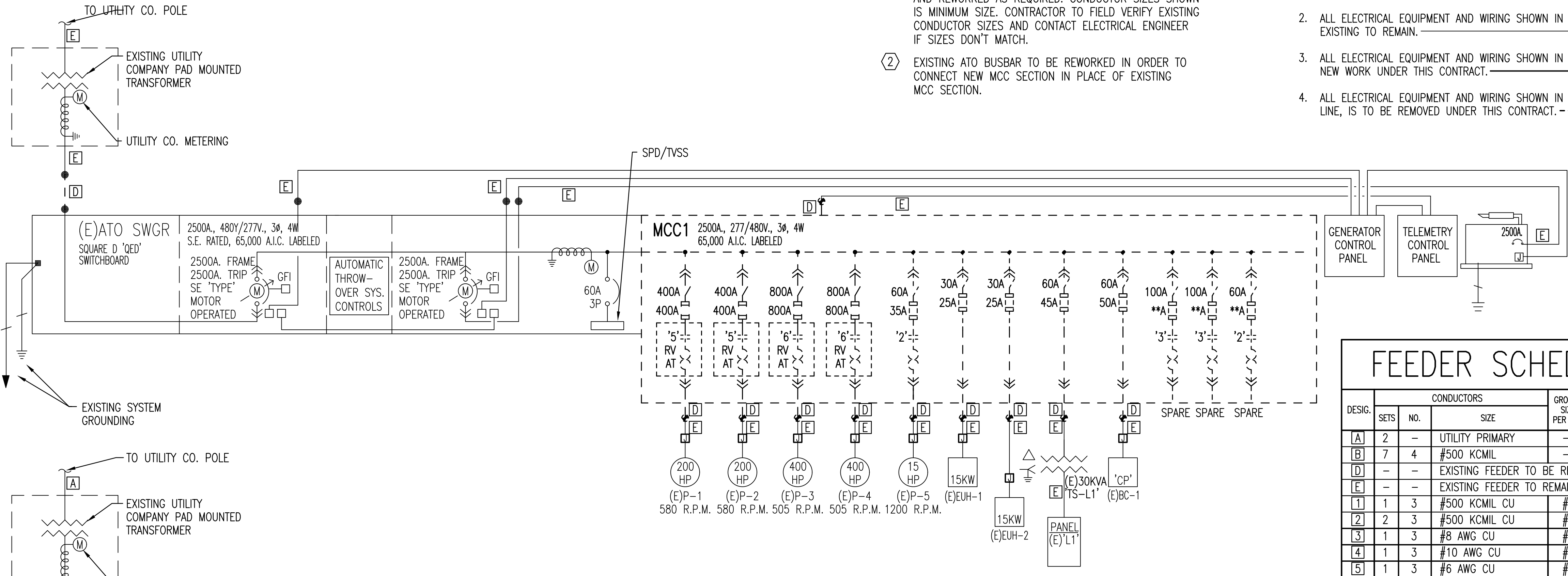
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ELECTRICAL ONE-LINE DIAGRAMS		

KEY NOTES:

- ① EXISTING CONDUIT AND CONDUCTORS TO BE EXTENDED AND REWORKED AS REQUIRED. CONDUCTOR SIZES SHOWN IS MINIMUM SIZE. CONTRACTOR TO FIELD VERIFY EXISTING CONDUCTOR SIZES AND CONTACT ELECTRICAL ENGINEER IF SIZES DON'T MATCH.
- ② EXISTING ATO BUSBAR TO BE REWORKED IN ORDER TO CONNECT NEW MCC SECTION IN PLACE OF EXISTING MCC SECTION.

GENERAL ONE-LINE DIAGRAM NOTES:

1. UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
2. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK LINE, IS NEW WORK UNDER THIS CONTRACT.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK DASHED LINE, IS TO BE REMOVED UNDER THIS CONTRACT.



FEEDER SCHEDULE

DESIG.	SETS	NO.	CONDUCTORS		GROUND SIZE PER SET	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET
			SIZE	SIZE			
[A]	2	-	UTILITY PRIMARY	-	-	-	4"
[B]	7	4	#500 KCMIL	-	-	-	4"
[D]	-	-	EXISTING FEEDER TO BE REMOVED				
[E]	-	-	EXISTING FEEDER TO REMAIN				
[1]	1	3	#500 KCMIL CU	#3	-	-	3-1/2"
[2]	2	3	#500 KCMIL CU	#1/0	-	-	3-1/2"
[3]	1	3	#8 AWG CU	#10	-	-	3/4"
[4]	1	3	#10 AWG CU	#10	-	-	3/4"
[5]	1	3	#6 AWG CU	#10	-	-	1"

SEE SYSTEM GROUNDING DETAIL 1/E-001 BOND NEW AND EXISTING SERVICE TOGETHER UTILIZING #3/0 AWG CU GROUNDING ELECTRODE CONDUCTOR

BOND NEW AND EXISTING SERVICE TOGETHER UTILIZING #3/0 AWG CU GROUNDING ELECTRODE CONDUCTOR

