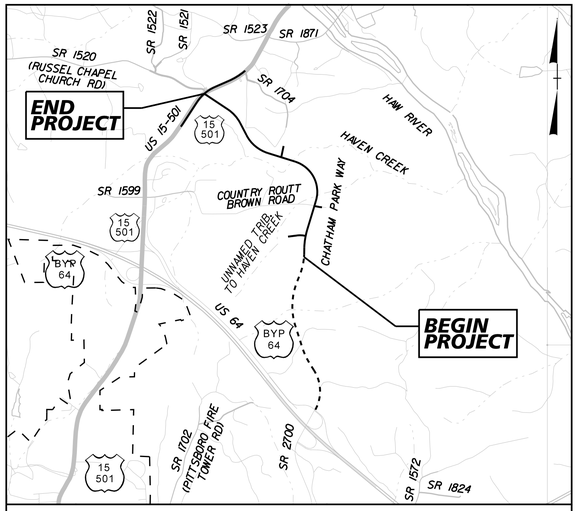
09/08/99

TIP PROJECT: R-5930B

CONTRACT: C204933

SEE SHEET 1A FOR INDEX OF SHEETS
SEE SHEET 1B FOR CONVENTIONAL PLAN SHEET SYMBOLS



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

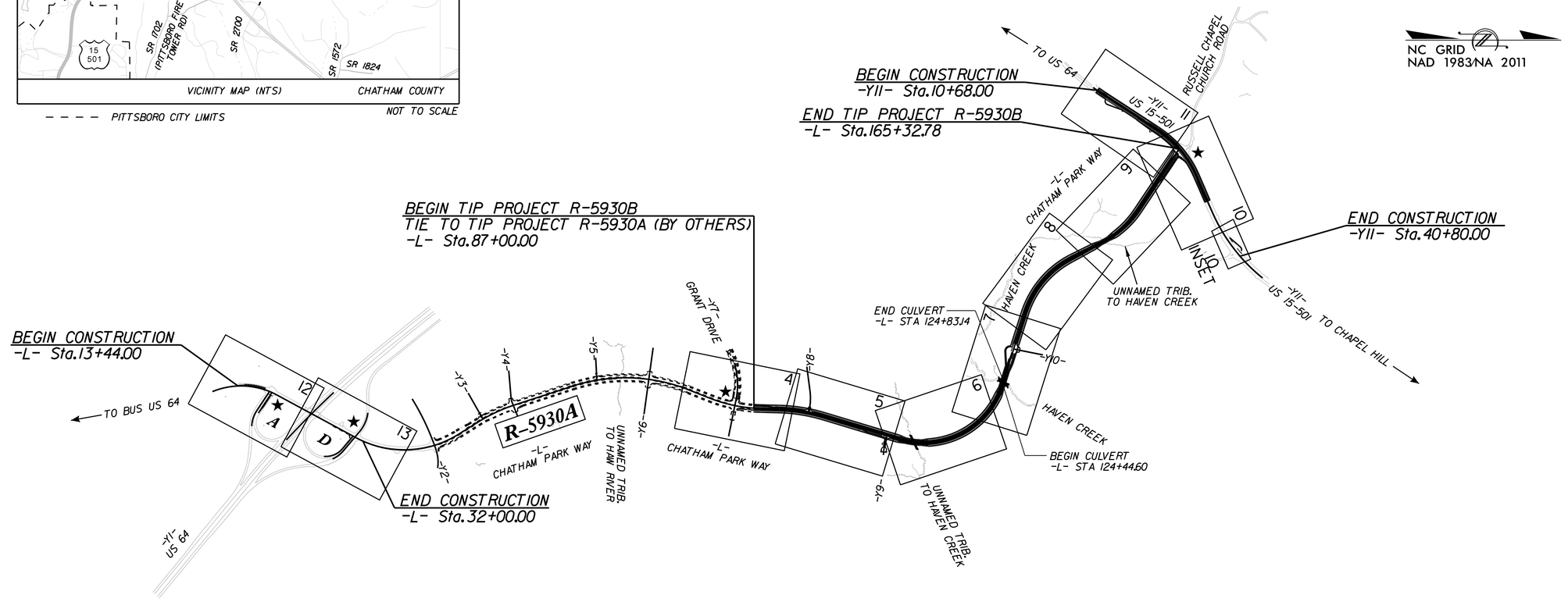
CHATHAM COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5930B	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48548.1.3		PE
48548.2.5		RW
48548.2.6		UTIL.
48548.3.3		CONST.

LOCATION: SR 2700 (CHATHAM PARK WAY) FROM GRANT DRIVE TO US 15-501

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNALS, AND RETAINING WALLS



NC GRID
NAD 1983/NA 2011

★ TRAFFIC SIGNAL

THIS IS A LIMITED CONTROLLED ACCESS PROJECT WITH ACCESS LIMITED TO POINTS AS SHOWN ON THE PLANS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

R-5930B DESIGN DATA

ADT 2025 = 0
ADT 2045 = 30000
K = 8%
D = 65
T = 5%*
V = 50 MPH
* (TTST 2% + DUAL 3%)
FUNCTIONAL CLASSIFICATION: URBAN ARTERIAL SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5930B	=	1.476 MILES
LENGTH STRUCTURE TIP PROJECT R-5930B	=	0.007 MILES
TOTAL LENGTH TIP PROJECT R-5930B	=	1.483 MILES

PLANS PREPARED FOR THE NCDOT BY: Kimley»Horn ©2025

NC LICENSE #F-0102
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 30, 2022

LETTING DATE: MARCH 18, 2025

VANCE W. BLANTON, P.E.
PROJECT ENGINEER

TYLER G. SPRING, P.E.
PROJECT DESIGN ENGINEER

JEFFREY A. STRODER, P.E.
PROJECT MANAGER
NCDOT HIGHWAY DIVISION 8

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038599 ENGINEER VANCE W. BLANTON

SIGNATURE: 2/10/2025 P.E.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038599 ENGINEER VANCE W. BLANTON

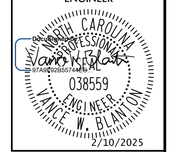
SIGNATURE: 2/10/2025 P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

K:\PRAL_Roadway\0I036532 - R-5930 North CPW\Roadway\Pro\NR-5930B_rdy_1sh.dgn
1/7/2025

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	1-A

ROADWAY DESIGN ENGINEER



R-5930B
CHATHAM COUNTY

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF ROADWAY STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2A-3	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND MISCELLANEOUS DETAILS
2B-1 THRU 2B-2	INTERSECTION DETAILS
2C-1 THRU 2C-6	ROADWAY DETAILS
2D-1 THRU 2D-3	DRAINAGE DETAILS
3B-1	SUMMARY OF EARTHWORK
3B-2	SUMMARY OF GUARDRAIL, ASPHALT PAVEMENT REMOVAL
3D-1 THRU 3D-6	DRAINAGE SUMMARIES
3G-1	GEOTECHNICAL SUMMARIES
3P-1	PARCEL INDEX SHEETS
4 THRU 13	PLAN SHEETS
14 THRU 18	PROFILE SHEETS
RW01 THRU RW16	SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS, AND PROPERTY TIES
TMP-1 THRU TMP-8	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-10	PAVEMENT MARKING PLANS
EC-1 THRU EC-19	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-11	SIGNING PLANS
SIG 1.0 THRU SIG 5.3	SIGNAL PLANS
SCP-1 THRU SCP-2	ITS PLANS
UC-1 THRU UC-12	UTILITY CONSTRUCTION PLANS
UBO-1 THRU UBO-14	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX
X-1A	CROSS-SECTION SUMMARY SHEETS
X-2 THRU X-53	CROSS-SECTIONS
C-TSH	STRUCTURES TITLE SHEET
C3-1 THRU C3-6	CULVERT (42C003) PLANS
C4-1 THRU C4-7	CULVERT (42C004) PLANS
SN	STRUCTURES NOTES
W-1 THRU W-4	RETAINING WALL PLANS

GENERAL NOTES

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADE LINE:
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 III.

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

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE 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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

POWER: DUKE ENERGY - JOCELYN ROBERTSON - JJROBERTSON@DUKE-ENERGY.COM
TELECOM: BRIGHTSPEED - TIMOTHY NUNLEY - TIMOTHY.NUNLEY@BRIGHTSPEED.COM
CATV: SPECTRUM - ROBERT DABROWSKI - ROBERT.DABROWSKI@CHARTER.COM

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 CONTRACT.

CURB RAMPS

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

ROCK

ROCK IS POSSIBLE BETWEEN -L- STA. 116+00 TO 120+00. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

EFF. 01-16-2018
REV.

2018 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N. C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N. C., DATED JANUARY, 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	METHOD OF CLEARING - METHOD III
225.02	GUIDE FOR GRADING SUBGRADE - SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION - TWO LANE PAVEMENT
240.01	GUIDE FOR BERM DITCH CONSTRUCTION
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	
806.01	CONCRETE RIGHT-OF-WAY MARKER
806.03	CONCRETE CONTROL-OF-ACCESS MARKER
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
838.21	REINFORCED CONCRETE ENDWALL - FOR SINGLE 54" PIPE 90° SKEW
838.45	NOTES FOR REINFORCED CONCRETE ENDWALL - STD. DWG 838.21 THRU 838.40
838.51	REINFORCED BRICK ENDWALL - FOR SINGLE 54" PIPE 90° SKEW
838.75	NOTES FOR REINFORCED BRICK ENDWALL - STD. DWG 838.51 THRU 838.70
838.80	PRECAST ENDWALLS - 12" THRU 72" 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
840.17	CONCRETE GRATED DROP INLET TYPE 'A' - 12" THRU 72" PIPE
840.18	CONCRETE GRATED DROP INLET TYPE 'B' - 12" THRU 36" PIPE
840.24	FRAMES AND NARROW SLOT SAG GRATES
840.25	ANCHORAGE FOR FRAMES - BRICK OR CONCRETE OR PRECAST
840.26	BRICK GRATED DROP INLET TYPE 'A' - 12" THRU 72" PIPE
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
840.36	TRAFFIC BEARING GRATED DROP INLET - FOR STEEL (840.37) DOUBLE FRAME AND GRATES
840.37	STEEL GRATE AND FRAME
840.45	PRECAST DRAINAGE STRUCTURE
840.46	TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE
840.54	MANHOLE FRAME AND COVER
840.66	DRAINAGE STRUCTURE STEPS
840.72	PIPE COLLAR
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER
848.02	DRIVEWAY TURNOUT - RADIUS TYPE
848.04	STREET TURNOUT
848.05	CURB RAMP - PROPOSED CURB & GUTTER
850.01	CONCRETE PAVED DITCHES
850.10	GUIDE FOR BERM DRAINAGE OUTLET - 15" AND 18" PIPE
852.01	CONCRETE ISLANDS
852.05	MEDIAN CURB FOR CATCH BASIN FOR USE WITH 1'-6" CURB AND GUTTER
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
876.04	DRAINAGE DITCHES WITH CLASS 'B' RIP RAP

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1/7/2025

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	1-B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Kimley»Horn
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

Note: Not to Scale

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

- Standard Gauge
- RR Signal Milepost
- Switch
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:

- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Secondary Horiz and Vert Control Point
- Vertical Benchmark
- Existing Right of Way Monument
- Proposed Right of Way Monument (Rebar and Cap)
- Proposed Right of Way Monument (Concrete)
- Existing Permanent Easement Monument
- Proposed Permanent Easement Monument (Rebar and Cap)
- Existing C/A Monument
- Proposed C/A Monument (Rebar and Cap)
- Proposed C/A Monument (Concrete)
- Existing Right of Way Line
- Proposed Right of Way Line
- Existing Control of Access Line
- Proposed Control of Access Line
- Proposed ROW and CA Line
- Existing Easement Line
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement
- Proposed Permanent Drainage/Utility Easement
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement
- Proposed Aerial Utility Easement

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

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

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Test Hole (SUE – LOS A)*
- U/G TV Cable (SUE – LOS B)*
- U/G TV Cable (SUE – LOS C)*
- U/G TV Cable (SUE – LOS D)*
- U/G Fiber Optic Cable (SUE – LOS B)*
- U/G Fiber Optic Cable (SUE – LOS C)*
- U/G Fiber Optic Cable (SUE – LOS D)*

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

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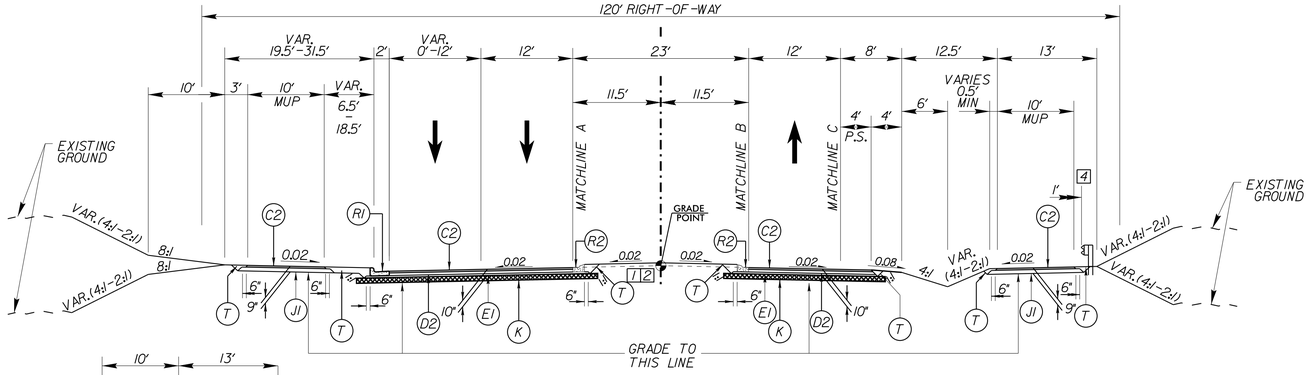
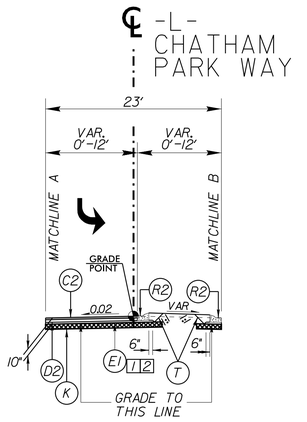
12/6/2024

5/14/99



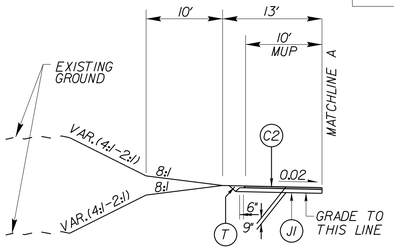
TYPICAL SECTION NO. 1

-L- STA 87+00.00 TO 89+75.00



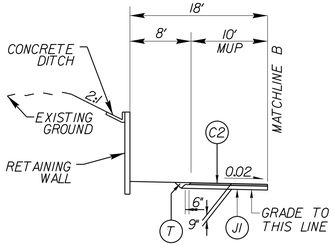
TYPICAL SECTION NO. 1A

-L- STA 87+00.00 TO 89+25.00



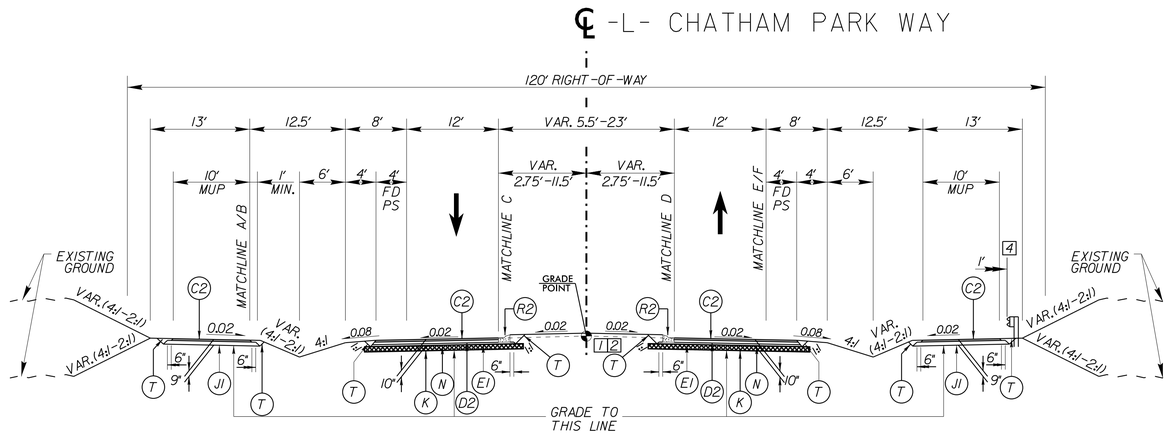
TYPICAL SECTION NO. 2A

-L- STA 89+75.00 TO 96+50.00



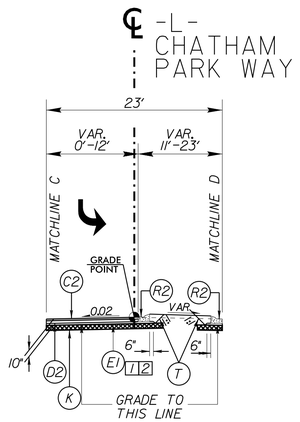
TYPICAL SECTION NO. 2B

-L- STA 161+50.00 TO 164+28.00



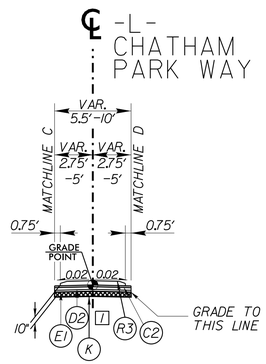
TYPICAL SECTION NO. 2

-L- STA 89+75.00 TO 107+35.00
-L- STA 110+55.00 TO 123+35.00
-L- STA 130+05.00 TO 148+15.00
-L- STA 150+35.00 TO 164+92.33



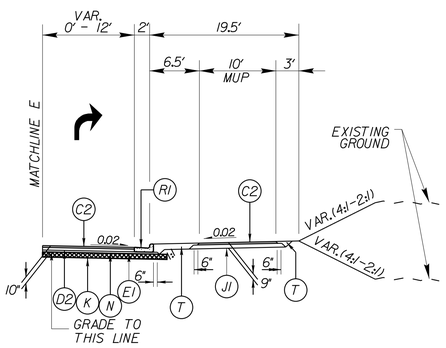
TYPICAL SECTION NO. 2C

-L- STA 130+05.00 TO 134+30.00



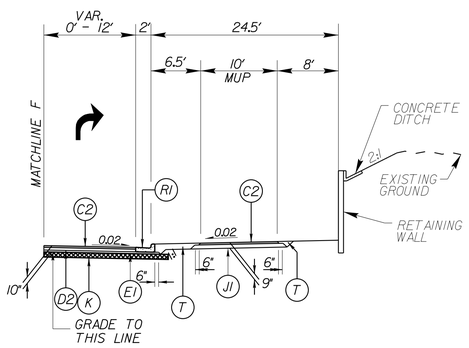
TYPICAL SECTION NO. 2D

-L- STA 147+51.50 TO 148+15.00
-L- STA 150+35.00 TO 150+98.50



TYPICAL SECTION NO. 2E

-L- STA 101+70.00 TO 104+70.00
-L- STA 126+30.00 TO 128+80.00



TYPICAL SECTION NO. 2F

-L- STA 161+50.00 TO 164+10.00

Kimley»Horn ©2025
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2A-1

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 044590 ENGINEER ANDREW D. WARREN
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED

1. SEE PLANS AND CROSS SECTIONS FOR MEDIAN TYPES AND LOCATIONS
2. SEE PLANS FOR TURN LANE LOCATIONS
3. SAWCUT TO INSTLALL PROPOSED 2'-6" CURB AND GUTTER ADJACENT TO EXISTING PAVEMENT FROM -L- STA. 164+38.47 TO 164+92.33 RT. SEE DETAIL SHOWING METHOD OF SAWCUT. SHEET 2A-3
4. FACE OF GUARDRAIL TO BE PLACED 1' BEHIND MULTI-USE PATH. SEE PLANS FOR SPECIFIC GUARDRAIL LOCATIONS

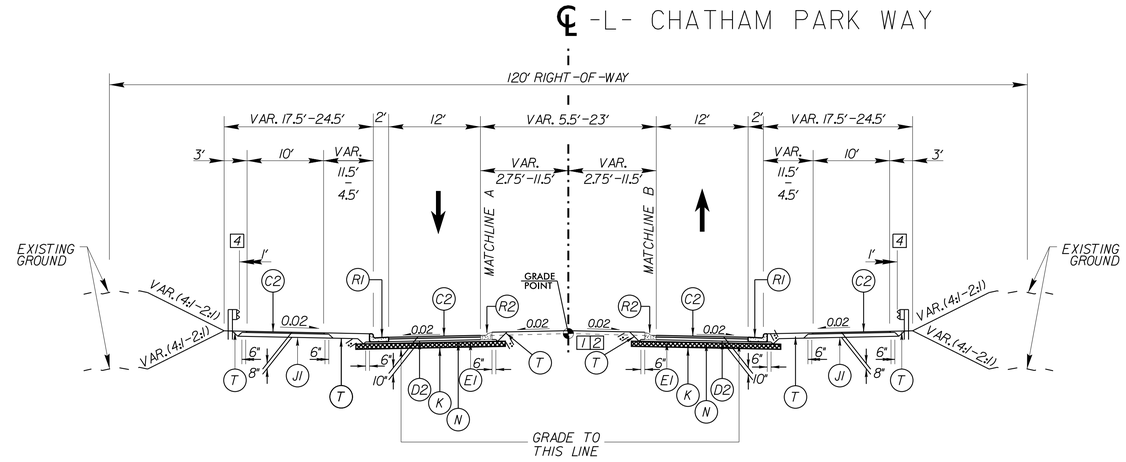
PAVEMENT SCHEDULE
(FINAL PAVEMENT DESIGN)

C1	PROPOSED APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROPOSED APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROPOSED 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 LESS THAN 1" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.
DI	PROPOSED APPROX. 3.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C. AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROPOSED APPROX. 4.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C. AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROPOSED APPROX. 3.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C. AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E2	PROPOSED APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C. AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
JI	PROPOSED 6" AGGREGATE BASE COURSE
K	PROPOSED 8" LIME STABILIZATION (METHOD-SLURRY) AT A RATE OF 24 LBS. PER SQ. YD. OR 7" CEMENT STABILIZATION AT A RATE OF 56 LBS. PER SQ. YD. 50/50 SPLIT TO BE USED AT THE DISCRETION OF THE ENGINEER.
N	GEOTEXTILE FOR SUBGRADE STABILIZATION. SEE GEOTEXTILE FOR SUBGRADE STABILIZATION DETAIL ON SHEET 2A-3 FOR SPECIFIC LOCATIONS WHERE GEOTEXTILE FOR SUBGRADE STABILIZATION IS REQUIRED.
RI	PROPOSED 2'-6" CONCRETE CURB & GUTTER
R2	PROPOSED 1'-6" CONCRETE CURB & GUTTER
R3	PROPOSED 5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
VI	INCIDENTAL MILLING
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL ON SHEET 2A-3)

2/10/2025

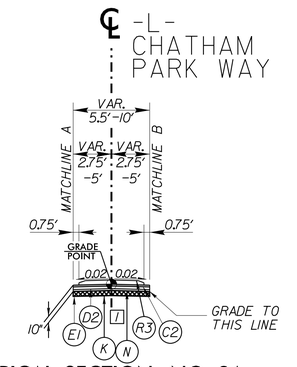
K:\RAL_Roadway\DI\036532 - R-5930 North CPW\Roadway\Pro\NR-5930B_rdy_typ.dgn

5/14/99



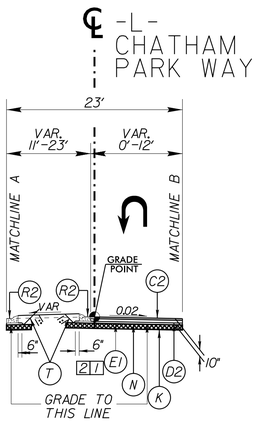
TYPICAL SECTION NO. 3

-L- STA 107+35.00 TO 110+55.00
-L- STA 123+35.00 TO 130+05.00
-L- STA 148+15.00 TO 150+35.00



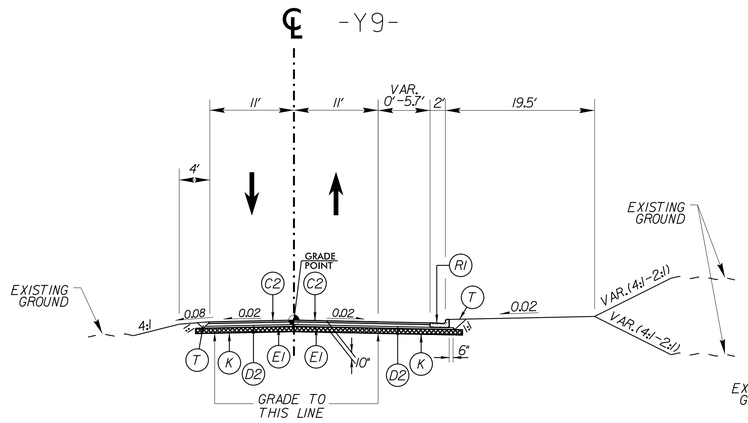
TYPICAL SECTION NO. 3A

-L- STA 148+15.00 TO 150+35.00



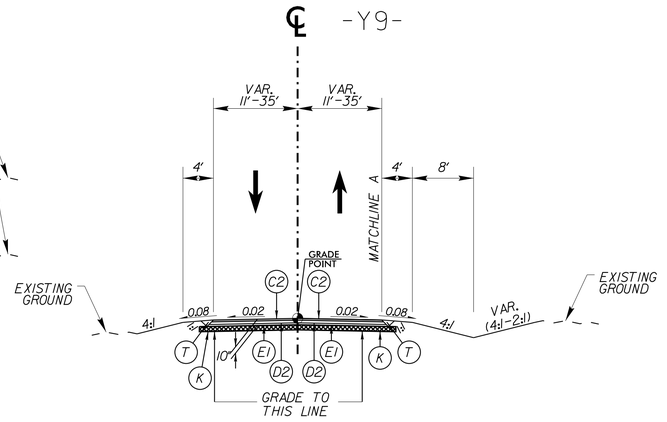
TYPICAL SECTION NO. 3B

-L- STA 126+30.00 TO 128+80.00



TYPICAL SECTION NO. 4

-Y9- STA 10+35.70 TO 10+93.48



TYPICAL SECTION NO. 4A

-Y9- STA 10+93.48 TO 12+35.00

2'-6" CURB AND GUTTER LOCATION SUMMARY

BEGIN			END		
ALIGNMENT	STATION	SIDE	ALIGNMENT	STATION	SIDE
-L-	87+00.00	LT	-L-	89+75.00	LT
-L-	101+70.00	RT	-Y9-	10+79.48	RT
-L-	107+35.00	BOTH	-L-	110+55.00	BOTH
-L-	123+35.00	LT	-L-	130+05.00	LT
-L-	123+35.00	RT	-Y10-	10+82.37	RT
-L-	148+15.00	BOTH	-L-	150+35.00	BOTH
-L-	159+77.00	RT	-Y11-	25+24.46	RT

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2A-2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 044590 ENGINEER ANDREW D. WARREN
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED

1. SEE PLANS AND CROSS SECTIONS FOR MEDIAN TYPES AND LOCATIONS
2. SEE PLANS FOR TURN LANE LOCATIONS
3. SAWCUT TO INSTLALL PROPOSED 2'-6" CURB AND GUTTER ADJACENT TO EXISTING PAVEMENT FROM -L- STA. 164+38.47 TO 164+92.33 RT. SEE DETAIL SHOWING METHOD OF SAWCUT. SHEET 2A-3
4. FACE OF GUARDRAIL TO BE PLACED 1' BEHIND MULTI-USE PATH. SEE PLANS FOR SPECIFIC GUARDRAIL LOCATIONS

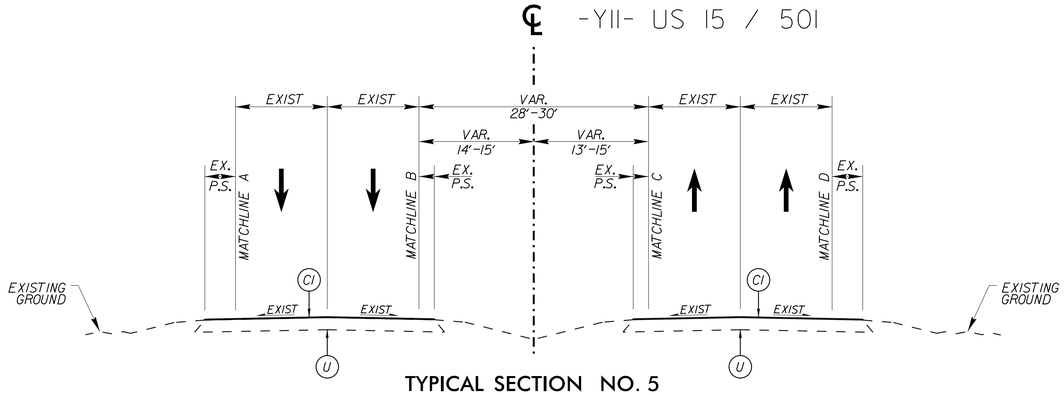
PAVEMENT SCHEDULE
(FINAL PAVEMENT DESIGN)

C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	3" I19.0C
D2	4" I19.0C
E1	3" B25.0C
E2	4" B25.0C
JI	6" ABC
K	CHEMICALLY STABILIZED SUBGRADE
N	GEOTEXTILE FOR SUBGRADE STAB. SEE DETAIL ON SHEET 2A-3 FOR SPECIFIC LOCATIONS
RI	2'-6" CONCRETE CURB & GUTTER
R2	1'-6" CONCRETE CURB & GUTTER
R3	5' MONOLITHIC CONCRETE ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
W	WEDGING

K:\RAL_Roadway\01\036532 - R-5930 North CPW\Roadway\Pro\NR-5930B_rdy_typ.dgn
2/10/2025

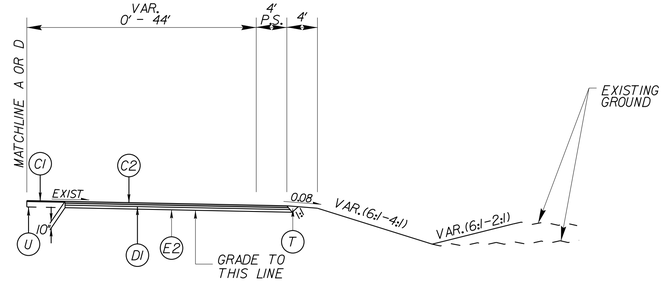
5/14/99

_typdgn



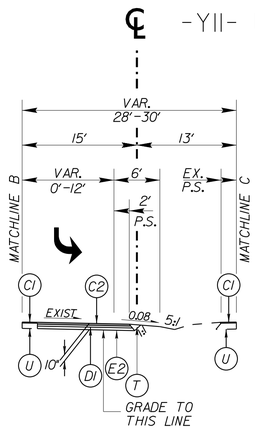
TYPICAL SECTION NO. 5

-Y11- STA 10+68.00 TO 32+20.00



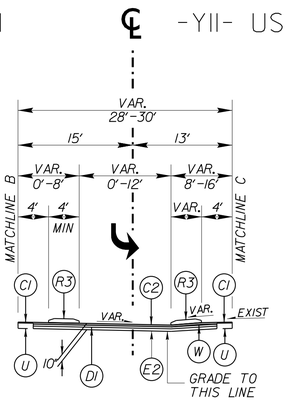
TYPICAL SECTION NO. 5D

-Y11- STA 12+18.00 TO 14+73.00 (RT)
-Y11- STA 37+95.00 TO 40+40.00 (LT)



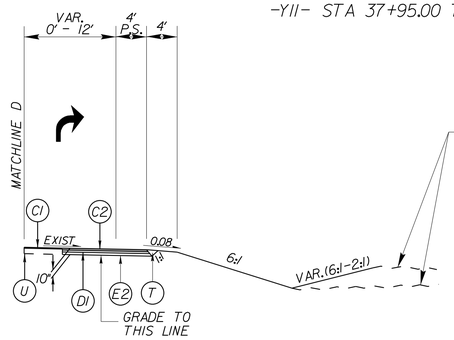
TYPICAL SECTION NO. 5A

-Y11- STA 10+68.00 TO 12+18.00
-Y11- STA 17+23.00 TO 18+23.00
-Y11- STA 29+20.00 TO 32+20.00



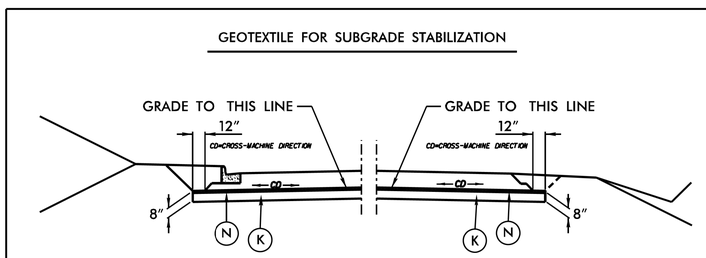
TYPICAL SECTION NO. 5B

-Y11- STA 12+18.00 TO 17+23.00
-Y11- STA 23+95.00 TO 29+20.00



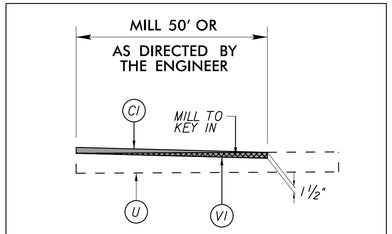
TYPICAL SECTION NO. 5C

-Y11- STA 18+23.00 TO 26+29.69



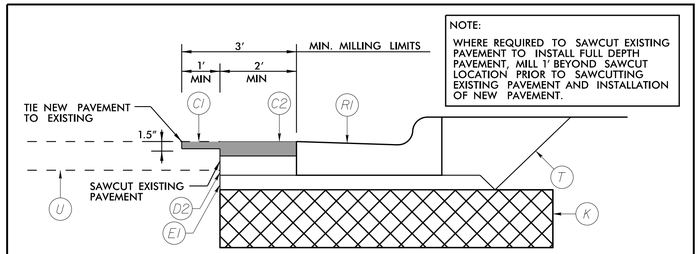
USE GEOTEXTILE FOR SUBGRADE STABILIZATION WITH CHEMICAL STABILIZATION FOR:

-L- 90+00.00 TO 92+50 (LT, RT)
-L- 96+25 TO 97+00 (LT)
-L- 97+00 TO 100+25 (LT, RT)
-L- 106+00 TO 112+50 (LT, RT)
-L- 122+50 TO 127+00 (LT, RT)
-L- 141+50 TO 143+00 (LT, RT)
-L- 148+50 TO 150+00 (LT, RT)

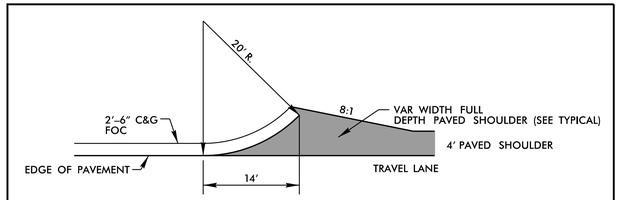


DETAIL OF INCIDENTAL MILLING

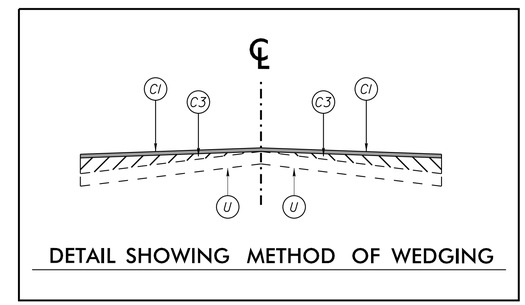
TO BE USED FOR -Y11- TIE-INS



DETAIL SHOWING METHOD OF SAWCUT



DETAIL SHOWING CURB & GUTTER FLARE



DETAIL SHOWING METHOD OF WEDGING

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RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2A-3

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044590 ENGINEER ANDREW D. WARREN
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED

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PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

C1	1.5" S9.5B
C2	3" S9.5B
C3	VAR. DEPTH S9.5B
D1	3" 119.0C
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E2	4" B25.0C
JI	6" ABC
K	CHEMICALLY STABILIZED SUBGRADE
N	GEOTEXTILE FOR SUBGRADE STAB. SEE DETAIL ON SHEET 2A-3 FOR SPECIFIC LOCATIONS
R1	2'-6" CONCRETE CURB & GUTTER
R2	1'-6" CONCRETE CURB & GUTTER
R3	5" MONOLITHIC CONCRETE ISLAND (KEYED-IN)
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	INCIDENTAL MILLING
W	WEDGING

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2B-1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER JANICE W. BLANTON
2/10/2025

