

09/05/19

See Sheet 1A For Index of Sheets
See Sheet 1B For Standard Symbology Sheet

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

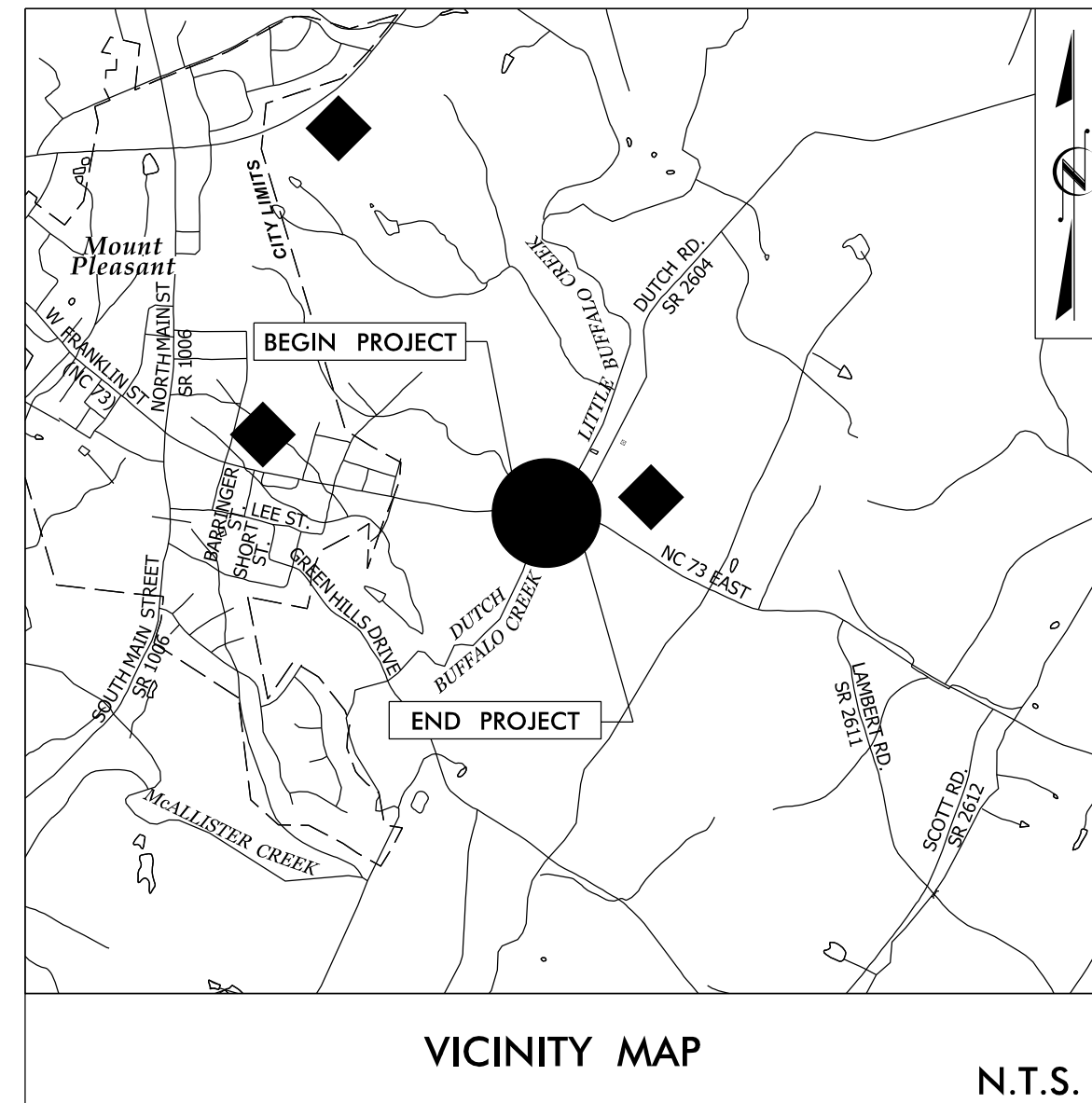
SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

