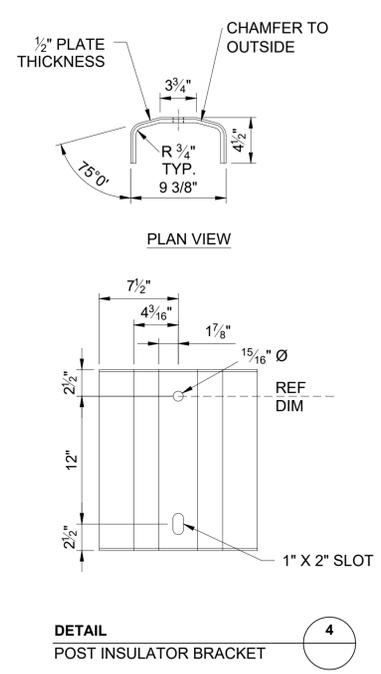
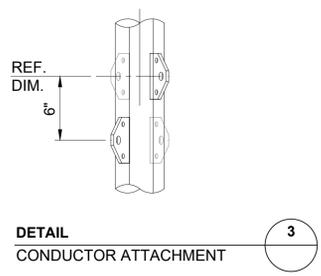
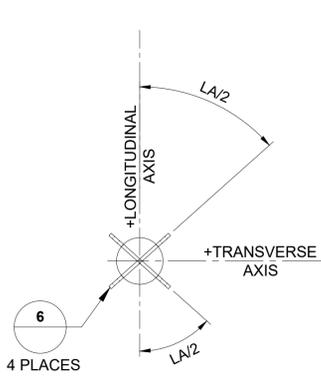
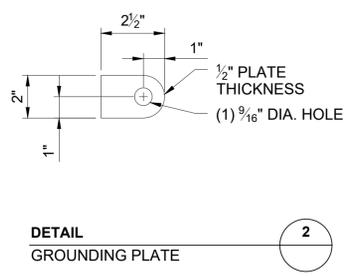
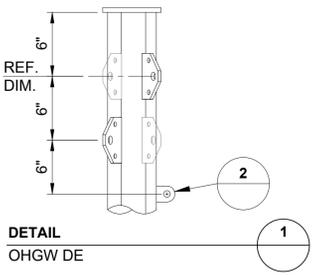
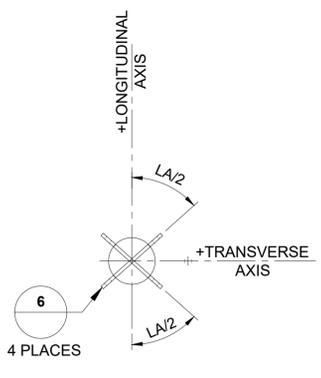


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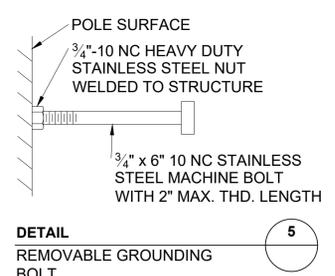


DETAIL
OHGW DE 1

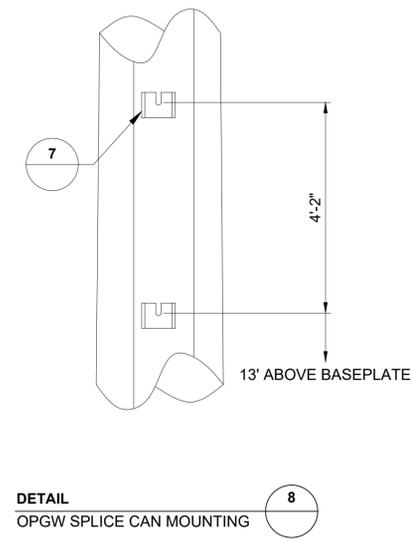
DETAIL
GROUNDING PLATE 2

DETAIL
CONDUCTOR ATTACHMENT 3

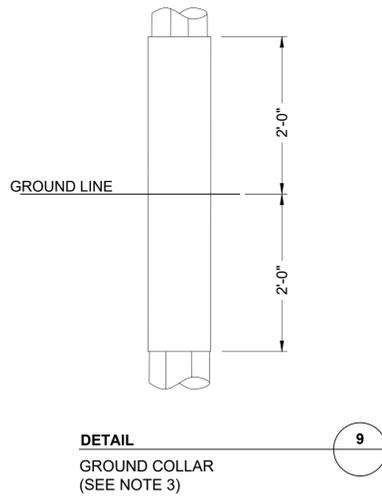
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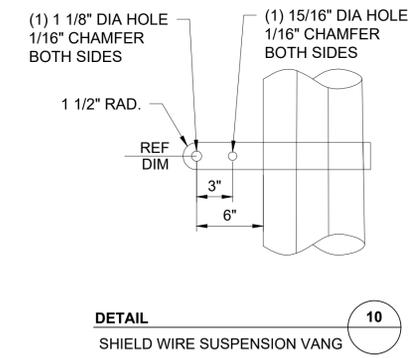
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OPGW DOWNLEAD CLAMP AND
SPLICE CAN MOUNTING
BRACKET
(SEE NOTE 4) 7



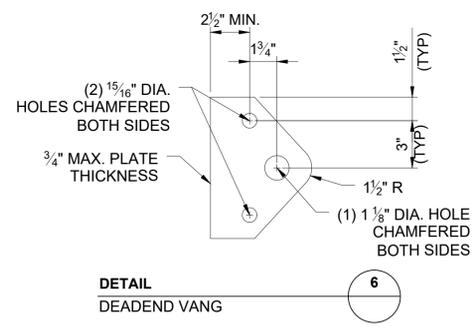
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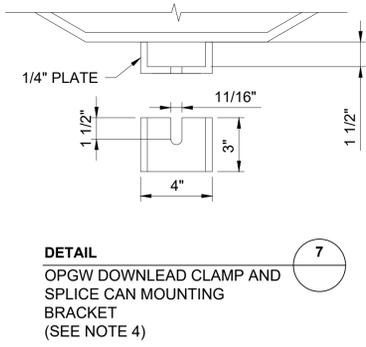
DETAIL
GROUND COLLAR
(SEE NOTE 3) 9



DETAIL
SHIELD WIRE SUSPENSION VANG 10



DETAIL
DAVIT ARM PLATE 11



DETAIL
DISTRIBUTION ARM ATATCHMENT 12

- NOTES:
- VANG AND VANG CONNECTION TO POLE SHALL BE DESIGNED TO WITHSTAND THE RESULTANT LOAD 10 DEGREES EITHER SIDE OF INDICATED LINE ANGLES.
 - VANGS SHALL BE ORIENTED TO BE WITHIN 5 DEGREES OF LINE DEPARTURE ANGLE.
 - A GROUND COLLAR, MINIMUM 3/16 INCH THICK AND MADE FROM A572-65 STEEL, SHALL EXTEND 2 FEET ABOVE AND 2 FEET BELOW THE GROUND LINE. PLATE SHALL NOT BE INCLUDED IN DESIGN STRENGTH CALCULATIONS. CORROCOAT II OR SIMILAR SHALL BE APPLIED ON THE POLE SHAFT FROM 3 INCHES BELOW THE GROUND SLEEVE TO 3 INCHES ABOVE THE GROUND SLEEVE.
 - INSTALL AT APPROXIMATELY 5'-0" SPACING FROM TOP OF POLE TO OPGW SPLICE CAN MOUNTING BRACKETS.

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date	DECEMBER 12, 2025	detailed	J. HUTTON
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CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 STEEL POLE DETAILS

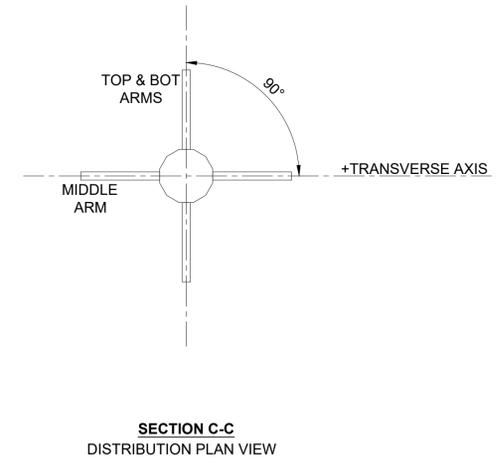
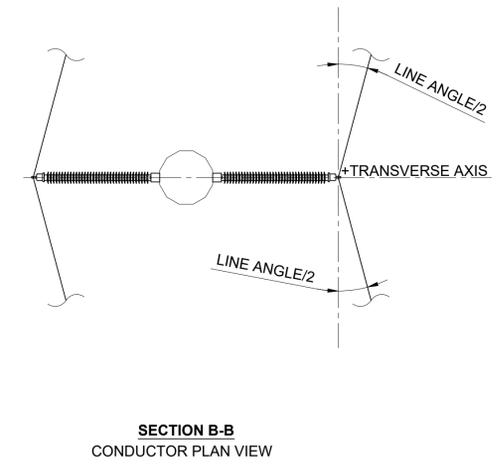
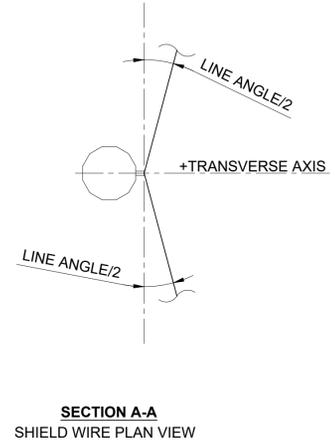
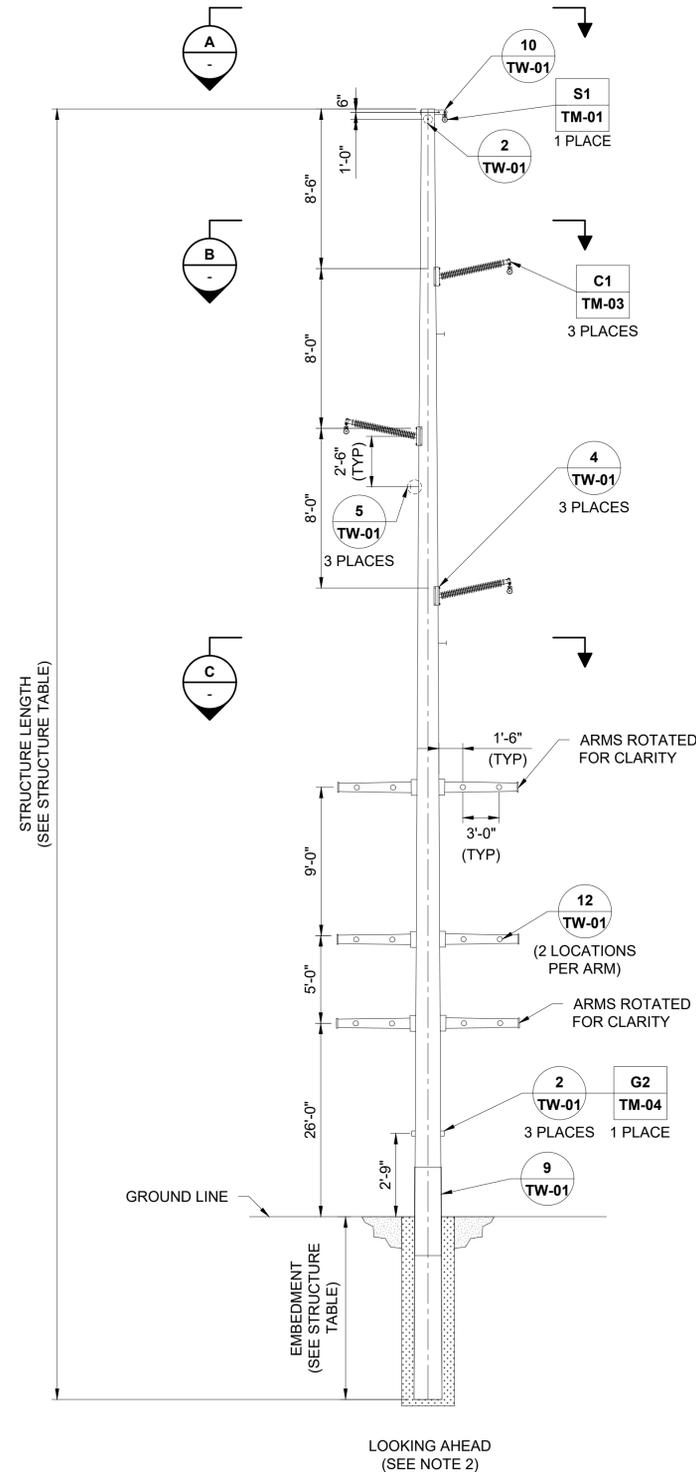
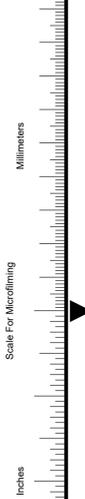
project	177862	contract	
drawing	TW-01	rev.	A
sheet	1	of	1
file	TW-01.dwg		

Scale For Microminim
 Millimeters
 Inches

STRUCTURE TABLE			
STR. NO.	LINE ANGLE (DEG)	STRUCTURE LENGTH (FT)	EMBEDMENT DEPTH (FT)
38	0	95	21.5

HARDWARE ARRANGEMENT TABLE				
QTY	STRUCTURE NUMBER	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
1	38	1-S1	3-C1	1-G2

no.	date	by	ckd	description
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- NOTES:
- SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - LOOKING 'AHEAD' REFERS TO LOOKING IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - SEE DRAWING TW-01 FOR STEEL POLE DETAILS.