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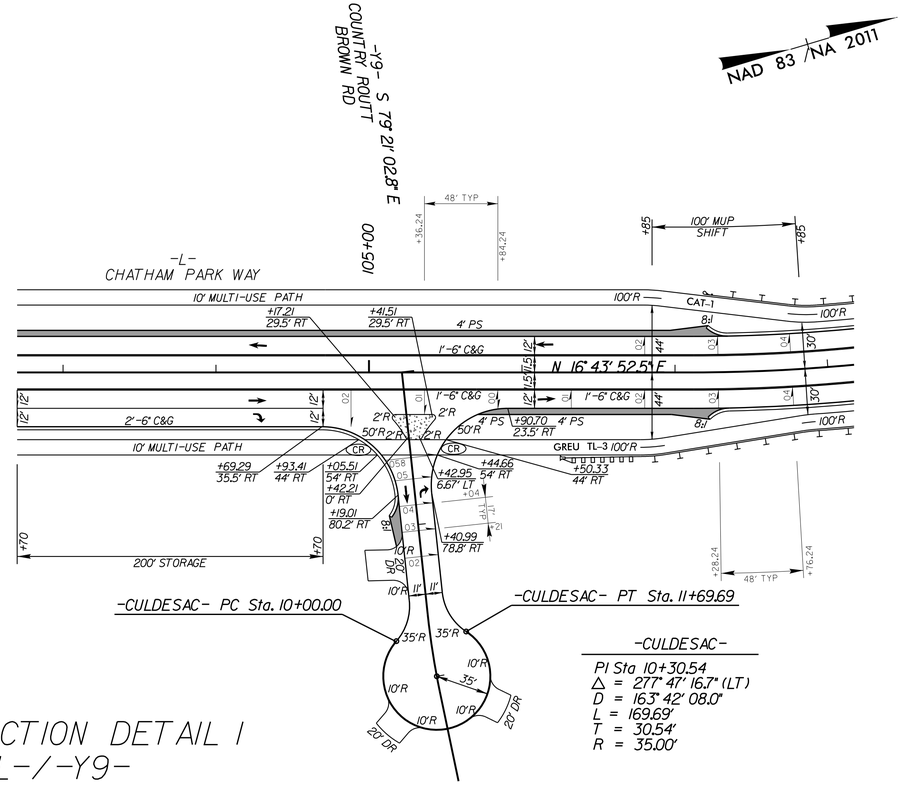
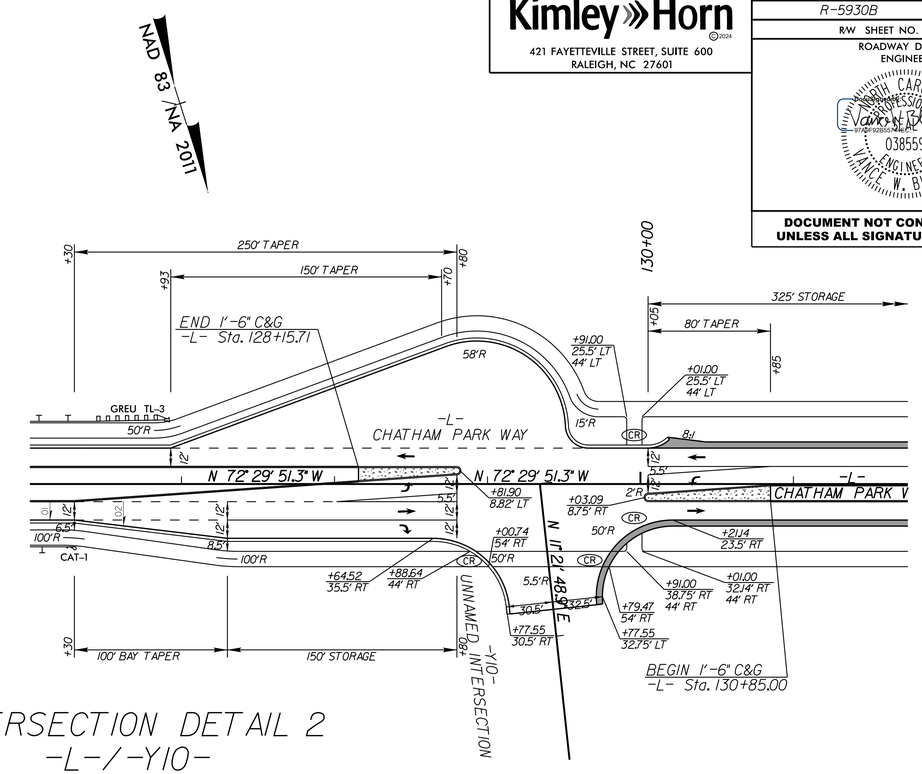


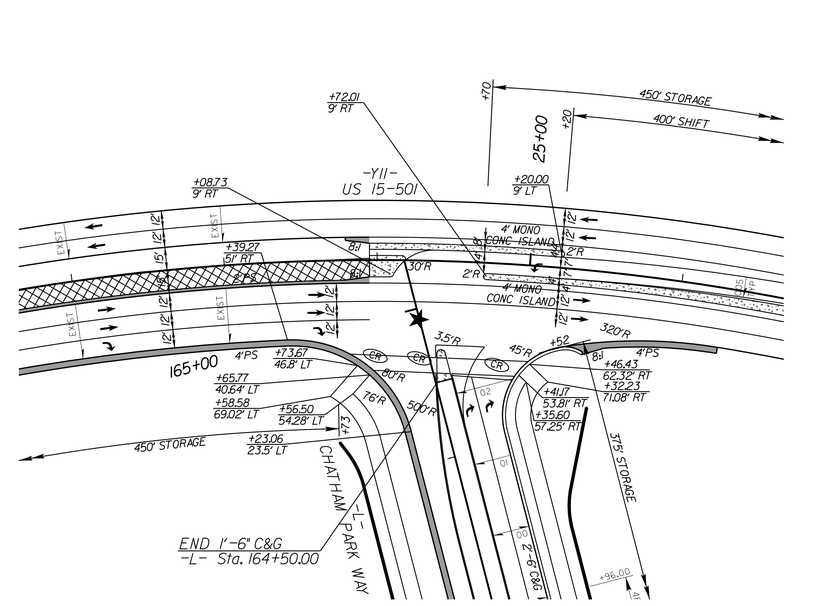
INTERSECTION DETAIL 1
-L-/-Y9-

SEE SHEET NO.5
FOR PLAN



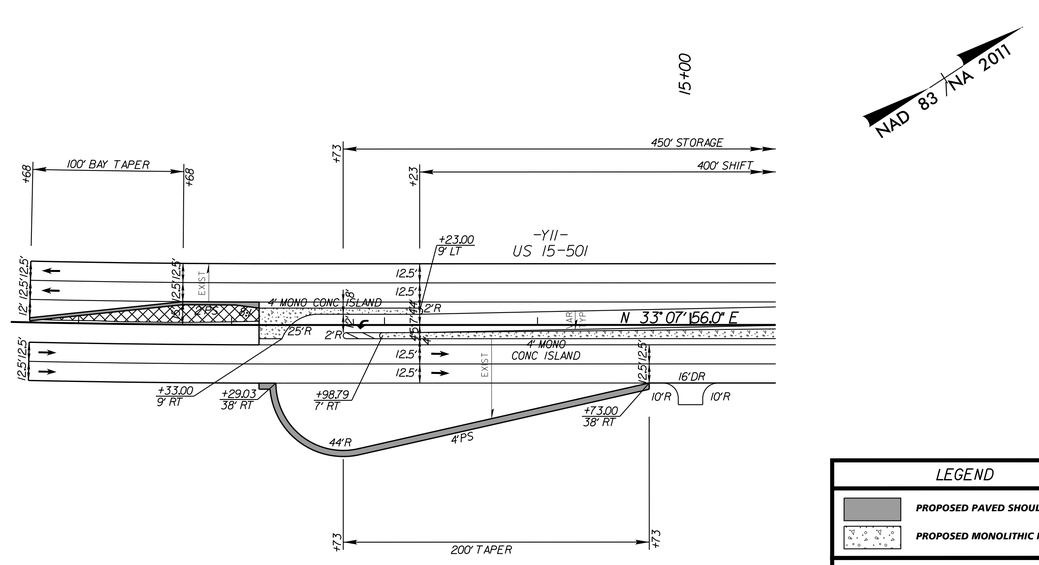
INTERSECTION DETAIL 2
-L-/-Y10-

SEE SHEET NO.7
FOR PLAN



INTERSECTION DETAIL 3
-L-/-Y11-

SEE SHEET NO.10
FOR PLAN



INTERSECTION DETAIL 4
-Y11-

SEE SHEET NO.11
FOR PLAN

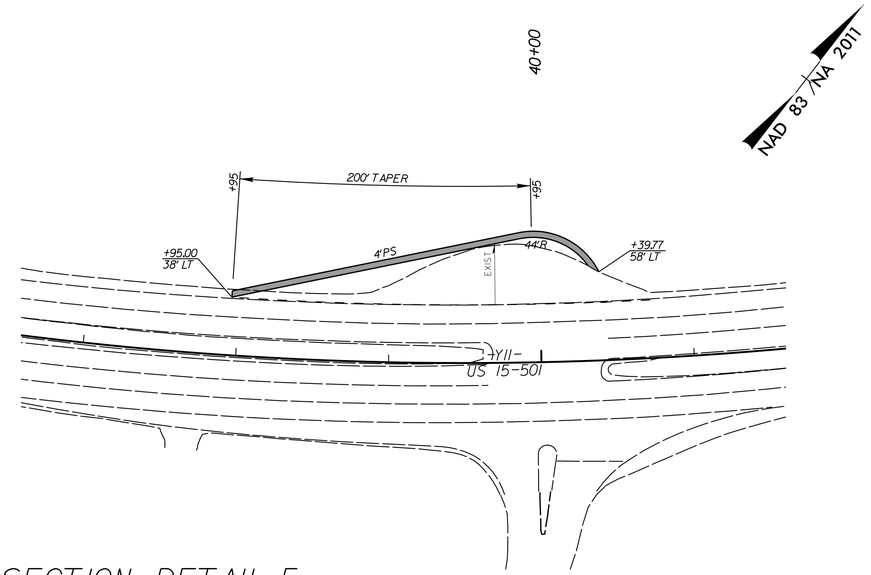
LEGEND

PROPOSED PAVED SHOULDER

PROPOSED MONOLITHIC ISLAND

INTERSECTION DETAILS

25 0 50



INTERSECTION DETAIL 5
-Y11-

SEE SHEET NO.10
FOR PLAN

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2B-2
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

LEGEND

PROPOSED PAVED SHOULDER

PROPOSED MONOLITHIC ISLAND

INTERSECTION DETAILS

25 0 50

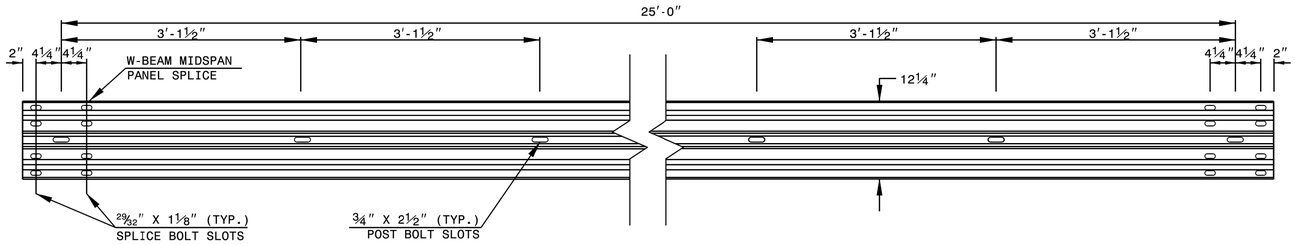
PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

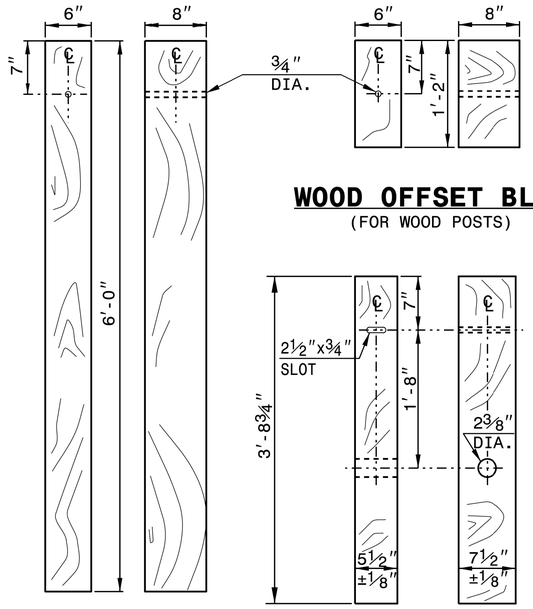
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



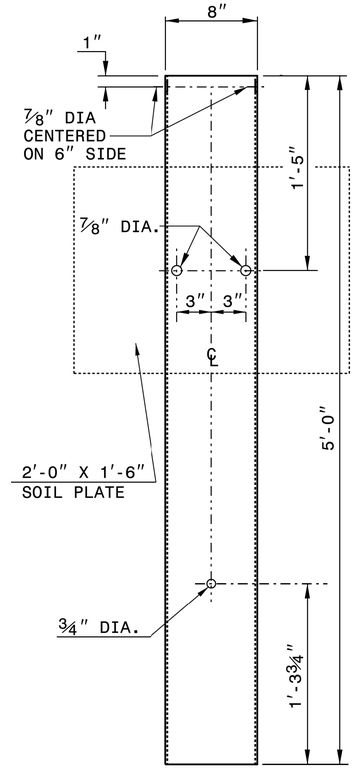
STANDARD W-BEAM GUARDRAIL



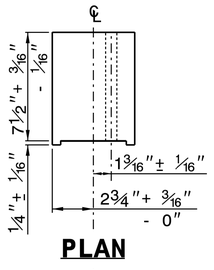
WOOD OFFSET BLOCK
(FOR WOOD POSTS)

STANDARD LINE POST

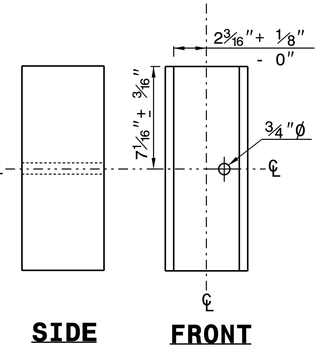
SHORT WOOD BREAKAWAY POST



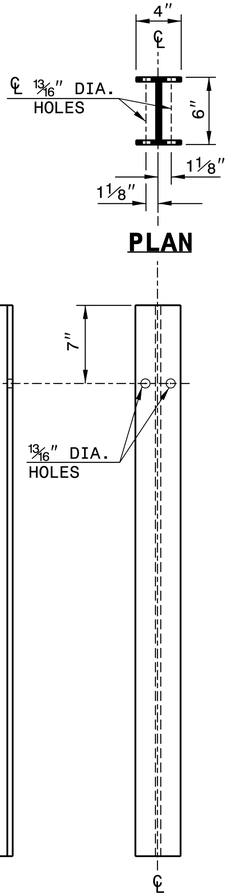
STEEL TUBE
TS 6"x8"x0.1875"



PLAN



SIDE FRONT
ROUTED OFFSET BLOCK



PLAN

SIDE FRONT
"W6" STEEL POST

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

SYSTEM PARTS

2/5/2025

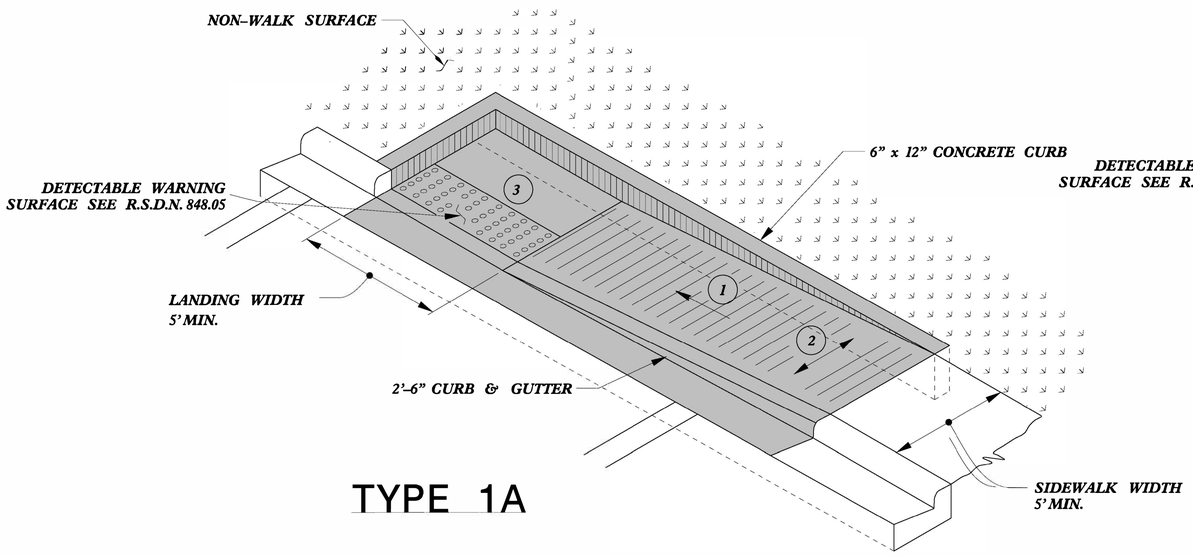
CONTRACTS STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

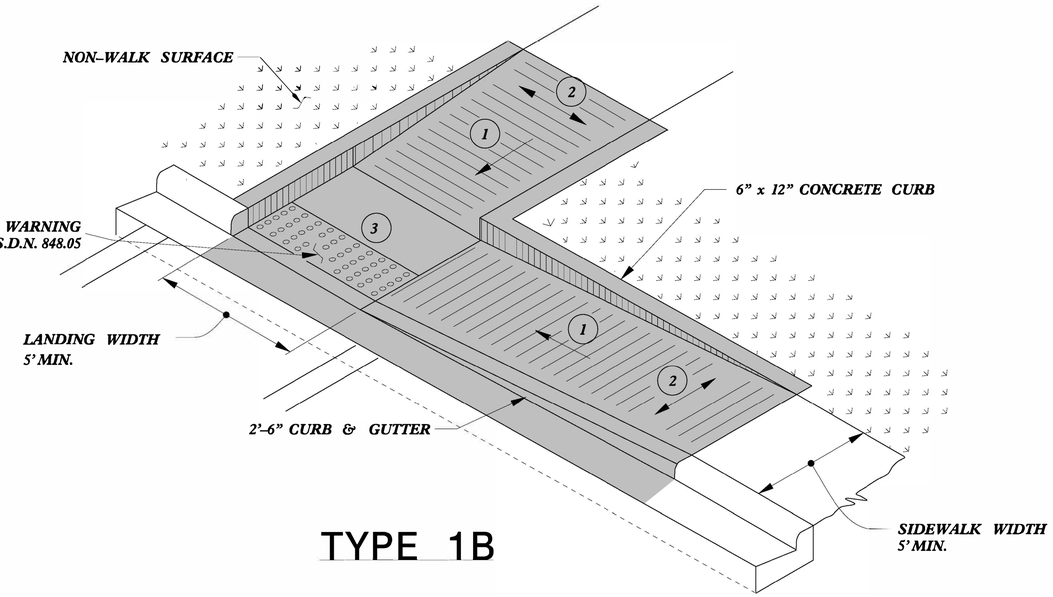
ORIGINAL BY: J.HOWERTON DATE: 3-7-2018
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: _____

5/14/99

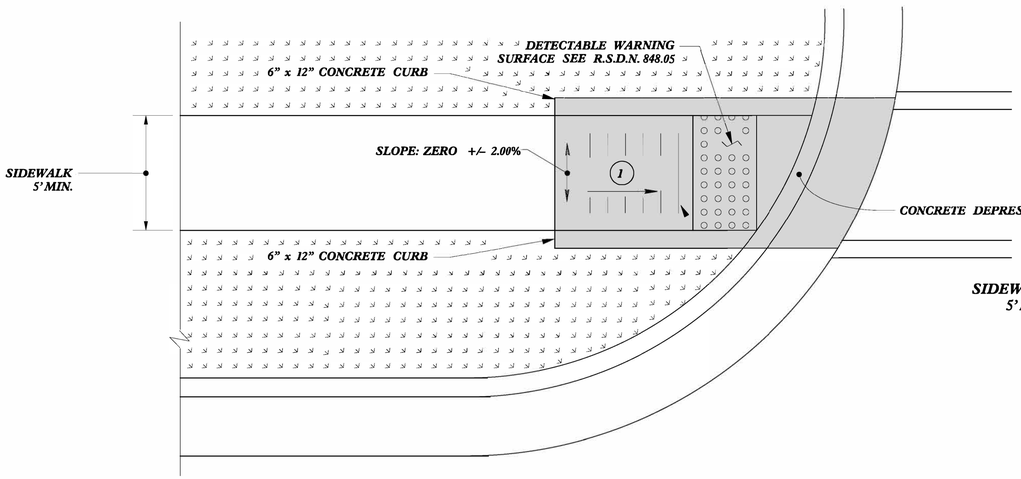
PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-2



