

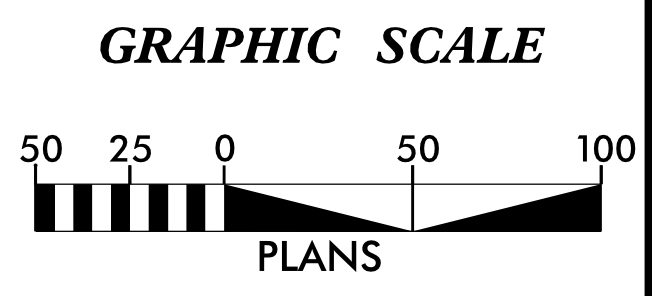
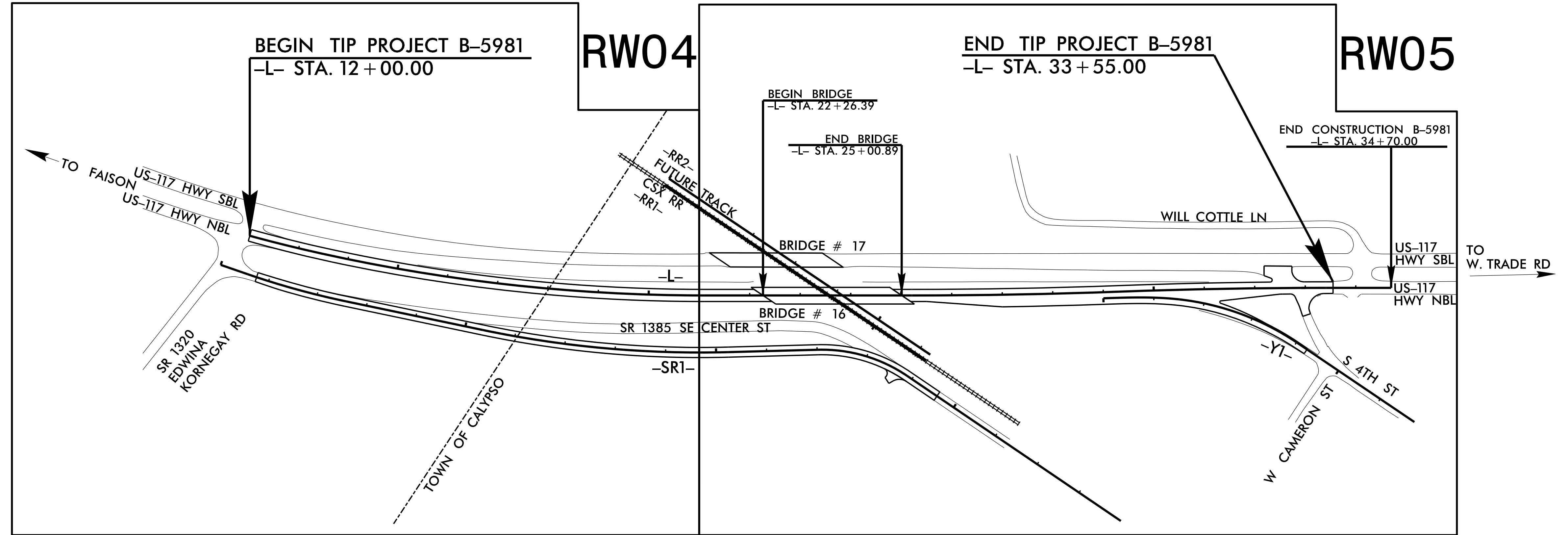
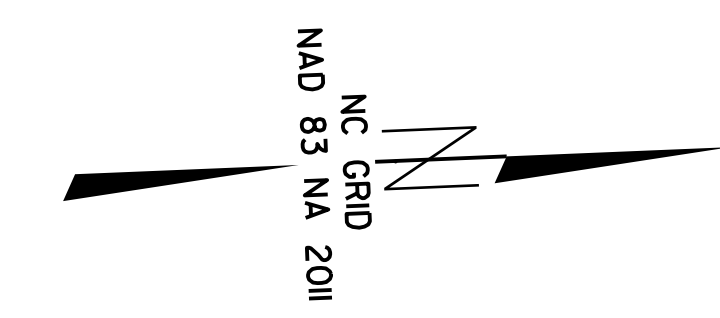
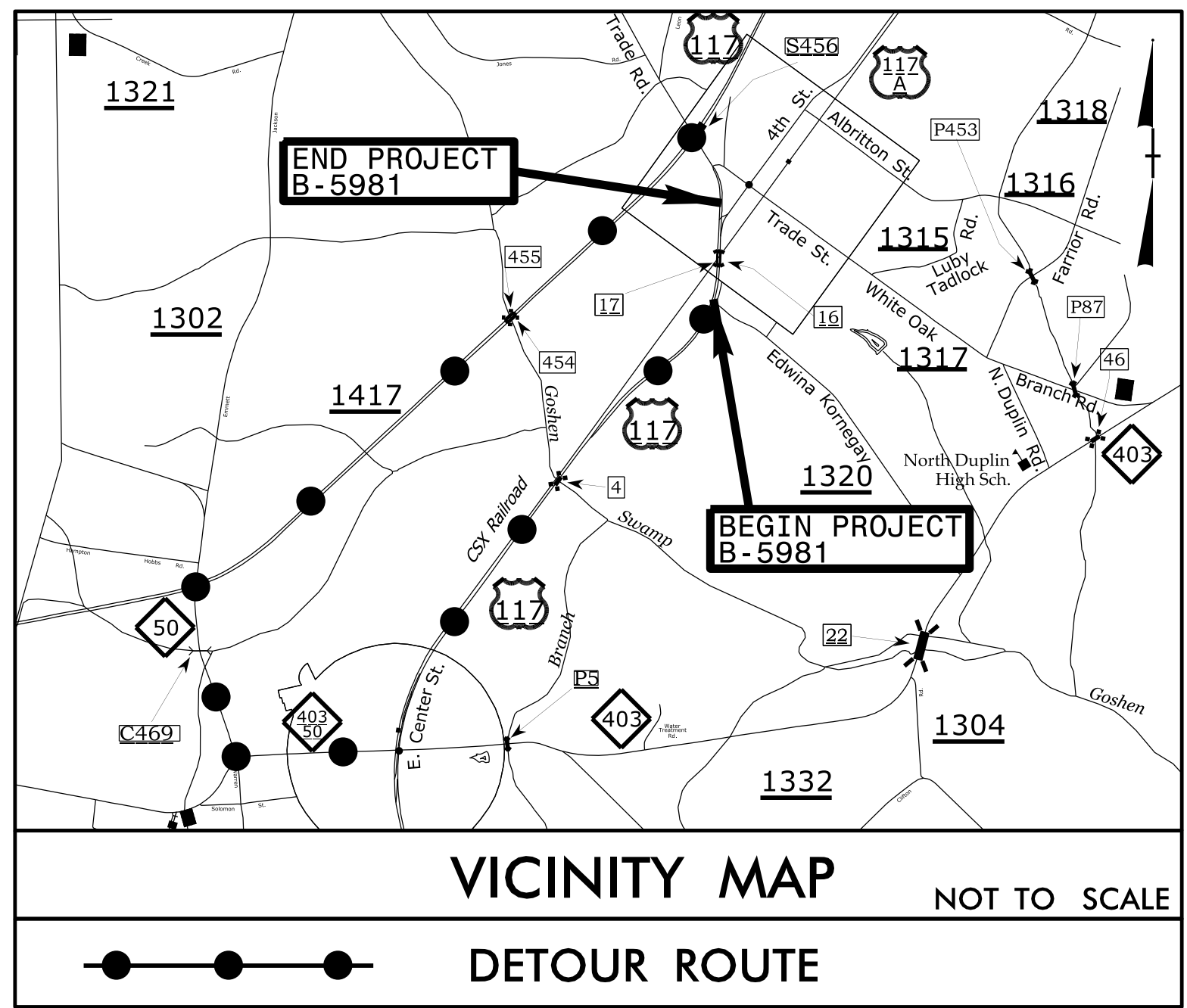
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5981	RW01	8

