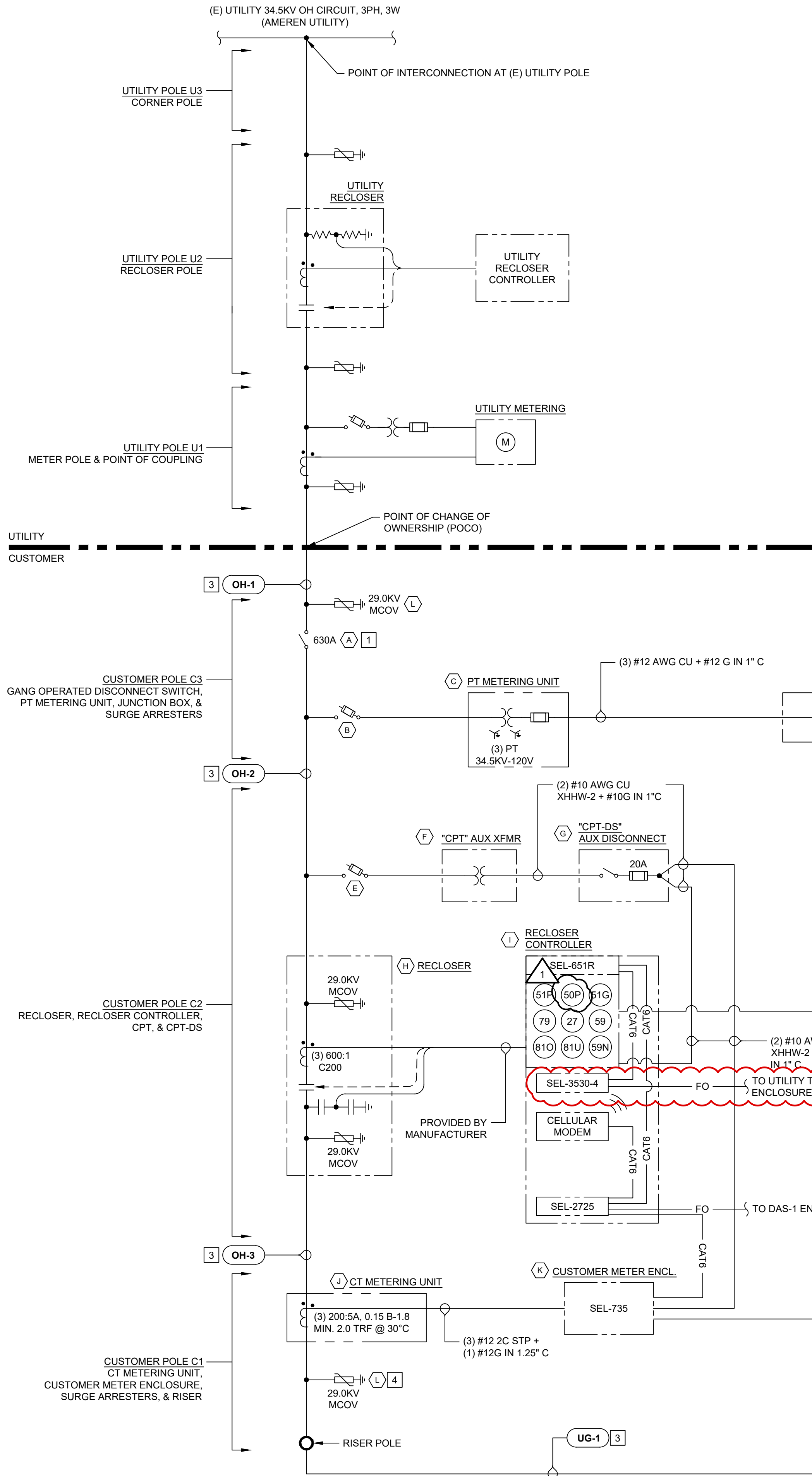


THIS EDGE INTENTIONALLY LEFT BLANK FOR BINDING - PAPER SIZE 34" X 22" - THIS EDGE INTENTIONALLY LEFT BLANK FOR BINDING - PAPER SIZE 34" X 22" - THIS EDGE INTENTIONALLY LEFT BLANK FOR BINDING - PAPER SIZE 34" X 22" - THIS EDGE INTENTIONALLY LEFT BLANK FOR BINDING - PAPER SIZE 34" X 22"



