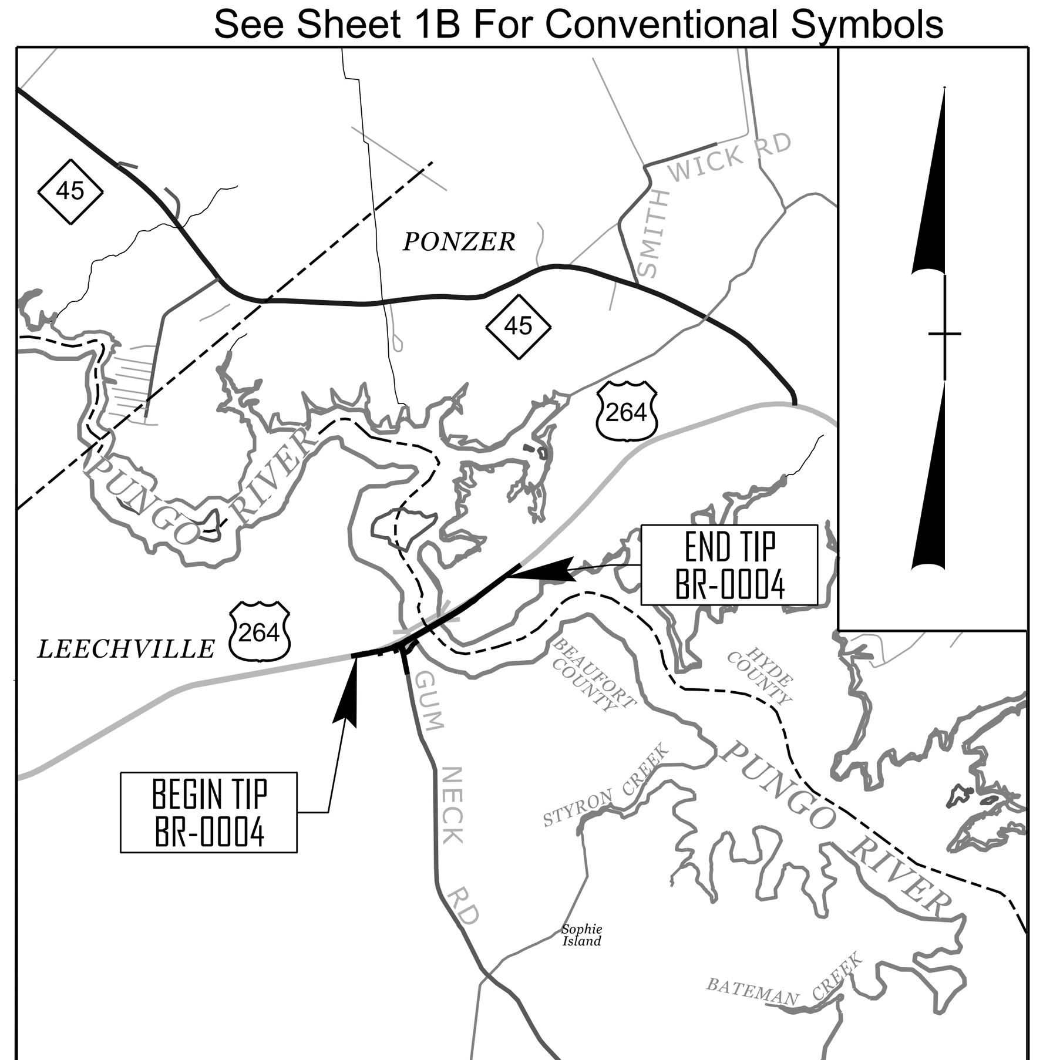
11/14/23

TIP PROJECT: BR-0004

CONTRACT: C205106

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

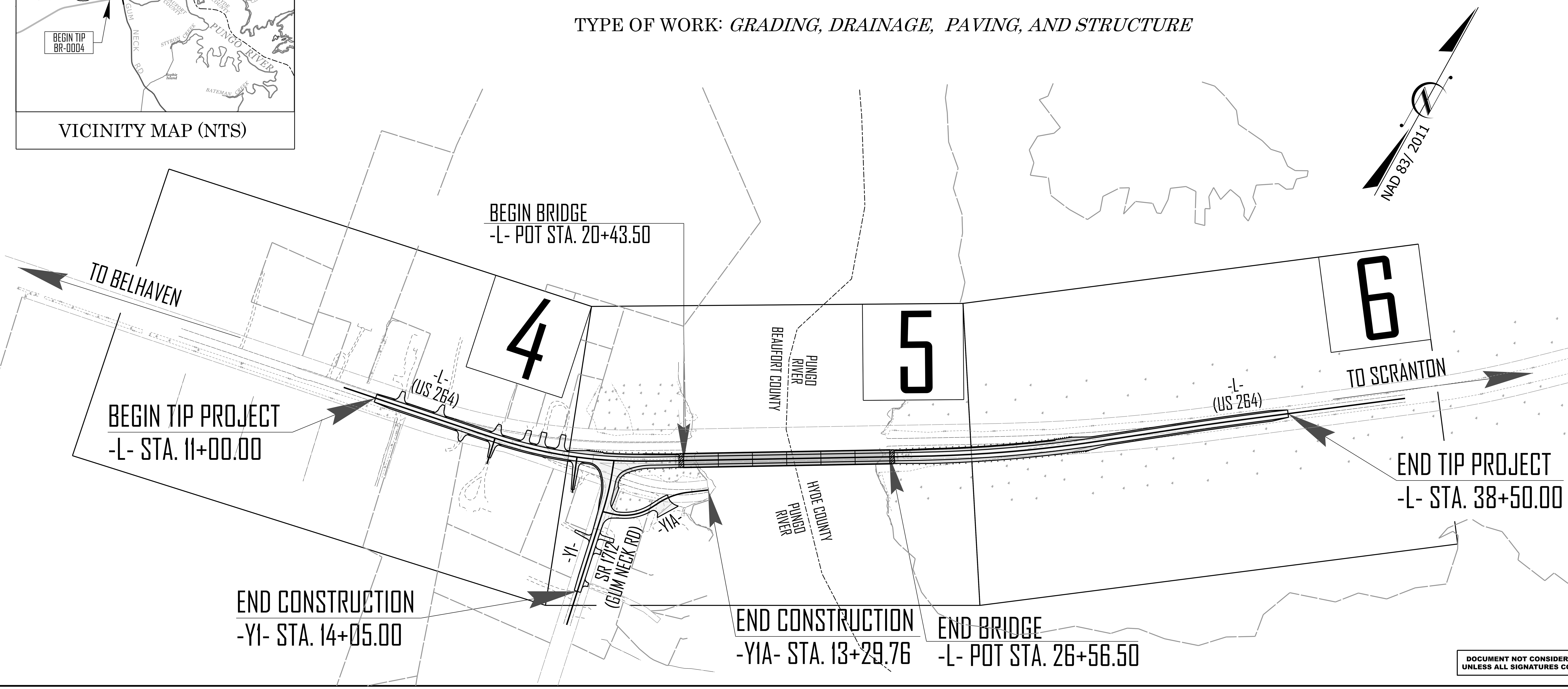
BEAUFORT & HYDE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0004	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
67004.1.1	N/A	P.E.
67004.2.1	N/A	ROW
67004.2.2	N/A	UTIL.
67004.3.1	N/A	CONST.

LOCATION: *BRIDGE NO. 66 ON US. 264 OVER PUNGO RIVER*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2026 = 2,815
ADT 2045 = 3,800
K = 9 %
D = 55 %
T = 17 % *
V = 60 MPH
(* TTST 3% + DUAL 14%)
FUNC CLASS = RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BR-0004 = 0.405 MILES

LENGTH STRUCTURE TIP PROJECT BR-0004 = 0.116 MILES

TOTAL LENGTH TIP PROJECT BR-0004 = 0.521 MILES

NCDOT CONTACT: CATHRINE A. HOSSACK, PE
PROJECT MANAGER

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
DECEMBER 19, 2024

LETTING DATE:
MAY 19, 2026

DOMENIC A. COLETTI, PE
PROJECT ENGINEER

JORDAN C. BOND, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SEAL
SIGNATURE: 4/13/2026 P.E.

ROADWAY DESIGN ENGINEER

SEAL
SIGNATURE: P.E.

4/13/2026

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

INTRANET/JBOND - 4/13/2026

BR-0004
IA

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

4/13/2026

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B-1 THRU 2B-2	ROADWAY DETAILS
2C-1 THRU 2C-6	SPECIAL DETAILS
3B-1 THRU 3B- 3	ROADWAY SUMMARIES
3D-1	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEET
4 THRU 9	PLAN AND PROFILE SHEET
RW-1 THRU RW-6	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENT AND PROPERTY TIES
TMP-1 THRU TMP-10	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THUR PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-10	EROSION CONTROL PLANS
RF-1 THRU RF-3A	REFORESTATION PLANS
SIGN-1 THRU SIGN-6	SIGNING PLANS
UC-1 THRU UC-4	UTILITY CONSTRUCTION PLANS
UO-1 THRU UO-4	UTILITY BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEET
X-2 THRU X-33	CROSS-SECTIONS
S-1 THRU S-44	STRUCTURE PLANS

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

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.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 & 560.02

SIDE ROADS:

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

SUBSURFACE DRAINS:

SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.

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".

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CHARTER, BRIGHTSPEED

TIDELAND EMC, PINTECH, BEAUFORT COUNTY WATER

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

EFF. 08-11-2025
REV. 11-26-2025

2024 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 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
235.01	Embankment Monitoring
275.01	Rock Plating
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Detail in Lieu of Standards for Sheets 1, and 2 of 2)
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
423.02	Bridate Approach Fills - Type 1A Alternate Approach Fill for Integral Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Grated Drop Inlet Type 'D' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement (Use Detail in Lieu of Standards for Sheets 4, 6, and 11 of 15)
862.02	Guardrail Installation
862.03	Structure Anchor Units (Use Detail in Lieu of Standards for Sheets 8 of 9)
876.02	Guide for Rip Rap at Pipe Outlets

05/20/24

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

BR-0004 | 1B

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
- 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.

11/14/23

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	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.	E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	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 TO EXCEED 2″ IN DEPTH.	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 5½″ IN DEPTH.
C3	PROP. APPROX. 1.25″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	J	6″ AGGREGATE BASE COURSE
D1	PROP. APPROX. 4″ ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	R1	CONCRETE SHOULDER BERM GUTTER
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 2½″ IN DEPTH OR GREATER THAN 4″ IN DEPTH.	T	EARTH MATERIAL.
		U	EXISTING PAVEMENT.
		W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL).

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

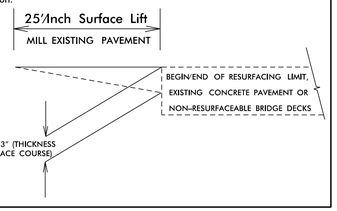
MILLING AT PAVEMENT TIE–INS

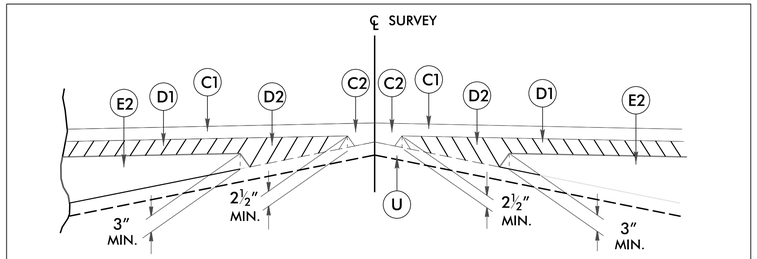
NOTES TO CONTRACTOR

For surface mixes over 1" in thickness, mill the existing pavement in accordance with the following sketch as directed by the Engineer.

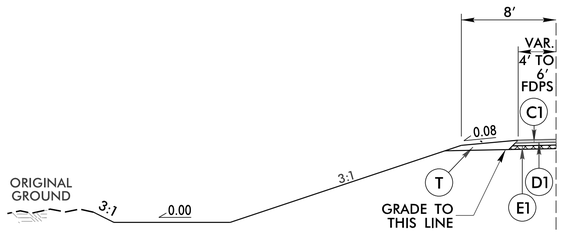
Locations shall include ties into existing concrete pavement, at bridge approaches where the bridge will not be resurfaced, and at the beginning and ending point of each resurfacing limit.

Perform the work in accordance with Section 607 of the January 2024 North Carolina Department of Transportation Standard Specifications for Roads and Structures. Resurfacing will be accomplished at the same time as the milling operation.



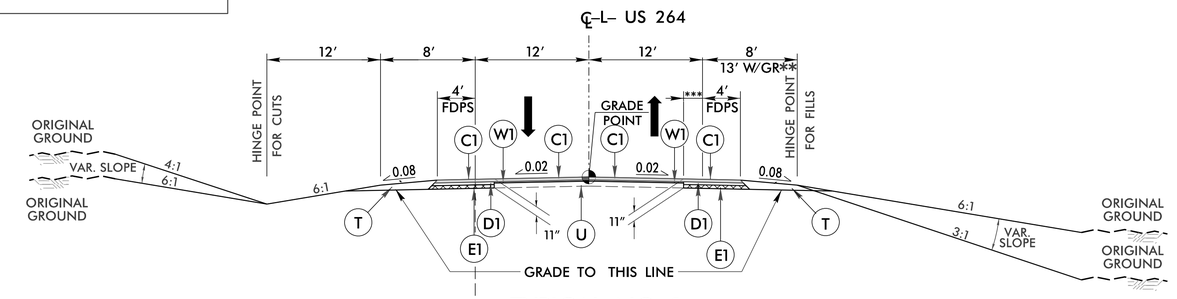


W1: Detail Showing Method of Wedging FOR –L–



TYPICAL NO. 1A

–L– LT STA. 32+40.33 TO 35+23.00



TYPICAL NO. 1

–L– STA. 11+00.00 TO 15+26.64

–L– STA. 32+40.30 TO 38+50.00

** GUARDRAIL LOCATIONS (SEE SHEET 3B–2 FOR MORE DETAIL
–L– RT STA 32+40.30 TO 32+46.75

*** REMOVE 2′ OF OUTSIDE EXISTING ASPHALT SHOULDER FROM STA 11+00.00 TO 15+26.64 AND REPLACE WITH FULL DEPTH PAVEMENT

REVISIONS

BR-0004

2A-1

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOYD

4/13/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049501 ENGINEER ANDREW D. WARD