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designed N. ZLATANOVA	checked J. SEBOLT

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Hays, Kansas 67601
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CHETOLAH CREEK-NORTH HAYS
115-kV LINE 115.76
STEEL STRUCTURE
LOAD AND DESIGN DRAWING

project 177862	contract
drawing TW-02	rev. A

sheet 1 of 2 sheets
file TW-02.dwg

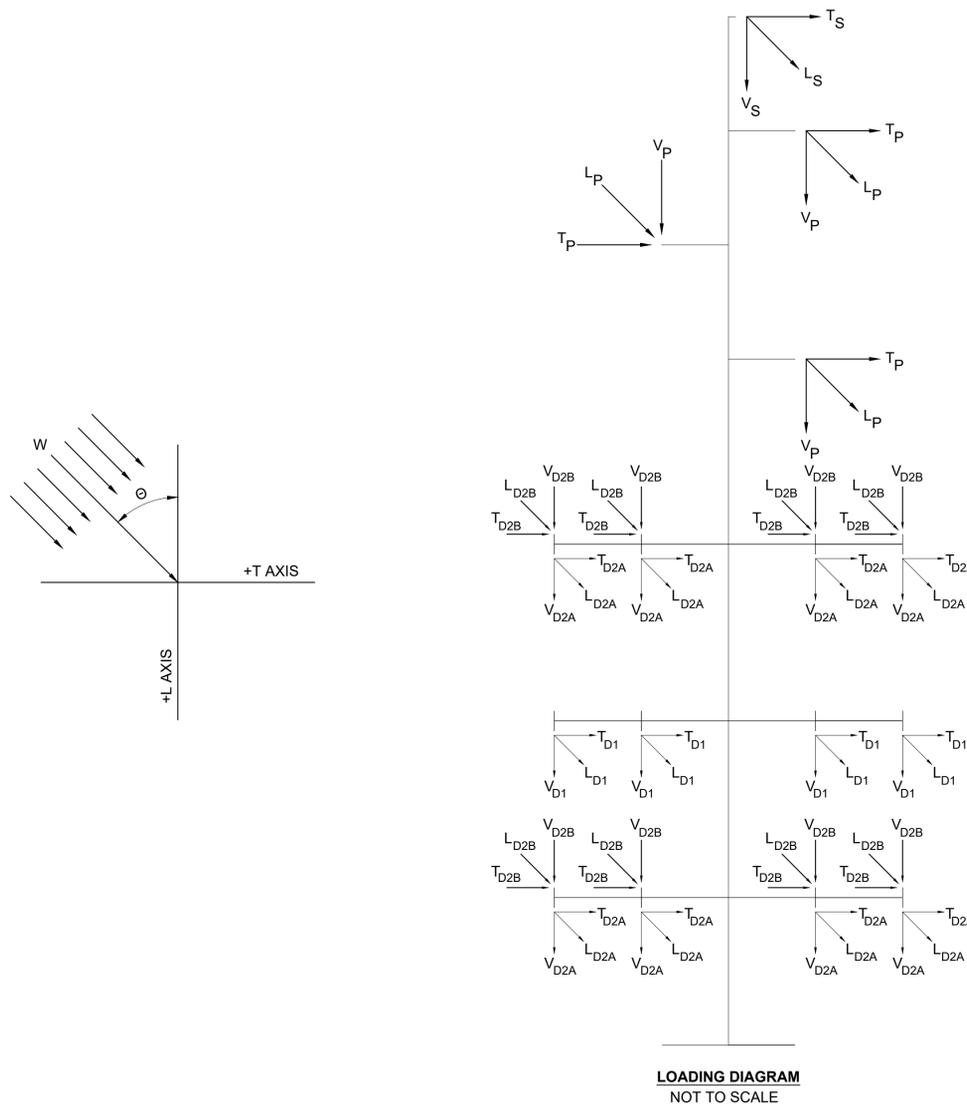
LOAD TABLE STR. 38

CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 7,500 LBS @ 250B INITIAL)
 OPGW: DNO-13045 (TENSION LIMIT: 3,500 LBS @ 250B INITIAL)
 WIND SPAN: 350 FT
 WEIGHT SPAN: 600 FT
 RULING SPAN: 250-350 FT
 LINE ANGLE: 0-1 DEGREES

UNDERBUILD LOAD TABLE STR. 38:

CONDUCTOR (D1 & D2): 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS AHEAD AND BACK @ 250B INITIAL)
 (D1):
 WIND SPAN: 150 FT AHEAD
 WEIGHT SPAN: 200 FT AHEAD
 RULING SPAN: 200-300 FT AHEAD
 LINE ANGLE: 0-10 DEGREES
 (D2):
 WIND SPAN: 150 FT AHEAD AND BACK
 WEIGHT SPAN: 200 FT AHEAD AND BACK
 RULING SPAN: 50-300 FT
 LINE ANGLE: 0-10 DEGREES (ROTATED 90 DEGREES FROM L-AXIS)

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VS (K)	TSA (K)	LS (K)	VP (K)	TP (K)	LP (K)	VD1 (K)	TD1 (K)	LD1 (K)	VD2A (K)	TD2A (K)	LD2A (K)	VD2B (K)	TD2B (K)	LD2B (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	1.38	0.55	0.00	3.17	0.89	0.00	1.42	0.96	-8.40	1.42	8.61	-0.73	1.42	-8.61	-0.73	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.54	0.40	0.00	1.36	0.98	0.00	0.68	0.62	-4.25	0.78	4.13	-0.34	0.78	-4.13	-0.34	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.54	0.44	0.00	1.36	1.08	0.00	0.68	0.67	-4.54	0.78	4.37	-0.36	0.78	-4.37	-0.36	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	1.24	0.45	0.00	2.63	0.66	0.00	1.13	0.70	-5.86	1.13	5.61	-0.47	1.13	-5.61	-0.47	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	1.66	0.07	0.00	3.24	0.15	0.00	1.34	0.56	-6.40	1.34	5.63	-0.49	1.34	-5.63	-0.49	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.54	0.02	0.00	1.36	0.05	0.00	0.68	0.16	-1.85	0.68	1.96	-0.17	0.68	-1.96	-0.17	0.0	90	1.0
7 MAINTENANCE	35.0	0.00	15	0.81	0.13	0.00	2.03	0.31	0.00	1.02	0.48	-4.92	1.17	6.83	-0.59	1.17	-6.83	-0.59	4.7	90	1.5



- NOTES:
- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
 - V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
 - W IS THE WIND LOAD (INCLUSIVE OF ALL OVERLOAD FACTORS) TO BE APPLIED TO THE STRUCTURE IN PSF. A STRUCTURE WIND FACTOR OF 1.0 HAS BEEN APPLIED TO "W".
 - THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL CENTERLINE OF THE STRUCTURE AND THE WIND DIRECTION AS SHOWN ON THE LOADING TREE DIAGRAM.
 - THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
 - STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
 - ALL TRANSMISSION AND D1 SPANS INSTALLED WITH D2A ONLY SPAN INSTALLED.
 - ALL TRANSMISSION AND D1 SPANS INSTALLED WITH D2B ONLY SPAN INSTALLED.
 - STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
 - DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
 - POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

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designed	N. ZLATANOVA	checked	J. SEBOLT

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CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

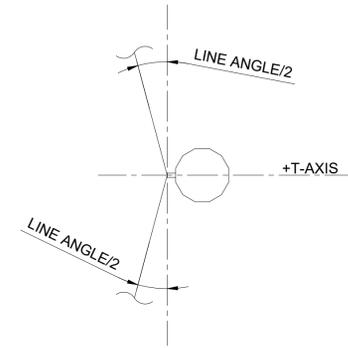
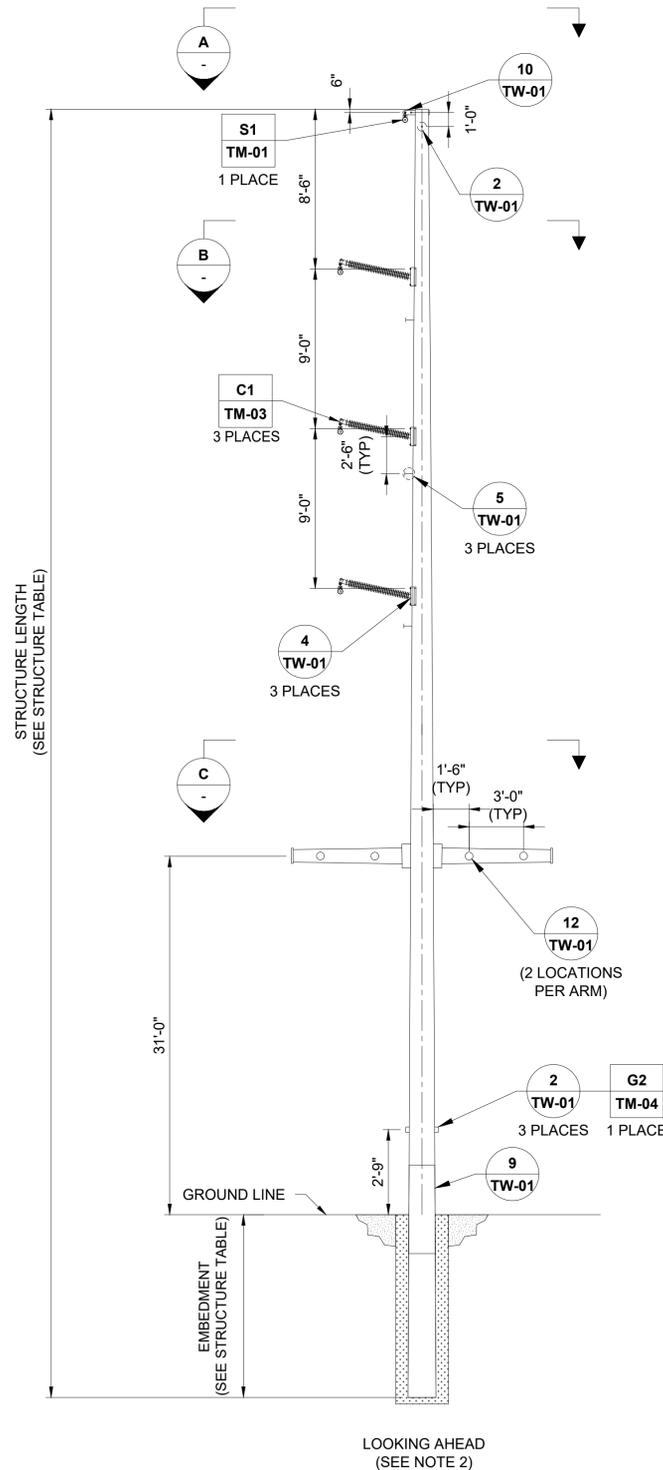
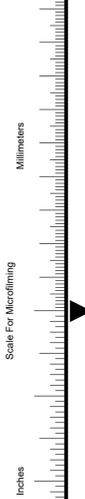
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drawing	TW-02	rev.	A
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file	TW-02		



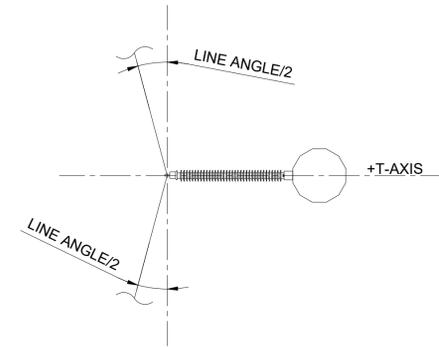
STRUCTURE TABLE			
STR. NO.	LINE ANGLE (DEG)	STRUCTURE LENGTH (FT)	EMBEDMENT DEPTH (FT)
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HARDWARE ARRANGEMENT TABLE				
QTY	STRUCTURE NUMBER	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
1	112	1-S1	3-C1	1-G2

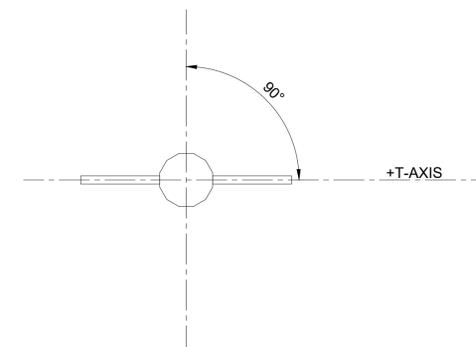
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A	2/18/26	NHZ	SEB	ISSUED FOR BID



SECTION A-A
SHIELD WIRE PLAN VIEW



SECTION B-B
CONDUCTOR PLAN VIEW



SECTION C-C
DISTRIBUTION PLAN VIEW

- NOTES:
- SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - LOOKING 'AHEAD' REFERS TO LOOKING IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - SEE DRAWING TW-01 FOR STEEL POLE DETAILS.

