This electronic collection of documents is provided for the convenience of the user and is Not a Certified Document –

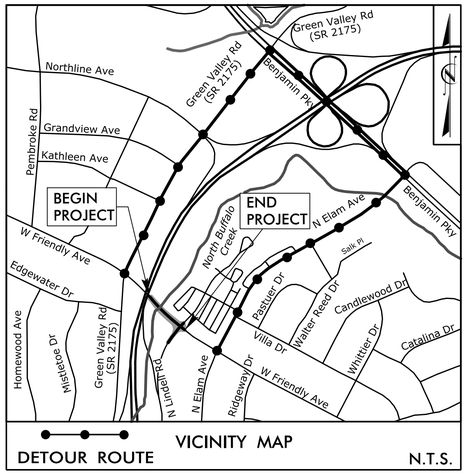
The documents contained herein were originally issued and sealed by the individuals whose names and license numbers appear on each page, on the dates appearing with their signature on that page.
This file or an individual page shall not be considered a certified document.

Docusign Envelope ID: 6F672C7D-6BA5-8835-8356-2DF75A28973B

TIP PROJECT : U-5841

CONTRACT: DG00682

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5841	1	

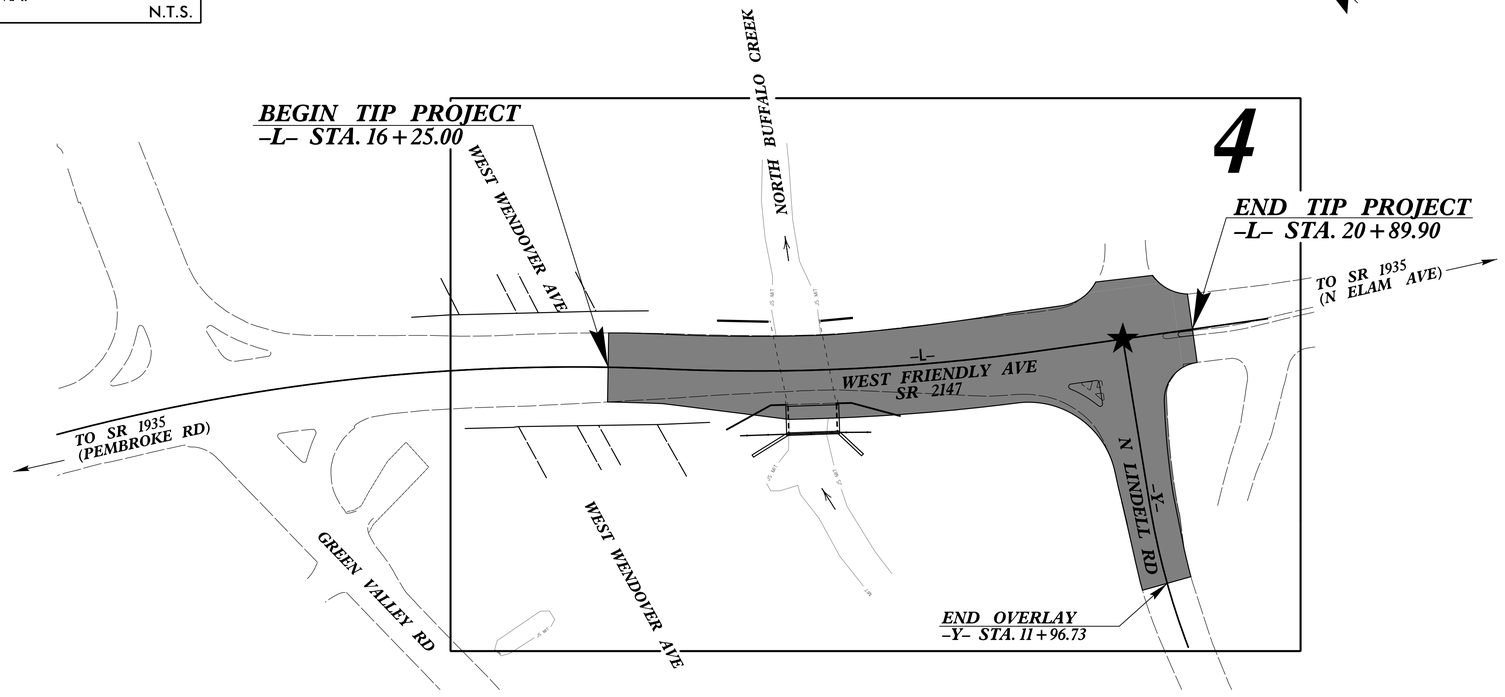
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50232.1.2		PE
50232.2.1		ROW
50232.2.3		UTIL
50232.3.1		CONSTRUCTION

LOCATION: SR 2147 WEST FRIENDLY AVENUE FROM EAST OF GREEN VALLEY RD TO NORTH LINDELL RD IN GREENSBORO

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS, RETAINING WALLS & STRUCTURE



NAD 83 / NA 2011



★ MODIFIED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 20 10 0 20 40
PROFILE (HORIZONTAL): 20 10 0 20 40
PROFILE (VERTICAL): 4 2 0 4 8

DESIGN DATA

ADT 2026 = 29,450
ADT 2040 = 31,600
K = 60%
D = 10%
T = 1%
V = 40 MPH

FUNC. CLASSIFICATION: MINOR ARTERIAL

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT U-5841 = .088 MILES

TOTAL LENGTH OF PROJECT U-5841 = .088 MILES

NCDOT CONTACT: SUZANA MATTA, PE
Division 7 Project Engineer

PLANS PREPARED FOR THE NCDOT BY:

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 15, 2019

LETTING DATE:
NOVEMBER 19, 2026

SEAN C. STEPHENS, PE
PROJECT ENGINEER

CLARK E. GROVES
PROJECT DESIGNER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 051699 ENGINEER TIFFANY A. PREDO P.E.

Signed by:
SIGNATURE: 9/17/2026

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS P.E.

DocuSigned by:
8E63BFA0769C436...
SIGNATURE: 9/17/2026

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

9/17/2026
I:\Projects\401958\401958_000\50_Deliverables & Submittals\U-5841\Roadway\Proj\SHT\U5841_rdy_psh01_tsh.dgn
Ortiz R

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	1A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 043891 Signed by: STEPHEN C. STEPHENS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL SHEET
2A	TYPICAL SECTIONS
2B-1	PROJECT DETAIL SHEET
2C-1 THRU 2C-2	HANDRAIL INSTALLATION DETAILS
2C-3 THRU 2C-4	METHOD OF PIPE INSTALLATION DETAILS
2C-5	CONCRETE SIDEWALK DETAIL
2C-6 THRU 2C-7	CURB RAMP DETAILS
2C-8 THRU 2C-11	GUARDRAIL PLACEMENT DETAILS
2C-12	GUARDRAIL INSTALLATION DETAIL
3B-1	EARTHWORK, GUARDRAIL SUMMARY SHEET
3D-1	DRAINAGE SUMMARY SHEET
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-6	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-5	PAVEMENT MARKING AND SIGNING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIG.1.0 THRU SIG.5.0	SIGNAL PLANS
SCP-1 THRU SCP-3	SIGNAL COMMUNICATIONS PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLAN
X-1	CROSS-SECTION EW SUMMARY SHEET
X-2 THRU X-6	CROSS-SECTIONS
C-1 THRU C-7	CULVERT PLANS

GENERAL NOTES

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

GRADING AND SURFACING:

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 MODIFIED METHOD II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS.SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

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.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CITY OF GREENSBORO WATER, AT&T, DUKE ENERGY (TRANSMISSION AND DISTRIBUTION, CENTURY LINK, NORTH STATE COMMUNICATIONS (SEGRA), CHARTER, PIEDMONT NATURAL GAS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED 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.

STANDARD DRAWINGS

2024 ROADWAY ENGLISH STANDARD DRAWINGS EFF. January, 2024

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
275.01	Rock Plating
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.02	Parallel Pipe End Section - Precast Concrete Section for 15" TO 24" Pipe
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk (Use Detail in Lieu of Standard for Sheet 1 of 1)
848.04	Street Turnout
848.06	Curb Ramp (Use Details in Lieu of Standards for Sheets 9 and 10 of 13)
852.01	Concrete Islands
862.01	Guardrail Placement (Use Details in Lieu of Standards for Sheets 4, 6, 12, and 14 of 15)
862.02	Guardrail Installation (Use Details in Lieu of Standards for Sheet 5 of 9)
876.01	Rip Rap in Channels

9/11/2026
r:\roadway\proj\sht\U-5841rdy.psh01A.dgn
stephesc

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

05/29/25

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

U-5841 | IB

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
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- 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
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- 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
- Proposed Temporary Construction Easement
- Permanent Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- 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

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

MINOR:

- Head and End Wall
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

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)*
- U/G Power Line (SUE - LOS C)*
- U/G Power Line (SUE - LOS D)*

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)*
- U/G Telephone Cable (SUE - LOS C)*
- U/G Telephone Cable (SUE - LOS D)*
- U/G Telephone Conduit (SUE - LOS B)*
- U/G Telephone Conduit (SUE - LOS C)*
- U/G Telephone Conduit (SUE - LOS D)*
- U/G Fiber Optics Cable (SUE - LOS B)*
- U/G Fiber Optics Cable (SUE - LOS C)*
- U/G Fiber Optics Cable (SUE - LOS D)*

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)*
- U/G Water Line (SUE - LOS C)*
- U/G Water Line (SUE - LOS D)*
- Above Ground Water Line

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)*
- U/G TV Cable (SUE - LOS C)*
- U/G TV Cable (SUE - LOS D)*
- U/G Fiber Optic Cable (SUE - LOS B)*
- U/G Fiber Optic Cable (SUE - LOS C)*
- U/G Fiber Optic Cable (SUE - LOS D)*

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line Test Hole (SUE - LOS A)*
- U/G Gas Line (SUE - LOS B)*
- U/G Gas Line (SUE - LOS C)*
- U/G Gas Line (SUE - LOS D)*
- Above Ground Gas Line

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Force Main Line Test Hole (SUE - LOS A)*
- SS Force Main Line (SUE - LOS B)*
- SS Force Main Line (SUE - LOS C)*
- SS Force Main Line (SUE - LOS D)*

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line (SUE - LOS B)*
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

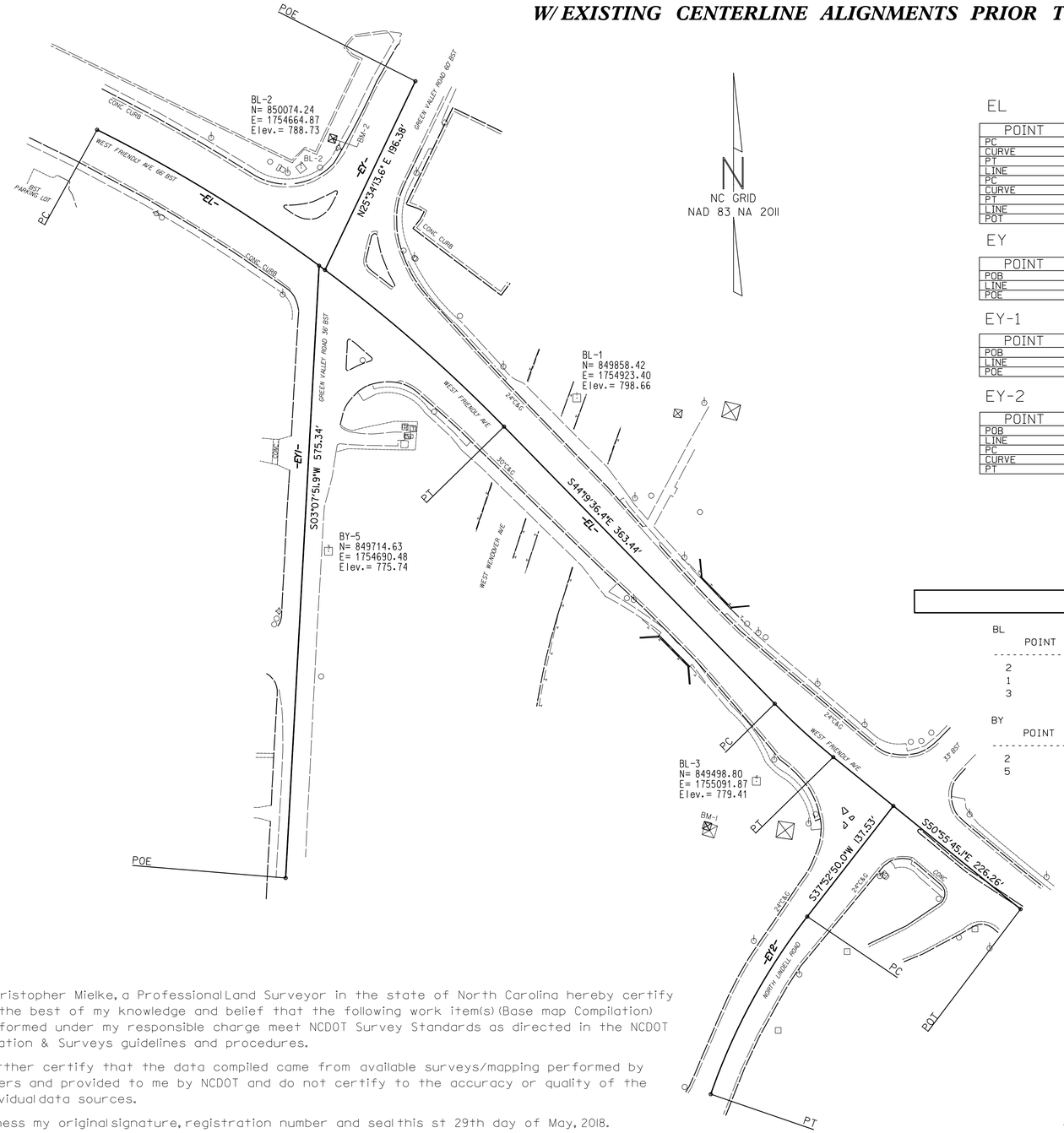
Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-5841	1-C
Location and Surveys	

SURVEY CONTROL SHEET U-5841

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION



EXISTING ALIGNMENT DATA

EL

POINT	N	E	BEARING	DIST	DELTA	L	C	R
PC	850110.105	1754473.480						
CURVE			S 53°52'42.8" E		19°06'12.9"(RT)	474.74	472.54	1423.85
PT	849831.541	1754855.187						
LINE			S 44°19'36.4" E	363.44				
PC	849571.544	1755109.145						
CURVE			S 47°37'40.8" E		06°36'08.7"(LT)	74.30	74.26	644.78
PT	849521.497	1755164.006						
LINE			S 50°55'45.1" E	226.26				
POT	849378.888	1755339.670						

EY

POINT	N	E	BEARING	DIST	DELTA	L	C	R
POB	849978.502	1754687.182						
LINE			N 25°34'13.6" E	196.38				
POE	850155.645	1754771.943						

EY-1

POINT	N	E	BEARING	DIST	DELTA	L	C	R
POB	849982.558	1754681.710						
LINE			S 03°07'51.9" W	575.34				
POE	849408.079	1754650.285						

EY-2

POINT	N	E	BEARING	DIST	DELTA	L	C	R
POB	849475.747	1755220.361						
LINE			S 37°52'50.0" W	131.53				
PC	849371.935	1755139.602						
CURVE			S 28°31'56.0" W		18°41'48.1"(LT)	190.50	189.66	583.79
PT	849571.544	1755109.145						

BASELINE DATA

BL

POINT	DESC.	NORTH	EAST	ELEVATION
2	BL-2	850074.237	1754664.868	788.73
1	BL-1	849858.420	1754923.395	798.66
3	BL-3	849498.796	1755091.871	779.41

BY

POINT	DESC.	NORTH	EAST	ELEVATION
2	BL-2	850074.237	1754664.868	788.73
5	BY-5	849714.629	1754690.483	775.74

BENCHMARK DATA

```
**********************************
BM1       ELEVATION = 779.70
N 849456       E 1755046
BY STATION 12+33.90
S 47°49'05" W DISTANCE 62.4'
X-CUT ON CONCRETE PAD
**********************************
**********************************
BM2       ELEVATION = 791.82
N 850102       E 1754694
BL STATION 5+04.93 40' LEFT
MAG NAIL ON 12" TREE
**********************************
```

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE NAD 83/NA 2011 STATE PLAN COORDINATES FOR THE NCDOT GPS MONUMENT "U-5852-2" WITH A NORTHING OF 85952.495', EASTING OF 1751375.859', AND ELEVATION OF 846.471. THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999487072; (1/X=1.0000512954).

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88/GEOID G12NC

I, Christopher Mielke, 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) (Base map Compilation) performed under my responsible charge meet NCDOT Survey Standards as directed in the NCDOT Location & Surveys guidelines and procedures.

I further 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.

Witness my original signature, registration number and seal this st 29th day of May, 2018.

