



LINCOLN ELECTRIC PRODUCTS CO., INC.

EV-2S 2000A

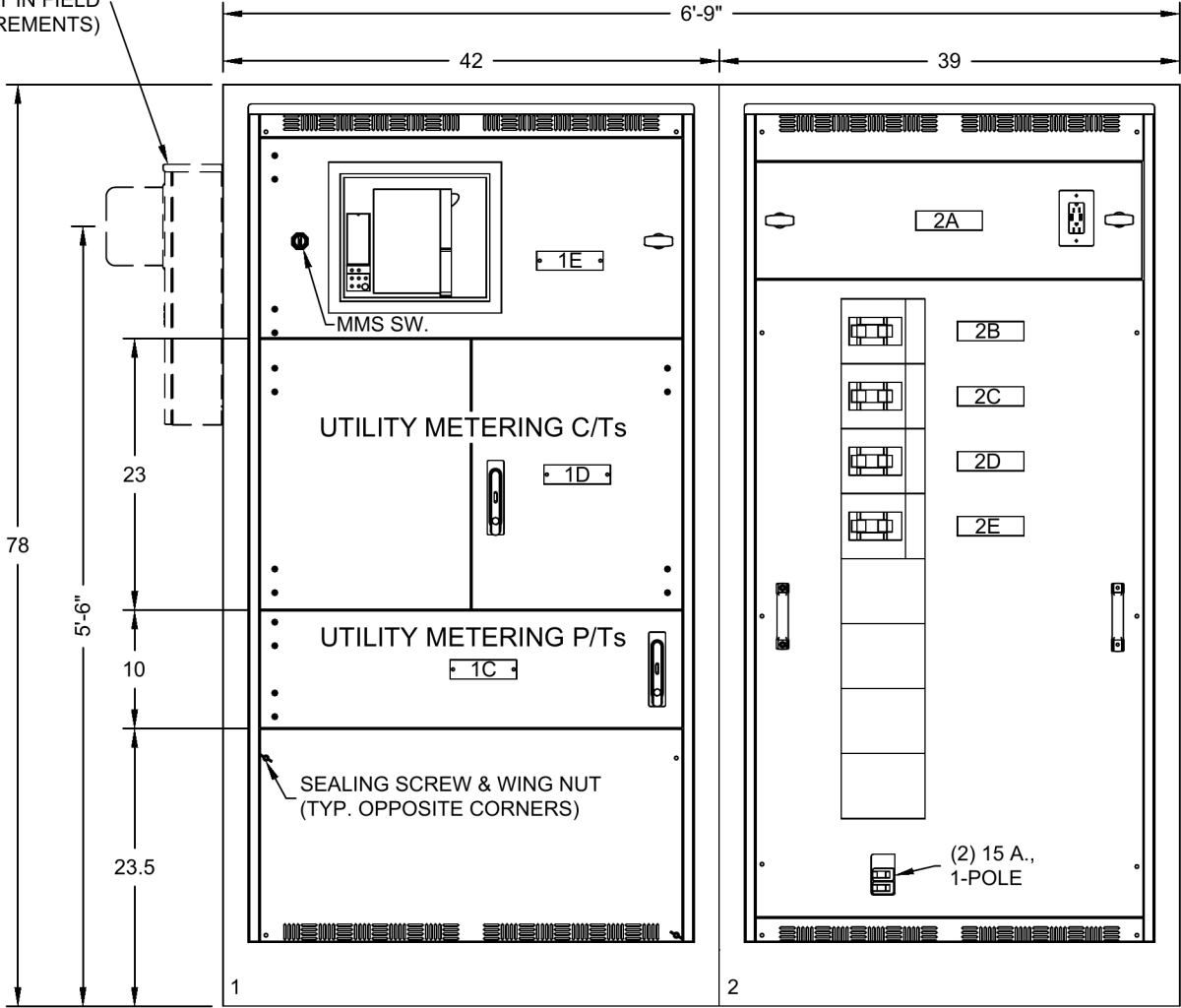
Inventory serial: 27299

Drawing/Part:		Qty.	Spec section:
Number	Rev.		Description of material being submitted:
	0	-	EV-2 Drawing
	2	-	Ameren Utility Metering Section Detail Drawing

NOTES:

1. This submittal represents Lincoln Electric's interpretation of the contract drawings provided. It is the responsibility of the electrical contractor and consulting engineer to verify this submittal for accuracy. Any deviation not indicated on the contract drawings will incur additional charges.
2. The customer must return the approved submittal accompanied by a written release to proceed with manufacturing and delivery of the included equipment.

CONTRACTOR TO
MOUNT METER SOCKET IN FIELD
(AS PER UTILITY REQUIREMENTS)



FRONT VIEW
(SHOWN WITHOUT DOORS)

PRODUCT DESCRIPTION & RATINGS:

PRODUCT TYPE

- EV-2 (SERVICE SWITCHBOARD).
- LEVEL-3 CHARGING

UTILITY INFORMATION

- AMEREN [REF: LEPCO-NXC-HS-PT]
- METER BEFORE DISCONNECT (HOT SEQUENCE)

POWER SYSTEM DATA

- INCOMING - SECTION 1, BOTTOM FEED
- INCOMING SERVICE CONDUCTORS SHALL BE RATED 75°C.

BUS SYSTEM DATA

- SILVER PLATED COPPER MAIN BUS.
- DENSITY RATED AT 1000A PER SQUARE INCH.
- 98% CONDUCTIVITY RATED IN ACCORDANCE w/ UL891.

ENCLOSURE DATA

- CODE GAUGE, FORMED COVERS & DOORS
- ENCLOSURE SHALL CONFORM TO INGRESS PROTECTION REQUIREMENTS IN ACCORDANCE WITH TYPE-3R RATING.
- EXTERIOR HARDWARE TO BE TAMPER-RESISTANT S.S. SCREWS.
- DOOR HANDLES ARE EQUIPPED WITH PADLOCK HASP.
- FINISH SHALL BE: ☒ WHITE (STANDARD) ☐ GRAY ☐ GREEN
- FRONT ACCESSIBLE ONLY

CODE STANDARDS

- UL891

NAMEPLATES

- LAMICOID TYPE, WHITE w/BLACK LETTERS.