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date	DECEMBER 12, 2025	detailed	J. HUTTON
designed	N. ZLATANOVA	checked	J. SEBOLT



CHETOLAH CREEK-NORTH HAYS
115-KV LINE 115.76
STEEL STRUCTURE
LOAD AND DESIGN DRAWING

project	177862	contract	
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drawing	TW-03	rev.	A
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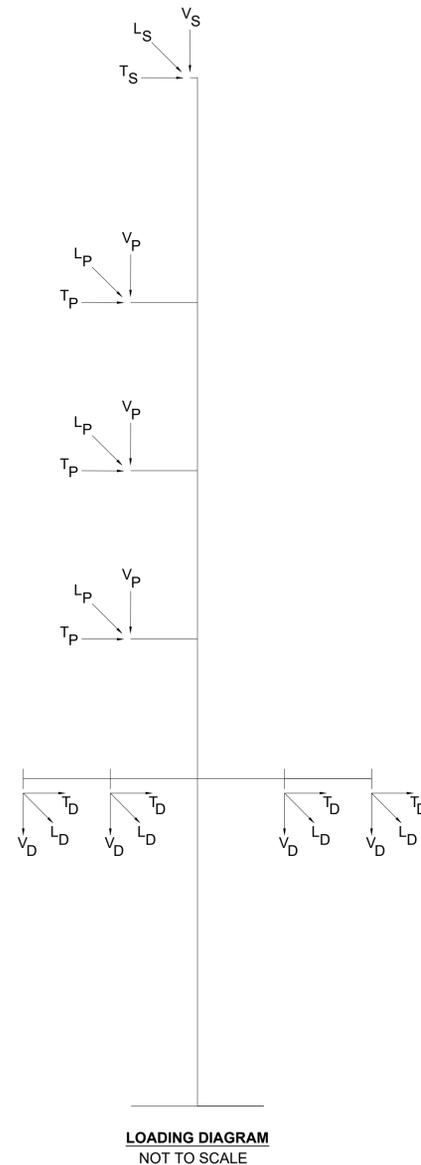
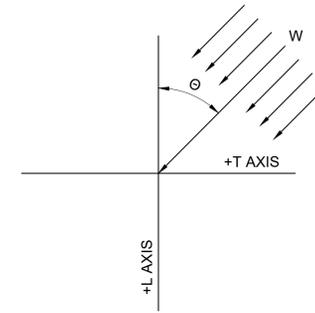
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 OPGW: DNO-13045 (TENSION LIMIT: 3,500LB @ 250B INITIAL)
 WIND SPAN: 300 FT
 WEIGHT SPAN: 300 FT
 RULING SPAN: 200-300 FT
 LINE ANGLE: 0-12.5 DEGREES

UNDERBUILD LOAD TABLE STR. 112:

CONDUCTOR: 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS @ 250B INITIAL)
 WIND SPAN: 300 FT
 WEIGHT SPAN: 450 FT
 RULING SPAN: 200-300 FT
 LINE ANGLE: 0-5 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VS (K)	TSA (K)	LS (K)	VP (K)	TP (K)	LP (K)	VD (K)	TD (K)	LD (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	0.93	-1.64	0.00	2.07	-3.27	0.00	1.98	-1.20	0.00	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.43	-0.85	0.00	0.95	-1.98	0.00	0.85	-0.84	0.00	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.43	-0.91	0.00	0.95	-2.13	0.00	0.85	-0.91	0.00	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.78	-1.16	0.00	1.67	-2.16	0.00	1.66	-0.85	0.00	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	0.99	-0.89	0.00	2.00	-1.76	0.00	2.07	-0.49	0.00	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.43	-0.29	0.00	0.95	-0.61	0.00	0.85	-0.17	0.00	0.0	90	1.0
7 MAINTENANCE	35.0	0.00	15	0.65	-0.93	0.00	1.43	-1.92	0.00	1.27	-0.62	0.00	4.7	90	1.5



NOTES:

- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
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- THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
- STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
- STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
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- POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

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 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT

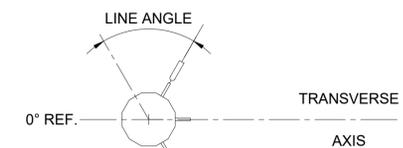
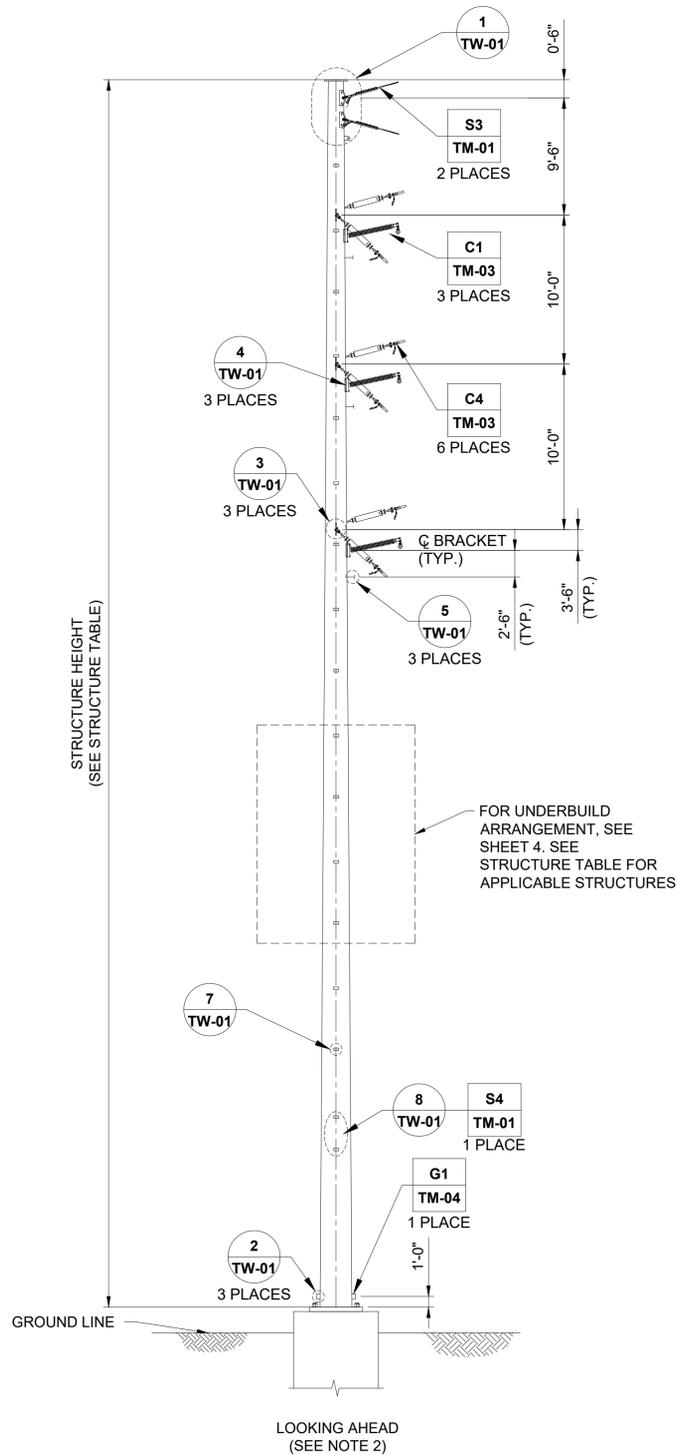
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 (785) 625-3437

CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

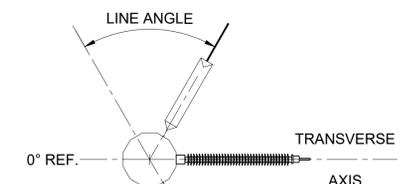
project	177862	contract	
drawing	TW-03	rev.	A
sheet	2	of	2 sheets
file	TW-03.dwg		

STRUCTURE TABLE			
STR. NO.	LINE ANGLE (DEG)	STRUCTURE HEIGHT (FT)	UNDERBUILD
30	-89.3	65	NO
50	-1.0	75	YES
60	-90.8	75	YES
71	90.0	80	YES
92	-88.7	75	YES
113	101.7	75	NO
121	-90.6	70	NO
144	91.0	65	NO

HARDWARE ARRANGEMENT TABLE				
QTY	STRUCTURE NUMBER	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
8	30, 50, 60, 71, 92, 113, 121, 144	2-S3, 1-S4	3-C1, 6-C4	1-G1



OHGW PLAN VIEW



TRANSMISSION PLAN VIEW

- NOTES:
- SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - LOOKING "AHEAD" REFERS TO LOOKING IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - SEE DRAWING TW-01 FOR STEEL POLE DETAILS.

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

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LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	J. HUTTON
designed	N. ZLATANOVA	checked	J. SEBOLT



CHETOLAH CREEK-NORTH HAYS
115-KV LINE 115.76
80-95° DEADEND STEEL STRUCTURE
LOAD AND DESIGN DRAWING

project	177862	contract	
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drawing	TW-04	rev.	A
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sheet	1	of	5	sheets
file	TW-04.dwg			

Scale For Microfitting
Millimeters
Inches

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LOAD TABLE STR. 50

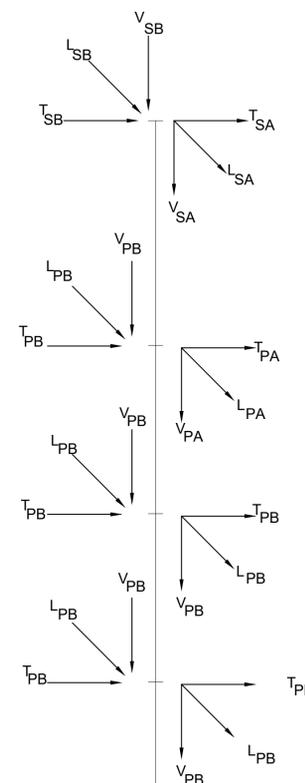
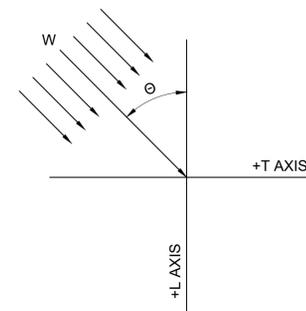
CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 7,500 LBS AHEAD/8,250 LBS BACK @ 250B INITIAL)
 OPGW: DNO-13045 (TENSION LIMIT: 3,500 LBS AHEAD/3,750 LBS BACK @ 250B INITIAL)
 WIND SPAN: 150 FT AHEAD/200 FT BACK
 WEIGHT SPAN: 150 FT AHEAD/200 FT BACK
 RULING SPAN: 200-300 FT AHEAD/300-400 FT BACK
 LINE ANGLE: 0-10 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VSA (K)	TSA (K)	LSA (K)	VSB (K)	TSB (K)	LSB (K)	VPA (K)	TPA (K)	LPA (K)	VPB (K)	TPB (K)	LPB (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	0.71	0.69	-5.77	0.78	0.79	6.18	1.52	1.36	-12.36	1.71	1.57	13.59	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.38	0.37	-2.51	0.40	0.44	2.75	0.75	0.87	-5.63	0.82	1.08	6.59	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.38	0.40	-2.65	0.40	0.48	2.92	0.75	0.94	-5.97	0.82	1.16	6.99	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.55	0.50	-3.85	0.63	0.59	4.25	1.18	0.91	-7.84	1.34	1.07	8.86	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	0.66	0.35	-4.07	0.77	0.40	4.58	1.37	0.70	-8.07	1.58	0.81	9.31	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.38	0.12	-1.35	0.40	0.12	1.34	0.75	0.24	-2.80	0.82	0.28	3.25	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	1.82	0.38	-3.97	0.60	0.36	3.62	1.13	0.78	-8.12	3.87	0.83	8.37	4.7	90	1.5

LOAD TABLE STR. 113

CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 7,500 LBS AHEAD AND BACK @ 250B INITIAL)
 OPGW: DNO-13045 (TENSION LIMIT: 3,500 LBS AHEAD AND BACK @ 250B INITIAL)
 WIND SPAN: 200 FT AHEAD/150 FT BACK
 WEIGHT SPAN: 300 FT AHEAD AND BACK
 RULING SPAN: 300-400 FT AHEAD/200-300 FT BACK
 LINE ANGLE: 95-105 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VSA (K)	TSA (K)	LSA (K)	VSB (K)	TSB (K)	LSB (K)	VPA (K)	TPA (K)	LPA (K)	VPB (K)	TPB (K)	LPB (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	0.93	4.83	-3.89	0.93	4.77	3.90	2.07	10.18	-8.34	2.07	10.09	8.35	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.43	2.23	-1.72	0.49	2.14	1.70	0.95	5.34	-4.12	1.15	4.84	3.80	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.43	2.38	-1.84	0.49	2.27	1.79	0.95	5.70	-4.38	1.15	5.15	4.03	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.78	3.41	-2.72	0.78	3.22	2.60	1.67	6.80	-5.53	1.67	6.45	5.30	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	0.99	3.46	-2.95	0.99	3.23	2.75	2.00	6.90	-5.88	2.00	6.40	5.45	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.43	0.93	-0.79	0.43	1.07	0.91	0.95	2.37	-2.02	0.95	2.22	1.89	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	0.65	2.48	-2.08	1.98	3.18	2.68	1.43	5.74	-4.80	4.29	6.52	5.49	4.7	90	1.5



FOR UNDERBUILD LOADS, SEE SHEET 5

LOADING DIAGRAM
NOT TO SCALE

NOTES:

- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
- V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
- W IS THE WIND LOAD (INCLUSIVE OF ALL OVERLOAD FACTORS) TO BE APPLIED TO THE STRUCTURE IN PSF. A STRUCTURE WIND FACTOR OF 1.0 HAS BEEN APPLIED TO "W".
- THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL CENTERLINE OF THE STRUCTURE AND THE WIND DIRECTION AS SHOWN ON THE LOADING TREE DIAGRAM.
- THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
- STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
 - AHEAD SPANS ONLY INSTALLED.
 - BACK SPANS ONLY INSTALLED.
- STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
- DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
- POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

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9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT



CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 80-95° DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

project	177862	contract	
drawing	TW-04	rev.	A
sheet	2	of	5 sheets
file	TW-04.dwg		

Scale For Microfilming

Inches

LOAD TABLE STR. 30, 60, 71, 92, 121, 144

CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 7,500 LBS AHEAD AND BACK @ 250B INITIAL)

OPGW: DNO-13045 (TENSION LIMIT: 3,500 LBS AHEAD AND BACK @ 250B INITIAL)

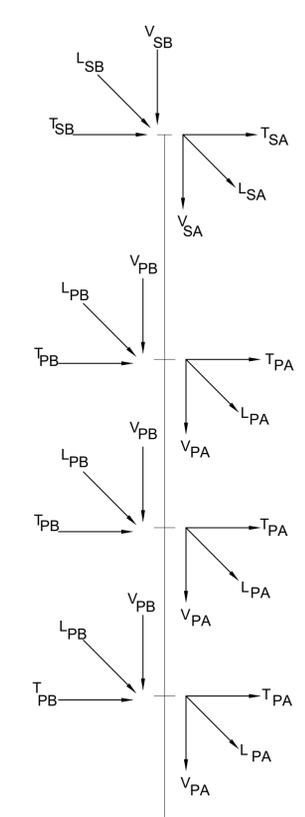
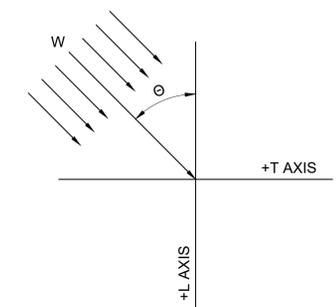
WIND SPAN: 200 FT AHEAD AND BACK