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,  
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

**DUPLIN COUNTY**

**TIP PROJECT: B-5981**



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B5981-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 508501.103(ft) EASTING: 2265615.918(ft) ELEVATION: 153.096(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998721917

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5981-2" TO -L- STATION 10+00.00 IS N 32°08'01.4" E 937.48(ft)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

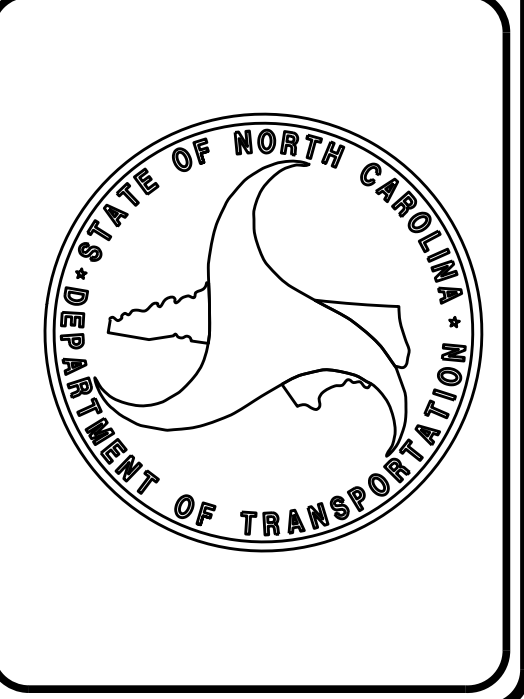
Prepared in the Office of:  
**ESP ASSOCIATES, INC**  
211 RACINE DRIVE, SUITE #101  
WILMINGTON, NC 28403  
AND  
**LOCATION AND SURVEYS UNIT**  
DIVISION 3  
5310 BARBADOS BLVD, SUITE 102  
CASTLE HAYNE, NORTH CAROLINA 28429

2018 STANDARD SPECIFICATIONS

<b>RIGHT OF WAY DATE:</b> FEBRUARY 17, 2022	<b>LETTING DATE:</b> JANUARY 17, 2023
--	--

**PROFESSIONAL LAND SURVEYOR**

DocuSigned by:  
*Christopher Sawyer*  
SIGNATURE: \_\_\_\_\_ Date: 07/21/2022




21-JUL-2022 15:41 S:\Units\Div03\Projects\Bridges\Duplin\B5981\_Calypso\Check\220722\_fina\150\_b5981.LS\_r\_w01.dgn individual LS-299896



REVISIONS

# SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

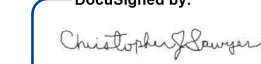
PROJECT REFERENCE NO. B-5981	SHEET NO. RW02C-1
<b>Location and Surveys</b>	
DIVISION 3 5310 BARBADOS BLVD., SUITE 102 CASTLE HATNE, N.C., 28429	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