**HOLD**  
PENDING OWNER PROVIDED SETTINGS  
AND UTILITY COORDINATION

## RELAY SETTINGS

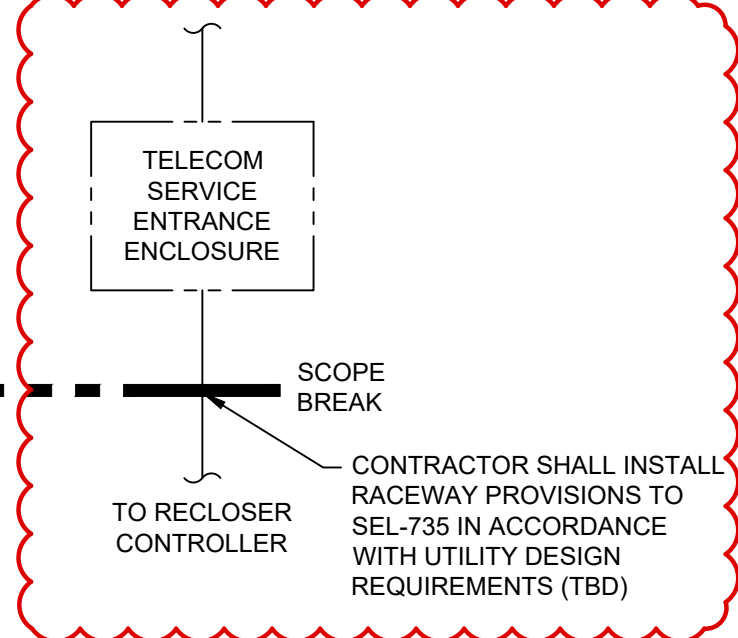
DEVICE	FUNCTION	PICKUP	TIME DELAY
27-1	UNDER VOLTAGE	0.5 V PU	1.1 S
27-2	UNDER VOLTAGE	0.88 V PU	2.0 S
59-1	OVER VOLTAGE	1.10 V PU	2.0 S
59-2	OVER VOLTAGE	1.20 V PU	0.16 S
59N	NEUTRAL VOLTAGE	0.2083 V PU	INST
81-O-1	OVER FREQUENCY	60.5 HZ	300 S
81-O-2	OVER FREQUENCY	62.0 HZ	0.16 S
81-U-1	UNDER FREQUENCY	56.5 HZ	0.16 S
81-U-2	UNDER FREQUENCY	58.5 HZ	300 S
50P	OVER CURRENT	TBD	TBD
51P	OVER CURRENT	TBD	TBD
51G	OVER CURRENT	TBD	TBD
79	RECLOSING	0.95 PU $\leq$ V $\leq$ 1.05 PU 59.5 $\leq$ F $\leq$ 60.5	300 S

NOTES:

1. 79 ELEMENT IS SET TO CLOSE IN 300S AFTER VOLTAGE AND FREQUENCY RETURN TO NORMAL RANGES. RECLOSER IS SET TO LOCKOUT AFTER OVERCURRENT TRIP.
2. 59N ELEMENT PICKUP TRANSLATE TO 6.94% VOLTAGE IMBALANCE
3. POWER SYSTEM STUDY IS PERFORMED BY THE OWNER AND THE SETTINGS ARE PROVIDED BY THE OWNER.

