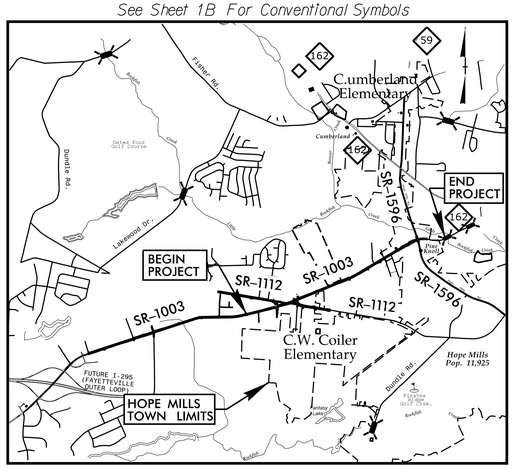
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09/08/99

TIP PROJECT: U-3422B

CONTRACT: C205231

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



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

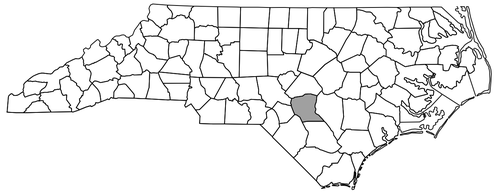
CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3422B	1	

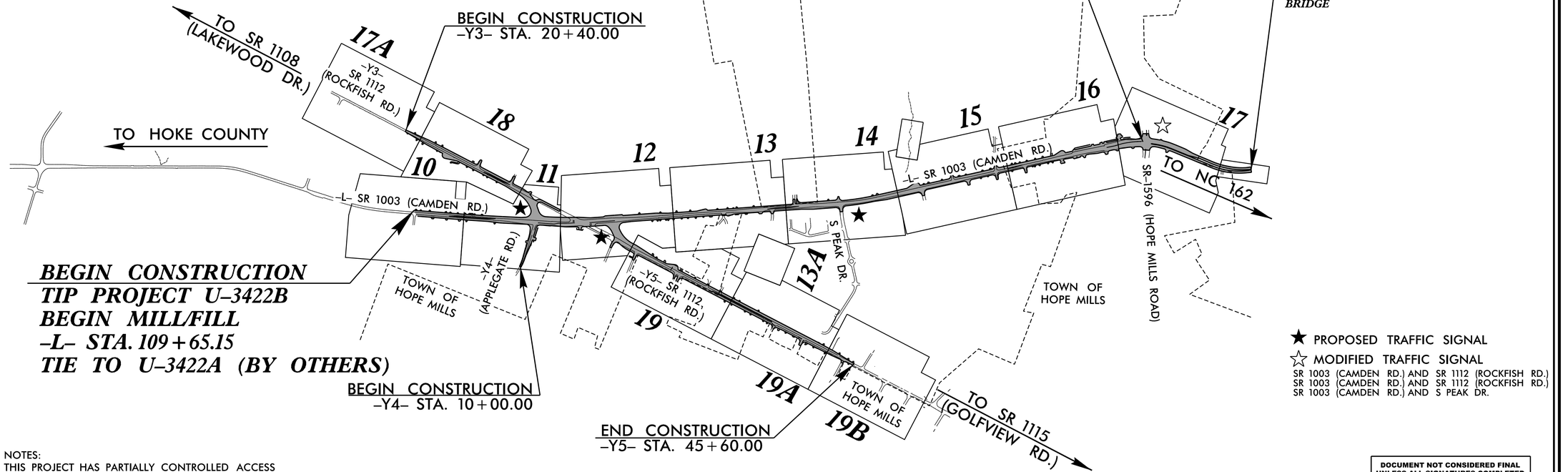
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
39001.1.4		P.E.
39001.2.5		ROW
39001.2.2		UTILITIES
39001.3.3		CONSTRUCTION

LOCATION: *SR 1003 (Camden Road) from just West of SR 1112 (Rockfish Rd) To (SR 1596) Hope Mills Road*

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



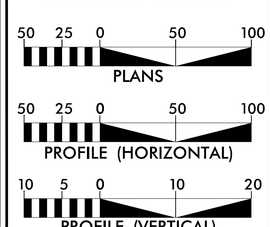
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NOTES:
THIS PROJECT HAS PARTIALLY CONTROLLED ACCESS WITH ACCESS BEING LIMITED TO POINTS SHOWN ON THE PLANS.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2026 = 31,000
ADT 2040 = 38,500
K = 9 %
D = 60 %
T = 4 % *
V = 50 MPH
(* TTST 1% + DUAL 3%)
FUNC CLASS = MINOR ARTERIAL
STATEWIDE TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3422B = 1.732 MILES
TOTAL LENGTH TIP PROJECT U-3422B = 1.732 MILES

Prepared by the Office of:
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:
JULY 30, 2021

LETTING DATE:
DECEMBER 15, 2026

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

ALEXANDER D. SNIDER, PE
PROJECT DESIGN ENGINEER

SEAN MATUSZEWSKI, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

11/3/2026

NORTH CAROLINA PROFESSIONAL SEAL 042084 ENGINEER JOSHUA J MASSROCK

Joshua J. Massrock P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

11/3/2026

NORTH CAROLINA PROFESSIONAL SEAL 041473 ENGINEER ALEXANDER D SNIDER

Alexander D. Snider P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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12/2/2016

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A–1 THRU 2A–3	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2B–1 THRU 2B–4	ROADWAY DETAILS
2C–1 THRU 2C–10	ROADWAY SPECIAL DETAILS
2G–1	GEOTECHNICAL DETAIL
3B–1 THRU 3B–3	ROADWAY SUMMARIES
3D–1 THRU 3D–12	DRAINAGE SUMMARIES
3G–1	GEOTECHNICAL SUMMARIES
3P–1 THRU 3P–2	PARCEL INDEX SHEETS
10 THRU 19B	PLAN SHEETS
20 THRU 28	PROFILE SHEETS
RW10 THRU RW19B	ROW PLAN SHEETS
TMP–1 THRU TMP–4.32	TRANSPORTATION MANAGEMENT PLAN SHEETS
PMP–1 THRU PMP–15	PAVEMENT MARKING PLAN SHEETS
EC–1 THRU EC–23B	EROSION CONTROL PLAN SHEETS
RF–1 THRU RF–2	REFORESTATION DETAILS
SIGN–1 THRU SIGN–15	SIGNING PLAN SHEETS
SIG–1.0 THRU SIG–7.5	SIGNAL PLAN SHEETS
SIG.M1 THRU SIG.M8	SIGNAL DETAILS
UC–1 THRU UC–43	UTILITY CONSTRUCTION PLAN SHEETS
UO–1 THRU UO–17B	UTILITIES BY OTHERS PLAN SHEETS
X–0 THRU X–60	CROSS–SECTIONS

GENERAL NOTES

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

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.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

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 LREMC, PNG,

AT&T TRANSMISSION, BRIGHTSPEED, LUMEN, SPECTRUM, METRONET,

FAYETTEVILLE PWC

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.

CURB RAMPS

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

PROJECT REFERENCE NO.	SHEET NO.
U–3422B	1A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

SEAL 042773 ALEXANDER D. SNIDER NORTH CAROLINA PROFESSIONAL ENGINEER

11/3/2026

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2024 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01–16–2024
REV.

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
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 6 – ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 – INCIDENTALS	
815.02	Subsurface Drain
838.01	Concrete Endwall for Single and Double Pipe Culverts – 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts – 15" thru 48" Pipe 90 Skew
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
840.14	Concrete Drop Inlet – 12" thru 30" Pipe
840.15	Brick Drop Inlet – 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates – for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' – 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.24	Frames and Narrow Slot Sag Grates
840.25	Anchorage for Frames – Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' – 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
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
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.03	Driveway Turnout – Drop Curb Type
848.04	Street Turnout
848.06	Curb Ramp
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
852.10	Median Construction – with Curb and Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets

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12/2/2016

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	1B

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

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin (EIP)
- Computed Property Corner
- Property Monument (ECM)
- Parcel/Sequence Number (123)
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary (WLB)
- Proposed Wetland Boundary (WLB)
- Existing Endangered Animal Boundary (EAB)
- Existing Endangered Plant Boundary (EPB)
- Existing Historic Property Boundary (HPB)
- Known Contamination Area: Soil (S)
- Potential Contamination Area: Soil (S)
- Known Contamination Area: Water (W)
- Potential Contamination Area: Water (W)
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign (S)
- Well (W)
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easement Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line (RW)
- New Right of Way Line with Pin and Cap (RW)
- New Right of Way Line with Concrete or Granite R/W Marker (RW)
- New Control of Access Line with Concrete C/A Marker (CA)
- Existing Control of Access (CA)
- New Control of Access (CA)
- Existing Easement Line (E)
- New Temporary Construction Easement (E)
- New Temporary Drainage Easement (TDE)
- New Permanent Drainage Easement (PDE)
- New Permanent Drainage / Utility Easement (DUE)
- New Permanent Utility Easement (PUE)
- New Temporary Utility Easement (TUE)
- New Aerial Utility Easement (AUE)

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut (C)
- Proposed Slope Stakes Fill (F)
- Proposed Curb Ramp
- 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 (CONC)
- Bridge Wing Wall, Head Wall and End Wall (CONC WW)

MINOR:

- Head and End Wall (CONC HW)
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB (CB)
- Paved Ditch Gutter
- Storm Sewer Manhole (S)
- Storm Sewer (S)

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole (P)
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*) (P)
- U/G Power Line LOS C (S.U.E.*) (P)
- U/G Power Line LOS D (S.U.E.*) (P)

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole (T)
- Telephone Pedestal (T)
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole (HH)
- U/G Telephone Cable LOS B (S.U.E.*) (T)
- U/G Telephone Cable LOS C (S.U.E.*) (T)
- U/G Telephone Cable LOS D (S.U.E.*) (T)
- U/G Telephone Conduit LOS B (S.U.E.*) (TC)
- U/G Telephone Conduit LOS C (S.U.E.*) (TC)
- U/G Telephone Conduit LOS D (S.U.E.*) (TC)
- U/G Fiber Optics Cable LOS B (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS C (S.U.E.*) (T FO)
- U/G Fiber Optics Cable LOS D (S.U.E.*) (T FO)

WATER:

- Water Manhole (W)
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E*) (W)
- U/G Water Line LOS C (S.U.E*) (W)
- U/G Water Line LOS D (S.U.E*) (W)
- Above Ground Water Line (A/G Water)

TV:

- TV Pedestal (C)
- TV Tower
- U/G TV Cable Hand Hole (HH)
- U/G TV Cable LOS B (S.U.E.*) (TV)
- U/G TV Cable LOS C (S.U.E.*) (TV)
- U/G TV Cable LOS D (S.U.E.*) (TV)
- U/G Fiber Optic Cable LOS B (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS C (S.U.E.*) (TV FO)
- U/G Fiber Optic Cable LOS D (S.U.E.*) (TV FO)

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) (G)
- U/G Gas Line LOS C (S.U.E.*) (G)
- U/G Gas Line LOS D (S.U.E.*) (G)
- Above Ground Gas Line (A/G Gas)

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line (SS)
- Above Ground Sanitary Sewer (A/G Sanitary Sewer)
- SS Forced Main Line LOS B (S.U.E.*) (FSS)
- SS Forced Main Line LOS C (S.U.E.*) (FSS)
- SS Forced Main Line LOS D (S.U.E.*) (FSS)

MISCELLANEOUS:

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

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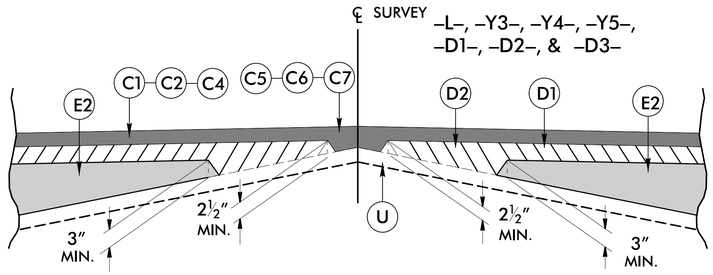
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PAVEMENT SCHEDULE

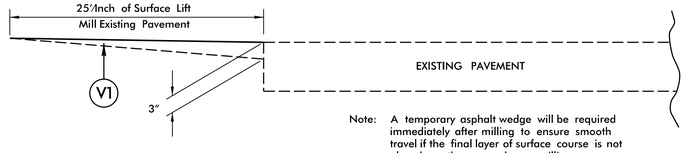
(FINAL PAVEMENT DESIGN 3/16/2023)

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.	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.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R1	1'-6" CONCRETE CURB AND GUTTER.
C3	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R2	2'-6" CONCRETE CURB AND GUTTER.
C4	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	R3	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
C5	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.	R4	4" CONCRETE ISLAND COVER
C6	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.	S	4" CONCRETE SIDEWALK
C7	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	T	EARTH MATERIAL.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
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.	V1	INCIDENTAL MILLING.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V2	UNIFORM 3" DEPTH MILLING.
		W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

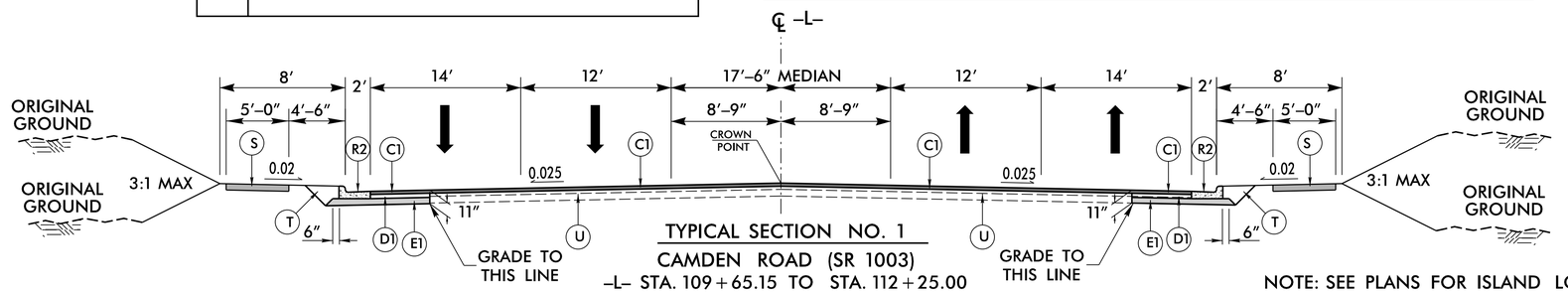
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging



Incidental Milling Pavement Key–In Detail (Tie–In)

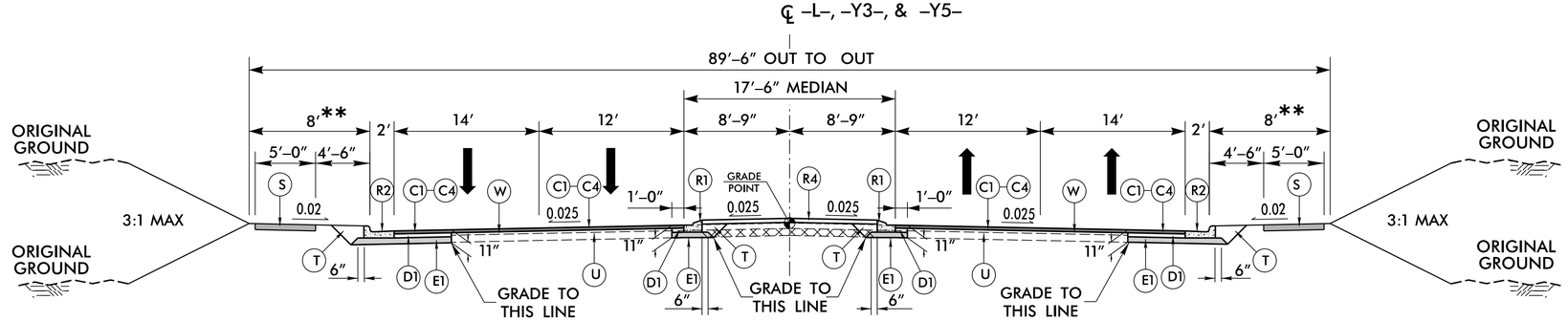


TYPICAL SECTION NO. 1

CAMDEN ROAD (SR 1003)

–L– STA. 109+65.15 TO STA. 112+25.00

NOTE: SEE PLANS FOR ISLAND LOCATIONS



TYPICAL SECTION NO. 2

CAMDEN ROAD (SR 1003) & ROCKFISH ROAD (SR 1112)

–L– STA. 112+25.00 TO STA. 198+00.00

–L– STA. 198+00.00 TO STA. 201+10.73 NOTE: USE C4

–Y3– STA. 25+60.00 TO STA. 40+56.05

–Y5– STA. 10+37.01 TO STA. 40+30.00

** REDUCE TO 6' BERM WIDTH AT THE FOLLOWING LOCATIONS:

–L– STA. 199+00.00 TO STA. 201+10.73 LT

–L– STA. 200+00.00 TO STA. 201+10.73 RT

PROJECT REFERENCE NO.	SHEET NO.
U–3422B	2A–1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 042677 ENGINEER ALEXANDER D. SNIDER

11/3/2026

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 050728 ENGINEER PU ZHANG

11/3/2026

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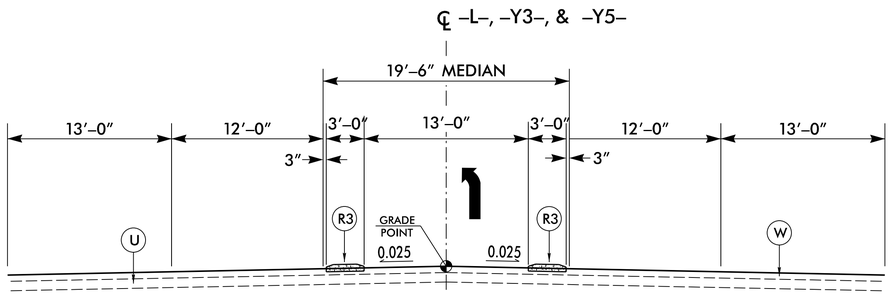
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REMOVE EXIST. PAVEMENT WITHIN LIMITS OF RAISED MEDIAN

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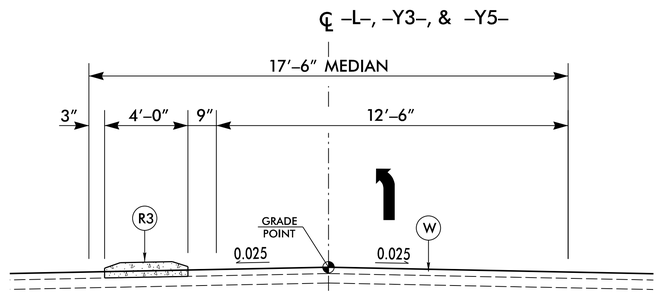
6/2/99



LEFT TURN DETAIL 3C
(SEE PLANS FOR LOCATIONS)

USE LEFT TURN DETAIL 3C

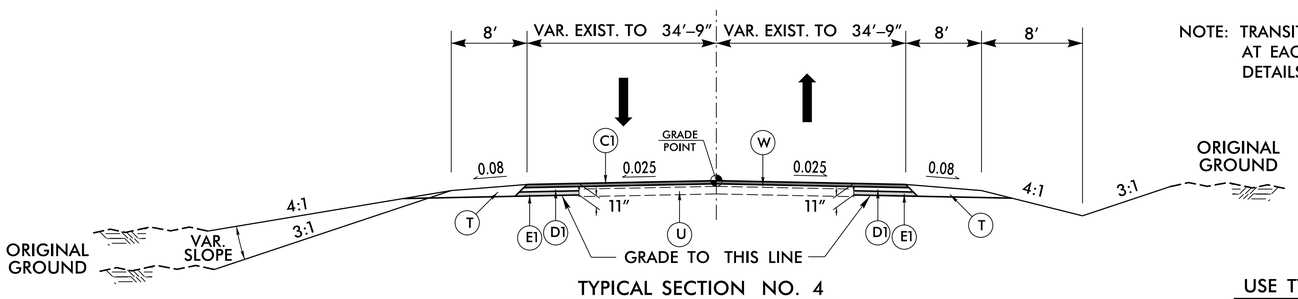
–L– STA. 109+87 TO STA. 110+52
–L– STA. 148+57 TO STA. 149+40
–L– STA. 147+40 TO STA. 147+90
–L– STA. 173+19 TO STA. 173+82
–L– STA. 179+30 TO STA. 180+09
–L– STA. 190+32 TO STA. 191+10
–Y3– STA. 26+71 TO STA. 27+21
–Y5– STA. 19+94 TO STA. 20+29
–Y5– STA. 21+45 TO STA. 21+95
–Y5– STA. 34+95 TO STA. 35+45



LEFT TURN DETAIL 3D
(SEE PLANS FOR LOCATIONS)

USE LEFT TURN DETAIL 3D

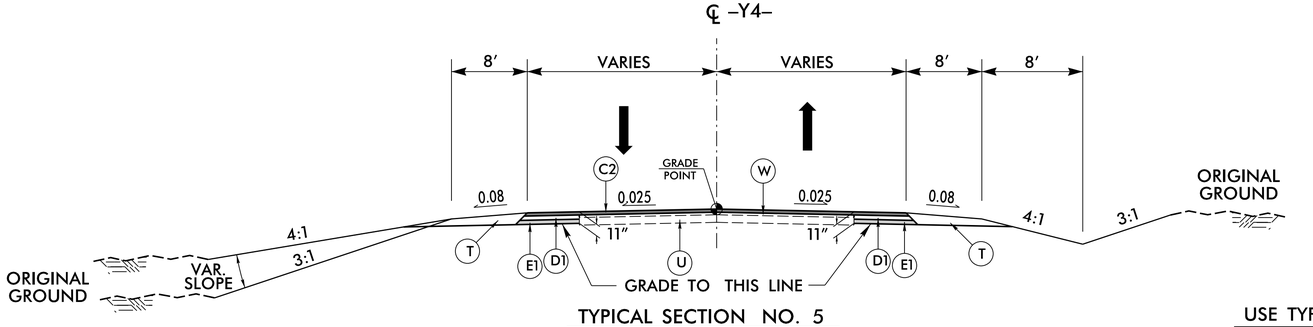
–L– STA. 1112 TO STA. 113+62
–L– STA. 142+05 TO STA. 144+43
–L– STA. 148+88 TO STA. 150+65
–L– STA. 174+80 TO STA. 177+32
–L– STA. 181+38 TO STA. 183+50
–L– STA. 186+50 TO STA. 188+43
–Y3– STA. 28+04 TO STA. 30+81
–Y5– STA. 17+75 TO STA. 18+97
–Y5– STA. 22+93 TO STA. 25+30
–Y5– STA. 36+43 TO STA. 38+80



TYPICAL SECTION NO. 4
ROCKFISH ROAD (SR 1112)
TRANSITION FROM EXISTING TO C&G TYPICAL SECTION

USE TYPICAL SECTION NO. 4

–Y3– STA. 20+40.00 TO STA. 25+60.00
–Y5– STA. 40+30.00 TO STA. 45+60.00



TYPICAL SECTION NO. 5
WALDO'S BEACH ROAD (SR 1113) AND APPLEGATE ROAD

USE TYPICAL SECTION NO. 5

–Y4– STA. 10+00.00 TO STA. 13+32.00

NOTE: TRANSITION LANE WIDTH FROM 12′–6″ TO 10′–0″ AT EACH LOCATION IN ACCORDANCE WITH DETAILS 3C AND 3D (SEE PLANS FOR WIDTHS)

