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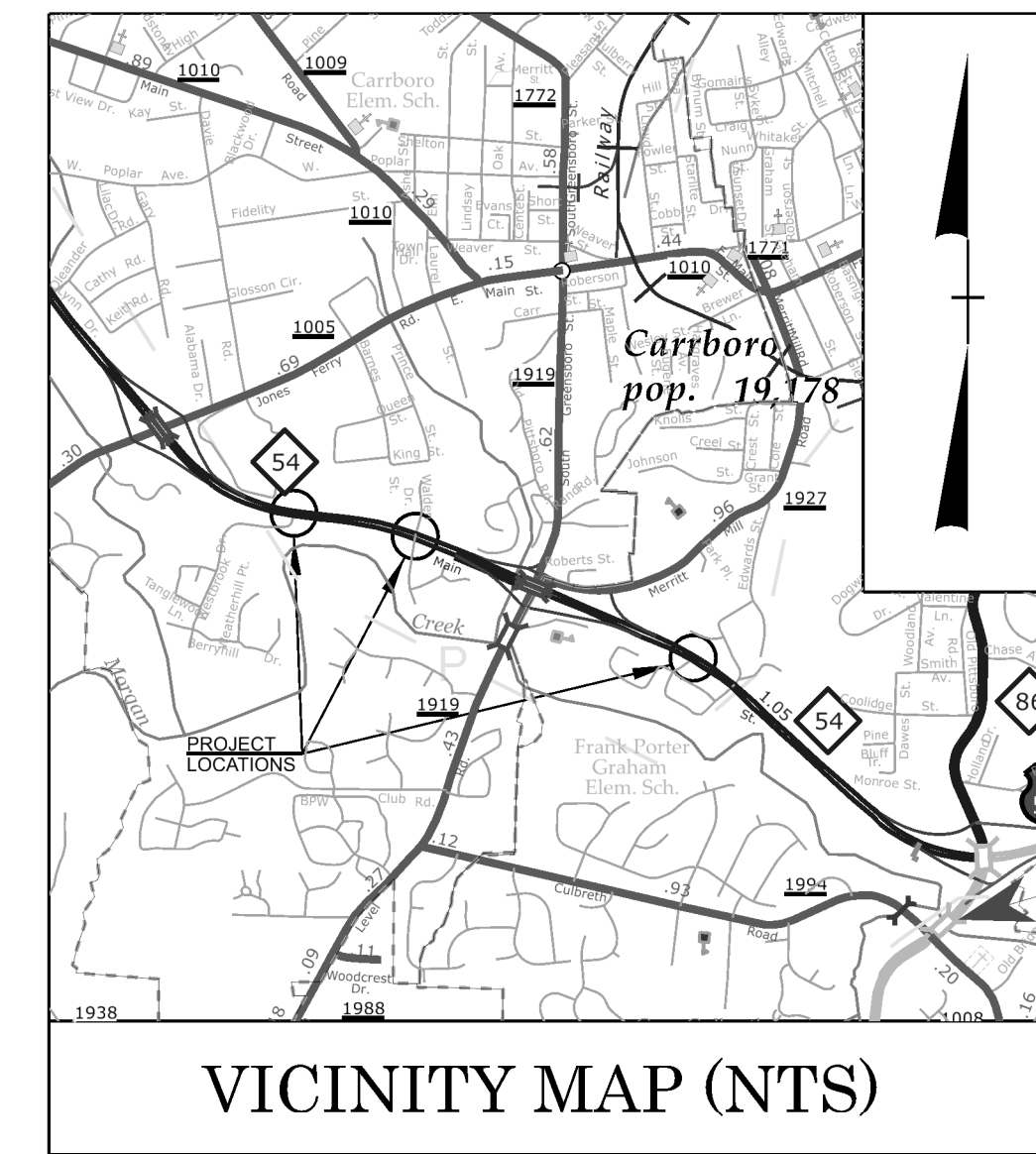
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09/08/09

TIP PROJECT: BL-0044

CONTRACT: DG00658

See Sheet 1A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

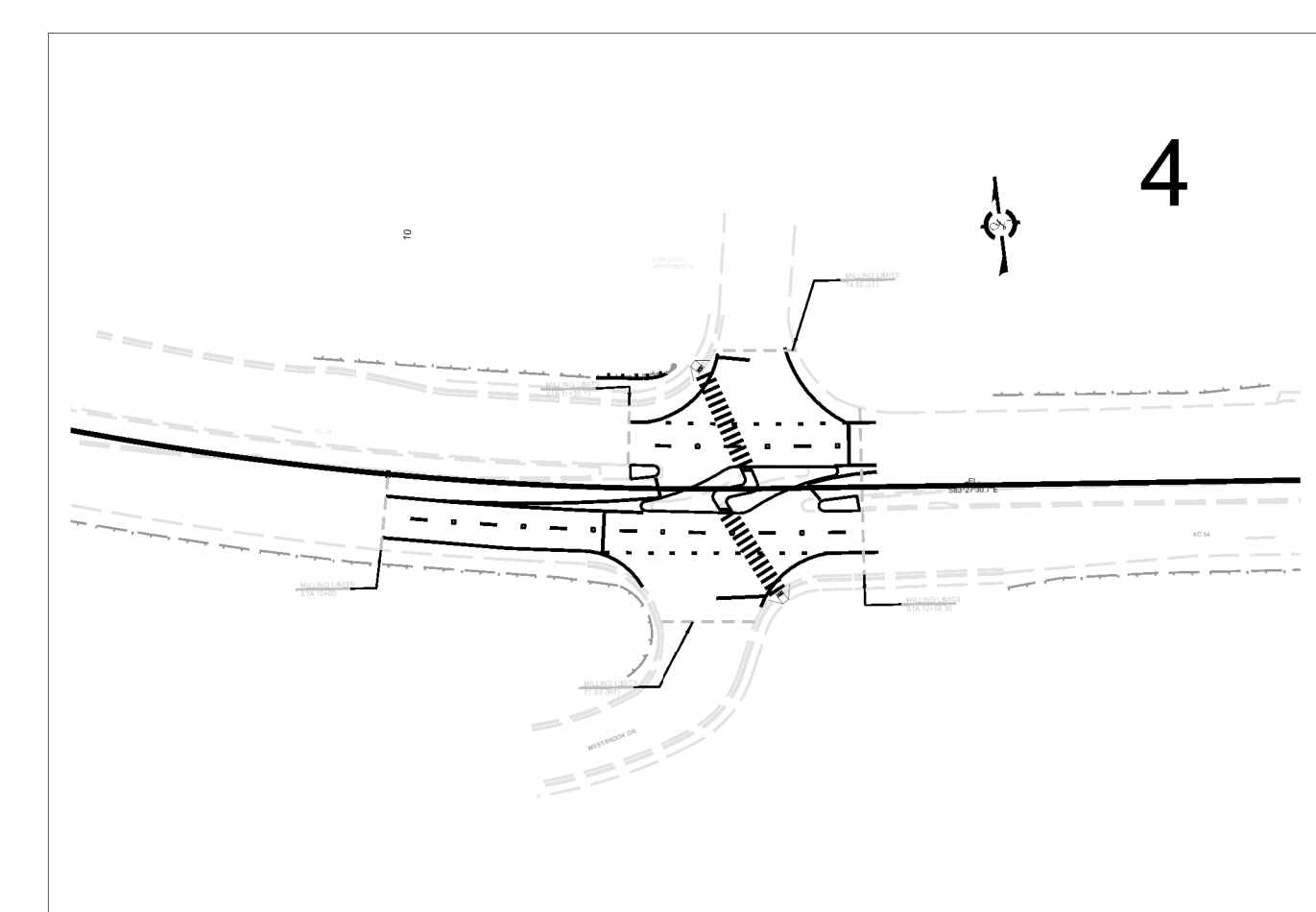
**ORANGE COUNTY**

LOCATION: *NC HWY 54 AT INTERSECTIONS WESTBROOK DR.,  
ABBEY LN., AND KINGSWOOD APT. IN CARRBORO  
AND CHAPEL HILL*

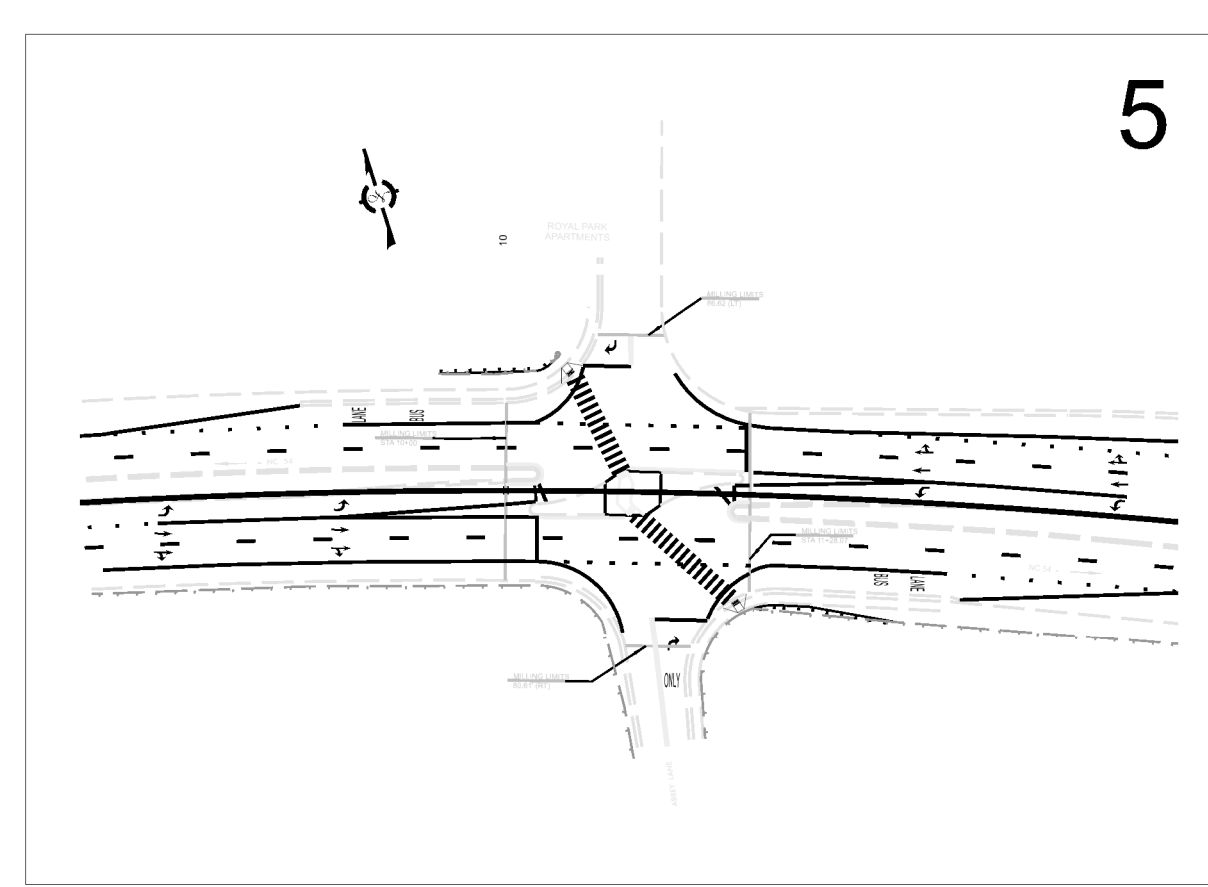
TYPE OF WORK: *CONCRETE, PAVING, AND SIGNALS*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BL-0044	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49998.1.1		PE	
49998.1.2		ROW	
49998.1.3		CONSTRUCTION	

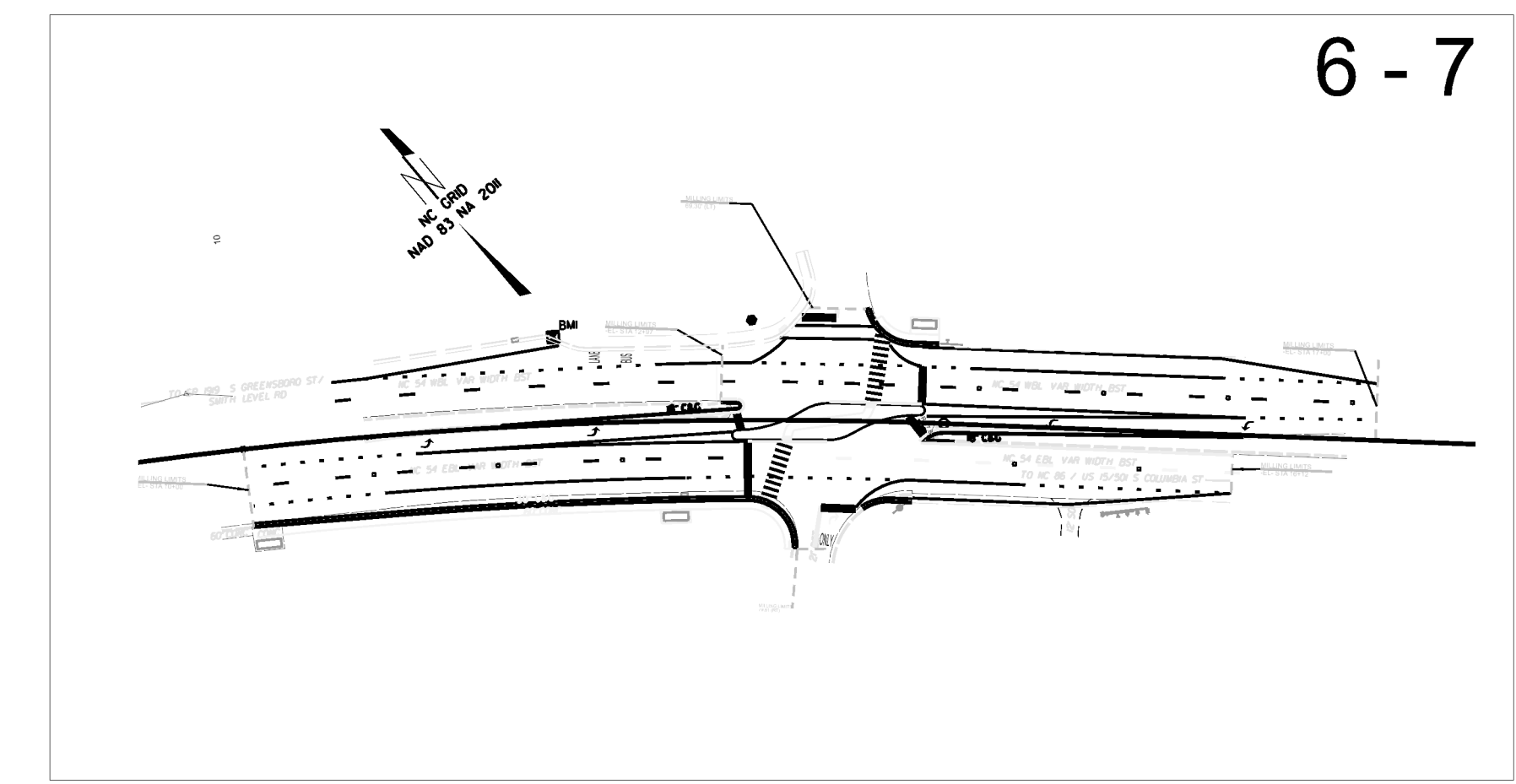
WESTBROOK DR.



ABBEY LN.



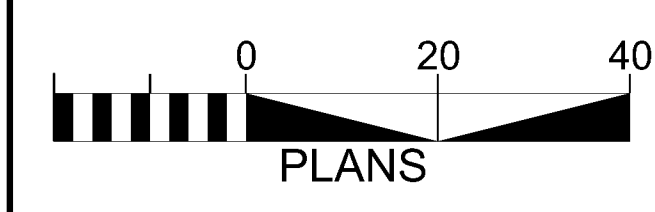
KINGSWOOD APARTMENTS



\*DRAWINGS NOT TO SCALE\*

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2021 = 31500  
ADT 2042 = 46000  
K = N/A %  
D = N/A %  
T = N/A % \*  
V = 50 MPH  
\* TTST = DUAL  
FUNC CLASS =  
FREEWAY

PROJECT LENGTH

TOTAL LENGTH SAFETY PROJECT BL-0044 = 3 INTERSECTIONS

Prepared in the Office of:  
**DIVISION 7 DDC**

1584 Yanceyville Street, Greensboro, NC 27357

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
N/A

TRUNG NGUYEN, MS, PE  
PROJECT ENGINEER

LETTING DATE:  
SEPT. 4, 2025

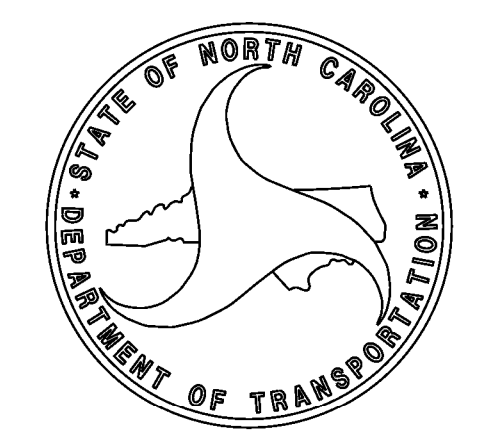
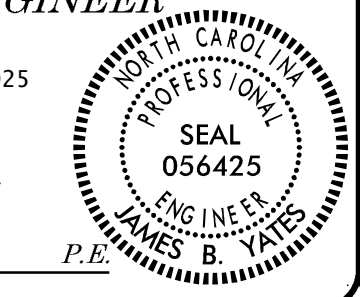
JAMES B. YATES, MS, PE  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

N/A

SIGNATURE: \_\_\_\_\_ P.E.  
ROADWAY DESIGN ENGINEER

DocuSigned by:  
06/10/2025  
James B. Yates  
1E16507EA7A04AE...  
SIGNATURE:



## INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
4 THRU 7	ROADWAY PLAN SHEETS
TMP-1 THRU TMP-5	TRAFFIC MANAGEMENT PLAN
PMP-1 THRU PMP-6	PAVEMENT MARKING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
SIG-1 THRU SIG-	SIGNAL PLANS
UO-1 THRU UO-6	UTILITY BY OTHERS

GENERAL NOTES: 2024 SPECIFICATIONS  
EFFECTIVE: 01-16-2024  
REVISED:

## GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

## CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

## SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

## GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

## SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

## UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

ATT	800-778-9140
DUKE ENERGY	800-769-3766
GFI	800-778-9140
LEVEL 1	877-366-8344
MCI	800-624-9675
OWS	919-317-4595
DOMINION ENERGY	877-776-2427
TCH	919-696-5093
TWC	885-272-2862

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

## CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

EFF. 01-16-2024  
REV.

