

REVISIONS					APPROVALS		DATE		DESIGN DATA	
15	REC - KOB, MBS & AUSTIN - CAPT BROOKINGS 2ND CIRCUIT	SEC	SEC	JIK	1/2/2024	DRAWN BY:	SEC	1/2/2024	CONDUCTOR:	0972 - 954 ACSS/TW 20/7
14	INSTALL 3RD CIRCUIT & REPLACE OPGW FROM BOKLYC	MWB	TTP	JMMC	9/13/2019	DESIGN BY:	SEC			5653 - 2 X 397.5 ZTACSR 26/7 VR2
13	AS-BUILT WGS #0972	MWB	MWB	HWD	4/22/2016	CHECKED BY:	JIK	1/2/2024		SHIELD WIRE: 0972 - DNO-10723 OPGW
12	AS-BUILT WGS #0972	MWB	MWB	HWD	5/11/2015	APPROVED BY:	JPW	1/2/2024		5653 - 3/8 EHS
11	SWAPPED STRUCTURE #031 WITH #04 (145') IN SEG 7	MWB	MWB	HWD	7/25/2014					
REV	DESCRIPTION		DWN	DGN	CHK	DATE				



GREAT RIVER ENERGY

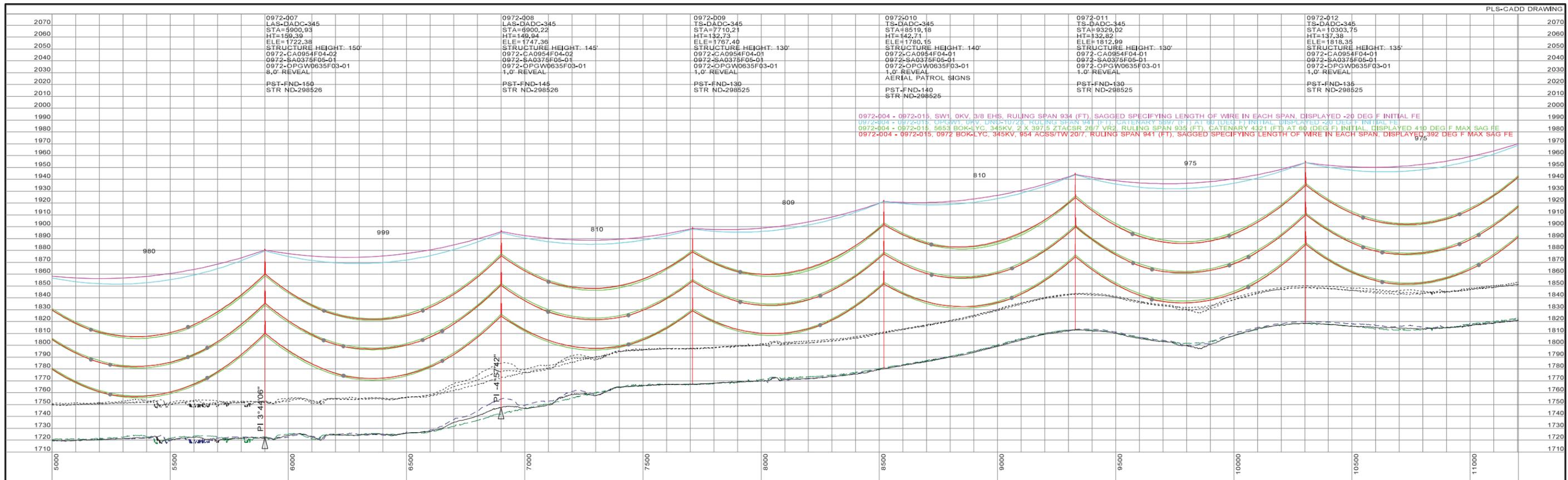
BROOKINGS - LYON COUNTY
 345 KV DOUBLE CIRCUIT TRANSMISSION LINE



LINES 0972/5653
 NX-298943



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 SHEET 1 OF 56



0972-004 - 0972-015, SW1, 0KV, 3/8 EHS, RULING SPAN 934 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED -20 DEG F INITIAL FE
 0972-004 - 0972-015, OPGW, URV, DNO-10723, RULING SPAN 941 (FT), CATENARY 5397 (FT) AT 60 (DEG F) INITIAL, DISPLAYED -20 DEG F INITIAL FE
 0972-004 - 0972-015, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 935 (FT), CATENARY 4321 (FT) AT 60 (DEG F) INITIAL, DISPLAYED 410 DEG F MAX SAG FE
 0972-004 - 0972-015, 0972 BOK-LYC, 345KV, 954 ACSS/TW 20/7, RULING SPAN 941 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED 392 DEG F MAX SAG FE



NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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LINES 0972/5653
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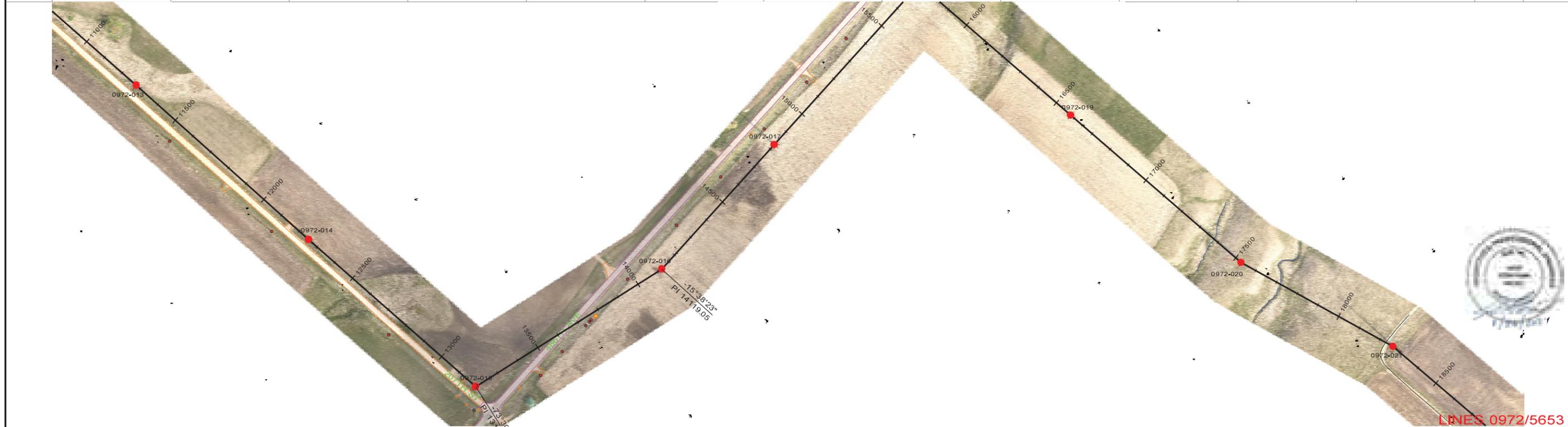
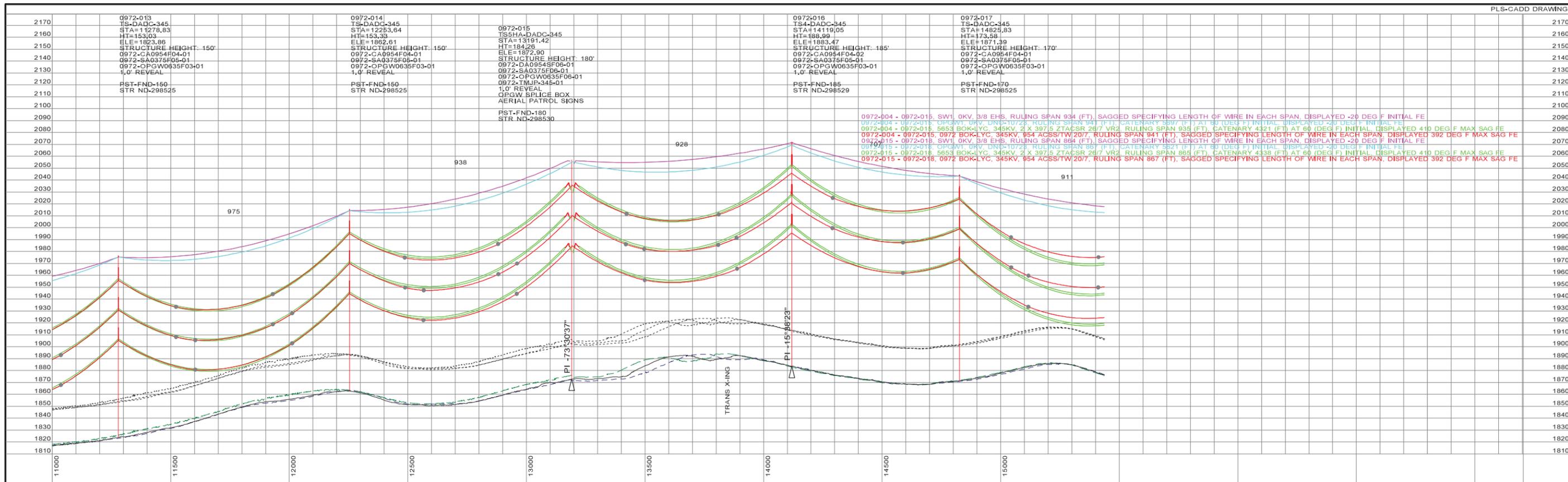
REV	DESCRIPTION	DWN	DGN	CHK	DATE	APPROVALS	DATE	DESIGN DATA
15	INC - K&S, WBS # A000100 - DATA BROUGHT FROM 2ND CIRCUIT	SEC	SEC	JIK	1/2/2024	APPROVED BY: JPW	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS
14	INSTALL 2ND CIRCUIT & REPLACE OPGW FROM BOK-LYC	SEC	TTP	JMMC	9/13/2019	DRAWN BY: SEC	1/2/2024	
13	AS-BUILT WGS #0972	MWB	MWB	HWD	4/22/2016	DESIGN BY: SEC		
12	AS-BUILT WGS #0973	MWB	MWB	HWD	5/11/2015	CHECKED BY: JIK	1/2/2024	
11	SWAPPED STRUCTURE #011 WITH #04 (145') IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014	APPROVED BY: JPW	1/2/2024	

GREAT RIVER ENERGY

BROOKINGS - LYON COUNTY
345 KV DOUBLE CIRCUIT TRANSMISSION LINE



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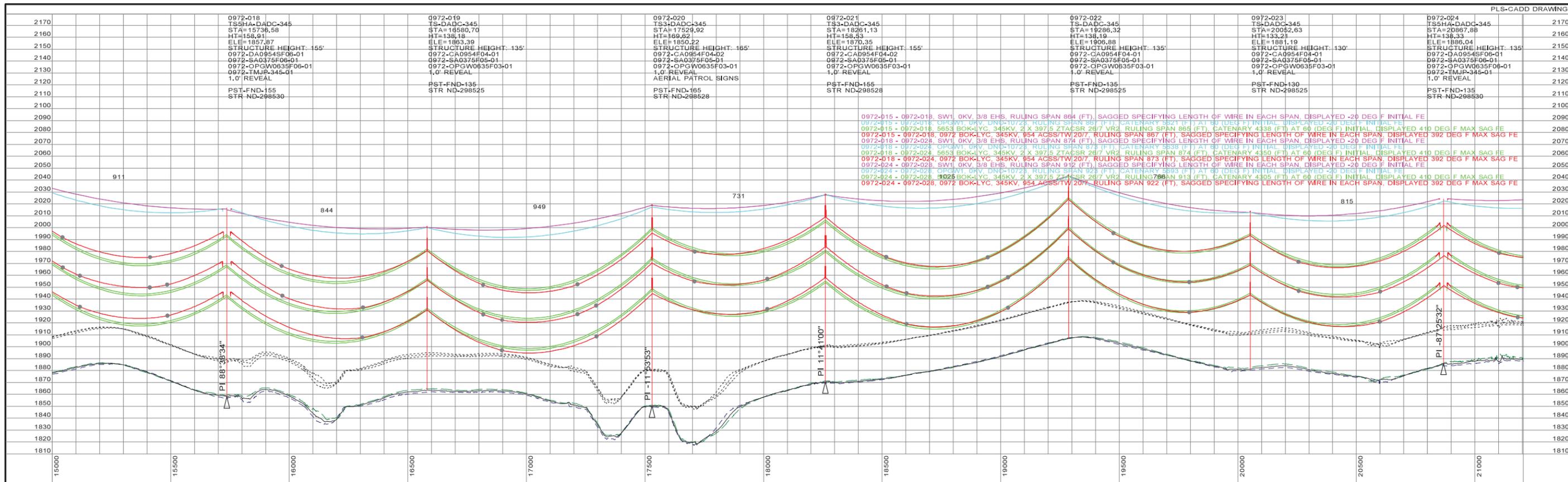
FILED UNDER: XXXXX
 LINES 0972/5653
 NX-298943

NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

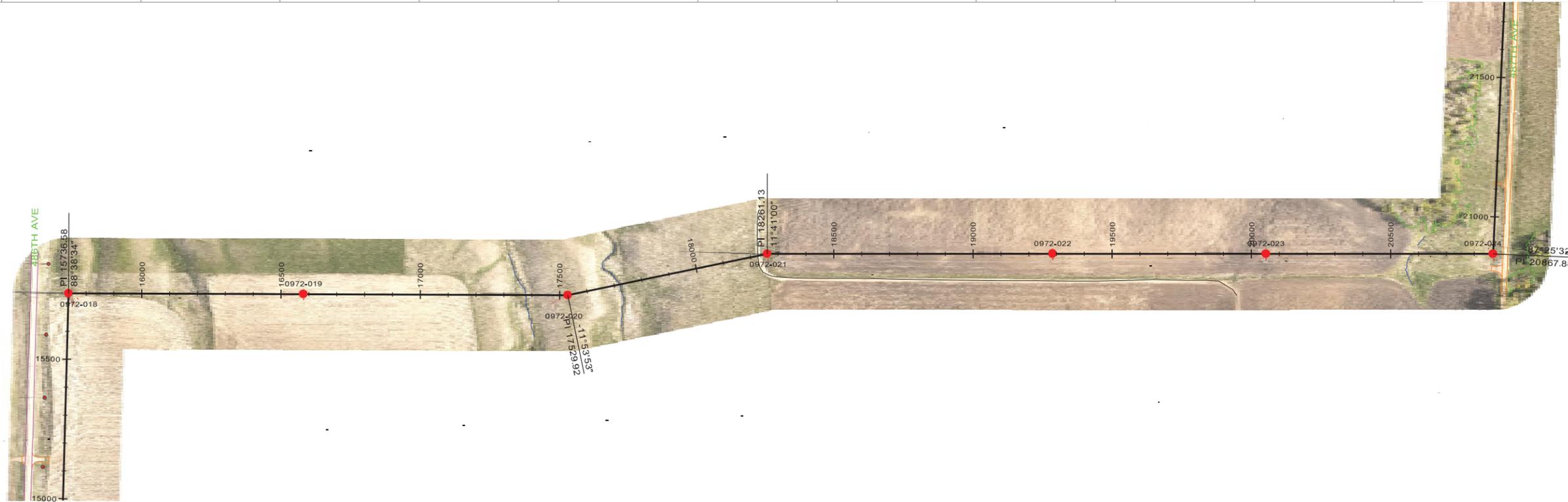
REV	DESCRIPTION	DWN	DGN	CHK	DATE	APPROVALS	DATE	DESIGN DATA
15	SEC - KOLE WBS # A000100 - DATA BROUGHT FROM 210 CIRCUT	SEC	SEC	JIK	1/2/2024	APPROVED BY: JPW	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS
14	INSTALL 210 CIRCUT & REPLACE OPGW FROM 6042 LYC	SEC	SEC	JIK	1/2/2024	DRAWN BY: SEC	1/2/2024	
13	AS-BUILT W3, #0973	MWB	TTP	JMMC	9/13/2019	DESIGN BY: SEC		
12	AS-BUILT W3, #0973	MWB	MWB	HWD	4/22/2016	CHECKED BY: JIK	1/2/2024	
11	SWAPPED STRUCTURE #011 WITH #04 (145) IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014	APPROVED BY: JPW	1/2/2024	



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0972-015 - 0972-018, SW1, 0KV, 3/8 EHS, RULING SPAN 864 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED -20 DEG F INITIAL FE
 0972-015 - 0972-018, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 865 (FT), CATENARY 521 (FT) AT 60 (DEG F) INITIAL, DISPLAYED 410 DEG F MAX SAG FE
 0972-015 - 0972-018, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 897 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED 392 DEG F MAX SAG FE
 0972-018 - 0972-024, SW1, 0KV, 3/8 EHS, RULING SPAN 874 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED -20 DEG F INITIAL FE
 0972-018 - 0972-024, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 874 (FT), CATENARY 528 (FT) AT 60 (DEG F) INITIAL, DISPLAYED 410 DEG F MAX SAG FE
 0972-018 - 0972-024, 0972 BOK-LYC, 345KV, 554 ACSS/TW 20/7, RULING SPAN 873 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED 410 DEG F MAX SAG FE
 0972-024 - 0972-028, SW1, 0KV, 3/8 EHS, RULING SPAN 912 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED -20 DEG F INITIAL FE
 0972-024 - 0972-028, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 913 (FT), CATENARY 435 (FT) AT 60 (DEG F) INITIAL, DISPLAYED 392 DEG F MAX SAG FE
 0972-024 - 0972-028, 5653 BOK-LYC, 345KV, 2 X 397.5 ZTACSR 26/7 VR2, RULING SPAN 922 (FT), SAGGED SPECIFYING LENGTH OF WIRE IN EACH SPAN, DISPLAYED 392 DEG F MAX SAG FE



NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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REV	DESCRIPTION	DWN	DGN	CHK	DATE	APPROVALS	DATE	DESIGN DATA
15	SEC - KOBEL WBS # A000100 - DATA BROUGHT FROM OLD CIRCUIT	SEC	SEC	JIK	1/2/2024	APPROVED BY: JPW	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS
14	AS-BUILT WGS #0972	MWB	TTP	JMMC	9/13/2019	DRAWN BY: SEC	1/2/2024	
13	AS-BUILT WGS #0972	MWB	MWB	HWD	4/22/2016	DESIGN BY: SEC		
12	AS-BUILT WGS #0972	MWB	MWB	HWD	5/11/2015	CHECKED BY: JIK	1/2/2024	
11	SWAPPED STRUCTURE #001 WITH #004 (145') IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014	APPROVED BY: JPW	1/2/2024	

GREAT RIVER ENERGY

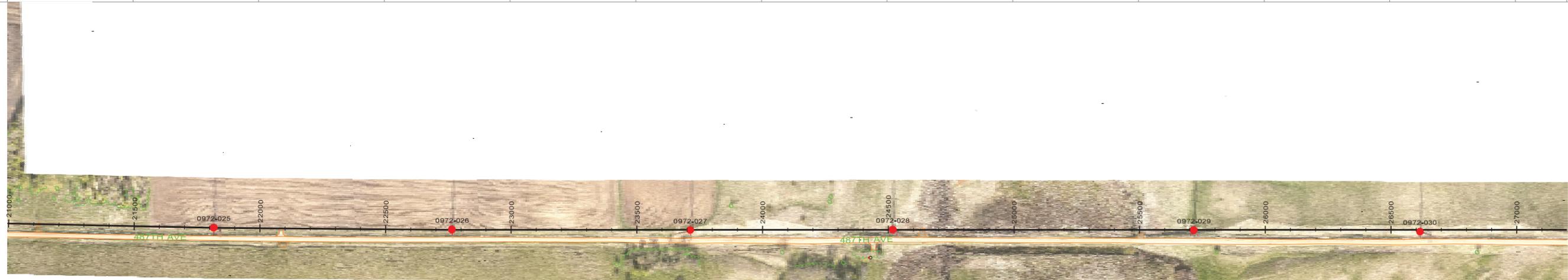
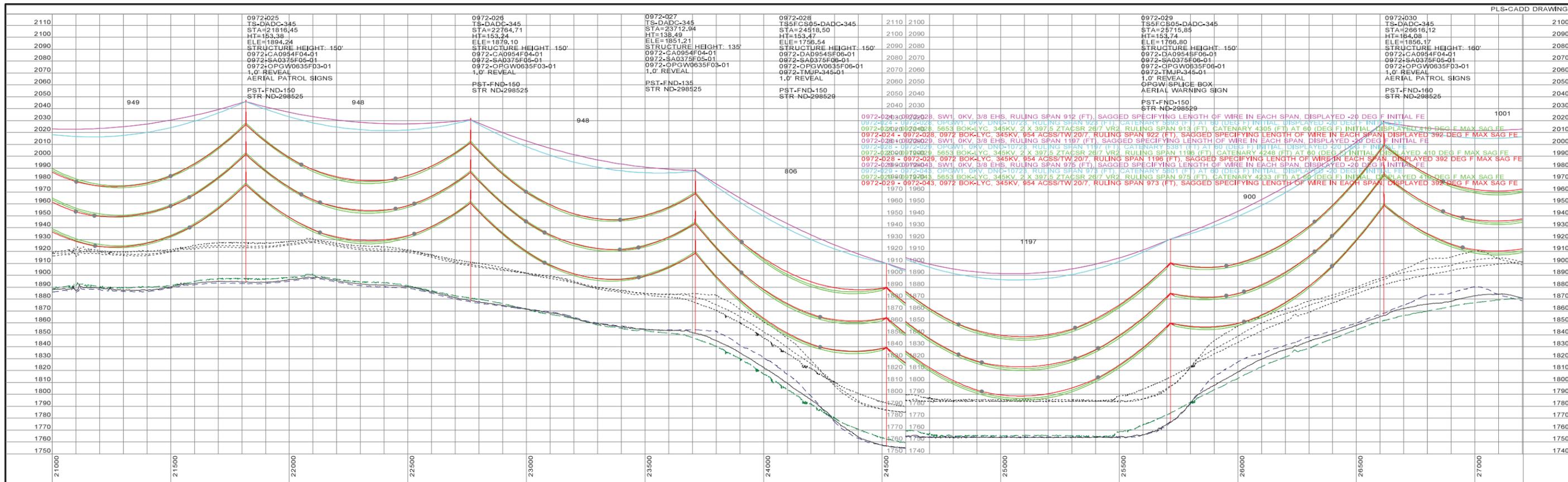
BROOKINGS - LYON COUNTY
345 KV DOUBLE CIRCUIT TRANSMISSION LINE



LINES 0972/5653
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NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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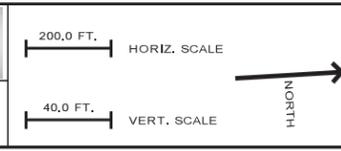
LINES 0972/5653
 NX-298943



