5/2/99

RIGHT OF WAY / PERMANENT EASEMENT CONTROL SHEET

PROJECT REFERENCE NO.
48793.3.1

Location and Surveys

SHEET NO.

NCDOT LOCATION AND SURVEYS
DIVISION 6
4834 HWY 301 SOUTH
HOPE MILLS, NC 28348

PROJECT SURVEYOR

Docusigned by:

Oohn E. Kaurola, Oression

F360958AF7B8462...

SEAL

L-3999

KAUKOLITIA

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , John E. Kaukola , 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 July of 2020, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 15th day of July, 2020.

John E. Kankola Jr.

Professional Land Surveyor L-3999



ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	129+24.33	130.00	322216.2198	2120115.7970
L	131+64.00	124.27	322425.9320	2120237.6301
L	131+64.00	130.00	322422.9659	2120242.5379

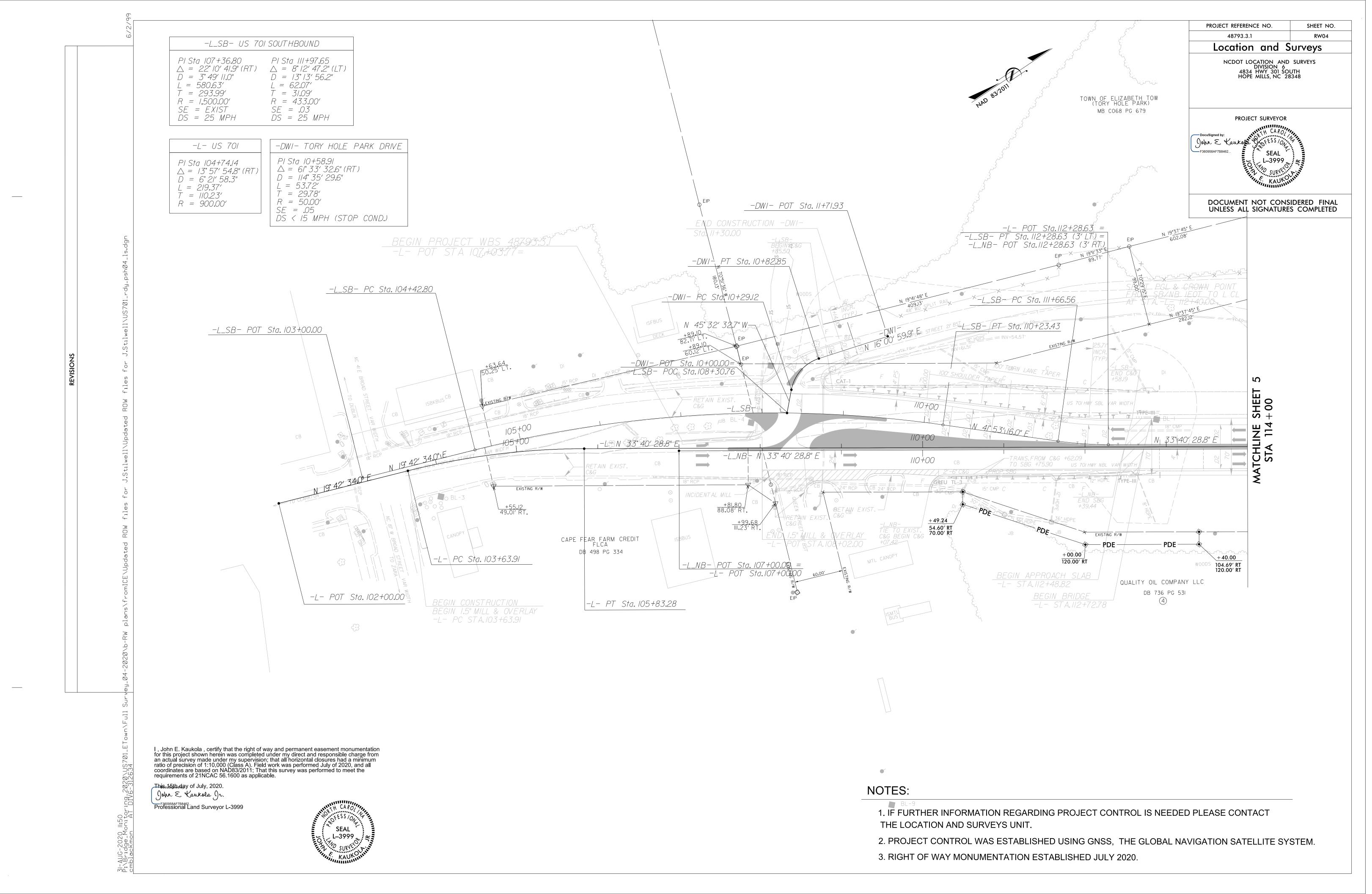
ROW MARKER PERMANENT EASEMENT-E

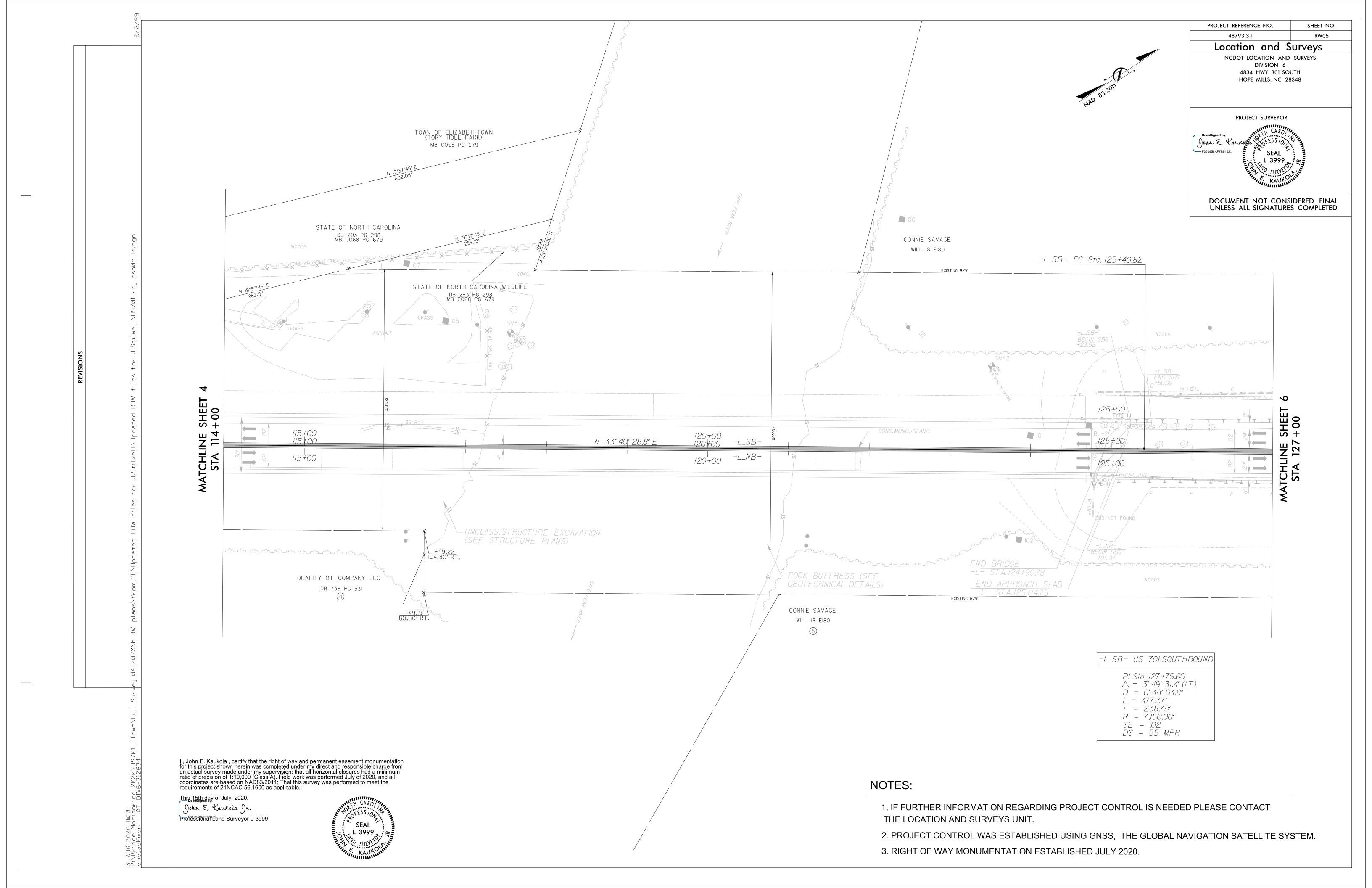
ALIGN	STATION	OFFSET	NORTH	EAST
L	131+64.00	160.00	322407.4487	2120268.2131
L	132+06.00	160.00	322442.7560	2120289.6559
L	131+64.00	124.27	322425.9320	2120237.6301
L	132+06.00	126.02	322460.4575	2120260.6504
L	113+40.00	104.69	320908.3794	2119216.1614
L	113+40.00	120.00	320899.8892	2119228.9041
L	110+49.24	70.00	320685.6428	2119026.0746
L	112+00.00	120.00	320783.3813	2119151.2774
L	110+49.24	54.60	320694.1832	2119013.2565