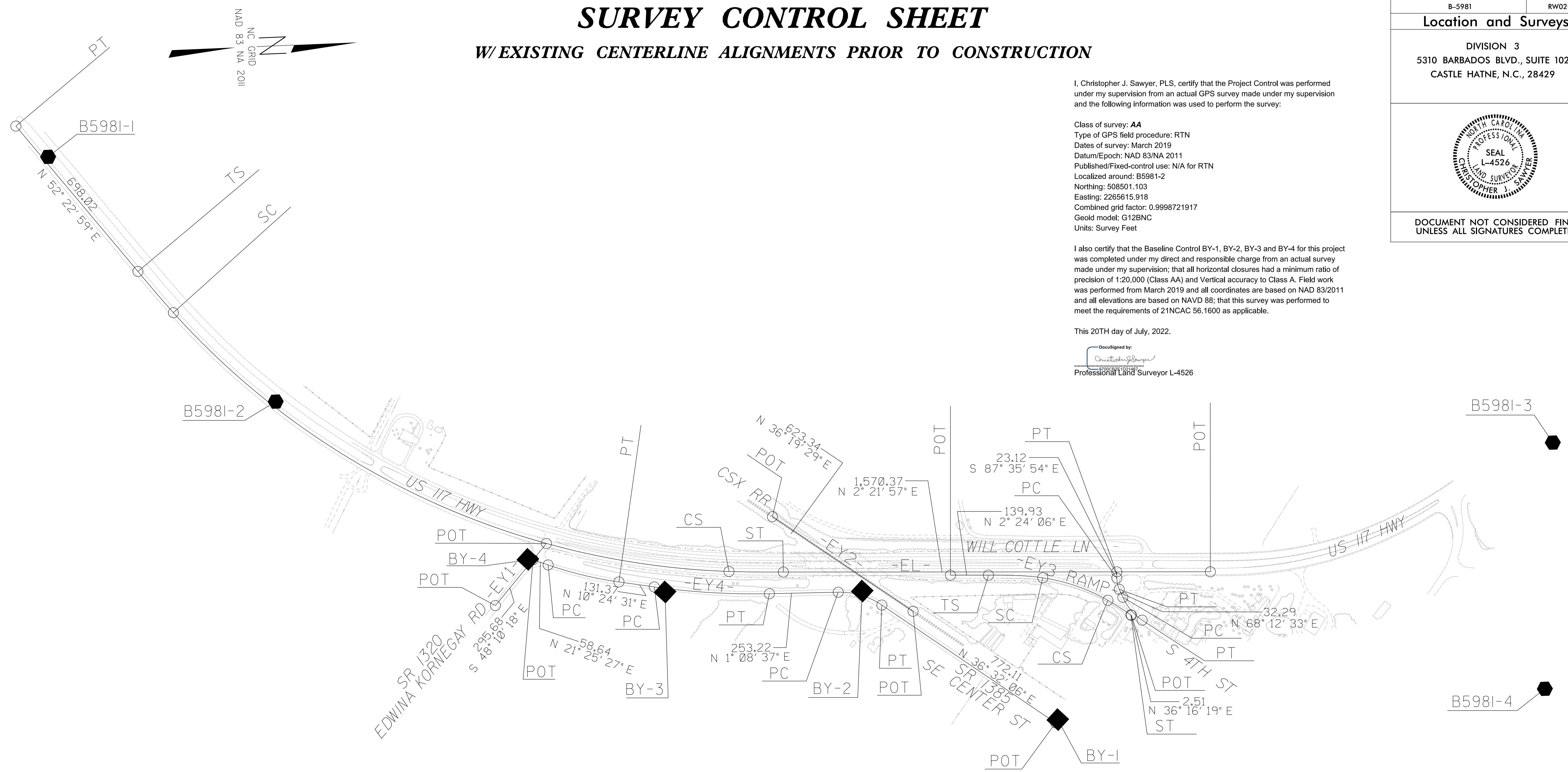
I, Christopher J. Sawyer, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**  
 Type of GPS field procedure: RTN  
 Dates of survey: March 2019  
 Datum/Epoch: NAD 83/NA 2011  
 Published/Fixed-control use: N/A for RTN  
 Localized around: B5981-2  
 Northing: 508501.103  
 Easting: 2265615.918  
 Combined grid factor: 0.9998721917  
 Geoid model: G12BNC  
 Units: Survey Feet

I also certify that the Baseline Control BY-1, BY-2, BY-3 and BY-4 for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from March 2019 and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 20TH day of July, 2022.

DocuSigned by:  
  
 Christopher J. Sawyer  
 Professional Land Surveyor L-4526



BY	POINT	DESC.	NORTH	EAST	ELEVATION
	B59811	GPS CAP & REBAR	507702.5957	2264681.5601	138.98
	B59812	GPS CAP & REBAR	508501.1033	2265615.9182	153.10
	BY4	TRV CAP & REBAR	509403.1030	2266234.0500	167.32
	BY3	TRV CAP & REBAR	509902.3310	2266375.1630	158.03
	BY2	TRV CAP & REBAR	510626.8900	2266402.1240	159.05
	BY1	TRV CAP & REBAR	511325.6740	2266904.6440	156.80
	B59813	GPS CAP & REBAR	513559.5276	2265728.2849	161.34
	B59814	GPS CAP & REBAR	514571.6392	2266388.2632	162.84