ACCESSORIES

- ENCLOSURE HEATERS W/ HYGROSTAT CONTROL
- SERVICE DISCONNECT GROUND FAULT PROTECTION PER N.E.C. 230.95.
- A DOUBLE PADLOCK HASP ON EXTERIOR DOOR [SECTION-1], FOR JOINT CUSTOMER & UTILITY ACCESS.

REFERENCES:

- FOR NAMEPLATE DESIGNATIONS SEE 'SWITCHBOARD SCHEDULE' SHT-03



LINCOLN ELECTRIC
PRODUCTS CO., INC.

DRAWING TITLE		EQUIPMENT DESIGNATION				
FRONT VIEW		EV-2				
SHORT CIRCUIT RATING	VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	ENCLOSURE	REV
65kA. SYM. RMS	480Y/277V AC	2000A	3 ϕ , 4W	COPPER	TYPE-3R	0

SHEET NUMBER
1 OF 6



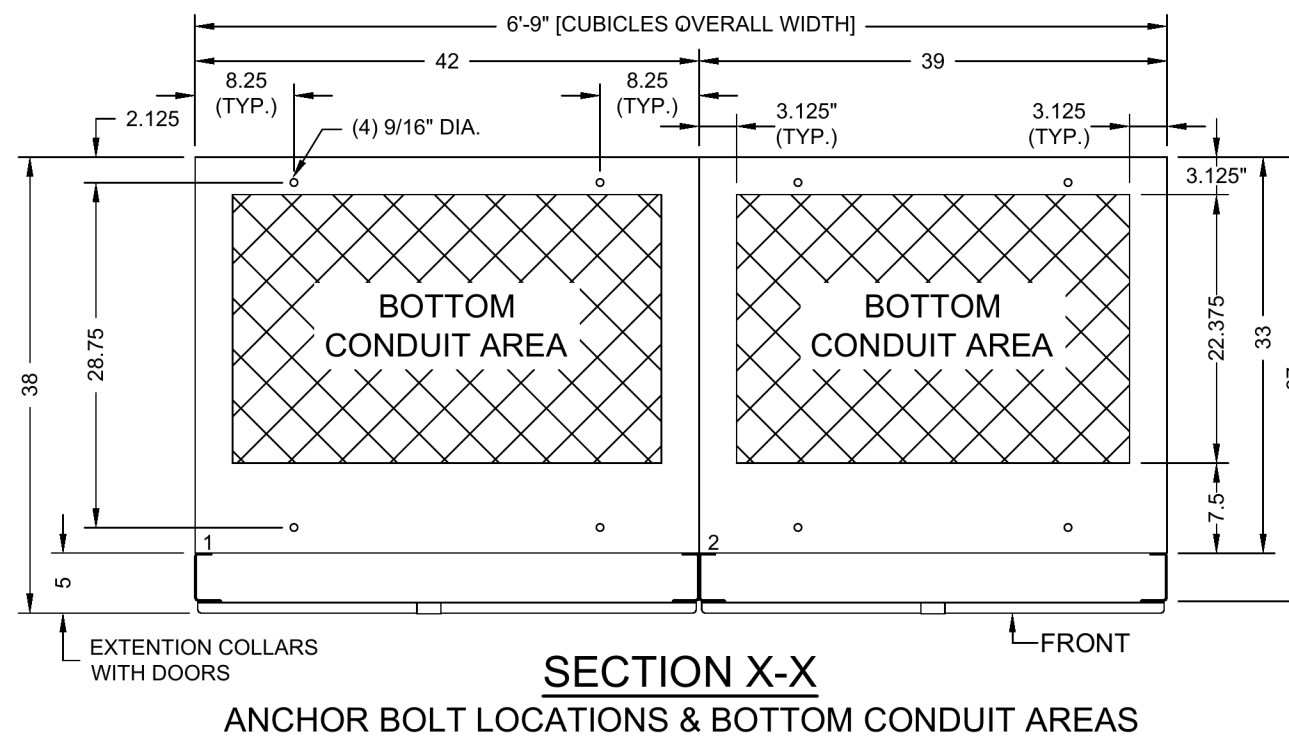
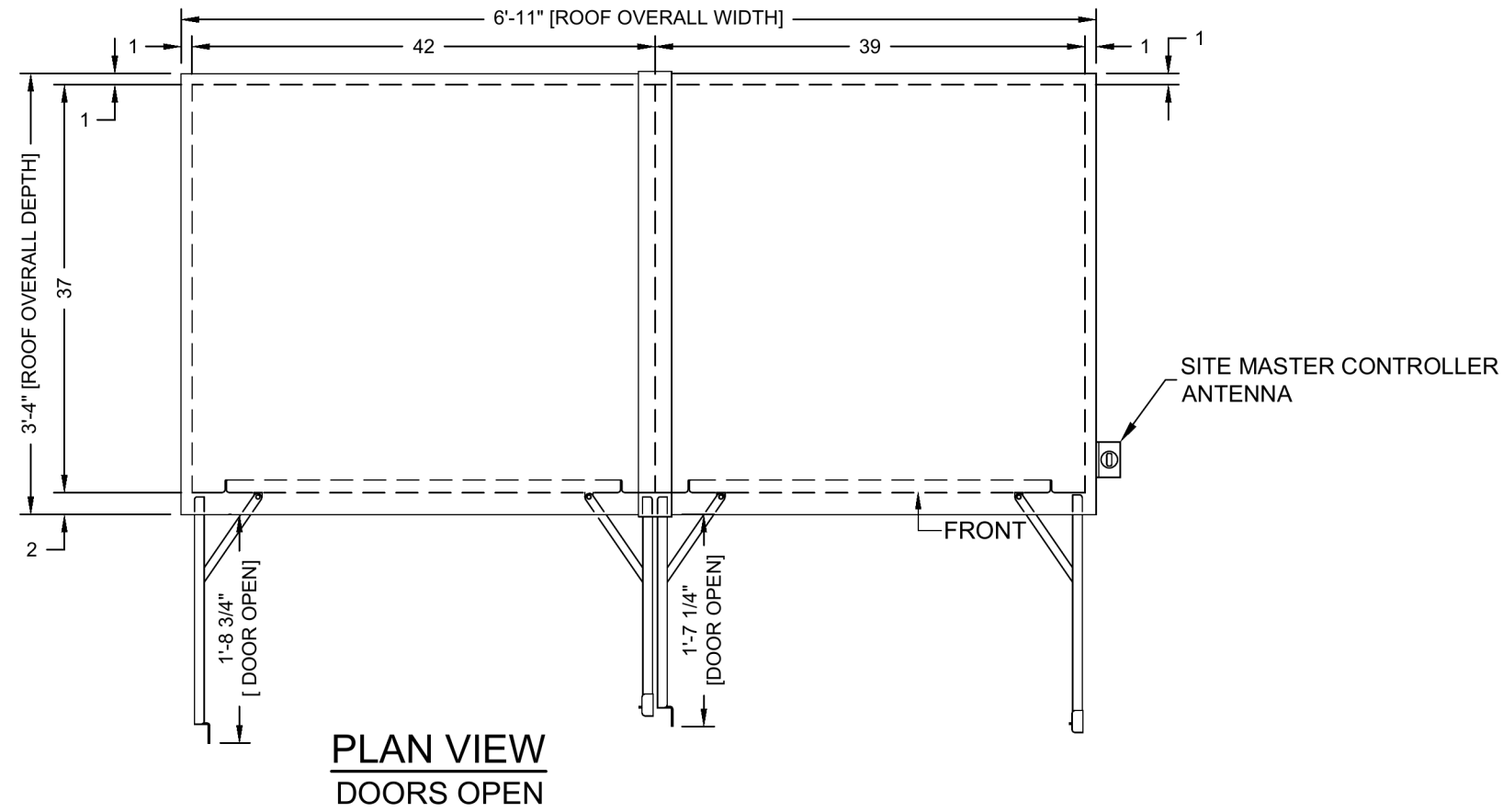
DRAWING TITLE		EQUIPMENT DESIGNATION					SHEET NUMBER	
ONE-LINE DIAGRAM		EV-2					2 OF 6	
SHORT CIRCUIT RATING		VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	ENCLOSURE	REV	
65kA. SYM. RMS		480Y/277V AC	2000A	3 ϕ , 4W	COPPER	TYPE-3R	0	