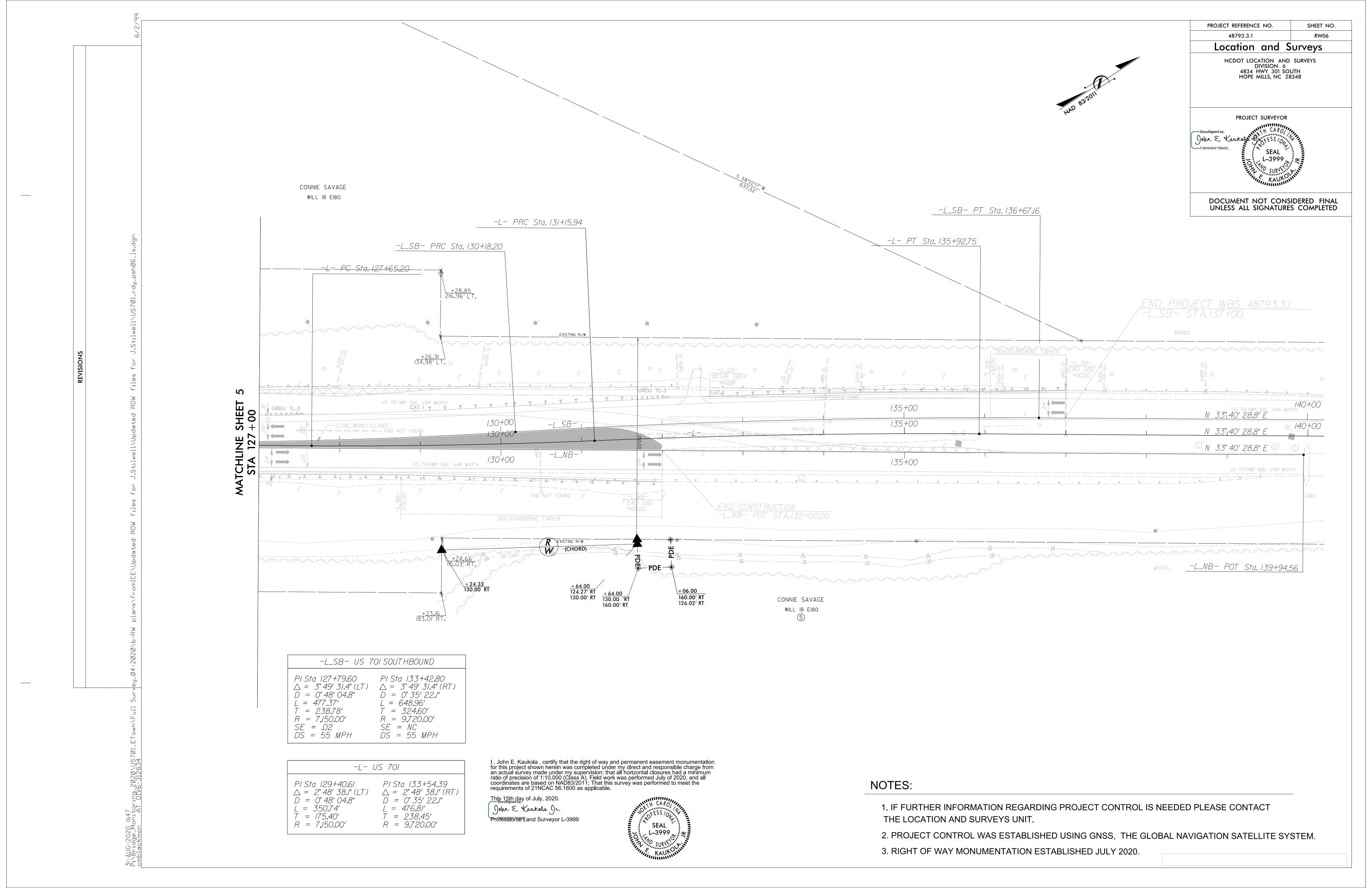
NOTES:

- 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 JULY 2020.

27-AUG-2020 10:23 P:\Bridge_Monitoring_2020\US701_ETown\Full Surv cmblackmon AT DIV6-312634







WBS:

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

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

STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	SHEETS
N.C.	4	18793.3.1	RW01	13
STATE	PROJ. NO.	F. A. PROJ. NO.	DESCRIPT	rion
487	93.3.1	ER19005	CON	ST.

BLADEN COUNTY

END PROJECT WBS 48793.3.1 -L-STA.137+00.00

BEGIN PROJECT WBS 48793.3.1

VICINITY MAP

BEGIN PROJECT

-L-STA.107+03.77

 $\overline{-POP}$ - STA. 11 + 30.00 -L- US 701/

END CONSTRUCTION

BEGIN CONSTRUCTION -L-STA.103+63.91

BEGIN BRIDGE -L-STA.112 + 72.78

END BRIDGE -L-STA. 124 + 90.78

THERE IS NO CONTROL OF ACCESS ON THIS PROJECT. THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF ELIZABETHTOWN.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TO WHITE LAKE

GRAPHIC SCALE

PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-2" WITH NAD 83/NSRS 2011 STATE PLANE GRID COORDINATES OF NORTHING: 32,1926.08(ft) EASTING: 2,119,730.57(ft) **ELEVATION: 75.05(ft)** THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT

(GROUND TO GRID) IS: 0.999932194 THÈ N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM

"BL-2" TO -L- STATION 107+03.77 IS N 32°39'21" E 1772.44(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES **VERTICAL DATUM USED IS NAVD 88 (GEOID12B)**

Prepared in the Office of:

NCDOT LOCATION AND SURVEYS **DIVISION** 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE: September 15, 2020 PROFESSIONAL LAND **SURVEYOR**

John E. Kaukola Jr.