Professional Land Surveyor

L-5021
PLS #

Seal

NOTE: DRAWING NOT TO SCALE

NOTES:

1. PROJECT TIED TO U-5852 CONTROL POINTS BY-56 AND BY-57, PROJECT CONTROL WAS PROVIDED BY NCDOT.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN PUBLISHED TO NCDOT. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

5/18/2026
R:\LocationSurveys\u5841_ls_cl_180710.dgn
jtlong

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

6/2/99

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2A

ROADWAY DESIGN ENGINEER

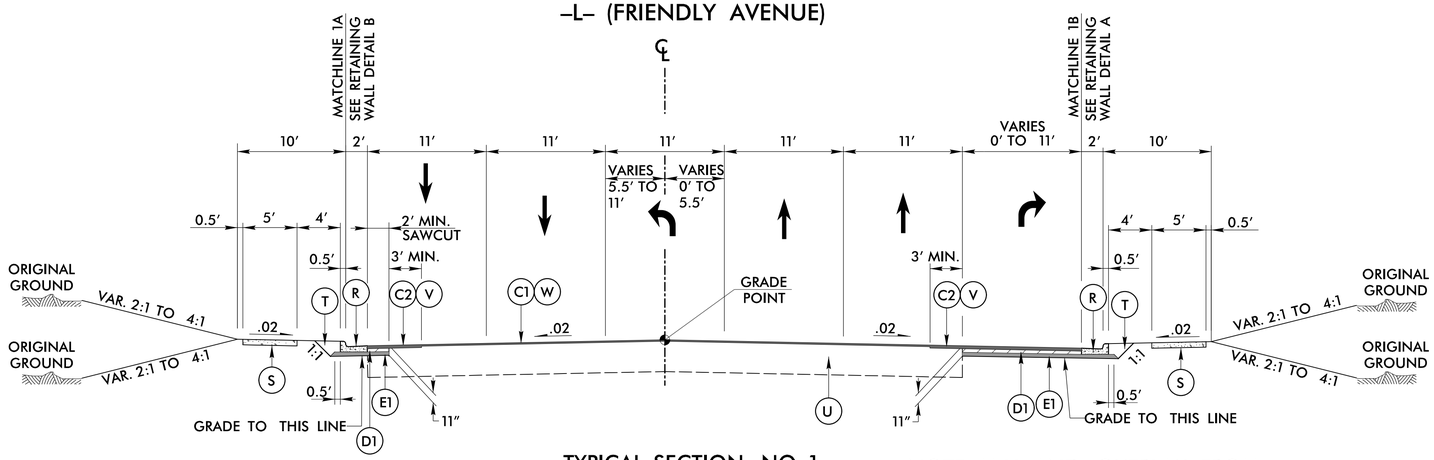
NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 043891 SEAN C. STEPHENS ENGINEER

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 39779 ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

–L– (FRIENDLY AVENUE)

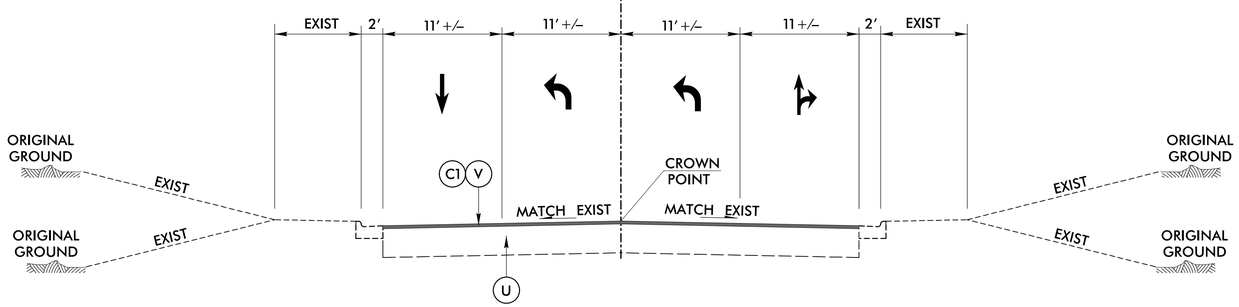


TYPICAL SECTION NO. 1

–L– STA. 16+25.00 TO 20+10.00

NOTE: MILL AND OVERLAY FROM –L– STA. 20+10.00 TO 20+89.90

–Y– (NORTH LINDELL ROAD)

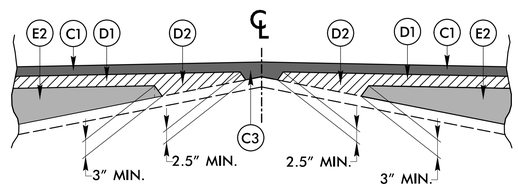


TYPICAL SECTION NO. 2

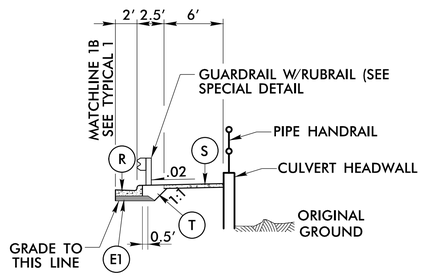
–Y– STA. 10+27.51 TO 11+96.73

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ.YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1.5″ IN DEPTH OR GREATER THAN 2″ IN DEPTH.
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ.YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ.YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5.5″ IN DEPTH.
R	2′-6″ CONCRETE CURB & GUTTER
S	4″ SIDEWALK
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING 1.5″
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL THIS SHEET)

ALL PAVEMENT SLOPES 1:1 UNLESS NOTED OTHERWISE

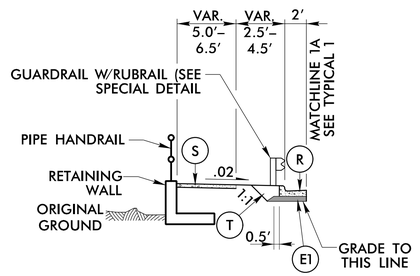


WEDGING DETAIL B



CULVERT DETAIL A

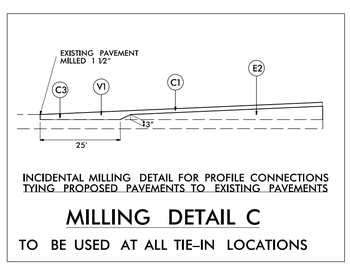
–L– STA. 17+65.76 TO 18+06.44 (RT)



RETAINING WALL DETAIL B

–L– STA. 17+11.06 TO 17+52.06 (LT) (WALL #1)

–L– STA. 17+95.06 TO 18+20.65 (LT) (WALL #2)



INCIDENTAL MILLING DETAIL FOR PROFILE CONNECTIONS TYING PROPOSED PAVEMENTS TO EXISTING PAVEMENTS

MILLING DETAIL C

TO BE USED AT ALL TIE–IN LOCATIONS

5/18/2026
C:\Roadway\Proj\SHTU-5841_rdy_psh02A.dgn
ltheer

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

ROADWAY DETAIL

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER KEVIN C. STEPHENS 9/17/2026 Signed by:

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 NA 2011

★ MODIFIED TRAFFIC SIGNAL

BEGIN TIP PROJECT U-5841
-L- STA. 16+25.00

PRC Sta. 16+70.00

BEGIN C&G
+25.00, 27.20

BEGIN C&G
+25.00, 27.50

BEGIN RET.WALL #2 WITH HANDRAIL
+95.06, 38.36'

END RET.WALL #2 WITH HANDRAIL
+20.65, 39.62'

END RET.WALL #1 WITH HANDRAIL
+52.06, 38.52'

BEGIN RET.WALL #1 WITH HANDRAIL
+11.06, 39.10'

PT Sta. 19+65.78

BEGIN C&G
+65.68, 44.80

-L- POT Sta. 20+34.19
-Y- POT Sta. 10+00.00

POT Sta. 21+50.00

END C&G
+17.59, 45.67

END TIP PROJECT
-L- STA. 20+89.90

END C&G
+89.90, 28.23

END C&G
+89.90, 26.55

END C&G
+97.12, 25.54 (-Y-)

PROP 5' SIDEWALK

PROP 2'-6" C&G

PROP 6' SIDEWALK

PROP HANDRAIL

PROP MONO ISLAND

25' SIDEWALK TAPER

20' SIDEWALK TAPER

R=1640'

R=1563'

R=1650'

R=25'

R=30'

R=87'

R=615'

50'R

55'R

35' R TYPE 4

35' R TYPE 2A

30' R TYPE 2A

TYPE IA

7.0' R

2'R

24'R

7.5'

S 50° 55' 45.1" E

S 37° 52' 50.0" W

-L-
WEST FRIENDLY AVE

-Y-
N LINDELL RD

10' 10' 11' 11'

END RESURFACING
-Y- STA. 11+96.73

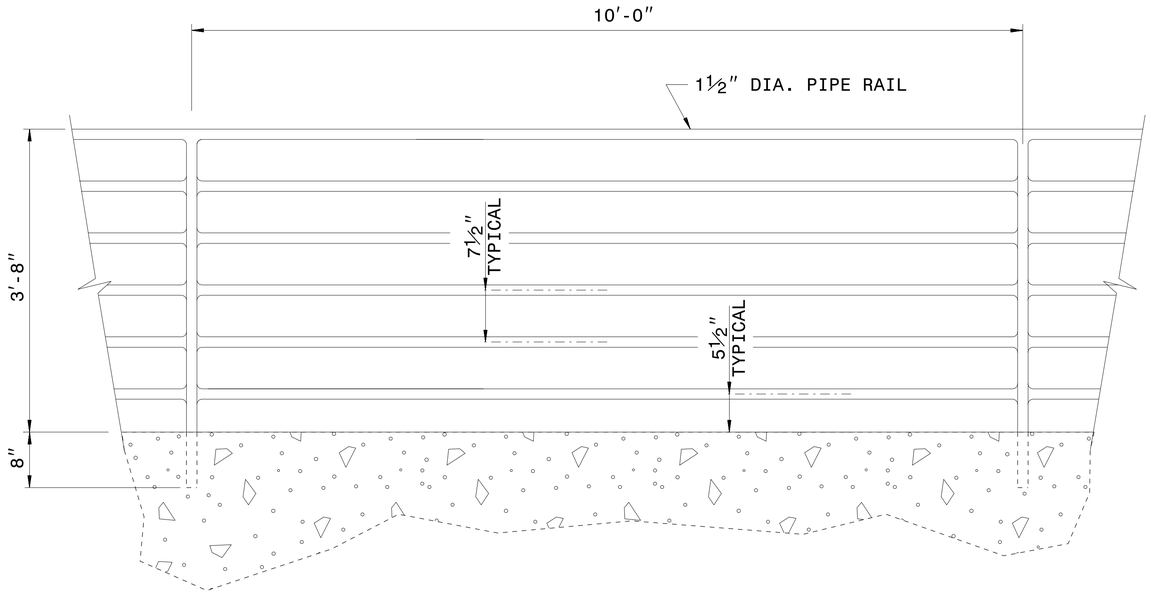
PC Sta. 11+30.50

SEE SHEET 4 FOR FULL PLAN
SEE SHEET 5 FOR -L- PROFILE

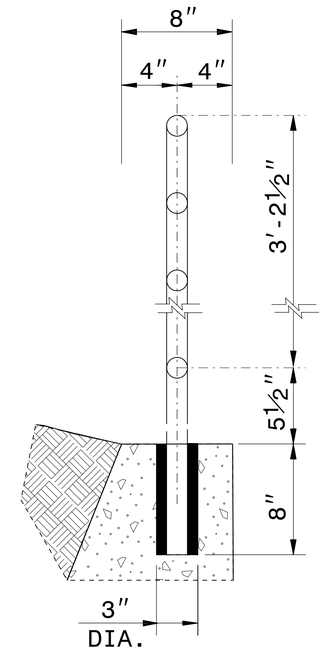
5/18/2026
R:\STV\Projects\Proj\SHT\U-5841_rdy_pshtB2B.dgn
thenw

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

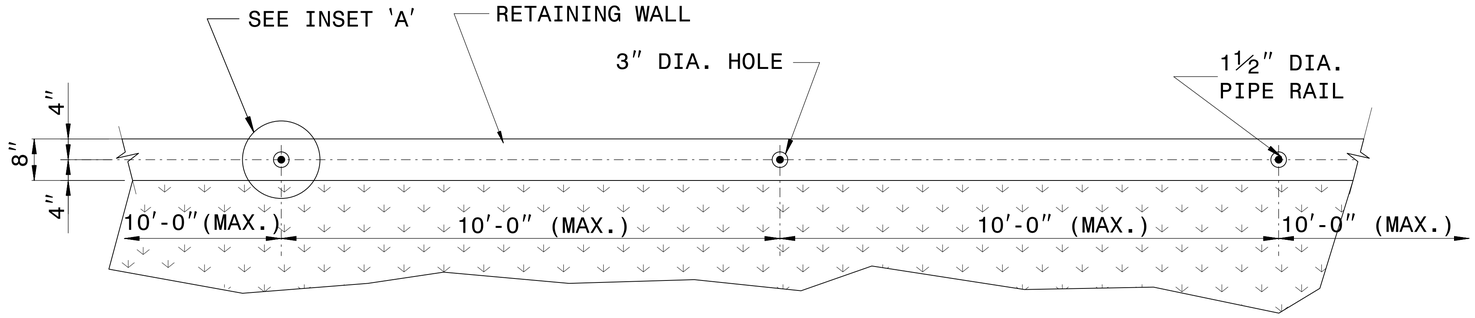
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-1



ELEVATION OF HANDRAIL



INSET 'A'



PLAN VIEW

NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL 1½" DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

EMBED PIPE RAIL 8" INTO PROPOSED WALL WITH CHEMICAL OR CONCRETE GROUT ANCHORING SYSTEM AS DIRECTED BY THE ENGINEER.

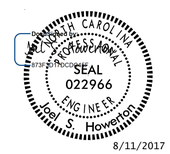
REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.

PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.

CENTER THE PROPOSED RAILING ON TOP OF THE WALL WITH POST SPACING SYMMETRICAL ABOUT THE CENTER-LINE OF THE WALL.

USE A ROTARY DRILL IF NEEDED FOR EMBEDMENT HOLES OF RAIL IN WALL. ROTARY DRILL ONLY (NO ROTARY-IMPACT DRILLS).

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.



8/11/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

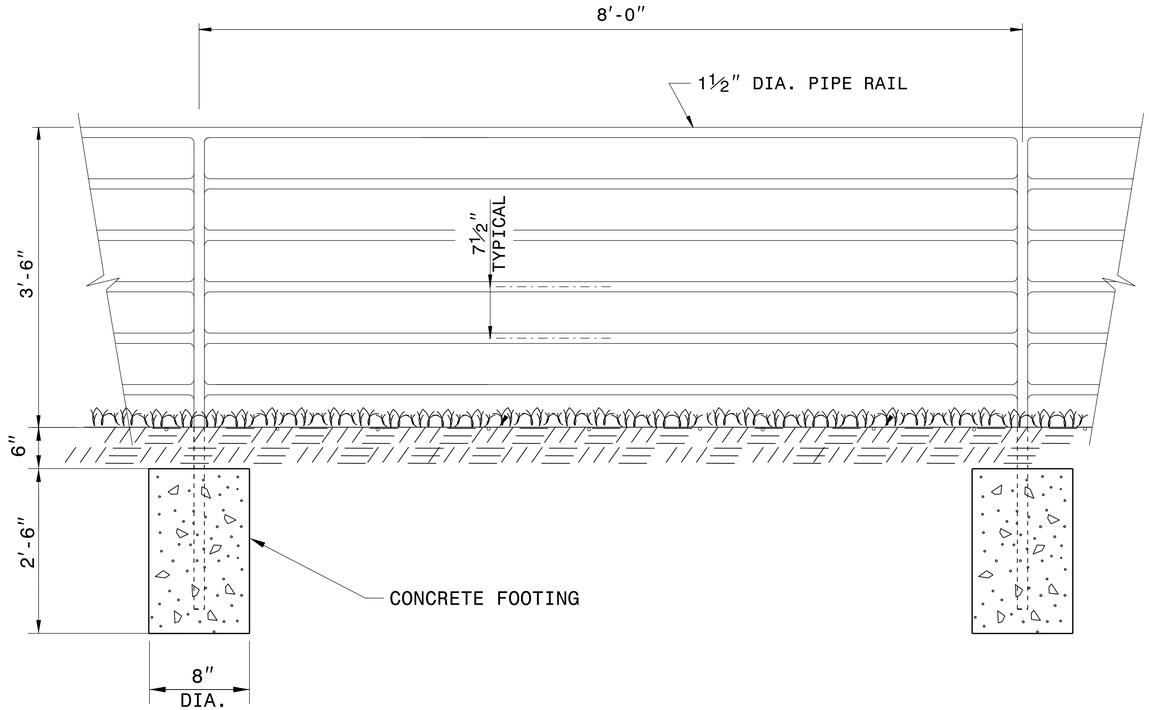
DETAIL OF PIPE HANDRAIL MOUNTED ON RETAINING WALL

ORIGINAL BY: E.E. WARD DATE: 12-99
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: jhowerton/handrail on retaining wall.dgn

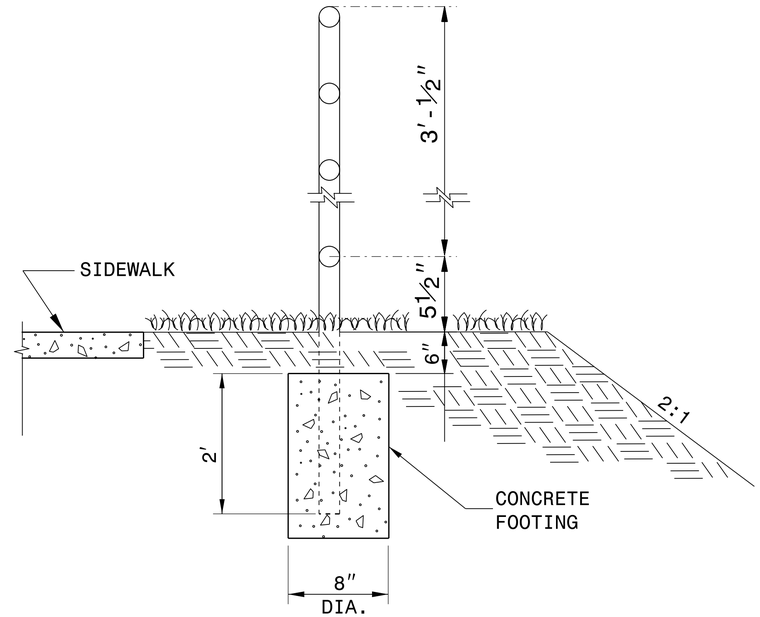
$$$$SYSTIME$$$$
$$$$USERNAME$$$$

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-2



ELEVATION OF HANDRAIL



INSET 'A'

NOTES:

CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1½″ DIAMETER SCHEDULE 40 PLAIN END GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.

