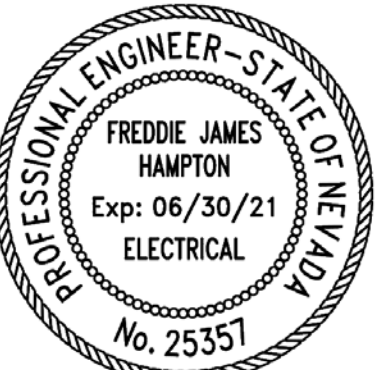
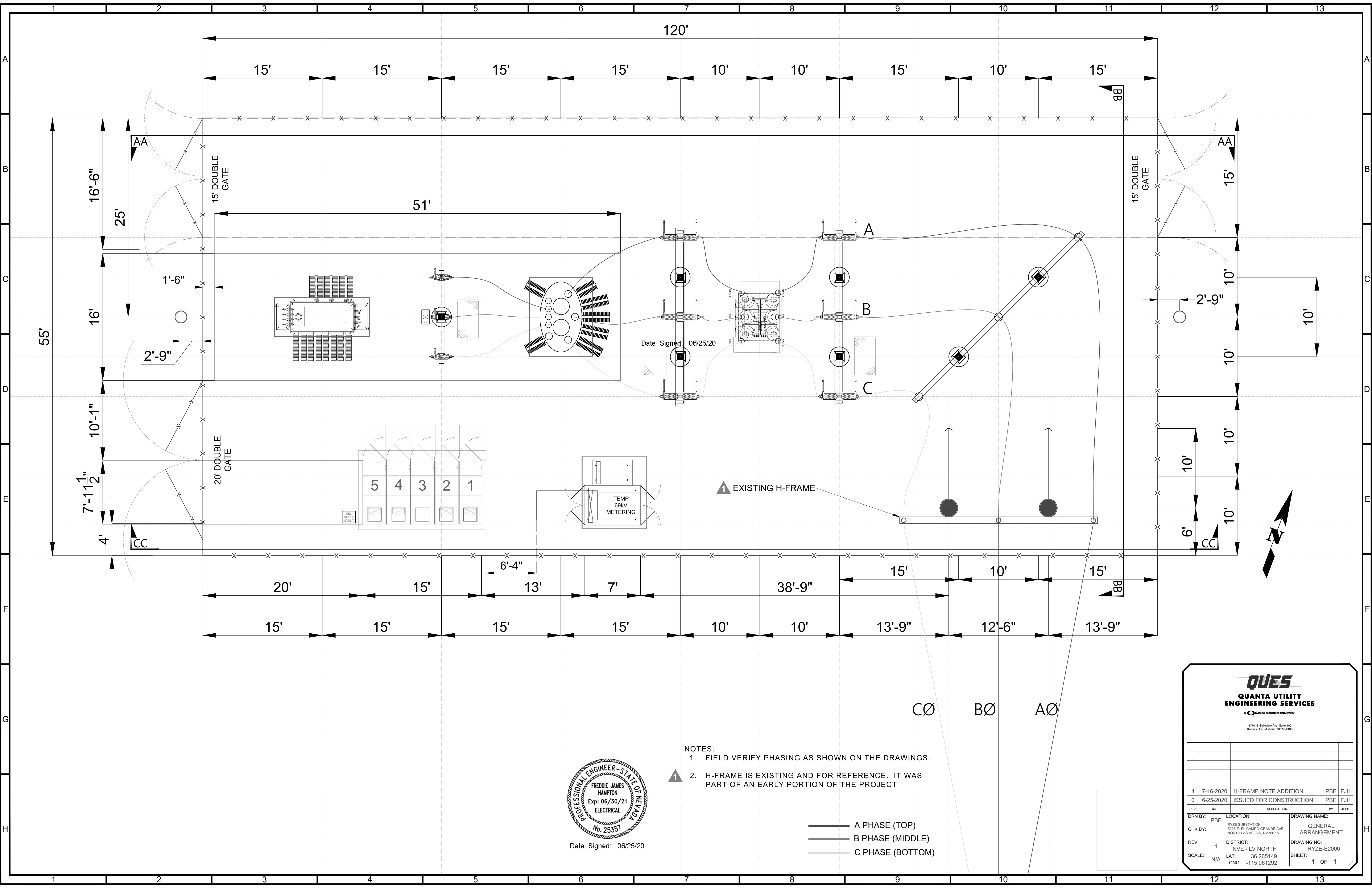




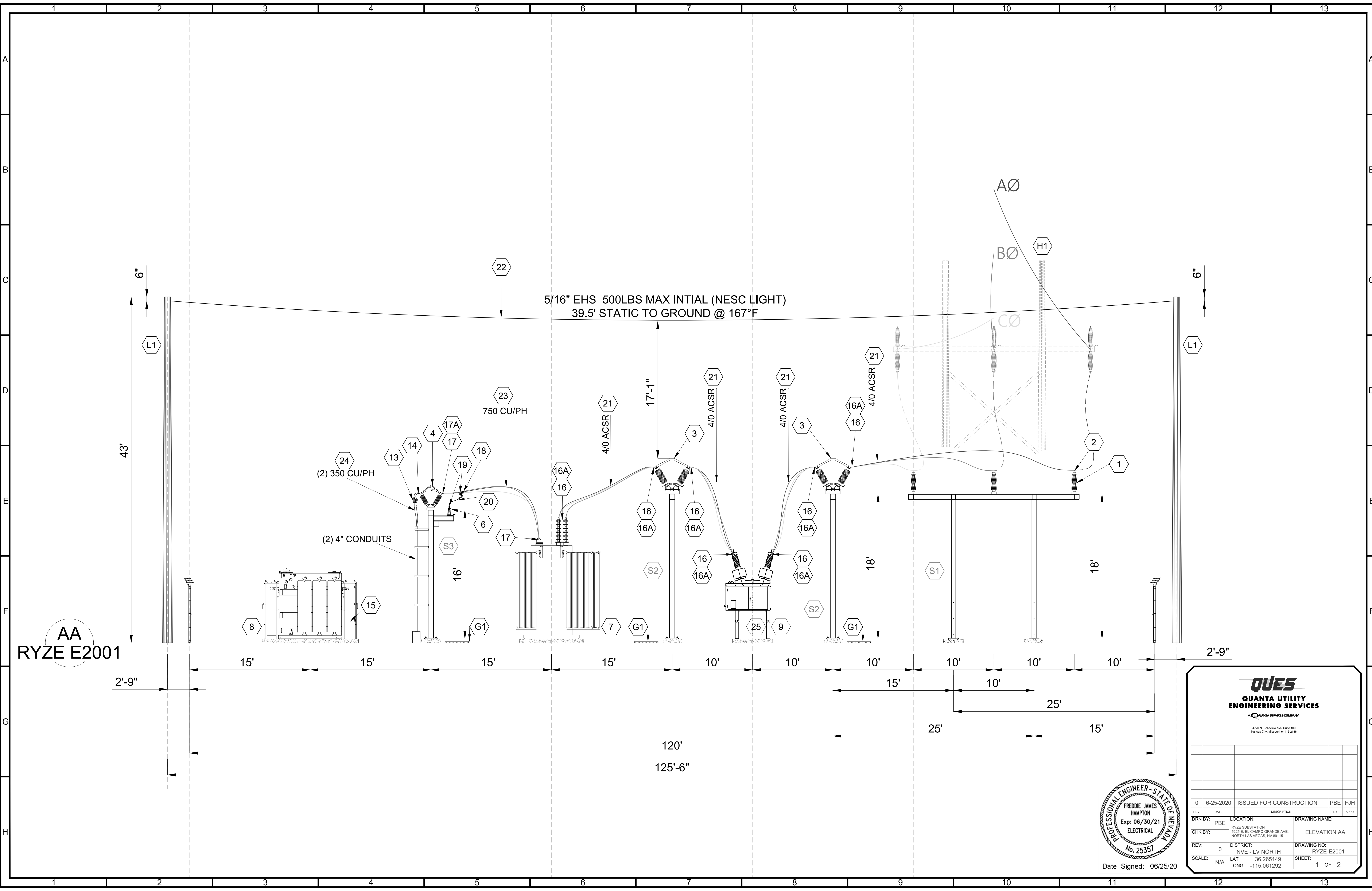
Date Signed: 06/25/20

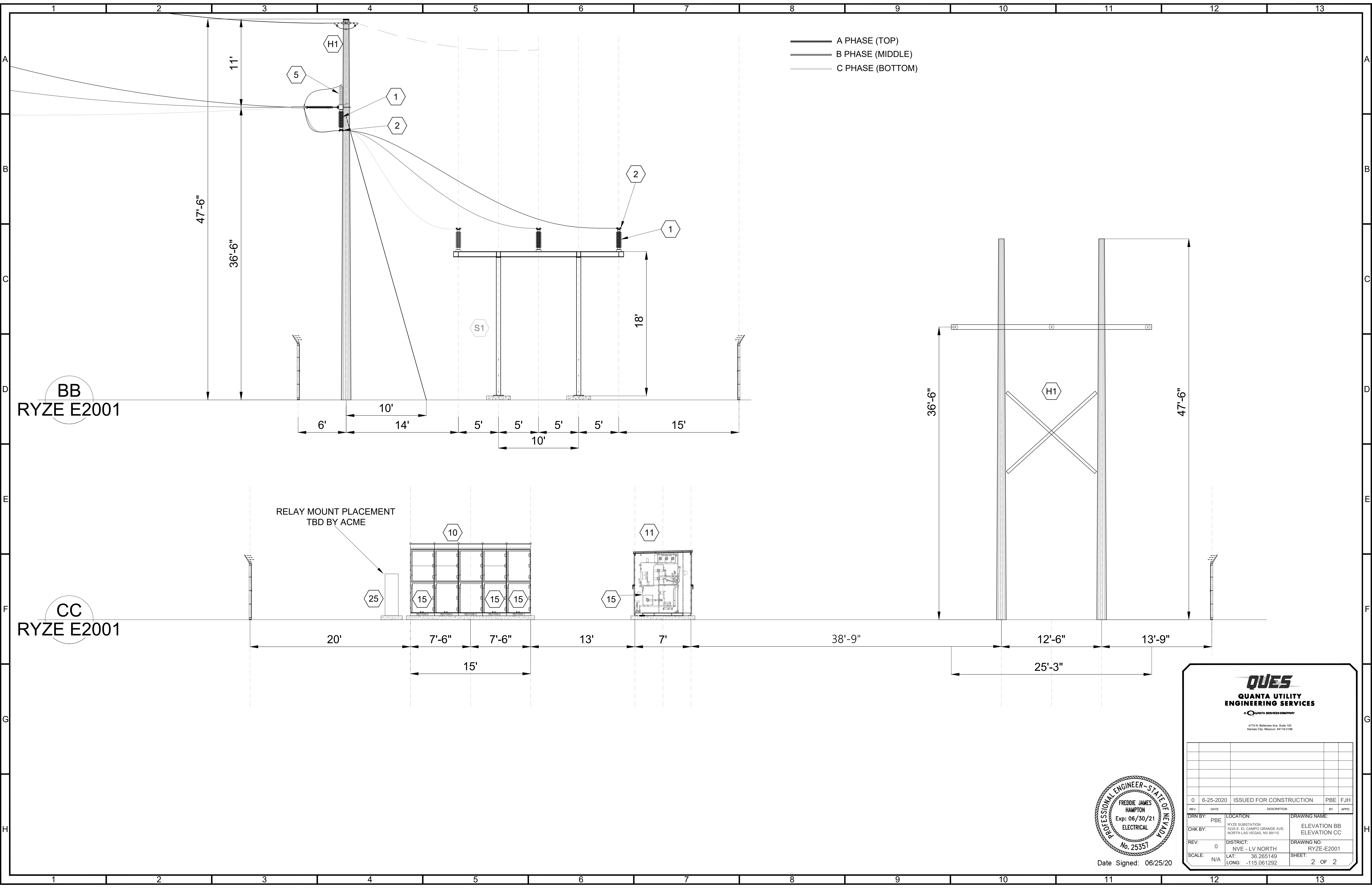
- NOTES:
1. FIELD VERIFY PHASING AS SHOWN ON THE DRAWINGS.
 2. H-FRAME IS EXISTING AND FOR REFERENCE. IT WAS PART OF AN EARLY PORTION OF THE PROJECT

— A PHASE (TOP)
— B PHASE (MIDDLE)
— C PHASE (BOTTOM)

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4770 N. Ballentine Ave. Suite 100
Kearney City, Missouri 64116-2188

1	7-16-2020	H-FRAME NOTE ADDITION	PBE	FJH
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
REV.	DATE	DESCRIPTION	BY	APPRO.
DRN BY:	PBE	LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: GENERAL ARRANGEMENT	
CHK BY:		DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-E2000	
REV:	1	LAT: 36.265149 LONG: -115.061292	SHEET: 1 OF 1	
SCALE:	N/A			





BOM ID	QTY	UNIT	DESCRIPTION	MFR	CATALOG / WT
MAJOR EQUIPMENT					
1	6	EA	69kV INSULATOR, STATION POST, 350BIL RATING, STANDARD STRENGTH, TR-216, 3" B.C. TOP & BOTTOM	Meister	231006-7001 [TR216]
2	6	EA	CABLE/BUS SUPPORT, FOR AL CABLE, 3" B.C., TYPE UHKR-A	BURNDY	UHKR11A-3
3	2	EA	69kV SWITCH, AL, 3-PHASE, 10'-0" PHASE SPACING, CENTER BREAK SLANT (VEE), 1600 C.AMPS, WITH SWING HANDLE, COMPLETE WITH **** INSULATORS	PASCOR	CBSA 69/1600/350
4	1	EA	15kV SWITCH, AL, 3-PHASE, 5'-0" PHASE SPACING, CENTER BREAK SLANT (VEE), 2000 C.AMPS, WITH SWING HANDLE, COMPLETE WITH TR205 INSULATORS	PASCOR	CBSA 15/2000/110
5	3	EA	69kV SURGE ARRESTOR, STATION CLASS, 48 MCOV, (AWG#4-500MCM)	HUBBELL	EVPO04800-3002
6	3	EA	12kV SURGE ARRESTOR, STATION CLASS, 8.4 MCOV, (AWG#4-500MCM)	HUBBELL	EVPO00900-3002
7	1	EA	69kV TRANSFORMER		PROVIDED BY OTHERS
8	1	EA	12kV TRANSFORMER		PROVIDED BY OTHERS
9	1	EA	CIRCUIT BREAKER		PROVIDED BY OTHERS
10	1	EA	12.47kV SWITCHGEAR		PROVIDED BY OTHERS
11	1	EA	69kV LINE METERING CABINET		PROVIDED BY OTHERS
12	1	EA	12.47kV SOURCE METERING CABINET		PROVIDED BY OTHERS
13	6	EA	TERMINATION, OUTDOOR, ELASTIMOLD	ABB	
14	6	EA	JUMPER, TINNED COPPER, 12 INCH	BURNDY	B2E12N-TN
15	48	EA	TERMINATION, INDOOR, ELASTIMOLD (SUBTRACT 18 FOR 12.47 METERING)	ABB	
16	21	EA	4/0 ACSR, "PENGUIN", 4 HOLE PAD, 15 DEG	AFL	S5175.609D
16A	7	EA	4/0 ACSR, "PENGUIN", 4 HOLE PAD, STRAIGHT 0 DEG - CONSTRUCTION PREF. FOR MID PHASES	AFL	S5675.609D
17	6	EA	4 HOLE PAD, 750 CU, TINNED, 15 DEG	AFL	TCVHA80-4N-15-SN
17A	2	EA	4 HOLE PAD, 750 CU, TINNED, STRAIGHT 0 DEG - CONSTRUCTION PREF. FOR MID PHASES	AFL	TCVHA80-4N-SN
18	3	EA	U-BOLT TERMINAL LUG, 2HOLE, TINNED (500 MCM-800 MCM)	AFL	ULB80-2N-SN
19	6	EA	TERMINAL, COMPRESSION, #2 TINNED COPPER TO 2-HOLE PAD	AFL	DPLE6-2N
20	25	FT	#2 TINNED COPPER		
21	400	FT	4/0 ACSR PENGUIN		
22	200	FT	5/16 EHS STATIC WIRE		
23	75	FT	750 CU CONDUCTOR, Medium-Hard Drawn, B-2, CLASS B		
24	950	FT	350 CU UG CONDUCTOR		
25		FT	K1 COLOR CODE, 7 CONDUCTOR, # 10 CONTROL WIRE - QTY DETERMINED BY ACME		
ABOVE GRADE GROUNDING					
G1	3	EA	GROUNDING PLATFORM - FOR SWITCH OPERATION 4'x2.5'x1'	Hughes	AS2492-D
G2	26	EA	TOWER CLAMP, DOUBLE, 4/0 TO FLAT STEEL	HUBBELL	GC143AG2
G3	500	FT	4/0 AWG CU. WIRE 7 STRAND, SOFT DRAWN		
G4	11	EA	GROUNDING TERMINAL, TINNED, FOR 4/0CU - FOR XFMR'S AND BRKR	Burndy	VVA282N-TN

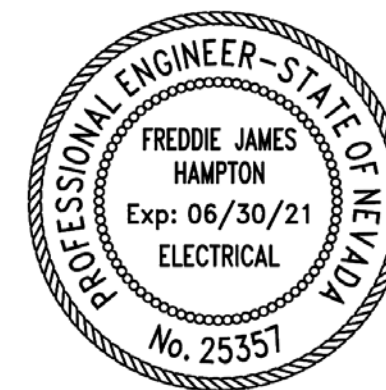
?	18	2" 3/8 OD LINE POST	BURNDY	GAR1829
?	4	3 " OD CORNER POST	BURNDY	GAR2029
	87	1" 5/8 OD TOP RAIL	BURNDY	GAR1726
	12	4 " IPS GATE POST	BURNDY	GAR2029
	?	1" 7/8 GATE FRAME	BURNDY	GAR1726
	?	6"IPS GATE POST	BURNDY	GAR 8629
	20	COPPER CRIMPIT	BURNDY	YC28C28
	40	COPPER CRIMPIT	BURNDY	YC28C2
	123	SPLIT BOLTS TINNED	BURNDY	KSU22
	12	FLEXIBLE GROUNDING BRAID STRAP 24"	BURNDY	BF24
	350	19 STRAND 4/0 BARE COPPER MAIN GRID		
	20	TOWER GROUND CLAMP SINGLE WIRE	BURNDY	GB29
	20	TOWER GROUND CLAMP DOUBLE WIRE	BURNDY	GC2929
	?	2 HOLE BOLTED TERMINAL	BURNDY	NAS29-2N
	235	#2 TINNED COPPER FENCE GROUNDS		

BOM ID	QTY	UNIT	DESCRIPTION	MFR	CATALOG / WT
BELOW GRADE GROUNDING					
G5	1600	FT	4/0 AWG CU. WIRE 7 STRAND, SOFT DRAWN		
G6	21	EA	4/0 TO 4/0 CROSS MOLD	ERICO	{2} XBQ2Q2Q
G7	30	EA	4/0 TO 4/0 TEE MOLD	ERICO	{8} TAC2Q2Q
G8	11	EA	4/0 TO 3/4 GRD ROD MOLD	ERICO	{2} GTC182Q
G9	25	EA	4/0 SPLICE MOLD - *AS NEEDED	ERICO	{2} SSC-2Q
G10	11	EA	3/4" 10 FT GROUND RODS		
G11	6	EA	IGNITORS	ERICO	T-320
G12	6	EA	MOLD CLEANING BRUSH	ERICO	T-394
G13	6	EA	CABLE CLAENING BRUSH	ERICO	T-314

H-FRAME AND LIGHTNING PROTECTION					
H1	1	EA	H-Frame 55/1 - ALL Material provided by QUES order		
L1	2	EA	Lightning Mast, 50/3		
	2	EA	Pole Band 7-10inches	Hughes Brothers	Hughes 3103.5
	4	EA	Links -Conn Pole Band- EACH	Hughes Brothers	Hughes 3154
	2	EA	Pole Topper (OSMOSE for class 3)	OSMOSE	70-110-020-016
	2	EA	Clamp 3-Bolt	Joslyn	J931
	2	EA	CONNECTOR- TAP, COMPRESSION, CU (#4 WIRE & CRIMPIT		YCHC2TC2
	2	EA	NUT-LOCK TYPE 7/8"		3514
	2	EA	NUT- SQUARE 7/8"		J8564
	2	EA	CLIP BONDING-GROUND WIRE FOR 7/8" BOLT		J27278
	2	EA	CLAMP-DEADEND FOR O.H. STATIC WIRE	MACLEANPOW	FQD-58-2
	2	EA	MOULDING-GROUND WIRE, TREATED WOOD, 10 FT. LENGTH	DISTRANWOO	DT-GWM-F2
	4	EA	ROD-GROUND 5/8 IN X 8 FT COPPERWELD	ABCHANCECO	C615880
	4	EA	METAL-WELD, 90 GRAMS WEIGHT CADWELD PLUS GRAY	ERICOPRODU	90PLUSF20
	4	EA	MOLD-WELD, TYPE GY, #4 CABLE TO SIDE OF 5/8" ROD	ERICOPRODU	GYE161K
	8	EA	STAPLE-MOULDING 1/4" X 1 1/16" X 3" GALV (TRANSMISSION)	JOSLYNCORP	J128
	16	EA	CONNECTOR-TAP, COMPRESSION-CU 6SOL-4STR TO 4SOL-4STR	HOMACCOMPA	CC44 DIE BG
	80	EA	CLIP-GROUND WIRE, COPPER, NO. 4 SOLID COPPER WIRE	KEARNEYCO	5730-1
	80	EA	NAIL-GALV COMMON 8 D	PRIMESOURC	153-320
	250	FT	CONDUCTOR-CW, #4, ANNEALED DEAD SOFT, 40% CONDUCTIVITY	AFLTELECOM	CCS01044D-25

STEEL STRUCTURES					
S1	1	EA	69KV, 3 PHASE BUS SUPPORT STAND, 45 DEGREES		
S2	2	EA	69kv, 3-PHASE SWITCH STAND FOR CENTER BREAK VEE SWITCH		
S3	1	EA	15KV, 3-PHASE SWITCH STAND FOR CENTER BREAK VEE SWITCH, AND ARRESTOR		

NUTS & BOLTS					
	18	EA	0.5" x 2.5" HOT DIPPED GALVANIZED BOLT, (SURGE ARRESTORS)		
	18	EA	0.5" HOT DIPPED GALVANIZED NUT, (SURGE ARRESTORS)		
	18	EA	HOT DIPPED GALVANIZED WASHER, (SURGE ARRESTORS)		
	18	EA	HOT DIPPED GALVANIZED LOCK WASHER, (SURGE ARRESTORS)		
	48	EA	0.5" x 1.5" HOT DIPPED GALVANIZED BOLT, (STATION POST INSULATORS)		
	200	EA	0.5" x 2.5" Stainless Steel BOLTS (4 HOLE PADS)		
	200	EA	0.5" Stainless Steel NUTS (4 HOLE PADS)		
	200	EA	Stainless Steel WASHERS (4 HOLE PADS)		
	200	EA	Stainless Steel LOCK WASHERS (4 HOLE PADS)		



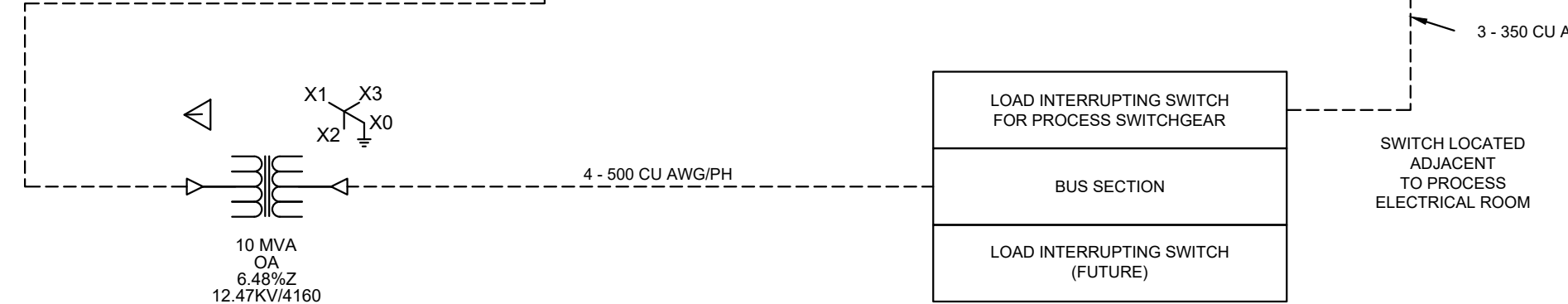
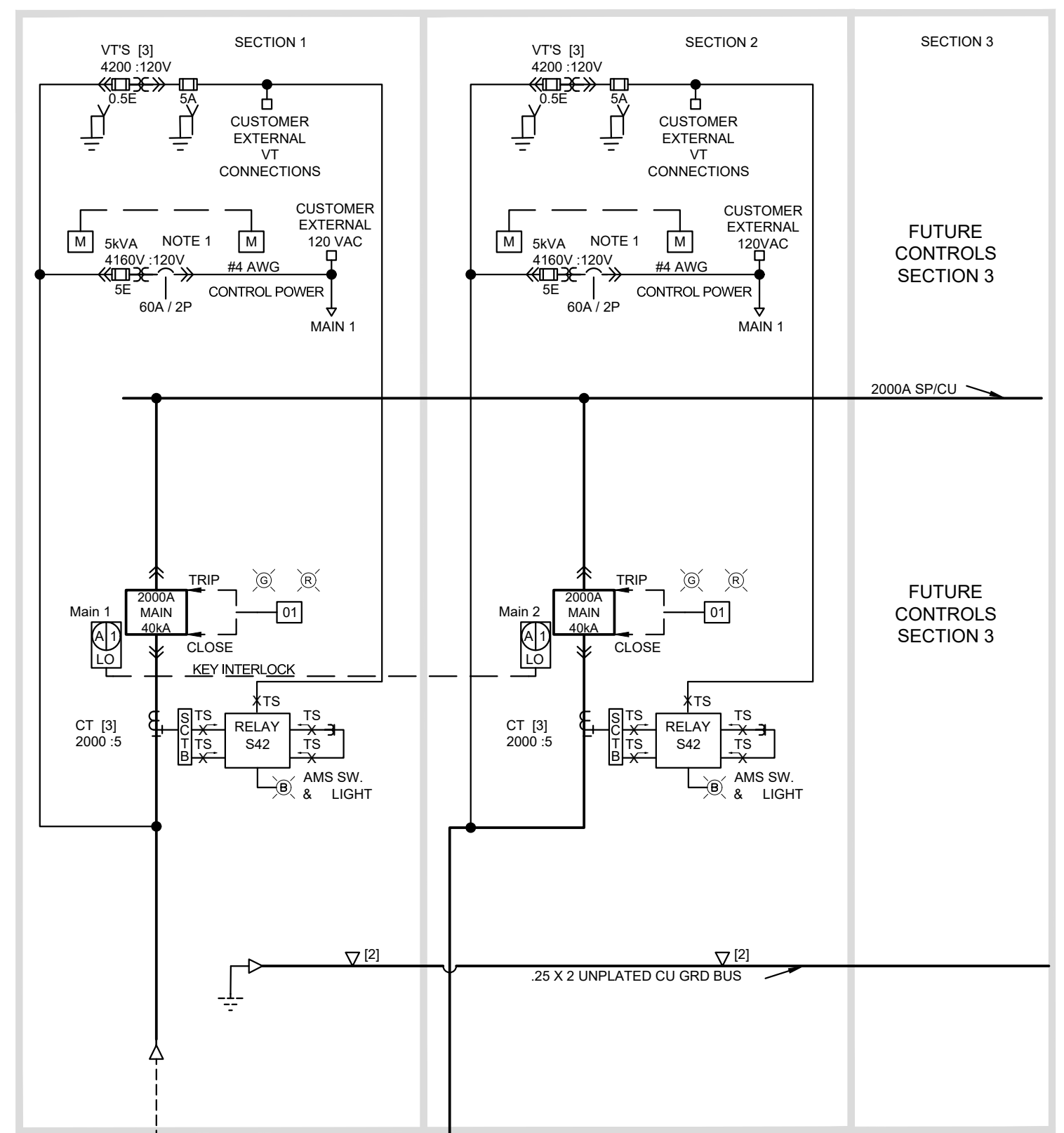
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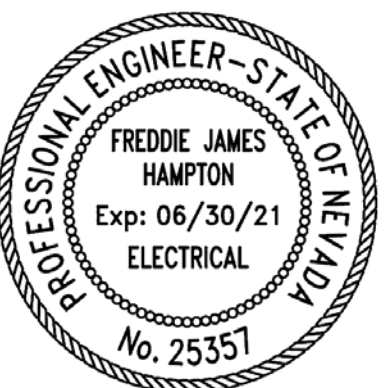
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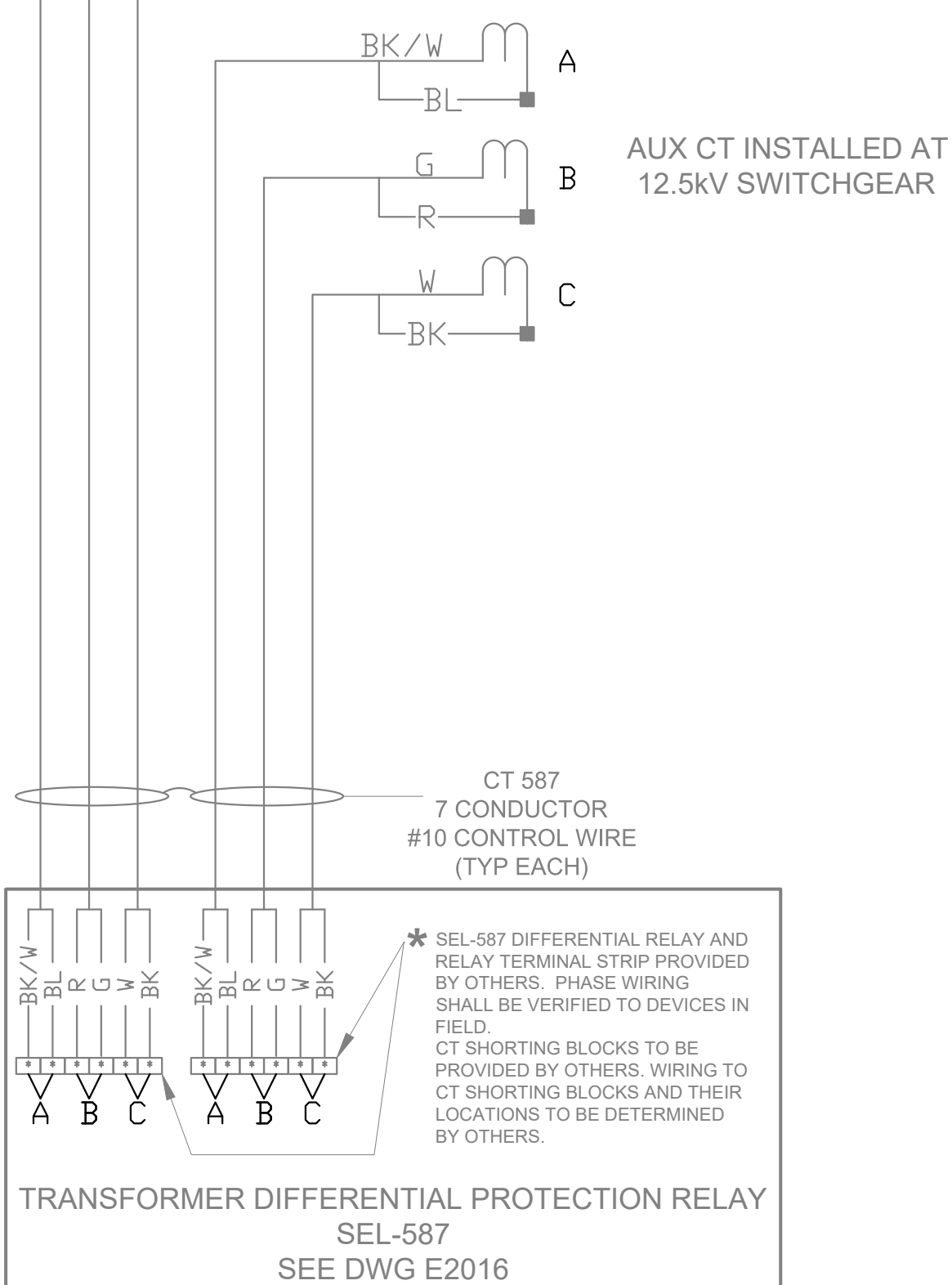
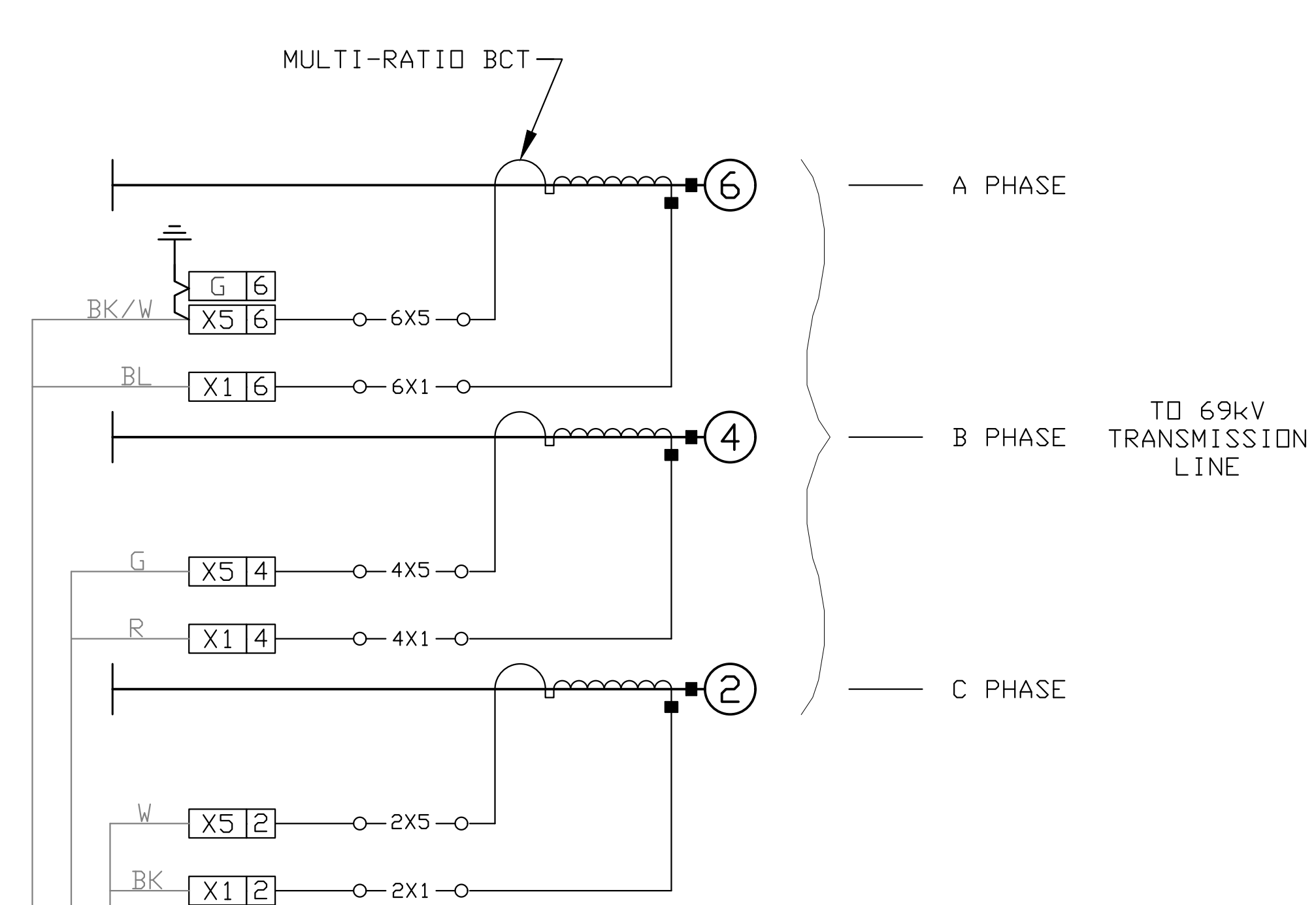
1. INDOOR AND OUTDOOR TERMINATIONS SHALL BE REVIEWED WITH ACTUAL CABLE SUPPLIER TO ENSURE PROPER INSTALLATION ACCOMMODATIONS ARE MET.
2. DIFFERENTIAL CABLE CTs AS SHOWN ON THE ONE LINE, AT THE SWITCHGEAR, SHALL BE PROVIDED BY OTHERS.
3. DIFFERENTIAL AND OVERCURRENT RELAYS WITH THEIR ENCLOSURES AND CABLING WILL BE PROVIDED BY OTHERS.
4. AC and DC POWER SUPPLY WITH BATTERY AND CHARGER SHALL BE SUPPLIED BY OTHERS AS REQUIRED.
5. CONDUIT AND ALL NECESSARY ACCOMMODATIONS AND SUPPLIES SHALL BE PROVIDED BY OTHERS.

