



BS-SUB-B  
sta=0.00  
SUB BAY  
59' STL  
1. TNDECS-38EHS  
1. TNDECS-DNO3826  
3. 230POLYSUSPSS-477RT2  
3. TTAPS-477RT2  
1. OPSPLICE-3826-3

1B  
sta=234.60  
SDE-0060-230-21  
70' H3 (STEEL)  
2. TNDECS-38EHS  
2. TNDECS-DNO3826  
6. TDECA-477RT2  
3. TCPCSS-477RT2H  
1. TASS810HA25E  
1. 5101IWOATNT  
S POLE: SET 9FT - 3IN  
M POLE: SET 9FT - 3IN  
N POLE: SET 9FT - 9IN  
SOUTH POLE LEADS:  
(1) 50'-NW, 35'-E, 22'-SE  
(2) 35'-NW (6' SPREAD)  
MID POLE LEADS:  
(1) 24'-E  
(2) 35'-NW (6' SPREAD)  
NORTH POLE LEADS:  
(1) 50'-NW, 35'-E, 22'-SE  
(2) 35'-NW (6' SPREAD)  
LEADS 33'-BISECTOR

2B  
sta=677.00  
SHT-230-18  
80' H1 (STEEL)  
1. TNCS-38EHS  
1. TNCS-DNO3826  
3. TCSCGS-477RT2  
4. SDAMP-3826  
NE POLE: SET 10FT - 6IN  
SW POLE: SET 10FT - 0IN

3B  
sta=1116.71  
SDE-0060-230-21  
65' H3 (STEEL)  
2. TNDECS-38EHS  
2. TNDECS-DNO3826  
6. TDECA-477RT2  
3. TCPCSS-477RT2H  
W POLE: SET 8FT - 6IN  
M POLE: SET 8FT - 6IN  
E POLE: SET 8FT - 9IN  
WEST POLE LEADS:  
(1) 55'-N  
(2) 43'-N (6' SPREAD)  
(1) 39'-SE  
(2) 30'-SE (6' SPREAD)  
MID POLE LEADS:  
(1) 46'-N (6' SPREAD)  
(2) 32'-SE (6' SPREAD)  
EAST POLE LEADS:  
(1) 55'-N  
(2) 43'-N (6' SPREAD)  
(1) 39'-SE  
(2) 30'-SE (6' SPREAD)

4B  
sta=1722.00  
SHT-230-18  
80' H1 (STEEL)  
1. TNCS-38EHS  
1. TNCS-DNO3826  
3. TCSCGS-477RT2  
4. SDAMP-3826  
W POLE: SET 10FT - 3IN  
E POLE: SET 10FT - 0IN

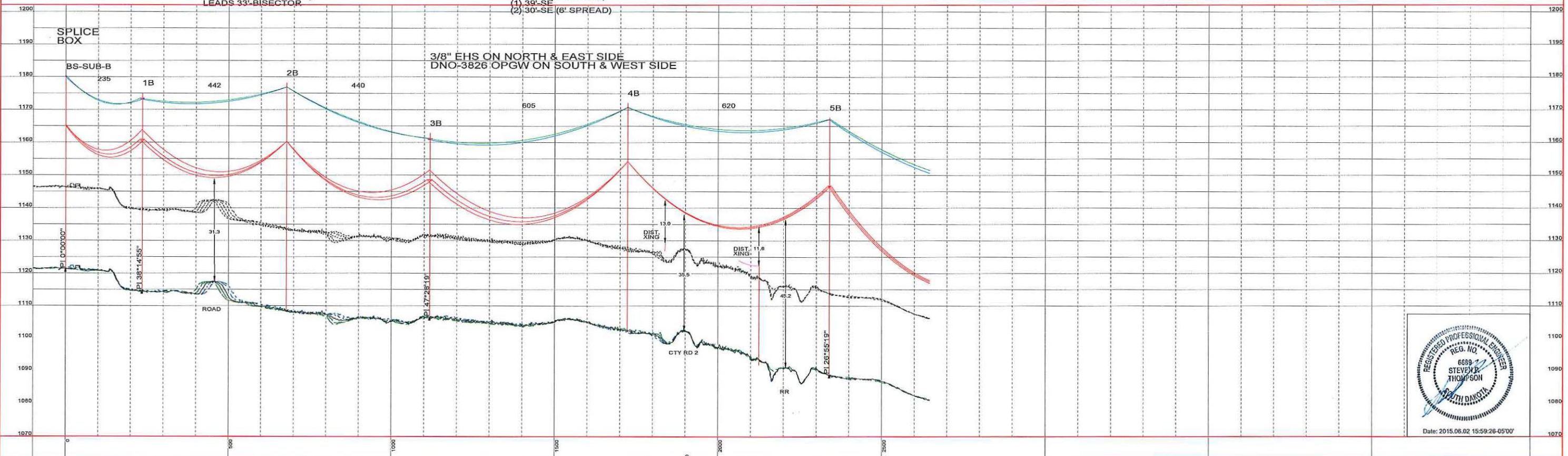
5B  
sta=2339.60  
offset adjust=-8.00  
S3MA-230-20  
90' H2 (STEEL)  
1. TNCS-38EHS  
1. TNCS-DNO3826  
3. TCSCGS-477RT2  
W POLE: SET 11FT - 3IN  
M POLE: SET 11FT - 0IN  
E POLE: SET 10FT - 9IN  
WEST POLE LEADS:  
(1) 45'-BI (6' SPREAD)  
(2) 45'-BI (6' SPREAD)  
MID POLE LEADS:  
(1) 45'-BI (6' SPREAD)  
EAST POLE LEADS:  
38' & 42'-BISECTOR