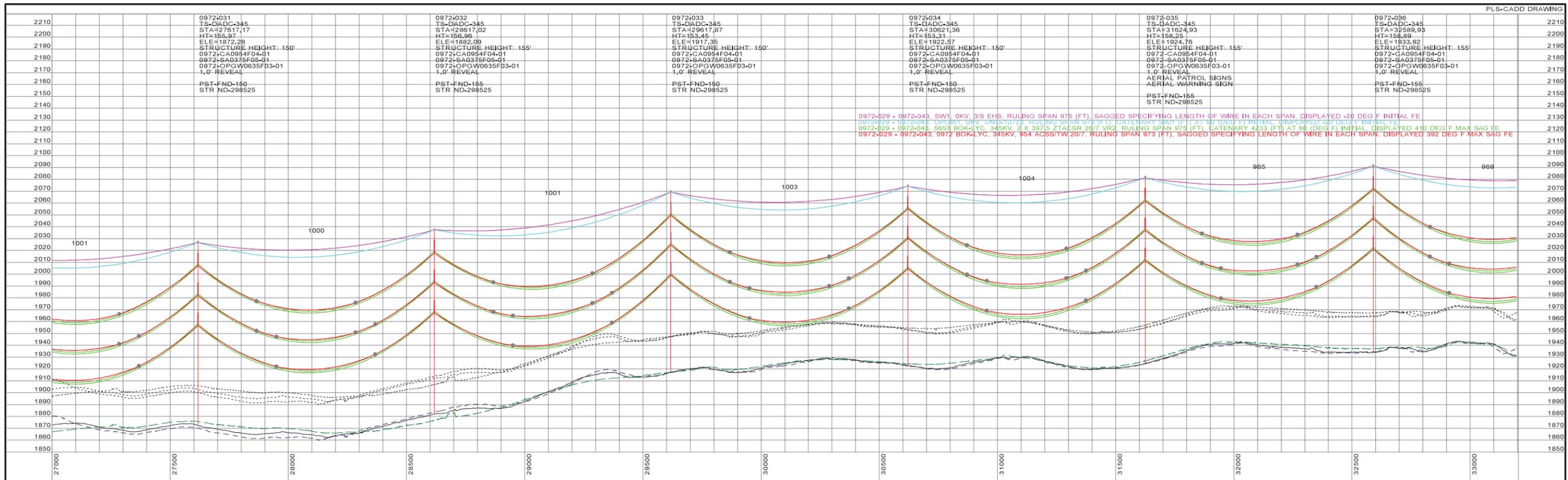
REVISIONS					APPROVALS			DATE		DESIGN DATA	
15	SEC - K&S, W&S & A&D/1000 - DATA BROUGHT FROM 2102 CIRCUT	SEC	SEC	JIK	1/2/2024	DRAWN BY:	SEC	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS		
14	AS-BUILT W&S #0073	MWB	TTP	JMMC	9/13/2019	DESIGN BY:	SEC				
13	AS-BUILT W&S #0073	MWB	MWB	HWD	4/22/2016	CHECKED BY:	JIK	1/2/2024			
12	AS-BUILT W&S #0073	MWB	MWB	HWD	5/11/2015	APPROVED BY:	JPW	1/2/2024			
11	SWAPPED STRUCTURE #001 WITH #004 (145') IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014						
REV	DESCRIPTION	DWN	DGN	CHK	DATE						

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BROOKINGS - LYON COUNTY
 345 KV DOUBLE CIRCUIT TRANSMISSION LINE



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 0972-91D
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NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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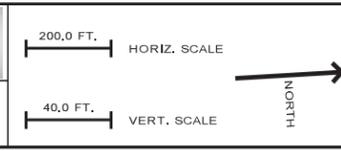
LINES 0972/5653
NX-298943



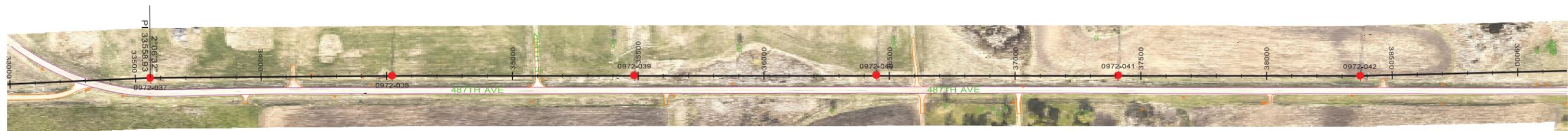
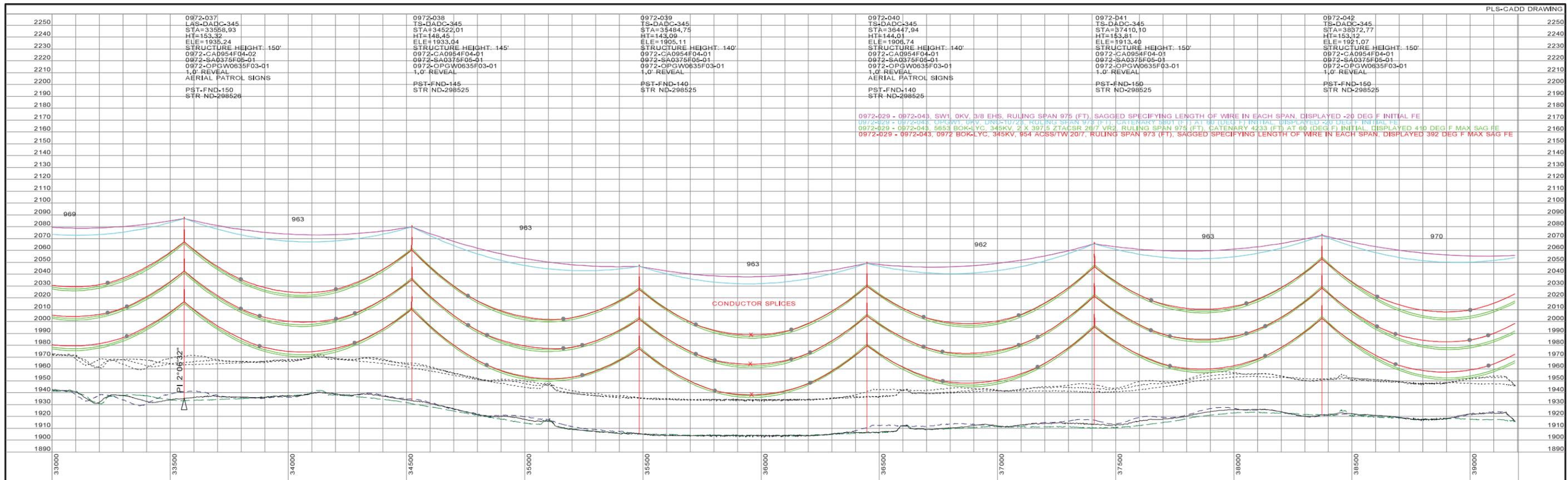
REVISIONS					APPROVALS			DATE	DESIGN DATA
15	REC - KOBEL WBS # A1001000 - DATA BROOKINGS 2ND CIRCUIT	SEC	SEC	JKK	1/2/2024	DRAWN BY: SEC	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS	
14	AS-BUILT WGS #0972-031	MWB	TTP	JMMC	9/13/2019	DESIGN BY: SEC			
13	AS-BUILT WGS #0972-032	MWB	MWB	HWD	4/22/2016	CHECKED BY: JIK	1/2/2024		
12	AS-BUILT WGS #0972-033	MWB	MWB	HWD	5/11/2015	APPROVED BY: JPW	1/2/2024		
11	SWAPPED STRUCTURE #031 WITH #034 (145') IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014				
REV	DESCRIPTION	DWN	DGN	CHK	DATE				

