

POWER CIRCUIT BREAKERS						
NAME	KV	CONT AMPS	SHORT CKT KA	TIME CYCLES	MANUFACTURER	MODEL
482, 582	230	2000	40	3	XXX	XXX
4022_5022	15	1200	20	5	XXX	XXX
DISCONNECT SWITCHES						
NAME	KV	CONT AMPS	SHORT CKT KA	TYPE	MANUFACTURER	MODEL
381, 483, 583	230	1200	61	VB	XXX	XXX
189	230	1200	61	CBV	XXX	XXX
4021, 5021	15	1200	61	VB	XXX	XXX
POTENTIAL TRANSFORMERS						
NAME	KV	RATIO		MANUFACTURER	MODEL	
VV1A	230	1200/2000:1		XXX	XXX	
CURRENT TRANSFORMERS						
NAME	KV	RATIO		MANUFACTURER	MODEL	
QV1A	230	50:5		XXX	XXX	
TRANSFORMERS						
NAME	VOLTAGE			MAX KVA	MANUFACTURER	
T1, T2	230-12.47/7.2 KV			12,500	XXX	
KW40B, KW50B	12.47-4.16/2.4 KV			10,000	XXX	
KW40A1, KW50A1	7,200-120/240 V			25	XXX	

BUS AND JUMPERS (SEE NOTES 1 & 2)			
NAME	DESCRIPTION	KV	CONT AMPS
HV LINE JUMPER	954 KCM AAC, "MAGNOLIA"	230	947
HV MAIN RIGID BUS	4" SPS ALUMINUM, SCH 40	230	2529
LV MAIN BUS JUMPER	954 KCM AAC, "MAGNOLIA"	230	947
LV MAIN RIGID BUS	4" SPS ALUMINUM, SCH 40	12.47	2529
LV MAIN BUS JUMPER	556.2 KCM AAC, "DAHLIA"	12.47	677

NOTES:

1. BUS AMPACITY IS BASED ON 40°C RISE OVER 50°C AMBINET TEMPERATURE, EMISSIVITY = 0.5 W/ SUN.
2. CONDUCTOR AMPACITY IS BASED ON 50°C RISE OVER 50°C AMBINET TEMPERATURE, EMISSIVITY = 0.5 W/ SUN, 2FT /SEC. WIND.

DEVICE LEGEND

- GROUP OPERATED SWITCH
- FUSED DISCONNECT SWITCH
- CENTER BREAK SWITCH
- SWITCH
- TRANSFORMER
- VOLTAGE TRANSFORMER
- CURRENT TRANSFORMER
- CIRCUIT BREAKER

SOUTHERN NEVADA
WATER AUTHORITY™

VERIFY SCALE

BAR REPRESENTS ONE AND ONE-HALF INCHES ON ORIGINAL

GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE

APEX SUBSTATION
SWITCHING DIAGRAM

SCALE
NTS

6750 VIA AUSTI PARKWAY SUITE 350
LAS VEGAS, NEVADA 89119
(702) 938-6000

DRAWN BY: SHAHNAVAZ ANJAN
CHECKED BY: ZAFAR ASHRAFI

1/16/24

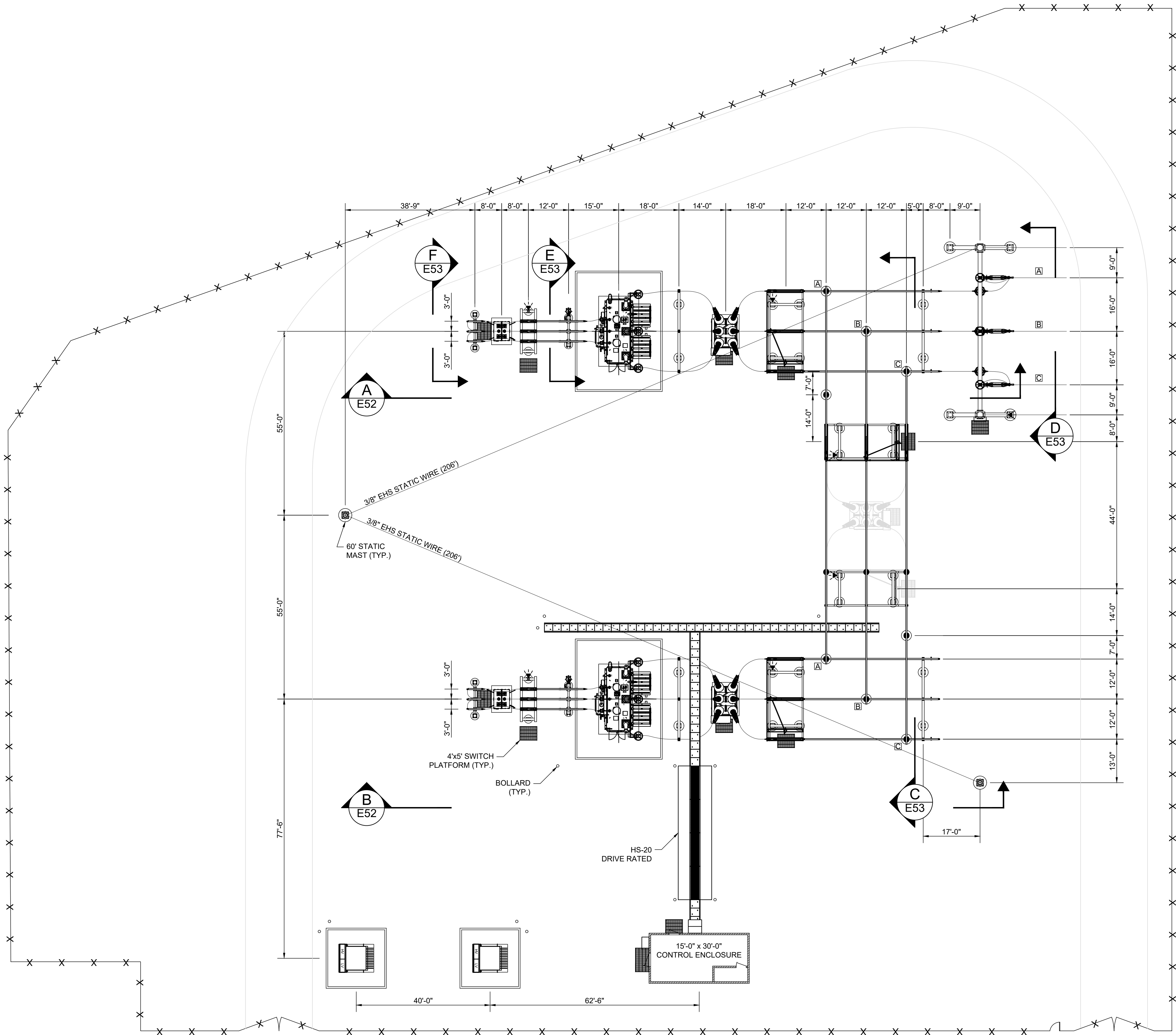
PROJECT: 3533S

COMMIT: 010717

DRAWING/NUMBER
E50

SHEET OF

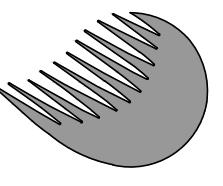
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GENERAL NOTES:
1. SEE WRITTEN SPECIFICATIONS FOR MATERIAL PROVIDED BY OWNER AND MATERIAL PACKAGER.