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SWITCHBOARD SCHEDULE															
CUB. LOCN.	DESIGNATION	DEVICE MANUFACTURER	FRAME RATING	TRIP RATING/ TYPE	# OF POLES	DEVICE CAT. NO.	LUG INFORMATION						CONDUCTOR MATERIAL	CABLE ENTRY	NOTES
							QTY	PHASES	QTY	NEUTRAL	QTY	GROUND			
1	INCOMING	-	-	-	-	-	6	(1) #2-600 KCMIL	6	(1) #2-600 KCMIL	-	-	ALUMINUM	BOTTOM	-
1A	SERVICE SWITCHBOARD 2000A., 3Ø, 4W., 480Y/277V														
1B	MAIN SERVICE DISCONNECT UTILITY METERING COMPARTMENT	-	-	-	-	-	-	-	-	-	-	-	BUS CONNECTED	-	- DOUBLE PADLOCK HASP ON EXTERIOR DOOR [SQ-D CAT. NO. SS-2-PL OR EQUAL]
1C	UTILITY METERING P/Ts	-	-	-	-	-	-	-	-	-	-	-	BUS CONNECTED	-	- C/T'S SUPPLIED & WIRED BY UTILITY
1D	UTILITY METERING C/Ts	-	-	-	-	-	-	-	-	-	-	-	-	-	- P/T'S SUPPLIED & WIRED BY UTILITY
1E	MAIN SERVICE DISCONNECT	SCHNEIDER	2000/3 'MTZ'	1200A* LSIG	3	EBGKGABABNNNNNNNNNNNNNNNNNNNNWNNNENNNNCNNNNNNN	-	-	-	-	-	-	BUS CONNECTED	-	- 100% RATED, FIXED, 2.2 FRAME - RELT (MAINTENANCE MODE SWITCH) - PADLOCK HASP - DOOR ESCUTCHEON - NEUTRAL SENSOR (CAT. #: LV834035SP)
2A	CONTROLS COMPARTMENT	FACTORY WIRED													-
2B	CHARGING CABINET	SCHNEIDER	600/3	300A	3	LJP36600U31XYP	1	(2) #2/0-500 KCMIL	2	(1) #2-600 KCMIL	2	(1) #6-350 KCMIL	ALUMINUM [CU GND]	BOTTOM	- PADLOCK HASP - MECHANICAL LUGS
2C	CHARGING CABINET	SCHNEIDER	600/3	300A	3	LJP36600U31XYP	1	(2) #2/0-500 KCMIL	2	(1) #2-600 KCMIL	2	(1) #6-350 KCMIL	ALUMINUM [CU GND]	BOTTOM	
2D	CHARGING CABINET	SCHNEIDER	600/3	300A	3	LJP36600U31XYP	1	(2) #2/0-500 KCMIL	2	(1) #2-600 KCMIL	2	(1) #6-350 KCMIL	ALUMINUM [CU GND]	BOTTOM	
2E	CHARGING CABINET	SCHNEIDER	600/3	300A	3	LJP36600U31XYP	1	(2) #2/0-500 KCMIL	2	(1) #2-600 KCMIL	2	(1) #6-350 KCMIL	ALUMINUM [CU GND]	BOTTOM	
2	SPARE	SCHNEIDER	15/1	15A	1	BJL16015	1	#14-2/0 AWG	1	#14 - 1/0 AWG	1	#14 - 1/0 AWG	ALUMINUM [CU GND]	BOTTOM	-
2	SPARE	SCHNEIDER	15/1	15A	1	BJL16015	1	#14-2/0 AWG	1	#14 - 1/0 AWG	1	#14 - 1/0 AWG	ALUMINUM [CU GND]	BOTTOM	-

