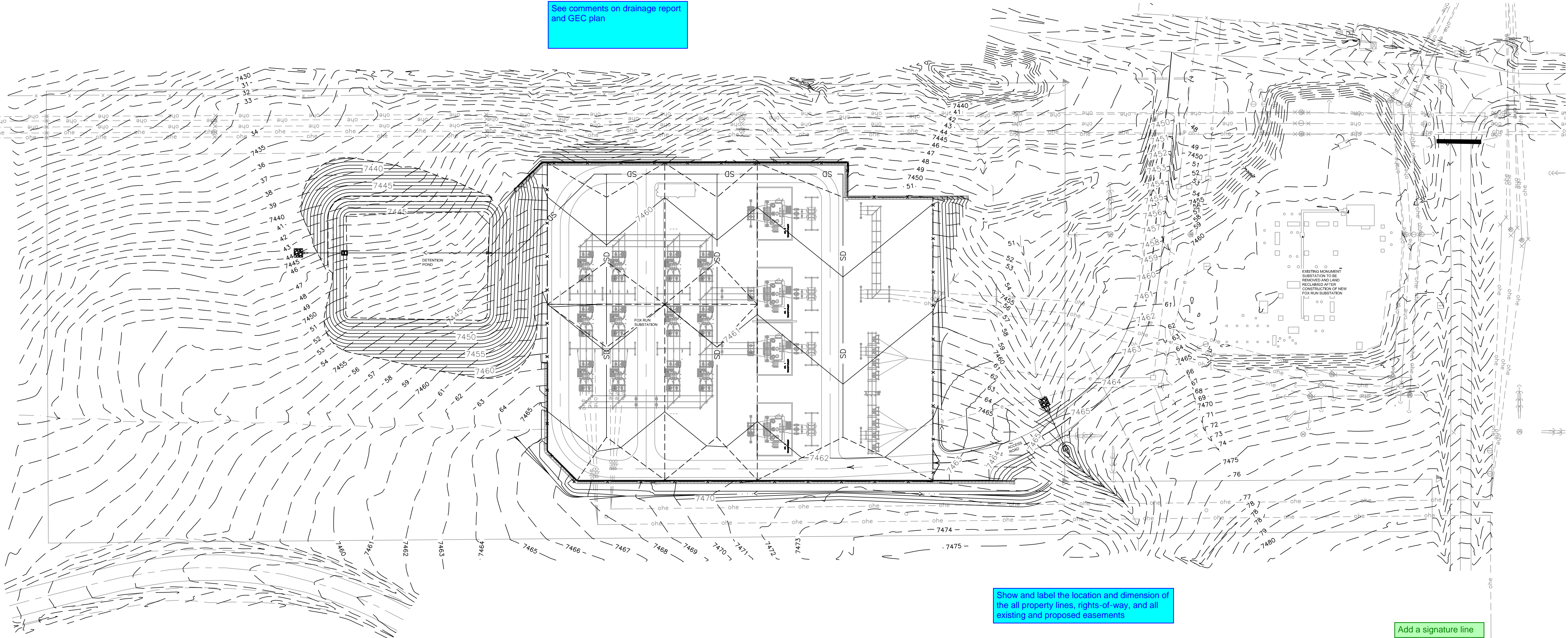
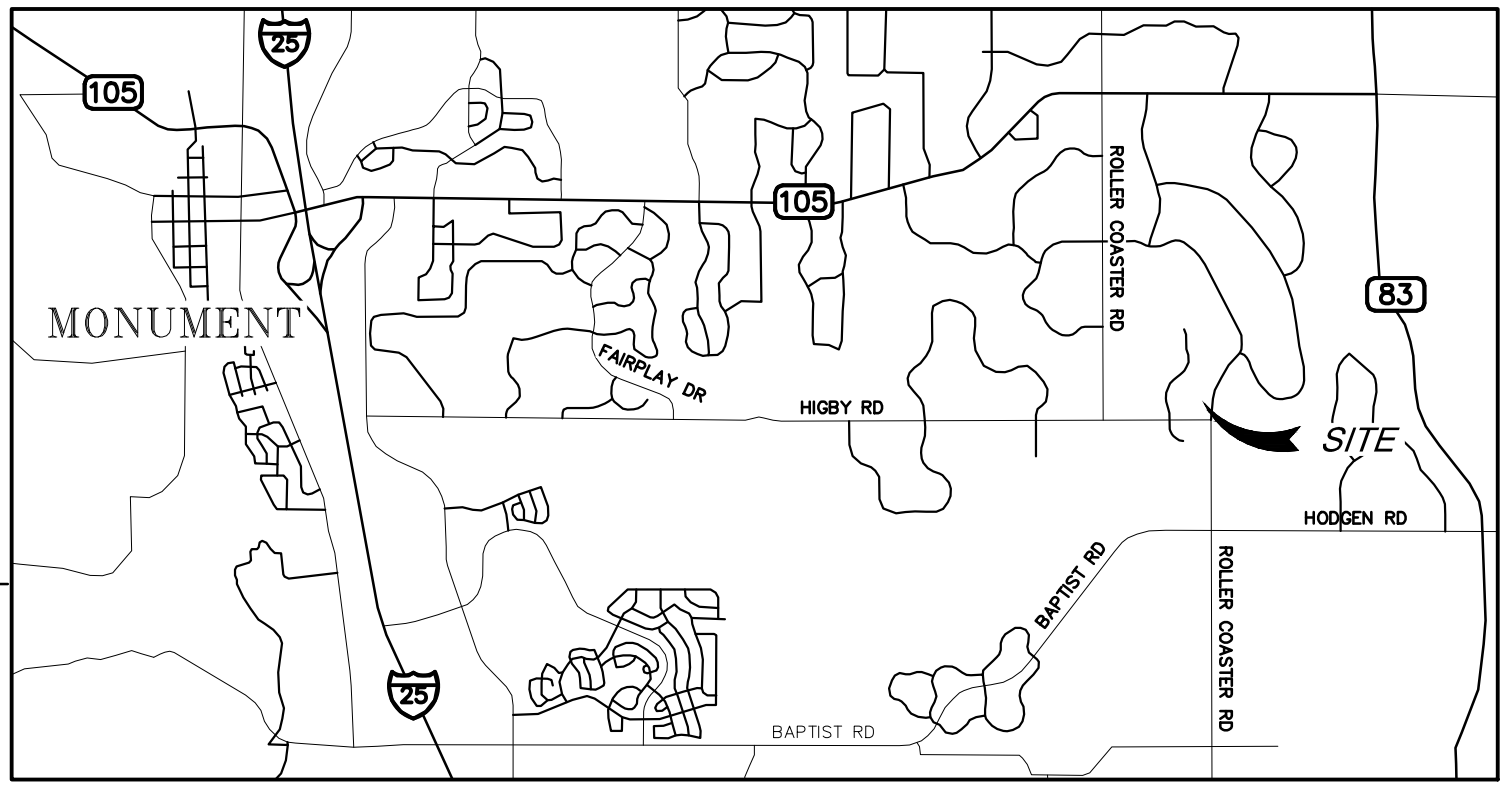


See comments on drainage report and GEC plan



Show and label the location and dimension of the all property lines, rights-of-way, and all existing and proposed easements

Add a signature line



VICINITY MAP
N.T.S.

Site Coordinates (Lat/Long): 39.0808, -104.7858

Address: 401 Higby Road, Monument, CO

Provide correct address, 1980 E Higby Road
Parcel # 6121003005

LEGAL DESCRIPTION

A PARCEL OF LAND LOCATED WITHIN THE NORTHWEST QUARTER OF SECTION 21, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE CENTER CORNER OF OF SAID SECTION 21, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 21 BEARS NORTH 01°31'31" WEST, A DISTANCE OF 2649.12 FEET, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE ALONG THE EAST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 21, NORTH 01°31'31" WEST, A DISTANCE OF 466.67 FEET TO THE NORTHEAST CORNER OF THAT TRACT DESCRIBED IN BOOK 1982 AT PAGE 55 IN THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER'S OFFICE AND THE POINT OF BEGINNING;

THENCE ALONG THE NORTHERLY AND WESTERLY BOUNDARY OF SAID TRACT THE FOLLOWING TWO (2) COURSES:

1. SOUTH 88°46'41" WEST, A DISTANCE OF 466.67 FEET;
2. SOUTH 01°31'31" EAST, A DISTANCE OF 426.67 FEET TO THE NORTHERLY RIGHT-OF-WAY OF HIGBY ROAD AS DESCRIBED IN QUIT CLAIM DEED RECORDED UNDER RECEPTION NO. 213109156, IN SAID RECORDS;

THENCE ALONG SAID NORTHERLY RIGHT-OF-WAY, SOUTH 88°46'41" WEST, A DISTANCE OF 60.71 FEET;

THENCE DEPARTING SAID NORTHERLY RIGHT-OF-WAY, NORTH 01°31'31" WEST, A DISTANCE OF 1615.08 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF SAID QUARTER;

THENCE ALONG SAID NORTH LINE, NORTH 88°42'39" EAST, A DISTANCE OF 527.38 FEET TO A POINT ON THE EAST LINE OF SAID NORTHWEST QUARTER;

THENCE ALONG SAID EAST LINE, SOUTH 01°31'31" EAST, A DISTANCE OF 1189.03 FEET TO THE POINT OF BEGINNING.

CONTAINING 14.986 ACRES, (652,806 S.F.) MORE OR LESS.

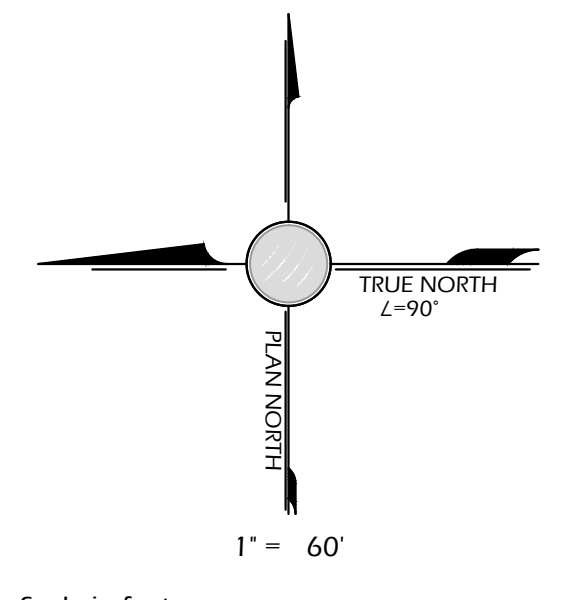
- Include a summary table with:
- Owner contact telephone number, and email for responsible party
 - Applicant name (if not owner), contact telephone number, and email for responsible party
 - Property address and property tax schedule number
 - Lot & Parcel size
 - Existing/proposed land use and zoning
 - Total gross building square footage - if any buildings are proposed
 - Location of all sidewalks, trails, fences and walls, retaining walls, or berms
 - Location and dimensions of all existing and proposed signage on site
 - Location and dimension of the all property lines, rights-of-way, and all existing and proposed easements

SIGNATURE BLOCK

PLANNING & COMMUNITY DEVELOPMENT DIRECTOR DATE
EL PASO COUNTY, COLORADO

ATA NOTE

THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY REGULATIONS OR GUIDELINE ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS



LEGEND

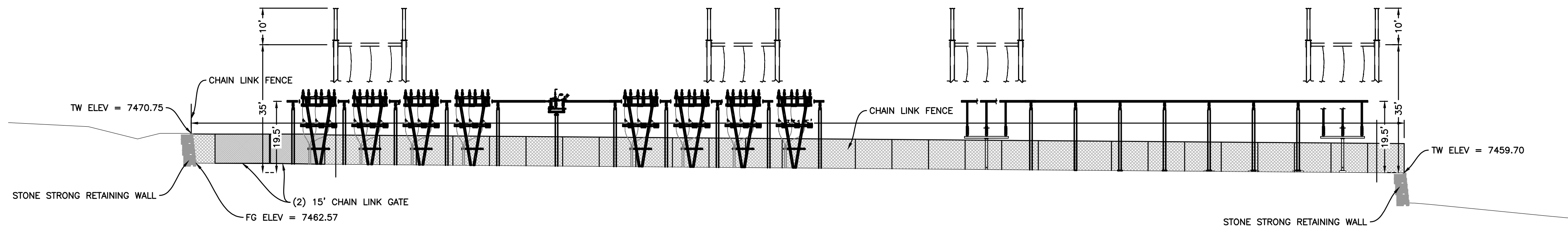
---	EXISTING PROPERTY FENCE
- - - - -	EXISTING UNDERGROUND POWER
---	EXISTING COUNTY ROAD R.O.W.
- - - - -	EXISTING CULVERT
---	PROPOSED SUBDRAIN
- - - - -	PROPOSED CULVERT
---	PROPOSED GRADE BRAKE LINE
- - - - -	PROPOSED SUBSTATION FENCE
---	PROPOSED DRAINAGE FLOWLINE
█	PROPOSED RIPRAP

Add PCD File PPR-22-044

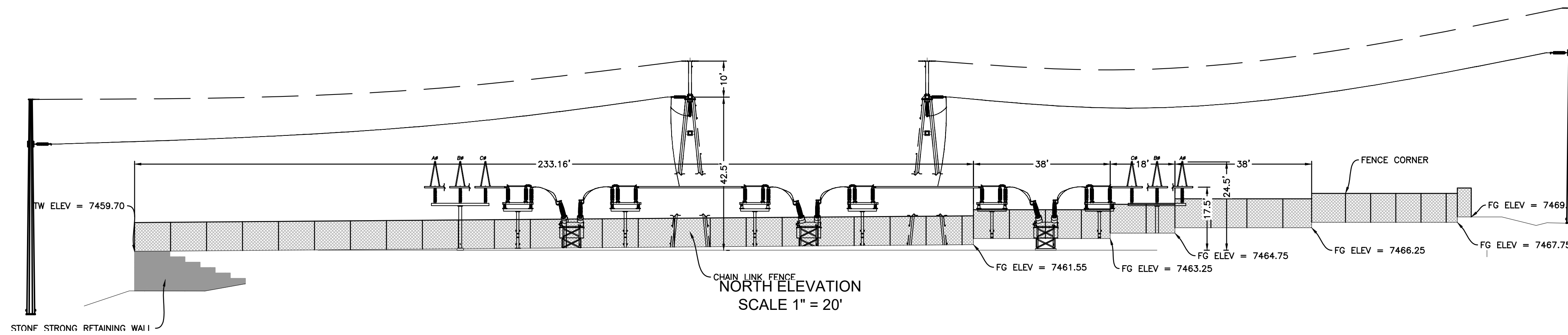
<p>FOX RUN SUBSTATION SITE PLAN</p> <p>TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED</p> <p>UPDATED BY: KENJUL 4/12/2022 5:24 AM PATH: T:\Projects\Fox Run Substation\90% Cvt Dwg\Site Plan.dwg</p>		<p>Revision</p> <p>Appd.</p> <p>Date</p> <p>No.</p>	<p>Reference Drawings</p> <p>Mgr.</p> <p>Dwg. No.</p> <p>M.F.</p>
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SITE PLAN

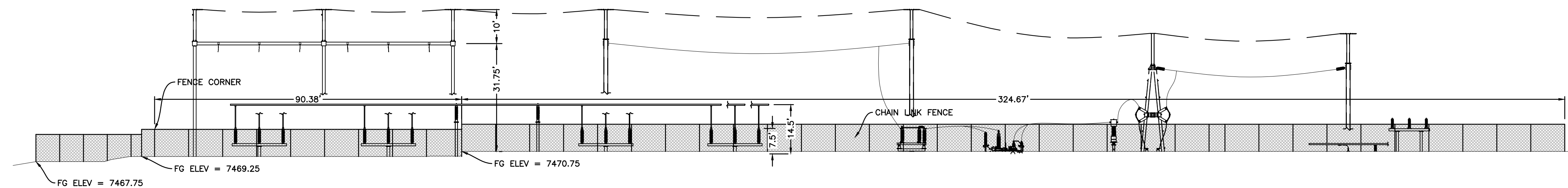
DEVELOPMENT



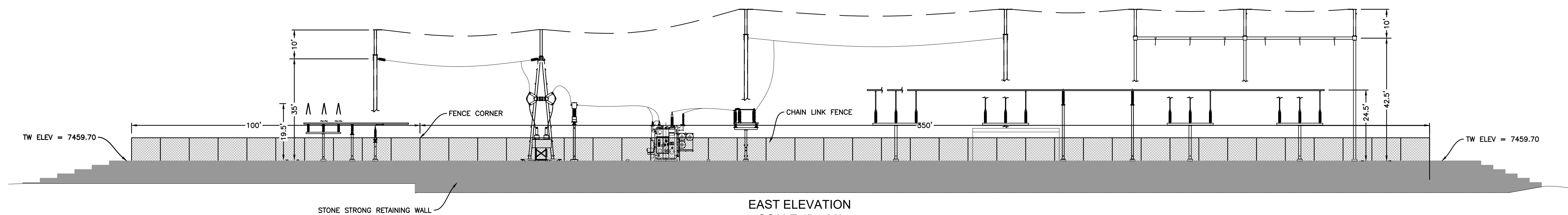
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SCALE 1" = 20'



NORTH ELEVATION
SCALE 1" = 20'

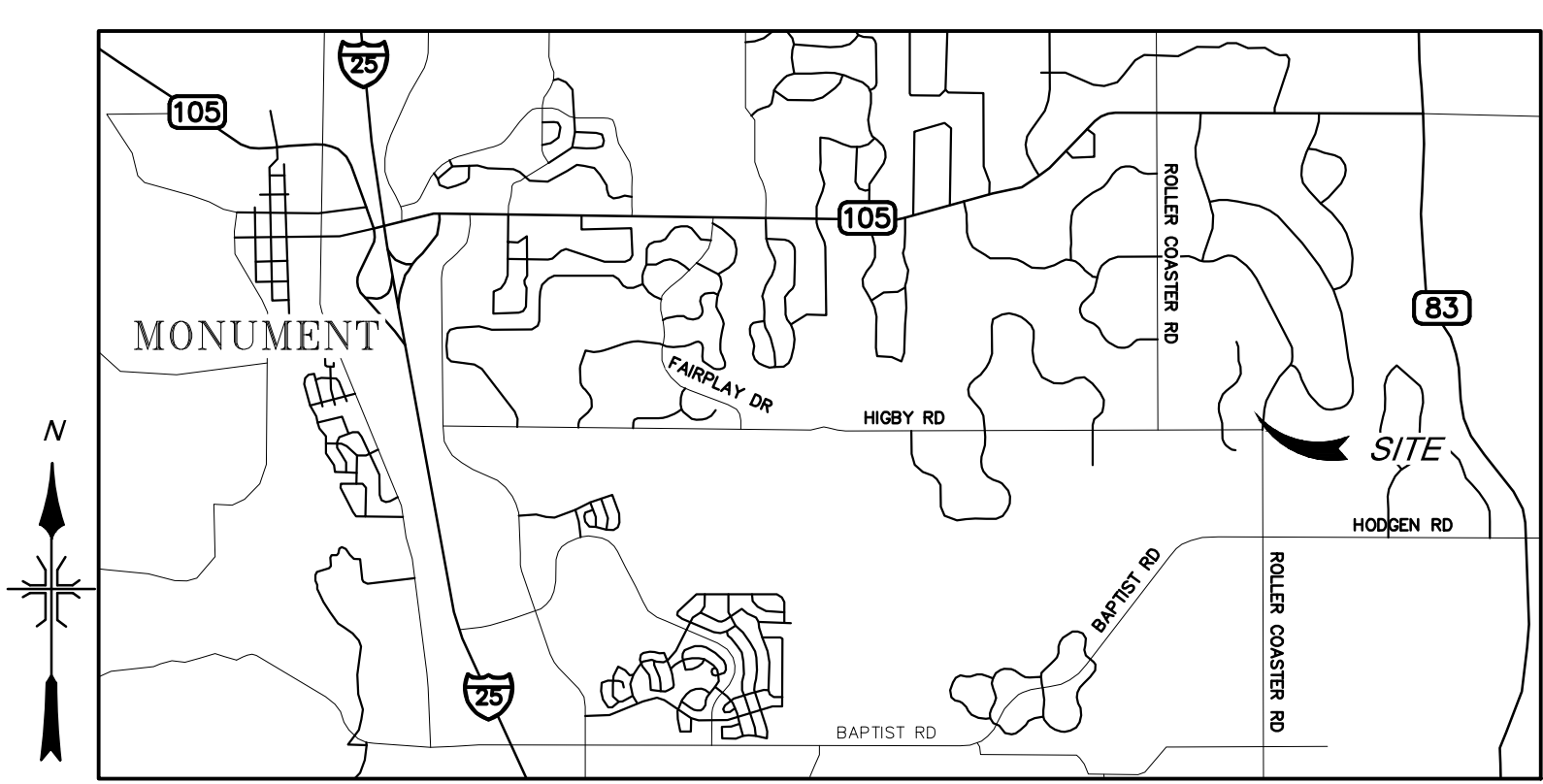
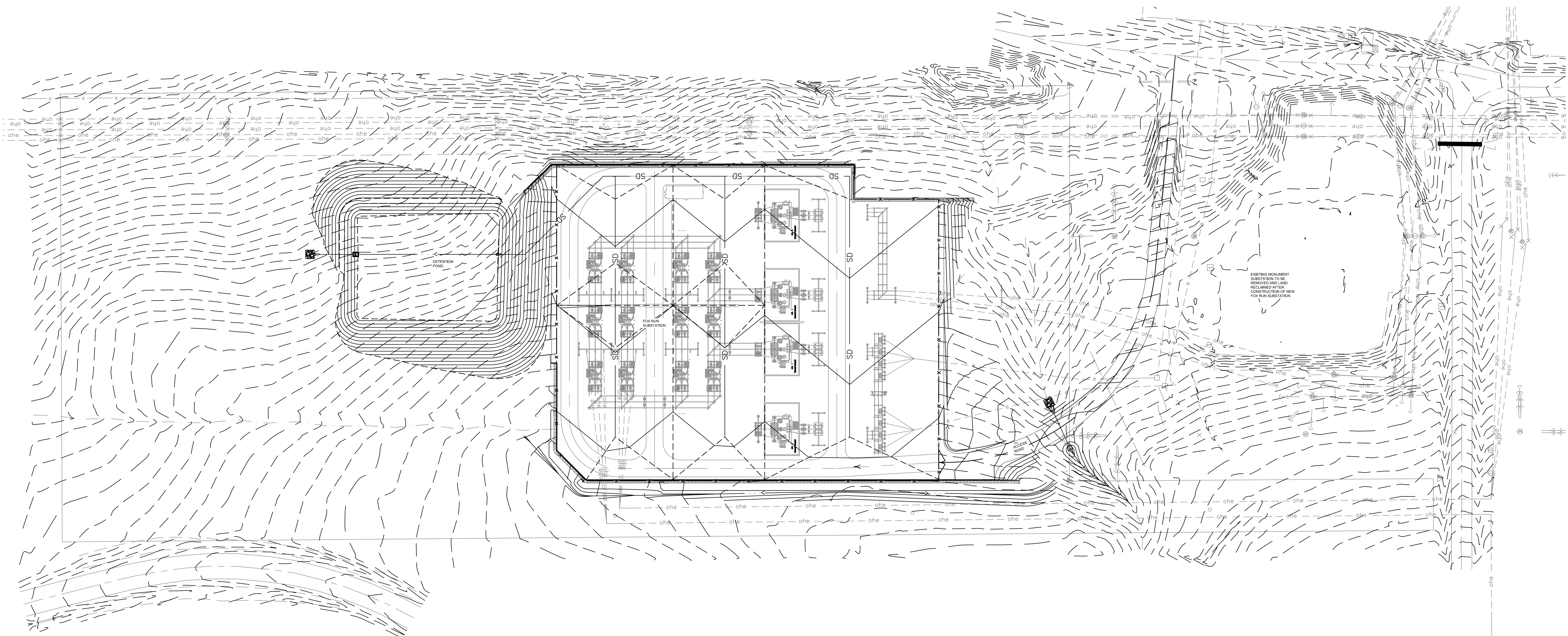


WEST ELEVATION
SCALE 1" = 20'



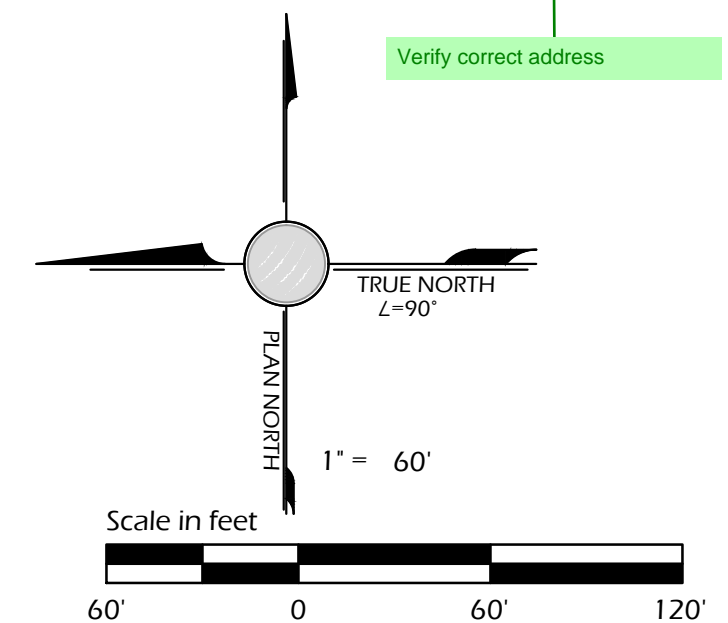
EAST ELEVATION
SCALE 1" = 20'

Reference Drawings		Drawing Title	
Dwg. No.	Mfr.	Dwg. No.	Mfr.
Revision		Revision	
No.	Date	Dwn.	Appd.
7			
6			
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<p>FOX RUN SUBSTATION</p> <p>ELEVATION VIEWS</p> <p>TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED</p> <p>1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111</p> <p>UPDATED BY: KENUTL 5/17/2022 4:56 PM Contract: .</p> <p>PATH: T:\Projects\Fox Run Substation\EL_Pano County\Dea\21036C_Elevations.dwg</p>			
<p>TRI-STATE Generation and Transmission Association, Inc. A Toulson Energy Cooperative</p>		<p>1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111</p>	
Dwn:	TMC	Date:	04/27/22
Appd:		Date:	
ELEVATIONS			



VICINITY MAP
N.T.S.

Site Coordinates (Lat/Long): 39.0808, -104.7858
 Address: 401 Higby Road, Monument, CO



GENERAL NOTES

THESE ARE CONSTRUCTION DOCUMENT LANDSCAPE PLANS FOR THE SITE LANDSCAPING AT THE FOX RUN SUBSTATION LOCATED APPROXIMATELY AT THE CORNER OF HIGBY RD AND ROLLER COASTER RD IN EL PASO COUNTY, CO.

1. THE EXTENT OF THIS LANDSCAPE INSTALLATION INCLUDES:
 - SEEDING OF NATIVE GRASSES OF DISTURBED AREAS
 - SEEDING OF RECLAIMED MONUMENT SUBSTATION
2. THE EXISTING LANDSCAPE, WITHIN THE NEW WORK AREA IS MOSTLY FIELD GRASS WITH SCATTERED TREES.
3. AFTER FINAL STABILIZATION OF THE SEEDED AREA, MAINTENANCE SHALL BE MINIMAL AND MIGHT REQUIRE MOWING AS NEEDED.
4. EXISTING UTILITIES - UNDERGROUND AND OTHERWISE EXIST ALONG THE CORRIDOR AND PROJECT AREA. ALL CONTRACTORS SHALL PROTECT IN PLACE ALL EXISTING UTILITIES DURING CONSTRUCTION. EXISTING UTILITIES NOTED ON THESE DRAWINGS ARE FOR REFERENCE ONLY AND MAY NOT ILLUSTRATE ALL UTILITIES THAT EXIST. ADDITIONAL COMMUNICATION CABLE SUCH AS TELEPHONE AND CABLE TV MAY EXIST ON OR NEAR THIS PROPERTY. LANDSCAPE CONTRACTOR SHALL LOCATE ALL UTILIZES PRIOR TO CONSTRUCTION AND NOTIFY OWNER OF ANY POTENTIAL CONFLICTS WITH PROPOSED CONSTRUCTION. ALL RESPONSIBLE FOR DAMAGES RESULTING FROM HITTING EXISTING UTILITIES.
5. ALL CONSTRUCTION IS TO ADHERE TO EL PASO COUNTY AND STATE OF COLORADO STANDARDS UNLESS OTHERWISE NOTED.
6. SOIL PREPARATION FOR LANDSCAPE AREAS SHALL CONSIST OF DISKING AND DRAGGING DISTURBED AND COMPACTED AREAS ONLY. DRILL SEEDING OF ENTIRE NATIVE SEED AREA, MULCHING WITH WEED FREE STRAW MULCH AND CRIMPING. INSTALL PLANTERS MIX TOPSOIL AROUND ALL TREES PER DETAILS.
7. YARD LIGHTING WILL ONLY BE LIT DURING EMERGENCIES.