4.16 SWITCHGEAR

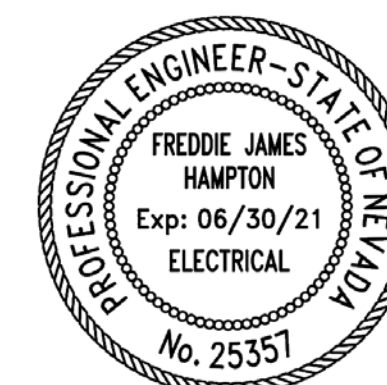


4. PROFESSIONAL ENGINEERING STAMP NOT APPLICABLE FOR ONE LINE INFORMATION PERTAINING TO THE 12.47kV AND 4.16kV SWITCHGEAR WHICH WAS PROVIDED BY ITS MANUFACTURER AND VENDOR.

[illegible]



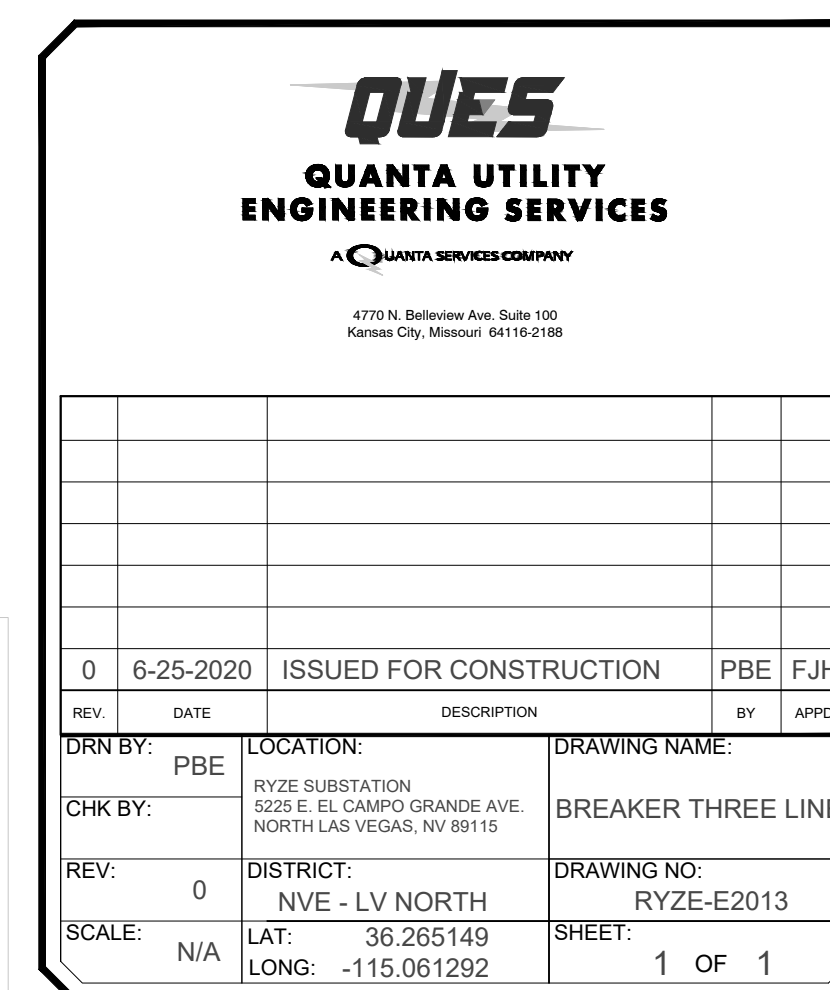
SPECIAL TAPS			
TAPS		72-281-589-007 2000/5	
		TURNS	RATIO
X1-X2		40	200/5
X4-X5		80	400/5
X2-X3		120	600/5
X3-X4		160	800/5
X3-X5		240	1200/5
X2-X4		280	1400/5
X1-X3		320	1600/5
X2-X5		360	1800/5
X1-X5		400	2000/5

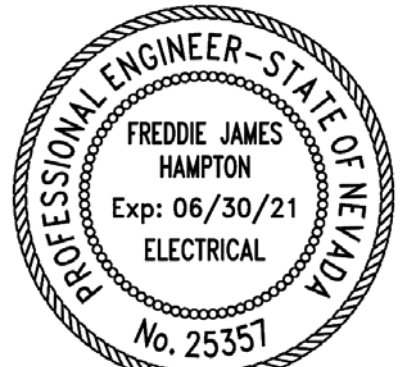


Date Signed: 06/25/2018

NOTES:

1. CT RATIOS SHALL BE VERIFIED BY ACME OR APPROVED CONTRACTOR.
2. SEE EQUIPMENT SHOP DRAWINGS TO VERIFY CONNECTIONS AS SHOWN.
3. SWITCHGEAR AND METERING 3-LINE DRAWING HAVE NOT BEEN PROVIDED FOR QUES REVIEW AND IMPLEMENTATION.
4. ACME TO CONFIRM PHASING WITH NVE
5. FIELD VERIFY PHASING AS SHOWN ON THE DRAWINGS.





Date Signed: 06/25/20

INSTALL
50/51 OVERCURRENT RELAY
AND 87 DIFFERENTIAL
RELAY CONTACTS

INSTALL
50/51 OVERCURRENT RELAY
AND 87 DIFFERENTIAL
RELAY CONTACTS

DEVICE	DESCRIPTION
02	TIME DELAY RELAY (LOW PRESSURE TRIP)
08C	CLOSE POWER DISCONNECT
08H	HEATER POWER DISCONNECT
08M	MOTOR POWER DISCONNECT (AC)
08M2	MOTOR POWER DISCONNECT (DC)
08O	RECEPTACLE POWER DISCONNECT
08T	TRIP #2 POWER DISCONNECT
08T2	TRIP #2 POWER DISCONNECT
52-1	BREAKER AUXILIARY SWITCH
52-2	BREAKER AUXILIARY SWITCH
52C	BREAKER CLOSE COIL
52T	BREAKER TRIP COIL
52T2	AUXILIARY BREAKER TRIP COIL
52Y	BREAKER CLOSING CUTOFF RELAY (ANTI-PUMP)
63G	GAS PRESSURE SWITCH (SF6)
63X	INTERRUPTER SF6 LOW PRESSURE CUTOFF AUXILIARY RELAY
69	HAND TRIP SWITCH - MANUAL RESET
74X	SPRING DISCHARGE ALARM RELAY
83	AUTOMATIC TRANSFER RELAY
88	MOTOR (MECHANISM)
94	INTERRUPTER SF6 LOW PRESSURE TRIP AUX. RELAY
DRSW	LIGHT SWITCH(DOOR ACTIVATED)
G	REMOTE GREEN INDICATOR LIGHT
H1	CABINET HEATER
LT	HOUSING LIGHT
MS	SPRING CHARGE MOTOR SWITCH
PBC	PUSH-BUTTON CONTROL SWITCH CLOSE
PBT	PUSH-BUTTON CONTROL SWITCH TRIP
PR	REMOTE PROTECTIVE RELAYS
R	REMOTE RED INDICATOR LIGHT
R2	REMOTE RED INDICATOR LIGHT
RCP	DUPLEX RECEPTACLE (GFCI)

NOTES:

- RELAY TERMINAL CONTACTS ARE UNKNOWN. ACME TO ADD AND SUPPLY LATER.
- AC & DC POWER SUPPLY PROVIDED BY ACME OR APPROVED CONTRACTOR/OTHERS. SIZE OF POWER SUPPLY SHALL BE DETERMINED BY ACME
- AC & DC POWER SUPPLY CONDUCTORS SIZING SHALL BE A MIN OF #6 CU .
- LOCATION OF AC & DC POWER SUPPLY DETERMINED BY ACME.
- ACME SHALL LOCATE SUDDEN PRESSURE RELAY CONTACTS AND WIRE TO BREAKER TRIP CIRCUIT.
- TERMINAL CONTACT NUMBERS AND LOCATION AT 69KV TRANSFORMER, FOR SUDDEN PRESSURE ARE UNKNOWN AND ARE LISTED FOR REFERENCE ONLY.
- DC BATTERY AMPERE-HOUR SIZING SHALL ACCOMMODATE THE BREAKER DC OPERATING CURRENTS BELOW IN NOTE 9
- AC POWER SUPPLY SIZING SHALL ACCOMMODATE THE BREAKER OPERATING AC CURRENTS IN NOTE 9.
- TRIP CURRENT : 12.0A (MAX 6 TRIPS OPERATIONS)
CLOSE CURRENT: 1.9A (MAX 6 CLOSE OPERATIONS)
MOTOR START CURRENT 25.9A
MOTOR RUN CURRENT: 12.3A

T1	TYPE	T2	REF	SH
13	4+	14	D-4	2
21	4+	22	C-4	2
32	4+	31	G-4	2
43	4+	44	F-4	2

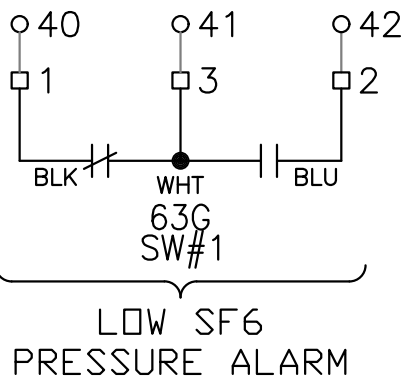
T1	TYPE	T2	REF	SH
14	4+	13	E-6	2
22	4+	21	E-5	2
33	4+	34		
43	4+	44		

T1	TYPE	T2	REF	SH
3	4+	5	C-11	1
1	4+	2		
4	4+	6		

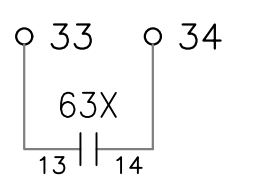
T1	TYPE	T2	REF	SH
13	4+	14	B-8	1
21	4+	22	E-6	2
31	4+	32	E-9	2
41	4+	42	E-12	2

T1	TYPE	T2	REF	SH
13	4+	14	C-10	2
23	4+	24	C-13	2
31	4+	32	D-6	2
43	4+	44	C-9	1

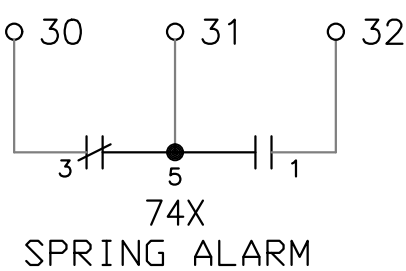
T1	TYPE	T2	REF	SH
1	4+	5	F-13	2
3	4+	4		
4	4+	6	C-8	1



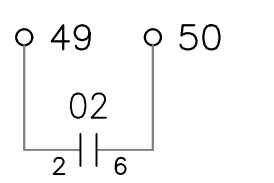
LOW SF6
PRESSURE ALARM



LOW SF6
CUTOFF ALARM



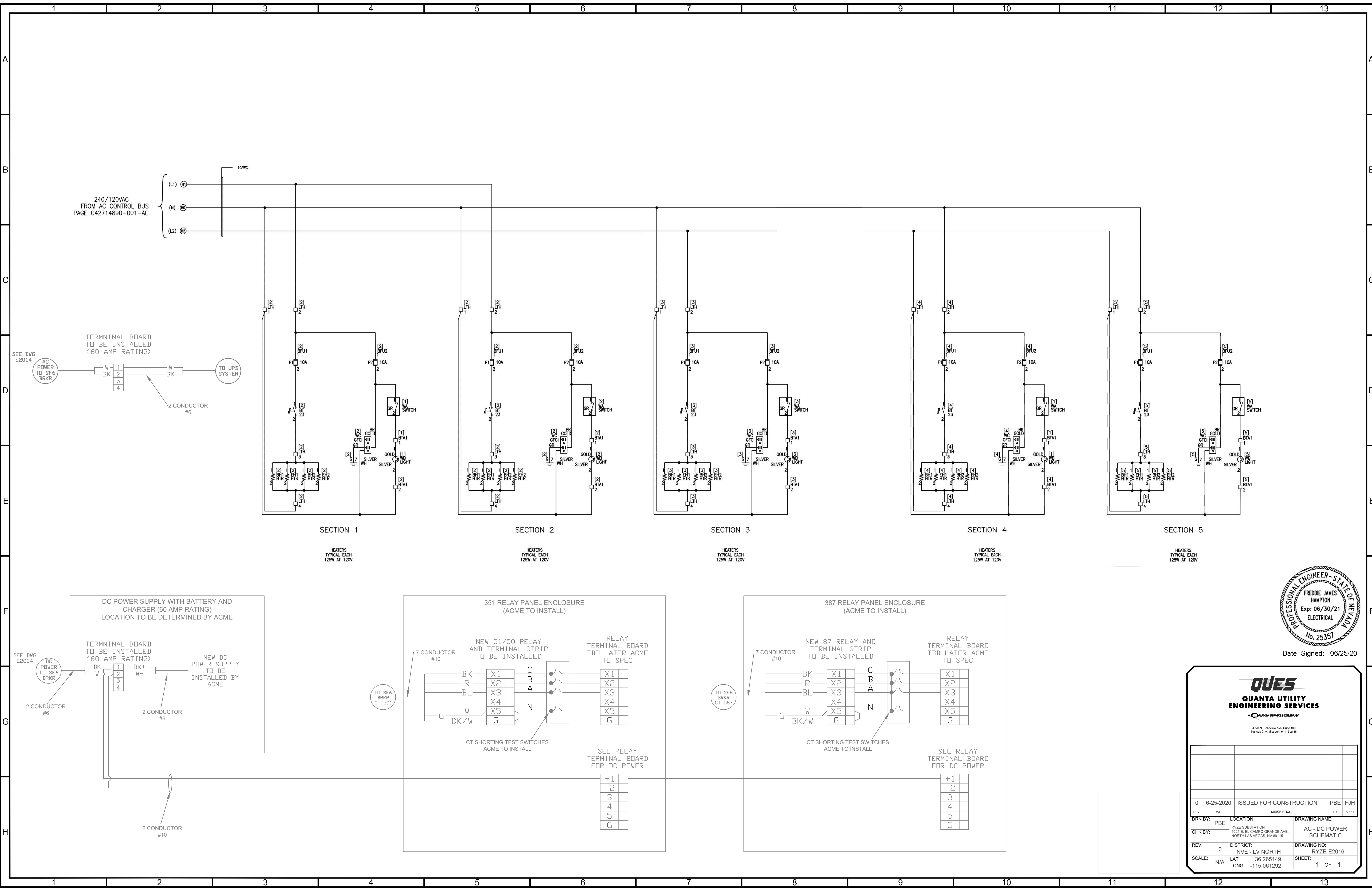
SPRING ALARM

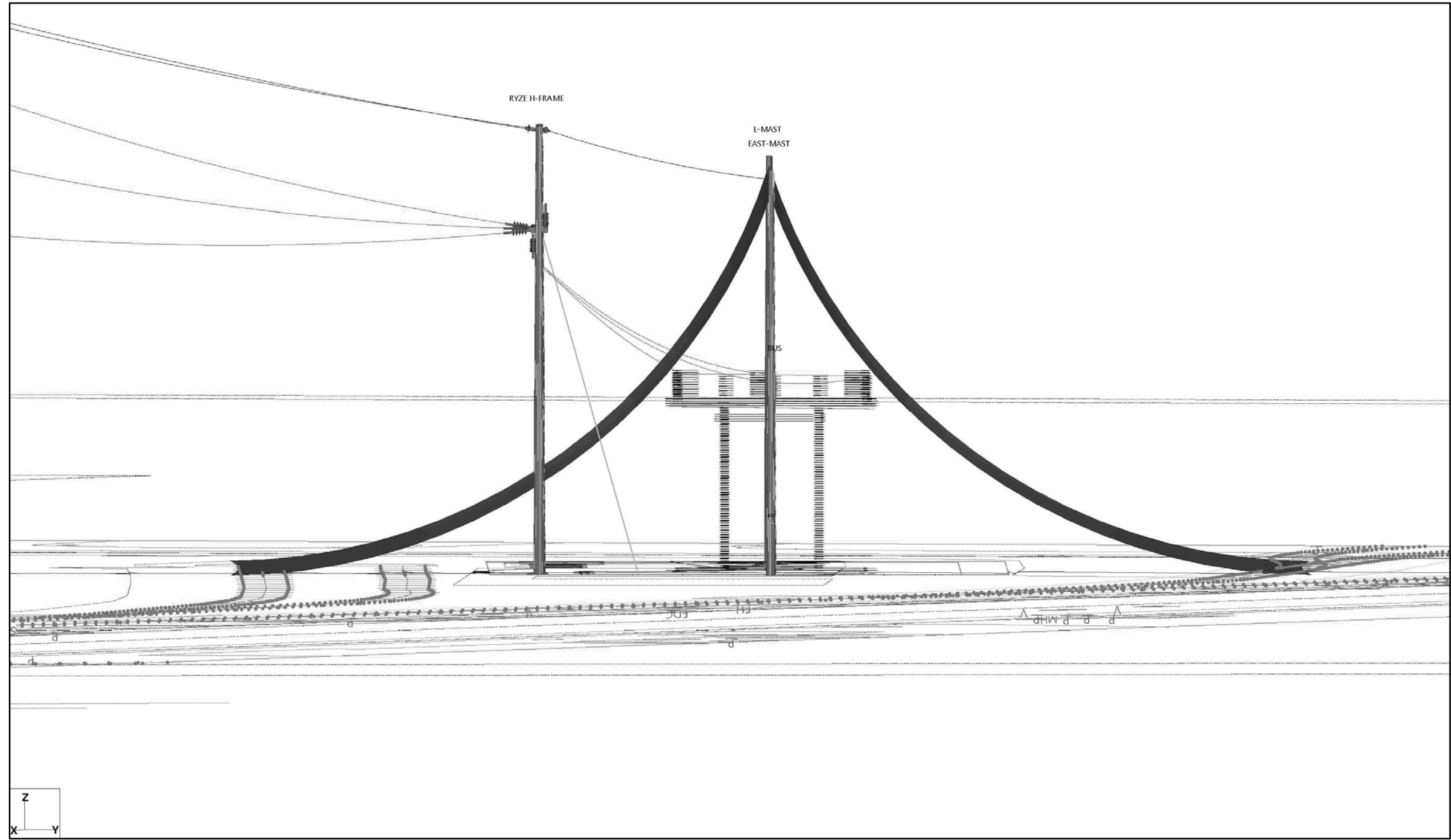


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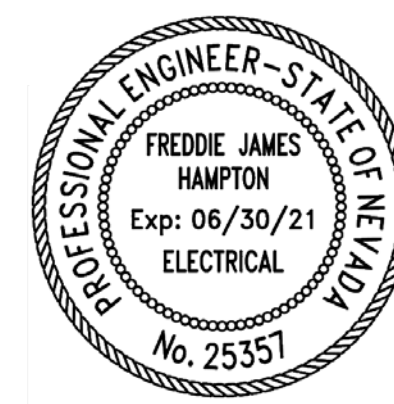
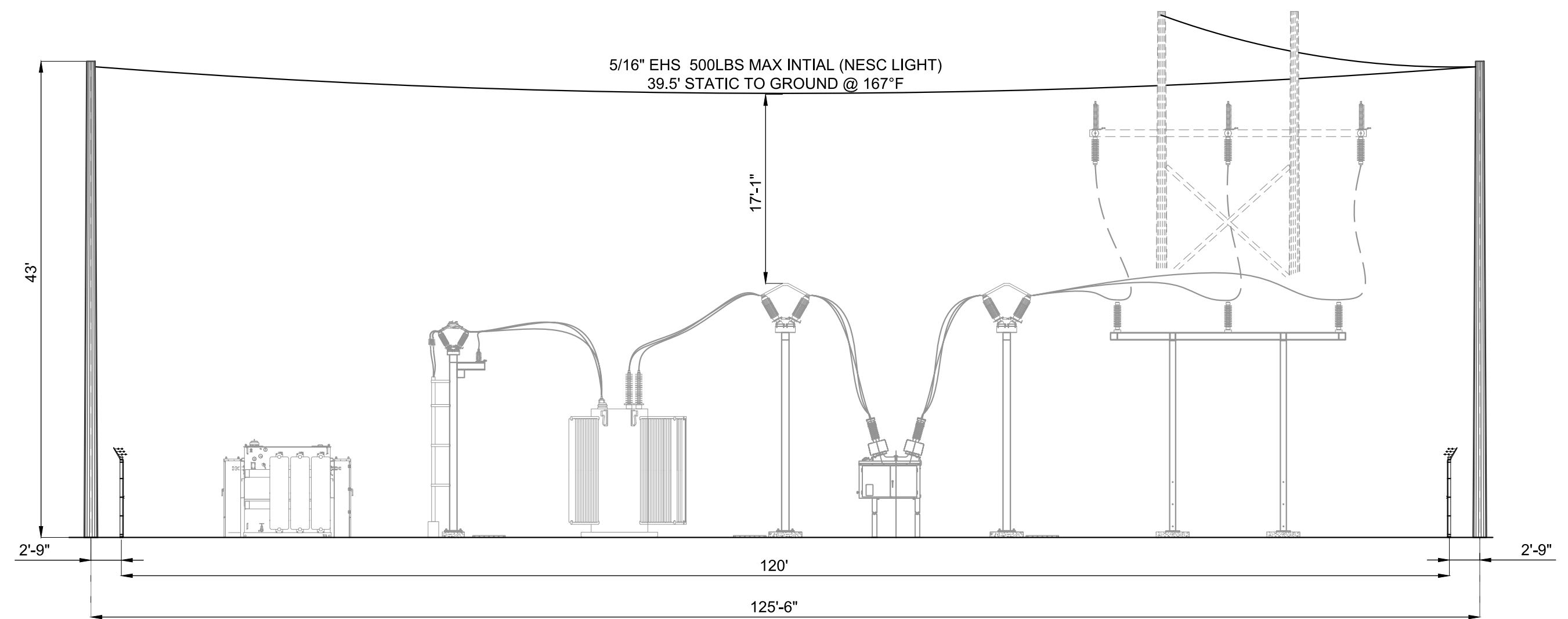
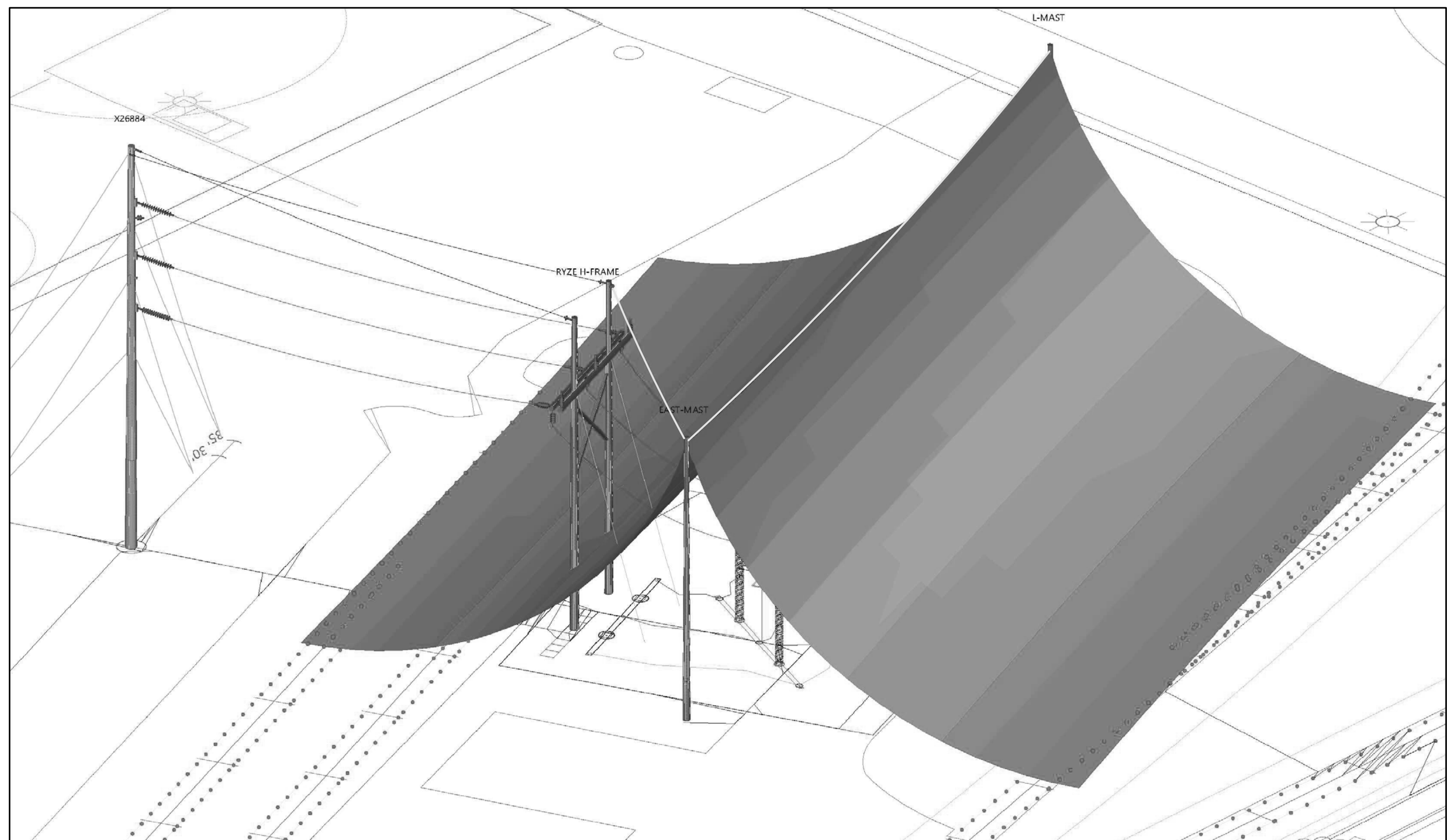
- ALL EQUIPMENT SHOWN WITH: CIRCUIT BREAKER OPEN, CONTROL VOLTAGE OFF, SF6 PRESSURE LOW, SPRING DISCHARGED, TEMPERATURE LOW.
- ALL BREAKER AUXILIARY SWITCHES SHOWN AS: (a=OPEN/BKR OPEN b=CLOSED/BKR OPEN)
- REMOVE JUMPER TO BLOCK TRIPPING ON LOW GAS PRESSURE.
- CUSTOMER TO REMOVE JUMPER AND PLACE SHUNTING FOR CURRENT MEASURING DURING TIMING TEST.
- TRIP CURRENT: 12.0A
CLOSE CURRENT: 1.9A
MOTOR START CURRENT: 25.9A
MOTOR RUN CURRENT: 12.3A

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY			
4770 N. Ballantray Ave. Suite 100 Kansas City, Missouri 64119-2188			
DRN BY: PBE	LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: AC - DC TRIP AND CLOSE SCHEMATIC	
CHK BY:	DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-E2015	
REV: 0	LAT: 36.265149	SHEET: 1 OF 1	
SCALE: N/A	LONG: -115.061292		



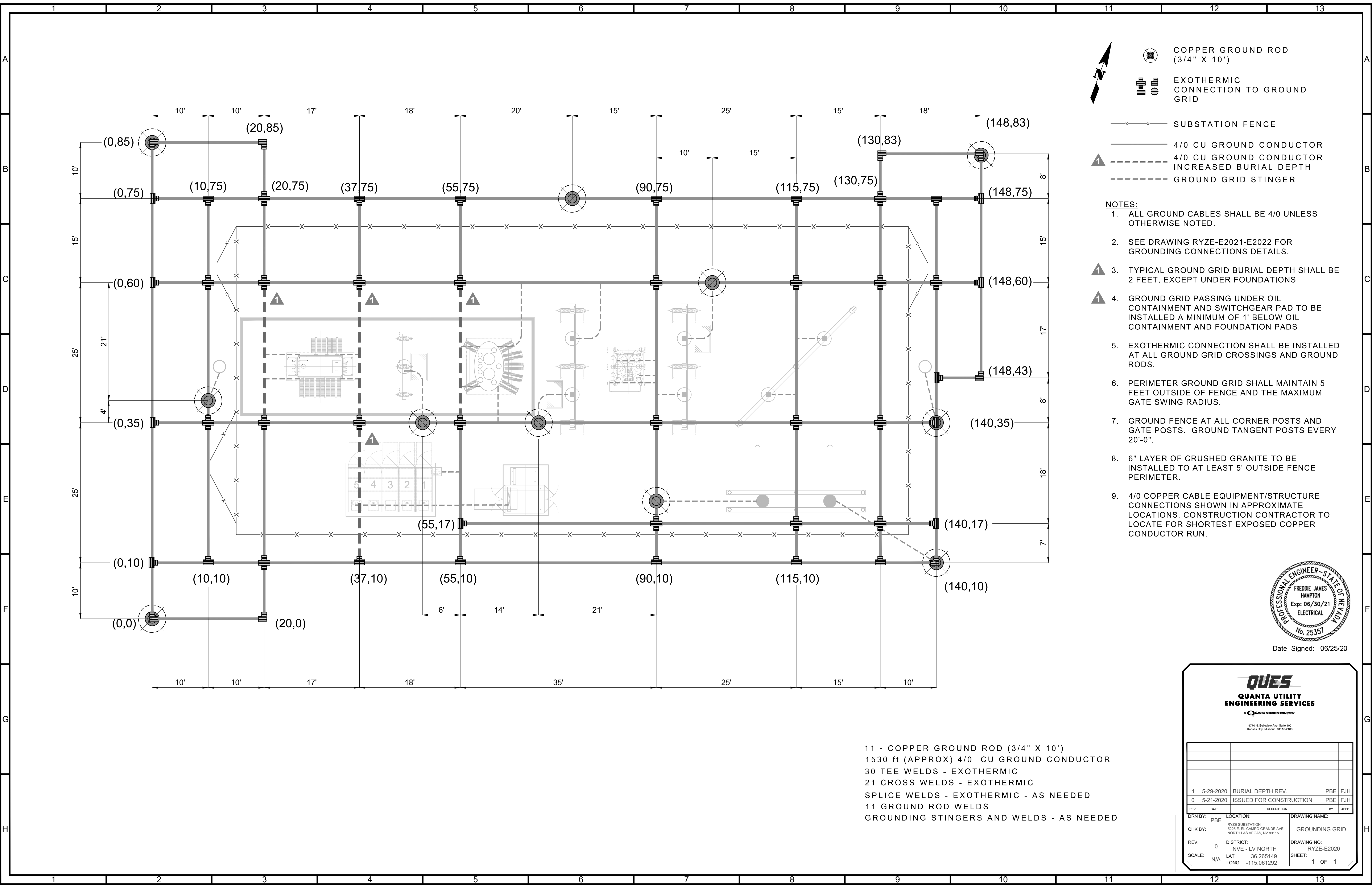


RYZE SUBSTATION USING "ROLLING SPHERE" METHOD.
THE STRIKING DISTANCE RELATES TO THE RADIUS OF THE "ROLLING BALL" USED ON THE DRAWINGS IDENTIFYING THE SHIELDING PROTECTION. IEEE USES APPROXIMATELY 60 FEET FOR ITS SPHERE RADIUS FOR SUBSTATIONS 69 KV OR BELOW. IEEE REQUIRES THAT THERE IS PROTECTION FOR LIGHTNING STRIKES 2.6KA AND ABOVE IN ORDER TO PROTECT AGAINST 99% OF LIGHTNING STRIKES.