CABARRUS COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5813	RW01	



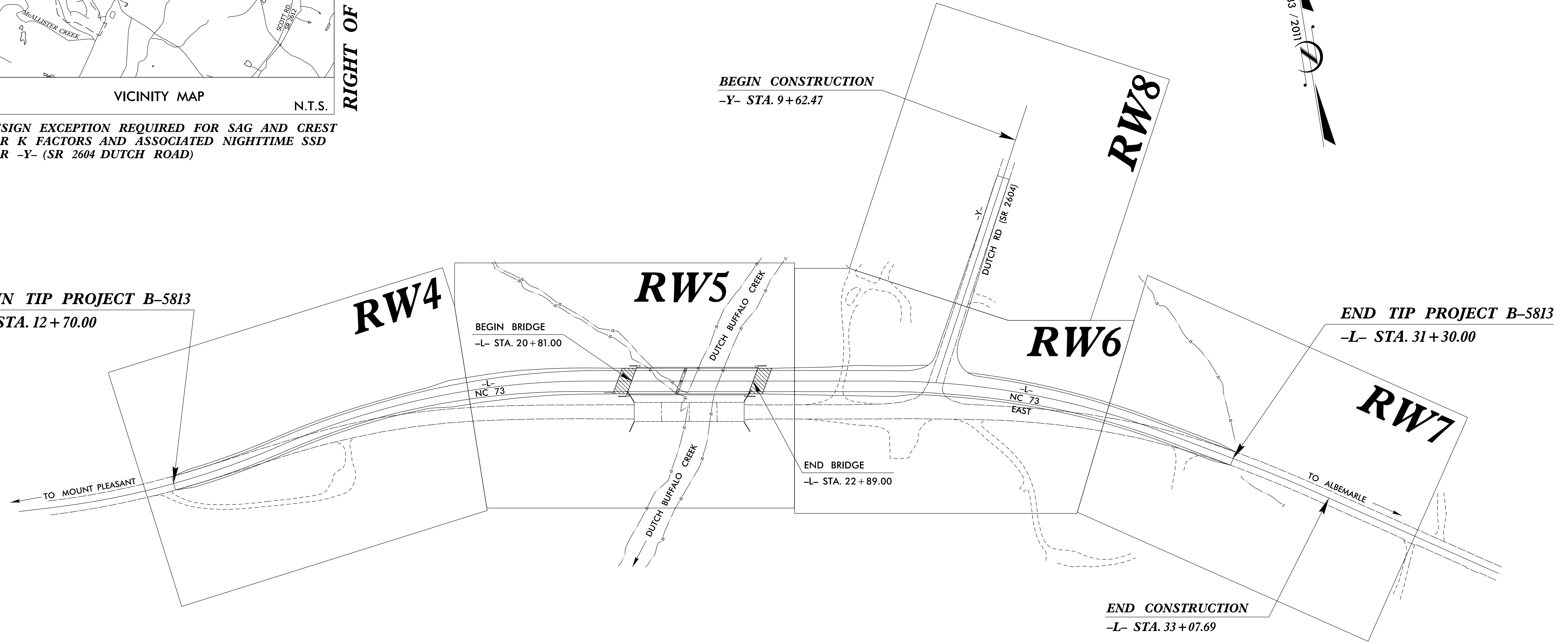
TIP PROJECT: B-5813



RIGHT OF WAY PLANS

DESIGN EXCEPTION REQUIRED FOR SAG AND CREST FOR K FACTORS AND ASSOCIATED NIGHTTIME SSD FOR -Y- (SR 2604 DUTCH ROAD)

BEGIN TIP PROJECT B-5813
-L- STA. 12 + 70.00

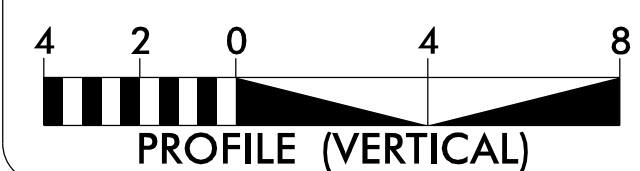
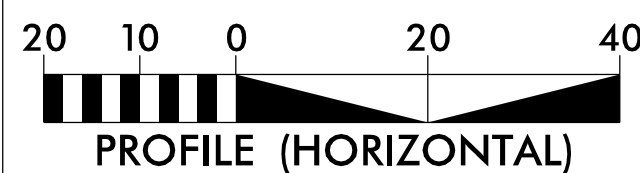
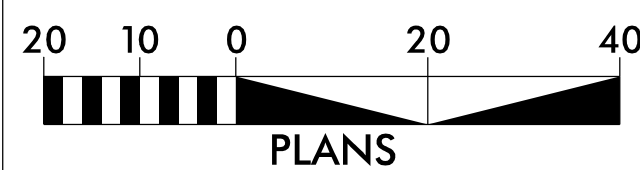


END TIP PROJECT B-5813
-L- STA. 31 + 30.00

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED
TO THE LIMITS ESTABLISHED BY METHOD III.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "P-4" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 601518.985(ft) EASTING: 1577570.149(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99985592 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "P-4" TO -L- STATION 10+00.00 IS N 55°06'45" W 935.13(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



801 JONES FRANKLIN ROAD, SUITE 300
RALEIGH, NC 27606
LICENSE NO.: F-0672
www.stantec.com

2018 STANDARD SPECIFICATIONS

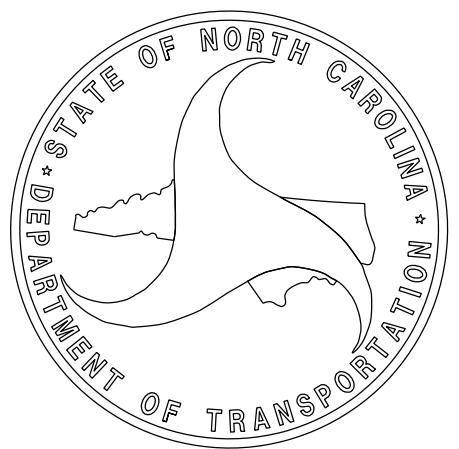
RIGHT OF WAY DATE:
OCTOBER 14, 2019

LETTING DATE:
FEBRUARY 18, 2020

PROFESSIONAL LAND SURVEYOR



F. Rex Cooper
SIGNATURE: _____ Date: 4/6/2020

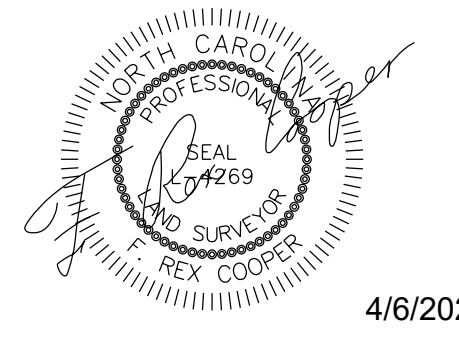


\$\$\$ SYSTEM \$\$\$\$
\$\$\$ USER NAME \$\$\$\$

PROPOSED ALIGNMENT CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-5813	RW02D-1

Location and Surveys



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

Q:\APB\2020_11\37_05\0564-1\p\1784\workgroup\1784\active\1784\50746\survey\B5813\external\exports\20date\B5813_1s_rw02d-1_200406.dgn
AT:BUKOVNIK

L

TYPE	STATION	NORTH	EAST
POT	1+000	602053.8495	1576803.0835
PC	1+050	602051.4961	1576853.0281
PRC	1+464	602093.0650	1577263.7094
PT	2+011	602116.6446	1577805.5962
PC	2+517	602035.0022	1578305.5740
PT	2+999	601873.8482	1578756.8450
PC	3+151	601797.8530	1578888.3115
PT	3+281	601729.4385	1578999.3685
POT	3+626	601540.4102	1579287.8125