LEGEND
[A] PHASE SIGN MARKER
▶ STATION LIGHT

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WATER AUTHORITY™**

VERIFY SCALE
1 1/2 0 1/2 1
BARS REPRESENTS
ONE AND ONE HALF
INCHES ON ORIGINAL

GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE

APEX SUBSTATION
GENERAL ARRANGEMENT

SCALE
NTS

PC
PROJECT ENGINEER - STATE OF NEVADA
JOHN A. SCHNEIDER
Exp. 6/30/24
ELECTRICAL
No. 031916
1/16/24

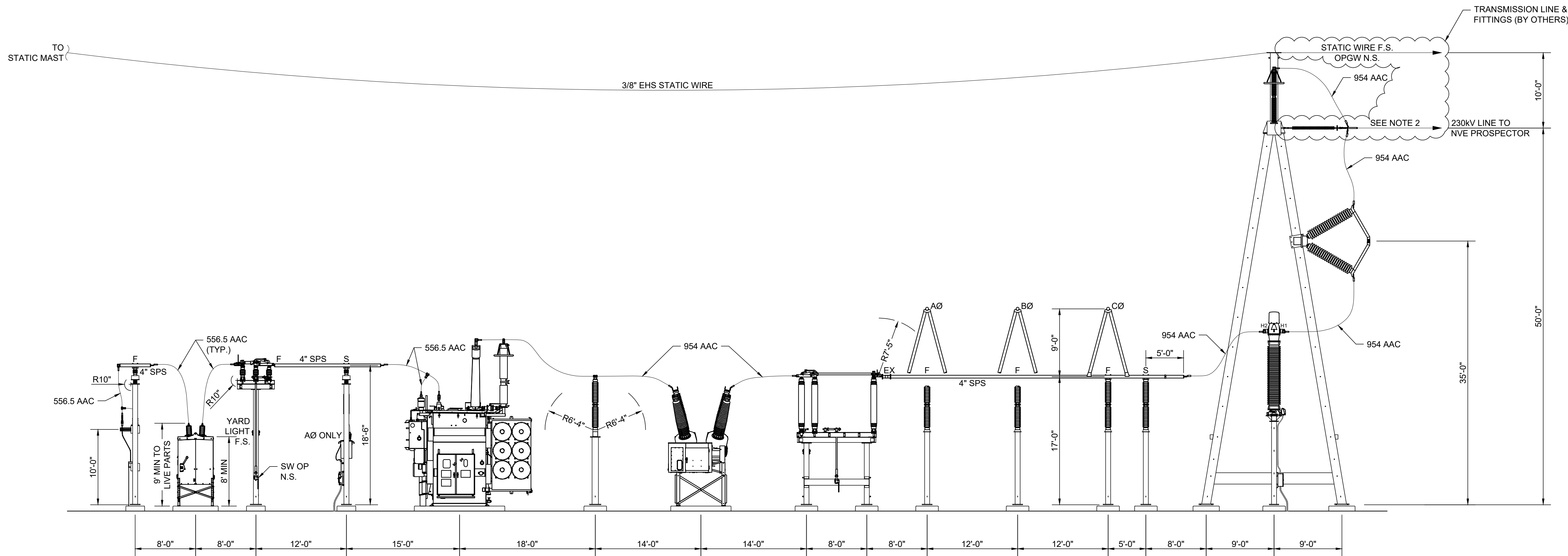
6750 VIA AUSTI PARKWAY SUITE 350
LAS VEGAS, NEVADA 89119
(702) 938-6000

DRAWN BY:
RAMSIN ADAMZ

CHECKED BY:
ZAFAR ASHRAFI

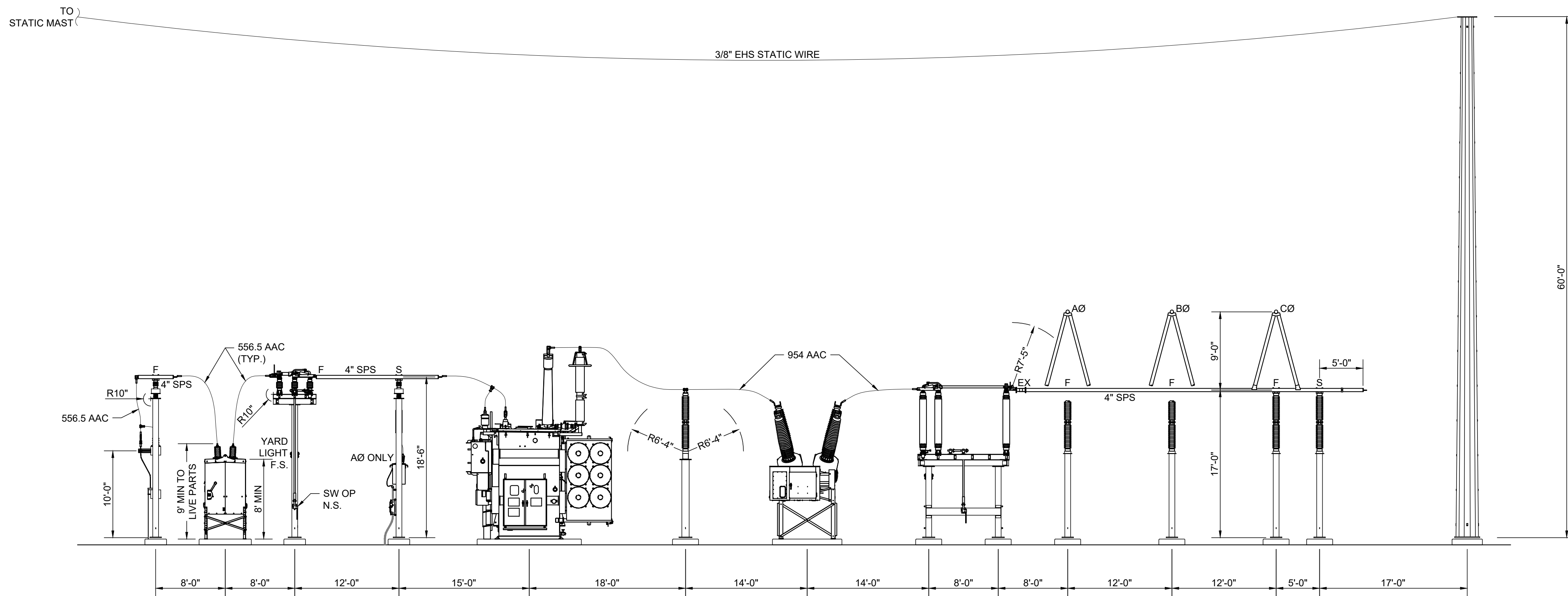
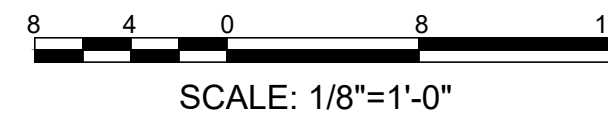
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PROJECT: 3533S
COMMIT: 010717
DRAWING/NUMBER
E51
SHEET OF