SEE SHEET RW02C-3  
 FOR ALIGNMENT DETAILS


**NOTES:**

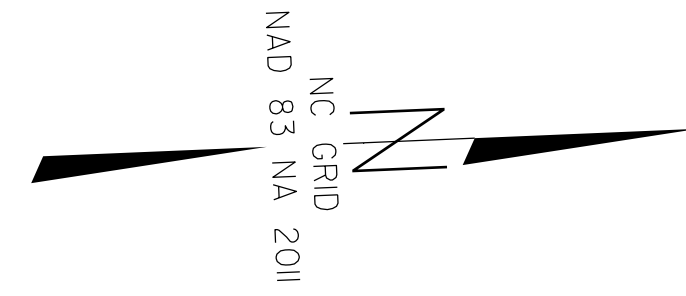
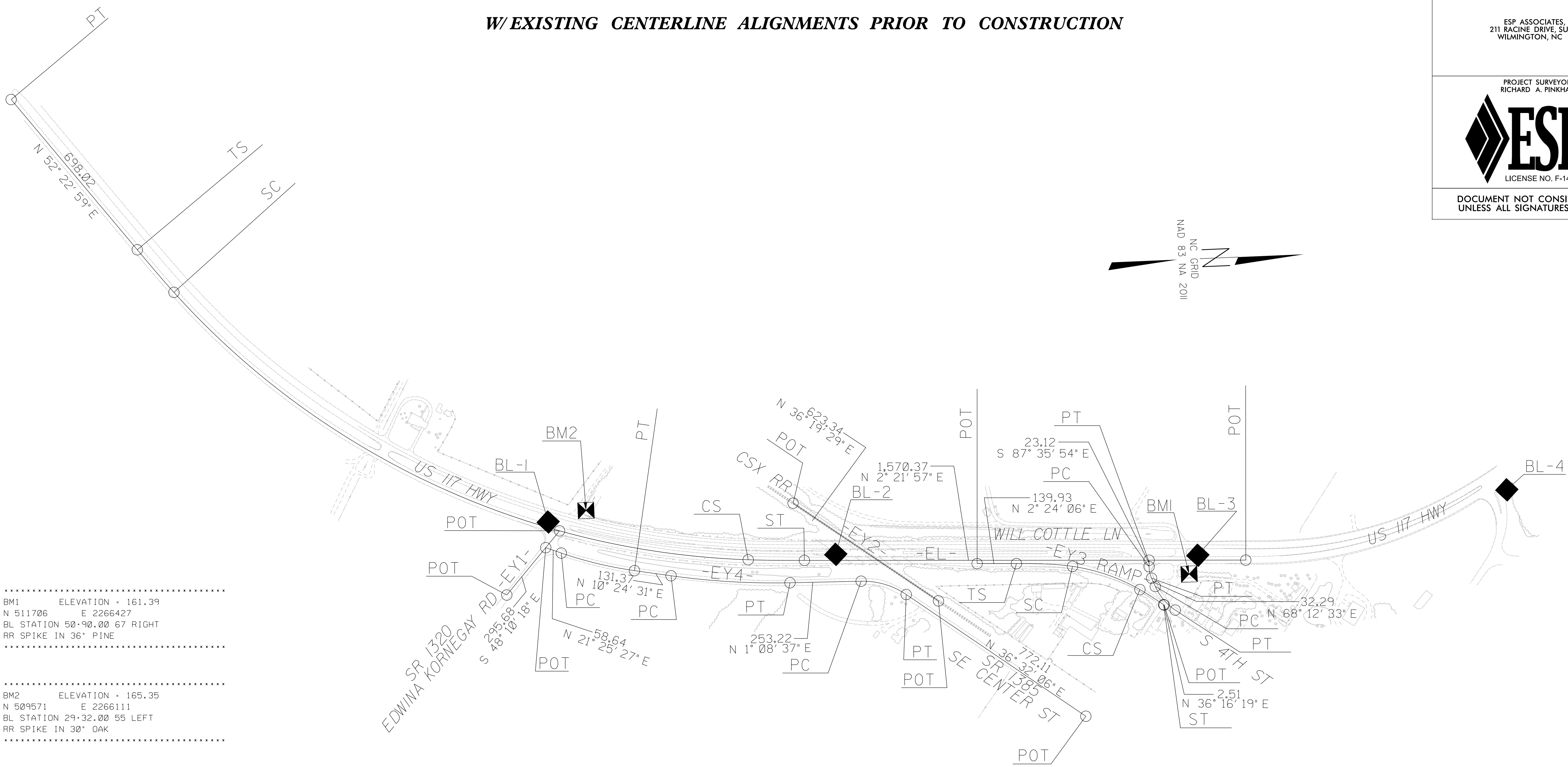
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

6/2/09

# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. B-5981	SHEET NO. RW02C-2
<b>Location and Surveys</b>	
ESP ASSOCIATES, INC. 211 RACINE DRIVE, SUITE #101 WILMINGTON, NC 28403	
PROJECT SURVEYOR: RICHARD A. PINKHAM	
 LICENSE NO. F-1407	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



.....  
 BM1 ELEVATION = 161.39  
 N 511706 E 2266427  
 BL STATION 50+90.00 67 RIGHT  
 RR SPIKE IN 36" PINE  
 .....

.....  
 BM2 ELEVATION = 165.35  
 N 509571 E 2266111  
 BL STATION 29+32.00 55 LEFT  
 RR SPIKE IN 30" OAK  
 .....

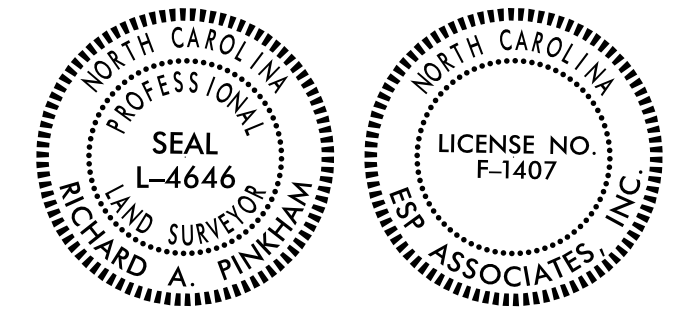
BL	POINT	DESC.	NORTH	EAST	ELEVATION
B59811		GPS CAP & REBAR	507702.5957	2264681.5601	138.98
B59812		GPS CAP & REBAR	508501.1033	2265615.9182	153.10
BL1		TRAV CAP & REBAR	509434.7482	2266145.5109	167.79
BL2		TRAV CAP & REBAR	510452.3477	2266303.4560	181.68
BL3		TRAV CAP & REBAR	511739.3543	2266360.7265	161.64
BL4		TRAV CAP & REBAR	512847.5249	2266174.0214	161.53
B59813		GPS CAP & REBAR	513559.5276	2265728.2849	161.34
B59814		GPS CAP & REBAR	514571.6392	2266388.2632	162.84

SEE SHEET  
 RW02C-3  
 FOR  
 ALIGNMENT DETAILS

I Richard A. Pinkham, PLS, certify that the Baseline Control BL-1, BL-2, BL-3, BL-4, and Benchmarks BM-1 and BM-2 for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed from 03/25/18, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 30th day of June, 2022.

Professional Land Surveyor L-4646



**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
3. PROJECT CONTROL WAS PROVIDED BY NCDOT.

REVISIONS

30-JUN-2022 16:06  
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# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. B-5981	SHEET NO. RW02C-3
Location and Surveys	
ESP ASSOCIATES, INC. 211 RACINE DRIVE, SUITE #101 WILMINGTON, NC 28403	
PROJECT SURVEYOR: RICHARD A. PINKHAM	
LICENSE NO. F-1407	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
POT	505479.735	2262668.739											
LINE			N 36°24'29.5" E	146.30									
PC	505597.475	2262755.571											
CURVE			N 38°41'23.2" E	456.23	04°33'47.5"(RT)	00°59'59.7"	456.35	228.30	5730.00				
PCC	505953.583	2263040.763											
CURVE			N 39°45'55.3" E	556.96	05°34'17.1"(LT)	00°59'59.7"	557.18	278.81	5730.00				
PT	506381.706	2263397.023											
LINE			N 36°58'46.7" E	144.03									
PC	506496.767	2263483.663											
CURVE			N 44°40'52.9" E	1535.82	15°24'12.3"(RT)	00°59'59.7"	1540.46	774.90	5730.00				
PT	507588.779	2264563.597											
LINE			N 52°22'59.0" E	698.02									
TS	508014.837	2265116.506											
SPIRAL			N 51°43'13.4" E	199.99						01°59'17.0"(LT)	200.00	133.34	66.67
SC	508138.730	2265273.496											
CURVE			N 27°22'28.0" E	2254.08	46°02'28.0"(LT)	01°59'17.0"	2315.89	1224.56	2882.00				
CS	510140.397	2266309.930											
SPIRAL			N 03°01'42.7" E	199.99						01°59'17.0"(LT)	200.00	133.34	66.67
ST	510340.107	2266320.496											
LINE			N 02°21'57.0" E	1570.37									
POT	511909.143	2266385.321											