Y

TYPE	STATION	NORTH	EAST
POT	0+900	602462.3830	1578619.3932
POT	1+400	602018.6251	1578389.0044

NOTES:

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

RIGHT OF WAY CONTROL SHEET

PROJECT REFERENCE NO. B-5813	SHEET NO. RW03E-1
Location and Surveys	
 <small>801 JONES FRANKLIN ROAD, SUITE 300 RALEIGH, NC 27608 LICENSE NO.: F0417 www.stantec.com</small>	
 7/17/2019	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+70.00	-55.00	602113.0821	1577066.6519
L	12+70.00	-30.37	602088.6017	1577069.3571
L	13+00.00	29.61	602032.6713	1577106.3563
L	14+64.29	-55.00	602146.3709	1577250.1642
L	14+64.29	37.58	602056.6450	1577272.9638
L	20+10.52	-55.00	602170.9256	1577814.4599
L	20+10.52	82.77	602034.9596	1577792.2578
L	25+17.12	-55.00	602089.2833	1578314.4376
L	25+17.12	81.44	601954.6283	1578292.4496
L	25+86.14	-55.00	602075.8651	1578385.0411
L	26+44.37	-50.00	602056.8731	1578442.7270
L	29+98.93	-50.00	601917.1362	1578781.8680
L	29+98.93	38.58	601840.4493	1578737.5386
L	31+00.00	-50.00	601866.5563	1578869.3677
L	31+18.00	-29.19	601839.5333	1578874.5379
L	31+30.00	29.73	601782.5194	1578855.4412

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y	9+62.47	-38.50	602389.2031	1578624.7799
Y	9+62.47	-30.08	602393.0810	1578617.3106
Y	9+69.13	41.17	602420.0022	1578551.0054
Y	9+69.30	29.95	602414.6755	1578560.8793
Y	9+78.59	41.26	602411.6503	1578546.5603
Y	9+78.72	29.98	602406.3329	1578556.5112
Y	12+65.00	-56.77	602112.2832	1578501.5901
Y	12+65.00	-68.00	602107.1069	1578511.5605
Y	12+76.00	-57.43	602102.2145	1578497.1110
Y	12+76.00	-68.00	602097.3442	1578506.4919
Y	13+38.57	29.96	602086.9466	1578390.7184
Y	13+41.15	62.74	602099.7619	1578360.4401
Y	13+50.12	62.05	602091.4869	1578356.9135

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	17+29.38	-55.00	602187.3314	1577522.6972
L	17+30.95	-82.42	602214.7984	1577523.0046
L	17+38.11	-55.00	602187.7519	1577531.7829
L	17+39.40	-81.90	602214.6889	1577531.9901
L	18+70.00	-55.00	602186.8420	1577669.0654
L	18+76.43	98.85	602032.8868	1577666.3645
L	18+79.77	77.54	602053.9564	1577670.8027
L	19+95.00	-115.00	602232.7617	1577807.4721
L	19+95.00	-95.00	602212.9868	1577804.4795
L	19+98.16	-55.00	602172.9408	1577801.7481
L	19+99.25	-74.04	602191.5874	1577805.7748
L	20+27.26	135.23	601980.4865	1577800.3263
L	20+27.69	-55.00	602168.1583	1577831.4069
L	20+27.94	-59.91	602172.9676	1577832.4455
L	20+27.98	124.74	601990.7238	1577802.7277
L	20+30.00	-130.00	602241.8060	1577845.7719
L	20+36.13	135.86	601978.4356	1577808.9812
L	20+36.87	125.47	601988.5683	1577811.3824
L	20+60.53	-129.00	602235.8982	1577875.7460
L	20+83.53	-149.43	602252.3531	1577901.7300
L	21+03.45	-127.00	602227.0078	1577917.7804
L	21+60.00	-125.00	602215.9209	1577973.2668
L	22+15.00	-55.00	602137.9722	1578016.2669
L	22+21.00	-84.00	602165.6262	1578026.8620
L	22+70.66	122.84	601953.4890	1578042.5410
L	22+71.92	133.66	601942.6032	1578042.0367
L	22+79.58	121.83	601953.0504	1578051.5090
L	22+80.00	-55.00	602127.4970	1578080.4172
L	22+80.98	132.74	601942.0559	1578051.1326
L	22+98.00	-73.00	602142.3608	1578101.0828
L	24+00.00	-73.00	602125.9228	1578201.7495
L	24+11.07	83.00	601970.1806	1578187.5332
L	24+11.13	101.06	601952.3409	1578184.6810
L	24+60.00	-55.00	602098.4886	1578258.0644
L	26+08.68	100.73	601919.0855	1578372.3258
L	26+15.85	78.10	601939.5604	1578384.0659
L	26+38.33	106.72	601906.7213	1578397.4340
L	26+72.67	74.69	601929.2180	1578436.7203
L	26+76.78	-64.62	602061.9564	1578479.2019
L	28+73.57	-58.88	601984.9039	1578670.0526
L	28+73.62	-69.93	601994.9267	1578674.7042
L	28+82.20	-58.01	601980.3383	1578677.8675
L	28+82.30	-69.92	601991.0894	1578682.9947
L	30+71.80	31.91	601809.7569	1578803.9612
L	30+72.14	39.52	601802.9941	1578800.4404
L	30+93.77	30.80	601799.7233	1578823.5409
L	30+94.12	38.55	601792.8410	1578819.9613
L	31+15.39	-56.50	601864.4867	1578885.9438
L	31+15.48	-68.22	601874.5798	1578891.8846
L	31+24.33	-57.58	601860.9415	1578894.2288
L	31+24.56	-68.14	601869.9714	1578899.7071
L	32+95.64	69.56	601663.3649	1578973.2906
L	32+97.28	29.37	601696.0848	1578996.6898
L	33+06.10	69.66	601657.5499	1578981.9798
L	33+07.69	29.36	601690.3852	1579005.3979
L	33+07.69	-44.46	601752.1301	1579045.8616
L	33+07.69	-29.08	601739.2647	1579037.4304

NOT SET
NOT SET

I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 17th day of July, 2019.