## 2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

## STD.NO. TITLE

## DIVISION 2 - EARTHWORK

200.02 Method of Clearing - Method II  
225.01 Guide for Grading Subgrade - Interstate and Freeway  
225.06 Method of Grading Sight Distance at Intersections

## DIVISION 3 - PIPE CULVERTS

300.01 Method of Pipe Installation

## DIVISION 6 - ASPHALT BASES AND PAVEMENTS

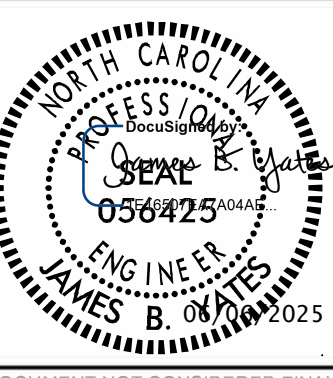
654.01 Pavement Repairs

## DIVISION 7 - CONCRETE PAVEMENTS AND SHOULDERS

700.01 Concrete Pavement Joints - Construction and Contraction Joints

## DIVISION 8 - INCIDENTALS

840.00 Concrete Base Pad for Drainage Structures  
840.01 Brick Catch Basin - 12" thru 54" Pipe  
840.03 Frame, Grates and Hood - for Use on Standard Catch Basin  
840.72 Pipe Collar  
848.01 Concrete Sidewalk  
848.04 Street Turnout  
848.05 Curb Ramp - Proposed Curb & Gutter  
848.06 Curb Ramp - Existing Curb & Gutter  
852.01 Concrete Islands  
852.10 Median Construction - with Curb and Gutter  
862.01 Guardrail Placement  
862.02 Guardrail Installation



# STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

## BOUNDARIES AND PROPERTY:

State Line	-----	
County Line	-----	
Township Line	-----	
City Line	-----	
Reservation Line	-----	
Property Line	-----	
Existing Iron Pin (EIP)	-----	⊙
Computed Property Corner	-----	×
Existing Concrete Monument (ECM)	-----	⊠
Parcel / Sequence Number	-----	(23)
Existing Fence Line	-----	-x-x-x-
Proposed Woven Wire Fence	-----	○
Proposed Chain Link Fence	-----	⊠
Proposed Barbed Wire Fence	-----	◇
Existing Wetland Boundary	-----	WLB
Proposed Wetland Boundary	-----	WLB
Existing Endangered Animal Boundary	-----	EAB
Existing Endangered Plant Boundary	-----	EPB
Existing Historic Property Boundary	-----	HPB
Known Contamination Area: Soil	-----	
Potential Contamination Area: Soil	-----	
Known Contamination Area: Water	-----	
Potential Contamination Area: Water	-----	
Contaminated Site: Known or Potential	-----	☠ ☢

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	-----	○
Sign	-----	⊙
Well	-----	⊙
Small Mine	-----	⊗
Foundation	-----	⊠
Area Outline	-----	⊠
Cemetery	-----	⊠
Building	-----	⊠
School	-----	⊠
Church	-----	⊠
Dam	-----	⊠

## HYDROLOGY:

Stream or Body of Water	-----	
Hydro, Pool or Reservoir	-----	
Jurisdictional Stream	-----	JS
Buffer Zone 1	-----	BZ 1
Buffer Zone 2	-----	BZ 2
Flow Arrow	-----	←
Disappearing Stream	-----	→
Spring	-----	⊙
Wetland	-----	⊙
Proposed Lateral, Tail, Head Ditch	-----	⊙
False Sump	-----	⊙

## RAILROADS:

Standard Gauge	-----	CSX TRANSPORTATION
RR Signal Milepost	-----	MILEPOST 35
Switch	-----	SWITCH
RR Abandoned	-----	-----
RR Dismantled	-----	-----

## RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	-----	⬡
Primary Horiz and Vert Control Point	-----	⬢
Secondary Horiz and Vert Control Point	-----	⬢
Vertical Benchmark	-----	⊠
Existing Right of Way Monument	-----	⬡
Proposed Right of Way Monument (Rebar and Cap)	-----	⬢
Proposed Right of Way Monument (Concrete)	-----	⬢
Existing Permanent Easement Monument	-----	⬢
Proposed Permanent Easement Monument (Rebar and Cap)	-----	⬢
Existing C/A Monument	-----	⬢
Proposed C/A Monument (Rebar and Cap)	-----	⬢
Proposed C/A Monument (Concrete)	-----	⬢
Existing Right of Way Line	-----	-----
Proposed Right of Way Line	-----	-----
Existing Control of Access Line	-----	-----
Proposed Control of Access Line	-----	-----
Proposed ROW and CA Line	-----	-----
Existing Easement Line	-----	E
Proposed Temporary Construction Easement	-----	E
Proposed Temporary Drainage Easement	-----	TDE
Proposed Permanent Drainage Easement	-----	PDE
Proposed Permanent Drainage/Utility Easement	-----	DUE
Proposed Permanent Utility Easement	-----	PUE
Proposed Temporary Utility Easement	-----	TUE
Proposed Aerial Utility Easement	-----	AUE

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----	-----
Existing Curb	-----	-----
Proposed Slope Stakes Cut	-----	C
Proposed Slope Stakes Fill	-----	F
Proposed Curb Ramp	-----	CR
Existing Metal Guardrail	-----	-----
Proposed Guardrail	-----	-----
Existing Cable Guiderail	-----	-----
Proposed Cable Guiderail	-----	-----
Equality Symbol	-----	⊕
Pavement Removal	-----	-----
VEGETATION:		
Single Tree	-----	⊙
Single Shrub	-----	⊙
Hedge	-----	-----

Woods Line	-----	-----
Orchard	-----	-----
Vineyard	-----	Vineyard

## EXISTING STRUCTURES:

MAJOR:		
Bridge, Tunnel or Box Culvert	-----	CONC
Bridge Wing Wall, Head Wall and End Wall	-----	CONC WW
MINOR:		
Head and End Wall	-----	CONC HW
Pipe Culvert	-----	-----
Footbridge	-----	-----
Drainage Box: Catch Basin, DI or JB	-----	CB
Paved Ditch Gutter	-----	-----
Storm Sewer Manhole	-----	⊙
Storm Sewer	-----	S

## UTILITIES:

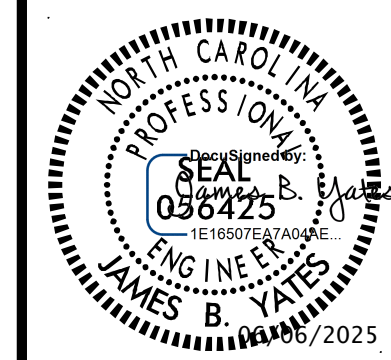
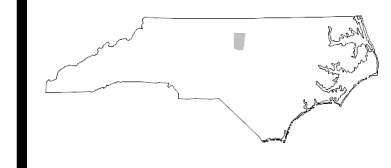
\* SUE - Subsurface Utility Engineering  
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:		
Existing Power Pole	-----	⊙
Proposed Power Pole	-----	⊙
Existing Joint Use Pole	-----	⊙
Proposed Joint Use Pole	-----	⊙
Power Manhole	-----	⊙
Power Line Tower	-----	⊠
Power Transformer	-----	⊠
U/G Power Cable Hand Hole	-----	⊠
H-Frame Pole	-----	⊙
U/G Power Line Test Hole (SUE - LOS A)*	-----	⊙
U/G Power Line (SUE - LOS B)*	-----	P
U/G Power Line (SUE - LOS C)*	-----	P
U/G Power Line (SUE - LOS D)*	-----	P

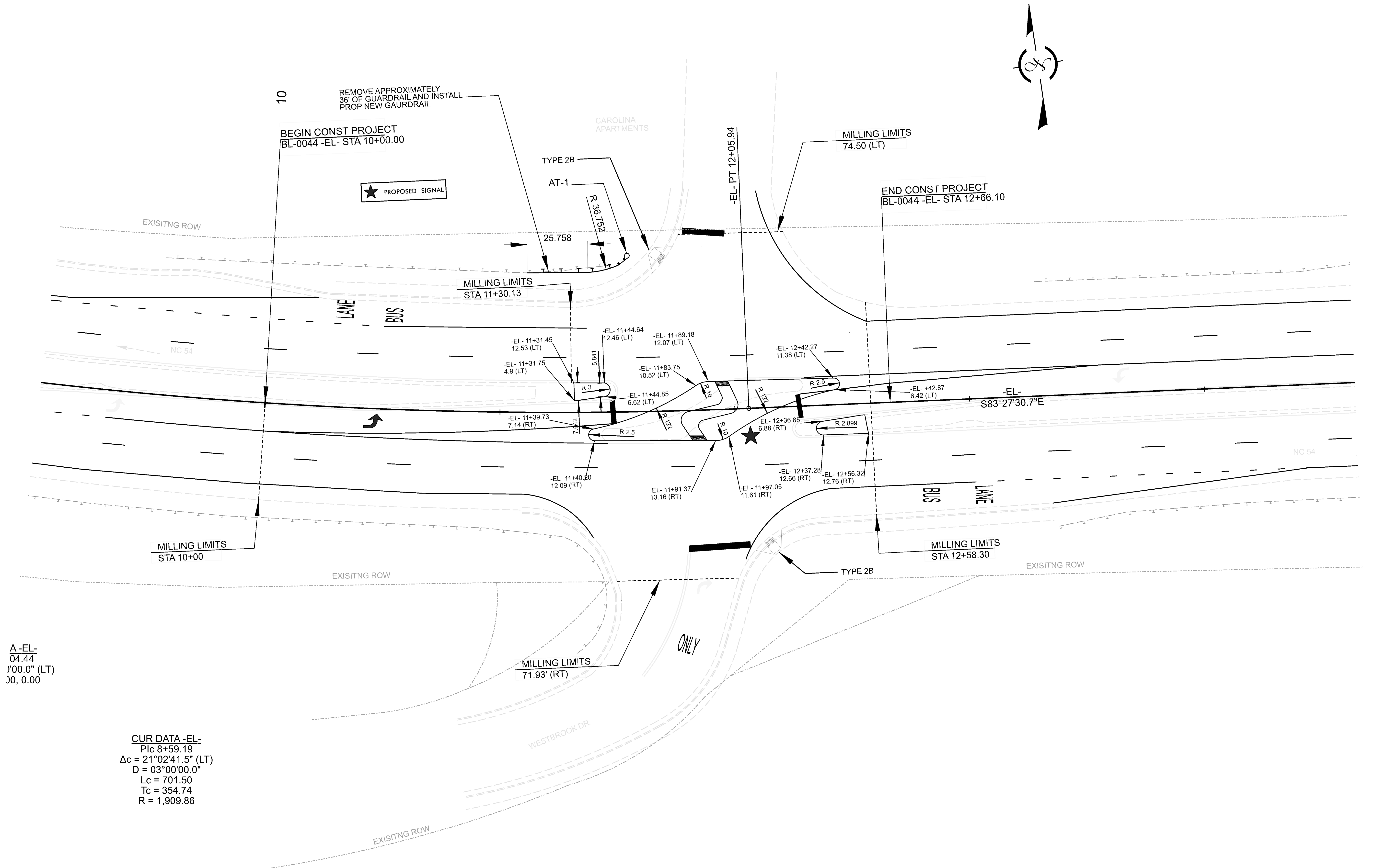
## TELEPHONE:

Existing Telephone Pole	-----	⊙
Proposed Telephone Pole	-----	⊙
Telephone Manhole	-----	⊙
Telephone Pedestal	-----	⊠
Telephone Cell Tower	-----	⊙
U/G Telephone Cable Hand Hole	-----	⊠
U/G Telephone Test Hole (SUE - LOS A)*	-----	⊙
U/G Telephone Cable (SUE - LOS B)*	-----	T
U/G Telephone Cable (SUE - LOS C)*	-----	T
U/G Telephone Cable (SUE - LOS D)*	-----	T
U/G Telephone Conduit (SUE - LOS B)*	-----	TC
U/G Telephone Conduit (SUE - LOS C)*	-----	TC
U/G Telephone Conduit (SUE - LOS D)*	-----	TC
U/G Fiber Optics Cable (SUE - LOS B)*	-----	T FO
U/G Fiber Optics Cable (SUE - LOS C)*	-----	T FO
U/G Fiber Optics Cable (SUE - LOS D)*	-----	T FO

WATER:		
Water Manhole	-----	⊙
Water Meter	-----	⊙
Water Valve	-----	⊙
Water Hydrant	-----	⊙
U/G Water Line Test Hole (SUE - LOS A)*	-----	⊙
U/G Water Line (SUE - LOS B)*	-----	W
U/G Water Line (SUE - LOS C)*	-----	W
U/G Water Line (SUE - LOS D)*	-----	W
Above Ground Water Line	-----	A/G Water
TV:		
TV Pedestal	-----	⊠
TV Tower	-----	⊙
U/G TV Cable Hand Hole	-----	⊠
U/G TV Test Hole (SUE - LOS A)*	-----	⊙
U/G TV Cable (SUE - LOS B)*	-----	TV
U/G TV Cable (SUE - LOS C)*	-----	TV
U/G TV Cable (SUE - LOS D)*	-----	TV
U/G Fiber Optic Cable (SUE - LOS B)*	-----	TV FO
U/G Fiber Optic Cable (SUE - LOS C)*	-----	TV FO
U/G Fiber Optic Cable (SUE - LOS D)*	-----	TV FO
GAS:		
Gas Valve	-----	⊙
Gas Meter	-----	⊙
U/G Gas Line Test Hole (SUE - LOS A)*	-----	⊙
U/G Gas Line (SUE - LOS B)*	-----	G
U/G Gas Line (SUE - LOS C)*	-----	G
U/G Gas Line (SUE - LOS D)*	-----	G
Above Ground Gas Line	-----	A/G Gas
SANITARY SEWER:		
Sanitary Sewer Manhole	-----	⊙
Sanitary Sewer Cleanout	-----	⊙
U/G Sanitary Sewer Line	-----	SS
Above Ground Sanitary Sewer	-----	A/G Sanitary Sewer
SS Force Main Line Test Hole (SUE - LOS A)*	-----	⊙
SS Force Main Line (SUE - LOS B)*	-----	FSS
SS Force Main Line (SUE - LOS C)*	-----	FSS
SS Force Main Line (SUE - LOS D)*	-----	FSS
MISCELLANEOUS:		
Utility Pole	-----	⊙
Utility Pole with Base	-----	⊙
Utility Located Object	-----	⊙
Utility Traffic Signal Box	-----	⊠
Utility Unknown U/G Line (SUE - LOS B)*	-----	U/L
U/G Tank; Water, Gas, Oil	-----	⊠
Underground Storage Tank, Approx. Loc.	-----	UST
A/G Tank; Water, Gas, Oil	-----	⊠
Geoenvironmental Boring	-----	⊙
Abandoned According to Utility Records	-----	AATUR
End of Information	-----	E.O.I.



REVISIONS



REMOVE APPROXIMATELY  
36' OF GUARDRAIL AND INSTALL  
PROP NEW GAURDRAIL

BEGIN CONST PROJECT  
BL-0044 -EL- STA 10+00.00

★ PROPOSED SIGNAL

TYPE 2B  
AT-1

MILLING LIMITS  
74.50 (LT)

END CONST PROJECT  
BL-0044 -EL- STA 12+66.10

EXISTING ROW

MILLING LIMITS  
STA 11+30.13

NC 54

LANE  
BUS

-EL- 11+31.45  
12.53 (LT)

-EL- 11+44.64  
12.46 (LT)

-EL- 11+89.18  
12.07 (LT)

-EL- 12+42.27  
11.38 (LT)

-EL- 11+31.75  
4.9 (LT)

-EL- 11+83.75  
10.52 (LT)

-EL- +42.87  
6.42 (LT)

-EL- 11+44.85  
6.62 (LT)

-EL- 11+39.73  
7.14 (RT)

-EL- 12+36.85  
6.88 (RT)

-EL-  
S83°27'30.7"E

-EL- 11+40.20  
12.09 (RT)

-EL- 11+91.37  
13.16 (RT)

-EL- 11+97.05  
11.61 (RT)

-EL- 12+37.28  
12.66 (RT)

-EL- 12+56.32  
12.76 (RT)

LANE  
BUS

MILLING LIMITS  
STA 10+00

EXISTING ROW

MILLING LIMITS  
STA 12+58.30

EXISTING ROW

MILLING LIMITS  
71.93 (RT)

ONLY

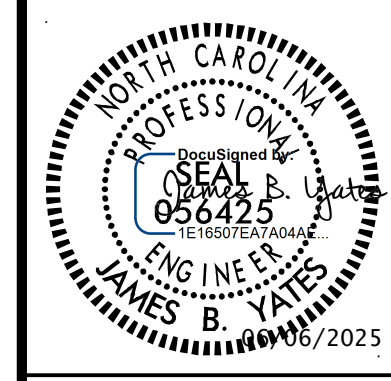
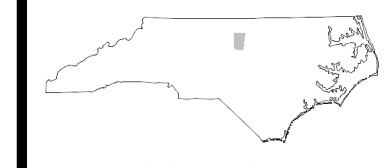
TYPE 2B

WESTBROOK DR.

EXISTING ROW

A-EL-  
04.44  
100.0" (LT)  
00, 0.00

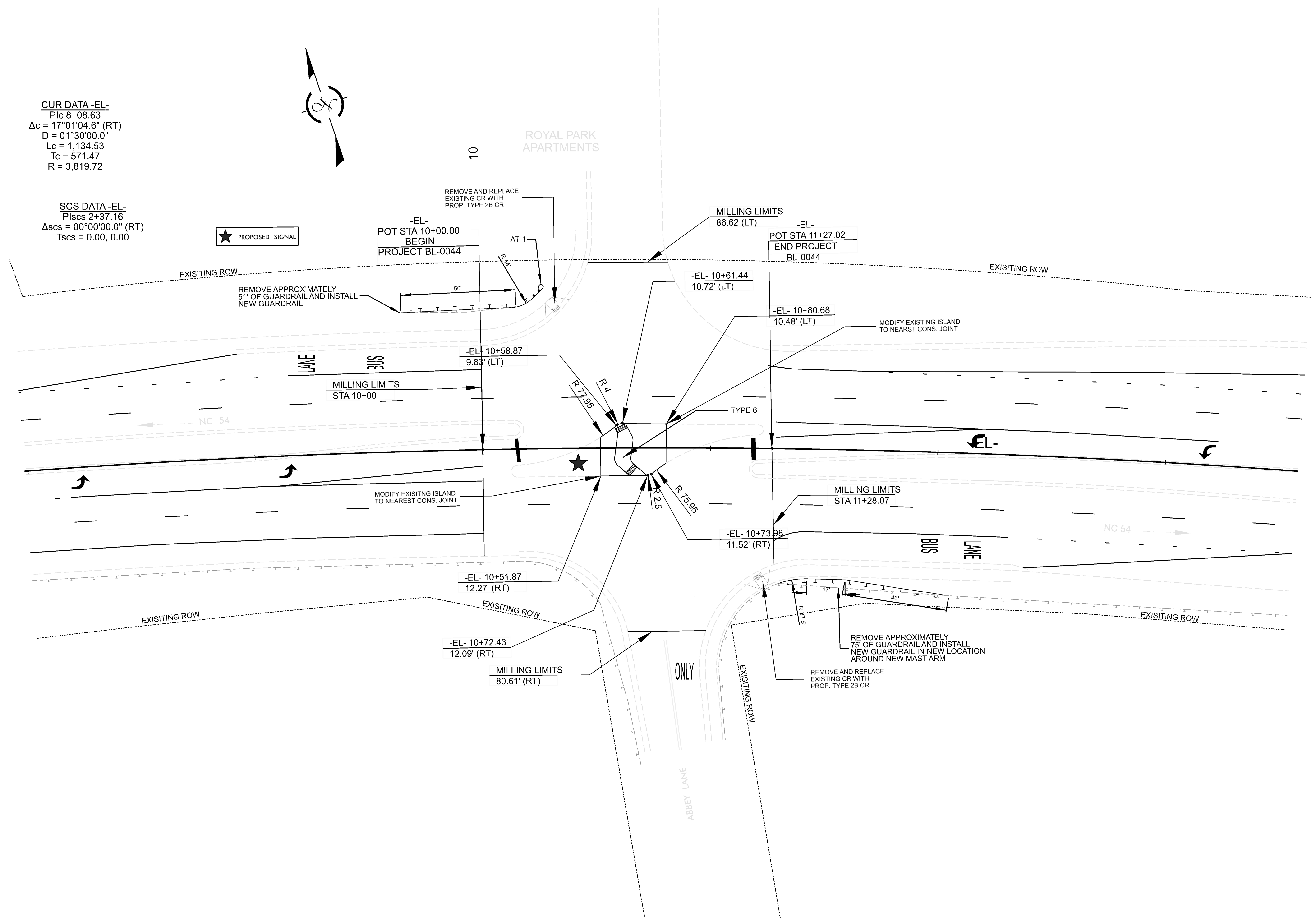
CUR DATA -EL-  
Plc 8+59.19  
 $\Delta c = 21^{\circ}02'41.5''$  (LT)  
D = 03^{\circ}00'00.0''  
Lc = 701.50  
Tc = 354.74  
R = 1,909.86