Date Signed: 06/25/20

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballentine Ave. Suite 100 Kansas City, Missouri 64116-2188			
DRN BY:	DATE:	DESCRIPTION:	BY:
CHK BY:	DATE:	DESCRIPTION:	BY:
REV:	DATE:	DESCRIPTION:	BY:
SCALE:	DATE:	DESCRIPTION:	BY:
LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115		DRAWING NAME: LIGHTNING PROTECTION ROLLING BALL	
DISTRICT: NVE - LV NORTH		DRAWING NO: RYZE-E2019	
LAT: 36.265149		SHEET: 1 OF 1	
LONG: -115.061292			



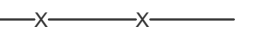




COPPER GROUND ROD
(3/4" X 10')



EXOTHERMIC
CONNECTION TO GROUND
GRID



SUBSTATION FENCE



4/0 CU GROUND CONDUCTOR

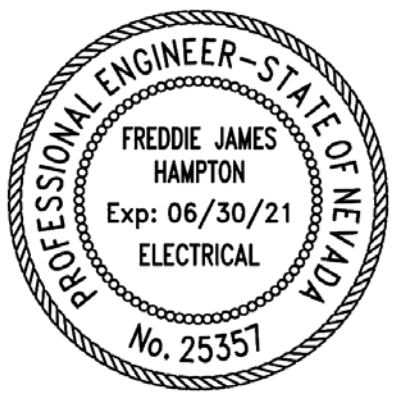


4/0 CU GROUND CONDUCTOR
INCREASED BURIAL DEPTH



GROUND GRID STINGER

- NOTES:
- ALL GROUND CABLES SHALL BE 4/0 UNLESS OTHERWISE NOTED.
 - SEE DRAWING RYZE-E2021-E2022 FOR GROUNDING CONNECTIONS DETAILS.
 - TYPICAL GROUND GRID BURIAL DEPTH SHALL BE 2 FEET, EXCEPT UNDER FOUNDATIONS
 - GROUND GRID PASSING UNDER OIL CONTAINMENT AND SWITCHGEAR PAD TO BE INSTALLED A MINIMUM OF 1' BELOW OIL CONTAINMENT AND FOUNDATION PADS
 - EXOTHERMIC CONNECTION SHALL BE INSTALLED AT ALL GROUND GRID CROSSINGS AND GROUND RODS.
 - PERIMETER GROUND GRID SHALL MAINTAIN 5 FEET OUTSIDE OF FENCE AND THE MAXIMUM GATE SWING RADIUS.
 - GROUND FENCE AT ALL CORNER POSTS AND GATE POSTS. GROUND TANGENT POSTS EVERY 20'-0".
 - 6" LAYER OF CRUSHED GRANITE TO BE INSTALLED TO AT LEAST 5' OUTSIDE FENCE PERIMETER.
 - 4/0 COPPER CABLE EQUIPMENT/STRUCTURE CONNECTIONS SHOWN IN APPROXIMATE LOCATIONS. CONSTRUCTION CONTRACTOR TO LOCATE FOR SHORTEST EXPOSED COPPER CONDUCTOR RUN.



Date Signed: 06/25/20

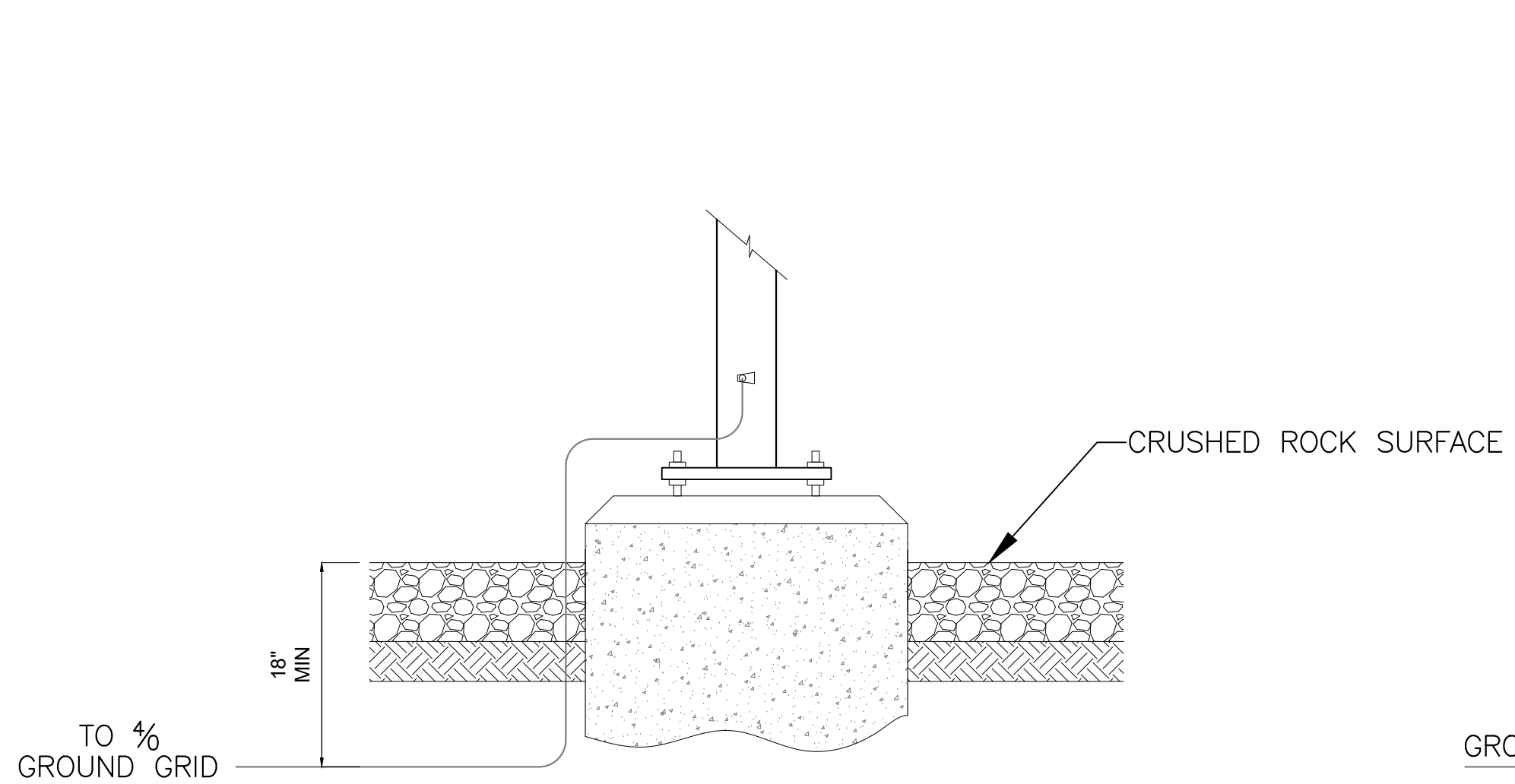
11 - COPPER GROUND ROD (3/4" X 10')
1530 ft (APPROX) 4/0 CU GROUND CONDUCTOR
30 TEE WELDS - EXOTHERMIC
21 CROSS WELDS - EXOTHERMIC
SPLICE WELDS - EXOTHERMIC - AS NEEDED
11 GROUND ROD WELDS
GROUNDING STINGERS AND WELDS - AS NEEDED



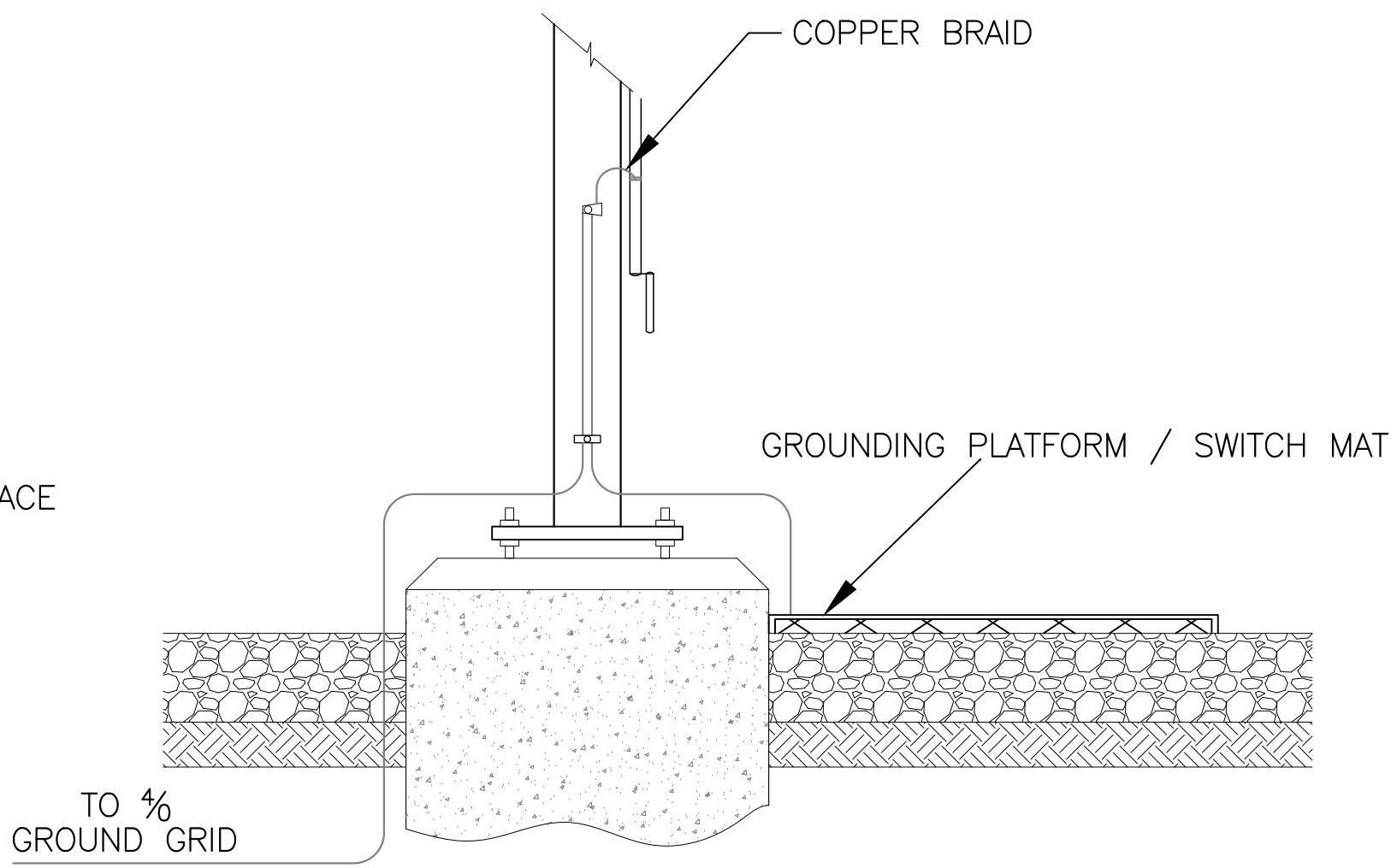
**QUANTA UTILITY
ENGINEERING SERVICES**
A QUANTA SERVICES COMPANY

4770 N. Ballentine Ave. Suite 100
Kearney City, Missouri 64116-2188

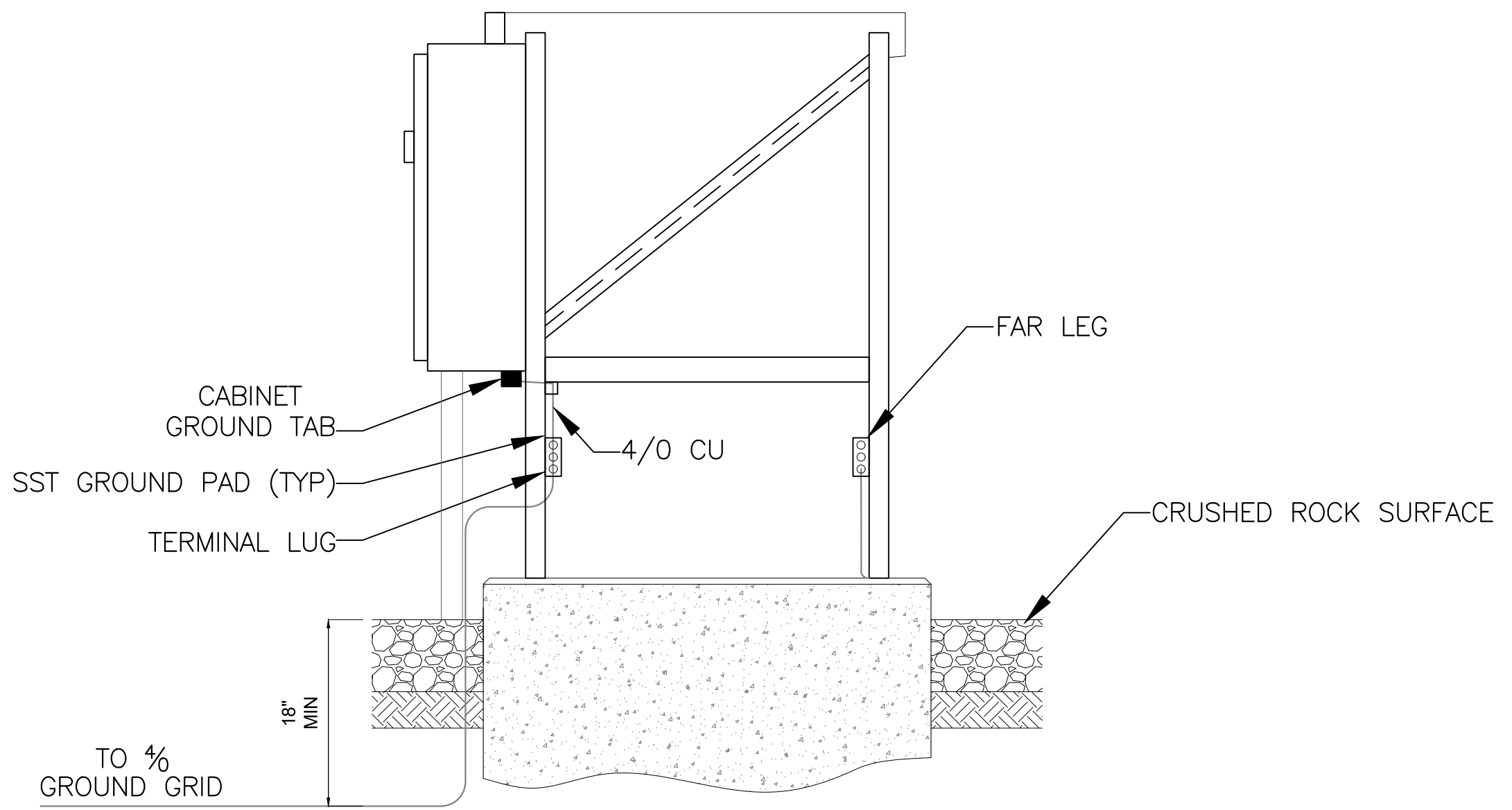
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0	5-21-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
REV.	DATE	DESCRIPTION	BY	APPRO.
DRN BY:	PBE	LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: GROUNDING GRID	
CHK BY:				
REV:	0	DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-E2020	
SCALE:	N/A	LAT: 36.265149 LONG: -115.061292	SHEET:	1 OF 1



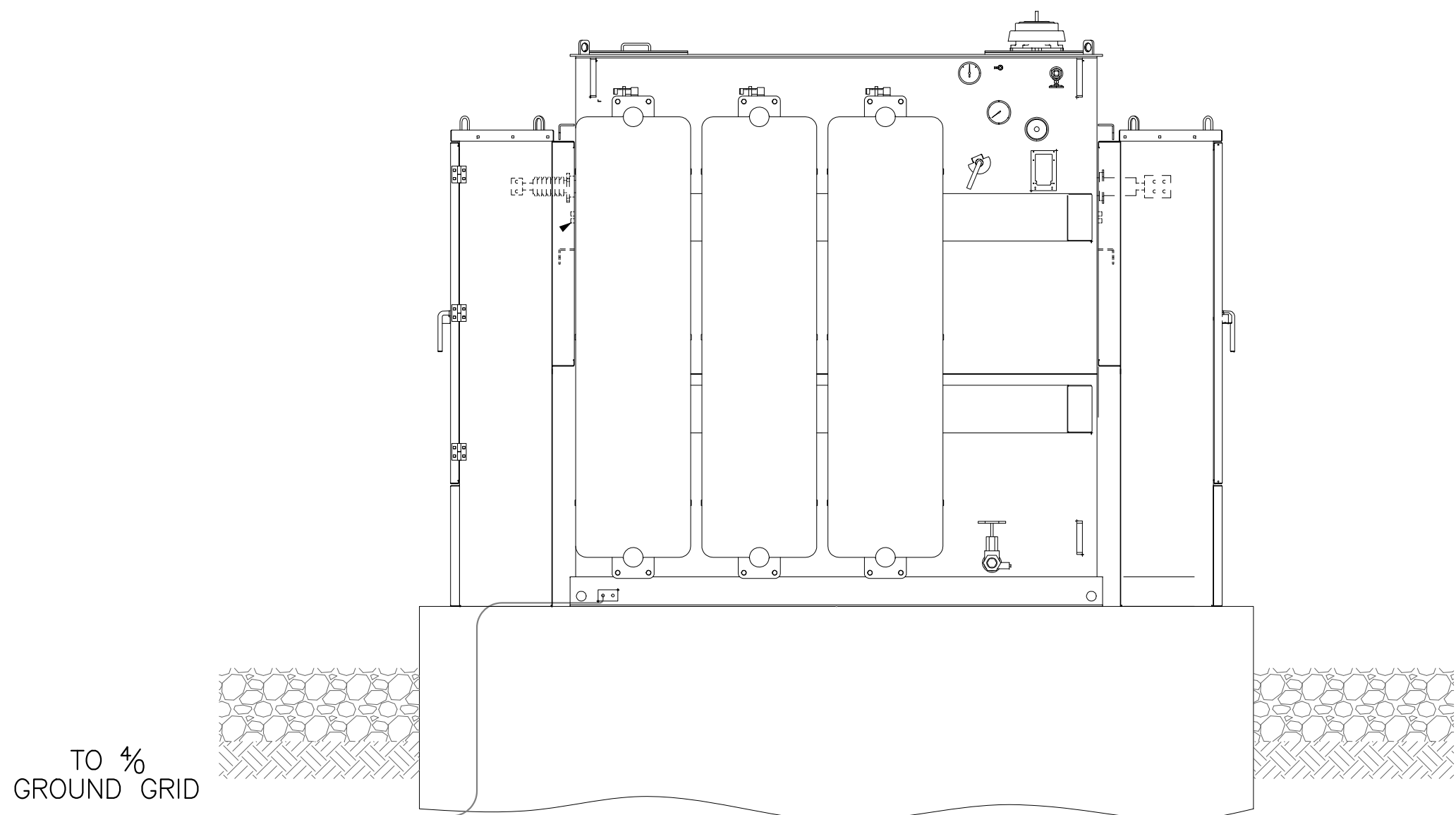
STRUCTURE GROUNDING
NTS



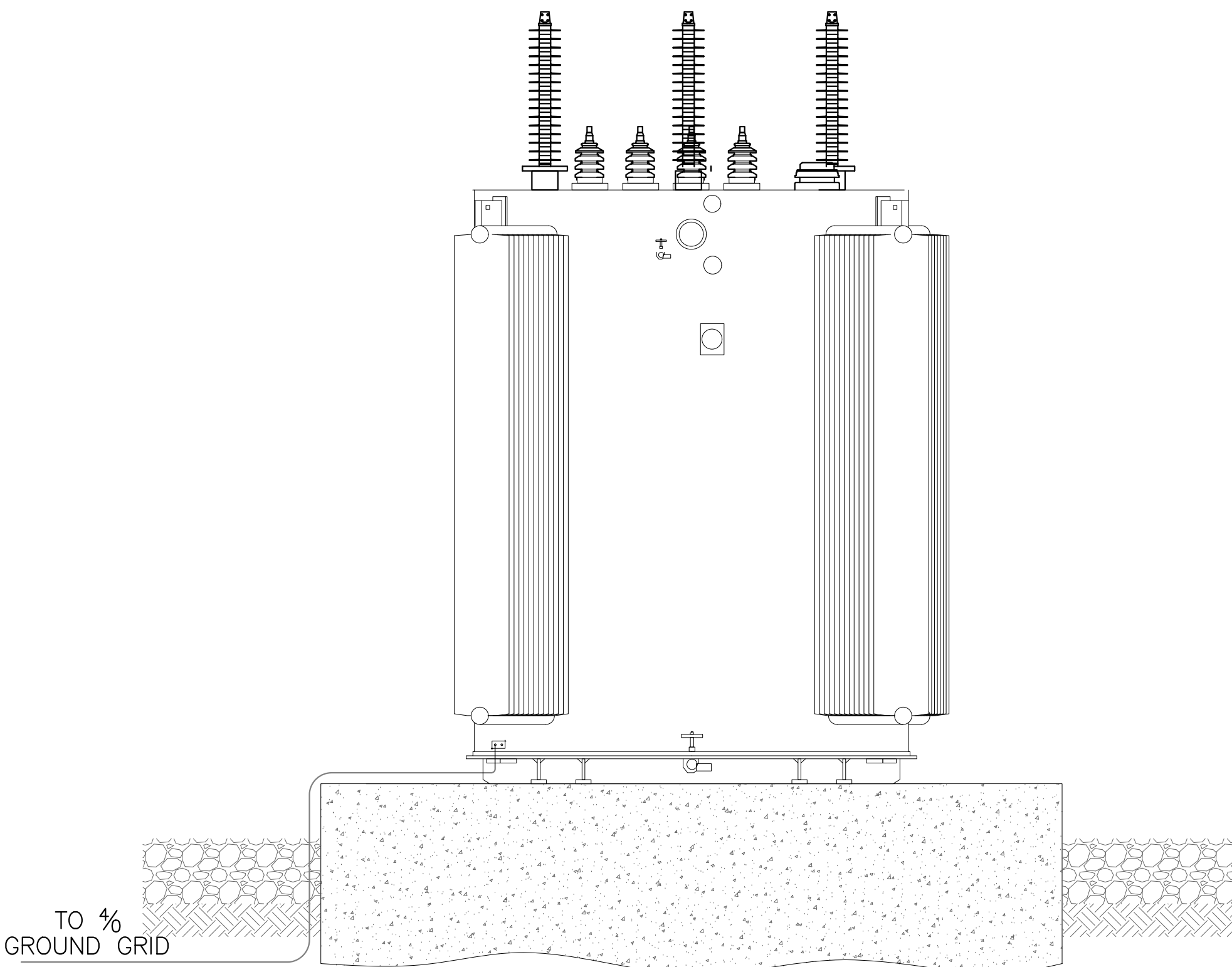
DISCONNECT SWITCH GROUNDING
NTS



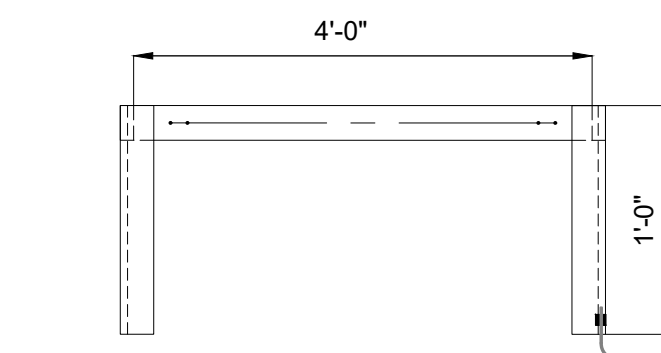
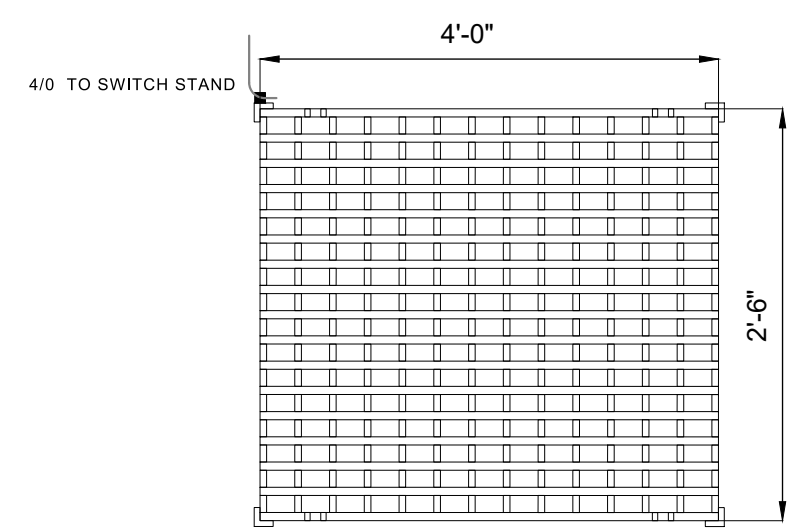
BREAKER GROUNDING
NTS



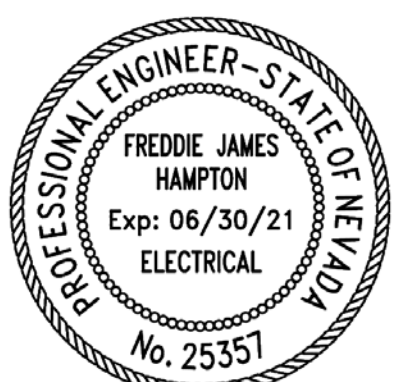
12.47-4.16kV TRANSFORMER GROUNDING DETAIL
NTS



69kV TRANSFORMER GROUNDING DETAIL
NTS



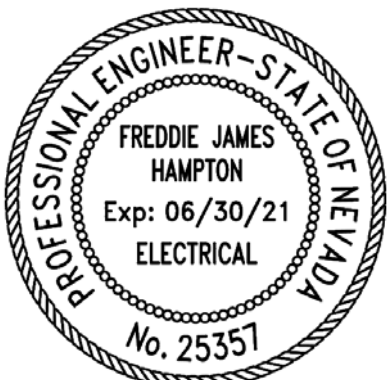
GROUNDING PLATFORM DETAIL
NTS



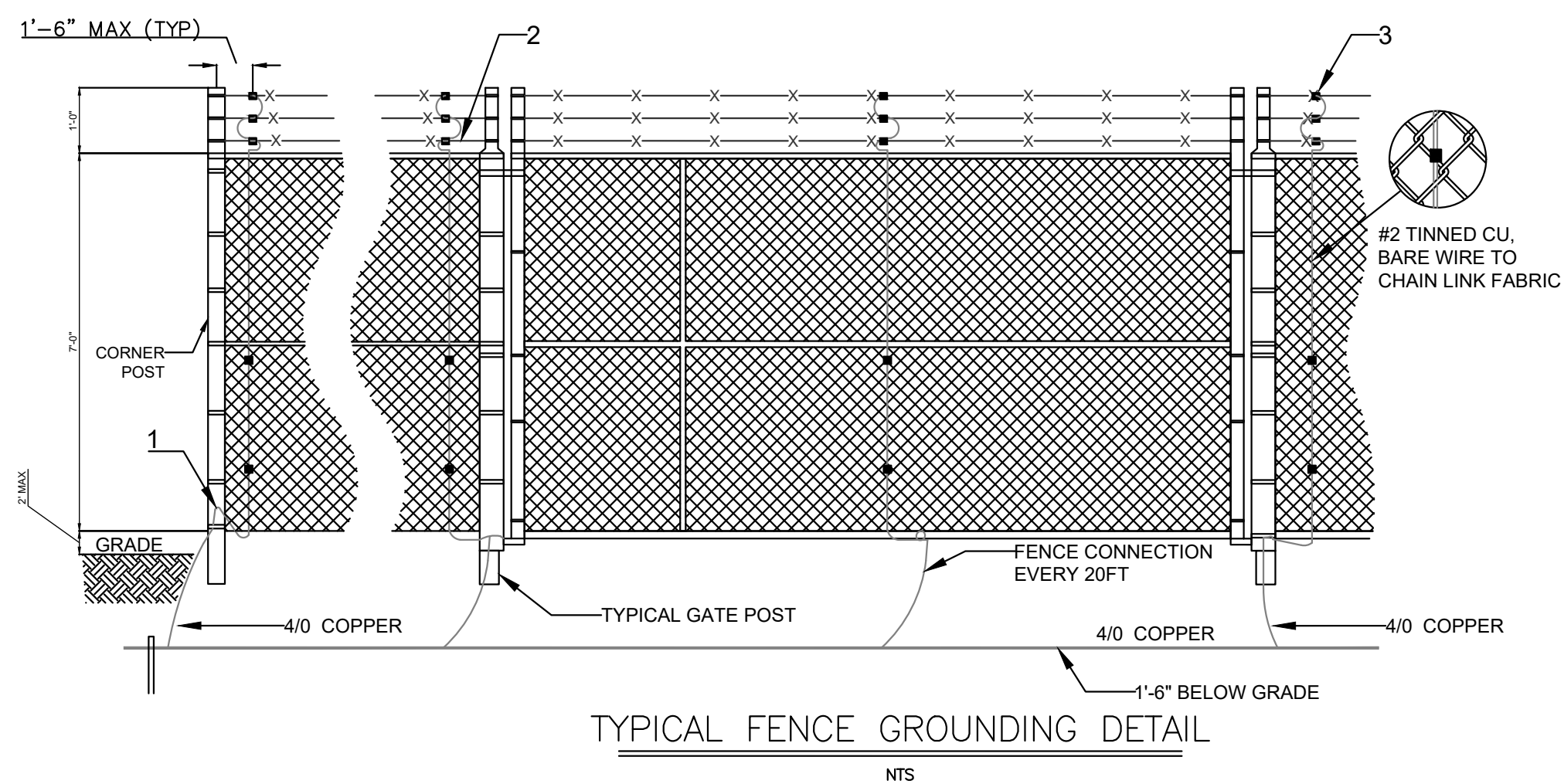
Date Signed: 06/25/20

- NOTES:
- GROUND SWITCHGEAR AND METERING AS REQUIRED WITH 4/0 GROUND STINGERS, THROUGH FOUNDATION WINDOWS.

