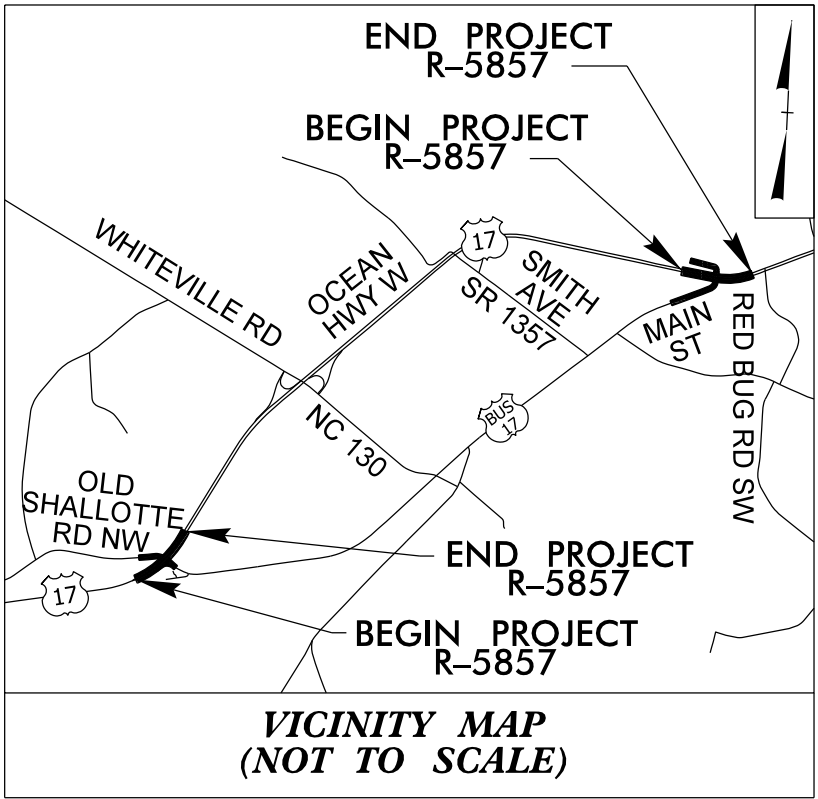


09/08/19

TIP PROJECT: R-5857



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

BRUNSWICK COUNTY

LOCATION: US 17 BUSINESS SOUTH OF SHALLOTTE AND US 17 BUSINESS NORTH OF SHALLOTTE.
CONVERT INTERSECTIONS TO REDUCED CONFLICT INTERSECTIONS.

BEGIN TIP PROJECT R-5857
-L1- POT STA 19+09.00

BEGIN CONSTRUCTION
-Y4- POT STA 14+50.00



END CONSTRUCTION
-Y2- POT STA 14+15.00

BEGIN CONSTRUCTION
-Y- POT STA 17+00.00

BEGIN TIP PROJECT R-5857
-L- POC STA 29+10.00

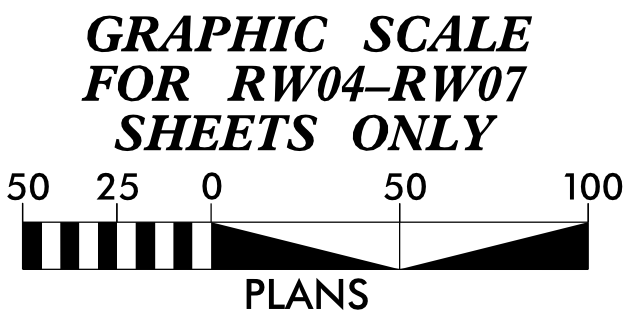
END TIP PROJECT R-5857
-L- POT STA 54+25.00

END CONSTRUCTION
-Y1- POC STA 15+92.00

END CONSTRUCTION
-L1- POC STA 42+20.00

END TIP PROJECT R-5857
-L1- POC STA 42+00.00

END CONSTRUCTION
-Y5- POT STA 23+00.00



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "MULBERRY" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 870,952.67(ft) EASTING: 2,184,832.627(ft) ELEVATION: 60.289(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0001168884 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "MULBERRY" TO -L1- STATION 10+00 IS S 89-27°20.8" E 6,121.78(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:

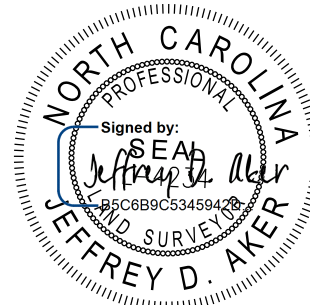


2024 STANDARD SPECIFICATIONS

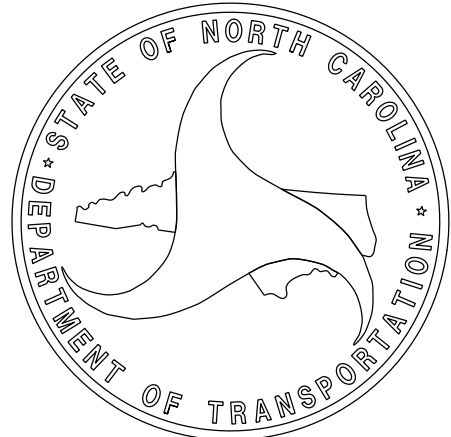
RIGHT OF WAY DATE:
APRIL 21, 2023

LETTING DATE:
JULY 15, 2025

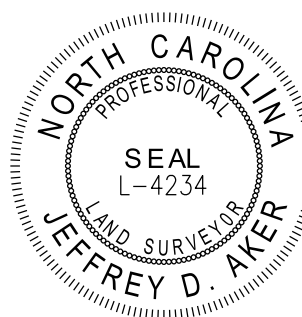
PROFESSIONAL LAND
SURVEYOR



SIGNATURE: Date: APRIL 25, 2025



SURVEY CONTROL SHEET
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW02C-1
Location and Surveys	
 MKIM & CREED 4300 EDWARDS MILL RD. SUITE 200 RALEIGH, NC 27612	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