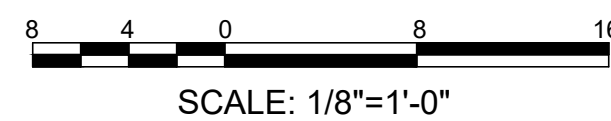
SECTION
SCALE: 1/8" = 1'-0"

A
E51



SECTION
SCALE: 1/8" = 1'-0"

B
E51



LEGEND

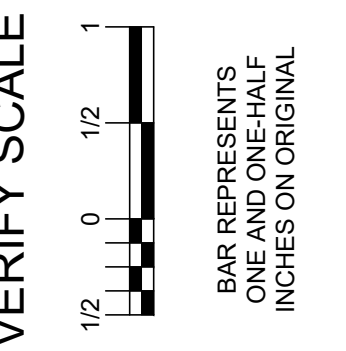
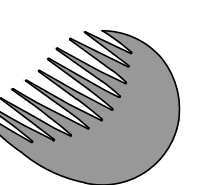
- S SLIP BUS CONNECTION
F FIXED BUS CONNECTION
E EXPANSION BUS CONNECTION

NOTES:

- SEE WRITTEN SPECIFICATIONS FOR MATERIAL PROVIDED BY OWNER AND MATERIAL PACKAGER.
- LIMIT THE INCOMING LINE ANGLE TO A MAXIMUM OF 15°.
- STRUCTURE HEIGHTS MEASURED FROM BOTTOM OF BASE PLATES.
- DAMPENING CABLE TO BE INSTALLED IN HORIZONTAL BUS LONGER THAN 8 FEET.
- ALL HORIZONTAL RIGID BUS TO INCLUDE A 1/4" WEEP HOLE AT MID-SPAN BETWEEN ALL BUS SUPPORTS.

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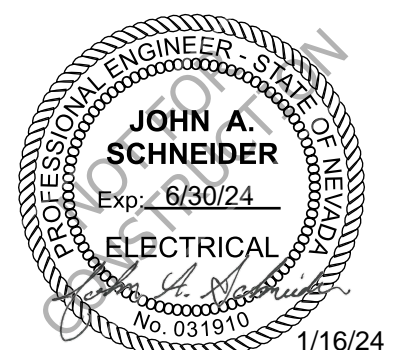
GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE

APEX SUBSTATION
ELEVATIONS SECTIONS A & B

SCALE
1/8" = 1'-0"

HDR
6750 VIA AUSTI PARKWAY SUITE 350
LAS VEGAS, NEVADA 89119
(702) 938-6000

DRAWN BY:
RAMSIN ADAMZ
CHECKED BY:
ZAFAR ASHRAFI



PROJECT: 3533S

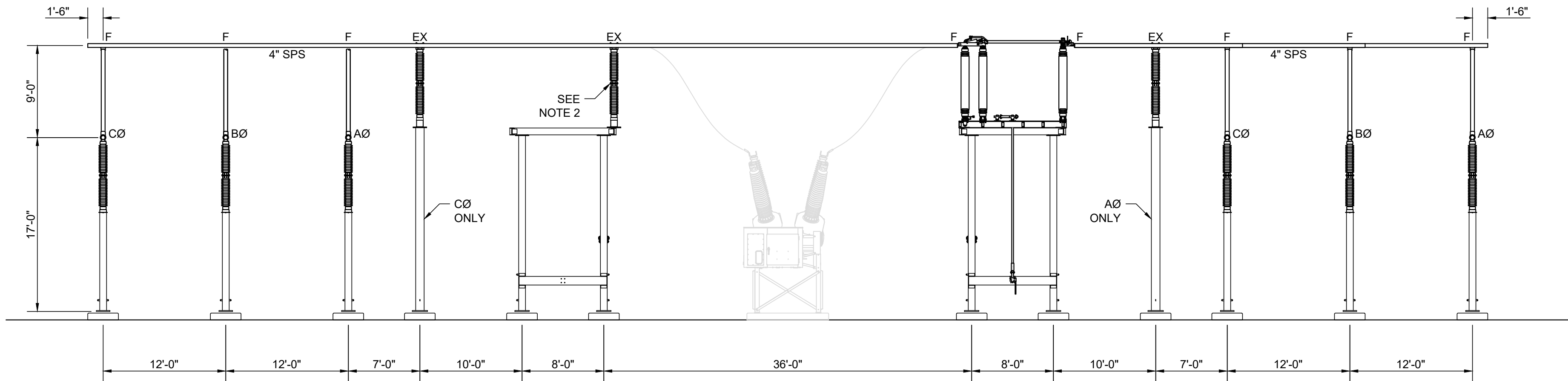
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DRAWING/NUMBER