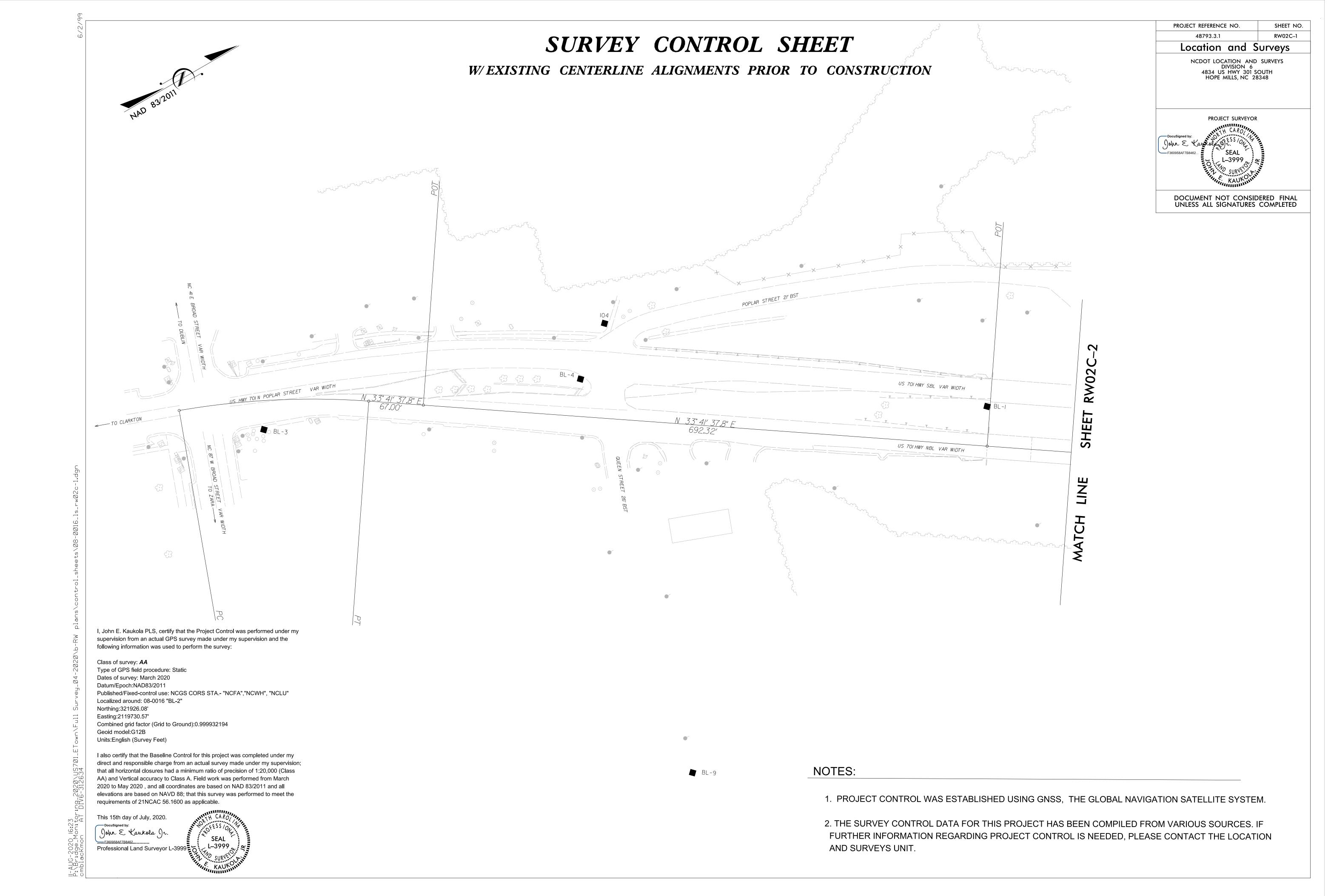
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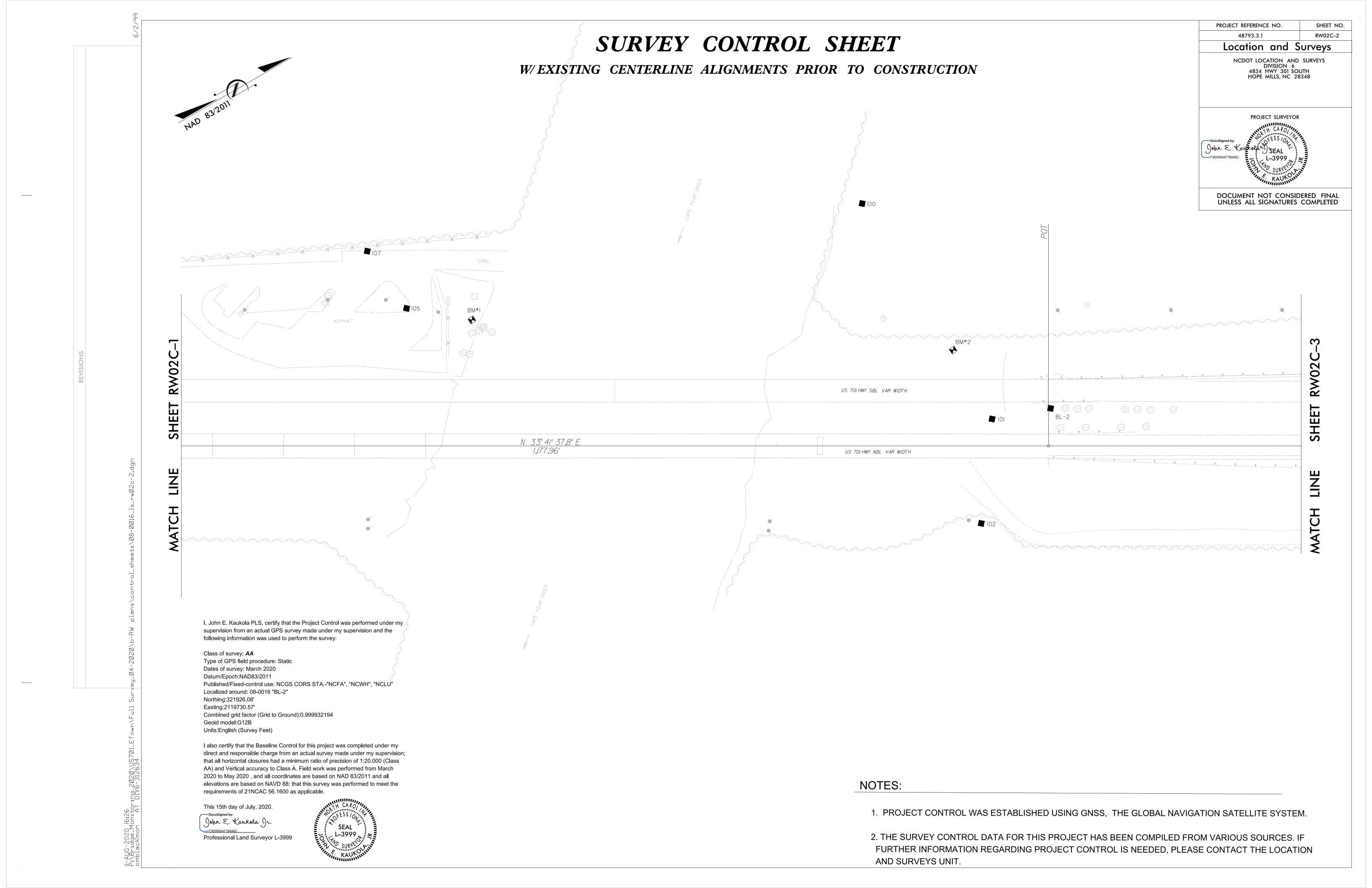