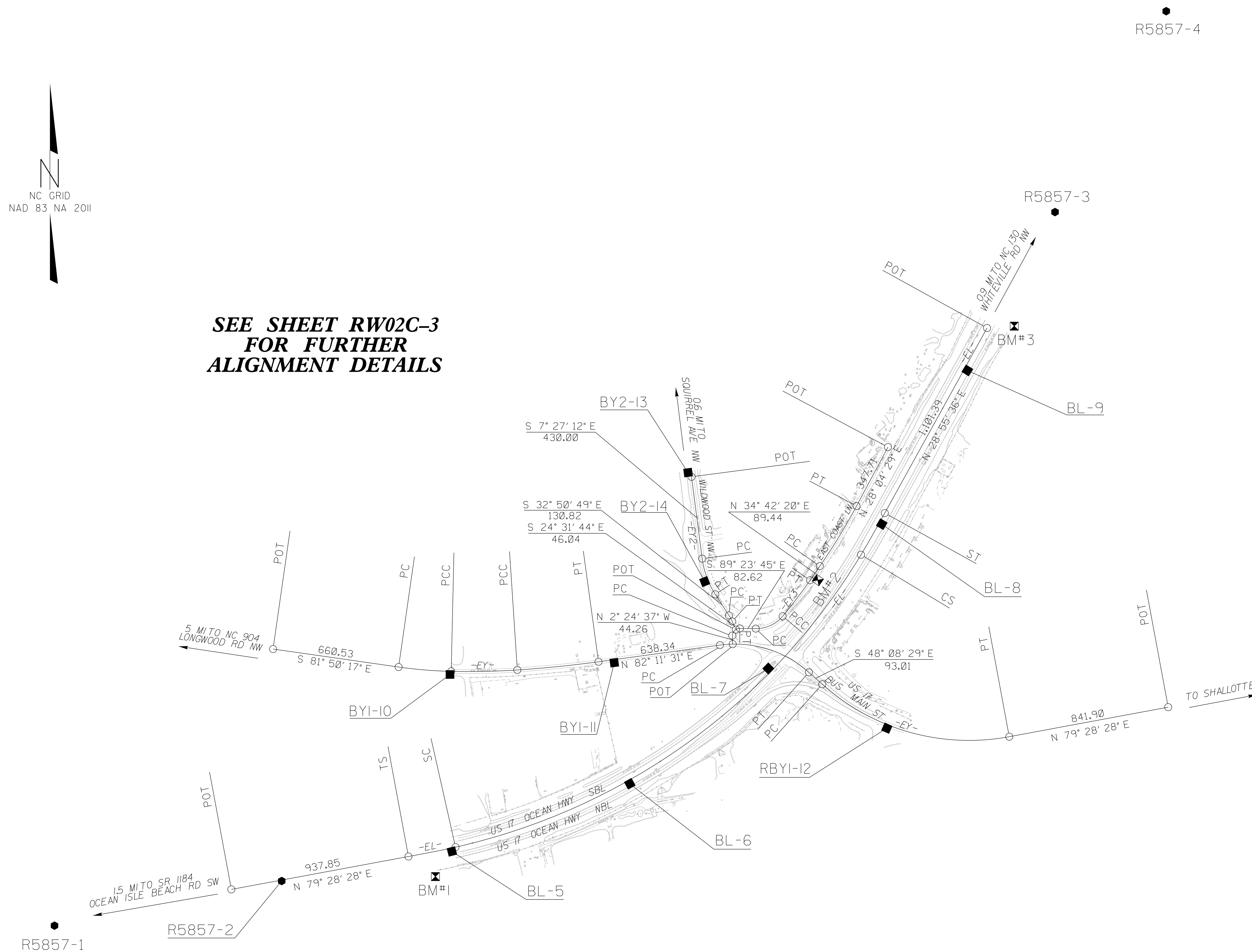
Class of survey: AA
Type of GPS field procedure: RTN
Dates of survey: January/February, 2019 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.00011668884
Geoid model: G12B
Units: USFT

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 1/2/2019 to 2/3/2019, and 1/24/2025 to 2/11/2025, 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 25th day of April, 2025.

Signed by:
Jeffrey D. Aker
B5C6B9C5345942D...

Jeffrey D. Aker
Professional Land Surveyor L-4234



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.

6/2/95

REVISIONS

24-APR-2025 15:39
I:\00482\1286\Geomatics\80-Drawings\85857-LS-RW02C-2.dgn
mbtaylor AT MC06829

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
	R5857 - 1	GPS CAP & REBAR	75947.4886	2172743.2304	25.16
	R5857 - 2	GPS CAP & REBAR	76180.0233	2173926.4190	16.51
	BL - 5	TRV CAP & REBAR	76334.2380	2174812.7290	13.55
	BL - 6	TRV CAP & REBAR	76686.4480	2175738.9870	14.95
	BL - 7	TRV CAP & REBAR	77286.6780	2176460.3270	21.74
	BL - 8	TRV CAP & REBAR	78038.6280	2177051.4290	26.20
	BL - 9	TRV CAP & REBAR	78839.2750	2177496.9880	31.66
	R5857 - 3	GPS CAP & REBAR	79664.2913	2177953.6143	31.04
	R5857 - 4	GPS CAP & REBAR	80710.6671	2178532.6269	27.09