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballentine Ave. Suite 100 Kearney City, Missouri 64116-2188				
REV.	DATE	DESCRIPTION	BY	APPRO.
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
DRN BY: PBE		LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: GROUNDING DETAILS	
CHK BY:		DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-E2021	
REV: 0	LAT: 36.265149	LONG: -115.061292	SHEET: 1 OF 1	
SCALE: N/A				



Date Signed: 06/25/20

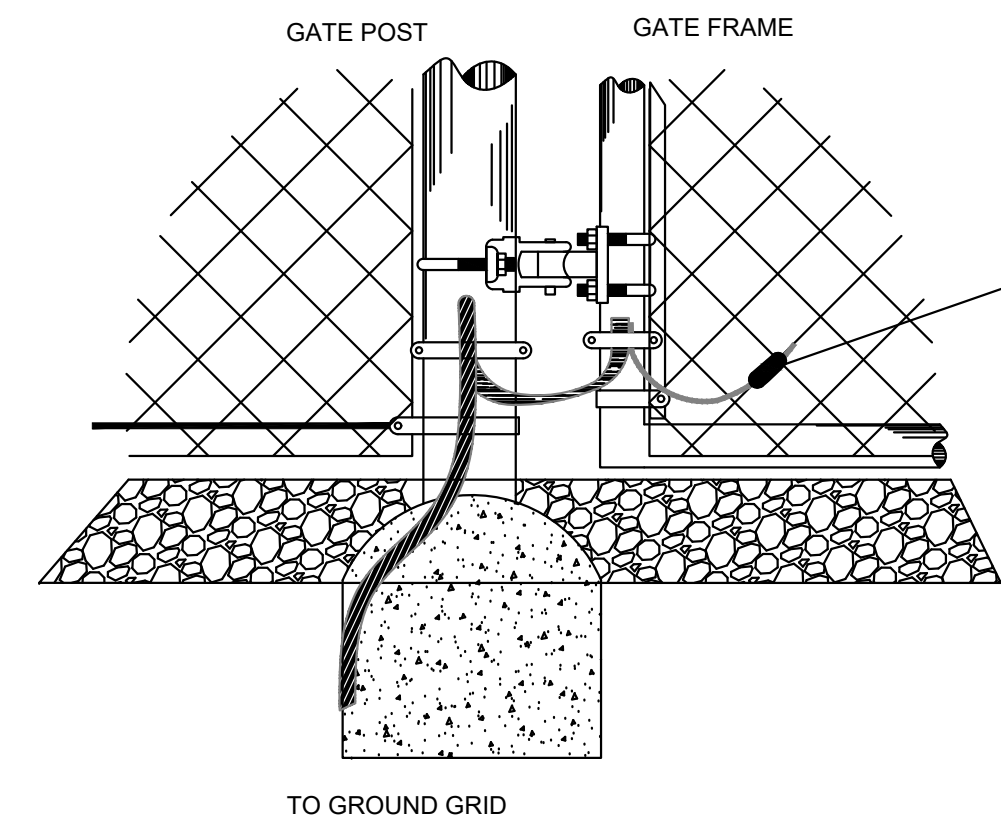
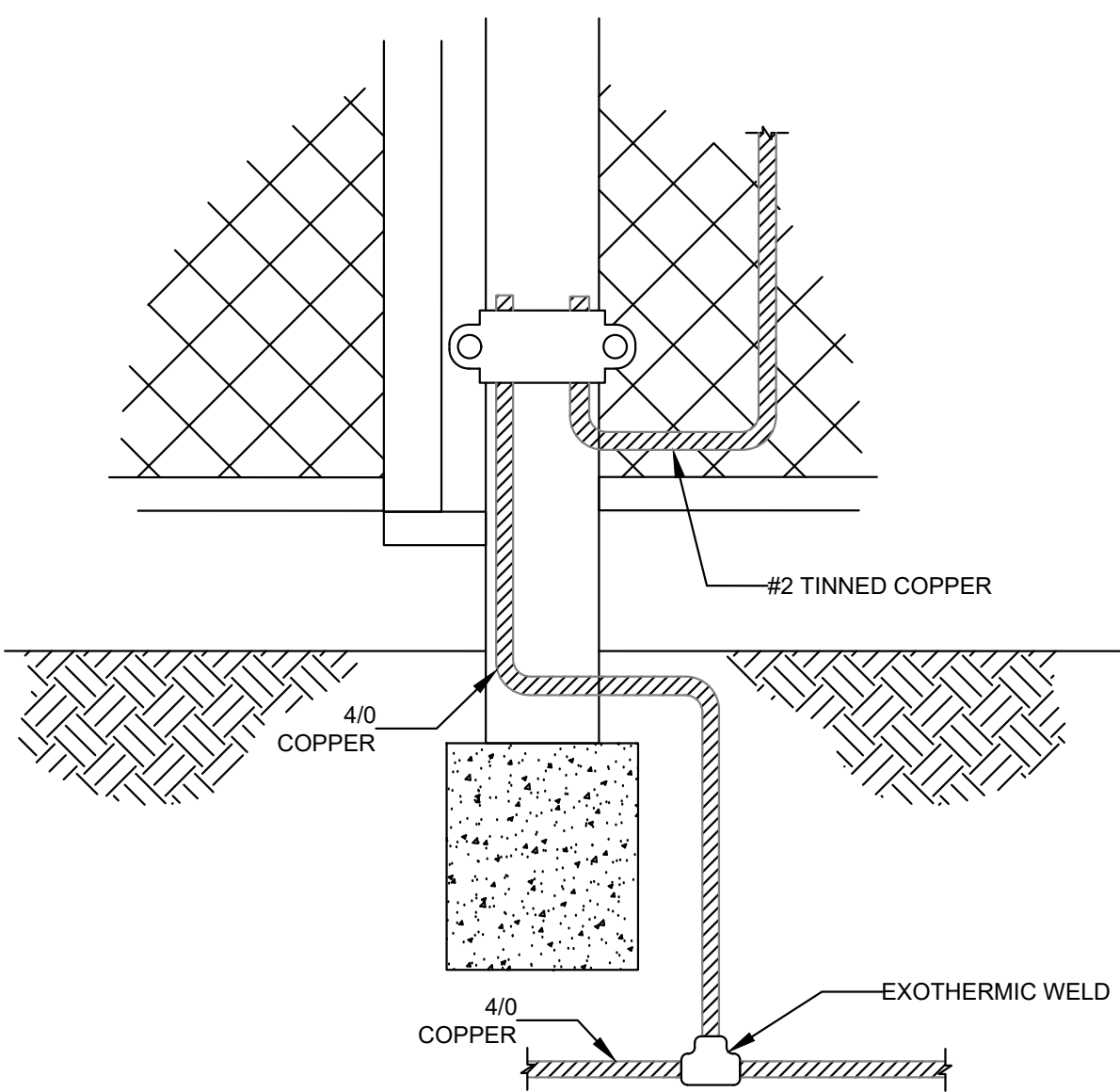


GENERAL NOTES:

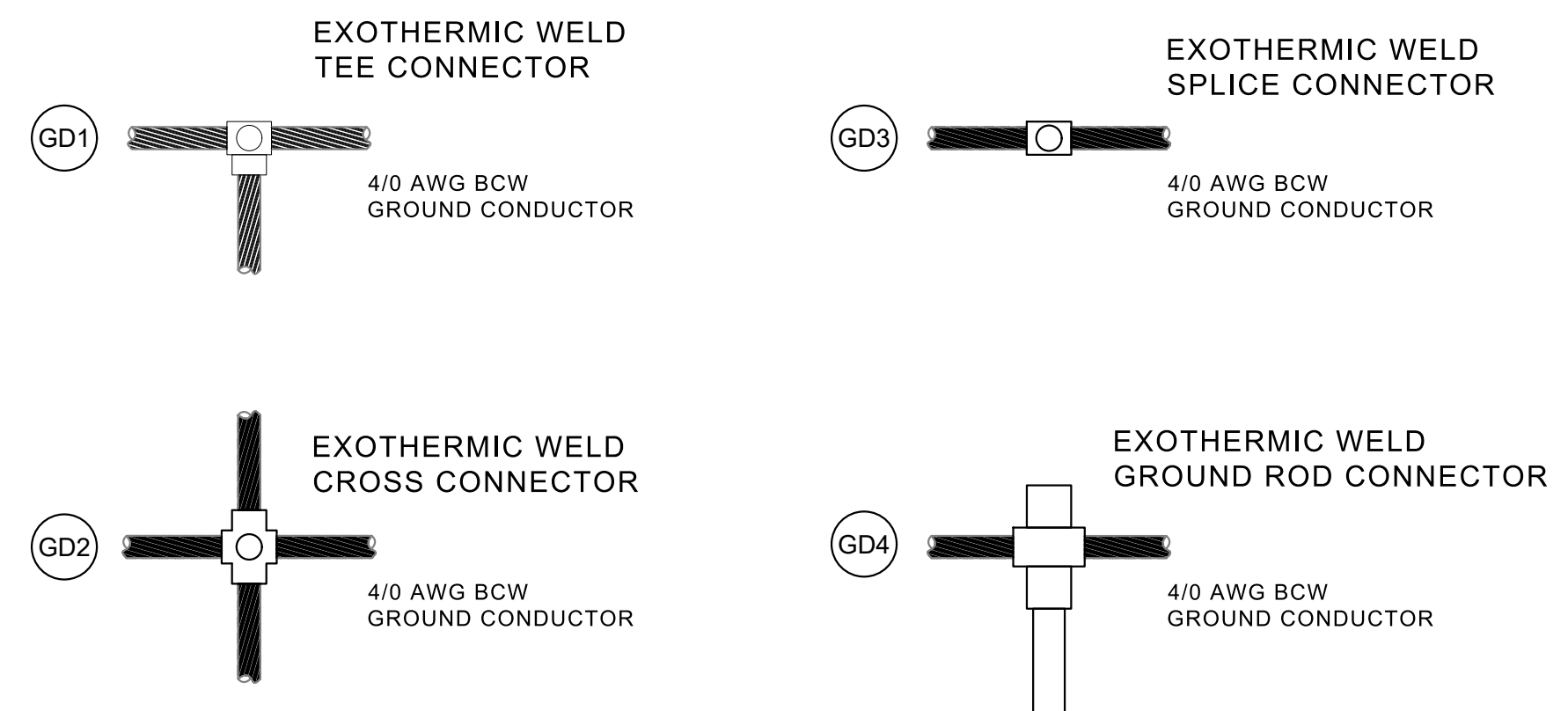
1. ALL BELOW GRADE CONNECTIONS IN SUBSTATION AREA SHALL BE HEAVY-DUTY EXOTHERMIC TYPE.
2. GROUND FENCE POSTS AT A MAXIMUM INTERVAL OF TWENTY (20) FEET.
3. GROUND EVERY GATE POST AND CORNER POST.
4. FENCE GROUND SHALL BE ROUTED 3-5 FEET OUTSIDE FENCE PERIMETER.
5. FABRIC AND BARBED WIRE ON BOTH SIDES OF CORNER POSTS SHALL BE GROUNDED WITH #2 TINNED CU BARE WIRE.
6. MAKE STINGER CONNECTION TO GROUND GRID EVERY 20FT ALONG FENCE.

KEY NOTES:

1. ATTACH 4/0 BARE COPPER CABLE TO FENCE POST WITH CLAMP.
2. ATTACH #2 TINNED CU TO TOP FENCE POST WITH SPLIT BOLT CLAMP, ANDERSON.
3. ATTACH #2 TINNED CU CABLE TO BARBED WIRE WITH TINNED BRONZE SPLIT BOLT CONNECTOR.
4. ALL QTYs AND BILL OF MATERIAL FOR FENCE AND FENCE GROUNDING TO BE SUPPLIED BY FENCING CONTRACTOR.

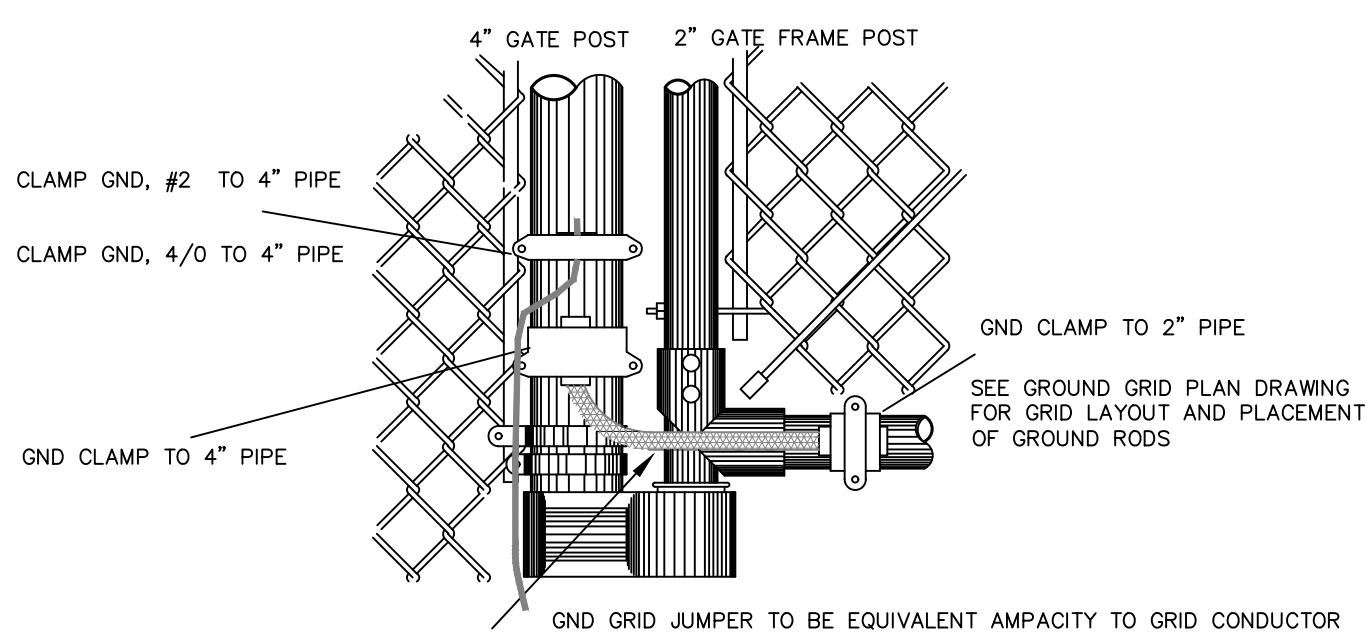
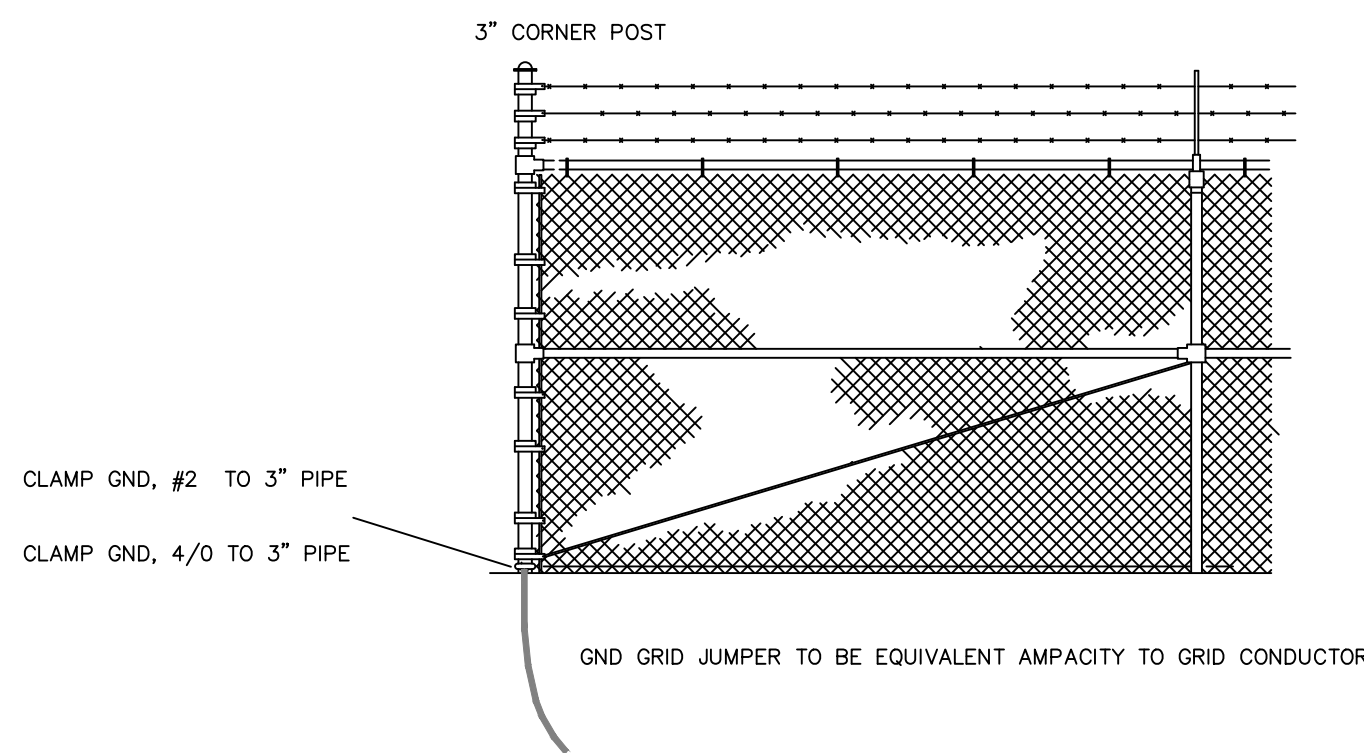


GATE POST & GATE FRAME GROUND DETAIL



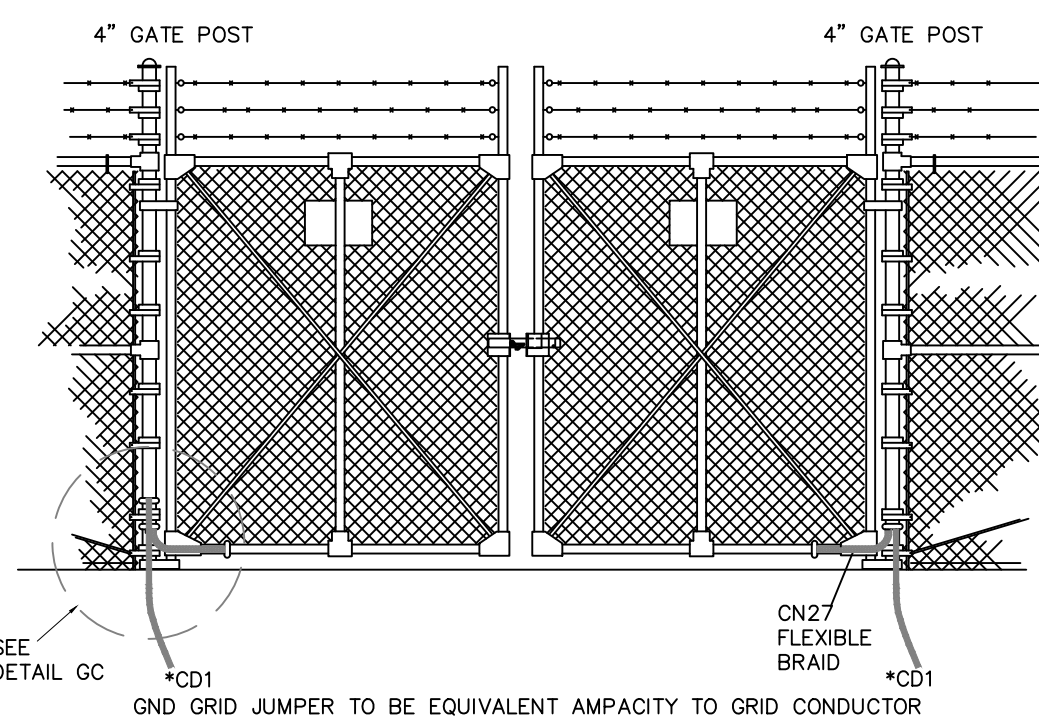
DETAIL - EXOTHERMIC WELDS

TYPICAL FOR ALL BELOW GRADE CONNECTIONS - NOT TO SCALE

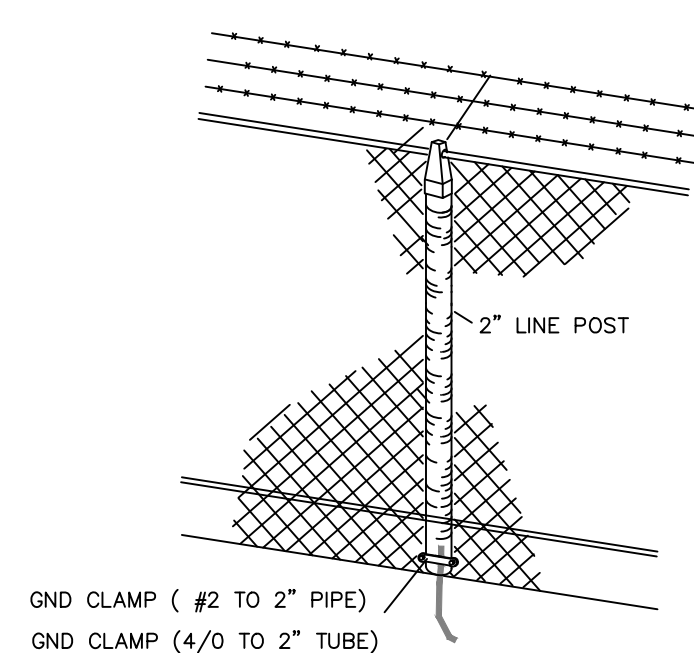


DETAIL GC
GATE HINGE GROUNDING DETAIL
(REQ'D FOR EACH GATE POST)

NOTE:
ALL BRAIDED GROUND STRAPS TO BE INSTALLED
TO ALLOW FULL RANGE OF OPERATING MOTION



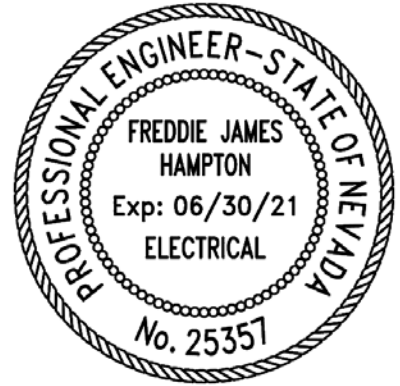
DETAIL GB
DOUBLE DRIVE GATE GROUNDING DETAIL
(2 REQ'D PER GATE)



DETAIL GA
TYPICAL FENCE GROUNDING DETAIL
FOR LINE POST

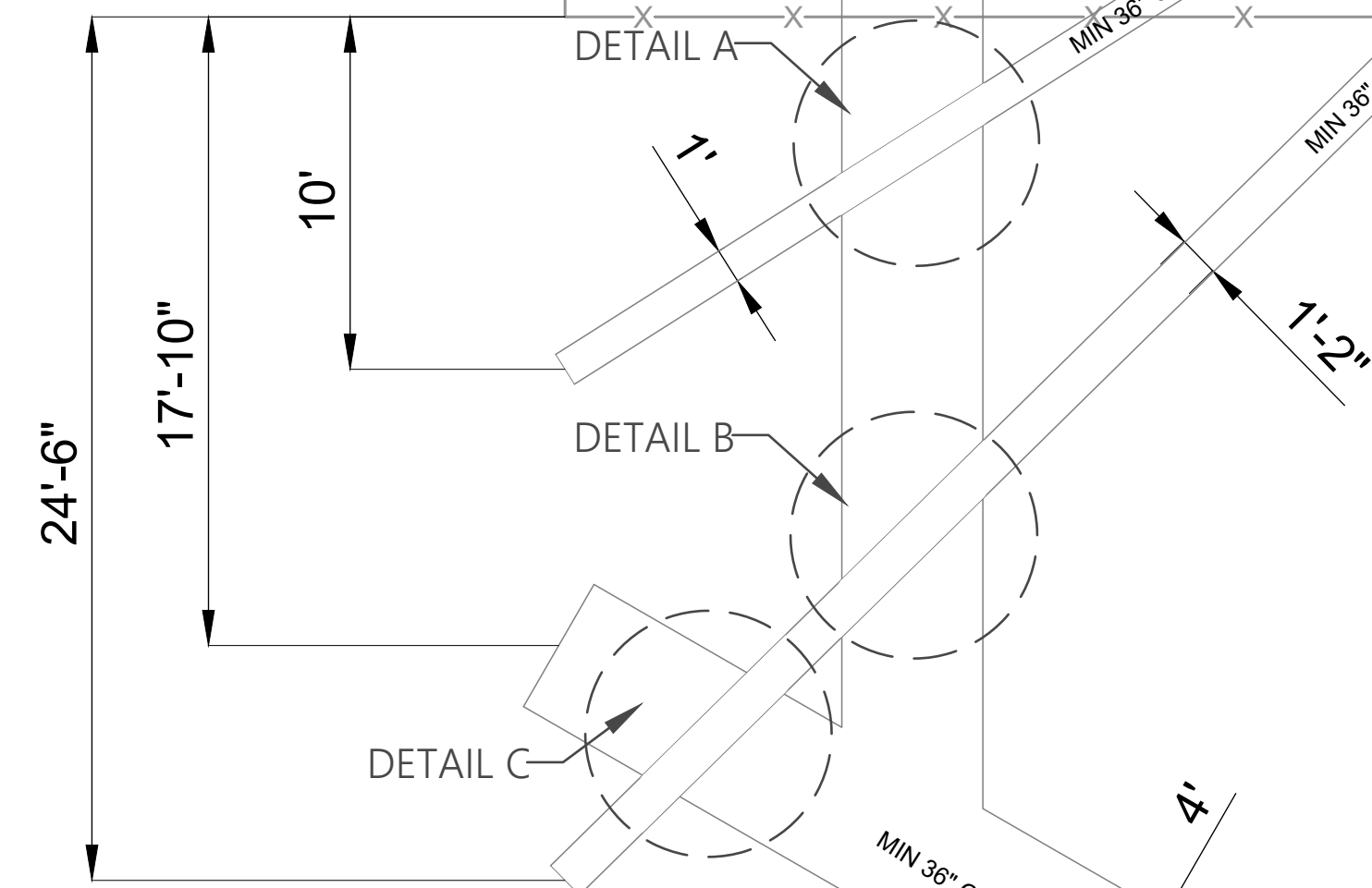
NOTE:
ATTACH GROUND GRID TO LINE POSTS AT A
MAXIMUM OF 20' INTERVALS

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballantray Ave. Suite 100 Kansas City, Missouri 64119-2188				
REV.	DATE	DESCRIPTION	BY	APPRO.
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	F.JH
DRN BY:	PBE	LOCATION:	DRAWING NAME:	
CHK BY:		RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	FENCE GROUNDING DETAILS	
REV:	0	DISTRICT:	DRAWING NO:	
SCALE:	N/A	NVE - LV NORTH	RYZE-E2022	
		LAT: 36.265149	SHEET:	
		LONG: -115.061292	1 OF 1	



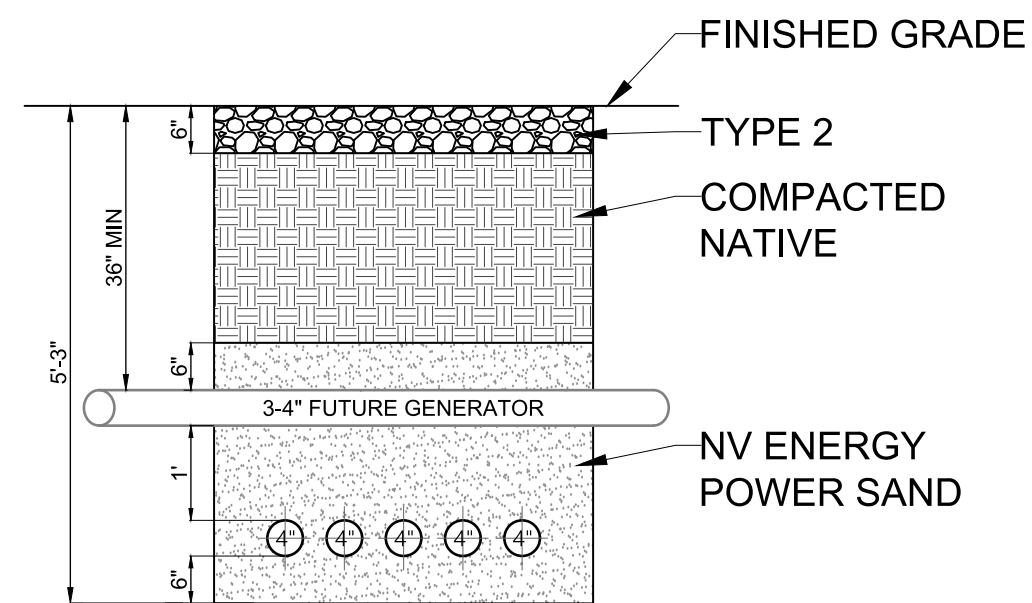
Date Signed: 06/25/20

CONDUIT RUN	QTY	DIA	RUN LENGTH	TOTAL CONDUIT LENGTH	90 DEG ELBOWS	45 DEG BENDS
1	1	3"	73'	73' - 3 INCH	3 - 3 INCH	1 - 3 INCH
1	2	2"	73'	146' - 2 INCH	6 - 2 INCH	2 - 2 INCH
2	1	2"	35'	35' - 2 INCH	2 - 2 INCH	
3	2	4"	46'	92' - 4 INCH	4 - 4 INCH	4 - 4 INCH
4	2	4"	34'	68' - 4 INCH	4 - 4 INCH	
5	2	4"	28'	56' - 4 INCH	4 - 4 INCH	
6	2	6"	50'	100' - 6 INCH	2 - 4 INCH	
7	3	4"	36'	72' - 4 INCH	2 - 4 INCH	
8 DESIGNED AND PLANNED BY ACME						
9 DESIGNED AND PLANNED BY ACME						
CONDUIT SIZE	TOTAL LENGTH	90 DEG ELBOWS	45 DEG BENDS	COUPLINGS (BASE FROM 10' LENGTHS)		
2"	181'	8	2	16		
3"	73'	3	1	6		
4"	324'	14	4	28		
6"	100'	2		9		