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5C
C2	3″ S9.5B
C3	1.5″ S9.5C
C4	3″ S9.5D
C5	VAR. S9.5C
C6	VAR. S9.5B
C7	VAR. S9.5D
D1	4″ I19.0C
D2	VAR. I19.0C
E1	4″ B25.0C
E2	VAR. B25.0C
R1	1′-6″ CURB & GUTTER
R2	2′-6″ CURB & GUTTER
R3	5″ MONOLITHIC CONC. ISLAND
R4	4″ CONC. ISLAND COVER
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	INCIDENTAL MILLING
V2	3″ MILLING
W	VAR. DEPTH ASPHALT PAVEMENT

PROJECT REFERENCE NO.	SHEET NO.
U–3422B	2A–2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042170 ENGINEER ALEXANDER D. ENOS
11/3/2026

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 050738 ENGINEER PU ZHANG
11/3/2026

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2A-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 042477 ENGINEER ALEXANDER D. SNIDER

11/3/2026

PAVEMENT DESIGN ENGINEER

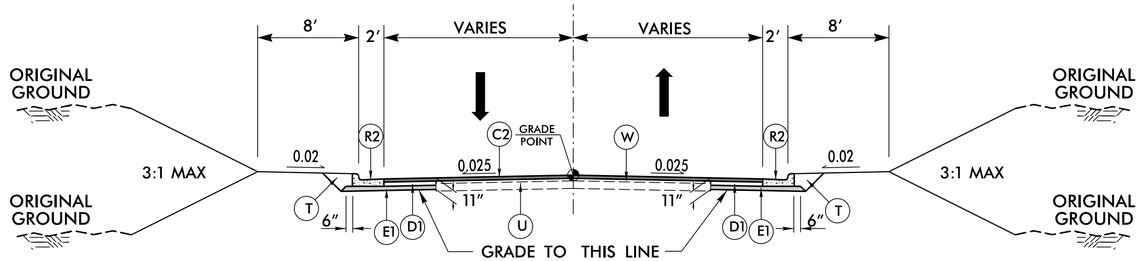
NORTH CAROLINA PROFESSIONAL SEAL 050738 ENGINEER PU ZHANG

11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

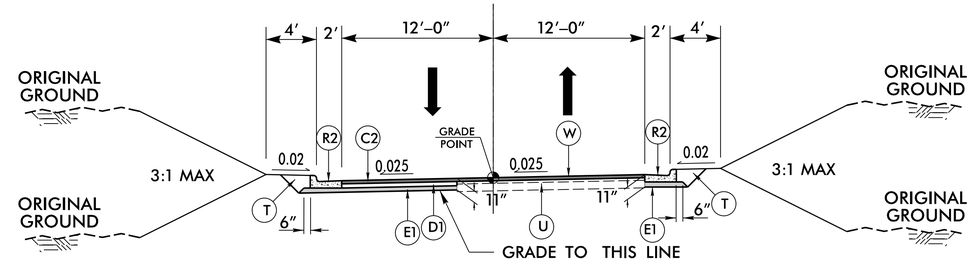
℄ –Y4– & –D2–



TYPICAL SECTION NO. 6
APPLEGATE ROAD & DEAVER CIRCLE

USE TYPICAL SECTION NO. 6
–Y4– STA. 13+32.00 TO STA. 15+52.59
–D2– STA. 10+40.00 TO STA. 11+63.16

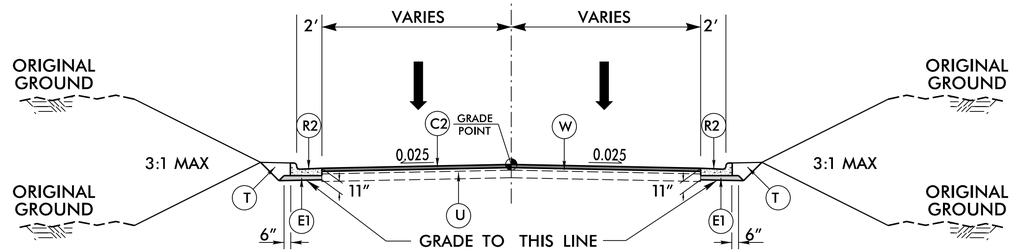
℄ –D1–



TYPICAL SECTION NO. 7
CHURCH ACCESS ROAD

USE TYPICAL SECTION NO. 7
–D1– STA. 10+36.75 TO STA. 13+75.95

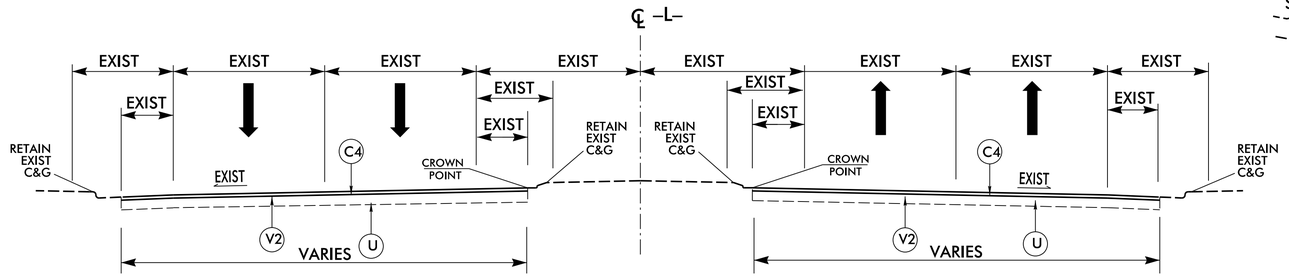
℄ –D3– & –D4–



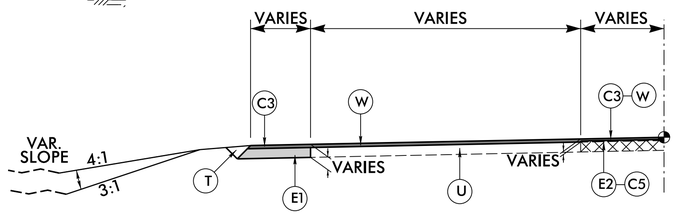
TYPICAL SECTION NO. 8
WALGREENS DRIVEWAY & S. PEAK DR

USE TYPICAL SECTION NO. 8
–D3– STA. 10+80.00 TO STA. 11+53.25
–D4– STA. 11+10.00 TO STA. 11+77.26

℄ –L–



TYPICAL SECTION NO. 9
CAMDEN ROAD (SR 1003) E. OF NC 59
–L– STA. 201+10.73 TO BEGIN EXISTING BRIDGES (APPROX 915′ E.)



DETAIL FOR TEMPORARY PAVEMENT (SEE TMP PLANS FOR LOCATIONS)
–L– 154+61 +/– TO 159+77 +/– RT
–L– 114+16 +/– TO 119+93 +/– CL
–L– 153+69 +/– TO 157+65 +/– CL
–L– 184+04 +/– TO 185+91 +/– CL
–Y3– 31+35 +/– TO 35+00 +/– CL
–Y5– 25+84 +/– TO 34+20 +/– CL

PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	3″ S9.5C
C2	3″ S9.5B
C3	1.5″ S9.5C
C4	3″ S9.5D
C5	VAR. S9.5C
C6	VAR. S9.5B
C7	VAR. S9.5D
D1	4″ I19.0C
D2	VAR. I19.0C
E1	4″ B25.0C
E2	VAR. B25.0C
R1	1′-6″ CURB & GUTTER
R2	2′-6″ CURB & GUTTER
R3	5″ MONOLITHIC CONC. ISLAND
R4	4″ CONC. ISLAND COVER
S	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V1	INCIDENTAL MILLING
V2	3″ MILLING
W	VAR. DEPTH ASPHALT PAVEMENT

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Docusign Envelope ID: 45A9CEF9-9DA5-87D8-812A-2CE64717F2B1

-L-, -Y3-, & -Y4- (CAMDEN RD, ROCKFISH RD & APPLEGATE RD) INTERSECTION DETAIL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 047267 ENGINEER ALEXANDER D. SNIDER

11/3/2026

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

PLAN
40' 0' 40' 80'
20' GRAPHIC SCALE

NAD 83/2011

-Y3- PT Sta. 36+34.91

-Y3- (SR 1112 ROCKFISH RD)

-Y3- PC Sta. 40+61.90

-L- PT Sta. 120+78.18

-L- (SR 1003 CAMDEN RD)

N 74° 42' 02.5" E

-Y3- POT Sta. 38+65.97 = -DI- POT Sta.10+00.00

-DI- PC Sta. 10+70.98

-DI- PT Sta. 11+12.27

-DI- POT Sta. 13+85.00

N 45° 22' 29.6" E

-Y3- POT Sta. 40+90.80 = -L- POT Sta.124+93.14

-L- PC Sta. 126+63.17

-Y4- POT Sta. 15+99.97 = -L- POT Sta.124+93.10

-Y4- (APPLEGATE RD)

120+00 (-L-)

125+00 (-L-)

40+00 (-Y3-)

15+00 (-Y4-)

-Y3-
PI Sta 38+74.91
△ = 65° 14' 24.1" (RT)
D = 15° 16' 43.9"
L = 427.00'
T = 240.01'
R = 375.00'

-DI-
PI Sta 10+93.29
△ = 53° 45' 56.2" (RT)
D = 130° 13' 03.7"
L = 41.29'
T = 22.31'
R = 40.00'

-L-
PI Sta 117+80.55
△ = 1° 42' 19.4" (LT)
D = 0° 17' 11.3"
L = 595.29'
T = 297.67'
R = 20,000.00'
e = NC

-Y4-
PI Sta 10+57.61
△ = 8° 47' 07.3" (LT)
D = 7° 38' 22.0"
L = 115.00'
T = 57.61'
R = 750.00'

-L-
PI Sta 129+65.94
△ = 6° 55' 50.0" (LT)
D = 1° 08' 45.3"
L = 604.81'
T = 302.77'
R = 5,000.00'
e = RC
Lr = 84.00'

PAVEMENT REMOVAL

★ PROPOSED SIGNAL
SEE SHEET 11 & 12 FOR PLAN VIEW

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-L- & -Y5- (CAMDEN RD & ROCKFISH RD) INTERSECTION DETAIL SHEET

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2B-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 047677 ENGINEER ALEXANDER D. SNIDER

11/3/2026

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

PLAN
40' 0' 40' 80'
20' GRAPHIC SCALE

NAD 83/2011

130+00 (-L-)

135+00 (-L-)

140+00 (-L-)

-Y5- POT Sta. 10+00.00 = -L- POT Sta. 134+13.79

-L- PT Sta. 132+67.97

FUTURE DRIVEWAY BY OTHERS

-L- 130+25.00 58.75' LT

-L- 131+75.00 46.75' LT

150' TAPER

2'-6" C&G

-L- 130+25.00 8.00' LT

5" MONO. CONC. ISLAND

-L- (SR 1003 CAMDEN RD)

-L- 133+19.98 8.00' LT R 2'

550' STORAGE

N 67° 46' 12.5" E

-L- 135+23.02 8.00' RT R 2'

-L- 139+89.22 46.75' LT

-L- 141+38.74 34.75' LT

-L- 140+50.00 8.00' RT

-L- 130+79.49 58.75' LT

480' STORAGE

5' SIDEWALK

-L- 130+62.76 68.25' RT

-L- 130+78.79 86.24' RT

-L- 132+67.97 58.75' RT

-L- 132+67.97 68.25' RT

-L- 133+38.59 58.75' RT

-L- 133+38.59 68.25' RT

-L- 130+54.91 83.69' RT

-L- 130+54.91 93.30' RT

-L- 130+70.10 102.09' RT

-L- 130+63.43 104.02' RT

-L- 130+59.96 102.05' RT

R 65' R 60' R 10' R 5' R 200' O/S 11.42'

S 42° 20' 52.3" E

-Y5- 10+67.99 62.37' RT

-Y5- 10+64.17 53.67' RT

-Y5- 11+44.68 36.75' RT

-Y5- 11+65.60 36.75' RT

-Y5- 11+94.27 36.75' RT

-Y5- 11+23.27 81.37' LT

-Y5- 11+52.22 62.75' LT

-Y5- PC Sta. 11+65.60

-Y5- 62.75' LT

-L- 135+77.87 40.81' RT

-L- 135+79.02 50.26' RT

-L- 136+80.69 34.75' RT

-L- 136+81.02 44.25' RT

5" MONO. CONC. ISLAND

-Y5- POT Sta. 12+39.47 = -D2- POT Sta. 12+00.00

R 436.75'

N 37° 04' 17.0" E

R 50'

-D2- 11+31.99 15.00' LT

-D2- PT Sta. 11+95.67

-D2- 11+07.17 15.00' LT

-D2-

N 4° 39' 57.5" E

-D2- POT Sta. 10+00.00

R 40'

-D2- 11+07.17 15.00' RT

-Y5- 12+95.92 36.75' RT

-D2- PC Sta. 10+53.74

-D2- 10+40.00 11.07' RT

-Y5- (SR 1112 ROCKFISH RD)

-Y5- PT Sta. 14+32.78

-Y5- 62.75' LT

-Y5- 14+90.00 62.75' LT

15+00 (-Y5-)

-Y5- 14+32.78 36.75' RT

-Y5- 14+86.42 35.68' RT

-Y5- 15+16.60 60.69' RT

-Y5- 15+19.55 78.14' RT

-Y5- 14+71.62 101.84' RT

-Y5- 15+10.21 89.79' RT

-Y5- 15+14.18 99.60' RT

-Y5- 15+24.57 107.92' RT

-Y5- 15+26.10 117.02' RT

S 80° 37' 08.2" E

300' TAPER

100' TAPER

R 30' R 10'

-L- 137+41.86 464.10' RT

-Y5- 15+47.67 64.31' RT

-Y5- 15+51.48 77.56' RT

-Y5- 16+25.00 8.00' RT

-Y5- 15+47.01 109.25' RT

-Y5- 15+46.92 115.36' RT

-Y5- 16+61.43 46.75' LT

-Y5- 17+90.00 34.75' LT

20.9'

8.8'

-L-
PI Sta 129+65.94
Δ = 6° 55' 50.0" (LT)
D = 1° 08' 45.3"
L = 604.81'
T = 302.77'
R = 5,000.00'
e = RC
Lr = 84.00'

-Y5-
PI Sta 13+04.39
Δ = 38° 16' 15.9" (LT)
D = 14° 19' 26.2"
L = 267.18'
T = 138.79'
R = 400.00'

-D2-
PI Sta 11+26.66
Δ = 32° 24' 19.6" (RT)
D = 22° 50' 00.0"
L = 141.92'
T = 72.91'
R = 250.93'

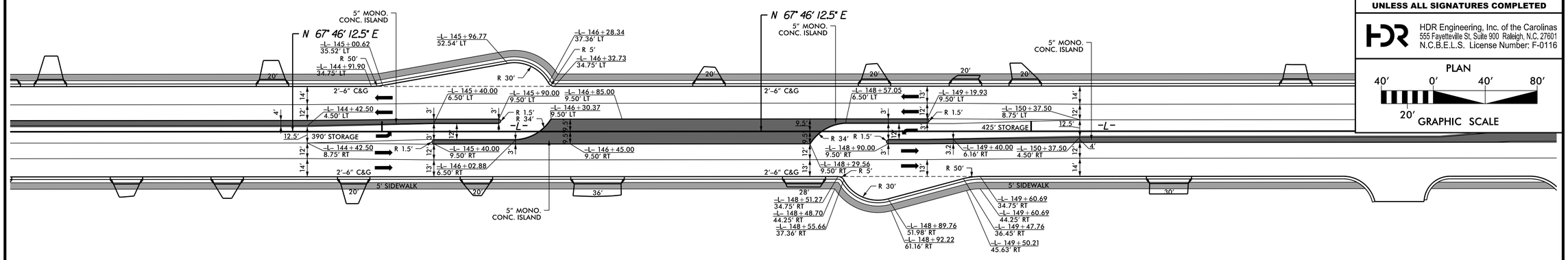
PAVEMENT REMOVAL

★ PROPOSED SIGNAL SEE SHEET 12 & 19 FOR PLAN VIEW

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–L– BULB–OUT (145 + 00) DETAIL



NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 13 FOR PLAN VIEW

–L– BULB–OUT (149 + 00) DETAIL

PROJECT REFERENCE NO.	SHEET NO.
U–3422B	2B–3
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 047267 ENGINEER ALEXANDER D. SNIDER

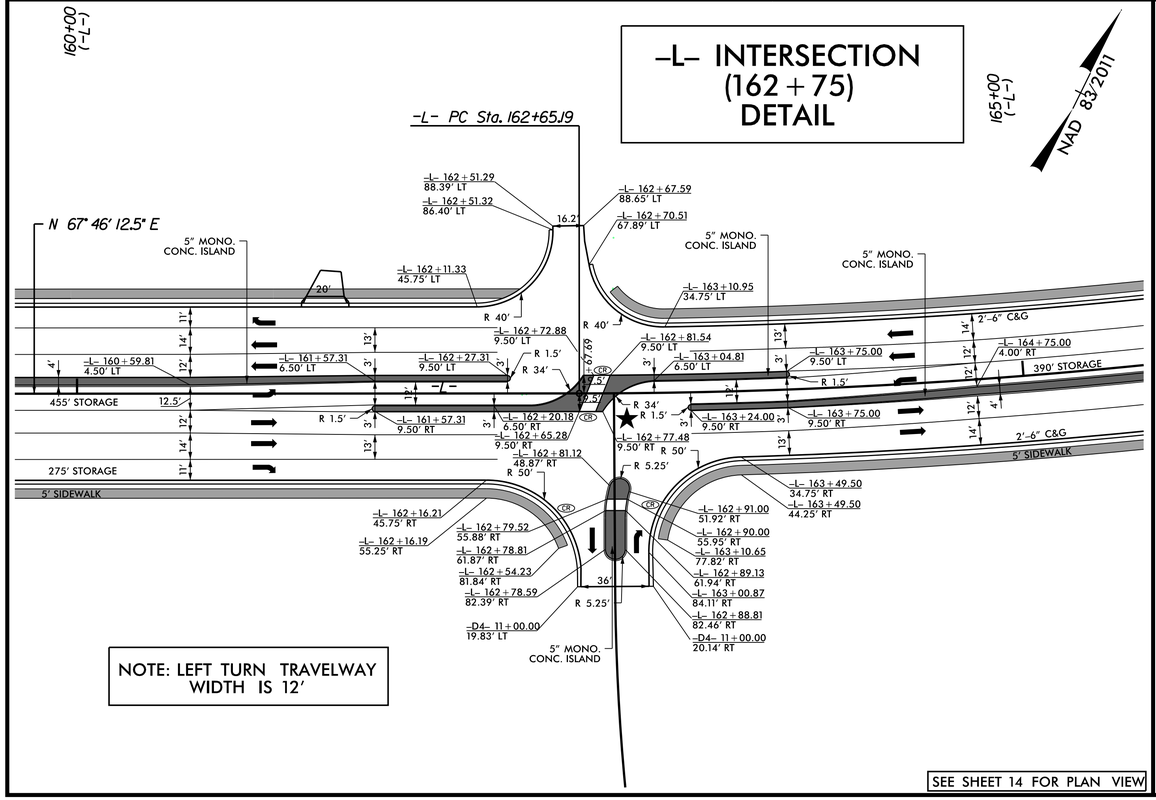
11/3/2026

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

PLAN
40' 0' 40' 80'
20' GRAPHIC SCALE

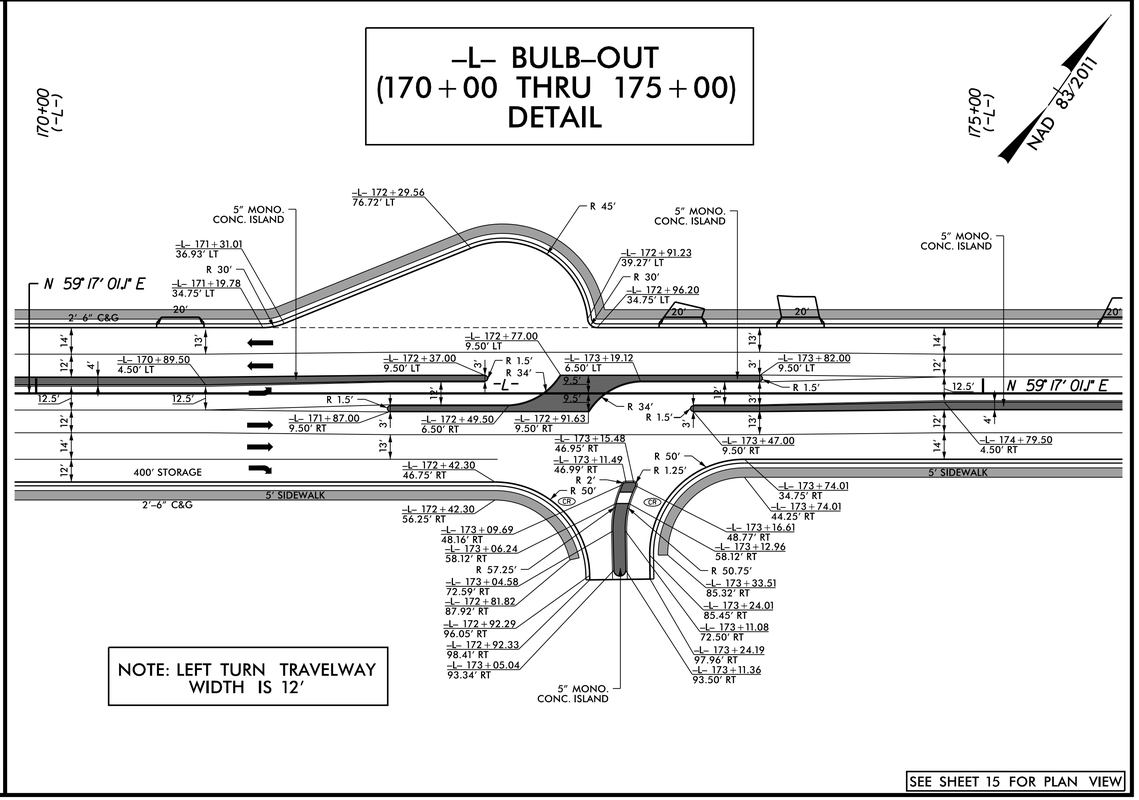
–L– INTERSECTION (162 + 75) DETAIL



NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 14 FOR PLAN VIEW

–L– BULB–OUT (170 + 00 THRU 175 + 00) DETAIL



NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 15 FOR PLAN VIEW

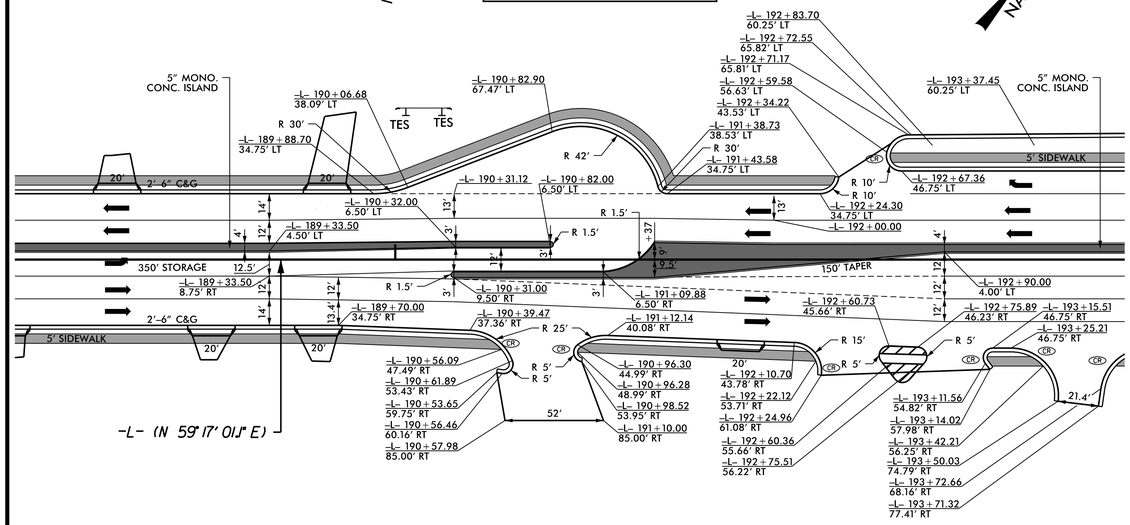
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–L– BULB–OUT (191+00) DETAIL