LANDSCAPE TABULATIONS

ITEM	%	QTY	UNIT
1 6" TALL CHAINLINK PERIMETER FENCE		1621	LF
2 GRAVEL SUBSTATION YARD/DRIVEWAY	39	176,346	SF
3 NATIVE SEED REVEGETATION		61,278,929	SF
4 TOTAL SITE AREA -		100,454,366	SF

Add undisturbed native areas for total lot area to match project boundary

Lot is 652,806sqft

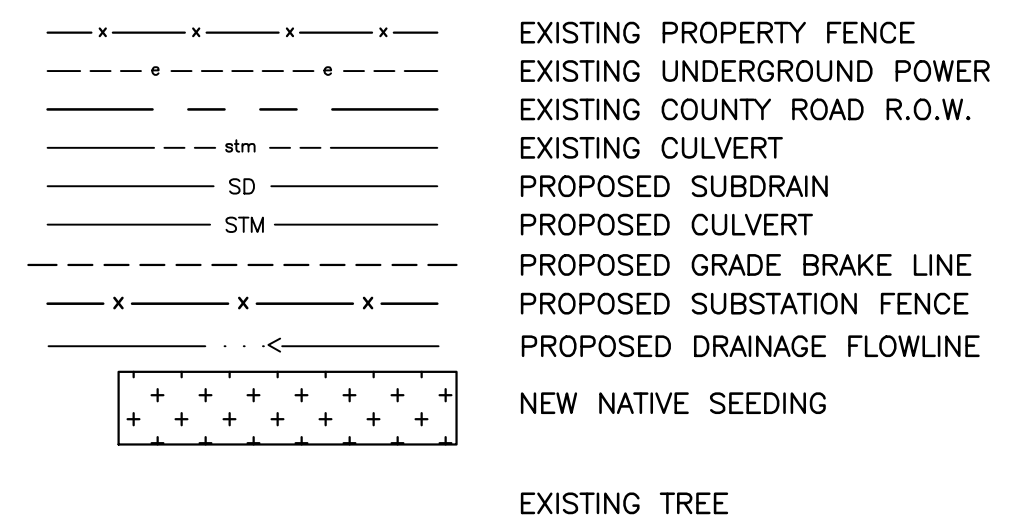
SEEDING SPECIFICATION

QTY	UNIT	NAME	RATE	MIX
200	LBS	LOW GROW MIX	25 LBS/ ACRES	30% EPHRALM CRESTED WHEATGRASS 25% SHEEP FESCUE 20% PERENNIAL RYE. 15% CHEWINGS FESCUE 10% CANADA BLUEGRASS

LANDSCAPE VARIANCE

THE NEW SUBSTATION AND ELECTRICAL UTILITIES BEING CONSTRUCTED WILL NOT BE MANNED FACILITIES. AS SUCH NO WATER SOURCES ARE REQUIRED NOR PLANNED FOR AT THIS SITE. IN EFFORT TO CONSERVE COLORADO WATER RESOURCES, TRI-STATE G&T REQUEST A VARIANCE TO EL PASO COUNTIES TREE LANDSCAPING REQUIREMENTS.

LEGEND



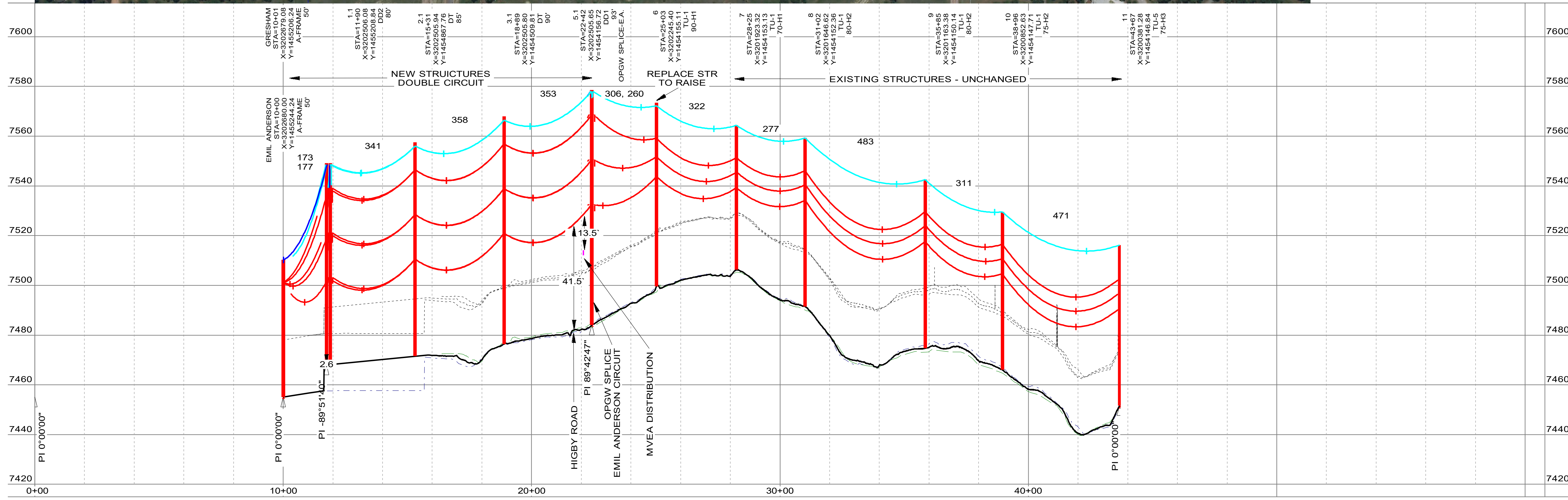
FOX RUN SUBSTATION LANDSCAPE PLAN		TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED
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Appd:	Date:	
LANDSCAPE PLAN		 A Touchstone Energy Cooperative 1100 W. 116th Ave. P.O. Box 33695 Denver, Colorado 80233 303-452-6111
No.	Date	Appd.
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M.F.	Revision	M.F.
Dwg. No.	M.F.	Reference Drawings

PRELIMINARY



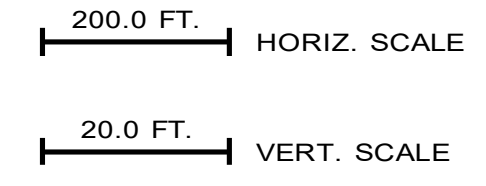
Preliminary

4/14/2022



- EMIL ANDERSON - 1.1, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 179 (FT), TENSION 150 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F INITIAL 146 (LBS)
- EMIL ANDERSON - 1.1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 183 (FT), TENSION 350 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) INITIAL 318 (LBS)
- GRESHAM - 1.1, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 167 (FT), TENSION 150 (LBS) AT 60 (DEG F) CREEP, DISPLAYED 120 DEG F MAX SAG 145 (LBS)
- GRESHAM - 1.1, 3/8 INCH HS 7 STRANDS STEEL, RULING SPAN 172 (FT), TENSION 150 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 144 (LBS)
- GRESHAM - 1.1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 163 (FT), TENSION 350 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) MAX SAG 311 (LBS)
- 1.1 - 5.1, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 352 (FT), TENSION 1000 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 757 (LBS)
- 1.1 - 5.1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 348 (FT), TENSION 2200 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 212 DEG. F MAX SAG 1183 (LBS)
- 1.1 - 5.1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 353 (FT), TENSION 2200 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) INITIAL 1199 (LBS)
- 5.1 - 11, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 388 (FT), TENSION 1930 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP FE
- 5.1 - G1, 3/8 INCH EHS 7 STRANDS STEEL, RULING SPAN 308 (FT), TENSION 975 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 721 (LBS)
- 5.1 - G1, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 295 (FT), TENSION 975 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 695 (LBS)
- 5.1 - 11, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 387 (FT), TENSION 2505 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) MAX SAG FE
- 5.1 - G1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 295 (FT), TENSION 2086 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1050 (LBS)

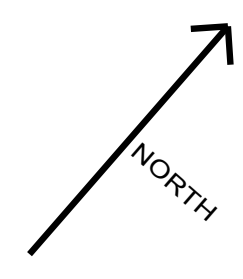
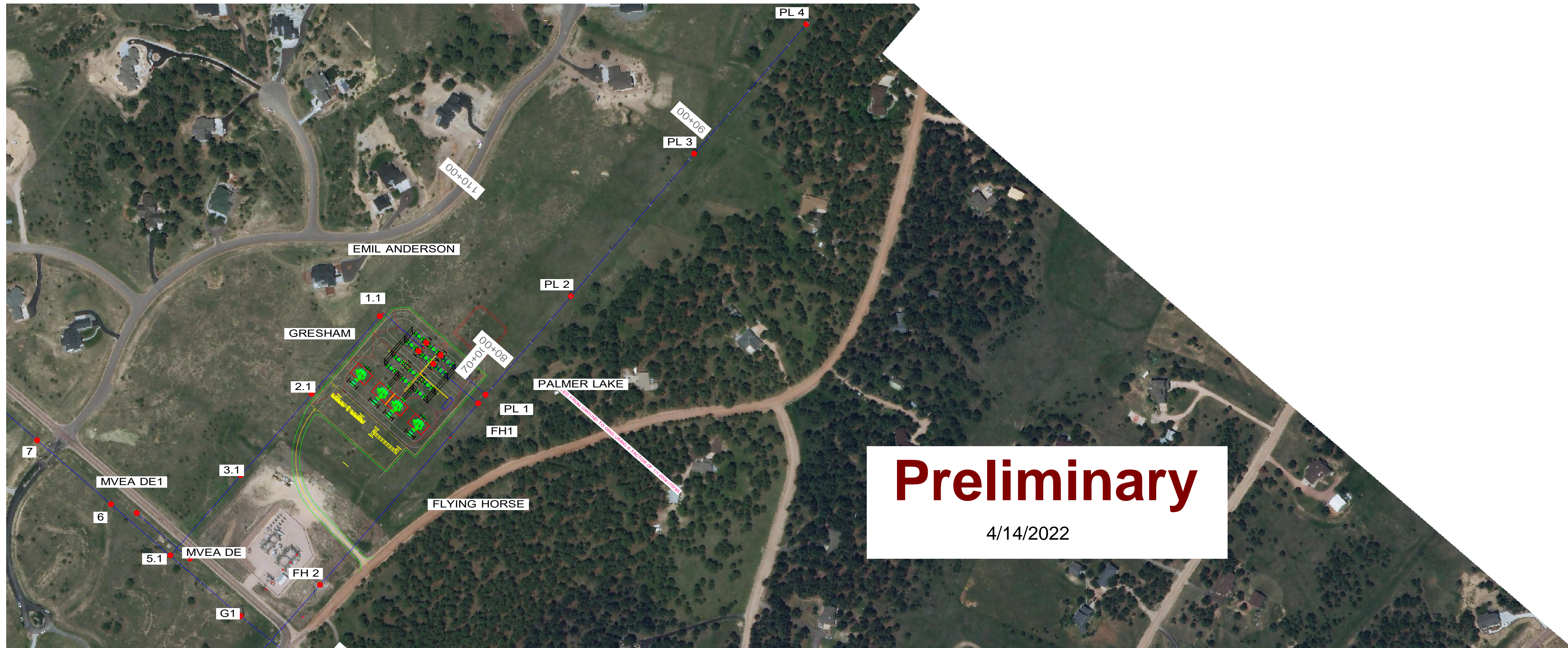
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 COORDINATES IN US-SURVEY FOOT.



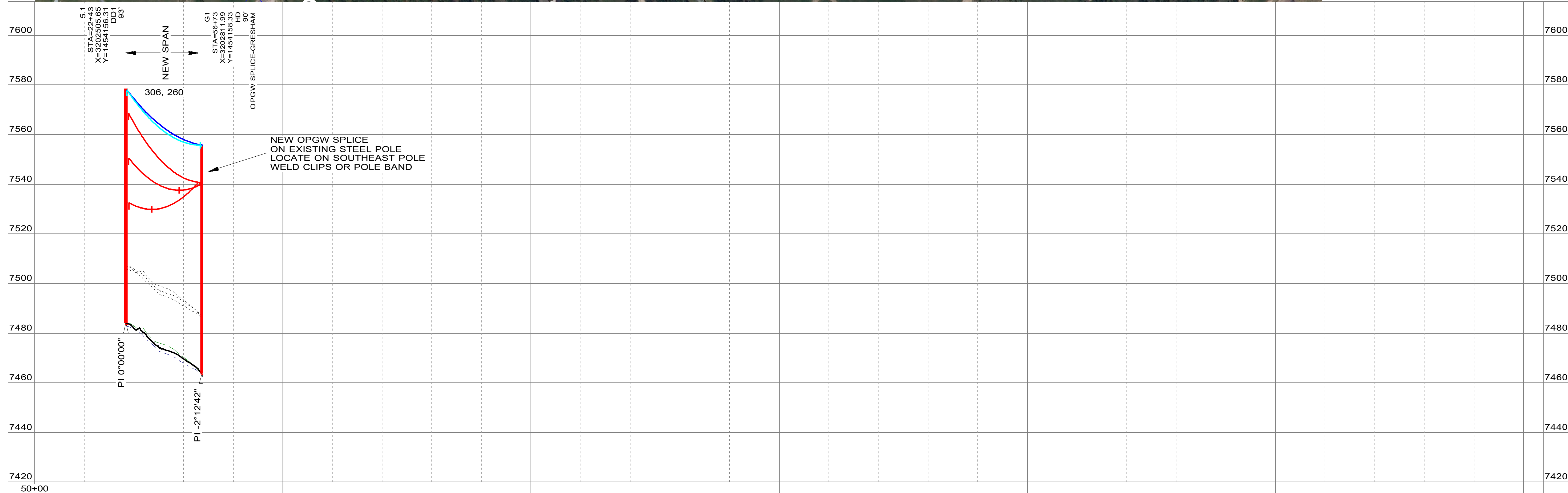
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FOX RUN - FOX RUN TAP
 115 KV
 PLAN AND PROFILE
 WO: 50002438/50032556
 TRI-STATE GENERATION & TRANSMISSION
 ASSOCIATION, INCORPORATED

DWN:	JTL	DATE:	3/24/22
APPD:		DATE:	

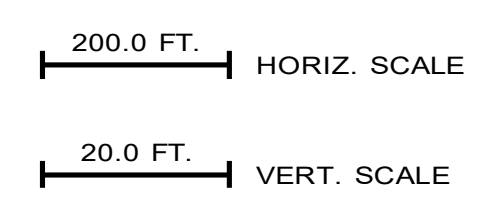


Preliminary
4/14/2022



- 5.1 - G1, 3/8 INCH EHS 7 STRANDS STEEL, RULING SPAN 308 (FT), TENSION 975 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 721 (LBS)
- 5.1 - G1, AFL OPGW DNO-7054 CC-37/47/547, RULING SPAN 295 (FT), TENSION 975 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 695 (LBS)
- 5.1 - G1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 295 (FT), TENSION 2086 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1050 (LBS)
- G1 - P2, 3/8 INCH HS 7 STRANDS STEEL, RULING SPAN 368 (FT), TENSION 1057 (LBS) AT 60 (DEG F) CREEP, DISPLAYED 120 DEG F CREEP 811 (LBS)
- G1 - P2, AFL OPGW 8 FIBER ALUMACOORE AC-53/449, RULING SPAN 380 (FT), TENSION 1189 (LBS) AT 60 (DEG F) CREEP, DISPLAYED 120 DEG F CREEP 849 (LBS)
- G1 - P2, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 374 (FT), TENSION 2234 (LBS) AT 60 (DEG F) CREEP, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1336 (LBS)

NOTES:
CLEANRANCE LINE SHOWN AT 23.0'
COORDINATES IN CO CENTRAL NAD83
COORDINATES IN US-SURVEY FOOT.



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						APPD.	APPD.
						DWN.	DWN.
						JTL	JTL
						ISSUE PER CPN-049 AND CPN-055	
						REVISION	REVISION
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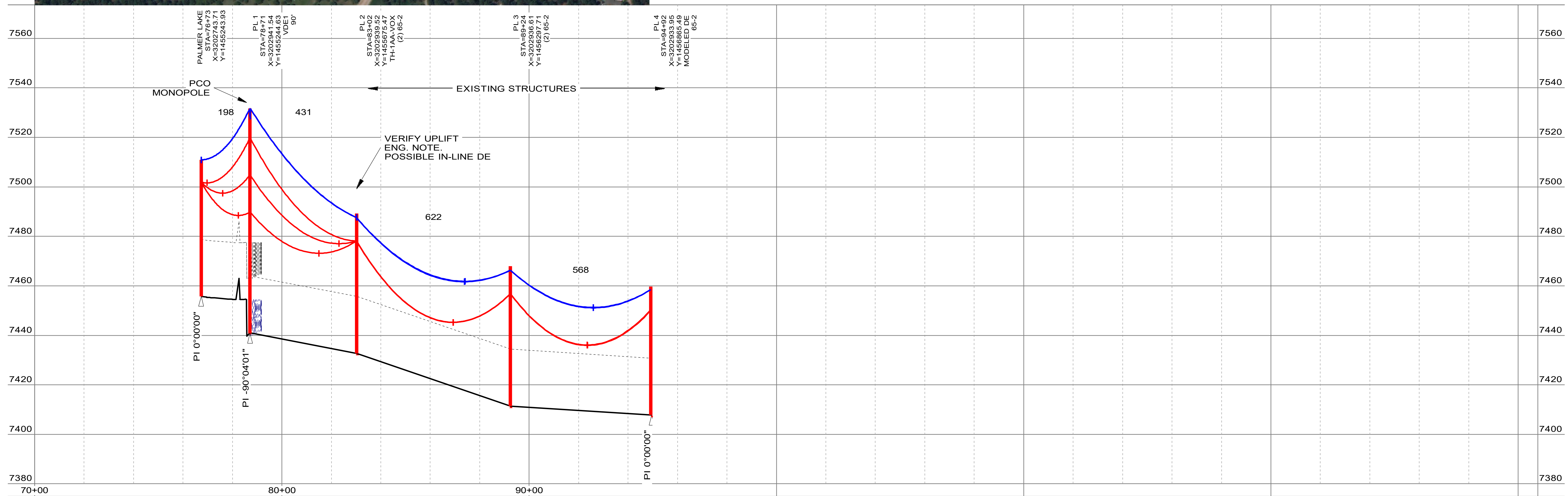
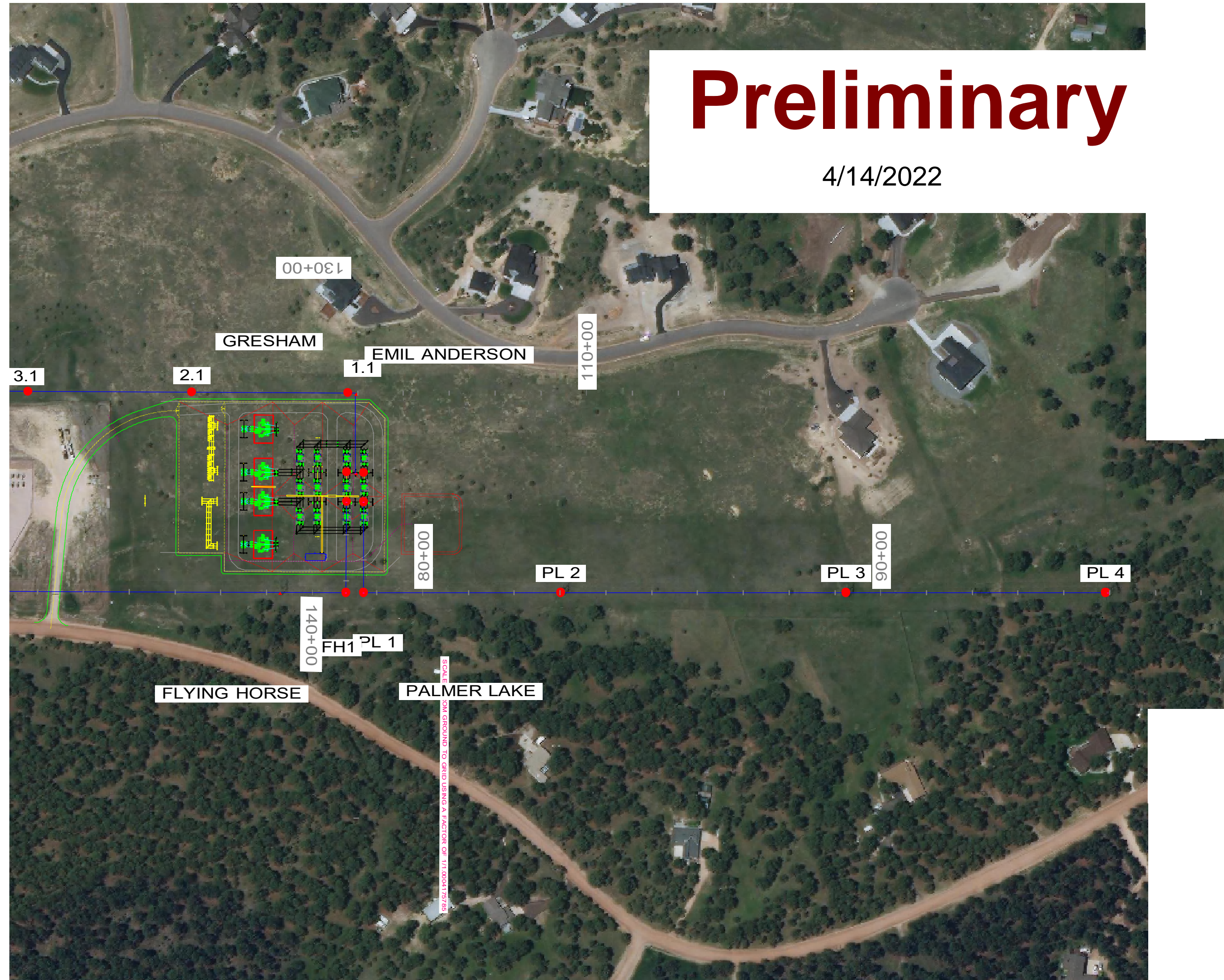
FOX RUN - FOX RUN TAP
115 KV

PLAN AND PROFILE
WO: 50002438/50032556
TRI-STATE GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED

UPDATED BY: _____ CONTRACT: _____

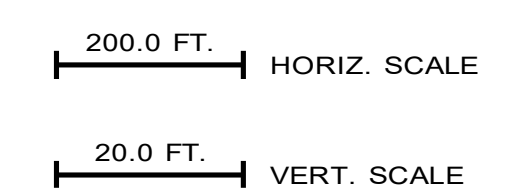
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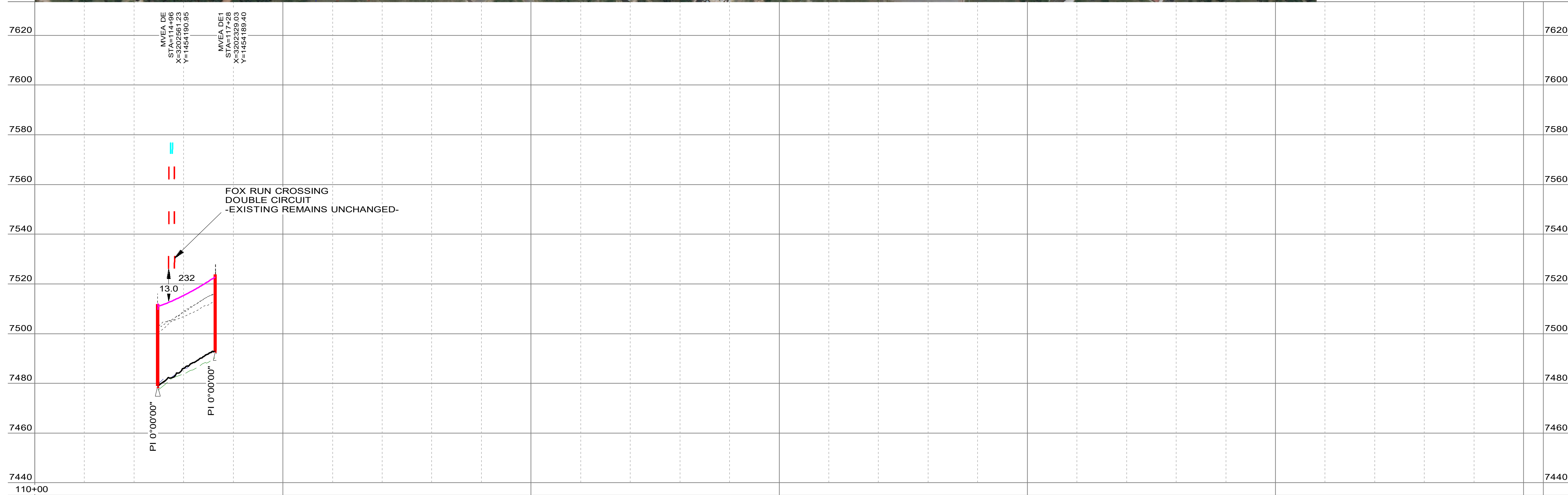


PALMER LAKE - PL 1, 3/8 INCH HS 7 STRANDS STEEL, RULING SPAN 197 (FT), TENSION 300 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F MAX SAG 256 (LBS)
 PALMER LAKE - PL 1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 198 (FT), TENSION 750 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) MAX SAG 547 (LBS)
 PL 1 - PL 4, 1/2 INCH EHS 7 STRANDS STEEL, RULING SPAN 557 (FT), TENSION 2319 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 1934 (LBS)
 PL 1 - PL 4, 1/2 INCH EHS 7 STRANDS STEEL, RULING SPAN 557 (FT), TENSION 2275 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 1904 (LBS)
 PL 1 - PL 4, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 557 (FT), TENSION 2253 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1525 (LBS)

NOTES:
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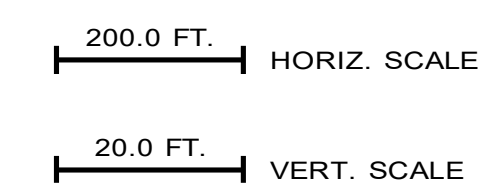


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FOX RUN - FOX RUN TAP 115 KV PLAN AND PROFILE WO: 50002438/50032556 TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED			
DWN:	JTL	DATE:	3/24/22
APPD:		DATE:	
T2301-G-01-003			



MVEA DE - MVEA DE1, 266.8 KCMIL 26/7 STRANDS PARTRIDGE ACSR - ADAPTED FROM 1970'S PUBLICLY AVAILABLE DATA, RULING SPAN 232 (FT), TENSION 4000 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 60 DEG. F MAX SAG 2684 (LBS)

NOTES:
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 COORDINATES IN CO CENTRAL NAD83
 COORDINATES IN US-SURVEY FOOT.



FOX RUN - FOX RUN TAP
 115 KV

PLAN AND PROFILE
 WO: 50002438/50032556
 TRI-STATE GENERATION & TRANSMISSION
 ASSOCIATION, INCORPORATED

DWN:	JTL	DATE:	3/24/22
APPD:	JTL	DATE:	

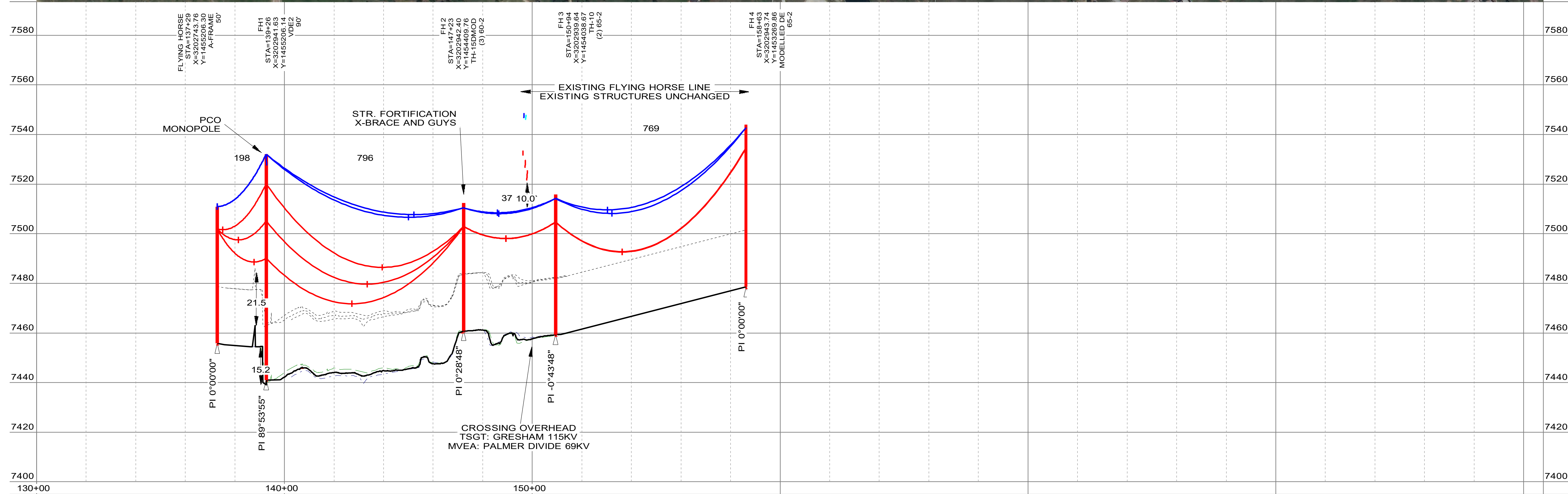
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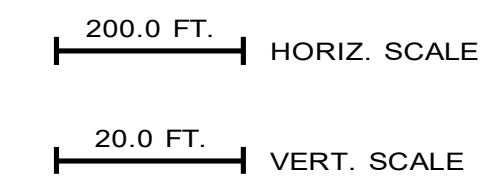


Preliminary
4/14/2022



- FLYING HORSE - FH1, 3/8 INCH HS 7 STRANDS STEEL, RULING SPAN 197 (FT), TENSION 300 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 266 (LBS)
- FLYING HORSE - FH1, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 197 (FT), TENSION 750 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 548 (LBS)
- FH1 - FH 2, 1/2 INCH EHS 7 STRANDS STEEL, RULING SPAN 796 (FT), TENSION 4058 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 3356 (LBS)
- FH1 - FH 2, 1/2 INCH EHS 7 STRANDS STEEL, RULING SPAN 796 (FT), TENSION 4616 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 3781 (LBS)
- FH1 - FH 2, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 795 (FT), TENSION 3267 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 2140 (LBS)
- FH 2 - FH 4, 5/8 INCH EHS 7 STRANDS STEEL, RULING SPAN 666 (FT), TENSION 4616 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 3843 (LBS)
- FH 2 - FH 4, 5/8 INCH EHS 7 STRANDS STEEL, RULING SPAN 666 (FT), TENSION 4058 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED 120 DEG F CREEP 3454 (LBS)
- FH 2 - FH 4, 477 KCMIL 26/7 STRANDS HAWK ACSR, RULING SPAN 666 (FT), TENSION 3267 (LBS) AT 60 (DEG F) INITIAL, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1966 (LBS)

NOTES:
CLEANANCE LINE SHOWN AT 23.0'
COORDINATES IN CO CENTRAL NAD83
COORDINATES IN US-SURVEY FOOT.