Professional Land Surveyor

L-4269



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.

6/2/199

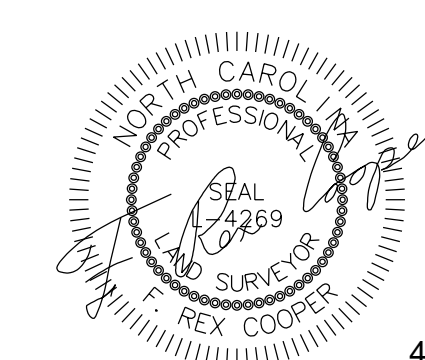
PROJECT REFERENCE NO. SHEET NO.

B-5813 RW04

Location and Surveys



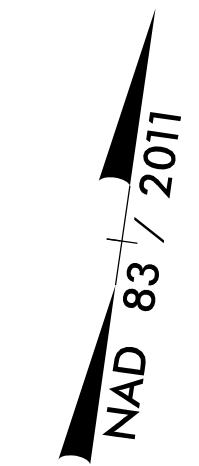
801 JONES FRANKLIN ROAD
RALEIGH, NC 27606
USCENSING: 10-16-2012
www.stantec.com



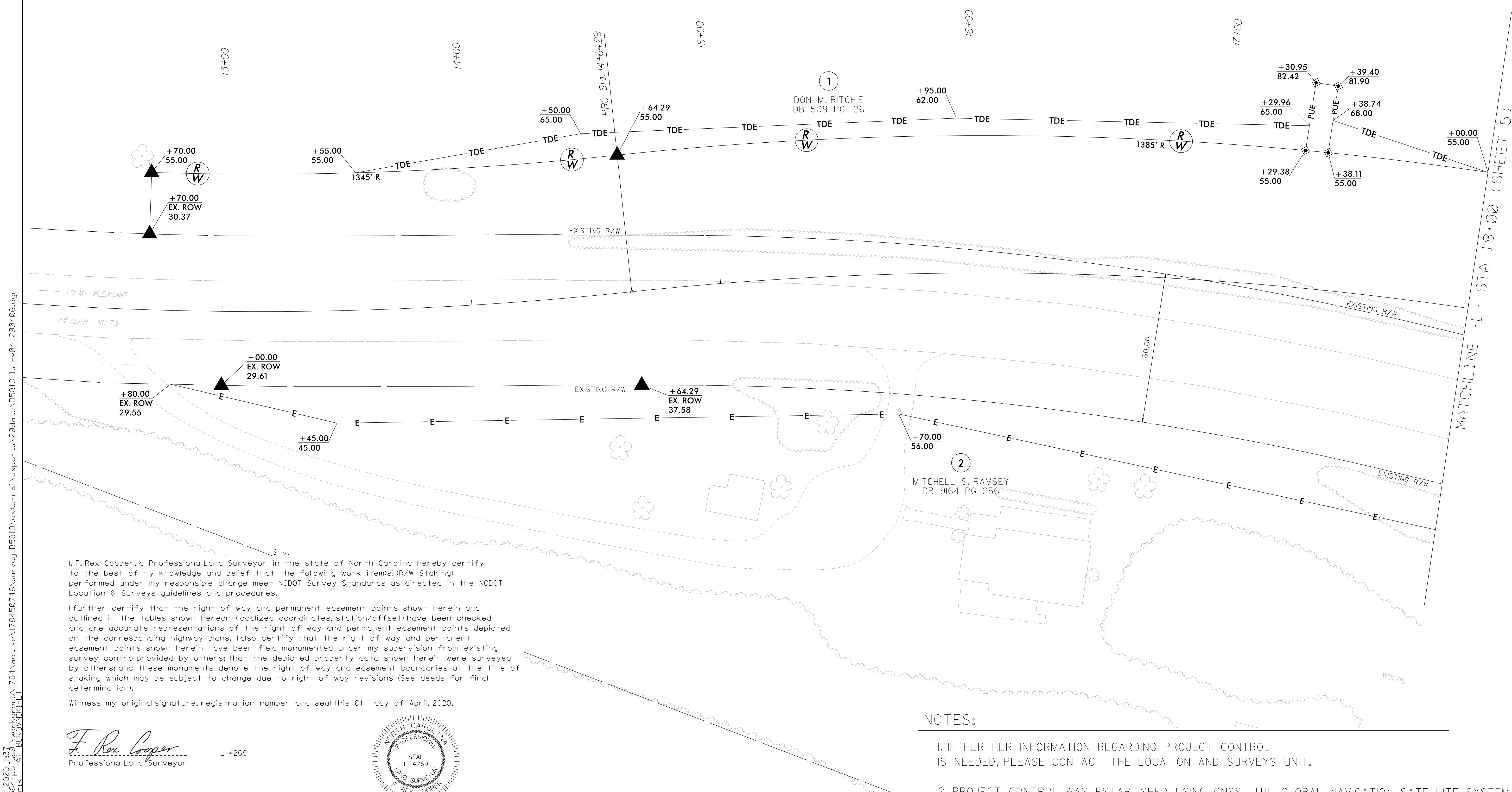
4/6/2020

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

-L-	
PI Sta 12+58.67	PI Sta 17+41.31
$\Delta = 16^{\circ} 57' 18.1''$ (LT)	$\Delta = 23^{\circ} 31' 52.9''$ (RT)
D = 4' 05' 33.2"	D = 4' 18' 28.6"
L = 414.29'	L = 546.23'
T = 208.67'	T = 277.02'
R = 1,400.00'	R = 1,330.00'
RUNOFF = 180'	RUNOFF = 180'
SE = 6%	SE = 6%



REVISIONS



I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of April, 2020.