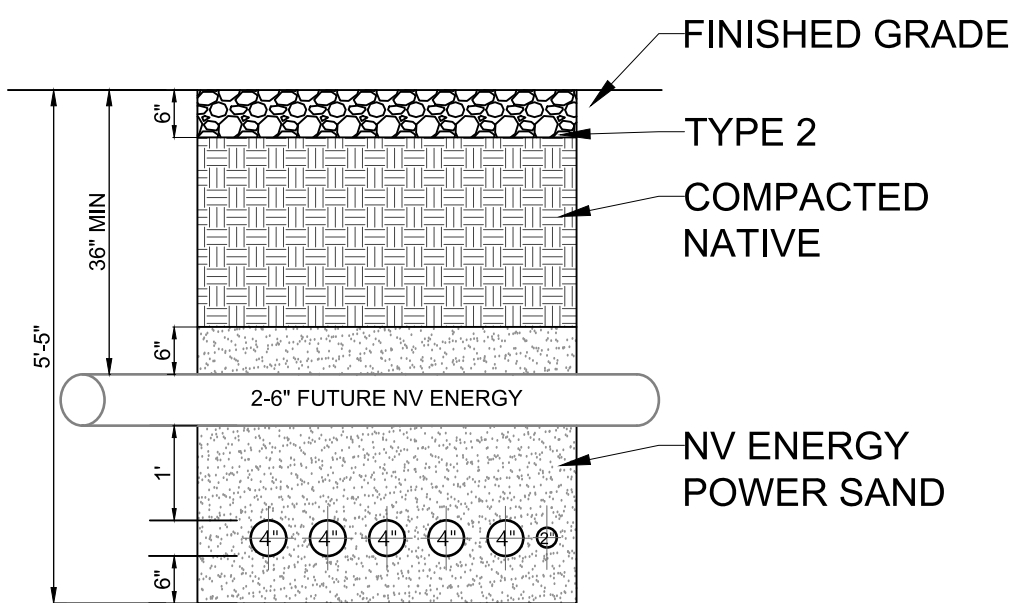


NOTES:

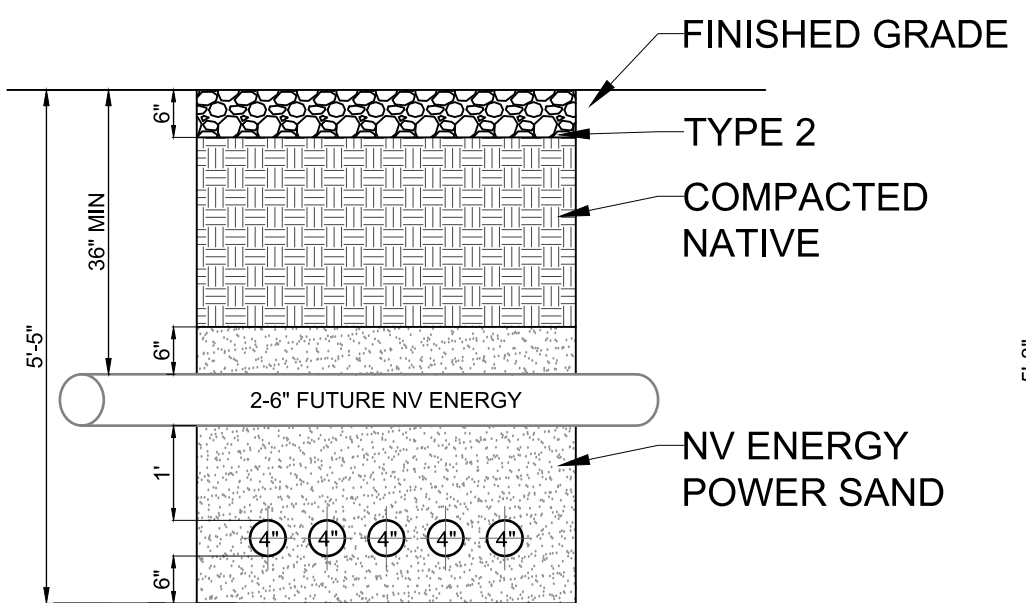
- CONTRACTOR SHALL LOCATE ALL CONDUIT LOCATIONS WITH ACME FOR APPROVAL BEFORE INSTALLING.



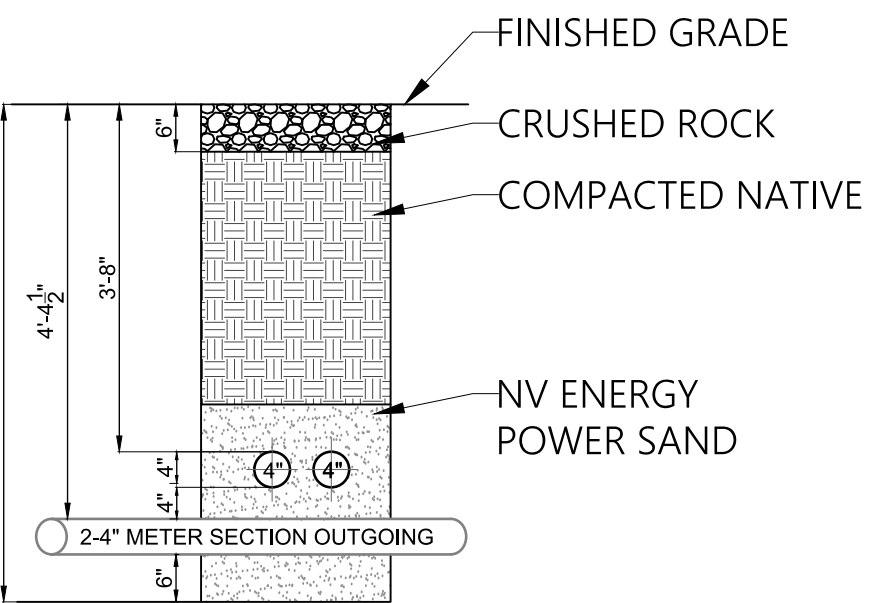
DETAIL A



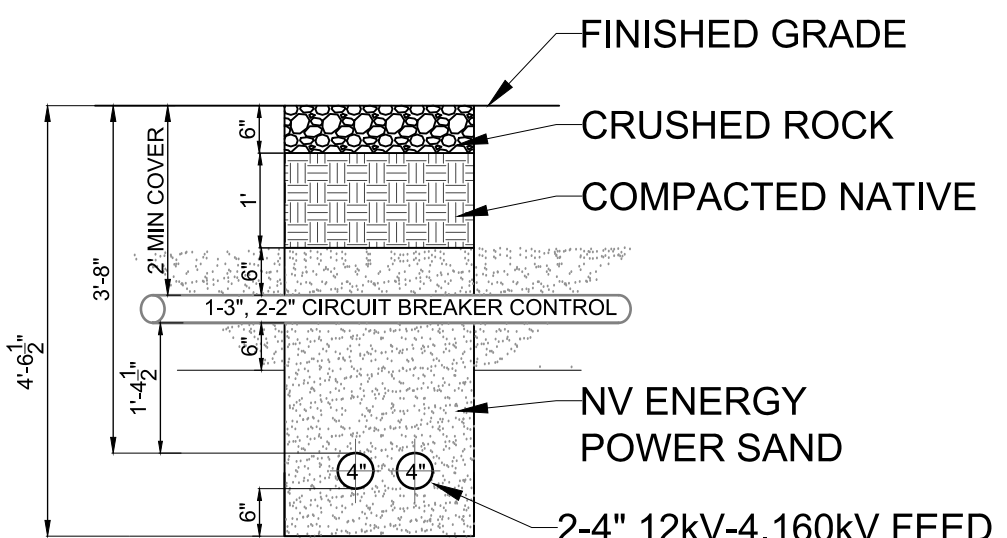
DETAIL B



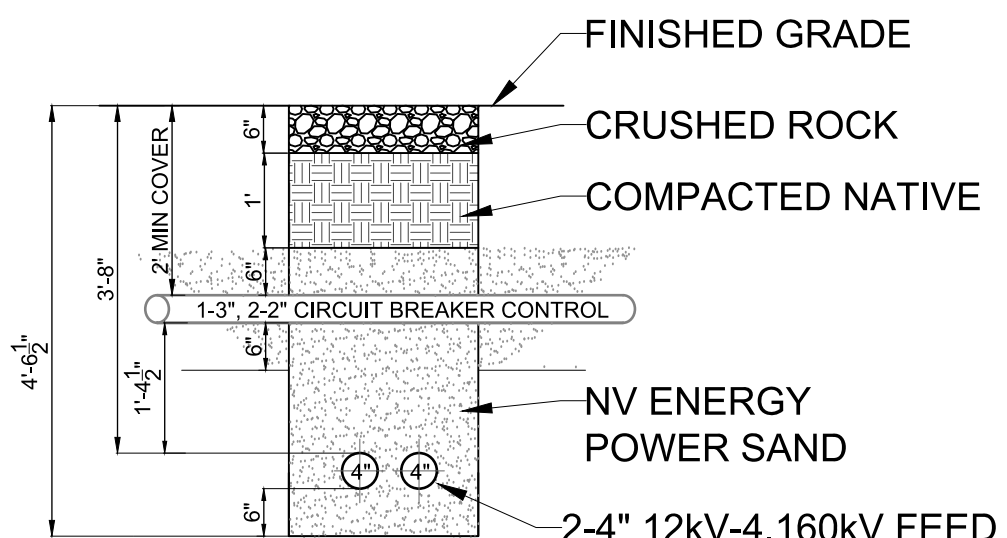
DETAIL C



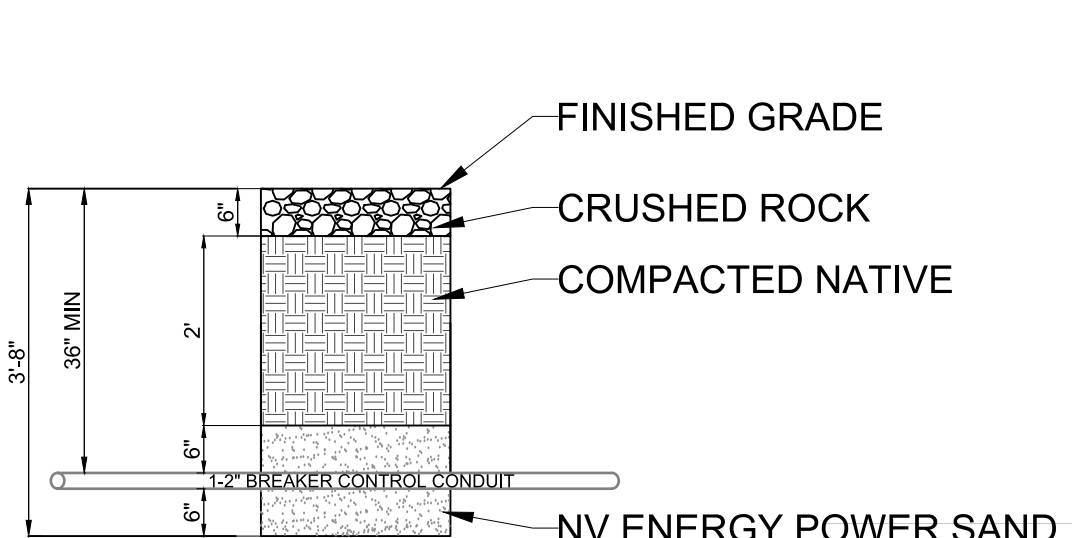
DETAIL D



DETAIL E

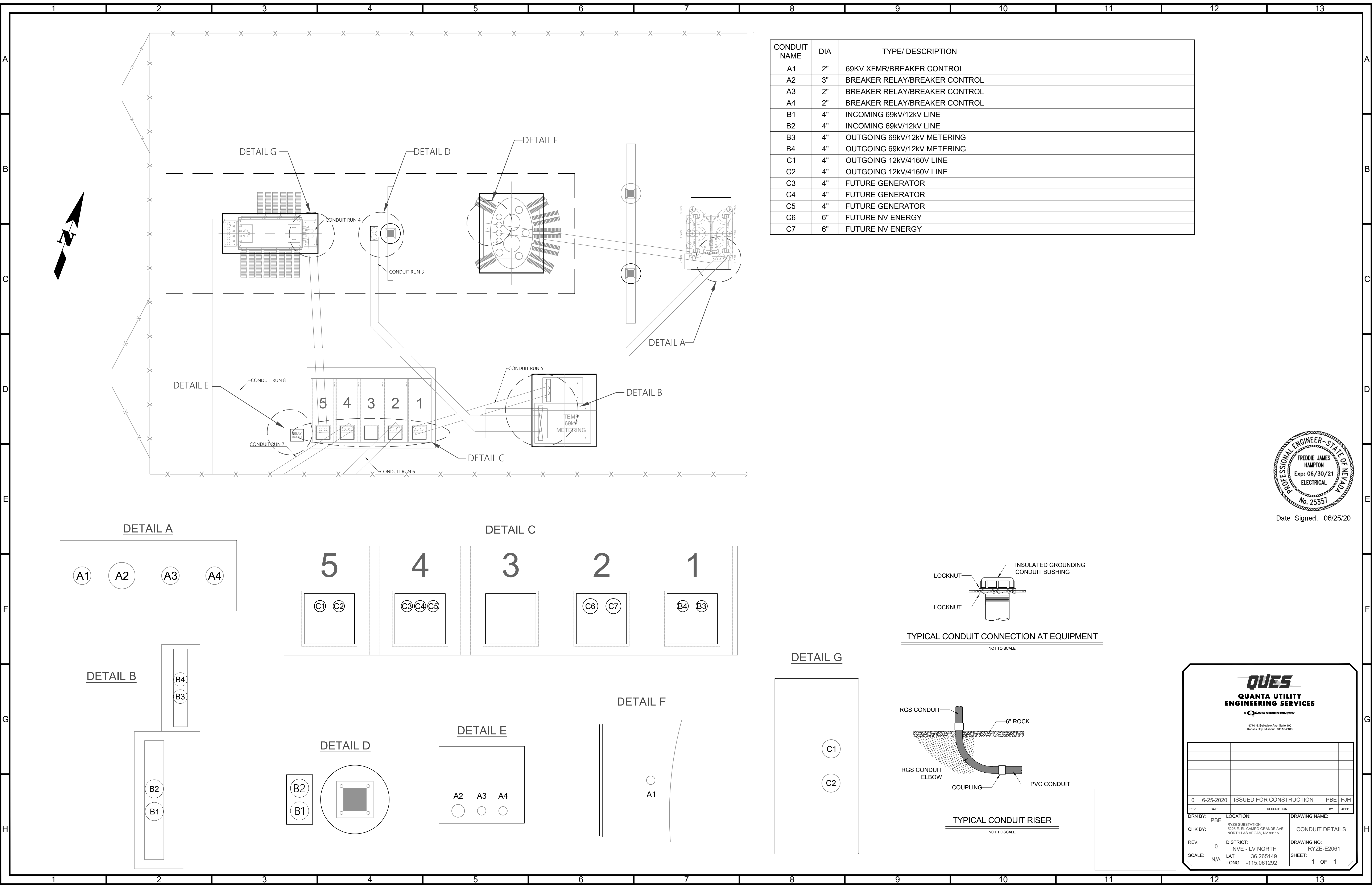


DETAIL F

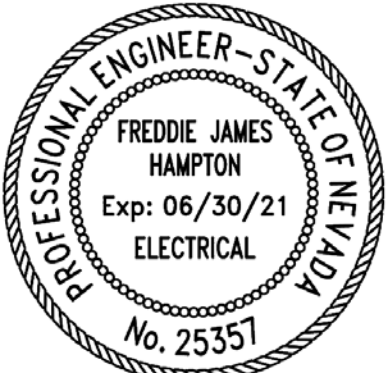


DETAIL G

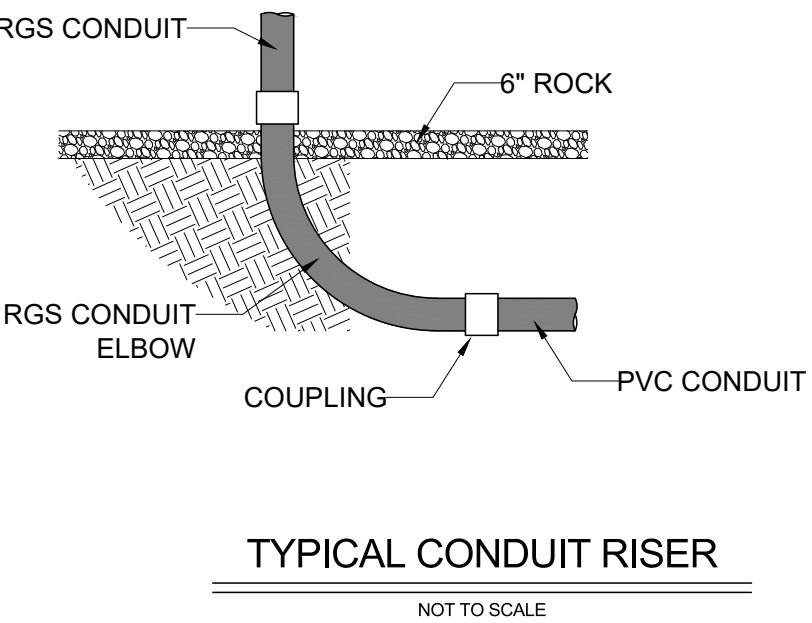
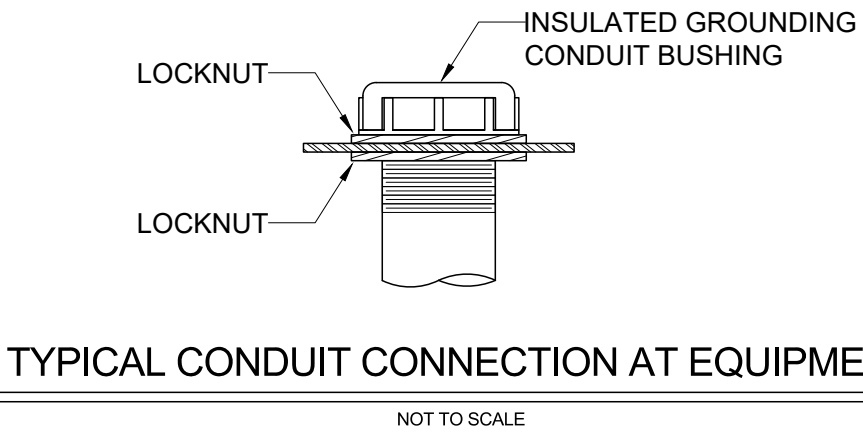
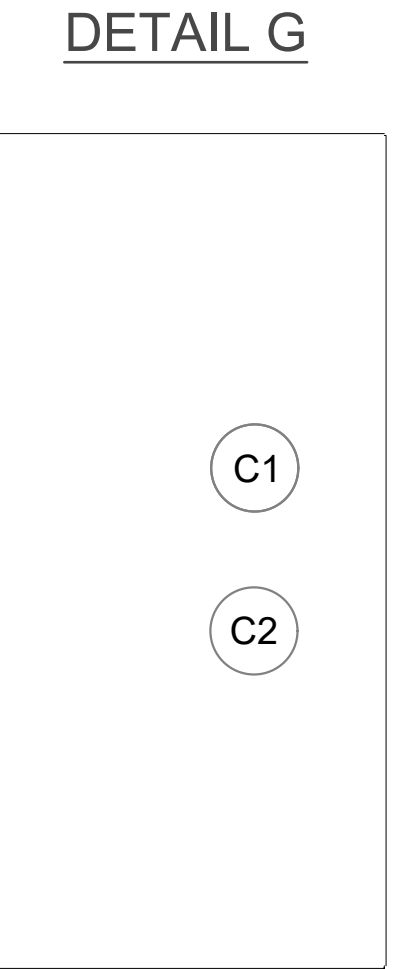
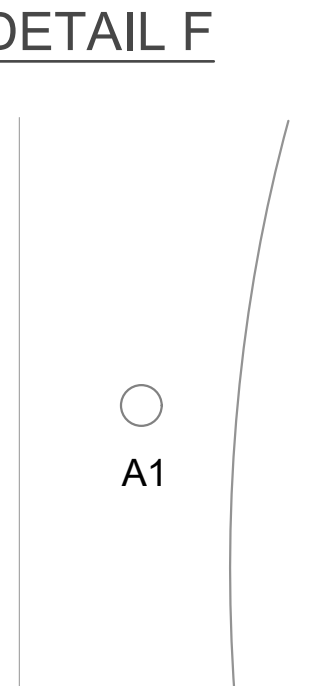
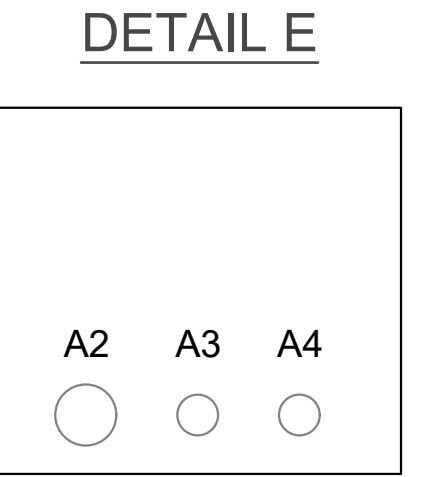
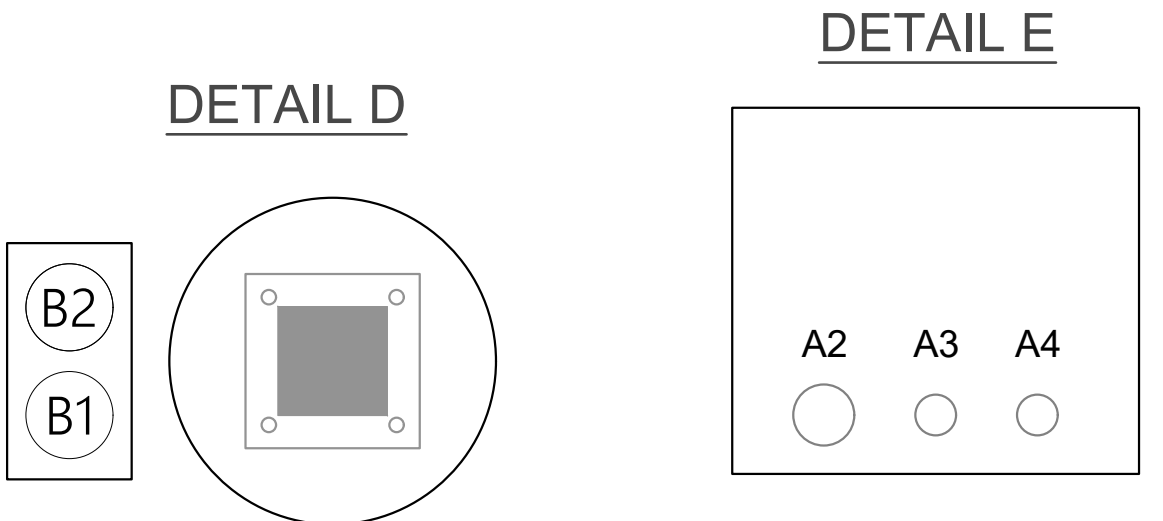
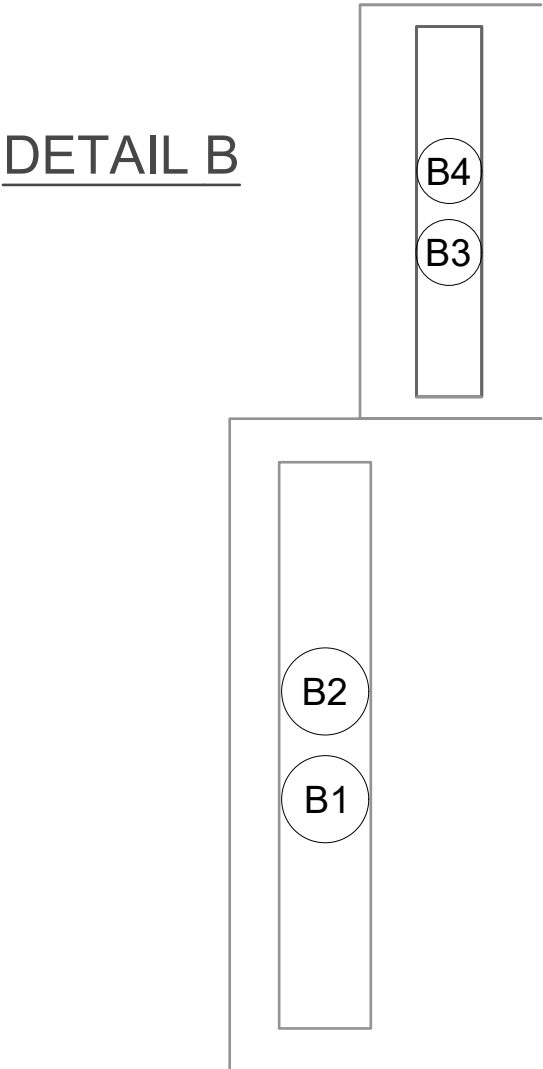
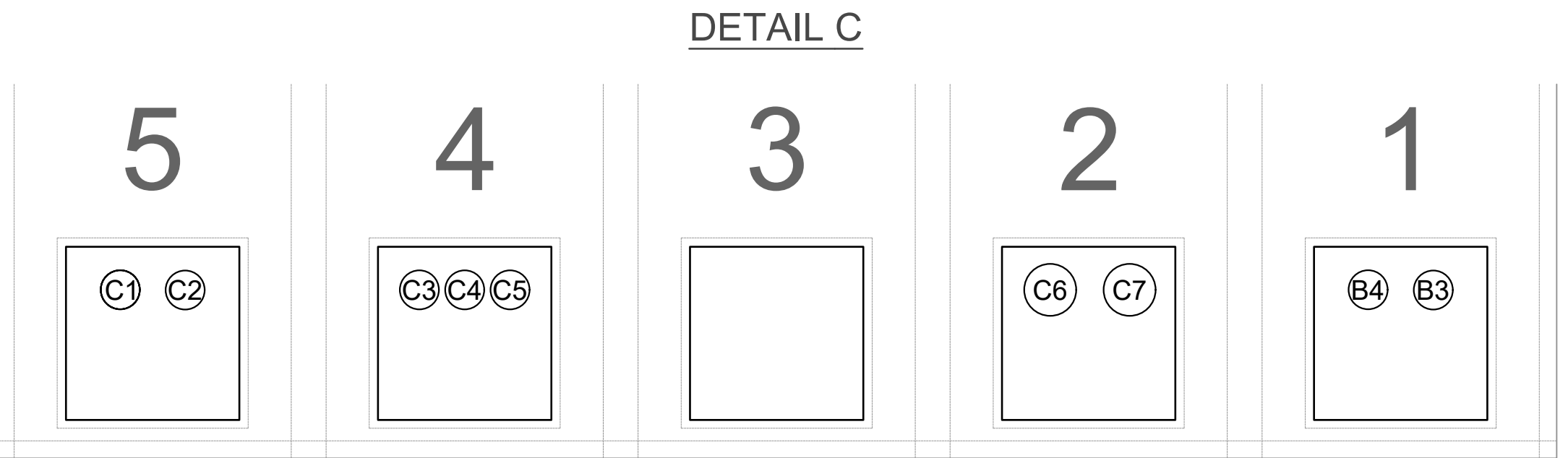
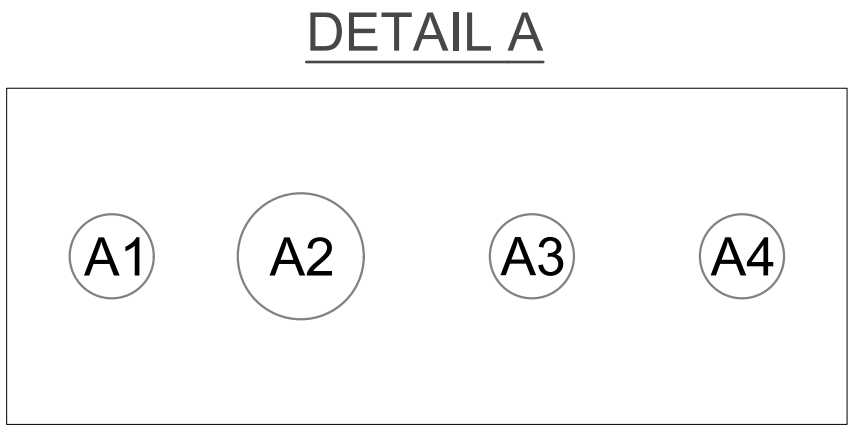
QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY			
4770 N. Ballentine Ave. Suite 100 Kansas City, Missouri 64116-2188			
REV.	DATE	DESCRIPTION	BY
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE F.J.H.
DRN BY:	PBE	LOCATION:	DRAWING NAME:
CHK BY:		RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	CONDUIT PLAN DETAILS
REV:	0	DISTRICT:	DRAWING NO:
SCALE:	N/A	NVE - LV NORTH	RYZE-E2060
		LAT: 36.265149	SHEET:
		LONG: -115.061292	1 OF 1



CONDUIT NAME	DIA	TYPE/ DESCRIPTION	
A1	2"	69KV XFMR/BREAKER CONTROL	
A2	3"	BREAKER RELAY/BREAKER CONTROL	
A3	2"	BREAKER RELAY/BREAKER CONTROL	
A4	2"	BREAKER RELAY/BREAKER CONTROL	
B1	4"	INCOMING 69kV/12kV LINE	
B2	4"	INCOMING 69kV/12kV LINE	
B3	4"	OUTGOING 69kV/12kV METERING	
B4	4"	OUTGOING 69kV/12kV METERING	
C1	4"	OUTGOING 12kV/4160V LINE	
C2	4"	OUTGOING 12kV/4160V LINE	
C3	4"	FUTURE GENERATOR	
C4	4"	FUTURE GENERATOR	
C5	4"	FUTURE GENERATOR	
C6	6"	FUTURE NV ENERGY	
C7	6"	FUTURE NV ENERGY	

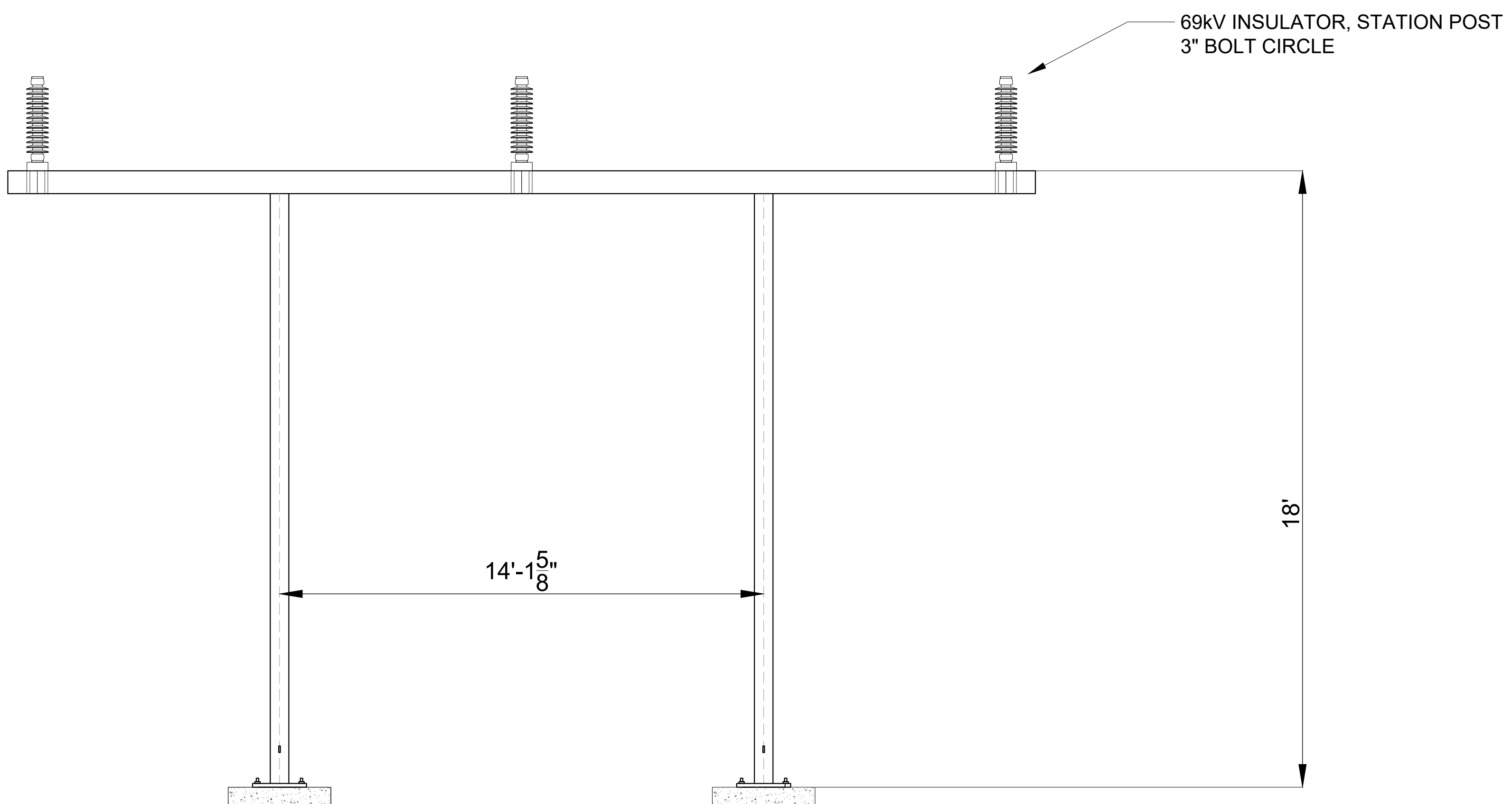


Date Signed: 06/25/20



QUES
QUANTA UTILITY
ENGINEERING SERVICES
A QUANTA SERVICES COMPANY
4770 N. Ballentine Ave. Suite 100
Kearney City, Missouri 64116-2188

0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
DRN BY:	PBE	LOCATION:	DRAWING NAME:	
CHK BY:		RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	CONDUIT DETAILS	
REV:	0	DISTRICT:	DRAWING NO:	
SCALE:	N/A	NVE - LV NORTH	RYZE-E2061	
		LAT: 36.265149	SHEET:	
		LONG: -115.061292	1 OF 1	



Technical drawing of a square base plate. The overall dimensions are 1'-4" (16") by 1'-4" (16"). The plate features a central square hole with a side length of 12". There are four circular holes, each with a diameter of 1 1/4", located at the corners of the plate. The dimensions are specified as follows:

- Overall width: 1'-4" (16")
- Overall height: 1'-4" (16")
- Central square hole: 12" by 12"
- Corner holes: (4) 1 1/4" DIA HOLES
- Distances from the outer edges to the center of the corner holes: 2" (horizontal) and 2" (vertical).
- Distances from the center of the corner holes to the center of the central square hole: 8" (horizontal) and 8" (vertical).