\$\$\$\$\$\$\$YSTIME\$\$\$\$\$\$ \$\$\$\$\$\$\$\$\$\$\$\$\$\$DGN\$ \$\$\$USERNAME\$\$\$\$

July 15, 2020

8/11/2020





W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. SHEET NO.
48793.3.1 RW02C-3

Location and Surveys

NCDOT LOCATION AND SURVEYS DIVISION 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348

PROJECT SURVEYOR

Down E. Kausola. MESS/ON

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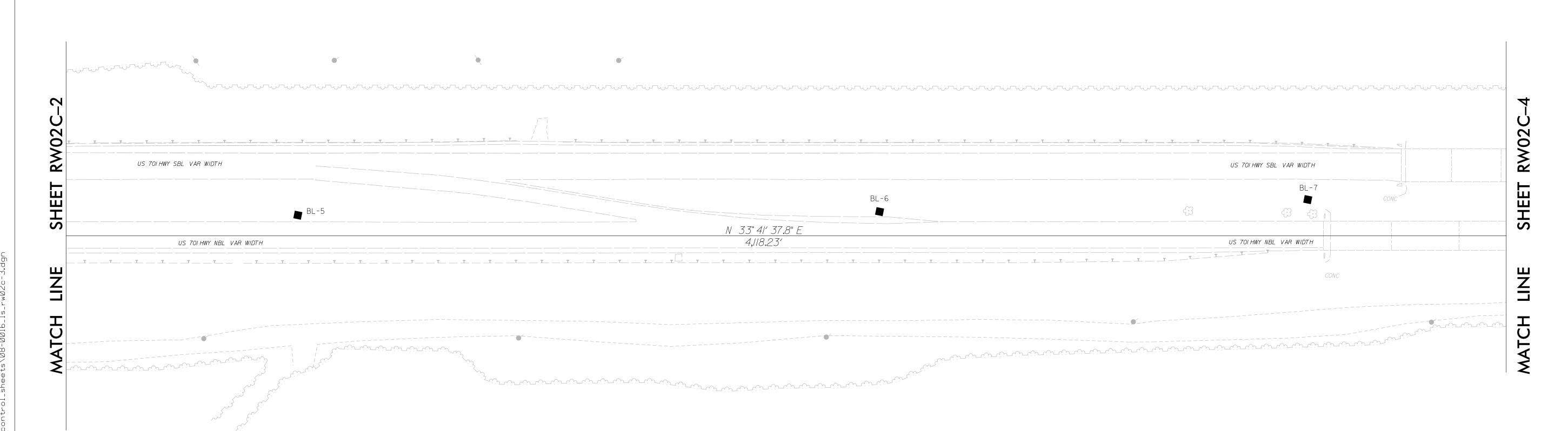
SEAL