WEIGHT SPAN: 300 FT AHEAD AND BACK

RULING SPAN: 200-400 FT AHEAD AND BACK

LINE ANGLE: 80-95 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VSA (K)	TSA (K)	LSA (K)	VSB (K)	TSB (K)	LSB (K)	VPA (K)	TPA (K)	LPA (K)	VPB (K)	TPB (K)	LPB (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	0.93	4.51	-4.42	0.93	4.51	4.42	2.07	9.50	-9.47	2.07	9.50	9.47	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.47	2.08	-1.95	0.49	2.08	1.95	1.02	4.99	-4.67	1.15	4.99	4.67	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.47	2.23	-2.08	0.49	2.23	2.08	1.02	5.34	-4.97	1.15	5.34	4.97	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.78	3.18	-3.08	0.78	3.18	3.08	1.67	6.34	-6.28	1.67	6.34	6.28	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	0.99	3.22	-3.34	0.99	3.22	3.34	2.00	6.42	-6.67	2.00	6.42	6.67	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.43	0.99	-1.03	0.43	0.99	1.03	0.95	2.21	-2.29	0.95	2.21	2.29	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	0.68	2.97	-3.04	1.95	2.97	3.04	1.53	6.09	-6.22	4.19	6.09	6.22	4.7	90	1.5



LOADING DIAGRAM
NOT TO SCALE



- NOTES:
- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
 - V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
 - W IS THE WIND LOAD (INCLUSIVE OF ALL OVERLOAD FACTORS) TO BE APPLIED TO THE STRUCTURE IN PSF. A STRUCTURE WIND FACTOR OF 1.0 HAS BEEN APPLIED TO "W".
 - THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL CENTERLINE OF THE STRUCTURE AND THE WIND DIRECTION AS SHOWN ON THE LOADING TREE DIAGRAM.
 - THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
 - STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
 - AHEAD SPANS ONLY INSTALLED.
 - BACK SPANS ONLY INSTALLED.
 - STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
 - DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
 - POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

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A	2/18/26	NHZ	SEB	ISSUED FOR BID

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BURNS MCDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT

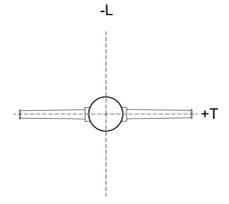
Midwest Energy, Inc.
 1330 Canterbury Rd.
 Hays, Kansas 67601
 (785) 625-3437

CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 80-95° DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

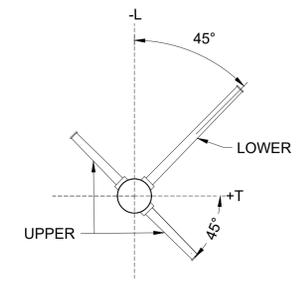
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drawing	TW-04	rev.	A
sheet	3	of	5 sheets
file	TW-04.dwg		

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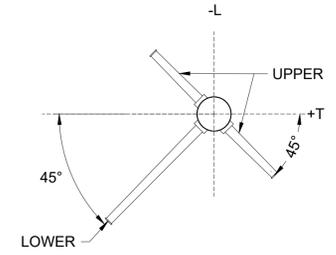
no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID



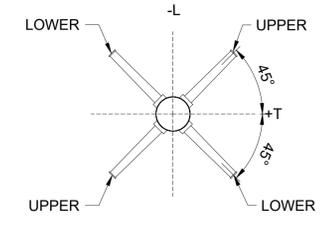
STR. 50
PLAN VIEW



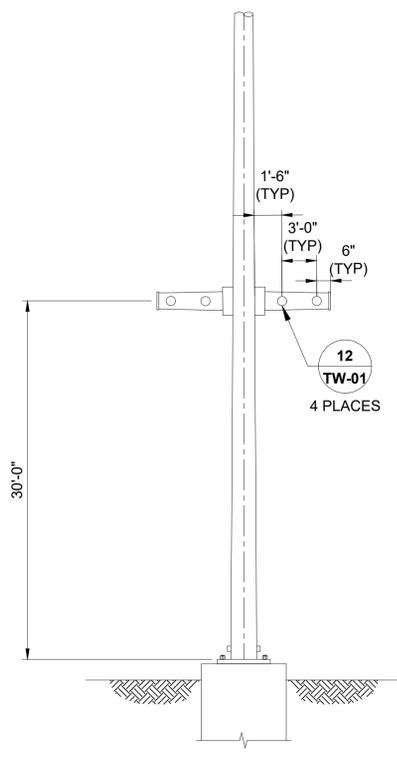
STR. 60
PLAN VIEW



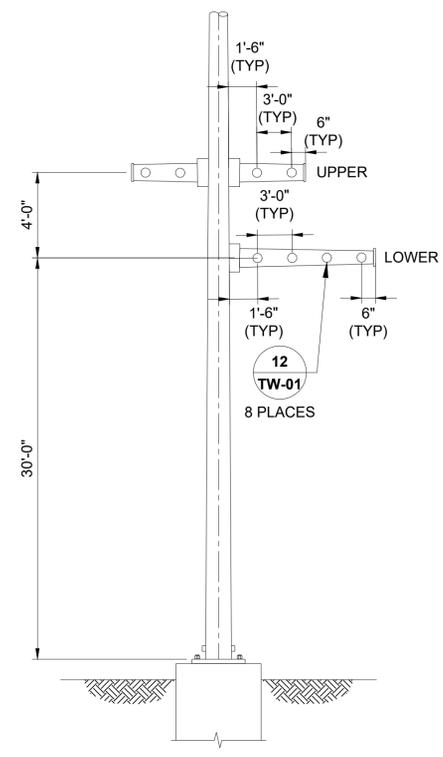
STR. 71
PLAN VIEW



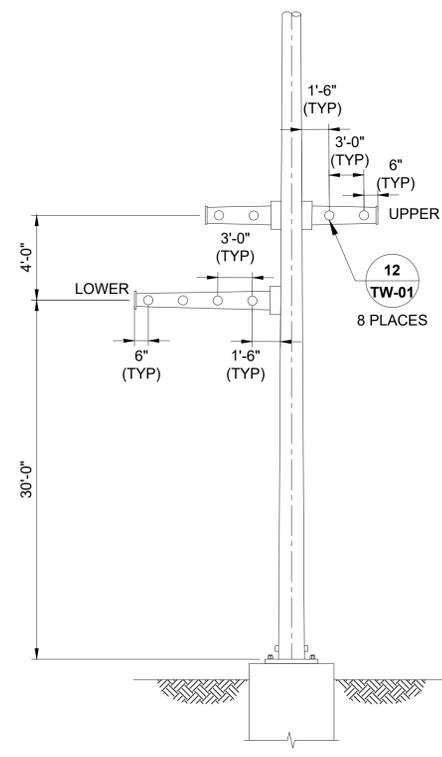
STR. 92
PLAN VIEW



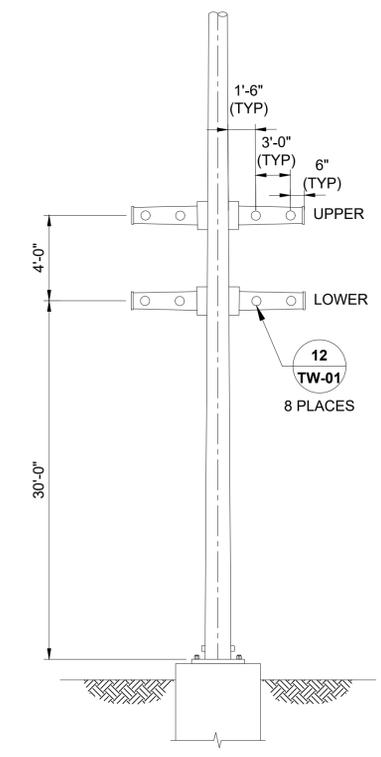
STR. 50



STR. 60



STR. 71



STR. 92

Scale For Microfilming
Millimeters
Inches

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- NOTES:
 1. REFER TO SHEET 1 FOR TRANSMISSION ARRANGEMENT.
 2. REFER TO SHEET 5 FOR LOAD TABLES.

ISSUED FOR REVIEW

BURNS & MCDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT

 Midwest Energy, Inc.
 1330 Canterbury Rd.
 Hays, Kansas 67601
 (785) 625-3437

CHETOLAH CREEK-NORTH HAYS
 115-kV LINE 115.76
 80-95° DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

project	177862	contract	
drawing	TW-04	rev.	A
sheet	4	of	5 sheets
file	TW-04.dwg		

UNDERBUILD LOAD TABLE STR. 50:

CONDUCTOR: 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS AHEAD @ 250B INITIAL)

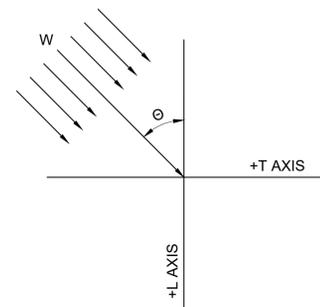
WIND SPAN: 150 FT AHEAD

WEIGHT SPAN: 200 FT AHEAD

RULING SPAN: 200-300 FT AHEAD

LINE ANGLE: 0-10 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VD (K)	TD (K)	LD (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	1.42	0.96	-8.40	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.68	0.59	-3.90	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.68	0.63	-4.11	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	1.13	0.66	-5.44	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	1.34	0.49	-5.66	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.68	0.17	-1.90	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	2.88	0.56	-5.90	4.7	90	1.5



UNDERBUILD LOADS STR. 60:

UNDERBUILD (L1 & U)

CONDUCTOR: 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS AHEAD AND BACK @ 250B INITIAL)

WIND SPAN: 150 FT AHEAD AND BACK

WEIGHT SPAN: 250 FT AHEAD/250 FT BACK

RULING SPAN: 200-300 FT AHEAD/BACK

LINE ANGLE: 80-95 DEGREES

UNDERBUILD (L2)

CONDUCTOR: 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS @ 250B INITIAL)

WIND SPAN: 100 FT

WEIGHT SPAN: 200 FT

RULING SPAN: 50-100 FT

LINE ANGLE: 45 DEGREES FROM L-AXIS

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VDU (K)	TDU (K)	LDU (K)	VL1 (K)	TL1 (K)	LL1 (K)	VL2 (K)	TL2 (K)	LL2 (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	1.53	6.43	-6.44	1.53	6.43	6.44	1.42	-6.59	-6.43	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.71	3.12	-2.99	0.78	3.12	2.99	0.68	-2.63	-2.46	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.71	3.31	-3.15	0.78	3.31	3.15	0.68	-2.70	-2.52	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	1.23	4.20	-4.17	1.23	4.20	4.17	1.13	-3.78	-3.65	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	1.48	4.17	-4.33	1.48	4.17	4.33	1.34	-3.40	-3.40	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.71	1.40	-1.45	0.71	1.40	1.45	0.68	-1.51	-1.51	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	1.07	4.40	-4.52	3.03	4.40	4.52	3.27	-5.24	-5.21	4.7	90	1.5

UNDERBUILD LOAD TABLE STR. 71 & 92:

CONDUCTOR: 1-477 KCMIL 26/7 "HAWK" ACSR PER PHASE (TENSION LIMIT: 5,100 LBS AHEAD AND BACK @ 250B INITIAL)

WIND SPAN: 150 FT AHEAD AND BACK

WEIGHT SPAN: 200 FT AHEAD/250 FT BACK

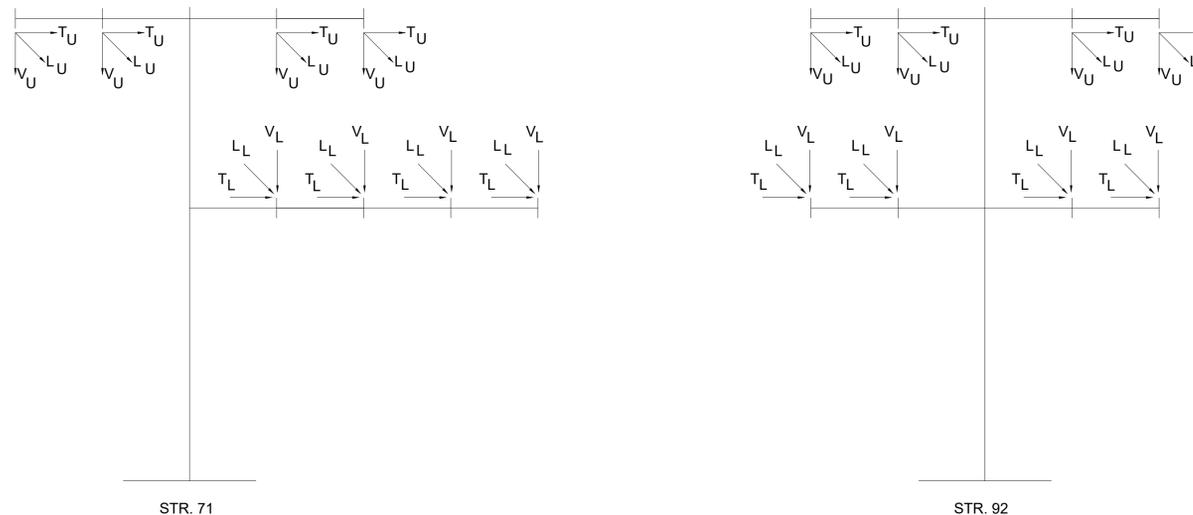
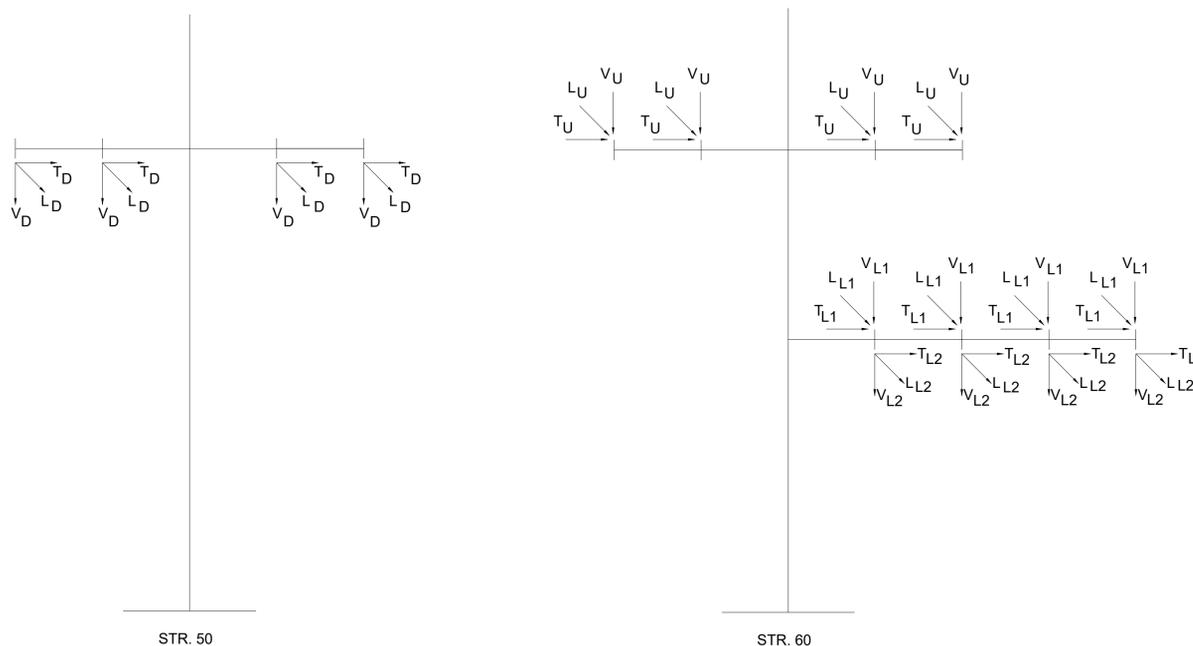
RULING SPAN: 200-300 FT BACK