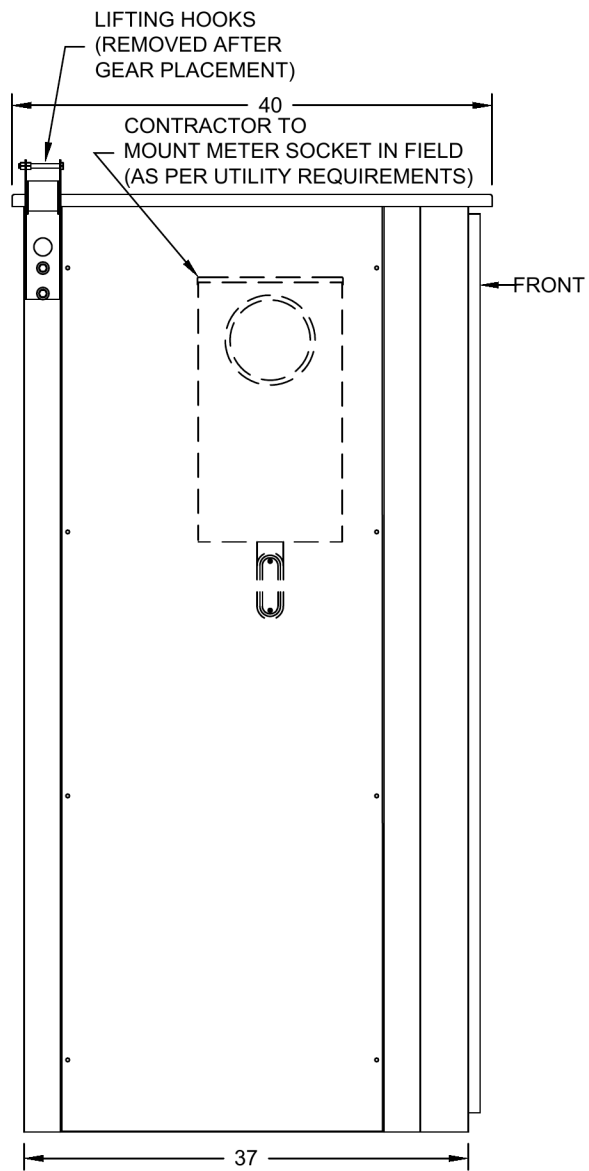
* NOTE: RESTRICTED ACCESS ADJUSTABLE-TRIP CIRCUIT BREAKER IN ACCORDANCE WITH NEC 240.6 (C)(3).



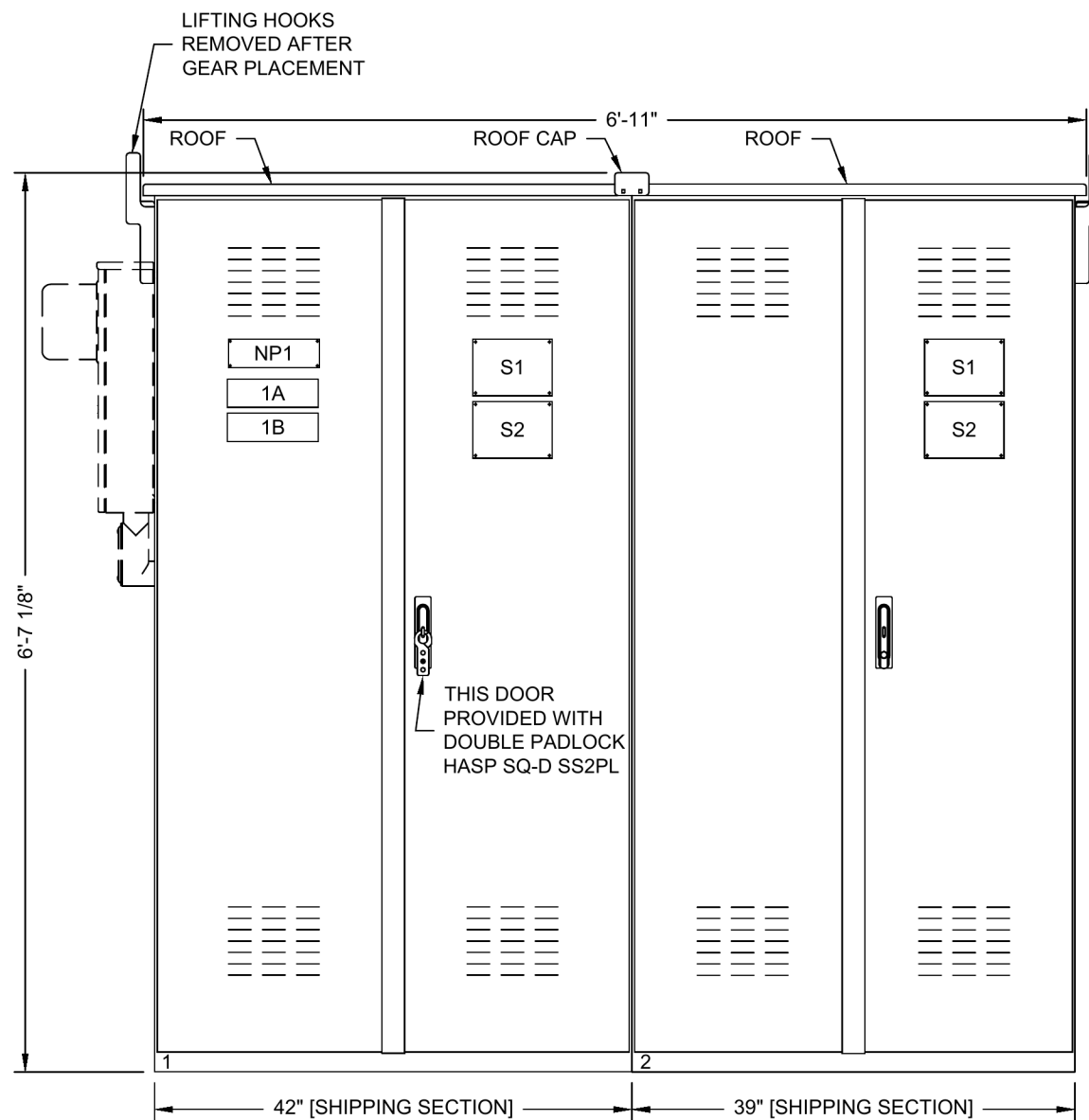
LINCOLN ELECTRIC
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DRAWING TITLE		EQUIPMENT DESIGNATION					
PLAN VIEW		EV-2					
SHORT CIRCUIT RATING	VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	ENCLOSURE	REV	
65kA. SYM. RMS	480Y/277V AC	2000A	3 ϕ , 4W	COPPER	TYPE-3R	0	