SHIELD WIRE	
3/8" EHS STEEL	
STR #	DESIGN TENSION (R.S.)
BS SUB B-1B	1502# @ 243' R.S.
1B-3B	3599# @ 448' R.S.
3B-13B	4341# @ 662' R.S.
13B-15B (NORTH SIDE)	3203# @ 355' R.S.
13B-15B (SOUTH SIDE)	3196# @ 353' R.S.
15B-16B (EAST SIDE)	3410# @ 412' R.S.
15B-16B (WEST SIDE)	3186# @ 342' R.S.
16B-BSS SUB B (SOUTH SIDE)	2341# @ 334' R.S.
16B-BSS SUB B (NORTH SIDE)	2266# @ 289' R.S.

SHIELD WIRE	
AFL DNO-3826	
STR #	DESIGN TENSION (R.S.)
BS SUB B-1B	1503# @ 226' R.S.
1B-3B	4227# @ 434' R.S.
3B-13B	5077# @ 663' R.S.

230KV CONDUCTOR	
T2-477 24/7 ACSR "T2-FLICKER"	
STR #	DESIGN TENSION (R.S.)
BS SUB B-1B	4503# @ 235' R.S.
1B-3B	11050# @ 441' R.S.
3B-13B	12343# @ 664' R.S.
13B-15B	10350# @ 352' R.S.
15B-16B	10551# @ 377' R.S.
16B-BSS SUB B	6007# @ 316' R.S.

NOTE:  
ALL TENSIONS @ NESC HVY, 0°F, .5" ICE, 4psf WIND  
ALL PHASE CONDUCTORS DISPLAYED @ 212°F, FINAL  
SHIELD WIRE DISPLAYED @ -20°F, INITIAL  
25' CLEARANCE LINE SHOWN



Date: 2015.06.02 15:59:26-0500'

CONDUCTOR	VOLTAGE	TENSION @ NESC H.	#. R.S.	SEE TABLE	PLOTTING TEMP.
SHIELD WIRE 3/8" EHS STEEL & DNO-3826 OPGW	230KV	SEE TABLE	SEE TABLE	SEE TABLE	-20
CONDUCTOR T2-FLICKER ACSR	230KV	SEE TABLE	SEE TABLE	SEE TABLE	212
CONDUCTOR	VOLTAGE	TENSION @ NESC H.	#. R.S.	SEE TABLE	PLOTTING TEMP.
CONDUCTOR	VOLTAGE	TENSION @ NESC H.	#. R.S.	SEE TABLE	PLOTTING TEMP.
CONDUCTOR	VOLTAGE	TENSION @ NESC H.	#. R.S.	SEE TABLE	PLOTTING TEMP.
CONDUCTOR	VOLTAGE	TENSION @ NESC H.	#. R.S.	SEE TABLE	PLOTTING TEMP.

