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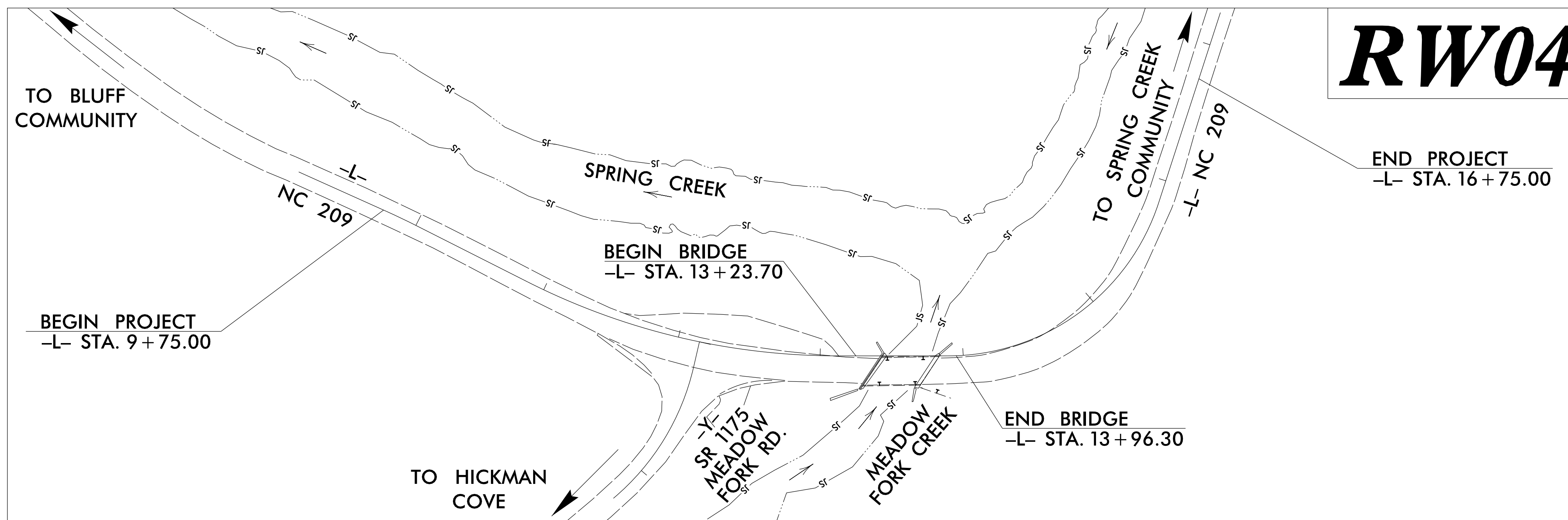
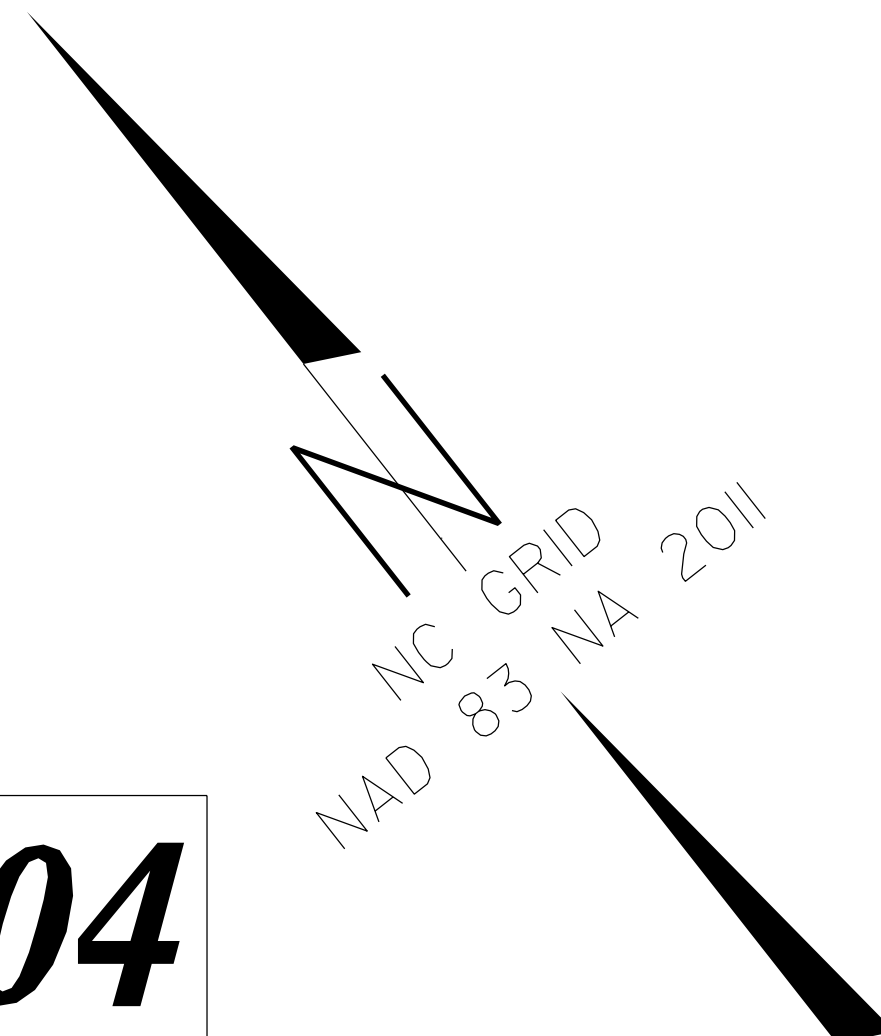
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TIP PROJECT: BR-0032