GREAT RIVER ENERGY

BROOKINGS - LYON COUNTY
345 KV DOUBLE CIRCUIT TRANSMISSION LINE



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NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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REV	DESCRIPTION	DWN	DGN	CHK	DATE
15	REC - ACSS WBS # A000100 - DATA BROOKINGS 2ND CIRCUIT	SEC	SEC	JKK	1/2/2024
14	INSTALL 2ND CIRCUIT & REPLACE OPGW FROM BOK-LYC	MWB	TTP	JMMC	9/13/2019
13	AS-BUILT WGS #0972	MWB	MWB	HWD	4/22/2016
12	AS-BUILT WGS #0972	MWB	MWB	HWD	5/11/2015
11	SAGGED STRUCTURE #031 METR 824 (145') IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014

APPROVALS	DATE
DRAWN BY: SEC	1/2/2024
DESIGN BY: SEC	
CHECKED BY: JIK	1/2/2024
APPROVED BY: JPW	1/2/2024

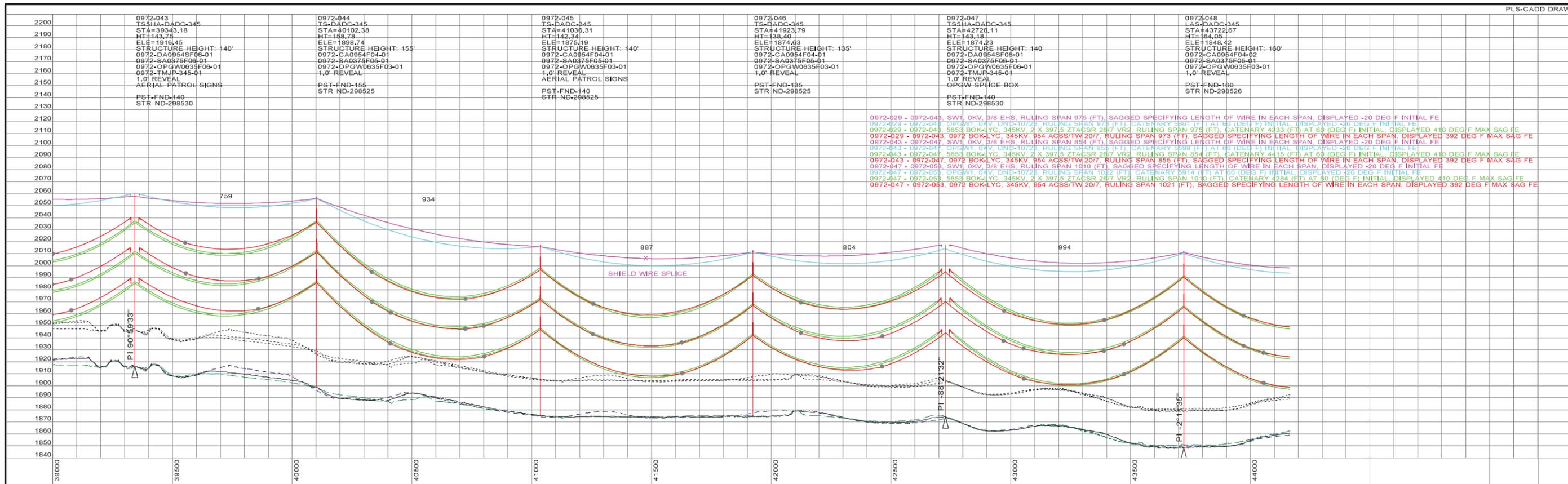
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CONDUCTOR: 0972 - 954 ACSS/TW 20/7
5653 - 2 X 397.5 ZTACSR 26/7 VR2
SHIELD WIRE: 0972 - DNO-10723 OPGW
5653 - 3/8 EHS

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NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

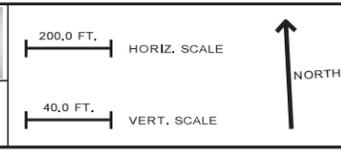
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REV	DESCRIPTION	DWN	DGN	CHK	DATE	APPROVALS	DATE	DESIGN DATA
15	SEC - KOSI, MBS & AUSTIN - DATA BROUGHT FROM 2ND CIRCUIT	SEC	SEC	JIK	1/2/2024	APPROVED BY: JPW	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7
14	INSTALL 2ND CIRCUIT & REPLACE OPGW FROM BOK-LYC	SEC	SEC	JIK	1/2/2024	DRAWN BY: SEC	1/2/2024	5653 - 2 X 397.5 ZTACSR 26/7 VR2
13	AS-BUILT WGS #0973	MWB	TTP	JMMC	9/13/2019	DESIGN BY: SEC		SHIELD WIRE: 0972 - DNO-10723 OPGW
12	AS-BUILT WGS #0973	MWB	MWB	HWD	4/22/2016	CHECKED BY: JIK	1/2/2024	5653 - 3/8 EHS
11	AS-BUILT WGS #0973	MWB	MWB	HWD	5/1/2015	APPROVED BY: JPW	1/2/2024	
10	REVISION: STRUCTURE #01, METR #24 (145) IN SEG 7	MWB	MWB	HWD	7/25/2014			
9	SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014			