L-3999

SURVE

KAUKONINIA

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



I, John E. Kaukola 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: Static

Dates of survey: March 2020

Datum/Epoch:NAD83/2011

Published/Fixed-control use: NCGS CORS STA.- "NCFA", "NCWH", "NCLU"

Localized around: 08-0016 "BL-2"

Northing:321926.08'

Easting:2119730.57'

Combined grid factor (Grid to Ground):0.999932194

Geoid model:G12B

Units:English (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 March 2020 to May 2020, 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 15th day of July, 2020.

John E. Kaukola Jr.

Professional Land Surveyor L-3999



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.

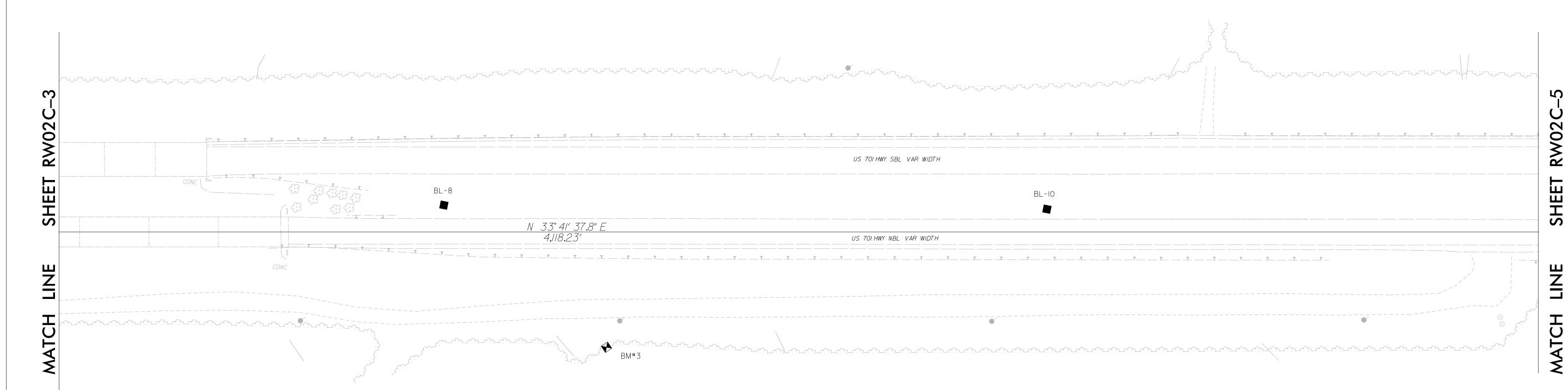
W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. RW02C-4 Location and Surveys

NCDOT LOCATION AND SURVEYS
DIVISION 6
4834 HWY 301 SOUTH
HOPE MILLS, NC 28348

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



I, John E. Kaukola 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:

Type of GPS field procedure: Static Dates of survey: March 2020 Datum/Epoch:NAD83/2011 Published/Fixed-control use: NCGS CORS STAT.- "NCFA", "NCWH", "NCLU" Localized around: 08-0016 "BL-2" Northing:321926.08'

Easting:2119730.57' Combined grid factor (Grid to Ground):0.999932194 Geoid model:G12B Units:English (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 March 2020 to May 2020, 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 15th day of July, 2020.

Class of survey: *AA*

John E. Kaukola Jr. Professional Land Surveyor L-3999



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.

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. SHEET NO.

48793.3.1 RW02C-5

Location and Surveys

NCDOT LOCATION AND SURVEYS DIVISION 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348

PROJECT SURVEYOR

DocuSigned by:

OFF SS / ON

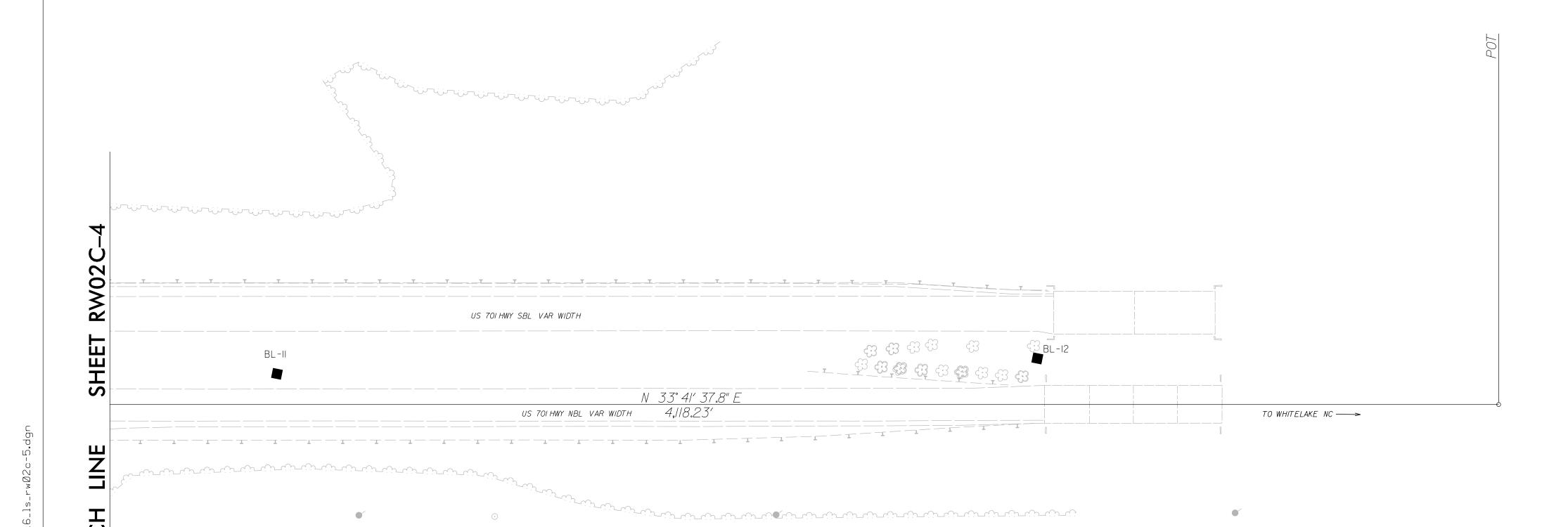
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SEAL

L-3999

KAUKOLINIA

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



I, John E. Kaukola 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: Static

Dates of survey: March 2020

Datum/Epoch:NAD83/2011

Published/Fixed-control use: NCGS CORS STA.- "NCFA", "NCWH", "NCLU"

Localized around: 08-0016 "BL-2"

Northing:321926.08'

Easting:2119730.57'

Combined grid factor (Grid to Ground):0.999932194

Geoid model:G12B

Units:English (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 March 2020 to May 2020, 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 15th day of July, 2020.

Docusigned by:

Solve E. Kankola Jr.

E360958AF7B8462.

Professional Land Surveyor L-3999



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.

||-AUG-ZUZU |6:35 |P:\Bridge_Monitoring_2020\US701_ETown\Full Survey_04-2020\b-RW p |cmblackmon AT DIV6-312634

W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL	POINT	DESC.	NORTH	EAST	ELEVATION
3 4 1 2 5 6 7 8 10 11		BL-3 BL-4 BL-1 BL-2 BL-5 BL-6 BL-7 BL-8 BL-10 BL-11 BL-12	320157.2806 320525.1637 320941.8020 321926.0800 322355.6189 322824.0139 323173.7894 323628.0250 324096.6566 324584.0442 325059.0600	2118660.2071 2118797.4552 2119072.0170 2119730.5700 2120048.9759 2120357.1482 2120576.4220 2120890.9734 2121207.9827 2121531.4117 2121834.4320	118.02 93.91 79.37 75.05 60.41 54.37 55.80 54.64 53.56 53.60 56.33
BY 4	POINT	DESC. BL-4	NORTH 	EAST 2118797.4552	ELEVATION
9		BL - 9	320407.0477	2119284.4394	100.30

ADDITIONAL C POINT	ONTROL DESC.	NORTH	EAST	ELEVATION
100	100	321872.6290	2119389.8616	35.78
101	1 Ø 1	321858.4366	2119701.2228	40.05
102	102	321775.5460	2119801.4190	39.20
104	104	320584.3567	2118752.6053	89.67
105	105	321330.7858	2119184.7053	31.20
107	107	321329.5831	2119098.6578	31.24

BM1 N 321390 R/R SPIKE	ELEVATION = 33.24 E 2119242 IN 18" GUM	* * * * * *
BM2 N 321866 R/R SPIKE	ELEVATION = 40.18 E 2119603 IN 15" PINE	
BM3 N 323681	ELEVATION = 42.72 E 2121087 IN 22" PINE	* * * * *
R/R SPIKE	ELEVATION = 48.30 E 2121568 IN 24" PINE	* * * * *

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

PROJECT REFERENCE NO.

Location and Surveys

NCDOT LOCATION AND SURVEYS DIVISION 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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.