**CUR DATA -EL-**  
 Plc 8+08.63  
 $\Delta c = 17^\circ 01' 04.6''$  (RT)  
 $D = 01^\circ 30' 00.0''$   
 $Lc = 1,134.53$   
 $Tc = 571.47$   
 $R = 3,819.72$

**SCS DATA -EL-**  
 Plscs 2+37.16  
 $\Delta scs = 00^\circ 00' 00.0''$  (RT)  
 $Tscs = 0.00, 0.00$

★ PROPOSED SIGNAL



ROYAL PARK APARTMENTS

10

MILLING LIMITS 86.62 (LT)

-EL- POT STA 11+27.02 END PROJECT BL-0044

-EL- 10+61.44 10.72' (LT)

-EL- 10+80.68 10.48' (LT)

-EL- 10+58.87 9.83' (LT)

MILLING LIMITS STA 10+00

MILLING LIMITS STA 11+28.07

-EL- 10+73.98 11.52' (RT)

-EL- 10+51.87 12.27' (RT)

-EL- 10+72.43 12.09' (RT)

MILLING LIMITS 80.61' (RT)

ONLY

EXISTING ROW

REMOVE APPROXIMATELY 75' OF GUARDRAIL AND INSTALL NEW GUARDRAIL IN NEW LOCATION AROUND NEW MAST ARM

REMOVE AND REPLACE EXISTING CR WITH PROP. TYPE 2B CR

MODIFY EXISTING ISLAND TO NEAREST CONS. JOINT

MODIFY EXISTING ISLAND TO NEAREST CONS. JOINT

REMOVE APPROXIMATELY 51' OF GUARDRAIL AND INSTALL NEW GUARDRAIL

EXISTING ROW

EXISTING ROW

EXISTING ROW

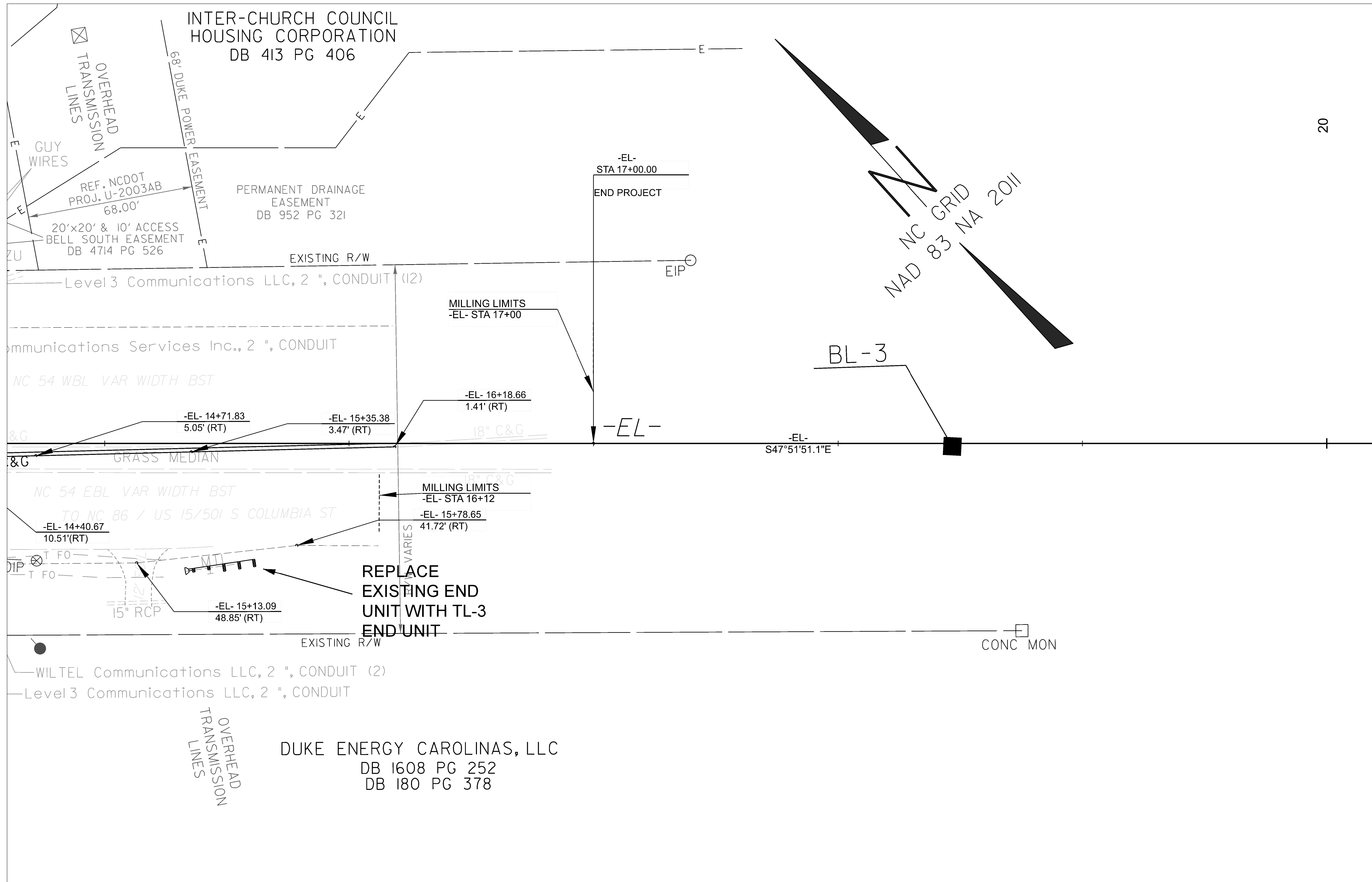
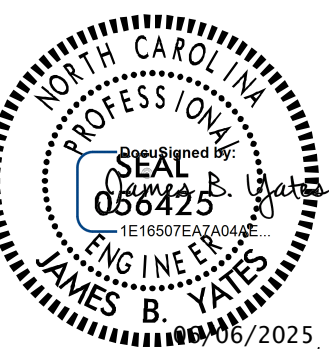
EXISTING ROW

NC 54

NC 54

ABBEE LANE






20

REVISIONS

# SURVEY CONTROL SHEET

## W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO. NC54	SHEET NO. RW02C-1
Location and Surveys	
LOCATION & SURVEYS UNIT DIVISION 7 FIELD OFFICE	
PROJECT SURVEYOR 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

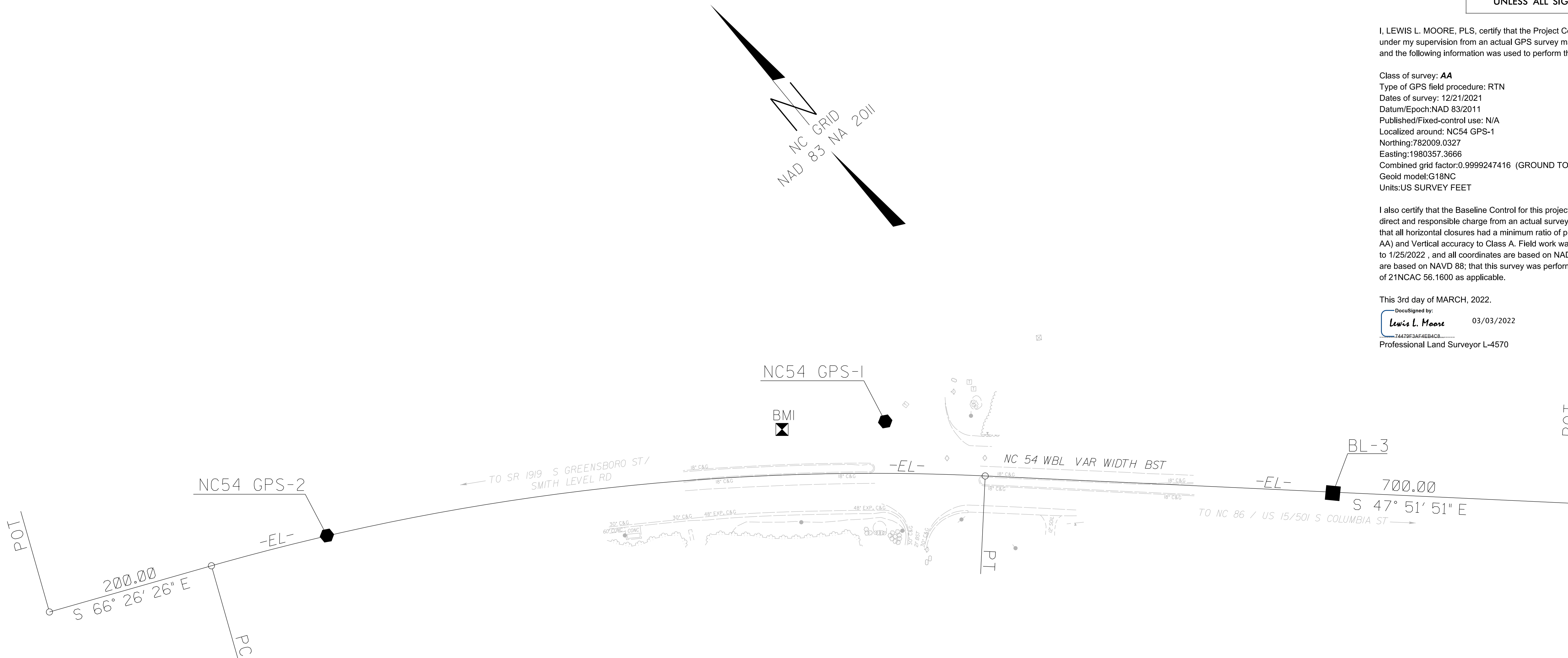
I, LEWIS L. MOORE, PLS, certify that the Project Control was PERFORMED under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: **AA**  
 Type of GPS field procedure: RTN  
 Dates of survey: 12/21/2021  
 Datum/Epoch: NAD 83/2011  
 Published/Fixed-control use: N/A  
 Localized around: NC54 GPS-1  
 Northing: 782009.0327  
 Easting: 1980357.3666  
 Combined grid factor: 0.9999247416 (GROUND TO GRID)  
 Geoid model: G18NC  
 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 12/21/2021 to 1/25/2022, 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 3rd day of MARCH, 2022.

DocuSigned by:  
  
 Lewis L. Moore 03/03/2022  
 Professional Land Surveyor L-4570




SEE SHEET RW02C-3  
FOR FURTHER  
ALIGNMENT DETAILS

### 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. NC54	SHEET NO. RW02C-2
Location and Surveys	
LOCATION & SURVEYS UNIT DIVISION 7 FIELD OFFICE	
PROJECT SURVEYOR	
	
DocuSigned by: <b>Lewis L. Moore</b> <small>74479F3AF4EB4C8...</small>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

BL	POINT	DESC.	NORTH	EAST	ELEVATION
2		GPS-2	782325.7771	1979759.5997	364.09
1		GPS-1	782009.0327	1980357.3666	341.51
3		BL-3	781605.5614	1980713.4123	322.80

I, LEWIS L. MOORE, 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: 12/21/2021  
 Datum/Epoch: NAD 83/2011  
 Published/Fixed-control use: N/A  
 Localized around: NC54 GPS-1  
 Northing: 782009.0327  
 Easting: 1980357.3666  
 Combined grid factor: 0.9999247416 (GROUND TO GRID)  
 Geoid model: G18NC  
 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 12/21/2021 to 1/25/2022, 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 3rd day of MARCH, 2022.

DocuSigned by:  
**Lewis L. Moore** 03/03/2022  
74479F3AF4EB4C8...  
 Professional Land Surveyor L-4570


\*\*\*\*\*  
 BM1 ELEVATION = 345.43  
 N 782080 E 1980257  
 BL STATION 10+55.00 15 LEFT  
 CHISELED SQUARE IN TOP BACK CURB  
 \*\*\*\*\*

**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. NC54	SHEET NO. RW02C-3
<b>Location and Surveys</b>	
LOCATION & SURVEYS UNIT DIVISION 7 FIELD OFFICE	
PROJECT SURVEYOR	
	
<small>DocuSigned by: <b>Lewis L. Moore</b> 74479F3AF4EB4C8...</small>	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

EL POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
POT LINE	782465.180	1979447.613	S 66°26'26.1" E	200.00					
PC CURVE	782385.240	1979630.942	S 57°09'08.6" E	924.76	18°34'35.0*(RT)	02°00'00.0*	928.82	468.52	2864.79
PT LINE	781883.645	1980407.845	S 47°51'51.1" E	700.00					
POT	781414.022	1980926.935							

I, LEWIS L. MOORE, 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: 12/21/2021  
 Datum/Epoch: NAD 83/2011  
 Published/Fixed-control use: N/A  
 Localized around: NC54 GPS-1  
 Northing: 782009.0327  
 Easting: 1980357.3666  
 Combined grid factor: 0.9999247416 (GROUND TO GRID)  
 Geoid model: G18NC  
 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 12/21/2021 to 1/25/2022, 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 3rd day of MARCH, 2022.

DocuSigned by:  
**Lewis L. Moore**  
74479F3AF4EB4C8... 03/03/2022  
Professional Land Surveyor L-4570

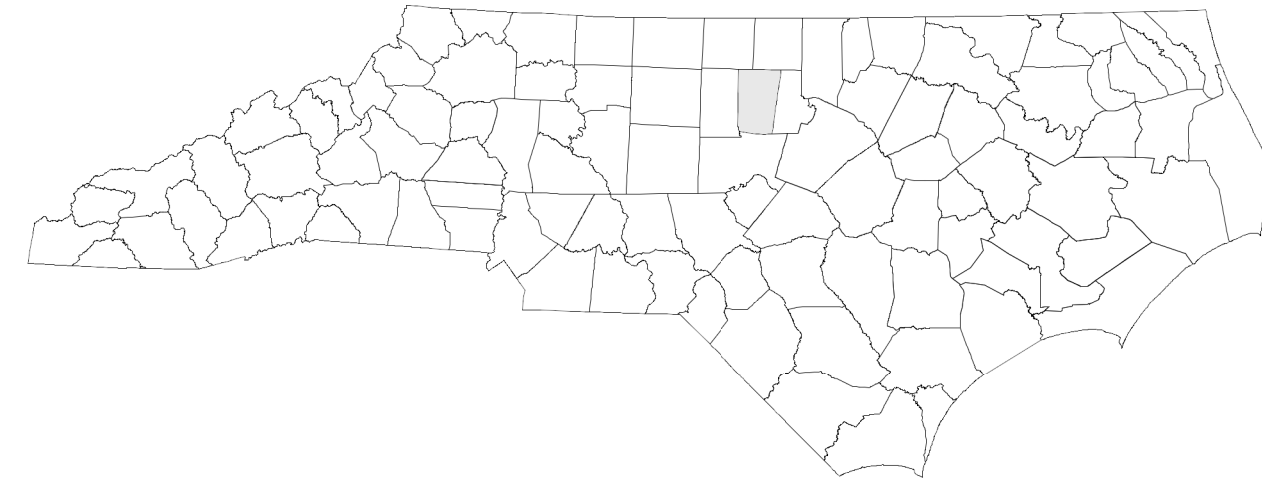
**NOTES:**

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.

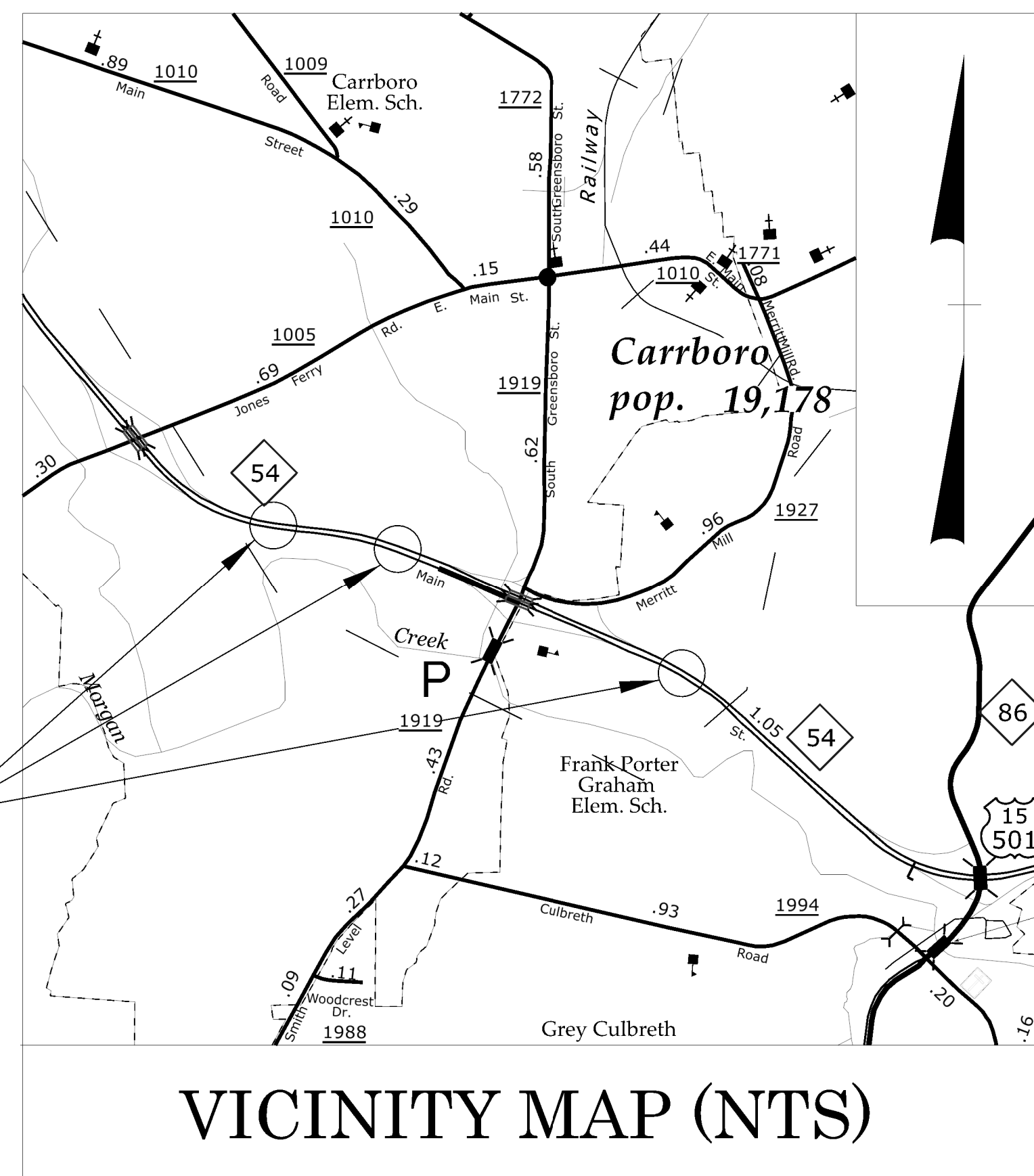
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**ORANGE COUNTY**



NC HWY 54 AT INTERSECTIONS WESTBROOK DR.,  
ABBEY LN., AND KINGSWOOD APT. IN  
CARRBORO AND CHAPEL HILL



PROJECT LOCATIONS

VICINITY MAP (NTS)

**INDEX OF SHEETS**

SHEET NO.	TITLE
TMP-1	TITLE SHEET
TMP-1A	ROADWAY STANDARD DRAWINGS, LEGEND, AND PHASING
TMP-2	GENERAL NOTES
TMP-3	LONG TERM LANE CLOSURE DETAIL (WESTBROOK DR.)
TMP-4	LONG TERM LANE CLOSURE DETAIL (ABBEY LN.)
TMP-5	LONG TERM LANE CLOSURE DETAIL (KINGSWOOD APT.)