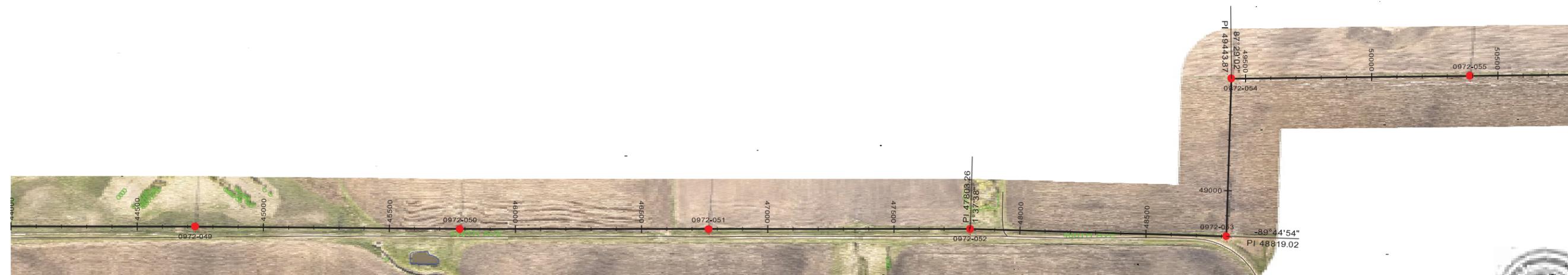
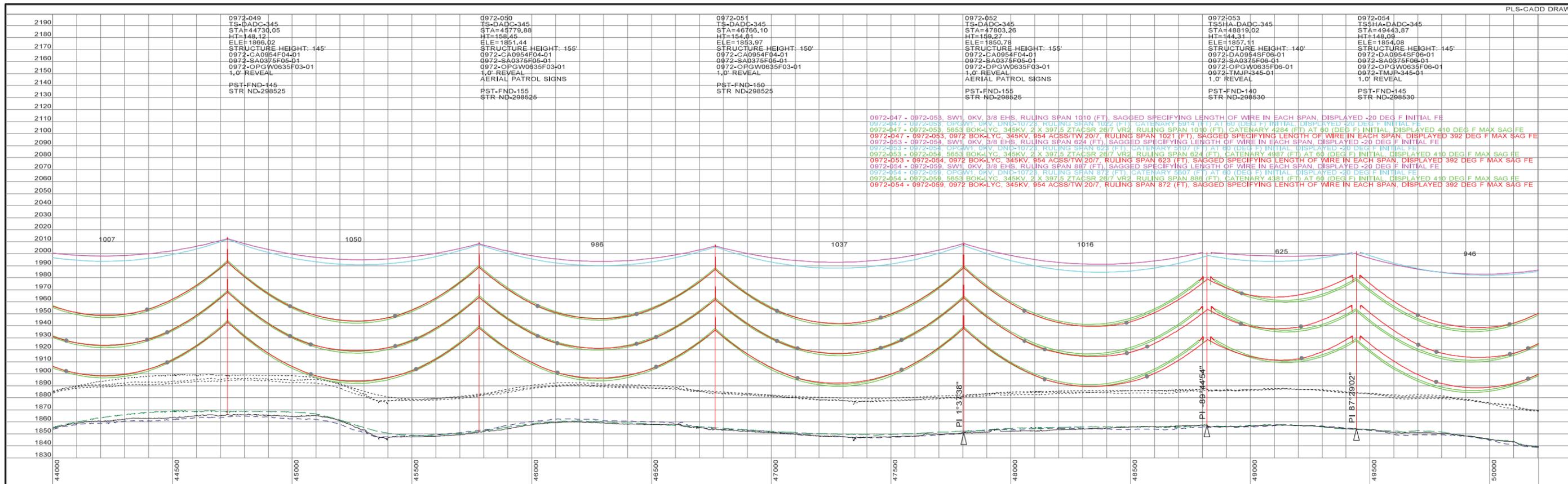
GREAT RIVER ENERGY