LINE ANGLE: 80-95 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VU (K)	TU (K)	LU (K)	VL (K)	TL (K)	LL (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	1.42	6.43	-6.44	1.53	6.43	6.44	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.71	3.12	-2.99	0.78	3.12	2.99	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.71	3.31	-3.15	0.78	3.31	3.15	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	1.13	4.20	-4.17	1.23	4.20	4.17	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	1.34	4.17	-4.33	1.48	4.17	4.33	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.68	1.40	-1.45	0.71	1.40	1.45	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	1.07	4.40	-4.52	3.03	4.40	4.52	4.7	90	1.5

NOTES:

- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
- V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
- W IS THE WIND LOAD (INCLUSIVE OF ALL OVERLOAD FACTORS) TO BE APPLIED TO THE STRUCTURE IN PSF. A STRUCTURE WIND FACTOR OF 1.0 HAS BEEN APPLIED TO "W".
- THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL CENTERLINE OF THE STRUCTURE AND THE WIND DIRECTION AS SHOWN ON THE LOADING TREE DIAGRAM.
- THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
- STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
 - AHEAD SPAN ONLY INSTALLED.
 - BACK SPAN ONLY INSTALLED.
 - ALL WIRES INSTALLED EXCEPT L2 (STR. 60 ONLY).
- STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
- DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
- POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.



no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

ISSUED FOR REVIEW



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. E-65

date	detailed
DECEMBER 12, 2025	M. PEPICH
designed	checked
N. ZLATANOVA	J. SEBOLT



Midwest Energy, Inc.
1330 Canterbury Rd.
Hays, Kansas 67601
(785) 625-3437

CHETOLAH CREEK-NORTH HAYS
115-KV LINE 115.76
80-95° DEADEND STEEL STRUCTURE
LOAD AND DESIGN DRAWING

project	contract
177862	
drawing	rev.
TW-04	- A
sheet 5	of 5 sheets
file TW-04.dwg	

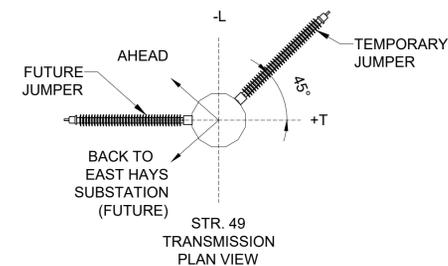
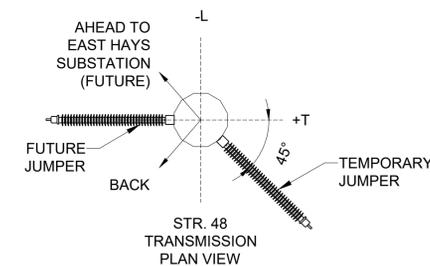
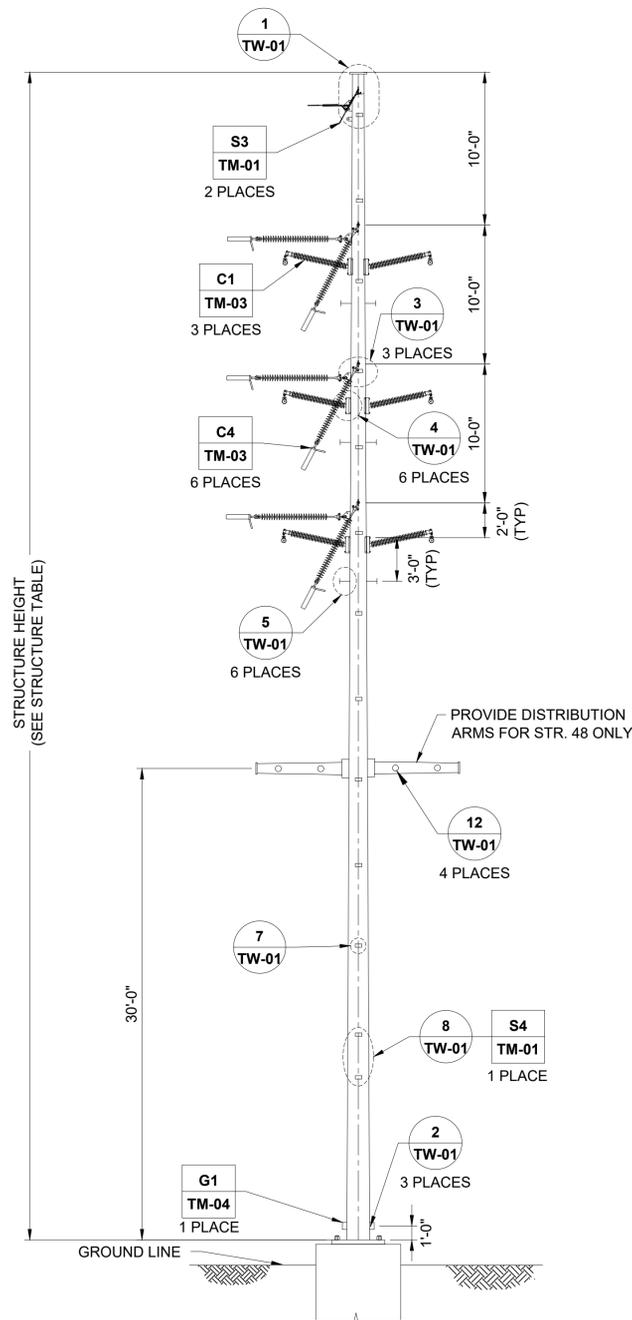
Millimeters

Scale For Microfining

Inches

STRUCTURE TABLE			
STR. NO.	LINE ANGLE (DEG)	STRUCTURE HEIGHT (FT)	UNDERBUILD
48	-89.6	75	YES
49	-86.9	75	NO

HARDWARE ARRANGEMENT TABLE				
QTY	STRUCTURE NUMBER	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
2	48, 49	2-S3, 1-S4	3-C1, 6-C4	1-G1



- NOTES:
 1. SEE DRAWING ST-01, FOR STAKING COORDINATES.
 2. SEE DRAWING TW-01, FOR STEEL POLE DETAILS.

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

ISSUED FOR REVIEW



9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	J. HUTTON
designed	N. ZLATANOVA	checked	J. SEBOLT



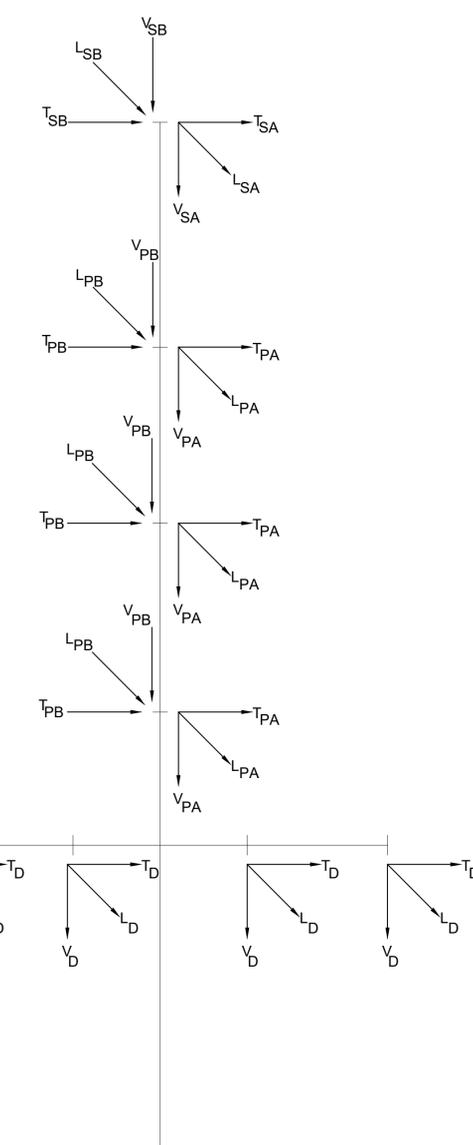
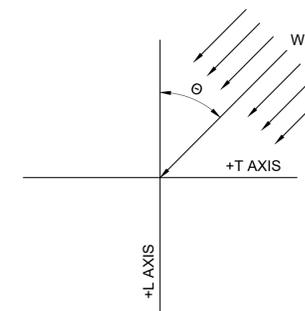
CHETOLAH CREEK-NORTH HAYS
 115-kV LINE 115.76
 DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

project	177862	contract	
drawing	TW-05	rev.	A
sheet	1	of	2 sheets
file	TW-05.dwg		

LOAD TABLE STR. 48 & 49

CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 1,000 LBS AHEAD/8,250 LBS BACK @ 250B INITIAL)
 OPGW: DNO-13045 (TENSION LIMIT: 750 LBS AHEAD/3,500 LBS BACK @ 250B INITIAL)
 WIND SPAN: 100 FT AHEAD/250 FT BACK
 WEIGHT SPAN: 400 FT AHEAD/300 FT BACK
 RULING SPAN: 50-100 FT AHEAD/200-400 FT BACK
 LINE ANGLE: 80-95 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VSA (K)	TSA (K)	LSA (K)	VSB (K)	TSB (K)	LSB (K)	VPA (K)	TPA (K)	LPA (K)	VPB (K)	TPB (K)	LPB (K)	STR. 48 ONLY			W	θ	K
																VD (K)	TD (K)	LD (K)			
1 NESC HEAVY (250B)	39.5	0.50	0	1.08	4.87	-4.73	0.93	1.04	0.95	2.44	10.51	-10.42	2.07	1.40	1.26	1.42	-6.43	6.44	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.58	2.28	-2.11	0.47	0.47	0.39	1.49	5.49	-5.05	1.09	0.91	0.69	0.71	-3.12	2.99	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.58	2.43	-2.24	0.47	0.52	0.42	1.49	5.85	-5.36	1.09	0.99	0.74	0.71	-3.31	3.15	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.94	3.40	-3.26	0.78	0.79	0.71	1.99	6.91	-6.79	1.67	1.03	0.91	1.13	-4.20	4.17	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	1.22	3.37	-3.51	0.99	0.77	0.80	2.41	6.86	-7.13	2.00	1.00	1.04	1.34	-4.17	4.33	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.43	1.14	-1.19	0.43	0.13	0.13	0.95	2.40	-2.49	0.95	0.32	0.33	0.68	-1.40	1.45	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	2.11	3.33	-3.41	0.70	0.28	0.27	4.61	7.10	-7.24	1.63	0.57	0.54	2.93	-4.40	4.52	4.7	90	1.5



FOR STR. 48 ONLY

LOADING DIAGRAM
NOT TO SCALE

- NOTES:
- ALL INDICATED LOADS ARE ULTIMATE LOADS AND INCLUDE ALL OVERLOAD FACTORS. STRUCTURES SHALL BE DESIGNED WITH A MATERIAL STRENGTH FACTOR OF 1.0.
 - V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
 - W IS THE WIND LOAD (INCLUSIVE OF ALL OVERLOAD FACTORS) TO BE APPLIED TO THE STRUCTURE IN PSF. A STRUCTURE WIND FACTOR OF 1.0 HAS BEEN APPLIED TO "W".
 - THETA (θ) IS THE ANGLE IN DEGREES BETWEEN THE LONGITUDINAL CENTERLINE OF THE STRUCTURE AND THE WIND DIRECTION AS SHOWN ON THE LOADING TREE DIAGRAM.
 - THE DEAD LOAD OF THE STRUCTURE SHALL BE MULTIPLIED BY K.
 - STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING SITUATIONS:
 - ALL WIRES INSTALLED.
 - AHEAD SPANS ONLY INSTALLED.
 - BACK SPANS ONLY INSTALLED.
 - STRUCTURE SHALL BE DESIGNED TO WITHSTAND A WIND LOAD ON STRUCTURE ONLY (NO WIRES INSTALLED) OF 25.6 PSF APPLIED IN THE MOST CONSERVATIVE DIRECTION PER NESC RULE 261. A.1.C.
 - DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
 - POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