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0032	RW01	

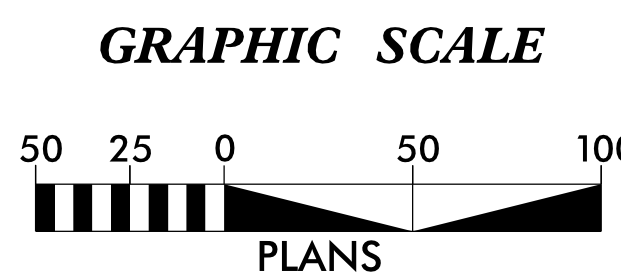
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 SURVEY CONTROL, EXISTING CENTERLINES,
 RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

MADISON COUNTY



RW04

16-AUG-2021 09:36
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 F:\zietlow AT MC-ASH-WKS-LS2H



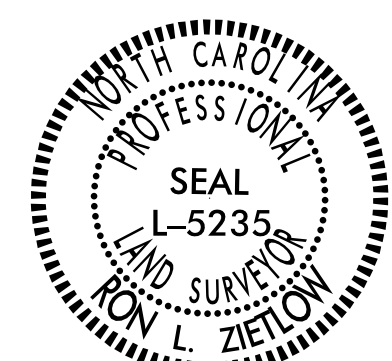
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY MATTERN AND CRAIG FOR MONUMENT "BR-0032 GPS2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 779474.7950(ft) EASTING: 857371.6940(ft) ELEVATION: 1895.87(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99983759
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BR-0032 GPS2" TO -L- STATION 10+00.00 IS N80°0'12"W 2058.41(ft)
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

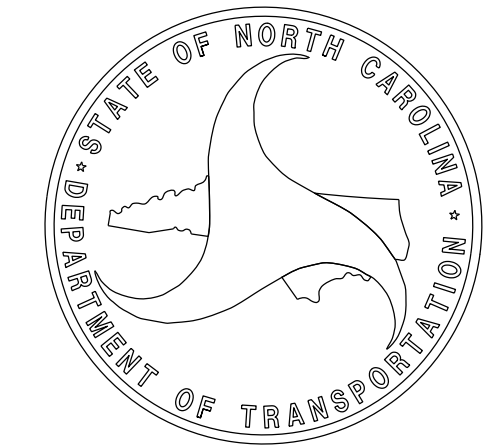
Prepared in the Office of:
Mattern & Craig
 ENGINEERS-SURVEYORS
 12 BROAD STREET
 ASHEVILLE, NORTH CAROLINA 28801
 (828) 254-2201
 FAX (828) 254-4562
 NC LIC. NO. C-1154