EY1 POINT	N	E	BEARING	DIST
POT	509473.999	2266178.940		
LINE			S 48°10'18.3" E	295.68
POT	509276.808	2266399.268		

EY2 POINT	N	E	BEARING	DIST
POT	510308.344	2266115.369		
LINE			N 36°19'28.6" E	623.34
POT	510810.549	2266484.608		

EY3 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	511565.477	2266371.123							
LINE			S 87°35'54.0" E	23.12					
PC	511564.509	2266394.219							
CURVE			N 80°18'19.7" E	41.91	24°11'32.5"(LT)	57°17'44.8"	42.22	21.43	100.00
PT	511571.566	2266435.532							
LINE			N 68°12'33.4" E	32.29					
PC	511583.553	2266465.515							
CURVE			N 52°14'26.4" E	110.04	31°56'14.0"(LT)	28°38'52.4"	111.48	57.23	200.00
PT	511650.938	2266552.515							

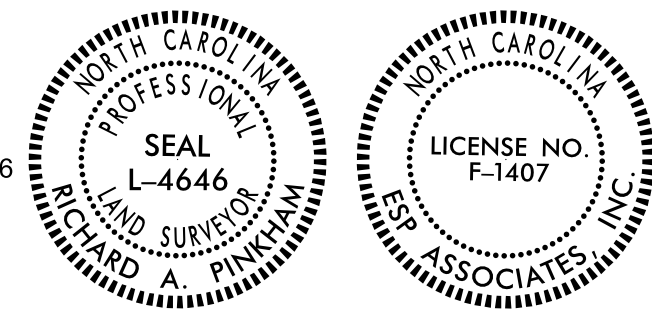
EY3-RAMP POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
POT	510953.566	2266357.691											
LINE			N 02°24'06.0" E	139.93									
TS	511093.370	2266363.555											
SPIRAL			N 05°11'21.4" E	199.81						08°21'51.7"(RT)	200.00	133.48	66.80
SC	511292.362	2266381.627											
CURVE			N 21°25'40.6" E	253.47	21°19'25.9"(RT)	08°21'51.7"	254.94	128.96	685.00				
CS	511528.310	2266474.227											
SPIRAL			N 34°52'41.0" E	99.98						04°10'55.8"(RT)	100.00	66.69	33.35
ST	511610.328	2266531.396											
LINE			N 36°16'19.4" E	2.51									
POT	511612.348	2266532.879											

EY4 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	509422.338	2266236.663							
LINE			N 21°25'27.4" E	58.64					
PC	509476.922	2266258.081							
CURVE			N 15°54'59.2" E	267.77	11°00'56.3"(LT)	04°06'26.8"	268.19	134.51	1394.93
PT	509734.431	2266331.514							
LINE			N 10°24'31.1" E	131.37					
PC	509863.643	2266355.249							
CURVE			N 05°46'34.1" E	424.01	09°15'53.9"(LT)	02°10'57.7"	424.47	212.70	2625.00
PT	510285.502	2266397.923							
LINE			N 01°08'37.1" E	253.22					
PC	510538.676	2266402.977							
CURVE			N 18°50'21.7" E	167.18	35°23'29.2"(RT)	20°50'05.4"	169.87	87.74	275.00
PT	510696.899	2266456.961							
LINE			N 36°32'06.3" E	772.11					
POT	511317.281	2266916.608							

I, Richard A. Pinkham, PLS, certify that the data compiled came from actual surveys/mapping performed under my supervision and hereby certify to the accuracy or quality of the individual data sources.

This 25th day of May, 2022.

Professional Land Surveyor L-4646



REVISIONS


24-MAY-2022 09:58  
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Ppetrucci AT ESP20061517

**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



# PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. B-5981	SHEET NO. RW02D-1
<b>Location and Surveys</b>	
ESP ASSOCIATES, INC. 211 RACINE DRIVE, SUITE #101 WILMINGTON, NC 28403	
PROJECT SURVEYOR: RICHARD A. PINKHAM	
 LICENSE NO. F-1407	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

L POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
PC	509294.967	2266114.559											
CURVE			N 18°27'50.6" E	322.38	06°24'45.0"(LT)	01°59'17.0"	322.55	161.44	2882.00				
PCC	509600.754	2266216.661											
CURVE			N 08°48'42.6" E	785.87	12°53'31.1"(LT)	01°38'13.3"	787.53	395.43	3500.00				
PT	510377.344	2266337.048											
LINE			N 02°21'57.0" E	411.18									
PC	510788.177	2266354.021											
CURVE			N 01°19'02.5" E	409.88	02°05'48.9"(LT)	00°30'41.7"	409.90	204.97	11200.00				
PCC	511197.947	2266363.444											
CURVE			N 01°19'02.5" E	409.88	02°05'48.9"(RT)	00°30'41.7"	409.90	204.97	11200.00				
PT	511607.716	2266372.868											
LINE			N 02°21'57.0" E	248.92									
TS	511856.428	2266383.143											
SPIRAL			N 01°01'49.2" E	199.96						355°59'35.9"(LT)	200.00	133.37	66.70
SC	512056.352	2266386.739											
CURVE			N 14°35'44.4" W	641.16	25°54'34.6"(LT)	04°00'24.1"	646.66	328.95	1430.00				
CS	512676.822	2266225.168											
SPIRAL			N 30°13'18.0" W	199.96						04°00'24.1"(LT)	200.00	133.37	66.70
ST	512849.602	2266124.521											
LINE			N 31°33'25.9" W	53.09									
POT	512894.839	2266096.737											