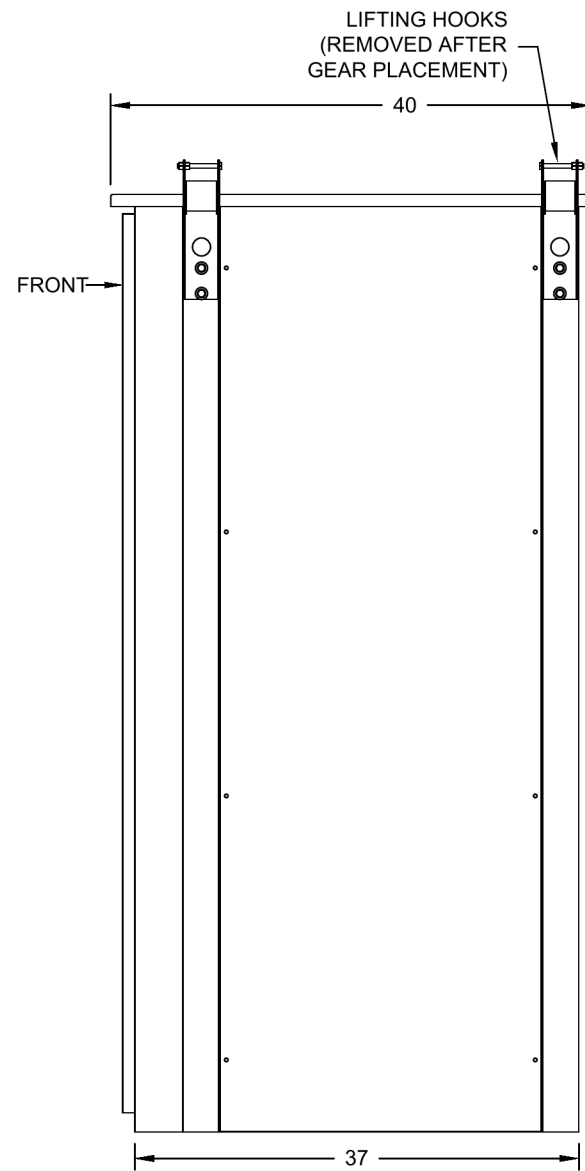
SHEET NUMBER
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LEFT-SIDE VIEW
(END SECTION)



FRONT VIEW
(EXTERIOR DOORS SHOWN)



RIGHT-SIDE VIEW
(END SECTION)

SIGNAGE:

NP1 -LINCOLN NAMEPLATE (2.5" x 8" ALUMINUM)
S1 -DANGER 480 VOLTS (BI-LINGUAL)
S2 -DANGER ARC FLASH (BI-LINGUAL)

REFERENCES:

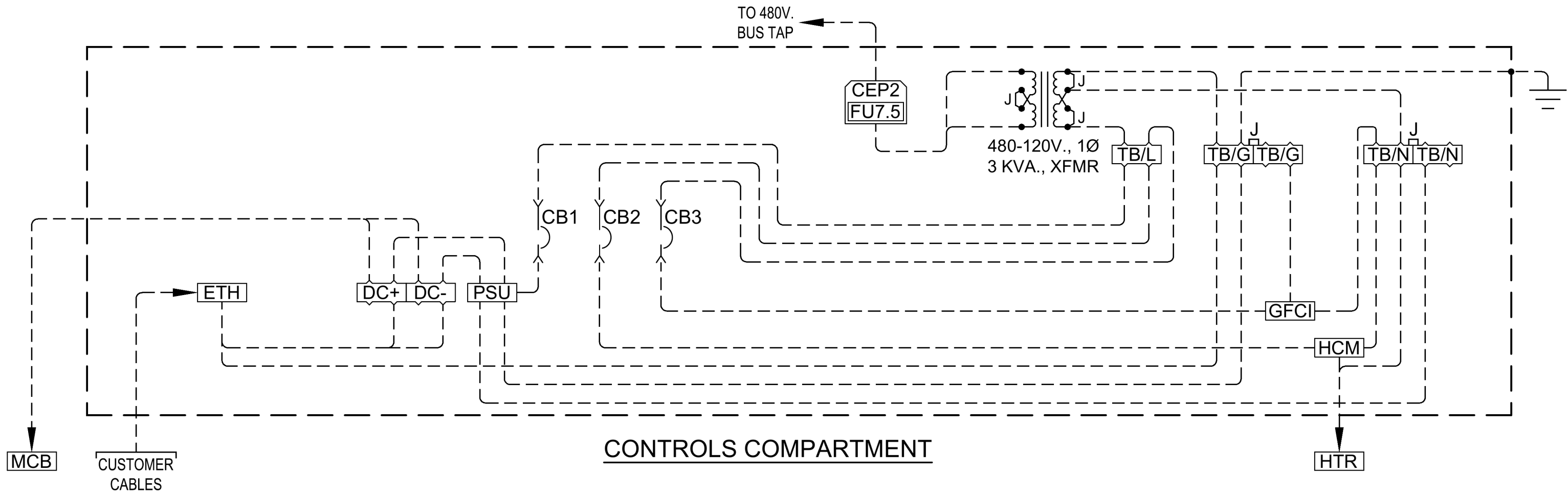
- FOR NAMEPLATE DESIGNATIONS SEE 'SWITCHBOARD SCHEDULE' SHT-03
- FOR SECTION VIEW 'X-X' SEE SHT-04



LINCOLN ELECTRIC
PRODUCTS CO., INC.