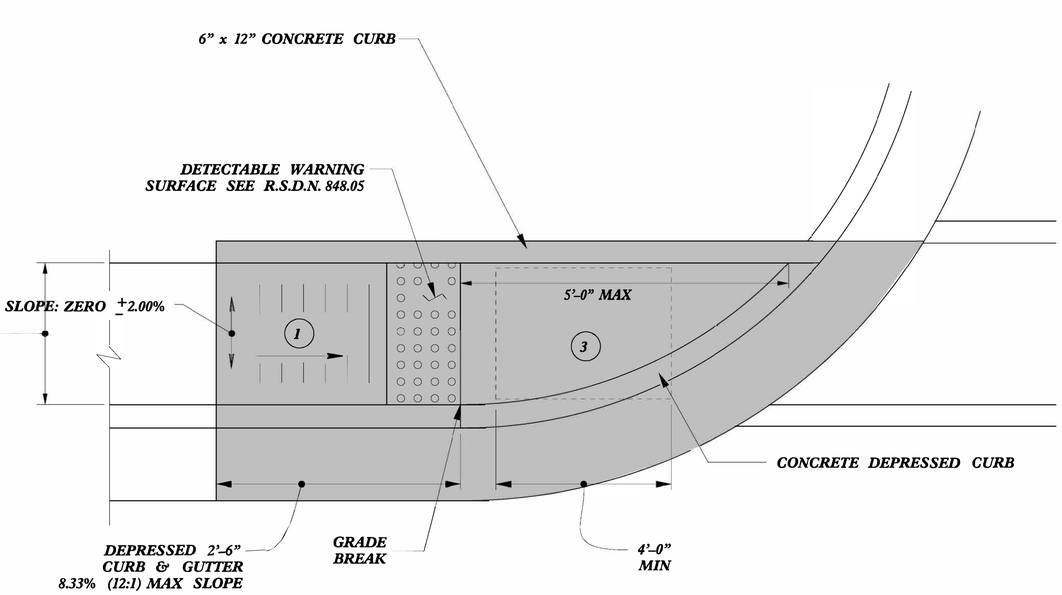
TYPE 1A



TYPE 1B



TYPE 1 Modified



TYPE 1

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

PAY LIMITS FOR 1 CURB RAMP

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M. HOWERTON
2/5/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMPS

Directional Ramps

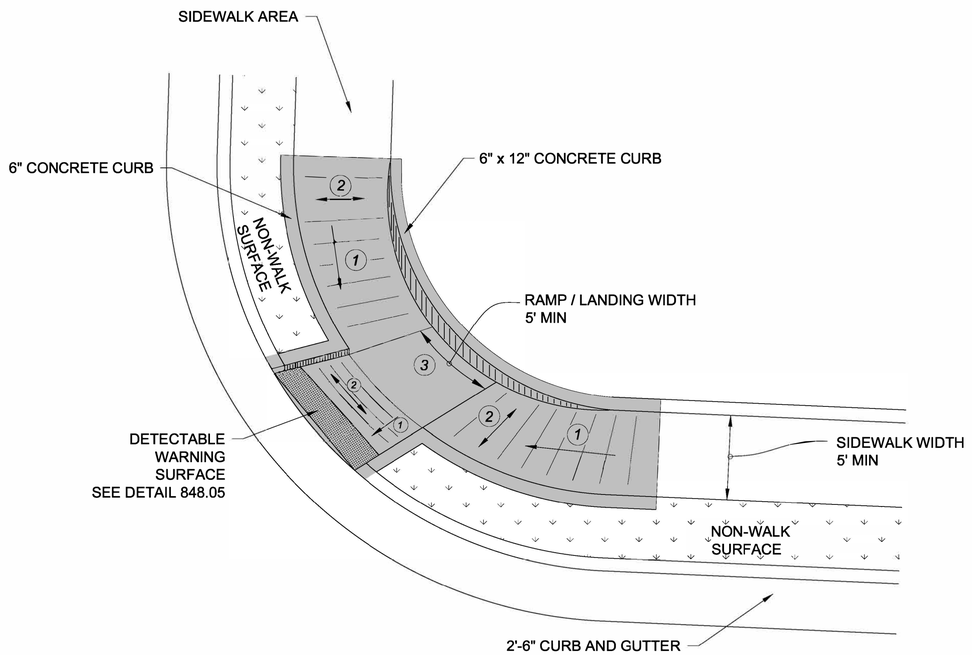
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. :stds/2012CurbRamp/CurbRampDetails.dgn

SYSTEM 68 ZONE 3200 DESIGNED 68 ZONE 3200 DRAWN 68 ZONE 3200 CHECKED 68 ZONE 3200

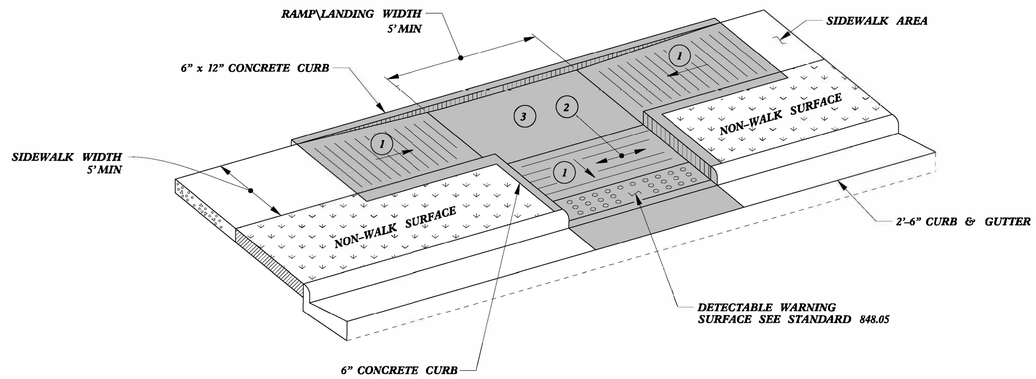
5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-3

PAY LIMITS FOR 1 CURB RAMP



TYPE 3 MODIFIED
INSTALLATION IN A RADIUS



TYPE 3

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'–0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER NICOLE M HAKLEY
2/5/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

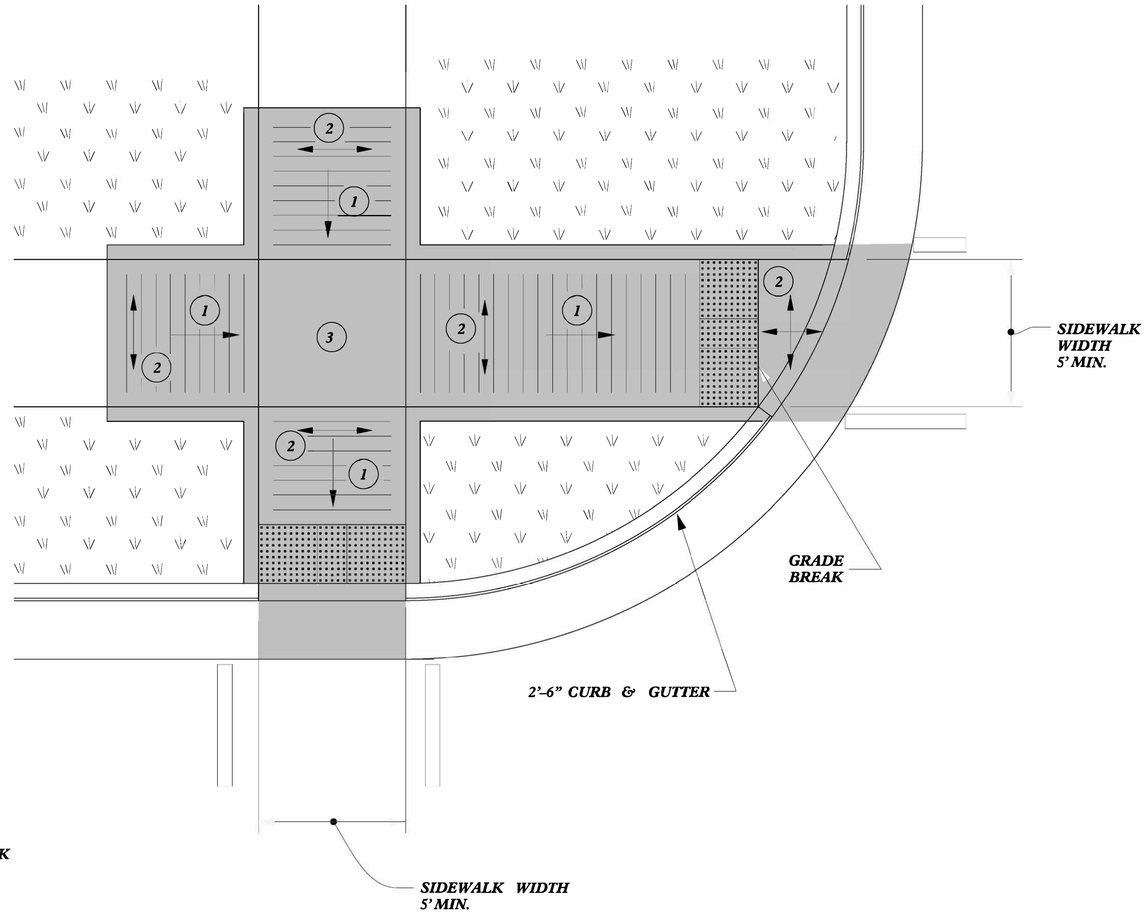
CURB RAMPS

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. :stds/2012CurbRamp/CurbRampDetails.dgn

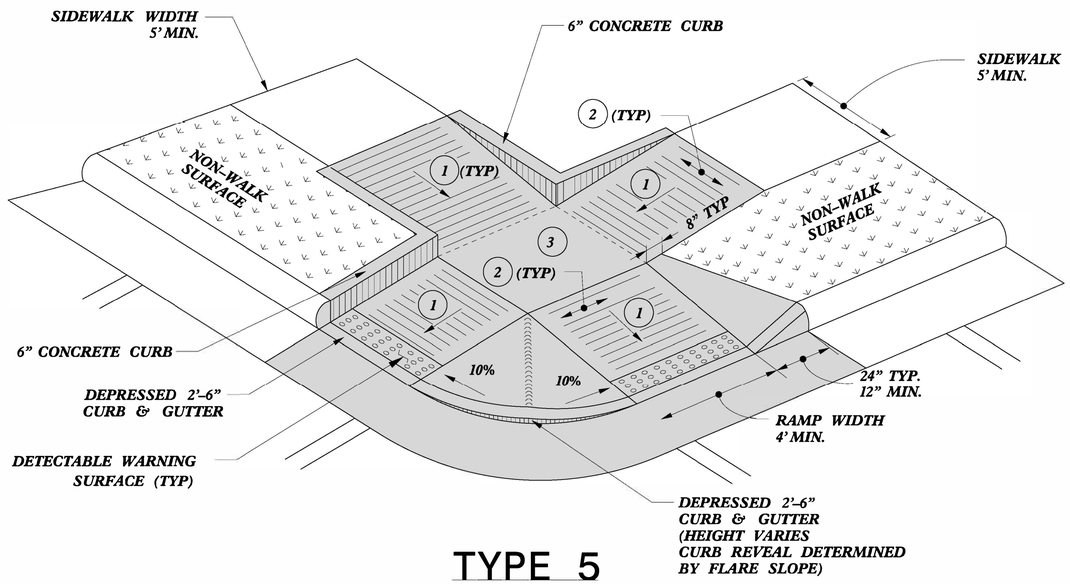
USER NAME = DLEARMENT
DESIGN SPEED = 45
SUPER = -6.00%
TIME = 08:48

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-4

PAY LIMITS FOR 1 OR 2 CURB RAMPS
(CALCULATE BASED ON NUMBER OF SETS
OF TRUNCATED DOMES)



TYPE 5A



TYPE 5

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

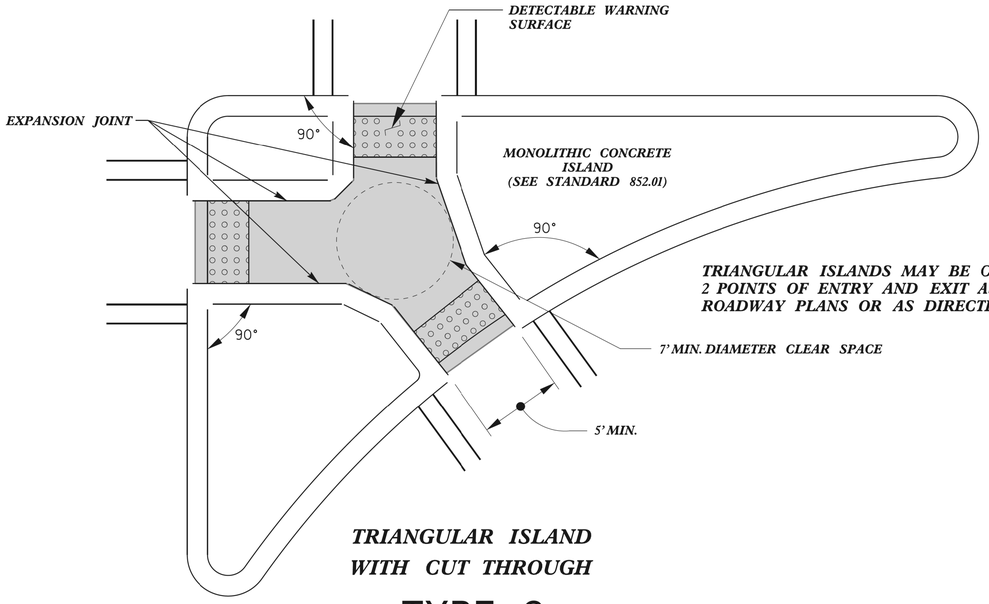
NORTH CAROLINA PROFESSIONAL SEAL 33144 ENGINEER
2/5/2025

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

CURB RAMPS

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

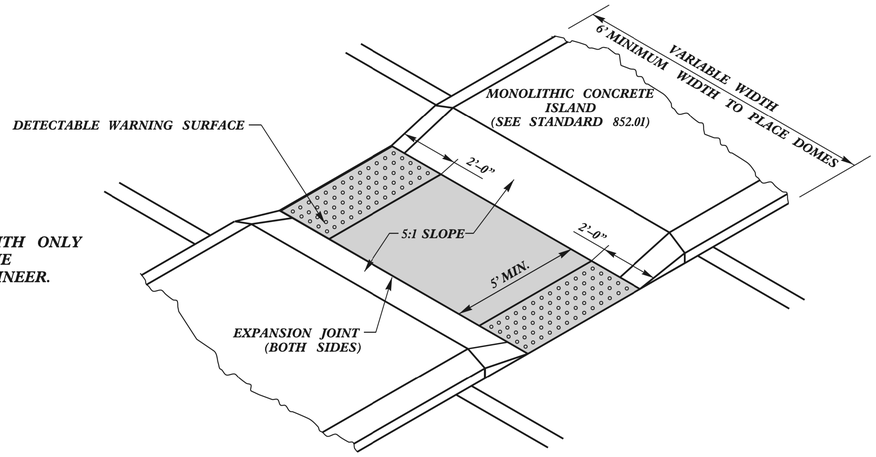
PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-5



TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

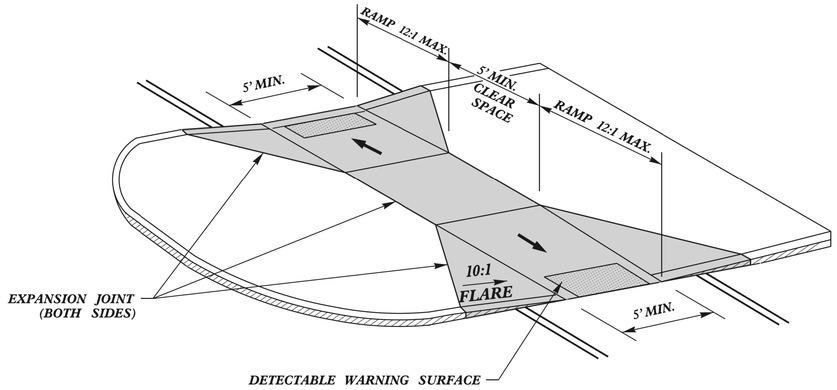
TRIANGULAR ISLAND WITH CUT THROUGH

TYPE 6



MEDIAN ISLAND WITH CUT THROUGH

TYPE 7



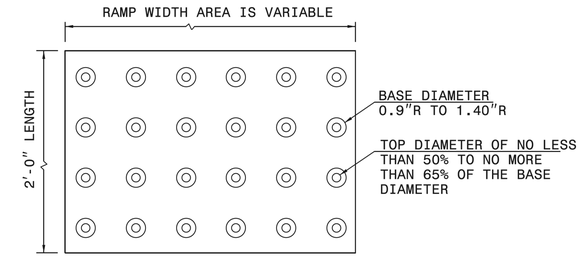
MEDIAN ISLAND CURB RAMPS

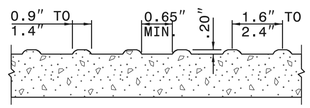
TYPE 8

PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF DETECTABLE WARNING SURFACES)

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

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033144 KEITH H. HADDOCK
2/5/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

CURB RAMP
TYPE 6, 7 & 8

ORIGINAL BY: K KEMPF DATE: 07-30-23
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.:

30-JUN-2023 13:02
C:\Projects\Contracts\Special Details\Jhowerton\Standard Drawings\2018 Standard Drawings\2018 Curb Ramps Details\type 7.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2C-6

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

ENGLISH DETAIL DRAWING FOR

CONCRETE MEDIAN DROP INLET TYPE 'A' EXTRA DEPTH OVER 12' TO 25'

12" THRU 72" PIPE

SHEET 1 OF 2 — 840D17

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE DROP INLETS 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.

WHEN PAYMENT FOR THE DROP INLET IS MADE ON A PER EACH BASIS, THE CONCRETE APRON WILL BE CONSIDERED PART OF THE DROP INLET.

CONSTRUCT WITH PIPE CROWNS MATCHING.

USE STANDARD FRAMES AND GRATES 840.22 (SHOWN), 840.24(SHOWN), 840.20, 840.29, AND 840.33.