Y1 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
TS	511166.546	2266375.253											
SPIRAL			N 03°10'59.6" E	149.86						08°15'49.7"(RT)	150.00	100.11	50.10
SC	511316.176	2266383.575											
CURVE			N 22°33'29.7" E	249.23	27°43'50.5"(RT)	11°01'06.3"	251.68	128.35	520.00				
CS	511546.334	2266479.184											
SPIRAL			N 00°00'00.0" E	0.00						00°00'00.0"(RT)	0.00	0.00	0.00
ST	511546.334	2266479.184											
LINE			N 36°25'24.9" E	279.90									
POT	511771.558	2266645.376											

SR1 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	509423.509	2266237.123							
LINE			N 21°25'27.4" E	56.33					
PC	509475.948	2266257.699							
CURVE			N 17°48'23.4" E	201.92	07°14'07.9"(LT)	03°34'51.6"	202.05	101.16	1600.00
PT	509668.195	2266319.447							
LINE			N 14°11'19.5" E	276.56					
PC	509936.319	2266387.236							
CURVE			N 07°31'02.5" E	487.93	13°20'34.0"(LT)	02°43'42.1"	489.04	245.63	2100.00
PT	510420.059	2266451.071							
LINE			N 00°50'45.5" E	177.81					
PC	510597.850	2266453.696							
CURVE			N 18°41'25.9" E	183.86	35°41'20.8"(RT)	19°05'54.9"	186.87	96.58	300.00
PT	510772.015	2266512.616							
LINE			N 36°32'06.3" E	511.34					
POT	511182.871	2266817.022							

RR1 POINT	N	E	BEARING	DIST
POT	510308.344	2266115.369		
LINE			N 36°19'28.6" E	623.34
POT	510810.549	2266484.608		

RR2 POINT	N	E	BEARING	DIST
POT	510317.229	2266103.284		
LINE			N 36°19'28.6" E	623.34
POT	510819.434	2266472.522		

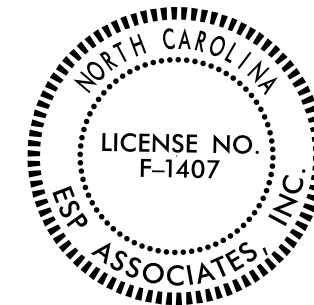
REVISIONS

24-MAY-2022 10:59:59  
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 ppetr:ucel AT ESP 5/20/2022 10:59:59

I, Richard A. Pinkham, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 25th day of May, 2022.

Professional Land Surveyor L-4646



**NOTES:**

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

# RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-5981	RW03E-1

## Location and Surveys

ESP ASSOCIATES, INC.  
211 RACINE DRIVE, SUITE #101  
WILMINGTON, NC 28403

PROJECT SURVEYOR:  
RICHARD A. PINKHAM



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	26+19.96	100.00	510883.5570	2266457.6080
L	27+00.00	100.00	510964.2825	2266459.9422
L	29+70.00	66.45	511236.2423	2266430.1422

PERMANENT EASEMENT IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	27+65.00	-192.00	511035.5485	2266169.4687
L	27+65.00	-169.83	511035.1155	2266191.6364
L	27+87.00	-192.00	511057.1676	2266169.8698
L	27+87.00	-169.34	511056.7695	2266192.5310
L	28+04.00	86.31	511069.4080	2266448.4230
L	28+08.00	106.00	511073.1293	2266468.1763
L	28+43.00	81.43	511108.7657	2266444.1104
L	28+47.00	101.00	511112.5556	2266463.7258

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
SR1	10+46.00	70.37	509440.6282	2266319.4279
SR1	12+58.39	50.00	509655.9391	2266367.9213
SR1	15+34.95	45.00	509925.2887	2266430.8635
SR1	20+23.98	45.00	510419.3949	2266496.0661
SR1	22+01.80	35.00	510597.3334	2266488.6924
SR1	23+88.66	35.00	510751.1793	2266540.7380
SR1	24+60.00	35.00	510808.4982	2266583.2061
SR1	24+60.00	19.35	510817.8167	2266570.6291

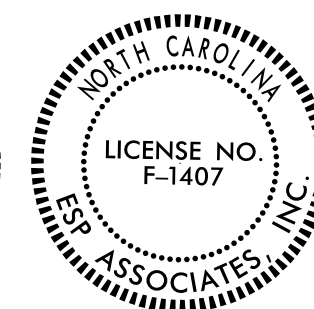
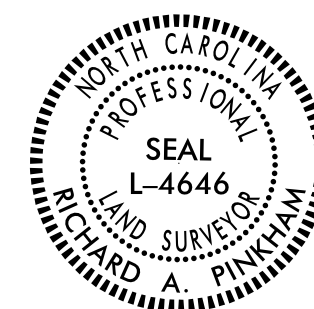
REVISIONS

24 MAY 2022 10:59:00 AM  
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I, Richard A. Pinkham, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on 04/19/22, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 36.1800 as applicable.

This 25th day of May, 2022.