190+00 (–L–)

NAD 83/2011



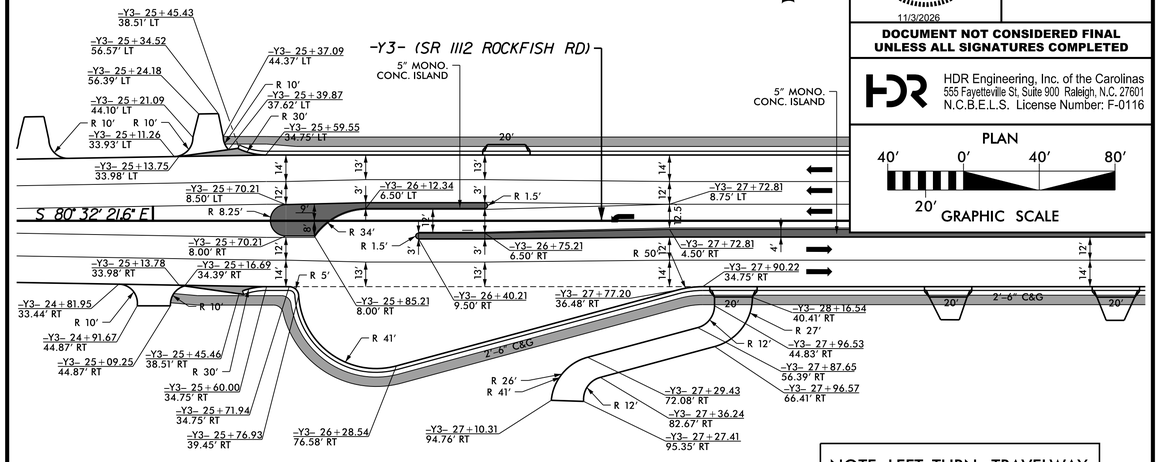
NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 16 FOR PLAN VIEW

–Y3– BULB–OUT (25+25) DETAIL

25+00 (–Y3–)

NAD 83/2011



NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 18 FOR PLAN VIEW

PROJECT REFERENCE NO.	SHEET NO.
U–3422B	2B–4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 042167 ENGINEER ALEXANDER D. SNIDER

11/3/2026

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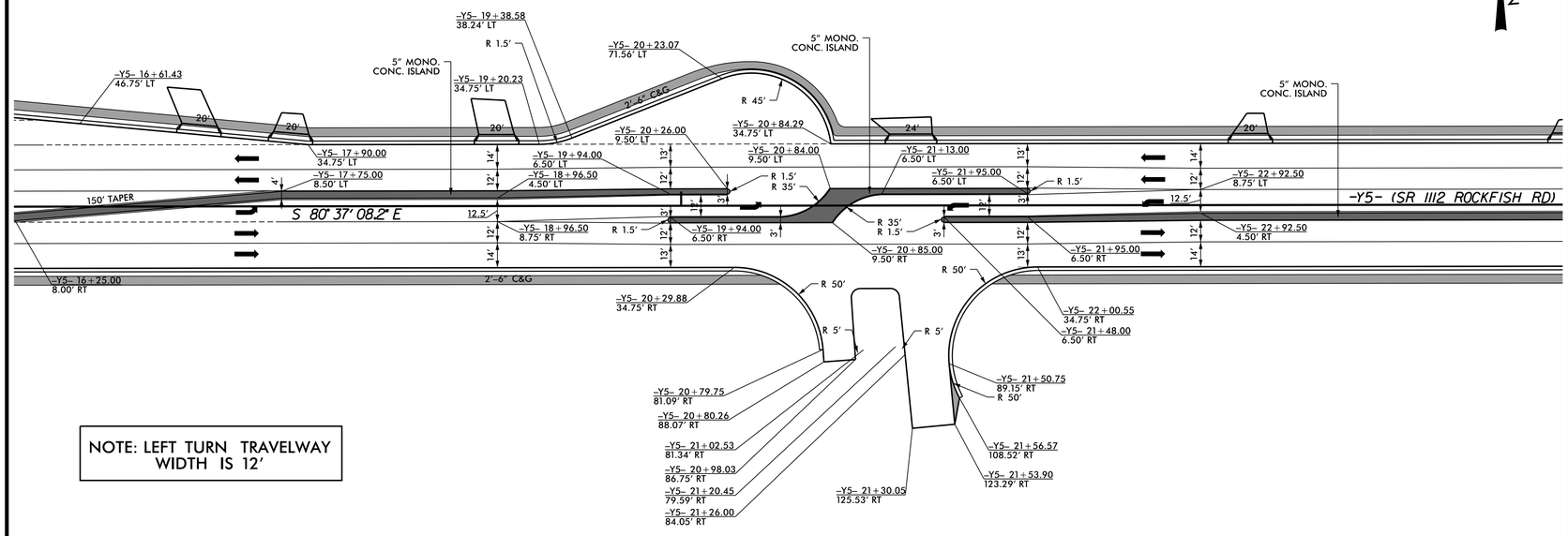
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

PLAN
40' 0' 40' 80'
20' GRAPHIC SCALE

–Y5– BULB–OUT (20+00) DETAIL

20+00 (–Y5–)

NAD 83/2011



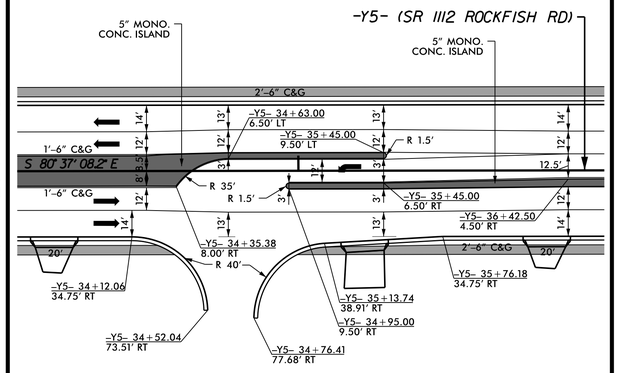
NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 19 FOR PLAN VIEW

–Y5– INTERSECTION (35+00) DETAIL

35+00 (–Y5–)

NAD 83/2011



NOTE: LEFT TURN TRAVELWAY WIDTH IS 12'

SEE SHEET 19A FOR PLAN VIEW

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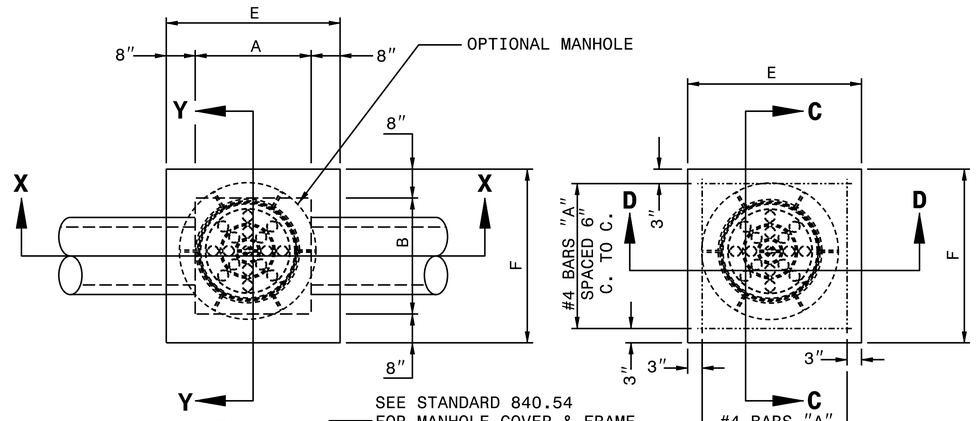
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-1

STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

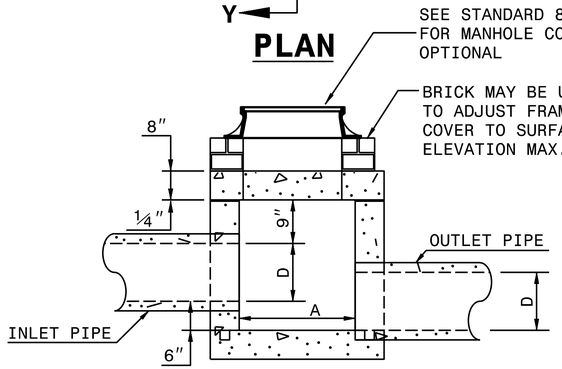
ROADWAY DETAIL DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
UP TO 30′ IN HEIGHT

SHEET 1 OF 1

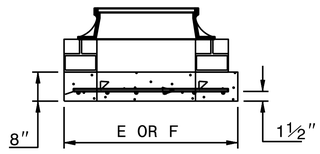
840D31



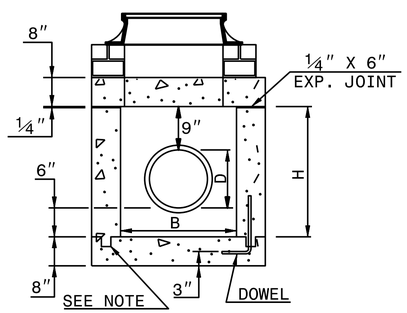
PLAN



SECTION X-X



SECTION C-C OR D-D



SECTION Y-Y

GENERAL NOTES:

CHAMFER ALL EXPOSED CORNERS 1″.

USE CLASS ″B″ CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2″ KEYWAY, OR #4 BAR DOWELS AT 12″ CENTERS AS DIRECTED BY THE ENGINEER.

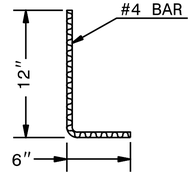
USE FORMS TO CONSTRUCT THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BASE SLAB OF BOX, ADD TO BASE AS SHOWN ON STANDARD NO. 840.00.

PROVIDE ALL JUNCTION BOXES OVER 3′-6″ IN DEPTH WITH STEPS 12″ ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.

ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

MAX. DEPTH OF THIS STRUCTURE FROM TOP OF BOTTOM SLAB TO TOP ELEVATION IS 25 FEET.



DOWEL

DIMENSIONS AND QUANTITIES FOR CONCRETE JUNCTION BOXES

DIMENSIONS OF BOX AND PIPE				REINFORCEMENT BARS ″A″		TOP SLAB DIMENSIONS		CUBIC YARDS IN BOX			TOTAL QUANTITIES BOX AND SLABS		DEDUCTIONS FOR ONE PIPE CU.YDS.	
PIPE	SPAN	WIDTH	HEIGHT					TOP SLAB	BOTTOM SLAB	WALL/ FT. OF HT.	LBS. REINF	CU. YDS. MIN. ″H″	C.S.	R.C.
D	A	B	H	NO.	LENGTH	E	F							
12″	2′-0″	2′-0″	2′-3″	12	2′-9″	3′-0″	3′-0″	0.222	0.222	0.246	22	0.998	0.015	0.024
15″	2′-3″	2′-3″	2′-6″	12	3′-0″	3′-3″	3′-3″	0.261	0.261	0.271	24	1.200	0.023	0.036
18″	2′-6″	2′-6″	2′-9″	14	3′-3″	3′-6″	3′-6″	0.302	0.302	0.295	30	1.416	0.033	0.049
24″	3′-0″	3′-0″	3′-3″	16	3′-9″	4′-0″	4′-0″	0.394	0.394	0.344	40	1.907	0.059	0.085
30″	3′-6″	3′-6″	3′-9″	18	4′-3″	4′-6″	4′-6″	0.499	0.499	0.394	51	2.474	0.092	0.127
36″	4′-0″	4′-0″	4′-3″	20	4′-9″	5′-0″	5′-0″	0.616	0.616	0.443	64	3.114	0.132	0.178
42″	4′-6″	4′-6″	4′-9″	22	5′-3″	5′-6″	5′-6″	0.745	0.745	0.492	77	3.828	0.180	0.243
48″	5′-4″	5′-4″	5′-3″	26	6′-3″	6′-4″	6′-4″	0.988	0.988	0.541	111	4.819	0.235	0.317
54″	5′-10″	5′-10″	5′-9″	28	6′-7″	6′-10″	6′-10″	1.150	1.150	0.591	126	5.696	0.297	0.401
60″	6′-6″	6′-6″	6′-3″	30	7′-3″	7′-6″	7′-6″	1.386	1.386	0.640	145	6.770	0.367	0.495
66″	7′-1″	7′-1″	6′-9″	32	7′-10″	8′-1″	8′-1″	1.609	1.609	0.689	169	7.870	0.444	0.589

STATE OF
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RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
CONCRETE JUNCTION BOX
(WITH OPTIONAL MANHOLE)
UP TO 30′ IN HEIGHT

SHEET 1 OF 1

840D31

$$$$SYSTIME$$$$
$$$$USERNAME$$$$DGN$$$$$$$$$$$$$$$$$$$$

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
JOHN M. HOWERTON III
11/3/2026

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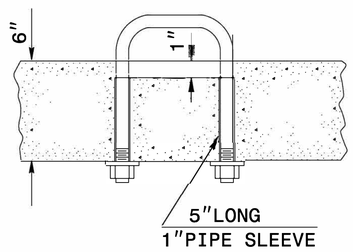
CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

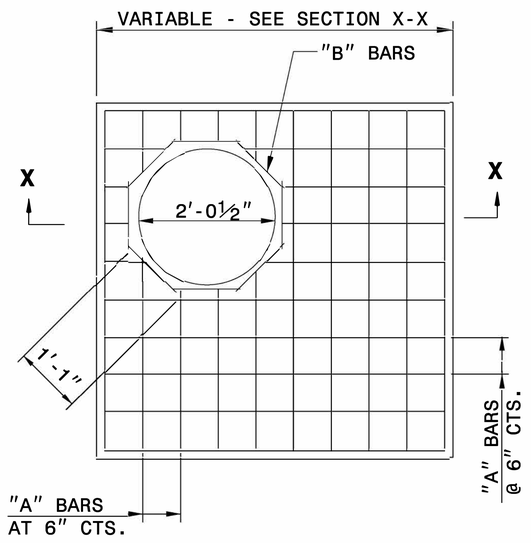
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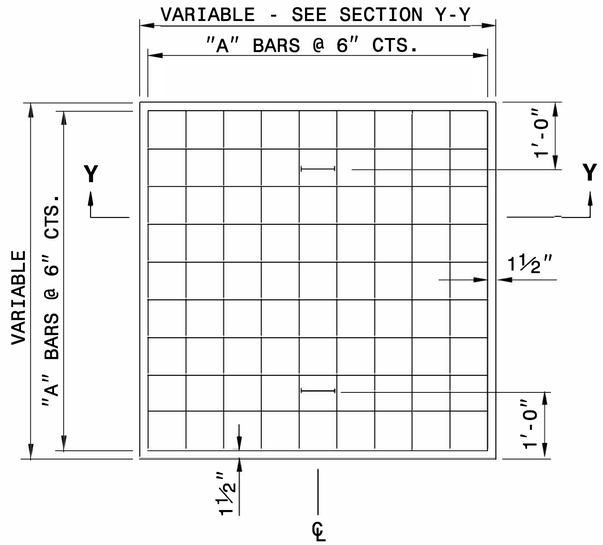
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-2



PARTIAL SECTION



PLAN



PLAN

GENERAL NOTES:

CONSTRUCT IN ACCORDANCE WITH SECTION 859 OF THE STANDARD SPECIFICATIONS.

THE DIMENSIONS FOR THE EXISTING BOXES ARE APPROXIMATE AND MAY VARY SLIGHTLY.

DETAIL INTENDED FOR NON-TRAFFIC BEARING DRAINAGE STRUCTURES.

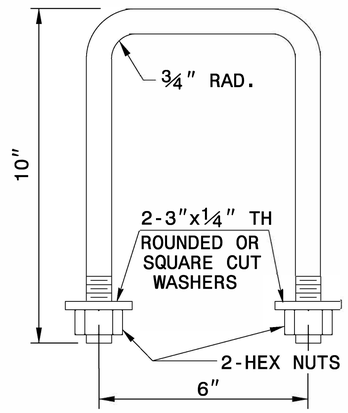
BILL OF MATERIALS

REINFORCING STEEL

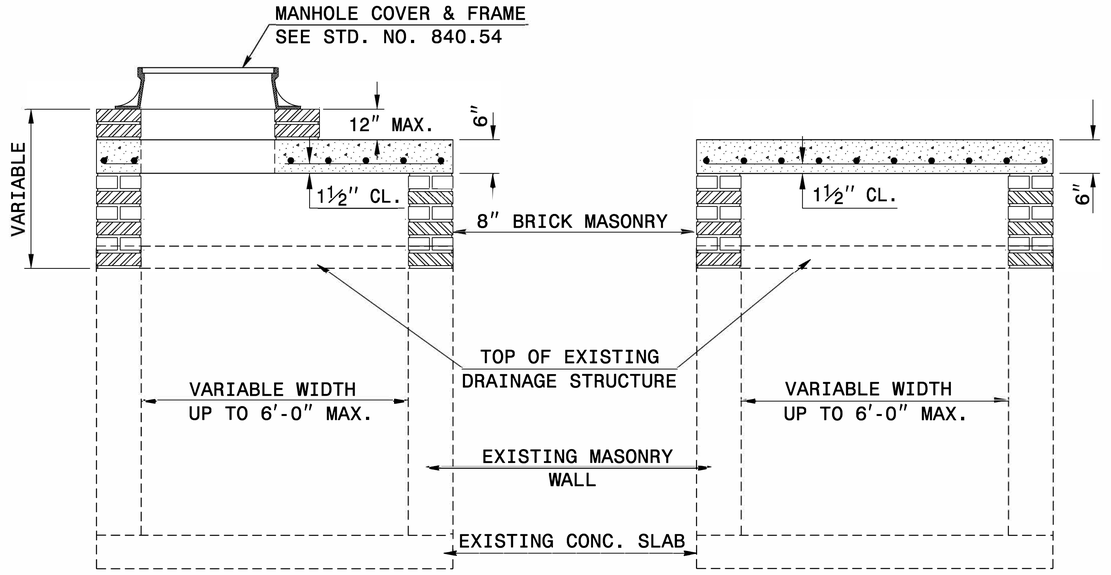
CODE	SIZE	QTY.	LENGTH	REINF. STEEL LBS.
A	#4	20	4'-6"	60.12
B	#4	8	1'-1"	5.79
TOTAL				65.91 *

MASONRY	CU YDS
TOP SLAB CONCRETE CLASS "B"	.4326 *
BRICK MASONRY PER FT HT (MIN)	.4111

* NOTE:
QUANTITIES BASED ON 3'-6" X 3'-6" DRAINAGE STRUCTURE. ADJUST QUANTITIES FOR LARGER STRUCTURES AND MANHOLE CONSTRUCTION.



DETAIL OF HANDLE



SECTION X-X

SECTION Y-Y

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER

11/3/2026

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CONTRACT STANDARDS AND DEVELOPMENT UNIT
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DETAIL TO CONVERT EXISTING DI, CB, OTCB or GI TO JUNCTION BOX (MANHOLE OPTIONAL)

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MODIFIED BY: T.S.S. DATE: FEB.2000
CHECKED BY: DATE:
FILE SPEC.: ds174:/usr/details/stand/boxtojbe.dgn

USER: TIMES SYSTEM: SS RELEASE: 10.00 ISSUED: 11-03-26

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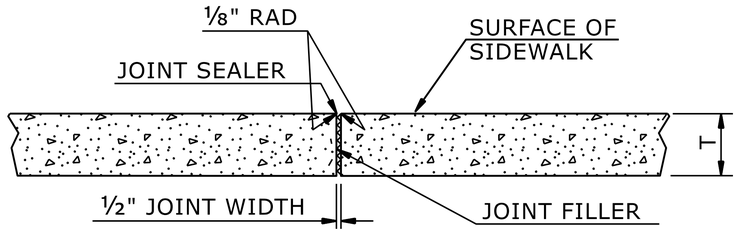
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-3

NOTES:

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

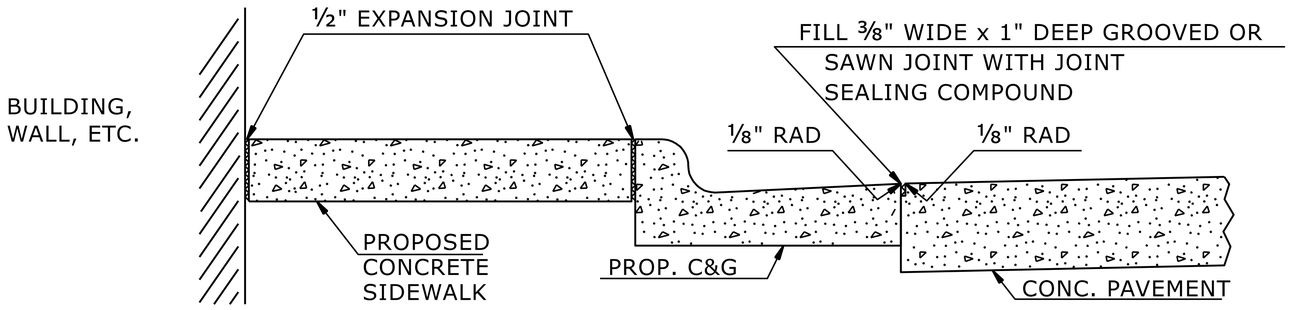
PLACE A GROOVE JOINT 1" DEEP WITH ⅛" RADII IN THE CONCRETE SIDEWALK AT 5' INTERVALS. ONE ½" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A ½" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.