BROOKINGS - LYON COUNTY
 345 KV DOUBLE CIRCUIT TRANSMISSION LINE



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PLS-CADD DRAWING



NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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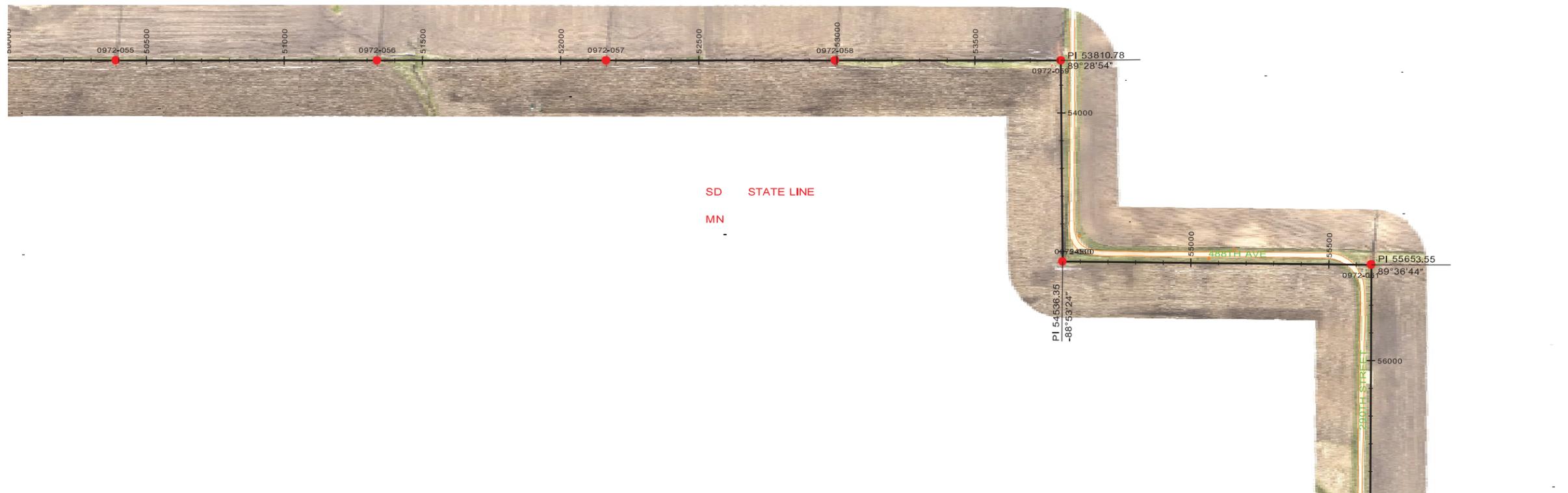
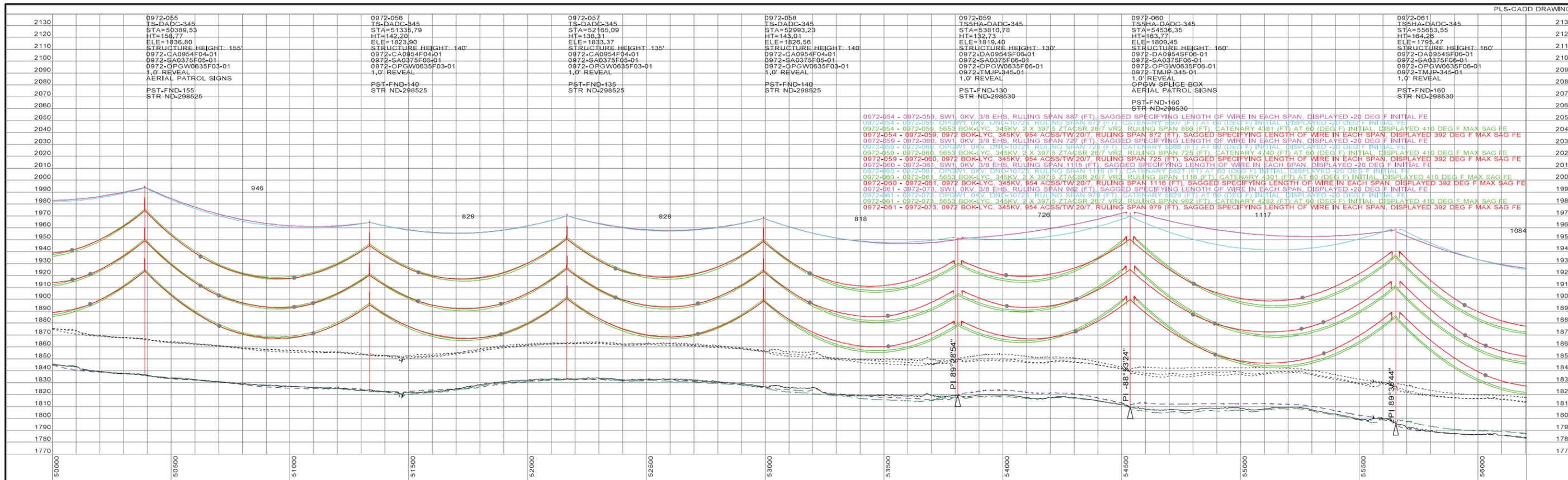
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14	MWB	TTP	JMMC	9/13/2019	DESIGN BY: SEC		5653 - 2 X 397.5 ZTACSR 26/7 VR2		
13	MWB	MWB	HWD	4/22/2016	CHECKED BY: JIK	1/2/2024	SHIELD WIRE: 0972 - DNO-10723 OPGW		
12	MWB	MWB	HWD	5/11/2015	APPROVED BY: JPW	1/2/2024	5653 - 3/8 EHS		
11	MWB	MWB	HWD	7/25/2014					
REV	DESCRIPTION	DWN	DGN	CHK	DATE				

GREAT RIVER ENERGY

BROOKINGS - LYON COUNTY
345 KV DOUBLE CIRCUIT TRANSMISSION LINE



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PROFESSIONAL ENGINEER
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota
Print Name: Jonathan Wicks
Signature: _____
Date: 01/26/2024 License # 55673



LINES 0972/5653
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NOTE: REFER TO THE STRUCTURE LIST FOR DETAILED DESIGN INFORMATION.

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REV	DESCRIPTION	DWN	DGN	CHK	DATE	APPROVALS	DATE	DESIGN DATA
15	SEC - KOLE, MBS & ASSOCIATES - DATA BROUGHT FROM 2102 CIRCUIT	SEC	SEC	JIK	1/2/2024	APPROVED BY: JPW	1/2/2024	CONDUCTOR: 0972 - 954 ACSS/TW 20/7 5653 - 2 X 397.5 ZTACSR 26/7 VR2 SHIELD WIRE: 0972 - DNO-10723 OPGW 5653 - 3/8 EHS
14	AS-BUILT W/S, #0972	MWB	TTP	JMMC	9/13/2019	DRAWN BY: SEC	1/2/2024	
13	AS-BUILT W/S, #0972	MWB	MWB	HWD	4/22/2016	DESIGN BY: SEC		
12	AS-BUILT W/S, #0972	MWB	MWB	HWD	5/1/2015	CHECKED BY: JIK	1/2/2024	
11	SWAPPED STRUCTURE #031 WITH #024 (145) IN SEG 7 SEE STRUCTURE LOCATION MATRIX REV 11 FOR DETAILS	MWB	MWB	HWD	7/25/2014	APPROVED BY: JPW	1/2/2024	

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