F. Rex Cooper
Professional Land Surveyor

L-4269



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.

Q:\192020_1137\192020_1137\work\proj\1784\external\experts\20date\B5813_ls_rw04_200406.dgn
 05-APR-2020 11:37
 1784\external\experts\20date\B5813_ls_rw04_200406.dgn
 AT:BUKOVNIK

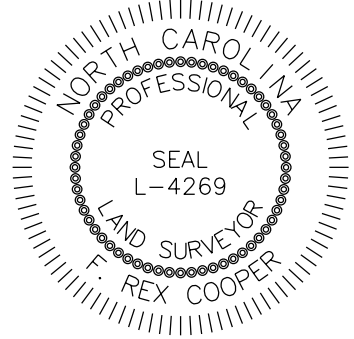
I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of April, 2020.

F. Rex Cooper
Professional Land Surveyor

L-4269
DON M. RITCHIE
DB 509 PG 126

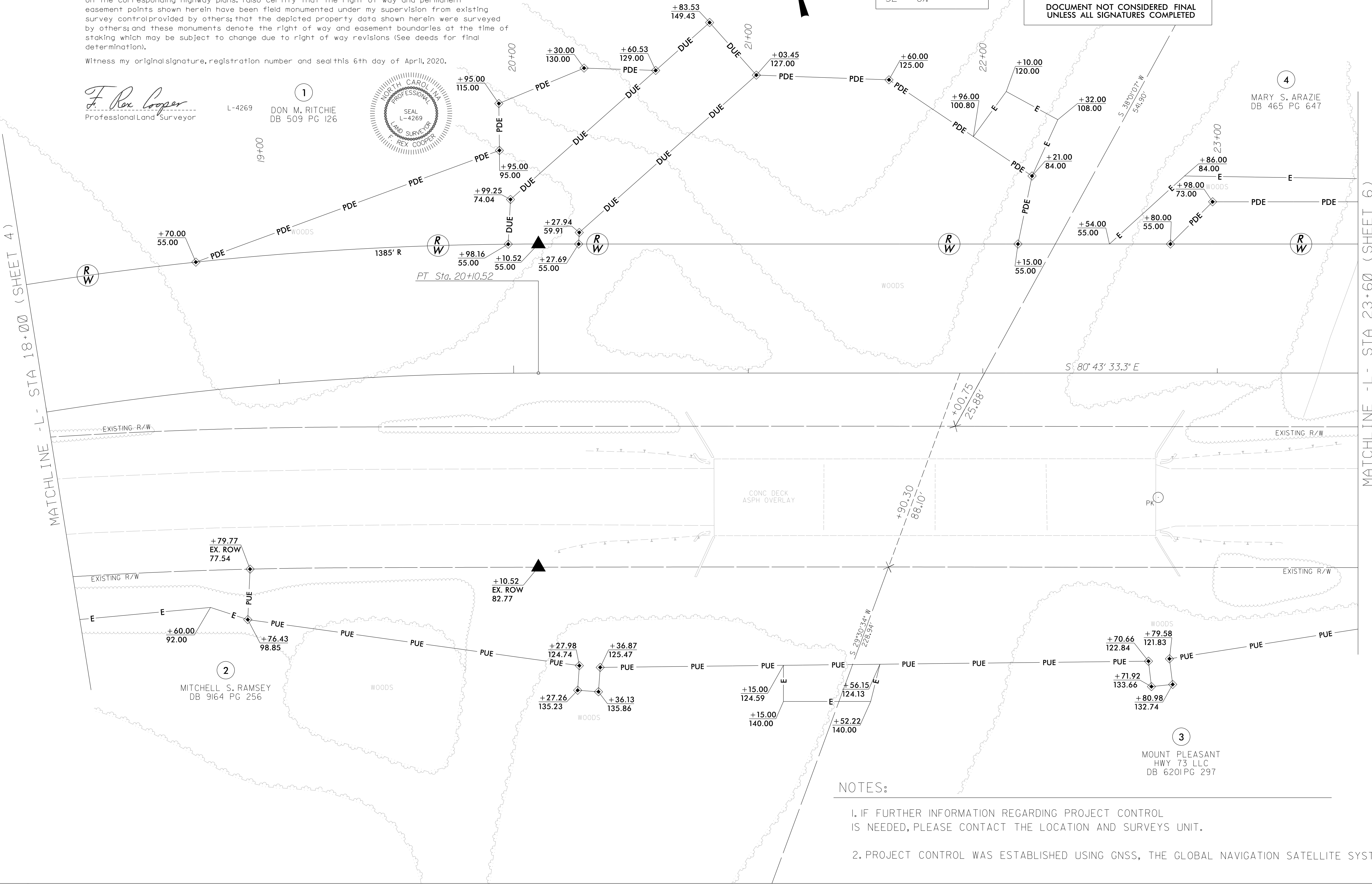
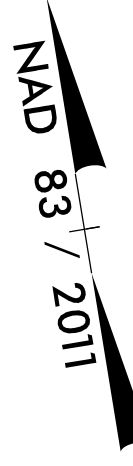


-L-
PI Sta 17+41.31
 $\Delta = 23^\circ 31' 52.9''$ (RT)
 $D = 4' 18'' 28.6''$
 $L = 546.23'$
 $T = 277.02'$
 $R = 1,330.00'$
RUNOFF = 180'
SE = 6%