SHEET NO.  
TMP-1

3/24/2025 0:10:04-ORANGE\BL-0044\TMP\CADD\BL-0044\_TMP\_Sheets.dgn User:jbyates



PLANS PREPARED BY:

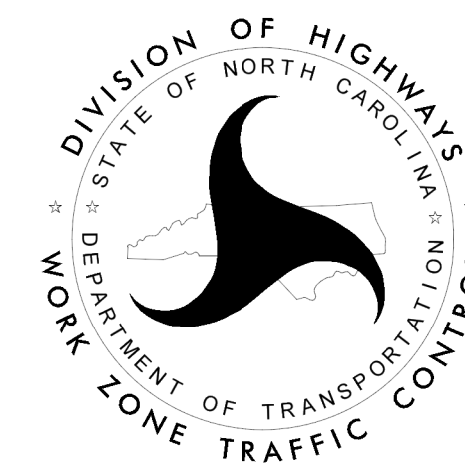
TRUNG NGUYEN, MS, PE

JAMES B. YATES, MS, PE

NCDOT CONTACT:

TRUNG NGUYEN, MS, PE  
**PROJECT ENGINEER**

JAMES B. YATES, MS, PE  
**PROJECT DESIGN ENGINEER**

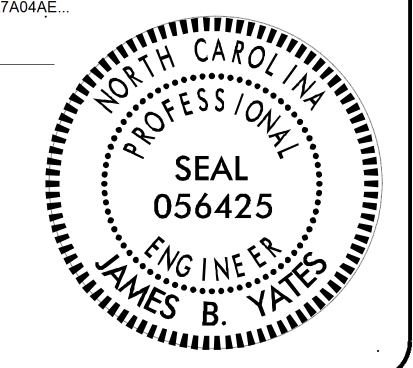


**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

APPROVED: 

DATE: 06/06/2025

SEAL



**TIP PROJECT: BL-0044**

## ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUM
1135.01	CONES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMP
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

## LEGEND

### GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA

### PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

### TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM    SKINNY DRUM    TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

### TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

### PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

### PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

## PHASING

### STEP I

USING RSD 1101.01, SHEET 2 OF 3, INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -EL- NC HWY 54, WESTNROODK DR. AND ABBEY LN.

USING RSD 1101.02, SHEET 3 OF 19, PERFORM CURB RAMP, CONCRETE, GUARDRAIL, AND SIGNAL FOUNDATION WORK. CLOSE SIDEWALK ACCESS AS NEEDED WITH PEDESTRIAN CHANNELIZING DEVICES.

### STEP II

USING TMP-3, TMP-4, TMP-5, CLOSE BOTH LEFT TURN LANES IN THE MEDIAN. PROVIDE SEVEN (7) DAY NOTICE TO PUBLIC USING CHANGEABLE MESSAGE BOARDS. CLOSE ONLY ONE INTERSECTION AT A TIME SO THAT DETOURED TRAFFIC WILL NOT OVERWHELM ADJACENT INTERSECTIONS. PERFORM SIGNAL AND MEDIAN WORK ALONG -EL-. USE RSD 1101.02, SHEET 3 OF 19, FOR ADDITIONAL LANE CLOSURES AS NEEDED WITHIN ICT #1.

### STEP III

USING RSD 1101.02, SHEET 3 OF 19, AND LAW ENFORCEMENT AS NEEDED TO FINISH SIGNAL CONSTRUCTION, PAVING AND PAVMENT MARKINGS.

### STEP IV

UPON COMPLETION OF CONSTRUCTION, REMOVE ALL TRAFFIC CONTROL DEVICES AND ACTIVATE SIGNAL.

APPROVED: DATE: 06/06/2025			<b>ROADWAY STANDARD DRAWINGS &amp; LEGEND</b>
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>			

## GENERAL NOTES/ LOCAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

### TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DURATION AND RESTRICTIONS	OPERATION
ANY ROAD	ANY DAY 6:00 AM TO 9:00 PM AND 4:00 PM TO 7:00 PM	ALL

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME  
ANY ROAD

### HOLIDAY

- FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY.  
  
IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
- FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING UESDAY AFTER THE WEEK OF CHRISTAMS.

C) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
NC HWY 54	ANY DAY 6:00 AM TO 9:00PM	20 MIN FOR SIGNAL WORK

D) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

### LANE AND SHOULDER CLOSURE REQUIREMENTS

D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101 .04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101 .02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101 .02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

### PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1 .5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (WB-11) 200 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

### TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR RO ANY TRAFFIC PATTERN ALTERATION.

### SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

M) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

### TRAFFIC CONTROL DEVICES

O) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

P) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

Q) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

### PAVEMENT MARKINGS AND MARKERS

R) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

S) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

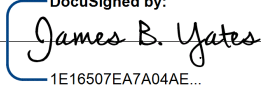
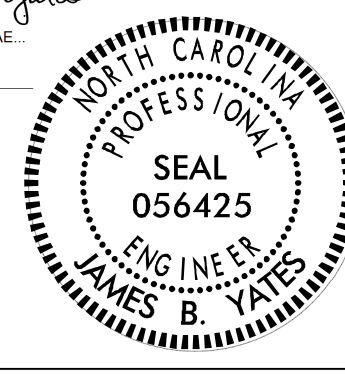
T) ALL CURB RAMP LOCATIONS SHALL BE DERIVED FROM STATIONING SHOWN ON PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER IN COORDINATION WITH THE SIGNING AND DELINEATION UNIT.

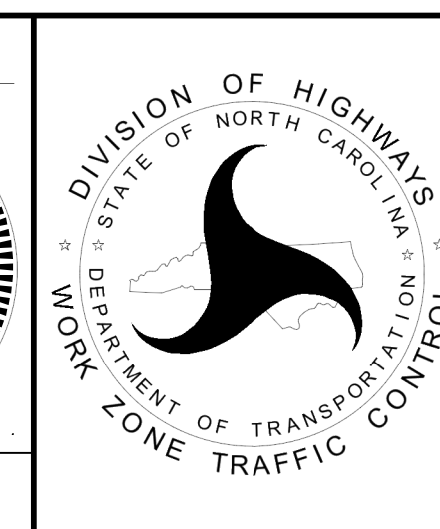
## MANAGEMENT STRATEGIES

TRAFFIC MANAGEMENT STRATIGIES:  
LANE SHIFTS OR CLOSURES  
SHOULDER CLOSURES

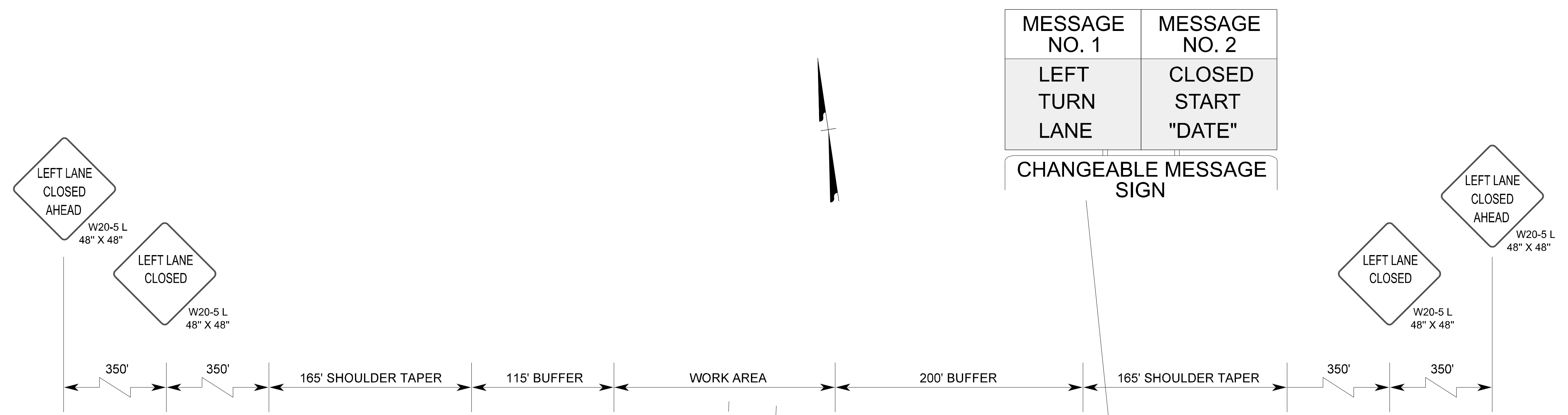
TRAFFIC/ INCIDENT MANAGEMENT & SPEED ENFORCEMENT STRATEGIES:  
COORDINATION WITH STATE TRAFFIC OPERATIONS CENTER (STOC)  
DEDICATED (PAID) LAW ENFORCEMENT

CONTRACTING & INNOVATIVE CONSTRUCTION STRATEGIES:  
INTERMEDIATE CONTRACT TIMES/ LIQUIDATED DAMAGES

APPROVED: 
DATE: 06/06/2025
SEAL

<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>

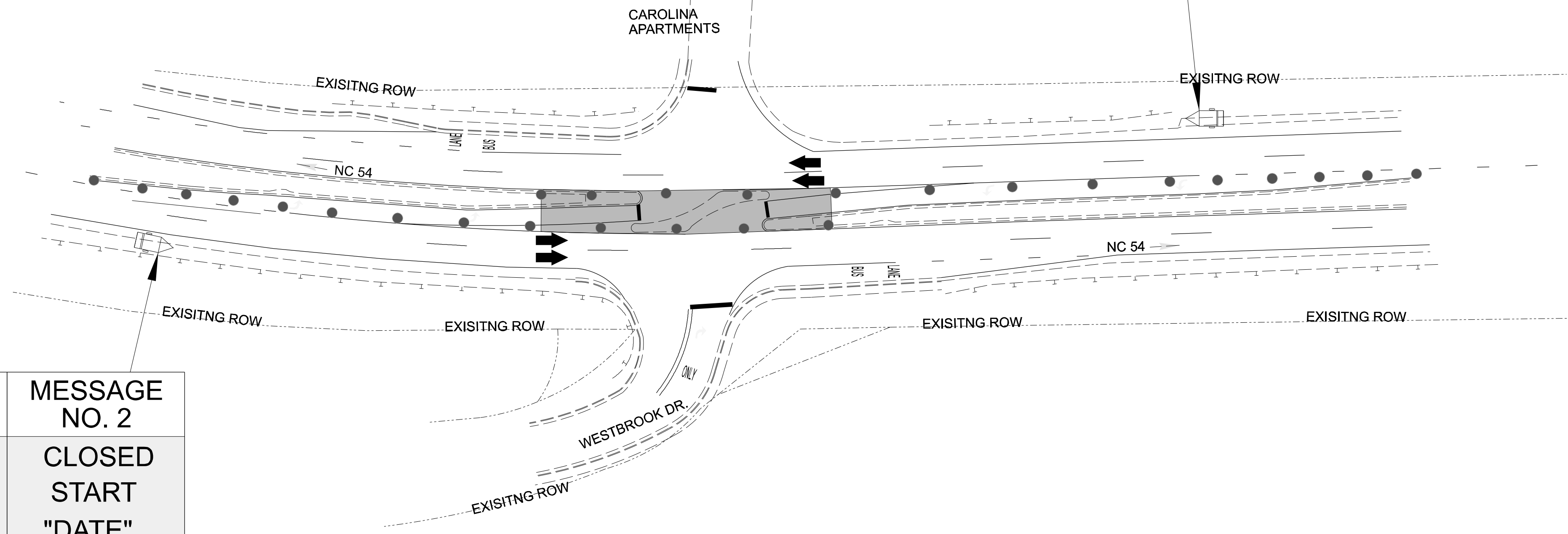


GENERAL NOTES



MESSAGE NO. 1	MESSAGE NO. 2
LEFT TURN LANE	CLOSED START "DATE"
CHANGEABLE MESSAGE SIGN	

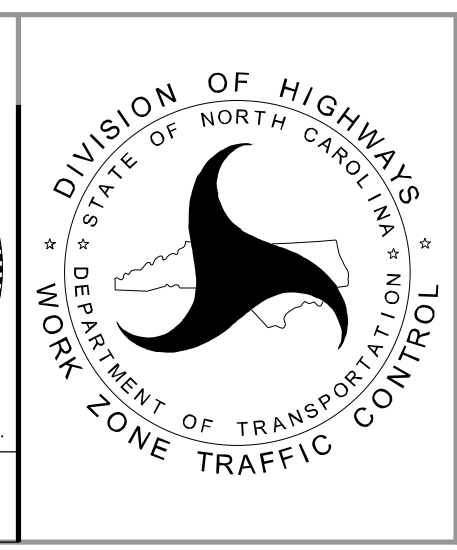
MESSAGE NO. 1	MESSAGE NO. 2
LEFT TURN LANE	CLOSED START "DATE"
CHANGEABLE MESSAGE SIGN	



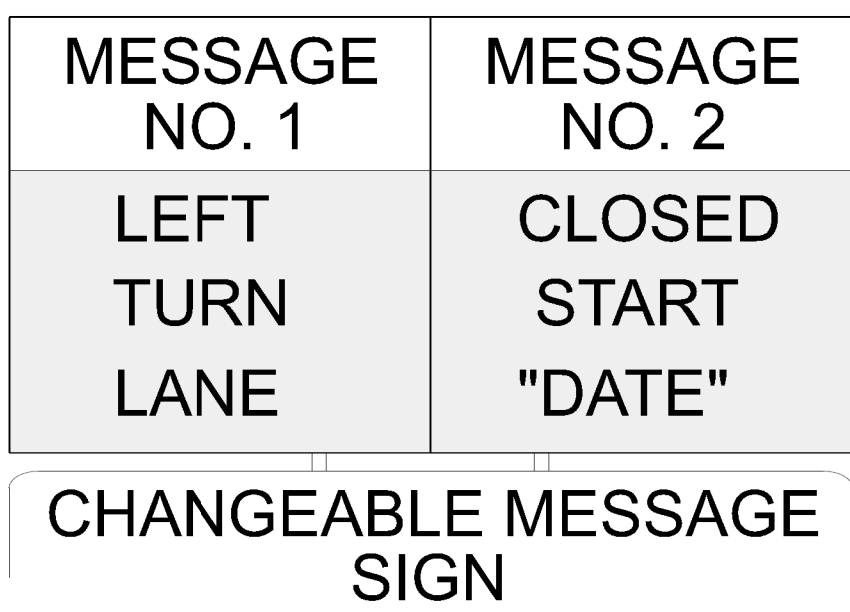
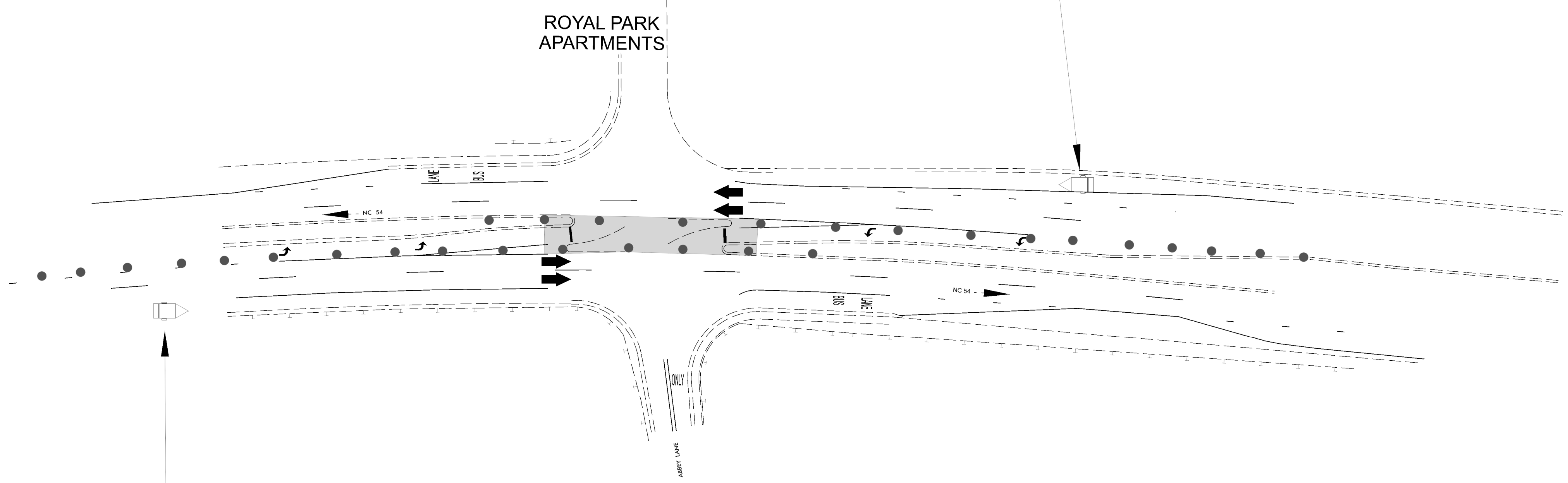
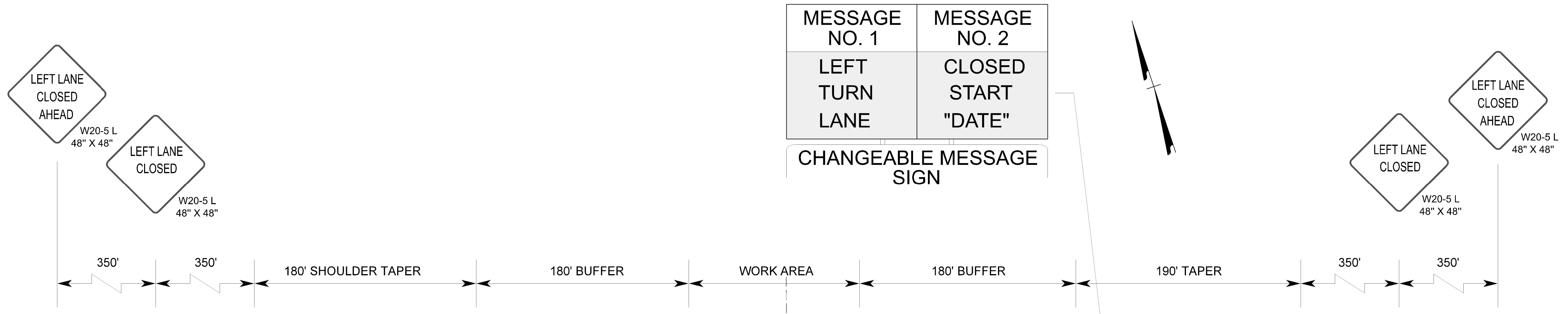
6/2/2025 0:11:00 AM C:\ORANGE\BL-0044\TMP\CADD\BL-0044\_TMP3\_WESTBROOK.dgn User: jbyates

APPROVED: *James B. Yates*  
 DATE: 06/06/2025  
 SEAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



LONG TERM LANE CLOSURE DETAILS (WESTBROOK DR.)

