

HNTB HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554	PROJECT REFERENCE NO.	SHEET NO.
	P-5705BA	2J
DATE: MARCH 16, 2018		R/W SHEET NO.
		RAILROAD DESIGN ENGINEER

PROPOSED S1 TRACK ALIGNMENT (CONTINUED)

Curve 103 (CONTINUED)

Spiral Coordinates

Point	North	East	Station
TS	543,989.0635	1,447,778.9861	28+53.03
PI	543,974.2575	1,447,764.5676	28+73.70
SC	543,966.8870	1,447,757.3250	28+84.03
CC	546,376.4634	1,445,305.2080	

Curve S1-3

Chord Definition

P.I. Station	30+08.38	N	543,878.1966	E	1,447,670.1732
Delta =	4° 08' 34.26" (RT)				
Degree =	1° 40' 00.00"				
Tangent =	124.3440				
Length =	248.5709				
Radius =	3,437.8680				
External =	2.2480				
Long Chord =	248.5255				
Mid. Ord. =	2.2465				
P.C. Station	28+84.03	N	543,966.8870	E	1,447,757.3250
P.T. Station	31+32.61	N	543,796.0340	E	1,447,576.8418
C.C.		N	546,376.4634	E	1,445,305.2080
Back	S 44° 29' 55.19" W				
Ahead	S 48° 38' 29.45" W				
Chord Bear	S 46° 34' 12.32" W				

Spiral S1-3A

Chord Definition

Angle	0° 15' 29.97" (RT)	P	0.0116
LS	31.0000	K	15.5000
R	3,437.8680	LT	20.6667
YS	0.0466	ST	10.3334
XS	30.9999	LC	31.0000
BK	S 48° 38' 29.45" W		
AH	S 48° 53' 59.42" W		
CB	S 48° 48' 49.43" W		
Defl	0° 05' 09.99"		
Deg	1° 40' 00.00"		

Spiral Coordinates

Point	North	East	Station
CS	543,796.0340	1,447,576.8418	31+32.61
PI	543,789.2060	1,447,569.0857	31+42.94
ST	543,775.6202	1,447,553.5121	31+63.61
CC	546,376.4634	1,445,305.2080	

Course from ST S1-3A to 15907
S 48° 53' 59.42" W Dist 148.2037

Point 15907 (PI TO #15 RH TO - FUTURE)
N 543,678.1944 E 1,447,441.8315 Sta 33+11.81

Course from 15907 to 15908
S 48° 53' 59.42" W Dist 39.9800

Point 15908 (PS #15 RH TO - FUTURE)
N 543,651.9125 E 1,447,411.7041 Sta 33+51.79

Course from 15908 to 15909
S 48° 53' 59.42" W Dist 126.0200

Point 15909 (PI TO #15 LH TO)
N 543,569.0698 E 1,447,316.7403 Sta 34+77.81

Course from 15909 to 15910
S 48° 53' 59.42" W Dist 39.9800

Point 15910 (PS #15 LH TO)
N 543,542.7879 E 1,447,286.6129 Sta 35+17.79

Course from 15910 to 15911
S 48° 53' 59.42" W Dist 70.0000

Point 15911 (PS #10 LH TO)
N 543,496.7714 E 1,447,233.8636 Sta 35+87.79

Course from 15911 to 15912
S 48° 53' 59.42" W Dist 31.2500

Point 15912 (PI TO #10 LH TO)
N 543,476.2284 E 1,447,210.3148 Sta 36+19.04

Course from 15912 to TS S1-4B
S 48° 53' 59.42" W Dist 79.7500

Curve 104 Ea = 0.50', V(Passenger) = 30 mph

PISCS S1-4 N 543,386.4115 E 1,447,107.3564 STA 37+55.67

Total Tangent =	56.8790
Total Length =	113.7559
Total Delta =	0° 49' 39.20" (LT)
Back Tangent =	S 48° 53' 59.42" W
Ahead Tangent =	S 48° 04' 20.22" W

Spiral S1-4B

Chord Definition

Angle	0° 09' 17.99" (LT)	P	0.0070
LS	31.0000	K	15.5000
R	5,729.6507	LT	20.6667
YS	0.0280	ST	10.3333
XS	31.0000	LC	31.0000
BK	S 48° 53' 59.42" W		
AH	S 48° 44' 41.42" W		
CB	S 48° 50' 53.42" W		
Defl	0° 03' 06.00"		
Deg	1° 00' 00.00"		

Spiral Coordinates

Point	North	East	Station
TS	543,423.8025	1,447,150.2182	36+98.79
PI	543,410.2167	1,447,134.6446	37+19.46
SC	543,403.4028	1,447,126.8762	37+29.79
CC	539,095.9636	1,450,905.0853	

Curve S1-4

Chord Definition

P.I. Station	37+55.67	N	543,386.3382	E	1,447,107.4213
Delta =	0° 31' 03.21" (LT)				
Degree =	1° 00' 00.00"				
Tangent =	25.8785				
Length =	51.7559				
Radius =	5,729.6507				
External =	0.0584				
Long Chord =	51.7564				
Mid. Ord. =	0.0584				
P.C. Station	37+29.79	N	543,403.4028	E	1,447,126.8762
P.T. Station	37+81.55	N	543,369.0985	E	1,447,088.1213
C.C.		N	539,095.9636	E	1,450,905.0853
Back	S 48° 44' 41.42" W				
Ahead	S 48° 13' 38.21" W				
Chord Bear	S 48° 29' 09.82" W				

Spiral S1-4A

Chord Definition

Angle	0° 09' 17.99" (LT)	P	0.0070
LS	31.0000	K	15.5000
R	5,729.6507	LT	20.6667
YS	0.0280	ST	10.3333
XS	31.0000	LC	31.0000
BK	S 48° 13' 38.21" W		
AH	S 48° 04' 20.22" W		
CB	S 48° 07' 26.22" W		
Defl	0° 03' 06.00"		
Deg	1° 00' 00.00"		

Spiral Coordinates

Point	North	East	Station
CS	543,369.0985	1,447,088.1213	37+81.55
PI	543,362.2147	1,447,080.4148	37+91.88
ST	543,348.4054	1,447,065.0390	38+12.55
CC	539,095.9636	1,450,905.0853	

Course from ST S1-4A to 15913
S 48° 04' 20.22" W Dist 331.4974

Point 15913 (PI TO #15 RH TO)
N 543,126.9013 E 1,446,818.4088 Sta 41+44.04

Course from 15913 to 15914
S 44° 15' 14.22" W Dist 39.9800

Point 15914 (PS #15 RH TO)
N 543,098.2655 E 1,446,790.5091 Sta 41+84.02

Course from 15914 to 15915
S 44° 15' 14.22" W Dist 765.9772

Point 15915 (POT - FOR STATIONING ONLY)
N 542,549.6314 E 1,446,255.9797 Sta 49+50.00

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