E52

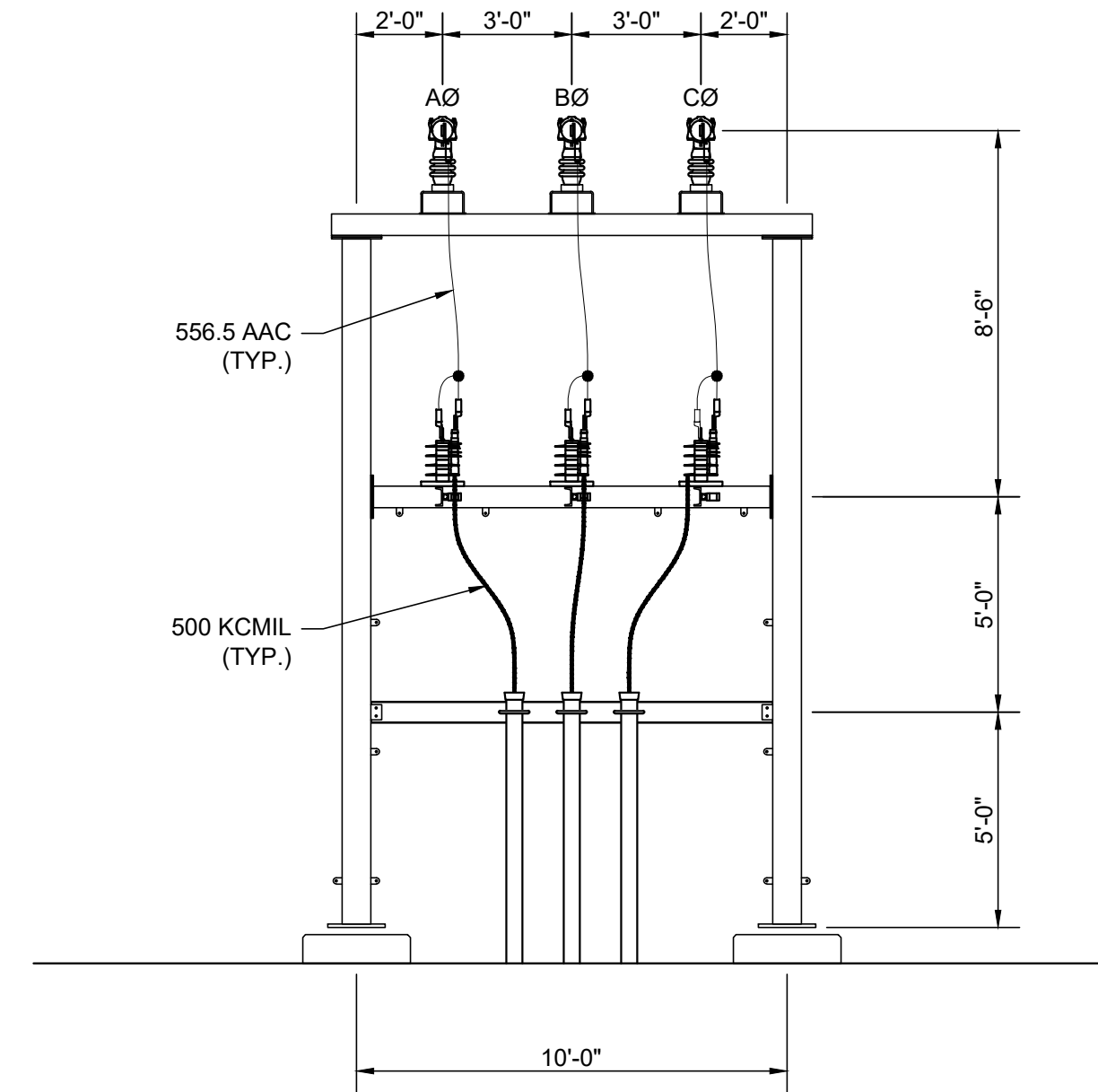
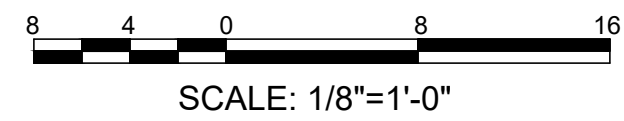
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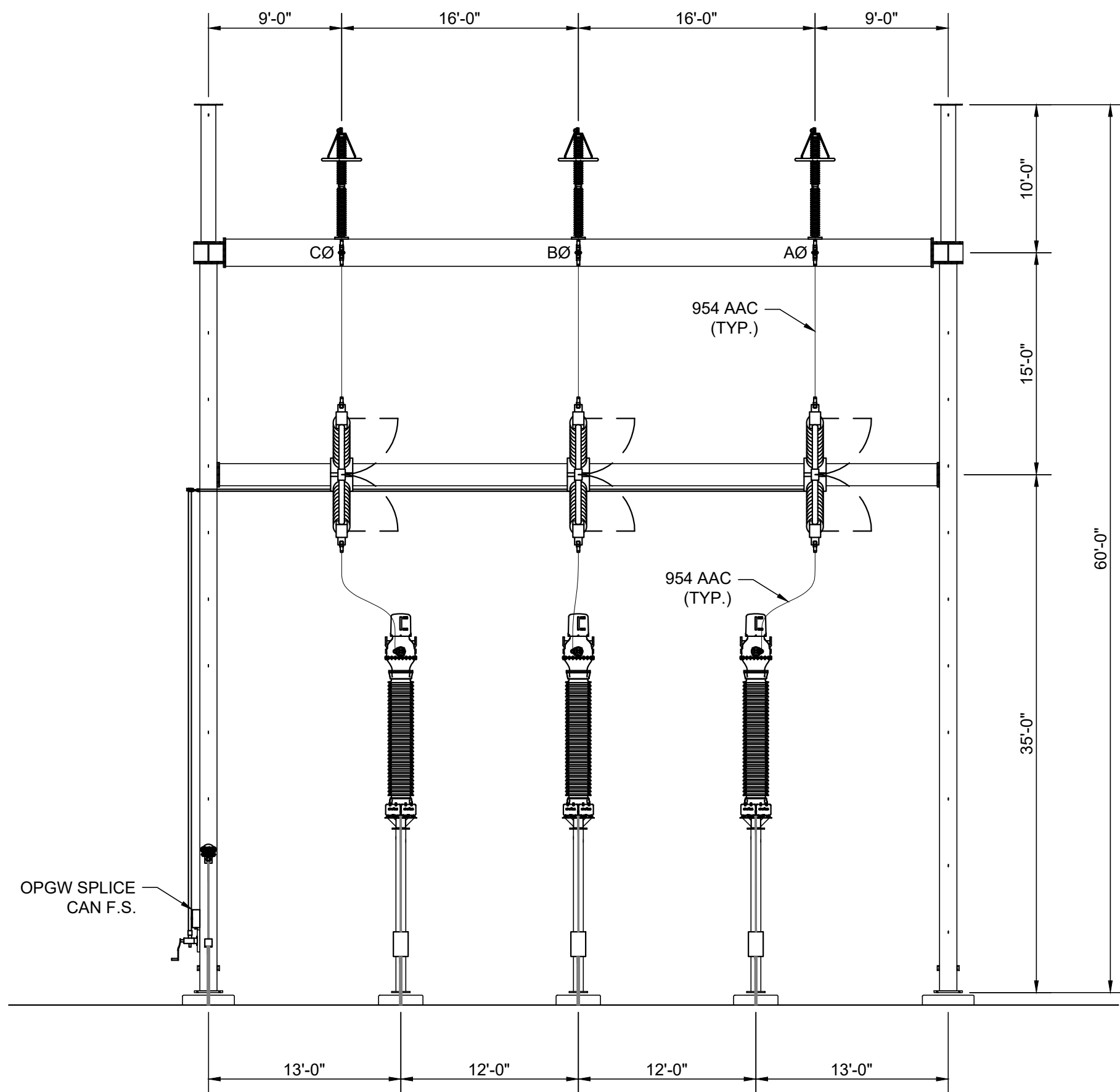
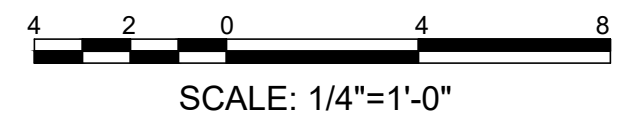
SECTION
SCALE: 1/8" = 1'-0"