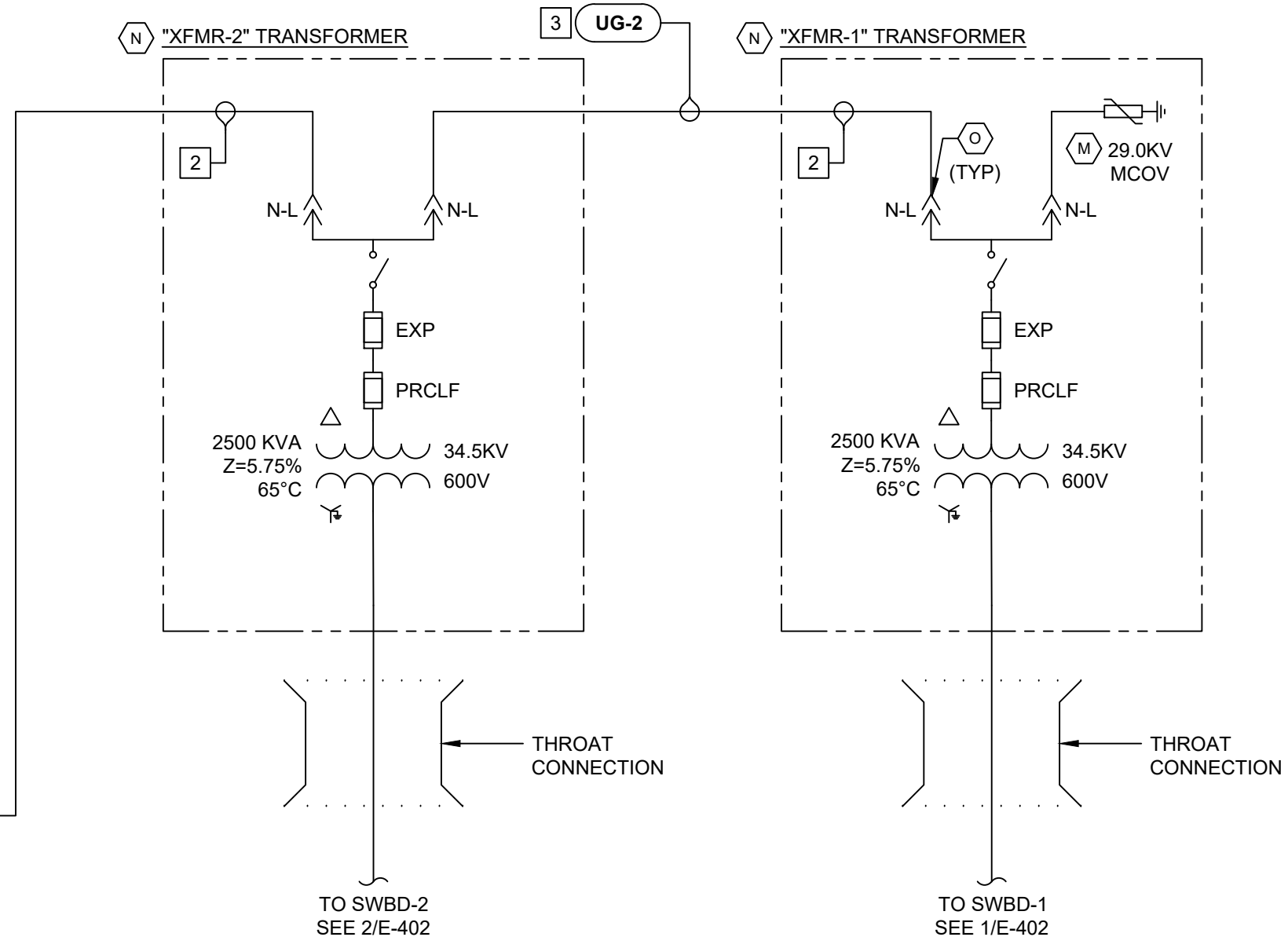
**HOLD**

## PENDING UTILITY CONFIRMATION OF RTAC REQUIREMENTS



# -HOLD

## PENDING UTILITY CONFIRMATION OF RTAC REQUIREMENTS



**SHEET NOTES:**

1. UTILITY INTERCONNECTION INFORMATION:
  - SOLAR AC CURRENT: 4.812A @ 600V
  - SOLAR AC CURRENT: 83.69A @ 34.5KV
  - UTILITY EXISTING FAULT CURRENT AT 34.500V:
    - 3ø: 1975.5A
    - 1ø: 2305.9A
2. GROUND MEDIUM VOLTAGE UNDERGROUND CONDUCTOR SHIELDS ON BOTH ENDS.
3. UTILITY EQUIPMENT SHOWN FOR REFERENCE ONLY. FINAL DESIGN OF UTILITY EQUIPMENT SHALL BE BY UTILITY. NOT ALL UTILITY EQUIPMENT MAY BE SHOWN.
4. DESIGN ASSUMES EXISTING UTILITY CIRCUIT IS A SINGLE POINT GROUNDING-WYE CONFIGURATION. CUSTOMER MV EQUIPMENT RATINGS AND DESIGN ARE ONLY SUITABLE FOR THIS CONFIGURATION.
5. ALL SWITCHBOARDS, PANELBOARDS AND TRANSFORMERS SHALL BE NEMA 3R RATED.
6. LOW VOLTAGE AC WIRING SHALL BE COPPER AND XHHW-2 UNLESS OTHERWISE NOTED.

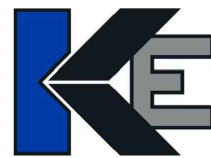
**KEYED NOTES:**

- 1 PER UTILITY INTERCONNECTION GUIDELINES, PROVIDE MANUAL DISCONNECT DEVICE WITH VISIBLE DISCONNECT TO ISOLATE GENERATING FACILITY FROM UTILITY DISTRIBUTION SYSTEM. THE DEVICE MUST BE ACCESSIBLE TO UTILITY PERSONNEL AND BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
- 2 SUBCONTRACTOR SHALL PROVIDE ADDITIONAL SLACK (4FT) OF MV CABLES ON ALL THREE PHASES AT THE TRANSFORMER TERMINATIONS.
- 3 SEE MV CABLE SCHEDULE ON SHEET E-502.
- 4 ARRESTERS SHALL HAVE ZERO LEAD LENGTH.