NO.	DATE	APPD.	DWN.	REVISED	M.F.	DWG. NO.	M.FGR.	DRAWING TITLE	REFERENCE DRAWINGS
7									
6									
5									
4									
3									
2									
1	4/14/22	JTL	JTL	ISSUE PER CON-049 AND CON-048					

FOX RUN - FOX RUN TAP
115 KV

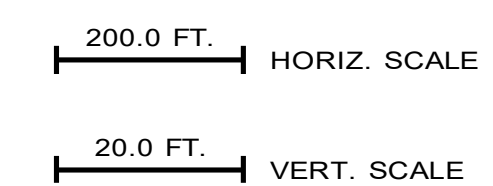
PLAN AND PROFILE
WO: 50002438/50032556
TRI-STATE GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED

UPDATED BY: _____ CONTRACT: _____



G1 - P2, 3/8 INCH HS 7 STRANDS STEEL, RULING SPAN 368 (FT), TENSION 1057 (LBS) AT 60 (DEG F) CREEP, DISPLAYED 120 DEG F CREEP 811 (LBS)
 G1 - P2, AFL OPGW 8 FIBER ALUMACORE AC-53/449, RULING SPAN 380 (FT), TENSION 1189 (LBS) AT 60 (DEG F) CREEP, DISPLAYED 120 DEG F CREEP 849 (LBS)
 G1 - P2, 477 KCMIL 267 STRANDS HAWK ACSR, RULING SPAN 374 (FT), TENSION 2234 (LBS) AT 60 (DEG F) CREEP, DISPLAYED MAXIMUM OPERATING TEMP (212°F) CREEP 1336 (LBS)

NOTES:
 CLEARANCE LINE SHOWN AT 23.0'
 COORDINATES IN CO CENTRAL NAD83
 COORDINATES IN US-SURVEY FOOT.



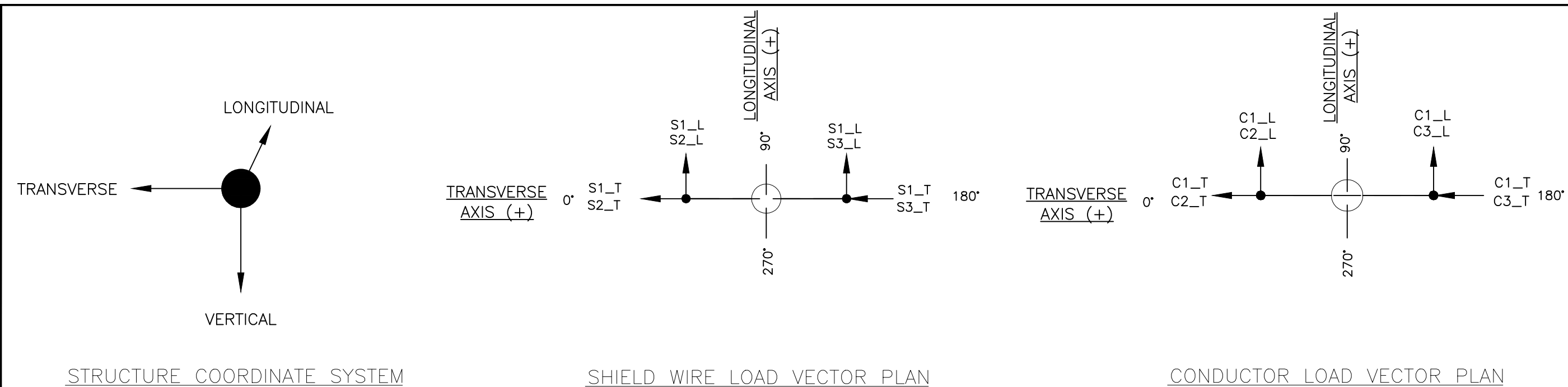
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DWG. NO.	M.FGR.	DWG. NO.	M.FGR.	NO.	DATE	DWN.	APPD.	NO.	DATE
				1	4/14/22	JTL	JTL	1	4/14/22
				2				2	
				3				3	
				4				4	
				5				5	
				6				6	
				7				7	

ISSUE PER CON-049 AND CON-048

FOX RUN - FOX RUN TAP
 115 KV
 PLAN AND PROFILE
 WO: 50002438/50032556
 TRI-STATE GENERATION & TRANSMISSION
 ASSOCIATION, INCORPORATED

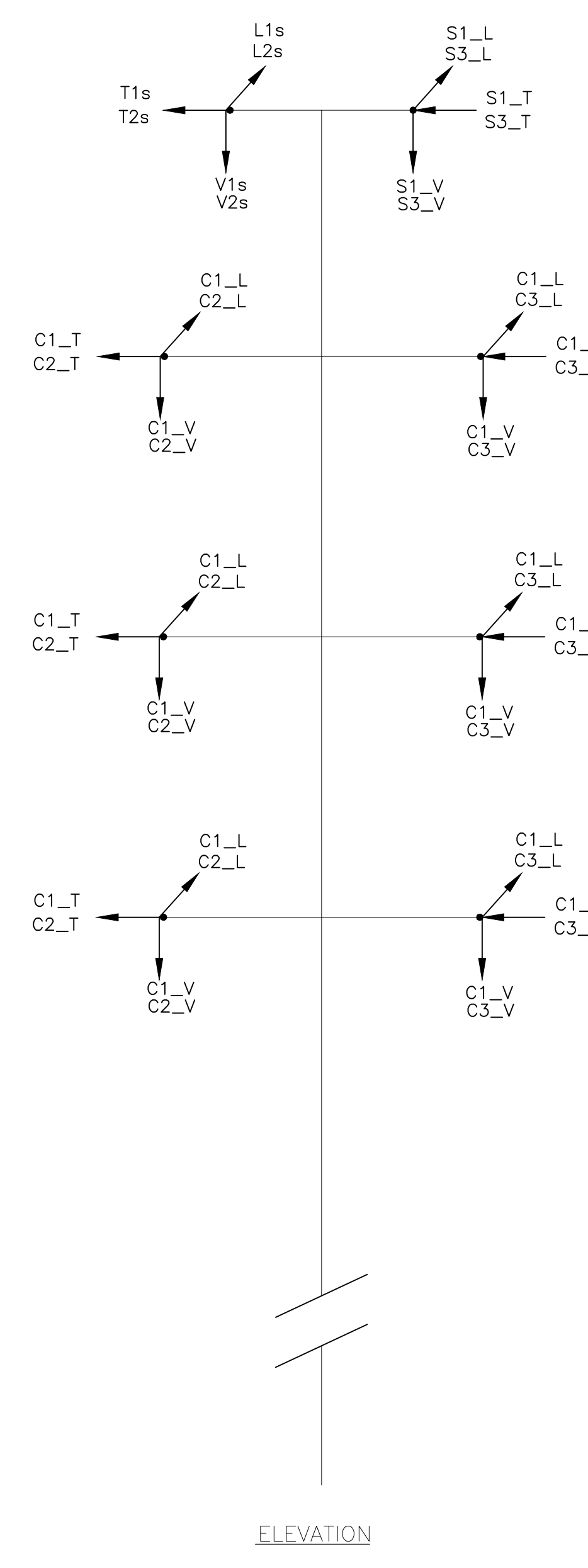
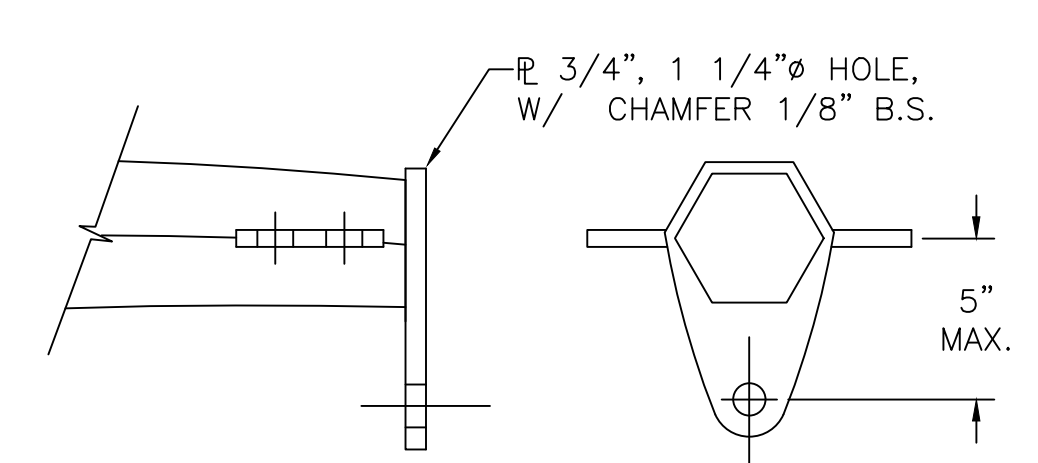
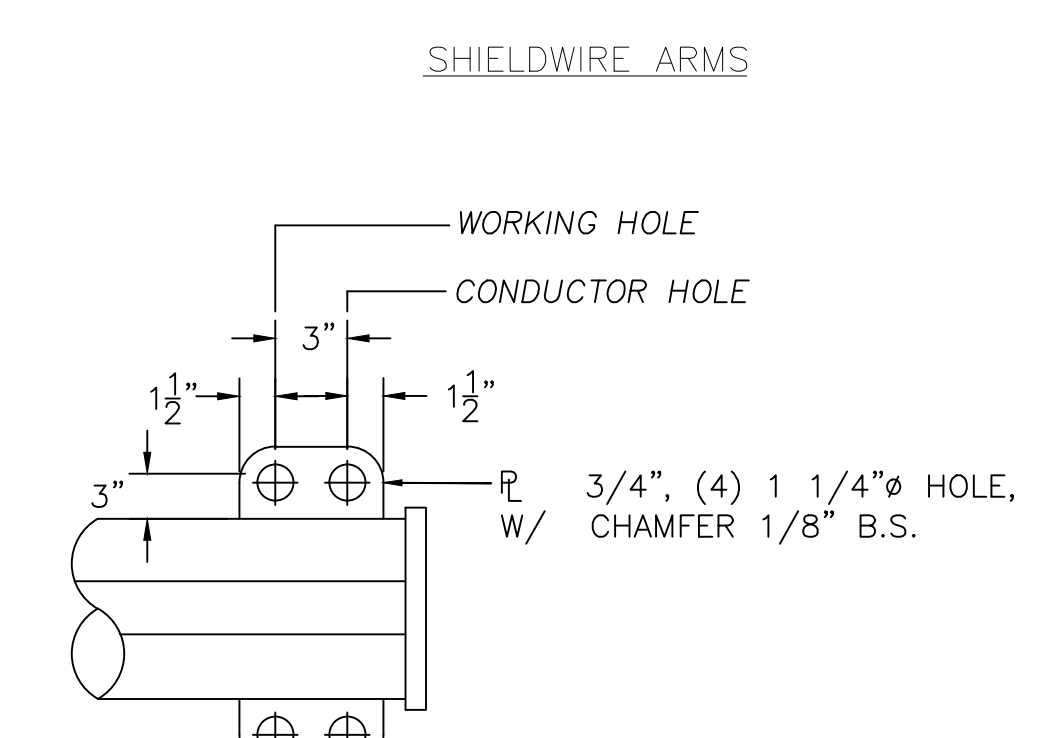
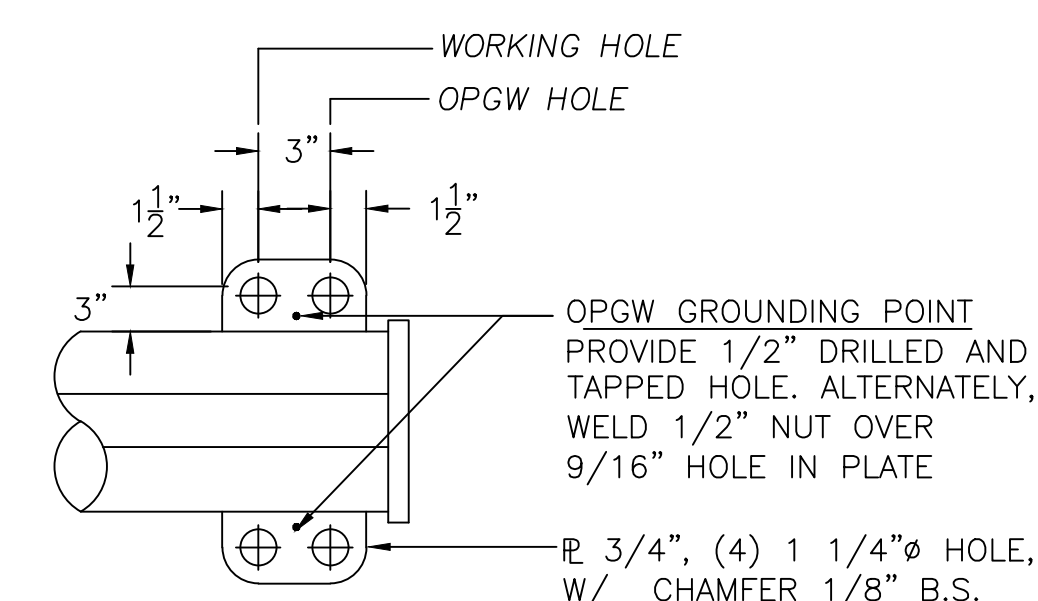
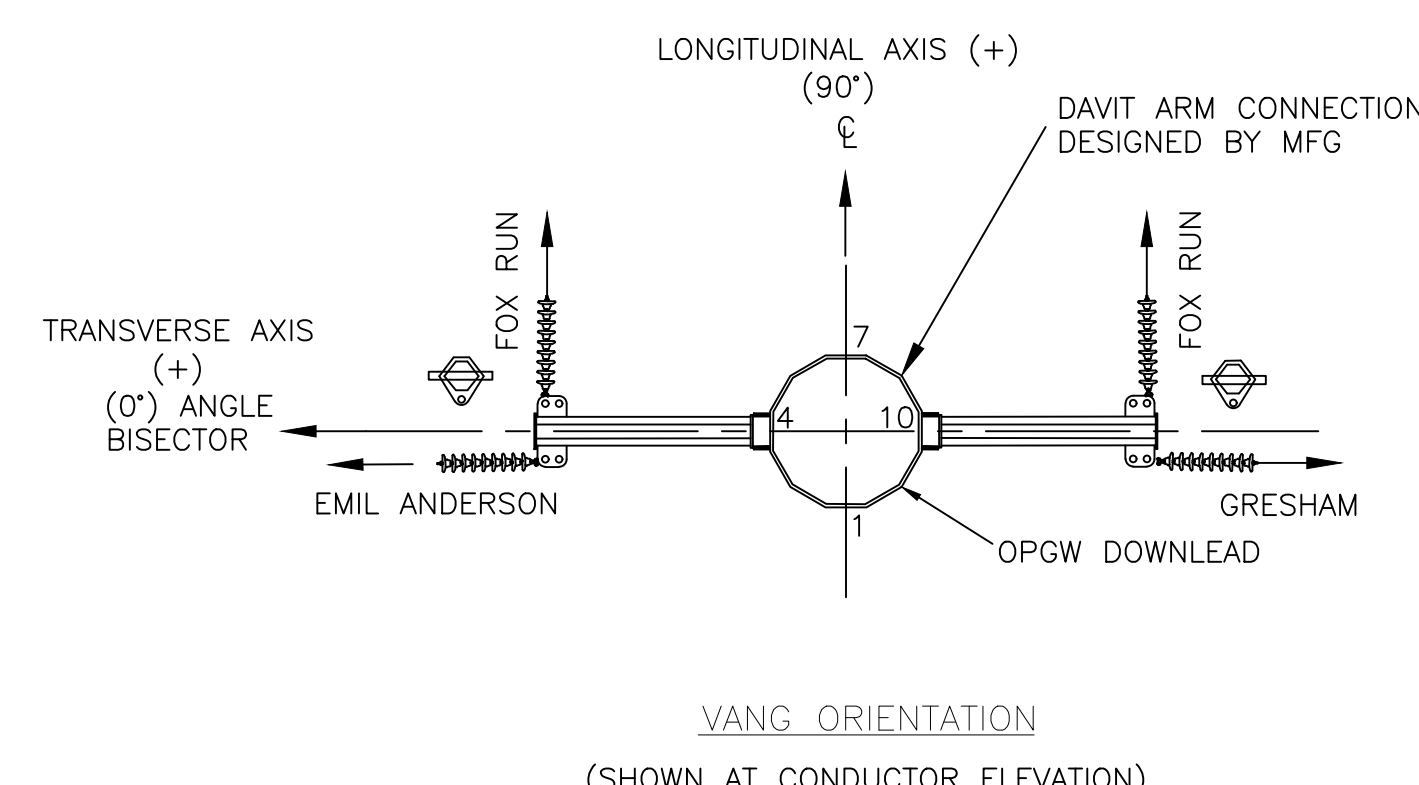
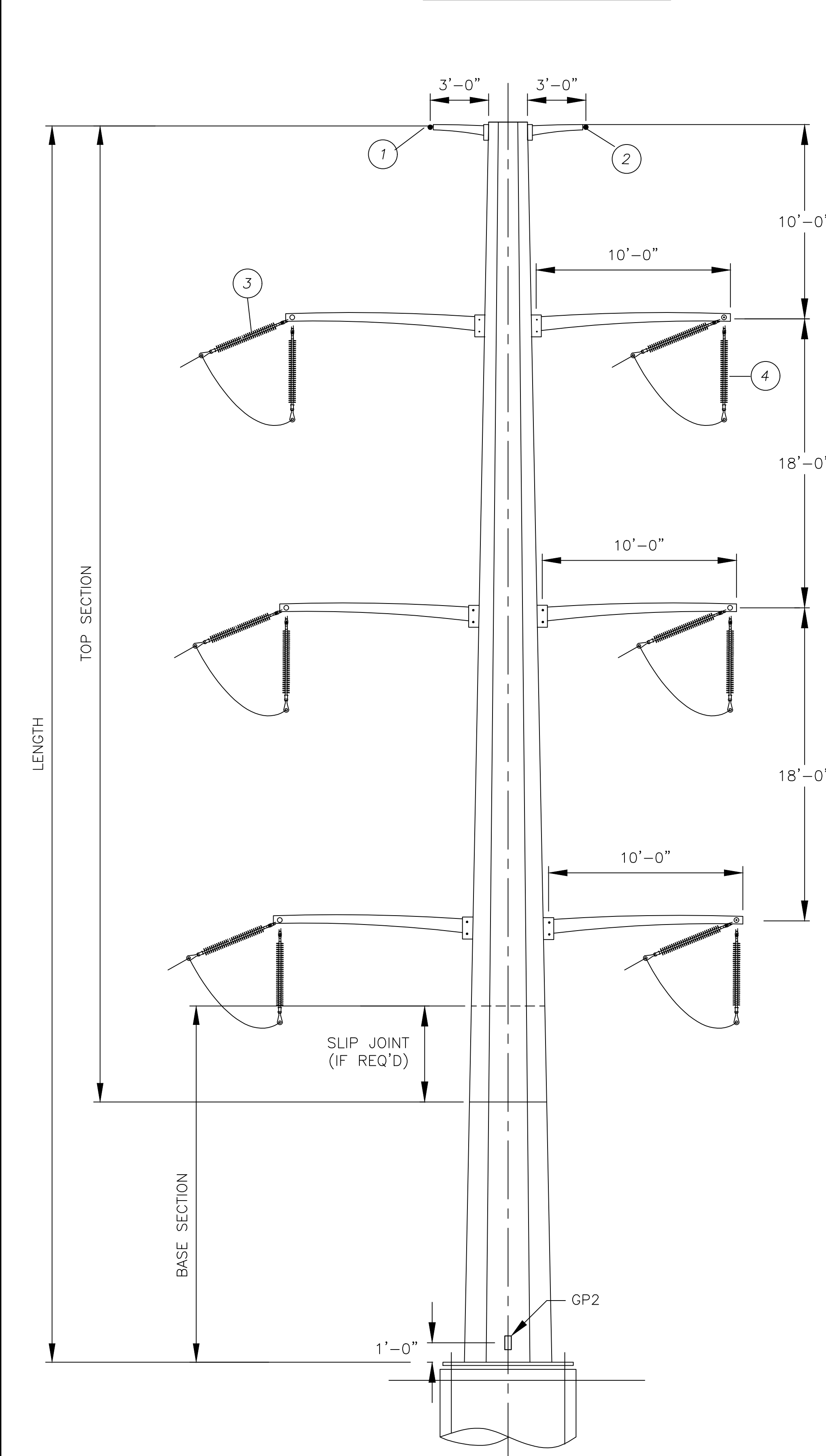
UPDATED BY: JTL DATE: 3/24/22

T2301-G-01-006



SHIELD WIRE STRUCTURE LOADS WITH OLF (KIPS)															
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			S1 (Fox Run Sub)			S2 (Emil Anderson)			S3 (Gresham)		
				WIND	TENS.	VERT.	V	T	L	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.0	0.8	7.0	0.7	8.0	0.5	1.5	-10.4	-0.8
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.4	0.4	3.1	0.5	3.8	0.5	1.4	-10.5	-0.6
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.4	0.3	3.5	0.4	4.0	0.5	0.6	-4.7	-0.4
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	1.0	-0.1	5.3	0.8	6.0	0.1	1.5	-8.3	0.3
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.5	0.5	3.9	0.5	4.3	0.6	0.7	-5.3	-0.6
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.4	0.2	1.9	0.4	2.7	0.4	0.5	-3.4	0.3
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.5	0.4	5.3	0.5	6.0	0.4	0.9	-7.5	-0.4
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.5	-0.2	3.8	0.4	3.7	0.2	0.7	-4.2	0.3
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.4	-0.3	3.0	0.5	4.0	0.3	0.9	-5.5	0.5
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0.0	0.0	0.0	0.7	8.0	0.5	1.5	-10.4	-0.8
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0.7	0.5	7.0	0.0	0.0	0.0	1.5	-10.4	-0.8
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.4	-0.4	4.3	0.5	5.8	0.3	0.9	-5.6	0.4

CONDUCTOR STRUCTURE LOADS WITH OLF (KIPS)															
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			C1 (Fox Run Sub)			C2 (Emil Anderson)			C3 (Gresham)		
				WIND	TENS.	VERT.	V	T	L	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.5	0.8	10.2	1.4	10.3	0.8	1.3	-9.5	-0.8
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.7	0.6	5.0	0.7	4.6	0.7	0.8	-4.2	-0.4
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.6	0.4	5.0	0.6	5.0	0.8	0.7	-4.3	-0.6
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	1.3	-0.4	7.3	1.3	7.6	0.6	1.5	-6.8	0.7
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.7	0.7	5.5	0.6	5.5	1.0	0.8	-4.8	-0.5
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.6	0.2	3.1	0.6	3.2	0.4	0.6	-2.9	0.3
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.8	0.3	7.7	0.7	7.9	0.7	0.9	-7.1	-0.6
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.8	-0.3	5.5	0.6	4.7	0.4	0.6	-4.3	0.5
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.6	-0.4	4.7	0.8	5.5	0.5	0.9	-4.9	0.5
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0.0	0.0	0.0	1.4	10.3	0.8	1.3	-9.5	-0.8
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	0.6	10.2	0.0	0.0	0.0	1.3	-9.5	-0.8
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.8	-0.5	7.5	0.8	7.5	0.7	1.0	-6.9	0.7



Preliminary

4/14/2022

DESIGN DATA:

477 KCMIL ACSR 26/7 HAWK CONDUCTOR (ALL CONDUCTOR)
 DNO-7054 OPGW (ALL OPGW)
 WIND SPAN = - (AHEAD); WIND SPAN = - (BACK);
 WEIGHT SPAN = -DESIGN LINE ANGLE
 (80-95 DEGREE LEFT, 80-90 DEGREE RIGHT)
 SOLID ICE DENSITY OF 57 LBS/FT³

NOTES:

- ALL DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH TRI-STATE "TRANSMISSION LINE TAPERED TUBULAR STEEL POLE STRUCTURES" SPECIFICATION.
- LOADS ARE ULTIMATE VALUES AND INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
- STRUCTURE AND ATTACHMENTS SHALL BE DESIGNED FOR THE SIMULTANEOUS APPLICATION OF DEAD LOAD OF THE STRUCTURE INCLUDING THE APPROPRIATE LOAD FACTOR, WIND ON THE STRUCTURE, AND WIRE LOADS FOR EACH LOAD CASE.
- WIND PRESSURES SHOWN ON LOAD CASE TABLE ARE IN PSF AND BASED ON A SHAPE FACTOR OF 1.0 FOR 12-SIDED SECTIONS. WIND PRESSURES INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
- LIMIT POLE DEFLECTION TO 2% OF STRUCTURE HEIGHT FOR DEFLECTION LOAD CASE. ALL WIRES INTACT. CAMBER MAY BE UTILIZED TO COMPLY WITH THIS REQUIREMENT.
- APPLY WIND ON STRUCTURE WHICH RESULTS IN THE MOST SEVERE EFFECT.
- STRUCTURE TO BE DESIGNED FOR INTACT AND FULL DEADEND LOADING CONDITIONS FOR LOAD CASES 1 - 5.
- MATERIAL SHALL BE WEATHERING STEEL.
- DAVIT ARMS SHALL ATTACH TO THE POLE WITH A BOLTED CONNECTION TO WELDED THROUGH ARM BRACKETS AND DESIGNED BY THE MANUFACTURER.
- OPGW SPlice LOCATED ON THIS POLE. PROVIDE DOWNLEAD CLAMP BRACKETS AND SPlice CASE MOUNTING BRACKETS.
- NAME PLATE SHALL BE WELDED ON ALL STRUCTURES. TEXT MUST BE PERMANENTLY LEGIBLE, AND MUST INCLUDE MANUFACTURER'S NAME, DATE OF FABRICATION, STRUCTURE NUMBER, COMPLETE STRUCTURE LENGTH, COMPLETE STRUCTURE WEIGHT, AND GROUND LINE MOMENT CAPACITY IN KIP- FEET.
- SEE DWG. T2301-G-13-0XX FOR STEEL DETAILS.
- LOCATE DETAIL 2 GROUNDING PADS ON BOTH SIDES OF ALL CONNECTIONS AND SPICES.
- POLE SECTIONS SHALL HAVE BOLTED FLANGE CONNECTIONS ON THIS POLE ONLY.
- ANCHOR BOLTS SHALL BE EQUALLY SPACED AROUND THE BASE PLATE WITH 2.5" MINIMUM SPACE BETWEEN BOLTS.
- ANCHOR BOLT TEMPLATE AND EACH POLE SECTION SHALL BE MARKED ON THE ANGLE BISECTOR WITH AN OBVIOUS MARKING METHOD AIDING CONSTRUCTION.
- PROVIDE LADDER CLIPS FOR FULL LENGTH OF POLE AND AND WORKING CLIPS FOR THE TOP 55' OF THE POLE.
- AERIAL NUMBER SIGN REQUIRED, SEE DETAIL.
- TOP DIAMETER: 12" MINIMUM; ANCHOR BOLT DIAMETER: 86" MAX; TAPER: 0.45 INCH PER FT MAXIMUM. (ALTERNATIVES MAY BE PROPOSED.)