SURVEYED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
PROFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_



NO.	DATE	REVISION	BY	CHK'D	APP'D
0	04-30-2015	ORIGINAL ISSUE FOR CONSTRUCTION	HEAFJ	UE-ET	OTF-DJ



BIG STONE SOUTH TRANSMISSION LINE 230KV  
PLAN AND PROFILE  
BIG STONE SOUTH 230KV ROUTE "B"  
BIG STONE SUB B - STR#5B  
SCALE: AS NOTED  
BSS-B-PP-01



6B  
sta=3065.00  
SHT-230-18  
75' H1 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
4, SDAMP-3826  
W POLE: SET 10FT - 3IN  
E POLE: SET 9FT - 6IN

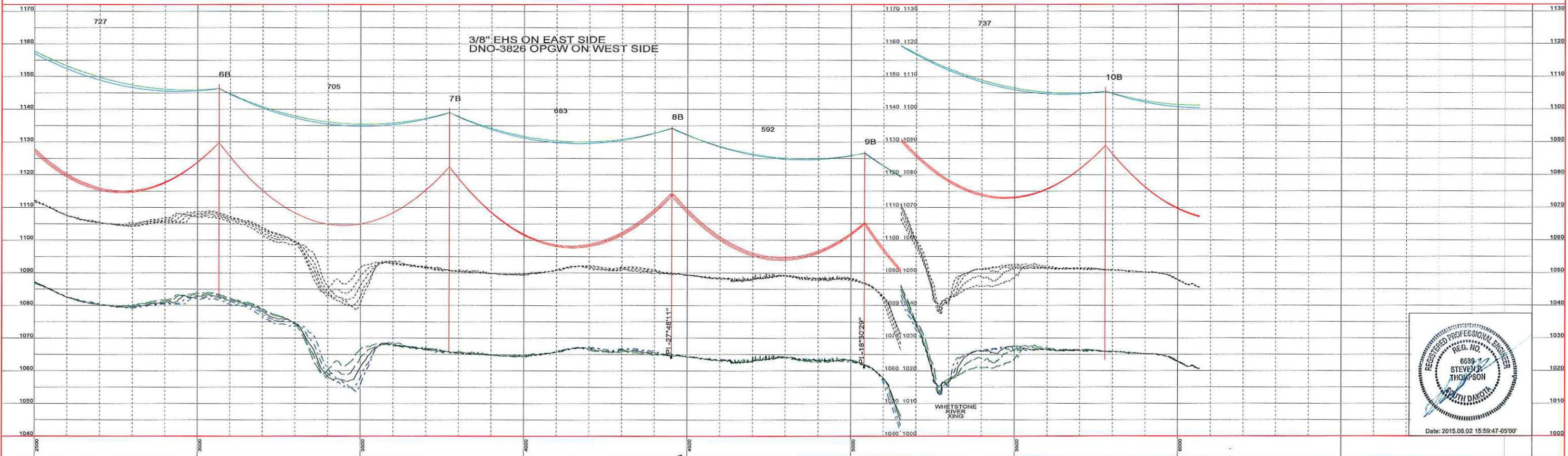
7B  
sta=3770.00  
SHT-230-18  
85' H1 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
2, TCSCGS-477RT2  
2, ADD EXTRA BEARING PLATE  
W POLE: SET 10FT - 6IN  
E POLE: SET 10FT - 6IN

8B  
sta=4451.51  
offset adjust=8.00  
S3MA-230-20  
80' H2 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
4, SDAMP-3826  
W POLE: SET 10FT - 0IN  
M POLE: SET 10FT - 0IN  
E POLE: SET 10FT - 3IN  
WEST POLE LEADS:  
36' & 42'-BISECTOR  
MID POLE LEADS:  
(2) 45'-BI (6' SPREAD)  
EAST POLE LEADS:  
(2) 45'-BI (6' SPREAD)

9B  
sta=5040.88  
offset adjust=7.25  
S3MA-230-20  
75' H2 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
W POLE: SET 9FT - 6IN  
M POLE: SET 9FT - 6IN  
E POLE: SET 9FT - 6IN  
WEST POLE LEADS:  
36' & 42'-BISECTOR  
MID POLE LEADS:  
(2) 45'-BI (6' SPREAD)  
EAST POLE LEADS:  
(2) 45'-BI (6' SPREAD)

10B  
sta=5777.00  
SHT-230-18  
95' H1 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
4, SDAMP-3826  
2, ADD EXTRA BEARING PLATE  
W POLE: SET 14FT - 0IN  
E POLE: SET 14FT - 0IN

NOTE:  
ALL TENSIONS @ NESC HVY, 0°F, .5" ICE, 4psf WIND  
ALL PHASE CONDUCTORS DISPLAYED @ 212°F, FINAL  
SHIELD WIRE DISPLAYED @ -20°F, INITIAL  
25' CLEARANCE LINE SHOWN



Date: 2015.06.02 15:59:47-05'00'