Professional Land Surveyor L-4646




### NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 04/19/22.

Location and Surveys

ESP ASSOCIATES, INC.  
271 RACINE DRIVE, SUITE #101  
WILMINGTON, NC 28403

PROJECT SURVEYOR:  
RICHARD A. PINKHAM



LICENSE NO. F-1407

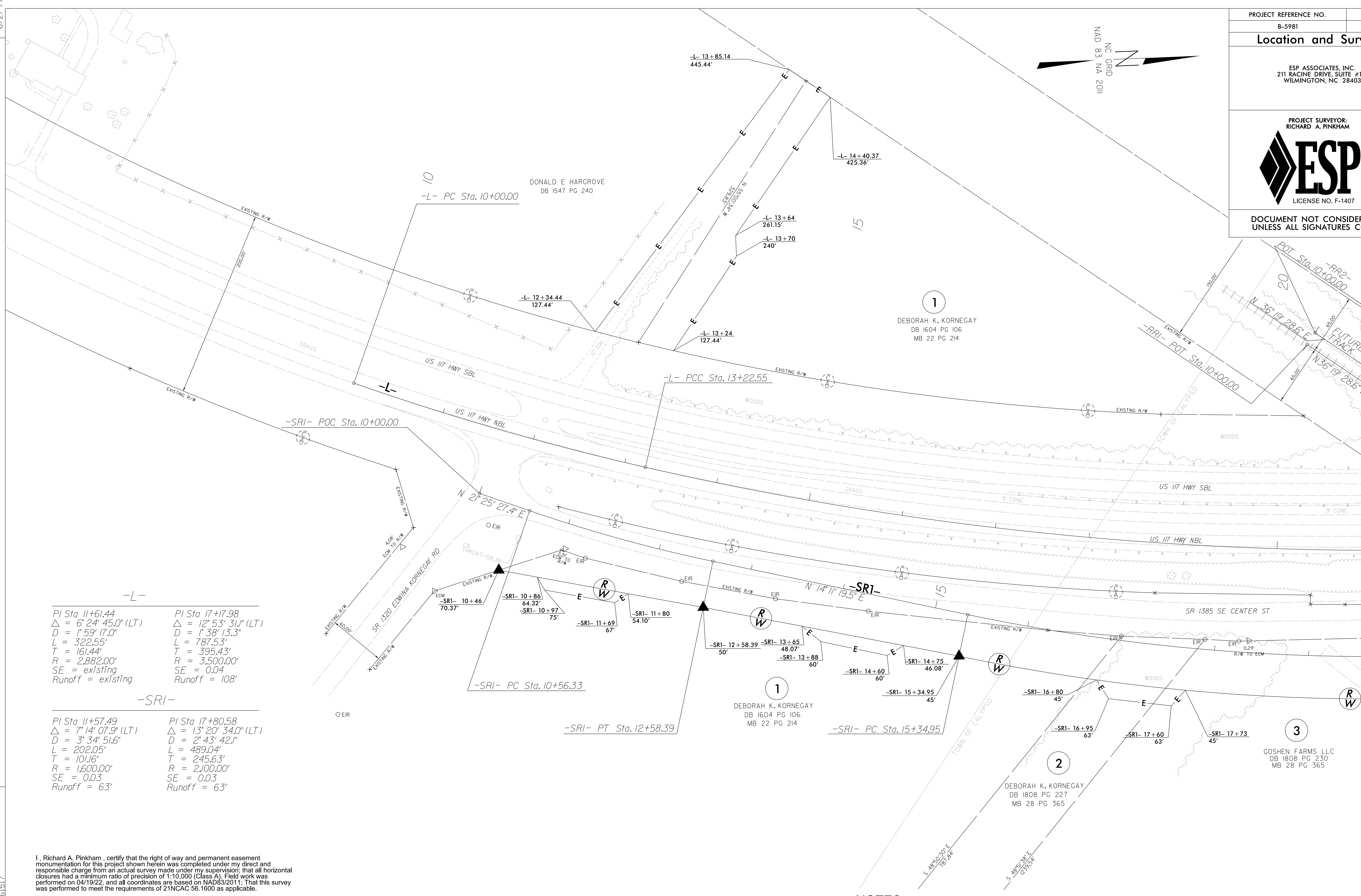
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



6/2/19

REVISIONS

MATCHLINE -L- STA. 21+00 SEE SHEET RW05



-L-	
PI Sta 11+61.44	PI Sta 17+17.98
$\Delta = 6^{\circ} 24' 45.0''$ (LT)	$\Delta = 12^{\circ} 53' 31.1''$ (LT)
D = 1' 59' 17.0"	D = 1' 38' 13.3"
L = 322.55'	L = 787.53'
T = 161.44'	T = 395.43'
R = 2,882.00'	R = 3,500.00'
SE = existing	SE = 0.04
Runoff = existing	Runoff = 108'

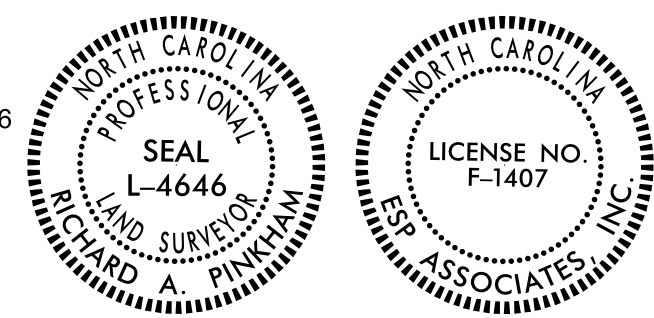
  

-SRI-	
PI Sta 11+57.49	PI Sta 17+80.58
$\Delta = 7^{\circ} 14' 07.9''$ (LT)	$\Delta = 13^{\circ} 20' 34.0''$ (LT)
D = 3' 34' 51.6"	D = 2' 43' 42.1"
L = 202.05'	L = 489.04'
T = 101.16'	T = 245.63'
R = 1,600.00'	R = 2,100.00'
SE = 0.03	SE = 0.03
Runoff = 63'	Runoff = 63'

I, Richard A. Pinkham, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on 04/19/22, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 25th day of May, 2022.

Professional Land Surveyor L-4646



NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 04/19/22.

E:\MAX 2022\0527\1001\051\_b5981\_con\_esp3\Location\b5981.LS\_rw04.dgn  
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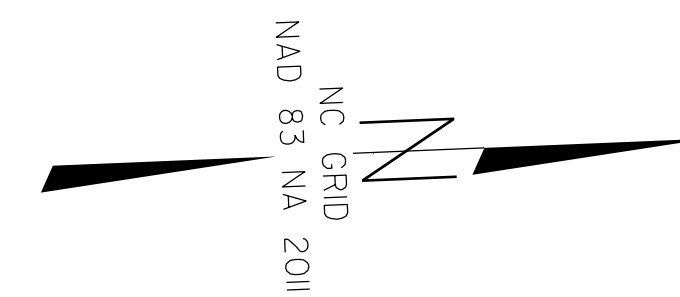
Location and Surveys