PROJECT REFERENCE NO. B-5813	SHEET NO. RW05
Location and Surveys	
801 JONES FRANKLIN ROAD RALEIGH, NC 27606 USING: NAD 83 / 2011 www.stantec.com	

4/6/2020

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

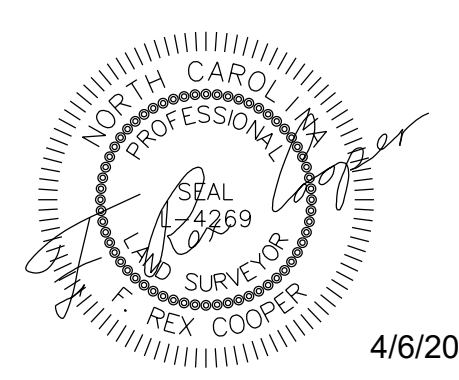


MATCHLINE -L- STA 18+00 (SHEET 4)

MATCHLINE -L- STA 23+60 (SHEET 6)

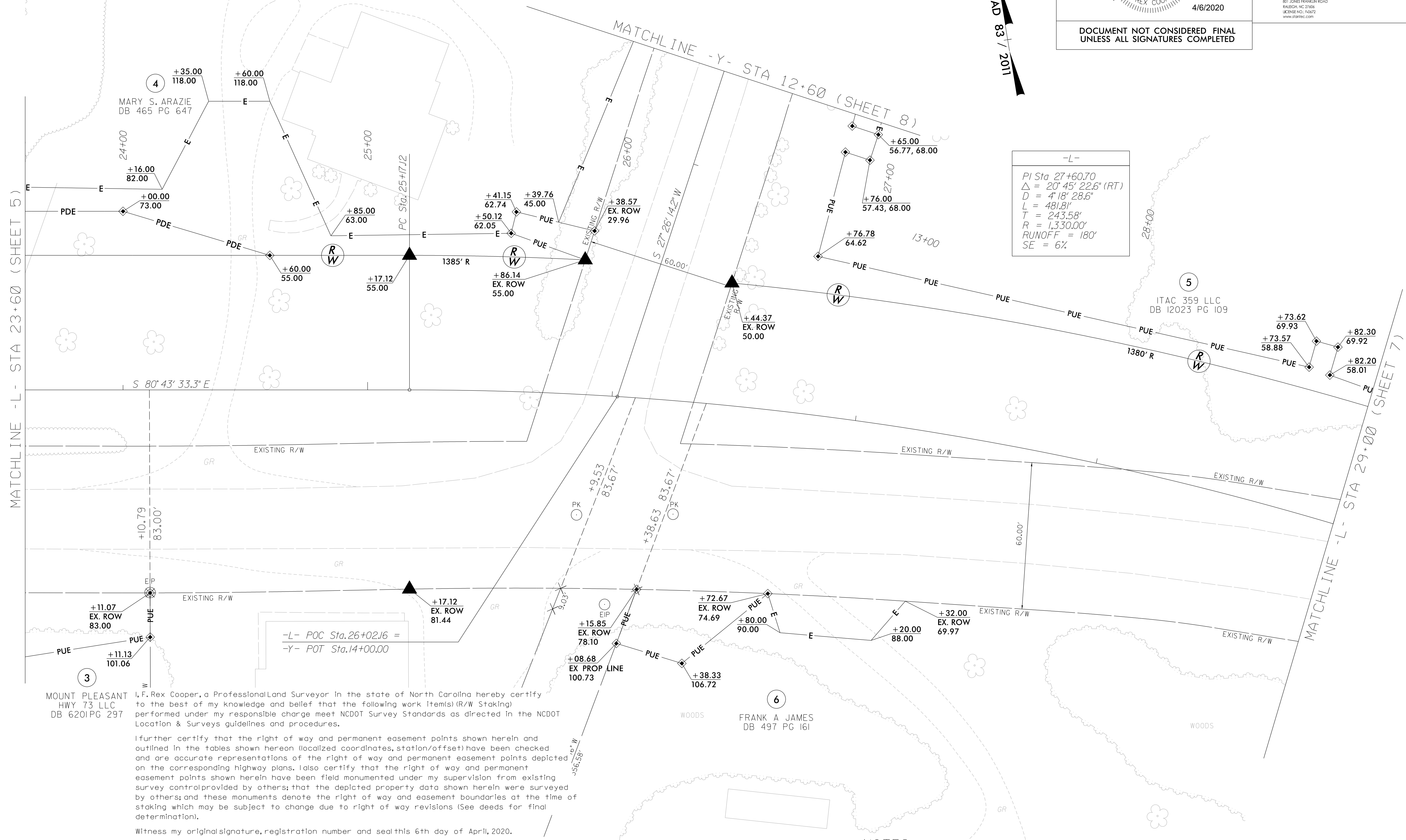
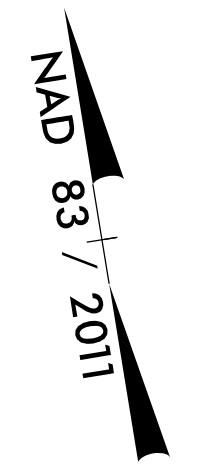
- NOTES:
- IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
 - PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

Q:\APB\2020_1137_1784\work\krc\p1784\external\reports\20date\B5813.is_r.w06_200406.dgn



4/6/2020

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



-L-

PI Sta 27+60.70
 $\Delta = 20^\circ 45' 22.6''$ (RT)
 $D = 4' 18'' 28.6''$
 $L = 481.81'$
 $T = 243.58'$
 $R = 1,330.00'$
 $RUNOFF = 180'$
 $SE = 6\%$

-L- POC Sta. 26+02.16 =
 -Y- POT Sta. 14+00.00

I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of April, 2020.