STRUCTURE #	HEIGHT (FT)	ACTUAL LINE ANGLE
5.1	95'-0"	0°

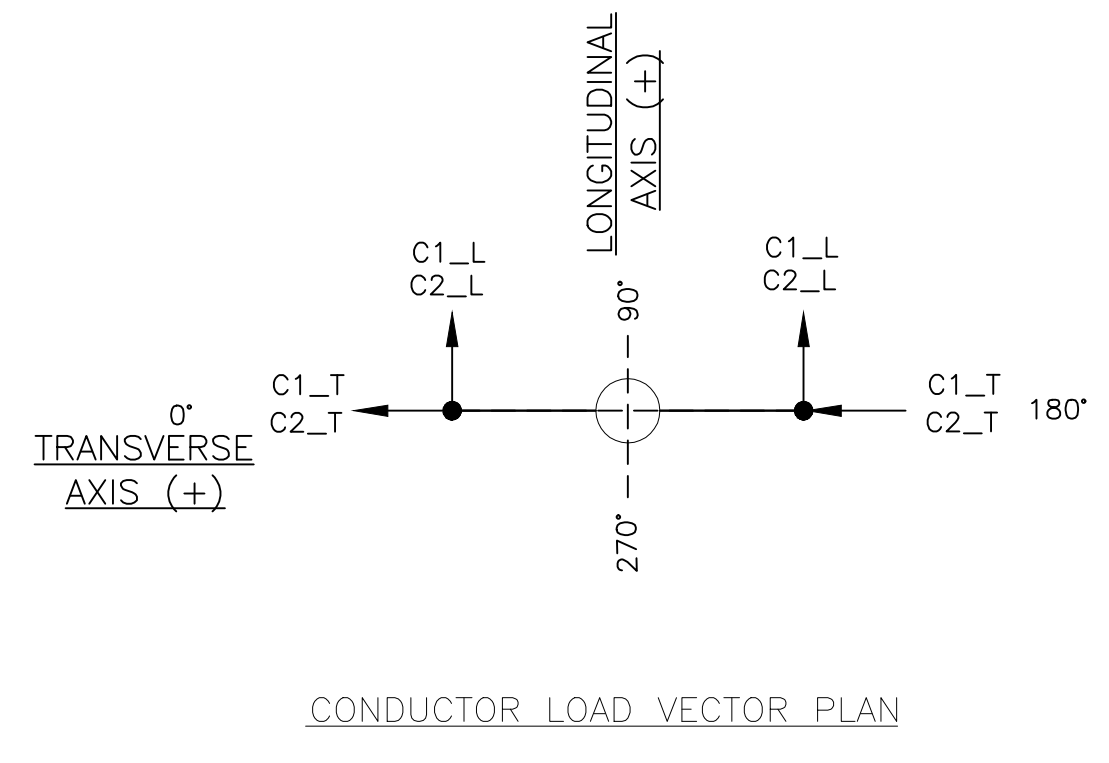
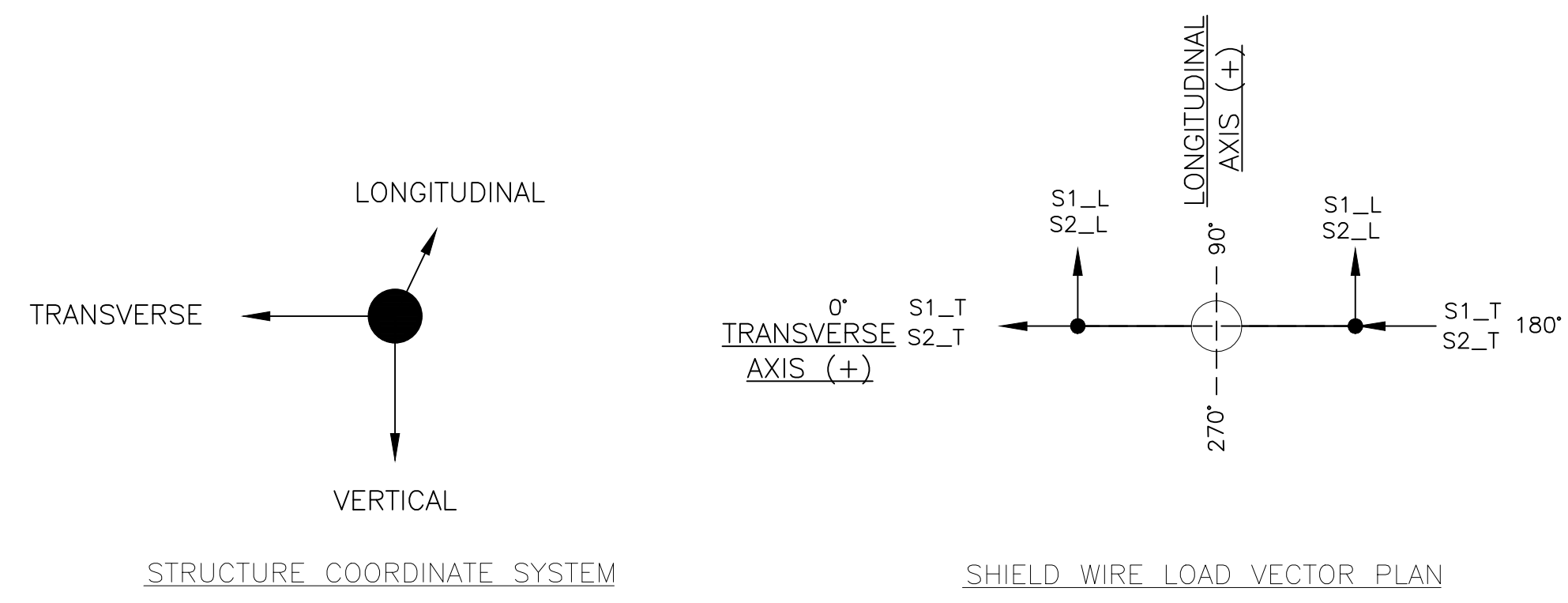
Drawing Title: Mgr. Reference Drawings: Dwg. No.: Revision: No. Date: Appd. Date:

115KV DD1
 FOX RUN - FOX RUN TAP
 OUTLINE AND DESIGN
 DOUBLE CIRCUIT AND DEADEND
 TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED
 UPDATED BY: ADAOU 4/12/2022 8:09 AM Contract:

TRI-STATE
 Generation and Transmission Association, Inc.
 A Touchstone Energy Cooperative
 1100 W. 116th Ave.
 P.O. Box 33695
 Denver, Colorado 80233
 303-432-0111

Dwn: ARO Date: 04-12-22
 Appd: JTL Date: 04-12-22

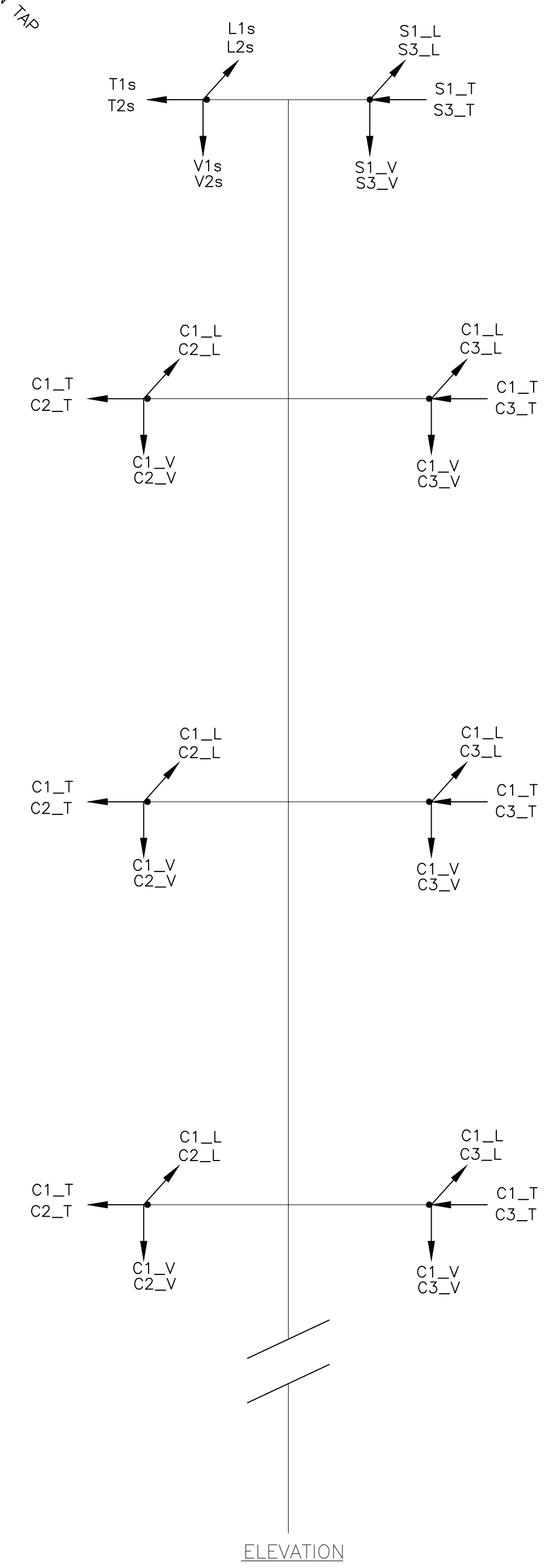
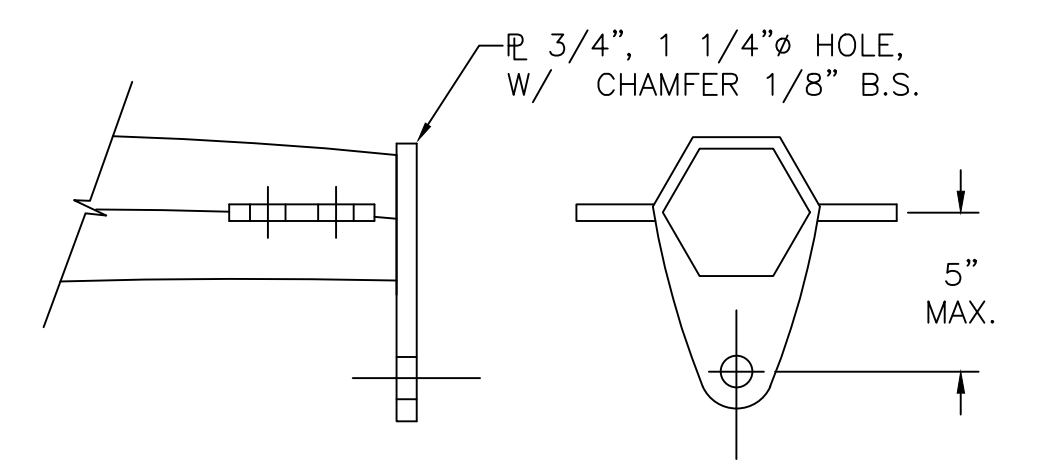
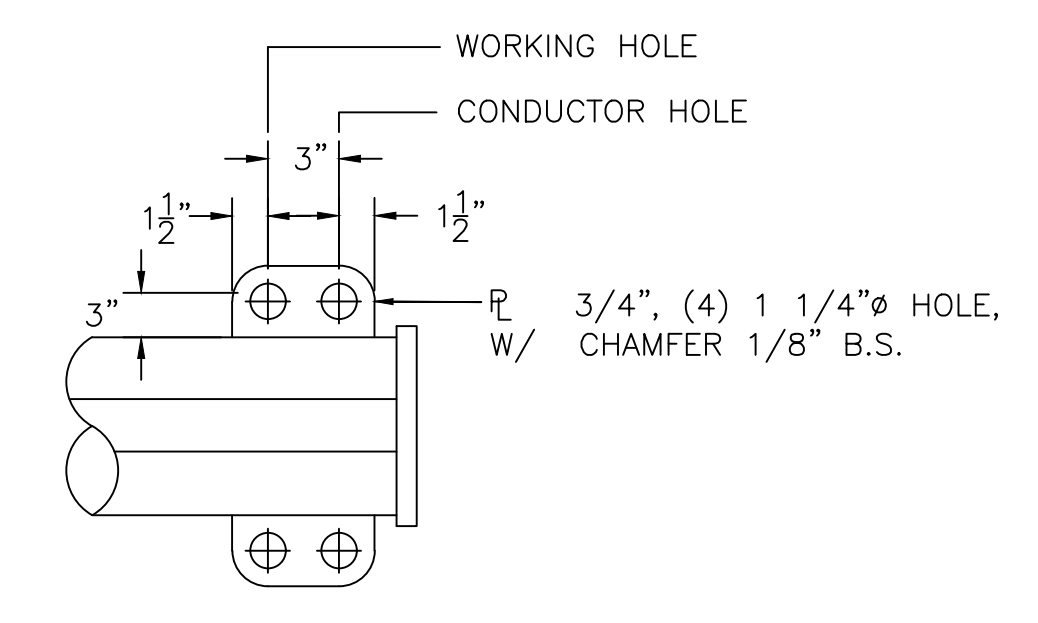
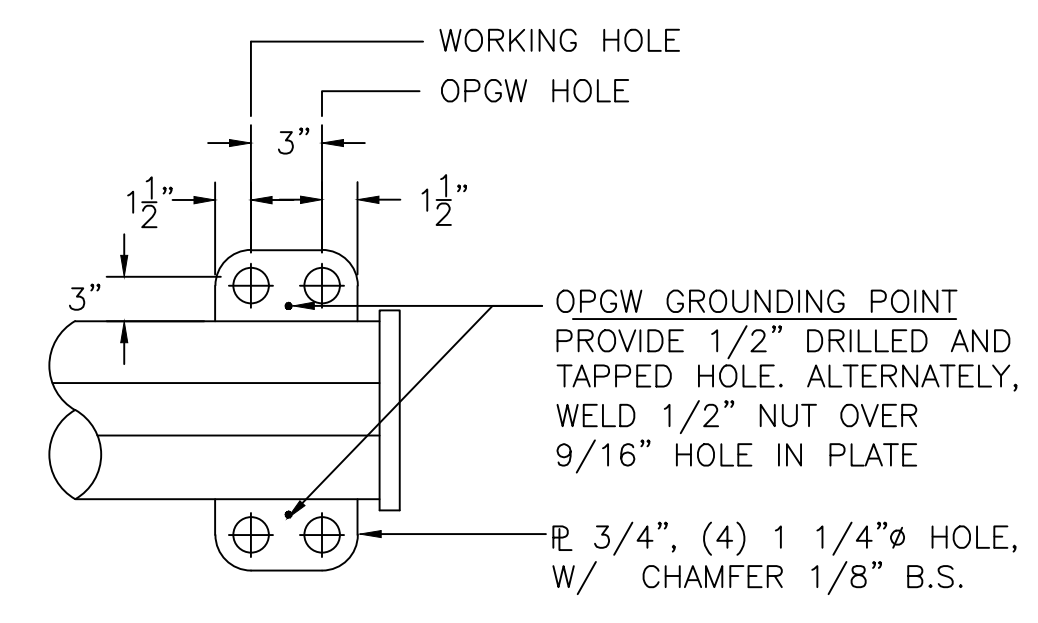
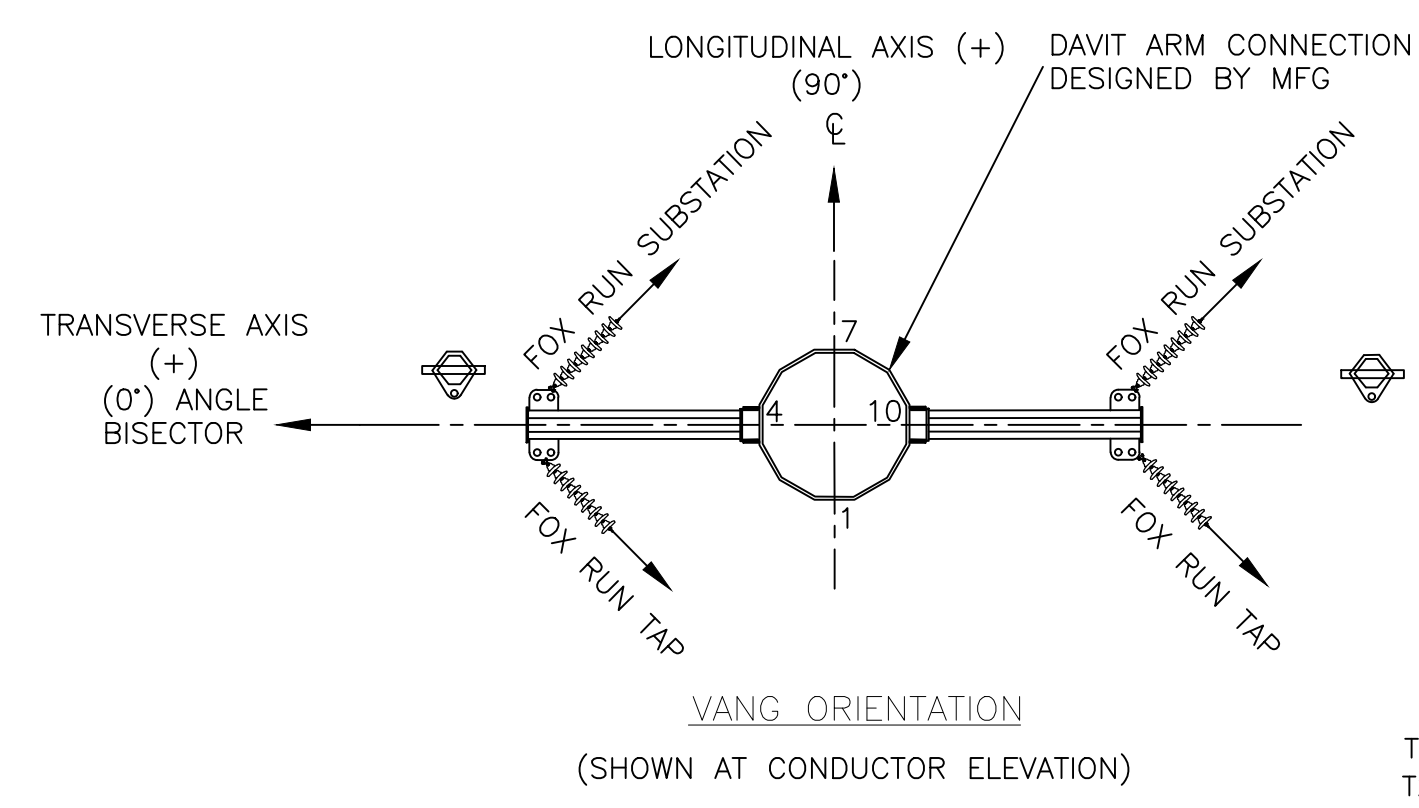
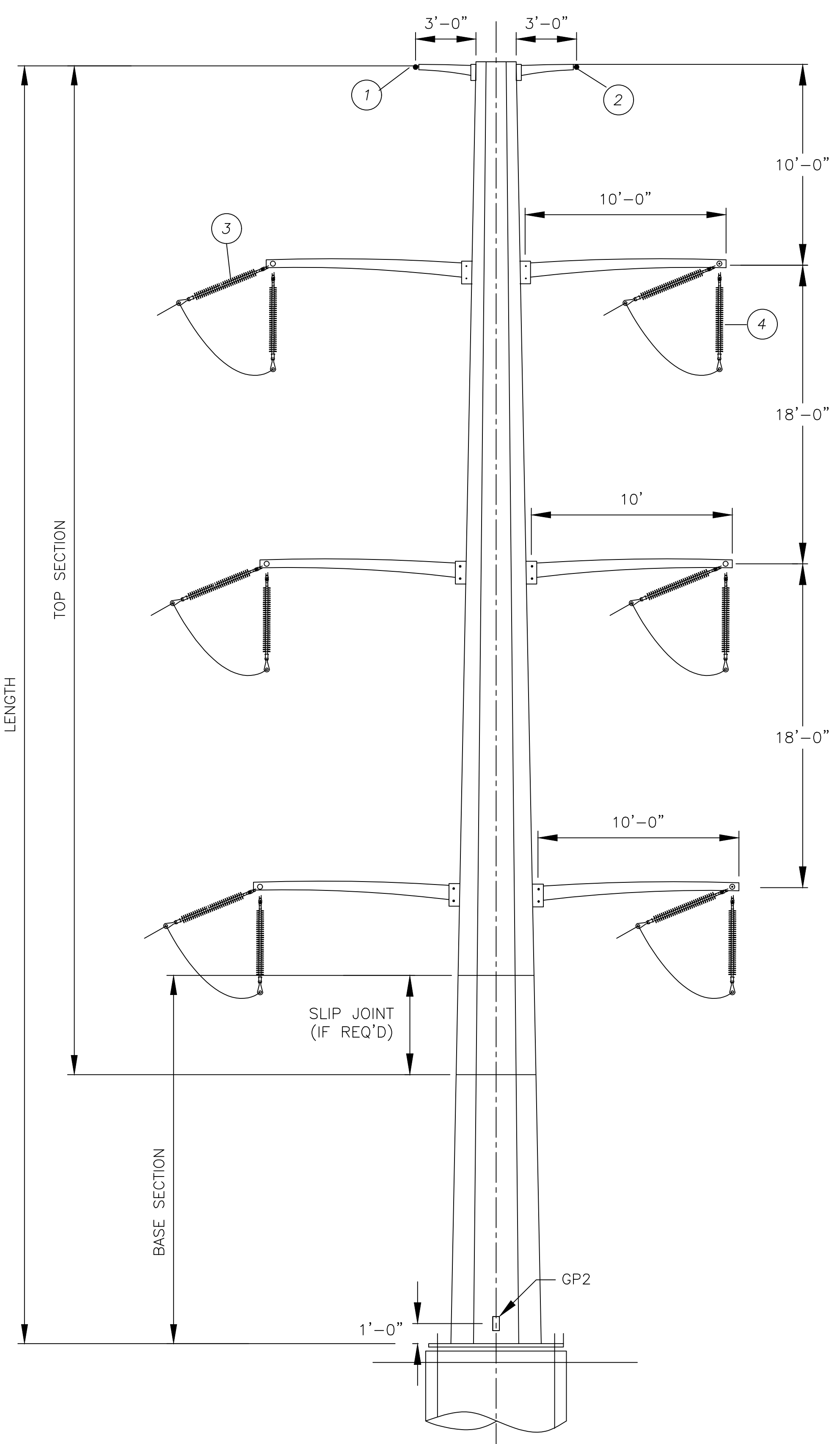
T2301-G-13-001



SHIELD WIRE STRUCTURE LOADS WITH OLF (KIPS)												
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			S1 (FOX RUN SUB)			S2 (FOX RUN TAP)		
				WIND	TENS.	VERT.	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	-2.2	3.1	0.6	-5.2	-5.5
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.6	-0.8	1.5	0.5	-2.7	-2.9
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.7	-0.6	0.8	-0.2	-2.4	-2.5
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	2	-2.1	2.3	0.7	-4.2	-4.2
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.6	-0.8	1.5	-0.3	-2.2	-2.8
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.4	-0.6	0.6	0.4	-1.3	-1.4
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.8	-1.3	1.6	0.3	-3	-3.1
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.5	-0.9	0.8	0.5	-2.2	-2.6
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.8	-1.3	1.2	0.3	-2.2	-2.2
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0	0	0	0.6	-5.2	-5.5
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	-2.2	3.1	0	0	0
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.8	-0.9	1.1	0.5	-3.3	-3.5

CONDUCTOR STRUCTURE LOADS WITH OLF (KIPS)												
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			C1 (FOX RUN SUB)			C2 (FOX RUN TAP)		
				WIND	TENS.	VERT.	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	-2.5	2.6	1.1	-7.5	-7.9
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.7	-0.7	1.2	0.6	-3.5	-4
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.7	-0.5	0.8	0.6	-3.6	-3.8
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	1.5	-2.5	2.3	1.2	-5.5	-5.5
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.7	-1.1	1.4	0.6	-3.8	-4.5
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.6	-1.2	1.2	0.6	-2.4	-2.5
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.7	-1.4	1.4	0.6	-5.6	-5.9
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.5	-0.9	0.9	0.6	-4.1	-4.1
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.7	-0.9	1.1	0.6	-3.1	-3.1
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0	0	0	1.1	-7.5	-7.9
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	-2.5	2.6	0	0	0
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.8	-1.1	1.1	4.2	-5.6	-5.9

STRUCTURE #	HEIGHT (FT)	ACTUAL LINE ANGLE
1.1	80'-0"	+90° RIGHT



Preliminary

4/14/2022

DESIGN DATA:

477 KCMIL ACSR 26/7 HAWK CONDUCTOR (ALL CONDUCTOR)
 DNO-7054 OPGW (ALL SHIELD WIRE)
 WIND SPAN = - (AHEAD); WIND SPAN = - (BACK); WEIGHT SPAN = -
 DESIGN LINE ANGLE (80 - 100 DEGREE RIGHT)
 SOLID ICE DENSITY OF 57 LBS/FT³

NOTES:

- ALL DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH TRI-STATE "TRANSMISSION LINE TAPERED TUBULAR STEEL POLE STRUCTURES" SPECIFICATION.
- LOADS ARE ULTIMATE VALUES AND INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
- STRUCTURE AND ATTACHMENTS SHALL BE DESIGNED FOR THE SIMULTANEOUS APPLICATION OF DEAD LOAD OF THE STRUCTURE INCLUDING THE APPROPRIATE LOAD FACTOR, WIND ON THE STRUCTURE, AND WIRE LOADS FOR EACH LOAD CASE.
- WIND PRESSURES SHOWN ON LOAD CASE TABLE ARE IN PSF AND BASED ON A SHAPE FACTOR OF 1.0 FOR 12-SIDED SECTIONS. WIND PRESSURES INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
- LIMIT POLE DEFLECTION TO 2% OF STRUCTURE HEIGHT FOR DEFLECTION LOAD CASE. ALL WIRES INTACT. CAMBER MAY BE UTILIZED TO COMPLY.
- APPLY WIND ON STRUCTURE WHICH RESULTS IN THE MOST SEVERE EFFECT.
- STRUCTURE TO BE DESIGNED FOR INTACT AND FULL DEADEND LOADING CONDITIONS FOR LOAD CASES 1 - 5.
- MATERIAL SHALL BE WEATHERING STEEL.
- DAVIT ARMS SHALL ATTACH TO THE POLE WITH A BOLTED CONNECTION TO WELDED THROUGH ARM BRACKETS AND DESIGNED BY THE MANUFACTURER.
- NAME PLATE SHALL BE WELDED ON ALL STRUCTURES. TEXT MUST BE PERMANENTLY LEGIBLE, AND MUST INCLUDE MANUFACTURER'S NAME, DATE OF FABRICATION, STRUCTURE NUMBER, COMPLETE STRUCTURE LENGTH, COMPLETE STRUCTURE WEIGHT, AND GROUND LINE MOMENT CAPACITY IN KIP-FEET.
- SEE DWG. T2301-G-13-0XX FOR STEEL DETAILS.
- LOCATE DETAIL 2 GROUNDING PADS ON BOTH SIDES OF ALL CONNECTIONS AND SPLICES.
- ANCHOR BOLTS SHALL BE EQUALLY SPACED AROUND THE BASE PLATE WITH 2.5" MINIMUM SPACE BETWEEN BOLTS.
- ANCHOR BOLT TEMPLATE AND EACH POLE SECTION SHALL BE MARKED ON THE ANGLE BISECTOR WITH AN OBVIOUS MARKING METHOD AIDING CONSTRUCTION.
- PROVIDE LADDER CLIPS FOR FULL LENGTH OF POLE AND WORKING CLIPS FOR THE TOP 55' OF THE POLE.
- AERIAL NUMBER SIGNS REQUIRED, SEE DETAIL.
- TOP DIAMETER: 12" MINIMUM; ANCHOR BOLT CIRCLE: 72" MAXIMUM; TAPER: 0.45 INCH PER FOOT MAXIMUM. (ALTERNATIVES MAY BE PROPOSED.)

FOX RUN - FOX RUN TAP

115KV DD2
 OUTLINE AND DESIGN
 DOUBLE CIRCUIT DEADEND
 TRI-STATE GENERATION & TRANSMISSION
 ASSOCIATION, INCORPORATED

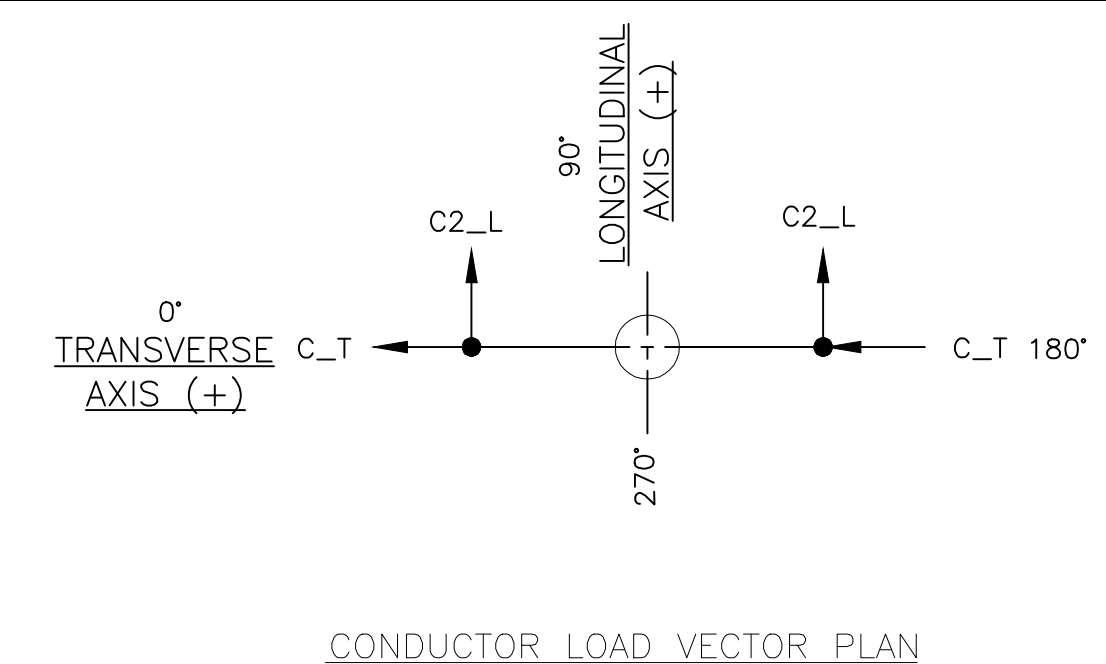
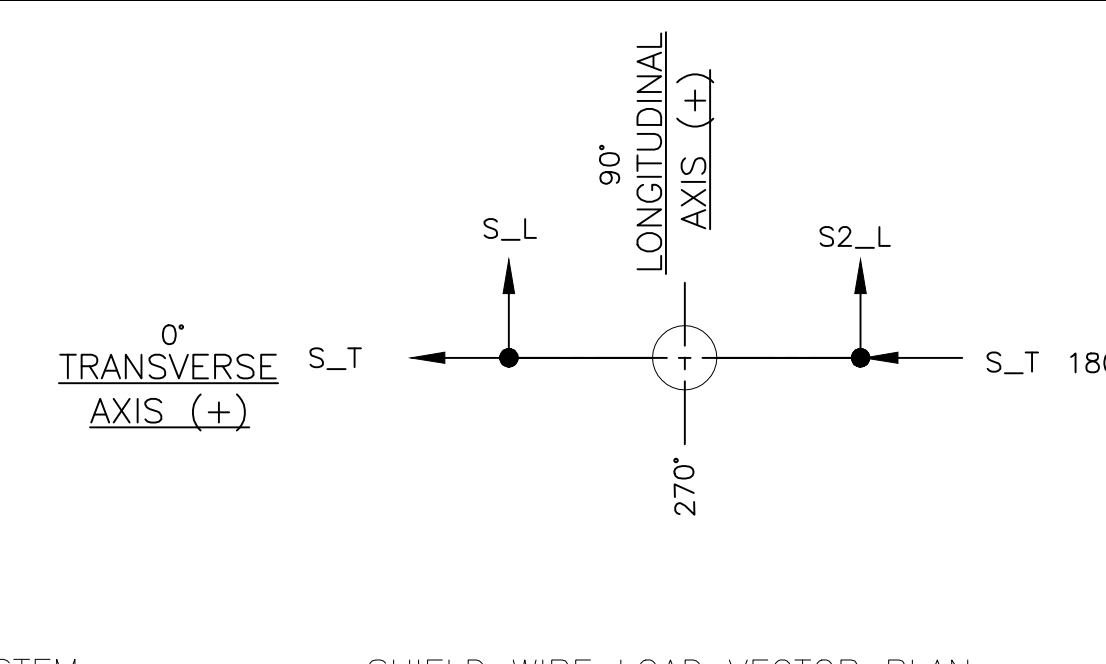
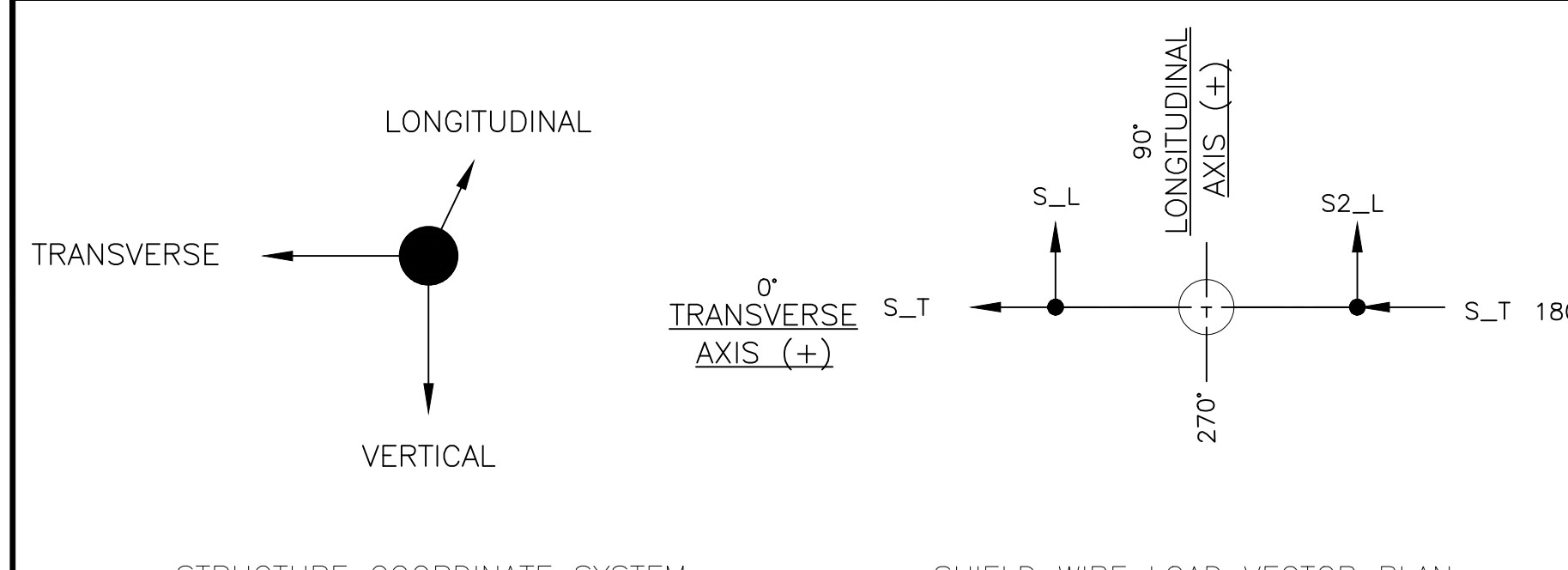
1100 W. 116th Ave.
 P.O. Box 33695
 Denver, Colorado 80233
 303-452-6111