REPAIR GALVANIZING IN ACCORDANCE WITH SECTION 1076 OF THE NCDOT STANDARD SPECIFICATIONS.

PAINT, IF REQUIRED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 1080 OF THE STANDARD SPECIFICATIONS.

WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.

USE CLASS 'B' CONCRETE FOR HANDRAIL FOOTINGS.

PLACEMENT OF HANDRAIL IN RELATION TO SHOULDER BREAK POINT AND SIDEWALK MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SCOTT C. STEPHENS
DocuSigned by:
9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

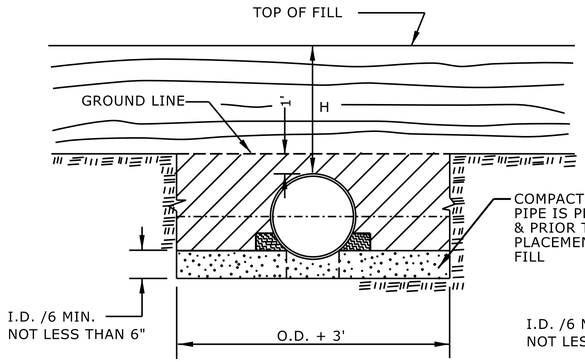
PROPOSED PEDESTRIAN HANDRAIL

ORIGINAL BY: E.E. WARD DATE: 12-99
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: jhowerton/handrail adjacent to sidewalk.dgn

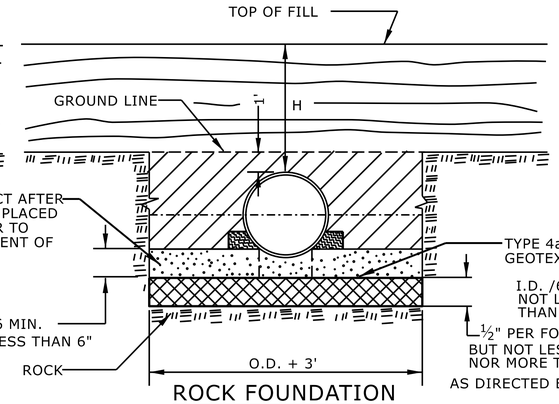
20-SEP-2018 15:30
S:\Contracts\Special Details\jhowerton\Handrail Adjacent to Sidewalk.dgn
jhowerton
AT CSD-292545

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

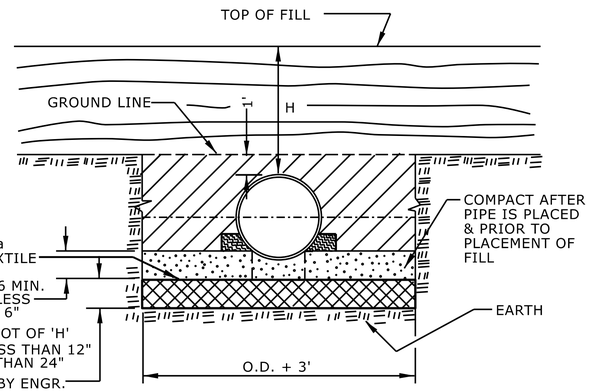
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-3



NORMAL EARTH FOUNDATION

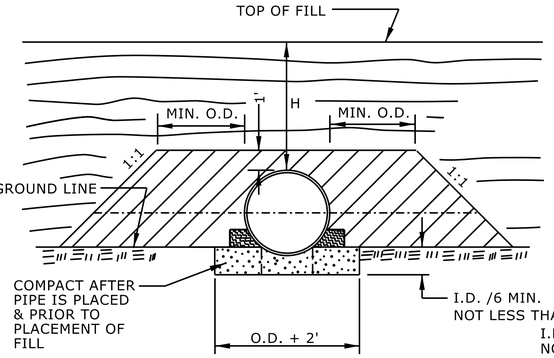


ROCK FOUNDATION

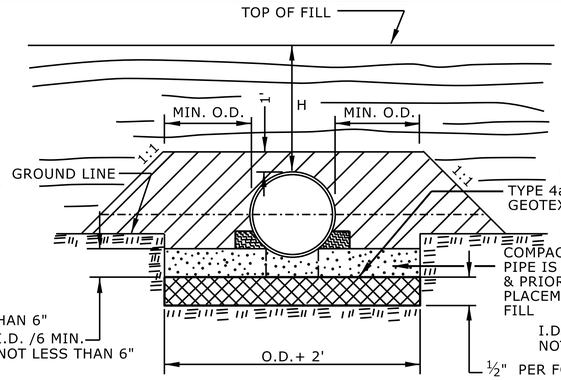


UNSUITABLE MATERIAL FOUNDATION

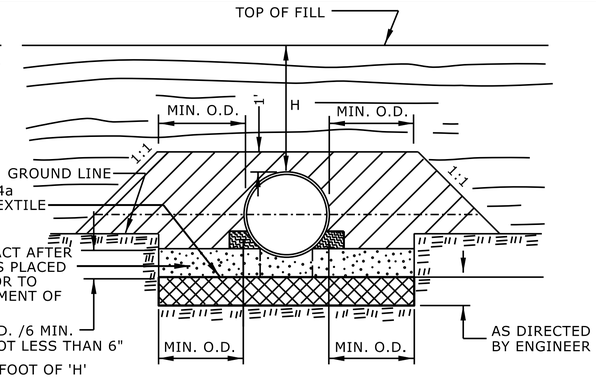
PIPE IN TRENCH



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



UNSUITABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 2

300.01

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. WALKER
Signed by: Nicole M. Walker
9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

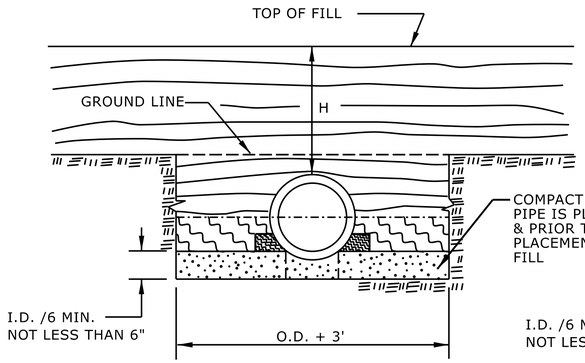
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

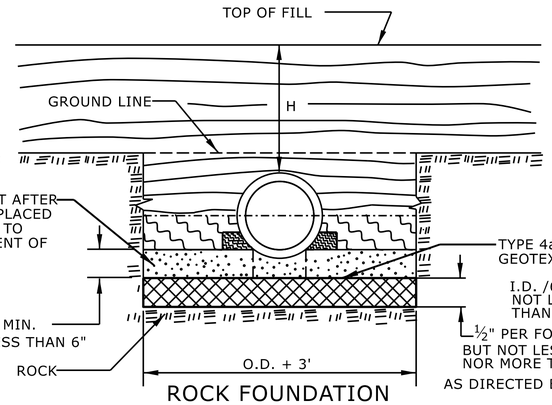
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

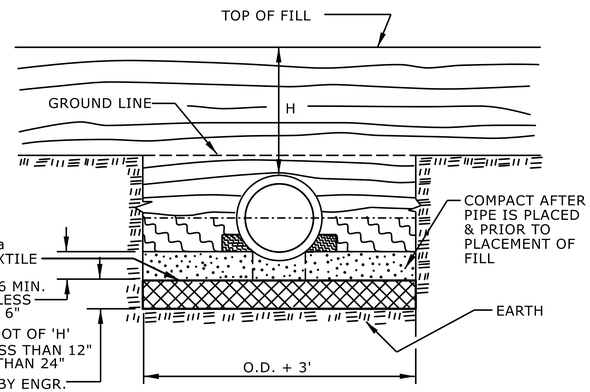
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-4



NORMAL EARTH FOUNDATION

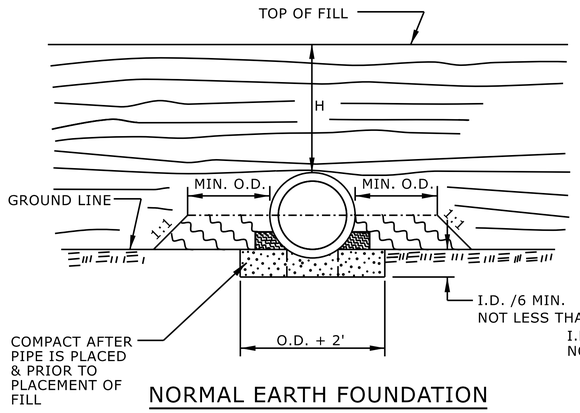


ROCK FOUNDATION

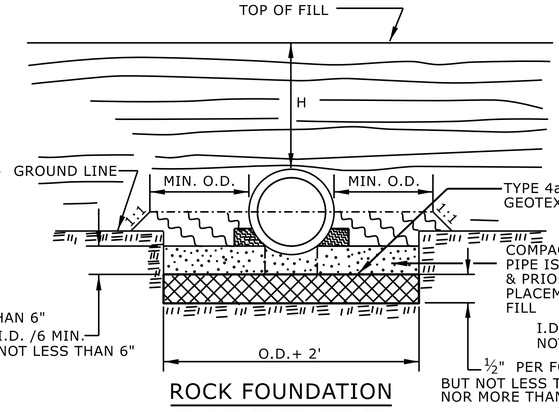


UNSUITABLE MATERIAL FOUNDATION

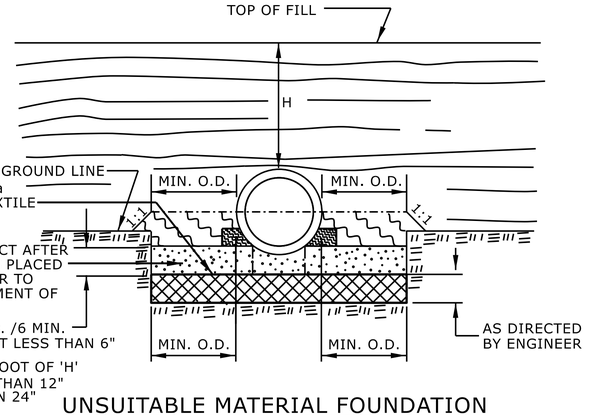
PIPE IN TRENCH



NORMAL EARTH FOUNDATION



ROCK FOUNDATION



UNSUITABLE MATERIAL FOUNDATION

PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

APPROVED SUITABLE LOCAL MATERIAL.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.

LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

REFER TO NCDOT PIPE MATERIAL SELECTION GUIDE AND STANDARD SPECIFICATIONS FOR ALLOWABLE PIPE FILL HEIGHTS AND PIPE SPECIFICATIONS.

SPRINGLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE IV GEOTEXTILE AS DIRECTED BY THE ENGINEER.

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 2

300.01

NORTH CAROLINA PROFESSIONAL SEAL 033144 Signed by: NICOLE M. WALKER 9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

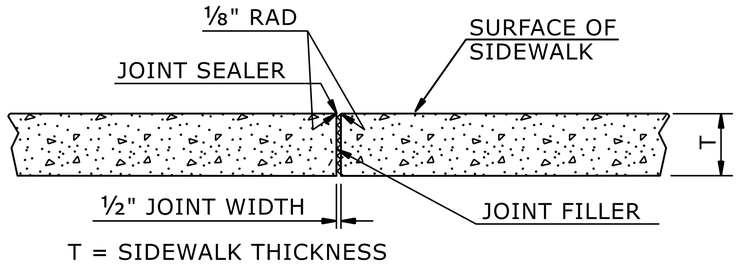
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-5

NOTES:

CONSTRUCT STANDARD SIDEWALK 5' WIDE AND 4" THICK UNLESS OTHERWISE DENOTED ON PLANS.

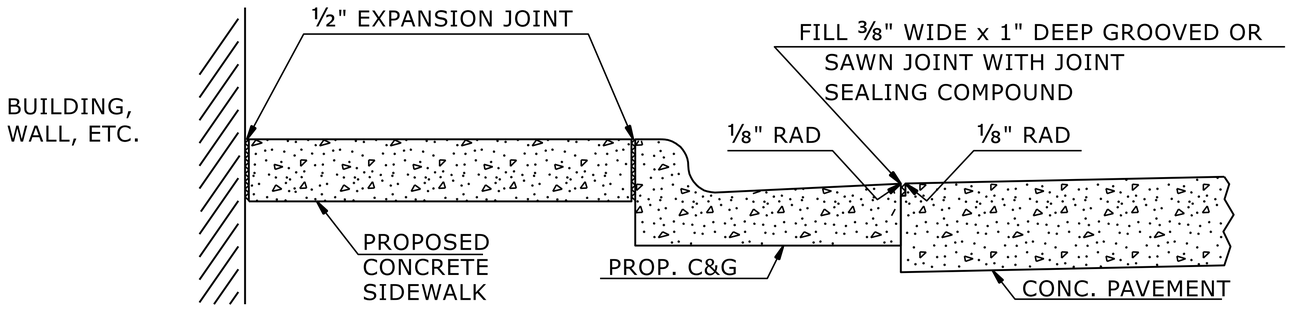
PLACE A GROOVE JOINT 1" DEEP WITH ⅛" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE ½" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A ½" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

SEE STD. DWG. 848.06 FOR CURB RAMP LOCATION REQUIREMENTS AND CONSTRUCTION GUIDELINES.