BY1	POINT	DESC.	NORTH	EAST	ELEVATION
	BY1 - 10	TRV CAP & REBAR	77255.5520	2174802.7140	23.00
	BY1 - 11	TRV CAP & REBAR	77317.0220	2175658.1840	21.90
	BL - 7	TRV CAP & REBAR	77286.6780	2176460.3270	21.74
	RBY1 - 12	TRV CAP & REBAR	76976.0390	2177077.5050	22.37

BY2	POINT	DESC.	NORTH	EAST	ELEVATION
	BY2 - 13	TRV CAP & REBAR	78307.2920	2176042.4470	24.97
	BY2 - 14	TRV CAP & REBAR	77739.8730	2176129.4010	20.21
	BL - 7	TRV CAP & REBAR	77286.6780	2176460.3270	21.74

BM1 ELEVATION = 15.53
N 76203 E 2174727
BENCH TIE IN 15 INCH PINE

BM2 ELEVATION = 25.08
N 77747 E 2176718
BENCH TIE IN 20 INCH PINE

BM3 ELEVATION = 23.73
N 79070 E 2177741
BENCH TIE IN 12 INCH PINE

PROJECT REFERENCE NO.
R-5857

SHEET NO.
RW02C-2

Location and Surveys



4300 EDWARDS MILL RD, SUITE 200
RALEIGH, NC 27612



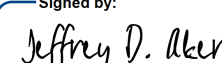
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified 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: January/February, 2019 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.0001168884
Geoid model: G12B
Units: USFT

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 1/2/2019 to 2/3/2019, and 1/24/2025 to 2/11/2025, 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 25th day of April, 2025.

Signed by:

85C6B9C34942D...

Jeffrey D. Aker
Professional Land Surveyor L-4234

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.

6/2/99

REVISIONS

24-APR-2025 15:46
I:\00482\1286\Geomatics\80-Drawings\85857-LS-RW02C-3.dgn
mbtaylor AT MC06829

SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
POT	76136.320	2173664.301	N 79°28'28.0" E	937.85									
LINE													
TS	76307.641	2174586.370	N 78°45'16.3" E	249.98									
SPIRAL										02°09'35.3"(LT)	250.00	166.68	83.34
SC	76356.391	2174831.555	N 54°12'02.0" E	2603.52	46°13'41.5"(LT)	01°43'40.2"	2675.50	1415.38	3316.05				
CURVE													
CS	77879.317	2176943.187	N 29°38'47.7" E	249.98						02°09'35.3"(LT)	250.00	166.68	83.34
SPIRAL													
ST	78096.577	2177066.841	N 28°55'36.0" E	1101.39									
LINE													
POT	79060.553	2177599.570											

EY POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	77388.405	2173881.362	S 81°50'17.3" E	660.53					
LINE									
PC	77294.629	2174535.200	S 85°15'48.3" E	274.84	06°51'02.1"(LT)	02°29'28.0"	275.00	137.66	2300.00
CURVE									
PCC	77271.935	2174809.098	N 88°46'51.0" E	344.37	05°03'39.2"(LT)	01°28'08.8"	344.48	172.35	3900.00
CURVE									
PCC	77279.262	2175153.392	N 84°13'16.2" E	424.91	04°03'30.4"(LT)	00°57'17.7"	425.00	212.59	6000.00
CURVE									
PT	77322.045	2175576.144	N 82°11'31.0" E	638.34					
LINE									
PC	77408.767	2176208.563	S 72°58'29.0" E	484.49	49°40'00.0"(RT)	09°56'00.0"	500.00	266.93	576.80
CURVE									
PT	77266.911	2176671.822	S 48°08'29.0" E	93.01					
LINE									
PC	77204.845	2176741.096	S 74°20'00.5" E	1011.57	52°23'03.0"(LT)	05°00'00.0"	1047.68	563.66	1145.92
CURVE									
PT	76931.682	2177715.088	N 79°28'28.0" E	841.90					
LINE									
POT	77085.476	2178542.823							

EY2 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	78285.533	2176060.370	S 07°27'12.5" E	430.00					
LINE									
PC	77859.162	2176116.150	S 20°09'00.9" E	197.81	25°23'37.0"(LT)	12°43'56.6"	199.44	101.39	450.00
CURVE									
PT	77673.458	2176184.293	S 32°50'49.4" E	130.82					
LINE									
PC	77563.550	2176255.251	S 28°41'16.6" E	36.26	08°19'05.7"(RT)	22°55'05.9"	36.30	18.18	250.00
CURVE									
PT	77531.738	2176272.659	S 24°31'43.7" E	46.04					
LINE									
POT	77489.856	2176291.771							

EY3 POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	77413.991	2176274.992	N 02°24'37.0" W	44.26					
LINE									
PC	77458.211	2176273.130	N 46°30'26.0" E	54.28	88°11'38.0"(RT)	146°54'44.1"	60.03	37.79	39.00
CURVE									
PT	77495.569	2176312.507	S 89°23'45.0" E	82.62					
LINE									
PC	77494.697	2176395.124	N 65°15'08.6" E	154.14	50°42'12.9"(LT)	31°49'51.6"	159.29	85.28	180.00
CURVE									
PCC	77559.225	2176535.111	N 37°18'11.2" E	235.66	05°11'41.9"(LT)	02°12'13.3"	235.74	117.95	2600.00
CURVE									
PT	77746.678	2176677.928	N 34°42'20.2" E	89.44					
LINE									
PC	77820.205	2176728.851	N 31°23'24.4" E	366.79	06°37'51.7"(LT)	01°48'24.7"	366.99	183.70	3171.00
CURVE									
PT	78133.308	2176919.895	N 28°04'28.5" E	347.71					
LINE									
POT	78440.108	2177083.536							

PROJECT REFERENCE NO.
R-5857

SHEET NO.
RW02C-3

Location and Surveys



4300 EDWARDS MILL RD, SUITE 200
RALEIGH, NC 27612



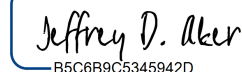
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified 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: January/February, 2019 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.0001168884
Geoid model: G12B
Units: USFT

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 1/2/2019 to 2/3/2019, and 1/24/2025 to 2/11/2025, 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 25th day of April, 2025.