4/13/2026

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PREPARED BY

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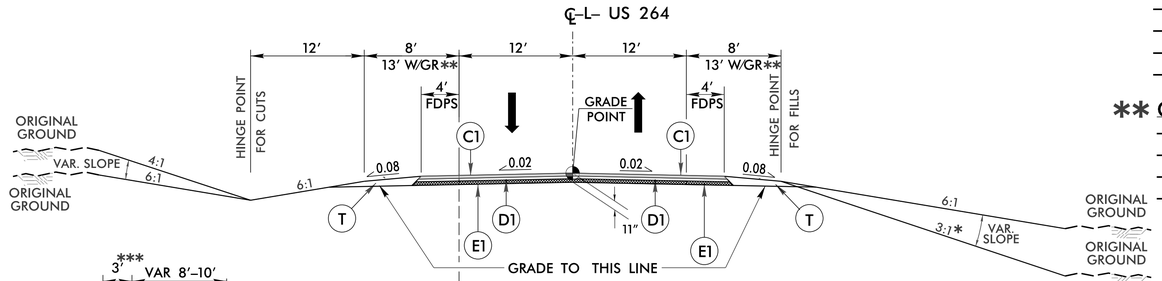
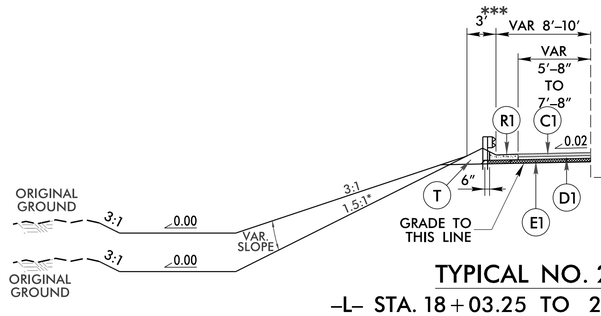
555 Fayetteville St. Suite 500 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



TYPICAL NO. 2

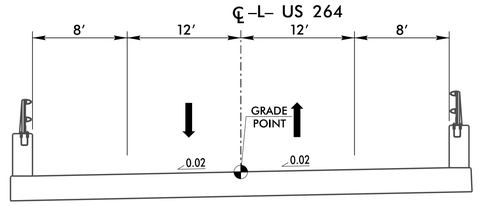
–L– STA. 15+26.64 TO 20+43.50 (BEGIN BRIDGE)
–L– STA. 26+56.50 (END BRIDGE) TO 27+96.17



TYPICAL NO. 2A

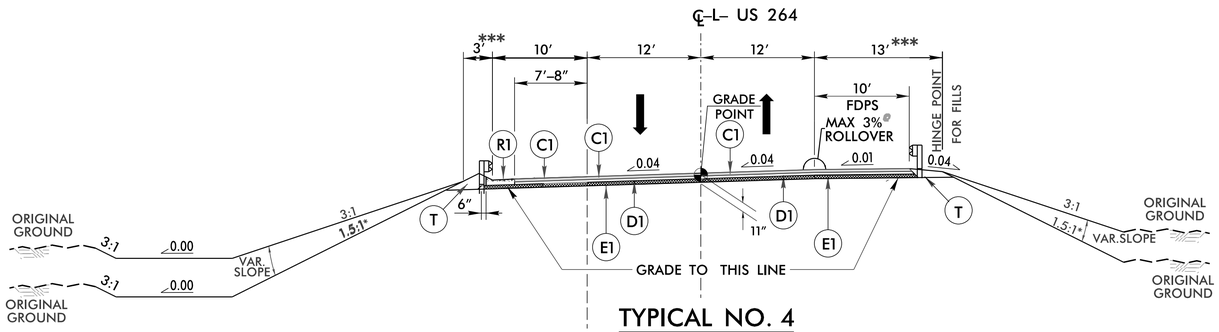
–L– STA. 18+03.25 TO 20+43.50 LT
–L– STA. 26+56.50 TO 27+96.17 LT

*** 3.5′ IN LOCATION WITH ROCK PLATING



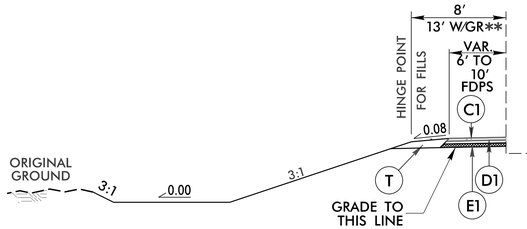
TYPICAL NO. 3

–L– STA. 20+43.50 TO 26+56.50
SEE STRUCUTRE PLANS FOR CONSTRUCTION DETAILS



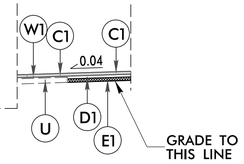
TYPICAL NO. 4

–L– STA. 27+96.17 TO 32+40.30



TYPICAL NO. 4A

–L– STA. 31+53.00 TO 32+40.30 LT



TYPICAL NO. 4B

–L– STA. 32+00.06 TO 32+40.30

*** 3.5′ LT / 13.5′ RT IN LOCATION WITH ROCK PLATING

@ SEE NOTES ON PLAN SHEETS 5 & 6 FOR LIMITS OF ROTATION AND TRANSITIONS

✱ SLOPES STEEPER THAN 2.5:1 WITH ROCK PLATING:

–L– LT STA 19+25.00 TO 20+43.50
–L– RT STA 19+75.00 TO 20+43.50
–L– LT STA 26+56.50 TO 30+25.00
–L– RT STA 26+56.50 TO 31+25.00

✱✱ GUARDRAIL LOCATIONS (SEE SHEET 3B–2 FOR MORE DETAIL

–L– LT STA 17+53.25 TO 20+40.75
–L– RT STA 19+18.32 TO 20+40.75
–L– LT STA 26+59.25 TO 32+03.00
–L– RT STA 26+59.25 TO 32+40.30

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	3″ S9.5C
C2	VAR. S9.5C
C3	1.25″ S9.5B
D1	4″ I19.0C
D2	VAR. I19.0C
E1	4″ B25.0C
E2	VAR. B25.0C
R1	CONC. SHLD. BERM GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT

BR-0004
2A-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. ROYD
4/13/2026

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 049501 ENGINEER ANDREW D. VARGO
4/13/2026

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PREPARED BY

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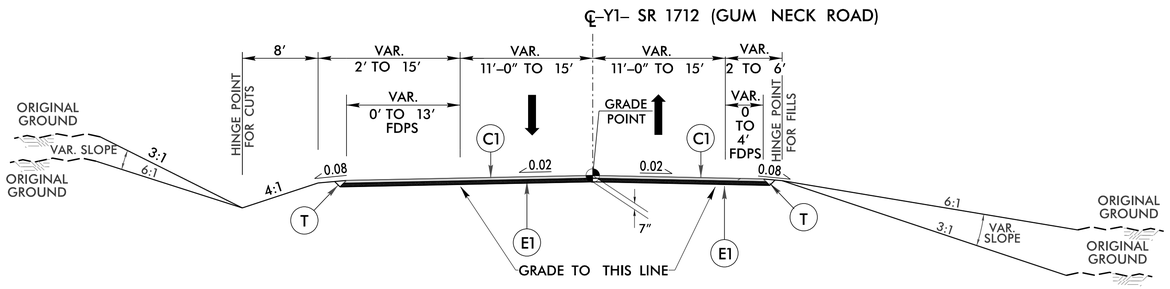
N.C.B.E.L.S. License Number: F-0116

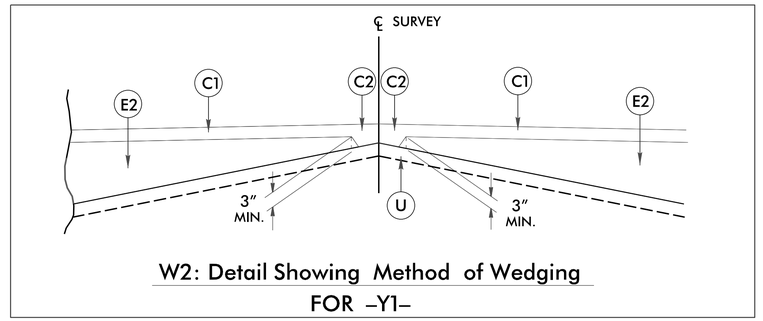
REVISIONS

11/14/23

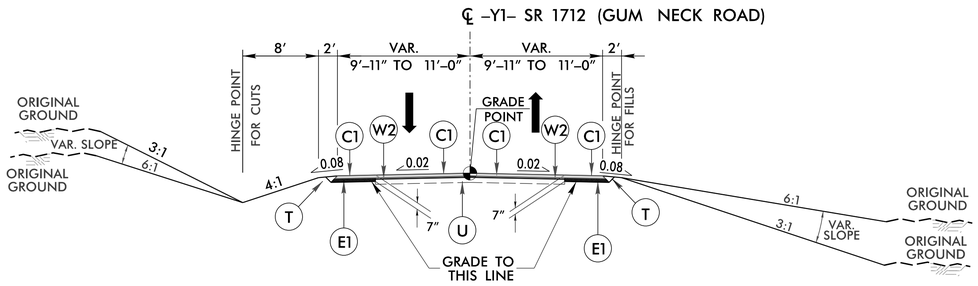


TYPICAL NO. 5

–Y1– STA. 10+12.07 TO 12+30.00

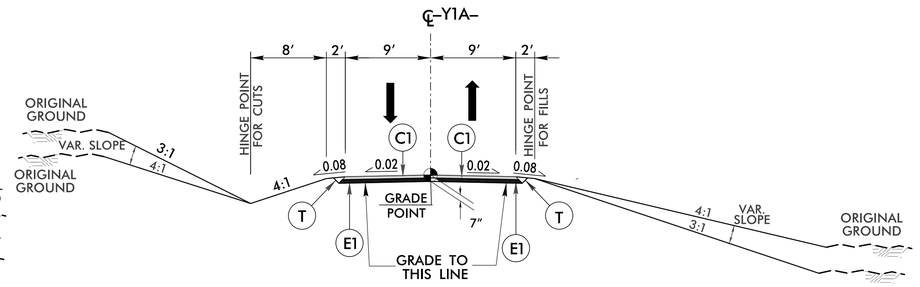


W2: Detail Showing Method of Wedging FOR –Y1–



TYPICAL NO. 6

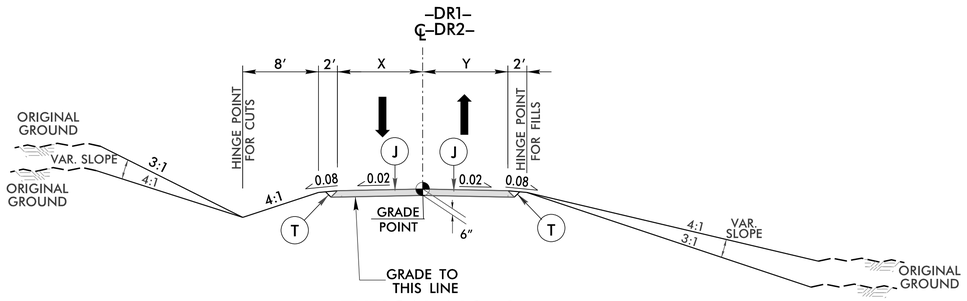
–Y1– STA. 12+30.00 TO 14+05.00



TYPICAL NO. 7

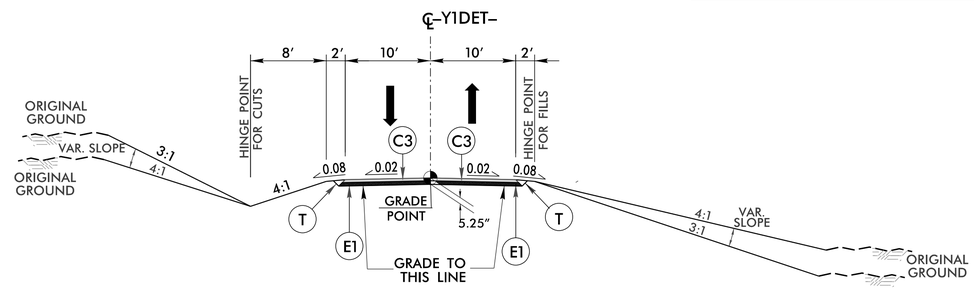
–Y1A– STA. 10+13.85 TO 12+09.00

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5C
C2	VAR. S9.5C
C3	1.25″ S9.5B
D1	4″ I19.0C
D2	VAR. I19.0C
E1	4″ B25.0C
E2	VAR. B25.0C
J	6″ ABC
R1	CONC. SHLD. BERM GUTTER
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	VAR. DEPTH ASPHALT PAVEMENT



TYPICAL NO. 8

–DR1– STA. 10+16.00 TO 10+60.00 4′–6″ TO 8′–0″ 4′–8″ TO 8′–0″
–DR2– STA. 10+16.00 TO 10+97.39 4′–6″ TO 8′–0″ 4′–6″ TO 8′–0″



TYPICAL NO. 8

–Y1DET– STA. 10+08.10 TO 12+08.72

BR-0004

2A-3

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. ROYD

4/13/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 049610 ENGINEER ANDREW D. VARGO

4/13/2026

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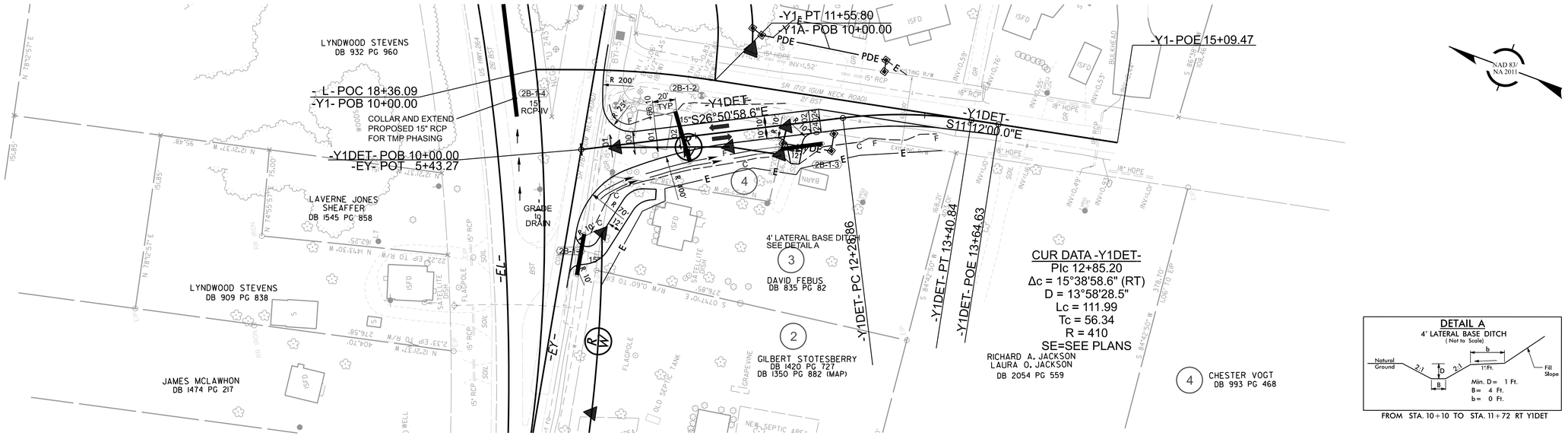
PREPARED BY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 600 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS



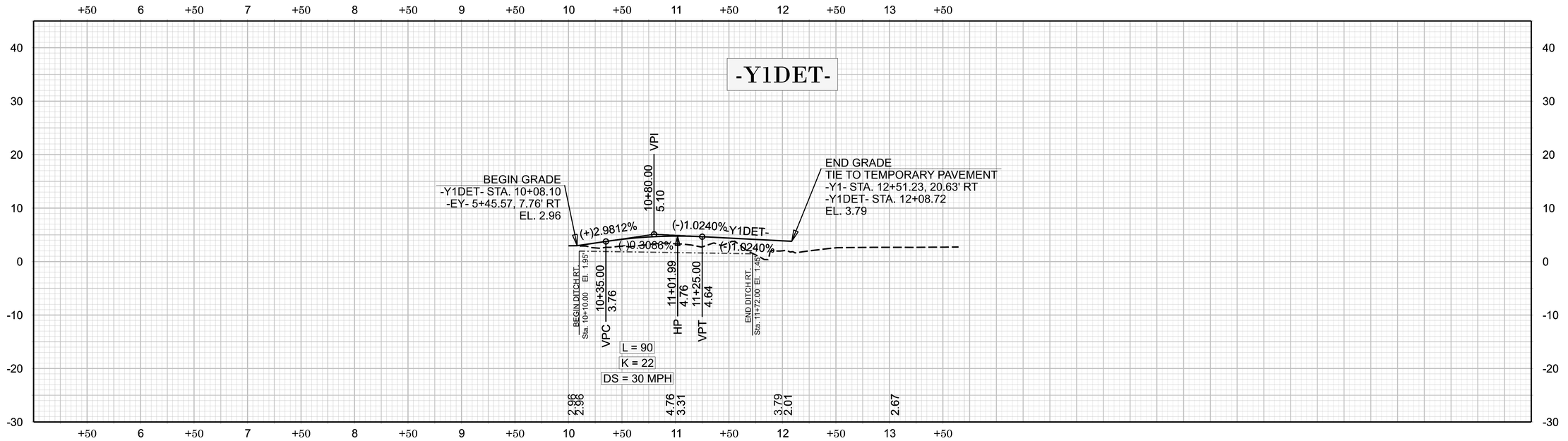
CUR DATA -Y1DET-

PIc 12+85.20
Δc = 15°38'58.6" (RT)
D = 13°58'28.5"
Lc = 111.99
Tc = 56.34
R = 410
SE=SEE PLANS

DETAIL A

4' LATERAL BASE DITCH
(Not to Scale)

FROM STA. 10+10 TO STA. 11+72 RT Y1DET



BR-0004
2B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN
ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOND
4/13/2026

HYDRAULICS
ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 053077 ENGINEER MICHAEL J. MCMANAMAY
4/13/2026

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555 Fayetteville St. Suite 600 Raleigh, N.C. 27601
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REVISIONS

11/14/23

WETLAND GRADING BETWEEN –L– AND –Y1A DETAIL

-L- POC 18+36.09
-Y1- POB 10+00.00

-L- POC 17+25.45
-DR2- POB 10+00.00

-L- CS 18+55.07

-L- ST 19+99.07

BEGIN APPROACH SLAB
-L- STA 20+29.50

BEGIN BRIDGE
-L- STA 20+43.50

NAD 83
NA 2011

US HWY.264
26' BST

SR 1787 (GUM NECK ROAD)

-DR2-
S21°14'51.0"E

-Y1-
S19°56'40.0"E

-Y1- PC 10+33.70

-DR2- POE 11+06.78

-Y1- PT 11+55.80
-Y1A- POB 10+00.00

-Y1A-
N74°31'10.4"E

-Y1A- PC 10+30.39

-L- +61.09
44.77 (RT)

-L- +94.46
64.89 (RT)

-L- +22.14
59.65 (RT)

-L- +38.68
44.95 (RT)

-L- +76.15
53.47 (RT)

-L- +03.98
47.14 (RT)

-Y1- +80.48
54.17 (LT)

-Y1A- +76.58
16.59 (LT)

-Y1A- +71.69
21.49 (LT)

-Y1A-
N54°22'59.4"E

-Y1A-
N28°40'10.3"E

-Y1A PC 11+78.78

-Y1A- PT 11+50.42

-Y1A- PT 12+68.54

EXCAVATE ROADBED TO EXISTING WETLAND ELEVATIONS AND GRADE TO DRAIN
EST DDE = 850 CY

END CONSTRUCTION
-Y1A- POE 13+29.76

20 10 0 20 40
GRAPHIC SCALE

FOR ROADWAY PLAN, SEE SHEET 5

BR-0004
R/W | 2B-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOYD
4/13/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 053877 ENGINEER MICHAEL J. MCMANAMAY
4/13/2026

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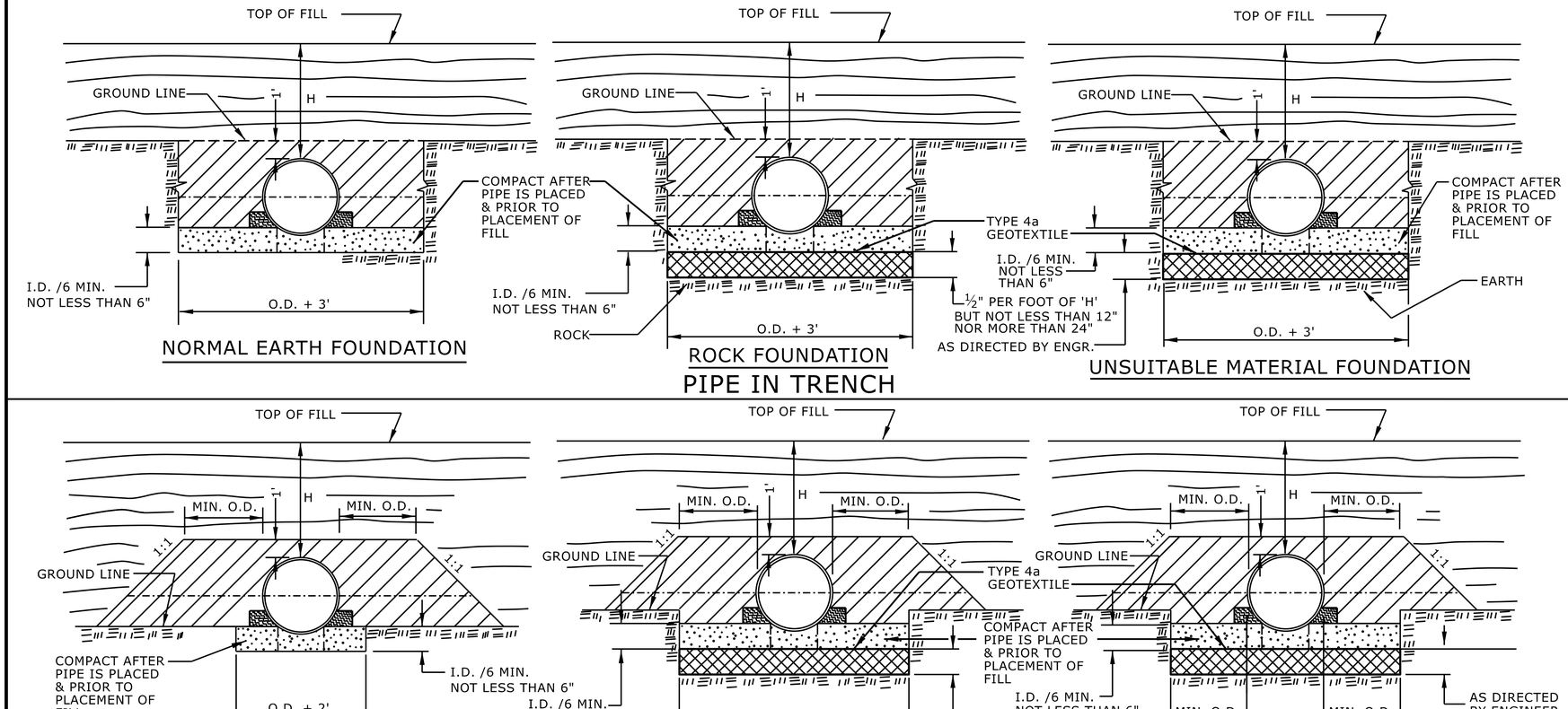

GENERAL NOTES:

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
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 2

300.01

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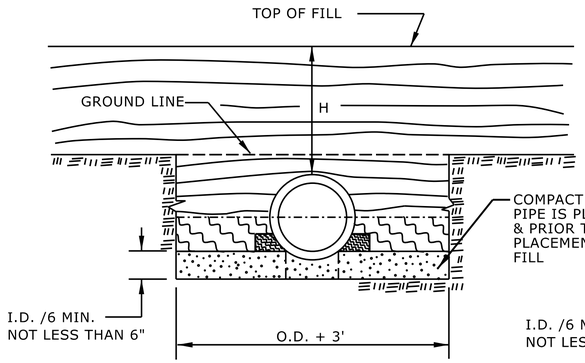
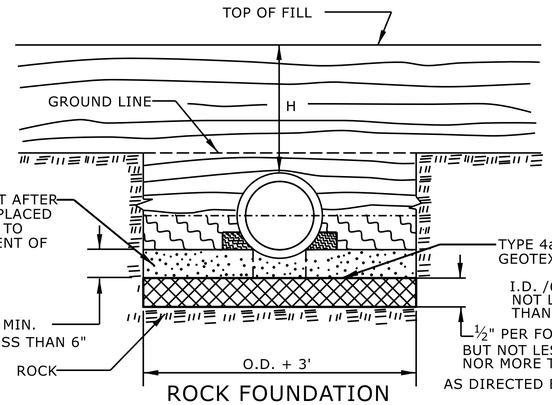
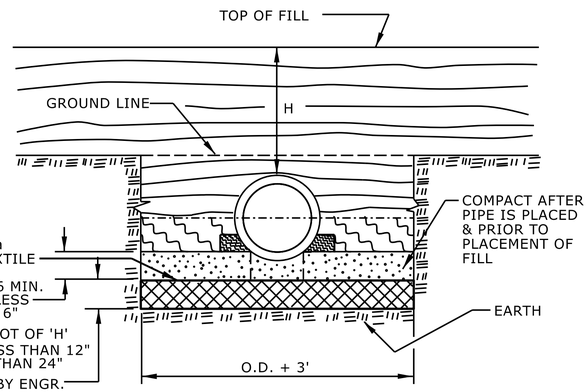


NORMAL EARTH FOUNDATION

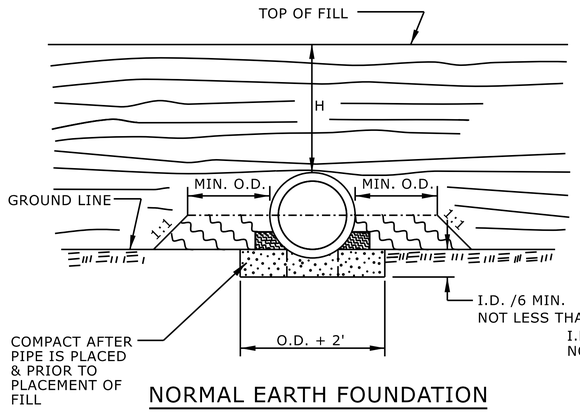


ROCK FOUNDATION

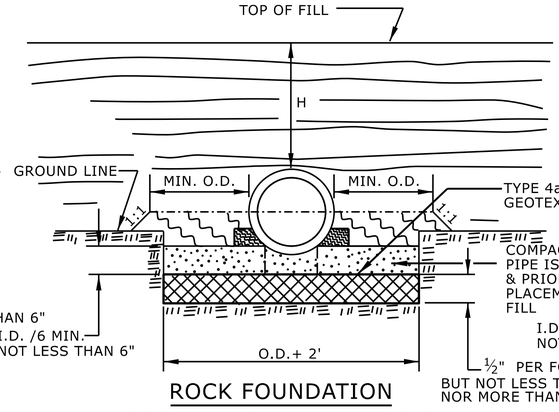


UNSUITABLE MATERIAL FOUNDATION

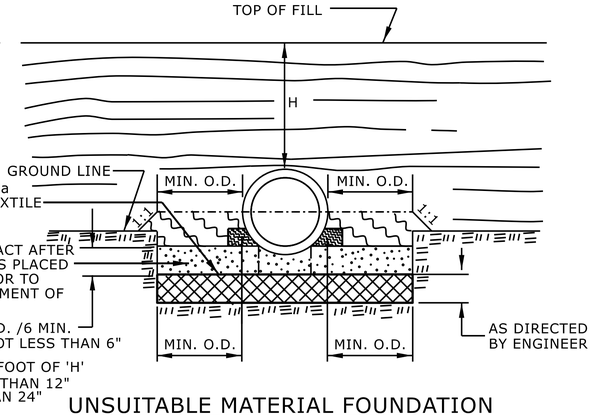
PIPE IN TRENCH



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
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR

METHOD OF PIPE INSTALLATION

RIGID PIPE

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER NICOLE M. HACKLER
4/14/2026