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 ENGINEER SEAL 033144 NICOLE M. HACKLER

11/3/2026

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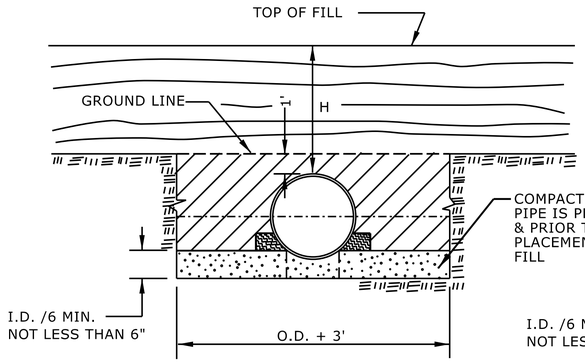
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

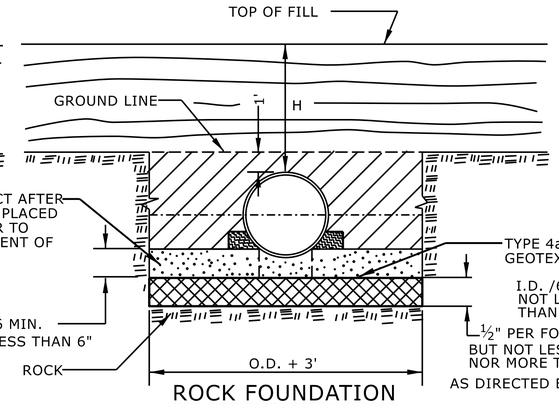
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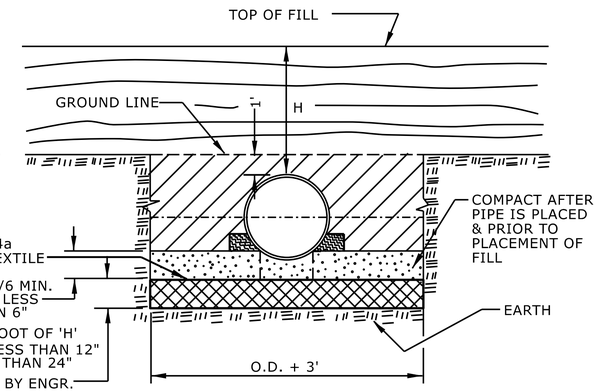
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-4



NORMAL EARTH FOUNDATION

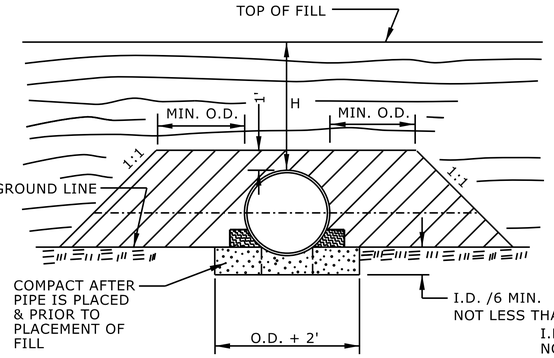


ROCK FOUNDATION

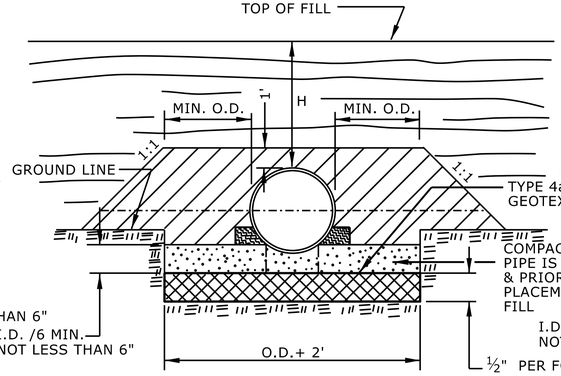


UNSUITABLE MATERIAL FOUNDATION

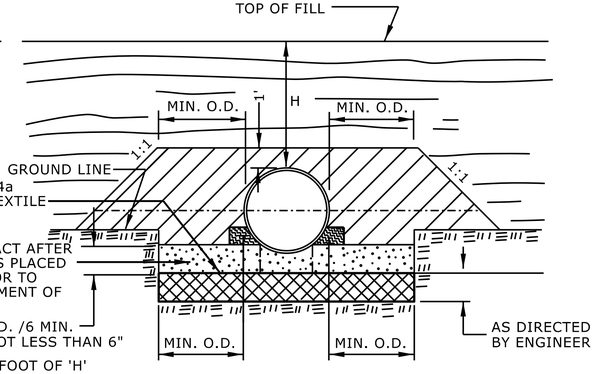
PIPE IN TRENCH



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, 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. HACKER

11/3/2026

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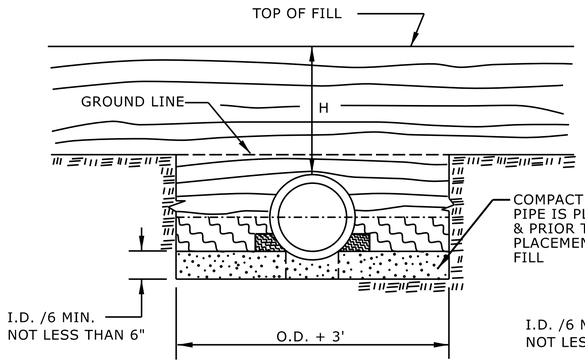
Office 919-707-6950 FAX 919-250-4119

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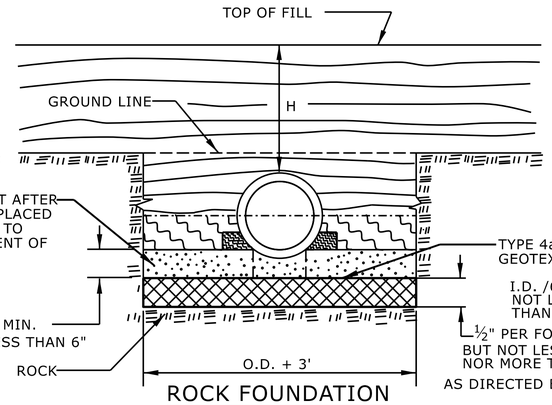
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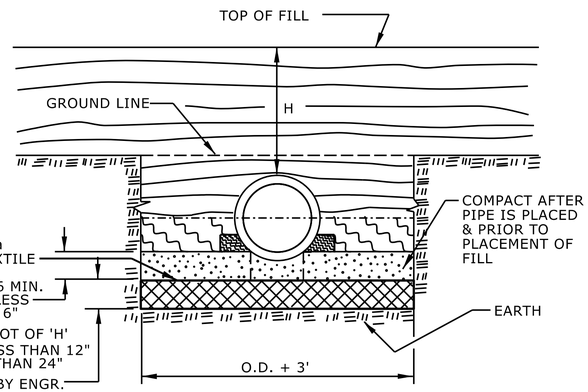
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U-3422B	2C-5



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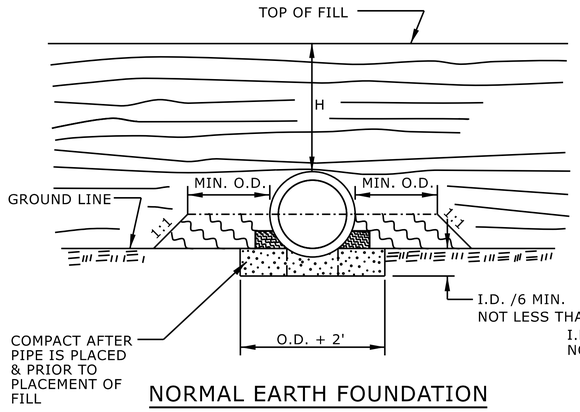


ROCK FOUNDATION

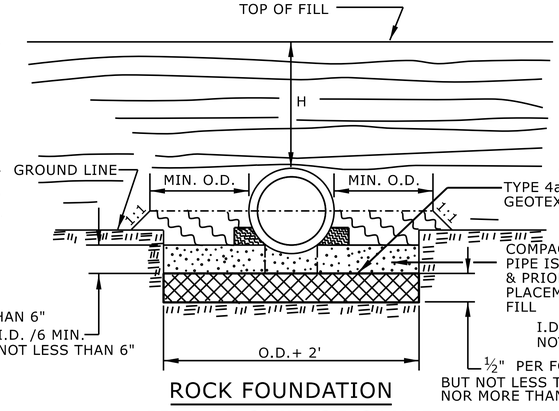


UNSUITABLE MATERIAL FOUNDATION

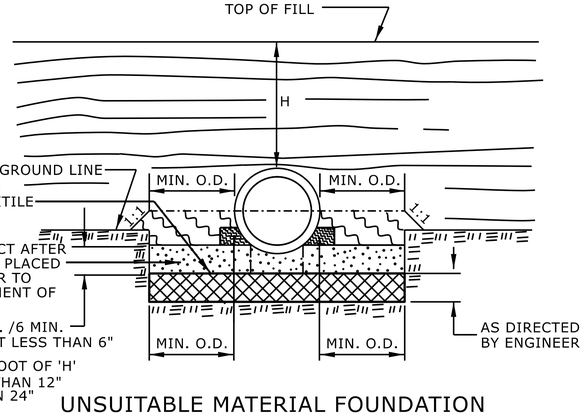
PIPE IN TRENCH



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 ENGINEER NICOLE M. HACKLER

11/3/2026

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CONTRACTS STANDARDS AND DEVELOPMENT UNIT
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U-3422B	2C-6

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

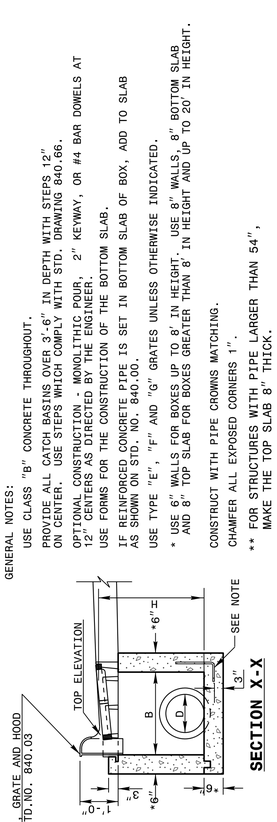
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.

* USE 6" WALLS FOR BOXES UP TO 8' IN HEIGHT. USE 8" WALLS, 8" BOTTOM SLAB AND 8" TOP SLAB FOR BOXES GREATER THAN 8' IN HEIGHT AND UP TO 20' IN HEIGHT.

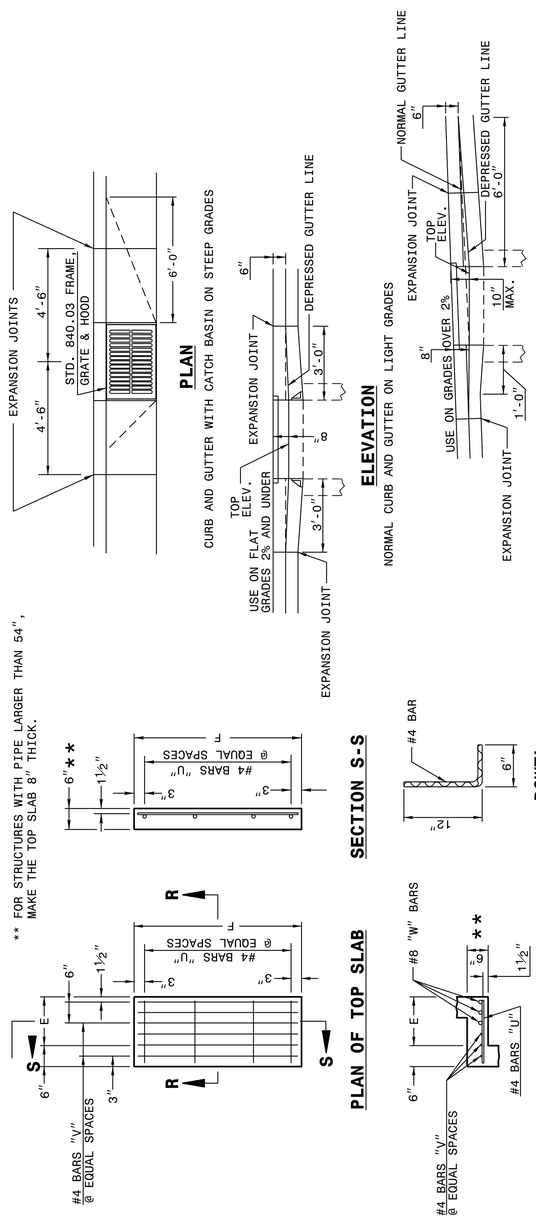
CONSTRUCT WITH PIPE CROWNS MATCHING.

CHAMFER ALL EXPOSED CORNERS 1".

** FOR STRUCTURES WITH PIPE LARGER THAN 54", MAKE THE TOP SLAB 8" THICK.



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **EXTRA DEPTH CONCRETE CATCH BASIN** 12" THRU 84" PIPE	SHEET 1 OF 2 **840D02**



* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *

PIPE D	DIMENSIONS OF BOX AND PIPE SPAN A	WIDTH B	WIDTH C	SPAN G	MIN. HEIGHT H	COVER DIMENSION E	COVER DIMENSION F	BARS-U NO.	BARS-U LENGTH	BARS-V NO.	BARS-V LENGTH	TOTAL LBS.	CU.YDS. CONC. IN BOX TOP SLAB	CU.YDS. CONC. IN BOX BOTTOM SLAB	CU.YDS. CONC. IN BOX TOT. CONC. FOR MINIMUM HEIGHT H	DEDUCTIONS ONE PIPE C.M.	DEDUCTIONS ONE PIPE R.C.
12"	3'-0"	2'-2"	--	--	2'-0"	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026
15"	3'-0"	2'-2"			2'-3"									0.235	0.829	0.023	0.036
18"	3'-0"	2'-2"			2'-6"									0.235	0.887	0.033	0.049
24"	3'-0"	2'-2"			3'-1"									0.235	1.001	0.059	0.085
30"	3'-0"	2'-2"	3'-4"	3'-4"	3'-10"	1'-2"	4'-4"	4	1'-5"	2	4'-1"	39	0.123	0.347	1.433	0.092	0.127
36"	3'-0"	2'-2"	3'-10"	3'-10"	4'-6"	1'-8"	4'-10"	4	1'-11"	3	4'-7"	43	0.161	0.432	1.714	0.132	0.178
42"	3'-0"	2'-2"	4'-5"	4'-5"	4'-11"	2'-2"	5'-5"	5	2'-5"	4	5'-2"	47	0.200	0.543	1.738	0.160	0.243
48"	3'-0"	2'-2"	5'-0"	5'-0"	5'-6"	2'-10"	6'-0"	5	3'-1"	4	5'-9"	51	0.235	0.667	2.052	0.235	0.317
54"	3'-0"	2'-2"	5'-7"	5'-7"	6'-0"	3'-5"	6'-7"	6	3'-8"	5	6'-4"	56	0.289	0.802	2.387	0.297	0.401
60"	3'-0"	2'-2"	6'-3"	6'-3"	6'-6"	4'-1"	7'-3"	6	4'-4"	5	7'-0"	61	0.340	0.973	2.722	0.363	0.546
66"	3'-0"	2'-2"	6'-11"	6'-11"	7'-0"	4'-9"	7'-11"	7	5'-0"	6	7'-8"	66	0.391	1.160	3.057	0.440	0.655
72"	3'-0"	2'-2"	7'-6"	7'-6"	7'-6"	5'-3"	8'-6"	7	5'-6"	6	8'-3"	72	0.442	1.340	3.392	0.524	0.774
78"	3'-0"	2'-2"	8'-1"	8'-1"	8'-0"	5'-11"	9'-1"	8	6'-2"	7	8'-10"	78	0.493	1.530	3.727	0.615	0.893
84"	3'-0"	2'-2"	8'-9"	8'-9"	8'-6"	6'-7"	9'-9"	8	6'-10"	7	9'-6"	84	0.544	1.760	4.062	0.713	1.010

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.	ENGLISH DETAIL DRAWING FOR **EXTRA DEPTH CONCRETE CATCH BASIN** 12" THRU 84" PIPE	SHEET 2 OF 2 **840D02**

NORTH CAROLINA PROFESSIONAL SEAL 033444 ENGINEER MICHAEL M. HAKIM

11/3/2026

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

SEE PLATE FOR TITLE

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MODIFIED BY: E.E. WARD DATE: 3-1-02
CHECKED BY: DATE:
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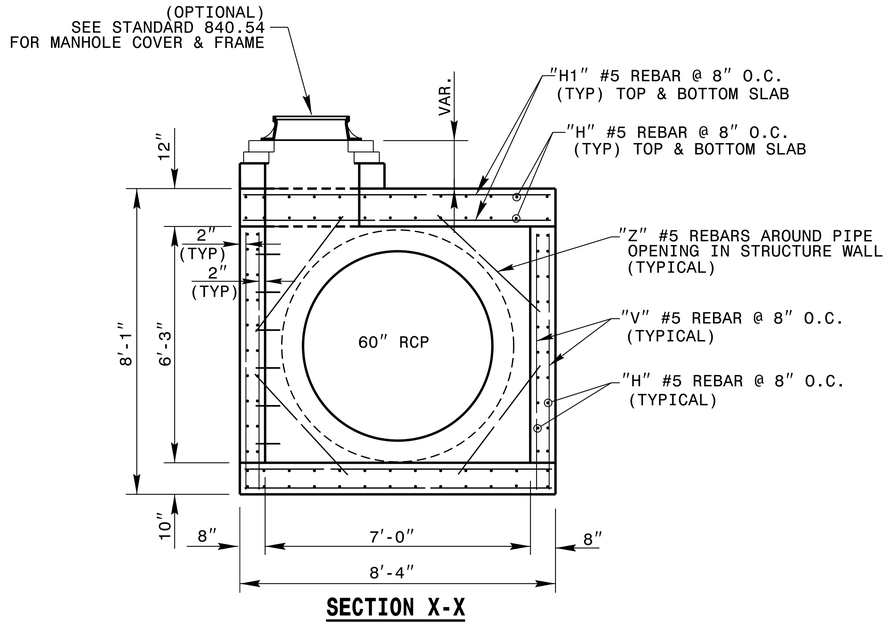
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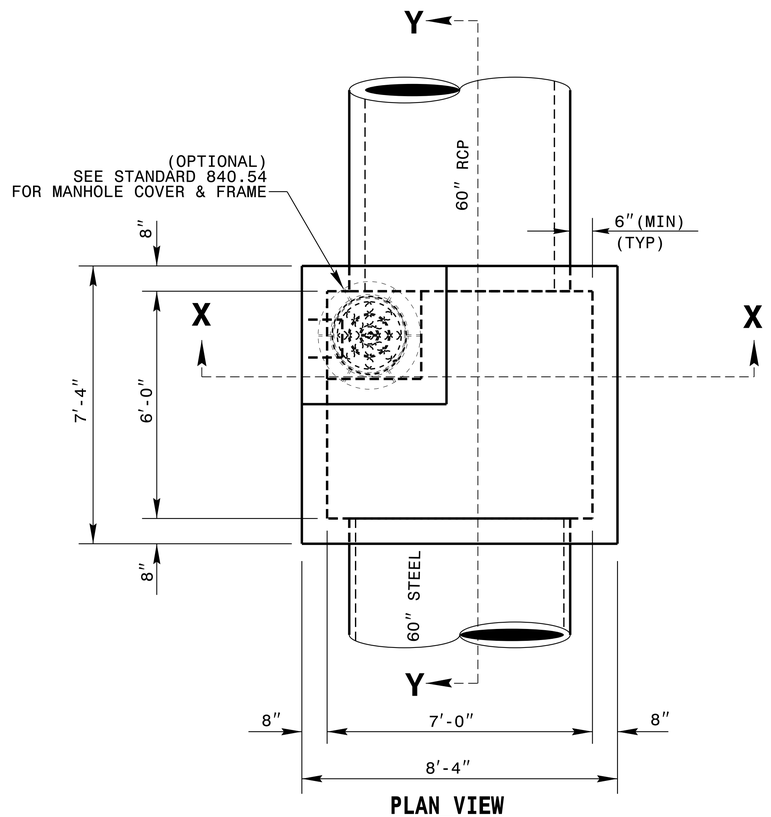
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-7

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SECTION X-X



PLAN VIEW

GENERAL NOTES:

USE CLASS "AA" CONCRETE THROUGHOUT.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

INSTALL MANHOLE IN POSITION AS DIRECTED BY THE ENGINEER. CUT AND BEND ALL REBAR CROSSING THIS OPENING TO ALLOW 2" MINIMUM CONCRETE COVERAGE.

CHAMFER ALL EXPOSED CORNERS 1".

2" MINIMUM CONCRETE COVERAGE ON ALL REBAR.

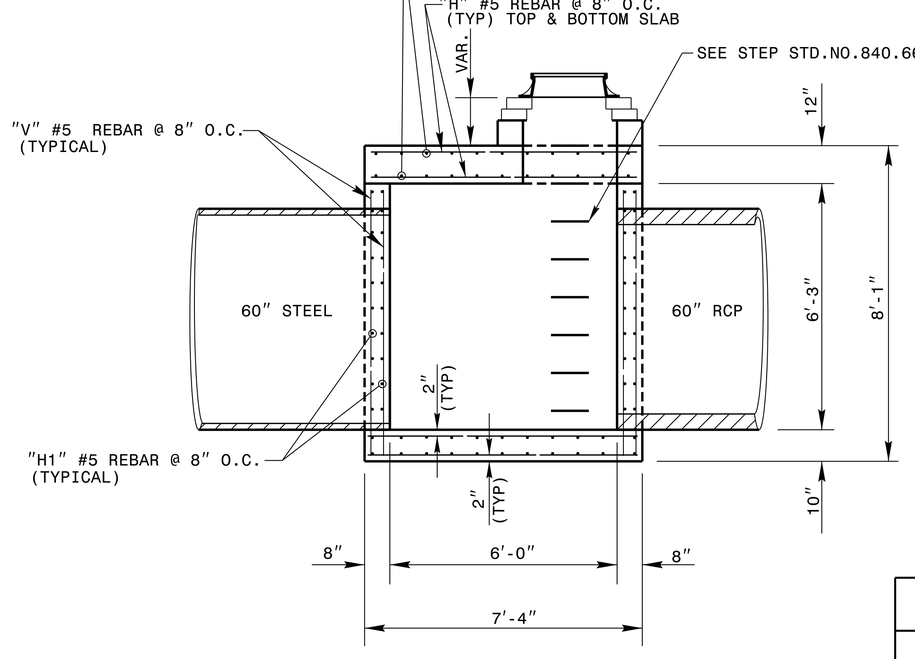
NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HACK

11/3/2026

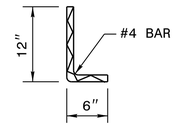
BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	WEIGHT
H	92	#5	7'-0"	672
H1	84	#5	8'-0"	701
V	92	#5	6'-9"	648
Z	16	#5	4'-0"	67
TOTAL REINF. STEEL (LBS.)				2088
TOTAL CONC. (CU. YDS.)				8.8

* 0.30 CU. YD. PER FOOT OF RISER HEIGHT
* 0.65 CU. YD. DEDUCTION FOR 1-60" RC PIPE
* 0.55 CU. YD. DEDUCTION FOR 1-60" STEEL PIPE
* NO DEDUCTION HAS BEEN MADE FOR PIPES



SECTION Y-Y



DOWEL

CONTRACT, STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6900 FAX 919-250-4119

TRAFFIC BEARING JUNCTION BOX

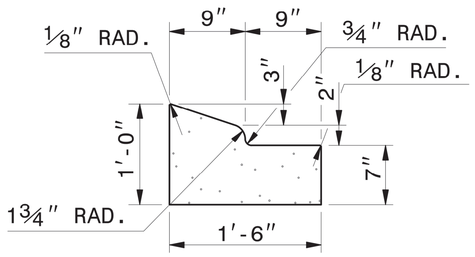
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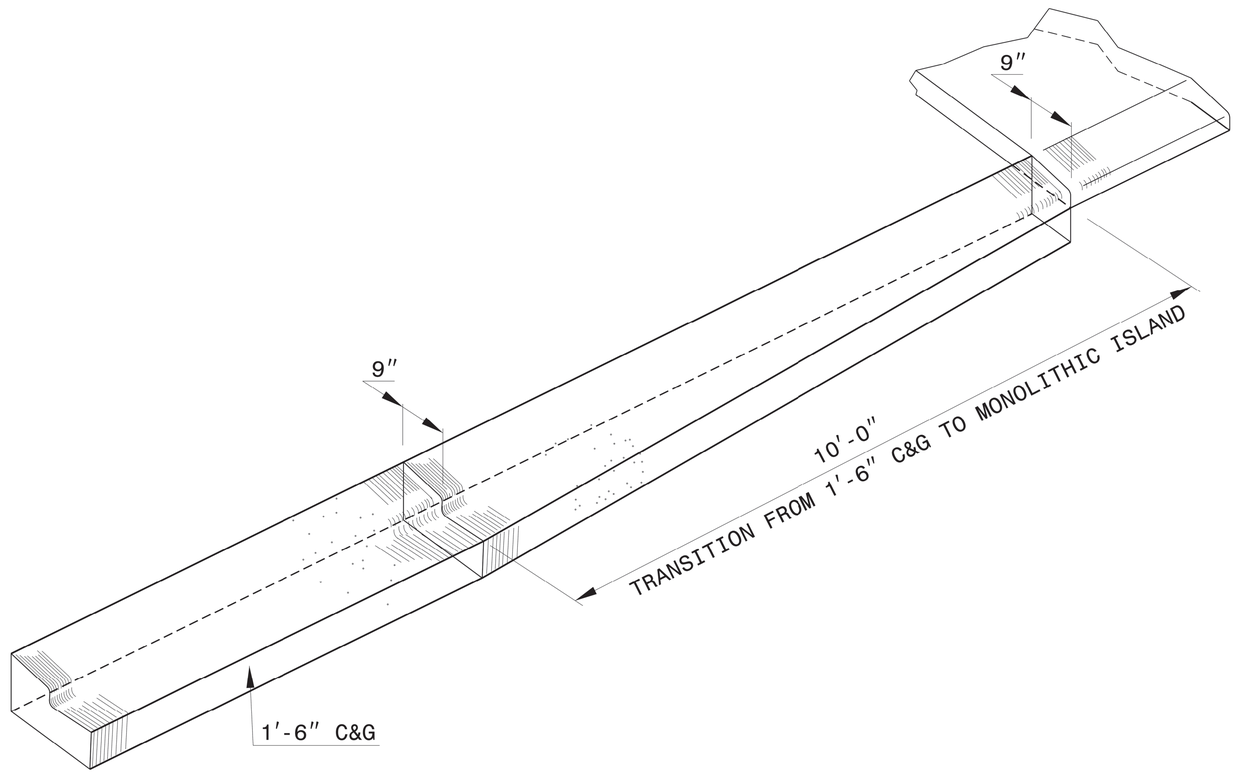
PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-8



1′-6″ CURB AND GUTTER

NOTE: SEE STD. DWG. 846.01 FOR ADDITIONAL CURB AND GUTTER INFORMATION.