2018 STANDARD SPECIFICATIONS
 RIGHT OF WAY DATE: _____ LETTING DATE: _____

PROFESSIONAL LAND SURVEYOR



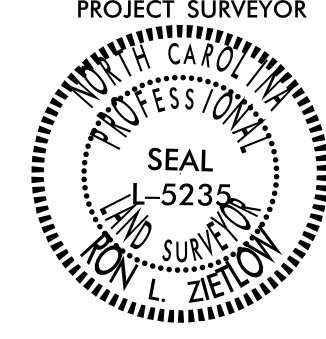
Ron Zietlow 8 /16 /2021
 SIGNATURE: _____ Date: _____



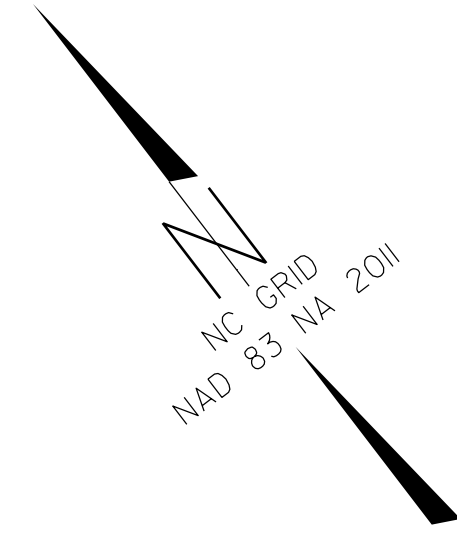
SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

SEE SHEET RW02C-2
FOR FURTHER
ALIGNMENT DETAILS

PROJECT REFERENCE NO. BR-0032	SHEET NO. rw02c-1
Location and Surveys	
MATTERN AND CRAIG ENGINEERS & SURVEYORS 12 BROAD STREET ASHEVILLE NORTH CAROLINA 28801 (828) 254-2201 FAX (828) 254-4562 NC LIC. NO. C-1154	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

GPS2=BR0032-2



I, R. L. Zietlow, 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:

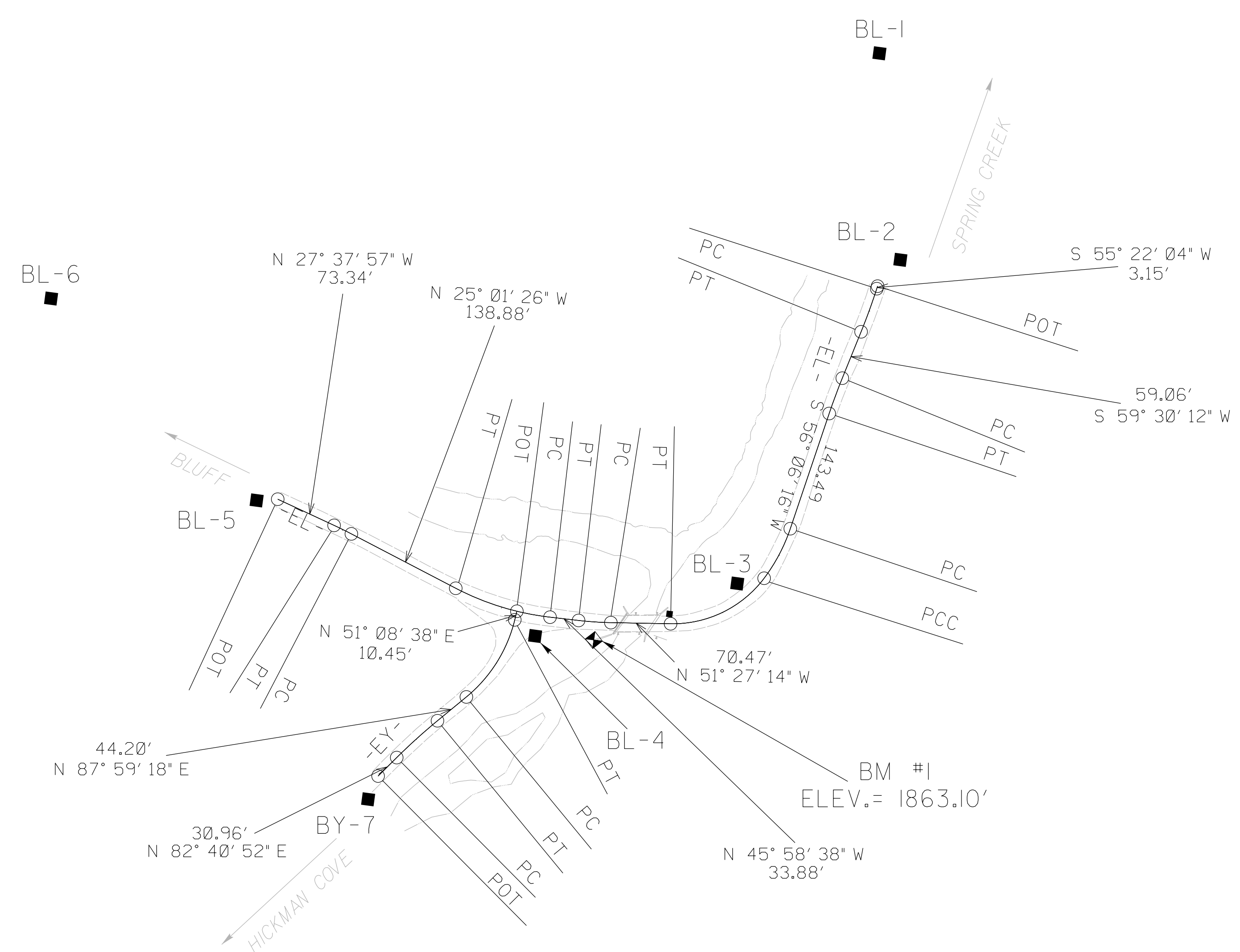
Class of survey: **AA**
Type of GPS field procedure: VRS
Dates of survey: 7/9/18 to 7/26/18
Datum/Epoch: NAD83 NA 2011
Published/Fixed-control use: Project Control
Localized around: BR-0032 GPS2
Northing: 779474.7950(ft)
Easting: 857371.6940(ft)
Combined grid factor: 0.99983759
Geoid model: 12USb
Units: US Survey Feet

I also certify that the Baseline Control 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 7/9/18 to 7/26/21, 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 16th day of August, 2021.

Ron Zietlow
Professional Land Surveyor L-5235

GPS1= BR0032-1



REVISIONS


16-AUG-2021 07:21
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R. Zietlow AT MC-RSH-WKS-L52H

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.

SURVEY CONTROL SHEET

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. BR-0032	SHEET NO. rw02c-2
Location and Surveys	
MATTERN AND CRAIG ENGINEERS & SURVEYORS 12 BROAD STREET ASHEVILLE NORTH CAROLINA 28801 (828) 254-2201 FAX (828) 254-4562 NC LIC. NO. C-1154	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

EL									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	779686.654	856015.287	S 55°22'04" W	3.15					
LINE									
PC	779684.863	856012.695	S 57°26'08" W	54.12	04°08'08"(RT)	07°38'22"	54.13	27.08	750.00
CURVE									
PT	779655.732	855967.081	S 59°30'12" W	59.06					
LINE									
PC	779625.757	855916.187	S 57°48'14" W	44.49	03°23'56"(LT)	07°38'22"	44.49	22.25	750.00
CURVE									
PT	779602.055	855878.543	S 56°06'16" W	143.49					
LINE									
PC	779522.036	855759.442	S 65°16'50" W	66.14	18°21'08"(RT)	27°37'48"	66.42	33.50	207.37
CURVE									
PCC	779494.379	855699.364	N 78°29'55" W	122.76	54°05'21"(RT)	42°26'29"	127.44	68.92	135.00
CURVE									
PT	779518.857	855579.065	N 51°27'14" W	70.47					
LINE									
PC	779562.773	855523.946	N 48°42'56" W	38.22	05°28'36"(RT)	14°19'26"	38.24	19.13	400.00
CURVE									
PT	779587.990	855495.226	N 45°58'38" W	33.88					
LINE									
PC	779611.534	855470.865	N 35°30'02" W	116.37	20°57'12"(RT)	17°54'18"	117.02	59.17	320.00
CURVE									
PT	779706.275	855403.285	N 25°01'26" W	138.88					
LINE									
PC	779832.119	855344.539	N 26°19'42" W	22.76	02°36'31"(LT)	11°27'33"	22.76	11.38	500.00
CURVE									
PT	779852.520	855334.444	N 27°37'57" W	73.34					
LINE									
POT	779917.492	855300.431							