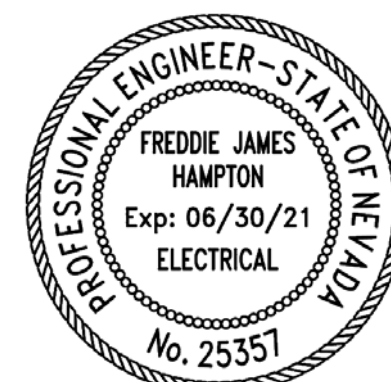
BASE PLATE

NTS - (TYP) ALL SUPPORT STRS



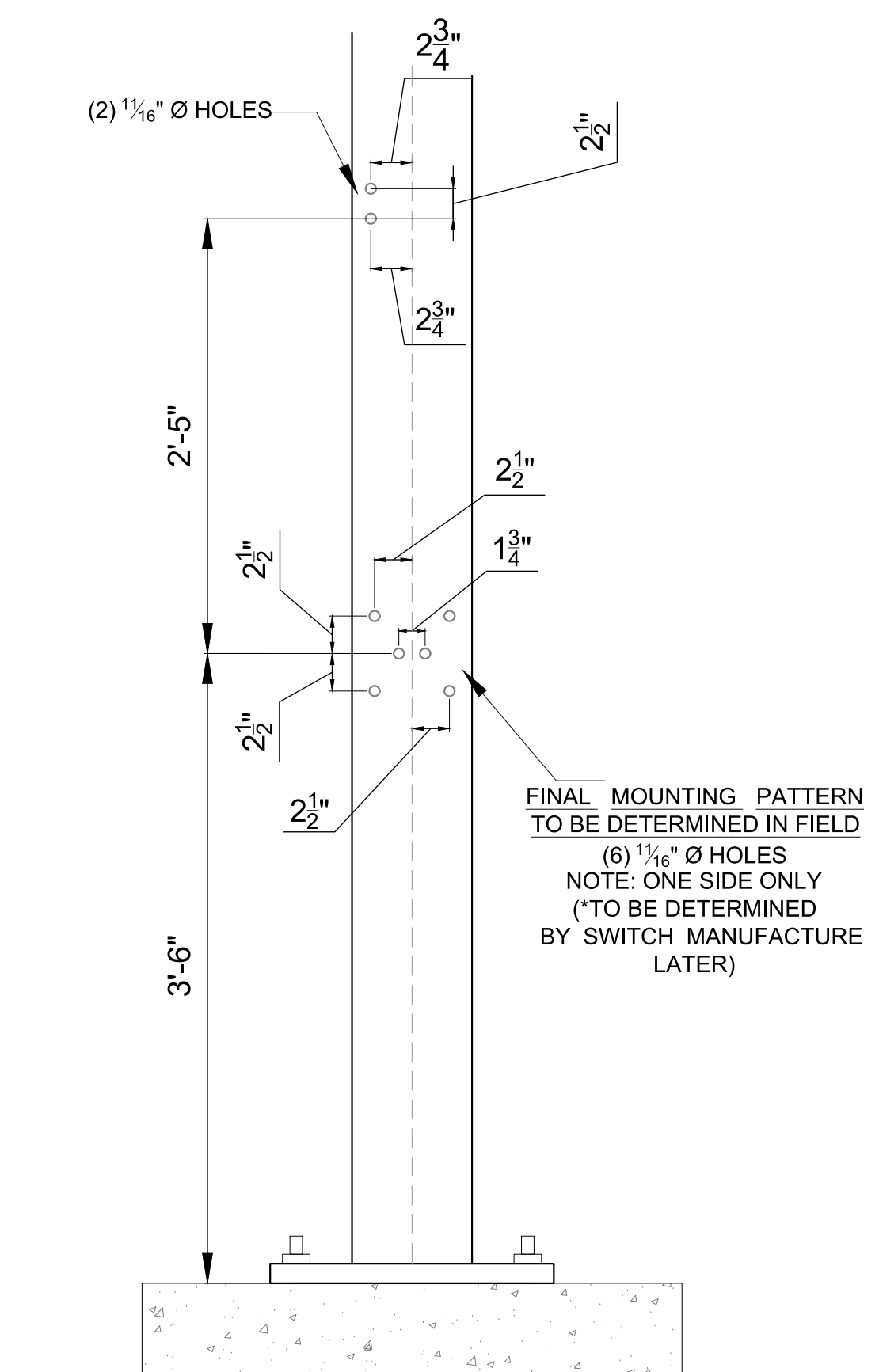
NOTES:

1. PROVIDE GROUNDING TABS/PROVISIONS 1' ABOVE ALL BASE PLATES AND 1' BELOW ALL VANGS FOR RUNNING 4/0 GROUND TO TOP OF VANGS.
2. THESE ARE PRELIMINARY DESIGN SHAPES, FINAL SHOP DRAWINGS TO BE PROVIDED BY ACME.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED.

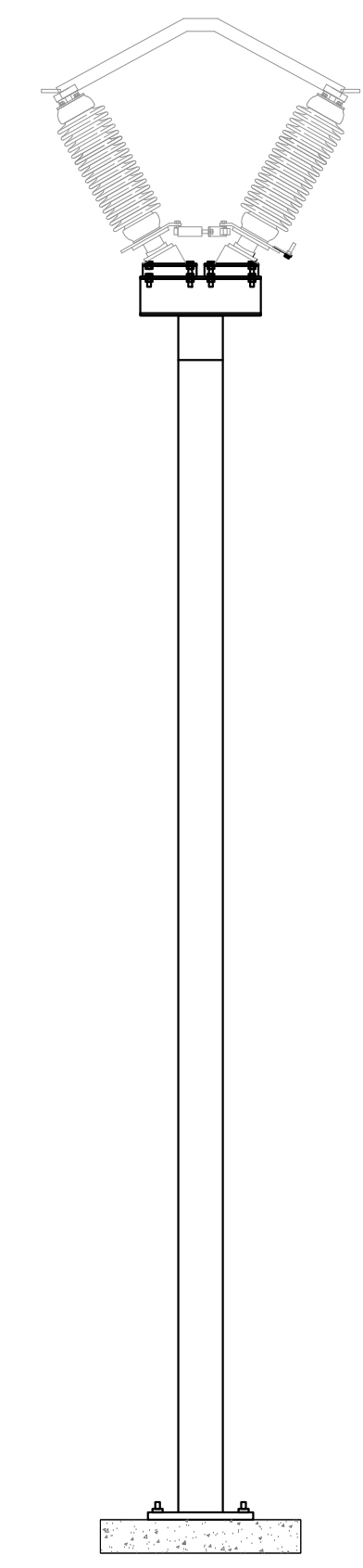


Date Signed: 06/25/20

 QUANTA UTILITY ENGINEERING SERVICES 											
4770 N. Bellview Ave. Suite 100 Kansas City, Missouri 64119-2188											
0		6-25-2020				ISSUED FOR CONSTRUCTION		PBE		FJH	
REV.		DATE		DESCRIPTION				BY		APP'D.	
DRN BY:		PBE		LOCATION:				DRAWING NAME:			
CHK BY:				RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115				STEEL SUPPORT DETAILS 1			
REV:		0		DISTRICT: NVE - LV NORTH				DRAWING NO: RYZE-S7000			
SCALE:		N/A		LAT: 36.265149 LONG: -115.061292				SHEET: 1 OF 3			

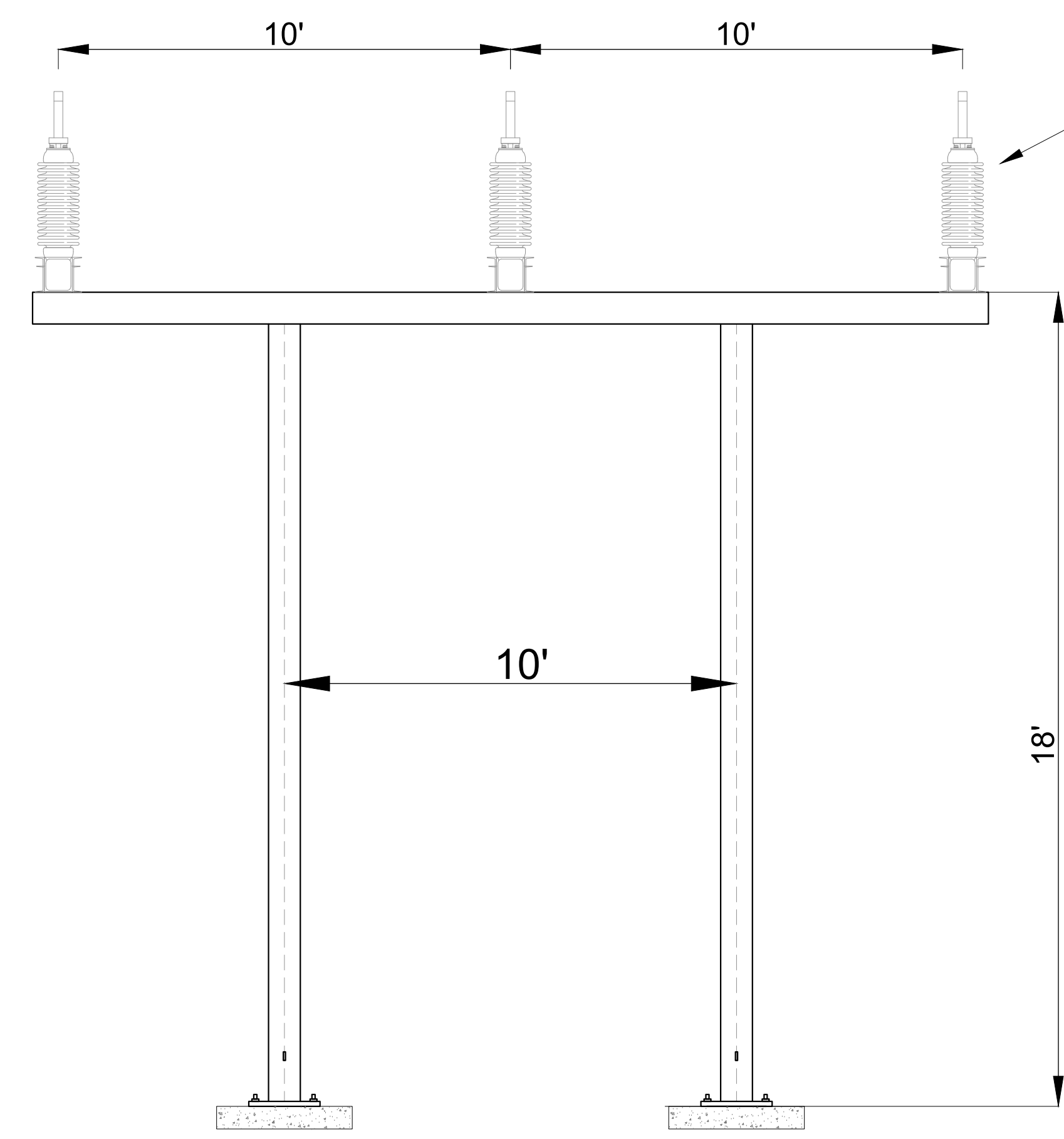


VEE SWITCH CRANK
HANDLE MOUNTING HOLES

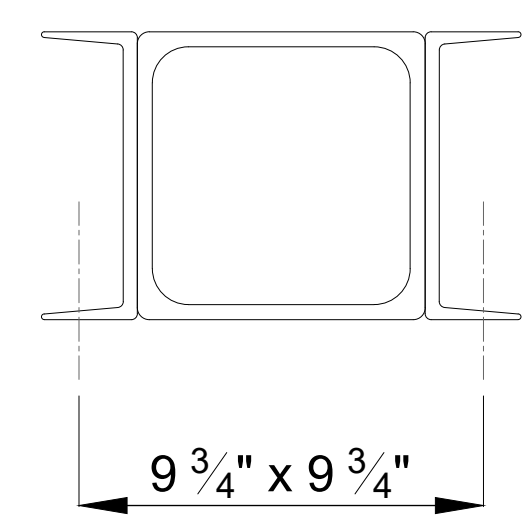


115kV CENTER BREAK SWITCH SUPPORT

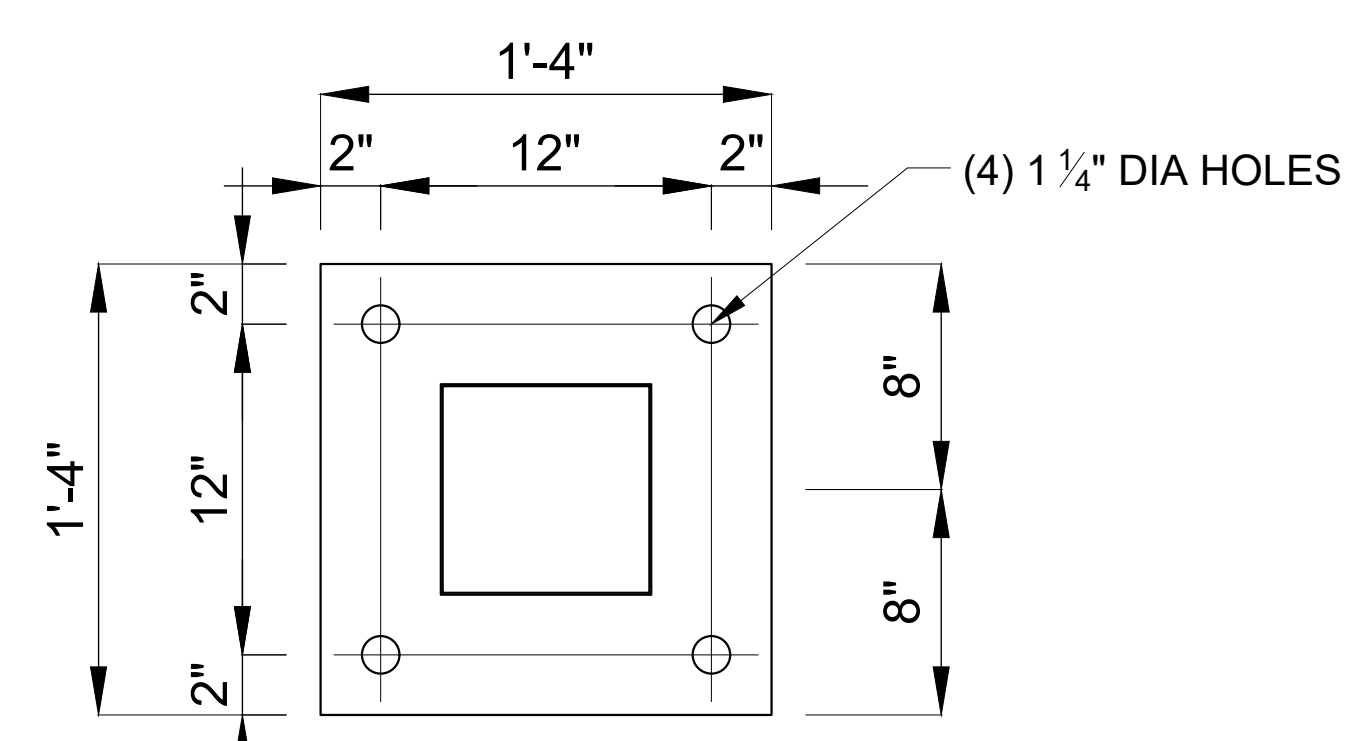
(QTY 2) - NTS



69kV PASCOR CBS SWITCH



CENTER BREAK
SWITCH MOUNT
PROVIDED BY PASCOR
(TYP 3 PLACES)

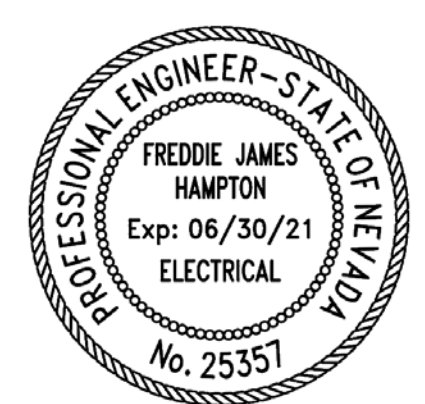


BASE PLATE

NTS - (TYP) ALL SUPPORT STRS

NOTES:

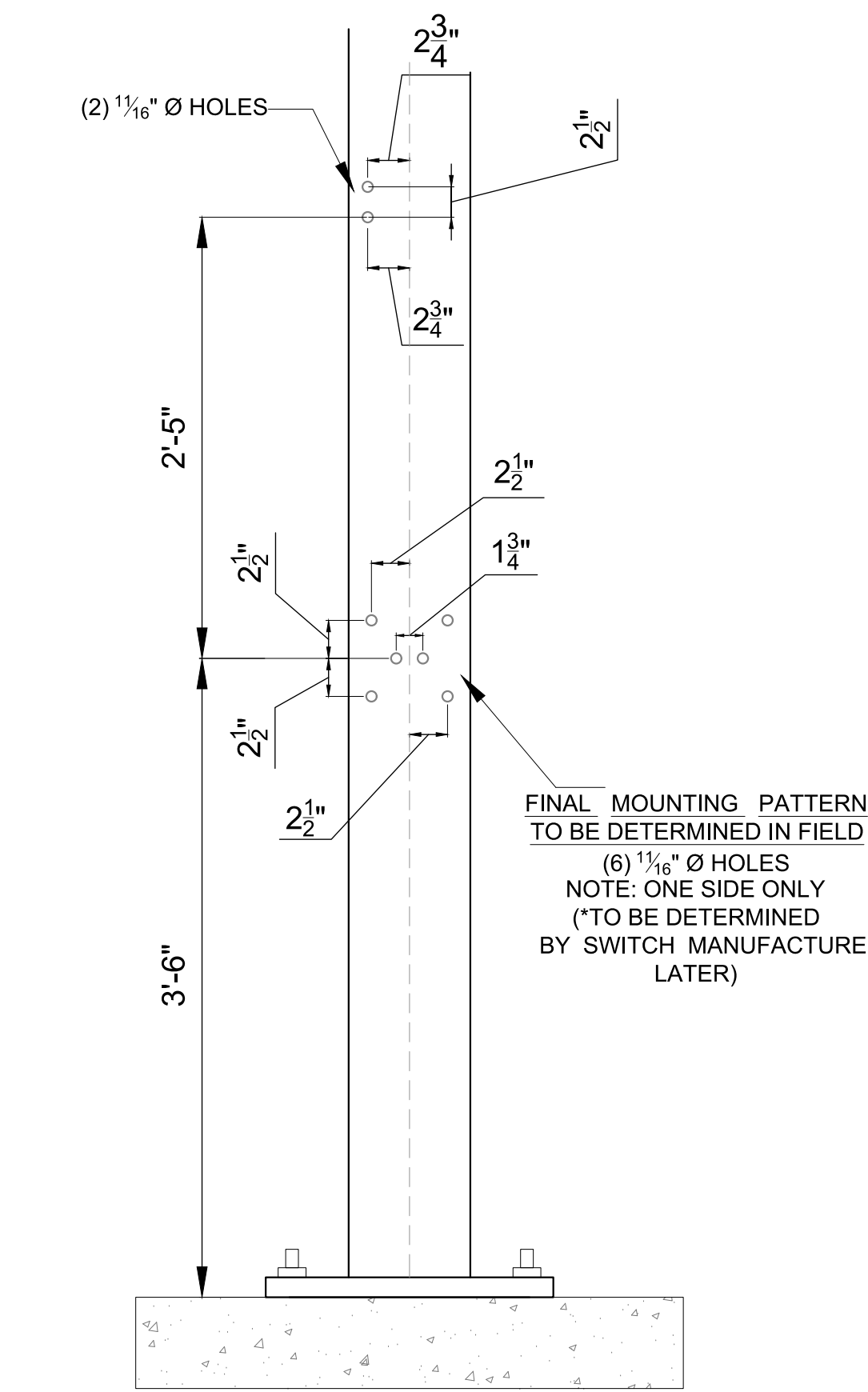
1. PROVIDE GROUNDING TABS/PROVISIONS 1' ABOVE ALL BASE PLATES AND 1' BELOW ALL VANGS FOR RUNNING 4/0 GROUND TO TOP OF VANGS.
2. THESE ARE PRELIMINARY DESIGN SHAPES, FINAL SHOP DRAWINGS TO BE PROVIDED BY ACME.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED.



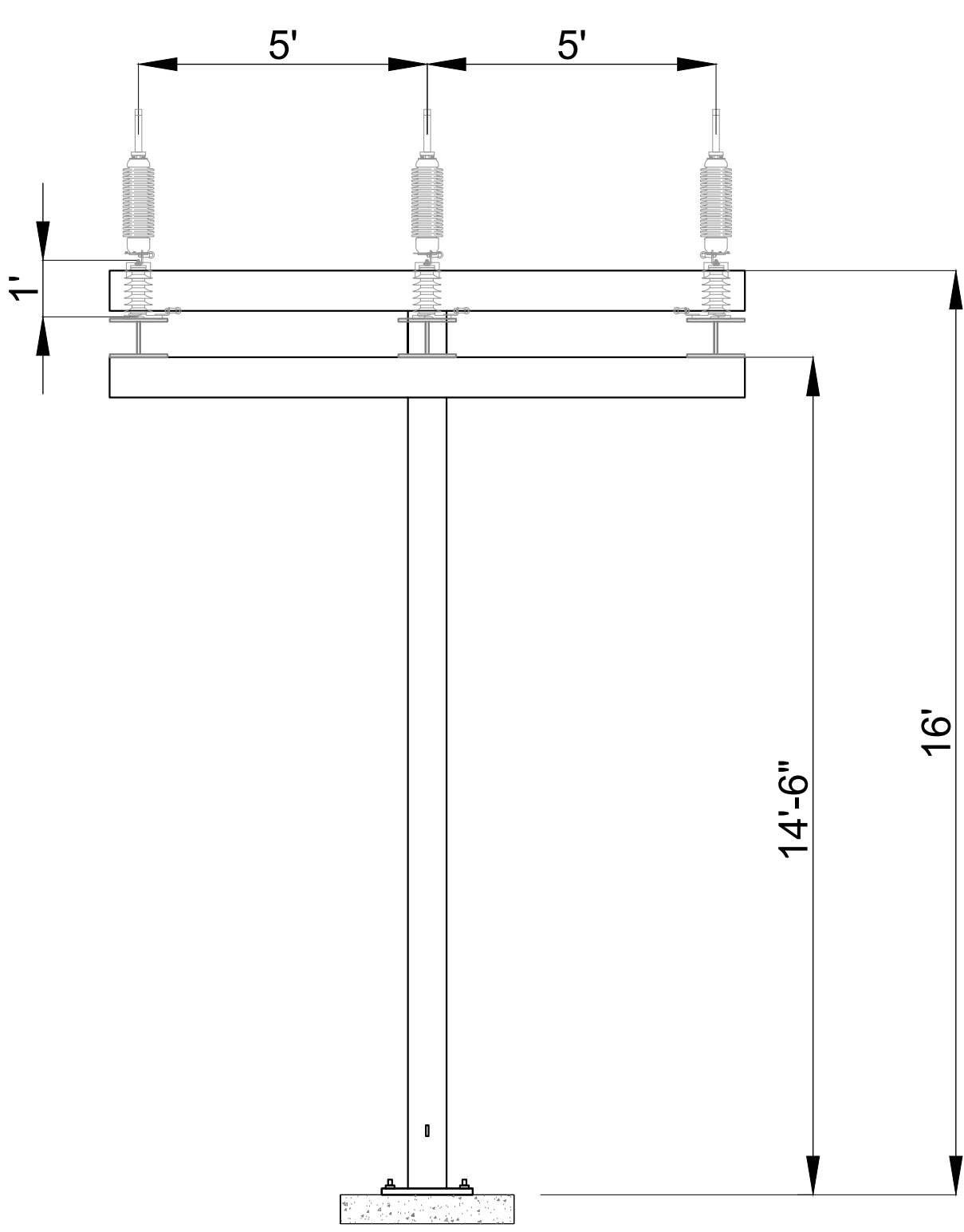
Date Signed: 06/25/20



DRN BY:	PBE	LOCATION:	RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME:	STEEL SUPPORT DETAIL 2
CHK BY:		DISTRICT:	NVE - LV NORTH	DRAWING NO.:	RYZE-S7000
REV:	0	LAT:	36.265149	SHEET:	2 OF 3
SCALE:	N/A	LONG:	-115.061292		

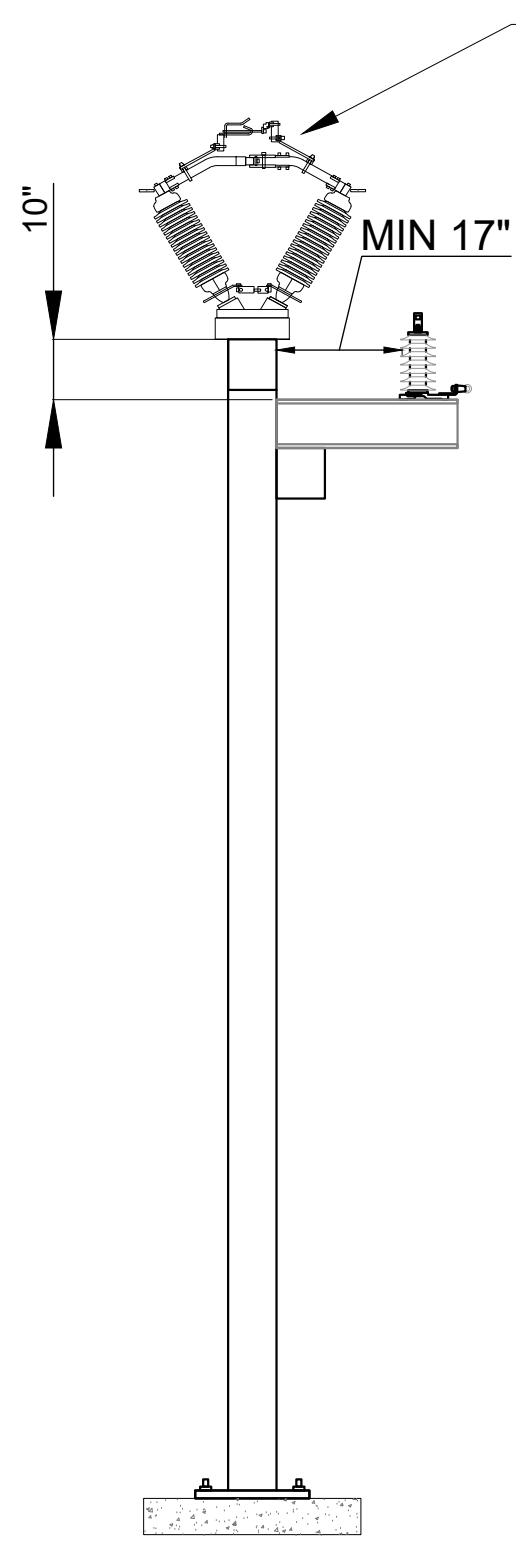


VEE SWITCH CRANK
HANDLE MOUNTING HOLES

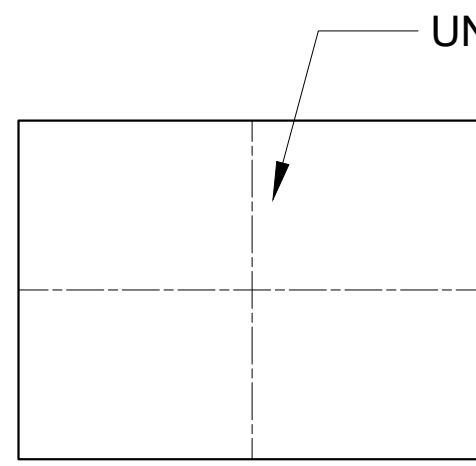


15kV SWITCH SUPPORT (4.16kV)