Signed by:

BSC68853459420

Jeffrey D. Aker
Professional Land Surveyor L-4234

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.

REVISIONS

24-APR-2025 15:50
I:\00482\1286\Geomatics\80-Drawings\85857-LS-RW02C-4.dgn
mbtaylor AT MC06829



VRS8

BL-9

BL-16

BM#9

1.2 MI TO SR 1357
SMITH AVE

POT

PC

PT

PC

SC

CS

MATCHLINE RW02C-5

-EY4- S 80° 35' 30" E 954.03

S 80° 35' 30" E

1,717.91

BL-17

BL-18

US HWY 17 (OCEAN HWY)

PT

S 5° 39' 30" W 14.00

BM#10

S 5° 39' 30" W 105.67

PC

POT

-EY4-

BY3-23

BY3-24

BY3-25

0.8 MI TO SR 1357
SMITH AVE

POT

S 66° 56' 48" W 1086.29

**SEE SHEET RW02C-6
FOR FURTHER
ALIGNMENT DETAILS**

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified 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: October/November, 2021 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.0001168884
Geoid model: G12B
Units: USFT

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 10/27/2021 to 11/3/2021, and 1/15/2025 to 2/11/2025, 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 25th day of April, 2025.

Signed by:
Jeffrey D. Aker
B0C8B8C5345942D..

Jeffrey D. Aker
Professional Land Surveyor L-4234

PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW02C-4
Location and Surveys	
 4300 EDWARD MILLS RD, SUITE 200 RALEIGH, NC 27612	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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.



SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

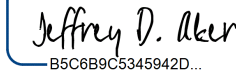
PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW02C-5
Location and Surveys	
 4300 EDWARDS MILL RD, SUITE 200 RALEIGH, NC 27612	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

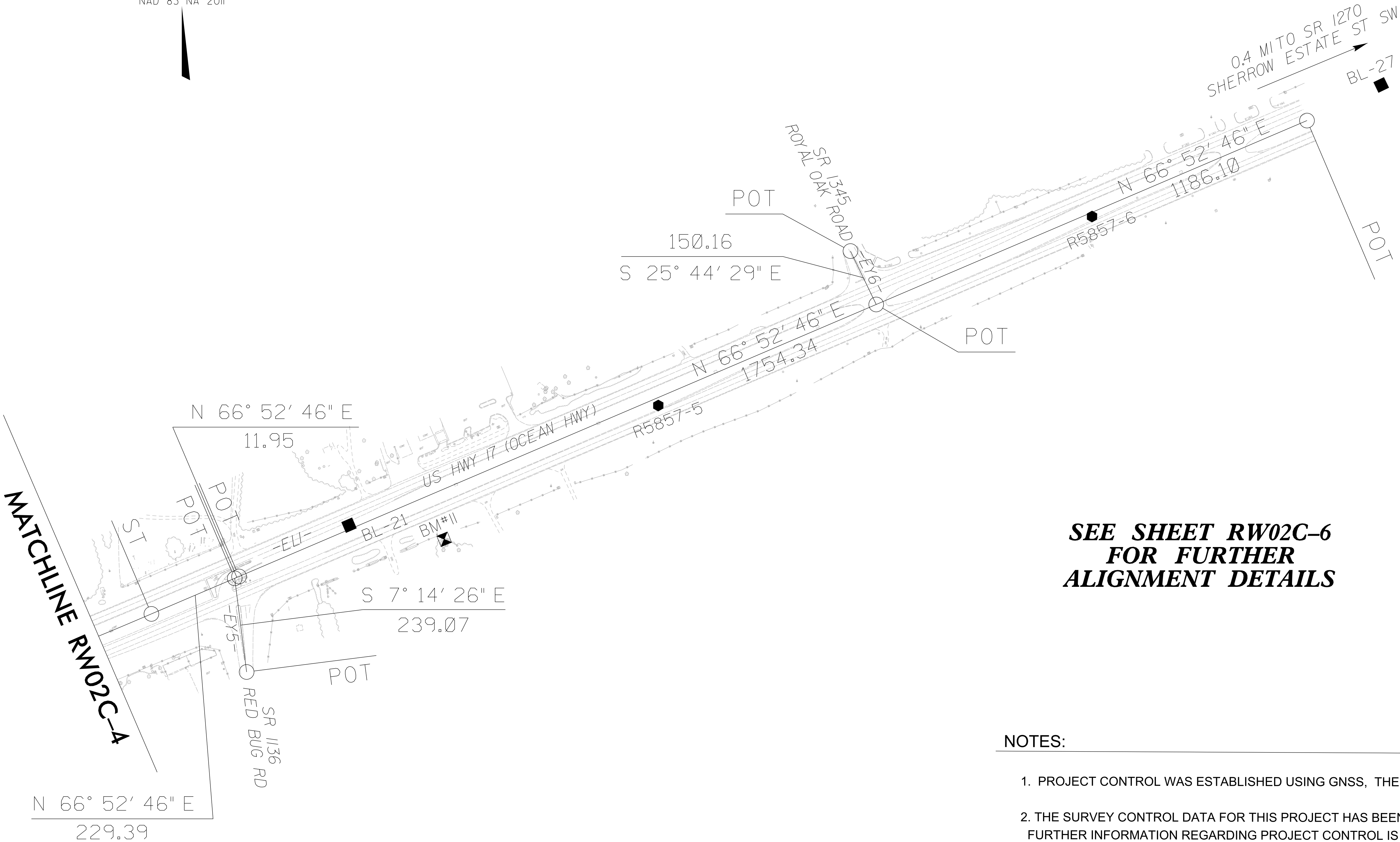
Class of survey: AA
Type of GPS field procedure: RTN
Dates of survey: October/November, 2021 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.0001168884
Geoid model: G12B
Units: USFT

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 10/27/2021 to 11/3/2021, and 1/15/2025 to 2/11/2025, 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 25th day of April, 2025.