SHIELD WIRE	3/8" EHS STEEL & DNO-3826 OPGW	TENSION @ NESC H.	SEE TABLE	#, R.S., SEE TABLE	PLOTTING TEMP.	-20		
CONDUCTOR	T2-FLICKER ACSR	VOLTAGE	230KV	TENSION @ NESC H.	SEE TABLE	#, R.S., SEE TABLE	PLOTTING TEMP.	212
CONDUCTOR		VOLTAGE		TENSION @ NESC H.		#, R.S.	PLOTTING TEMP.	
CONDUCTOR		VOLTAGE		TENSION @ NESC H.		#, R.S.	PLOTTING TEMP.	
CONDUCTOR		VOLTAGE		TENSION @ NESC H.		#, R.S.	PLOTTING TEMP.	
CONDUCTOR		VOLTAGE		TENSION @ NESC H.		#, R.S.	PLOTTING TEMP.	

SURVEYED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROFILED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

NO.	DATE	REVISION	BY	CHK/APPV
0	04-30-2015	ORIGINAL ISSUE FOR CONSTRUCTION	DEL/PJ	UD-ST/DTP/DJ



BIG STONE SOUTH TRANSMISSION LINE 230KV  
 PLAN AND PROFILE  
 BIG STONE SOUTH 230KV ROUTE "B"  
 STR#6B - STR#10B  
 SCALE: AS NOTED  
 BSS-B-PP-02



10B  
sta=5777.00  
SHT-230-18  
95' H1 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
4, SDAMP-3826  
2, ADD EXTRA BEARING PLATE  
W POLE: SET 14FT - 0IN  
E POLE: SET 14FT - 0IN

11B  
sta=6528.14  
offset adjust=-7.50  
S3MA-230-20  
75' H2 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
W POLE: SET 9FT - 6IN  
M POLE: SET 9FT - 9IN  
E POLE: SET 11FT - 6IN  
WEST POLE LEADS:  
(2) 45'-BI (6' SPREAD)  
MID POLE LEADS:  
(2) 45'-BI (6' SPREAD)  
EAST POLE LEADS:  
36' & 42'-BISECTOR

12B  
sta=7062.00  
SHT-230-18  
70' H1 (STEEL)  
1, TNCS-38EHS  
1, TNCS-DNO3826  
3, TCSCGS-477RT2  
4, SDAMP-3826  
W POLE: SET 11FT - 0IN  
E POLE: SET 11FT - 6IN

13B  
sta=7615.31  
SDE-6090-230-25  
75' H3 (STEEL)  
3, TNDECS-38EHS  
1, TNDECS-DNO3826  
6, TDECD-477RT2  
1, OPSPLICE-3826-1  
OPGW RISER SPECIFIED  
IN SUBSTATION SCOPE  
SW POLE: SET 9FT - 6IN  
M POLE: SET 10FT - 0IN  
NE POLE: SET 11FT - 6IN  
SOUTHWEST POLE LEADS:  
(1) 60'-W&S  
(2) 47'-W&S (6' SPREAD)  
MID POLE LEADS:  
(2) 50'-W&S (6' SPREAD)  
NORTHEAST POLE LEADS:  
(1) 41'-W&S  
(2) 47'-W&S (6' SPREAD)

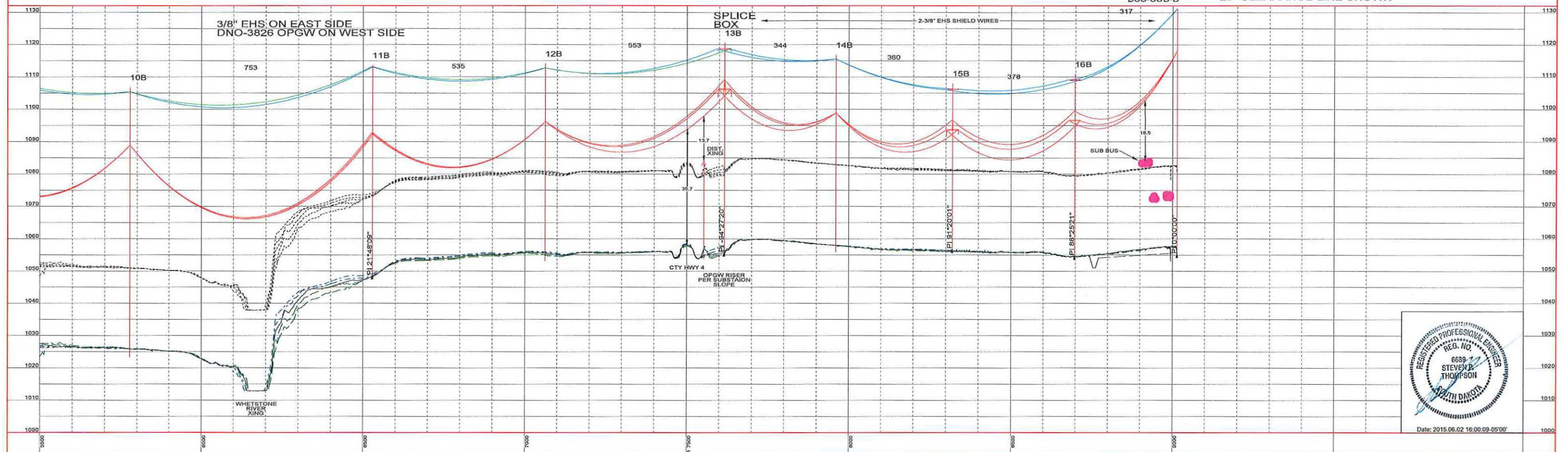
14B  
sta=7959.00  
SHT-230-18  
70' H1 (STEEL)  
2, TNCS-38EHS  
2, TCSCGS-477RT2  
4, SDAMP-3826  
N POLE: SET 11FT - 0IN  
S POLE: SET 11FT - 0IN