C
E51



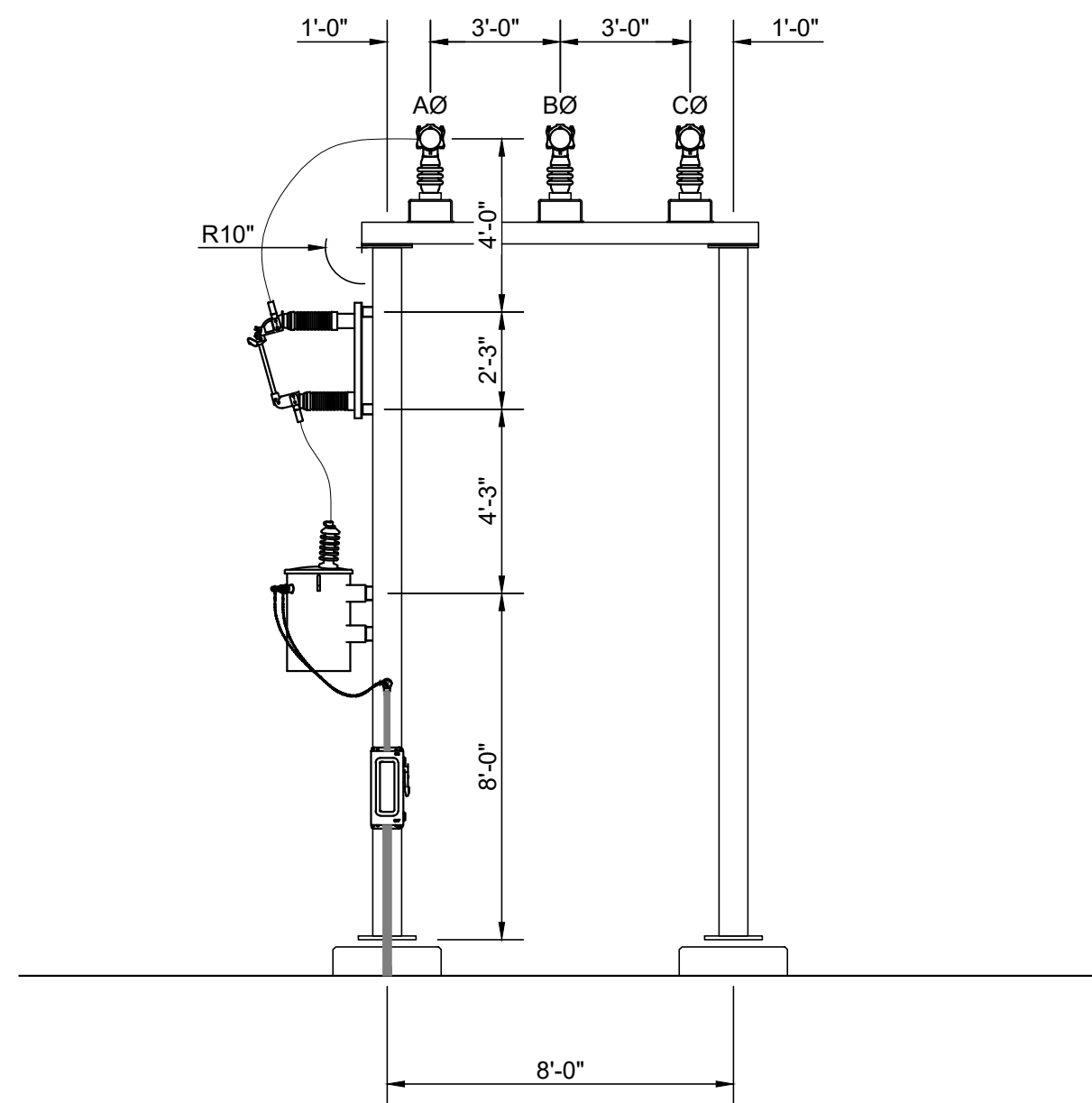
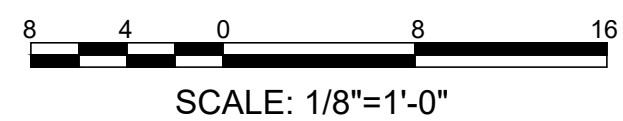
SECTION
SCALE: 1/4" = 1'-0"

E
E51



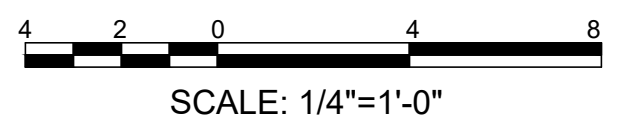
SECTION
SCALE: 1/8" = 1'-0"

D
E51



SECTION
SCALE: 1/4" = 1'-0"

F
E51



LEGEND

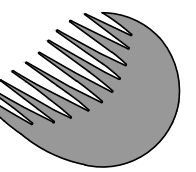
- S SLIP BUS CONNECTION
F FIXED BUS CONNECTION
E EXPANSION BUS CONNECTION

NOTES:

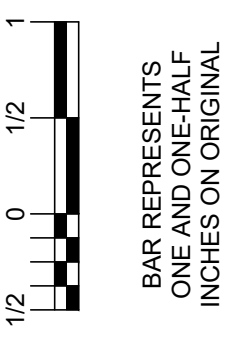
- SEE WRITTEN SPECIFICATIONS FOR MATERIAL PROVIDED BY OWNER AND MATERIAL PACKAGER.
- INITIALLY, A THREE PHASE BUS SUPPORT WILL BE PLACED ON THE SWITCH STRUCTURE TO SUPPORT BUS WORK. FOR ULTIMATE BUILD OUT, THE BUS SUPPORTS WILL BE REPLACED WITH A 230KV SWITCH.
- STRUCTURE HEIGHTS MEASURED FROM BOTTOM OF BASE PLATES.
- DAMPENING CABLE TO BE INSTALLED IN HORIZONTAL BUS LONGER THAN 8 FEET.
- ALL HORIZONTAL RIGID BUS TO INCLUDE A 1/2" WEEP HOLE AT MID-SPAN BETWEEN ALL BUS SUPPORTS.

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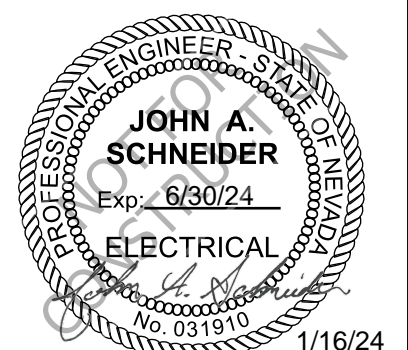
**GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE**