SEE ROADWAY PLANS FOR LOCATION OF CURB TRANSITION.



ISOMETRIC VIEW OF TRANSITIONING CURB & GUTTER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 33141 ENGINEER NICOLE M HACKETT

11/3/2026

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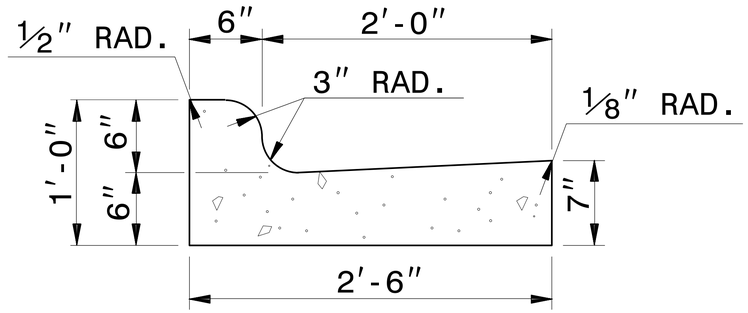
DETAIL OF 1′-6″ CURB & GUTTER TRANSITION SECTION

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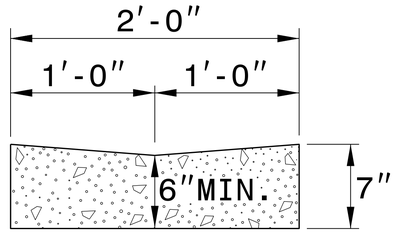
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U-3422B	2C-9

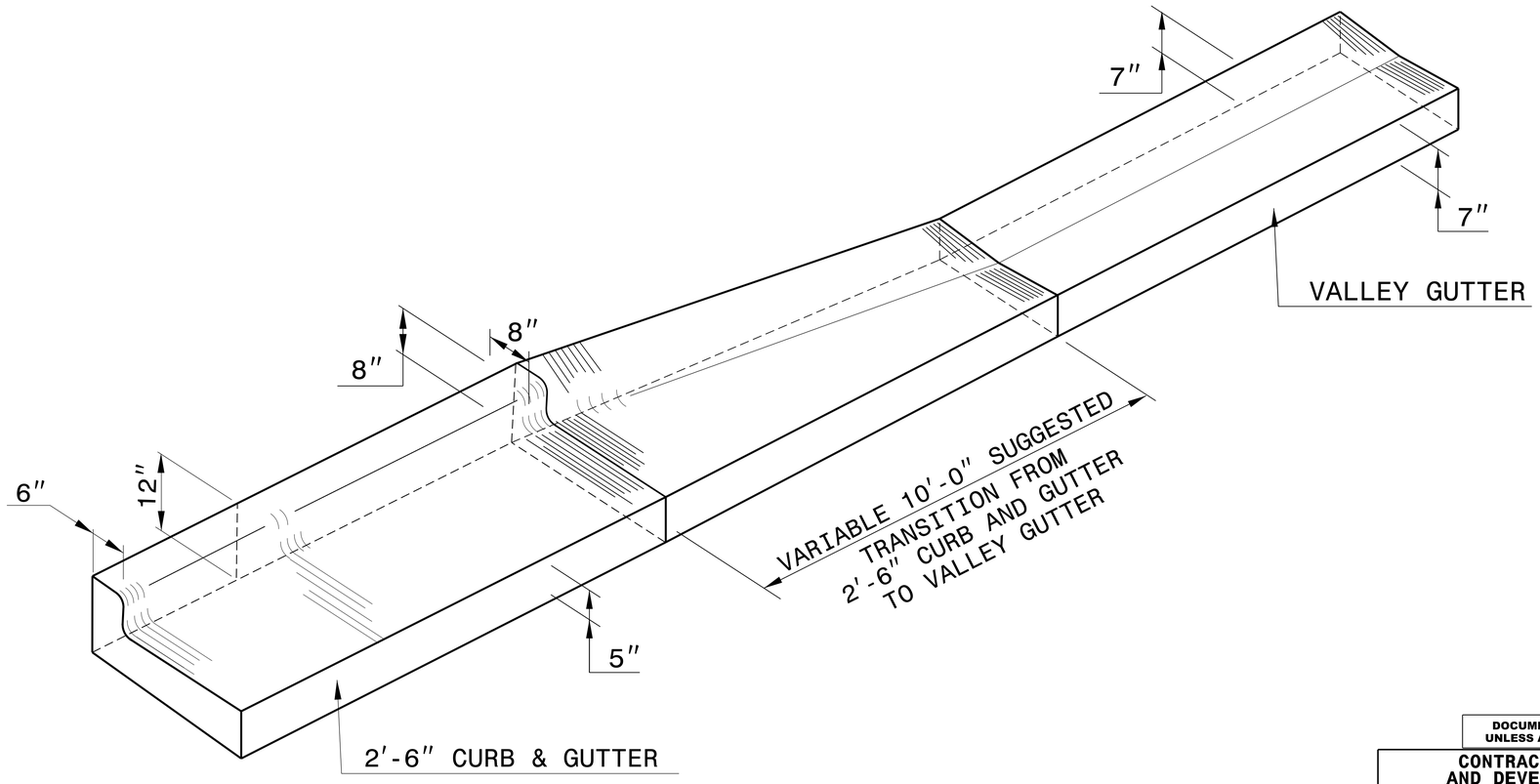
*NOTE: SEE STD. DWG. 846.01
FOR GENERAL NOTES



2'-6" CURB AND GUTTER



VALLEY GUTTER



ISOMETRIC VIEW OF TRANSITION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 33141 COLE W. HACKNEY

11/3/2026

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TRANSITION FROM 2'-6" CURB AND GUTTER TO VALLEY GUTTER

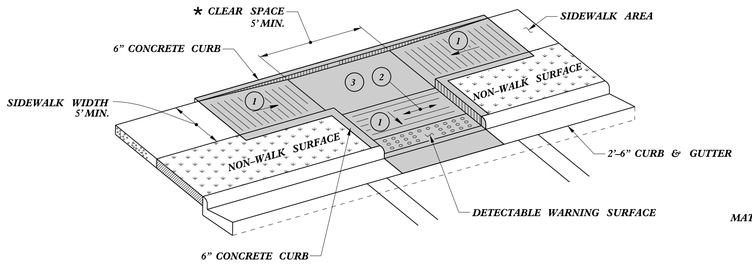
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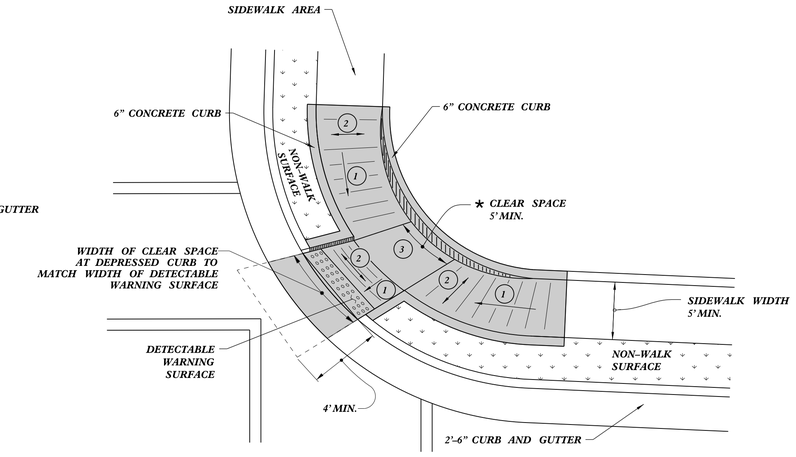
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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	2C-10

* - *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.*



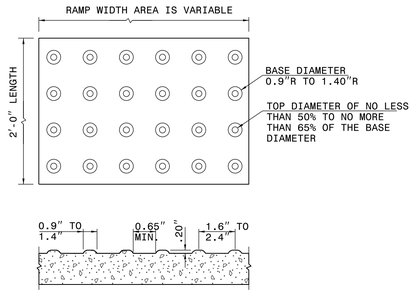
TYPE 3



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 039144 ENGINEER NICOLE M HACKLER

11/3/2026

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5/26/20

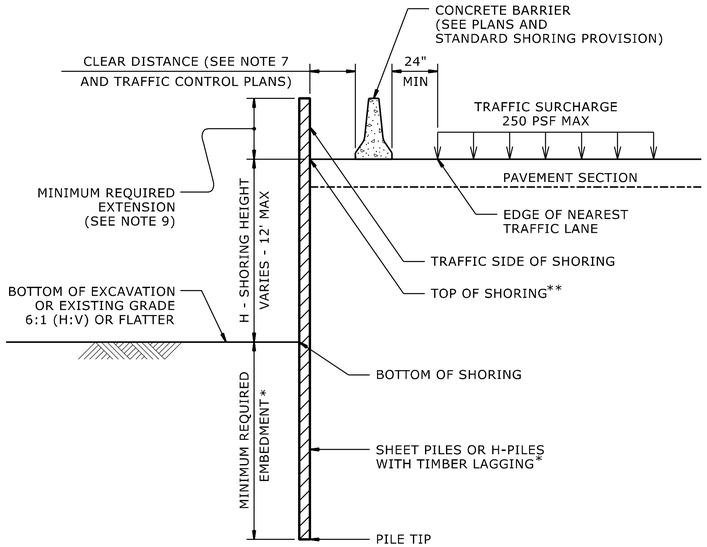
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN^3/FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN^3/FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73
GROUNDWATER ELEVATION BEWTEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
	12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
	12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".

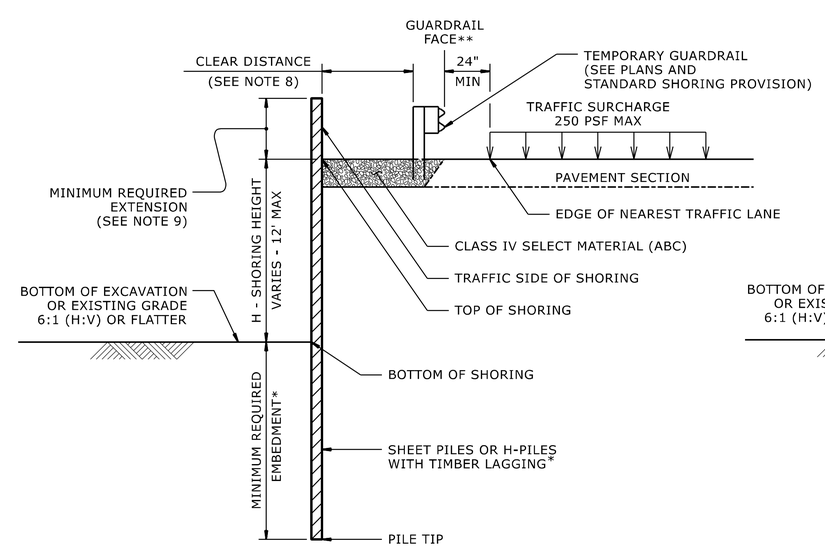
NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
   UNIT WEIGHT, γ = 120 PCF
   FRICTION ANGLE, φ = 30 DEGREES
   COHESION, c = 0 PSF
4. DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
7. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
8. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
9. MINIMUM REQUIRED EXTENSION IS 6" FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
10. MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
11. SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
12. CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.



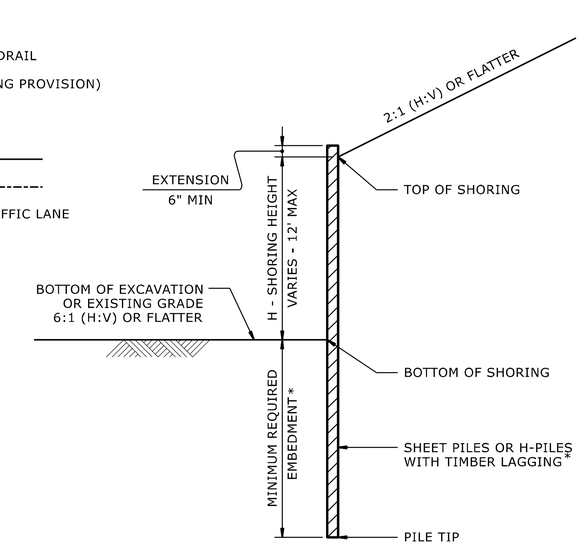
CONCRETE BARRIER

**TOP OF SHORING = EDGE OF PAVEMENT



TEMPORARY GUARDRAIL

**GUARDRAIL FACE = EDGE OF PAVEMENT



STANDARD TEMPORARY SHORING

(SLOPE CASE)
*SEE TABLE ABOVE.

STANDARD TEMPORARY SHORING

(SURCHARGE CASE)
*SEE TABLE ABOVE.

U-3422B
2G-1 | -

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

GEOTECHNICAL ENGINEER
DocuSigned by: Scott A. Hidden 06/03/2026
F760CAE8...
NORTH CAROLINA PROFESSIONAL SEAL 022246 ENGINEER SCOTT A. HIDDEN

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STANDARD DETAIL NO. 1801.01

GEOTECHNICAL STANDARD DETAIL FOR

TEMPORARY SHORING

DATE: 02-18-2025

RAL_CNDI

COMPUTED BY: JHG DATE: 1/20/25
CHECKED BY: ADS DATE: 2/13/25

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	3B-1

"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

GUARDRAIL SUMMARY

G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

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 CONCRETE BARRIER	REMOVE EXISTING GUARDRAIL	25' CLEAR SPAN GUARDRAIL SECTIONS	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	XI	GREU TL-3	GREU TL-2	AT-1	CAT-1	VI MOD	TES	TYPE III	G	NG				
L	190+02.50	190+27.50	LT	37.50			190+02.50	190+27.50														2							

TOTALS			37.50
DEDUCTIONS FOR ANCHOR UNITS			
GREU TL-3	0	50	0
CAT-1	0	6.25	0
TYPE III	0	22.875	0
AT-1	0	6.25	0
TES	2	6.25	-12.5
GRAND TOTAL			25.00
	SAY		**25.00**

5 EACH ADDITIONAL GUARDRAIL POSTS

NOTE: GUARDRAIL AND REMOVAL LENGTHS ARE IN LINEAR FEET UNLESS OTHERWISE NOTED.

COMPUTED BY: ADS DATE: 9/18/2026

PROJECT NUMBER	SHEET NUMBER
U-3422B	3B-2

RD.

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- LT	110+00.00	131+00.00	2,886		619		2,267
-L- RT	110+00.00	131+00.00	508		1,951	1,443	
-L- LT	131+00.00	201+00.00	2,059		9,378	7,319	
-L- RT	131+00.00	201+00.00	3,450		5,385	1,935	
-Y4-	10+00.00	15+00.00	669		251		418
-Y3-	20+40.00	40+00.00	4,710		2,253		2,458
-Y5- LT	11+50.00	13+00.00	3		761	758	
-Y5- LT	19+50.00	45+60.00	2,531		534		1,997
-Y5- RT	13+00.00	45+60.00	1,080		2,610	1,530	
SUBTOTAL			**17,896**		**23,741**	**12,985**	**7,140**
SUMMARY 2							
-L- LT	154+00.00	185+50.00	81		178	97	
-Y5- LT	13+50.00	19+00.00	14		1,348	1,334	
SUBTOTAL			**95**		**1,525**	**1,430**	
SUMMARY 3							
-L- RT	139+00.00	141+00.00	266		95		171
-L- RT	155+00.00	159+50.00	120		109		11
-L- RT	181+50.00	183+00.00	37		79	42	
-Y5-	14+50.00	18+00.00			1,434	1,434	
-D4-	11+10.00	11+75.00	14		30	16	
SUBTOTAL			**437**		**1,746**	**1,492**	**182**
SUMMARY 4							
-L- LT	114+50.00	119+50.00	110		123	13	
-Y5- RT	12+50.00	13+00.00			149	149	
-Y5- RT	26+00.00	34+00.00	143		251	108	
SUBTOTAL			**253**		**523**	**270**	
SUMMARY 5							
-D2-	10+40.00	11+50.00	40		189	149	
-D1-	10+50.00	13+75.95	131		296	165	
SUBTOTAL			**171**		**485**	**314**	
SUMMARY 6							
-L- RT	154+00.00	157+50.00	69		104	35	
-L- RT	184+50.00	185+50.00	4		45	41	
SUBTOTAL			**73**		**149**	**76**	
SHEET TOTALS			**18,925**		**28,169**	**16,566**	**7,322**
LOSS DUE TO CLEARING AND GRUBBING			**-200**			**200**	
MATERIAL FOR SHOULDER CONSTRUCTION					**3,438**	**3,438**	
EARTH WASTE IN LIEU OF BORROW						**-7,322**	**-7,322**
PROJECT TOTAL			**18,725**		**31,606**	**12,881**	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT						**644**	
GRAND TOTAL			**18,725**			**13,525**	
SAY			**18,800**			**13,600**	

DRAINAGE DITCH EXCAVATION = 1160 C.Y.
ESTIMATED UNDERCUT = 100 C.Y.
ESTIMATED SHALLOW UNDERCUT = 250 C.Y.

CHAIN	BEGINNING STATION	ENDING STATION	UNCL. EXCA. C.Y.	UNDERCUT C.Y.	EMBANK. +% C.Y.	BORROW C.Y.	WASTE C.Y.

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

Note: Quantities are approximate only. The Resident Engineer will use methods including but not limited to recross-sectioning, truck measurements, and aerial surveys to compute final quantities which the contractor will be paid.

Note: Earthwork quantities are calculated by Roadway Engineer. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

Note: The Total Embankment column does not include backfill.

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	3B-3

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

ASPHALT PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
-Y3-	37+93	38+49	LT	86.44
-Y3-	38+97	40+39	LT	900.56
-L-	131+46	134+23	RT	1646.20
-L-	154+61	159+77	RT	383.33
-L-	114+16	119+93	CL	1039.56
-L-	153+69	157+65	CL	683.00
-L-	184+04	185+91	CL	222.22
-Y3-	31+35	35+00	CL	622.22
-Y5-	128+86	134+20	CL	1682.86
			TOTAL:	7,165.98
			SAY:	7,170

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: ASNIDER
FILE: \
DATE: 10/23/2026
PENTABLE: U3422_pshpfi.tbl
TIME: 10:16:42 AM

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-1

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
L 113+21	37 RT	1005		184.6			
		1005	1015		180.3	179.6	
L 111+55	37 LT	1010		184.7			
		1010	1013		181.7	181.3	
L 111+00	37 RT	1011		185.6			
		1011	1012		182.1	181.7	
L 112+40	37 RT	1012		184.9			
		1012	1023		181.7	181.5	
L 113+00	37 LT	1013		184.7			
		1013	1017		181.3	181.2	
L 115+90	37 LT	1014		184.6			
		1014	1101		181.6	181.4	
L 115+23	37 RT	1015		184.8			
		1015	1102		179.7	179.3	
L 113+21	37 LT	1017		184.6			
		1017	1020		181.0	180.8	
L 113+00	6 RT	1018		186.1			
		1018	1020		182.4	181.1	
L 113+21	6 RT	1020		186.0			
		1020	1005		180.8	180.7	
L 111+00	52 RT	1021		185.0			
		1021	1011		182.8	182.1	
L 112+95	50 RT	1022		184.4			
		1022	1023		182.2	181.5	
L 112+95	37 RT	1023		184.7			
		1023	1005		181.5	181.0	
L 115+23	51 RT	1024		184.6			
		1024	1015		182.4	181.7	
L 116+45	37 LT	1101		184.5			
		1101	1102		181.1	180.9	
L 116+55	37 RT	1102		184.5			
		1102	1103		179.3	178.4	
L 118+00	37 RT	1103		184.8			
		1103	1106		177.9	176.8	
L 118+45	37 LT	1104		185.0			
		1104	1101		182.0	181.4	
L 123+79	46 LT	1105		183.2			
		1105	1124		175.8	175.2	
L 121+50	48 RT	1106		184.6			
		1106	1114		176.8	176.1	
L 125+52	49 RT	1107		181.4			
		1107	1122		178.4	177.8	
L 127+30	61 LT	1108		176.7			
		1108	1229		171.1	170.1	
L 127+00	7 RT	1109		179.3			
		1109	1125		176.1	174.4	
Y3 38+92	7 LT	1110		180.3			
		1110	1113		173.7	173.6	
Y3 38+92	51 RT	1111		178.1			

FROM	TO	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 .064	15 .064	18 .064	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	
1005																														
1005	1015																								200					
1010																														
1010	1013																							144						
1011																														
1011	1012																							140						
1012																														
1012	1023																							52						
1013																														
1013	1017																							20						
1014																														
1014	1101																							52						
1015																														
1015	1102																									132				
1017																														
1017	1020																								40					
1018																														
1018	1020																							20						
1020																														
1020	1005																								28					
1021																														
1021	1011																							16						
1022																														
1022	1023																							12						
1023																														
1023	1005																							24						
1024																														
1024	1015																							16						
1101																														
1101	1102																								72					
1102																														
1102	1103															144														
1103																														
1103	1106																348													
1104																														
1104	1101																							200						
1105																														
1105	1124																120													
1106																														
1106	1114																228													
1107																														
1107	1122																							92						
1108																														
1108	1229																		96											
1109																														
1109	1125																							100						
1110																														
1110	1113																48													
1111																														
SHEET TOTALS																144	744		96			888	140	332						