T = SIDEWALK THICKNESS

TRANSVERSE EXPANSION JOINT IN SIDEWALK



DETAILS SHOWING JOINTS IN CONCRETE SIDEWALK

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CONCRETE SIDEWALK

SHEET 1 OF 1

848D01

NORTH CAROLINA PROFESSIONAL SEAL 033144 Signed by NICOLE M. HAUSER 9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

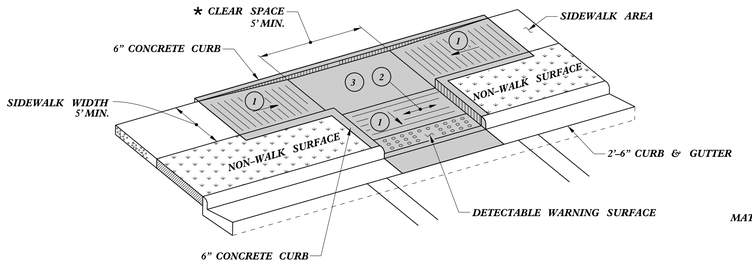
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

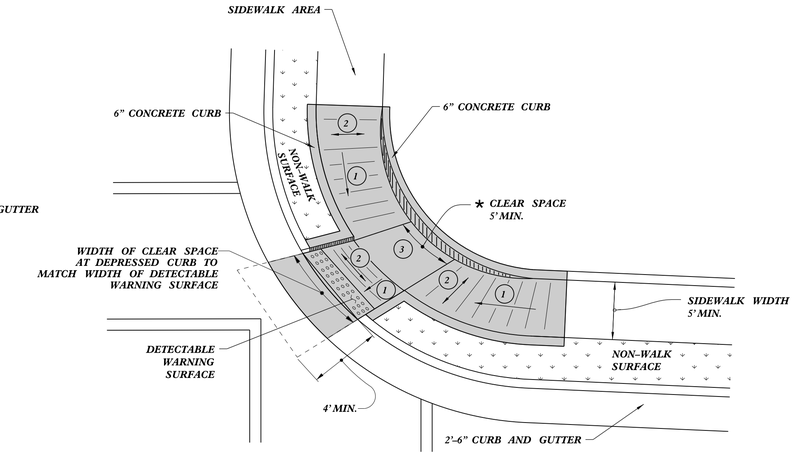
Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-6

* – *WHERE CLEAR SPACE IS CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4'MINIMUM X 5'MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.*



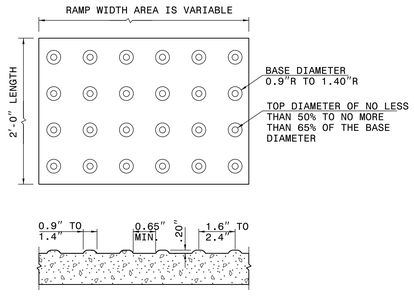
TYPE 3



TYPE 3 MODIFIED
INSTALLATION IN A RADIUS

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

(1) *8.33% (12:1) MAX RAMP SLOPE*

(2) *CROSS SLOPE: 2.00%*

(3) *MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.*

PAY LIMITS FOR 1 CURB RAMP

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CURB RAMP
PARALLEL RAMP

SHEET 9 OF13

848D06

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M HACKLER
9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

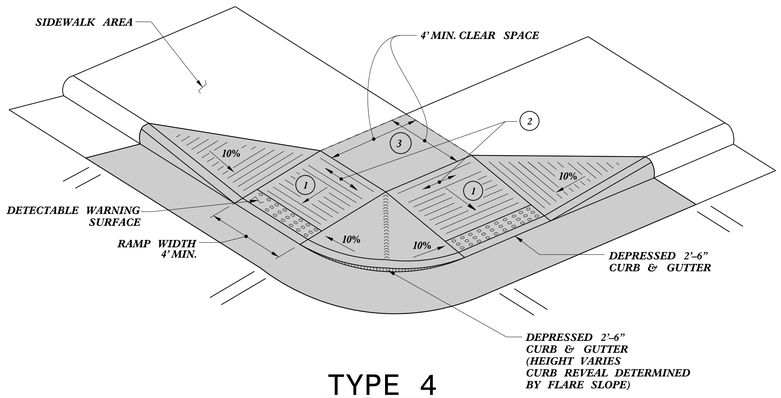
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

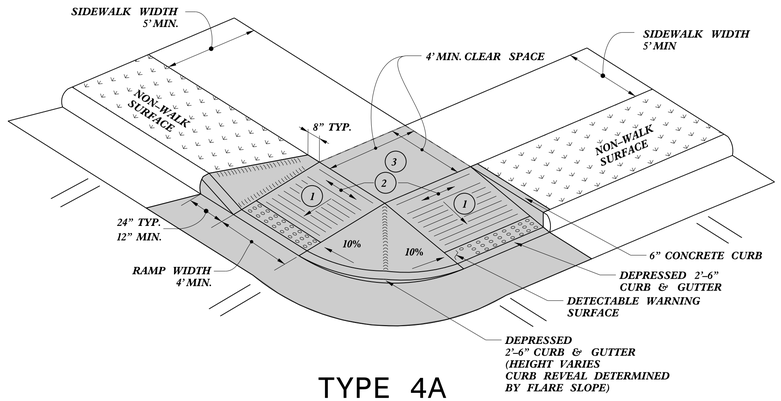
ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: special details\nmhackler\D0609.dgn

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

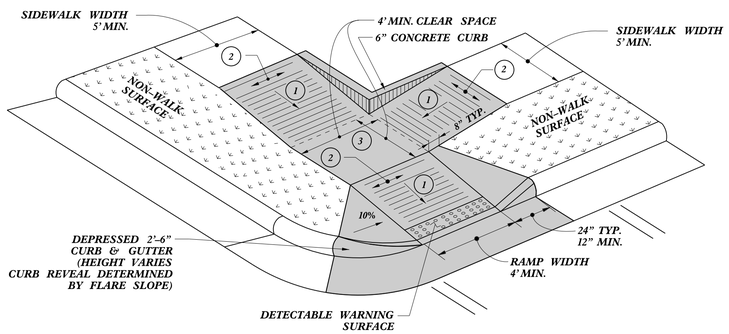
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-7



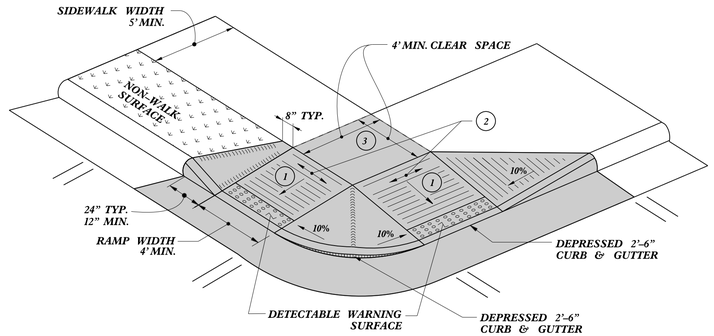
TYPE 4



TYPE 4A



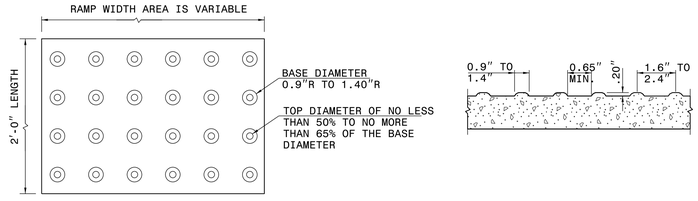
TYPE 4B



TYPE 4C

NOTES:
DETECTABLE WARNING SURFACE SHALL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.

DETECTABLE WARNING SURFACE SHALL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING SURFACE

1. *8.33% (12:1) MAX RAMP SLOPE*
2. *CROSS SLOPE: 2.00%*
3. *MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00%.*

PAY LIMITS FOR 1 OR 2 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

CURB RAMP

SHARED LANDING



SHEET 10 OF 13

848D06

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

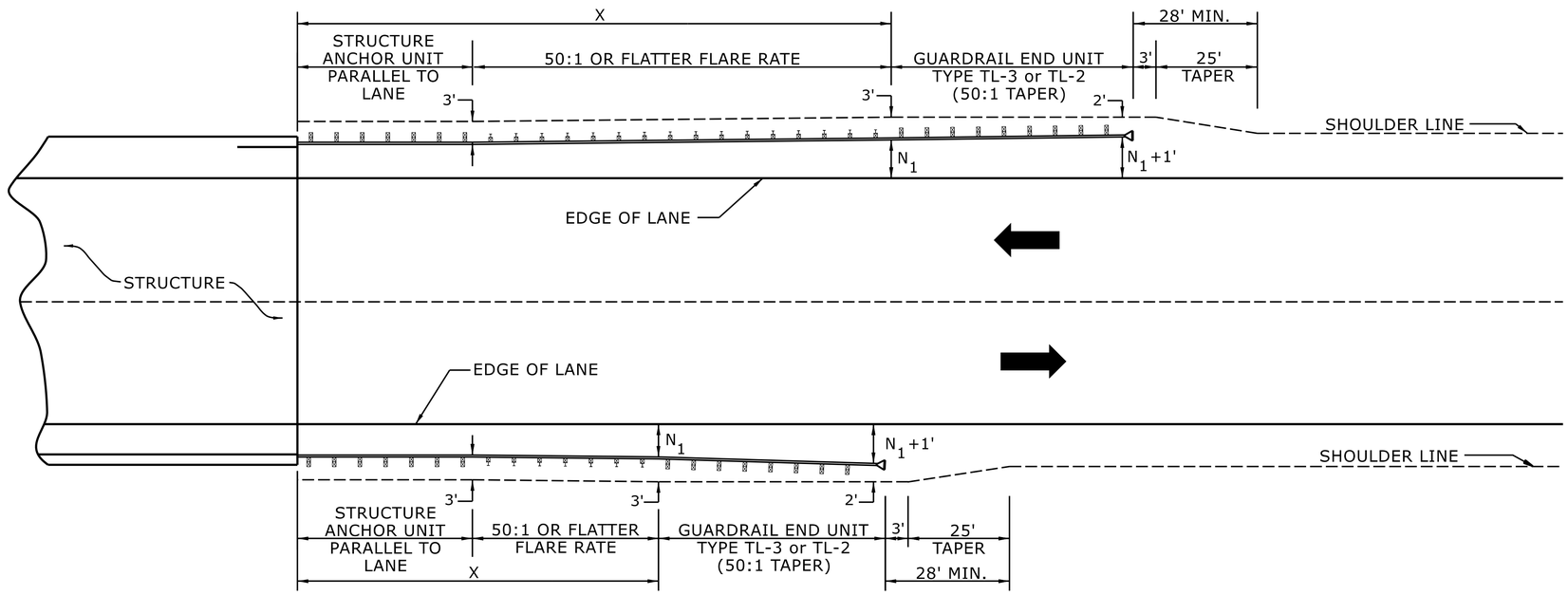
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 12-22-2023
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: special details\nmhackler\848D0610.dgn

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-8



USE FLARE RATE AS THE CONTROL IF THE "N_1" DISTANCE IS NOT OBTAINED.
("N_1" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

SEE STD. 862.03 FOR STRUCTURE ANCHOR UNITS

FOR POSTED SPEEDS ≥ 45MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45MPH USE GREU TYPE TL-2

GUARDRAIL LENGTH OF NEED (X) IS CALCULATED BASED ON THE AASHTO ROADSIDE DESIGN GUIDE.

LENGTHS AND OFFSETS FOR PROPOSED GUARDRAIL AT TWO LANE - TWO WAY LOCATIONS

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01

NORTH CAROLINA PROFESSIONAL SEAL 033144 Signed by: NICOLE M. HAGLER Registered Professional Engineer
9/17/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

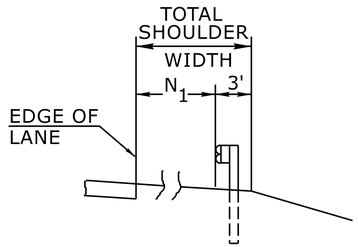
CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

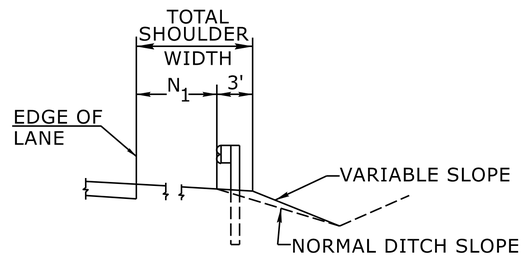
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-9

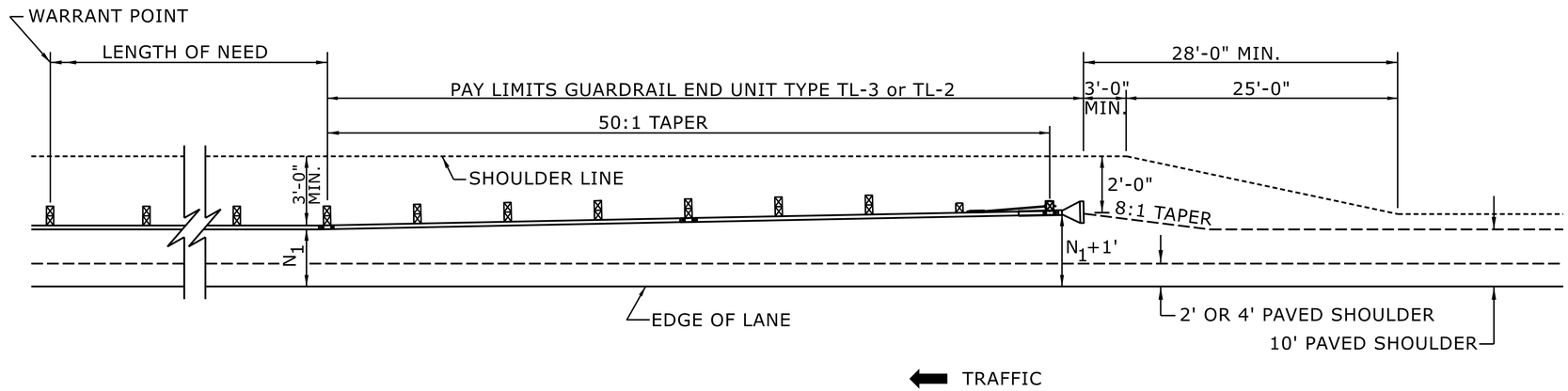


FILL SECTION



CUT SECTION

"N_1"= DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL WHERE GUARDRAIL IS PARALLEL TO LANE.



FOR POSTED SPEEDS ≥ 45mph USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45mph USE GREU TYPE TL-2

DETAIL OF BEGINNING OF GUARDRAIL IN CUT OR FILL SECTION

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M KELLER
Signed by: Nicole Keller
9/17/2026

SHEET 6 OF 15

862D01

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

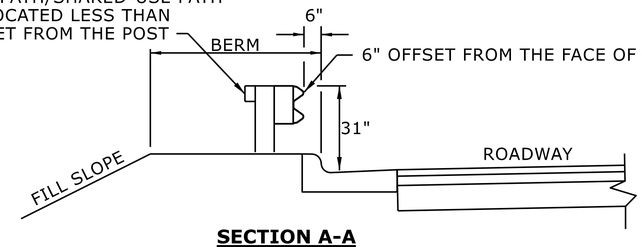
ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

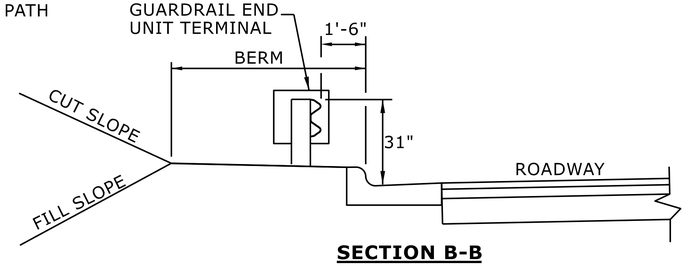
PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-10

PLACE APPROVED BICYCLE FRIENDLY RAILINGS, FENCE, OR RUB RAILS IF SIDEPATH/SHARED-USE PATH IS LOCATED LESS THAN 4 FEET FROM THE POST

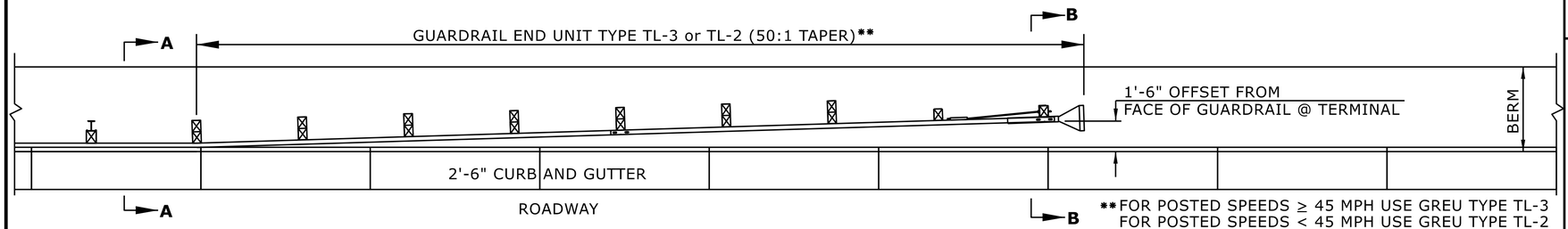
SEE THE ROADWAY DESIGN MANUAL (PART I CHAPTER 4 SECTION 4.14) FOR OFFSET DISTANCES FROM FACE OF GUARDRAIL AND BACK OF GUARDRAIL TO SIDEWALK OR SIDEPATH/SHARED-USE PATH



SECTION A-A



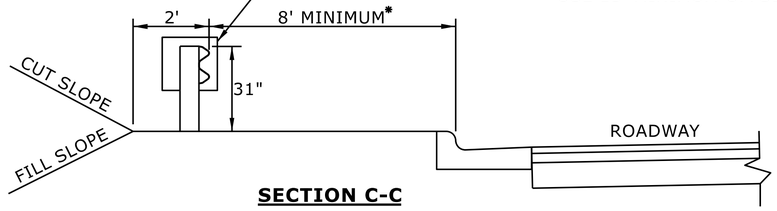
SECTION B-B



**FOR POSTED SPEEDS ≥ 45 MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45 MPH USE GREU TYPE TL-2

BICYCLE FRIENDLY RAILINGS, FENCE OR RUB RAIL SHOULD NOT BE PLACED WITHIN THE LIMITS OF THE STRUCTURAL ANCHOR OR END UNITS