Signed by:

B5C6B9C5345842D...

Jeffrey D. Aker
Professional Land Surveyor L-4234



**SEE SHEET RW02C-6
FOR FURTHER
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.

SURVEY CONTROL SHEET
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
VRS8		GPS CAP & REBAR	87329.6590	2189072.6120	25.27
BL - 9		TRV CAP & REBAR	87217.0080	2189745.8200	28.34
BL - 16		TRV CAP & REBAR	87065.5570	2190676.3010	31.79
BL - 17		TRV CAP & REBAR	86911.7190	2191580.4450	35.96
BL - 18		TRV CAP & REBAR	86795.7870	2192281.3100	38.71
RBL - 19		TRV CAP & REBAR	86695.1430	2193004.1710	36.91
BL - 20		TRV CAP & REBAR	86844.7590	2193910.7390	39.32
BL - 21		TRV CAP & REBAR	87168.5980	2194710.5540	45.85
R5857-5		GPS CAP & REBAR	87471.7427	2195493.8087	41.39
R5857-6		GPS CAP & REBAR	87950.3975	2196592.1677	33.45
BL - 27		TRV CAP & REBAR	88283.5310	2197324.2960	22.93

BY3	POINT	DESC.	NORTH	EAST	ELEVATION
RBL-19		TRV CAP & REBAR	86695.1430	2193004.1710	36.91
BY3-23		TRV CAP & REBAR	86326.6780	2192709.3530	34.89
BY3-24		TRV CAP & REBAR	86163.3380	2192222.8390	29.24
BY3-25		TRV CAP & REBAR	85913.3880	2191784.6580	25.12

[illegible]

EY4									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	87165.371	2190975.386							
LINE			S 80°35'30.1° E	954.03					
PC	87009.416	2191916.584							
CURVE			S 83°50'30.1° E	324.83	06°30'00.0°(LT)	02°00'00.0°	325.00	162.67	2864.79
PT	86974.570	2192239.535							
LINE			S 87°05'30.1° E	518.49					
PC	86948.263	2192757.358							
CURVE			S 40°43'00.1° E	291.05	92°45'00.0°(RT)	28°29'59.9°	325.44	210.93	201.04
PT	86727.663	2192947.216							
LINE			S 05°39'29.9° W	119.67					
PC	86608.576	2192935.417							
CURVE			S 36°18'08.9° W	292.04	61°17'18.0°(RT)	20°00'00.0°	306.44	169.72	286.48
PT	86373.220	2192762.516							
LINE			S 66°56'47.9° W	1086.29					
POT	85947.841	2191762.973							

EY5				
POINT	N	E	BEARING	DIST
POT	87034.102	2194421.265		
LINE			S 07°14'26.1" E	239.07
POT	86796.941	2194451.396		

EY6				
POINT	N	E	BEARING	DIST
POT	87862.921	2195980.469		
LINE			S 25°44'29.0" E	150.16
POT	87727.665	2196045.683		

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM9          ELEVATION = 32.15
N 86947      E 2190823
BENCH TIE IN 15 INCH PINE
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM10      ELEVATION = 32.69
N 86829   E 2193236
BENCH TIE IN 20 INCH PINE
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM11          ELEVATION = 45.27
N 87133       E 2194952
BENCH TIE IN 20 INCH OAK
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
BM12          ELEVATION = 29.89
N 86191      E 2192212
BENCH TIE IN 23 INCH SYCAMORE
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW02C-6

Location and Surveys



MCKIM & CREED
 4300 EDWARDS MILL RD, SUITE 200
 RALEIGH, NC 27612



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

I, Jeffrey D. Aker, PLS, certify that the Project Control was verified 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: October/November, 2021 & January/February, 2025
Datum/Epoch: NAD83(NA2011)
Published/Fixed-control use: N/A
Localized around: NCGS Monument "MULBERRY"
Northing: 87095.267
Easting: 2184832.627
Combined grid factor: 1.0001168884
Geoid model: G12B
Units: USFT

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 10/27/2021 to 11/3/2021, and 1/15/2025 to 2/11/2025, 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 21NAC 56.1600 as applicable.

This 25th day of April, 2025.

Signed by: Jeffrey D. Aker
B5C6B9C5345942D...

Jeffrey D. Aker
Professional Land Surveyor L-4234

6/2/99

REVISIONS

27-MAR-2025 14:38
F:\00482\125661\MC06829
MBTaylor

PROPOSED ALIGNMENT CONTROL SHEET

L-LT													
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
POT	76165.815	2173658.820											
LINE			N 79°28'28.0" E	957.17									
TS	76340.665	2174599.883											
SPIRAL			N 78°53'08.5" E	203.14						01°45'58.5"(LT)	203.15	135.44	67.72
SC	76379.824	2174799.215											
CURVE			N 54°12'01.8" E	2628.57	47°00'55.3"(LT)	01°44'19.9"	2703.79	1433.23	3295.00				
CS	77917.405	2176931.163											
SPIRAL			N 29°30'55.4" E	203.13						01°45'58.2"(LT)	203.14	135.43	67.72
ST	78094.175	2177031.237											
LINE			N 28°55'36.0" E	1120.71									
POT	79075.064	2177573.313											