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1005								1	1																																							
1005	1015																																															
1010					1			1			1																																					
1010	1013																																															
1011					1			1		1																																						
1011	1012																																															
1012					1			1		1																																						
1012	1023																																															
1013					1			1			1																																					
1013	1017																																															
1014					1			1			1																																					
1014	1101																																															
1015					1	0.1		1		1																																						
1015	1102																																															
1017					1			1	1																																							
1017	1020																																															
1018					1								1				1	1																														
1018	1020																																															
1020					1	0.2							1				1	1																														
1020	1005																																															
1021					1												1	1																														
1021	1011																																															
1022					1												1	1																														
1022	1023																																															
1023					1			1	1																																							
1023	1005																																															
1024					1												1	1																														
1024	1015																																															
1101					1			1	1																																					148	Pipe Removal for all of Sheet 11
1101	1102																																															
1102					1	0.2		1	1																																							
1102	1103																																															
1103					1	1.9		1			1																																					
1103	1106																																															
1104					1			1		1																																						
1104	1101																																															
1105					1	2.4		1			1																																					
1105	1124																																															
1106					1	2.8		1		1																																						
1106	1114																																															
1107					1			1		1																																						
1107	1122																																															
1108					1	0.6		1			1																																					
1108	1229																																															
1109					1								1				1	1																														
1109	1125																																															
1110					1	1.6							1																	1						1												
1110	1113																																															
1111					1			1	1																																							
SHEET TOTALS					24	9.8		18	6	6	6		4				6	6												1						1											148	

ABBREVIATIONS

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

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-2

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48
		1111	1110		173.9	173.7																										56			
Y3 39+21	51 RT	1112		178.6																															
		1112	1111		175.6	175.1																							24						
Y3 39+41	7 LT	1113		182.6																															
		1113	1124		173.6	173.3																		96											
L 123+79	48 RT	1114		182.6																															
		1114	1123		176.1	175.9																		52											
Y4 14+83	5 LT	1115		181.8																															
		1115	1121		177.6	177.5																							32						
Y4 14+30	34 RT	1116		181.4																															
		1116	1122		178.4	177.8																							52						
Y4 14+70	33 LT	1117		181.1																															
		1117	1121		178.1	177.6																							12						
D1 12+04	14 LT	1118		181.5																															
		1118	1119		178.1	177.7																							128						
D1 13+34	14 LT	1119		179.4																															
		1119	1211		176.4	175.4																							120						
Y4 14+43	40 LT	1120		181.7																															
		1120	1135		179.4	178.3																							12						
Y4 14+84	37 LT	1121		181.0																															
		1121	1127		177.3	177.2																								28					
Y4 14+83	34 RT	1122		180.7																															
		1122	1115		177.8	177.6																							36						
L 123+79	5 LT	1123		184.4																															
		1123	1105		175.9	175.8																		40											
Y3 40+35	6 LT	1124		181.5																															
		1124	1108		172.8	171.6																			228										
L 128+00	7 RT	1125		177.6																															
		1125	1201		174.4	173.7																							72						
Y3 38+25	7 LT	1126		180.6																															
		1126	1110		177.5	175.0																							68						
Y4 15+11	50 LT	1127		180.8																															
		1127	1114		177.2	177.0																								48					
L 116+55	51 RT	1128		184.8																															
		1128	1102		182.6	181.6																							16						
L 118+00	53 RT	1129		184.7																															
		1129	1103		182.4	181.8																							16						
L 123+74	57 LT	1132		182.9																															
		1132	1105		180.4	179.9																								12					
Y3 37+70	51 RT	1133		178.9																															
		1133	1111		175.1	174.4																									104				
Y3 39+41	51 RT	1134		179.0																															
		1134	1112		175.9	175.6																							16						
Y4 14+45	28 LT	1135		181.3																															
		1135	1117		178.2	178.1																							24						
L 128+72	7 RT	1201		176.9																															
		1201	1204		173.7	173.0																							32						
L 129+06	61 LT	1202		174.8																															
		1202	1203		169.0	168.9																					40								
L 129+48	61 LT	1203		174.7																															
SHEET TOTALS																								188	228		40		660	88	104	56			

STRUCTURE NUMBER	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1112				1			1			1																																			
1113				1	4.0						1																1						1												
1114				1	1.5		1		1																																				
1115				1							1				1	1																													
1116				1			1		1																																				
1117				1			1			1																																			
1118				1			1		1																																				
1119				1			1		1																																				
1120				1											1	1																													
1121				1			1	1																																					
1122				1			1	1																																					
1123				1	3.5						1				1	1																													
1124				1	3.7																											1		1											
1125				1							1				1	1																													
1126				1							1				1	1																													
1127				1			1		1																																				
1128				1											1	1																													
1129				1											1	1																													
1132				1											1	1																													
1133				1			1		1																																				
1134				1			1			1																																			
1135				1			1			1																																			
1201				1							1				1	1																												175	Pipe Removal for all of Sheet 12
1202				1	0.8		1	1																																					
1203				1	0.8		1		1																																				
SHEET TOTALS				25	14.3		14	3	7	4	6				9	9											1					1	1	1										175	

ABBREVIATIONS

- 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

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-3

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 .064	15 .064	18 .064	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	
			1203	1235		168.9	168.7																					72									
L 129+06	4	RT	1204		176.7																																
			1204	1202		173.0	171.8																							64							
L 129+72	2	LT	1205		176.5																																
			1205	1204		173.2	173.0																							64							
L 131+00	55	LT	1206		175.4																																
			1206	1210		168.5	168.2																					76									
L 130+10	5	LT	1207		176.5																																
			1207	1205		173.3	173.2																							36							
L 131+25	5	LT	1208		177.0																																
			1208	1207		173.8	173.3																							112							
L 132+75	5	LT	1209		177.5																																
			1209	1208		174.4	173.8																							148							
L 131+78	49	LT	1210		175.8																																
			1210	1217		168.2	166.8																					472									
L 128+28	78	LT	1211		176.6																																
			1211	1229		173.8	173.7	0.3														16															
L 135+56	48	RT	1212		175.4																																
			1212	1220		165.4	164.7																			244											
Y5 11+77	7	RT	1213		174.7																																
			1213	1216		171.6	171.1																							124							
Y5 11+20	74	LT	1214		174.5																																
			1214	1212		165.6	165.4																			52											
Y5 13+67	65	LT	1215		172.4																																
			1215	1230		166.7	166.4																		96												
Y5 13+00	7	RT	1216		174.2																																
			1216	1228		171.1	169.8																							68							
L 136+50	49	LT	1217		174.1																																
			1217	1219		166.8	165.7																					152									
L 138+05	69	LT	1218		171.6																																
			1218	1219		167.8	167.7																									20					
L 138+05	49	LT	1219		172.8																																
			1219	1223		165.7	164.1																					108									
L 138+00	37	RT	1220		173.6																																
			1220	1221		164.7	164.4																			112											
L 139+13	37	RT	1221		172.7																																
			1221	1222		164.4	164.3																			32											
L 139+13	5	RT	1222		173.8																																
			1222	1223		164.3	164.1																			52											
L 139+13	49	LT	1223		172.5																																
			1223	1224		164.1	162.8																					112									
L 140+25	46	LT	1224		172.8																																
			1224	1225		162.8	162.5																					76									
L 141+00	40	LT	1225		173.1																																
			1225	1324		162.5	162.0																					172									
Y5 13+67	80	RT	1226		169.3																																
			1226	1228		169.3	169.0																	80													
Y5 13+67	85	LT	1227		170.6																																
			1227	1215		168.4	166.7																							20							
Y5 13+67	7	RT	1228		174.0																																
SHEET TOTALS																						16		80	96	492		1240		636		20					

STRUCTURE NUMBER FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1203	1235																																															
1204					1								1				1	1																														
1204	1202																																															
1205					1								1				1	1																														
1205	1204																																															
1206					1	1.9		1		1																																						
1206	1210																																															
1207					1								1				1	1																														
1207	1205																																															
1208					1								1				1	1																														
1208	1207																																															
1209					1								1				1	1																														
1209	1208																																															
1210					1	2.6		1		1																																						
1210	1217																																															
1211					1															1			1																									
1211	1229																																															
1212					1	5.0		1		1																																						
1212	1220																																															
1213					1								1				1	1																														
1213	1216																																															
1214					1	3.9		1			1																																					
1214	1212																																															
1215					1	0.7		1			1																																					
1215	1230																																															
1216					1								1				1	1																														
1216	1228																																															
1217					1	2.3		1			1																																					
1217	1219																																															
1218					1												1	1																														
1218	1219																																															
1219					1	2.1		1			1																																					
1219	1223																																															
1220					1	3.9		1		1																																						
1220	1221																																															
1221					1	3.3		1	1																																							
1221	1222																																															
1222					1	4.5							1							1									1																			
1222	1223																																															
1223					1	3.4		1		1																																						
1223	1224																																															
1224					1	5.0		1		1																																						
1224	1225																																															
1225					1	5.0	0.6	1		1																																						
1225	1324																																															
1226																																																
1226	1228																																															
1227					1												1	1																														
1227	1215																																															
1228					1								1				1	1																														
SHEET TOTALS					24	43.6	0.6	12	1	7	4		9				10	10		2			1						1																			

ABBREVIATIONS

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

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

2MQ6010FQ2

PROJECT NO.	SHEET NO.
U-3422B	3D-4

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 %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 .064	15 .064	18 .064	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	
		1228	1215		169.0	165.9																	72													
L 128+28	61 LT	1229		175.5																																
		1229	1202		170.1	169.5																				76										
Y5 12+50	65 LT	1230		172.7																																
		1230	1214		166.0	165.6																			116											
L 137+70	69 LT	1231		171.9																																
		1231	1218		168.4	168.3																32														
L 136+50	70 LT	1232		172.3																																
		1232	1217		170.0	169.6																							20							
L 130+20	76 LT	1233		174.2																																
		1233	1235		172.0	171.9																							16							
L 131+78	67 LT	1234		174.7																																
		1234	1210		172.5	172.4																							20							
L 130+20	61 LT	1235		174.9																																
		1235	1206		168.7	168.5																					76									
D2 11+15	0 CL	1236			170.0	169.7																								72						
L 143+60	37 LT	1301		172.9																																
		1301	1305		161.8	161.0																					244									
L 143+60	6 LT	1302		173.9																																
		1302	1301		169.7	169.6																							28							
L 143+60	37 RT	1303		172.9																																
		1303	1302		169.9	169.7																							40							
L 146+08	37 RT	1304		172.9																																
		1304	1307		169.9	169.3																							192							
L 146+03	55 LT	1305		173.0																																
		1305	1309		161.0	160.3																					196									
L 146+08	6 RT	1306		173.9																																
		1306	1304		170.7	169.9																							28							
L 148+00	37 RT	1307		172.3																																
		1307	1319		169.3	169.1																							84							
L 154+87	305 RT	1308		172.8																																
		1308	1325		160.9	160.6																					84									
L 148+00	37 LT	1309		172.3																																
		1309	1310		160.4	160.1																					112									
L 149+15	37 LT	1310		172.0																																
		1310	1314		160.1	159.7																					132									
L 149+75	37 RT	1311		171.8																																
		1311	1312		168.8	168.6																							72							
L 150+47	37 RT	1312		171.7																																
		1312	1313		168.3	168.2																								28						
L 150+47	6 RT	1313		172.7																																
		1313	1314		168.2	168.1																								40						
L 150+47	37 LT	1314		171.7																																
		1314	1320		159.7	159.5																					76									
L 152+25	37 LT	1315		172.3																																
		1315	1318		159.2	158.1																					344									
L 153+23	37 RT	1316		172.6																																
		1316	1312		169.6	168.6																							276							
L 155+70	37 LT	1318		172.4																																
		1318	1317		158.1	157.9																					72									
SHEET TOTALS																						32	72		116	76	1336		776	140						

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1228	1215																																															
1229					1	0.4		1			1																																					
1229	1202																																															
1230					1	1.7		1			1																																					
1230	1214																																															
1231					1												1	1																														
1231	1218																																															
1232					1												1	1																														
1232	1217																																															
1233					1												1	1																														
1233	1235																																															
1234					1												1	1																														
1234	1210																																															
1235					1	1.2		1		1																																						
1235	1206																																															
1236																																																
1301					1	5.0	0.1	1	1																																							
1301	1305																																															
1302					1								1				1	1																												106	Pipe Removal for all of Shet 13
1302	1301																																															
1303					1			1	1																																							
1303	1302																																															
1304					1			1		1																																						
1304	1307																																															
1305					1	5.0	2.0	1	1																																							
1305	1309																																															
1306					1								1				1	1																														
1306	1304																																															
1307					1			1		1																																						
1307	1319																																															
1308					1	5.0	1.9																										1				1												
1308	1325																																															
1309					1	5.0	1.9	1			1																																					
1309	1310																																															
1310					1	5.0	1.9	1			1																																					
1310	1314																																															
1311					1			1		1																																						
1311	1312																																															
1312					1			1	1																																							
1312	1313																																															
1313					1								1				1	1																														
1313	1314																																															
1314					1	5.0	2.0	1	1																																							
1314	1320																																															
1315					1	5.0	3.1	1		1																																						
1315	1318																																															
1316					1			1		1																																						
1316	1312																																															
1318					1	4.0	4.3																																									
1318	1317																																															
SHEET TOTALS					24	42.3	17.2	15	5	6	4		3				7	7															1				1										106	

ABBREVIATIONS

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

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-5

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 .064	15 .064	18 .064
L 148+84	55	RT	1319		172.1															
			1319	1311		169.1	168.8													
L 151+25	37	LT	1320		171.8															
			1320	1315		159.5	159.2													
L 151+25	58	LT	1321		170.4															
			1321	1320		168.1	168.1													
L 142+02	52	LT	1322		173.3															
			1322	1323		171.0	170.7													
L 142+73	52	LT	1323		172.9															
			1323	1324		170.7	170.0													
L 142+73	37	LT	1324		173.0															
			1324	1301		162.0	161.8													
L 155+70	301	RT	1325		173.0															
			1325	1317		160.6	156.6													
Y5 31+81	445	LT	1326		176.3															
			1326	1327		163.0	162.6													
Y5 30+34	446	LT	1327		176.0															
			1327	1308		162.6	160.9													
L 149+15	8	LT	1328		173.0															
			1328	1310		169.7	169.6													
L 160+25	48	RT	1403		171.8															
			1403	1404		168.8	168.3													
L 161+18	48	RT	1404		171.9															
			1404	1405		168.3	168.1													
L 161+18	7	LT	1405		172.8															
			1405	1406		168.1	167.9													
L 162+02	8	LT	1406		172.6															
			1406	1407		167.9	167.7													
L 166+50	7	RT	1410		171.4															
			1410	1413		168.2	167.1													
L 167+30	7	RT	1413		170.3															
			1413	1414		167.1	165.6													
L 169+15	49	RT	1415		167.0															
			1415	1423		164.0	162.6													
L 159+32	64	LT	1417		171.8															
			1417	1402		169.6	169.1													
L 162+38	72	LT	1419		171.1															
			1419	1418		168.8	167.4													
L 165+00	7	RT	1420		173.0															
			1420	1410		169.8	168.2													
L 169+90	51	RT	1422		163.9															
			1422	1423		161.9	161.9													
L 169+90	49	RT	1423		166.7															
			1423	1502		160.9	160.6													
L 163+07	8	LT	1425		172.7															
			1425	1408		169.4	169.3													
L 163+69	8	LT	1426		172.7															
			1426	1425		169.7	169.4													
L 162+25	8	RT	1427		172.9															
			1427	1406		168.0	167.9													
						SHEET TOTALS														

LINE & STATION	FROM	TO	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G	
L 148+84	1319																						1			1	1			
	1319	1311										92																		
L 151+25	1320																						1	5.0	2.3	1		1		
	1320	1315								100																				
L 151+25	1321																						1							
	1321	1320										20																		
L 142+02	1322																						1							
	1322	1323										68																		
L 142+73	1323																						1							
	1323	1324										16																		
L 142+73	1324																						1	5.0	1.0	1			1	
	1324	1301								88																				
L 155+70	1325																						1	5.0	2.4					
	1325	1317								264																				
Y5 31+81	1326																						1	5.0	3.2					
	1326	1327								144																				
Y5 30+34	1327																						1	5.0	3.4					
	1327	1308								572																				
L 149+15	1328																						1							
	1328	1310										28																		
L 160+25	1403																						1			1		1		
	1403	1404										92																		
L 161+18	1404																						1			1		1		
	1404	1405										52																		
L 161+18	1405																						1							
	1405	1406										84																		
L 162+02	1406																						1							
	1406	1407										40																		
L 166+50	1410																						1							
	1410	1413										80																		
L 167+30	1413																						1							
	1413	1414										44																		
L 169+15	1415																						1			1		1		
	1415	1423										76																		
L 159+32	1417																						1							
	1417	1402										16																		
L 162+38	1419																						1							
	1419	1418										24																		
L 165+00	1420																						1							
	1420	1410										148																		
L 169+90	1422																													
	1422	1423				4																								
L 169+90	1423																						1	0.9		1		1		
	1423	1502														104														
L 163+07	1425																						1							
	1425	1408										28																		
L 163+69	1426																						1							
	1426	1425										60																		
L 162+25	1427																						1							
	1427	1406										28																		
SHEET TOTALS						4				1168		996				104							24	25.9	12.3	7	1	5	1	

LINE & STATION	FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 148+84	1319																																					
	1319	1311																																				
L 151+25	1320																																					
	1320	1315																																				
L 151+25	1321						1	1																														
	1321	1320																																				
L 142+02	1322						1	1																														
	1322	1323																																				
L 142+73	1323						1	1																														
	1323	1324																																				
L 142+73	1324																																					
	1324	1301																																				
L 155+70	1325																						1				1												See Special Detail 2C-1
	1325	1317																																				
Y5 31+81	1326																						1				1												See Special Detail 2C-1
	1326	1327																																				
Y5 30+34	1327																						1				1												See Special Detail 2C-1
	1327	1308																																				
L 149+15	1328		1				1	1																														
	1328	1310																																				
L 160+25	1403																																					
	1403	1404																																				
L 161+18	1404																																					
	1404	1405																																				
L 161+18	1405		1				1	1																														
	1405	1406																																				
L 162+02	1406		1				1	1																														
	1406	1407																																				
L 166+50	1410		1				1	1																														
	1410	1413																																				
L 167+30	1413		1				1	1																														
	1413	1414																																				
L 169+15	1415																																					
	1415	1423																																				
L 159+32	1417						1	1																														
	1417	1402																																				
L 162+38	1419						1	1																														
	1419	1418																																				
L 165+00	1420		1				1	1																														
	1420	1410																																				
L 169+90	1422																																		0.5526			
	1422	1423																																				
L 169+90	1423																																					
	1423	1502																																9				
L 163+07	1425		1				1	1																														
	1425	1408																																				
L 163+69	1426		1				1	1																														
	1426	1425																																				
L 162+25	1427		1				1	1																														
	1427	1406																																				
SHEET TOTALS			9				14	14															3				3								9	0.5526			

ABBREVIATIONS

- 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

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-6

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 (%)	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP Pipe) 12	15	18	24	30	36	42	48	Do Not Use PP Pipe	C. S. Pipe 12 (.064)	15 (.064)	18 (.064)
L 162+50	8	RT	1428		172.9															
			1428	1427		169.9	169.8													
L 170+95	49	RT	1502		166.5															
			1502	1517		160.6	160.4													
L 172+00	49	RT	1503		166.8															
			1503	1502		163.8	162.3													
L 172+77	63	RT	1504		167.5															
			1504	1503		164.5	163.8													
L 173+06	37	LT	1505		167.9															
			1505	1525		164.6	163.5													
L 173+06	4	LT	1506		168.9															
			1506	1505		164.9	164.6													
L 173+53	8	RT	1507		169.2															
			1507	1506		165.1	164.9													
L 173+55	41	RT	1508		168.6															
			1508	1507		165.2	165.1													
L 174+00	37	RT	1509		168.6															
			1509	1508		165.6	165.4													
L 175+50	37	LT	1510		169.7															
			1510	1505		166.7	164.9													
L 182+34	51	LT	1511		170.2															
			1511	1516		164.8	164.6													
L 183+14	37	LT	1512		170.1															
			1512	1511		166.3	165.8													
L 182+32	6	RT	1513		171.0															
			1513	1511		165.4	164.8													
L 181+91	37	RT	1514		170.0															
			1514	1528		166.3	165.5													
L 182+91	38	RT	1515		170.5															
			1515	1528		165.8	165.6													
L 170+95	6	LT	1517		167.8															
			1517	1501		160.4	160.3													
L 181+12	37	RT	1518		170.2															
			1518	1514		167.0	166.6													
L 177+57	37	LT	1520		170.8															
			1520	1510		167.8	166.7													
L 182+89	57	RT	1521		169.3															
			1521	1515		167.1	165.8													
L 182+22	61	RT	1522		168.1															
			1522	1528		168.1	166.0													
L 181+12	55	RT	1523		169.3															
			1523	1518		167.1	167.0													
L 176+00	37	RT	1524		170.1															
			1524	1509		167.1	165.6													
L 172+32	80	LT	1525		166.7															
			1525	1527		163.0	162.8													
L 171+92	8	RT	1526		168.0															
			1526	1527		165.0	163.6													
L 171+89	63	LT	1527		166.9															
			1527	1501		162.8	162.6													
							SHEET TOTALS													

From	To	R. C. Pipe Class III 12	15	18	24	30	36	42	48	R. C. Pipe Class IV 12	15	18	24	30	36	42	48		Endwalls Std. 838.01 or Std. 838.11 (Unless Noted Otherwise) (CY)	Reinforced Endwalls (CY)	Drainage Structure Masonry (CY)	Quantities for Drainage Structures 0' thru 5' (Each)	A: 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	F	G	
1428																						1							
1428	1427										24																		
1502																						1	0.9		1	1			
1502	1517														52														
1503																						1			1			1	
1503	1502										104																		
1504																						1			1			1	
1504	1503										80																		
1505																						1			1		1		
1505	1525											84																	
1506																						1							
1506	1505											32																	
1507																						1							
1507	1506											48																	
1508																						1			1	1			
1508	1507											32																	
1509																						1			1			1	
1509	1508										44																		
1510																						1			1		1		
1510	1505										244																		
1511																						1	0.4		1	1			
1511	1516														68														
1512																						1			1		1		
1512	1511												80																
1513																						1	0.6						
1513	1511														56														
1514																						1			1		1		
1514	1528											32																	
1515																						1			1			1	
1515	1528													68															
1517																						1	2.4						
1517	1501														28														
1518																						1			1		1		
1518	1514										76																		
1520																						1			1		1		
1520	1510										204																		
1521																						1							
1521	1515										20																		
1522																													
1522	1528												24																
1523																						1							
1523	1518										20																		
1524																						1			1			1	
1524	1509										200																		
1525																						1			1	1			
1525	1527												44																
1526																						1							
1526	1527										68																		
1527																						1			1			1	
1527	1501												96																
SHEET TOTALS											1084	228	244	68	204							24	4.3		16	4	6	6	