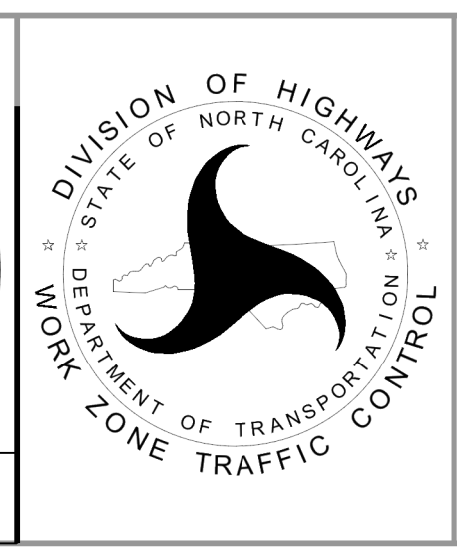


APPROVED: *James B. Yates*  
DocuSigned by: James B. Yates 1E16507EA7AD0AE  
 DATE: 06/06/2025

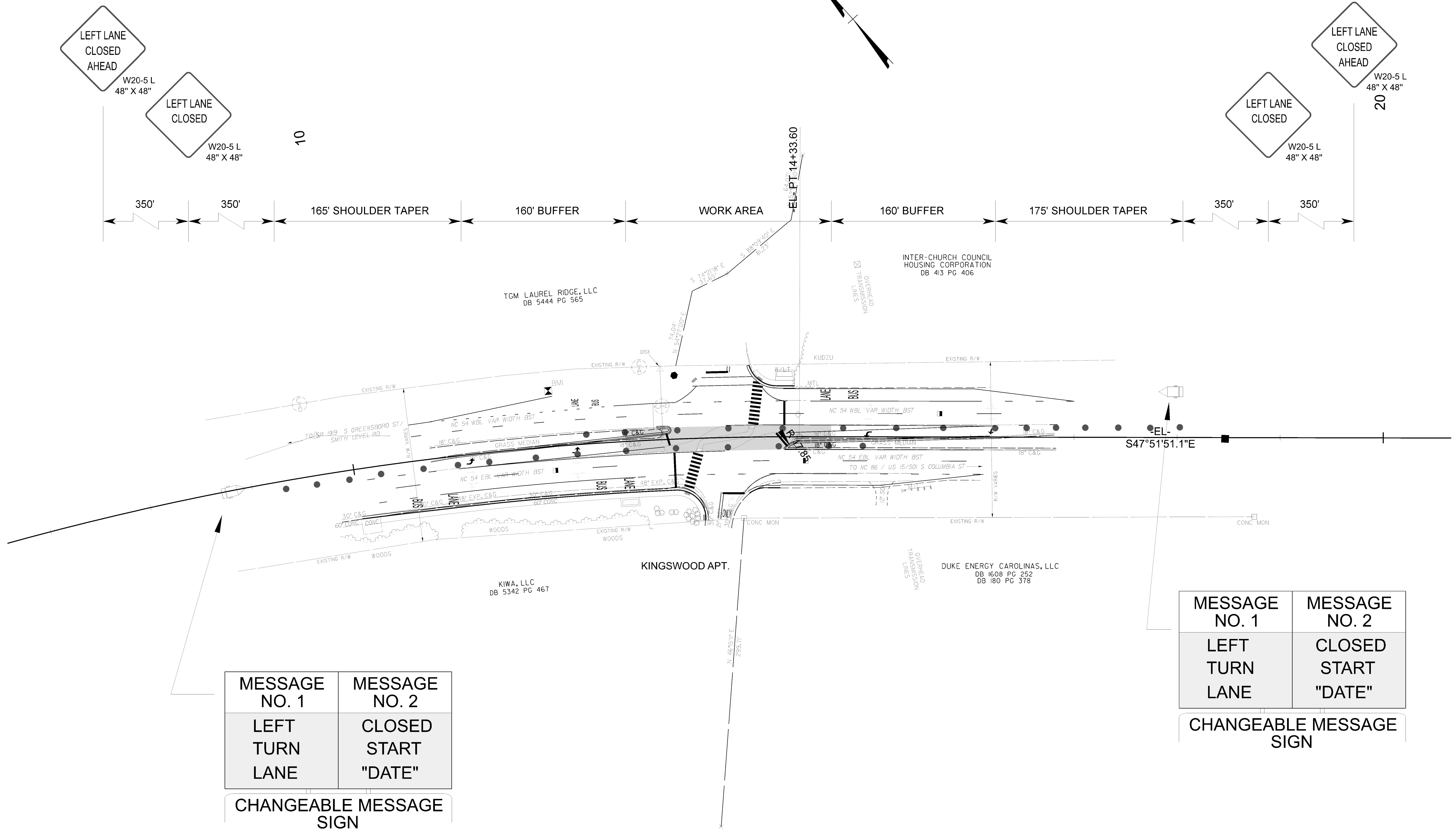
SEAL

**PROFESSIONAL SEAL**  
 056425  
 ENGINEER  
 JAMES B. YATES

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



**LONG TERM LANE CLOSURE DETAILS (ABBEY LN.)**



MESSAGE NO. 1	MESSAGE NO. 2
LEFT TURN LANE	CLOSED START "DATE"

CHANGEABLE MESSAGE SIGN

MESSAGE NO. 1	MESSAGE NO. 2
LEFT TURN LANE	CLOSED START "DATE"

CHANGEABLE MESSAGE SIGN

6/2/2025 0:10:04-ORANGE/BL-0044/TMP/CADD/BL-0044\_TMP5\_KINGSWOOD.dgn User: jbyates

APPROVED: *James B. Yates*  
 DATE: 06/06/2025  
 SEAL



**LONG TERM  
 LANE CLOSURE DETAILS  
 (KINGSWOOD APT.)**

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BL-0044	PMP-1	6

**PAVEMENT MARKING PLAN**  
**ORANGE COUNTY**

LOCATION: NC HWY 54 AT INTERSECTIONS WESTBROOK DR., ABBEY LN., AND KINGSWOOD APT. IN CARRBORO AND CHAPEL HILL

**ROADWAY STANDARD DRAWINGS**

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN ROADWAY STANDARD DRAWINGS - DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AN BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

- STD. NO. -	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	TURN LANES
1205.06	LANE DROPS
1205.08	SYMBOLS AND WORD MESSAGES
1205.09	PAINTED ISLANDS

**GENERAL NOTES**

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT. EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR AS DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
ALL	THERMOPLASTIC

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE & REPLACE ANY CONFLICTING / DAMAGED PAVEMENT MARKING LINES.

**INDEX**

- SHEET NO. -	- DESCRIPTION -
PMP - 1	PAVEMENT MARKING PLAN TITLE SHEET
PMP - 2	FINAL PMP, NC HWY 54 AT WESTBROOK DR.
PMP - 3	FINAL PMP, NC HWY 54 AT WESTBROOK DR.
PMP - 4	FINAL PMP, NC HWY 54 AT ABBEY LANE
PMP - 5	FINAL PMP, NC HWY 54 AT KINGSWOOD APT.
PMP - 6	FINAL PMP, NC HWY 54 AT KINGSWOOD APT.

**PLAN PREPARED BY: NCDOT DIVISION 7 DDC UNIT**

TRUNG NGUYEN, MS, PE	DDC ENGINEER
JAMES B. YATES, ME, PE	PROJECT DESIGN ENGINEER

**PERMANENT PAVEMENT MARKING & MARKER SCHEDULE**

Estimates Summary for

TIP Project # BL-0044

NCPProject	Date of 3/21/2025
FA- WBS 49998.1.1 County: ORANGE	Prepared By: J.B. YATES

THERMOPLASTIC(6", 90 MILS)

T20	(6") WHITE EDGELINE	Abbey	300LF
T20	(6") WHITE EDGELINE	Kingswood	1586LF
T20	(6") WHITE EDGELINE	Westbrook	700LF
T22	(6") 10 FT. WHITE SKIP	Abbey	70LF
T22	(6") 10 FT. WHITE SKIP	Kingswood	260LF
T22	(6") 10 FT. WHITE SKIP	Westbrook	100LF
T23	(6") 3 FT. - 9 FT./SP WHITE MINISKIP	Abbey	60LF
T23	(6") 3 FT. - 9 FT./SP WHITE MINISKIP	Kingswood	66LF
T23	(6") 3 FT. - 9 FT./SP WHITE MINISKIP	Westbrook	63LF
T30	(6") YELLOW EDGELINE	Abbey	178LF
T30	(6") YELLOW EDGELINE	Kingswood	603LF
T30	(6") YELLOW EDGELINE	Westbrook	375LF
T33	(6") YELLOW DOUBLE CENTER	Abbey	72LF
T33	(6") YELLOW DOUBLE CENTER	Kingswood	64LF
T33	(6") YELLOW DOUBLE CENTER	Westbrook	40LF
			TOTAL (6", 90 MILS) 4537 LF
THERMOPLASTIC (8", 90 MILS)			
T46	(8") WHITE CROSSWALK LINE	Kingswood	108LF

THERMOPLASTIC PAVEMENT MARKING CHARACTER (90 MILS)

T100	ALPHANUMERIC CHAR. (90 MIL)	Kingswood	21EA
------	-----------------------------	-----------	------

**PERMANENT PAVEMENT MARKING & MARKER SCHEDULE**

Estimates Summary for

TIP Project # BL-0044

NCPProject	Date of 3/21/2025
FA- WBS 49998.1.1 County: ORANGE	Prepared By: J.B. YATES

THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)

T70	LEFT TURN ARROW	Abbey	4EA
T70	LEFT TURN ARROW	Kingswood	4EA
T70	LEFT TURN ARROW	Westbrook	4EA
T71	RIGHT TURN ARROW	Abbey	2EA
T71	RIGHT TURN ARROW	Kingswood	1EA
T71	RIGHT TURN ARROW	Westbrook	1EA
T72	STRAIGHT ARROW	Abbey	4EA
T72	STRAIGHT ARROW	Kingswood	4EA
T72	STRAIGHT ARROW	Westbrook	4EA
T74	COMBO.STRAIGHT/RIGHT	Abbey	4EA
T74	COMBO.STRAIGHT/RIGHT	Kingswood	4EA
T74	COMBO.STRAIGHT/RIGHT	Westbrook	4EA

TOTAL PAVEMENT MARKING SYMBOLS (90 MILS) 40 EA

THERMOPLASTIC GENERIC PAVEMENT MARKING ITEM (1205)

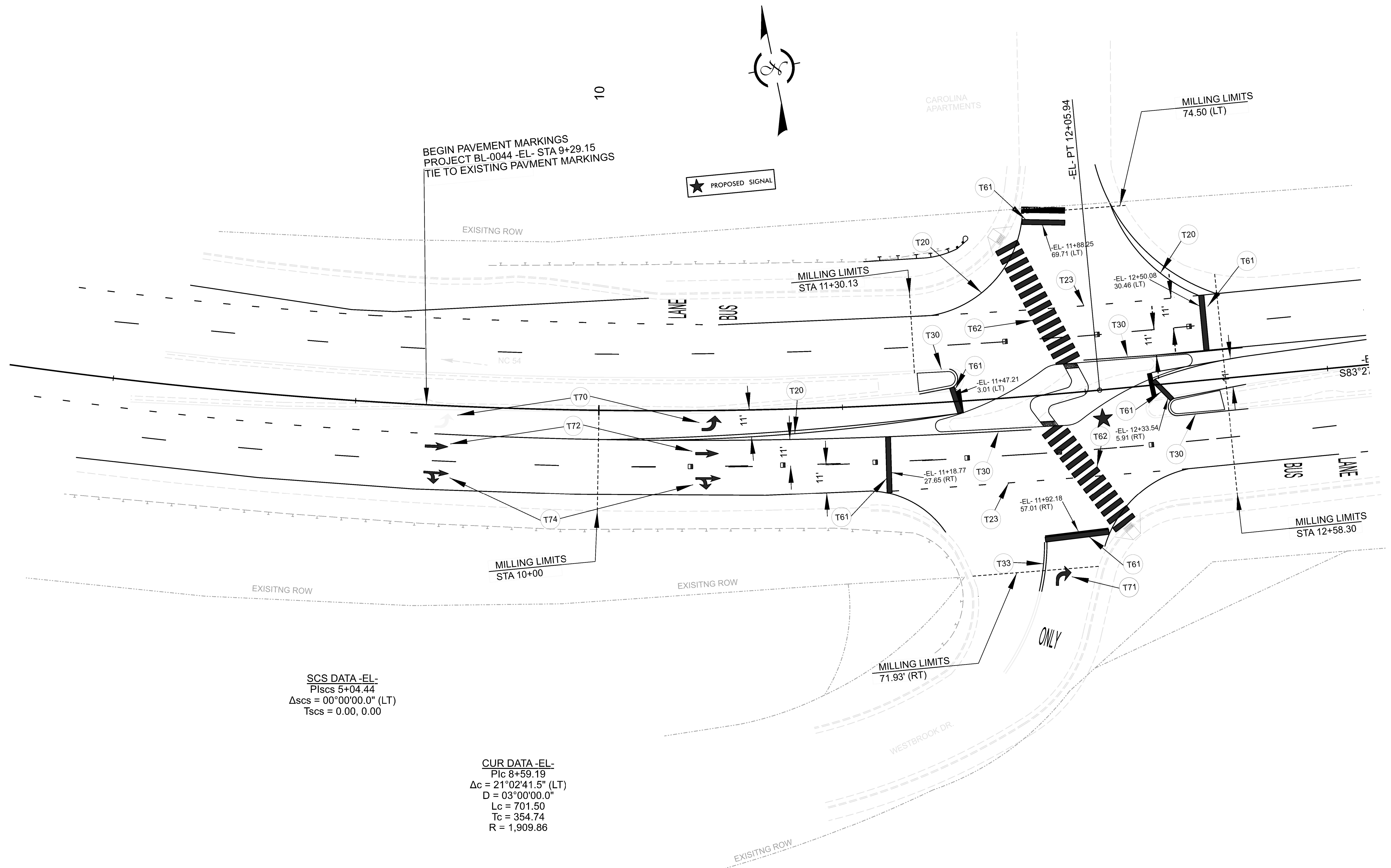
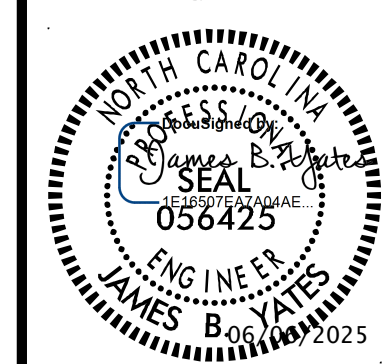
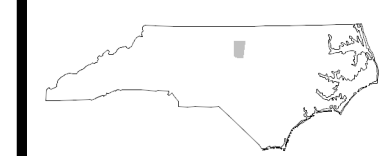
T61	WHITE STOPBAR (24", 90 MIL)	Abbey	129LF
T61	WHITE STOPBAR (24", 90 MIL)	Kingswood	131LF
T61	WHITE STOPBAR (24", 90 MIL)	Westbrook	114LF
T62	WHITE CROSSWALK LINE (24", 90 MIL)	Abbey	310LF
T62	WHITE CROSSWALK LINE (24", 90 MIL)	Kingswood	200LF

TOTAL GENERIC PAVEMENT MARKING ITEM (1205) 884 LF

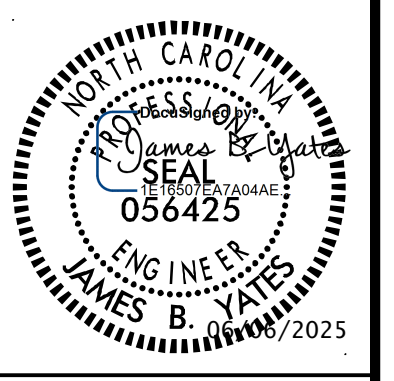
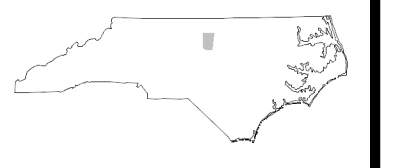
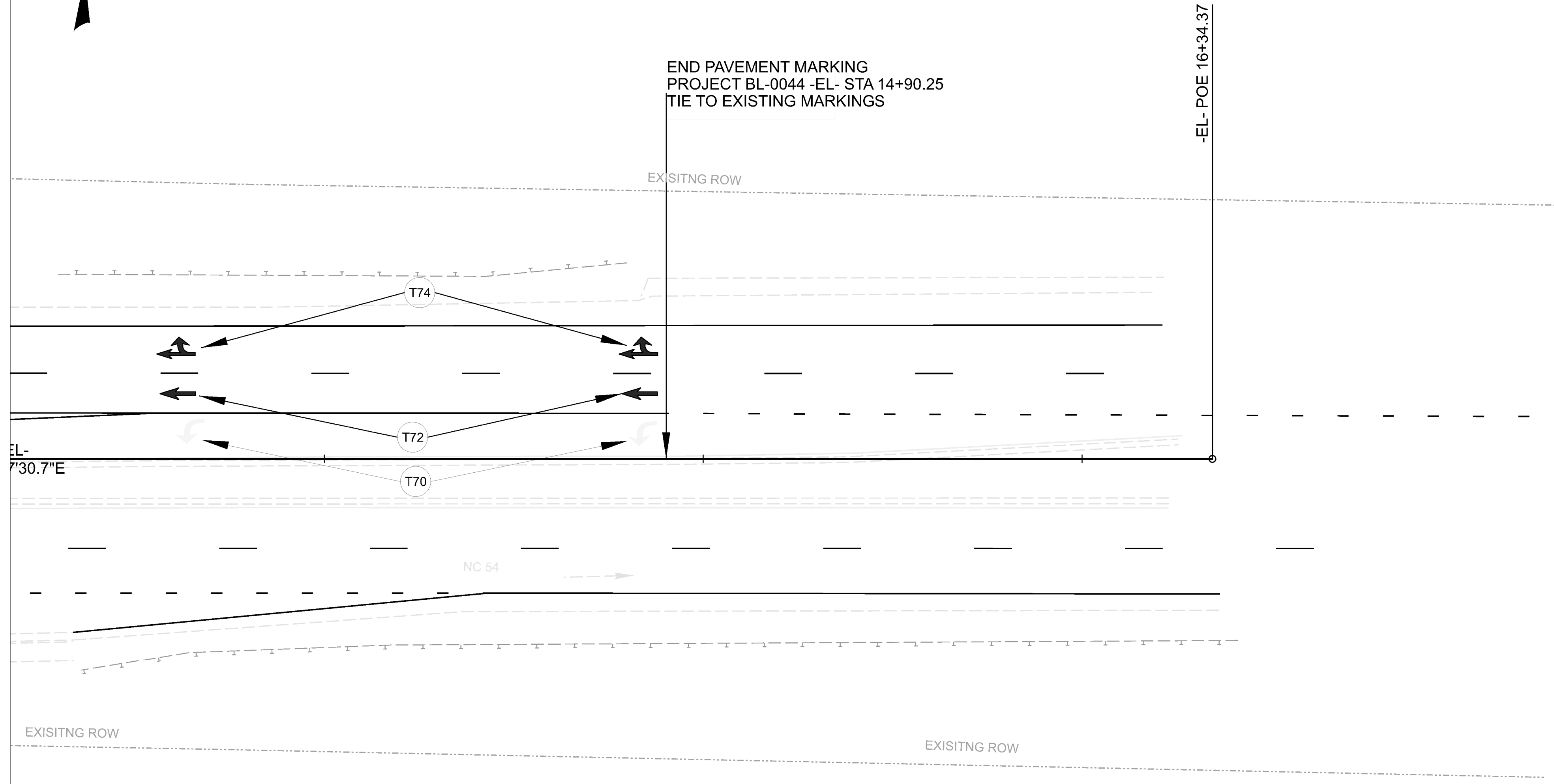
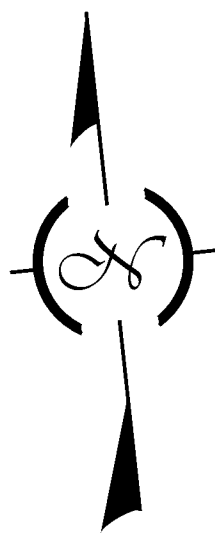
TIP PROJECT: BL-0044