### EQUIPMENT SPECS:

- (A) 630A, 38KV, 25KA, 200KV BIL GANG-OPERATED DISCONNECT SWITCH, HORIZONTAL MOUNTING, FIBERGLASS CONTROL ROD, S&C 147434RA-A2-P1, OAE.
- (B) (3) 100A, 36KV, 12KA, 170KV BIL CUTOFF SWITCH, HUBBELL, CP710613, OAE. 0.4A FUSE LINKS SHALL BE REMOVABLE BUTTONHEAD, HUBBELL TYPE M0D45FA23, OAE.
- (C) (3) 34.5KV, 200KV BIL, VOLTAGE TRANSFORMERS METERING UNIT, ARTECH TYPE URS-36, OAE WITH RATIO 375/5V, 100/5V, 45F. TRANSFORMER SECONDARIES SHALL BE FUSED, PRIMARY METERING MOUNT, ALUMA-FORM PMW-6.
- (D) NEMA 3R JUNCTION BOX WITH TERMINAL BLOCK.
- (E) (2) 100A, 36KV, 12KA, 170KV BIL CUTOFF SWITCH, HUBBELL, CP710613, OAE. 0.4A FUSE LINKS SHALL BE REMOVABLE BUTTONHEAD, HUBBELL TYPE M0D45FA23, OAE.
- (F) 2.0KVA, 1ϕ, 34.5KV-120V AUXILIARY TRANSFORMER PROVIDED BY RECLOSER MANUFACTURER AND MOUNTED TO RECLOSER.
- (G) 30A, 120V, 1P FUSIBLE DISCONNECT SWITCH IN NEMA 3R ENCLOSURE, EATON TYPE DH111NR, OAE. FUSE SIZE AS SHOWN, CLASS RK1.
- (H) 1250A, 38KV, 16KA, 170KV BIL, TAVRIDA OSM36 SMART 5 OAE, POLE MOUNT RECLOSER WITH TRANSFORMER, DUAL REDUNDANT AND WILDLIFE COVERS, WITH UPS BATTERY BACKUP, POLE MOUNT FRAME, LOAD SIDE VOLTAGE SENSORS, SOURCE AND LOAD SIDE SURGE ARRESTERS.
- (I) SEL-651R RECLOSER CONTROL, POLE MTD, 120VAC, SUPPLY, 16AH BATTERY, DUAL REDUNDANT 10/100BASE-T METALLIC ETHERNET PORTS, 40FT CONTROL CABLE.
- (J) (3) 34.5 KV, 200KV BIL, CURRENT TRANSFORMERS METERING UNIT, ARTECH TYPE CRF-36, OAE WITH RATINGS AS SHOWN. PRIMARY METERING MOUNT, ALUMA-FORM PMW-6.
- (K) SEL-735 REVENUE METER WITH TEST SWITCH PROVISIONS, BACKUP UPS, 10V/100BASE-T PORTS IN NEMA 3R ENCLOSURE.
- (L) POLE-MOUNTED ARRESTER, HEAVY DUTY (HD) RISER CLASS, 29KV MCOV, 20KA, HUBBELL MODEL PVR OPTIMA CAT#216229, OAE.
- (M) ELBOW ARRESTER, 200A, 35 KV CLASS, 29KV MCOV COOPER POWER MODEL M.O.V.E CAT#9323802C36M, PROVIDE LOAD REDUCING PLUG FOR ELBOW ARRESTER ON DEADBREAK CONNECTOR.
- (N) PAD MOUNTED STEP-UP TRANSFORMER WITH VOLTAGE AND POWER RATING AS INDICATED. TRANSFORMER SHALL BE LOOP FEED TYPE WITH 600A DEAD BREAK TERMINATIONS. EXTERNAL VOLTAGE DISCONNECT REQUIRED.
- (O) 600A, 35KV, MIN 25KA AT 10 CYCLES, 10KA AT 3 SEC 150KV BIL, DEAD-BREAK CONNECTOR COOPER MODEL BOL-T CAT#BT635\*\*\*.

**DESIGN COORDINATOR**



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## PROJECT

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**SEAL**



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## REVISIONS

#	DESCRIPTION	DATE
0	IFC	02/06/2026
1	IFC R1	02/27/2026

**ISSUED FOR CONSTRUCTION**  
FEBRUARY 27, 2026

138883 CEMETERY  
SUN, LLC  
FREDERICK, IL, 62639



1

**SHEET TITLE**

### SINGLE LINE DIAGRAM - MV

**SHEET NO**

# E-401