SHEET 2 OF 2

300.01

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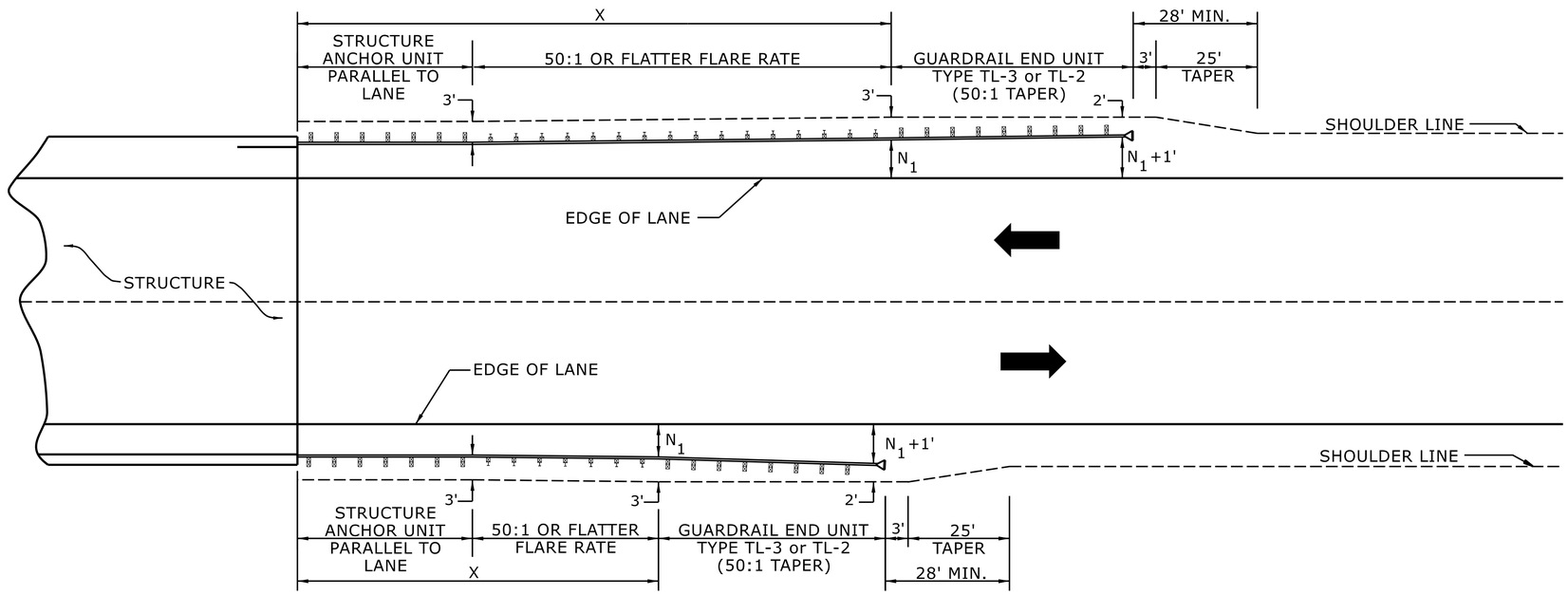

USE FLARE RATE AS THE CONTROL IF THE "N_1" DISTANCE IS NOT OBTAINED.
("N_1" IS BASED ON SHOULDER WIDTHS IN THE ROADWAY DESIGN MANUAL)

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

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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 4 OF 15

862D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033144 NICOLE M. HACKLER
4/14/2026

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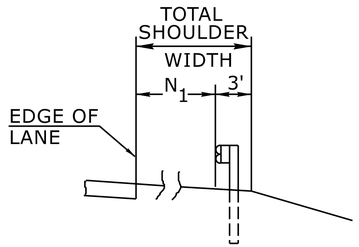
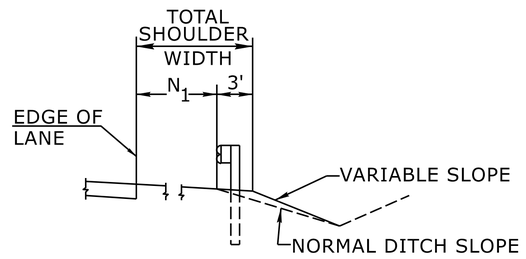
BR-0004	2C-4

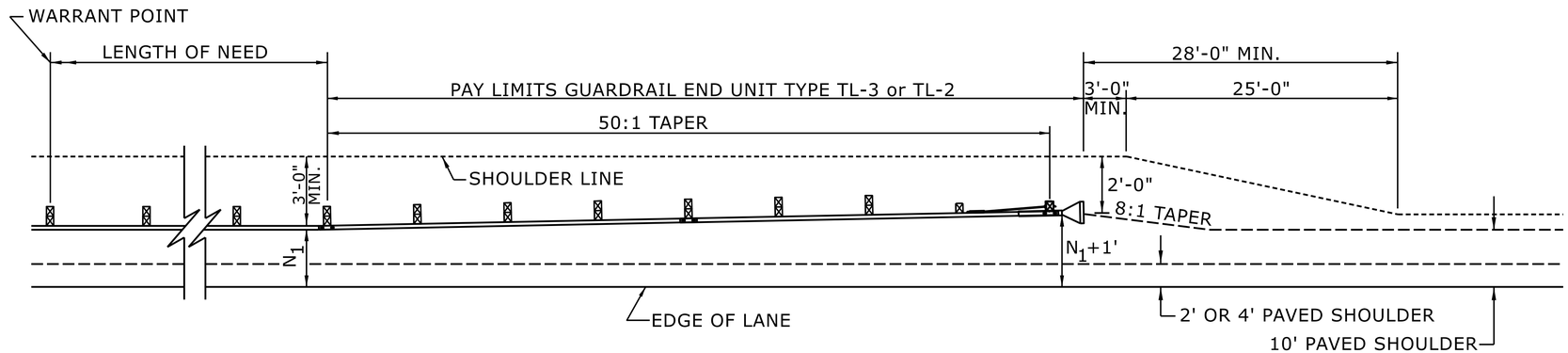


FILL SECTION



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

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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 6 OF 15

862D01

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033144
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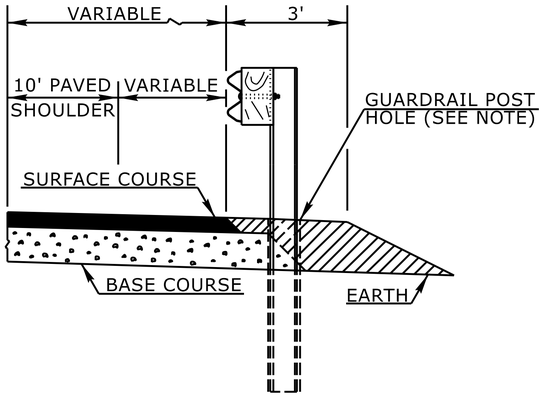
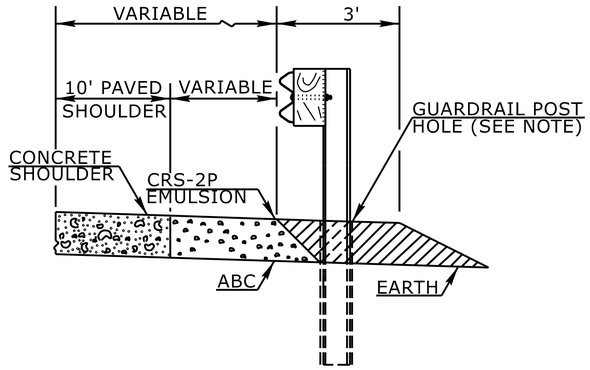
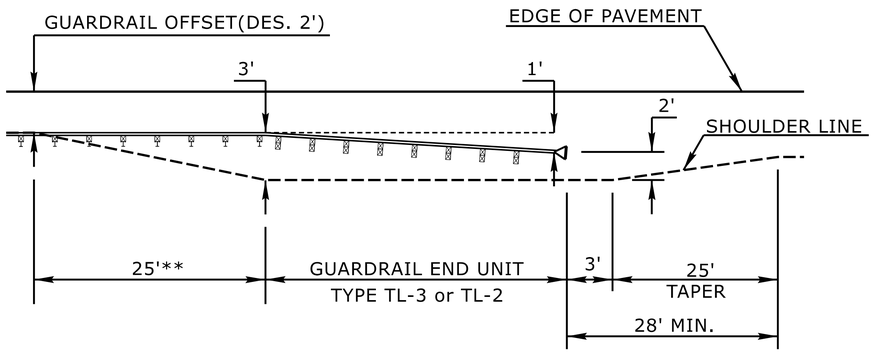


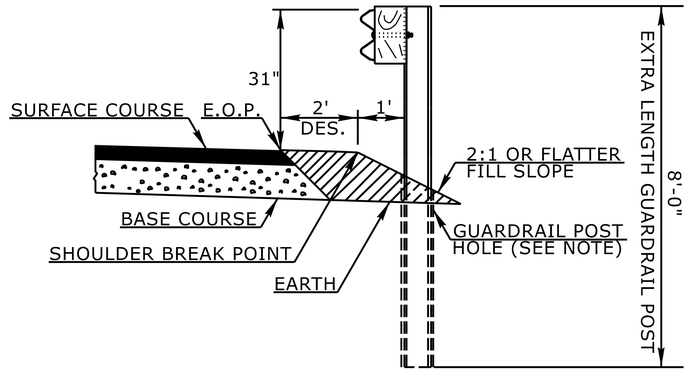
FLEXIBLE PAVED SHOULDER



CONCRETE PAVED SHOULDER



8' GUARDRAIL POST ON 2:1 SLOPE-END UNIT TRANSITION*
PLAN VIEW



8' GUARDRAIL POST ON 2:1 SLOPE*

* THE 8' GUARDRAIL POST ON 2:1 SLOPE DETAIL IS INTENDED FOR USE ONLY IN SEVERELY CONSTRAINED AREAS WITH A POSTED SPEED ≤ 60 MPH. GUARDRAIL END UNITS MAY NOT BE PLACED ON THE 2:1 SLOPE AND MUST TRANSITION TO THE SHOULDER.
** 8' GUARDRAIL POST SHOULD BE USED IN THIS RANGE

NOTE:
WHEN WOODEN GUARDRAIL POSTS ARE USED, DRILL HOLES THROUGH EARTH MATERIAL AND BASE COURSE.THE POST MAY THEN BE DRIVEN TO THE PROPER DEPTH. DRILL THE HOLE OF SUFFICIENT SIZE TO ACCOMMODATE THE PARTICULAR POST BEING USED. BACKFILL AND TAMP HOLES USING THE EXCAVATED MATERIAL.

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ROADWAY DETAIL DRAWING FOR
GUARDRAIL PLACEMENT

SHEET 11OF 15

862D01

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033144 NICOLE M HACKLER
4/14/2026

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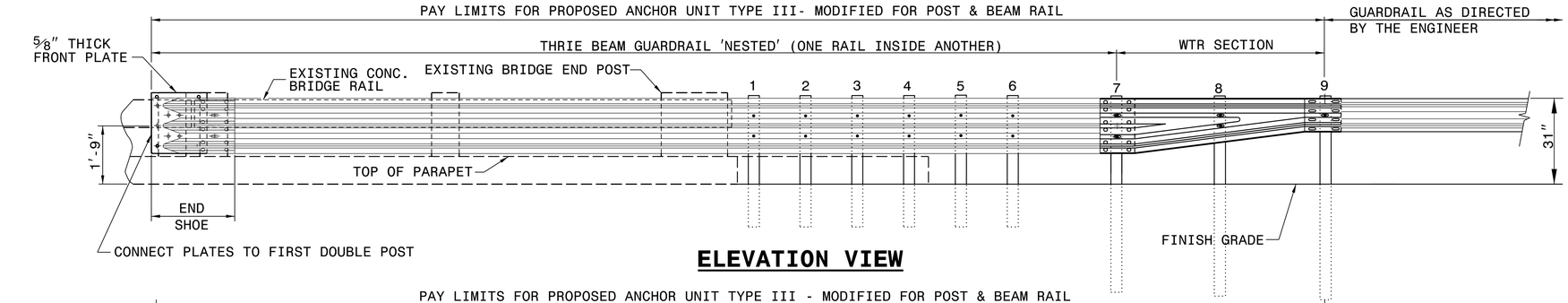
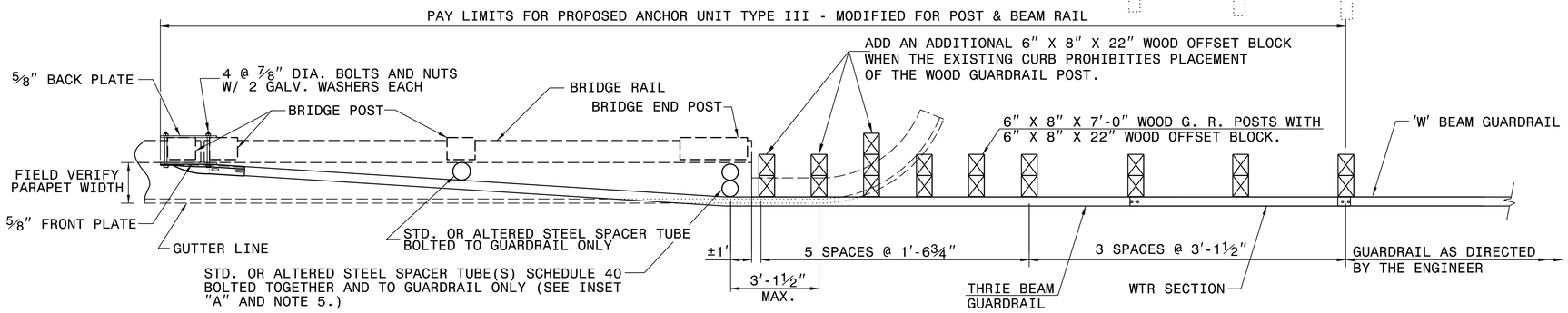
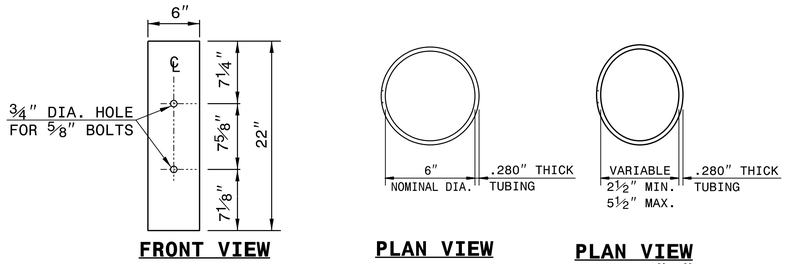
BR-0004	2C-6



ELEVATION VIEW

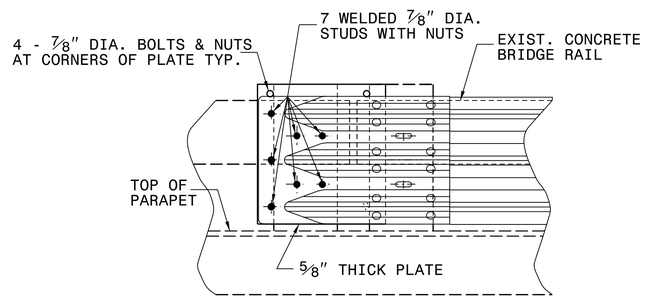


PLAN VIEW

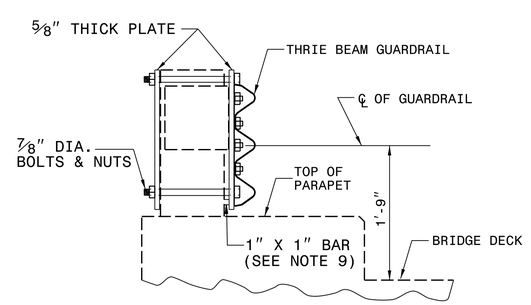


FRONT VIEW **PLAN VIEW** **PLAN VIEW INSET "A"**

STEEL SPACER TUBE



ELEVATION VIEW



SECTION VIEW

GENERAL NOTES:

1. USE NUTS, BOLTS, AND WASHERS CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-307 AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
2. TAP NUTS FOR THE 7/8" DIA. STUDS AND BOLTS AFTER GALVANIZING SEE A.S.T.M. A-563.
3. USE PLATES AND TUBES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 1076 OF STAND. SPECS.
4. ADDITIONAL FIELD HOLES MAY BE DRILLED IN STEEL RAIL AS DIRECTED BY THE ENGINEER.
5. INSTALL FACE OF GUARDRAIL AS NEAR AS POSSIBLE TO PLUMB WITH THE PARAPET FACE AT BRIDGE END POST SPACER TUBE LOCATION BY USING STANDARD OR ALTERED SPACER TUBES OR A COMBINATION THEREOF OR AS DIRECTED BY THE ENGINEER. FOR VERY SMALL PARAPET WIDTHS, GUARDRAIL MAY BE INSTALLED AGAINST BRIDGE RAIL WITHOUT SPACER TUBES.
6. DO NOT DRILL BRIDGE RAIL IN ORDER TO INSTALL GUARDRAIL ANCHOR UNIT.
7. USE THIS DETAIL ONLY FOR BRIGES WITH POST AND BEAM TYPE RAIL.
8. ATTACH 1" X 1" BAR AND THREADED STUDS TO PLATE WITH 1/4" WELDS ALL AROUND.
9. 1" X 1" BAR MAY NOT BE NEEDED ON BRIDGE RAILS WHERE FACE OF RAIL DOES NOT PROJECT BEYOND FACE OF POST.
10. PROVIDE SHOP DRAWINGS OF THE PLATES TO THE ENGINEER FOR APPROVAL BEFORE FABRICATING THE PLATES.
11. LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
12. SEE ROADWAY STANDARD DRAWING 862.03 FOR ADDITIONAL INFORMATION ON THE TYPE III ANCHOR UNIT

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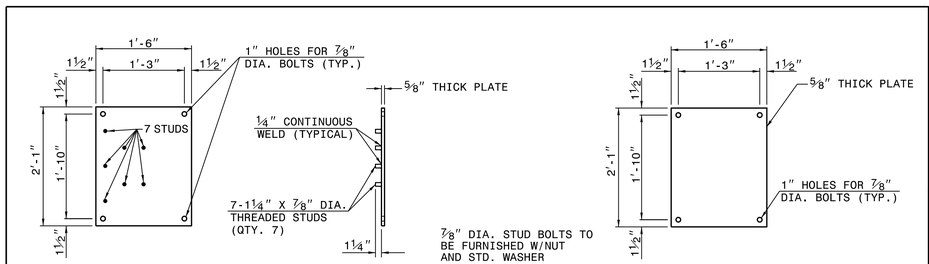

FRONT VIEW **SIDE VIEW** **BACK PLATE**

FRONT PLATE

BRIDGE PLATES

NORTH CAROLINA PROFESSIONAL SEAL 033144 ENGINEER GILLIAM M. HACKLE

4/14/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TYPE III MODIFIED FOR POST AND BEAM RAIL

ORIGINAL BY: E.E. WARD DATE: 01-03
MODIFIED BY: K.D. Aldridge DATE: 07-25
CHECKED BY: DATE:
FILE SPEC.: s:details\stand\bpiii originial.dgn

06-AUG-2025 16:02
S:\Plan Review Group\Nguyen\Kevin\Guardrail Special Details Revisions\Revised Details\CADD Files\bp iii original.dgn
$$$$USERNAME$$$$

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

COMPUTED BY: JCB DATE: 3/9/2026

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.
SUMMARY 1							
-L-	11+00.00	20+43.00	249	1,400	6,465	6,216	1,400
-Y1-	10+12.07	14+05.00	116		3,432	3,316	
-Y1A-	10+13.85	12+09.00	17		709	692	
-Y1DET-	10+08.10	13+11.84	57		477	420	
SUBTOTAL			**439**	**1,400**	**11,083**	**10,644**	**1,400**
SUMMARY 2							
-L-	26+57.00	38+50.00	70		8,017	7,947	
SUBTOTAL			**70**		**8,017**	**7,947**	
SUMMARY 3							
-L-	14+50.00	20+43.00	2,950				2,950
-Y1DET- REMOVAL			367				367
SUBTOTAL			**3,317**				**3,317**
SUMMARY 4							
-L-	26+56.50	34+00.00	2,513				2,513
SUBTOTAL			**2,513**				**2,513**
SHEET TOTALS			**6,339**	**1,400**	**19,100**	**18,591**	**7,230**
SELECT GRANULAR MATERIAL MODIFIED CLASS III					**-3,315**	**-3,315**	
ADDITIONAL UNDERCUT PER GEOTECH				**1,100**			**1,100**
MATERIAL FOR SHOULDER CONSTRUCTION					**662**	**662**	
EARTH WASTE IN LIEU OF BORROW							
PROJECT TOTAL			**6,339**	**2,500**	**16,447**	**15,938**	**8,330**
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						**797**	
GRAND TOTAL			**6,339**			**16,735**	
SAY			**6,340**	**2,500**		**17,000**	

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.

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

DRAINAGE DITCH EXCAVATION = 850 C.Y.
CONTINGENCY ITEMS PER GEOTECHNICAL RECOMMENDATIONS:
SHALLOW UNDERCUT = 250 C.Y.
CLASS IV SUBGRADE STABILIZATION = 500 C.Y.

REVISIONS

11/14/23

BR-0004
3B-2
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

COMPUTED BY: KSH DATE: 2/6/26
CHECKED BY: JCB DATE: 2/6/26

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

GUARDRAIL SUMMARY

"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 TL-3 or TL-2
NG = NON-GATING IMPACT ATTENUATOR TL-3 or TL-2

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		SINGLE FACED CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	REMOVE & STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	Type III	B-77	GREU TL-3	GREU TL-2	CAT-1	AT-1	Type III MOD	B-77 SC	G	NG				
-L-	17+53.25	20+40.75	LT	287.50				19+25.00	10	13		50		1	1		1										Use 8' posts in rock plating locations
-Y1-/-L-	10+77.96	20+40.75	LT/RT	175.00	50.00		19+75.00		9	12	6.25		4		1					1							Use 8' posts in rock plating locations
-L-	26+59.25	32+03.00	LT	543.75			30+25.00		10	13	50		1		1		1										Use 8' posts in rock plating locations
-L-	26+59.25	32+46.75	RT	587.50				31+25.00	10	13		50		1	1		1										Use 8' posts in rock plating locations
TOTALS				1593.75	50										4		3			1							
DEDUCTIONS FOR ANCHOR UNITS																											
	GREU TL-3	3	50	-150																							
	GREU TL-2		25																								
	AT-1	1	6.25	-6.25																							
	CAT-1		6.25																								
	TYPE-III	4	18.75	-75																							
GRAND TOTAL				1362.50	50										4		3			1							
		SAY		**1375.00**	**50.00**		**10 ADDITIONAL GUARDRAIL POSTS**																				

TEMPORARY GUARDRAIL

-L-	18+50.00	20+52.00	RT	300					3	6	50		1				1				1						TMP Phase 1- Step 1
-L-	26+48.00	30+00.00	RT	300					3	6		50		1			1				1						TMP Phase 1- Step 1
-L-	18+86.00	19+36.00	RT						3	6	50		1				1										TMP Phase 1- Step 3
TOTALS				600.00													3				2						
DEDUCTIONS FOR ANCHOR UNITS																											
	GREU TL-3	3	50	-150																							
	GREU TL-2		25																								
	AT-1		6.25																								
	CAT-1		6.25																								
	TYPE-III		18.75																								
	TYPE-III MOD	2	18.75	-37.5																							SEE DETAIL 2C-6
GRAND TOTAL				412.50													3				2						
		SAY		**425.00**			**5 ADDITIONAL GUARDRAIL POSTS**																				

REVISIONS

11/14/23

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

COMPUTED BY: _____KH_____ DATE: ____3/2/26____
CHECKED BY: _____JCB_____ DATE: ____3/2/26____

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PAVEMENT REMOVAL & BREAKING SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
-L-	11+00	20+52	LT	1954.32			
-L-	11+00	15+26	RT	94.10			
-L-	15+26	21+16	RT	38.91	34.3	1009.96	
-L-	26+47	35+96	LT	1768.97			
-Y1-	10+42	10+90	LT	10.01			
-Y1-	10+90	12+30	CL	67.80	382.41		
-Y1DET-	10+08	13+12	CL	717.77			
		TOTAL:		4651.88	416.71	1009.96	
		SAY:		4700	420	1010	

SHOULDER BERM GUTTER SUMMARY

LINE	Station	Station	LENGTH
-L-	18+03.25	20+29.50	226.25
-L-	26+70.50	31+53.00	482.50
		TOTAL:	708.75
		SAY:	710

REVISIONS

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11/14/23

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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 SIZE THICKNESS OR GAUGE	OFFSET		STRUCTURE NUMBER FROM	TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Alternate Pipe (RCP, CSP, CAAP, HDPE, or PVC)												R. C. PIPE CLASS IV							
									12	15	18	24	30	36	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	DO NOT USE PPP	DO NOT USE PVC	12	15	18	24	30	36	42	48
L 11+75	34	LT	0401			1.4	1.2			40						X												
L 13+00	34	LT	0402			0.6	0.4			40						X												
L 14+75	34	RT	0404			3.1	2.9			60						X												
L 18+11	21	LT	0501		6.8																							
			0501	0502		3.8	3.0															92						
L 19+07	21	LT	0502		8.9																							
			0502	0503		3.0	2.5															80						
L 20+14	19	LT	0504		11.0																							
			0504	0502		8.0	3.0															108						
L 26+87	19	LT	0505		11.5																							
			0505	0602		8.1	3.6															272						
Y1 12+40	28	RT	0506			0.7	0.5			32						X												
Y1 12+75	23	LT	0507			0.7	0.6			24						X												
L 17+25	43	RT	0508			3.3	3.0			48						X												
Y1 12+30	23	LT	0509			1.0	0.7			24						X												
L 29+61	21	LT	0602		6.4																							
			0602	0603		3.6	1.3															56						
L 31+48	21	LT	0604		3.7																							
			0604	0605		1.2	0.9															12						
L 16+75	31	RT	2B-1-1			4.0	3.0			36						X												
Y1DET 10+89	0	N/A	2B-1-2			2.0	1.7			48						X												
Y1DET 11+90	20	RT	2B-1-3			1.5	1.4			36						X												
L 18+13	21	LT	2B-1-4			3.8	3.8															16						
SHEET TOTALS (48" or Less)										388												636						
PROJECT TOTALS (48" or Less)										388												636						

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	REINFORCED ENDWALLS	DRAINAGE STRUCTURE	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03				CONCRETE TRANSITIONAL SECTION		OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	C.B. MIN DEPTH STD. (SPECIAL DETAIL)	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. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	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 DRAINAGE	M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	BERM DITCH OUTLET STD. 850.10 (PER EACH)	BERM DITCH OUTLET STD. 850.11 (PER EACH)	MODIFIED CONC. FLUME	PREFORMED SCOUR HOLE (PER EACH)	ENERGY DISSIPATION BASIN		FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	CONCRETE AND BRICK PIPE PLUG STD. 840.71	PIPE REMOVAL	REMARKS
			CY	CY	MASONRY CY	0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.		GRATE TYPE E	F	G		D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05																																			CY	CY	CY	LIN. FT.	
L 11+75	0401																																																			64	
L 13+00	0402																																																				
L 14+75	0404																																																				
L 18+11	0501					1																1			1																												
	0501	0502																																																			
L 19+07	0502					1	0.9															1			1																												
	0502	0503																																																			
L 20+14	0504					1																1			1																												
	0504	0502																																																			
L 26+87	0505					1																1			1																												
	0505	0602																																																			
Y1 12+40	0506																																																				
Y1 12+75	0507																																																				
L 17+25	0508																																																			30	
Y1 12+30	0509																																																			20	
L 29+61	0602					1																1			1																												
	0602	0603																																																			
L 31+48	0604					1																	1		1																												
	0604	0605																																																			
L 16+75	2B-1-1																																																			36	
Y1DET 10+89	2B-1-2																																																			48	
Y1DET 11+90	2B-1-3																																																			36	
L 18+13	2B-1-4																																																	0.3990		16	
SHEET TOTALS (48" or Less)						6	1															5	1		6																									0.3990		250	
PROJECT TOTALS (48" or Less)						6	1															5	1		6																									0.3990		250	

C.A.A.	CORRUGATED ALUMINIUM ALLOY
C.B.	CATCH BASIN
C.S.	CORRUGATED STEEL
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
H.D.P.E.	HIGH DENSITY POLYETHYLENE
J.B.	JUNCTION BOX
M.H.	MANHOLE
N.S.	NARROW SLOT
P.V.C.	POLYVINYL CHLORIDE
R.C.	REINFORCED CONCRETE
T.B.D.I.	**TRAFFIC BEARING DROP INLET**
T.B.J.B.	**TRAFFIC BEARING JUNCTION BOX**
W.S.	**WIDE SLOT**

BR-0004

3D-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

HYDRAULICS
ENGINEER

SEAL 053377
MICHAEL J. McNAMARA
Michael J. McNamara
4/13/2026

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

COMPUTED BY: SK DATE: 09/23/24
CHECKED BY: PZ DATE: 09/24/24

(2-3-23)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF ROCK PLATING

LINE	Beginning Slope (H:V)	Approx. Station	Ending Slope (H:V)	Approx. Station	Location LT/RT	Rock Plating Detail No. 1/2/3/4	Riprap Class* 1/2/B	Rock Plating SY
-L-	2:1	19+25	1.5:1	20+44	LT	1	1/2/B	230
-L-	2:1	19+75	1.5:1	20+44	RT	1	1/2/B	165
-L-	1.5:1	26+56	2:1	30+25	LT	1	1/2/B	585
-L-	1.5:1	26+56	2:1	31+25	RT	1	1/2/B	705
							TOTAL SY:	1685

*Use Class 1, 2 or B riprap if riprap class is not shown for rock plating location. Use granitic rock for the riprap material.

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 Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU(1)	12	250	500	750		500
			TOTAL CY/TONS/SY:		250	500**	750**	0	500

*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 Subgrade 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.