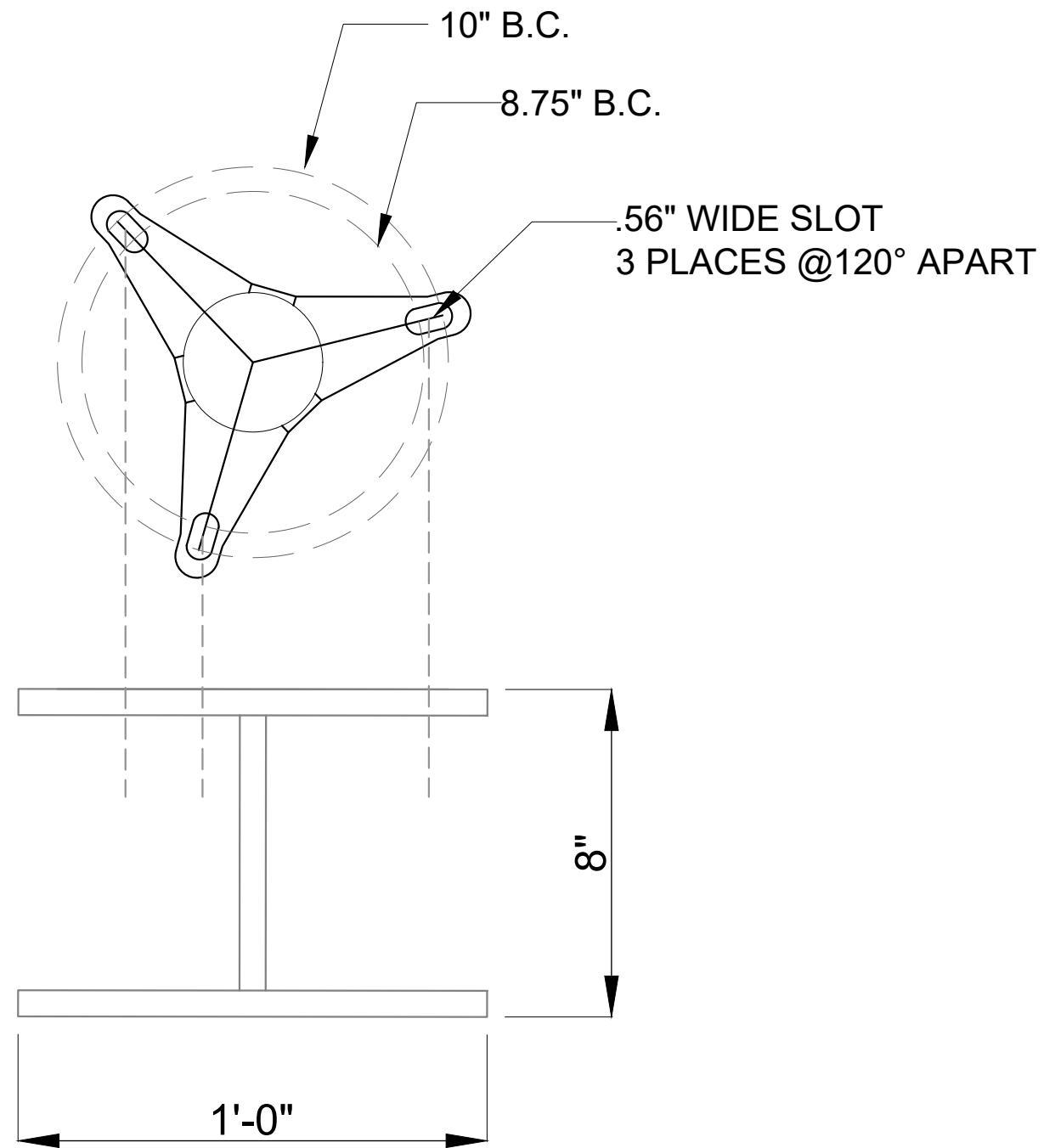
(QTY 1) - NTS



15kV PASCOR CBS SWITCH

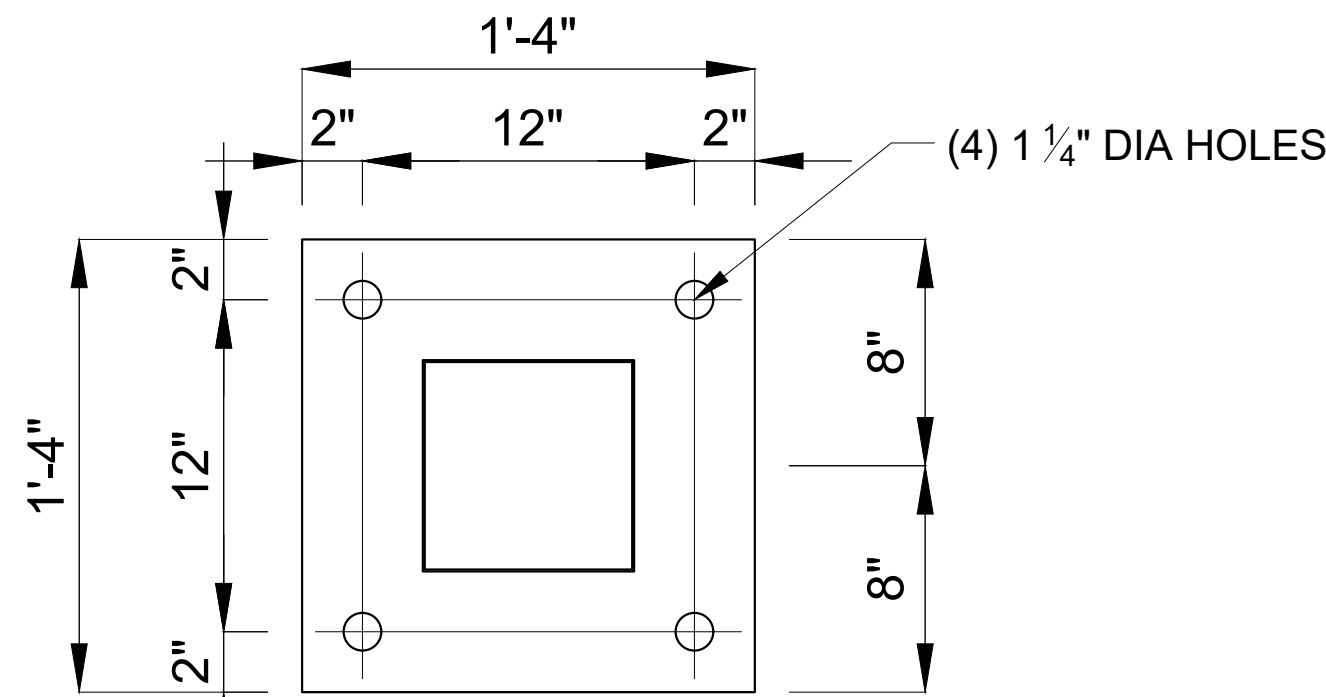


15kV VEE SWITCH MOUNT
TYP 3 PLACES - NTS
MOUNTING DETAILS FOR SWITCHES
TO BE ACQUIRED FROM
SWITCH PURCHASER



15kV EVP STATION CLASS SURGE
ARRESTOR MOUNT

TYP 3 PLACES - NTS
WELDED I-BEAMS TO STEEL SUPPORT
OR OTHER PREFERRED METHOD

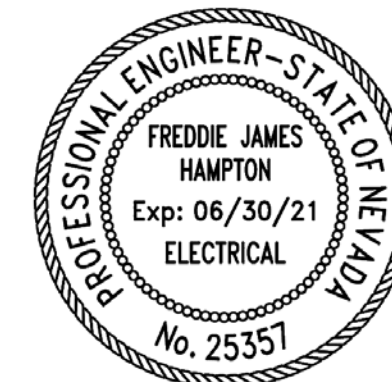


BASE PLATE

NTS - (TYP) ALL SUPPORT STRS

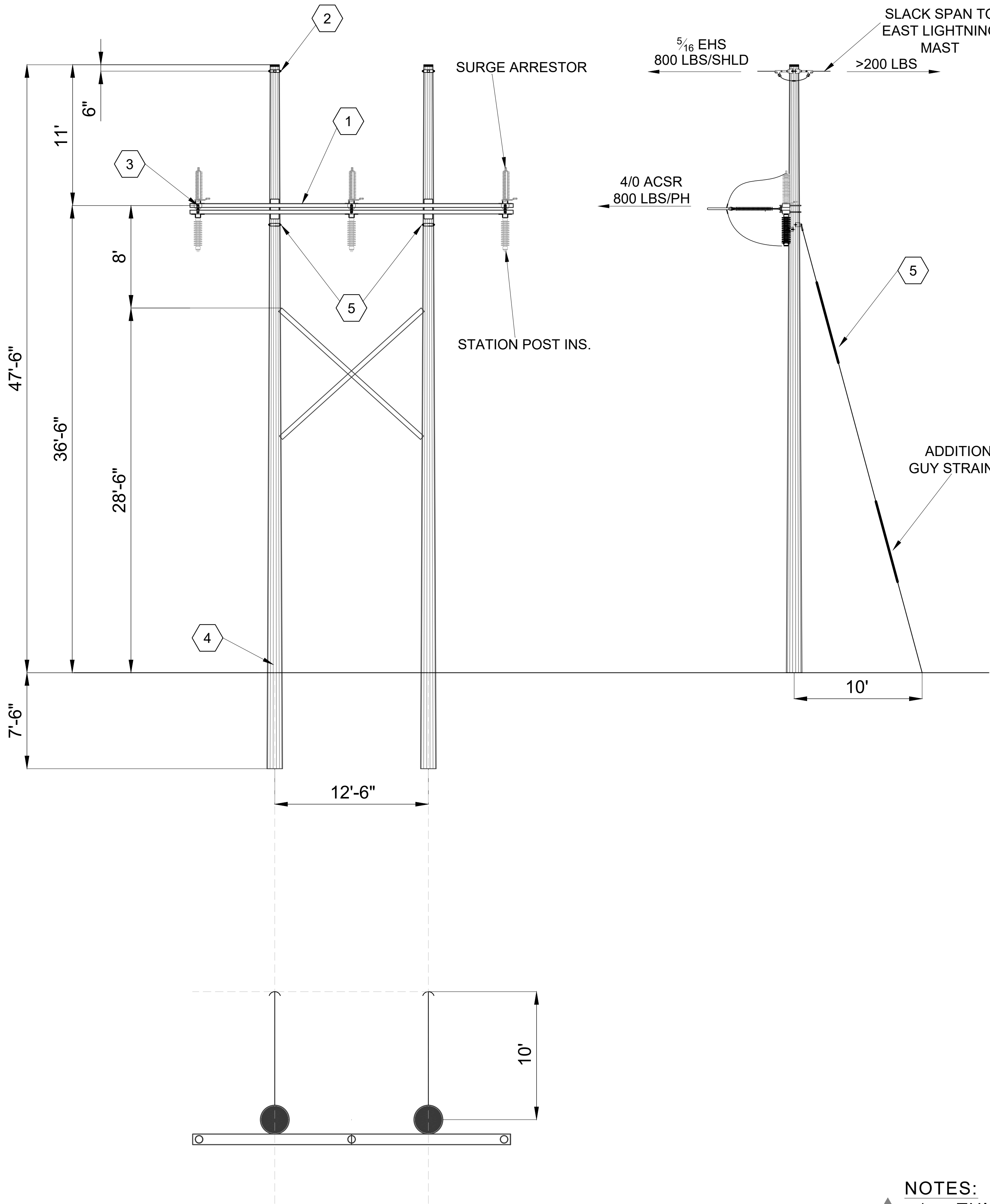
NOTES:

1. PROVIDE GROUNDING TABS/PROVISIONS 1' ABOVE ALL BASE PLATES AND 1' BELOW ALL VANGS FOR RUNNING 4/0 GROUND TO TOP OF VANGS.
2. THESE ARE PRELIMINARY DESIGN SHAPES, FINAL SHOP DRAWINGS TO BE PROVIDED BY ACME.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED.

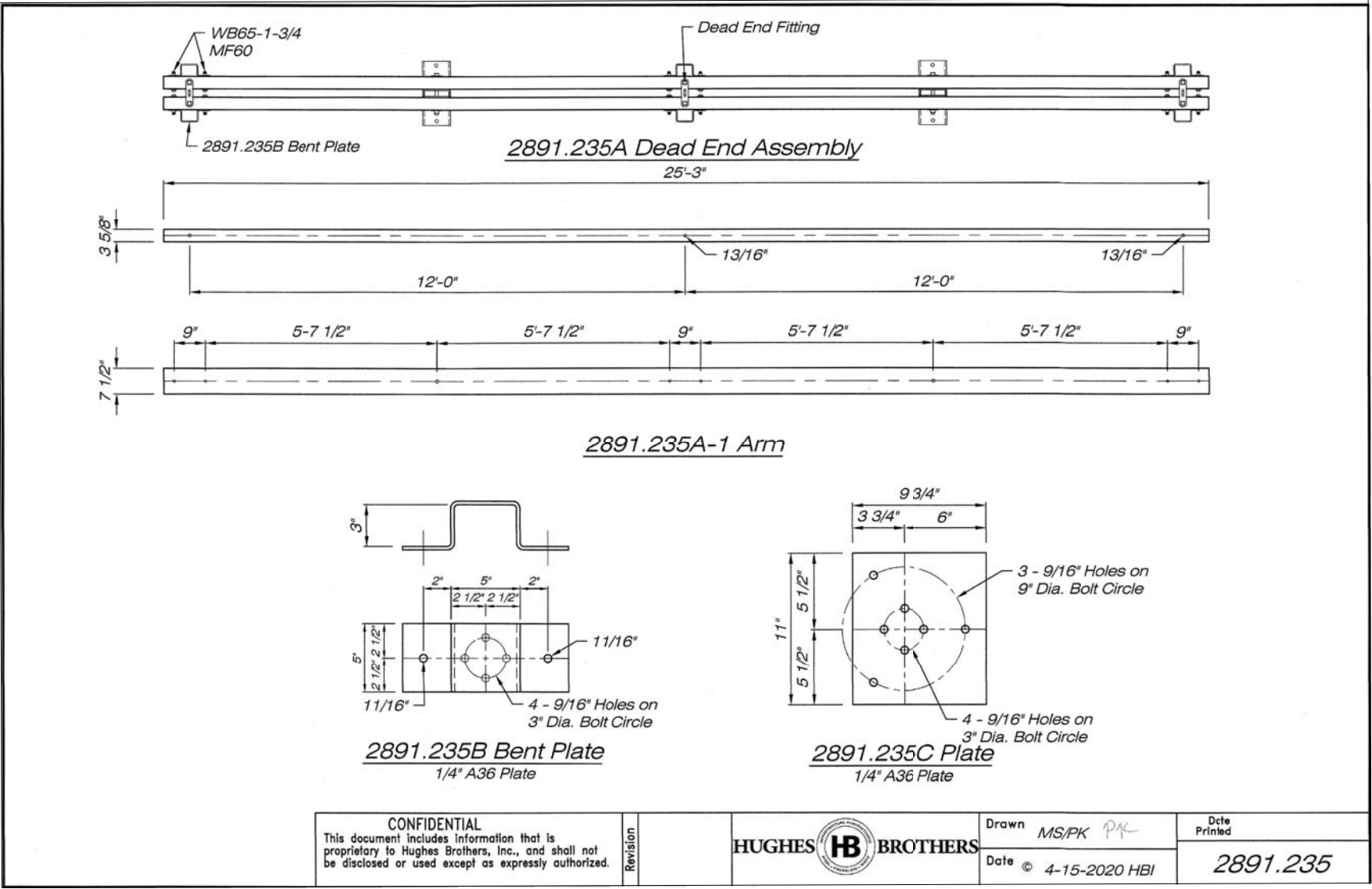


Date Signed: 06/25/20

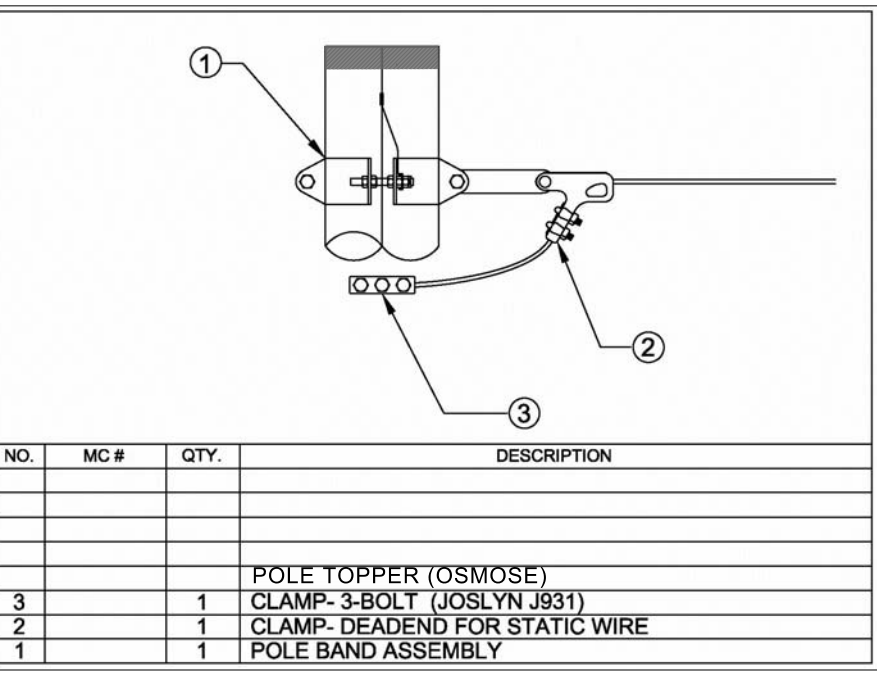
QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballantray Ave. Suite 100 Kansas City, Missouri 64116-2188			
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE FJH
REV.	DATE	DESCRIPTION	BY APPD.
DRN BY:	PBE	LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: STEEL SUPPORT DETAIL 3
CHK BY:		DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-S7000
REV:	0	LAT: 36.265149	SHEET: 3 OF 3
SCALE:	N/A	LONG: -115.061292	



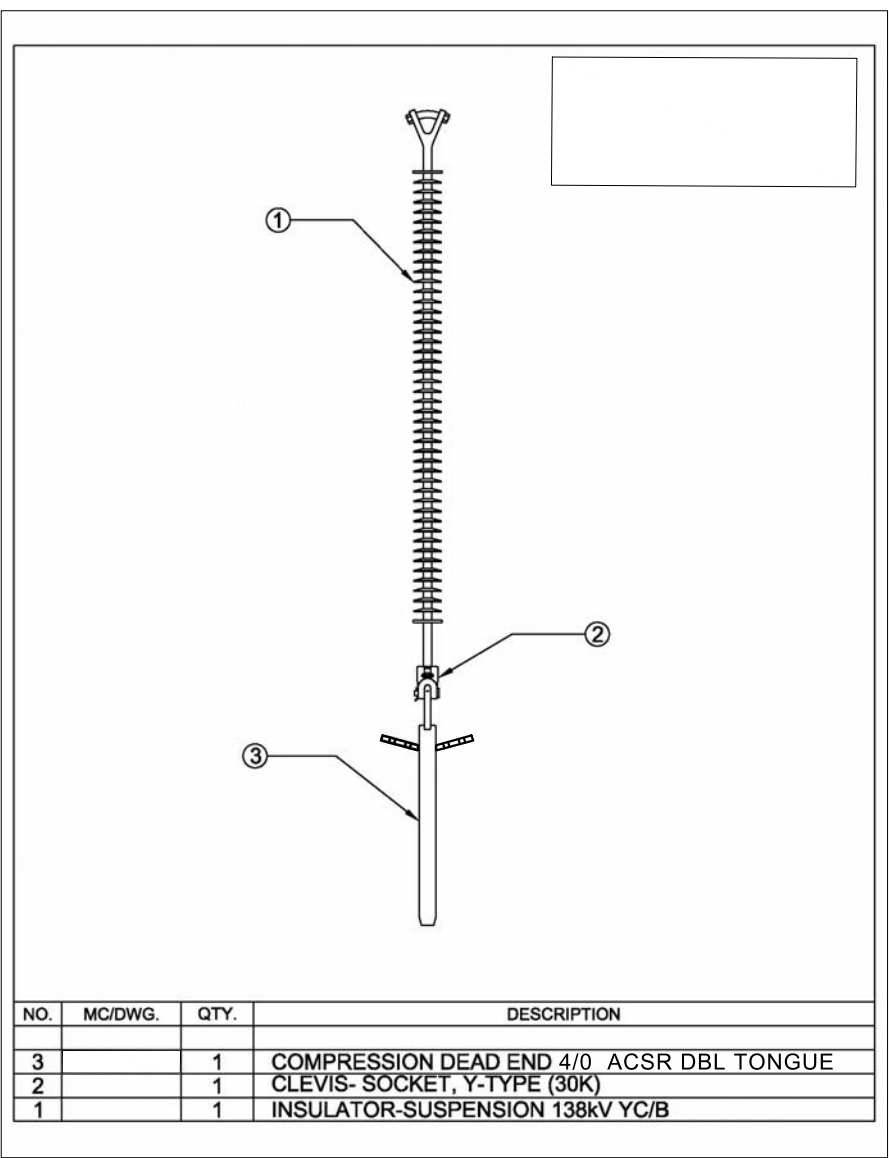
1. H-FRAME FRAMING - DEAD END ARM INSULATOR AND ARRESTOR MOUNTS



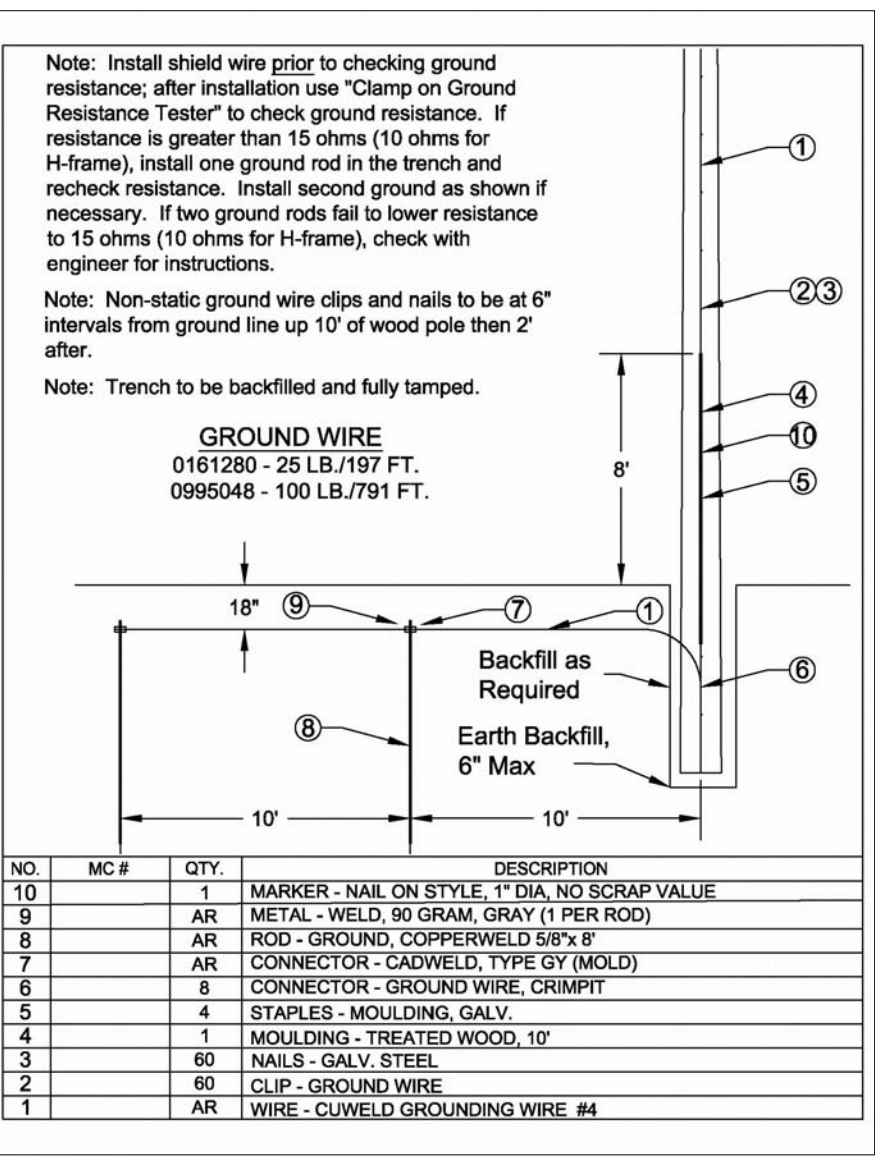
2. SHIELD WIRE



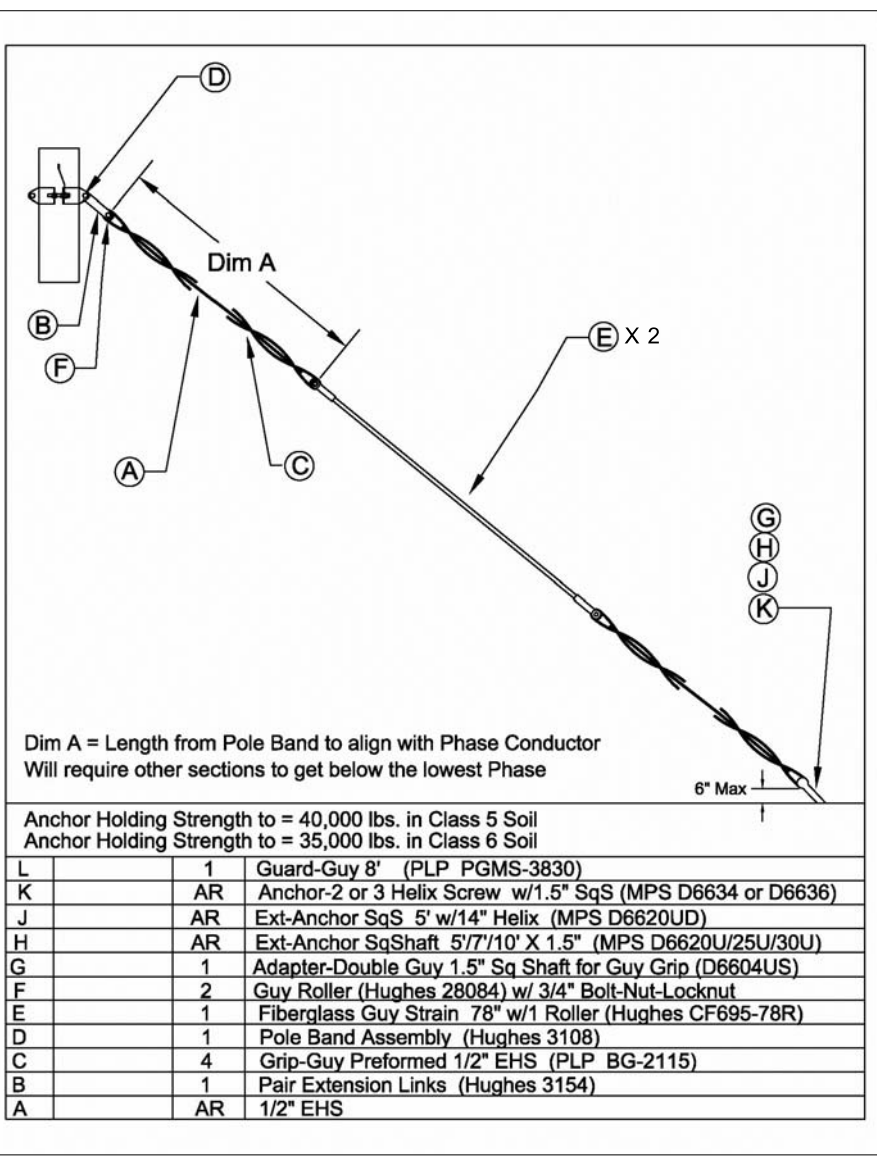
3. 69KV DEAD END



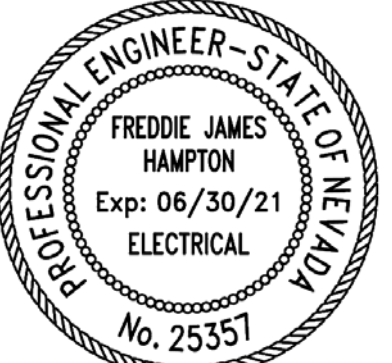
4. GROUNDING



5. GUYING

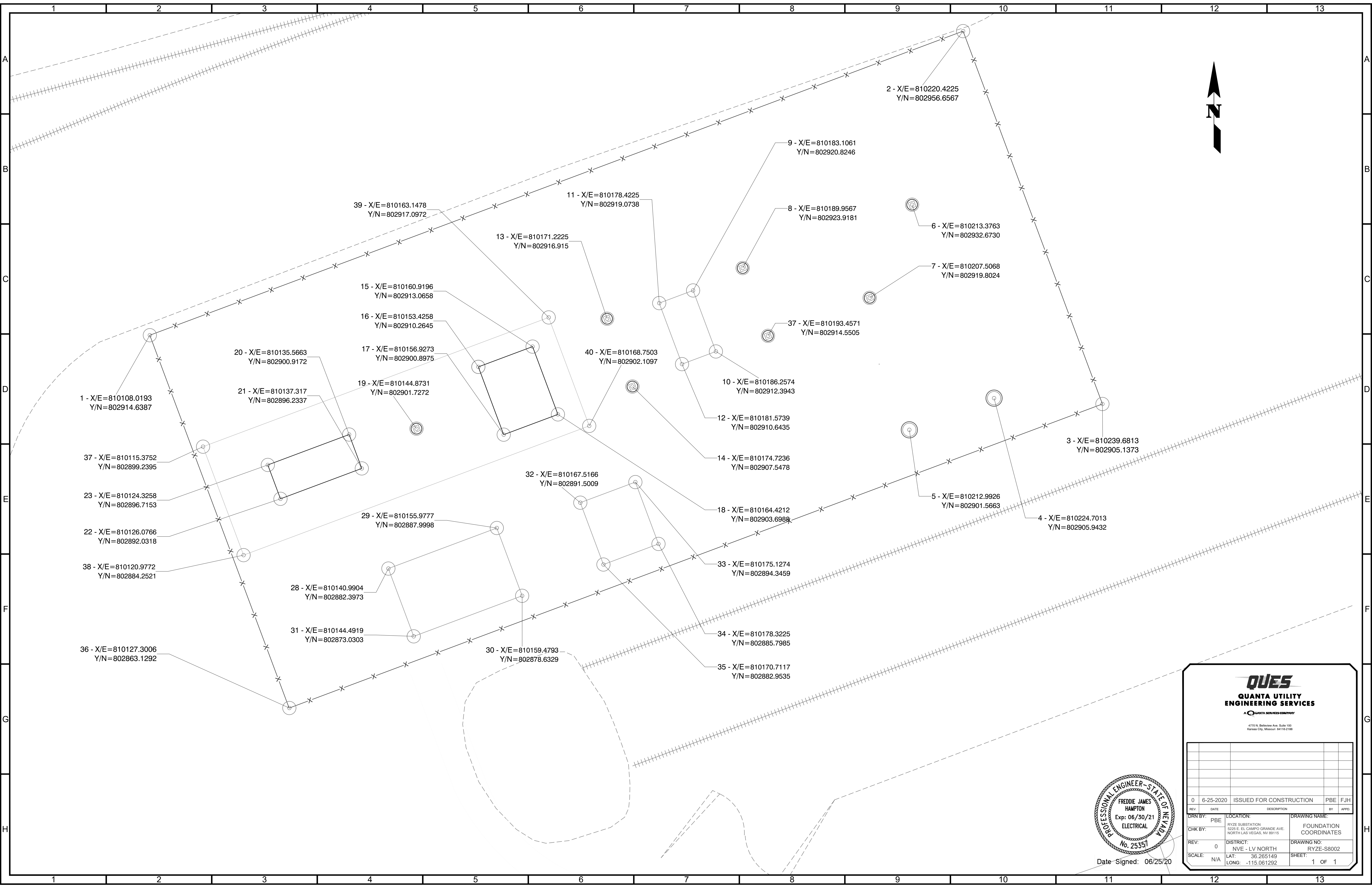


NOTES:
1. THIS DRAWINGS IS FOR REFERENCE ONLY. H-FRAME IS EXISTING AND WAS PART OF AN EARLY PORTION OF THE PROJECT.