F. Rex Cooper
 Professional Land Surveyor

L-4269



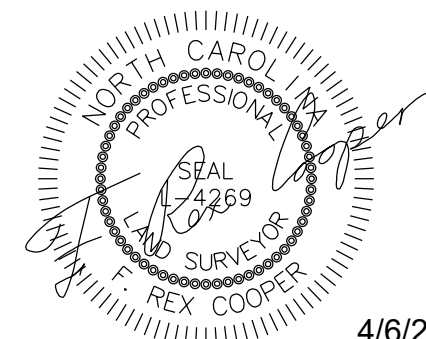
NOTES:

- 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.

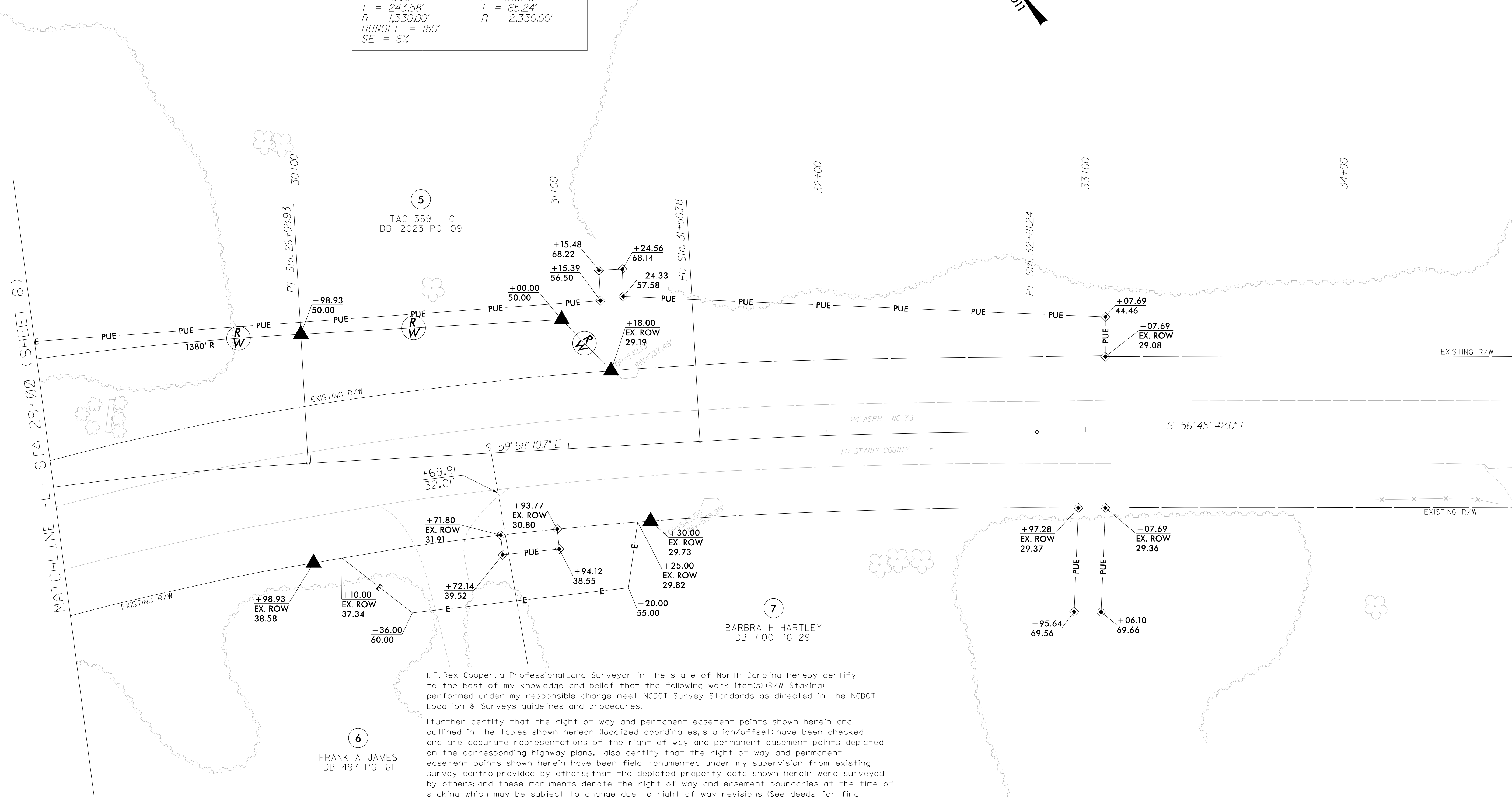
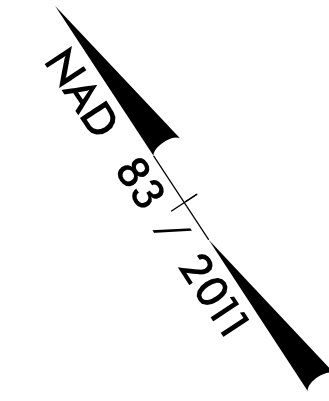
REVISIONS

REVISIONS

-L-	
PI Sta 27+60.70	PI Sta 32+16.03
$\Delta = 20^{\circ} 45' 22.6" (RT)$	$\Delta = 3^{\circ} 12' 28.7" (RT)$
$D = 4' 18" 28.6"$	$D = 2' 27" 32.6"$
$L = 481.81'$	$L = 130.46'$
$T = 243.58'$	$T = 65.24'$
$R = 1,330.00'$	$R = 2,330.00'$
$RUNOFF = 180'$	
$SE = 6\%$	



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



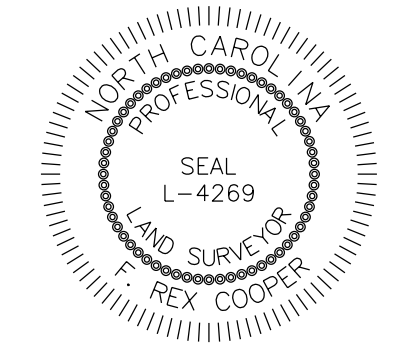
I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of April, 2020.