GUARDRAIL 6" FROM THE FACE OF CURB



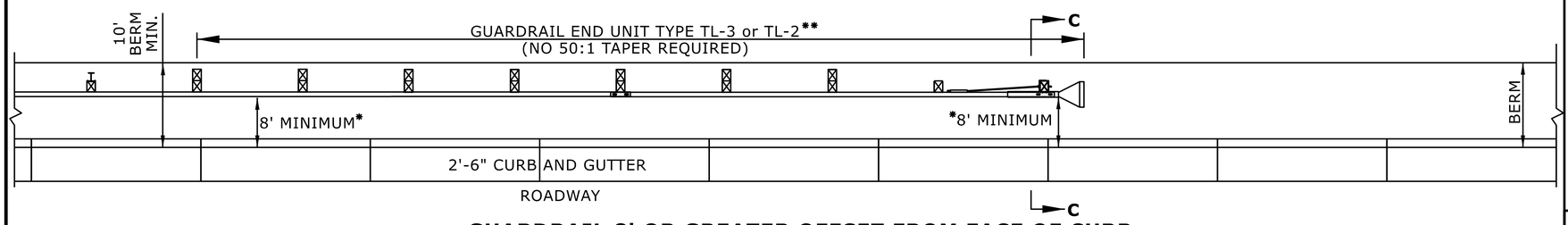
SECTION C-C

*FOR POSTED SPEED ≥ 40 MPH USE 13' MINIMUM OFFSET

SEE THE ROADWAY DESIGN MANUAL (PART I CHAPTER 4 SECTION 4.14) FOR OFFSET DISTANCES FROM FACE OF GUARDRAIL AND BACK OF GUARDRAIL TO SIDEWALK OR SIDEPATH/SHARED-USE PATH

**FOR POSTED SPEEDS ≥ 45 MPH USE GREU TYPE TL-3
FOR POSTED SPEEDS < 45 MPH USE GREU TYPE TL-2

BICYCLE FRIENDLY RAILINGS, FENCE OR RUB RAIL SHOULD NOT BE PLACED WITHIN THE LIMITS OF THE STRUCTURAL ANCHOR OR END UNITS



GUARDRAIL 8' OR GREATER OFFSET FROM FACE OF CURB

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

GUARDRAIL PLACEMENT

GUARDRAIL TREATMENT AT CURB AND GUTTER



SHEET 12 OF 15

862D01

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

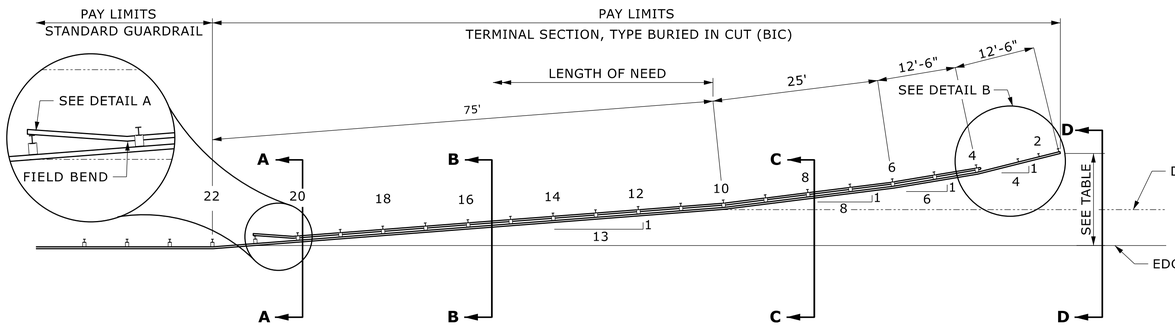
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-11

DRAWING NOT TO SCALE

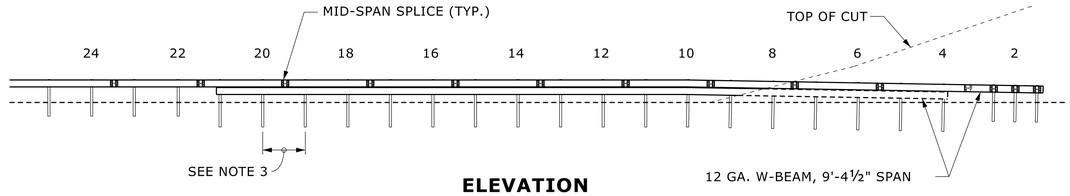


PLAN

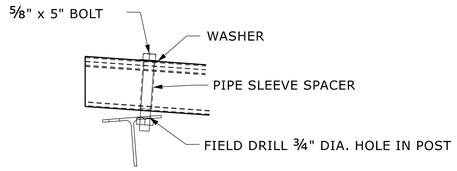
NOTE:

1. SEE DETAIL SHEET 2 OF 2 FOR OTHER DETAILS.
2. STEEL POSTS SHOWN.
3. TYPICAL POST SPACING IS 6'-3" UNLESS OTHERWISE NOTED.

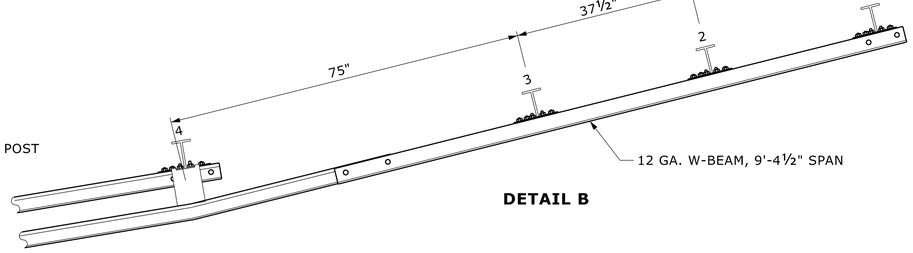
POST OFFSETS FROM EDGE OF SHOULDER	
POST	DISTANCE
1	13'-11¾"
4	10'-11"
6	8'-10¼"
10	69"



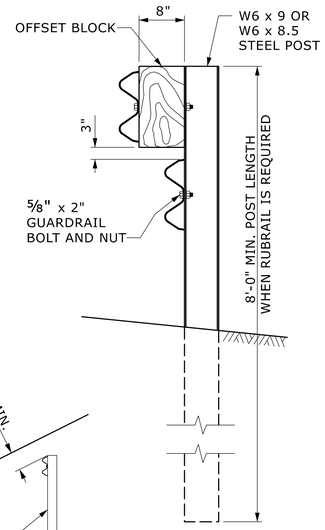
ELEVATION



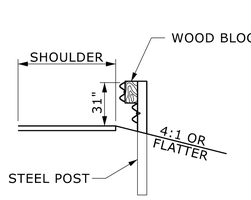
DETAIL A



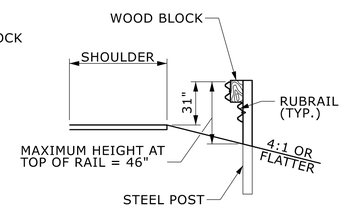
DETAIL B



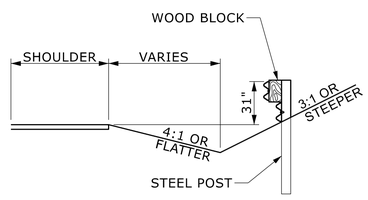
STEEL POST AND BLOCK DETAIL



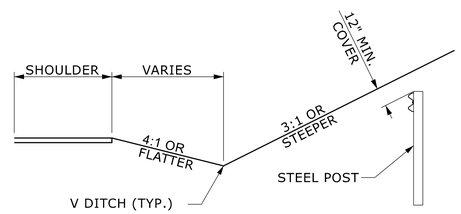
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

GUARDRAIL PLACEMENT

BURIED IN CUT END UNIT

SHEET 14 OF 15

862D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033144 Signed by: Nicole M. Hagler 9/17/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

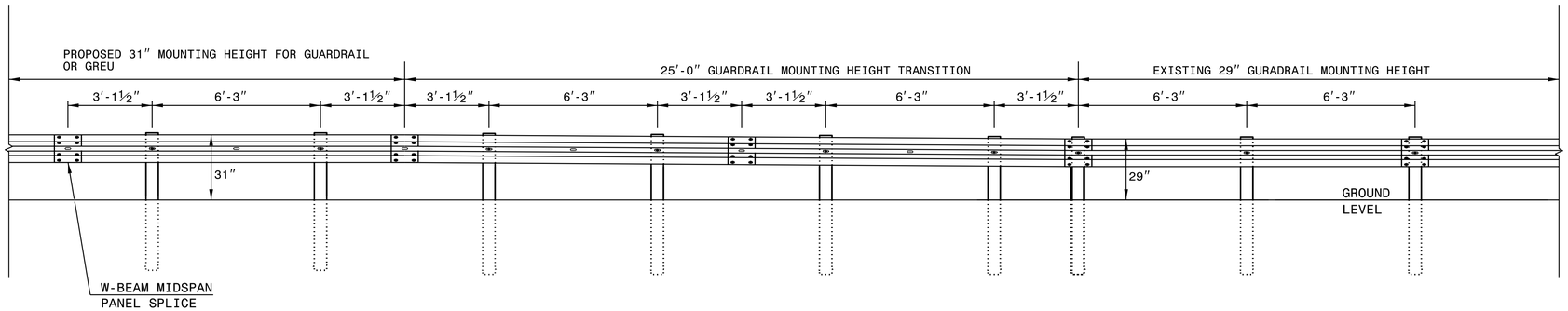
SEE TITLE BLOCK

ORIGINAL BY: S.CALHOUN DATE: 7-25-2024
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJECT REFERENCE NO.	SHEET NO.
U-5841	2C-12

NOTE: IF EXISTING GUARDRAIL IS LOWER THAN 29″, USE AN ADDITIONAL 12′-6″ LONG SECTION OF GUARDRAIL, FOR EVERY 1″ OF HEIGHT DIFFERENCE, TO TRANSITION FROM EXISTING GUARDRAIL TO PROPOSED 31″ GUARDRAIL.



ELEVATION VIEW

TRANSITION FROM 29″ TO 31″ W-BEAM GUARDRAIL MOUNTING HEIGHT

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 5 OF 9

862D02

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HICKS
Signed by:
9/17/2026

05-FEB-2025 07:53
U:\Special Details Revisions\862D02 Detail\862D02.dgn
$$$$USERNAME$$$$

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-8950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: K. Aldridge DATE: 02-25
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	3B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 043893 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

EARTHWORK SUMMARY (IN CUBIC YARDS)

CHAIN	FROM STATION	TO STATION	SIDE	UNCL. EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
–L–	16+25.00	17+65.00	RT	15		385	370	
–L–	18+00.00	20+89.90	RT	110		74		36
–L–	16+25.00	20+89.90	LT	68		146	78	
TOTAL				193		606	448	36
WASTE IN LIEU OF BORROW							–36	–36
PROJECT TOTAL				193		606	412	
ESTIMATE 5% FOR TOPSOIL ON BORROW PITS							21	
GRAND TOTAL				193		606	432	
SAY				200			500	

SELECT GRANULAR MATERIAL = 400 CUBIC YARDS
GEOTEXTILE FOR SOIL STABILIZATION = 700 SQUARE YARDS
EST. SHALLOW UNDERCUT = 100 CUBIC YARDS
CLASS IV SUBGRADE STABILIZATION = 200 TONS
PER GEOTECH RECOMMENDATION, ESTIMATED 400 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER.

NOTE: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, and Clearing and Grubbing will be paid for at the contract lump sum price for "Grading."

NOTE: Earthwork quantities are calculated by the roadway designer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

* W MEASURED FROM "N" AT THE BEGINNING OF THE ANCHOR TO "N" AT THE END OF THE ANCHOR.
"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL WIDTH	FLARE LENGTH		W*		ANCHORS									IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	B–77	GREU TL–2	M–350	TYPE III	CAT–1	VI MOD	BIC	AT–1	EA	G	NG				
–L–	17+28.60	19+39.30	LT	212.50′			18+00.00	17+65.00	2	NA	0.5		2.5				1			1								73′		SPAN GUARDRAIL OVER CULVERT –L– STA. 17+63 +/– TO 17+88 +/– LT
–L–	17+23.87	18+33.84	RT	112.50′			17+06.00	18+05.00	2	NA	0.5		2.5				1			1								85′		SPAN GUARDRAIL OVER CULVERT –L– STA. 17+74 +/– TO 17+98 +/– RT
			TOTAL:	325′									TOTAL				2			2								158′		
			TOTAL ANCHOR LENGTH:	62.50′																										
			TOTAL GUARDRAIL LENGTH:	262.50′	ADDITIONAL GUARDRAIL POSTS 5 EA.																										
			SAY:	262.50′																										

6/25/2026
R:\Roadway\Proj\SHT\U-5841rdy_psh03B.dgn
Luther.W

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

93K0944

COMPUTED BY: HMS DATE: 9/9/2025

CHECKED BY: TAP DATE: 5/21/2026

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-5841	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

| LINE & STATION | OFFSET | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % | C. S. PIPE 12 .064 | C. S. PIPE 15 .064 | C. S. PIPE 18 .064 | R. C. PIPE CLASS IV 12 | R. C. PIPE CLASS IV 15 | R. C. PIPE CLASS IV 18 | R. C. PIPE CLASS IV 24 | R. C. PIPE CLASS IV 30 | R. C. PIPE CLASS IV 36 | R. C. PIPE CLASS IV 42 | R. C. PIPE CLASS IV 48 | R. C. PIPE CLASS IV 54 | R. C. PIPE CLASS IV 60 | R. C. PIPE CLASS IV 66 | R. C. PIPE CLASS IV 72 | R. C. PIPE CLASS IV 78 | R. C. PIPE CLASS IV 84 | STRUCTURAL PLATE PIPE 60 | STRUCTURAL PLATE PIPE 66 | STRUCTURAL PLATE PIPE 72 | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES (TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) A 0' THRU 5' EACH | B 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | GRATE TYPE F | GRATE TYPE G | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | CONCRETE TRANSITIONAL SECTION C.B. STD. 852.05 | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.2 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840. | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.23 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.25 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.2 | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | J.B. STD. 840.31 OR STD. 840.32 | ANGLED VANE GRATES AND FRAMES STD. 840.33 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | T.B.D.I. FOR STEEL GRATES STD. 840.36 | STEEL FRAME WITH TWO GRATES STD. 840.37 | TEMP STEEL PLATE COVER MASONRY DRAINAG | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | CONVERT EXISTING C.B. TO J.B. | CONVERT EXISTING C.B. TO D.I. | CONVERT EXISTING D.I. TO J.B. | CONVERT EXISTING J.B. TO D.I. | ADJUST C.B. | ADJUST D.I. | 15" C.S. ELBOW | 18" C.S. ELBOW | 24" C.S. ELBOW | MODIFIED CONC. FLUME | PREFORMED SCOUR HOLE (PER EACH) | ENERGY DISSIPATION BASIN | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

COMPUTED BY: SCS DATE: 04/06/2021
CHECKED BY: GAM DATE: 04/09/21

(12-17-19)

PROJECT NO.	SHEET NO.
U-5841	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU(1)		100	200	700		
			TOTAL CY/TONS/SY:		100	200**	700**	0	0

*ASU(1/2) = Aggregate Subgrade (Type 1 or 2)
*AST = Aggregate Stabilization
**Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Soil Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

PROJ. REFERENCE NO.	SHEET NO.
U-5841	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	City of Greensboro
2	4	Moses H Cone Memorial Hospital
3	4	Sunset Woods Townhomes Association

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043891 ERIN C. STEPHENS 9/17/2026
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 051897 TIFFANY A. PREDDY 9/17/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

★ MODIFIED TRAFFIC SIGNAL

NAD 83 NA 2011

	N LINDELL RD		
29,300 / 32,400	500 / 600	100 / 100	23,100 / 25,500
		WEST FRIENDLY AVE	
6,200 / 6,800	400 / 400		
8,300 / 9,100	N LINDELL RD	2025 / 2045 AVERAGE DAILY TRAFFIC	

(1) CITY OF GREENSBORO
DB 3398 PG 1136
FULL PROPERTY DEED NOT FOUND

(2) MOSES H CONE MEMORIAL HOSPITAL
DB 3755 PG 938
PB 95 PG 69

(3) SUNSET WOODS TOWNHOMES ASSOCIATION
DB 3391 PG 382
PB 74 PG 40

BEGIN TIP PROJECT U-5841
-L- STA. 16+25.00
BEGIN C&G +25.00, 27.20

END TIP PROJECT
-L- STA. 20+89.90

-L- POT Sta. 20+34.19
-Y- POT Sta. 10+00.00

POT Sta. 21+50.00

PRC Sta. 16+70.00

PT Sta. 19+65.78

BEGIN RET.WALL #1 WITH HANDRAIL +11.06, 39.10

END RET.WALL #1 WITH HANDRAIL +52.06, 38.52

BEGIN RET.WALL #2 WITH HANDRAIL +95.06, 38.36

END RET.WALL #2 WITH HANDRAIL +20.65, 39.62

END C&G +17.59, 45.67

BEGIN C&G +63.90, 44.80

END C&G +89.90, 28.23

BEGIN C&G +25.00, 27.50

END C&G +97.12, 25.54 (-Y-)

BEGIN C&G +63.90, 53.70

END C&G +89.90, 26.55

PC Sta. 11+30.50

END RESURFACING
-Y- STA. 11+96.73

WEST FRIENDLY AVE

N LINDELL RD

WENDOVER AVE.

NORTH BUFFALO CREEK

20 INCH, PCCP

8" DIP

39" DIP

36" DIP

18" RCP

15" CSP w/2 ELBOWS

15" RCP-IV

GREU TL-2

CAT-1

PROP 5' SIDEWALK

PROP 2'-6" C&G

PROP 6' SIDEWALK

PROP HANDRAIL

150' SHIFT TAPER LT.