DRAWING TITLE		EQUIPMENT DESIGNATION					
EXTERIOR VIEWS		EV-2					
SHORT CIRCUIT RATING	VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	ENCLOSURE	REV	
65kA. SYM. RMS	480Y/277V AC	2000A	3 ϕ , 4W	COPPER	TYPE-3R	0	

SHEET NUMBER
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THE ENCLOSED ASSEMBLY WILL BE LISTED UNDER UL891

LEGEND:

- [CB1-2] -SCHNEIDER TYPE 'MULTI-9' MINIATURE CIRCUIT BREAKER:
8A. TRIP, 1-POLE, 10k A.I.C. @ 240VAC [CAT. #: M9F42108]
- [CB3] -SCHNEIDER TYPE 'MULTI-9' MINIATURE CIRCUIT BREAKER:
15A. TRIP, 1-POLE, 10k A.I.C. @ 240VAC [CAT. #: M9F42115]
- [CEP2] -COMPACT FUSED DISCONNECT SWITCH [MFR: MERSEN CAT. #CEP-2-30CC]
- [DC-] -TERMINAL BLOCK: 24VDC (-)
- [DC+] -TERMINAL BLOCK: 24VDC (+)
- [FU7.5] -FUSE TYPE 'FNQ-R' [MFR: BUSSMANN CAT. #FNQ-R-7 1/2]
- [ETH] -ETHERNET SWITCH

- [GFCI] -15A., 120V., GROUND FAULT CIRCUIT INTERRUPTER, DUPLEX RECEPTACLE,
WITH USB-A & USB-C CHARGING PORTS.
- [HCM] -HYGROSTAT [MFR: STEGO CAT. # EFR-012]
- [HTR] -FINNED STRIP HEATER 250W @ 120V. [MFR: VULCAN CAT. #OSF1310-250A]
- [MCB] -MAIN CIRCUIT BREAKER
- [PSU] -24VDC POWER SUPPLY UNIT [MFR: MEANWELL 75W. DC [CAT. # SDR-75-24]
- [TB/G] -TERMINAL BLOCK: GROUND
- [TB/L] -TERMINAL BLOCK: LINE
- [TB/N] -TERMINAL BLOCK: NEUTRAL



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DRAWING TITLE		EQUIPMENT DESIGNATION				
CONTROLS COMPARTMENT		EV-2				
SHORT CIRCUIT RATING	VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	ENCLOSURE	REV
65kA. SYM. RMS	480Y/277V AC	2000A	3φ, 4W	COPPER	TYPE-3R	0