**APEX SUBSTATION
ELEVATION SECTIONS C, D, E & F**

**6750 VIA AUSTI PARKWAY SUITE 350
LAS VEGAS, NEVADA 89119
(702) 938-6000**

**DRAWN BY:
RAMSIN ADAMZ**

**CHECKED BY:
ZAFAR ASHRAFI**



PROJECT: 3533S

COMMIT: 010717

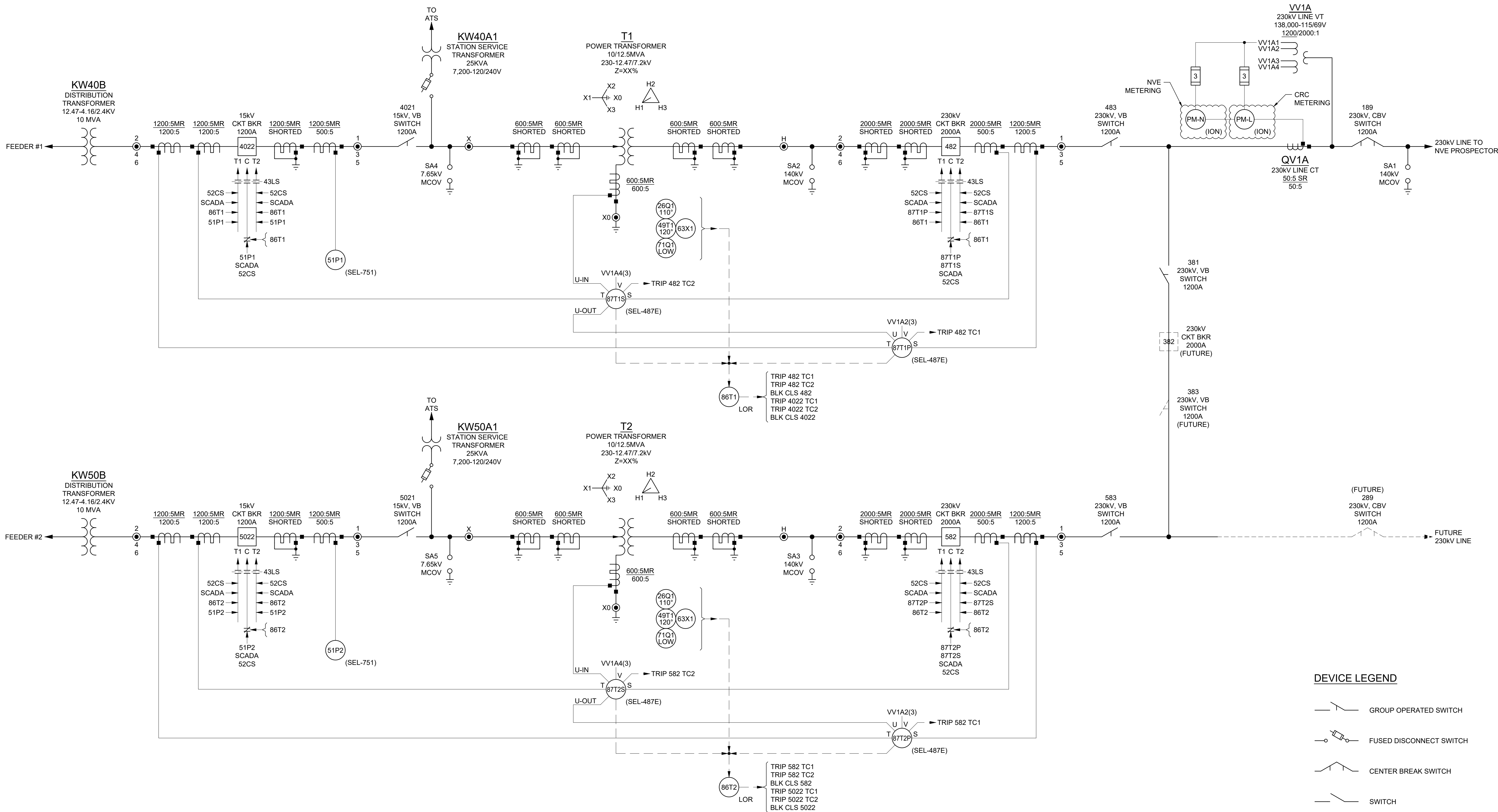
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E53

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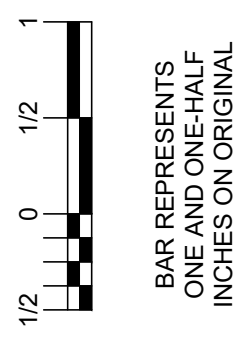
DEVICE NAME	FUNCTIONS	RELAY
87T1P/S	50/51P, 50/51N, 87, 50/86BF	SEL-487E
87T2P/S	50/51P, 50/51N, 87, 50/86BF	SEL-487E
51P1 51P2	50/51P	SEL-751
86T1 86T2	LOCK-OUT RELAY	78PB05D
52CS	CONTROL SWITCH	24PC38D
43LR	LOCAL REMOTE SWITCH	78PB02D
26Q	TEMPERATURE SWITCH	TBD BY VENDOR
49T	TEMPERATURE MONITOR	TBD BY VENDOR
63X	PRESSURE RELAY	TBD BY VENDOR
71Q	LIQUID LEVEL RELAY	TBD BY VENDOR



DEVICE LEGEND

- GROUP OPERATED SWITCH
- FUSED DISCONNECT SWITCH
- CENTER BREAK SWITCH
- SWITCH
- TRANSFORMER
- VOLTAGE TRANSFORMER
- CURRENT TRANSFORMER
- CIRCUIT BREAKER
- MOTOR OPERATOR

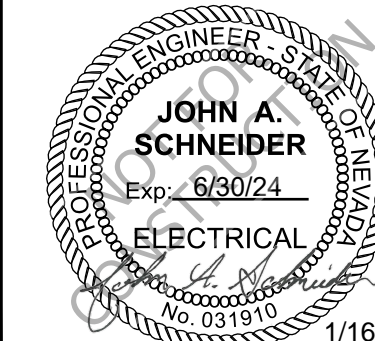
VERIFY SCALE



GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE

APEX SUBSTATION
RELAYING ONE LINE DIAGRAM

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LAS VEGAS, NEVADA 89119
(702) 938-6000