DATE: 4/19/2022 3:36 PM
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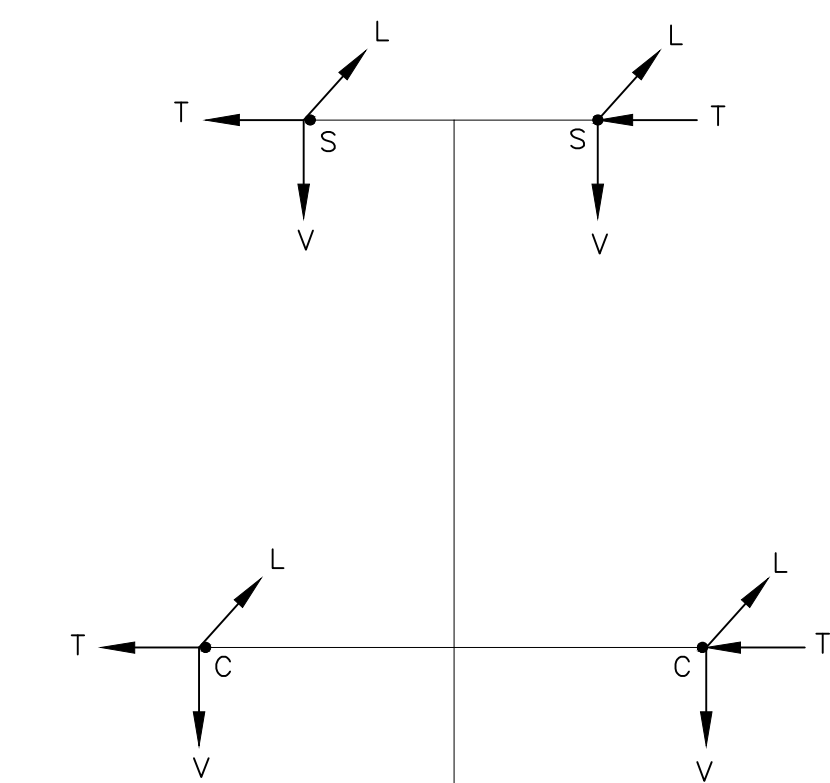
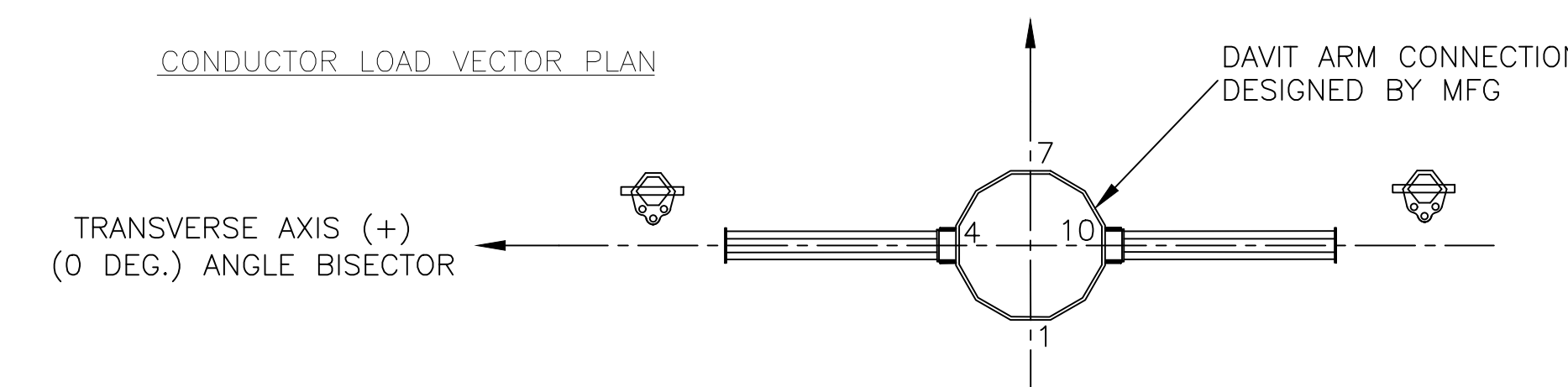
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T2301-G-13-002



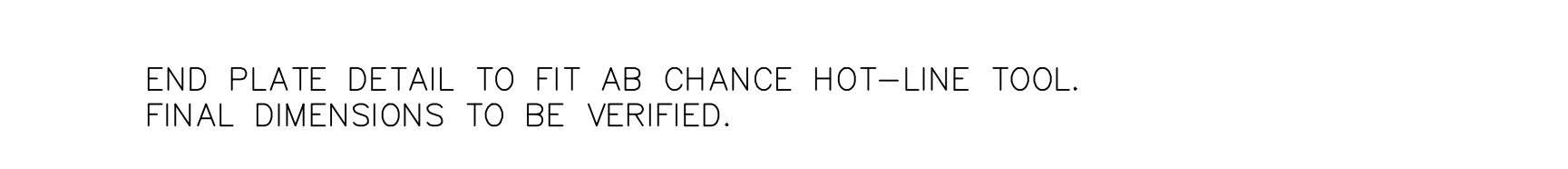
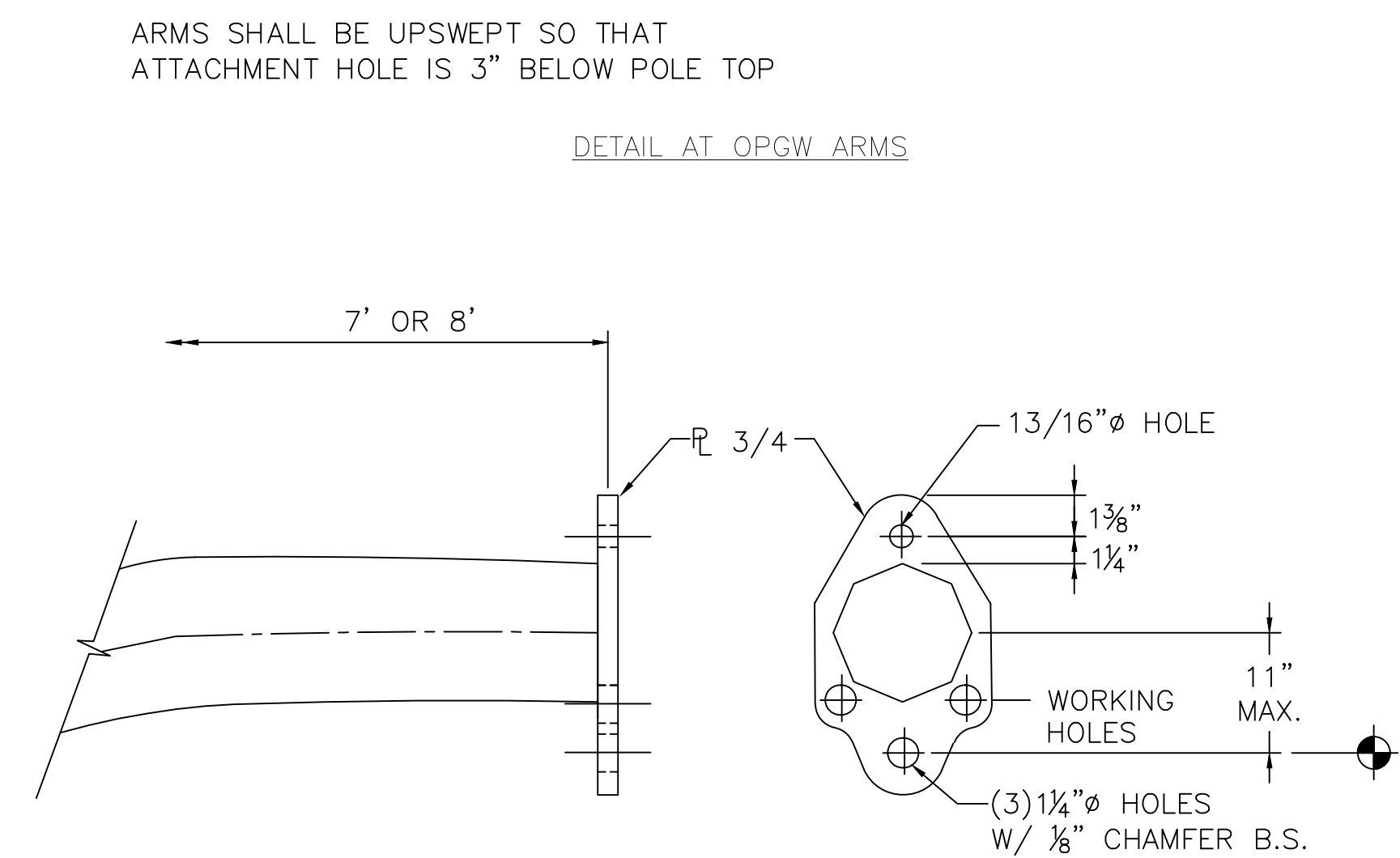
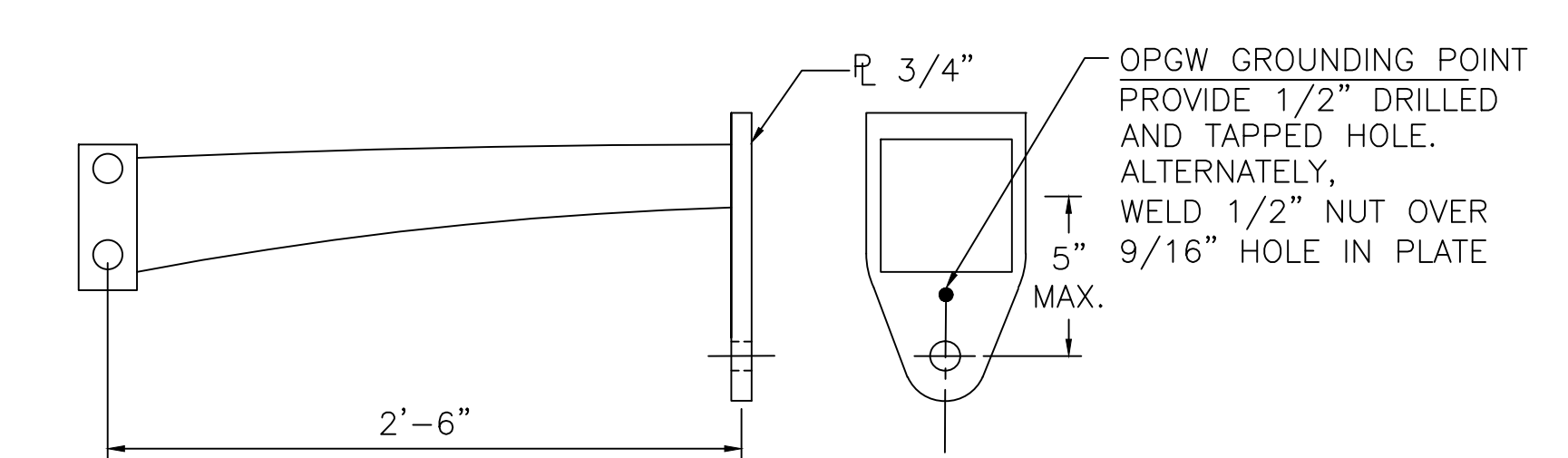
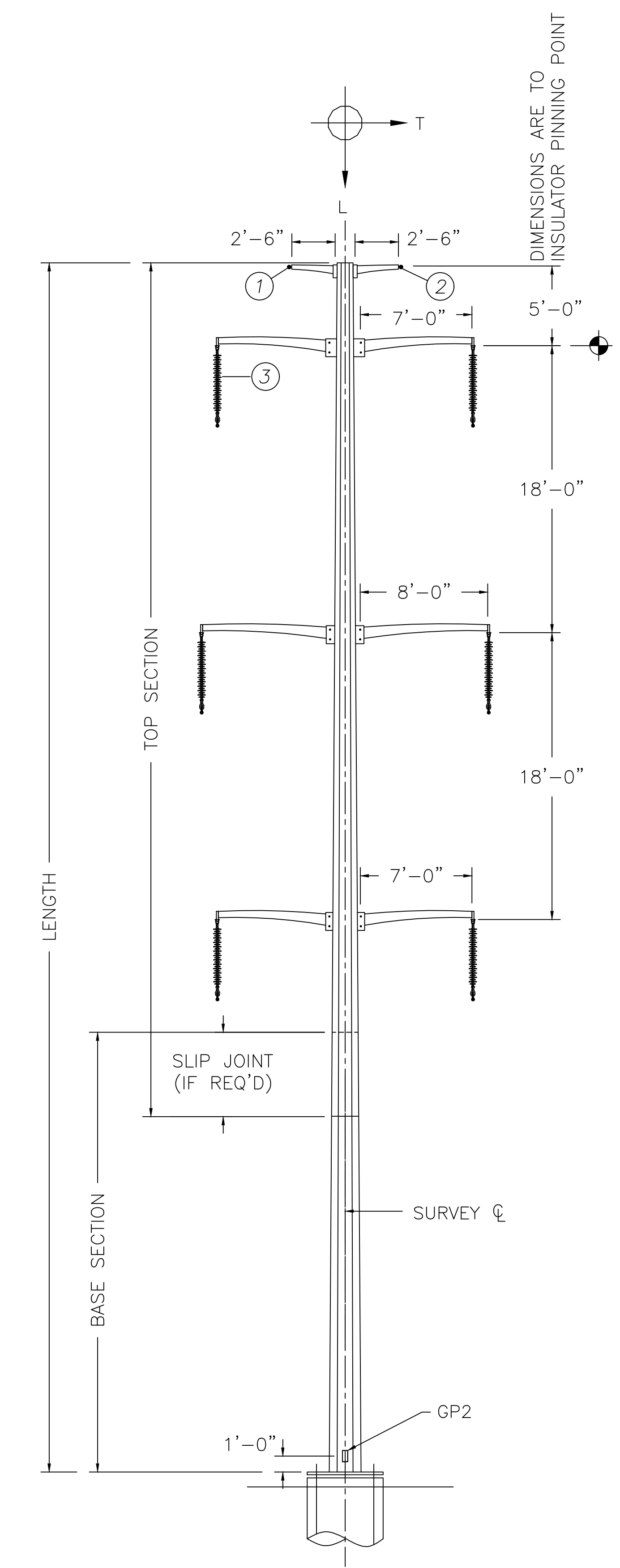
TANGENT STRUCTURE LOADS WITH OLF (KIPS)												
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			S			C		
				WIND	TENSION	VERTICAL	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.2	1.4	0.2	1.8	2.1	0.2
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.10	1.00	1.00	1.0	1.5	0.2	1.4	2.7	0.2
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.10	1.00	1.00	1.0	1.2	0.2	1.0	1.5	0.2
4 TRI-STATE EXTREME ICE (1")	32	0.0	1.0	1.00	1.00	1.10	2.0	0.5	0.2	2.3	0.5	0.2
5 TRI-STATE EXTR. WIND (100 mph)	60	25.6	0.0	1.10	1.00	1.00	0.6	1.4	0.2	1.0	3.2	0.2
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.3	0.1	0.1	0.5	0.3	0.1

STRUCTURE #	HEIGHT (FT)	ACTUAL LINE ANGLE
2.1	85'-0"	0°
3.1	90'-0"	0°



Preliminary

4/14/2022



- DESIGN DATA:
- 477 KCMIL ACSR 26/7 HAWK CONDUCTOR (ALL CONDUCTORS)
 DNO-7054 OPGW (ALL OPGW SHIELD WIRE)
 WIND SPAN = - ; WEIGHT SPAN = -
 DESIGN LINE ANGLE (-5 to +5 DEGREE)
 SOLID ICE DENSITY OF 57 LBS/FT³
- NOTES:
- ALL DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH TRI-STATE "TRANSMISSION LINE TAPERED TUBULAR STEEL POLE STRUCTURES" SPECIFICATION.
 - LOADS ARE ULTIMATE VALUES AND INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
 - STRUCTURE AND ATTACHMENTS SHALL BE DESIGNED FOR THE SIMULTANEOUS APPLICATION OF DEAD LOAD OF THE STRUCTURE INCLUDING THE APPROPRIATE LOAD FACTOR, WIND ON THE STRUCTURE, AND WIRE LOADS FOR EACH LOAD CASE.
 - WIND PRESSURES SHOWN ON LOAD CASE TABLE ARE IN PSF AND BASED ON A SHAPE FACTOR OF 1.0 FOR 12-SIDED SECTIONS. WIND PRESSURES INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
 - LIMIT POLE DEFLECTION TO 2% OF STRUCTURE HEIGHT FOR DEFLECTION LOAD CASE. ALL WIRES INTACT. CAMBER MAY BE UTILIZED TO COMPLY.
 - APPLY WIND ON STRUCTURE WHICH RESULTS IN THE MOST SEVERE EFFECT.
 - STRUCTURE TO BE DESIGNED FOR INTACT AND FULL DEADEND LOADING CONDITIONS FOR LOAD CASES 1 - 5.
 - MATERIAL SHALL BE WEATHERING STEEL.
 - DAVIT ARMS SHALL ATTACH TO THE POLE WITH A BOLTED CONNECTION TO A WELDED THROUGH ARM BRACKETED AND DESIGNED BY THE MANUFACTURER.
 - NAME PLATE SHALL BE WELDED ON ALL STRUCTURES. TEXT MUST BE PERMANENTLY LEGIBLE, AND MUST INCLUDE MANUFACTURER'S NAME, DATE OF FABRICATION, STRUCTURE NUMBER, COMPLETE STRUCTURE LENGTH, COMPLETE STRUCTURE WEIGHT, AND GROUND LINE MOMENT CAPACITY IN KIP-Feet.
 - SEE DWG. T2301-G-13-0XX FOR STEEL DETAILS.
 - LOCATE DETAIL 2 GROUNDING PADS ON BOTH SIDES OF ALL CONNECTIONS AND SPLICES.
 - ANCHOR BOLTS SHALL BE EQUALLY SPACED AROUND THE BASE PLATE WITH 2.5" MINIMUM SPACE BETWEEN BOLTS.
 - ANCHOR BOLT TEMPLATE AND EACH POLE SECTION SHALL BE MARKED ON THE ANGLE BISECTOR USING OBVIOUS MARKINGS AIDING CONSTRUCTION.
 - TOP DIAMETER: 12" MINIMUM; ANCHOR BOLT CIRCLE: 46" MAXIMUM; TAPER: 0.30 INCH PER FT. MAXIMUM. (ALTERNATIVES MAY BE PROPOSED.)

FOX RUN - FOX RUN TAP

115KV DT

OUTLINE AND DESIGN

TRI-STATE GENERATION & TRANSMISSION ASSOCIATION, INCORPORATED

UPDATED BY: ADAGU 4/19/2022 3:35 PM Contract

TRI-STATE Generation and Transmission Association, Inc.
 A Touchstone Energy Cooperative
 1100 W. 116th Ave.
 P.O. Box 33695
 Denver, Colorado 80233
 303-452-6111

Dwn: ARO Date: 04-12-22
 Appd: JTL Date: 04-12-22

T2301-G-13-003

Revision

Issue Per CPM 0449 AND CPM 0458

JTL

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Issue Per CPM 0449 AND CPM 0458