From	To	Concrete Transitional Section: D.I. Std. 852.04 or Std. 852.06	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 w/ Grate Std. 840.20	G.D.I. (W.S. Flat) Fr. w/ 2 Grates Std. 840.20	G.D.I. (W.S. Sag) Frame w/ Grate Std. 840.22	G.D.I. (W.S. Sag) Fr. w/ 2 Grates Std. 840.22	G.D.I. (N.S. Sag) Frame w/ Grate Std. 840.24	G.D.I. (N.S. Sag) Fr. w/ 2 Grates Std. 840.24	G.D.I. (N.S. Flat) Frame w/ Grate Std. 840.29	G.D.I. (N.S. Flat) Fr. 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	Ang. Vane Grates and Frames Std. 840.33	T.B.J.B. Std. 840.34	T.B.D.I. Std. 840.35	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 M.H.		Flowable Fill (CY)	Concrete Collars Cl. "B" Std. 840.72 (CY)	Conc. and Brick Pipe Plug Std. 840.71 (CY)	Pipe Removal (Lin. Ft.)	Remarks
1428		1				1	1																														
1428	1427																																				
1502																																				96	Pipe Removal for all of Sheet 15
1502	1517																																				
1503																																					
1503	1502																																				
1504																																					
1504	1503																																				
1505																																					
1505	1525																																				
1506		1				1	1																														
1506	1505																																				
1507		1				1	1																														
1507	1506																																				
1508																																					
1508	1507																																				
1509																																					
1509	1508																																				
1510																																					
1510	1505																																				
1511																																					
1511	1516																																				
1512																																					
1512	1511																																				
1513		1																1						1													
1513	1511																																				
1514																																					
1514	1528																																				
1515																																					
1515	1528																																				
1517		1																1						1													
1517	1501																																				
1518																																					
1518	1514																																				
1520																																					
1520	1510																																				
1521						1	1																														
1521	1515																																				
1522																																					
1522	1528																																				
1523						1	1																														
1523	1518																																				
1524																																					
1524	1509																																				
1525																																					
1525	1527																																				
1526		1				1	1																														
1526	1527																																				
1527																																					
1527	1501																																				
SHEET TOTALS		6				6	6											2						2												96	

ABBREVIATIONS

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

2MQ6010FQ2

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-7

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	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
L 182+22	37	RT	1528		170.2			
			1528	1513		165.5	165.4	
L 182+50	140	LT	1529					
L 182+71	257	LT	1530					
L 184+25	37	LT	1601		170.6			
			1601	1512		166.9	166.3	
L 186+35	37	LT	1602		172.1			
			1602	1601		168.2	166.9	
L 186+40	6	LT	1603		173.1			
			1603	1602		168.3	168.2	
L 186+53	37	RT	1604		172.2			
			1604	1603		168.5	168.3	
L 189+15	37	RT	1605		174.0			
			1605	1640		171.0	169.5	
L 191+13	8	RT	1606		175.6			
			1606	1627		172.1	171.3	
L 191+02	72	LT	1607		174.3			
			1607	1625		171.1	170.6	
L 192+19	37	LT	1608		174.1			
			1608	1613		171.1	170.1	
L 191+13	54	RT	1609		176.1			
			1609	1627		172.2	171.3	
L 191+65	44	RT	1610		174.7			
			1610	1611		171.0	170.6	
L 192+14	46	RT	1611		173.9			
			1611	1612		170.6	170.1	
L 193+14	55	RT	1612		173.8			
			1612	1614		170.1	169.8	
L 193+50	49	LT	1613		173.1			
			1613	1615		170.1	168.0	
L 193+77	61	RT	1614		173.2			
			1614	1617		169.8	168.5	
L 194+65	49	LT	1615		172.8			
L 195+75	49	LT	1616		171.1			
			1616	1615		168.1	168.0	
L 195+00	58	RT	1617		171.8			
			1617	1618		168.5	167.6	
L 195+90	61	RT	1618		170.6			
			1618	1628		167.6	164.3	
L 196+81	61	RT	1619		169.2	165.8		
L 196+91	63	RT	1620		169.7			
			1620	1619		165.8	165.7	
L 197+95	49	LT	1621		167.3			
			1621	1629		164.1	160.8	
L 198+12	61	RT	1622		167.5			
			1622	1712		164.5	160.5	
L 184+65	37	RT	1624		170.9			
			1624	1515		167.1	165.8	
L 189+43	37	LT	1625		174.2			
			1625	1602		170.6	168.7	

FROM	TO	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12	15	18	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48
THICKNESS OR GAUGE											.064	.064	.064																
1528																													
1528	1513																										32		
1529					32																								
1530					32																								
1601																													
1601	1512																								112				
1602																													
1602	1601																								208				
1603																													
1603	1602																								32				
1604																													
1604	1603																								44				
1605																													
1605	1640																						224						
1606																													
1606	1627																							32					
1607																													
1607	1625																							164					
1608																													
1608	1613																						132						
1609																													
1609	1627																							12					
1610																													
1610	1611																							48					
1611																													
1611	1612																							100					
1612																													
1612	1614																							64					
1613																													
1613	1615																						116						
1614																													
1614	1617																							124					
1615																													
1616																													
1616	1615																						108						
1617																													
1617	1618																							88					
1618																													
1618	1628																							48					
1619																													
1620																													
1620	1619																						12						
1621																													
1621	1629																							164					
1622																													
1622	1712																						136						
1624																													
1624	1515																								172				
1625																													
1625	1602																							308					
SHEET TOTALS					64																		728	1152	568		32		

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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
1528					1													
1528	1513																	
1529																		
1530																		
1601					1			1		1								
1601	1512																	
1602					1			1		1								
1602	1601																	
1603					1								1				1	1
1603	1602																	
1604					1			1			1							
1604	1603																	
1605					1			1			1							
1605	1640																	
1606					1								1				1	1
1606	1627																	
1607					1			1	1									
1607	1625																	
1608					1			1			1							
1608	1613																	
1609					1			1		1								
1609	1627																	
1610					1			1		1								
1610	1611																	
1611					1			1		1								
1611	1612																	
1612					1			1		1								
1612	1614																	
1613					1			1			1							
1613	1615																	
1614					1			1		1								
1614	1617																	
1615					1			1			1							
1616					1			1			1							
1616	1615																	
1617					1			1		1								
1617	1618																	
1618					1			1	1									
1618	1628																	
1619					1			1		1								
1620																		
1620	1619																	
1621					1			1			1							
1621	1629																	
1622					1			1	1									
1622	1712																	
1624					1			1			1							
1624	1515																	
1625					1			1		1								
1625	1602																	
SHEET TOTALS					24			21	3	10	8		2				2	2

FROM	TO	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1528																	1		1												
1528	1513																														
1529																															
1530																															
1601																														26	Pipe Removal for all of Sheet 16
1601	1512																														
1602																															
1602	1601																														
1603																															
1603	1602																														
1604																															
1604	1603																														
1605																															
1605	1640																														
1606																															
1606	1627																														
1607																															
1607	1625																														
1608																															
1608	1613																														
1609																															
1609	1627																														
1610																															
1610	1611																														
1611																															
1611	1612																														
1612																															
1612	1614																														
1613																															
1613	1615																														
1614																															
1614	1617																														
1615																															
1616																															
1616	1615																														
1617																															
1617	1618																														
1618																															
1618	1628																														
1619																															
1620																			1	1											
1620	1619																														
1621																															
1621	1629																														
1622																															
1622	1712																														
1624																															
1624	1515																														
1625																															
1625	1602																														
SHEET TOTALS																	1		2	1										26	

ABBREVIATIONS

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

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

2MQ6010FQ2

PROJECT NO.	SHEET NO.
U-3422B	3D-8

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 .064	15 .064	18 .064	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 191+13	42 RT	1627		174.5																																								1			1		1																																										
		1627	1610		171.3	171.0																												52																																																	
L 196+32	37 RT	1628		170.2																																																																														1						
L 196+32	49 LT	1629		170.5																																																																														1						
		1629			158.3	157.4										68																																																																											
L 190+56	58 RT	1636		175.7																																								1			1	1																																												
		1636	1609		172.5	172.2																												56																																																	
L 186+53	54 RT	1637		171.8																																								1													1	1																														
		1637	1604		169.3	169.0																												16																																																	
L 189+15	51 RT	1638		174.3																																								1													1	1																														
		1638	1605		172.0	171.0																											16																																																		
L 184+65	53 RT	1639		170.3																																								1													1	1																														
		1639	1624		167.3	167.1																													16																																																
L 186+90	37 RT	1640		172.5																																								1			1			1																																								
		1640	1604		169.5	169.2																											36																																																		
L 199+50	5 LT	1701		165.2																																								1								1			1	1																									276	Pipe Removal for all of Sheet 17
		1701	1702		162.5	156.5																											88																																																		
L 200+37	5 LT	1702		161.4																																								1	0.2							1			1	1																														
		1702	1703		156.2	153.7																												32																																																	
L 200+70	5 LT	1703		160.0																																								1	1.3							1			1	1																														
		1703	1707		153.7	152.7																												16																																																	
L 200+38	38 LT	1706		159.6																																								1			1		1																																										
		1706	1702		156.4	156.2																												32																																																	
L 201+09	93 RT	1707		163.7																																																																											1										See Sheet 2C-2
		1707	EX. CB		160.7	156.3																																																																												
L 200+37	61 RT	1709		164.1																																																																													1							
L 199+52	72 RT	1711		166.3																																								1													1	1																														
		1711	1712		163.4	162.6																											12																																																		
L 199+52	61 RT	1712		166.6																																								1	0.3		1		1																																										
		1712	1709		160.3	159.7																																																																													Existing 18" RCP
Y3 25+93	37 LT	1801		184.5																																								1			1			1																																								
		1801	1803		181.5	181.3																											72																																																		
Y3 27+12	7 RT	1802		185.2																																								1	0.3							1			1	1																														
		1802	1819		179.9	179.7																												40																																																	
Y3 26+65	37 LT	1803		184.3																																								1			1			1																																								
		1803	1819		181.3	179.9																											48																																																		
Y3 26+16	80 RT	1804		183.9																																								1			1	1																																												
		1804	1806		180.9	180.4																											96																																																		
Y3 28+00	37 LT	1805		184.5																																								1	0.3		1		1																																										
		1805	1807		178.9	177.5																				476																																																																
Y3 27+12	56 RT	1806		184.2																																								1			1			1																																								
		1806	1802		180.1	179.9																												48																																																	
Y3 32+75	37 LT	1807		185.0																																								1	2.5		1			1																																								
		1807	1814		177.5	177.2																				100																																																																
Y3 32+50	37 RT	1808		185.0																																								1			1		1																																										
		1808	1809		182.0	181.3																											188																																																		
Y3 34+40	37 RT	1809		184.3																																								1	2.5		1		1																																										
		1809	1811		176.8	176.1																				208																																																																
SHEET TOTALS																68										784							556	292	16									21	7.4		13	2	6	5		4				8	8																							1		1	2						276	

ABBREVIATIONS

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

2MQ6010FQ2

COMPUTED BY:	CGM	DATE:	08/11/2026
CHECKED BY:	JJM	DATE:	08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-9

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
Y3 34+40	37	LT	1810		184.7			
			1810	1809		177.0	176.8	
Y3 36+50	51	RT	1811		182.1			
			1811	1133		176.1	175.1	
Y3 32+75	52	LT	1812		184.4			
			1812	1807		182.2	178.2	
Y3 33+75	37	LT	1814		184.6			
			1814	1810		177.2	177.0	
Y3 27+12	37	LT	1819		184.2			
			1819	1805		179.2	178.9	
Y3 34+40	50	RT	1820		184.3			
			1820	1809		182.0	181.3	
Y3 24+40	41	LT	1821					
Y3 25+00	43	RT	1822					
Y3 25+30	44	RT	1823		183.2			
			1823	1804		183.2	180.9	
Y3 25+15	42	LT	1824		183.3			
			1824	1801		183.3	181.5	
Y5 14+89	65	LT	1901		171.8			
			1901	1215		167.1	166.7	
Y5 14+60	7	RT	1902		173.8			
			1902	1922		170.5	170.4	
Y5 15+77	57	LT	1903		172.6			
			1903	1901		167.3	167.1	
Y5 16+85	47	LT	1904		173.2			
			1904	1903		169.1	167.3	
Y5 17+25	37	RT	1905		173.1			
			1905	1941		167.2	166.8	
Y5 18+45	37	RT	1906		173.4			
			1906	1905		168.1	167.8	
Y5 20+26	37	RT	1907		173.8			
			1907	1906		169.9	168.4	
Y5 20+62	7	RT	1908		174.6			
			1908	1930		171.5	171.3	
Y5 20+50	75	LT	1909		173.2			
			1909	1910		170.2	170.0	
Y5 19+87	59	LT	1910		173.7			
			1910	1919		170.0	169.7	
Y5 20+20	8	LT	1911		174.7			
			1911	1910		171.3	170.0	
Y5 22+79	37	LT	1912		173.1			
			1912	1915		169.6	169.4	
Y5 22+79	6	RT	1913		174.1			
			1913	1912		169.7	169.6	
Y5 22+79	37	RT	1914		173.1			
			1914	1913		169.8	169.7	
Y5 23+35	37	LT	1915		173.2			
			1915	1918		169.4	168.9	
Y5 24+25	37	RT	1916		173.5			
			1916	1914		170.5	170.1	
							SHEET TOTALS	

FROM	TO	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48
1810																													
1810	1809																72												
1811																													
1811	1133																								104				
1812																													
1812	1807														16														
1814																													
1814	1810																64												
1819																													
1819	1805																								88				
1820																													
1820	1809																						12						
1821			30																										
1822			30																										
1823																													
1823	1804																						96						
1824																													
1824	1801																						80						
1901																													
1901	1215																	108											
1902																													
1902	1922																						40						
1903																													
1903	1901																	88											
1904																													
1904	1903																						108						
1905																													
1905	1941																148												
1906																													
1906	1905															124													
1907																													
1907	1906																						184						
1908																													
1908	1930																						40						
1909																													
1909	1910																						64						
1910																													
1910	1919																						108						
1911																													
1911	1910																						60						
1912																													
1912	1915																							56					
1913																													
1913	1912																							40					
1914																													
1914	1913																							28					
1915																													
1915	1918																							192					
1916																													
1916	1914																						144						
SHEET TOTALS			60												16	124	284	196					936	316	192				

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A: 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	F	G	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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
1810					1	2.7		1			1						
1810	1809																
1811					1	1.0		1		1							
1811	1133																
1812					1											1	1
1812	1807																
1814					1	2.4		1			1						
1814	1810																
1819					1	0.1		1	1								
1819	1805																
1820					1											1	1
1820	1809																
1821																	
1822																	
1823																	
1823	1804																
1824																	
1824	1801																
1901					1			1			1						
1901	1215																
1902					1							1				1	1
1902	1922																
1903					1	0.3		1			1						
1903	1901																
1904					1			1			1						
1904	1903																
1905					1	0.9		1		1							
1905	1941																
1906					1	0.3		1		1							
1906	1905																
1907					1			1		1							
1907	1906																
1908					1							1				1	1
1908	1930																
1909					1			1	1								
1909	1910																
1910					1			1			1						
1910	1919																
1911					1							1				1	1
1911	1910																
1912					1			1	1								
1912	1915																
1913					1							1				1	1
1913	1912																
1914					1			1	1								
1914	1913																
1915					1			1		1							
1915	1918																
1916					1			1			1						
1916	1914																
SHEET TOTALS					22	7.7		16	4	5	7	4				6	6

FROM	TO	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1810																														
1810	1809																													
1811																														
1811	1133																													
1812																														
1812	1807																													
1814																														
1814	1810																													
1819																														
1819	1805																													
1820																														
1820	1809																													
1821																														
1822																														
1823																														
1823	1804																													
1824																														
1824	1801																													
1901																													112	Pipe Removal for all of Sheet 19 [19, 19A, 19B]
1901	1215																													
1902																														
1902	1922																													
1903																														
1903	1901																													
1904																														
1904	1903																													
1905																														
1905	1941																													
1906																														
1906	1905																													
1907																														
1907	1906																													
1908																														
1908	1930																													
1909																														
1909	1910																													
1910																														
1910	1919																													
1911																														
1911	1910																													
1912																														
1912	1915																													
1913																														
1913	1912																													
1914																														
1914	1913																													
1915																														
1915	1918																													
1916																														
1916	1914																													
SHEET TOTALS																													112	

ABBREVIATIONS

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

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-10

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	OFFSET		STRUCTURE NUMBER FROM	TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %
Y5 25+29	37	LT	1918		173.9			
			1918	1926		168.9	167.9	
Y5 18+79	37	LT	1919		174.2			
			1919	1904		169.7	169.1	
Y5 15+78	68	RT	1920		170.7			
			1920	1941		167.7	167.6	
Y5 18+45	62	RT	1921		170.7			
			1921	1906		168.5	168.4	
Y5 15+00	7	RT	1922		173.7			
			1922	1942		170.4	167.5	
Y5 29+28	37	LT	1923		173.7			
			1923	1924		167.2	166.8	
Y5 30+56	37	LT	1924		173.9			
			1924	1925		166.8	166.3	
Y5 32+27	37	LT	1925		174.5			
			1925	1326		164.3	163.0	
Y5 28+50	37	LT	1926		173.8			
			1926	1923		167.4	167.2	
Y5 28+50	37	RT	1927		173.8			
			1927	1931		170.8	170.5	
Y5 20+67	77	RT	1928		172.3			
			1928	1907		170.0	169.9	
Y5 38+75	6	RT	1929		175.2			
			1929	1948		172.0	170.2	
Y5 20+26	7	RT	1930		174.7			
			1930	1911		171.3	171.3	
Y5 29+35	37	RT	1931		173.7			
			1931	1932		170.5	170.2	
Y5 30+48	37	RT	1932		173.9			
			1932	1933		170.0	168.1	
Y5 32+27	37	RT	1933		174.5			
			1933	1925		166.6	165.3	
Y5 40+50	49	LT	1934		172.4			
			1934	1935		172.4	169.4	
Y5 40+28	37	LT	1935		173.6			
			1935	1936		169.4	169.1	
Y5 39+51	37	LT	1936		173.9			
			1936	1948		169.1	168.9	
Y5 37+25	37	LT	1937		174.8			
			1937	1925		168.5	165.8	
Y5 40+50	49	RT	1939		172.3			
			1939	1940		171.8	168.9	
Y5 40+02	37	RT	1940		173.7			
			1940	1943		168.9	168.7	
Y5 15+78	37	RT	1941		173.6			
			1941	1942		166.3	166.2	
Y5 15+78	7	RT	1942		173.7			
			1942	1903		167.5	167.3	
Y5 39+41	37	RT	1943		173.9			
			1943	1944		168.7	168.3	

FROM	TO (SIZE / THICKNESS OR GAUGE)	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48	
1918																														
1918	1926															320														
1919																														
1919	1904																						192							
1920																														
1920	1941																								32					
1921																														
1921	1906																						28							
1922																														
1922	1942																						76							
1923																														
1923	1924																128													
1924																														
1924	1925																172													
1925																														
1925	1326																				412									
1926																														
1926	1923																76													
1927																														
1927	1931																						84							
1928																														
1928	1907																						56							
1929																														
1929	1948																						40							
1930																														
1930	1911																						16							
1931																														
1931	1932																						112							
1932																														
1932	1933																							176						
1933																														
1933	1925																		72											
1934																														
1934	1935																									28				
1935																														
1935	1936																									76				
1936																														
1936	1948																									76				
1937																														
1937	1925																	496												
1939																														
1939	1940																										52			
1940																														
1940	1943																										60			
1941																														
1941	1942																	28												
1942																														
1942	1903																	64												
1943																														
1943	1944																										144			
SHEET TOTALS																320	376	588	72		412		604	176	32	180	256			

FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G	
1918					1			1		1		
1918	1926											
1919					1			1			1	
1919	1904											
1920					1							
1920	1941											
1921					1							
1921	1906											
1922					1							
1922	1942											
1923					1	1.5		1	1			
1923	1924											
1924					1	2.2		1		1		
1924	1925											
1925					1	5.0	0.3	1		1		
1925	1326											
1926					1	1.4		1			1	
1926	1923											
1927					1			1		1		
1927	1931											
1928					1							
1928	1907											
1929					1							
1929	1948											
1930					1							
1930	1911											
1931					1			1	1			
1931	1932											
1932					1			1			1	
1932	1933											
1933					1	2.9		1			1	
1933	1925											
1934												
1934	1935											
1935					1			1			1	
1935	1936											
1936					1			1			1	
1936	1948											
1937					1	1.3		1			1	
1937	1925											
1939			3.400									
1939	1940											
1940					1			1		1		
1940	1943											
1941					1	2.3		1		1		
1941	1942											
1942					1	0.9						
1942	1903											
1943					1	0.2		1		1		
1943	1944											
SHEET TOTALS			3.400		23	17.7	0.3	16	2	7	7	

FROM	TO	CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
1918																																					
1918	1926																																				
1919																																					
1919	1904																																				
1920						1	1																														
1920	1941																																				
1921						1	1																														
1921	1906																																				
1922		1				1	1																														
1922	1942																																				
1923																																					
1923	1924																																				
1924																																					
1924	1925																																				
1925																																					
1925	1326																																				
1926																																					
1926	1923																																				
1927																																					
1927	1931																																				
1928									1							1																					
1928	1907																																				
1929		1				1	1																														
1929	1948																																				
1930		1				1	1																														
1930	1911																																				
1931																																					
1931	1932																																				
1932																																					
1932	1933																																				
1933																																					
1933	1925																																				
1934																																					
1934	1935																																				
1935																																					
1935	1936																																				
1936																																					
1936	1948																																				
1937																																					
1937	1925																																				
1939																																					
1939	1940																																				
1940																																					
1940	1943																																				
1941																																					
1941	1942																																				
1942		1				1	1																														
1942	1903																																				
1943																																					
1943	1944																																				
SHEET TOTALS		4				6	6		1							1																					

ABBREVIATIONS

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

COMPUTED BY:	CGM	DATE:	08/11/2026
CHECKED BY:	JJM	DATE:	08/11/2026

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
U-3422B	3D-11

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	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	Side Drain Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12	15	18	24	30	36	42	48	DO NOT USE PP PIPE
Y5 37+98	37 RT	1944		174.5												
		1944	1945		168.3	167.9										
Y5 36+50	37 RT	1945		175.1												
		1945	1946		167.9	167.4										
Y5 35+15	41 RT	1946		175.4												
		1946	1933		167.4	166.6										
Y5 38+00	37 LT	1947		174.5												
		1947	1937		168.7	168.5										
Y5 38+75	37 LT	1948		174.2												
		1948	1947		168.9	168.7										
Y5 41+13	44 LT	1950									28					
Y5 41+80	42 RT	1951									24					
SHEET TOTALS											52					
PROJECT TOTALS									60		116				68	

LINE & STATION	C. S. PIPE 12 (.064)	15 (.064)	18 (.064)	R. C. PIPE CLASS III 12	15	18	24	30	36	42	48	R. C. PIPE CLASS IV 12	15	18	24	30	36	42	48
Y5 37+98																			
1944–1945									148										
Y5 36+50																			
1945–1946									136										
Y5 35+15																			
1946–1933									288										
Y5 38+00																			
1947–1937								76											
Y5 38+75																			
1948–1947																76			
Y5 41+13																			
Y5 41+80																			
SHEET TOTALS								76	572							76			
PROJECT TOTALS					32	476	1744	1888	1480	172	4196		7864	2532	1508	380	596		

LINE & STATION	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A: 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	F	G
Y5 37+98				1	1.2		1		1	
1944–1945										
Y5 36+50				1	2.2		1		1	
1945–1946										
Y5 35+15				1	3.0		1		1	
1946–1933										
Y5 38+00				1	0.8		1			1
1947–1937										
Y5 38+75				1	0.3		1			1
1948–1947										
Y5 41+13										
Y5 41+80										
SHEET TOTALS				5	7.5		5		3	2
PROJECT TOTALS		3.400		240	220.0		153	31	68	54

	CONCRETE TRANSITIONAL SECTION: D.I. STD. 852.04 OR STD. 852.06	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 W/ GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. W/ 2 GRATES STD. 840.29
SHEET TOTALS																	
PROJECT TOTALS	51				74	74		3			1				1		5

	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31 OR STD. 840.32	ANG. VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35	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 M.H.		FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONC. AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
SHEET TOTALS																			
PROJECT TOTALS			4		2	4	7	1		1		1	2		9	0.5526		939	