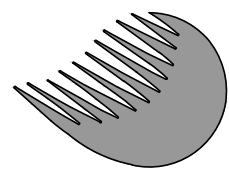
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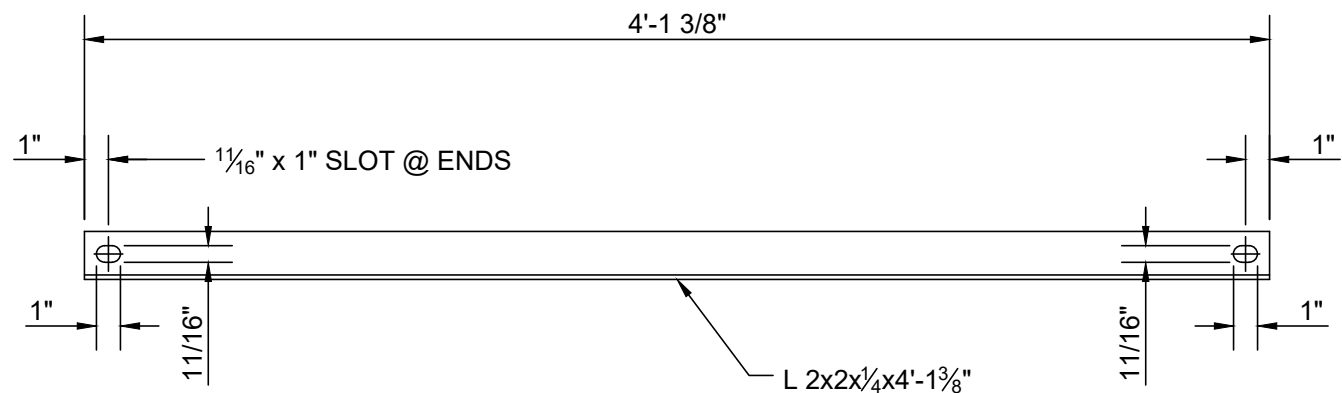
SOUTHERN NEVADA
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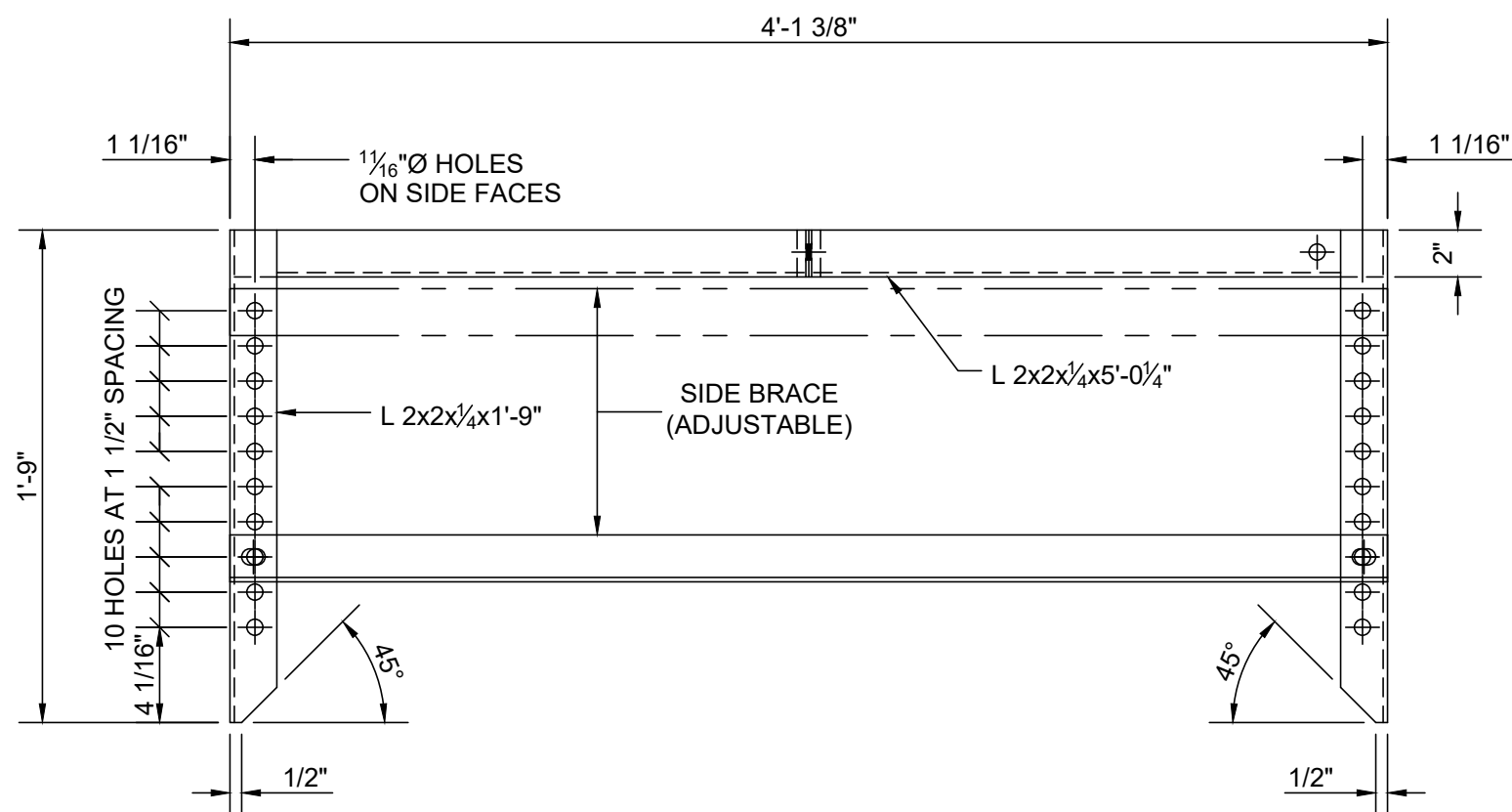
SCALE
NTS