ISSUED FOR REVIEW



date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT



CHETOLAH CREEK-NORTH HAYS
115-KV LINE 115.76
DEADEND STEEL STRUCTURE
LOAD AND DESIGN DRAWING

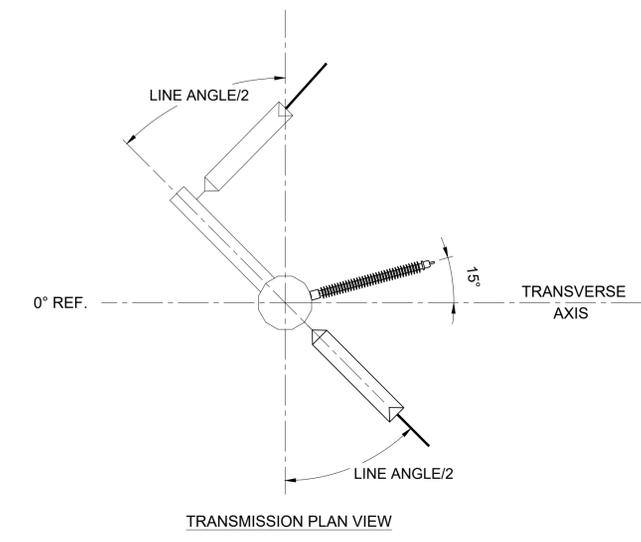
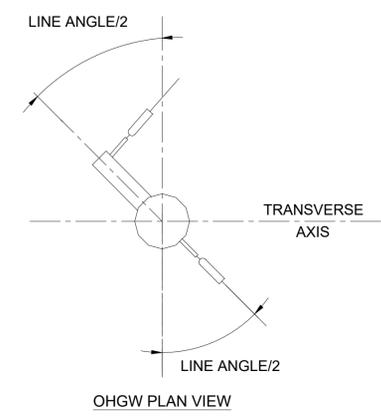
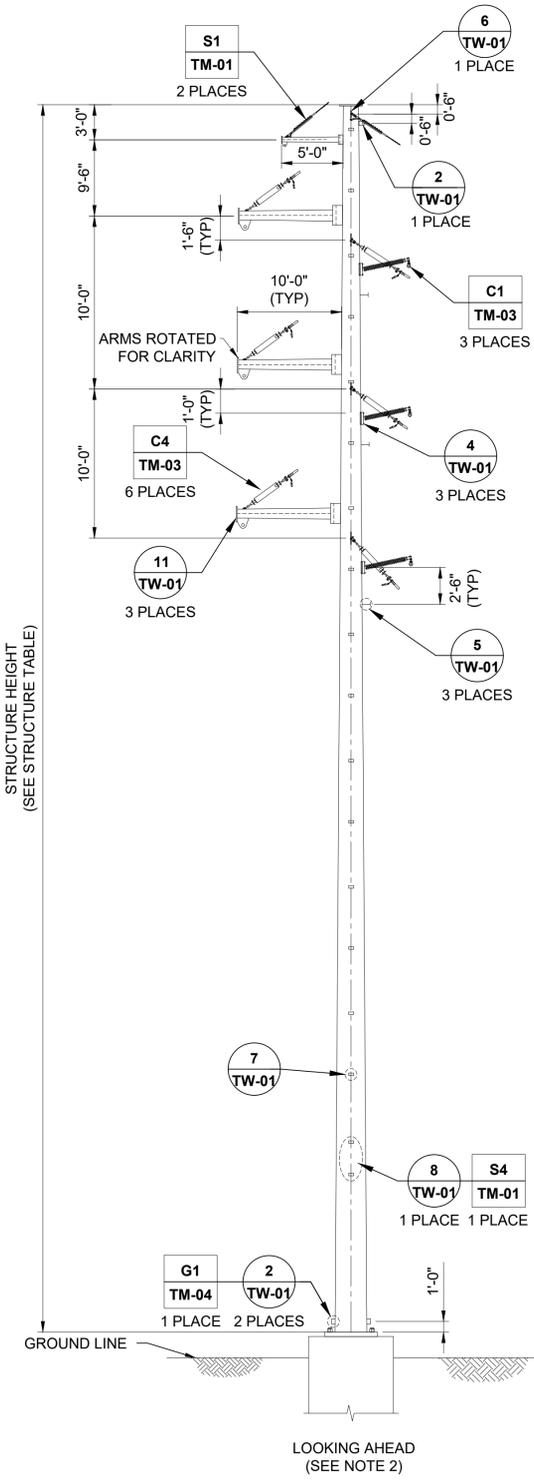
project	177862	contract	
drawing	TW-05	rev.	A
sheet	2	of	2 sheets
file	TW-05.dwg		



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STRUCTURE TABLE		
STR. NO.	LINE ANGLE (DEG)	STRUCTURE HEIGHT (FT)
147	87.8	65

HARDWARE ARRANGEMENT TABLE				
QTY	STRUCTURE NUMBER	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
1	147	2-S3, 1-S4	3-C1, 6-C4	1-G1



- NOTES:
1. SEE DRAWING ST-01, FOR STAKING COORDINATES.
 2. LOOKING "AHEAD" REFERS TO LOOKING IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 3. SEE DRAWING TW-01 FOR STEEL POLE DETAILS.

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

ISSUED FOR REVIEW

BURNS & MCDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	J. HUTTON
designed	N. ZLATANOVA	checked	J. SEBOLT

Midwest Energy, Inc.
 1330 Canterbury Rd.
 Hays, Kansas 67601
 (785) 625-3437

CHETOLAH CREEK-NORTH HAYS
 115-kV LINE 115.76
 80-95° DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

project	177862	contract	
drawing	TW-06	rev.	A
sheet	1	of	2 sheets
file	TW-06.dwg		

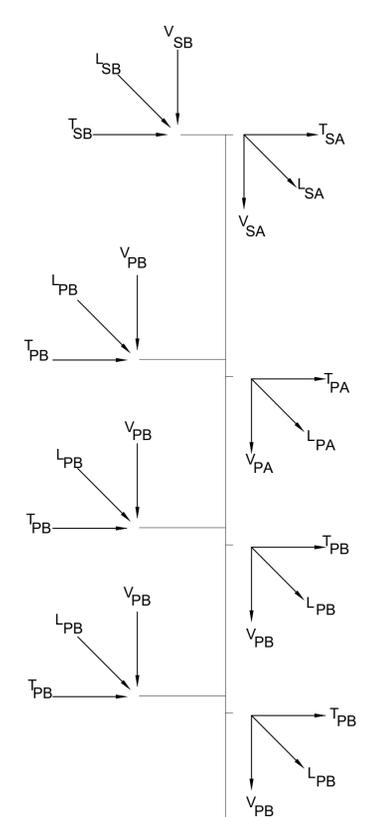
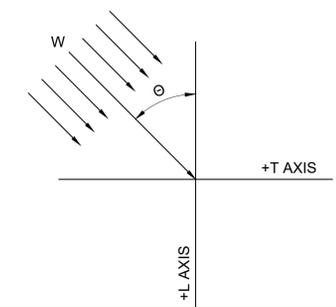
Scale For Microfilming
 Millimeters
 Inches

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LOAD TABLE STR. 147

CONDUCTOR: 1-1192.5KCMIL 45/7 "BUNTING" ACSR PER PHASE (TENSION LIMIT: 1,000 LBS AHEAD/7,500 LBS BACK @ 250B INITIAL)
 OPGW: DNO-13045 (TENSION LIMIT: 1,000 LBS AHEAD/3,500 LBS BACK @ 250B INITIAL)
 WIND SPAN: 100 FT AHEAD/200 FT BACK
 WEIGHT SPAN CONDUCTOR: 150 FT AHEAD AND BACK
 WEIGHT SPAN OPGW: 300 FT AHEAD/250 FT BACK
 RULING SPAN: 50-200 FT AHEAD/200-400 FT BACK
 LINE ANGLE: 80-95 DEGREES

LOAD CASES	WIND (MPH)	ICE (IN)	TEMP (°F)	VSA (K)	TSA (K)	LSA (K)	VSB (K)	TSB (K)	LSB (K)	VPA (K)	TPA (K)	LPA (K)	VPB (K)	TPB (K)	LPB (K)	W	θ	K
1 NESC HEAVY (250B)	39.5	0.50	0	0.93	1.95	-1.89	0.86	4.51	4.42	1.52	1.40	-1.26	1.52	9.50	9.47	10.0	90	1.5
2 NESC EXTREME WIND (250C)	95.0	0.00	60	0.52	0.87	-0.80	0.43	2.08	1.95	0.75	0.94	-0.71	0.75	4.99	4.67	23.1	90	1.0
3 MWE EXTREME WIND	100.0	0.00	60	0.52	0.94	-0.86	0.41	2.23	2.08	0.75	1.02	-0.77	0.75	5.34	4.97	25.6	90	1.0
4 COMBINED ICE/WIND (250D)	50.0	0.75	15	0.78	1.46	-1.40	0.71	3.18	3.08	1.18	1.03	-0.92	1.18	6.34	6.28	6.4	90	1.0
5 EXTREME ICE	0.0	1.00	32	0.99	1.51	-1.57	0.99	3.22	3.34	1.37	1.02	-1.06	1.37	6.42	6.67	0.0	90	1.0
6 DEFLECTION	0.0	0.00	60	0.43	0.27	-0.28	0.43	0.99	1.03	0.75	0.33	-0.34	0.75	2.21	2.29	0.0	90	1.0
7 CONSTRUCTION	35.0	0.00	15	0.68	1.13	-1.15	1.90	2.97	3.04	1.13	0.57	-0.54	3.69	6.09	6.22	4.7	90	1.5



LOADING DIAGRAM
NOT TO SCALE

Scale For Microfitting
Millimeters
Inches

- NOTES:**
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 - V, T, & L ARE IN KIPS AND ARE THE LOADS IN THE DIRECTION OF THE STRUCTURE VERTICAL, TRANSVERSE, AND LONGITUDINAL AXIS RESPECTIVELY.
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 - AHEAD SPANS ONLY INSTALLED.
 - BACK ONLY SPANS INSTALLED.
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 - DEFLECTION SHALL BE LIMITED TO 1% OF STRUCTURE HEIGHT UNDER LOAD CASE 6 AND 10% OF STRUCTURE HEIGHT UNDER LOAD CASES 1,3 AND 4 FOR ALL LOADING CONDITIONS PER NOTE 6. LIMITS SHALL BE MET WITHOUT CAMBERING OF STRUCTURE.
 - POLE DESIGN SHALL ACCOUNT FOR ECCENTRIC LOADING DUE TO DEFLECTED SHAPE OF STRUCTURE PLUS A FOUNDATION ROTATION OF 2.0 DEGREES FOR LOAD CASES 1 THRU 5.

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID

ISSUED FOR REVIEW

BURNS & MCDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSEE NO. E-65

date	DECEMBER 12, 2025	detailed	M. PEPICH
designed	N. ZLATANOVA	checked	J. SEBOLT

Midwest Energy, Inc.
 1330 Canterbury Rd.
 Hays, Kansas 67601
 (785) 625-3437

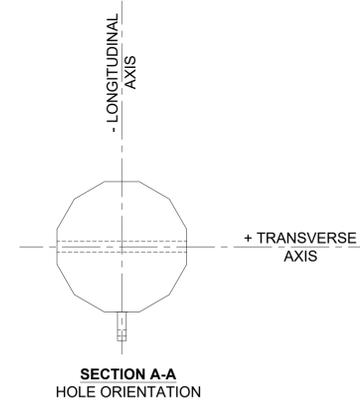
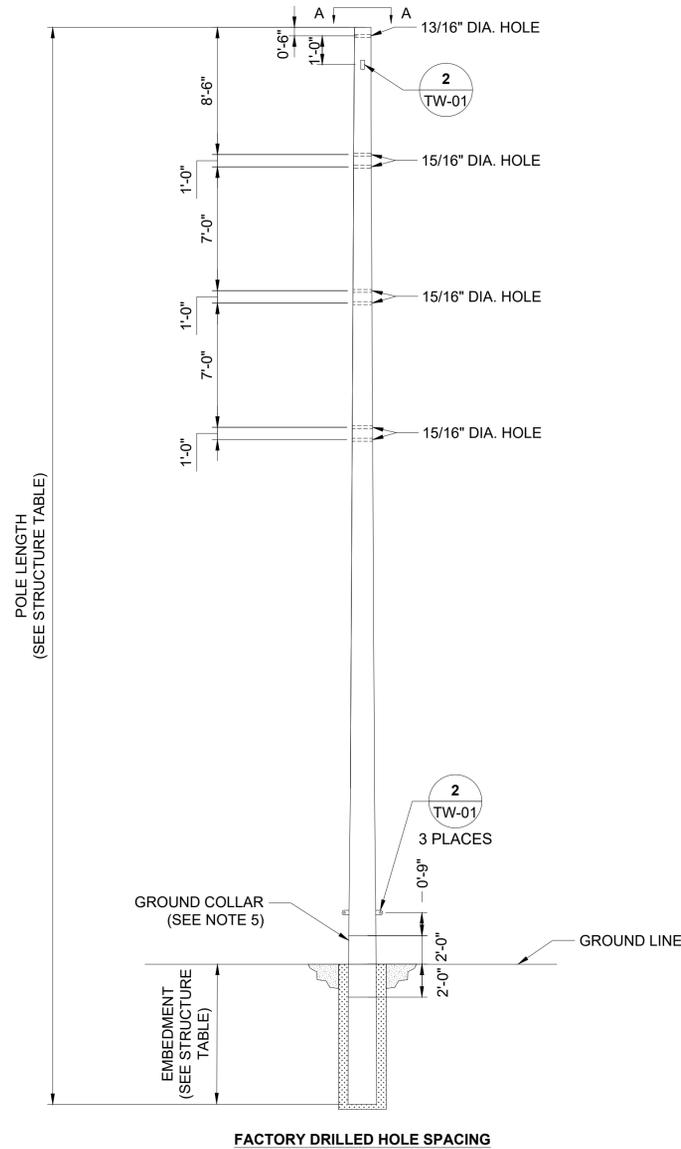
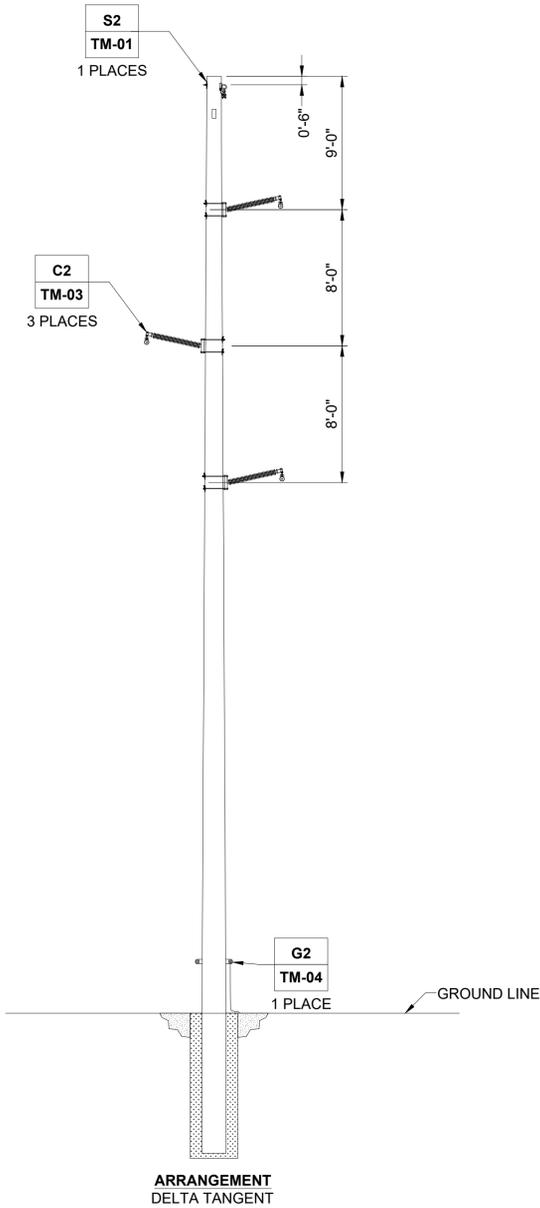
CHETOLAH CREEK-NORTH HAYS
 115-KV LINE 115.76
 80-95° DEADEND STEEL STRUCTURE
 LOAD AND DESIGN DRAWING

project	177862	contract	
drawing	TW-06	rev.	A
sheet	2	of	2 sheets
file TW-06.dwg			

HARDWARE ARRANGEMENT TABLE		
SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
1-S2	3-C2	1-G2