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES NOT SHOWN.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

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

DETAIL
(APRON SUPPORT NOTCH)

DOWEL-A

PLAN

SECTION X-X

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

ENGLISH DETAIL DRAWING FOR

CONCRETE MEDIAN DROP INLET TYPE 'A' EXTRA DEPTH OVER 12' TO 25'

12" THRU 72" PIPE

SHEET 2 OF 2 — 840D17

QUANTITY TO BE ADDED FOR EACH 2' INCREMENT INLET OPENING					
ADDITIONAL INLETS	2'-0"	4'-0"	6'-0"	8'-0"	10'-0"	12'-0"
CONCRETE CU. YDS.	0.191	0.417	0.665	0.897	1.145	1.380
CONCRETE APRON CU. YDS.	0.074	0.148	0.222	0.296	0.370	0.444

MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE GRATED DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX AND PIPE					REINFORCING STEEL - NO. 4 BARS								CU YDS CONC. IN BOX			DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	SPAN	WIDTH	HEIGHT	BARS E		BARS F		BARS G		BARS H		TOTAL LBS.	BOTTOM SLAB	H TOTAL	H PER FT HT	APRON	TOTAL	C.S.	R.C.
D	J	K	L	M	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH								
12"	3'-8"	2'-0"	3'-8"	2'-0"	3'-9"	—	—	—	—	—	—	—	—	—	0.362	0.926	0.247	0.395	1.683	0.015	0.024
15"	3'-8"	2'-0"	3'-8"	2'-0"	4'-0"	—	—	—	—	—	—	—	—	—	0.362	0.988	0.247	0.395	1.745	0.023	0.036
18"				2'-0"	4'-3"	—	—	—	—	—	—	—	—	—	0.362	1.050	0.247		1.807	0.033	0.049
24"				2'-10"	4'-9"	8	1'-5"	6	4'-9"	—	—	—	—	27	0.444	1.362	0.278		2.201	0.059	0.085
30"			3'-8"	3'-5"	5'-3"	8	2'-0"	7	4'-9"	—	—	—	—	33	0.502	1.644	0.288		2.541	0.092	0.127
36"			4'-0"	4'-0"	5'-9"	8	2'-5"	8	4'-11"	4	0'-9"	2	4'-11"	47	0.560	1.931	0.321		2.920	0.132	0.178
42"			4'-10"	4'-10"	6'-3"	10	3'-1"	9	5'-7"	4	1'-5"	3	5'-7"	67	0.704	2.500	0.370		3.677	0.180	0.243
48"			5'-4"	5'-4"	6'-9"	11	3'-7"	10	6'-1"	4	1'-11"	4	6'-1"	87	0.823	3.013	0.407		4.315	0.235	0.317
54"			6'-0"	6'-0"	7'-3"	12	4'-1"	11	6'-7"	4	2'-5"	5	6'-7"	107	0.951	3.589	0.444		5.072	0.297	0.401
60"			6'-6"	6'-6"	7'-9"	13	4'-9"	12	7'-3"	4	3'-1"	6	7'-3"	135	1.311	4.539	0.494		6.170	0.367	0.495
66"			7'-2"	7'-2"	8'-3"	14	5'-4"	14	7'-10"	4	3'-7"	7	7'-10"	168	1.136	5.061	0.537		6.901	0.444	0.599
72"	3'-8"	2'-0"	7'-8"	7'-8"	8'-9"	15	5'-11"	15	8'-5"	4	4'-3"	8	8'-5"	199	1.500	5.860	0.580	0.395	7.868	0.528	0.713

2/5/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

ENGLISH DETAIL DRAWING FOR

CONCRETE MEDIAN DROP INLET TYPE 'A' EXTRA DEPTH OVER 12' TO 25'

12" THRU 72" PIPE

SHEET 1 OF 2 — 840D17

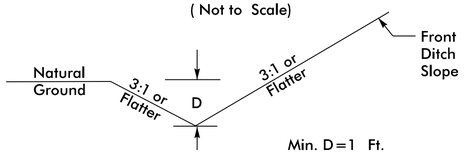
CONTRACT STANDARDS
AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STD.840.17 DATE:
MODIFIED BY: K.A. KEMPF DATE: 07-06-09
CHECKED BY: DATE:
FILE SPEC.: /stand/840d17 Extra Depth 2GI.dgn

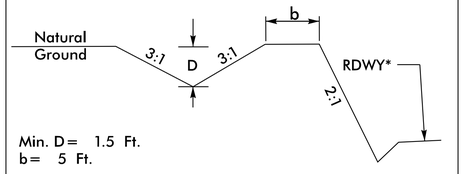
5/14/99

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



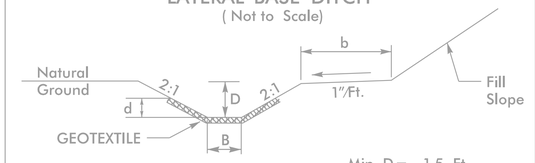
FROM STA. 90+50 TO STA. 91+00 –L– (RT)
FROM STA. 91+00 TO STA. 92+50 –L– (RT)
FROM STA. 133+50 TO STA. 135+90 –L– (RT)
FROM STA. 135+90 TO STA. 137+00 –L– (RT)

DETAIL 2
BERM 'V' DITCH
(Not to Scale)



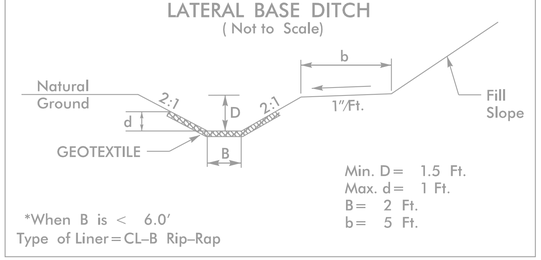
FROM STA. 87+00 TO STA. 89+50–L– (RT)
FROM STA. 92+50 TO STA. 94+00 –L– (RT)
FROM STA. 94+00 TO STA. 96+50 –L– (RT)

DETAIL 3
LATERAL BASE DITCH
(Not to Scale)



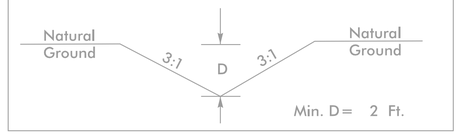
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 4
LATERAL BASE DITCH
(Not to Scale)



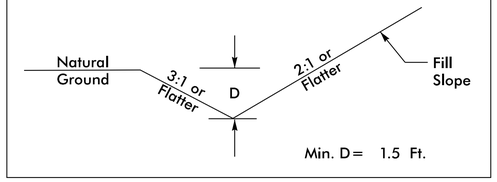
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 5
STANDARD 'V' DITCH
(Not to Scale)



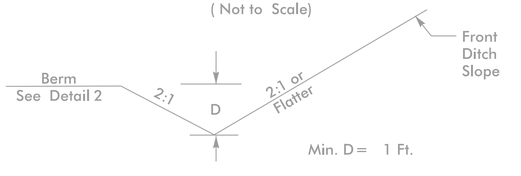
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



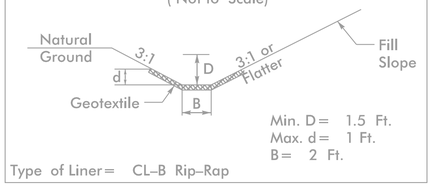
FROM STA. 126+50 TO STA. 127+50 –L– (RT)
FROM STA. 11+00 TO 11+50 –Y9– (RT)

DETAIL 7
SPECIAL CUT DITCH
(Not to Scale)



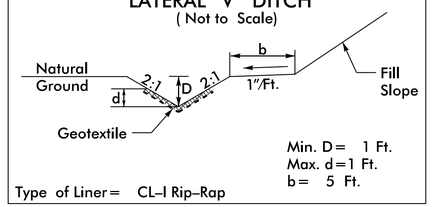
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 8
SPECIAL LATERAL BASE DITCH
(Not to Scale)



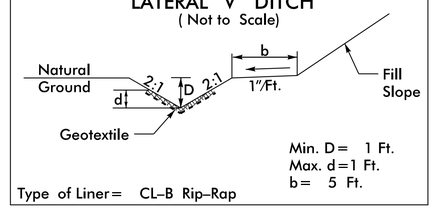
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 9
LATERAL 'V' DITCH
(Not to Scale)



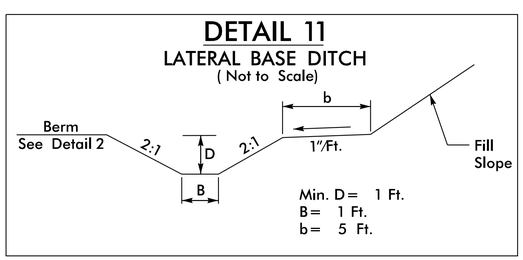
FROM STA. 97+00 TO STA. 97+50 –L– (LT)

DETAIL 10
LATERAL 'V' DITCH
(Not to Scale)



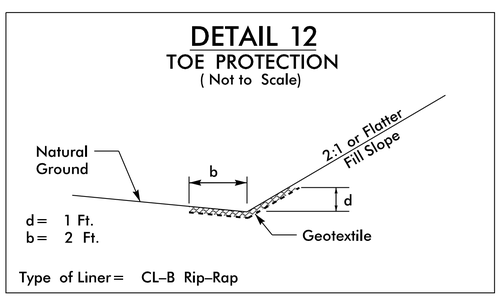
FROM STA. 96+50 TO STA. 97+00 –L– (LT)

DETAIL 11
LATERAL BASE DITCH
(Not to Scale)



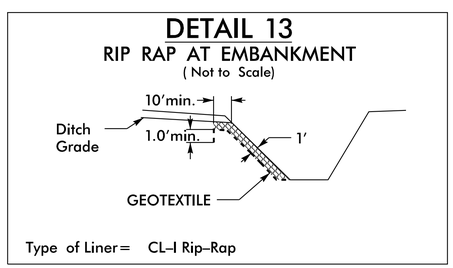
FROM STA. 108+50 TO STA. 112+00 –L– (LT)

DETAIL 12
TOE PROTECTION
(Not to Scale)



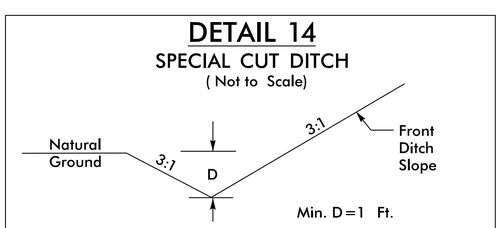
FROM STA. 112+00 TO STA. 113+00 –L– (LT)
FROM STA. 122+85 TO STA. 124+15 –L– (RT)

DETAIL 13
RIP RAP AT EMBANKMENT
(Not to Scale)



STA. 109+60 –L– (RT)
STA. 149+63 –L– (RT)

DETAIL 14
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 154+50 TO STA. 156+50 –L– (LT)
FROM STA. 153+50 TO STA. 154+50 –L– (RT)
FROM STA. 154+50 TO STA. 156+00 –L– (RT)

Kimley»Horn © 2025
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT–OF–WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R–5930B	2D–1

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

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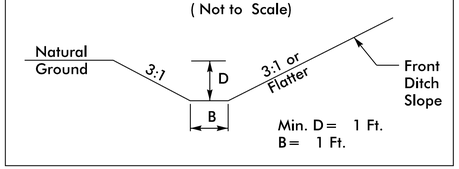
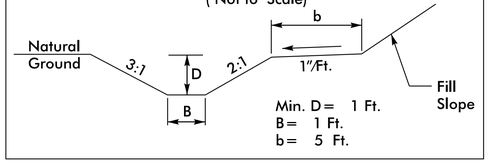
5/14/99

DETAIL 15
SPECIAL CUT BASE DITCH
(Not to Scale)



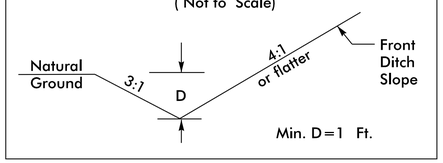
FROM STA. 147+50 TO STA. 148+50 –L– (RT)

DETAIL 16
LATERAL BASE DITCH
(Not to Scale)



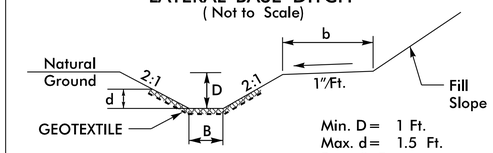
FROM STA. 148+50 TO STA. 149+60 –L– (RT)

DETAIL 17
SPECIAL CUT DITCH
(Not to Scale)



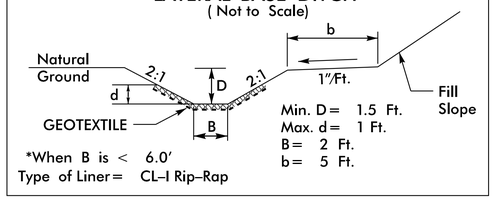
FROM STA. 139+00 TO STA. 141+50 –L– (RT)
FROM STA. 141+50 TO STA. 143+50 –L– (RT)

DETAIL 18
LATERAL BASE DITCH
(Not to Scale)



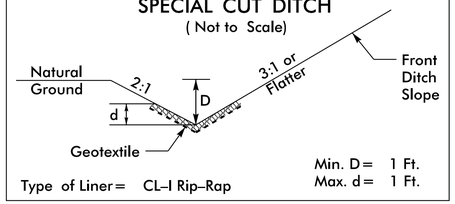
FROM STA. 109+65 TO STA. 112+00 –L– (RT)
FROM STA. 124+55 TO STA. 125+00 –L– (RT)

DETAIL 19
LATERAL BASE DITCH
(Not to Scale)



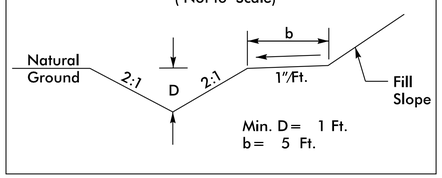
FROM STA. 107+00 TO STA. 109+50 –L– (RT)

DETAIL 20
SPECIAL CUT DITCH
(Not to Scale)



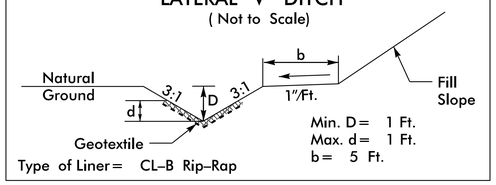
FROM STA. 105+75 TO STA. 107+00 –L– (RT)

DETAIL 21
LATERAL 'V' DITCH
(Not to Scale)



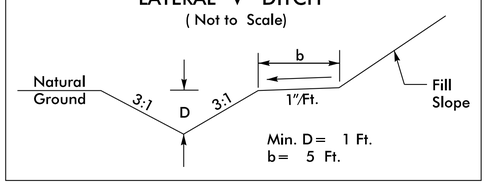
FROM STA. 98+50 TO STA. 100+00 –L– (RT)

DETAIL 22
LATERAL 'V' DITCH
(Not to Scale)



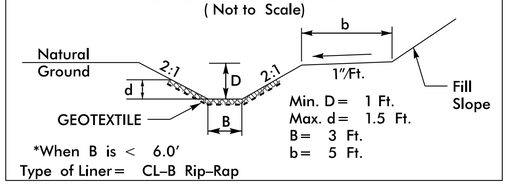
FROM STA. 97+50 TO STA. 98+50 –L– (RT)

DETAIL 23
LATERAL 'V' DITCH
(Not to Scale)



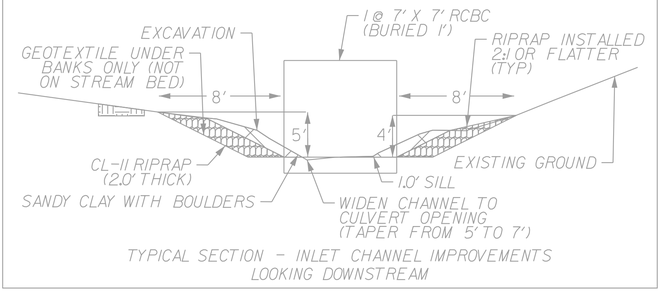
FROM STA. 96+50 TO STA. 97+50 –L– (RT)

DETAIL 24
LATERAL BASE DITCH
(Not to Scale)



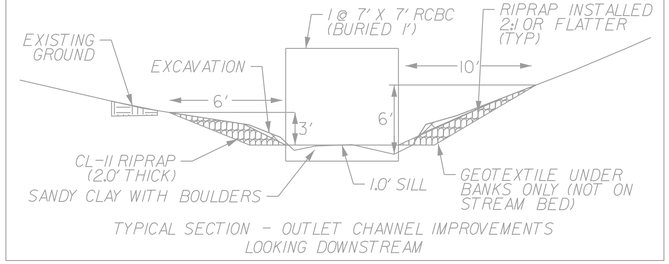
FROM STA. 125+00 TO STA. 126+00 –L– (RT)

DETAIL 25
INLET PROTECTION
(Not to Scale)



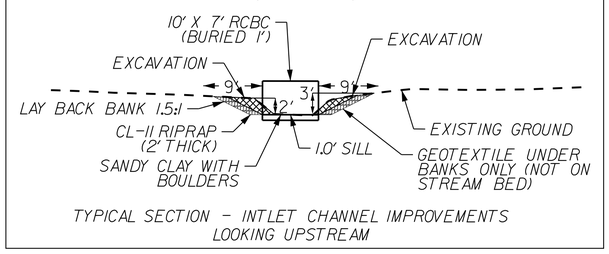
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 26
OUTLET PROTECTION
(Not to Scale)



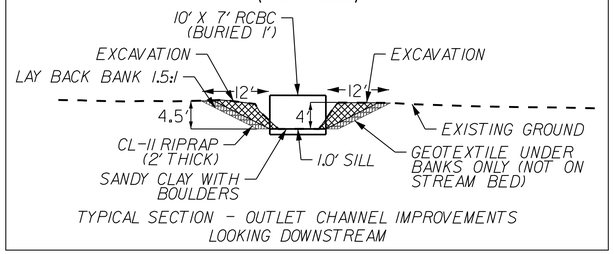
DETAIL APPLIES TO R–5930A (BY OTHERS)

DETAIL 27
INLET PROTECTION
(Not to Scale)



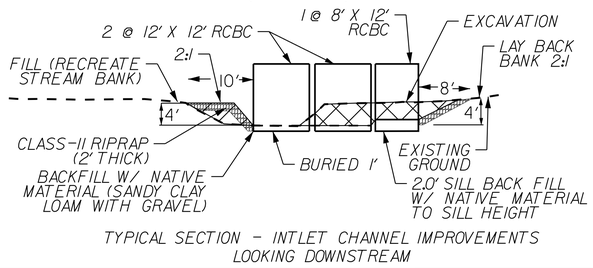
STA. 108+98 –L–

DETAIL 28
OUTLET PROTECTION
(Not to Scale)



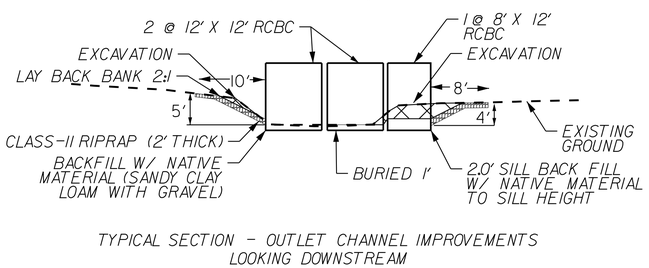
STA. 108+98 –L–

DETAIL 29
INLET PROTECTION
(Not to Scale)



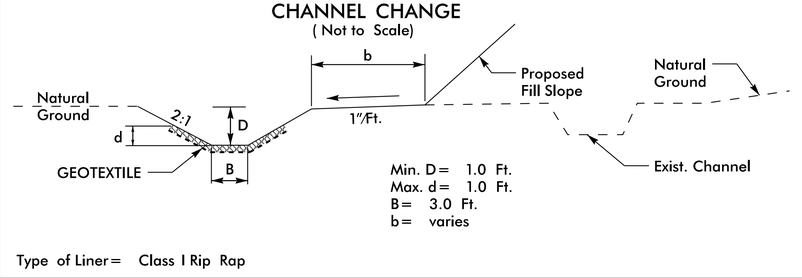
STA. 124+70 –L–

DETAIL 30
OUTLET PROTECTION
(Not to Scale)



STA. 124+70 –L–

DETAIL 31
CHANNEL CHANGE
(Not to Scale)



FROM STA. 125+00 TO STA. 125+35 –L– (LT)

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601
RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	2D-2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

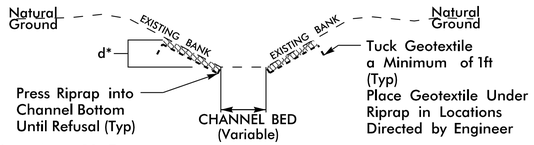
K:\RAL_Roadway\011036532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_dsh_2D-2.dgn

1/7/2025

5/14/99

DETAIL 32

PIPE OUTLET BANK STABILIZATION
(Not to Scale)



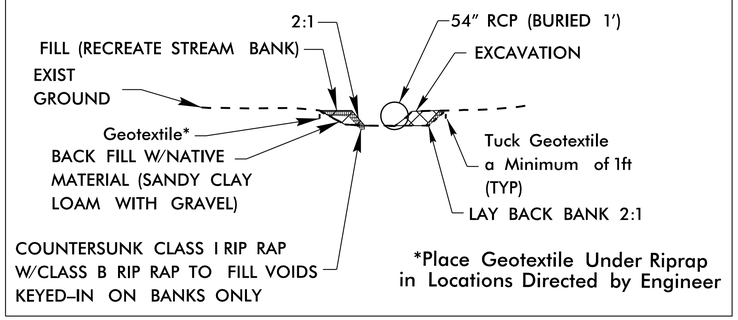
Length = 10 Ft.
d = 4 Ft.
Est. = 20 Tons of Class I Rip–Rap, Keyed–In

*Rip–Rap to be Installed to 2ft Outside Top of Bank Slopes on Jurisdictional Streams

STA. 149 + 00 –L– (LT)

DETAIL 33

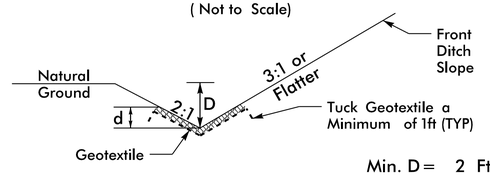
INLET CHANNEL IMPROVEMENTS
(Not to Scale)



STA. 149 + 50 –L– (RT)

DETAIL 34

SPECIAL 'V' DITCH
(Not to Scale)



Min. D = 2 Ft.
Type of Liner = Class 'B' Rip–Rap, Keyed–In d = 1.5 Ft.