L-RT													
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R	DELTA S	Ls	LT	ST
POT	76106.825	2173669.781											
LINE			N 79°28'28.0" E	955.31									
TS	76281.336	2174609.021											
SPIRAL			N 78°53'08.5" E	206.84						01°45'58.6"(LT)	206.85	137.91	68.96
SC	76321.208	2174811.982											
CURVE			N 54°12'01.8" E	2676.43	47°00'55.2"(LT)	01°42'28.0"	2753.02	1459.33	3355.00				
CS	77886.787	2176982.752											
SPIRAL			N 29°30'55.4" E	206.83						01°45'58.2"(LT)	206.84	137.90	68.95
ST	78066.776	2177084.649											
LINE			N 28°55'36.0" E	1118.85									
POT	79046.042	2177625.827											

L-RTL									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	77134.868	2176409.772							
CURVE			N 87°34'37.8" E	378.69	81°31'20.5"(RT)	19°45'25.8"	412.62	249.98	290.00
PT	77150.876	2176788.120							

Y									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
PC	77279.262	2175153.392							
CURVE			N 84°13'16.2" E	424.91	04°03'30.4"(LT)	00°57'17.7"	425.00	212.59	6000.00
PT	77322.045	2175576.144							
PC	77400.948	2176151.548							
CURVE			S 83°29'12.5" E	395.77	28°38'33.0"(RT)	07°09'43.1"	399.92	204.23	800.00
PT	77356.055	2176544.767							
LINE			S 69°09'56.0" E	5.89					
POT	77353.961	2176550.268							

Y1									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	77353.961	2176550.268							
LINE			S 50°12'13.6" E	256.93					
PC	77189.513	2176747.672							
CURVE			S 75°21'52.8" E	1011.88	50°19'18.4"(LT)	04°48'53.2"	1045.15	558.98	1190.00
PT	76933.844	2177726.724							
LINE			N 79°28'28.0" E	830.07					
POT	77085.476	2178542.823							

Y2									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	77376.447	2175972.873							
LINE			N 07°58'33.9" W	51.83					
PC	77427.777	2175965.681							
CURVE			N 27°07'50.4" E	270.30	70°12'48.6"(RT)	24°22'52.3"	287.98	165.20	235.00
PT	77668.334	2176088.943							
LINE			N 62°14'14.7" E	84.99					
POT	77707.923	2176164.149							

Y4									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	86974.570	2192239.535							
LINE			S 87°05'30.1" E	519.58					
PC	86948.208	2192758.445							
CURVE			S 43°42'04.5" E	274.79	86°46'51.1"(RT)	28°38'52.4"	302.92	189.07	200.00
PT	86749.551	2192948.295							
LINE			S 00°18'38.9" E	35.19					
POT	86714.363	2192948.486							

Y5									
POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT	86714.363	2192948.486							
LINE			S 00°18'38.9" E	32.66					
PC	86681.703	2192948.663							
CURVE			S 34°04'14.5" W	423.53	68°45'46.8"(RT)	15°16'43.9"	450.05	256.59	375.00
PT	86330.877	2192711.397							
LINE			S 68°27'07.9" W	649.96					
PC	86092.160	2192106.858							
CURVE			S 67°41'57.9" W	142.15	01°30'19.9"(LT)	01°03'32.7"	142.16	71.08	5410.00
PT	86038.218	2191975.338							
LINE			S 66°56'47.9" W	305.59					
POT	85918.553	2191694.152							

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.

PROJECT REFERENCE NO.
R-5857

SHEET NO.
RW02D-2

Location and Surveys



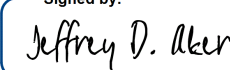
4300 EDWARDS MILL RD, SUITE 200
RALEIGH, NC 27612



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Jeffrey D. Aker, 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 28th day of March, 2025.

Signed by:

BSC068953489420

Professional Land Surveyor L-4234

REVISIONS

RIGHT OF WAY CONTROL SHEET
PERMANENT EASEMENT CONTROL SHEET

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	32+95.00	145.85	76650.1505	2175928.2800
L	32+95.00	105.42	76684.5058	2175906.9610
L	36+00.00	130.00	76842.8660	2176181.1740
L	36+25.00	123.35	76863.8824	2176197.7910
L	43+08.33	161.85	77325.0024	2176740.8960
L	44+05.00	120.28	77428.9950	2176773.5680

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L1	19+40.68	110.00	86774.8277	2191864.1770
L1	20+00.00	130.00	86745.3998	2191919.4290
L1	21+00.00	130.00	86729.0529	2192018.0830
L1	21+75.00	110.00	86736.5237	2192095.3440
L1	40+00.00	-114.17	86935.4314	2193877.9580
L1	41+50.00	-132.00	87001.8906	2194006.1120
L1	42+16.22	-92.53	86989.7520	2194080.8310

*NOT SET-1/2 INCH REBAR FOUND (1/28/2025)

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y	17+00.00	30.00	77329.6836	2175852.6700
Y	17+00.00	-30.00	77389.1273	2175844.5190
Y	17+50.00	65.00	77301.8008	2175906.9620
Y	20+05.79	65.00	77336.5512	2176160.3800
Y	20+77.55	-70.69	77478.1099	2176219.6950
Y	21+85.00	64.29	77341.2433	2176324.6990

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+51.83	-50.00	77420.8380	2175916.1650
Y2	10+63.30	30.00	77441.8815	2175994.2450
Y2	13+39.81	30.00	77641.7872	2176102.9170
Y2	13+39.81	-50.00	77712.5780	2176065.6530
Y2	13+65.00	30.00	77653.5193	2176125.2040
Y2	13+94.50	54.57	77645.5164	2176162.7550
Y2	14+01.43	-88.00	77774.9038	2176102.4730