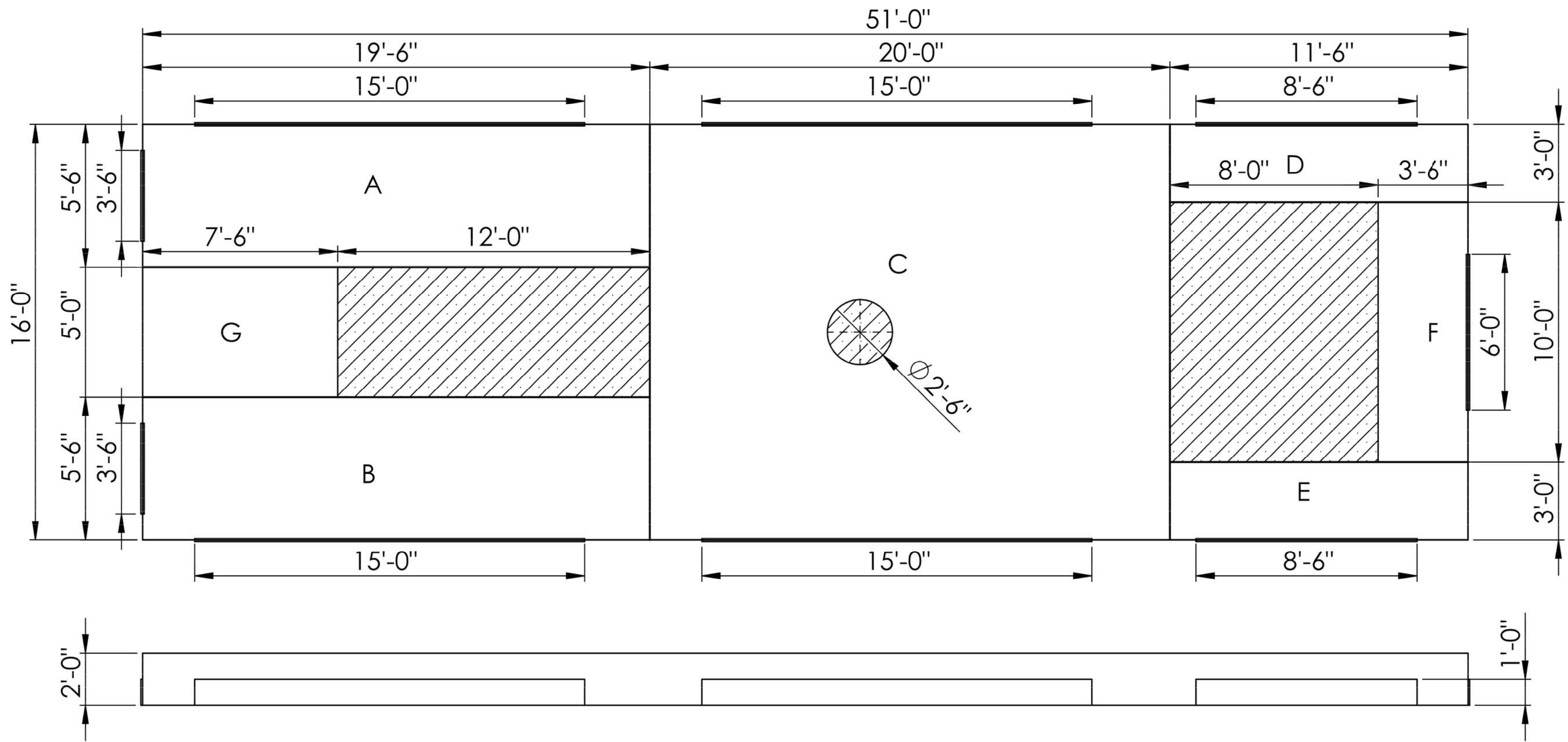
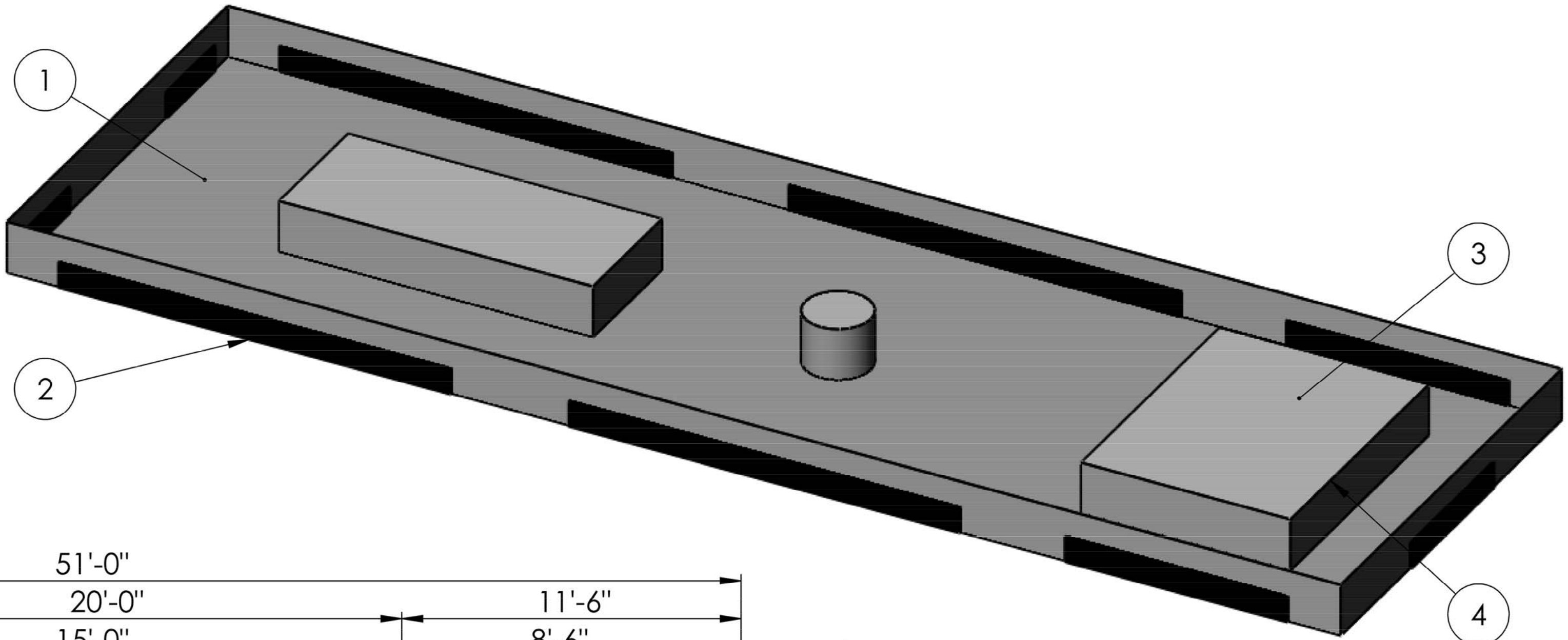


Date Signed: 06/25/20

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballentine Ave. Suite 100 Kansas City, Missouri 64116-2188			
1	7-16-2020	H-FRAME NOTE	PBE FJH
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE FJH
REV.	DATE	DESCRIPTION	BY
DRN BY:	PBE	LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: H-FRAME DETAIL
CHK BY:		DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-S7010
REV:	1	LAT: 36.265149	SHEET: 1 OF 1
SCALE:	N/A	LONG: -115.061292	

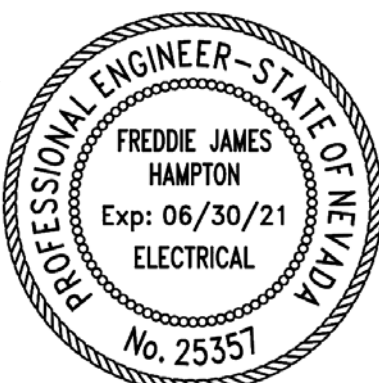


ITEM	DESCRIPTION
1	POLYVINYL LINER
2	BARRIER BOOM
3	CONCRETE PAD
4	ALUMINUM BAR



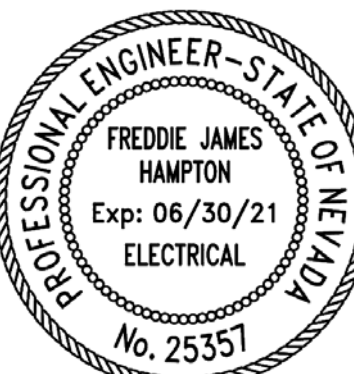
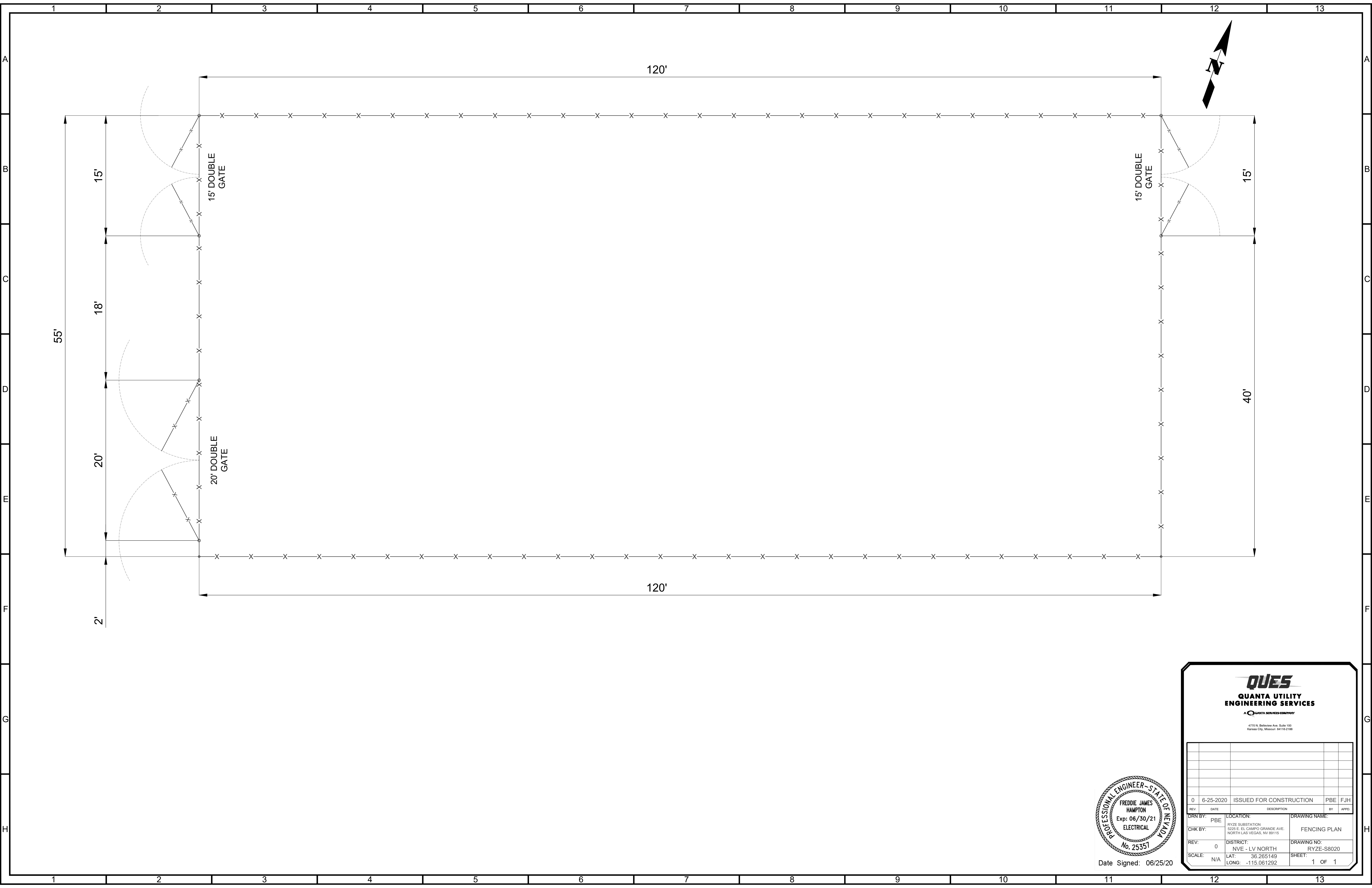
- NOTES:
1. APPROVED AND SIGNED SHOP DRAWING IS REQUIRED ALONG WITH THE PURCHASE ORDER PRIOR TO MANUFACTURING.
 2. INSTALLATION INVOLVES SEAMING AND ADHESIVES WHICH ARE WEATHER DEPENDENT; SEAMING CANNOT BE DONE IN WET CONDITIONS SUCH AS RAIN/SNOW AND/OR AT TEMPERATURES BELOW 30 DEGREES FAHRENHEIT.
 3. ALL CIVIL WORKS AND ASSOCIATED MATERIALS AND MACHINERY TO PREPARE THE CONTAINMENT SITE INCLUDING EXCAVATION; THE FIRE QUENCHING TONE AND BACK FILLING ARE TO BE SUPPLIED BY THE CIVIL CONTRACTOR.
 4. UNFORESEEN DELAYS THAT PREVENT JUSTRITE FROM COMPLETING THE INSTALLATION IN THE SPECIFIED TIME SUCH AS CIVILS', DELAY OF MATERIALS TO SITE (STONE) AND/OR BAD WEATHER MAY INCUR ADDITIONAL TIME CHARGED AS REQUIRED TO COMPLETE THE INSTALLATION.
 5. THE STONE FOR BACK FILLING SHALL BE 0.75" TO 1.50" IN SIZE; CLEAN WASHED AND SCREENED FREE OF DIRT AND FINES.
 6. REFER TO MANUFACTURER AND MANUFACTURERS DETAILED SHOP DRAWINGS AND INSTRUCTIONS FOR INSTALLATION
 7. GROUND GRID PASSING UNDER OIL CONTAINMENT TO BE INSTALLED A MINIMUM OF 1' BELOW OIL CONTAINMENT AND FOUNDATION PADS.

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BASIC CONCEPTS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BCI IS PROHIBITED.	UTILITY	QUES	COMMENTS:		NAME	DATE	TITLE	RYZE SUBSTATION	SIZE B	BCI BASIC CONCEPTS INC Justrite Safety Group
	SUB-NAME	RYNE SUBSTATION		DRAWN	MM	05/29/2020				
	CONTAINMENT DIMENSIONS	51' X 16' X 2'		CUST APPR.			DWG. NO.	CIA-01439a	SHEET 1 OF 1	
	PVL	40(OZ)		SCALE: 1:100		DO NOT SCALE DRAWING				



Date Signed: 06/25/20

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballentine Ave. Suite 100 Kearney City, Missouri 64116-2188				
REV.	DATE	DESCRIPTION	BY	APPD.
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
DRN BY:	PBE	LOCATION:	DRAWING NAME:	
CHK BY:		RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	OIL CONTAINMENT	
REV:	0	DISTRICT:	DRAWING NO:	
SCALE:	N/A	NVE - LV NORTH	RYZE-S8017	
		LAT: 36.265149	SHEET:	
		LONG: -115.061292	1 OF 1	



Date Signed: 06/25/20



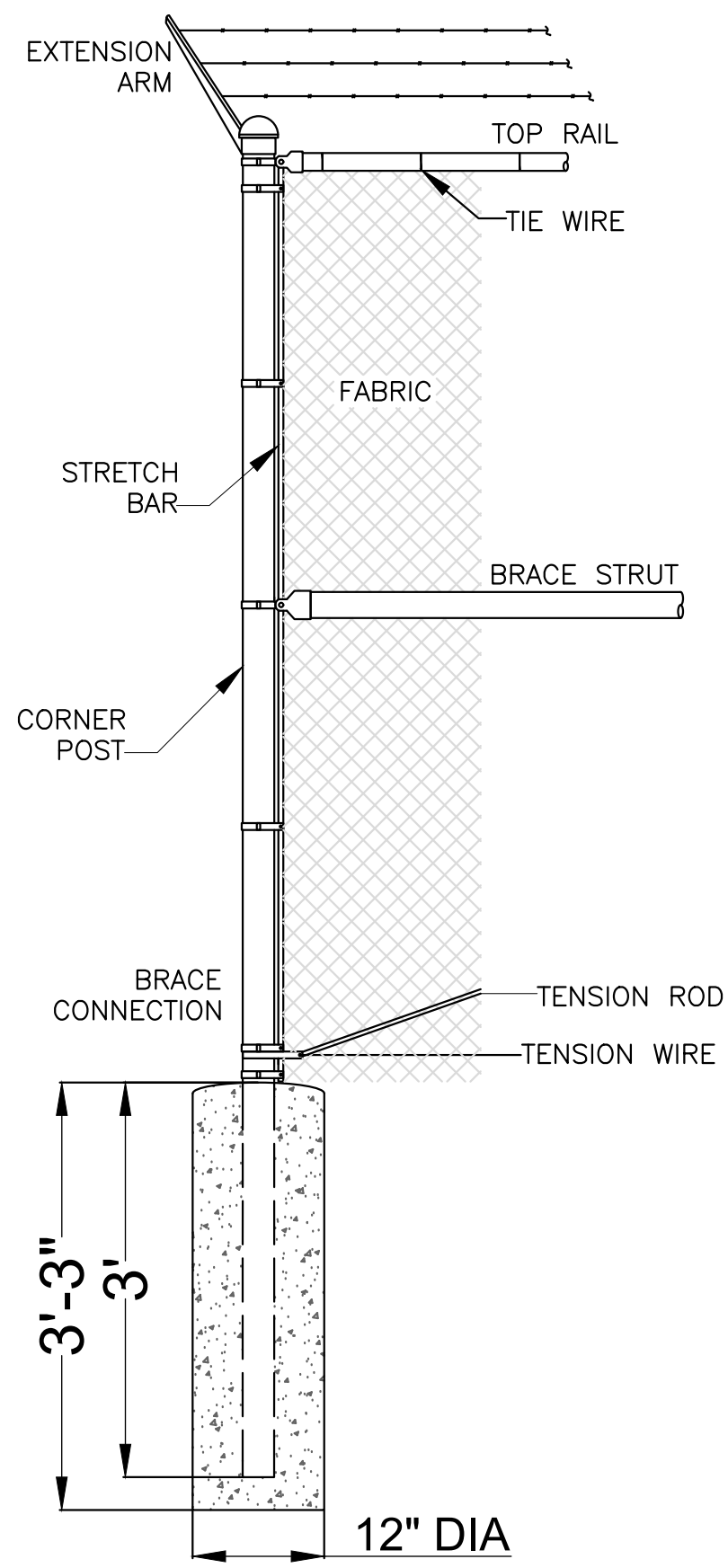
**QUANTA UTILITY
ENGINEERING SERVICES**

A QUANTA SERVICES COMPANY

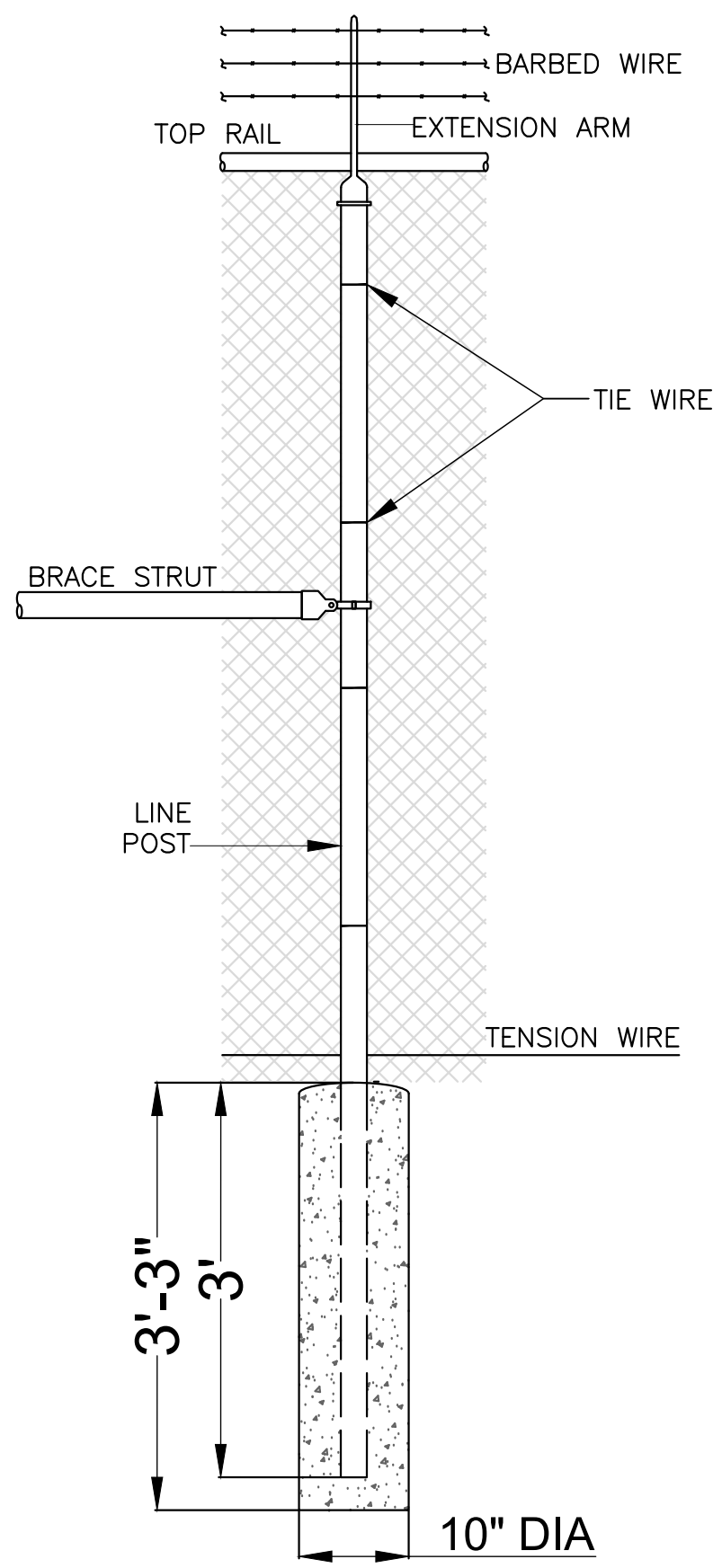
4770 N. Ballentine Ave. Suite 100
Kansas City, Missouri 64116-2188

REV.	DATE	DESCRIPTION	BY	APPD.
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH

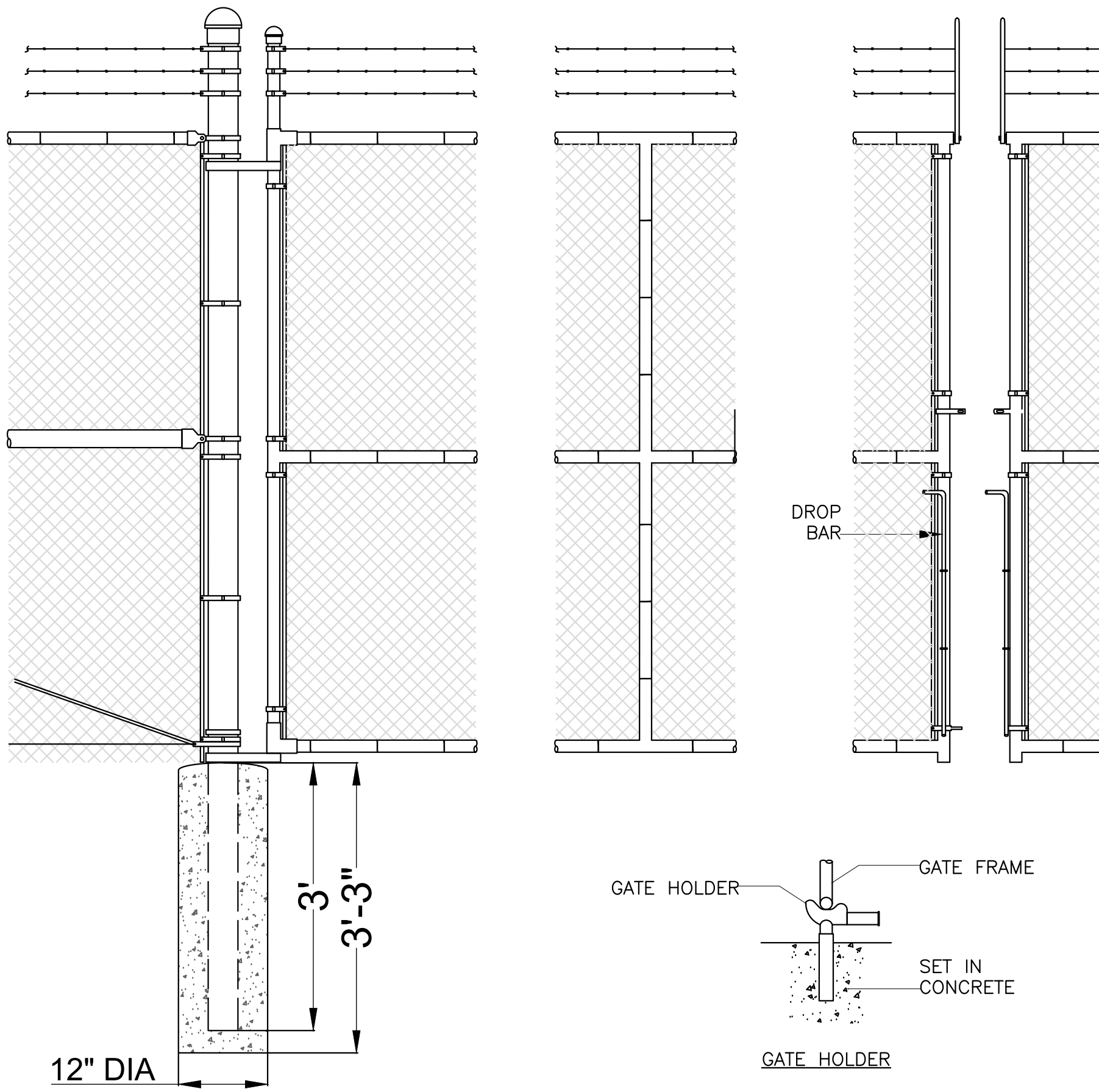
DRN BY:	PBE	LOCATION:	RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME:	FENCING PLAN
CHK BY:		DISTRICT:	NVE - LV NORTH	DRAWING NO:	RYZE-S8020
REV:	0	LAT:	36.265149	SHEET:	1 OF 1
SCALE:	N/A	LONG:	-115.061292		



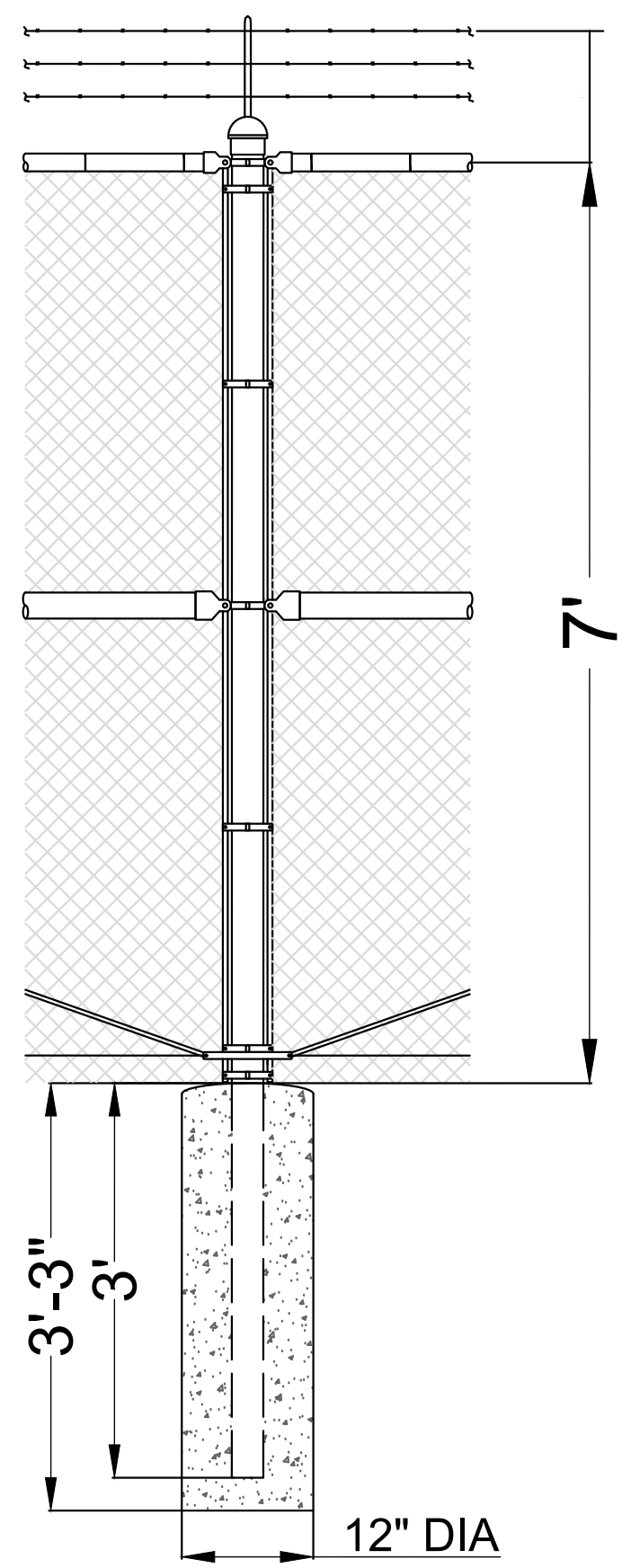
CORNER POST & TYPICAL FENCE
NTS



BRACE POST OR LINE POST
NTS



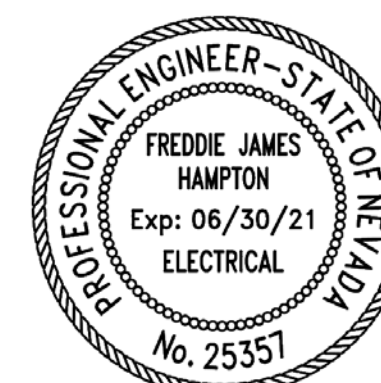
GATE
NTS



PULL POST
NTS

NOTES:

- THIS DWG IS FOR REFERENCE ONLY, TYPICAL FENCING - ALL QTYs AND BILL OF MATERIAL FOR FENCE AND FENCE GROUNDING TO BE SUPPLIED BY FENCING CONTRACTOR
- FENCE POST FOOTINGS TO USE A MINIMUM OF 4000 PSI COMPRESSIVE STRENGTH CONCRETE.



Date Signed: 06/25/20

QUES QUANTA UTILITY ENGINEERING SERVICES A QUANTA SERVICES COMPANY 4770 N. Ballantray Ave. Suite 100 Kearney City, Missouri 64116-2188				
REV.	DATE	DESCRIPTION	BY	APPD.
1	7-16-2020	CONCRETE NOTE	PBE	FJH
0	6-25-2020	ISSUED FOR CONSTRUCTION	PBE	FJH
DRN BY: PBE		LOCATION: RYZE SUBSTATION 5225 E. EL CAMPO GRANDE AVE. NORTH LAS VEGAS, NV 89115	DRAWING NAME: FENCING DETAILS	
CHK BY:		DISTRICT: NVE - LV NORTH	DRAWING NO: RYZE-S8021	
REV: 1		LAT: 36.265149	SHEET: 1 OF 1	
SCALE: N/A		LONG: -115.061292		