FROM STA. 11 + 50 TO STA. 12 + 35 –Y9– (RT)

DETAIL 35

STANDARD 'V' DITCH
(Not to Scale)

Min. D = 1.5 Ft.
Type of Liner = Class 'B' Rip–Rap, Keyed–In d = 1.5 Ft.

FROM STA. 12 + 40 TO STA. 12 + 48 –Y9– (RT)

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RALEIGH, NC 27601

RIGHT–OF–WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R–5930B	2D–3

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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COMPUTED BY: A MM DATE: 7/23/24
CHECKED BY: TGS DATE: 9/17/24

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	3B-1

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

CHAIN	STATION	STATION	TOTAL UNCLASSIFIED	UNDERCUT	UNSUITABLE EXCAVATION	EMBANKMENT +%	BORROW	TOTAL WASTE
–L–	87+00.00	113+00.00	31,459	* 185	3,061	118,650	90,252	3,246
–L–	113+00.00	139+00.00	35,774			55,624	19,850	
–L–	139+00.00	164+92.33	49,944	* 150	1,224	35,053		15,041
–Y9–	10+35.70	12+35.00	371			263		108
–Y11–	10+68.00	32+20.00	1,132		240	290		842
–Y11–	37+95.00	40+40.00	55			26		29
		SUBTOTAL	118,735	335	4,525	209,906	110,102	19,265
LOSS DUE TO CLEARING & GRUBBING			–6,960				6960	
ADDITIONAL UNDERCUT TO BE FILLED WITH BORROW				1,500		1,800	1,800	1,500
WASTE IN LIEU OF BORROW							–14,405	–14,405
ADDITIONAL UNDERCUT TO BE FILLED WITH SELECT GRANULAR MATERIAL				1,000				1,000
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT							5,223	
	GRAND TOTALS		111,775	2,835		211,706	109,679	7,360
	SAY		112,000	2,835			110,000	

* 335 CY UNDERCUT BY STATION RANGE TO BE FILLED WITH SELECT GRANULAR MATERIAL. CALCULATED EMBANKMENT TOTAL DOES NOT INCLUDE A QUANTITY TO BACKFILL THIS UNDERCUT AND DOES NOT REQUIRE AN ADJUSTMENT

ESTIMATED SELECT GRANULAR MATERIAL	1,335	CY

NOTE: A QUANTITY OF 37,970 CY OF "UNCLASSIFIED EXCAVATION – ACCEPTABLE BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL" HAS BEEN MEASURED FROM THE CROSS SECTIONS

7,445 CY FROM –L– STA 87+00 TO 89+75 (LT & RT)
5,120 CY FROM –L– STA 92+25 TO 94+40 (LT & RT)
2,630 CY FROM –L– STA 95+75 TO 102+25 (LT & RT)
6,200 CY FROM –L– STA 115+75 TO 120+25 (LT & RT)
1,725 CY FROM –L– STA 145+75 TO 147+25 (LT & RT)
14,575 CY FROM –L– STA 161+75 TO 163+75 (LT & RT)
275 CY FROM –Y11– STA 12+30 TO 13+75 (RT)

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1/3/2025

COMPUTED BY: TGS DATE: 10/7/22
CHECKED BY: GEB DATE: 10/12/22

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	3B-2

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING GUARDRAIL END UNIT, TYPE TL-3
NG = NON-GATING GUARDRAIL END UNIT, TYPE TL-3

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH (LF)			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS			IMPACT ATTENUATOR TYPE TL-3			TERMINAL SECTIONS	REMOVE EXISTING GUARDRAIL	REMOVE AND RESET EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-3	CAT-1	AT-1	EA	G	NG				
-L-	106+25	111+50	RT	550			108+25	111+25	19.5'	21.5'	50		1		1	1								
-L-	107+25	111+75	LT	450			109+50	107+00	19.5'	21.5'	50		1		1	1								
-L-	121+75	126+50	RT	475			122+75	125+00	19.5'	21.5'	50		1		1	1								
-L-	123+50	127+00	LT	350			126+00	123+75	19.5'	21.5'	50		1		1	1								
-L-	147+00	150+00	RT	300			149+45	149+57	19.5'	21.5'	50		1		1	1								
-L-	148+25	151+50	LT	325			148+93	149+02	19.5'	21.5'	50		1		1	1								
			SUBTOTAL	2450	LF										6	6								
	LESS ANCHOR DEDUCTIONS																							
	GREU TL-3	6 @ 50'	=	300																				
	CAT-1	6 @ 6.25'	=	37.5																				
	AT-1	0 @ 6.25'	=	0																				
			TOTAL	2112.5	LF										6	6								
			SAY	2125	LF										6	6								

ADDITIONAL GUARDRAIL POSTS = 5 EA

ASPHALT PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/MED	SY
-Y11-	10+75	12+18	MED	121
-Y11-	17+25	23+95	MED	844
-Y11-	24+29	26+08	RT	311
			TOTAL	1276
			SAY	1300

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1/31/2025

LL94676

COMPUTED BY: KLF DATE: 11/18/2022
CHECKED BY: DATE:

PROJECT NO.	SHEET NO.
R-5930B	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	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE)										C. S. PIPE								R. C. PIPE CLASS III								R. C. PIPE CLASS IV								R. C. PIPE CLASS V						
SIZE								15	18	24	30	36	42	48				15	18	24	30	36	42	48		15	18	24	30	36	42	48		15	18	24	30	36	42	48		15	18	24	30	36	42	48
THICKNESS OR GAUGE		FROM	TO	FT.	FT.	FT.	%								DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	.064	.064	.064	.079	.079	.109	.109																								
L 88+28	10 RT	0430		491.9																																												
		0430	0431		488.9	488.7																												16														
L 88+43	10 RT	0431		491.7																																												
		0431	0442		488.7	488.1																												28														
L 88+72	38 LT	0432		490.8																																												
		0432	0437		487.8	484.1																												228														
L 90+88	9 LT	0434		488.3																																												
		0434	0436		485.3	485.1																												12														
		0435	0438		478.0	477.8																															48											
L 91+00	9 LT	0436		488.1																																												
		0436	0437		469.8	469.5	0.3																														28											
L 91+00	37 LT	0437		487.1																																												
		0437	0439		469.5	454.3	1.3				96				X	X																																
L 91+00	38 RT	0438		485.3																																												
		0438	0436		470.8	470.3	0.3																														48											
L 89+50	90 RT	0440		499.6																																												
		0440	0441		497.5	483.8	0.5	52							X	X																																
L 89+50	38 RT	0441		488.8																																												
		0441	0438		483.8	482.5																												148														
L 88+72	3 RT	0442		491.7																																												
		0442	0432		488.1	487.8																																				40						
L 93+00	10 LT	0501		481.5																																												
		0501	0502		473.0	472.8																																					48					
L 93+00	37 RT	0502		478.8																																												
		0502	0438		472.8	471.8																													196													
L 93+90	37 LT	0503		476.7																																												
		0503	0504		473.7	473.5																																					28					
L 93+90	9 LT	0504		477.6																																												
		0504	0501		473.5	473.0																													88													
L 95+50	10 LT	0505		468.0																																												
		0505	0507		465.0	458.1																												120														
L 98+00	38 RT	0506		449.9																																												
		0506	0511		447.2	440.3																												96														
L 96+70	10 LT	0507		461.1																																												
		0507	0508		457.9	455.9																																					28					
L 96+70	38 LT	0508		459.1																																												
		0508	0509		455.9	437.6			76						X	X																																
		0510	0511		432.8	428.3	0.3																													88												
L 98+97	37 RT	0511		443.1																																												
		0511	0512		428.3	427.8	0.5																													92												
L 99+47	38 LT	0512		439.6																																												
		0512	0513		427.8	415.0	2.2			72					X	X																																
L 101+50	38 LT	0515		426.0																																												
		0515	0517		423.2	402.8																												300														
L 101+50	37 RT	0516		426.0																																												
		0516	0518		423.2	403.4																												312														
L 104+50	38 LT	0517		405.5																																												
		0517	0601		402.8	389.6																												248														
L 104+65	37 RT	0518		406.1																																												
		0518	0602		403.1	390.8																																					232					
SHEET TOTALS								52	76	72	96																							1508	284	180	124					40	336					

STRUCTURE NUMBER		ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	DRAINAGE STRUCTURE	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03			CONCRETE TRANSITIONAL SECTION		OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	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/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	15" DRAINAGE ELBOW	18" DRAINAGE ELBOW	24" DRAINAGE ELBOW	30" DRAINAGE ELBOW	36" DRAINAGE ELBOW	B.D.O. STD. 850.10 (4" CONCRETE PAVED DITCH SY)	B.D.O. STD. 850.11 (PER EACH)	FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	PIPE REMOVAL	REMARKS
FROM	TO	CY	MASONRY CY	0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.		GRATE TYPE E	F	G	D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05																							CY	CY	LIN. FT.	
0430				1			1			1		1																										
0430	0431																																					
0431				1			1			1		1																										
0431	0442																																					
0432				1			1			1																												
0432	0437																																					
0434				1			1		1			1																										
0434	0436																																					
0435	0438																																					
0436				1	5.0	8.2	1		1			1																										
0436	0437																																					
0437				1	5.0	7.6										1					1																	SEE SHEET 2C-6
0437	0439																														2							
0438				1	5.0	4.5										1					1																	SEE SHEET 2C-6
0438	0436																																					
0440																																	11					
0440	0441																												2									
0441				1													1				1																	
0441	0438																																					
0442				1																			1				1											
0442	0432																																					
0501				1	3.5		1		1			1																										
0501	0502																																					
0502				1	1.0												1				1																	
0502	0438																																					
0503				1													1				1																	
0503	0504																																					
0504				1			1		1			1																										
0504	0501																																					
0505				1			1		1			1																										
0505	0507																																					
0506				1													1				1																	
0506	0511																																					
0507				1			1		1			1																										
0507	0508																																					
0508				1													1				1																	
0508	0509																													2								
0510	0511																																					
0511				1	5.0	4.8										1					1																	SEE SHEET 2C-6
0511	0512																																					
0512				1	5.0	1.8										1					1																	SEE SHEET 2C-6
0512	0513																														2								
0515				1													1				1																	
0515	0517																																					
0516				1													1				1																	
0516	0518																																					
0517				1													1				1																	
0517	0601																																					
0518				1			1		1																													
0518	0602																																					
SHEET TOTALS				23	29.5	26.9	10		7	3		8				4	8				12		1				1	2	2	2	2		11					

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
B.D.O.	BERM DRAINAGE OUTLET

LL94676

COMPUTED BY:	KLF	DATE:	11/18/2022
CHECKED BY:		DATE:	

PROJECT NO.	SHEET NO.
R-5930B	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	OFFSET		STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE)										C. S. PIPE							R. C. PIPE CLASS III							R. C. PIPE CLASS IV							R. C. PIPE CLASS V							ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	DRAINAGE STRUCTURE	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03			CONCRETE TRANSITIONAL SECTION		OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	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/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	15" DRAINAGE ELBOW	18" DRAINAGE ELBOW	24" DRAINAGE ELBOW	30" DRAINAGE ELBOW	36" DRAINAGE ELBOW	B.D.O. STD. 850.10 (4" CONCRETE PAVED DITCH SY)	B.D.O. STD. 850.11 (PER EACH)	FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	PIPE REMOVAL	REMARKS
SIZE THICKNESS OR GAUGE			FROM	TO	FT.	FT.	FT.	%	15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	15 .064	18 .064	24 .064	30 .079	36 .079	42 .109	48 .109	15	18	24	30	36	42	48	15	18	24	30	36	42	48	15	18	24	30	36	42	48	CY	MASONRY CY	0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.		GRATE TYPE E	F	G	D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05																								CY	CY	LIN. FT.	
Y9 11+25	25	RT	0519			400.9	400.7		40																																																																												
Y9 11+83	10	LT	0520			399.5	396.9																												96																																																				
Y9 12+25	35	RT	0521			401.2	401.0		36																																																																											
L 109+50	10	RT	0600		388.4																																												1			1			1		1																										
			0600	0605		385.4	385.1																										24																																																						
L 107+00	38	LT	0601		392.3																																												1													1					1																		
			0601	0603		389.3	389.1																																		48																																													
L 107+00	37	RT	0602		393.8																																												1													1					1																		
			0602	0604		388.9	385.2	0.5																										56																																																			
L 107+00	10	RT	0603		394.9																																												1	0.8		1			1		1																										
			0603	0602		389.1	388.9																											28																																																					
L 109+75	10	RT	0605		388.1																																												1			1			1		1																										
			0605	0607		385.1	383.5																										104																																																				
L 110+50	25	LT	0606		386.1																																												1			1			1																											
			0606	0608		383.1	381.4																										48																																																				
L 110+80	10	RT	0607		387.5																																												1			1	1				1																										
			0607	0610		383.5	383.4																										20																																																				
L 111+00	37	LT	0608		384.4																																												1													1					1																		
			0608	0610		381.2	380.9																																		48																																													
L 111+00	9	RT	0610		387.6																																												1	2.1		1		1			1																										
			0610	0611		380.4	380.1																												28																																																		
L 111+00	38	RT	0611		386.9																																												1	1.8												1					1																		
			0611	0609		380.1	371.0	0.6			68					X	X																																																												2								
L 112+00	10	RT	0612		388.3																																												1			1		1			1																										
			0612	0610		385.3	384.6																										100																																																					
L 113+00	37	LT	0613		386.9																																												1													1					1																		
			0613	0608		383.9	381.4																										192																																																				
L 114+00	10	RT	0614		392.8																																												1			1		1			1																										
			0614	0612		389.8	385.3																										200																																																						
L 119+00	37	LT	0616		393.7																																												1													1					1																		
			0616	0701		390.9	384.5																										192																																																					
L 119+00	9	RT	0617		396.8																																												1			1			1		1																										
			0617	0702		394.1	387.6																										200																																																						
L 124+55	10	RT	0700		382.3																																												1			1			1		1																										
			0700	0723		379.3	379.2																										20																																																				
L 121+00	37	LT	0701		387.3																																												1													1					1																		
			0701	0703		384.5	378.8																										176																																																					
L 121+00	9	RT	0702		390.4																																												1			1			1		1																										
			0702	0705		387.6	381.9																										184																																																					
L 122+85	37	LT	0703		381.6																																												1													1					1																		
			0703	0705		378.6	378.4																																		48																																													
L 122+85	37	RT	0704		384.0																																												1	0.8												1					1																		
			0704	0706		378.2	369.5	0.8		56						X	X																																																											2									
L 122+85	9	RT	0705		384.7																																												1	1.3		1			1		1																										
			0705	0704		378.4	378.2																											28																																																				
L 124+25	9	RT	0707		382.8																																												1			1			1		1																										
			0707	0700		379.8	379.3																										28																																																					
L 124+89	26	LT	0708		381.5																																												1			1	1																													
			0708	0709		378.5	378.3																																	36																																															
L 124+89	10	RT	0709		382.3																																												1			1	1				1																										
								SHEET TOTALS	76	56	68																						1488	112	124					36	144								24	6.8		15	3	3	9		13					9				9								2	2								

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
B.D.O.	BERM DRAINAGE OUTLET

LL94676

COMPUTED BY:	KLF	DATE:	11/18/2022
CHECKED BY:		DATE:	

PROJECT NO.	SHEET NO.
R-5930B	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 %	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	C. S. PIPE 15 .064	18 .064	24 .064	30 .079	36 .079	42 .109	48 .109		R. C. PIPE CLASS III 15	18	24	30	36	42	48		R. C. PIPE CLASS IV 15	18	24	30	36	42	48		R. C. PIPE CLASS V 15	18	24	30	36	42	48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) 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	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/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	15" DRAINAGE ELBOW	18" DRAINAGE ELBOW	24" DRAINAGE ELBOW	30" DRAINAGE ELBOW	36" DRAINAGE ELBOW	B.D.O. STD. 850.10 (4" CONCRETE PAVED DITCH SY)	B.D.O. STD. 850.11 (PER EACH)	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
		0709	0710		379.1	379.0																											16																																																			
L 125+05	10 RT	0710		382.3																																														1			1		1			1																									
		0710	0725		379.0	378.5																											96																																																			
L 126+00	26 LT	0711		382.2																																														1			1		1																													
		0711	0725		377.7	377.5																												36																																																		
L 126+00	26 RT	0713		382.8																																														1	0.4		1			1																												
		0713	0712		377.4	372.0	1.3																											60																																																		
L 126+40	27 RT	0714		382.8																																														1			1			1																												
		0714	0713		379.6	379.4	0.4																											40																																																		
L 126+80	26 LT	0715		383.4																																														1			1		1																													
		0715	0711		380.2	378.9																												80																																																		
L 127+35	38 RT	0716		384.5																																														1			1			1																												
		0716	0714		381.2	379.6	0.4																											96																																																		
L 128+00	65 LT	0717		385.8																																														1			1		1																													
		0717	0715		382.5	380.2																												124																																																		
L 128+50	38 RT	0718		388.1																																														1			1			1																												
		0718	0716		384.8	381.2	0.3																											116																																																		
L 128+93	95 LT	0719		388.4																																														1			1		1																													
		0719	0717		385.1	382.5																												96																																																		
L 130+15	38 RT	0720		390.8																																														1													1				1																	
		0720	0718		387.8	384.8																																					164																																											
L 133+00	38 LT	0721		395.4																																														1													1				1																	
		0721	0722		392.7	388.1																											284																																																			
L 130+15	38 LT	0722		390.8																																														1													1				1																	
		0722	0719		388.1	385.4																																					132																																											
L 124+75	10 RT	0723		382.3																																														1			1			1		1																									
		0723	0709		379.2	379.1																											12																																																			
L 130+15	63 RT	0724		392.6																																														1													1					1																
		0724	0720		389.9	387.8																											24																																																			
L 126+00	10 RT	0725		382.7																																														1	0.2		1		1			1																									
		0725	0713		377.5	377.4	0.5																											16																																																		
L 133+76	3 LT	0801		398.0																																														1			1			1		1																									
		0801	0802		394.7	392.7																																					40																																											
L 133+75	38 RT	0802		395.7																																														1													1				1																	
		0802	0720		392.7	387.8																												356																																																		
L 134+00	6 LT	0803		398.3																																														1			1			1		1																									
		0803	0801		395.3	395.0																											24																																																			
L 135+00	9 LT	0804		399.8																																														1			1			1		1																									
		0804	0803		396.8	395.3																											100																																																			
L 135+90	38 LT	0805		400.0																																														1	3.5												1				1																	
		0805	0808		391.5	388.6																																	72																																														
L 135+90	38 RT	0806		397.7																																														1	0.8												1				1																	
		0806	0807		391.9	391.7																																	48																																														
L 135+90	10 LT	0807		400.9																																														1	4.2		1			1		1																									
		0807	0805		391.7	391.5																																	28																																														
L 135+90	57 RT	0809		399.6																																													3.400																																				
		0809	0806		395.0	391.9																																	20																																														
L 138+50	37 RT	0810		400.8																																														1													1				1																	
		0810	0806		398.0	394.9																											248																																																			
L 138+50	10 LT	0811		403.9																																														1			1			1		1																									
SHEET TOTALS																																	804	1020			168					336						3.400		24	9.1		16		6	10		8					8				7	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
B.D.O.	BERM DRAINAGE OUTLET