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	31+92.00	-109.59	76816.0027	2175708.1585
L	32+19.00	-137.00	76852.7806	2175716.7902
L	34+66.00	-136.00	76979.6601	2175916.7205
L	35+08.00	-125.81	76994.5423	2175955.5798
L	39+73.00	-106.50	77264.9403	2176313.7516
L	40+31.00	-128.73	77319.8023	2176338.5316
L	43+06.00	196.67	77300.4215	2176765.6912
L	43+55.00	141.29	77375.5171	2176756.7669

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L-RTL	11+35.00	65.33	77138.8205	2176544.3760
L-RTL	11+62.00	98.00	77111.7694	2176571.0128
L-RTL	12+45.00	95.00	77117.6023	2176625.9762
L-RTL	12+50.00	76.33	77135.8289	2176631.3408

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L1	25+70.00	127.00	86655.1821	2192482.2515
L1	25+70.00	110.00	86671.9534	2192485.0305
L1	25+96.00	127.00	86650.9319	2192507.9018
L1	26+69.08	115.61	86650.2233	2192581.8632

*NOT SET-FALLS IN DITCH/STANDING WATER (1/29/2025)

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y2	10+65.08	50.22	77445.0978	2176014.2599
Y2	11+04.92	30.00	77478.1382	2175994.1781
Y2	13+20.00	30.00	77633.1012	2176087.9800
Y2	13+20.00	55.00	77612.0384	2176101.4468

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y4	14+26.00	-35.00	86987.9109	2192666.7626
Y4	14+36.00	-46.00	86998.3894	2192677.3078
Y4	15+26.00	-48.00	86995.6147	2192768.8246
Y4	15+50.00	-44.00	86987.4620	2192797.4578
Y4	15+57.00	-34.81	86976.6680	2192803.6264

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
Y5	17+89.00	-64.22	86158.6550	2192450.1020
Y5	17+89.00	-90.00	86134.6748	2192459.5712
Y5*	18+13.47	-63.74	86150.1103	2192427.1650
Y5*	18+13.97	-89.76	86125.7308	2192436.2583

*NOT SET
*NOT SET

PROJECT REFERENCE NO.
R-5857

SHEET NO.
RW02E-1

Location and Surveys



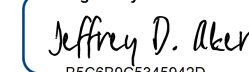
4300 EDWARDS MILL RD, SUITE 200
RALEIGH, NC 27612



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

I, Jeffrey D. Aker, 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 1/15/2025 to 2/11/2025, and all coordinates are based on NAD83/2011. That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

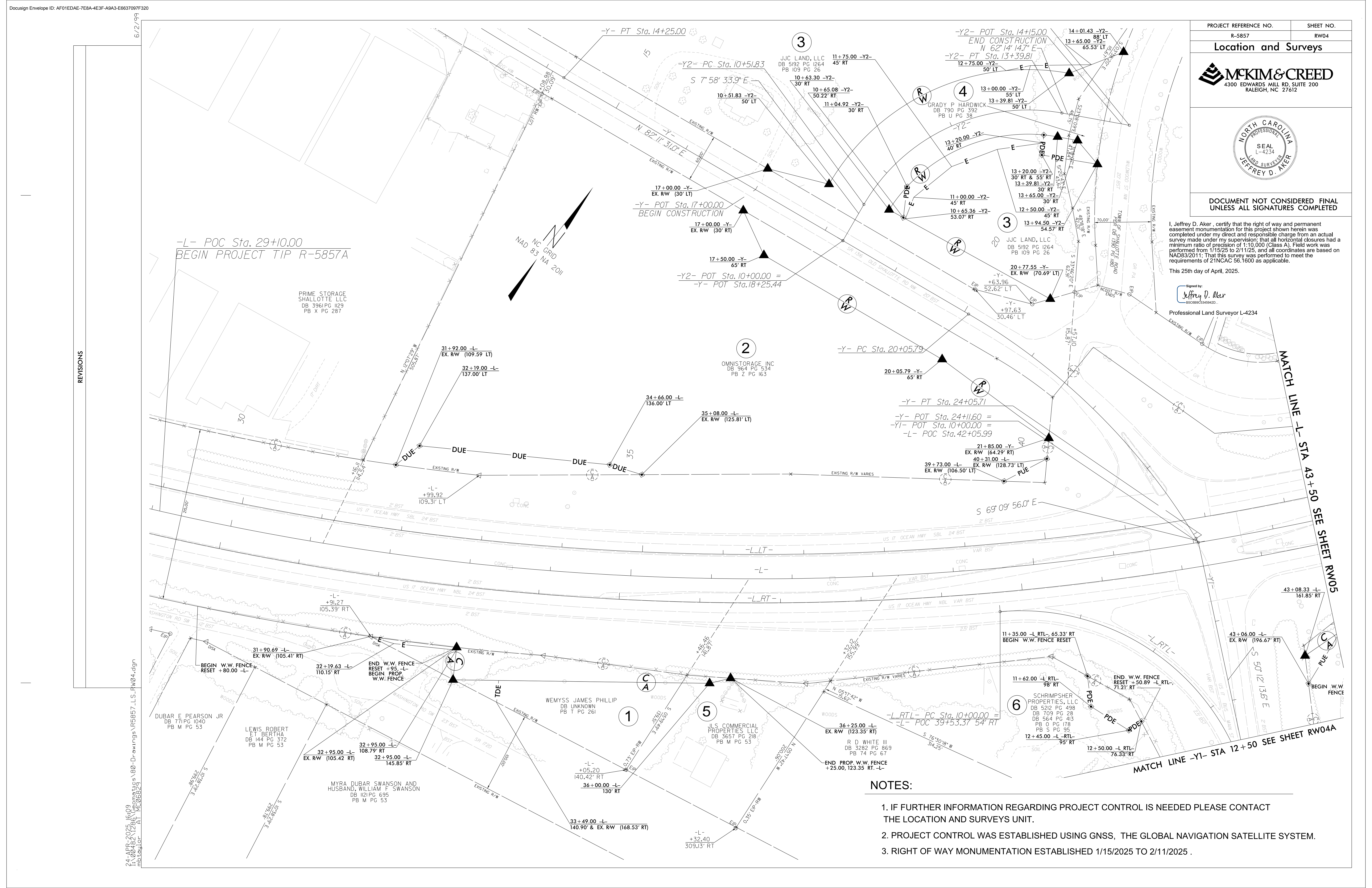
This 28th day of March, 2025.