SHEET NUMBER
6 OF 6

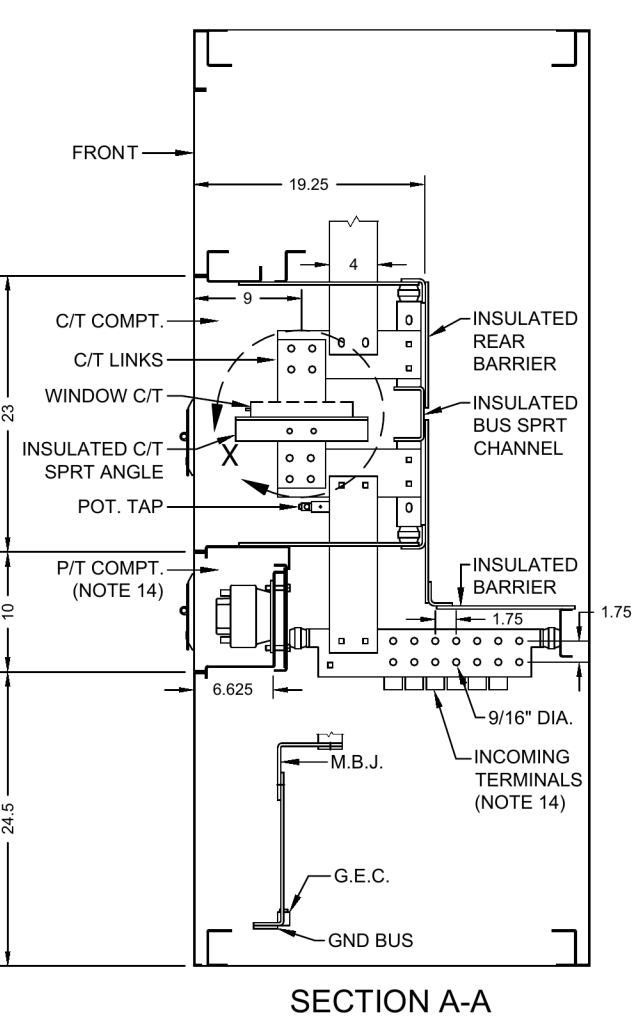
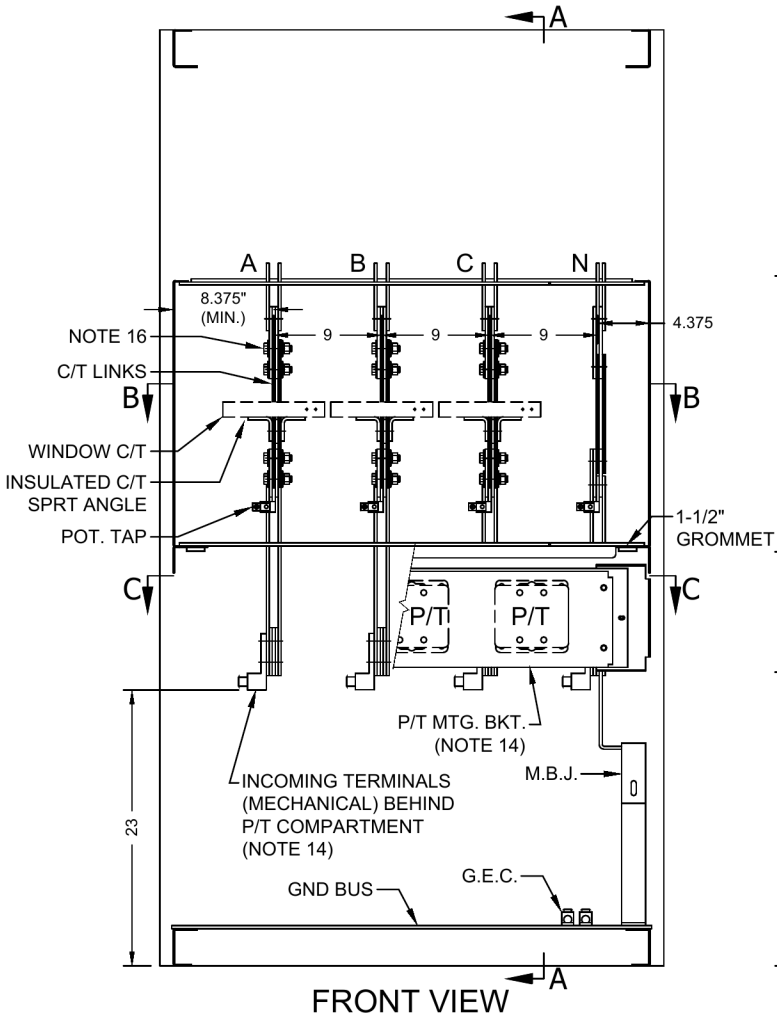
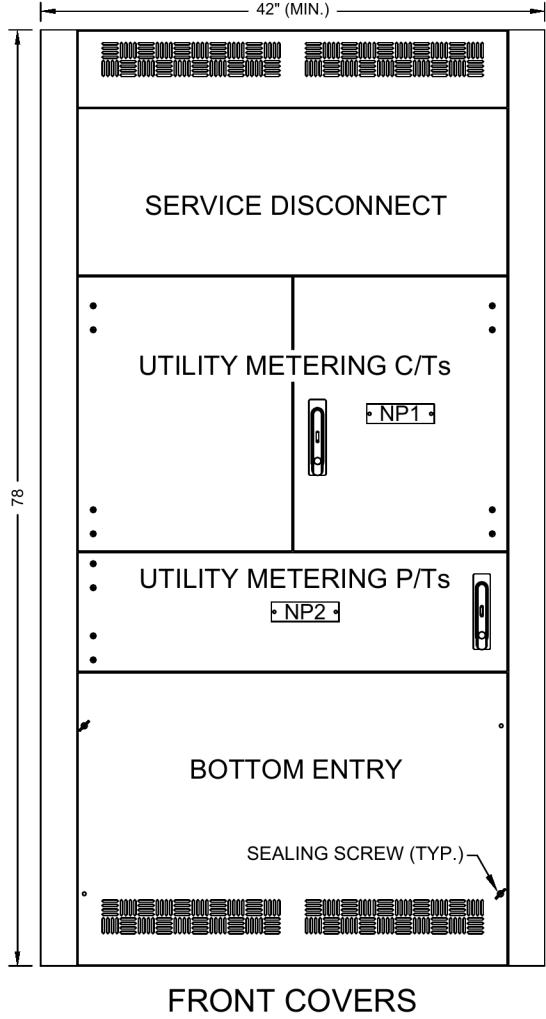
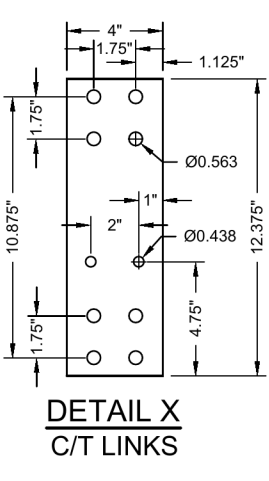
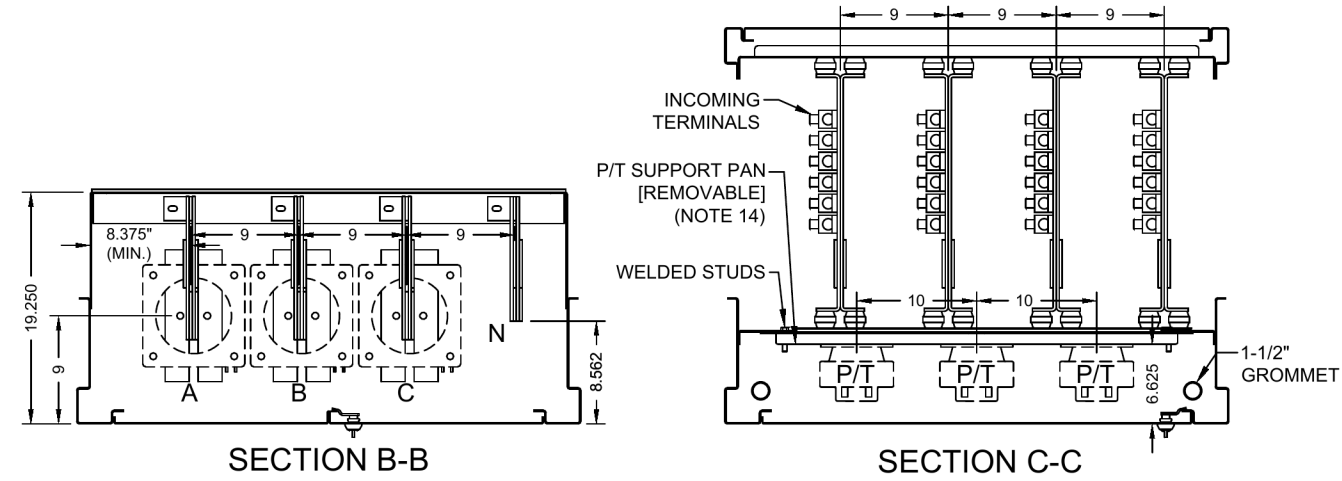
NAMEPLATE TABLE (NOTE-11)	
NP	DESCRIPTION
NP1	UTILITY METERING CTs
NP2	UTILITY METERING PTs
NP3	MAIN SERVICE DISCONNECT UTILITY METERING COMPARTMENT