DRAWN BY:
SHAHNAVAZ ANJAN
CHECKED BY:
ZAFAR ASHRAFI

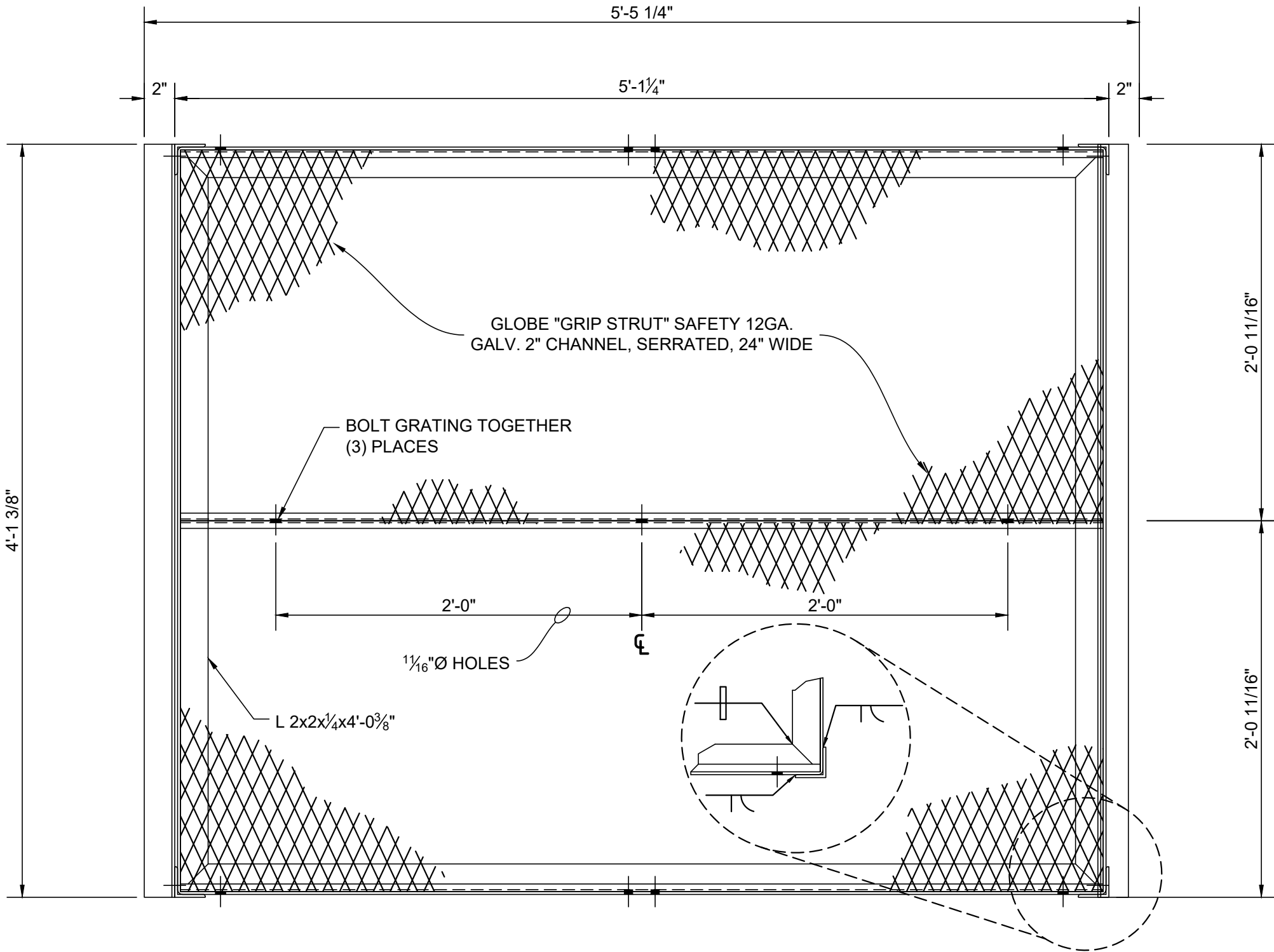
1/16/24



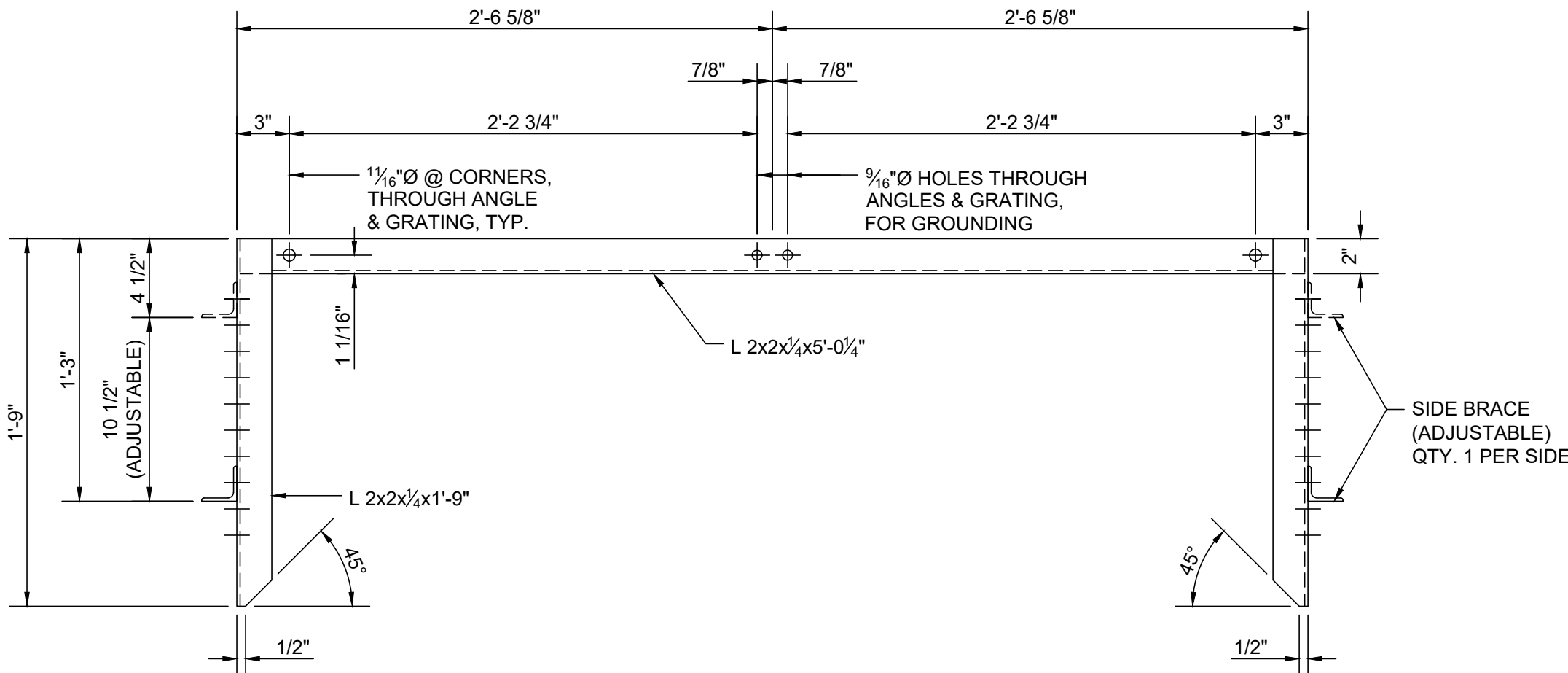
SIDE BRACE - (QTY 2 PER PLATFORM)



SIDE ELEVATION



PLAN

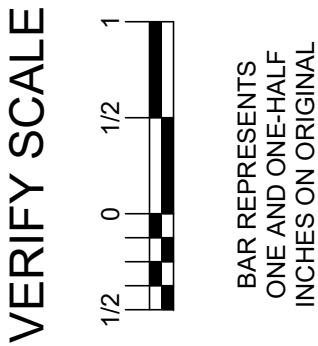


FRONT ELEVATION

PCB PLATFORM - SP1
SCALE: 1-1/2"=1'-0"

STRUCTURE NOTES:

- ALL STRUCTURE MOUNTING HOLES ARE 1/16" OR 3/16" UNLESS OTHERWISE NOTED.
- EACH BOLT ASSEMBLY SHALL INCLUDE A TYPE "MF" LOCKOUT.
- STEEL PACKAGER SHALL PROVIDE ALL FASTENERS NEEDED TO ASSEMBLE EACH STRUCTURE AND A 5% OVERAGE.
- STRUCTURES AND ATTACHMENTS WILL BE DESIGNED TO BE AS SYMMETRICAL AND SQUARE AS REASONABLE.
- SEE E51 AND EXX FOR PLATFORM LOCATIONS AND QUANTITIES.



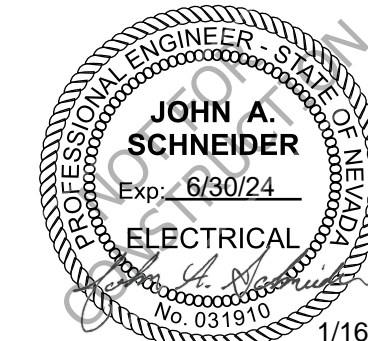
GARNET VALLEY WATER SYSTEM
APEX 2920 PUMPING STATION SITE

APEX SUBSTATION
PCB PLATFORM - SP1

SCALE
NTS

HDR
6750 VIA AUSTI PARKWAY SUITE 350
LAS VEGAS, NEVADA 89119
(702) 938-6000

DRAWN BY: JORDAN REED
CHECKED BY: ZAFAR ASHRAFI



PROJECT: 3533S

COMMIT: 010717

DRAWING/NUMBER

E161

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