ABBREVIATIONS

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

2MQ6010FQ2

COMPUTED BY: CGM DATE: 08/11/2026

CHECKED BY: JJM DATE: 08/11/2026

PROJECT NO.	SHEET NO.
U-3422B	3D-12

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 54 INCHES & OVER)

LINE & STATION / SIZE / THICKNESS OR GAUGE	OFFSET	STRUCTURE NUMBER FROM	TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	R. C. PIPE CLASS III 48	54	60	66	72	78	84		R. C. PIPE CLASS IV 48	54	60	66	72	78	84	
L 155+70	37 RT	1317		172.4																			
		1317	1401		156.9	156.1				280													
L 158+50	41 RT	1401		172.5																			
		1401	1424		156.1	155.8				88													
L 159+32	48 LT	1402		172.1																			
		1402	1407		155.6	154.8				268													
L 162+02	48 LT	1407		171.3																			
		1407	1418		154.8	154.6				36													
L 163+07	37 LT	1408		171.6																			
		1408	1411		154.4	153.4				336													
L 166+50	37 LT	1411		169.3																			
		1411	1414		153.4	153.2				80													
L 168+00	37 LT	1412		167.9																			
		1412	1416		152.9	152.3				176													
L 167+30	37 LT	1414		168.6																			
		1414	1412		153.2	152.9				68													
L 169+75	37 LT	1416		167.1																			
		1416	1501		151.8	151.6					120												
L 162+38	47 LT	1418		171.6																			
		1418	1408		154.6	154.4				68													
L 158+50	48 LT	1424		172.3																			
		1424	1402		155.8	155.6				80													
L 170+95	37 LT	1501		166.8																			
		1501	1519		151.6	151.5					44												
SHEET TOTALS										1480	164												
PROJECT TOTALS										1480	164												

STRUCTURE	##" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	##" R.C. PIPE CULVERTS, CONTRACTOR DESIGN	##" R.C. PIPE CULVERTS, CONTRACTOR DESIGN		##" x ##" C.S. PIPE ARCH CULVERTS, ##" THICK	##" x ##" C.S. STRUCTURAL PLATE PIPE ARCH, ## GAUGE	##" WELDED STEEL PIPE ##" THICK, GRADE ## IN SOIL	##" WELDED STEEL PIPE ##" THICK, GRADE ## NOT IN SOIL	##" WELDED STEEL PIPE ##" THICK, GRADE B (UNDER RR)						ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 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	F	G	
1317																	9.650				1	1			
1401																	10.659				1		1		
1402																	10.714				1			1	
1407																	10.714				1	1			
1408																	11.352				1		1		
1411																	10.203				1			1	
1412																	9.382				1			1	
1414																	9.711				1			1	
1416																	9.656				1			1	
1418																	10.709								
1424																	10.750				1			1	
1501																	8.962				1	1			
SHEET TOTALS																	122.462				11	3	2	6	
PROJECT TOTALS																	122.462				11	3	2	6	

STRUCTURE	CONCRETE TRANSITIONAL SECTION: D.I. STD. 852.04 OR STD. 852.06	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) FR. WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FR. W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FR. W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FR. W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FR. 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	ANG. 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 DRAIN.	ENERGY DISSIPATOR BASIN	SPRING BOX STD. 840.41		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54	PIPE REMOVAL LIN. FT.	REMARKS
1317																																	See Sheet 2C-6 Special Design CB
1317–1401																																	
																																	See Sheet 2C-6 Special Design CB
1401																																	See Sheet 2C-6 Special Design CB
1402																																	See Sheet 2C-6 Special Design CB
1407																																	See Sheet 2C-6 Special Design CB
1408																																	See Sheet 2C-6 Special Design CB
1411																																	See Sheet 2C-6 Special Design CB
1412																																	See Sheet 2C-6 Special Design CB
1414																																	See Sheet 2C-6 Special Design CB
1416																																	See Sheet 2C-6 Special Design CB
1418																						1									1		See Sheet 2C-7
1424																																	See Sheet 2C-6 Special Design CB
1501																																	See Sheet 2C-6 Special Design CB
1501–1519																											1						
SHEET TOTALS																						1					1				1		
PROJECT TOTALS																						1					1				1		

ABBREVIATIONS

- 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

COMPUTED BY: Nicholas Moore DATE: 12-10-2024
CHECKED BY: Thein Tun Zan DATE: 12-10-2024

(2-3-23)

PROJECT NO.	SHEET NO.
U-3422B	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 Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU (1)	12	250	500	750		
			TOTAL CY/TONS/SY:		250	500**	750**	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 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.**

PROJ. REFERENCE NO.	SHEET NO.
U-3422B	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
79	9, 10	BRAGG SHOPS PLAZA, LLC
86	9, 10	RICHARD L. MIRAGLIOTTA, ET UX
87	10	KEVIN S. WILLIAMS
88	10	LENORA JUDITH DENSON
89	10	MAE REVELS SWINK
91	10	MARCO A. GARCIA
92	10	DERRICK F. THOMPSON, ET UX
93	10	JORGE IVAN TORO- MARTINEZ
94	10	ALVIN REMONE AUTRY, JR. ET UX.
95	10	SHEILA G. TURNER
96	10	EDWARD VENTURA, ET UX
97	10	SANDRA L. HALL, ET VIR
98	10	TERRY W. ESTEP, ET UX
99	10	EDNA GRIFFIN LOYD
100	10, 11	STUART HITE, ET UX
101	10	WILLIAM S. SWINDELL, ET UX
102	10	ELMER MILTON BAXLEY, ET UX
103	10	MARCO GARCIA
104	10	MATTEW WATSON, ET AL.
105	10	WALLARD BROCK, ET AL.
106	10	WILLARD BROCK, ET AL.
107	10	WILLARD BROCK, ET AL.
108	10	LAURA A. McMILLAN BROWN
109	10	BARBARA S. YEAZEL
110	10, 11	ARMERLINE KING
111	11	MICHAEL MANGUM, ET AL.
112	11	NEW LIFE BAPTIST CHURCH OF FAYETTEVILLE TRUSTEES
113	11, 12	CAM ROCKS, LLC
114	11	STARLETH WOODLE
115	11	AGNES K. LOWDER TRUSTEE
116	11	THOMAS L. WILLIAMS
117	11, 18	CROSSROAD PROPRIETARY INVESTMENTS, LLC.
118	11	LAJOS GOCZAN
119	11	FADHL ALHOBISHI
120	11	STONEY POINT BAPTIST CHURCH, INC.
121	12	McCAULEY & McDONALD INVESTMENTS, INC.
122	12	ALEXANDER MOORE, JR. ET UX
123	12, 19	CHARLES E. KOONCE, ET AL
124	12	SABRINA HAYWORTH, ET VIR
125	12	LOIS LONG LEWIS
126	12	BELINDA YOWELL
127	12	DOROTHY R. ENNIS
131	12	CONGREGATIONAL CHRISTIAN CHURCH IN AMERICAN SAMOA
132	12	SHARON ANN EDWARDS
134	12	MARY J. FLOWERS
135	13	LUISE P. SIMMONS, HEIRS
136	13	STEVEN GAYNOR
137	13	MICHAEL J. CORBETT, ET AL.
138	13	LINSAY'S RETROFIT SERVICES, LLC.
139	13	JAMES E. EMANUEL
140	13, 19	ELLIS E. EHLE, JR.
141	13	TRACEY LAURELES, ET VIR
142	13, 13A	REFUEL OPERATING COMPANY, LLC
143	13	CHAE S. DILLON, ET VIR
143A	13A	CHAE S. DILLON, ET VIR
144	13	DOGWOOD PARTNERS OF FAYETTEVILLE, LLC
145	13, 13A, 14	VERTEX PROPERTIES, LLC.
146	13	MELISSA HAM, ET VIR
147	13	JOHN P. BURNSIDE, ET UX
149	13	STEPHEN DOLLINGER, ET UX

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
150	13	KEITH STOUGH, ET UX
151	13	PHILLIP PATRICK LEE
152	13	SPRINGS PROPERTY MANAGEMENT, LLC
153	13	DANIEL C. BROWN
154	13	SPRINGS PROPERTY MANAGEMENT, LLC
156	13	JEFFREY W. WRIGHT
157	13	DARNELL MCNEIL, ET UX
158	13	JAMES KENNETH HOLLINGSWORTH, ET AL
159	13, 14	JAE KUN CHOE
159A	14	KENSINGTON VILLAGE HOMEOWNERS ASSOCIATION OF FAYETTEVILLE, INC.
160	14	MDC NC3, LP
161	14	LANDFALL PARTNERS, LLC
162	14	CYNDI LEE MCKINNEY
163	14, 15	LANDSTONE, LLC
164	14	JOHN S. CARRO
165	14	WICHAI LEECHAROEN, ET UX
166	14	AUTRIE L. PERRY, ET UX
167	14	ANGELA TYNDALL
168	14	DANIEL N. NORTON, ET UX
169	14, 15	CHARLES T. GARDNER, ET UX
170	15	MILLSTONE PARTNERS, LLC
171	15	HEITH ERIKSON WALSTON
172	15	DAVID F. FERRUZZI
173	15	KACEY PARK SHUPE
174	15	LANDSTONE, LLC
175	15	KAREN SIMMONS
176	15, 16	JANET K. WILLIAMS
177	15	HELEN E. HOLDER, ET VIR
178	15	EMMA I. BOSTIC
179	15	DAVID C. SASSER, ET UX
180	15	SPRINGS PROPERTY MANAGEMENT, LLC
181	15	LELAND J. MOREL, ET UX
182	15	ARTHUR J. LASELLE, JR. ET UX
183	15	JULIAN R. WALTERS
185	15	THOMAS DUDLEY WATTS
186	15	LOURDES BELTRE
187	15	SONTERIOS ELIAS FRANGOS
188	15, 16	WATUS H. PARKER
195	16	JANET K. WILLIAMS
196	16	PHILLIP NORWOOD SMITH
197	16	JERRY LEON EDGE/ TARHEEL BUILDERS
199	16	RUTH A. LIND
200	16	WILLIAM R. WESTBROOK III, ET UX
201	16	WILLIAM R. WESTBROOK III, ET UX
202	16	STORAGE PARTNERS- FAYETTEVILLE, NC LLC
203	16	HALLIE ARTLEY, ET AL
204	16	HAROLD KIDD, ET UX
205	16	VILLAGE COMPANY, LLC
206	16	BRYANT RESTURANTS. INC.
208	16, 17	CAROLINA BLUE SKY, LLC.
209	16	MARY L. FOWLER, LIFE ESTATE
210	16	SOTOS INVESTMENTS, LLC.
211	16	SOTOS INVESTMENTS, LLC.
212	16	PATRICIA C. GAINEY
213	16	ALTON ALVA HARTNESS
214	16	HAROLD KIDD, ET UX
215	16	JFC, LLC
216	16	JUAN MACIAS
217	16, 17	FIVE RIDDLES III, INC.
218	17	McDONALDS REAL ESTATE CO.

PROJ. REFERENCE NO.	SHEET NO.
U-3422B	3P-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
219	17	W HOPE MILLS REALTY LIMITED PARTMENTS
220	17A, 18	ABRAHAM BENZAQUEN I, ET UX
221	18	WILLIE CARL HOBBS, ET UX
222	18	CHARLES H. BAKER
223	18	RANDY L. NOBLES, ET UX
224	18	SUSAN L. HAMBLIN
225	18	SUSAN L. HAMBLIN
226	18	CLAUDE P. RULE, ET UX
227	18	JIN HONG HUANG
228	17A, 18	DICKENS FAMILY TRUST
229	18	WILLIAM ERNEST CARLTON
230	18	AVY PORTER OFFENHAUSER
231	18	JAMES R. HARRIS, ET UX
232	11, 18	MARION R. STARLING, ET UX
233	17A	TAMELA FAYE ESPARZA
234	17A	TAMELA J. MASON
235	17A	PAMELA LUCKIE
236	19	ROXIE VENDETTI
237	19	CUMBERLAND COUNTY BOARD OF EDUCATION
237A	19	TOWN OF HOPE MILLS
238	19	THOMAS W. FAUCETTE
240	19	DEMI JONES
241	19	VICTORY BAPTIST CHURCH, INC.
243	19	NIXON TAVAREZ, ET UX
244	19	CHRISTIAN TABERNACLE OUTREACH MINISTRY
245	19	DANNY FRANK TERRY, ET UX
247	19	ROBERT D. HIGHSMITH
248	19	DOUGLAS L. HORNE, ET AL
249	19	CHRISTOPHER J. WALLACE, ET UX
250	19A	SYEDA M. GAINEY, ET VIR
251	19A	JANET CLAIR
252	19A	GLENN KYLE JOHNSON, JR.
253	19A	MICHAEL WESLEY STARLING
254	19A	KENNETH R. DAVIS
255	19A	C. CICERO MAXWELL, SR. LIVING TRUST
256	19A	JOHN WALTER LOVER, JR. ET UX
257	19A	TONY R. TYNDAL
258	19A	WILMA C. HERRIN
259	19A	FAITH H. BROCK
260	19A	THEODORE A. SMITH, ET UX
261	19A	SAMUEL BREHM
263	13A, 19A	LANDSTONE, LLC
264	19A	KISHANA SHANELLE ALLENT
265	19A	NCDOT
266	19A	KATILIN O'TOOLE, ET AL.
267	19A	ISIAH PECK, ET UX.
268	19A	KAITLIN HAINES, ET AL
269	19A	HERBERT M. FLETCHER, JR. ET UX
270	19A	BOTTOM-LINE PROPERTY BUYERS, LLC.
271	19A	LAMAR GILBERT
272	19A	TANISHA F. THOMPSON
273	19A, 19B	CHARLES LEIGHTON JACOBS, ET UX
274	19B	DWAYNE P. MAXWELL
275	19B	DWAYNE P. MAXWELL
276	19B	RYAN THOMAS BLACKWELL, ET AL
277	19B	RYAN THOMAS BLACKWELL, ET AL
278	19B	MT. NEBO CHURCH OF GOD
279	19B	MT. NEBO CHURCH OF GOD
280	19A	SOUTH PEAK AT MILLSTONE HOMEOWNERS ASSOC INC
281	19B	LANNY MORRISON, LINDA MORRISON

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
282	19	DAVID J. LENIHAN
283	16	BLEDSOE, KIMBERLY F;ROSS, SABRINA F; RUSSELL, SHANNON FOWLER;FOWLER, JASON R
284	19	DAHLIA L STRATTON ATKINS; RANEY GLENN TURLINGTON
285	19A	DOUGLES L. HORNE

Docusign Envelope ID: 45A9CEF9-9DA5-87D8-812A-2CE64717F2B1

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	10
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042470 ENGINEER ALEXANDER D. SNIDER
11/3/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042084 ENGINEER JOSHUA J. MASSEY
11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

BEGIN CONSTRUCTION
TIP PROJECT U-3422B
-L- STA. 109+65.15
TIE TO U-3422A (BY OTHERS)

NAD 83/2011

MATCHLINE SHEET 11 -L- STA. 116+00.00

SEE SHEET 20 FOR -L- PROFILE

NOTE: PLAN SHEETS 4 THRU 9 HAVE BEEN REMOVED.
SEE U-3422A FOR PLANS.

-L-
PI Sta 104+39.87
Δ = 12° 54' 58.2" (LT)
D = 1° 54' 35.5"
L = 676.29'
T = 339.58'
R = 3,000.00'
e = 3%
Lr = 126.00'

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: ASNIDER
FILE: \
DATE: 9/23/2026
PENTABLE: U3422_pshp11.tbl
TIME: 2:49:12 PM

Docusign Envelope ID: 45A9CEF9-9DA5-87D8-812A-2CE64717F2B1

PROJECT REFERENCE NO.	SHEET NO.
U-3422B	11
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042477 ENGINEER ALEXANDER D. SNIDER
11/3/2026

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042084 ENGINEER JOSHUA J. MASSON
11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

NAD 83/2011

2017 ADT
2040 ADT
(ADT IN 100's)

187/223 SR 1003 CAMDEN RD 6/7 | 201/238 SR 1003 CAMDEN RD 20/22, 26/29

APPLEGATE RD

MATCHLINE SHEET 10 -L- STA. 116+00.00

MATCHLINE SHEET 12 -L- STA. 128+00.00

MATCHLINE -Y3- STA. 36+50.00 SHEET 18

-L- PT Sta. 120+78.18

-Y3- PC Sta. 40+61.90

-L- PC Sta. 126+63.17

-DI- PC Sta. 10+70.98

-DI- PT Sta. 11+12.27

-DI- POT Sta. 13+85.00

-Y4- POT Sta. 15+99.97 = -L- POT Sta. 124+93.10

-Y3- POT Sta. 40+90.80 = -L- POT Sta. 124+93.14

-Y4- PT Sta. 11+15.00

-Y4- PC Sta. 10+00.00

BEGIN CONSTRUCTION -Y4- STA. 10+00.00

110 ARMERLINE KING DB 9270 PG 704

114 STARLETH WOODLE DB 2628 PG 441

115 AGNES K. LOWDER TRUSTEE DB 5593 PG 492

116 THOMAS L. WILLIAMS DB 8749 PG 543

117 CROSSROAD PROPRIETARY INVESTMENTS, LLC. DB 11524 PG 103

118 LAJOS GOCZAN DB 6515 PG 189

119 FADHL ALHOBISHI DB 9890 PG 899

120 STONEY POINT BAPTIST CHURCH, INC. DB 8983 PG 476

MARION R. STARLING, ET UX DB 9215 PG 649 PB 39 PG 72

100 STUART HITE, ET UX DB 2590 PG 325

111 MICHAEL MANGUM, ET AL DB 4564 PG 59 PB 92 PG 187

112 NEW LIFE BAPTIST CHURCH OF FAYETTEVILLE TRUSTEES DB 7211 PG 398 DB 9523 PG 11 PB 92 PG 187

113 CAM ROCKS, LLC DB 8348 PG 101 DB 9513 PG 790 PB 123 PG 29

-L-
PI Sta 117+80.55
Δ = 1° 42' 19.4" (LT)
D = 0° 17' 11.3"
L = 595.29'
T = 297.67'
R = 20,000.00'
e = NC

-Y3-
PI Sta 38+74.91
Δ = 65° 14' 24.1" (RT)
D = 15° 16' 43.9"
L = 427.00'
T = 240.01'
R = 375.00'

-Y4-
PI Sta 10+57.61
Δ = 8° 47' 07.3" (LT)
D = 7° 38' 22.0"
L = 115.00'
T = 57.61'
R = 750.00'

-DI-
PI Sta 10+93.29
Δ = 53° 45' 56.2" (RT)
D = 130° 13' 03.7"
L = 41.29'
T = 22.31'
R = 40.00'

PAVEMENT REMOVAL

★ PROPOSED SIGNAL
SEE SHEET 2B-1 FOR DETAIL VIEW
SEE SHEET 20 FOR -L- PROFILE
SEE SHEET 25 FOR -Y3- PROFILE
SEE SHEET 25 FOR -Y4- PROFILE
SEE SHEET 27 FOR -D1- PROFILE

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: ASNIDER
FILE: \
PENTABLE: U3422_pshpfl.tbl
DATE: 9/23/2026
TIME: 2:49:15 PM

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PROJECT REFERENCE NO.	SHEET NO.
U-3422B	12
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042478 ENGINEER ALEXANDER D. SNIDER
11/3/2026

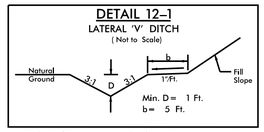
HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 042084 ENGINEER JOSHUA J. MASSEY
11/3/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

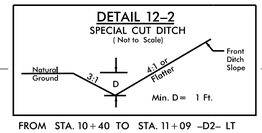
NAD 83/2011

DETAIL 12-1
LATERAL 'V' DITCH
(Not to Scale)

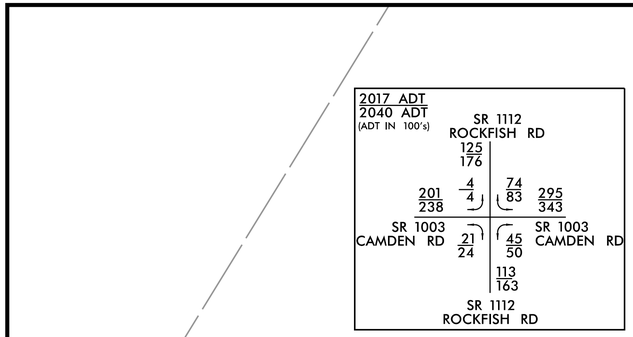


FROM STA. 10+75 TO STA. 12+25 -Y5- RT
FROM STA. 12+80 TO STA. 15+00 -Y5- RT

DETAIL 12-2
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 10+40 TO STA. 11+09 -D2- LT



MATCHLINE SHEET 11 -L- STA. 128+00.00

MATCHLINE SHEET 13 -L- STA. 142+00.00

SHEET 19 -Y5- STA. 14+50.00

-Y5- POT Sta. 10+00.00 =
-L- POT Sta. 134+13.79

-L- PT Sta. 132+67.97

-Y5- PC Sta. 11+65.60

-Y5- POT Sta. 12+39.47 =
-D2- POT Sta. 12+00.00

-Y5- PT Sta. 14+32.78

-D2- POT Sta. 12+00.00
N 37° 04' 17.0" E

-D2- PT Sta. 11+95.67

-D2- POT Sta. 10+00.00

-D2- PC Sta. 10+53.74

N 67° 46' 12.5" E

N 4.39' E

130+00

135+00

140+00

127 DOROTHY R. ENNIS DB 2008 PG 555

127 DOROTHY R. ENNIS DB 2369 PG 211

127 DOROTHY R. ENNIS DB 2463 PG 531

127 DOROTHY R. ENNIS DB 2359 PG 569

131 CONGREGATIONAL CHRISTIAN CHURCH IN AMERICAN SAMOA DB 8451 PG 52

132 SHARON ANN EDWARDS DB 6777 PG 77

MELISSA HAM, ET VIR DB 8809 PG 691 PB 88 PG 128

MARY J. FLOWERS DB 8285 PG 892 PB 88 PG 128 (134)

113 CAM ROCKS, LLC DB 8348 PG 101 DB 9513 PG 790 PB 123 PG 29

121 McCAULEY & McDONALD INVESTMENTS, INC. DB 2173 PG 229 DB 9567 PG 21

122 ALEXANDER MOORE, JR. ET UX DB 5824 PG 747 PB 22 PG 71

123 CHARLES E. KOONCE, ET AL DB 489 PG 270 DB 9542 PG 65

124 SABRINA HAYWORTH, ET VIR DB 8940 PG 160 PB 25 PG 74

125 LOIS LONG LEWIS DB 8664 PG 621 PB 25 PG 74

126 BELINDA YOWELL DB 4552 PG 194 PB 25 PG 74

-L-
PI Sta 129+65.94
Δ = 6° 55' 50.0" (LT)
D = 1° 08' 45.3"
L = 604.81'
T = 302.77'
R = 5,000.00'
e = RC
Lr = 84.00'

-Y5-
PI Sta 13+04.39
Δ = 38° 16' 15.9" (LT)
D = 14° 19' 26.2"
L = 267.18'
T = 138.79'
R = 400.00'

-D2-
PI Sta 11+26.66
Δ = 32° 24' 19.6" (RT)
D = 22° 50' 00.0"
L = 141.92'
T = 72.91'
R = 250.93'

PAVEMENT REMOVAL

★ PROPOSED SIGNAL
SEE SHEET 2B-2 FOR DETAIL VIEW
SEE SHEETS 20 AND 21 FOR -L- PROFILE
SEE SHEET 26 FOR -Y5- PROFILE
SEE SHEET 27 FOR -D2- PROFILE

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: U3422_pshpfi.tbl
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FILE: \