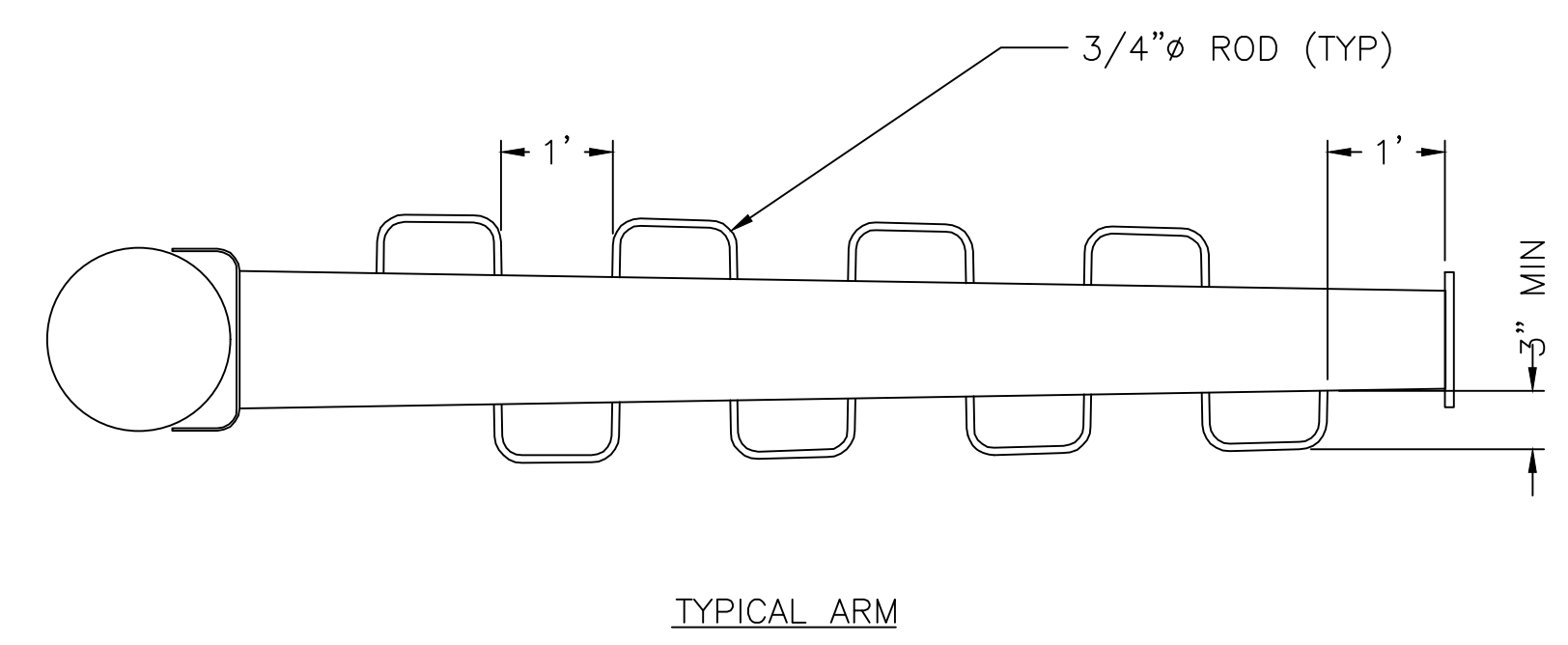
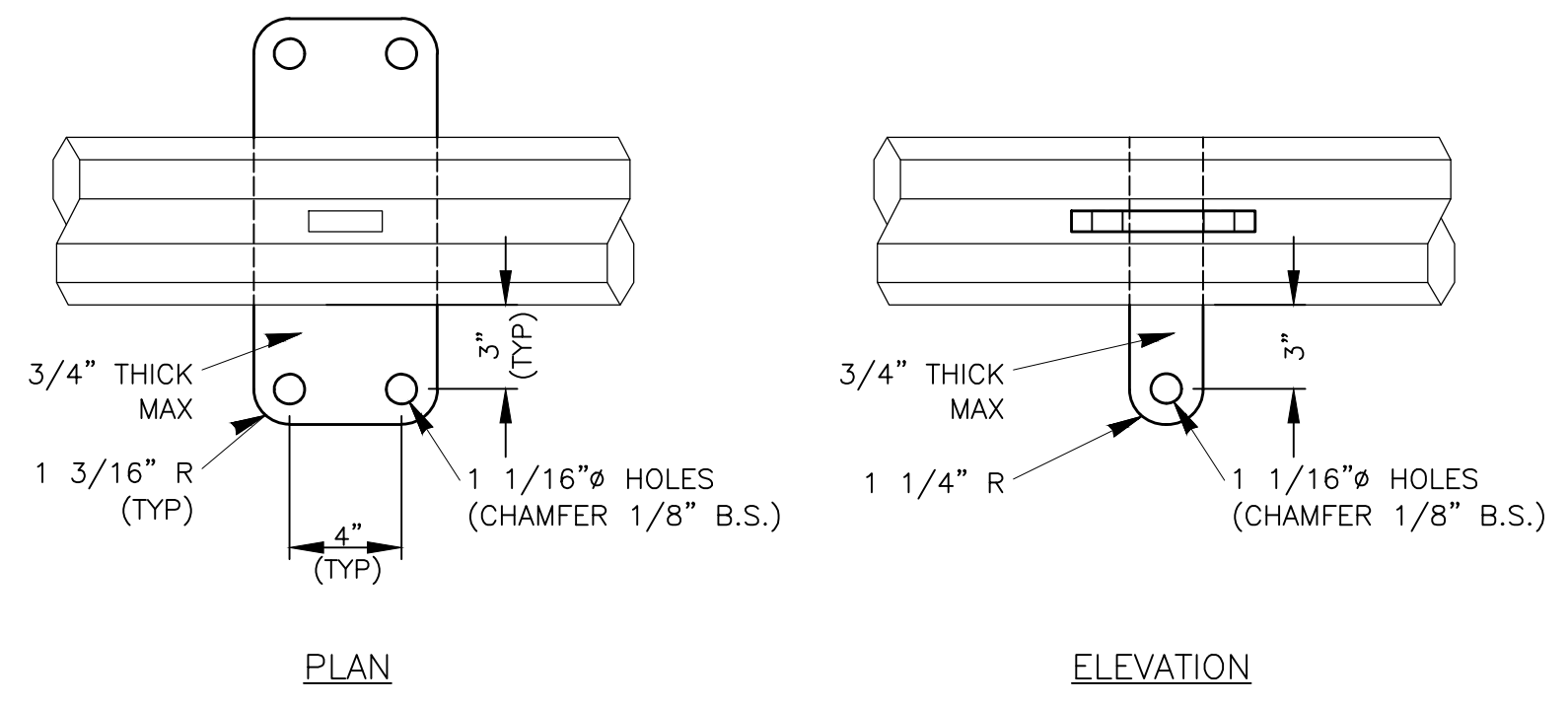
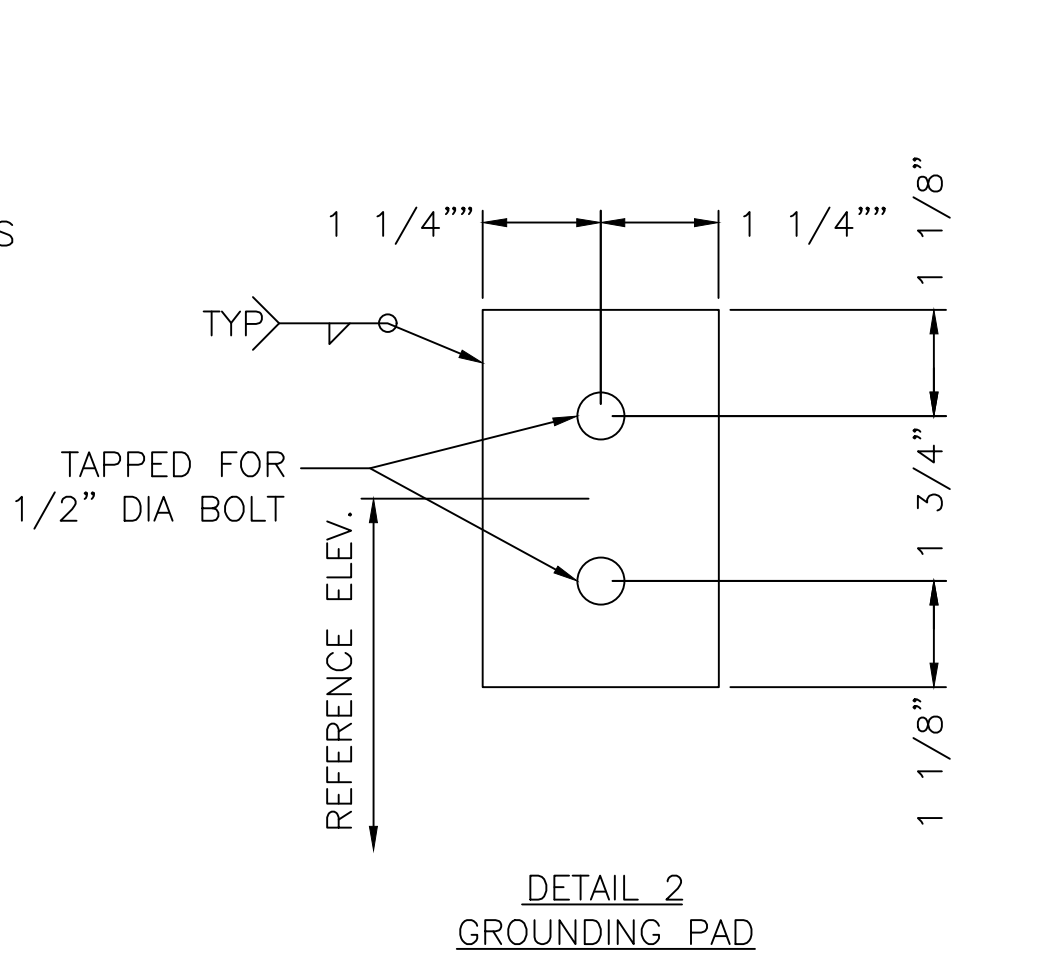
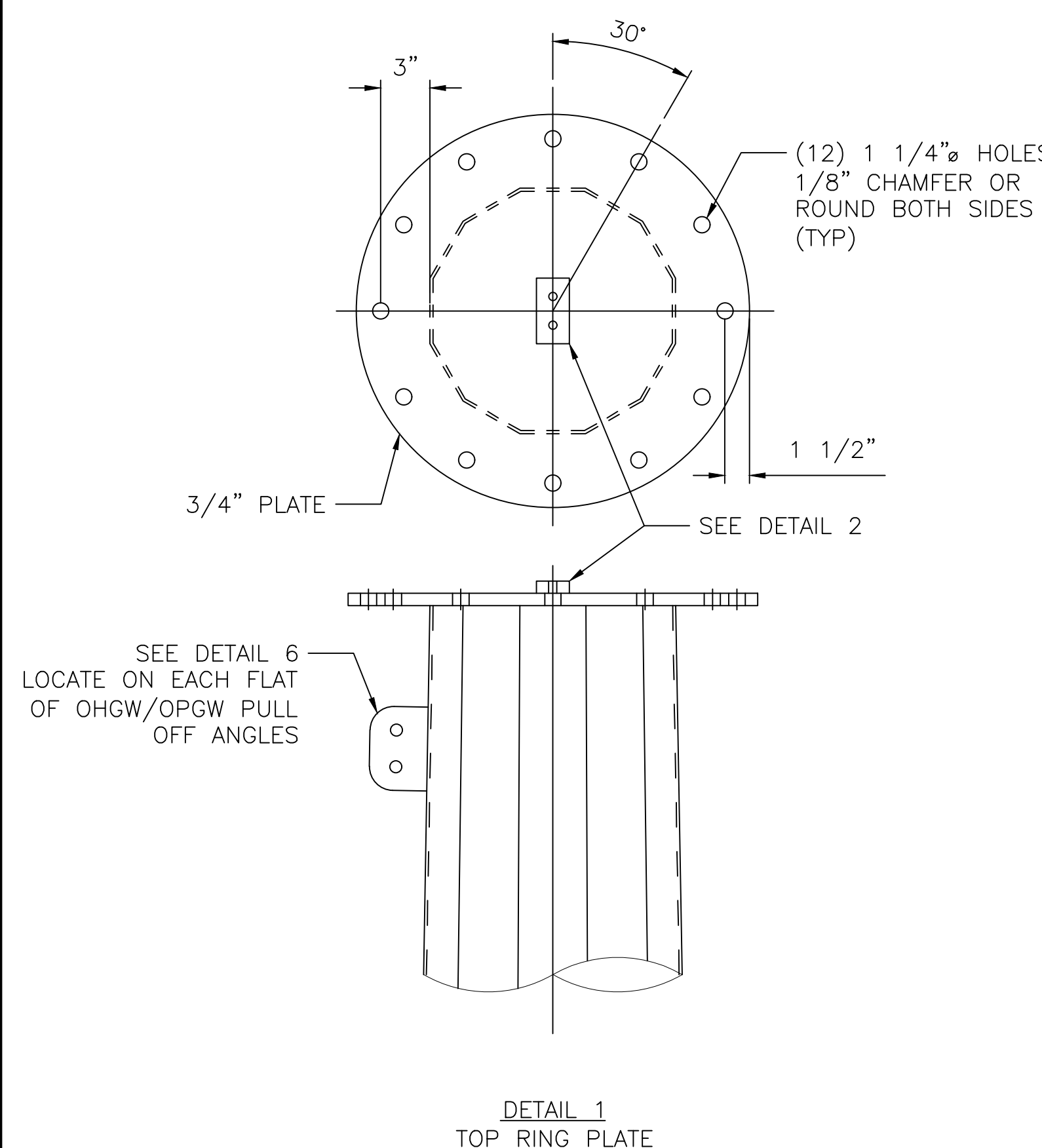
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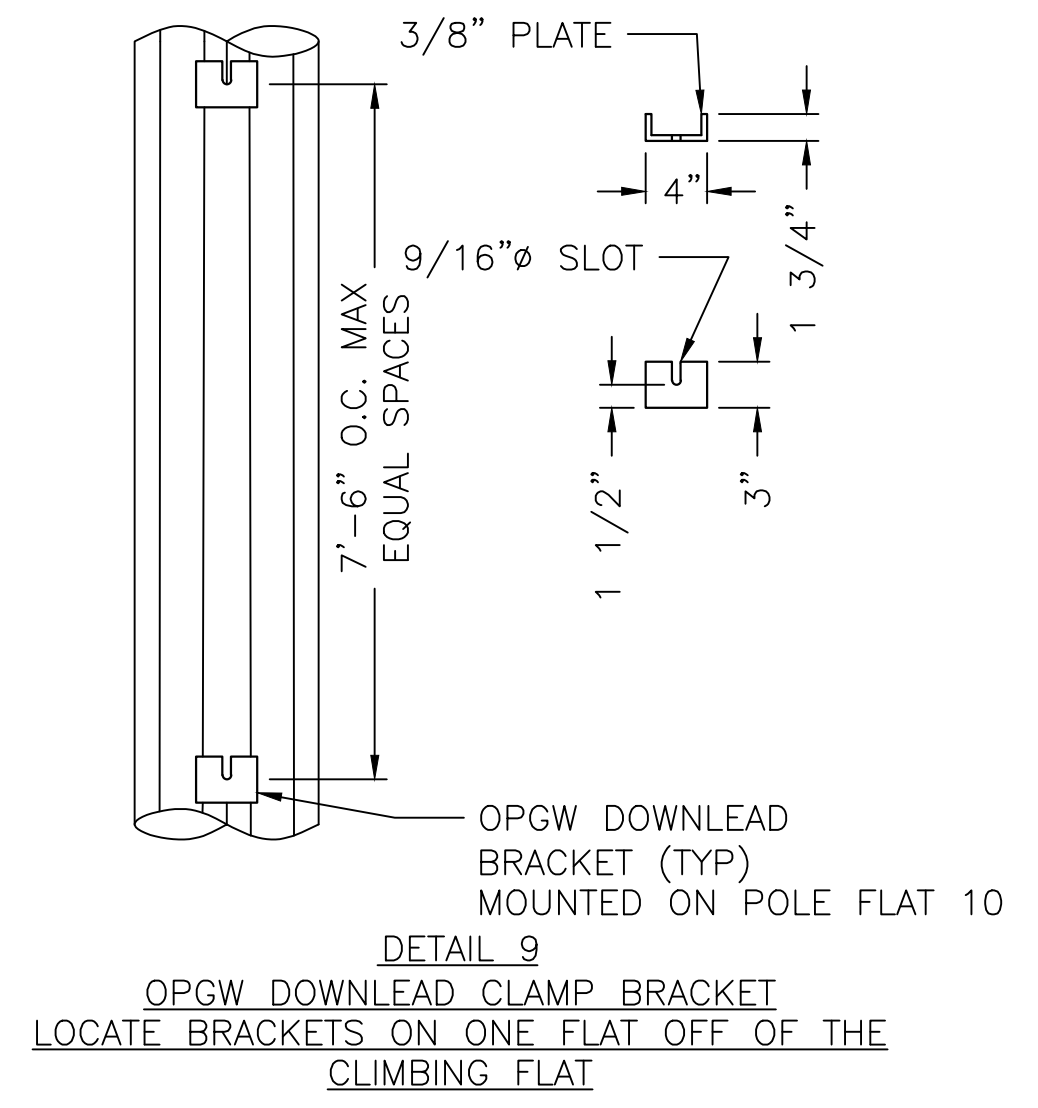
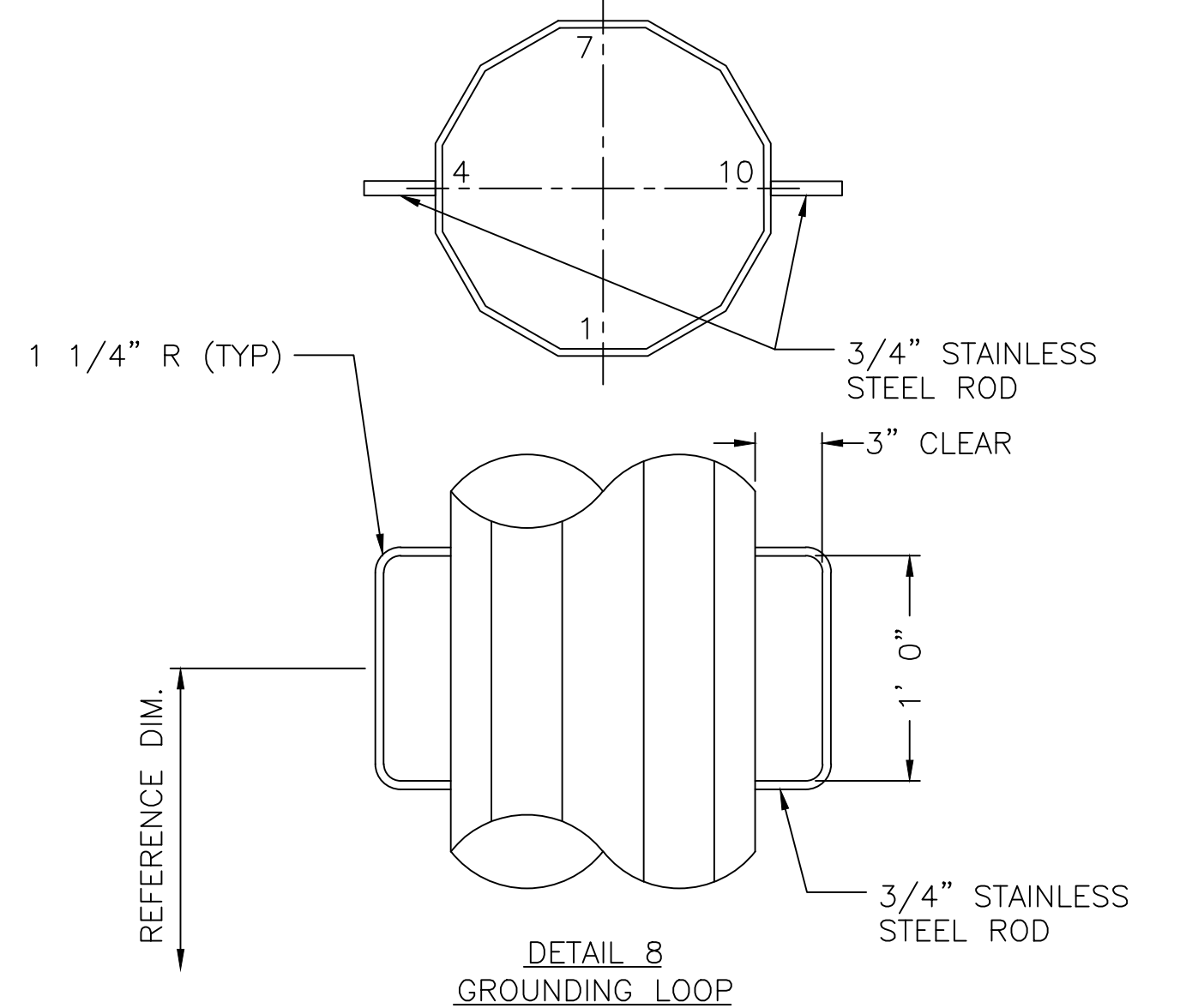
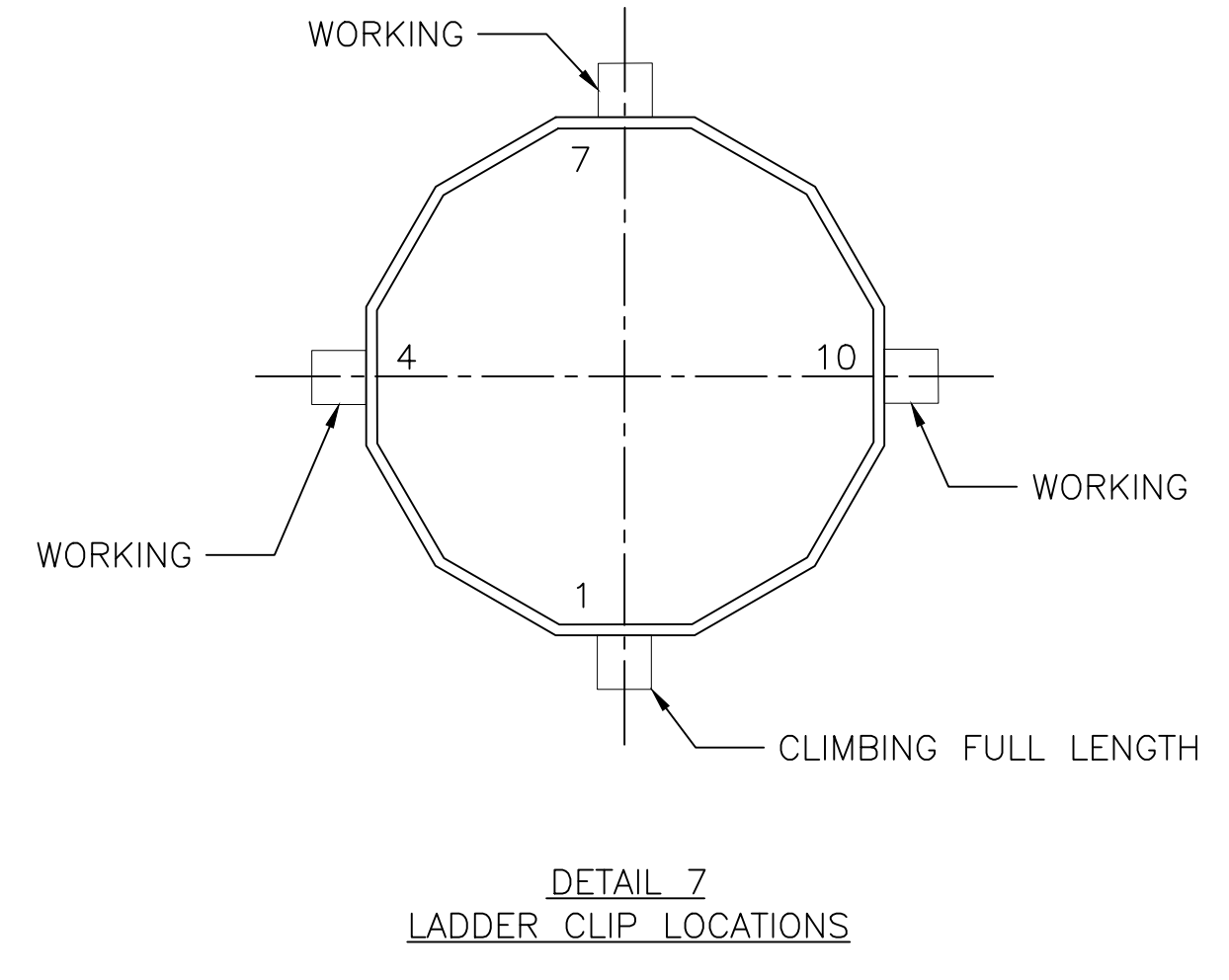
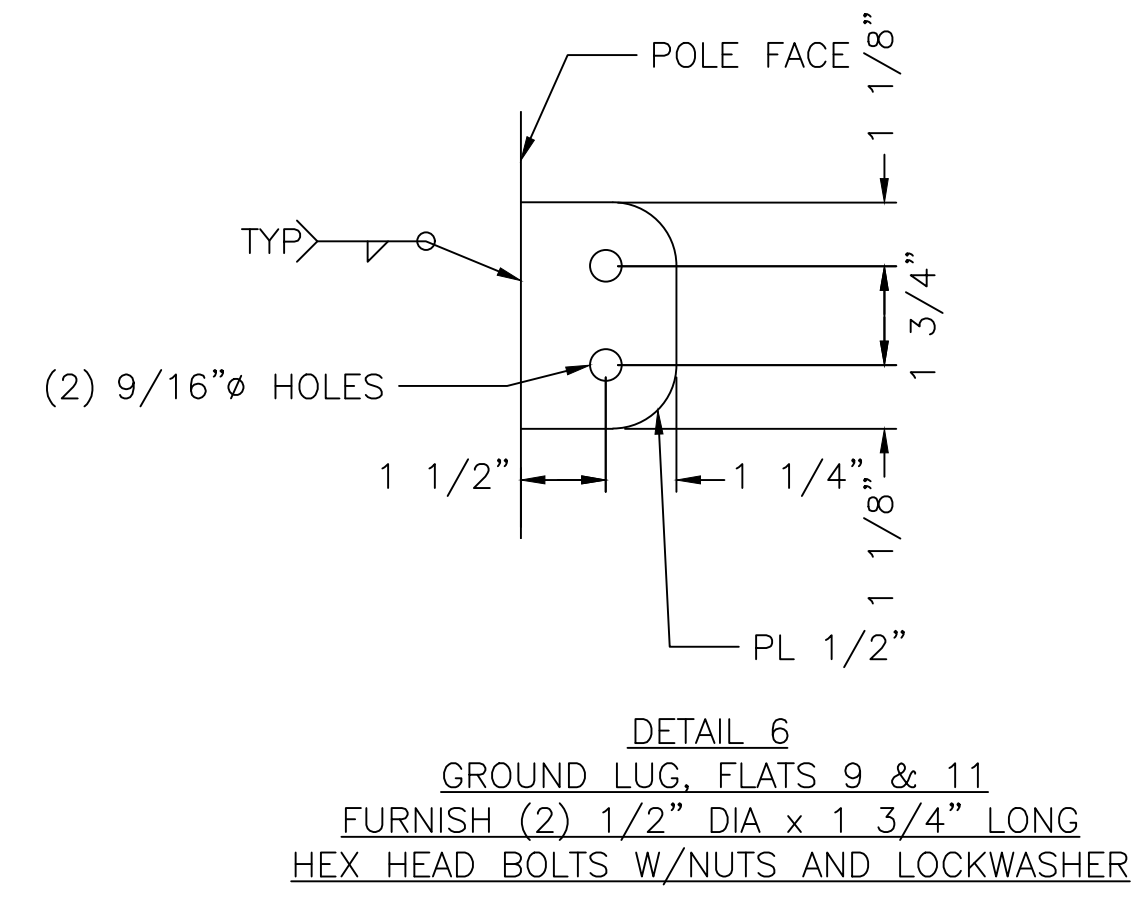
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Drawing Title

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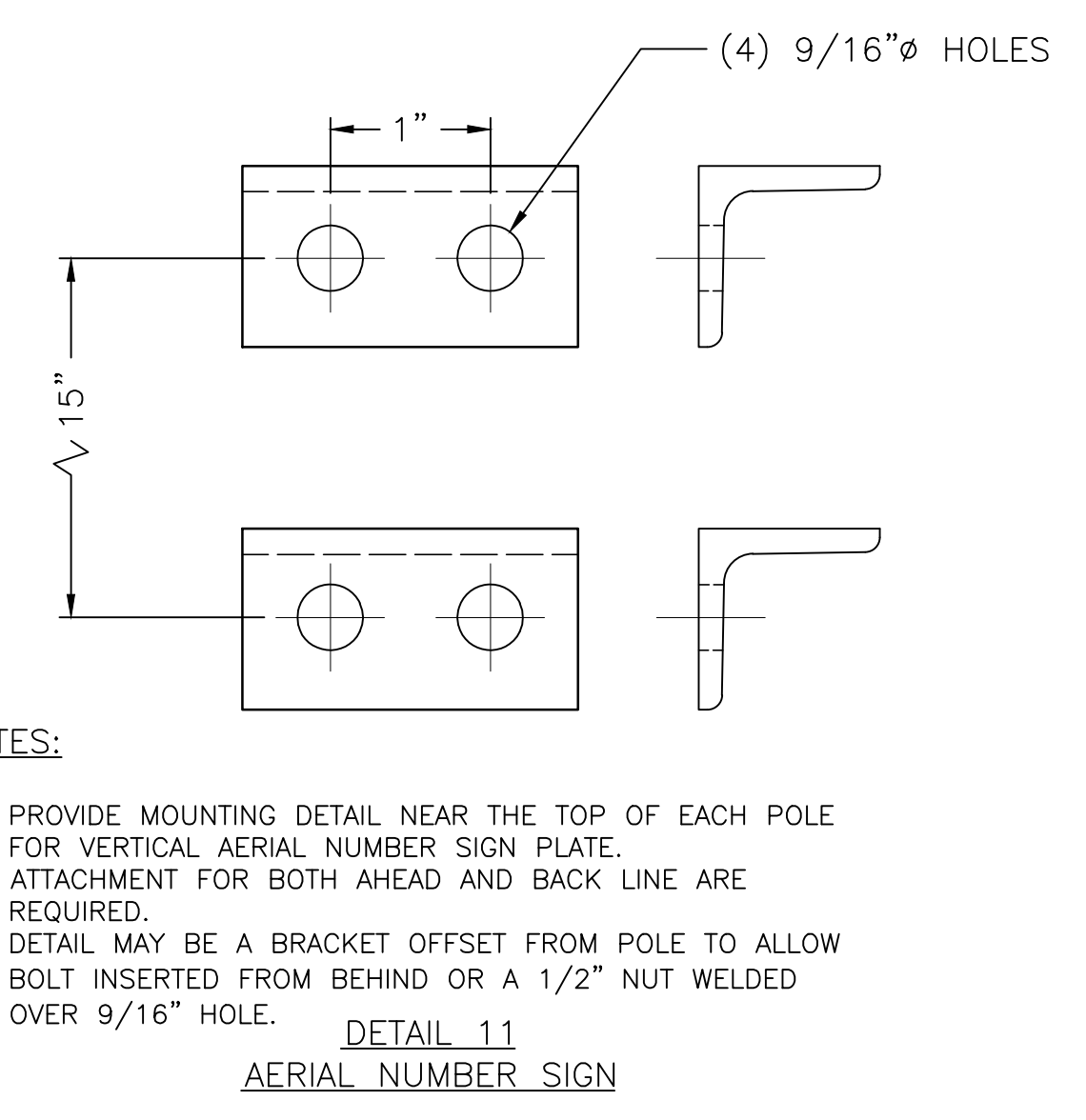
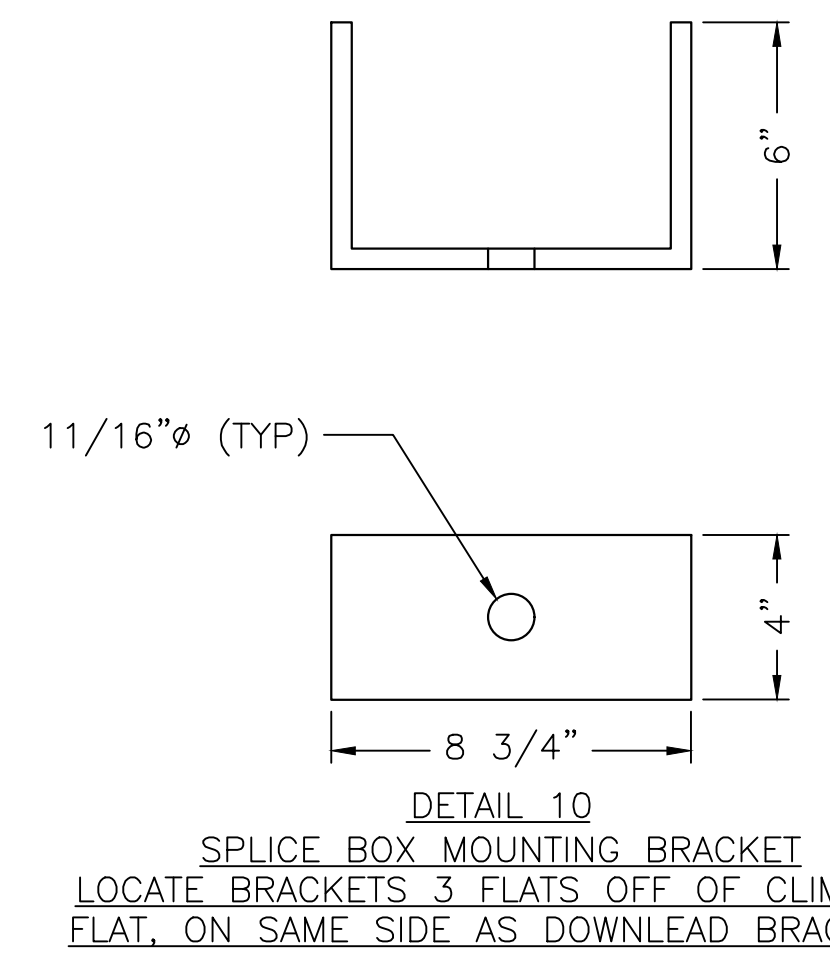


- NOTES:
- CLIMBING ASSIST ROD TO BE WELDED TO ALL ARMS ON BOTH SIDES AS SHOWN.
 - ROD SHALL EXTEND TO WITHIN 1'-0" TO 1'-6" OF ARM CONNECTION.
 - EACH ROD TO SUPPORT 5,000 LB. VERTICAL LOAD AT ANY LOCATION.



Preliminary

4/14/2022

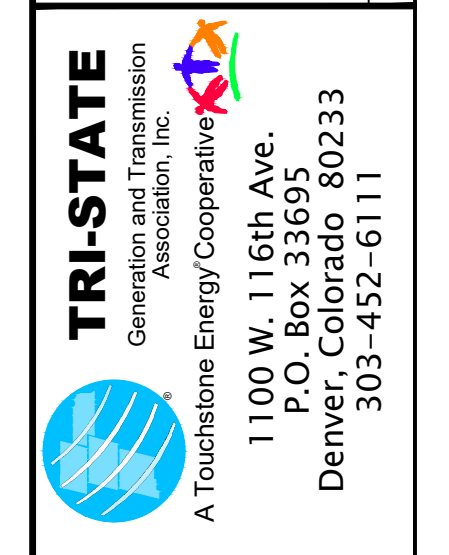


- NOTES:
- PROVIDE MOUNTING DETAIL NEAR THE TOP OF EACH POLE FOR VERTICAL AERIAL NUMBER SIGN PLATE.
 - ATTACHMENT FOR BOTH AHEAD AND BACK LINE ARE REQUIRED.
 - DETAIL MAY BE A BRACKET OFFSET FROM POLE TO ALLOW BOLT INSERTED FROM BEHIND OR A 1/2" NUT WELDED OVER 9/16" HOLE.

- NOTES:
- INSTALL ONE GROUND LOOP PER PHASE WIRE AT 1'-6" ABOVE:
 - EACH DAVIT ARM ATTACHMENT.
 - EACH PHASE WIRE POLE VANG (RUNNING ANGLE)
 - EACH PAIR OF PHASE WIRE POLE VANGS (DEADEND), ON THE BISECTOR ANGLE
 - ALSO INSTALL ONE GROUND LOOP AT MINIMUM 5- FEET BELOW THE LOWEST PHASE WIRE ELEVATION (INCLUDING DEADEND JUMPER STRUT INSULATORS) ON SAME FLATS CONDUCTOR PULLOFF ATTACHMENTS. OKAY TO RELOCATE THIS GROUND LOOP FURTHER DOWN THE POLE AS NECESSARY TO AVOID CONFLICTS. NO GROUND LOOPS ALLOWED BETWEEN JACKING NUTS AND WITHIN 1-FOOT OF OUTERMOST JACKING NUTS. NO GROUND LOOPS ALLOWED WITHIN 1-FOOT BELOW MALE ENDS MAXIMUM SLIP JOINT LAP.
 - DIMENSIONS ARE TO BEND LINE.
 - WELDS TO ATTACH MAINTENANCE PROVISIONS TO STRUCTURES SHALL DEVELOP THE ULTIMATE TENSILE STRENGTH OF THE ATTACHED PART.
 - FABRICATOR SHALL COORDINATE LOCATION OF MAINTENANCE PROVISIONS SUCH THAT THEY DO NOT INTERFERE WITH OTHER STRUCTURE PROVISIONS OR ATTACHMENTS.