STANDARD INCOMING TERMINALS (MECHANICAL)	
AMPERES	QTY & RANGE (CU/AL)
1600	(5) #2-600 KCM / Ø & N
2000	(6) #2-600 KCM / Ø & N
G.E.C.	(2) #6-350 KCM GROUND

STANDARD BUSSING		
AMPERES	QTY & SIZE	QTY & SIZE (FOR C/T LINKS)
1600	(2) 4" x 1/4" COPPER	(2) 4" x 1/4" COPPER
2000	(2) 4" x 1/4" COPPER	(2) 4" x 1/4" COPPER

NOTES:

1. THE BUS BARS SHALL BE RIGIDLY SUPPORTED AND CAPABLE OF SUPPORTING THE WEIGHT OF THE CURRENT TRANSFORMER (15 POUNDS MAX.)
2. BUS BARS SHALL BE SILVER PLATED COPPER, 98% CONDUCTIVITY, RATED IN ACCORDANCE WITH UL 891.
3. THE C/T CABINET SHALL BE INSTALLED AS HOT-SEQUENCE ONLY (LINE-SIDE OF SERVICE DISCONNECT).
4. THE C/T SECTION SHALL BE SEPARATED FROM THE REST OF THE ENCLOSURE BY BARRIERS AND BE EQUIPPED WITH DOUBLE DOORS WITH A THREE-POINT CATCH.
5. A POTENTIAL TRANSFORMER COMPARTMENT AND MOUNTING PROVISIONS ARE PROVIDED FOR 480/277 V. SERVICES ONLY.
6. THE P/T SECTION SHALL BE SEPARATED FROM THE REST OF THE ENCLOSURE BY BARRIERS AND EQUIPPED WITH A SINGLE DOOR.
7. A HOLE, WITH A 1-1/2" GROMMET (OR BUSHING), SHALL BE PROVIDED TO ROUTE WIRES BETWEEN THE C/T & P/T COMPARTMENTS.
8. THE C/T AND P/T DOORS SHALL HAVE A FLUSH MOUNTED SWING-HANDLE WITH INTEGRATED HASP, TO ACCOMMODATE A PADLOCK WITH 5/16" DIAMETER SHANK.
9. BOTH 1/4"-20 & #10-32 POTENTIAL TAPPED HOLES SHALL BE LOCATED ON THE LINE SIDE BUS DETAILS. A #14-1/0 AWG. MECHANICAL LUG, SHALL BE INSTALLED ON THE 1/4"-20 TAPPED HOLE.
10. WHEN HOUSED IN A TYPE-3R ENCLOSURE, THERE SHALL BE A SEPARATE EXTERIOR DOUBLE DOOR, WITH THREE-WAY CATCH. IT SHALL HAVE A FLUSH MOUNTED, SWING-HANDLE WITH INTEGRATED HASP, TO ACCOMMODATE A PADLOCK WITH 5/16" DIAMETER SHANK AND SHALL SPAN THE OVERALL WIDTH OF THE UTILITY COMPARTMENTS AND ALLOW THE HINGED PANELS TO OPEN 90 DEGREES. THE EXTERIOR DOORS SHALL HAVE STOPS TO SECURE THE DOORS IN THE OPEN 90 DEGREE POSITION. A DOUBLE PADLOCK HASP [SQ-D CAT. # SS2PL OR EQUAL] SHALL BE PROVIDED TO ALLOW FOR JOINT CUSTOMER / UTILITY ACCESS TO THE SERVICE DISCONNECT.
11. LAMICOID NAMEPLATES SHALL BE PERMANENTLY AFFIXED TO THE (AFORE MENTIONED) DOORS [REFER TO THE NAMEPLATE TABLE FOR THEIR DESCRIPTIVE TEXT]. NAMEPLATE 'NP3' SHALL BE INSTALLED ON THE EXTERIOR DOOR, OF THE TYPE-3R CUBICLE, HOUSING THE UTILITY COMPARTMENTS.
12. REMOVABLE COVERS, OVER UN-METERED CONDUCTORS, SHALL HAVE SEALING SCREWS.
13. INCOMING SERVICE CONDUCTORS SHALL BE RATED 75°C.
14. CLEAR ACCESS TO THE INCOMING TERMINALS IS GAINED BY REMOVING THE P/T MOUNTING BRACKET. CONTRACTOR SHALL INSTALL P/T'S BEFORE THE P/T MOUNTING BRACKET IS REINSTALLED,
15. ALL C/T'S AND P/T'S ARE SUPPLIED AND WIRED BY AMEREN.
16. C/T LINKS SHALL BE SECURED WITH 1/2"-13, ZINC PLATED STEEL HEX HEAD BOLTS, FLAT & SPLIT LOCK WASHERS AND HEX NUTS.
17. BUS BOLTING TORQUE VALUES SHALL BE IDENTIFIED ON A PERMANENTLY AFFIXED LABEL WITHIN THE COMPARTMENT.



UTILITY METERING SECTION
MAIN SERVICE DISCONNECT**
(**OPTIONAL IN THIS VERTICAL SECTION)
1600 / 2000 AMPERE
480Y/277 VOLTS
3-PHASE, 4-WIRE

SHORT CIRCUIT RATING	VOLTAGE	AMPERAGE	SYSTEM	BUS MATERIAL	REV
65kA. SYM. RMS	480Y/277	SEE TABLE	3φ, 4W	COPPER	2