CONTRACT: DG00658

09/08/09



REVISIONS

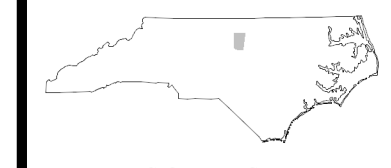


5/26/20

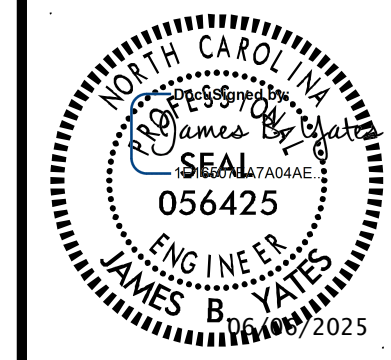
BL-0044

PMP 4

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ORANGE COUNTY



DIVISION 7 DDC UNIT  
ROADWAY DESIGN  
ENGINEER



PREPARED BY



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**CUR DATA -EL-**  
Plc 8+08.63  
 $\Delta c = 17^{\circ}01'04.6''$  (RT)  
D =  $01^{\circ}30'00.0''$   
Lc = 1,134.53  
Tc = 571.47  
R = 3,819.72

**SCS DATA -EL-**  
Plscs 2+37.16  
 $\Delta scs = 00^{\circ}00'00.0''$  (RT)  
Tscs = 0.00, 0.00

★ PROPOSED SIGNAL

10

ROYAL PARK APARTMENTS

MILLING LIMITS  
86.62 (LT)

EXISTING ROW

EXISTING ROW

MILLING LIMITS  
STA 10+00

NC 54

MILLING LIMITS  
STA 11+28.07

NC 54

EXISTING ROW

EXISTING ROW

EXISTING ROW

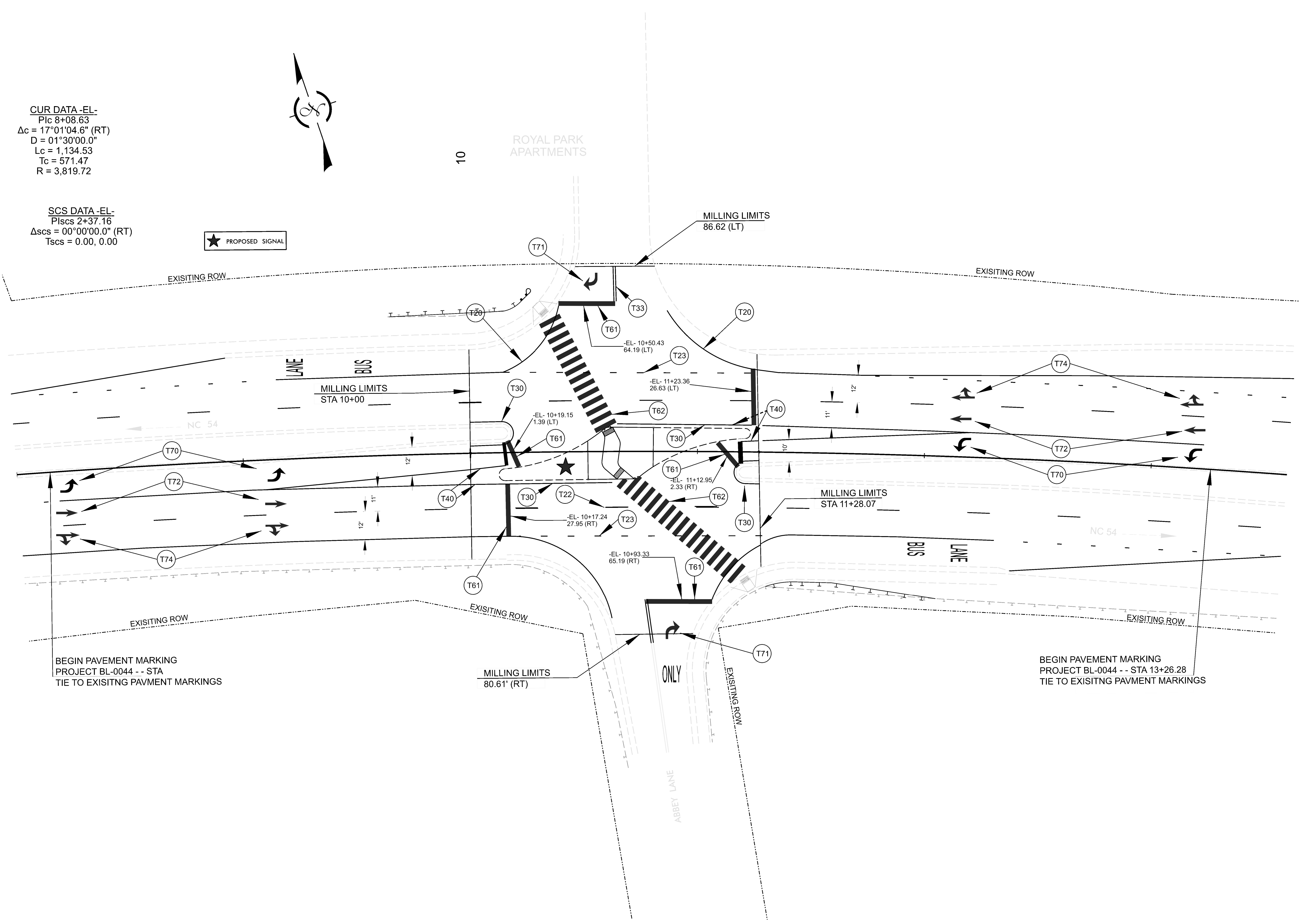
BEGIN PAVEMENT MARKING  
PROJECT BL-0044 - - STA  
TIE TO EXISTING PAVEMENT MARKINGS

MILLING LIMITS  
80.61' (RT)

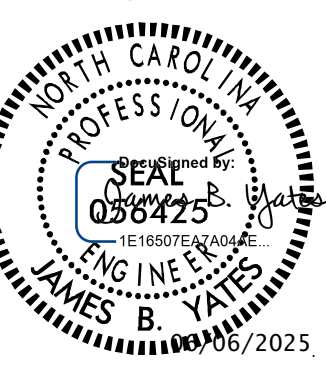
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EXISTING ROW

BEGIN PAVEMENT MARKING  
PROJECT BL-0044 - - STA 13+26.28  
TIE TO EXISTING PAVEMENT MARKINGS



REVISIONS

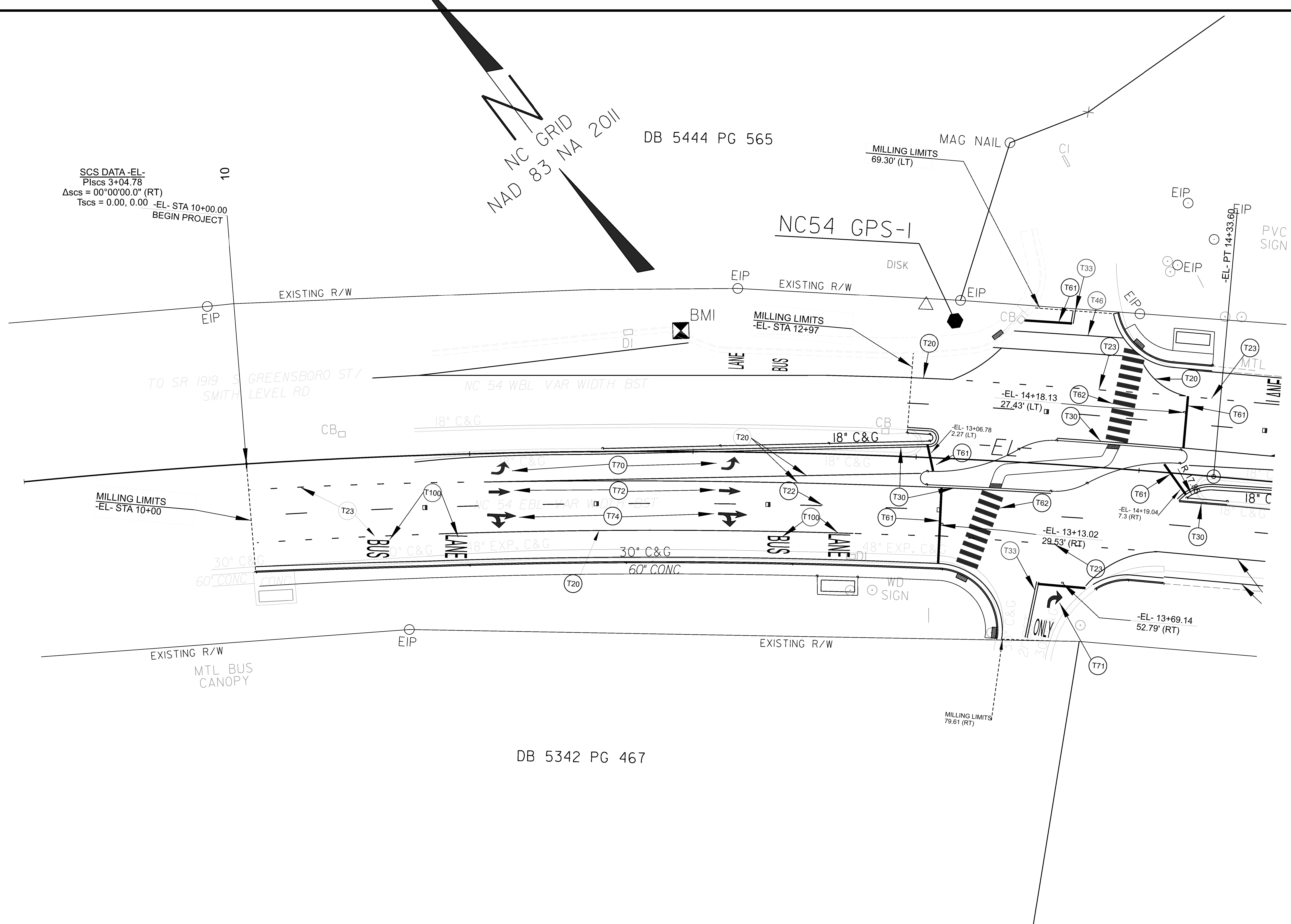


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NAD 83 NA 2011

DB 5444 PG 565

DB 5342 PG 467

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BEGIN PROJECT



DB 413 PG 406

GUY WIRES

-EL- STA 17+00.00  
END PROJECT

20

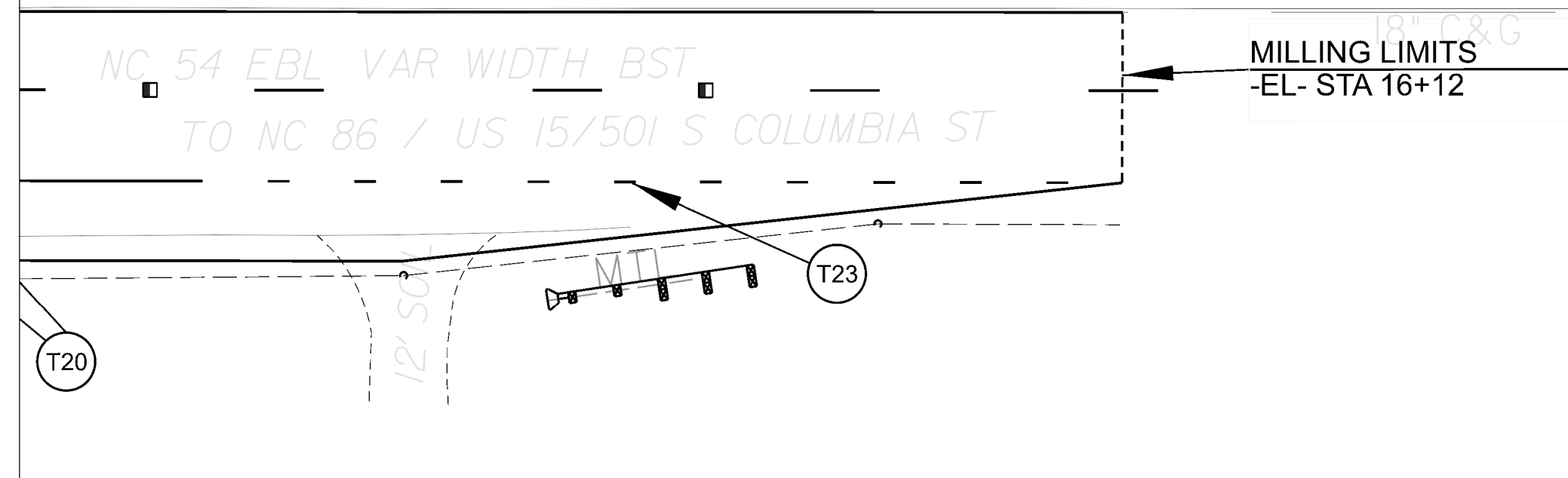
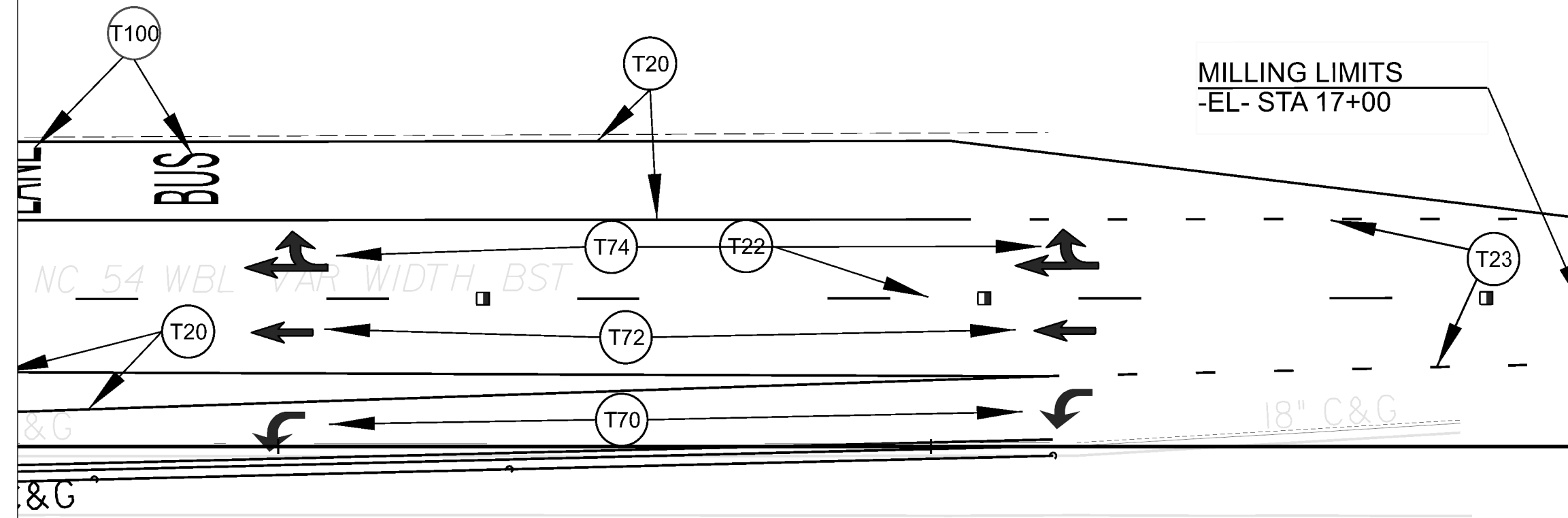
EXISTING R/W

EIP

MILLING LIMITS  
-EL- STA 17+00

BL-3

NC GRID  
NAD 83 NA 2011



DB 1608 PG 252  
DB 180 PG 378

BL-0044  
PMP 6  
NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ORANGE COUNTY

DIVISION 7 DDC UNIT  
ROADWAY DESIGN  
ENGINEER

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UNLESS ALL SIGNATURES COMPLETED