STRUCTURE TABLE				
POLE CLASS	POLE LENGTH (FT)	EMBEDMENT (FT)	QTY	STRUCTURE NUMBERS
H1	75	13.5	6	115, 116, 117, 118, 119, 120
	80	14	1	146
	80	16	3	26, 142, 143
H2	75	13.5	2	14, 15
	75	15.5	3	32, 34, 131
	80	14	3	16, 17, 114
	80	16	23	9, 13, 19, 20, 27, 28, 29, 31, 33, 35, 36, 122, 123, 124, 125, 126, 127, 128, 129, 130, 133, 140, 141
	85	14.5	2	8, 10
	85	16.5	7	18, 25, 37, 132, 134, 139, 145
	90	15	3	11, 12, 135
	95	15.5	3	2, 3, 7
	95	17.5	1	138
	100	16	1	4
H3	90	15	1	24
	100	16	2	136, 137
	110	17	1	5

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID



- NOTES:
- DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH SPEC 33 71 16 23 - TUBULAR STEEL STRUCTURES.
 - STRUCTURES TO BE GALVANIZED.
 - SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - STRUCTURE GEOMETRY IS SHOWN LOOKING AHEAD, IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - A GROUND COLLAR, MINIMUM 3/16 INCH THICK AND MADE FROM A572-65 STEEL, SHALL EXTEND 2 FEET ABOVE AND 2 FEET BELOW THE GROUND LINE. PLATE SHALL NOT BE INCLUDED IN DESIGN STRENGTH CALCULATIONS. CORROCOAT II OR SIMILAR SHALL BE APPLIED ON THE POLE SHAFT FROM 3 INCHES BELOW THE GROUND SLEEVE TO 3 INCHES ABOVE THE GROUND SLEEVE.

ISSUED FOR REVIEW



9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. E-65

date	DECMEBER 12, 2025	detailed	J. HUTTON
designed	J. KURPIUS	checked	J. SEBOLT

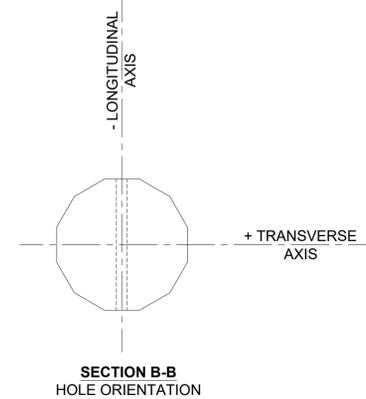
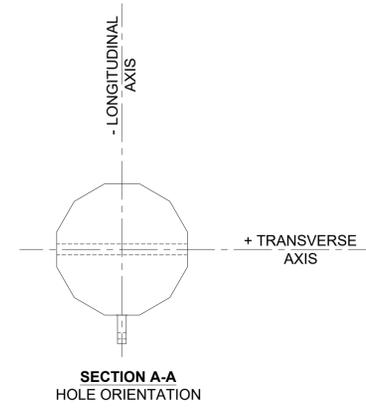
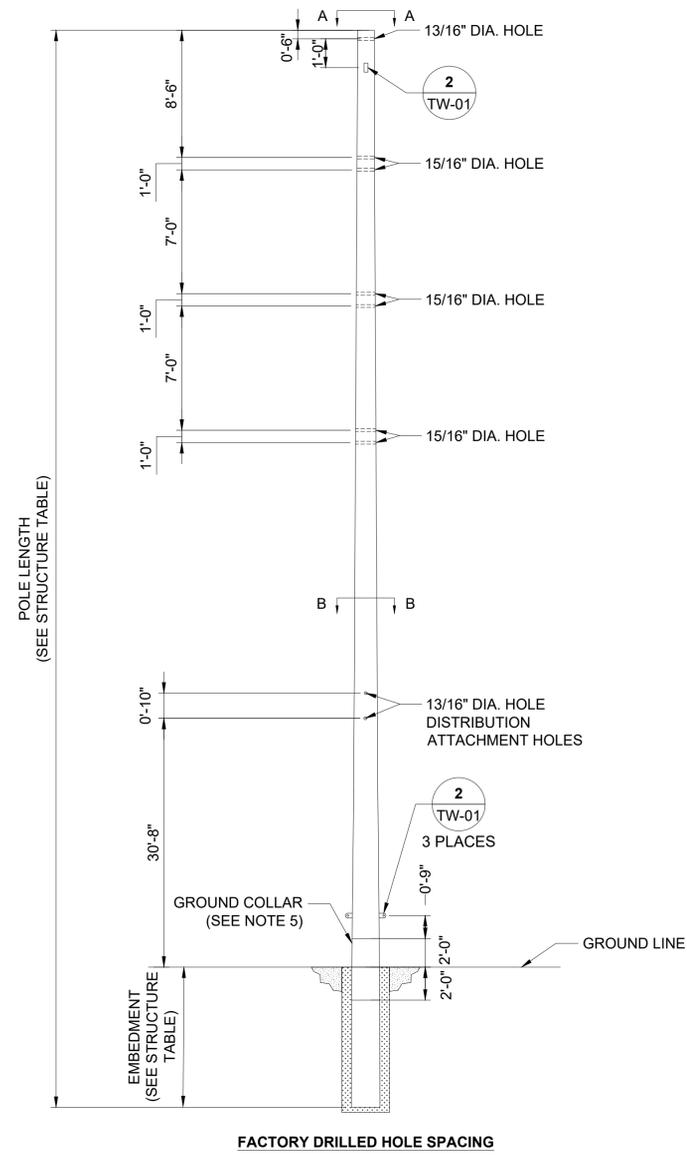
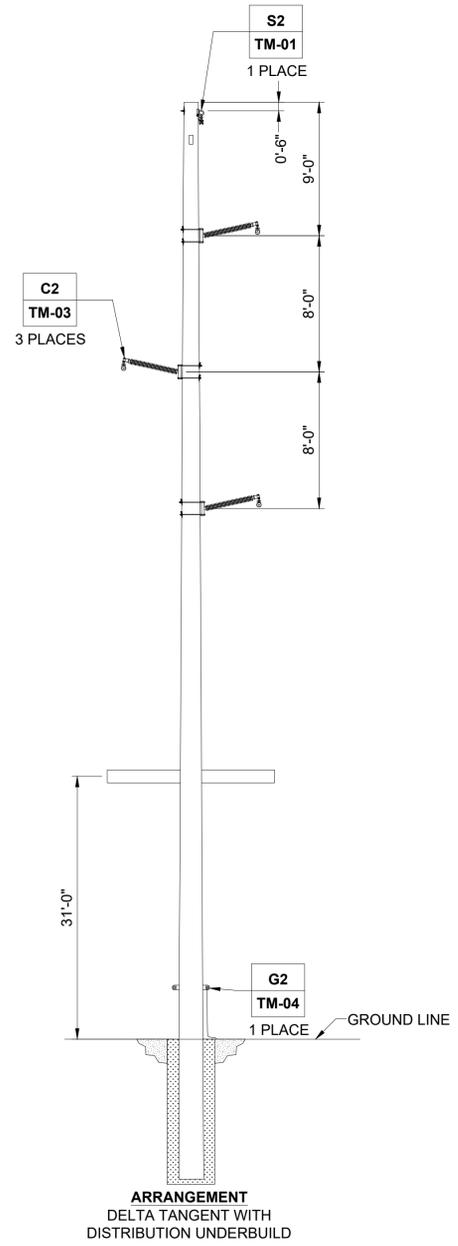
Midwest Energy, Inc.
1330 Canterbury Rd.
Hays, Kansas 67601
(785) 625-3437

CHETOLAH CREEK-NORTH HAYS	
115-kV LINE 115.76	
LIGHT DUTY STEEL STRUCTURE	
HARDWARE ARRANGEMENT AND DESIGN DRAWING	
project	contract
177862	
drawing	rev.
TW-07	- A
sheet 1 of 4 sheets	file TW-07.dwg

HARDWARE ARRANGEMENT TABLE		
SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
1-S2	3-C2	1-G2

STRUCTURE TABLE				
POLE CLASS	POLE LENGTH (FT)	EMBEDMENT (FT)	QTY	STRUCTURE NUMBERS
H2	80	14	3	68, 99, 106
	85	14.5	43	52, 53, 54, 55, 56, 57, 58, 62, 63, 64, 65, 66, 67, 69, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 93, 94, 95, 96, 97, 98, 100, 105, 107, 108, 109, 110
	85	16.5	8	39, 40, 41, 42, 43, 44, 45, 46
	90	15	3	51, 59, 72
	90	17	1	47
H3	85	14.5	2	90, 111
	85	16.5	2	101, 104
	90	15	3	61, 70, 91

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID



- NOTES:
- DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH SPEC 33 71 16 23 - TUBULAR STEEL STRUCTURES.
 - STRUCTURES TO BE GALVANIZED.
 - SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - STRUCTURE GEOMETRY IS SHOWN LOOKING AHEAD, IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - A GROUND COLLAR, MINIMUM 3/16 INCH THICK AND MADE FROM A572-65 STEEL, SHALL EXTEND 2 FEET ABOVE AND 2 FEET BELOW THE GROUND LINE. PLATE SHALL NOT BE INCLUDED IN DESIGN STRENGTH CALCULATIONS. CORROCOAT II OR SIMILAR SHALL BE APPLIED ON THE POLE SHAFT FROM 3 INCHES BELOW THE GROUND SLEEVE TO 3 INCHES ABOVE THE GROUND SLEEVE.

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designed	J. KURPIUS	checked	J. SEBOLT

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CHETOLAH CREEK-NORTH HAYS
 115-kV LINE 115.76
 LIGHT DUTY STEEL STRUCTURE
 HARDWARE ARRANGEMENT AND DESIGN DRAWING