100' BAY TAPER RT

25' SIDEWALK TAPER

REMOVE EXIST GUARDRAIL

TEMP. SHORING

RETAIN EXIST. CONC. ARCH CULVERT

PROP. CONC. ARCH CULVERT EXTENSION STA. 17+87.00 23' X 18.5', SKEW = 79^

EST. 29 TON CL I RIPRAP
EST. 40 SY GEOTEXTILE

EST. 33 TON CL I RIPRAP
EST. 46 SY GEOTEXTILE

EST. 24 TON CL I RIPRAP
EST. 33 SY GEOTEXTILE

25' GR SPAN SECTION

PROP MONO ISLAND

TYPE 2A 30' R

TYPE 4

TYPE 1A

S 50° 55' 45" E

S 37° 52' 50.0" W

CURVE DATA -L-		CURVE DATA -Y-
PI Sta 13+52.00 Δ = 23° 05' 35.3" (RT) D = 3° 34' 51.6" L = 644.88' T = 326.88' R = 1,600.00' DS = 40 mph e = 3%	PI Sta 18+18.31 Δ = 10° 35' 31.1" (LT) D = 3° 34' 51.6" L = 295.78' T = 148.31' R = 1,600.00' DS = 40 mph e = 3%	PI Sta 11+90.46 Δ = 11° 36' 16.7" (LT) D = 9° 42' 40.1" L = 119.50' T = 59.95' R = 590.00'

SEE SHEET 2B FOR ROADWAY DETAIL
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS C1 - C7 FOR CULVERT PLANS

5/08/2026
R:\Projects\Greenway\Proj\SHT\U-5841_rdy_psh04.dgn
tthenry

Docusign Envelope ID: E3F03B5A-181B-8650-8092-07FCF4433DC8

5/14/99

-L-

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PROJECT REFERENCE NO.	SHEET NO.
U-5841	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 043897 Signed by: SEAN C. STEPHENS ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL 9/17/2026 SEAL 051809 TIFFANY A. PRESSLEY ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

820 816 812 808 804 800 796 792 788 784 780 776 772 768 764 760 756 752 748 744 740

BEGIN GRADE
–L– STA. 16+25.00
ELEV. = 776.65'

LOW POINT
–L– STA. 16+89.23
ELEV. = 776.32'

PI = 17+15.00
EL = 775.90'
VC = 180'
K = 77
DS = 40 MPH

CENTERLINE CULVERT
STA 17+87 –L–
EXTENSION UPSTREAM
23' X 18.5' CONCRETE ARCH CULVERT
SKEW = 79 DEGREES
CENTERLINE ELEV = 776.99'

PI = 19+50.00
EL = 779.43'
VC = 120'
K = 69
DS = 40 MPH

END MILL & OVERLAY
–L– STA. 20+89.90
ELEV. = 784.88'

END GRADE
BEGIN MILL & OVERLAY
–L– STA. 20+10.00
ELEV. = 781.37'

PROPOSED GRADE

(–)0.8333%

(+)1.5021%

(+)1.5021%

(+)3.2333%

EXISTING GROUND

EXISTING ARCH CULVERT

PROPOSED ARCH CULVERT EXTENSION

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	2380	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	766.2	FT
BASE DISCHARGE	=	2850	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	767.2	FT
OVERTOPPING DISCHARGE	=	8000	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	776.3	FT

SEE SHEET 4 FOR -L- PLAN

16 17 18 19 20

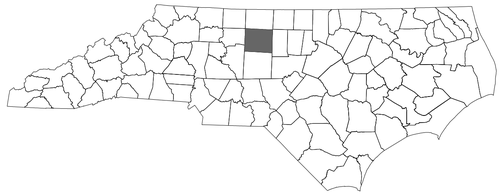
5/18/2026
R:\Roadway\Proj\SHT\U-5841_rdy_psh05pf1.dgn
lthomas

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

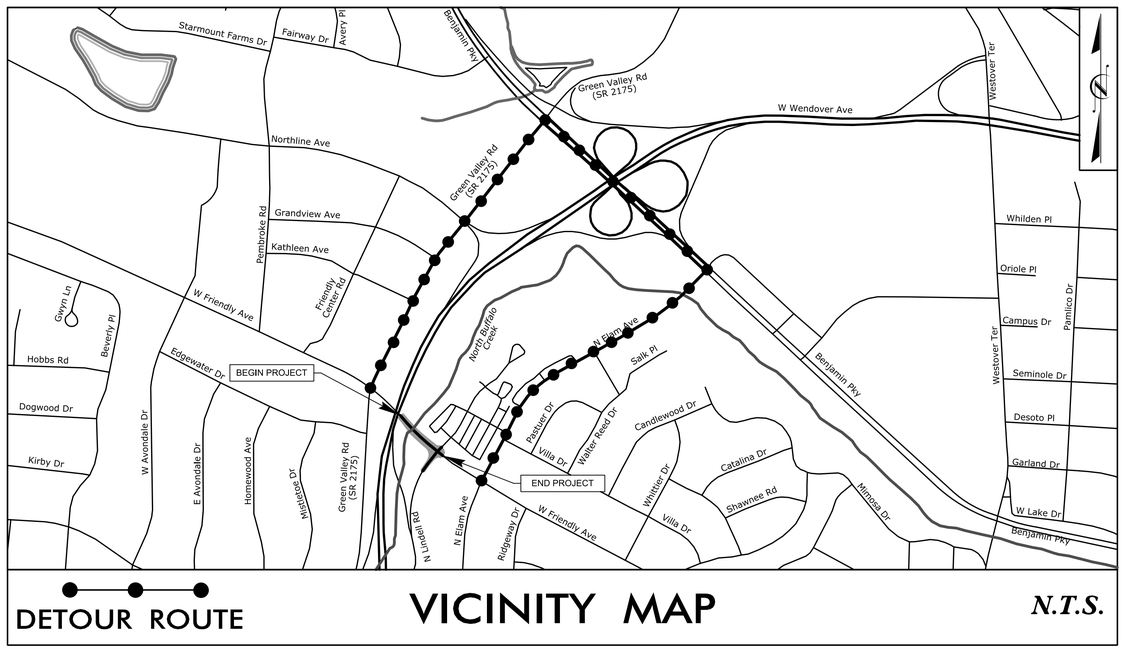
TRANSPORTATION MANAGEMENT PLAN

GUILFORD COUNTY



LOCATION: SR 2147 (WEST FRIENDLY AVENUE) FROM EAST OF GREEN VALLEY RD TO NORTH LINDELL RD IN GREENSBORO

TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURES



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN
TMP-2	TEMPORARY SHORING NOTES
TMP-2A	W FRIENDLY OFF-SITE DETOUR
TMP-3	PHASING NOTES
TMP-4	OFFSITE DETOUR
TMP-5	TEMPORARY TRAFFIC CONTROL PHASE I DETAILS
TMP-6	TEMPORARY TRAFFIC CONTROL PHASE II DETAILS

SHEET NO.
TMP-1

TIP PROJECT: U-5841



WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

PLANS PREPARED BY:

SEAN C. STEPHENS, PE
TRAFFIC ENGINEER

CLARK GROVES
TRANSPORTATION DESIGNER

NCDOT CONTACTS:

SUZANA MATTA, PE
PROJECT MANAGER

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

APPROVED: DocuSigned by: BE63EBFAD769C436...

DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C STEPHENS

r:\traffic\traffic control\tcp\stip\U-5841_TCP_psh_PI.dgn

9/9/2026

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

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:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
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
1145.01	BARRICADES III
1150.01	FLAGGERS
1180.01	SKINNY-DRUMS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-1A

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

LEGEND

GENERAL

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

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

---EXISTING LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKINGS

PAINT (4")

P2 WHITE SOLID LANE LINE

PAINT (8")

P46 WHITE CROSSWALK LINE

PAINT (24")

P61 WHITE STOPBAR

PAINT MARKING SYMBOLS

P70 LEFT TURN ARROW
P71 RIGHT TURN ARROW
P72 STRAIGHT TURN ARROW

APPROVED: DocuSigned by: 6E630FA07600435...

DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

9/9/2026
r:\traffic\trafficcontrol\tcp\sht\U-5841_TCP_psh_PIA.dgn
stephesc

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-1B

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

MANAGEMENT STRATEGIES

THE PROPOSED CULVERT EXTENSION AND ROADWAY WIDENING WILL BE CONSTRUCTED USING OFF SITE DETOUR.

GENERAL 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	DAY AND TIME RESTRICTIONS
ANY ROAD	MONDAY THRU FRIDAY 6:00 AM - 9:00 AM MONDAY THRU FRIDAY 4:00 PM - 6:00 PM SUNDAY 7:30 AM - 12:30 PM

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

ROAD NAME

ANY ROAD

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 6:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 6:00 P.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 6:00 P.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 6:00 P.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 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 6:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 6:00 P.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 6:00 P.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 6:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.
9. FOR MARTIN LUTHER KING DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 9:00 A.M. TUESDAY.
10. FOR JUNETEENTH, BETWEEN THE HOURS OF 4:00 P.M. THE DAY BEFORE JUNETEENTH AND 9:00 A.M. THE DAY AFTER JUNETEENTH.

    IF JUNETEENTH IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 4:00 P.M. THE THURSDAY BEFORE JUNETEENTH AND 9:00 A.M. THE TUESDAY AFTER JUNETEENTH.
11. FOR VETERANS DAY, BETWEEN THE HOURS OF 4:00 P.M. FRIDAY AND 9:00 A.M. TUESDAY.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) 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.

D) 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.

E) 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.

F) 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.

G) 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

H) 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.

I) 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 (W8-11) 350 ft IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) 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.

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

TRAFFIC CONTROL DEVICES

M) 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.

PAVEMENT MARKINGS AND MARKERS

N) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL ROADS	PAINT	NONE

MISCELLANEOUS

O) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.

P) 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.

Q) CONTRACTOR SHALL MAINTAIN SIDEWALK ACCESS AT ALL TIMES AS STATED IN THE PHASING. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY SIDEWALKS (CONCRETE, ASPHALT, OR OTHER SUITABLE MATERIAL AS APPROVED BY THE ENGINEER) AT ALL LOCATIONS WHERE THE OPEN PEDESTRIAN TRAVELWAY HAS BEEN REMOVED FOR CONSTRUCTION OPERATIONS (UTILITIES, DRAINAGE, ETC.).

R) NOTIFY GUILFORD COUNTY EMERGENCY SERVICES AT (336) 641-2278 TO MAKE NECESSARY REASSIGNMENTS TO PRIMARY RESPONSE UNIT AT LEAST THIRTY DAYS PRIOR TO ANY LANE CLOSURES.

S) NOTIFY GEORGE LINNEY (GTA) AT 336-373-2724 TO COORDINATE TEMPORARY CLOSURE OF BUS STOP IN FRONT OF CONE HEALTH HOSPITAL DURING CONSTRUCTION.

APPROVED: DocuSigned by: [signature] 8E53BF807E9C430...

DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

9/9/2026
r:\traffic\trafficcontrol\tcp\sht\U-5841_TCP_psh_PIB.dgn
stephesc

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-2

STV 100 Years
STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

SHORING LOCATION NO.1

1. FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

2. BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

3. DESIGN TEMPORARY SHORING FROM -L- STATION 17+19.65, 46.51′ RT TO STATION 17+65.50, 26.98′ RT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER

ELEVATION:
ABOVE ELEVATION 758.0 FT:
UNIT WEIGHT (γ) = 110 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF
FROM ELEVATION 758.0 FT TO 753.0 FT:
UNIT WEIGHT (γ) = 130 LB/CF
FRICTION ANGLE (ϕ) = 34 DEGREES
COHESION (c) = 0 LB/SF
BELOW ELEVATION 753.0 FT:
UNIT WEIGHT (γ) = 140 LB/CF
FRICTION ANGLE (ϕ) = 38 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 760.0 FT

4. DRIVEN PILING FOR TEMPORARY SHORING FROM -L- STATION 17+19.65, 46.51′ RT TO STATION 17+65.50, 26.98′ RT WILL NOT PENETRATE BELOW ELEVATION 753.0 DUE TO WEATHERED OR HARD ROCK.

5. IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 17+19.65, 46.51′ RT TO STATION 17+65.50, 26.98′ RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO.2

1. FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

2. BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

3. DESIGN TEMPORARY SHORING FROM -L- STATION 18+04.70, 26.92′ RT TO STATION 18+56.56, 39.62′ RT FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:
ABOVE ELEVATION 757.0:
UNIT WEIGHT (γ) = 110 LB/CF
FRICTION ANGLE (ϕ) = 28 DEGREES
COHESION (c) = 0 LB/SF
BELOW ELEVATION 757.0:
UNIT WEIGHT (γ) = 140 LB/CF
FRICTION ANGLE (ϕ) = 38 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 760.0 FT

4. DRIVEN PILING FOR TEMPORARY SHORING FROM -L- STATION 18+04.70, 26.92′ RT TO STATION 18+56.56, 39.62′ RT WILL NOT PENETRATE BELOW ELEVATION 757.0 DUE TO TEMPORARY SHORING RECOMMENDATIONS WEATHERED OR HARD ROCK.

5. IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM -L- STATION 18+04.70, 26.92′ RT TO STATION 18+56.56, 39.62′ RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SEE TMP-4 FOR TEMPORARY SHORING LOCATION NO. 1 AND NO. 2

THE TEMPORARY SHORING NOTES SHOWN ABOVE WERE PROVIDED THROUGH A SEALED DOCUMENT BY FALCON ENGINEERING INC. THE GEOTECHNICAL ENGINEER OF RECORD IS JEREMY HAMM LICENSE #039779.

APPROVED: Sean C. Stephens (Docusigned by: BE638FA0769C436...)
DATE: 5/21/2021
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TEMPORARY SHORING NOTES

5/20/2021
R:\Traffic\TrafficControl\TCP\SHT\U-5841_TCP_psh_P2.dgn
stephesc

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-2A

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

SIGN NUMBER: I-1
TYPE: D
QUANTITY: See Plans

SIGN WIDTH: 42″
HEIGHT: 42″
TOTAL AREA: 12.3 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.38″
WIDTH: 0.63″
RADII: 1.5″

NO. Z BARS:
LENGTH:

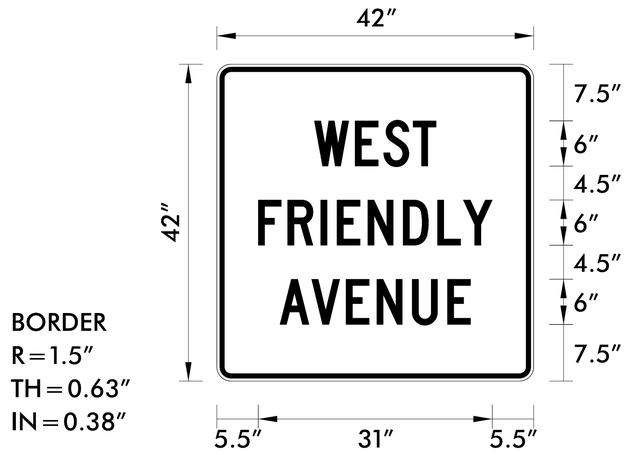
BACKG COLOR: Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES: 1,2
1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC Grade B fluorescent.

DESIGN BY: JCG
PROJECT ID: U-5841
CHECKED BY: GHM
DIV: 7
DATE: Sep 29, 2025



BORDER
R = 1.5″
TH = 0.63″
IN = 0.38″

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter positions are to the lower left corners

																									Series/Size Text Length
	W	E	S	T																					C 2000 / 6
	12.9	18.3	22.1	26																					16.1
	F	R	I	E	N	D	L	Y																	C 2000 / 6
	5.5	9.4	13.8	15.9	20	24.7	29.3	32.7																	31
	A	V	E	N	U	E																			C 2000 / 6
	8.4	12.6	17.1	21.2	25.9	30.6																			25.3

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: DocuSigned by: [signature] 6E6538F8D769C430...
DATE: 9/16/2026
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SIGN DESIGN

9/9/2026
r:\traffic\trafficcontrol\tcp\sht\U-5841_TCP_psh_P2A.dgn
stephesc

Docusign Envelope ID: FF8372DF-9B05-8065-830E-F03EE1F46FAA

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-3

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

PHASING

NOTE:

CONTRACTOR SHALL MAINTAIN ACCESS TO DRIVEWAYS FOR ALL PHASES WITHIN THE PROJECT LIMITS AND COORDINATE AS NECESSARY WITH PROPERTY OWNERS.

CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER.

PHASE I

STEP 1

A) INSTALL WORK ZONE ADVANCE WARNING SIGNS ON ALL ROADWAYS INCLUDING WEST FRIENDLY AVENUE, GREEN VALLEY ROAD, NORTH LINDELL ROAD WITHIN THE PROJECT LIMITS IN ACCORDANCE WITH NCDOT RSD 1101.01, SHEETS 2 AND 3.

⚠ COMPLETE THE WORK REQUIRED TO COMPLETE PHASE I STEP 2 IN 90 CONSECUTIVE CALENDAR DAYS. THIS CLOSURE SHALL NOT OCCUR IN AUGUST DURING THE WEEKS OF THE 23RD AND 27TH WHEN GREENSBORO SCHOOLS OPEN OR THE MONTHS OF NOVEMBER OR DECEMBER. SEE INTERMEDIATE CONTRACT TIMES AND LIQUIDATED DAMAGES.