REVISIONS

TIP PROJECT: BL-0044

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

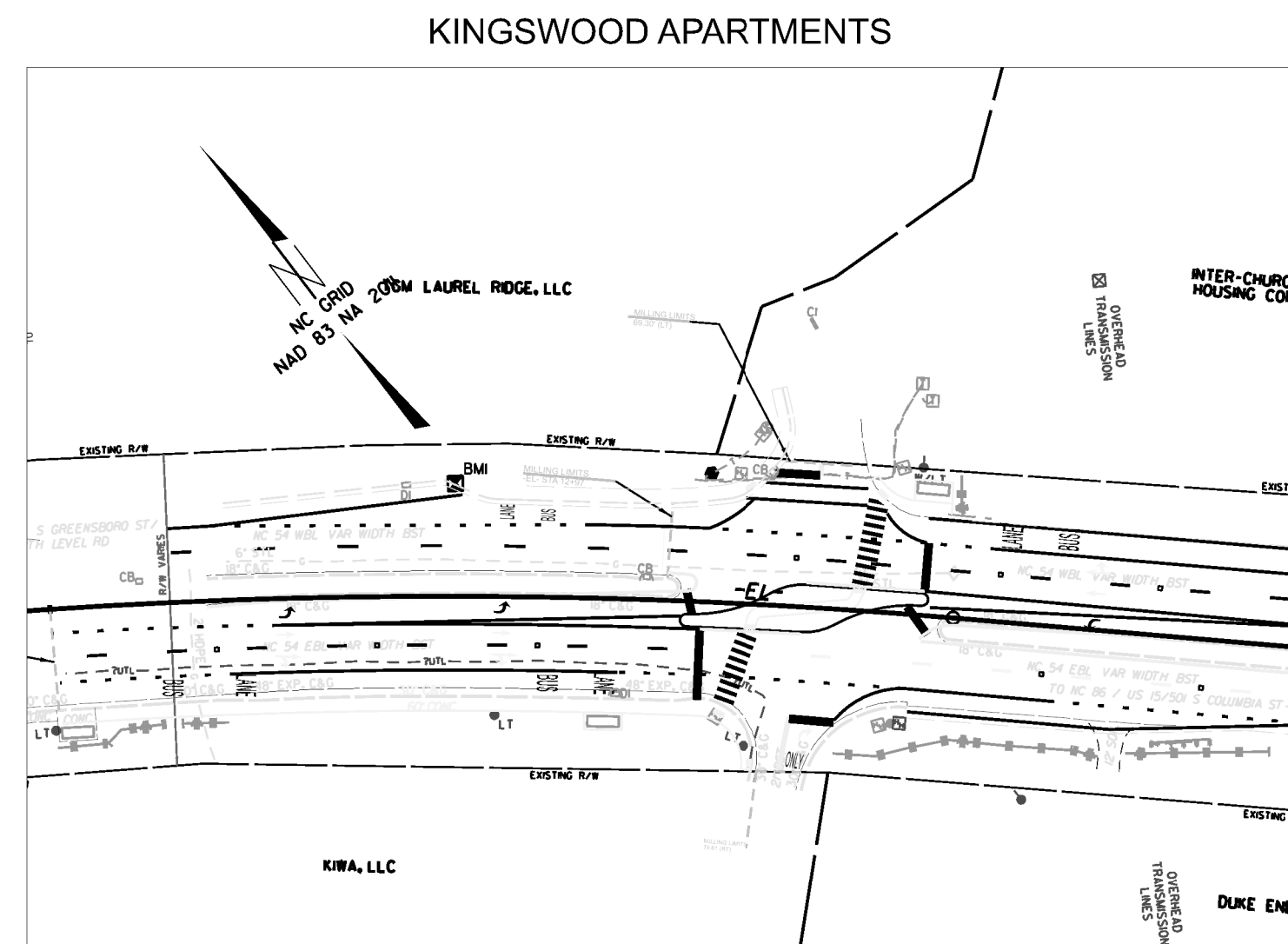
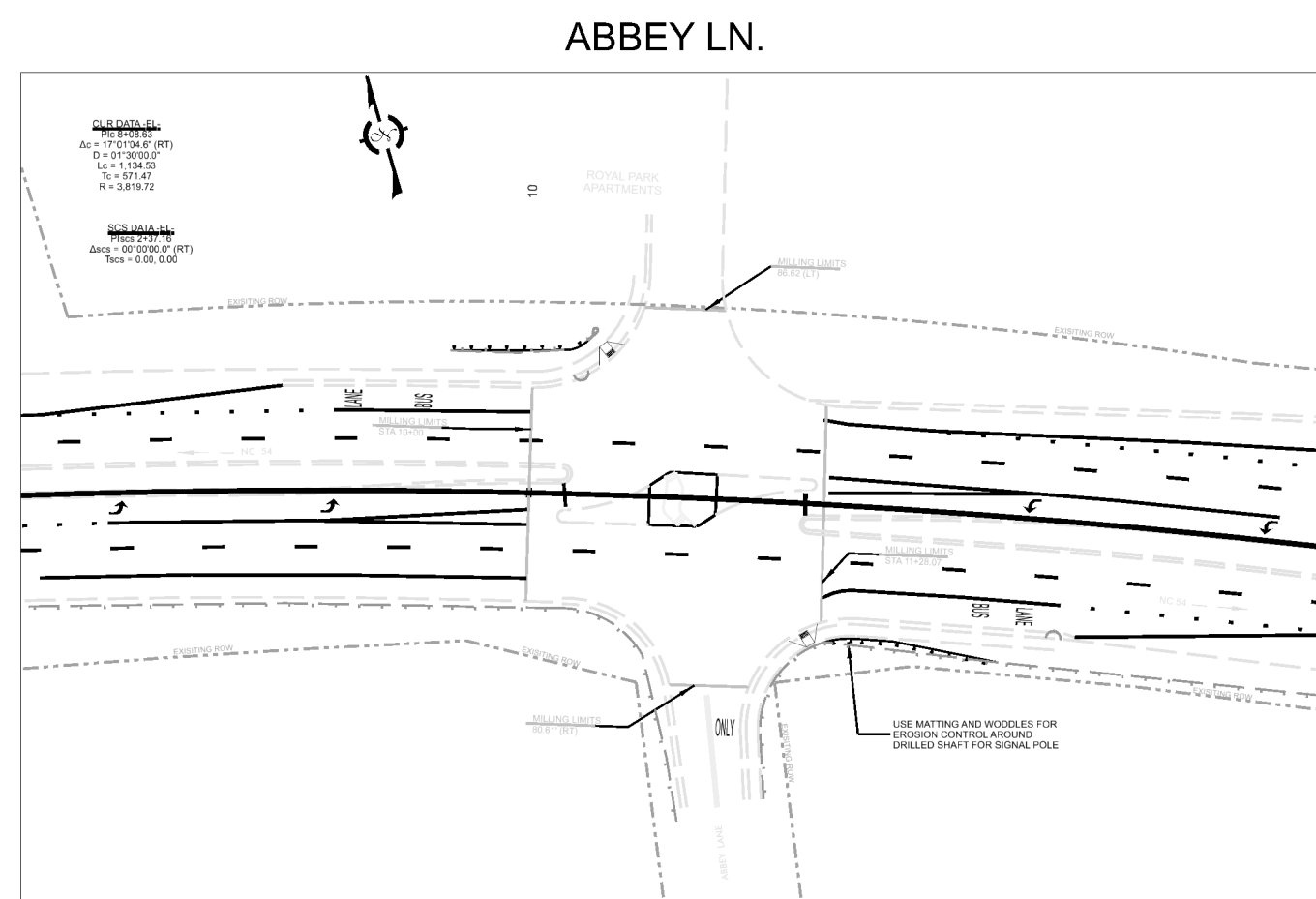
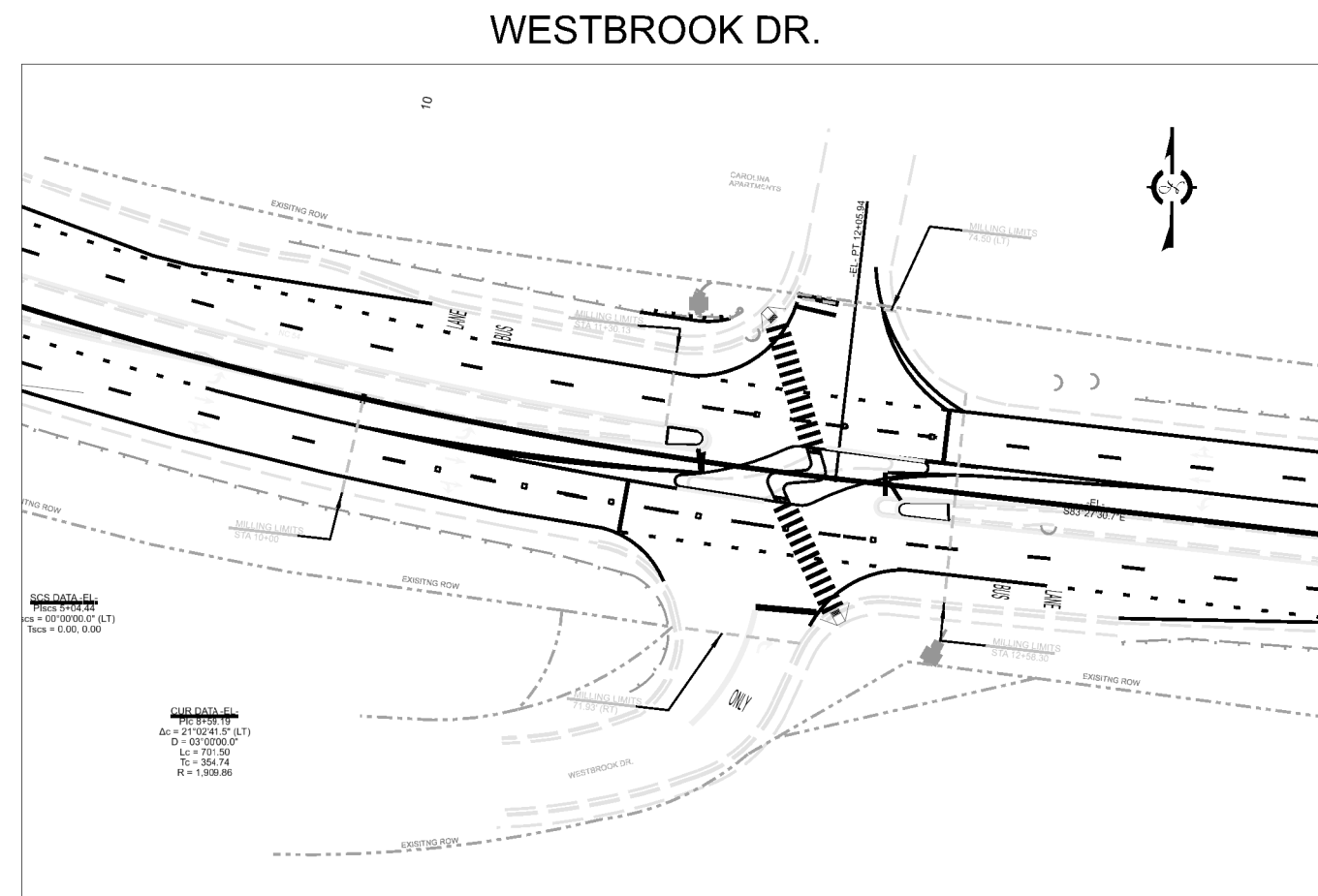
## PLAN FOR PROPOSED HIGHWAY EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BL-0044	EC-1	EC-6
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
49998.1.1		PE	
49998.1.2		ROW	
49998.1.3		CONSTRUCTION	

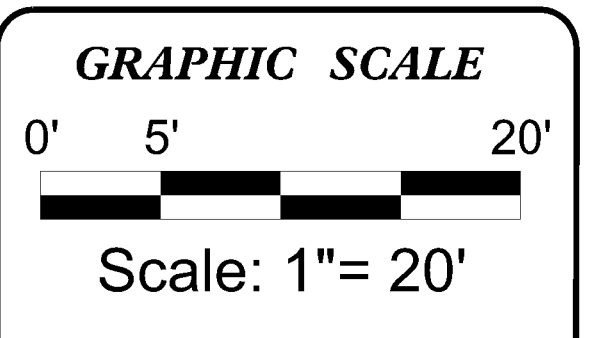
### EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle/Coir Fiber Wattle	
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	
1632.02	Type B	
1632.03	Type C	
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS  
EROSION CONTROL PLANS  
FOR CLEARING AND  
GRUBBING PHASE OF  
CONSTRUCTION.



\* DRAWINGS NOT TO SCALE \*



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
WITH THE REGULATIONS SET FORTH BY THE  
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE APRIL 1, 2019  
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENTAL QUALITY DIVISION OF WATER RESOURCES.

Prepared in the Office of:  
**DIVISION 7 DDC**  
1584 Yanceyville St.,  
Greensboro, NC 27357

**2024 STANDARD SPECIFICATIONS**

Designed by:  
**JAMES B. YATES, MS, PE**      4523  
NAME      LEVEL III CERTIFICATION NO.

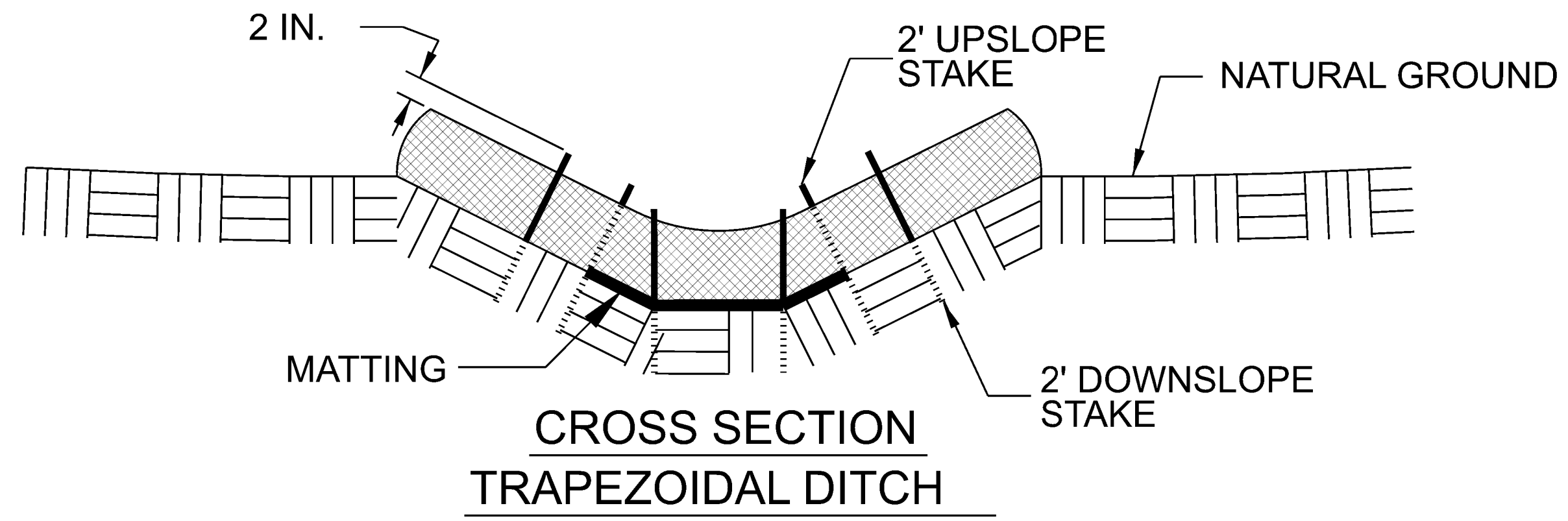
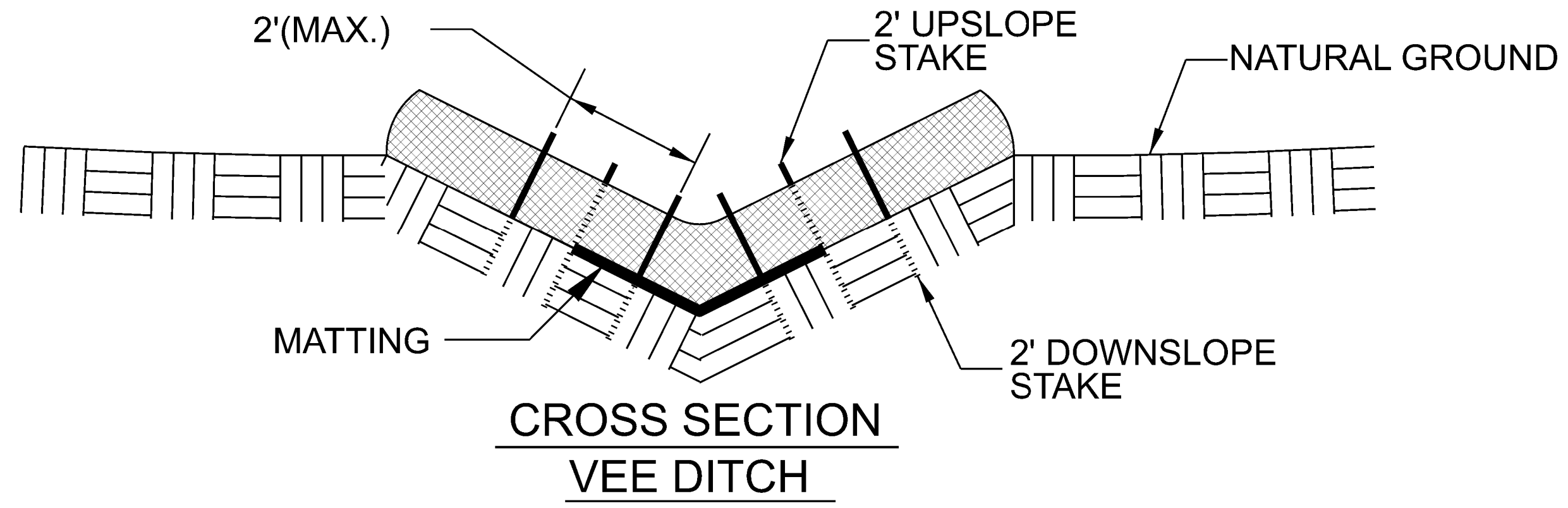
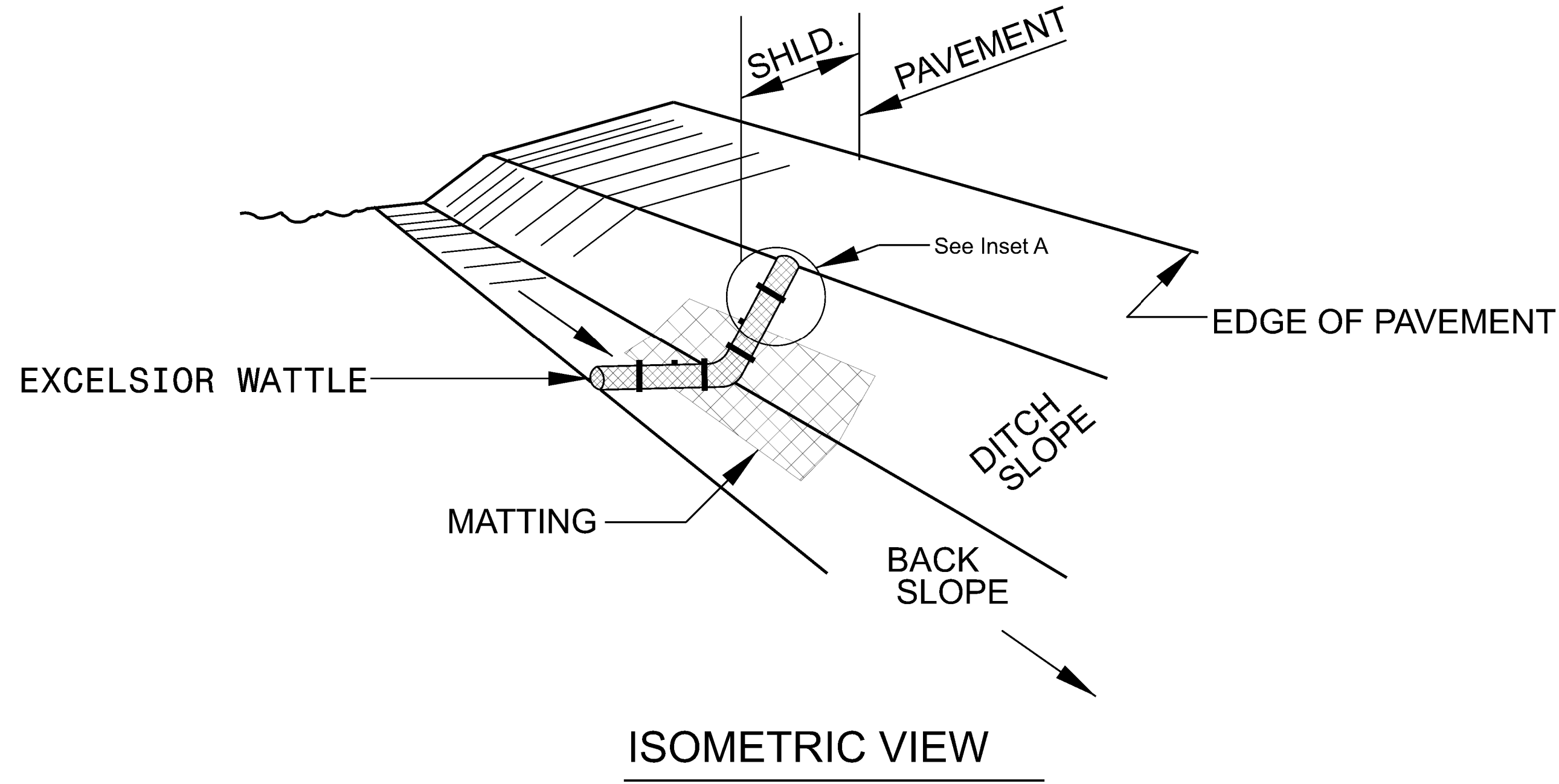
Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2018 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