Signed by:

B006880534594020

Professional Land Surveyor L-4234

NOTES:

- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- RIGHT OF WAY MONUMENTATION ESTABLISHED 1/15/2025 TO 2/11/2025 .



PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW04A
Location and Surveys	
 MCKIM & CREED 4300 EDWARDS MILL RD, SUITE 200 RALEIGH, NC 27612	
	
NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Jeffrey D. Aker, 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 1/15/25 to 2/11/25, 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 April, 2025.

Signed by: Jeffrey D. Aker
B5C6B9C5345942D...

Professional Land Surveyor L-4234

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 1/15/2025 TO 2/11/2025 .

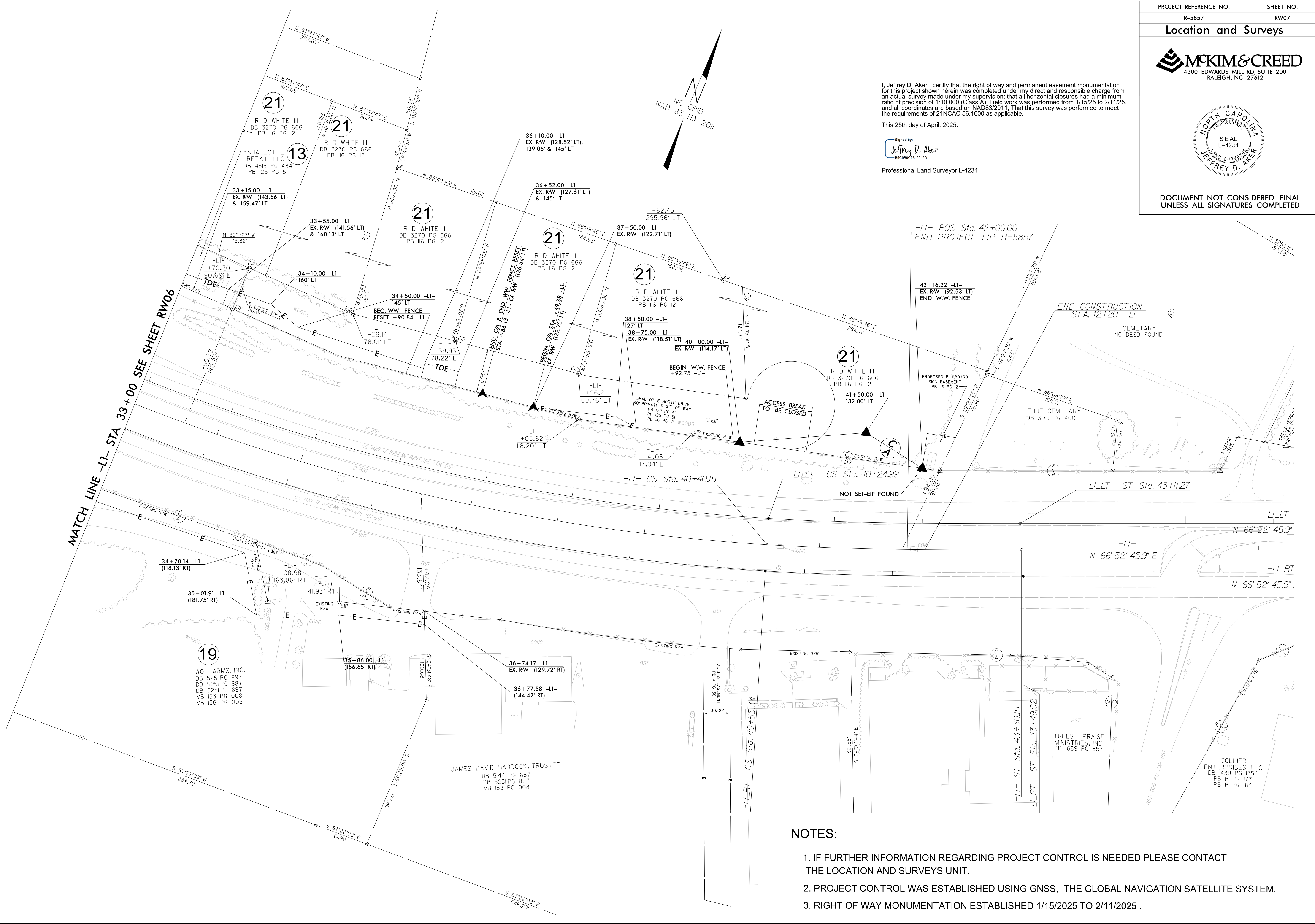
NC GRID
NAD 83 NA 20

This 25th day of April, 2025.

Professional Land Surveyor L-4234

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 1/15/2025 TO 2/11/2025 .

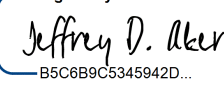
REVISIONS



PROJECT REFERENCE NO.	SHEET NO.
R-5857	RW07
Location and Surveys	
 4300 EDWARDS MILL RD, SUITE 200 RALEIGH, NC 27612	
	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

I, Jeffrey D. Aker, 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 1/15/25 to 2/11/25, 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 April, 2025.

Signed by:

BSC6B8C346942D

Professional Land Surveyor L-4234

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 1/15/2025 TO 2/11/2025 .