LL94676

COMPUTED BY: KLF DATE: 11/18/2022

CHECKED BY: DATE:

PROJECT NO.	SHEET NO.
R-5930B	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	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE)							DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	C. S. PIPE							R. C. PIPE CLASS III							R. C. PIPE CLASS IV							R. C. PIPE CLASS V							ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE)	DRAINAGE STRUCTURE	QUANTITIES FOR DRAINAGE STRUCTURES NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)			C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE			CONCRETE TRANSITIONAL SECTION		OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	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/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	15" DRAINAGE ELBOW	18" DRAINAGE ELBOW	24" DRAINAGE ELBOW	30" DRAINAGE ELBOW	36" DRAINAGE ELBOW	B.D.O. STD. 850.10 (4" CONCRETE PAVED DITCH SY)	B.D.O. STD. 850.11 (PER EACH)	FLOWABLE FILL	CONCRETE COLLARS CL. "B" STD. 840.72	PIPE REMOVAL	REMARKS
SIZE		FROM	TO					15	18	24	30	36	42	48				15	18	24	30	36	42	48	15	18	24	30	36	42	48	15	18	24	30	36	42	48	15	18	24	30	36	42	48		MASONRY	0' THRU 5'	A 5' THRU 10'	B 10' AND ABOVE		E	F	G	D.I. STD. 852.04 OR STD. 852.06	C.B. STD. 852.05																										
THICKNESS OR GAUGE				FT.	FT.	FT.	%											.064	.064	.064	.079	.079	.109	.109																						CY	CY	EACH	LIN. FT.	LIN. FT.																														CY	CY	LIN. FT.	
		0811	0807		400.9	397.9																										260																																																					
L 141+50	9 LT	0812		407.4																																												1	4.2		1			1		1																										
		0812	0820		398.3	397.2																														72																																																		
L 141+50	62 RT	0813		404.6																																										3.400																																						
		0813	0814		400.0	398.5																														24																																																		
L 141+50	37 RT	0814		404.3																																												1	0.8												1					1																	
		0814	0812		398.5	398.3																														48																																																		
L 144+00	37 RT	0815		407.5																																												1													1					1																	
		0815	0817		404.5	404.2																																		48																																														
L 144+00	10 LT	0817		410.3																																												1	1.1		1			1		1																										
		0817	0818		404.2	404.1																											28																																																				
L 144+00	38 LT	0818		409.4																																												1	0.3												1					1																	
		0818	0816		404.1	403.9	0.4																										36																																																			
L 146+20	34 LT	0819		410.7																																												1													1					1																	
		0819	0818		407.7	406.4																										220																																																					
L 149+00	0 CL	0905		416.1																																												1							1														1	1														
		0905	0906		413.3	412.7																										52																																																					
L 148+48	0 CL	0906		415.4																																												1							1														1	1														
		0906	0907		412.7	408.0																																	56																																															
L 150+00	0 CL	0909		417.2																																												1							1														1	1														
		0909	0911		414.5	414.0																										84																																																					
L 150+85	30 LT	0910		415.6																																												1													1					1																	
		0910	0911		412.8	412.7																																	32																																															
L 150+85	2 RT	0911		418.3																																												1	0.7						1														1	1														
		0911	0912		412.7	412.5																										24																																																				
L 150+85	29 RT	0912		417.5																																												1													1					1																	
		0912	0908		412.5	412.0	0.4																									56																																																						
L 154+55	38 LT	0914		420.9																																												1	0.6												1					1																	
		0914	0913		415.3	415.0																														60																																																		
L 154+55	9 RT	0915		424.0																																												1	3.4		1		1			1																										
		0915	0914		415.6	415.3	0.5																												48																																																		
L 154+55	36 RT	0916		423.3																																												1	2.6												1					1																	
		0916	0915		415.7	415.6	0.5																												24																																																		
L 157+35	38 LT	0917		430.5																																												1													1					1																	
		0917	0914		427.7	418.2	0.3																									276																																																						
		0918	0916		416.0	415.7																													52																																																		
L 157+35	38 RT	0919		430.6																																												1													1					1																	
		0919	0916		427.9	420.6	0.9																									280																																																						
L 159+50	38 RT	0920		437.9																																												1													1					1																	
		0920	0919		435.1	427.9	0.4																									212																																																							
L 159+50	81 RT	0921		451.9																																																																											11					
		0921	0920		449.8	435.1		44							X	X																																																										2										
L 159+50	38 LT	0922		439.6																																												1													1					1																	
		0922	0917		436.8	427.7																										212																																																						
L 162+00	37 LT	1000		446.7																																												1													1					1																	
		1000	0922		443.9	436.8																										248																																																						
Y11 23+60	7 LT	1001		464.2																																												1													1					1																	
Y11 24+80	9 LT	1003		468.0																																												1							1														1	1														
		1003	1007		464.9	464.1																											40																																																				
Y11 24+80	7 RT	1004		468.0																																												1							1														1	1														
SHEET TOTALS								44																								1924	104		124	204			88	48						3.400		23	13.7		3		1	2	6	3					14				14			6	6			2					11					

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
B.D.O.	BERM DRAINAGE OUTLET

LL97386

COMPUTED BY: KLF DATE: 11/18/2022

CHECKED BY: DATE:

PROJECT NO.	SHEET NO.
R-5930B	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 %	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 15	18	24	30	36	42	48	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	C. S. PIPE 15 .064	18 .064	24 .064	30 .079	36 .079	42 .109	48 .109		R. C. PIPE CLASS III 15	18	24	30	36	42	48		R. C. PIPE CLASS IV 15	18	24	30	36	42	48		R. C. PIPE CLASS V 15	18	24	30	36	42	48	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) 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	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/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	15" DRAINAGE ELBOW	18" DRAINAGE ELBOW	24" DRAINAGE ELBOW	30" DRAINAGE ELBOW	36" DRAINAGE ELBOW	B.D.O. STD. 850.10 (4" CONCRETE PAVED DITCH SY)	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
		1004	1003		465.0	464.9																																					16																																							
Y11 24+22	5 LT	1006		466.6																																															1							1													1	1												
		1006	1001		463.6	461.4																													60																																																				
Y11 24+40	9 LT	1007		467.1																																															1							1													1	1												
		1007	1006		464.1	463.6																													16																																																					
Y11 29+25	7 RT	1009		469.7																																															1													1				1																
		1009	1017		466.7	465.3																													140																																																				
L 162+72	38 RT	1010		451.1																																															1			1			1																													
		1010	1021		448.3	443.0																												124																																																						
L 160+80	38 RT	1011		443.7																																															1			1			1																													
		1011	0920		441.0	435.1																												128																																																							
Y11 25+70	6 RT	1013		468.7																																															1							1													1	1												
		1013	1004		465.9	465.3																												88																																																							
L 164+20	70 RT	1014		461.5																																															1	0.6													1				1																
		1014	1016		455.9	455.6																													60																																																						
L 164+16	10 RT	1016		459.9																																															1			1		1			1																										
		1016	1015		455.6	455.0																													88																																																						
Y11 30+68	5 RT	1017																																																																								1											
Y11 26+50	5 RT	1019		469.0																																															1							1													1	1												
		1019	1013		466.2	465.9																												76																																																							
L 161+45	65 RT	1020		447.2																																															1													1				1																
		1020	1021		444.5	443.0																												28																																																							
L 161+45	38 RT	1021		446.0																																															1			1			1																													
		1021	1011		443.0	441.0																												64																																																							
Y11 12+00	5 RT	1100		445.3																																															1													1				1																
		1100	1103		442.5	441.7																																				104																																																					
Y11 14+88	6 RT	1101		443.6																																															1	5.0	0.3					1													1	1												
Y11 14+50	9 RT	1102		443.6																																															1							1													1	1												
		1102	1101		440.1	439.8																													36																																																						
Y11 13+05	5 RT	1103		444.4																																															1							1													1	1												
		1103	1115		441.4	440.5																													76																																																						
Y11 13+05	9 LT	1104		444.5																																															1							1													1	1												
		1104	1103		441.5	441.4																																					12																																																			
Y11 14+87	1 LT	1106		436.8																																																																																	0.6560		
Y11 17+29	5 RT	1108		445.6																																															1													1				1																
		1108	1112		442.6	441.5																													104																																																								
Y11 16+25	4 RT	1112		444.5																																															1							1													1	1												
		1112	1117		441.5	441.3																													32																																																						
Y11 13+85	7 RT	1115		443.5																																															1							1													1	1												
		1115	1102		440.5	440.1																													64																																																							
Y11 15+90	9 RT	1117		444.5																																															1							1													1	1												
		1117	1101		441.3	440.6																													100																																																						
Y11 19+61	73 RT	1120			450.1	448.8		52																																																																															
Y11 13+71	63 RT																																																																																			21	
Y11 19+58	60 RT																																																																																			44	
Y11 24+69	0 CL																																																																																			148	
Y11 23+77	6 LT																																																																																			30	
SHEET TOTALS								52																										508	776							104	28								20	5.6	0.3	4		1	3	11	1					5				5			11	11	1									0.6560	243	
PROJECT TOTALS								224	132	140	96																							6232	2296	304	248	372				268	892						6.800		114	100.1		48	3	18	27	17	33				4	44				47	1	1	17	17	1	1	4	4	4	2		22		0.6560	243	

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
B.D.O.	BERM DRAINAGE OUTLET

LL25044

COMPUTED BY: KLF **DATE:** 11/18/2022

CHECKED BY: **DATE:**

PROJECT NO.	SHEET NO.
R-5930B	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 54 INCHES & OVER)

LINE & STATION	OFFSET	STRUCTURE NUMBER		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	MINIMUM REQUIRED SLOPE	Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE)									C. S. PIPE						R. C. PIPE CLASS III						R. C. PIPE CLASS IV						R. C. PIPE CLASS V						STRUCTURAL PLATE PIPE		
SIZE								54	60	66	72	78	84	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE PVC	54	60	66	72	78	84	54	60	66	72	78	84	54	60	66	72	78	84	54	60	66	72	78	84	60	66	72
THICKNESS OR GAUGE		FROM	TO	FT.	FT.	FT.	%																																				
L 149+50	53 RT	0903		410.4																																							
		0904	0903		404.9	401.0																							120														
SHEET TOTALS																													120														
PROJECT TOTALS																													120														

LINE & STATION	STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	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	CONCRETE TRANSITIONAL SECTION C.B. STD. 852.05	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.2	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.2	J.B. STD. 840.31 OR STD. 840.32	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAG	ADJUST D.I.	M.H. FRAME AND COVER STD. 840.54	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 149+50	0903		5.000																																
	0904	0903																																	
SHEET TOTALS			5.000																																
PROJECT TOTALS			5.000																																

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: NDM DATE: 05/01/2023
CHECKED BY: JSJ DATE: 05/01/2023

(2-3-23)

PROJECT NO.	SHEET NO.
R-5930B	3G-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	500
				TOTAL LF:	500

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

SUMMARY OF GEOTEXTILE FOR SUBGRADE STABILIZATION

LINE	Station	Station	Geotextile for Subgrade Stabilization SY
-L-	90+00	92+50	1111
-L-	96+25	97+00	167
-L-	97+00	100+25	1444
-L-	106+00	112+50	2889
-L-	122+50	127+00	2000
-L-	141+50	143+00	333
-L-	148+50	150+00	633
-Y11-	18+25	23+75	950
-Y11-	12+30	13+75	500
CONTINGENCY			300
		TOTAL SY:	10327*
		SAY (SY):	10330*

'*Total square yards of "Geotextile for Subgrade Stabilization" is only the estimated quantity for subgrades and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

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
-Y11-	12+30	13+75	ASU	12	150	325	500		
-Y11-	18+25	23+75	ASU	12	325	625	950		
CONTINGENCY			ASU	12	100	200	300		
CONTINGENCY			AST	3				300	
			TOTAL CY/TONS/SY:		575	1150**	1750**	300	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.**

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	3P-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PARCEL INDEX SHEET

PARCEL No.	SHEET No.	PROPERTY OWNER NAME	DEED BOOK
5	4, 5	WYWUSA SPE LLC	DB 2391 PG 836 PB 2022 PG 37 PB 2001 PG 223
6	5	ROBERT PARKS & DONNA B. MORRIS	DB 1332 PG 408
7	5	DIPAK PATEL AND WIFE, BIJAL PATEL	DB 2258 PG 1080 PB 2001 PG 481
8	5	WENDELL W. BALLOU, JR.	DB 1102 PG 234 PB 2001 PG 481
9	5, 6	ALAN E. COX	DB 966 PG 629
10	5, 6	BRIAN BULLARD & WIFE MARGARET MEJIA	DB 730 PG 447
11	6, 7	MARK H. PAVAO & WIFE, JENNIFER H. PAVAO	WB 19E PG 332 PB 2021 PG 375
12	6, 7	MARK H. PAVAO & WIFE, JENNIFER H. PAVAO	WB 19E PG 332 PB 2021 PG 375
13	6, 7	MARK H. PAVAO & WIFE, JENNIFER H. PAVAO	WB 19E PG 332 PB 2021 PG 375
14	7	CHATHAM PARK INVESTORS LLC	DB 1816 PG 37 PB 94 PG 230
15	7, 8	LEE M. PAVAO & MARK H. PAVAO & WIFE, JENNIFER H. PAVAO	WB 19E PG 332 PB 2021 PG 375 DB 723 PG 944 PB 97 PG 241 PB 30 PG 8
16	7, 8	RODNEY MORRIS, TRUSTEE	WB 644 PG 605 PB 94 PG 230
17	8, 9	KATIE B. COOPER	DB 388 PG 241
18	8, 9	STATE OF NORTH CAROLINA	DB 529 PG 954 PB 88 PG 243
19	9, 10	VICKY T. OLDHAM	WB 021-E PG 88
20	10	VICKY T. OLDHAM	DB 2083 PG 525 PB 2019 PG 218
21	10, 11	STEVEN EUGENE OLDHAM, JR.	DB 1707 PG 1 PB 2013 PG 184
22	10, 11	CAROLYN M. MORROW	DB 916 PG 811 PB 99 PG 122 PB 90 PG 306
23	10	VICKY T. OLDHAM	DB 1885 PG 1092 PB 88 PG 310
24	10	VICKY T. OLDHAM	DB 2008 PG 827
25	11	THOMAS JONATHAN OLDHAM	DB 1541 PG 454

PARCEL No.	SHEET No.	PROPERTY OWNER NAME	DEED BOOK

K:\RAL_Roadway\0II036532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_psh_3P-1.dgn

12/6/2024

5/14/99

REVISIONS

K:\RAL_Roadway\0110536532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_psh_04.dgn

1/3/2025

BM•6 ELEVATION • 445.84'
N 728,259 E 1,955,699
BL STATION 84•67.9• 331.0' LEFT
L STATION 91•56.97• 375.34' LEFT
RAILROAD SPIKE IN 13" OAK

NAD 83 /NA 2011

Kimley»Horn ©2025
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	4
R-5930 RW SHEET NO.	9

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5 WYWUSA SPE LLC
DB 2391 PG 836
PB 2022 PG 37
PB 2001 PG 223

-Y7- PC Sta. 10+00.00

N 89°59'58" E 2886.76'

80+00

90+00

-L- PT Sta. 77+88.39

-L- PC Sta. 80+89.72

-Y7- PT Sta. 14+96.60

END TIP PROJECT R-5930A (BY OTHERS)
BEGIN TIP PROJECT R-5930B
-L- POC Sta. 87+00.00

85+00

N 21° 35' 58.5" E

S 78° 24' 32" E

170' ACCESS POINT

130' ACCESS POINT

-L- POC Sta. 84+41.99 = -Y7- POT Sta. 15+78.54
△ = 90°00'00"

-Y7- POT Sta. 20+00.00

-L- PT Sta. 87+86.66

-L- PC Sta. 90+40.07

CLASS 'I' RIP RAP
EST. 11 TONS
EST. 22 SY GFD

30" w/ELBOWS

100' LANE TAPER

100' BAY TAPER

350' STORAGE

300' STORAGE

SEE SHEET 2C-7

10' MULTI-USE PATH

4' PS

2'-6" C&G

1'-6" C&G

15" RCP-IV

18" RCP-IV

30" RCP-IV

2GI

2GI-A

CB-G

CB-F

JB W/MH

BDO

15" W/ELBOWS

BERM 'V' DITCH
SEE DETAIL 2/SHEET 2D-1

SPECIAL CUT DITCH
SEE DETAIL 1/SHEET 2D-1

SPECIAL CUT DITCH
SEE DETAIL 1/SHEET 2D-1

N 38° 01'2" E CHATHAM PARKWAY -L-

-L- STA 91+75 (SEE SHEET 5)

MATCHLINE -L-

-L-

PI Sta 70+27.00	PI Sta 84+41.76	PI Sta 93+44.86
△ = 39° 35' 18.7" (RT)	△ = 19° 57' 57.3" (LT)	△ = 15° 05' 51.3" (RT)
D = 2° 29' 28.0"	D = 2° 51' 53.2"	D = 2° 29' 28.0"
L = 1,589.19'	L = 696.94'	L = 606.06'
T = 827.79'	T = 352.04'	T = 304.79'
R = 2,300.00'	R = 2,000.00'	R = 2,300.00'
SE = 0.03	SE = 0.04	SE = 0.03
RO = 144	RO = 192	RO = 144

-Y7-

PI Sta 12+53.53
△ = 28° 27' 11.8" (RT)
D = 5° 43' 46.5"
L = 496.60'
T = 253.53'
R = 1,000.00'

-Y7-
(GRANT DR EXTENSION)

2025 AVERAGE DAILY TRAFFIC
2045 AVERAGE DAILY TRAFFIC
DHV = 8%
DIR = 55%
TTST = 1%
DUAL = 3%

3500 / 11200

6800 / 21800 — 2800 / 6000 — 700 / 1500 — 4700 / 15100

-L- (CPW)
DHV = 8%
DIR = 55%
TTST = 2%
DUAL = 3%

0 / 3000 — 0 / 800

-L- (CPW)
DHV = 8%
DIR = 55%
TTST = 1%
DUAL = 2%

0 / 7500

DHV = 8%
DIR = 65%
TTST = 1%
DUAL = 2%

-Y7-
(GRANT DR EXTENSION)