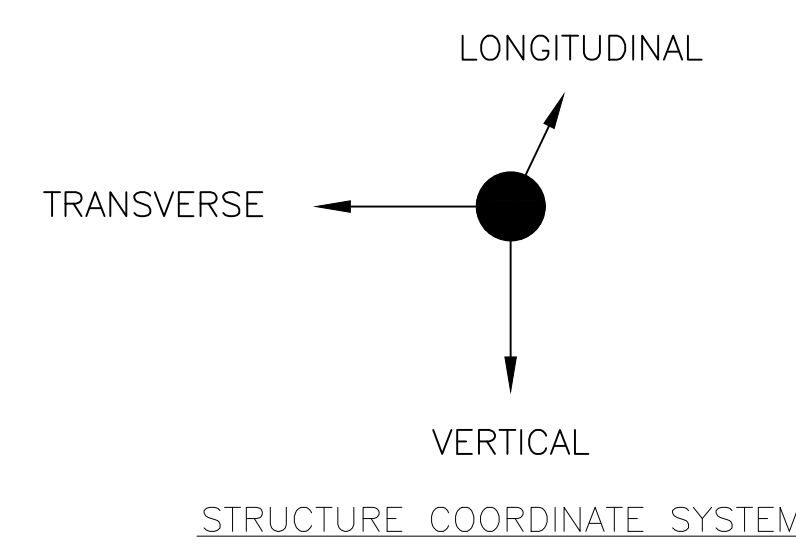
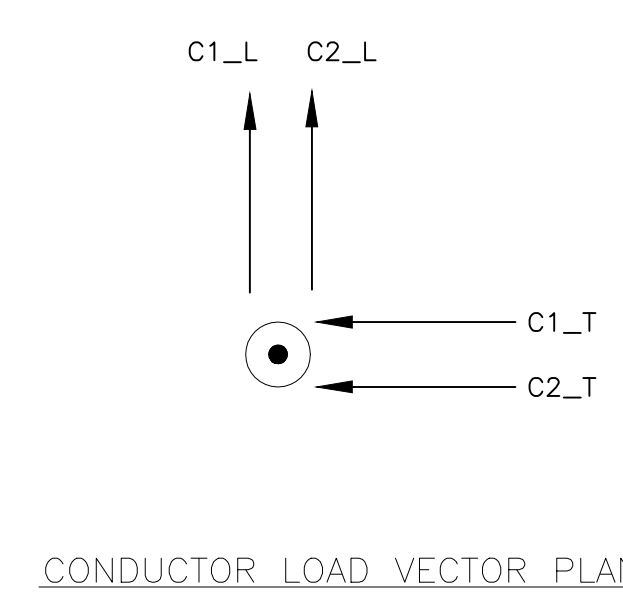
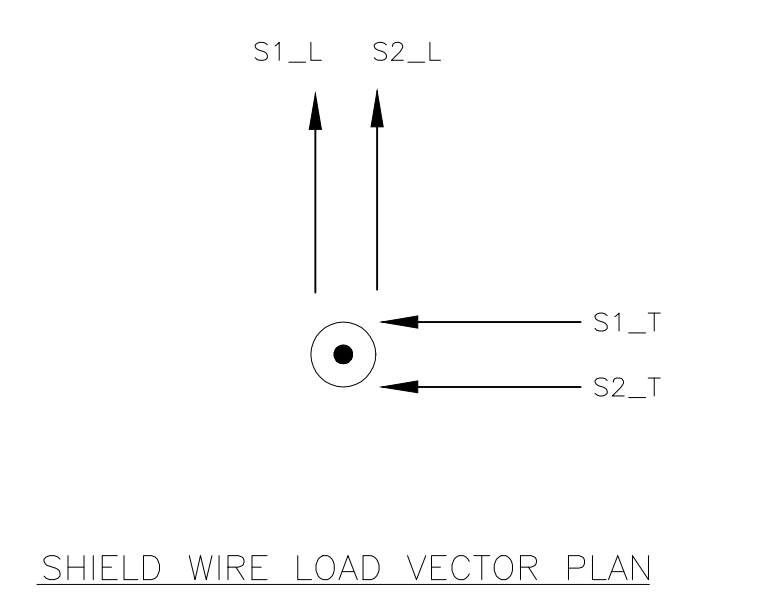
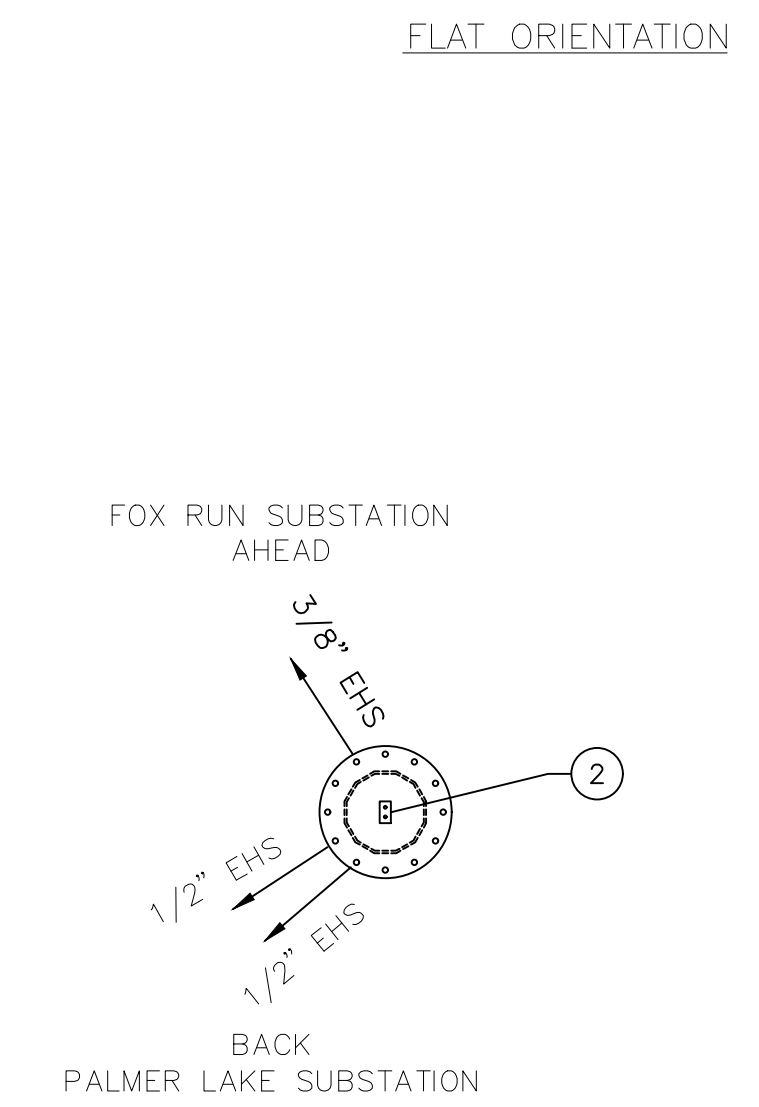
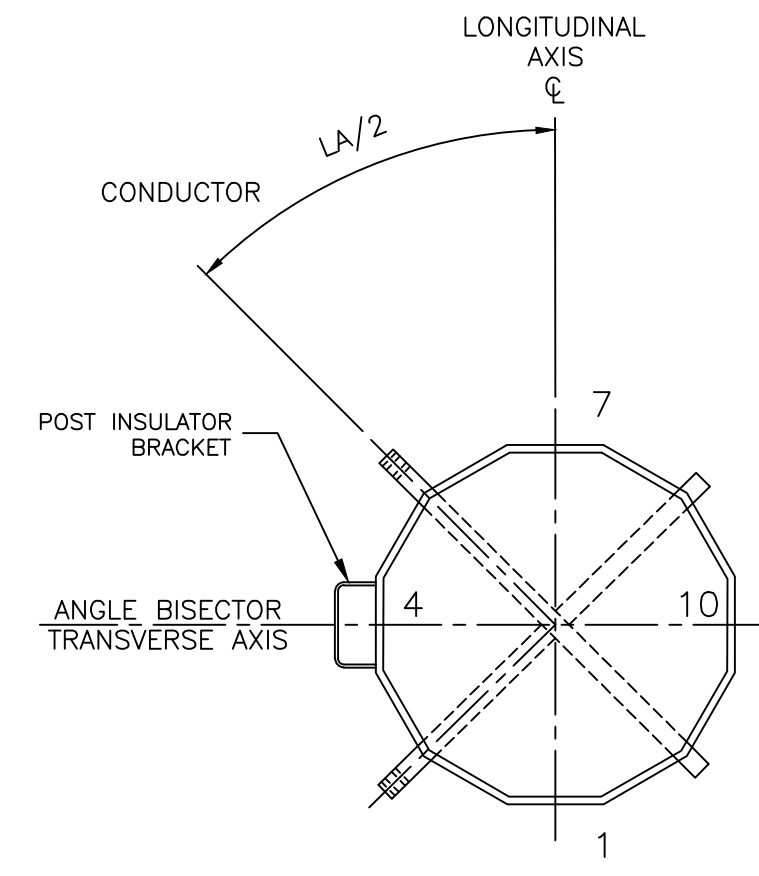
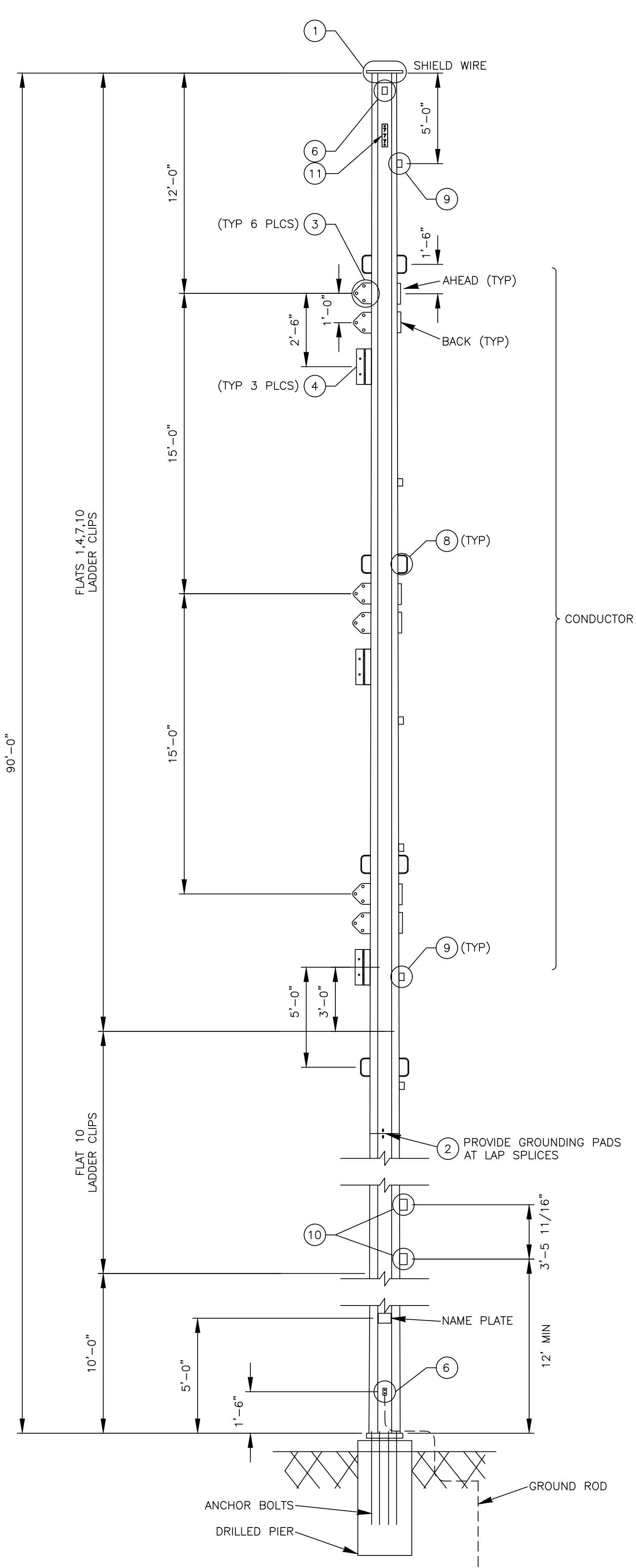
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FOX RUN - FOX RUN TAP
 115KV
 VERTICAL DEADEND
 OUTLINE AND DESIGN
 TRI-STATE GENERATION & TRANSMISSION
 ASSOCIATION, INCORPORATED
 UPDATED BY: ADAOL 4/19/2022 3:35 PM Contact:



Dwn:	ARO	Date:	04-12-22
Appd:	JTL	Date:	04-12-22

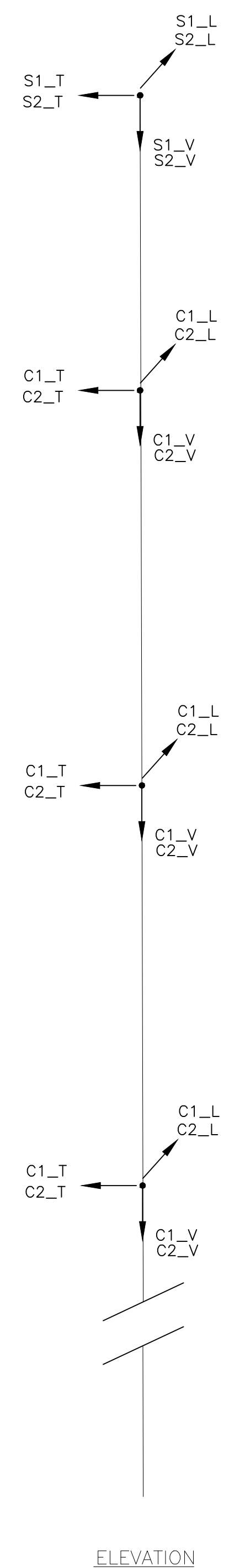
T2301-G-13-004



SHIELD WIRE LOADS WITH OLF (KIPS)												
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			S1 (Fox Run)			S2 (Flying Horse)		
				WIND	TENS.	VERT.	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.4	-3.8	-3.8	2.3	-20	19
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.8	-1.6	-1.6	1.3	-9	8
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.8	-1.1	-1.1	1.1	-7.9	7.9
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	1.3	-3.1	-3.1	3	-13.9	13.4
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.8	-1.3	-1.6	1.3	-9.3	8.1
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.2	-0.5	-0.5	0.7	-6.3	6.3
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.8	-2.3	-2.2	1.4	-14	13.8
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.8	-1.8	-1.8	1.3	-8.5	8.5
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.6	-1.1	-1.1	1.4	-9.5	9.8
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0	0	0	2.3	-20	19
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.4	-3.8	-3.8	0	0	0
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.8	-1.3	-1.3	1.5	-13.2	13

CONDUCTOR LOADS WITH OLF (KIPS)												
LOAD CASES	TEMP (°F)	WIND (PSF)	ICE (IN)	LOAD FACTORS			C1 (Fox Run)			C2 (Flying Horse)		
				WIND	TENS.	VERT.	V	T	L	V	T	L
1 NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.4	-3.6	-3.3	1.8	-10.4	9.6
2 NESC 250C EXTREME WIND	60	20.7	0.0	1.00	1.00	1.00	0.8	-1.9	-1.6	1	-4.8	3.9
3 NESC 250D CONC. ICE & WIND	15	6.4	0.50	1.00	1.00	1.00	0.8	-1.4	-1.3	1.1	-3.8	3.3
4 TRI-STATE EXTREME ICE	32	0.0	1.0	1.00	1.00	1.10	1.3	-2.8	-2.8	2.2	-7.3	7.3
5 TRI-STATE EXTREME WIND	60	25.6	0.0	1.10	1.00	1.00	0.8	-2	-1.9	1.1	-5.2	4.4
6 DEFLECTION	60	2.0	0.0	1.00	1.00	1.00	0.3	-0.6	-0.6	0.8	-2.2	2.1
7 BROKEN SHIELD WIRE	0	4.0	0.5	1.00	1.30	1.00	0.7	-2.5	-2.5	1.3	-7	6.6
8 DIFFERENTIAL ICE (HALF BACK)	32	0.0	0.5	1.00	1.00	1.00	0.9	-1.8	-1.8	0.9	-3.9	3.9
9 DIFFERENTIAL ICE (HALF AHEAD)	32	0.0	0.5	1.00	1.00	1.00	0.6	-1.3	-1.3	1.3	-4.9	4.9
10 DE AHEAD - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	0	0	0	1.8	-10.4	9.6
11 DE BACK - NESC 250B HEAVY	0	4.0	0.5	2.50	1.65	1.50	1.4	-3.6	-3.3	0	0	0
12 CONSTRUCTION	60	4.0	0.0	1.65	1.65	1.65	0.8	-1.8	-1.8	4.6	-5.4	5.3

STRUCTURE #	HEIGHT (FT)	ACTUAL LINE ANGLE
FH1	90'-0"	-90' (LEFT)



DESIGN DATA:
 477 KCMIL ACSR 26/7 HAWK CONDUCTOR
 1/2" EHS 7-STRAND STEEL OPGW
 WIND SPAN = - (AHEAD); WIND SPAN = - (BACK)
 DESIGN LINE ANGLE (-80' - -95')
 SOLID ICE DENSITY OF 57 LBS/FT³

- NOTES:**
- ALL DESIGN AND FABRICATION SHALL BE IN ACCORDANCE WITH TRI-STATE "TRANSMISSION LINE TAPERED TUBULAR STEEL POLE STRUCTURES" SPECIFICATION.
 - LOADS ARE ULTIMATE VALUES AND INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
 - STRUCTURE AND ATTACHMENTS SHALL BE DESIGNED FOR THE SIMULTANEOUS APPLICATION OF DEAD LOAD OF THE STRUCTURE INCLUDING THE APPROPRIATE LOAD FACTOR, WIND ON THE STRUCTURE, AND WIRE LOADS FOR EACH LOAD CASE.
 - WIND PRESSURES SHOWN ON LOAD CASE TABLE ARE IN PSF AND ARE BASED ON A SHAPE FACTOR OF 1.0 FOR 12-SIDED SECTIONS. WIND PRESSURES INCLUDE LOAD FACTORS FOR EACH LOAD CASE.
 - LIMIT POLE DEFLECTION TO 2% OF STRUCTURE HEIGHT FOR DEFLECTION LOAD CASE. ALL WIRES INTACT.
 - APPLY WIND ON STRUCTURE WHICH RESULTS IN THE MOST SEVERE EFFECT.
 - STRUCTURE TO BE DESIGNED FOR INTACT AND FULL DEADEND LOADING CONDITIONS FOR LOAD CASES 1-5.
 - MATERIAL SHALL BE WEATHERING STEEL.
 - NAME PLATE SHALL BE WELDED ON ALL STRUCTURES. TEXT MUST BE PERMANENTLY LEGIBLE, AND MUST INCLUDE MANUFACTURER'S NAME, DATE OF FABRICATION, STRUCTURE NUMBER, COMPLETE STRUCTURE LENGTH, COMPLETE STRUCTURE WEIGHT, AND GROUND LINE MOMENT CAPACITY IN KIP-Feet.
 - SEE DWG. T1005-G-13-016 FOR STEEL DETAILS.
 - LOCATE DETAIL 2 GROUNDING PADS ON BOTH SIDES OF ALL CONNECTIONS AND SPLICES.
 - ANCHOR BOLTS SHALL BE EQUALLY SPACED AROUND THE POLE DIAMETER, WITH A MINIMUM 2.5" CLEAR SPACE BETWEEN THE BOLTS.
 - TOP DIAMETER: 12" MINIMUM; ANCHOR BOLT DIAMETER: 62" MAXIMUM; TAPER: 0.4 INCH PER FOOT MAXIMUM. (ALTERNATIVES MAY BE PROPOSED.)
 - LADDER CLIPS SHALL BE INCLUDED TO CLIMB THE ENTIRE POLE, AND WORKING CLIPS SHALL BE INCLUDED ON THE TOP 50' OF THE POLE.
 - POLES MAY BE SINGLE PIECE OR MAY INCLUDE A SINGLE SLIP JOINT.