EY									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	779586.044	855195.757	N 82°40'52" E	30.96					
LINE									
PC	779589.987	855226.462	N 85°20'05" E	64.82	05°18'26"(RT)	08°11'06"	64.84	32.44	700.00
CURVE									
PT	779595.259	855291.065	N 87°59'18" E	44.20					
LINE									
PC	779596.811	855335.235	N 69°33'58" E	107.45	36°50'40"(LT)	33°42'12"	109.32	56.62	170.00
CURVE									
PT	779634.323	855435.919	N 51°08'38" E	10.45					
LINE									
POT	779640.877	855444.055							

BL				
POINT	DESC.	NORTH	EAST	ELEVATION
GPS1	BR0032-1	778821.7890	856671.0080	1922.80
GPS2	BR0032-2	779474.7950	857371.6940	1895.87
1	BL-1	779903.4830	856184.0730	1880.29
2	BL-2	779694.9400	856055.4330	1877.95
3	BL-3	779508.7040	855670.3030	1867.77
4	BL-4	779604.5840	855443.2900	1867.52
5	BL-5	779931.4470	855279.7370	1875.80
6	BL-6	780268.1120	855232.0650	1870.75

BY				
POINT	DESC.	NORTH	EAST	ELEVATION
7	BY1-7	779571.3810	855169.6720	1877.25
4	BL-4	779604.5840	855443.2900	1867.52

BMI ELEVATION = 1863.10
N 779559 E 855496
BMI IS RR SPIKE SET IN BASE OF 30"
SYCAMORE

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.

I, R. L. Zietlow, 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: VRS
Dates of survey: 7/9/18 to 7/26/18
Datum/Epoch: NAD83 NA 2011
Published/Fixed-control use: Project Control
Localized around: BR-0032 GPS2
Northing: 779474.7950(ft)
Easting: 857371.6940(ft)
Combined grid factor: 0.99983759
Geoid model: 12USb
Units: US Survey Feet


I also certify that the Baseline Control 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 7/9/18 to 7/26/21, 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 16th day of August, 2021.

Ron Zietlow
Professional Land Surveyor L-5235

REVISIONS

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO. BR-0032	SHEET NO. RW02D-1
Location and Surveys	
MATTERN AND CRAIG ENGINEERS & SURVEYORS 12 BROAD STREET ASHEVILLE NORTH CAROLINA 28801 (828) 254-2201 FAX (828) 254-4562 NC LIC. NO. C-1154	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, R. L. Zietlow, 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 16th day of August, 2021.

Ron Zietlow
Professional Land Surveyor L-5235

-L- NC 209

TYPE	STATION	NORTH	EAST
POT	9+10.00	779912.0874	855303.2601
PC	9+77.24	779852.5203	855334.4441
PT	10+00.00	779832.1195	855344.5393
PC	10+87.57	779752.7679	855381.5819
PT	13+12.40	779578.2772	855520.0931
PC	13+89.12	779530.9014	855580.4299
PT	15+83.99	779524.1532	855762.5931
POT	17+23.68	779602.0549	855878.5428

-Y- SR 1175 (MEADOW FORK RD.)