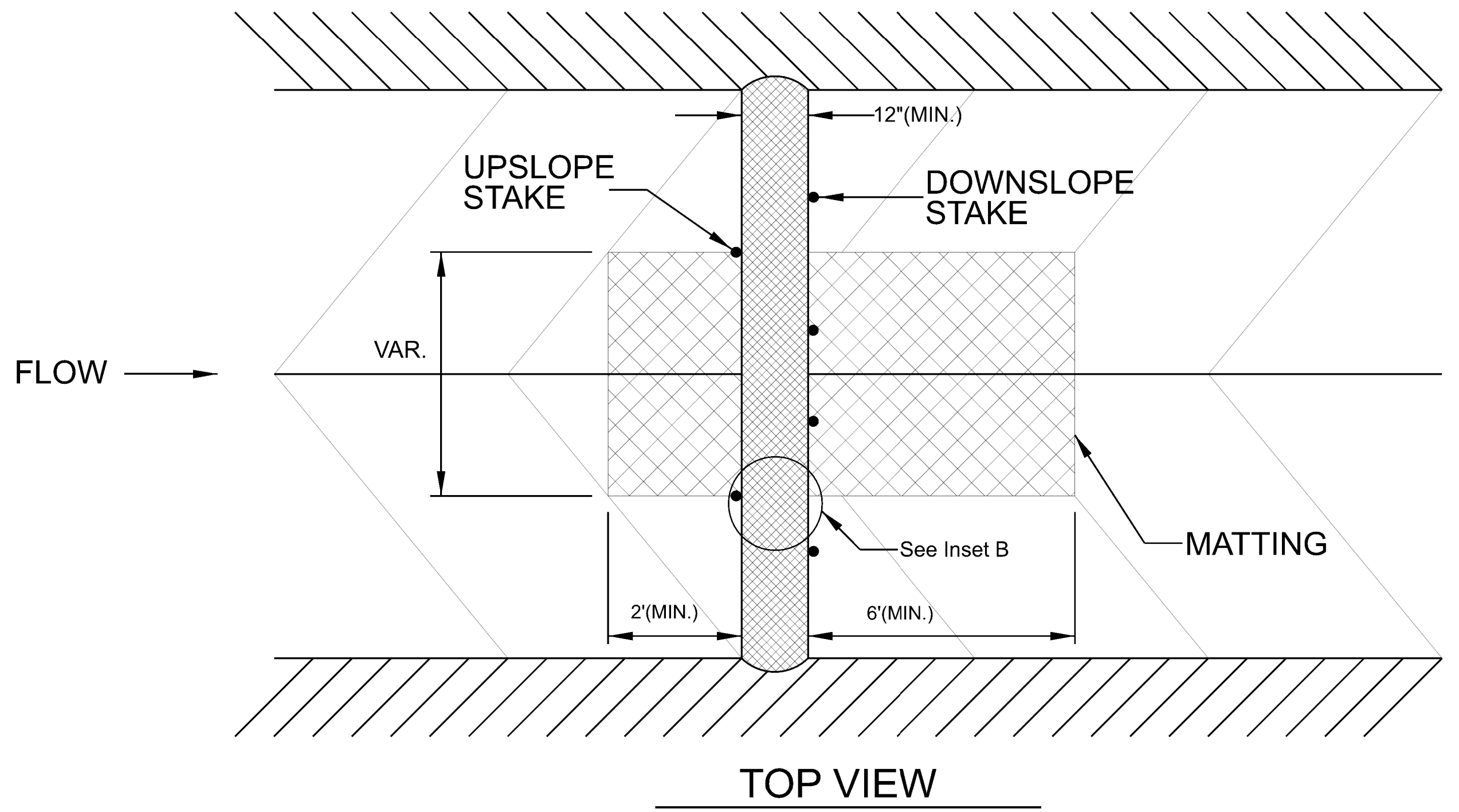
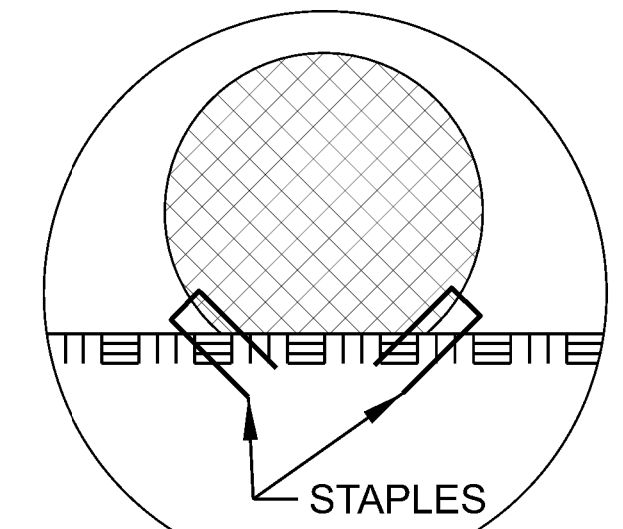
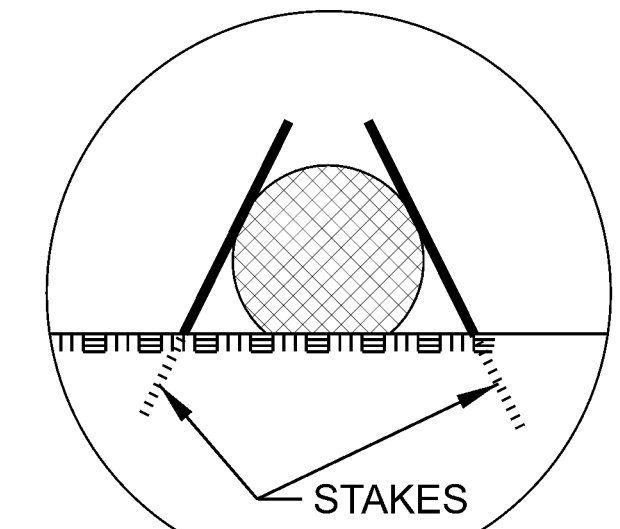
1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

PROJECT REFERENCE NO. BL-0044	SHEET NO. EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# WATTLE DETAIL



- NOTES:
- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
  - USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
  - ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.
  - INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
  - PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
  - INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
  - INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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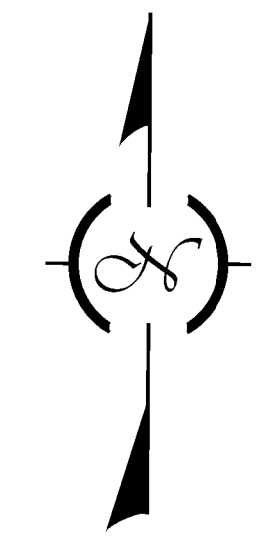
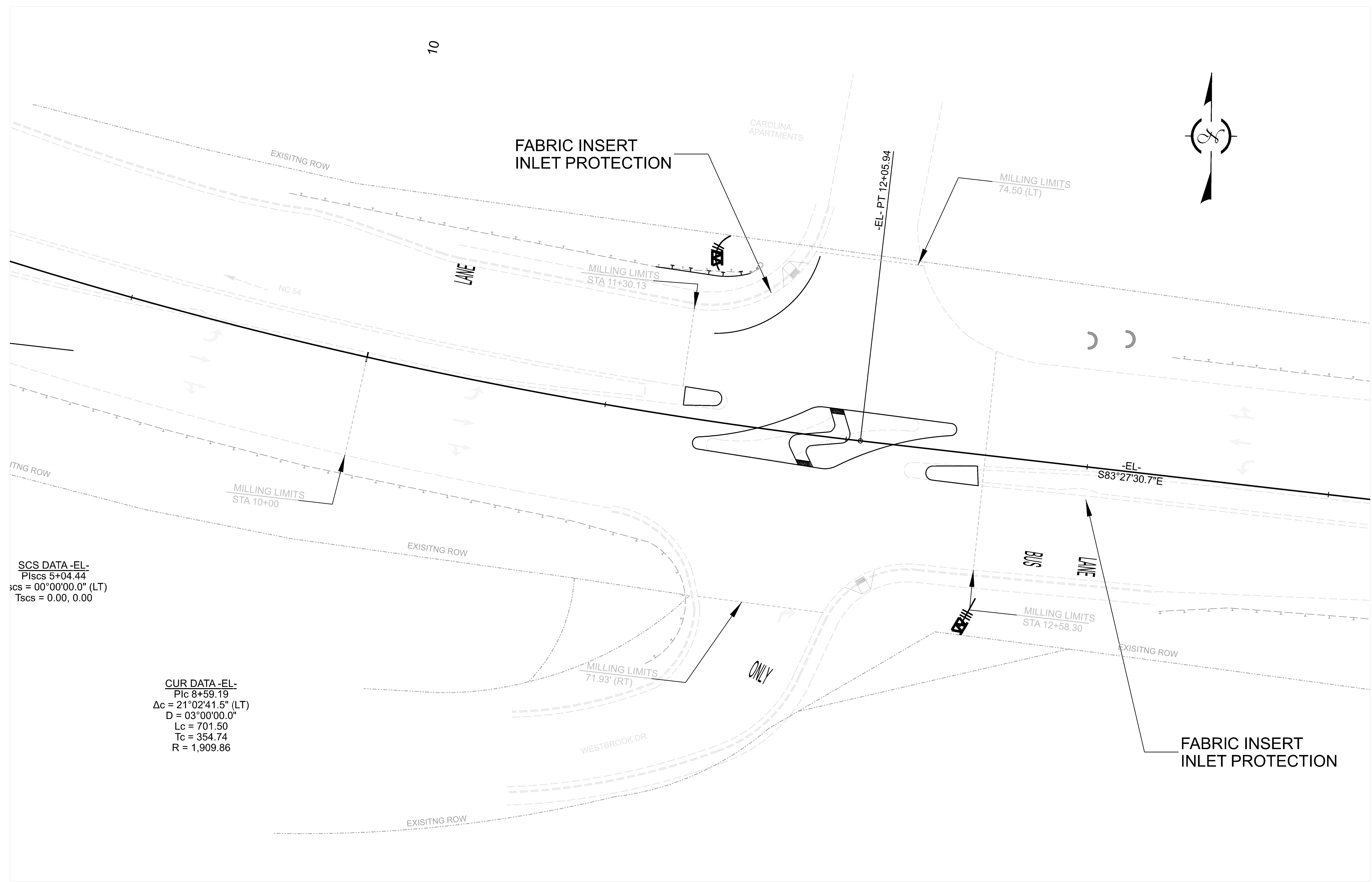
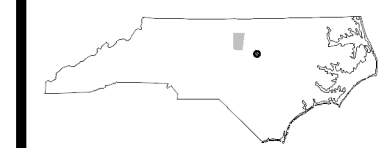


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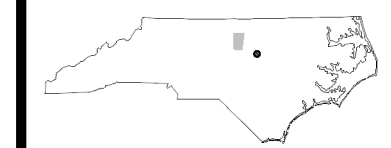
PROJECT REFERENCE NO.	SHEET NO.
BL-0044	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

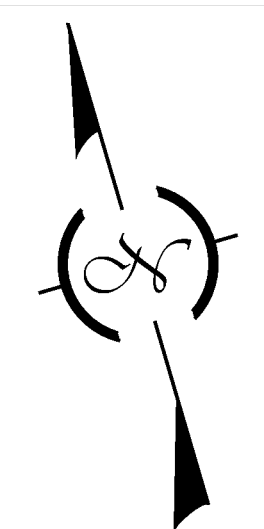


REVISIONS



**CUR DATA -EL-**  
P/c 8+08.63  
 $\Delta c = 17^{\circ}01'04.6''$  (RT)  
D = 01°30'00.0"  
Lc = 1,134.53  
Tc = 571.47  
R = 3,819.72

**SCS DATA -EL-**  
P/Scs 2+37.16  
 $\Delta scs = 00^{\circ}00'00.0''$  (RT)  
Tscs = 0.00, 0.00



10

ROYAL PARK  
APARTMENTS

FABRIC INSERT  
INLET PROTECTION

MILLING LIMITS  
86.62 (LT)

FABRIC INSERT  
INLET PROTECTION

EXISTING ROW

EXISTING ROW

MILLING LIMITS  
STA 10+00

NC 54

MILLING LIMITS  
STA 11+28.07

NC 54

EXISTING ROW

EXISTING ROW

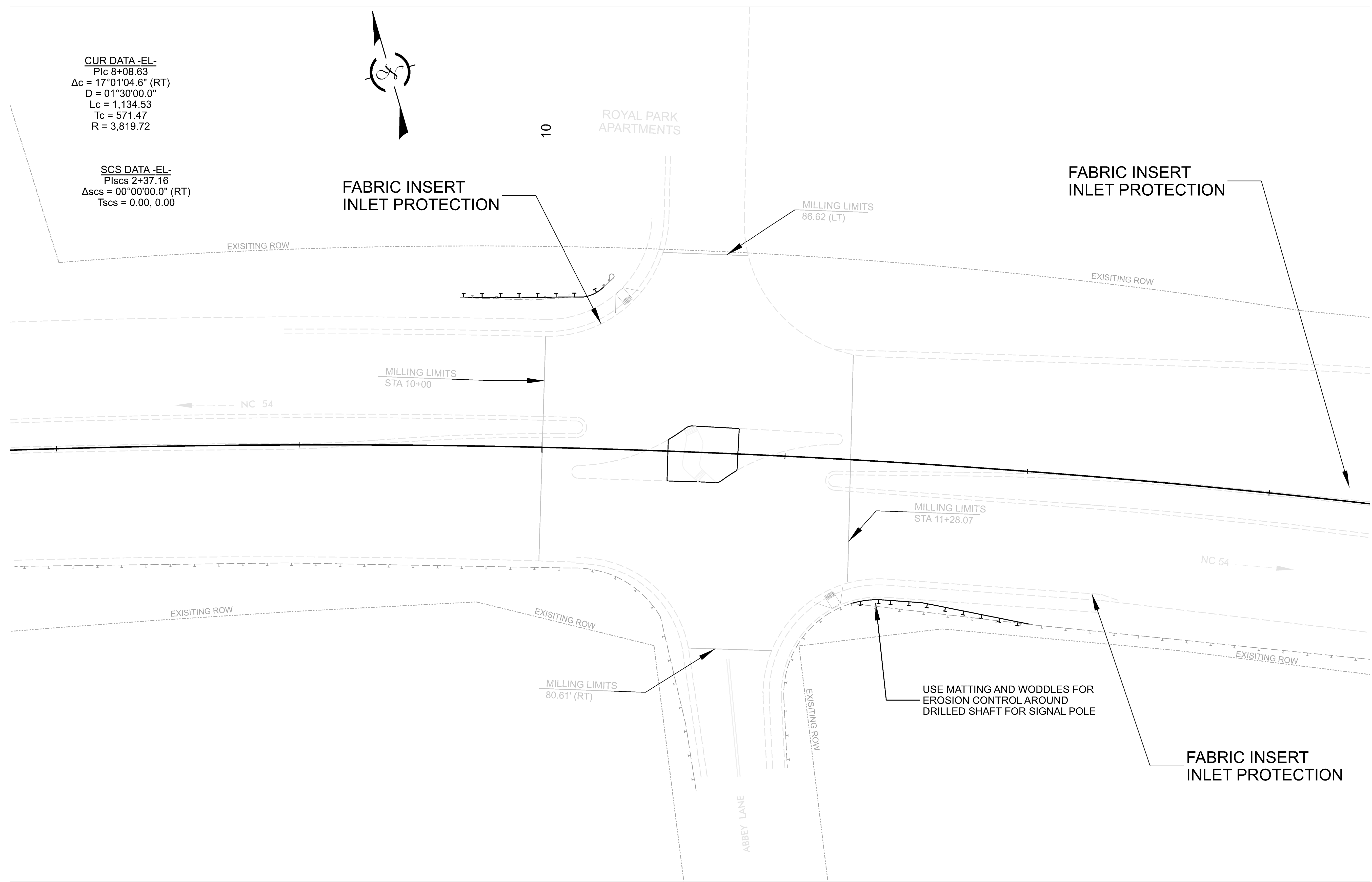
MILLING LIMITS  
80.61' (RT)

EXISTING ROW

USE MATTING AND WODDLES FOR  
EROSION CONTROL AROUND  
DRILLED SHAFT FOR SIGNAL POLE

FABRIC INSERT  
INLET PROTECTION

ABBAY LANE

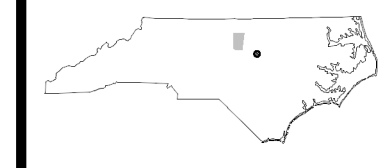


5/26/20

BL-0044

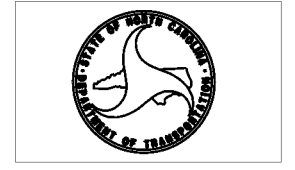
EC 6

NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
ORANGE COUNTY

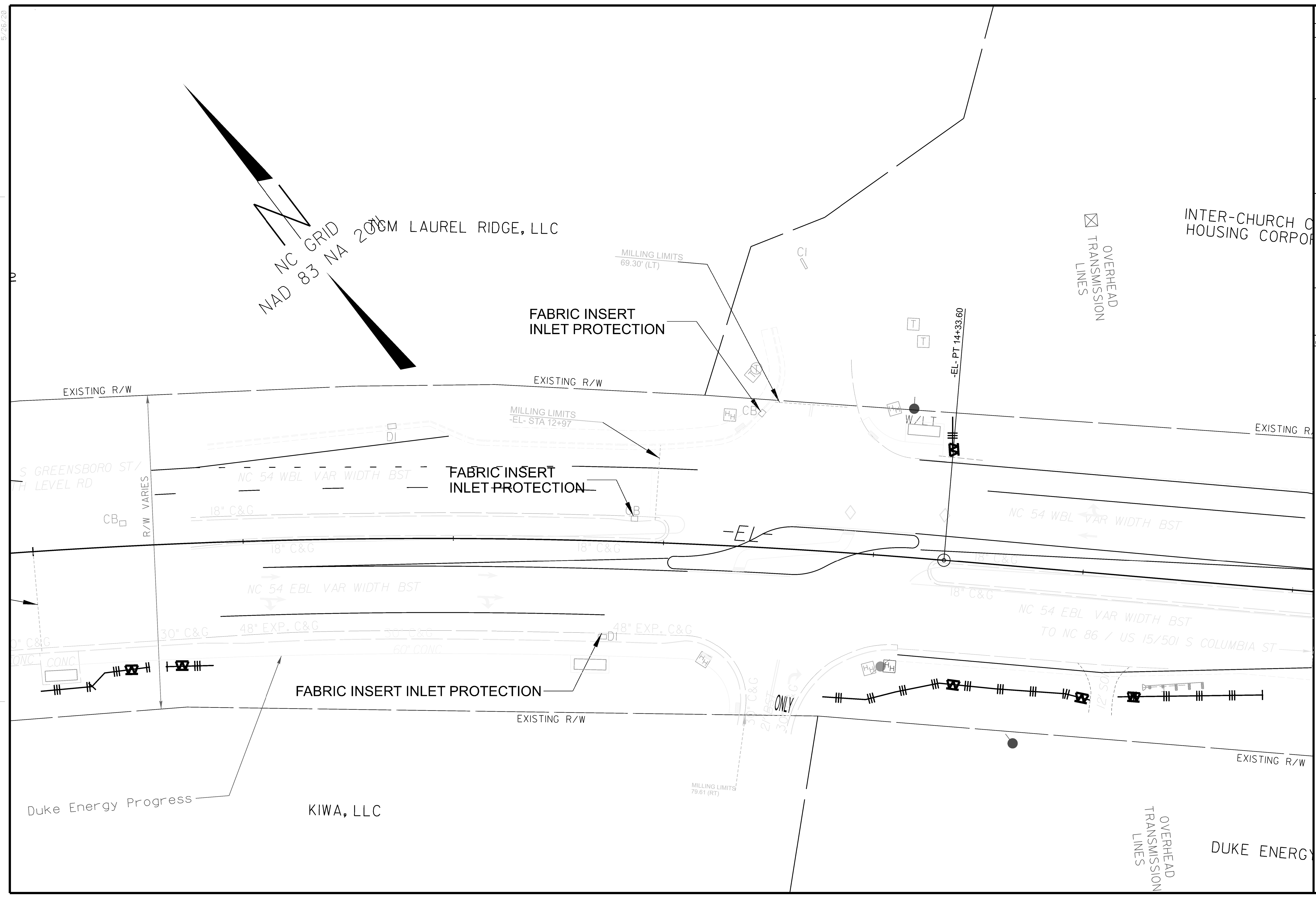


DIVISION 7 DDC UNIT  
ROADWAY DESIGN  
ENGINEER

PREPARED BY



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



REVISIONS

DUKE ENERGY

OVERHEAD  
TRANSMISSION  
LINES

OVERHEAD  
TRANSMISSION  
LINES

INTER-CHURCH  
HOUSING CORPOR

KIWA, LLC

Duke Energy Progress

LAUREL RIDGE, LLC  
2011  
NC GRID  
NAD 83 NA

FABRIC INSERT  
INLET PROTECTION

FABRIC INSERT  
INLET PROTECTION

FABRIC INSERT INLET PROTECTION

EXISTING R/W

EXISTING R/W

EXISTING R

EXISTING R/W

EXISTING R/W

MILLING LIMITS  
69.30' (LT)

MILLING LIMITS  
-EL- STA 12+97

-EL- PT 14+33.60

MILLING LIMITS  
79.61 (RT)

NC 54 WBL VAR WIDTH BST

NC 54 WBL VAR WIDTH BST

NC 54 EBL VAR WIDTH BST

NC 54 EBL VAR WIDTH BST

TO NC 86 / US 15/501 S COLUMBIA ST

30" C&G

48" EXP. C&G

30" C&G

48" EXP. C&G

CONC

CONC

ONLY

12' 50"

-EL-

R/W VARIES

S GREENSBORO ST /  
H LEVEL RD

CB

DI

HH

CB

HH

W/LT

HH

T

T

30"

HH

HH

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