Preliminary

4/14/2022

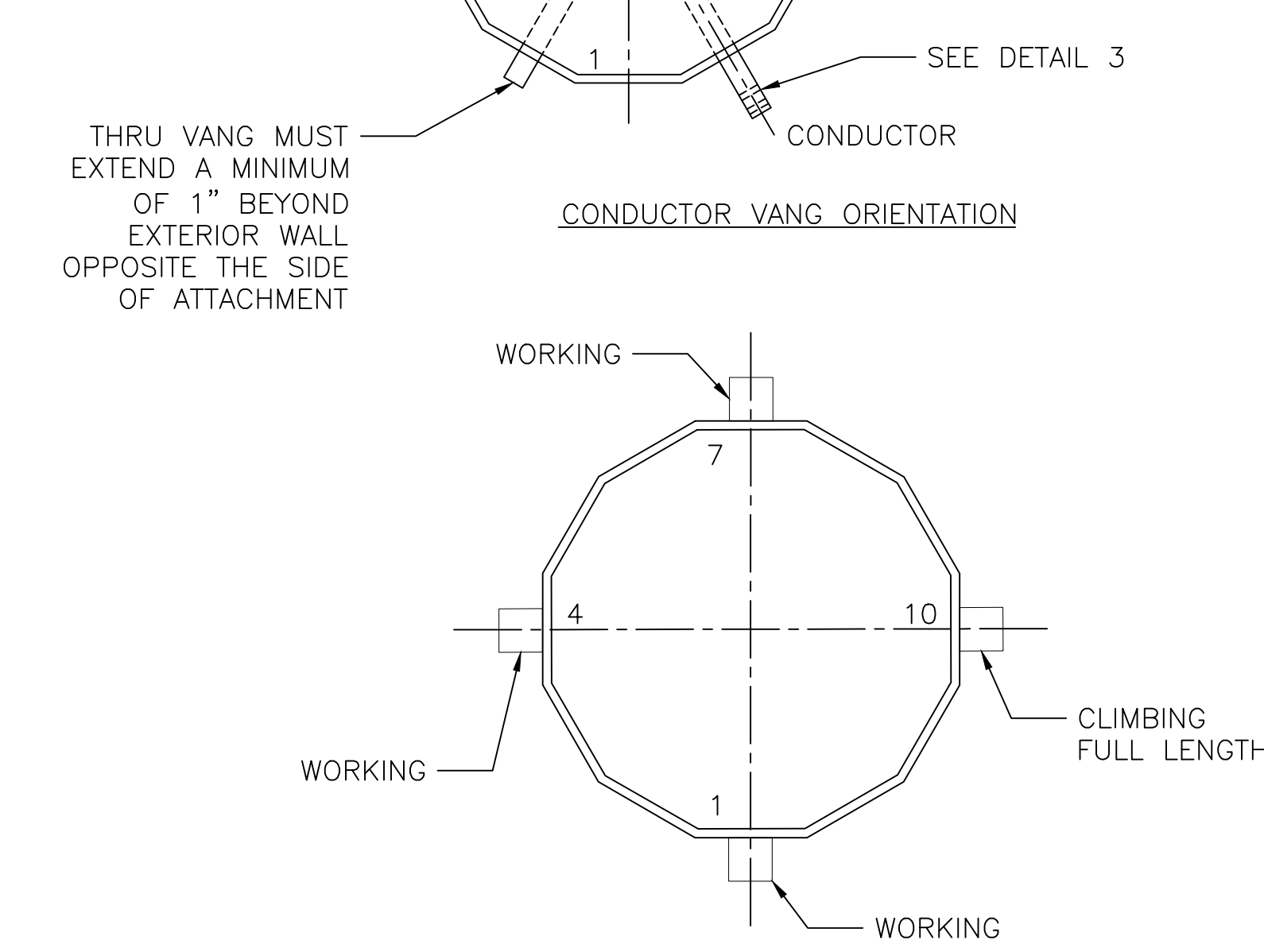
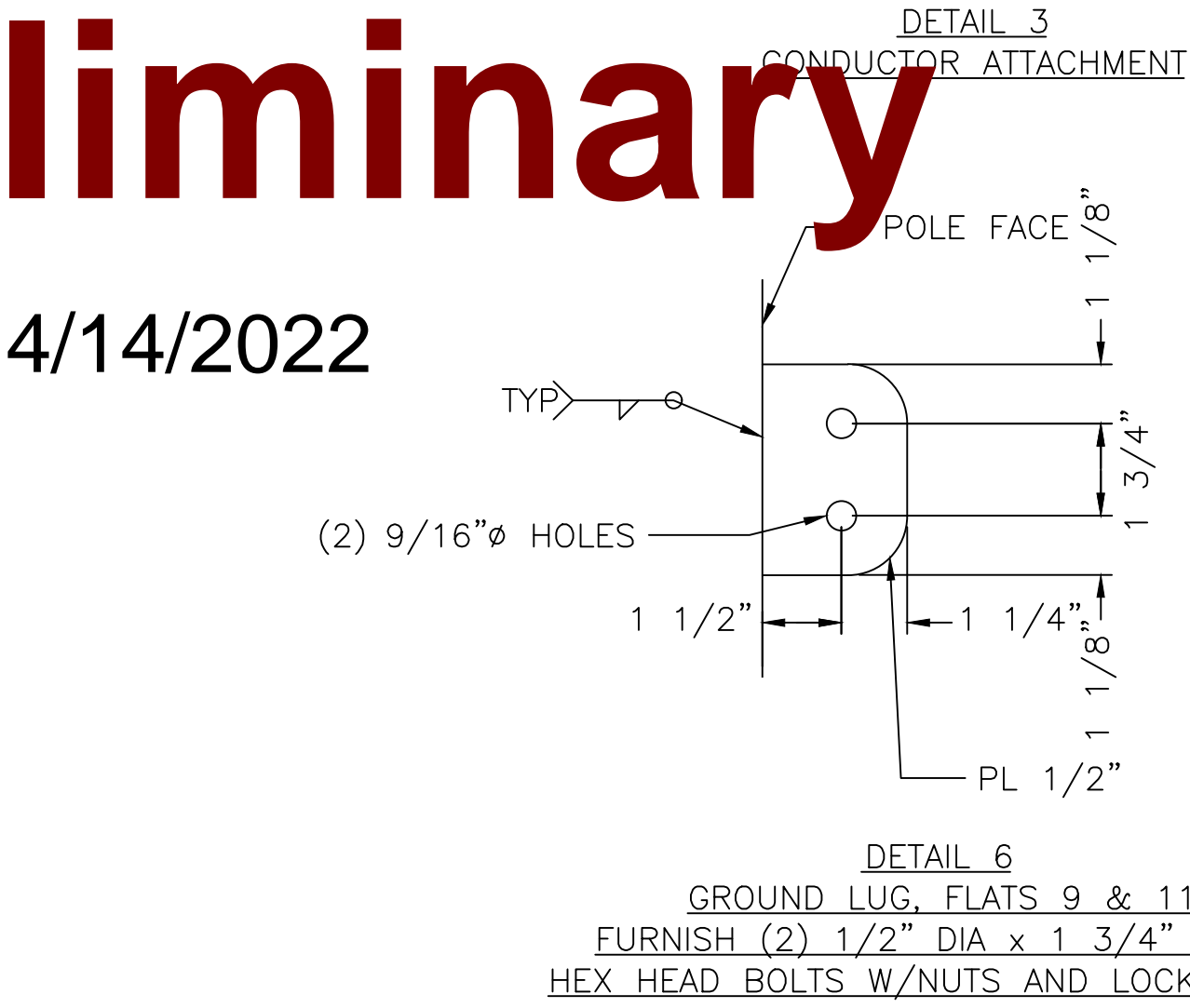
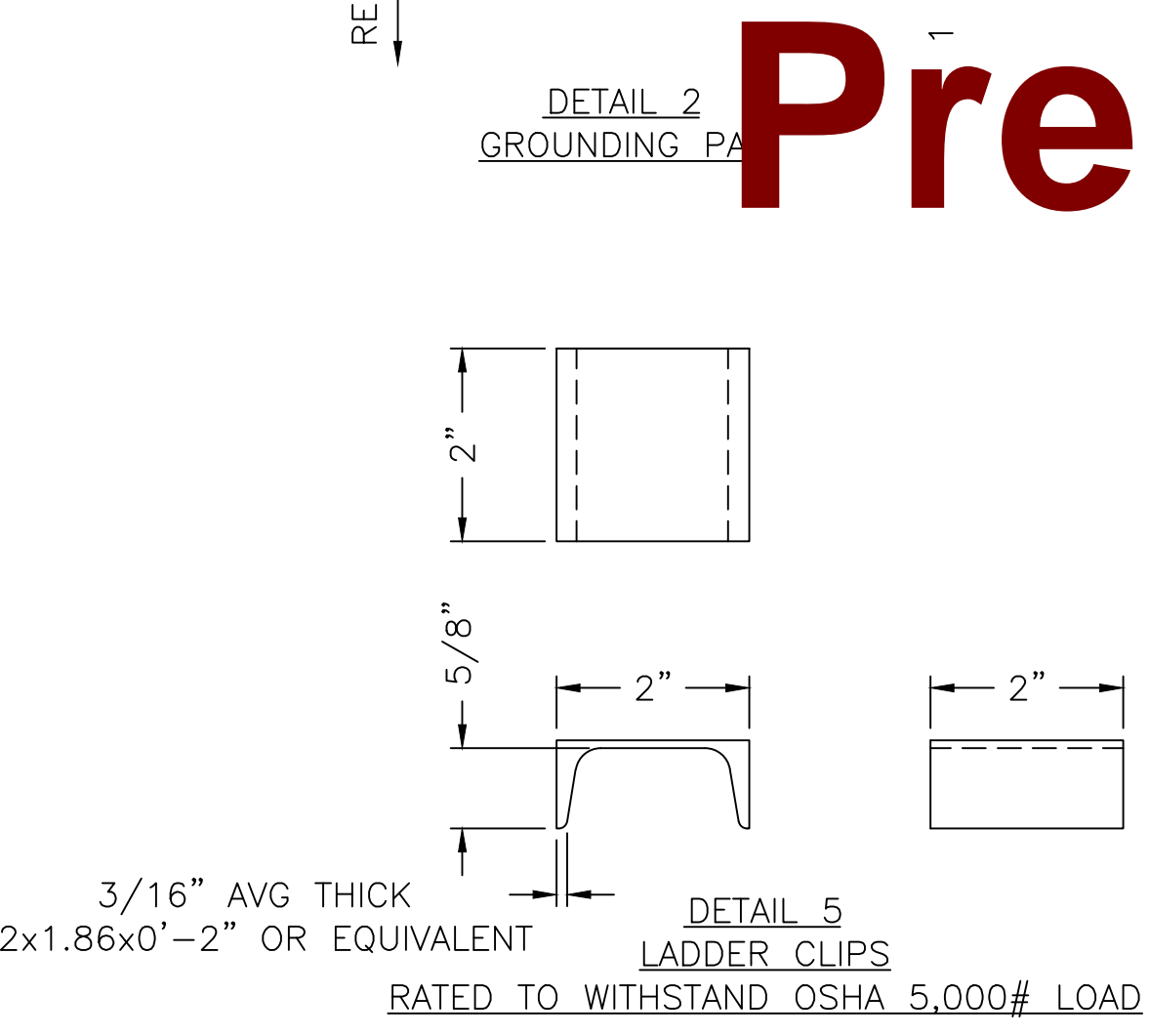
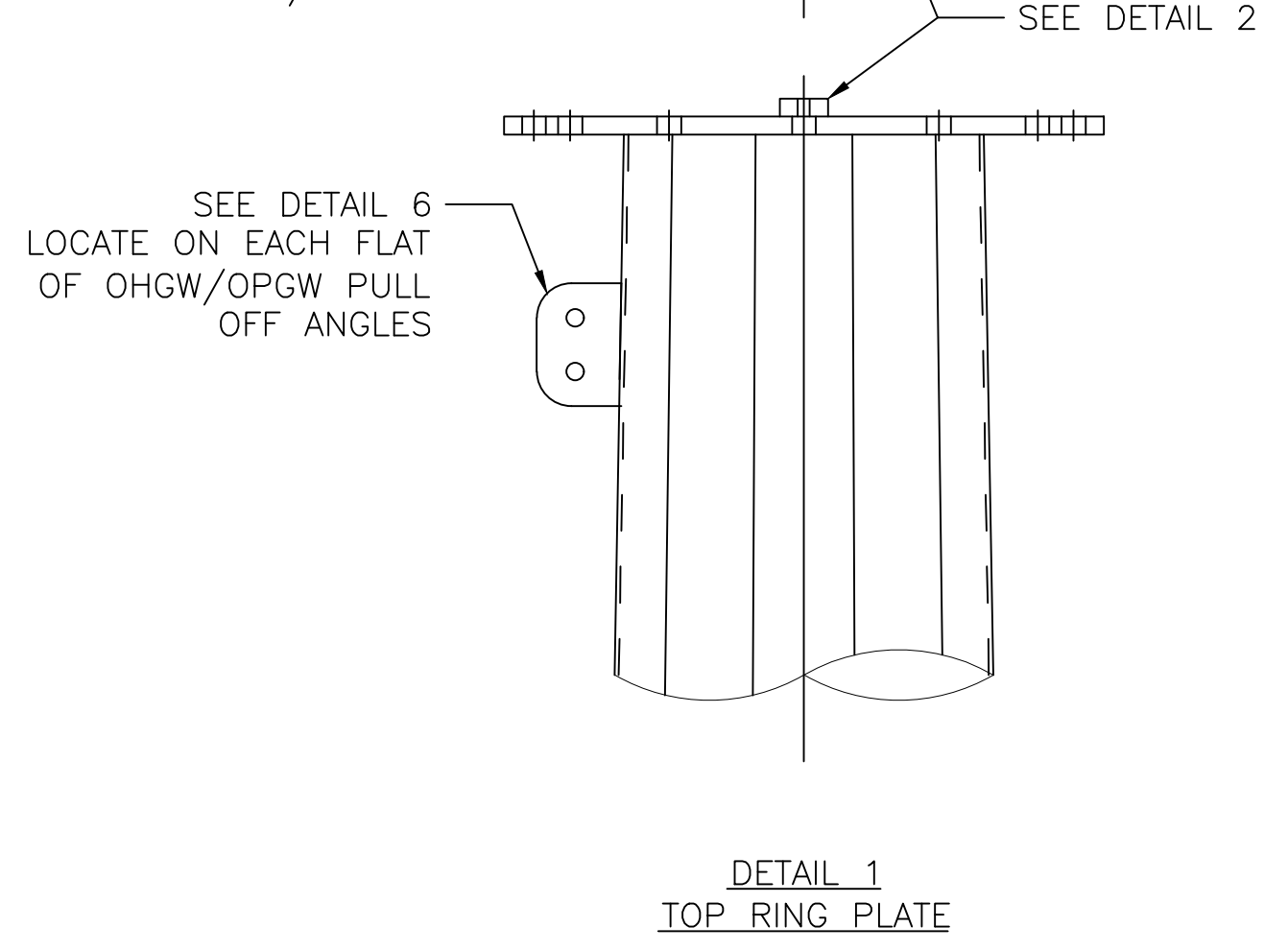
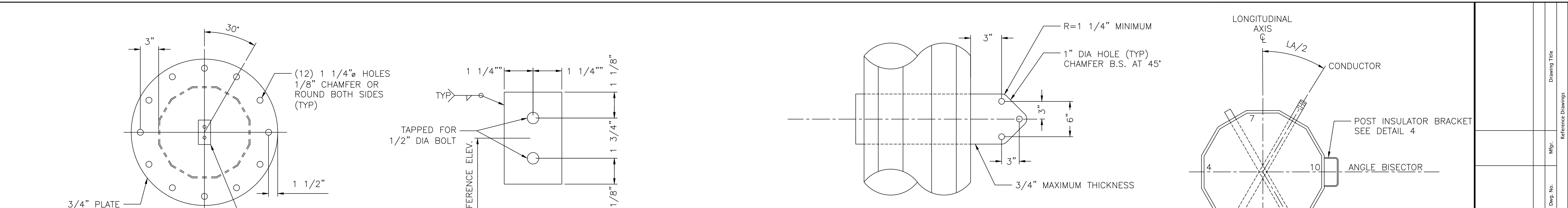
FOX RUN - FOX RUN TAP
 115KV VDE1
 OUTLINE AND DESIGN
 VERTICAL DEADEND
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No.	Date	Dwn.	Appd.	Revision
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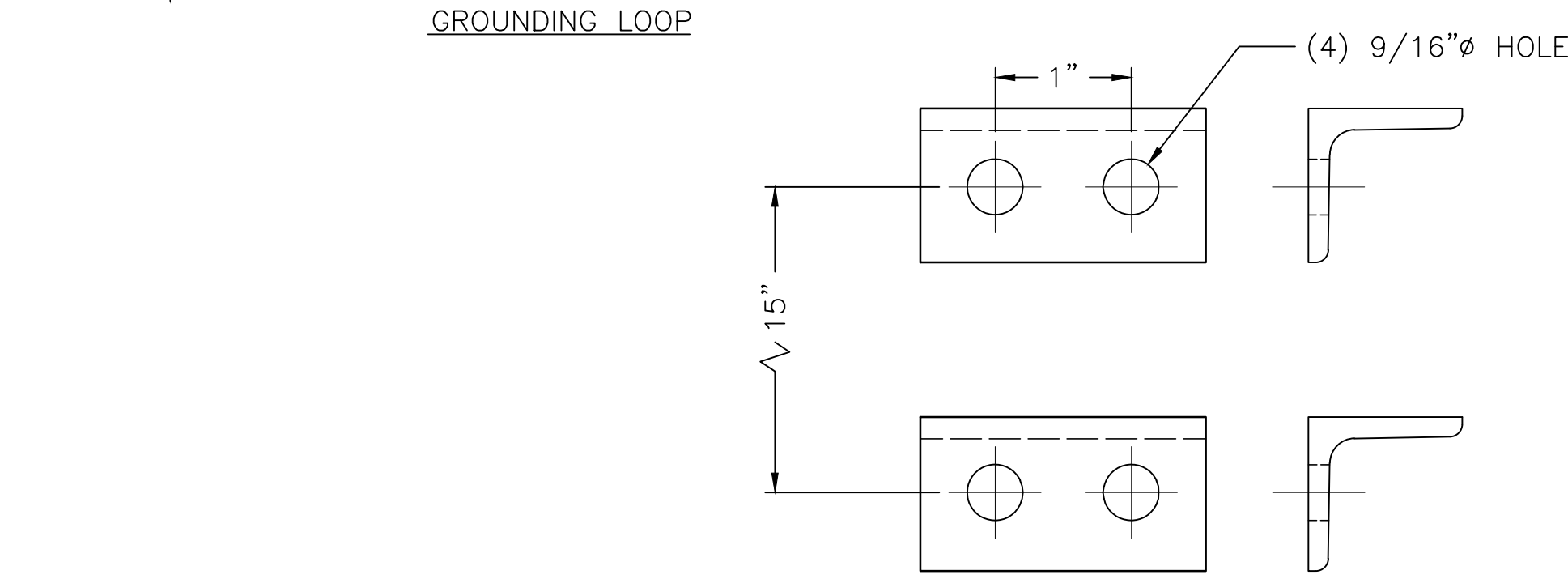
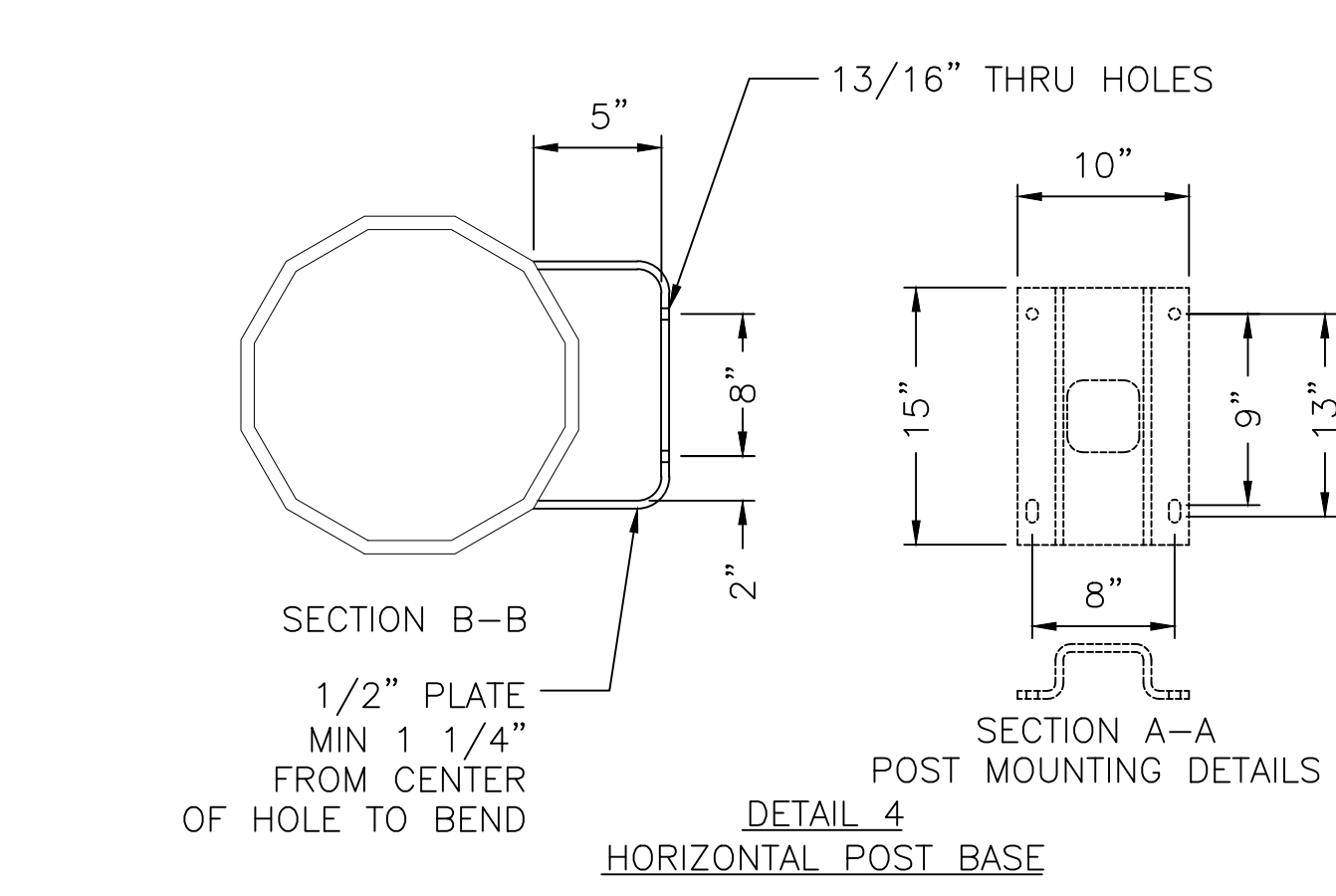
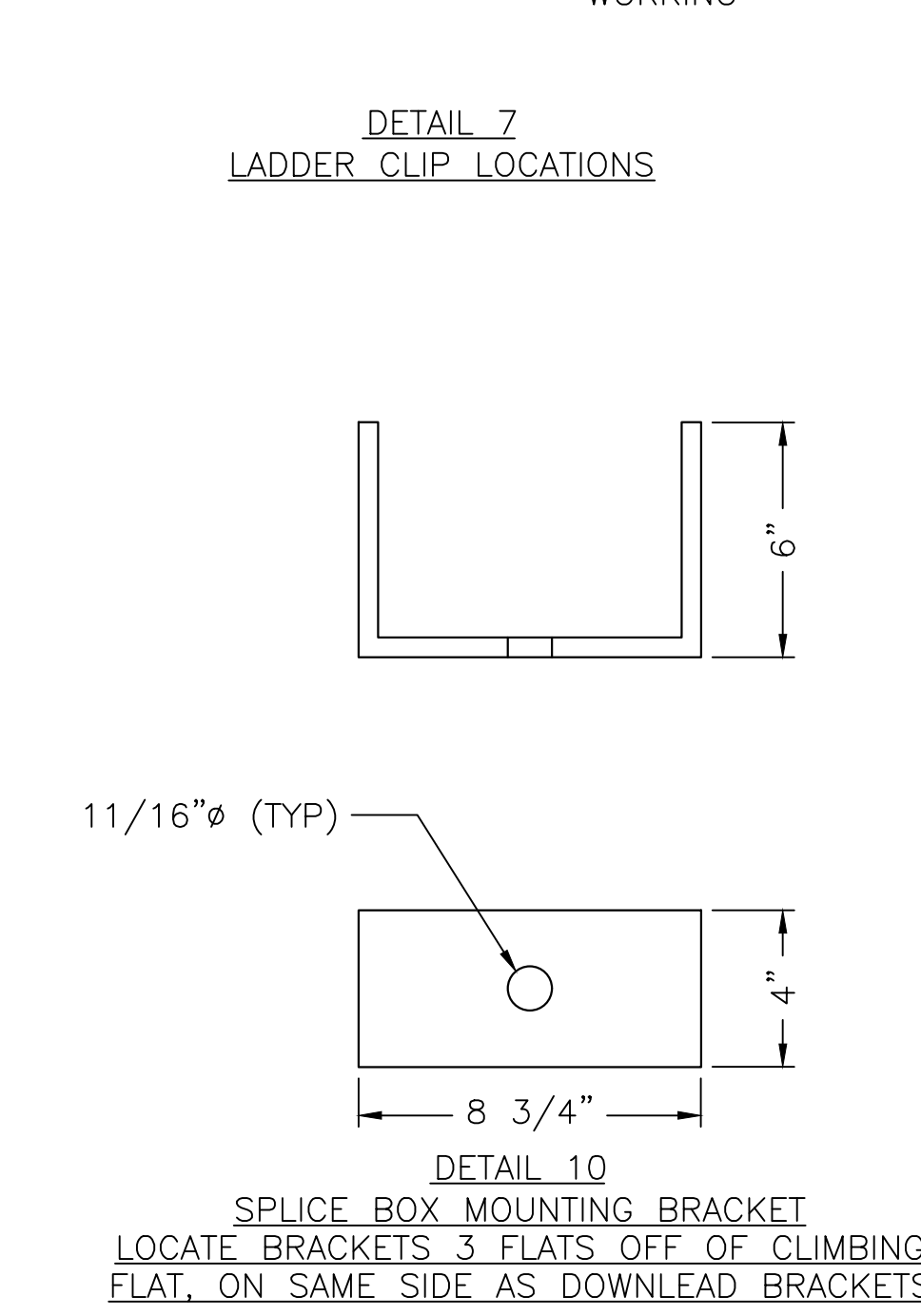
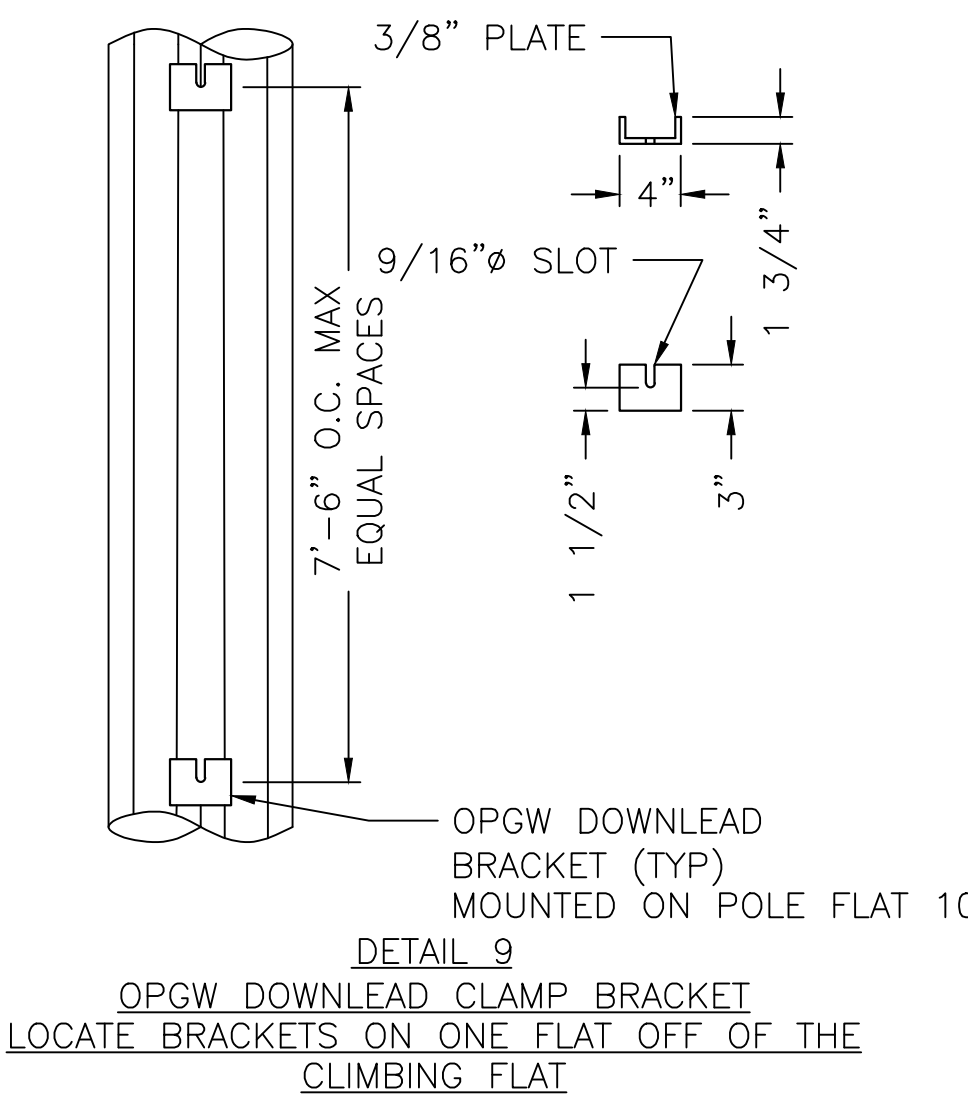
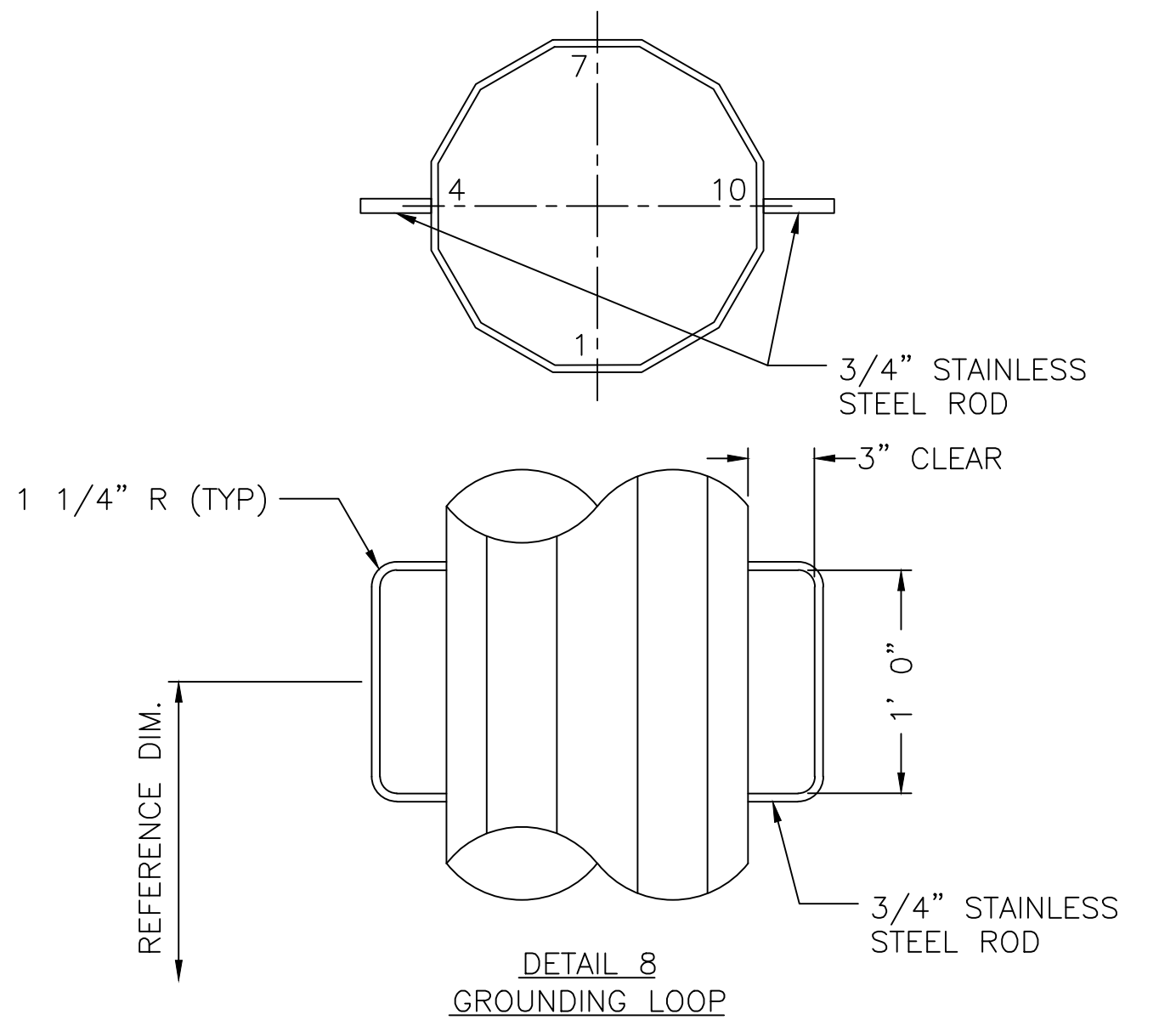
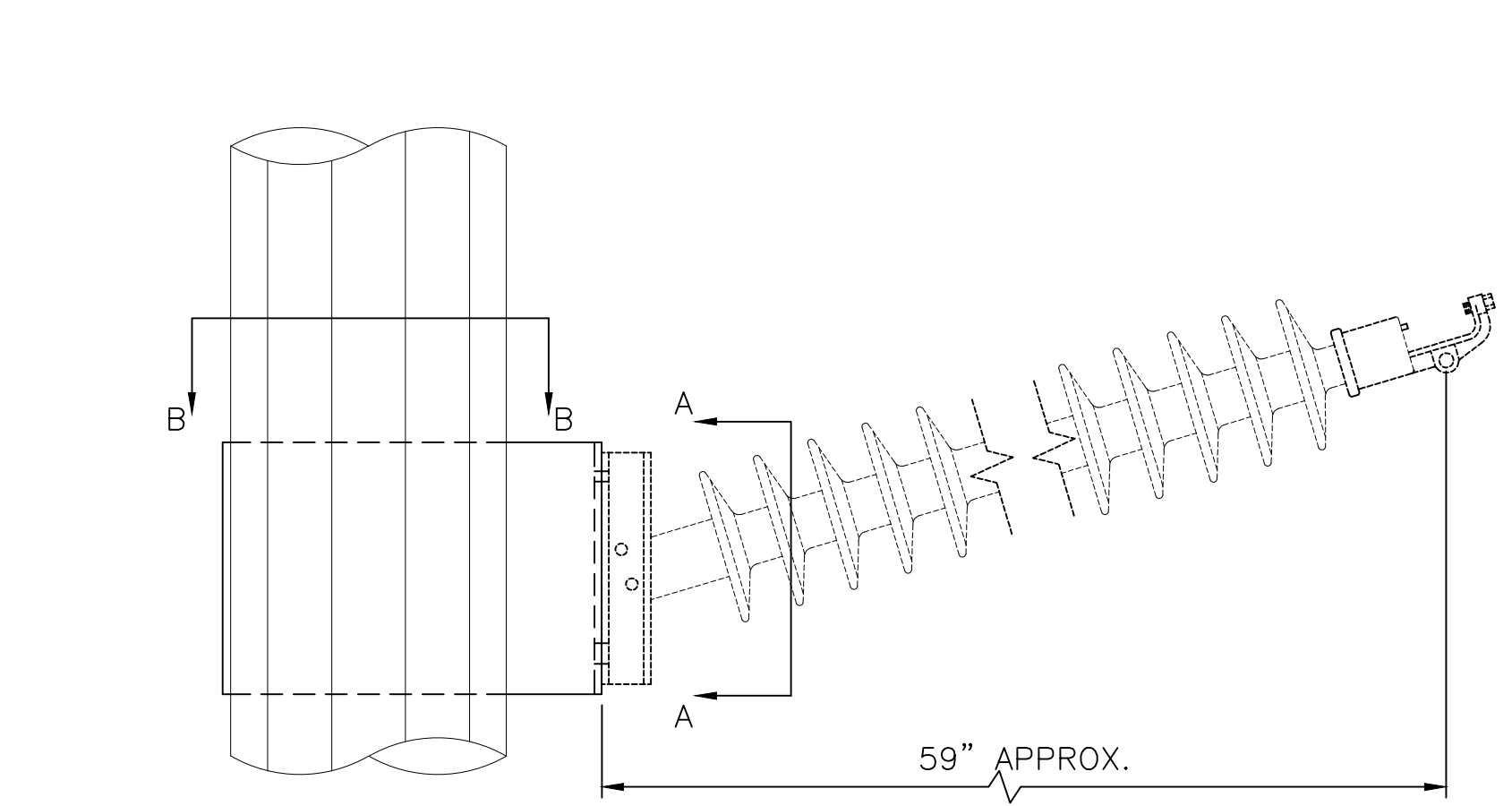
Dwn: ARO Date: 04-12-22
 Appd: JTL Date: 04-12-22

T2301-G-13-006



Preliminary

4/14/2022



NOTES:

1. PROVIDE MOUNTING DETAIL NEAR THE TOP OF EACH POLE FOR VERTICAL AERIAL NUMBER SIGN PLATE.
2. ATTACHMENT FOR BOTH AHEAD AND BACK LINE ARE REQUIRED.
3. DETAIL MAY BE A BRACKET OFFSET FROM POLE TO ALLOW BOLT INSERTED FROM BEHIND OR A 1/2" NUT WELDED OVER 9/16" HOLE.

NOTES:

1. INSTALL ONE GROUND LOOP PER PHASE WIRE AT 1'-6" ABOVE:
 - A. EACH DAVIT ARM ATTACHMENT.
 - B. EACH PHASE WIRE POLE VANG (RUNNING DEAD)
 - C. EACH PAIR OF PHASE WIRE POLE VANGS (DEADEND), ON THE BISECTOR ANGLE
2. ALSO INSTALL ONE GROUND LOOP AT MINIMUM 5- FEET BELOW THE LOWEST PHASE WIRE ELEVATION (INCLUDING DEADEND JUMPER STRUT INSULATORS) ON SAME FLATS AS CONDUCTOR PULLOFF ATTACHMENTS. OKAY TO RELOCATE THIS GROUND LOOP FURTHER DOWN THE POLE AS NECESSARY TO AVOID CONFLICTS. NO GROUND LOOPS ALLOWED BETWEEN JACKING NUTS AND WITHIN 1-FOOT OF OUTERMOST JACKING NUTS. NO GROUND LOOPS ALLOWED WITHIN 1-FOOT BELOW MALE ENDS MAXIMUM SLIP JOINT LAP.
3. DIMENSIONS ARE TO BEND LINE.
4. WELDS TO ATTACH MAINTENANCE PROVISIONS TO STRUCTURES SHALL DEVELOP THE ULTIMATE TENSILE STRENGTH OF THE ATTACHED PART.
5. FABRICATOR SHALL COORDINATE LOCATION OF MAINTENANCE PROVISIONS SUCH THAT THEY DO NOT INTERFERE WITH OTHER STRUCTURE PROVISIONS OR ATTACHMENTS.

FOX RUN - FOX RUN TAP
 115KV
 VERTICAL DEADEND
 OUTLINE AND DESIGN

TRI-STATE
 Generation and Transmission
 Association, Inc.
 A Touchstone Energy Cooperative

1100 W. 116th Ave.
 P.O. Box 33695
 Denver, Colorado 80233
 303-432-0111

4/20/2022 9:33 AM Contract:

No.	Date	Dwn.	Appd.	Revision
7				
6				
5				
4				
3				
2				
1	4/12/22	ARO	JTL	ISSUE PER CPW 049 AND CPW 045B

Dwg. No. Mgr. Drawing Title Reference Drawings

T2301-G-13-007