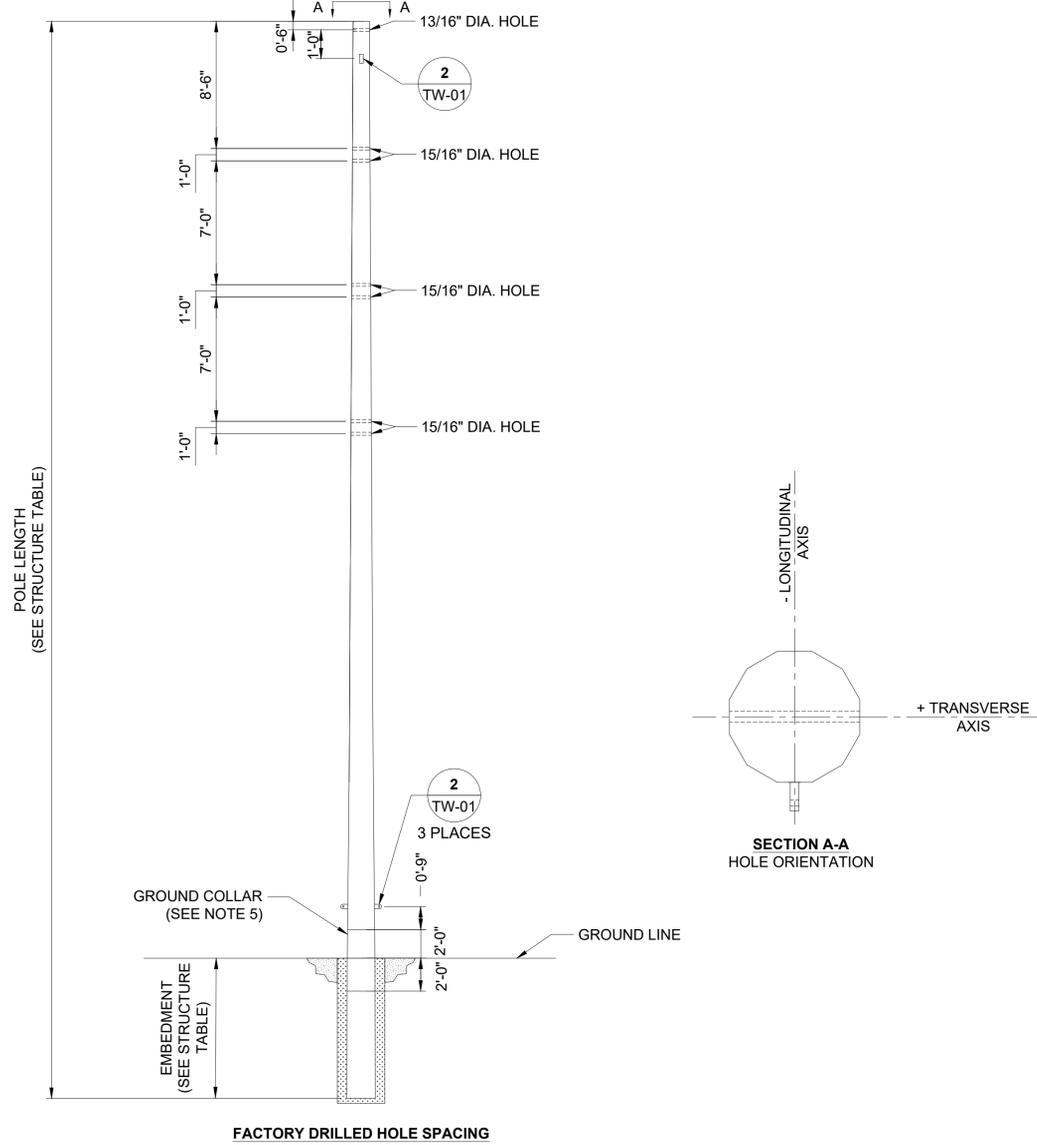
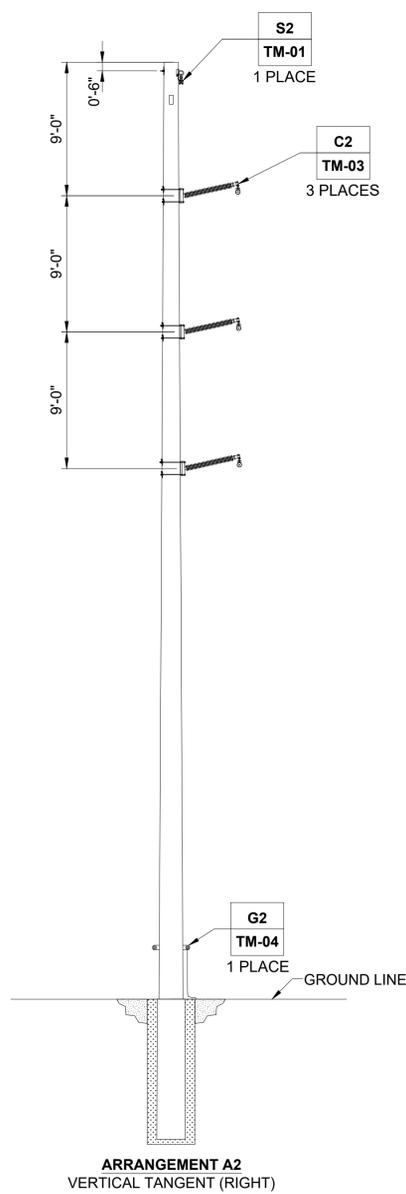
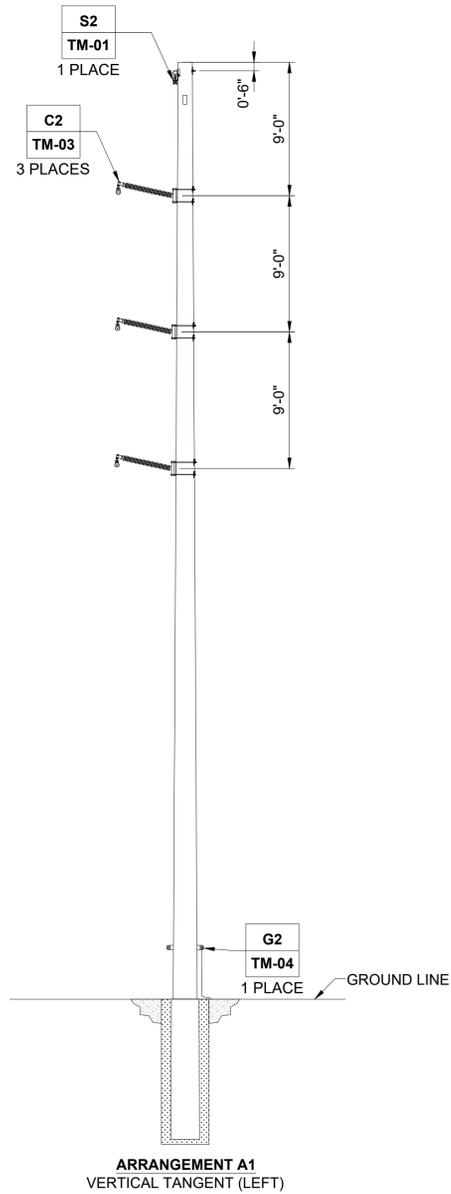
project	177862	contract	
drawing	TW-07	rev.	A
sheet	2	of	4 sheets
file	TW-07.dwg		

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HARDWARE ARRANGEMENT TABLE			
ARRANGEMENT	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
A1, A2	1-S2	3-C2	1-G2

STRUCTURE TABLE				
POLE CLASS	POLE LENGTH (FT)	EMBEDMENT (FT)	QTY	STRUCTURE NUMBERS
H2	95	15.5	1	23
	105	16.5	1	22

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID



- NOTES:**
- DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH SPEC 33 71 16 23 - TUBULAR STEEL STRUCTURES.
 - STRUCTURES TO BE GALVANIZED.
 - SEE DRAWING ST-01 FOR STAKING COORDINATES.
 - STRUCTURE GEOMETRY IS SHOWN LOOKING AHEAD, IN THE DIRECTION OF INCREASING STRUCTURE NUMBER.
 - A GROUND COLLAR, MINIMUM 3/16 INCH THICK AND MADE FROM A572-65 STEEL, SHALL EXTEND 2 FEET ABOVE AND 2 FEET BELOW THE GROUND LINE. PLATE SHALL NOT BE INCLUDED IN DESIGN STRENGTH CALCULATIONS. CORROCOAT II OR SIMILAR SHALL BE APPLIED ON THE POLE SHAFT FROM 3 INCHES BELOW THE GROUND SLEEVE TO 3 INCHES ABOVE THE GROUND SLEEVE.

ISSUED FOR REVIEW

BURNS & McDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSE NO. E-65

date DECMEBER 12, 2025	detailed J. HUTTON
designed J. KURPIUS	checked J. SEBOLT

Midwest Energy, Inc.
 1330 Canterbury Rd.
 Hays, Kansas 67601
 (785) 625-3437

CHETOLAH CREEK-NORTH HAYS	
115-kV LINE 115.76	
LIGHT DUTY STEEL STRUCTURE	
HARDWARE ARRANGEMENT AND DESIGN DRAWING	
project 177862	contract
drawing TW-07	rev. A
sheet 3	of 4 sheets
file TW-07.dwg	

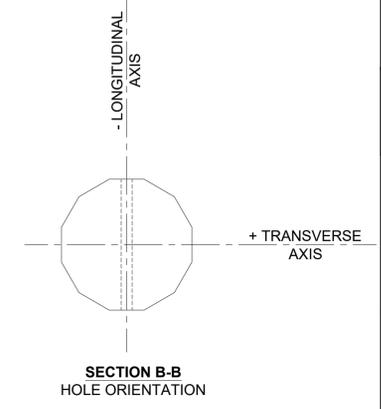
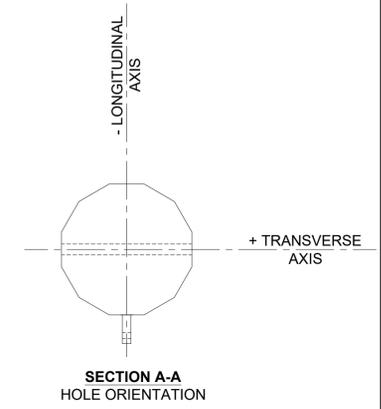
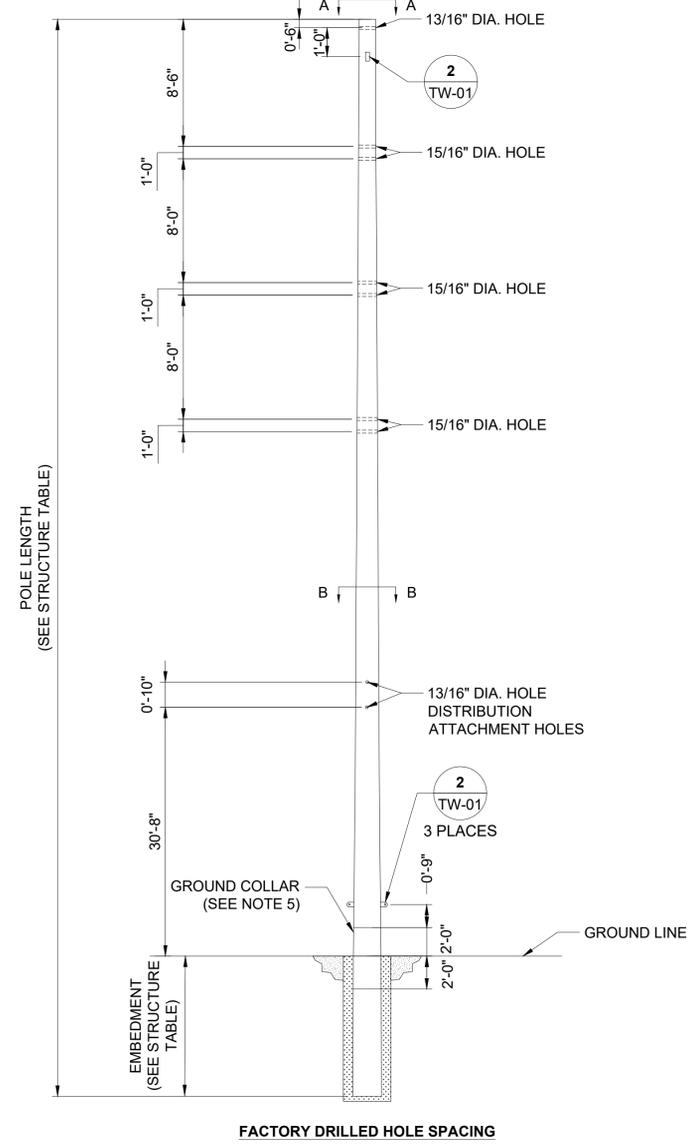
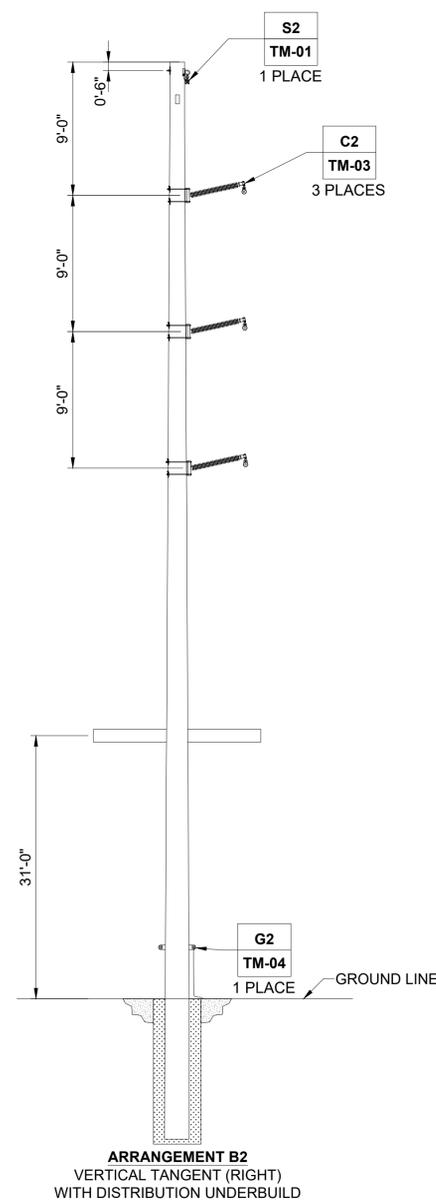
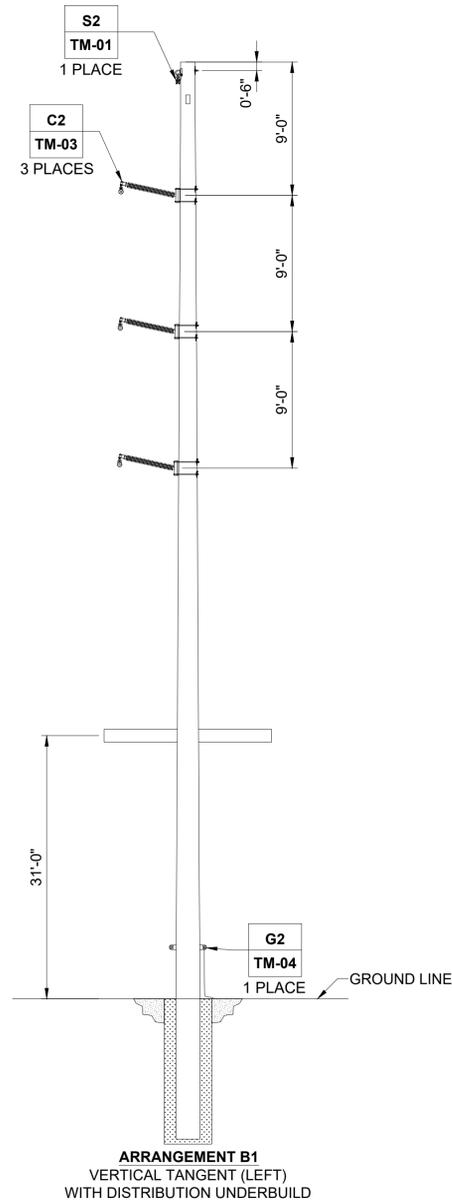


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HARDWARE ARRANGEMENT TABLE			
ARRANGEMENT	SHIELD WIRE ASSEMBLIES (QTY-ASSY)	CONDUCTOR ASSEMBLIES (QTY-ASSY)	GROUNDING ASSEMBLIES (QTY-ASSY)
B1, B2	1-S2	3-C2	1-G2

STRUCTURE TABLE				
POLE CLASS	POLE LENGTH (FT)	EMBEDMENT (FT)	QTY	STRUCTURE NUMBERS
H3	85	14.5	1	103
	90	17	1	102

no.	date	by	ckd	description
A	2/18/26	NHZ	SEB	ISSUED FOR BID



- NOTES:**
- DESIGN AND FABRICATION TO BE IN ACCORDANCE WITH SPEC 33 71 16 23 - TUBULAR STEEL STRUCTURES.
 - STRUCTURES TO BE GALVANIZED.
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