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	200
				TOTAL LF:	200

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

SUMMARY OF EMBANKMENT WAITING PERIODS

LINE	Station	Station	MONTHS
-L-	26+56	29+09	2

SUMMARY OF SETTLEMENT GAUGES

Gauge No.	LINE and Station	Offset	
		Distance FT	Direction LT/RT
1	-L- 26+80	20	RT
2	-L- 27+10	20	LT
3	-L- 27+30	20	RT
	TOTAL GAUGES (EACH):		3

SUMMARY OF BRIDGE WAITING PERIODS

Bridge Description	End Bent/ Bent No.	MONTHS
Bridge No. 66 on US 264 over Pungo River	End Bent 2	2

REVISIONS

11/14/23

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET - BR-0004

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	MARCIA DILLON
2	4	GILBERT STOTESBERRY (LIFE ESTATE) & AMANDA RAE STOTESBERRY (REMAINDER INTEREST)
3	4 & 5	DAVID FEBUS
4	4	CHESTER VOGT
5	5	LYNDWOOD STEVENS
6	5	TAKI LLC
7	5 & 6	HOON C. KIM
8	5	WILLIAM C. ROBINSON, AMY C. ROBINSON
9	5	CARMEN B. JENNETTE

PARCEL No.	SHEET No.	PROPERTY OWNER NAME

BR-0004

3P-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

REVISIONS

BR-0004

004

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOYD

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053077 ENGINEER MICHAEL J. MCMANAMEN

4/13/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 600 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

SPI DATA -L-
PIs 14+95.34
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

CUR DATA -L-
PIc 16+99.92
Δc = 13°25'47.6" (LT)
D = 04°18'28.6"
Lc = 311.75
Tc = 156.59
R = 1,330
SE = 6%
RO = 144'

SPI DATA -L-
PIs 19+03.09
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

SCS DATA -L-
PIscs 17+01.6
Δscs = 19°38'00.0" (LT)
Tscs = 302.24

NAD 83/
NA 2011

BM1 ELEVATION = 4.62
N 671781 E 2741253
-EL- STATION 10+65.40, 38.37' LEFT
BRIDGE SPIKE SET IN 10" PINE

BEGIN TIP PROJECT BR-0004
-L- STA 11+00.00

-L- POB 10+00.00

-L- SC 15+43.33

-L- POS 14+75.67
-DR1- POB 10+00.00

-DR1- POE 10+80.53

-L- TS 13+99.33

MATCH LINE -L- STA 17+00.00 SEE SHEET 005

-L- N79°42'00.0"E

S11°23'25.4"E

WILLIAM KEATING
VIRGINIA KEATING
DB 2088 PG 854

STEPHEN HALL
DB 1952 PG 413
DB 1152 PG 801 (MAP)

STEPHEN HALL
DB 1124 PG 893

WILLIAM KEATING
VIRGINIA KEATING
DB 2088 PG 854
DB 1729 PG 769 (MAP)

MICHAEL R. KARENKO
DB 2134 PG 495
DB 986 PG 60 (MAP)

PUNGO RETREAT LLC
DB 2068 PG 624

JAMES MCLAWHON
DB 1474 PG 217

LYNDWOOD STEVENS
DB 909 PG 838

REBEL LAND CO.
DB 2162 PG 573
PC "F", SLIDE 95-6
PC "F", SLIDE 26-1

MARCIA DILLON
DB 849 PG 874

GILBERT STOTESBERRY (LIFE ESTATE)
AMANDA RAE STOTESBERRY (REMAINDER INTREST)
DB 2099 PG 760
DB 1350 PG 882 (MAP)

DAVID FEBUS
DB 835 PG 82

RICHARD A. JACKSON
LAURA O. JACKSON
DB 2054 PG 559

FOR –L– PROFILE, SEE SHEET NO. 7
FOR –DR1– PROFILE, SEE SHEET NO. 9

SPI DATA -L-
PIs 14+95.34
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

CUR DATA -L-
PIc 16+99.92
Δc = 13°25'47.6" (LT)
D = 04°18'28.6"
Lc = 311.75
Tc = 156.59
R = 1,330
SE = 6%
RO = 144'

SPI DATA -L-
PIs 19+03.09
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

SCS DATA -L-
PIscs 17+01.6
Δscs = 19°38'00.0" (LT)
Tscs = 302.24

NAD 83
NA 2011

-L- POB 10+00.00

-L- SC 15+43.33

-L- POS 14+75.67
-DR1- POB 10+00.00

-L-
N79°42'00.0"E

-DR1- POE 10+80.53

MATCH LINE -L- STA 17+00.00 SEE SHEET 005A

BM1 ELEVATION = 4.62
N 671781 E 2741253
-EL- STATION 10+65.40, 38.37' LEFT
BRIDGE SPIKE SET IN 10" PINE

STEPHEN HALL
DB 1952 PG 413
DB 1152 PG 801 (MAP)

STEPHEN HALL
DB 1124 PG 893

WILLIAM KEATING
VIRGINIA KEATING
DB 2088 PG 854

WILLIAM KEATING
VIRGINIA KEATING
DB 2088 PG 854
DB 1729 PG 769 (MAP)

MICHAEL R. KARENKO
DB 2134 PG 495
DB 986 PG 60 (MAP)

PUNGO RETREAT LLC
DB 2068 PG 624

JAMES MCLAWHON
DB 1474 PG 217

LYNDWOOD STEVENS
DB 909 PG 838

REBEL LAND CO.
DB 2162 PG 573
PC 'F', SLIDE 95-6
PC 'F', SLIDE 26-1

MARCIA DILLON
DB 849 PG 874

GILBERT STOTESBERRY (LIFE ESTATE)
AMANDA RAE STOTESBERRY (REMAINDER INTREST)
DB 2099 PG 760
DB 1350 PG 882 (MAP)

DAVID FEBUS
DB 835 PG 82

RICHARD A. JACKSON
LAURA O. JACKSON
DB 2054 PG 559

-L- +05.00
50' (RT)

-L- +85.00
70' (RT)

-L- +43.33
50' (RT)

-L- +50.00
50' (RT)

-L- +50.00
50' (RT)

-L- +65.00
70' (RT)

-L- +88.03
EX. R/W (RT)

-L- TS 13+99.33

S11°23'25.4"E

BR-0004
004A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042224 ENGINEER JORDAN C. BOND
4/13/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 053077 ENGINEER MICHAEL J. MCMANAMAY
4/13/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PREPARED BY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 600 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

11/14/23

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER
4/13/2026

HYDRAULICS ENGINEER
4/13/2026

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N.C.B.E.L.S. License Number: F-0116

SPI DATA -L-
PIs 14+95.34
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

CUR DATA -L-
PIc 16+99.92
Δc = 13°25'47.6" (LT)
D = 04°18'28.6"
Lc = 311.75
Tc = 156.59
R = 1,330
SE = 6%
RO = 144'

SPI DATA -L-
PIs 19+03.09
θs = 03°06'06.2"
Ls = 144
LT = 96.01
ST = 48.01

SCS DATA -L-
PIscs 17+01.6
Δscs = 19°38'00.0" (LT)
Tscs = 302.24

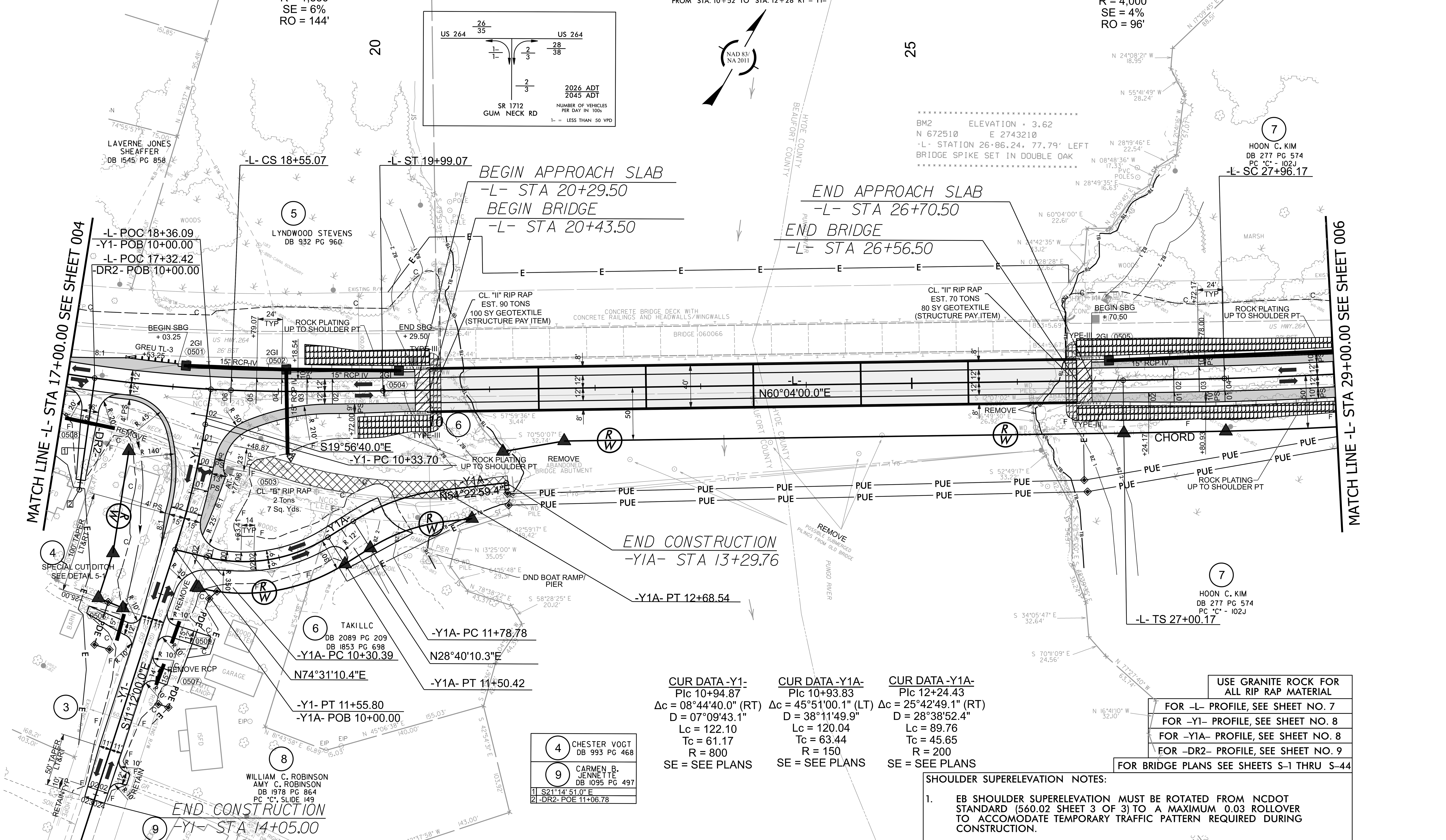
DETAIL 5-1
SPECIAL CUT DITCH
(Not to Scale)
FROM STA. 10+52 TO STA. 12+28 RT - Y1-

SCS DATA -L-
PIscs 30+18.7
Δscs = 07°44'12.3" (LT)
Tscs = 318.48

SPI DATA -L-
PIs 27+64.17
θs = 00°41'15.2"
Ls = 96
LT = 64.00
ST = 32.00

CUR DATA -L-
PIc 30+18.46
Δc = 06°21'42.0" (LT)
D = 01°25'56.6"
Lc = 444.13
Tc = 222.29
R = 4,000
SE = 4%
RO = 96'

SPI DATA -L-
PIs 32+72.30
θs = 00°41'15.2"
Ls = 96
LT = 64.00
ST = 32.00


US 264
SR 1712
GUM NECK RD
2026 ADT
2045 ADT
NUMBER OF VEHICLES PER DAY IN 100s
BM2 ELEVATION = 3.62
N 672510 E 2743210
-L- STATION 26+86.24, 77.79' LEFT
BRIDGE SPIKE SET IN DOUBLE OAK
BEGIN APPROACH SLAB
-L- STA 20+29.50
BEGIN BRIDGE
-L- STA 20+43.50
END APPROACH SLAB
-L- STA 26+70.50
END BRIDGE
-L- STA 26+56.50
-L- CS 18+55.07
-L- ST 19+99.07
-L- SC 27+96.17
-L- TS 27+00.17
-L- POC 18+36.09
-Y1- POB 10+00.00
-L- POC 17+32.42
-DR2- POB 10+00.00
MATCH LINE -L- STA 17+00.00 SEE SHEET 004
MATCH LINE -L- STA 29+00.00 SEE SHEET 006
LAVERNE JONES SHEAFFER
DB 1545 PG 858
LYNDWOOD STEVENS
DB 932 PG 960
HOON C. KIM
DB 277 PG 574
PC "C" - 102J
TAKILLC
DB 2089 PG 209
DB 1853 PG 698
WILLIAM C. ROBINSON
AMY C. ROBINSON
DB 1978 PG 864
PC "C", SLIDE 149
CL. "II" RIP RAP
EST. 90 TONS
100 SY GEOTEXTILE
(STRUCTURE PAY ITEM)
CL. "II" RIP RAP
EST. 70 TONS
80 SY GEOTEXTILE
(STRUCTURE PAY ITEM)
ROCK PLATING UP TO SHOULDER PT
CL. "B" RIP RAP
2 Tons
7 Sq. Yds.
-L-
N60°04'00.0"E
S19°56'40.0"E
-Y1- PC 10+33.70
N54°22'59.4"E
END CONSTRUCTION
-Y1A- STA 13+29.76
-Y1A- PT 12+68.54
-Y1A- PC 11+78.78
N28°40'10.3"E
-Y1A- PT 11+50.42
-Y1A- PC 10+30.39
N74°31'10.4"E
-Y1- PT 11+55.80
-Y1A- POB 10+00.00
END CONSTRUCTION
-Y1- STA 14+05.00
SPECIAL CUT DITCH SEE DETAIL 5-1
DND BOAT RAMP/PIER
REMOVE ABANDONED BRIDGE ABUTMENT
REMOVE POSSIBLE SUBMERGED PILINGS FROM OLD BRIDGE
PUNGO RIVER
HYDE COUNTY
BEAUFORT COUNTY