ESP ASSOCIATES, INC. 211 RACINE DRIVE, SUITE #101 WILMINGTON, NC 28403

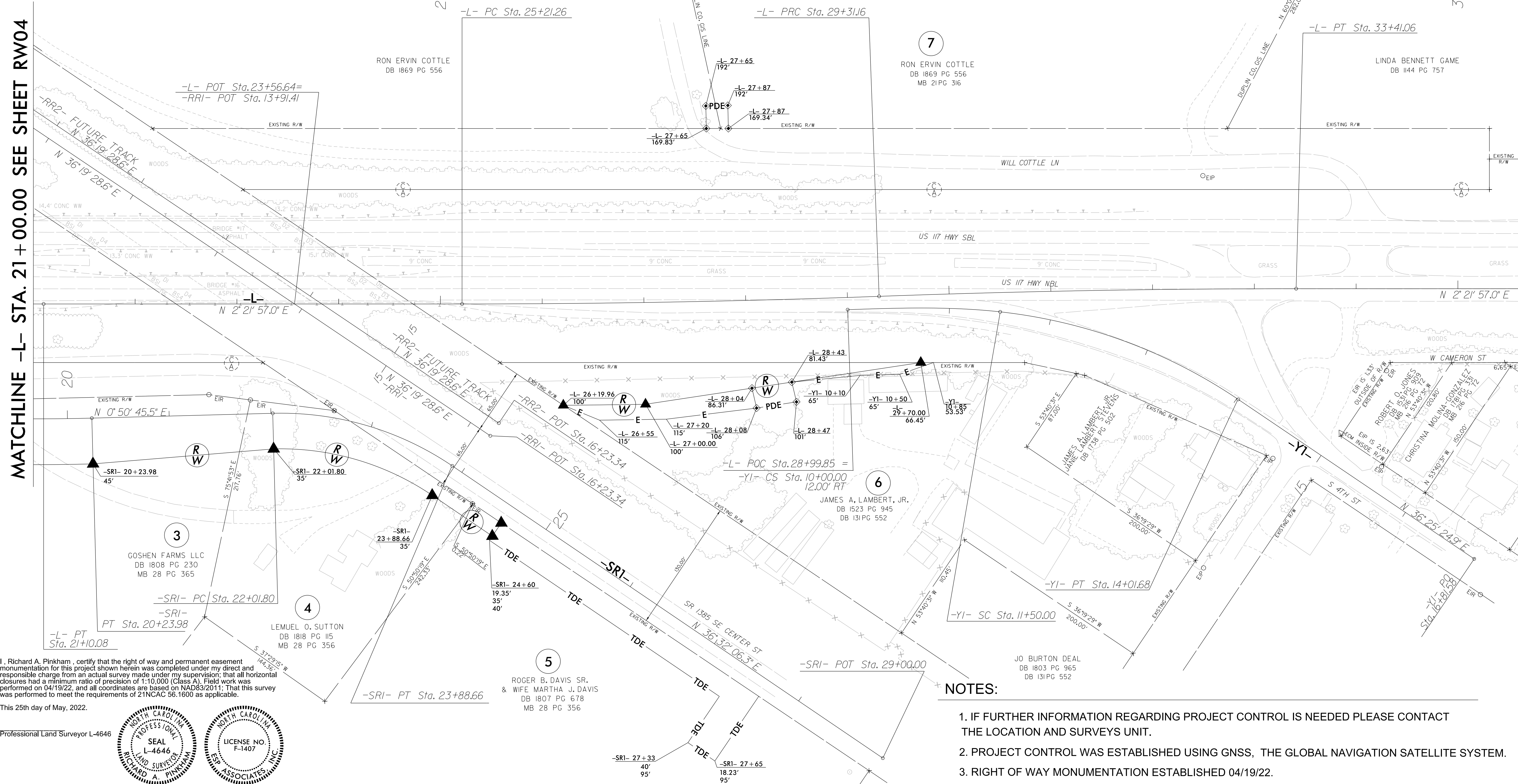


DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-		-YI-		-SRI-	
PI Sta 27+26.23	PI Sta 31+36.13	PI Sta 11+00.11	PI Sta 12+78.35	PI Sta 22+96.30	PI Sta 41+18.94
$\Delta = 2' 05" 48.9" (LT)$	$\Delta = 2' 05" 48.9" (RT)$	$\Delta = 8' 15" 49.7"$	$\Delta = 27' 43" 50.5" (RT)$	$\Delta = 35' 50" 23.7" (RT)$	$\Delta = 25' 54" 34.6" (LT)$
$D = 0' 30" 41.7"$	$D = 0' 30" 41.7"$	$Ls = 150.00'$	$D = 11' 01" 06.3"$	$D = 19' 05" 54.9"$	$D = 4' 00" 24.1"$
$L = 409.90'$	$L = 409.90'$	$LT = 100.11'$	$L = 251.68'$	$L = 187.66'$	$L = 646.66'$
$T = 204.97'$	$T = 204.97'$	$ST = 50.10'$	$T = 128.35'$	$T = 97.01'$	$T = 328.95'$
$R = 11,200.00'$	$R = 11,200.00'$		$R = 520.00'$	$R = 300.00'$	$R = 1,430.00'$
$SE = NC$	$SE = NC$		$SE = 0.06$	$SE = 0.04$	$SE = EXIST.$
$Runoff = N/A$	$Runoff = N/A$		$Runoff = 84'$		



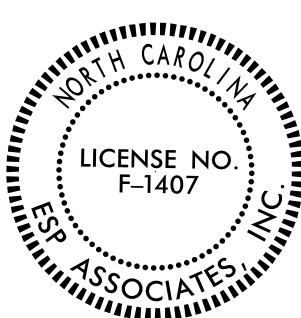
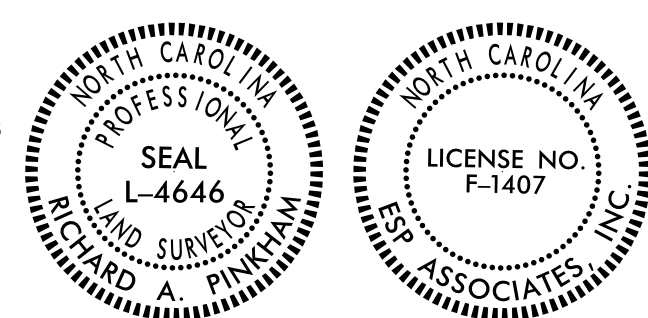
MATCHLINE -L- STA. 21+00.00 SEE SHEET RW04



I, Richard A. Pinkham, certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed on 04/19/22, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 25th day of May, 2022.

Professional Land Surveyor L-4646



NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 04/19/22.

REVISIONS

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