TYPE	STATION	NORTH	EAST
POT	10+00.00	779645.7496	855450.1032
PC	10+18.21	779634.3227	855435.9195
PT	11+27.53	779596.8107	855335.2348

REVISIONS

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. BR-0032	SHEET NO. RW03E-1
Location and Surveys	
MATTEN AND CRAIG ENGINEERS & SURVEYORS 12 BROAD STREET ASHEVILLE NORTH CAROLINA 28801 (828) 254-2201 FAX (828) 254-4562 NC LIC. NO. C-1154	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-L- NC 209 ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+87.57	50.00	779731.6197	855336.2746
L	10+87.57	-50.00	779773.9177	855426.8884
L	11+33.90	52.48	779685.1253	855357.9789
L	11+44.58	-46.95	779727.4250	855448.5920
L	12+52.91	-42.13	779647.4872	855505.6122
L	12+85.03	58.33	779552.0374	855460.4783
L	12+90.03	-41.54	779623.9436	855529.9728
L	13+24.65	59.81	779523.6672	855492.7890
L	13+25.37	-40.18	779601.8780	855555.1034
L	13+93.44	60.40	779479.7517	855547.9074
L	13+98.14	-39.49	779557.9625	855610.2217
L	15+06.27	-44.32	779542.5836	855686.1166
L	15+19.48	54.82	779446.2073	855712.7625
L	15+78.39	-49.93	779563.5386	855731.5576
L	15+81.12	50.00	779480.5647	855787.3040

MAG NAIL IN ROCK
MAG NAIL IN ROCK
MAG NAIL SET IN TREE

-L- NC 209 ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+69.00	-44.66	779707.7056	855458.8052
L	11+69.00	-64.00	779718.7252	855474.6937
L	11+91.00	-64.00	779703.3124	855485.9151
L	11+91.00	-43.20	779690.6871	855469.3837
L	12+79.00	-78.00	779657.6545	855546.8780
L	12+79.00	-41.99	779630.9483	855522.7251
L	13+09.00	-73.00	779637.4840	855562.9112
L	13+09.00	-51.00	779620.2774	855549.2023
L	13+39.00	-51.00	779601.9654	855572.5067
L	13+39.00	-40.09	779593.3818	855565.7669

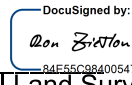
DRILL HOLE IN ROCK

-Y- SR 1175 (MEADOW FORK RD) ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	10+75.84	15.50	779621.0073	855380.6693
Y	10+64.45	-15.50	779596.3013	855402.5646
Y	11+27.53	-15.50	779581.3203	855335.7789
Y	11+27.53	15.50	779612.3012	855334.6907


REVISIONS

I, R. L. Zietlow, 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 from 9/30/19 to 12/30/21, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 30th day of December, 2021.

Professional Land Surveyor L-5235

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 9/30/19 TO 12/30/21 .

PROJECT REFERENCE NO.	SHEET NO.
BR-0032	RW04
Location and Surveys	
MATTER AND CRAIG ENGINEERS & SURVEYORS 12 BROAD STREET ASHEVILLE NORTH CAROLINA 28801 (828) 254-2201 FAX (828) 254-4562 NC LIC. NO. C-1154	
PROJECT SURVEYOR	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, R. L. Zietlow, 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 from 9/30/19 to 12/30/21, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