15B  
sta=8319.46  
SDE-6090-230-25  
60' H3 (STEEL)  
3, TNDECS-38EHS  
4, TNDECS-38EHS  
6, TDECD-477RT2  
SW POLE: SET 8FT - 0IN  
M POLE: SET 8FT - 6IN  
NE POLE: SET 8FT - 6IN  
SOUTHWEST POLE LEADS:  
(1) 36'-N&E  
(2) 42'-N&E (6' SPREAD)  
MID POLE LEADS:  
(2) 45'-N&E (6' SPREAD)  
NORTHEAST POLE LEADS:  
(1) 41'-N & 50'-E  
(2) 31'-N & 42'-E (6' SPREAD)

16B  
sta=8697.00  
SDE-6090-230-25  
65' H3 (STEEL)  
4, TNCS-38EHS  
2, TDECD-477RT2  
2, SDAMP-3826  
NW POLE: SET 8FT - 6IN  
M POLE: SET 8FT - 6IN  
SE POLE: SET 8FT - 6IN  
NORTHWEST POLE LEADS:  
(1) 50'-S&E  
(2) 42'-S&E (6' SPREAD)  
MID POLE LEADS:  
(2) 45'-S&E (6' SPREAD)  
SOUTHWEST POLE LEADS:  
(1) 54'-S&E  
(2) 42'-S&E (6' SPREAD)

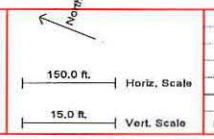
BSS-SUB-B  
sta=9013.99  
SUB BAY  
74' STL  
2, TNDECS-38EHS  
3, 220POLY-38EHS-477RT2  
3, TTAPS-477RT2

NOTE:  
ALL TENSIONS @ NESC HVY, 0°F, .5" ICE, 4psf WIND  
ALL PHASE CONDUCTORS DISPLAYED @ 212°F, FINAL  
SHIELD WIRE DISPLAYED @ -20°F, INITIAL  
25' CLEARANCE LINE SHOWN



SHIELD WIRE 3/8" EHS STEEL & DNO-3826 OPGW	TENSION @ NESC H.	#, R.S., SEE TABLE	PLOTTING TEMP.
CONDUCTOR T2-FLICKER ACSR	VOLTAGE 230KV	SEE TABLE	-20
CONDUCTOR	VOLTAGE	#, R.S., SEE TABLE	PLOTTING TEMP. 212
CONDUCTOR	VOLTAGE	#, R.S.	PLOTTING TEMP.
CONDUCTOR	VOLTAGE	#, R.S.	PLOTTING TEMP.
CONDUCTOR	VOLTAGE	#, R.S.	PLOTTING TEMP.

SURVEYED BY:	DATE:
PLOTTED BY:	DATE:
APPROVED BY:	DATE:



NO.	DATE	REVISION	BY	CHK/APPV
0	04-30-2015	ORIGINAL ISSUE FOR CONSTRUCTION	UEI-FJ	UEI-ST QTP-DJ



BIG STONE SOUTH TRANSMISSION LINE 230KV  
 PLAN AND PROFILE  
 BIG STONE SOUTH 230KV ROUTE "B"  
 STR#10B - BIG STONE SOUTH SUB B  
 SCALE: AS NOTED  
 BSS-B-PP-03