STEP 2

A) CLOSE THE EXISTING SIDEWALK ALONG THE SOUTH SIDE OF -L- (WEST FRIENDLY AVE) PROVIDING A TEMPORARY PEDESTRIAN DETOUR USING THE EXISTING SIDEWALK ALONG THE NORTH SIDE OF -L- (WEST FRIENDLY AVE).

B) USING LAW ENFORCEMENT TO MAINTAIN TRAFFIC TRHOUGH THE -L- / -Y- INTERSECTION,INSTALL TEMPORARY SIGNALS (SEE SIGNAL PLANS) AT THE INTERSECTIONS OF -L- (WEST FRIENDLY AVE) / -Y- (NORTH LINDELL AVE) AND -L- (WEST FRIENDLY AVE) / GREEN VALLEY RD. SEE INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES. ACTIVATE THE TEMPORARY TRAFFIC SIGNALS AND CLOSE WEST FRIENDLY AVE (-L-) TO TRAFFIC USING THE OFF SITE DETOUR SHOWN ON TMP-4 AND DETAILS ON TMP-5.

C) CONSTRUCT THE CULVERT EXTENSION SOUTH OF -L- (WEST FRIENDLY AVE) AS WELL AS THE PROPOSED DRAINAGE IMPROVEMENTS AND ROAD WIDENING ALONG EASTBOUND -L- (WEST FRIENDLY AVE) STA. 16+25.00 TO -L- STA. 20+89.90 INCLUDING THE FINAL LAYER OF SURFACE COURSE AS SHOWN ON TMP-5. PLACE FINAL PAVEMENT MARKINGS FOR EASTBOUND TRAVEL LANES AND REMOVE THE TEMPORARY SHORING BEFORE PROCEEDING TO THE NEXT STEP.

D) USING FLAGGERS AND TEMPORARY LANE CLOSURES AS NECESSARY AT THE INTERSECTION OF -L- AND -Y- AS SHOWN ON TMP-5 CONSTRUCT THE CONCRETE ISLANDS AND CURB AND GUTTER ON THE SOUTH EAST QUADRANT.

E) USING LAW ENFORCEMENT TO MAINTAIN TRAFFIC THROUGH THE -L- / -Y- INTERSECTION, MODIFY TEMPORARY SIGNALS (SEE SIGNAL PLANS) AT THE INTERSECTIONS OF -L- (WEST FRIENDLY AVE) / -Y- (NORTH LINDELL AVE) AND -L- (WEST FRIENDLY AVE) / GREEN VALLEY RD.

PHASE II

A) REMOVE ALL EAST BOUND WEST FRIENDLY AVE DETOUR SIGNS AND ROAD CLOSED BARRICADES. OPEN WEST FRIENDLY AVE TO EAST BOUND TRAFFIC.

B) CLOSE THE EXISTING SIDEWALK ALONG THE NORTH SIDE OF -L- (WEST FRIENDLY AVE) PROVIDING A TEMPORARY PEDESTRIAN DETOUR USING THE NEWLY CONSTRUCTED SIDEWALK ALONG THE SOUTH SIDE OF -L- (WEST FRIENDLY AVE).

C) WITH THE WESTBOUND LANES STILL CLOSED, CONSTRUCT THE FOLLOWING AS SHOWN ON TMP-6:
-CONSTRUCT THE PROPOSED STRUCTURE IMPROVEMENTS IN THE CULVERT NORTH OF -L- (WEST FRIENDLY AVE).
-PROPOSED DRAINAGE AND CURB AND GUTTER ALONG WESTBOUND -L- (WEST FRIENDLY AVE) STA. 16+25.00 TO -L- STA. 20+17.59 INCLUDING THE FINAL LAYER OF SURFACE COURSE.
-PLACE FINAL PAVEMENT MARKINGS FOR WESTBOUND TRAVEL LANES.

D) USING FLAGGERS AND TEMPORARY LANE CLOSURES AS NECESSARY AT THE INTERSECTION OF -L- AND -Y- AS SHOWN ON TMP-6 CONSTRUCT THE CURB AND GUTTER ON THE NORTH EAST QUADRANT.

E) USING LAW ENFORCEMENT TO MAINTAIN TRAFFIC TRHOUGH THE -L- / -Y- INTERSECTION, INSTALL PERMANENT TRAFFIC SIGNALS AND REMOVE TEMPORARY SIGNALS. REMOVE ALL DETOUR SIGNS AND REOPEN WESTBOUND TRAVEL LANES TO TRAFFIC.

PHASE III

STEP 1

A) USING TEMPORARY LANE CLOSURES AND FLAGGERS AS NECESSARY TO MAINTAIN TRAFFIC PER NCDOT RSD 1101.02, SHEET 2 OF 19, PERFORM MILLING AND RESURFACING ALONG -Y- (NORTH LINDELL ROAD) STA. 10+00+/- TO -Y- STA. 11+97+/- INCLUDING THE REMAINDER OF THE INTERSECTION OF -L- AND -Y- THEN PLACE FINAL PAVEMENT MARKINGS.

STEP 2

A) REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES AND OPEN ALL TRAVEL LANES TO TRAFFIC.

REVISIONS

⚠ 2026-11-03 - REVISED ICT NO./VERBIAGE FOR TIMING OF CLOSURE

11/3/2026
R:\Traffic\TrafficControl\TCP\SHT\U-5841_TCP_psh_P3.dgn
stephesc

APPROVED: DocuSigned by: 8E63BFA0769C436...

DATE: 11/3/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SHANN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

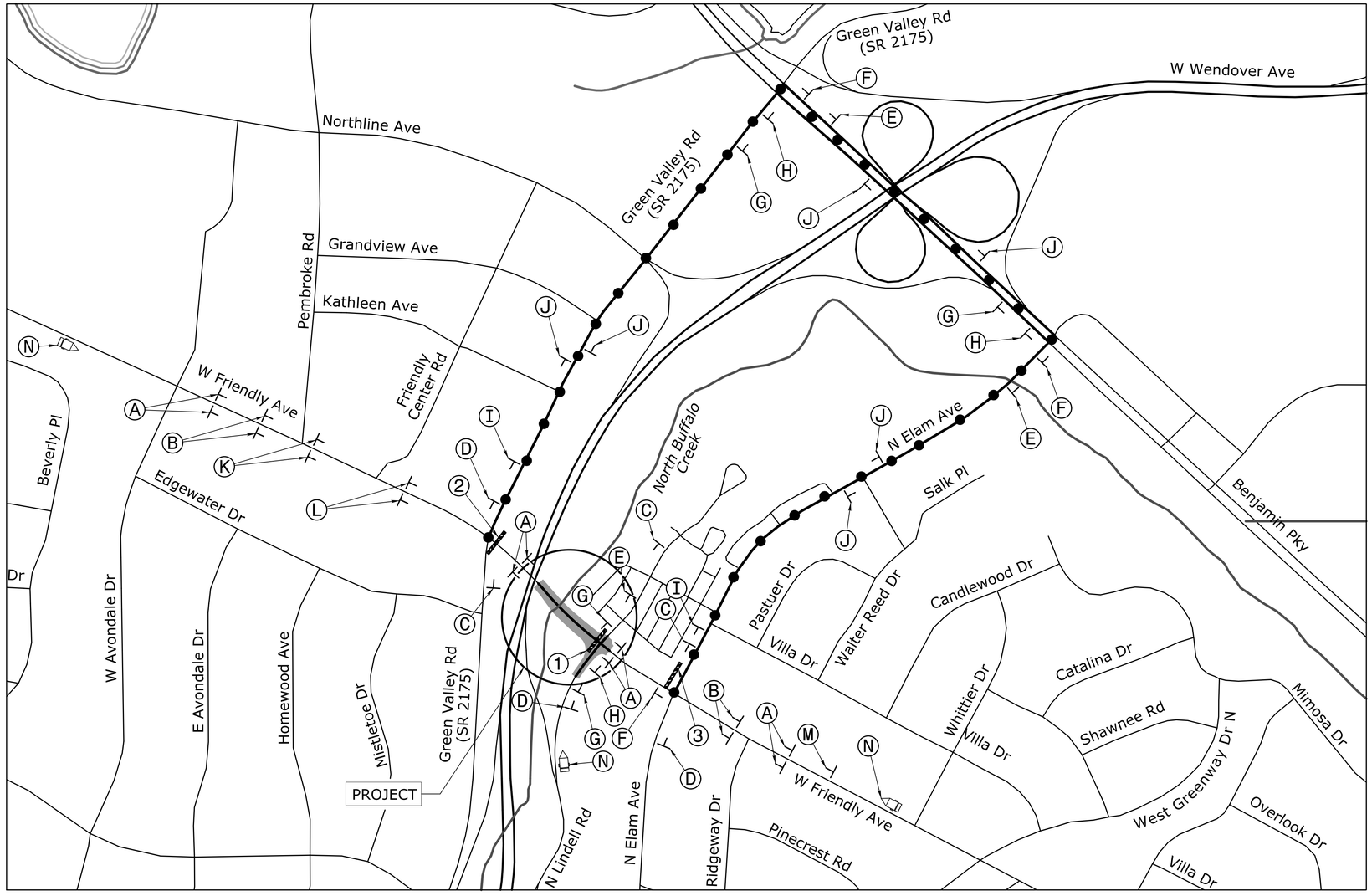
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TEMPORARY TRAFFIC CONTROL PHASING NOTES

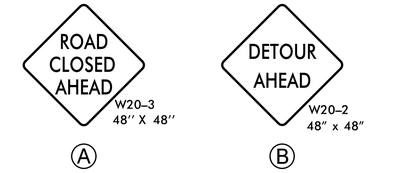
Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

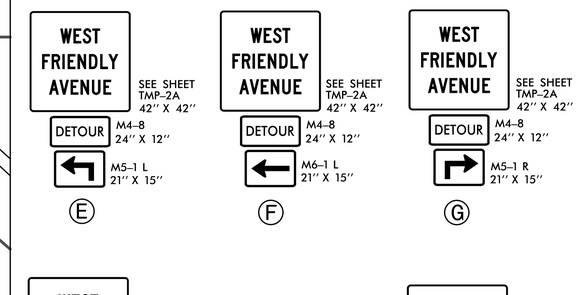
PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-4

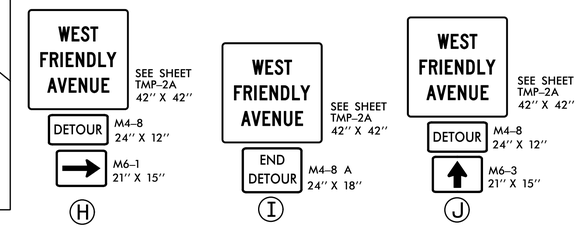
STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991



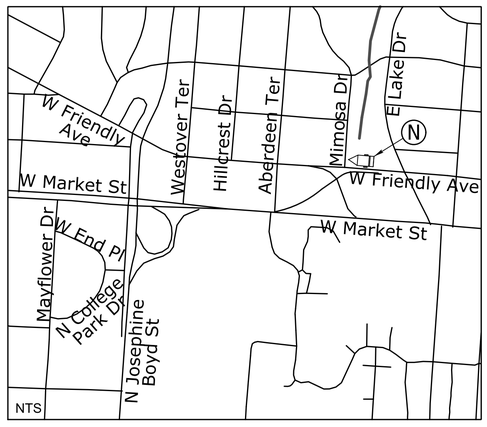
SEE INSERT A (THIS SHEET)

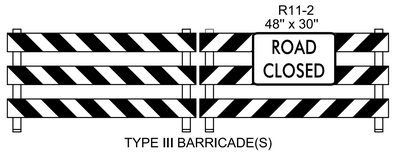


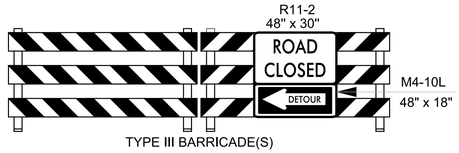


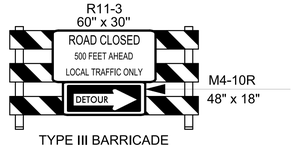


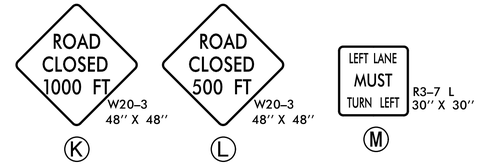
INSERT A











MESSAGE NO. 1	MESSAGE NO. 2
W FRNDLY CLOSED AHEAD	FOLLOW DETOUR ROUTE

CHANGEABLE MESSAGE SIGN
N

SEE TMP-5 FOR DETAIL PROJECT SITE BARRICADE AND SIGNAGE PLACEMENT

APPROVED: DocuSigned by: [signature] 1EE53EF4D7E8C43E...
DATE: 9/16/2026
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION MANAGEMENT PLAN OFF-SITE DETOUR

9/9/2026
r:\traffic\trafficcontrol\tcp\sht\U-5841_TCP_psh_P4.dgn
stephesc

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-5

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

50′ 0′ 50′ 100′
25′

NAD 83 NA 2011

DRUM (TYP.)

GREEN VALLEY RD.

WEST FRIENDLY AVENUE

N ELAM AVE.

NORTH LINDELL RD

MATCHLINE -L- STA. 11+00 (SEE INSERT A THIS SHEET)

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE(S)

R11-2
48" x 30"
ROAD CLOSED
DETOUR
M4-10L
48" x 18"
TYPE III BARRICADE(S)

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE(S)

R9-9
24" x 12"
SIDEWALK CLOSED
2" MAX
PEDESTRIAN BARRICADE

R11-3
60" x 30"
ROAD CLOSED
500 FEET AHEAD
LOCAL TRAFFIC ONLY
DETOUR
M4-10R
48" x 18"
TYPE III BARRICADE

R3-1
24" X 24"

W12-1
48" X 48"

R3-7 L
30" X 30"
LEFT LANE MUST TURN LEFT

INSTALL ADVANCED WARNING SIGNS PER NCDOT STD. 1101.03 SHEET 2 OF 9

REMOVE EXISTING PAVEMENT MARKING

WATER FILLED BARRIER (TYP.)
-L- STA. 16+88+/- TO STA. 20+19+/-

PROP. ARCH CULVERT EXTENSION

SEE TMP-2 FOR TEMPORARY SHORING NOTES
SEE PMP-5 FOR PAVEMENT MARKING PLANS

TEMP STEP 2D

-L- STA. 20+82+/-
-L- STA. 21+50+/-
-L- STA. 21+15+/-
-L- STA. 20+89.90
-L- STA. 20+65+/-
-L- STA. 16+25+/-
-L- STA. 12+71+/-

R9-11A
24" x 12"
SIDEWALK CLOSED
CROSS HERE
2" MAX
PEDESTRIAN BARRICADE

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE(S)

R9-9
24" x 12"
SIDEWALK CLOSED
2" MAX
PEDESTRIAN BARRICADE

R9-9
24" x 12"
SIDEWALK CLOSED
2" MAX
PEDESTRIAN BARRICADE

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE(S)

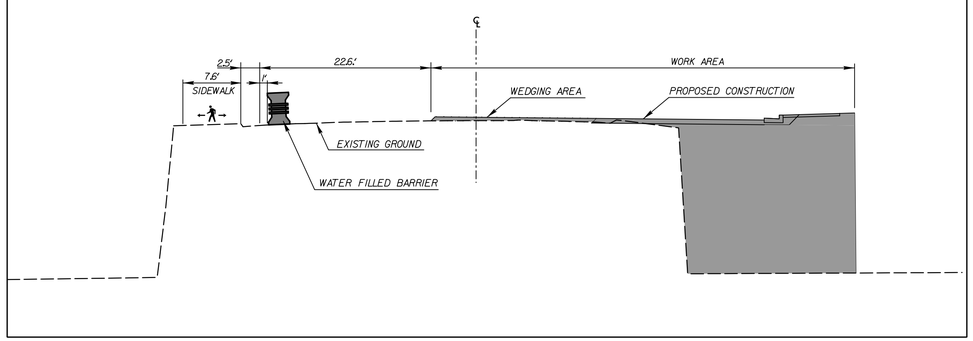
R9-11
24" X 12"
SIDEWALK CLOSED AHEAD
CROSS HERE
2" MAX
PEDESTRIAN BARRICADE

-Y- STA. 11+92+/-
-Y- STA. 12+39+/-

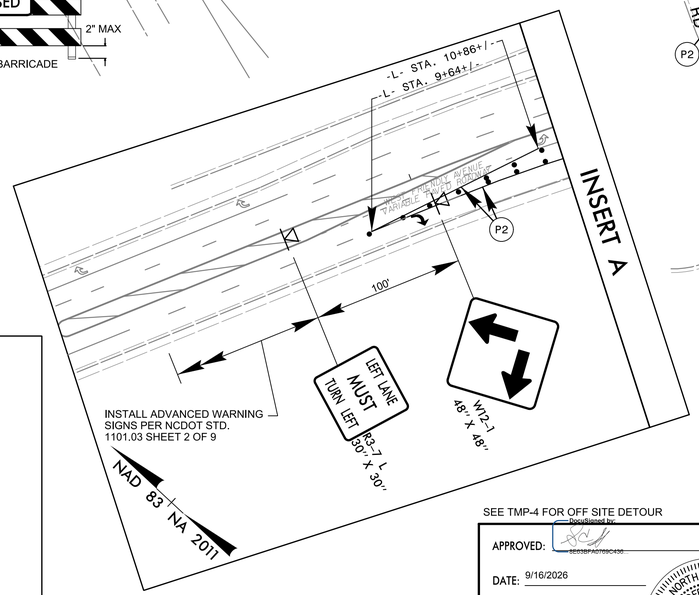
R3-2
24" X 24"

P2 P61 P71 P72

SECTION A-A -L- STA. 17+85.15



INSERT A



SEE TMP-4 FOR OFF SITE DETOUR

APPROVED: Docusigned by: SE635FA2C705C430...

DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION MANAGEMENT PLAN PHASE I- STEP 2 DETAILS

9/9/2026
R:\U-5841\Traffic\TrafficControl\TCP\SHT\U-5841_TCP_psh_P5.dgn
tstephens

Docusign Envelope ID: 6E905067-8B11-8F39-81D5-B121A0A5A981

PROJ. REFERENCE NO.	SHEET NO.
U-5841	TMP-6

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

NAD 83 / NA 2011

50′ 0′ 50′ 100′
25′

R11-2
48" x 30"
ROAD CLOSED
TYPE III BARRICADE(S)

R9-9
24" x 12"
SIDEWALK CLOSED
2" MAX
PEDESTRIAN BARRICADE

R9-11A
24" x 12"
SIDEWALK CLOSED
CROSS HERE
2" MAX
PEDESTRIAN BARRICADE

DRUM (TYP.)

CONSTRUCT USING FLAGGERS
-L- STA. 20+17.59
-L- STA. 20+90+/-
R3-1
24" X 24"
-L- STA. 20+82+/-
CONSTRUCT USING FLAGGERS
-L- STA. 20+64+/-

R9-11
24" X 12"
SIDEWALK CLOSED AHEAD
CROSS HERE
2" MAX
PEDESTRIAN BARRICADE

LAKE DANIEL GREENWAY

CONTRACTOR TO COORDINATE WITH GREENSBORO PARKS AND RECREATION TO HAVE LAKE DANIEL GREENWAY SPECIFIC SIGNAGE ADDED WITH THIS SIGN

GREEN VALLEY RD.

WEST FRIENDLY AVENUE

-L- STA. 16+25+/-

N ELAM AVE.

12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00

B B

TEMP

P46 101' TYP

CONTRACTOR TO COORDINATE WITH GREENSBORO PARKS AND RECREATION TO HAVE LAKE DANIEL GREENWAY SPECIFIC SIGNAGE ADDED WITH THIS SIGN

M4-9B
30" x 24"
DETOUR
2" MAX
PEDESTRIAN BARRICADE

R11-3
60" x 30"
ROAD CLOSED
500 FEET AHEAD
LOCAL TRAFFIC ONLY
DETOUR
M4-10R
48" x 18"
TYPE III BARRICADE

NORTH LINDELL RD.

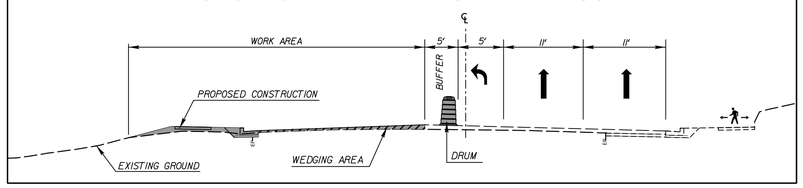
-Y-

20' TYP

DRUM (TYP.)

R3-2
24" X 24"

SECTION B-B -L- STA. 17+00



NOTE: SEE PMP-3 FOR FINAL PAVEMENT MARKING CONFIGURATION.

CONTRACTOR INSTALL NEW PEDESTRIAN CROSSWALK SIGNAGE PER SIGNING SHEET PMP-5.

APPROVED: DocuSigned by: SEE3BFA0769C436...

DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C STEPHENS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TRANSPORTATION MANAGEMENT PLAN PHASE II DETAILS

9/9/2026
U:\stv\projects\u-5841\trafficcontrol\tcp\sht\U-5841_TCP_psh_P6.dgn
stephesc

Docusign Envelope ID: DC1A4E62-6163-8EB4-8343-089122CF2E82

8/17/99

TIP PROJECT: U-5841

CONTRACT: DG00682

TIP NO.	SHEET NO.
U-5841	PMP-1

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

9/16/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING & SIGNING PLANS
GUILFORD COUNTY

LOCATION: SR 2147 WEST FRIENDLY AVENUE FROM EAST OF GREEN VALLEY ROAD TO NORTH LINDELL ROAD IN GREENSBORO

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING & SIGNING PLAN COVER SHEET
PMP-2	PAVEMENT MARKING SCHEDULE & SIGNING QUANTITIES
PMP-3 AND PMP-3A	SIGN DESIGNS
PMP-4	PAVEMENT MARKING & SIGNING DETAIL SHEET

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
903.10	GROUNDED MOUNTED SIGN SUPPORTS
904.10	ORIENTATION OF GROUNDED MOUNTED SIGNS
904.50	MOUNTING OF TYPE "D", "E", AND "F" SIGNS ON "U" CHANNEL POSTS
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

PAVEMENT MARKING 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 DIRECTED BY THE ENGINEER.

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

ROAD NAME	MARKING	MARKER
WEST FRIENDLY AVE. [L]	THERMOPLASTIC	NONE
LINDELL RD. [Y]	THERMOPLASTIC	NONE

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

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

D) STOP BARS AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY ENGINEER.

SIGNING GENERAL NOTES

A) SIGNS FURNISHED BY THE STATE.

B) IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONSTRUCTION SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.

C) SIGNING PLANS DO NOT INCLUDE TEMPORARY PAVEMENT MARKINGS OR TEMPORARY CONSTRUCTION SIGNING. SEE TRANSPORTATION MANAGEMENT PLANS.

D) WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER.

E) WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS,THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.

F) THE BACKGROUND FOR TYPE "E" SIGNS SHALL BE TYPE "C" REFLECTIVE SHEETING.

PLAN PREPARED BY:
STV Engineers, Inc.

SEAN C. STEPHENS, PE TRAFFIC ENGINEER

CLARK GROVES TRANSPORTATION DESIGNER

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

9/3/2026
11:36:26 AM
R:\Greenway\Proj\PMP\SHT\U5841_rdg_PMP-1.dgn
stephens

Docusign Envelope ID: DC1A4E62-6163-8EB4-8343-089122CF2E82

8/17/99

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

TIP NO.	SHEET NO.
U-5841	PMP-2

APPROVED: _____

DATE: _____

SEAL



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
	THERMOPLASTIC (4″, 90 MIL)
T2	WHITE SOLID LANE LINE
T3	10 FT. WHITE SKIP
T4	3 FT.- 9 FT./ SP WHITE MINISKIP
T5	2 FT.- 6 FT./ SP WHITE MINISKIP
T10	YELLOW EDGE LINE
T13	YELLOW DOUBLE CENTER
	THERMOPLASTIC (8″, 90 MILS)
T40	WHITE GORE LINE
T41	WHITE DIAGONAL
T42	YELLOW DIAGONAL
T46	WHITE CROSSWALK LINE
	THERMOPLASTIC (24″, 90 MIL)
T61	WHITE STOP BAR
	THERMOPLASTIC PAVEMENT MARKING SYMBOLS (90 MILS)
T70	LEFT TURN ARROW
T71	RIGHT TURN ARROW
T74	COMBO STRAIGHT / RIGHT
	THERMOPLASTIC HEATED-IN-PLACE (90 MILS)
T94	SHARROWS
	THERMOPLASTIC PAVEMENT MARKING CHARACTERS (90 MILS)
T100	ALPHANUMERIC CHARACTERS

SUMMARY OF SIGN QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LBS STEEL U-CHANNEL	140	L.F.
4096000000	904	SIGN ERECTION, TYPE D	2	EA.
4102000000	904	SIGN ERECTION, TYPE E	6	EA.
4238000000	907	DISPOSAL OF SIGN, D, E OR F	5	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	5	EA.
4237000000	907	STOCKPILE SIGN, D, E OR F	1	EA.
4957000000	1264	OBJECT MARKERS (TYPE 1)	1	EA.

9/17/2026
R:\Projects\Proj\PMP\SHT\U5841_rdy_PMP-2.dgn
stephens

Docusign Envelope ID: DC1A4E62-6163-8EB4-8343-089122CF2E82

PROJ. REFERENCE NO.	SHEET NO.
U-5841	PMP-3

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

SIGN NUMBER: 1
TYPE: D
QUANTITY: 1

SIGN WIDTH: 6′-6″
HEIGHT: 2′-6″
TOTAL AREA: 16.25 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.00″
WIDTH: 0.75″
RADII: 2.25″

NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White/White

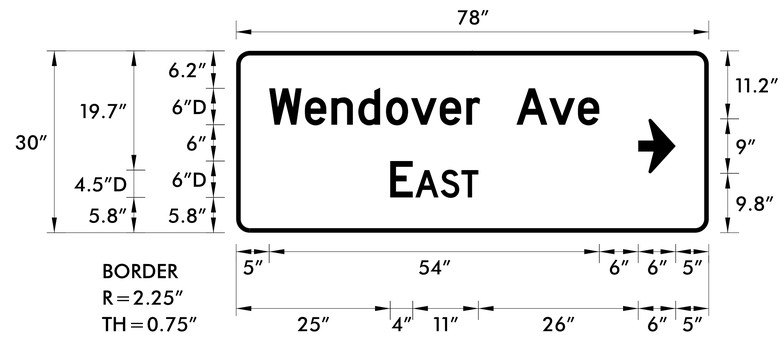
SYMBOL	X	Y	WID	HT
ARDOWN	66.4	9.8	9	6.2

MAT′L: 0.125″ (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be NC Grade C reflective sheeting.

DESIGN BY: JCT
CHECKED BY: GAM
PROJECT ID: U-5841
DIV: 7
DATE: April 7, 2021



Spacing Factor is 0.7 unless specified otherwise

LETTER POSITIONS

Letter positions are to the lower left corners from panel edge

																										Series/Size Text Length
		W	e	n	d	o	v	e	r		A	v	e													D 2000 / 6 / 4.5 54.5
	0	5.5	11.3	15.7	20.2	24.7	28.9	33.6	38	40.3	46.3	51.7	56.4	59.9												
		E	A	S	T																					D 2000 / 6 , 4.5 14.6
	0	25.4	29.6	33.8	37.2	40																				

NORTH CAROLINA D.O.T. SIGN DETAIL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: DocuSigned by: [signature] DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER JOHN C. STEPHENS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SIGN DESIGN

9/3/2026
R:\Traffic\Signing\CADD\Sign Designs\U-5841_Sign_Sht_3.dgn
stephesc

Docusign Envelope ID: DC1A4E62-6163-8EB4-8343-089122CF2E82

PROJ. REFERENCE NO.	SHEET NO.
U-5841	PMP-4

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

SIGN NUMBER: 1
TYPE: I
QUANTITY: 1

BACKG COLOR: Green
COPY COLOR: White/White

SYMBOL	X	Y	WID	HT

SIGN WIDTH: 5′-0″
HEIGHT: 1′-6″
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: FLUSH
RECESS: 0.00″
WIDTH: 0.75″
RADII: 1.50″

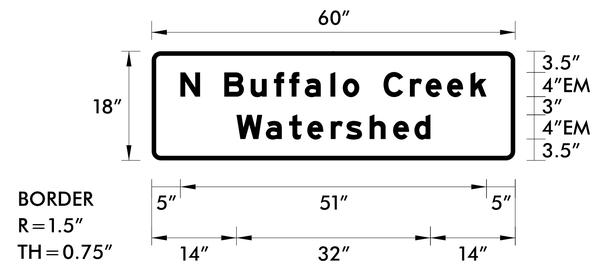
MAT′L: 0.125″ (3.2 mm) ALUMINUM

NO. Z BARS:
LENGTH:

USE NOTES: 1,2

1. Legend and border (except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be NC Grade C reflective sheeting.

DESIGN BY: JCT
CHECKED BY: GAM
PROJECT ID: U-5841
DIV: 7
DATE: April 8, 2021



Spacing Factor is 0.7 unless specified otherwise

LETTER POSITIONS

Letter positions are to the lower left corners from panel edge

																											Series/Size Text Length
		N		B	u	f	f	a	l	o		C	r	e	e	k											EM 2000 / 4 / 3 50.5
	0	4.7	8	12	16.3	20.2	22.7	25.3	29.5	31.5	34.3	38.3	42.6	45.2	48.7	52.6	55.2										
		W	a	t	e	r	s	h	e	d																	EM 2000 / 4 / 3 32
	0	14	18.8	22.7	25.7	29.6	32.1	36	39.8	43.4	46																

NORTH CAROLINA D.O.T. SIGN DETAIL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: DocuSigned by: [signature] 8E63BF9D769C430... DATE: 9/16/2026

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER SEAN C. STEPHENS

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

SIGN DESIGN

9/3/2026
R:\Traffic\Signing\CADD\Sign Designs\U-5841_Sign_Sht_4.dgn
stephesc

Docusign Envelope ID: DC1A4E62-6163-8EB4-8343-089122CF2E82

8/17/99

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

TIP NO.	SHEET NO.
U-5841	PMP-5

APPROVED: _____

DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 043891 ENGINEER STEPHEN G. STEPHENS
9/16/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 / 2011

BEGIN T3 & T13
PAVEMENT MARKINGS T1E TO EXIST
–L– STA. 16+25.00

17+00 18+00 19+00 20+00

W11-2 24" X 24" — REMOVE EXISTING

RETAIN EXISTING Adopt a Stream (GET_OUTDOORS, LLC)

OM1-3 -L- STA. 20+82 +/-

R4-7 24" X 30" — REPLACE EXISTING

RETAIN EXISTING MARKINGS

RETAIN EXISTING STOPBAR

END T2 & T11
PAVEMENT MARKINGS T1E TO EXIST
–L– STA. 20+89.90

END T2 –L– STA. 19+93 +/-
END T13 –L– STA. 19+83 +/-
END T42 –L– STA. 17+47 +/-
END T4 –L– STA. 17+91 +/-
BEGIN T40 –L– STA. 18+00 +/-
END T2/ BEGIN T40 –L– STA. 19+70 +/-
BEGIN T4 –L– STA. 16+35 +/-
BEGIN T4 –L– STA. 16+76 +/-
END T4 –L– STA. 18+09 +/-
BEGIN T2 –L– STA. 18+18 +/-
–L– STA. 19+78 46'+/– RT
BEGIN T2 & T11 –L– STA. 20+82 +/- 10+00
BEGIN T2 & T43 –Y– STA. 10+48 +/-
BEGIN T13 –Y– STA. 10+58 +/-
END T40 –Y– STA. 10+60 +/- 11+00

–L– WEST FRIENDLY AVE

T13 T3 T13 T61 T46 T2 T5 T94 T71 T70 T40 T41 T42 T4

W16-7P 24" X 12" — -L- STA. 19+74 +/- -L- INSTALL DURING PHASE II STA. 19+84 +/- -L- INSTALL DURING STEP 1; SEE SHEET TMP-6

W1-2 36" X 36" — -L- STA. 19+82 +/-

R10-6 24" X 36" — STOP HERE ON RED — REMOVE EXISTING

R1-2 36" X 36" X 36" — -L- STA. 20+00 +/- INSTALL DURING PHASE I STEP III; SEE SHEET TMP-5

YIELD

-L- STA. 17+13 +/- — RELOCATE EXISTING Adopt a Stream (GET_OUTDOORS, LLC)

-L- STA. 17+40 +/- — REPLACE EXISTING N BUFFALO CREEK WATERSHED D 60" X 18"

-L- STA. 19+22 +/- — Wendover Ave East D 78" X 30" — REPLACE EXISTING SIGN ON POLE

-Y- N LINDELL RD ONLY ONLY T100 T100 T74 T70 T70 T2 T2 T13

10' 10' 11' 11' 12'

1. -L- STA. 19+84+/- (53.8' RT) TYPE 1A
2. -L- STA. 20+04+/- (37.5' RT) ISLAND
3. -L- STA. 20+72+/- (35' RT) TYPE 2A
4. -L- STA. 20+73+/- (38.8' LT) TYPE 2A
5. -L- STA. 20+05+/- (38.1' LT) TYPE 4

END T2 & T13
PAVEMENT MARKINGS T1E TO EXIST
–Y– STA. 11+96.73

GRAPHIC SCALE PLAN
20' 0' 20' 40'
8'

SEE PMP–2 FOR PAVEMENT MARKING SCHEDULE

PAVEMENT MARKING & SIGNING DETAIL SHEET

8/3/2026
R:\Projects\Projects\Proj\PMP\SHT\U5841_rdy_PMP-5.dgn
stephens