	FUINI	DESC.	NONTH	EHOI	ELEVHIION
3		BL - 3	320157.2806	2118660.2071	118.02
4		BL - 4	320525.1637	2118797.4552	93.91
1		BL - 1	320941.8020	2119072.0170	79.37
2		BL - 2	321926.0800	2119730.5700	75.05
5		BL - 5	322355.6189	2120048.9759	60.41
6		BL - 6	322824.0139	2120357.1482	54.37
7		BL - 7	323173.7894	2120576.4220	55.80
8		BL - 8	323628.0250	2120890.9734	54.64
10		BL - 10	324096.6566	2121207.9827	53.56
1 1		BL - 11	324584.0442	2121531.4117	53.60
12		BL - 12	325059.0600	2121834.4320	56.33
BY					
	POINT	DESC.	NORTH	EAST	ELEVATION
4		BL - 4	320525.1637	2118797.4552	93.91
9		BL - 9	320407.0477	2119284.4394	100.30

I, John E. Kaukola 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:

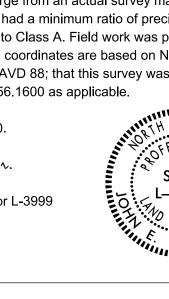
Class of survey: AA Type of GPS field procedure: Static Dates of survey: March 2020 Datum/Epoch:NAD83/2011 Published/Fixed-control use: NCGS CORS STA.- "NCFA", "NCWH", "NCLU" Localized around: 08-0016 "BL-2" Northing:321926.08' Easting:2119730.57' Combined grid factor (Grid to Ground):0.999932194 Geoid model:G12B

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 March 2020 to May 2020, 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 15th day of July, 2020. John E. Kaukola Jr. Professional Land Surveyor L-3999

Units:English (Survey Feet)





W/EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. Location and Surveys

NCDOT LOCATION AND SURVEYS DIVISION 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348

PROJECT SURVEYOR

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

L (COMP	PUTED FROM	PROJECT	#	8.1308702)	
OINT	N	F		BEARING	

POINT	N	E	BEARING	DIST	DELTA		L	T	R
PC	320078.578	2118588.736							
CURVE			N 26°41′57.9" E	232.42	13°58′47.8"(RT)	06°00′00.0"	233.00	117.08	954.93
PT	320286.218	2118693.165							
LINE			N 33°41′37.8" E	67.00					
POT	320341.963	2118730.334							
LINE			N 33°41′37.8" E	692.32					
POT	32Ø917.983	2119114.402							
LINE			N 33°41′37.8" E	1177.96					
POT	321898.063	2119767.881							
LINE			N 33°41′37.8" E	4118.23					
POT	325324.488	2122Ø52.489							

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.

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;

AA) and Vertical accuracy to Class A. Field work was performed from March 2020 to May 2020, 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

that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class

I, John E. Kaukola PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the

Published/Fixed-control use: NCGS CORS STA.- "NCFA", "NCWH", "NCLU"

following information was used to perform the survey:

Combined grid factor (Grid to Ground):0.999932194

This 15th day of July, 2020.

Professional Land Surveyor L-3999

requirements of 21NCAC 56.1600 as applicable.

John E. Kaukola Jr.

Class of survey: AA

Northing:321926.08' Easting:2119730.57'

Geoid model:G12B

Units:English (Survey Feet)

Type of GPS field procedure: Static

Localized around: 08-0016 "BL-2"

Dates of survey: March 2020 Datum/Epoch:NAD83/2011



		L	
TYPE	STATION	NORTH	EAST
POT	102+00.00	319986.8693	2118555.8821
PC	103+63.91	320141.1805	2118611.1622
PT	105+83.28	320336.6839	21187Ø9.4562
PC	127+65.20	322152.4808	2119919.2829
PRC	131+15.94	322449.0152	2120106.5225
PT	135+92.75	322852.1362	2120361.0635
POT	142+72.87	323418.1339	2120738.1757

		L_NB	
TYPE	STATION	NORTH	EAST
POT	107+00.00	320432.1554	2118776.6718
POT	139+94.56	323173.8866	2120603.4287

		L_SB	
TYPE	STATION	NORTH	EAST
POT	103+00.00	320089.7677	2118587.6304
PC	104+42.80	320224.2033	2118635.7904
PT	110+23.43	320719.8380	2118931.2317
PC	111+66.56	320826.3954	2119026.7991
PT	112+28.63	320875.4097	2119064.7928
PC	125+40.82	321967.4151	2119792.3727
PRC	130+18.20	322373.2223	2120043.6112
PT	136+67.16	322924.8931	2120385.1550
POT	142+73.37	323429.3860	2120721.2878

DW1 (TORY HOLE PARK ROAD)							
TYPE	STATION	NORTH	EAST				
POT	10+00.00	320568.5500	2118812.1452				
PC	10+29.12	320588.9484	2118791.3569				
PT	10+82.85	320638.4327	2118778.3169				
POT	11+71_93	320724 - 0599	2118802.8969				

CFR (CAPE FEAR RIVER)

TYPE	STATION	NORTH	EAST
POT	10+00.00	321959.3900	2119044.7643
POT	23+19.92	320924.0895	2119863.5141

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 INFORMATINO REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

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-2020 16:46 dae Monitorida 2020/115701 FTawayEn11 Surven 04PROJECT REFERENCE NO.
48793.3.1

Location and Surveys

SHEET NO.

NCDOT LOCATION AND SURVEYS DIVISION 6 4834 HWY 301 SOUTH HOPE MILLS, NC 28348



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, John E. Kaukola, 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 15th day of July, 2020.

Docusigned by:

John E. Kankola Jr.

F360958AF7B8462

Professional Land Surveyor L-3999