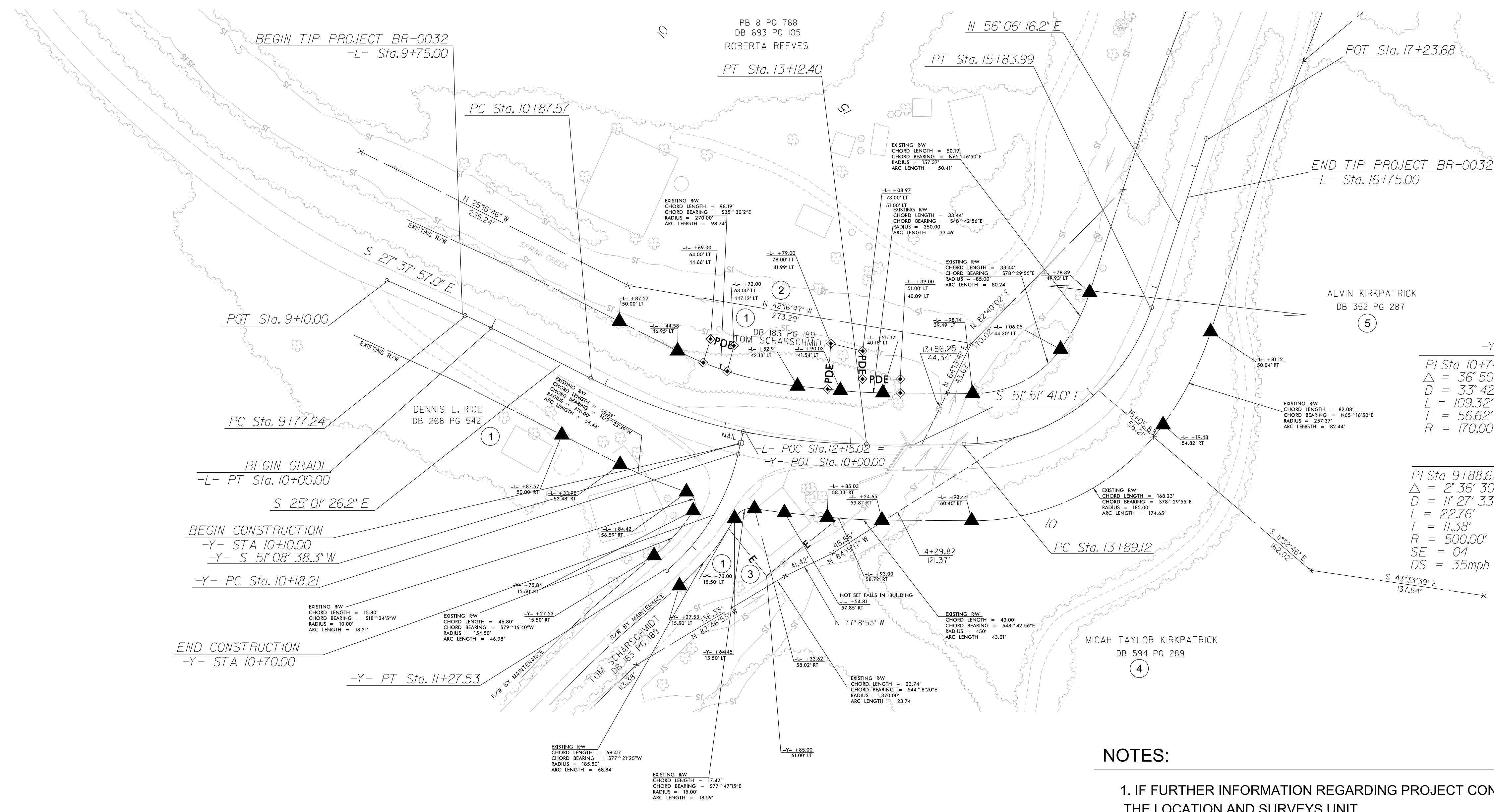
This 30th day of December, 2021.

DocuSigned by:

 34E55C98405472

Professional Land Surveyor L-5235

REVISIONS



-Y-		
PI Sta 10+74.84		
Δ = 36° 50' 39.8" (RT)		
D = 33' 42" 12.2"		
L = 109.32'		
T = 56.62'		
R = 170.00'		
-L-		
PI Sta 9+88.62	PI Sta 12+02.09	PI Sta 15+01.80
Δ = 2° 36' 30.8" (RT)	Δ = 26° 50' 14.8" (LT)	Δ = 72° 02' 02.8" (LT)
D = 11' 27' 33.0"	D = 11' 56' 11.8"	D = 36' 57' 54.1"
L = 224.83'	L = 194.87'	L = 194.87'
T = 11.38'	T = 114.52'	T = 112.68'
R = 500.00'	R = 480.00'	R = 155.00'
SE = 04	SE = 04	SE = 04
DS = 35mph	DS = 35mph	*DS = 25mph

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 9/30/19 TO 12/30/21 .

TO: PEG 3001010-19 SURVEY 3321AC RW UPDATE SURVEY DWG BR-0032-RW04.dgn
 BY: R. L. ZIETLOW
 DATE: 12/15/21