4	CHESTER VOGT DB 993 PG 468
9	CARMEN B. JENNETTE DB 1095 PG 497
1	S21°14'51.0"E
2	-DR2- POE 11+06.78

CUR DATA -Y1-
PIc 10+94.87
Δc = 08°44'40.0" (RT)
D = 07°09'43.1"
Lc = 122.10
Tc = 61.17
R = 800
SE = SEE PLANS

CUR DATA -Y1A-
PIc 10+93.83
Δc = 45°51'00.1" (LT)
D = 38°11'49.9"
Lc = 120.04
Tc = 63.44
R = 150
SE = SEE PLANS

CUR DATA -Y1A-
PIc 12+24.43
Δc = 25°42'49.1" (RT)
D = 28°38'52.4"
Lc = 89.76
Tc = 45.65
R = 200
SE = SEE PLANS

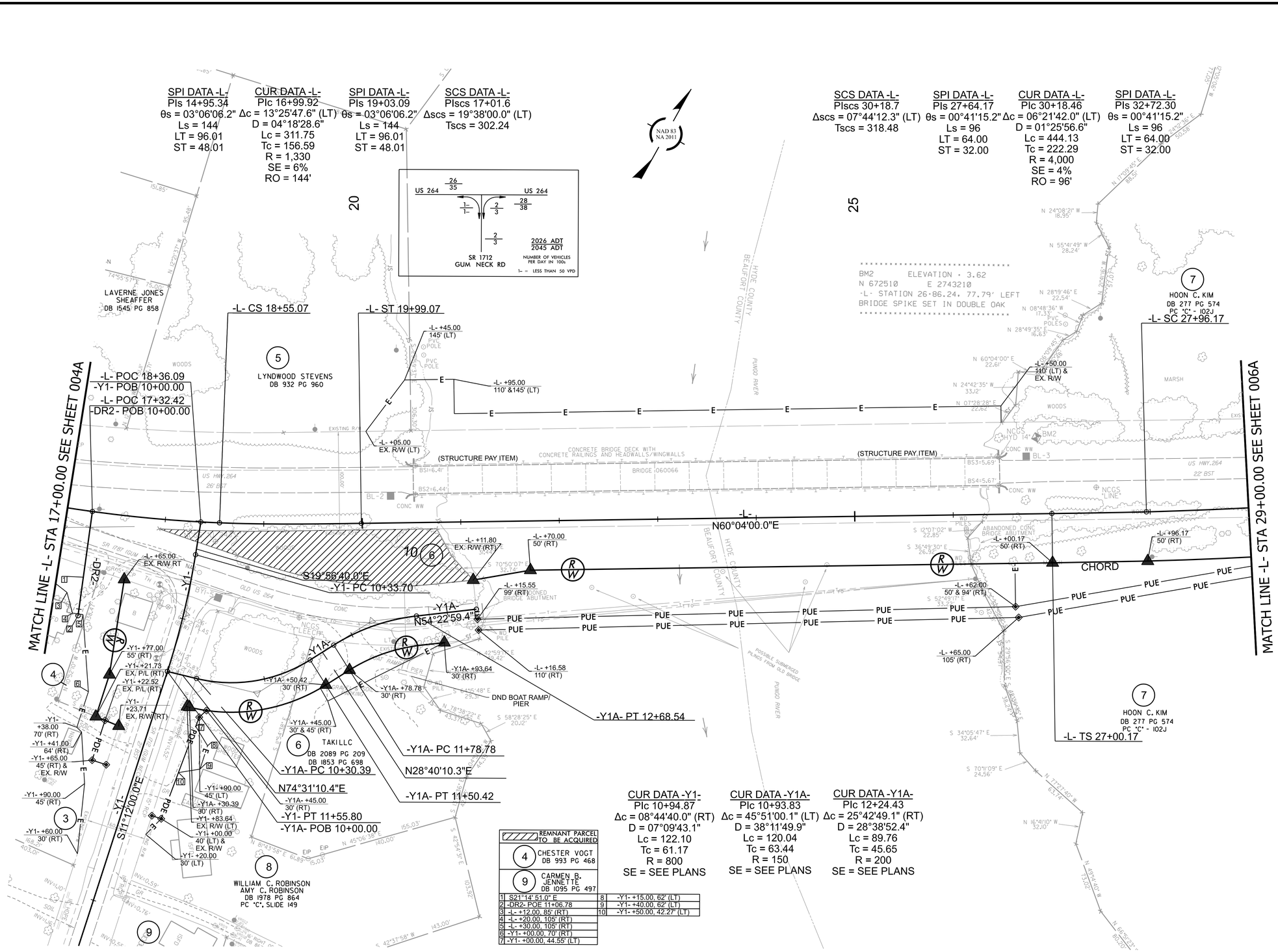
USE GRANITE ROCK FOR ALL RIP RAP MATERIAL

FOR -L- PROFILE, SEE SHEET NO. 7
FOR -Y1- PROFILE, SEE SHEET NO. 8
FOR -Y1A- PROFILE, SEE SHEET NO. 8
FOR -DR2- PROFILE, SEE SHEET NO. 9
FOR BRIDGE PLANS SEE SHEETS S-1 THRU S-44

SHOULDER SUPERELEVATION NOTES:

1. EB SHOULDER SUPERELEVATION MUST BE ROTATED FROM NCDOT STANDARD (560.02 SHEET 3 OF 3) TO A MAXIMUM 0.03 ROLLOVER TO ACCOMODATE TEMPORARY TRAFFIC PATTERN REQUIRED DURING CONSTRUCTION.
2. ROTATE SHOULDER SUPERELEVATION FROM 0.02 TOWARD THE TRAVEL LANES AT -L- STA. 27+24.17 TO 0.01 TOWARD THE TRAVEL LANES AT -L- STA 27+48.17.
3. MAINTAIN 0.01 SUPERELEVATION TOWARD TRAVEL LANES FROM -L- STA. 27+48.17 TO -L- STA. 33+12.33

REVISIONS



BR-0004

005A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053277 ENGINEER MICHAEL J. MCNAMARA

4/13/2026

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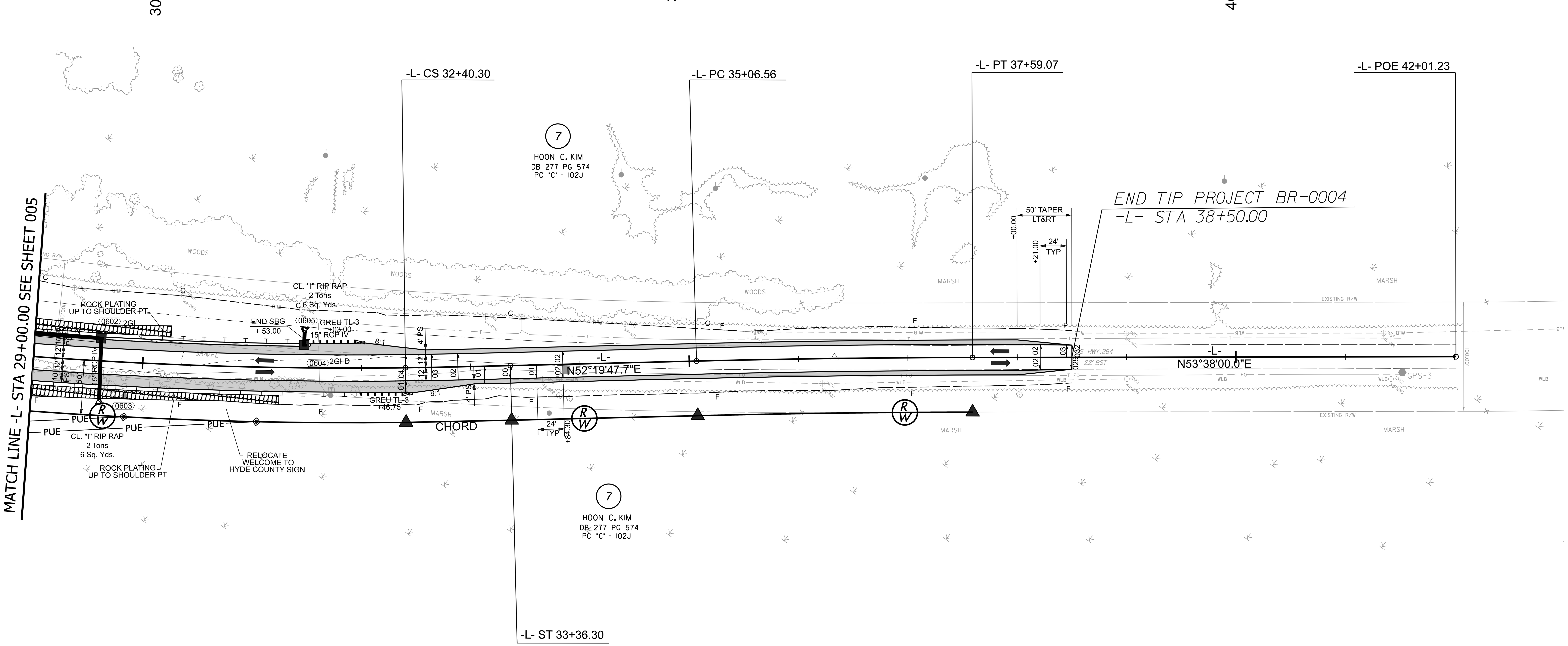
PREPARED BY

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 600 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

11/14/23

SCS DATA -L-	SPI DATA -L-	CUR DATA -L-	SPI DATA -L-	CUR DATA -L-
PIscs 30+18.7	PIs 27+64.17	PIc 30+18.46	PIs 32+72.30	PIc 36+32.82
Δscs = 07°44'12.3" (LT)	θs = 00°41'15.2"	Δc = 06°21'42.0" (LT)	θs = 00°41'15.2"	Δc = 01°18'12.3" (RT)
Tscs = 318.48	Ls = 96	D = 01°25'56.6"	Ls = 96	D = 00°30'58.2"
	LT = 64.00	Lc = 444.13	LT = 64.00	Lc = 252.52
	ST = 32.00	Tc = 222.29	ST = 32.00	Tc = 126.26
		R = 4,000		R = 11,100
		SE = 4%		SE = NC
		RO = 96'		



USE GRANITE ROCK FOR ALL RIP RAP MATERIAL

FOR -L- PROFILE, SEE SHEET NO. 8

SHOULDER SUPERELEVATION NOTES:

1. EB SHOULDER SUPERELEVATION MUST BE ROTATED FROM NCDOT STANDARD (560.02 SHEET 3 OF 3) TO A MAXIMUM 0.03 ROLLOVER TO ACCOMODATE TEMPORARY TRAFFIC PATTERN REQUIRED DURING CONSTRUCTION.

2. MAINTAIN 0.01 SUPERELEVATION TOWARD TRAVEL LANES FROM -L- STA. 27+48.17 TO -L- STA. 33+12.33

BR-0004

006

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045241 ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053877 ENGINEER MICHAEL J. McNAMARA

4/13/2026

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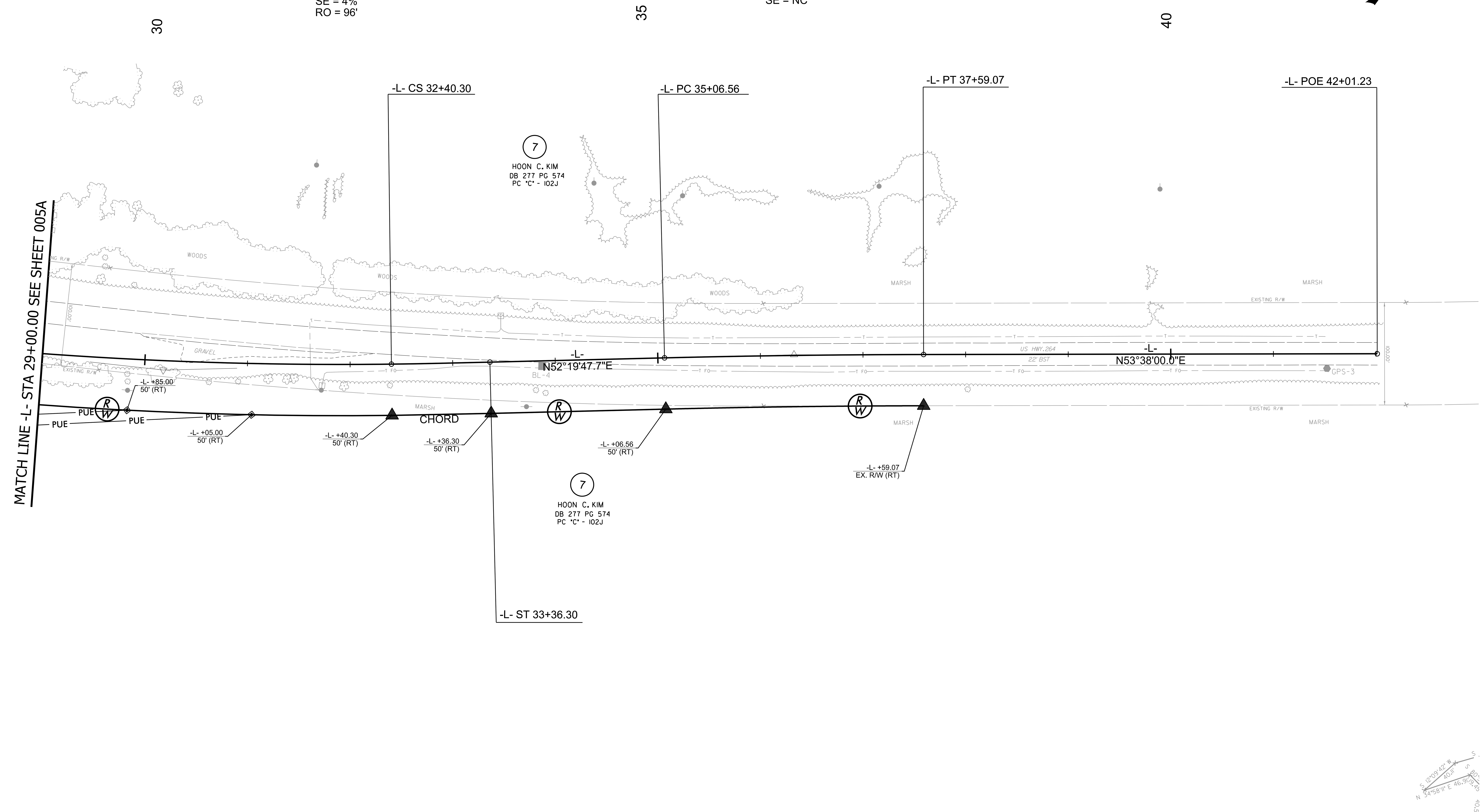
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

11/14/23

SCS DATA -L-	SPI DATA -L-	CUR DATA -L-	SPI DATA -L-	CUR DATA -L-
PIscs 30+18.7	PIs 27+64.17	PIc 30+18.46	PIs 32+72.30	PIc 36+32.82
Δscs = 07°44'12.3" (LT)	θs = 00°41'15.2"	Δc = 06°21'42.0" (LT)	θs = 00°41'15.2"	Δc = 01°18'12.3" (RT)
Tscs = 318.48	Ls = 96	D = 01°25'56.6"	Ls = 96	D = 00°30'58.2"
	LT = 64.00	Lc = 444.13	LT = 64.00	Lc = 252.52
	ST = 32.00	Tc = 222.29	ST = 32.00	Tc = 126.26
		R = 4,000		R = 11,100
		SE = 4%		SE = NC
		RO = 96'		