F. Rex Cooper
Professional Land Surveyor

L-4269



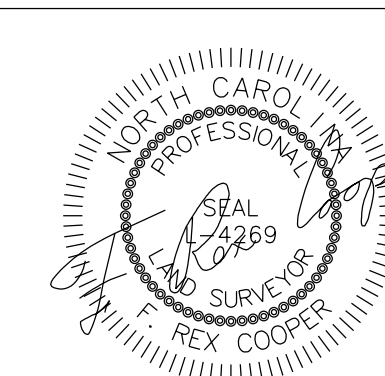
NOTES:

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.

6/2/19

Q:\18B\2020_11\38\work\krcorp\1784\active\1784\external\experts\20date\B5813.is_rw08_200406.dgn

REVISIONS



4/6/2020

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

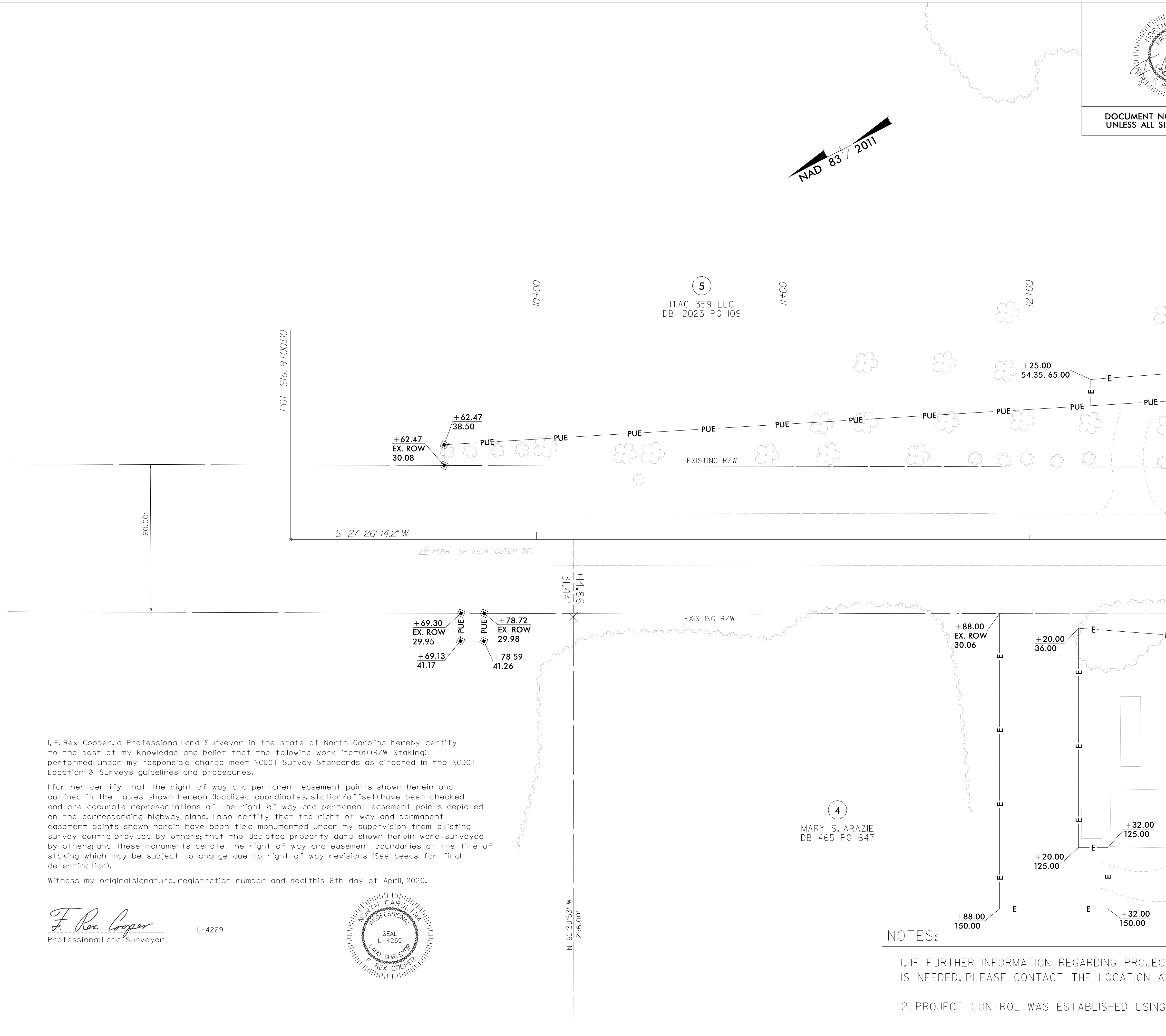
PROJECT REFERENCE NO. SHEET NO.

B-5813 RW08

Location and Surveys



801 JONES FRANKLIN ROAD
RALEIGH, NC 27606
US (919) 477-7642
www.stantec.com



I, F. Rex Cooper, a Professional Land Surveyor in the state of North Carolina hereby certify to the best of my knowledge and belief that the following work item(s) (R/W Staking) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further certify that the right of way and permanent easement points shown herein and outlined in the tables shown hereon (localized coordinates, station/offset) have been checked and are accurate representations of the right of way and permanent easement points depicted on the corresponding highway plans. I also certify that the right of way and permanent easement points shown herein have been field monumented under my supervision from existing survey control provided by others; that the depicted property data shown herein were surveyed by others; and these monuments denote the right of way and easement boundaries at the time of staking which may be subject to change due to right of way revisions (See deeds for final determination).

Witness my original signature, registration number and seal this 6th day of April, 2020.

F. Rex Cooper
Professional Land Surveyor

L-4269



4
MARY S. ARAZIE
DB 465 PG 647

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.