NAD 83 NA 2011

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006A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER MICHAEL J. McNAMARA

4/13/2026

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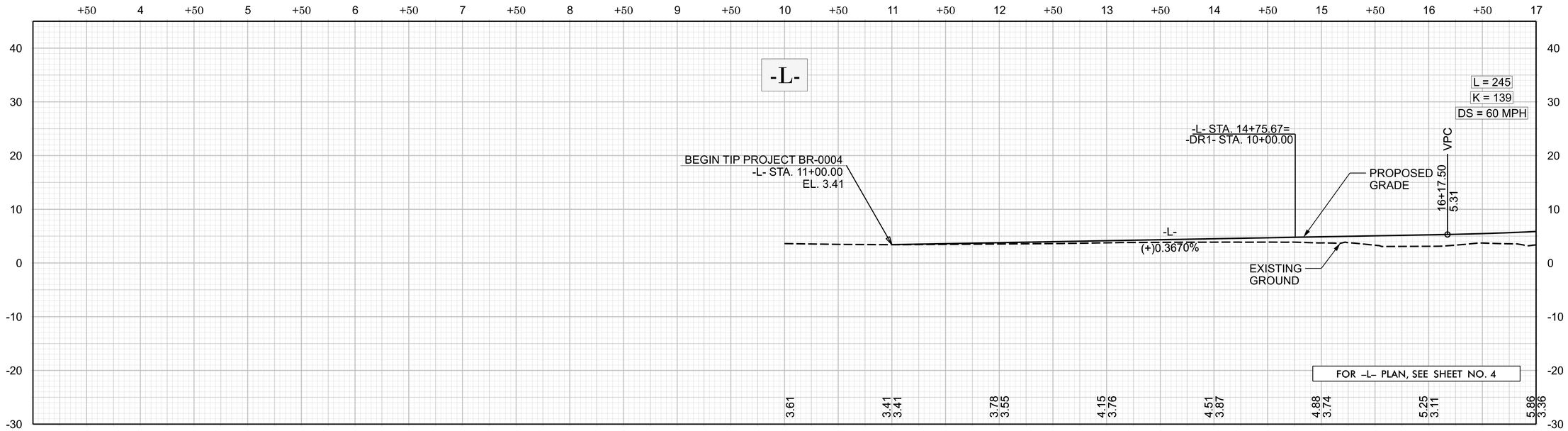

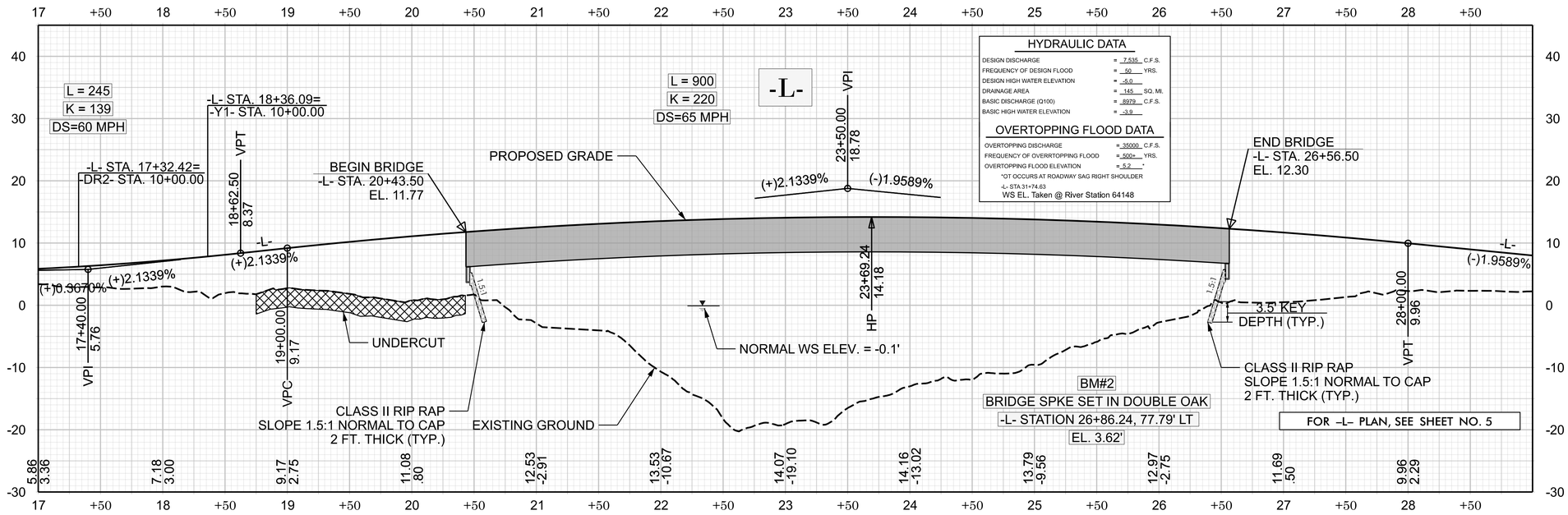

BR-0004

007

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053677 ENGINEER MICHAEL J. MCNAMARA

4/13/2026

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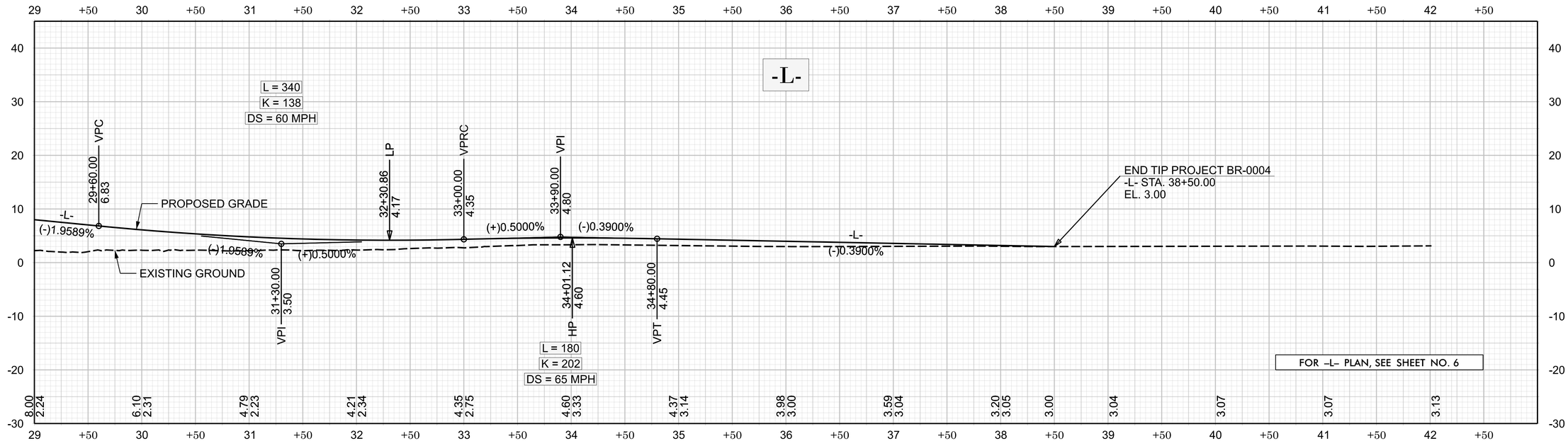

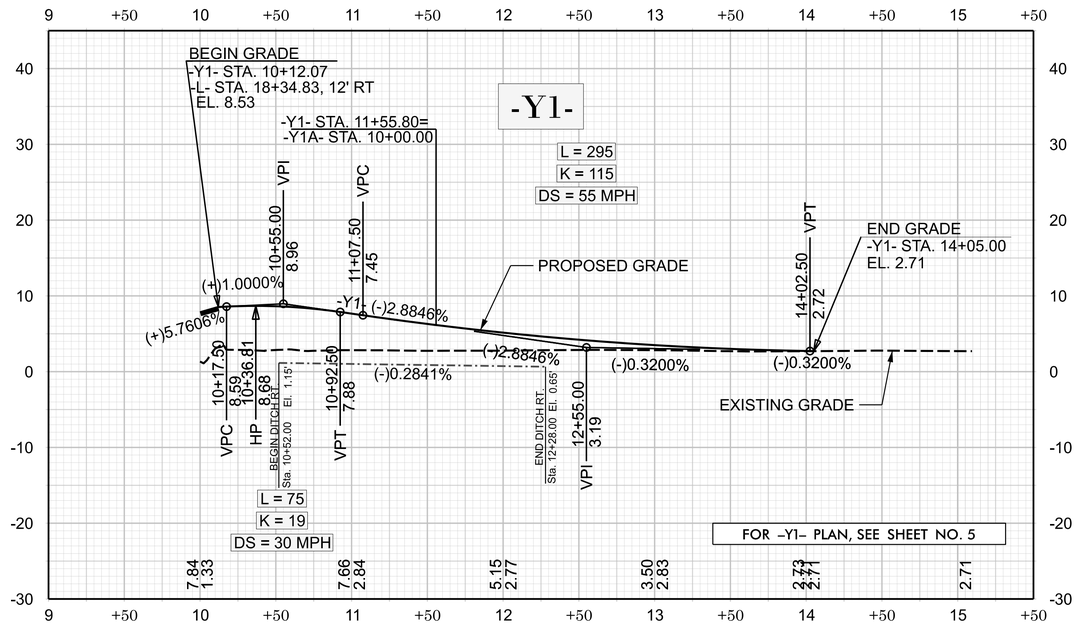

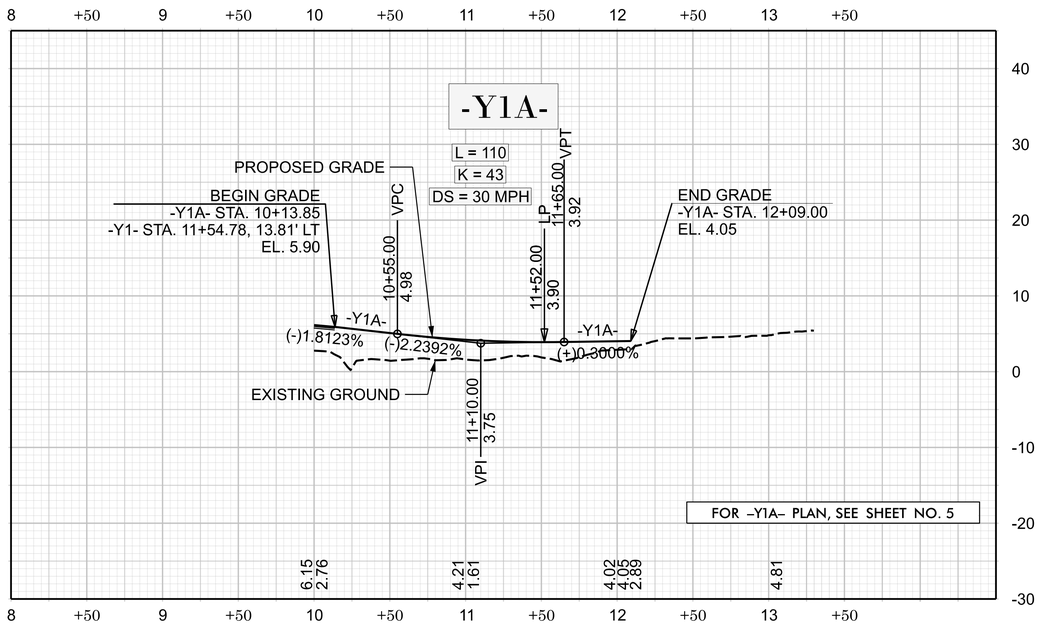

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008

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053977 ENGINEER MICHAEL J. MCNAMARA

4/13/2026

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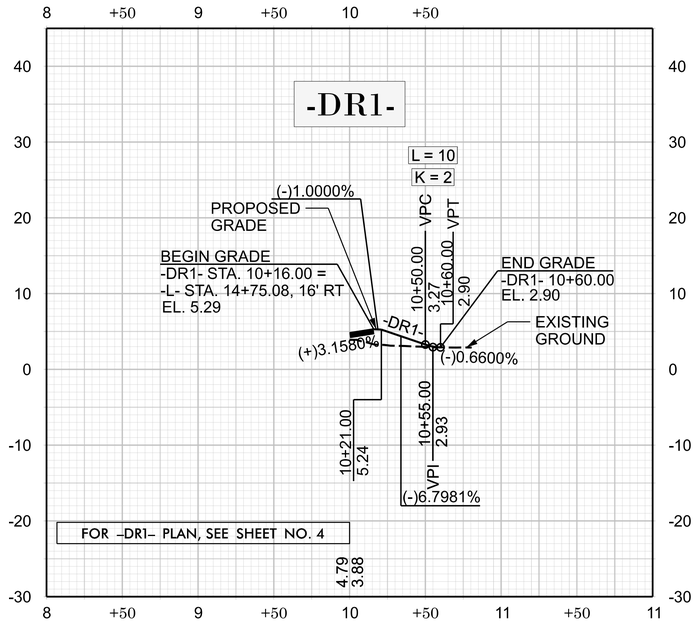
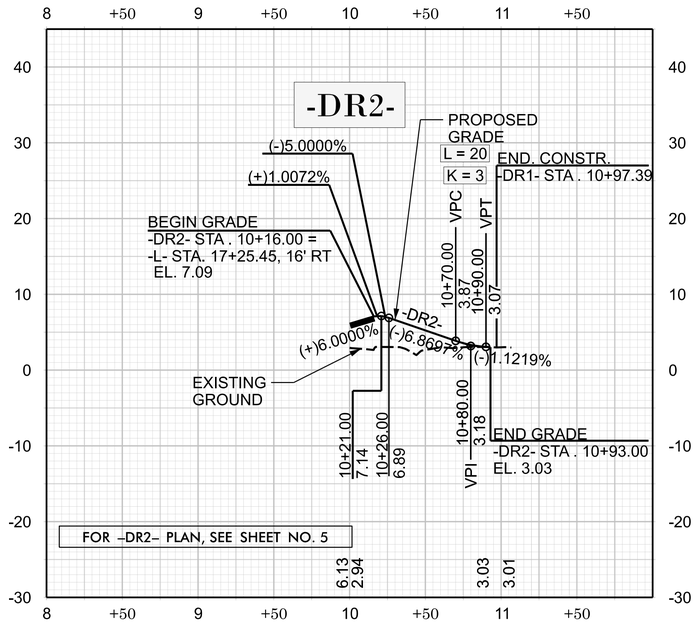
REVISIONS





BR-0004

009

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WAKE COUNTY

ROADWAY DESIGN UNIT

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 045224 ENGINEER JORDAN C. BOND

4/13/2026

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 053077 ENGINEER MICHAEL J. MCNAMARA

4/13/2026

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