★ PROP. TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

SEE SHEET 14 FOR -L- PROFILE
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	5
R-5930 RW SHEET NO.	10

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601
RIGHT-OF-WAY REV.
CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS 5/14/99

K:\RAL_Roadway\01\036532 - R-5930 North CFW\Roadway\Pro\R-5930B_ray_psh_05.dgn

1/3/2025

NAD 83 /NA 2011

EMILIO CASTELLANO DIAZ & SPOUSE, FIDELIA HERNANDEZ PEREZ
DB 1880 PG 320
PB 2000 PG 9

5 WYWUSA SPE LLC
DB 2391 PG 836
PB 2022 PG 37
PB 2001 PG 223

6 ROBERT PARKS & DONA B. MORRIS
DB 1332 PG 408

9 ALAN E. COX
DB 966 PG 629

7 406 COUNTY LLC
DB 2391 PG 1054

10 BRIAN BULLARD & WIFE MARGARET MEJIA
DB 730 PG 447

8 WENDELL W. BALLOU, JR.
DB 1102 PG 234
PB 2001 PG 481

-Y8- PC Sta. 13+24.21

BEGIN CONSTRUCTION
-Y8- POT Sta. 15+44.00

-L- POC Sta. 94+35.72 =
-Y8- POT Sta. 16+19.30
Δ = 90°08'05"

-Y8- PT Sta. 15+73.75

S 78° 30' 36.2" E

-L- PT Sta. 96+46.12

-L- POT Sta. 105+21.53 =
-Y9- POT Sta. 10+00.00
Δ = 83°55'05"

S 79° 21' 02.8" E

-Y9- PC Sta. 11+59.30

-Y9- PT Sta. 12+09.97

END CONSTRUCTION
-Y9- POT Sta. 12+40.00
TIE EXIST DITCH TO PROP DITCH

S 85° 02' 37.8" E

-Y9- POT Sta. 12+70.00

N 82° 25' 35.6" E UNNAMED INTERSECTION -Y8-

S 18°27'30" W 863.67'

N 16° 43' 52.5" E

S 84°05'32" E 868.96'

S 88°46'52" E 620.38'

S 8°06'56" E 537.79'

S 85°50'50" E 215.41'

CHATHAM PARK WAY

MATCHLINE -L- STA 91+75 (SEE SHEET 4)

MATCHLINE -L- STA 106+00 (SEE SHEET 6)

LATERAL 'V' DITCH
SEE DETAIL 10/SHEET 2D-1
CLASS 'B' RIP RAP
EST. 10 TONS
EST. 23 SY GFD
EST. 25 CY DDE

LATERAL 'V' DITCH
SEE DETAIL 9/SHEET 2D-1
CLASS 'I' RIP RAP
EST. 15 TONS
EST. 25 SY GFD
EST. 25 CY DDE

CLASS 'B' RIP RAP
EST. 3 TONS
EST. 10 SY GFD

CLASS 'I' RIP RAP
EST. 7 TONS
EST. 15 SY GFD

BERM 'V' DITCH
SEE DETAIL 2/SHEET 2D-1

BERM 'V' DITCH
SEE DETAIL 2/SHEET 2D-1

SPECIAL CUT DITCH
SEE DETAIL 1/SHEET 2D-1

LATERAL 'V' DITCH
SEE DETAIL 23/SHEET 2D-2
EST. 140 CY DDE

LATERAL 'V' DITCH
SEE DETAIL 22/SHEET 2D-2
CLASS 'B' RIP RAP
EST. 45 TONS
EST. 100 SY GFD
EST. 100 CY DDE

LATERAL 'V' DITCH
SEE DETAIL 21/SHEET 2D-2
EST. 250 CY DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6/SHEET 2D-1

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 34/SHEET 2D-3
CLASS 'B' RIP RAP
EST 45 TONS
EST 95 SY GFD

STANDARD 'V' DITCH
SEE DETAIL 35/SHEET 2D-3
CLASS 'B' RIP RAP
EST 7 TONS
EST 15 SY GFD
EST 18 CY DDE

CLASS 'B' RIP RAP
EST. 5 TONS
EST. 14 SY GFD

-L-	-Y8-	-Y9-
PI Sta 93+44.86	PI Sta 14+50.14	PI Sta 11+84.65
Δ = 15° 05' 51.3" (RT)	Δ = 19° 03' 48.2" (RT)	Δ = 5° 41' 35.0" (LT)
D = 2° 29' 28.0"	D = 7° 38' 22.0"	D = 11° 14' 04.1"
L = 606.06'	L = 249.54'	L = 50.67'
T = 304.79'	T = 125.93'	T = 25.36'
R = 2,300.00'	R = 750.00'	R = 510.00'
SE = 0.03		
RO = 144		

PROP. PAVED SHOULDER

PROP. 5" MONO. CONC. ISLAND

SEE SHEET 14 FOR -L- PROFILE
SEE SHEET 17 FOR -Y9- PROFILE
SEE SHEET 2B-1 FOR INTERSECTION DETAILS
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

REVISIONS

5/14/99

2/12/2025

NAD 83 /NA 2011

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RALEIGH, NC 27601
RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	6
R-5930 R/W SHEET NO.	11

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
Vance W. Blanton
2/12/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
Kaitlyn Faugerstrom
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- STA 106+00 (SEE SHEET 5)
MATCHLINE -L- STA 120+00 (SEE SHEET 7)
UNNAMED TRIB. TO HAVEN CREEK
CHATHAM PARK WAY
BOB LAWLER & BARBARA LAWLER DB 1545 PG 110
(9) ALAN E. COX DB 966 PG 629
(10) BRIAN BULLARD & WIFE MARGARET MEJIA DB 730 PG 447
(11) MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375
(12) MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375
(13) MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375
N 16°43'52.51" E
S 80°58'19" W 356.39' (TOTAL) 272.05'
S 18°26'25" W 947.35'
N 12°45'40" E - 1021.11' (TOTAL) 985.47'
S 87°35'45" W 947.35'
N 42°05'48" W 478.07'
WOODS
GRASS
WD SHOP & G
GR
BLDG
CABIN
STEPS
SHED
SEPTIC
WELL
BRICK
SF
F
E
C
PDE
PUE
RW
CA
100' MUP SHIFT
100' MULTI-USE PATH
10' MULTI-USE PATH
4' PS
2' PS
2'-6" C&G
1'-6" C&G
CB-G
CB-E
CB-F
18" RCP-V
15" RCP-V
15" RCP-IV
24" RCP-IV
2GI
100'R GREU TL-3
100'R
CAT-1
INLET PROTECTION
EST. 20 TONS CLASS II RIP RAP
EST. 20 SY GFD
SEE DETAIL 27/SHEET 2D-2
-L- Sta.108+98.00
11'x7' RCBC (1.0' BURIED)
W/ 1.0' SILLS/BAFFLES
LATERAL 1 FT BASE DITCH
SEE DETAIL 11/SHEET 2D-1
EST. 400 CY DDE
TOE PROTECTION
SEE DETAIL 12/SHEET 2D-1
CLASS 'B' RIP RAP
EST. 20 TONS
EST. 45 SY GFD
SPECIAL CUT DITCH
SEE DETAIL 20
SHEET 2D-2
CLASS 'I' RIP RAP
EST. 32 TONS
EST. 67 SY GFD
CLASS 'B' RIP RAP
EST. 3 TONS
EST. 10 SY GFD
-L- PC Sta. 107+12.24
LATERAL 2FT BASE DITCH
SEE DETAIL 19/SHEET 2D-2
CLASS 'I' RIP RAP
EST. 68 TONS
EST. 135 SY GFD
EST. 110 CY DDE
OUTLET PROTECTION
EST. 21 TONS CLASS II RIP RAP
EST. 21 SY GFD
SEE DETAIL 28/SHEET 2D-2
RIP RAP AT EMBANKMENT
CLASS 'I' RIP RAP
EST. 5 TONS
EST. 10 SY GFD
SEE DETAIL 13/SHEET 2D-1
CLASS 'I' RIP RAP
EST. 7 TONS
EST. 15 SY GFD
LATERAL 3FT BASE DITCH
SEE DETAIL 18/SHEET 2D-2
CLASS 'I' RIP RAP
EST. 72 TONS
EST. 150 SY GFD
EST. 110 CY DDE
24" w/ELBOWS

-L-
PI Sta 117+97.54
Δ = 89°13'43.9" (LT)
D = 5°12'31.3"
L = 1,713.07'
T = 1,085.29'
R = 1,100.00'
SE = 0.04
RO = 192

PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

SEE SHEET 15 FOR -L- PROFILE
SEE SHEETS C3-1 TO C3-6 FOR CULVERT PLANS
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	7
R-5930 RW SHEET NO.	12

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RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/12/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

5/14/99

K:\RAL_Roadway\Oll036532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_psh_07.dgn

2/12/2025

-L-
PI Sta 117+97.54
Δ = 89°13'43.9" (LT)
D = 5°12'31.3"
L = 1,713.07'
T = 1,085.29'
R = 1,100.00'
SE = 0.04
RO = 192

NAD 83/NA 2011

BM•7

MATCHLINE -L- STA 120+00 (SEE SHEET 6)

MATCHLINE -L- STA 133+00 (SEE SHEET 8)

11 MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375

12 MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375

13 MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375

15 MARK H. PAVAO & WIFE, JENNIFER H. PAVAO WB 19E PG 332 PB 2021 PG 375

16 RODNEY MORRIS, TRUSTEE DB 644 PG 605 PB 94 PG 230

14 WYWUAS SPE LLC DB 2391PG 836

HAVEN CREEK

WOODS

PASTURE

INLET PROTECTION
EST. 94 TONS CLASS II RIP RAP
EST. 95 SY GFD
SEE DETAIL 29/SHEET 2D-2

2.0' SILL AT INLET
(INSET 2.0' INTO FACE)

BEGIN CULVERT
-L- Sta.124+45.12

-L- PT Sta. 124+25.31

CHANNEL CHANGE
CLASS I RIP RAP BANKS ONLY
EST 10 TONS
EST 16 SY GFD
EST 7 CY DDE
SEE DETAIL 31/SHEET 2D-2

-L- Sta.124+63.87
3 @ 11'x12' RCBC
(BURIED 1.0')
EAST FLOODBENCH
BARREL (W/ 2.0' SILLS)

-L- POT Sta. 129+34.28 =
-Y10- POT Sta. 10+00.00
Δ = 83°51'40"

END CULVERT
-L- Sta.124+82.64

END CONSTRUCTION
-Y10- POT Sta.10+82.37

-Y10- POT Sta. 14+00.00

N 72°29'51.3" W

N 11°24'48.9" E -Y10- UNNAMED INTERSECTION

S 11°18'33" W 612.80'

N 77°31'11" E 639.62'

N 02°28'35" E 214.35'

N 88°39'03" E 804.56'

10' MULTI-USE PATH

4' PS

15" RCP-IV

18" RCP-IV

18" RCP-V

2'-6" C&G

1'-6" C&G

CB-G

CB-F

CB-E

2GI

GREU TL-3

CAT-1

18" DRAINAGE PIPE w/ELBOWS

CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY GFD

TOE PROTECTION
SEE DETAIL 12/SHEET 2D-1
CLASS 'B' RIP RAP
EST. 30 TONS
EST. 70 SY GFD

LATERAL 3FT BASE DITCH
SEE DETAIL 18/SHEET 2D-2
CLASS 'I' RIP RAP
EST. 15 TONS
EST. 25 SY GFD
EST. 40 CY DDE

OUTLET PROTECTION
EST. 95 TONS CLASS II RIP RAP
EST. 96 SY GFD
SEE DETAIL 30/SHEET 2D-2

CLASS 'B' RIP RAP
EST. 3 TONS
EST. 10 SY GFD

LATERAL 3FT BASE DITCH
SEE DETAIL 24/SHEET 2D-2
CLASS 'B' RIP RAP
EST. 35 TONS
EST. 78 SY GFD
EST. 80 CY DDE

SPECIAL LATERAL 'V' DITCH
SEE DETAIL 6/SHEET 2D-1

250' TAPER
150' TAPER
100' MUP SHIFT
80' TAPER
325' STORAGE
150' STORAGE
100' BAY TAPER
125' ACCESS POINT
409.18'
139.38'
58'R
50'R
15'R
100'R

-L- CHATHAM PARK WAY

BARN
GOAT BARN
TREES
GRASS
GARDEN
ISFD RUINS
CONC WALK
BLK STEPS
MTL GATE
ABAND
GATE
HOUSE

BM•7 ELEVATION = 367.10'
N 730,600 E 1,955,611
BL STATION 116+68.9, 492.0' LEFT
L STATION 123+89.50, 513.62' LEFT
RAILROAD SPIKE IN 18" OAK

2025 AVERAGE DAILY TRAFFIC
2045 AVERAGE DAILY TRAFFIC

-L- (CPW)
DHV = 8%
DIR = 55%
TTST = 1%
DUAL = 2%

4700 / 15100 / 300 / 4600

200 / 1100 / 4600 / 11400

-L- (CPW)
DHV = 8%
DIR = 55%
TTST = 1%
DUAL = 2%

500 / 5900

-Y10- (UNNAMED INTERSECTION)
DHV = 8%
DIR = 55%
TTST = 1%
DUAL = 2%

PROP. PAVED SHOULDER

PROP. 5" MONO. CONC. ISLAND

SEE SHEET 2B-1 FOR INTERSECTION DETAILS
SEE SHEET 15 FOR -L- PROFILE
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS
SEE SHEETS C4-1 TO C4-7 FOR CULVERT PLANS

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	8
R-5930 RW SHEET NO.	13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 /NA 2011

(15) LEE M. PAVAO & MARK H. PAVAO & WIFE, JENNIFER H. PAVAO
DB 723 PG 944
PB 97 PG 241
PB 30 PG 8

(16) RODNEY MORRIS, TRUSTEE
DB 644 PG 605
PB 94 PG 230

(18) STATE OF NORTH CAROLINA
DB 529 PG 954
PB 88 PG 243

(17) KATIE B. COOPER
DB 388 PG 241

RODNEY MORRIS
DB 492 PG 93

KATIE B. COOPER
DB 620 PG 1038

JOHN SLATER MORRIS & WIFE SHERRY SUZANNE MORRIS
DB 1681 PG 1017
PB 18 PG 48

RODNEY MORRIS
DB 427 PG 412
PB A PG 638

LIBRON RODNEY MORRIS & WIFE YVONNE M. MORRIS
DB 620 PG 882
PB 93 PG 271

HAVEN CREEK

CHATHAM PARK WAY

MATCHLINE -L- STA 133+00 (SEE SHEET 7)

MATCHLINE -L- STA 146+50 (SEE SHEET 9)

-L- PC Sta. 134+32.29

-L- PT Sta. 144+21.54

-L-
PI Sta 139+53.99
Δ = 44° 59' 01.6" (RT)
D = 4° 32' 50.2"
L = 989.24'
T = 521.70'
R = 1,260.00'
SE = 0.04
RO = 192

BM•8 ELEVATION = 423.40'
N 732,383 E 1,954,368
BL STATION 137+94.0, 408.5' RIGHT
L STATION 145+97.35, 451.60' RIGHT
RAILROAD SPIKE IN 15"PINE

PROP. PAVED SHOULDER

PROP. 5" MONO. CONC. ISLAND

SEE SHEET 16 FOR -L- PROFILE
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

RIGHT-OF-WAY REV.

CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	9
R-5930 RW SHEET NO.	14

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 /NA 2011

5/14/99 REVISIONS

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1/3/2025

(18) STATE OF NORTH CAROLINA
DB 529 PG 954
PB 88 PG 243

THOMAS JONATHAN OLDHAM
DB 1541 PG 454

N 25°20'50" E 439.63'

S 03°36'45" W 90.00'

895.34' N 74°47'38" W

UNNAMED TRIB. TO HAVEN CREEK

150+00

621.23' N 84°02'27" W

155+00

160+00

(19) VICKY T. OLDHAM
WB 021-E PG 88

-L- PT Sta. 155+34.93

TIE DITCH TO EXISTING SWALE

CLASS 'I' RIP RAP
EST. 10 TONS
EST. 23 SY GFD

-L- PC Sta. 149+03.57

OUTLET CHANNEL STABILIZATION
EST. 20 TONS CLASS I RIP RAP
EST. 5 TONS CLASS 'B' RIP RAP
EST. 10 SY GFD
SEE DETAIL 32
SHEET 2D-3

-L- STA 146+50 (SEE SHEET 8)

MATCHLINE -L- STA 160+50 (SEE SHEET 10)

440' SHIFT

100' MUP SHIFT

100' R

CAT-1

8d

2-6" C&G

1'-6" C&G

4' PS

2GI

15" RCP-IV

15" RCP-V

30" RCP-IV

36" RCP-IV

54" RCP-IV (BURIED 1.0')

CB-F

TBDI

GREU TL-3

10' MULTI-USE PATH

MONO CONC ISLAND

N 27° 30' 49.8" W

S 03°44'44" W 217.39'

S 03°44'44" W 250.05'

N 56° 13' 25.1" W

CHATHAM PARK WAY

100' BAY TAPER

15" W/ELBOWS

SPECIAL 1FT CUT BASE DITCH
SEE DETAIL 15/SHEET 2D-2

LATERAL 1FT BASE DITCH
SEE DETAIL 16/SHEET 2D-2 +87 75.31' RT
EST. 60 CY DDE

CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY GFD

NCDOT HW STD. 838.21

INLET CHANNEL IMPROVEMENTS
EST. 10 TONS CLASS I RIP RAP
EST. 5 TONS CLASS 'B' RIP RAP
EST. 20 SY GFD
EST. 2 CY EXCAVATION
SEE DETAIL 33/SHEET 2D-3

RIP RAP AT EMBANKMENT
SEE DETAIL 13/SHEET 2D-1
CLASS 'I' RIP RAP
EST. 5 TONS
EST. 10 SY GFD

SPECIAL CUT DITCH
SEE DETAIL 14/SHEET 2D-1

SPECIAL CUT DITCH
SEE DETAIL 14/SHEET 2D-1

KATIE B. COOPER
DB 620 PG 1038

RANDY MCDONALD COOPER
DB 1608 PG 570
PB 2012 PG 28

(19) VICKY T. OLDHAM
WB 021-E PG 88

-L-
PI Sta 152+26.03
Δ = 28° 42' 35.3" (LT)
D = 4° 32' 50.2"
L = 631.36'
T = 322.46'
R = 1,260.00'
SE = 0.04
RO = 192

PROP. PAVED SHOULDER

PROP. 5" MONO. CONC. ISLAND

SEE SHEET 16 FOR -L- PROFILE
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

REVISIONS

PLAN REV. - 31225 - LABELS FOR BOXES 1011 AND 1021 WERE IN THE WRONG LOCATION AND HAVE BEEN CORRECTED TO BE CONSISTENT WITH THE DRAINAGE SUMMARY SHEET - TGS

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421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	10
R-5930 R/W SHEET NO.	15

RIGHT-OF-WAY REV.

CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VICKY W. BLANTON
Docusigned by: Vicky Blanton 97A5B4F4E4F4496...
3/13/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KATHLEEN M. FERGUSON
Docusigned by: Kathleen Ferguson 5200E2B2D1E1402...
3/13/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 /NA 2011

COREY BENJAMIN FRYE & MARK LEMUEL FRYE
DB 1595 PG 812
PB 90 PG 104

DONALD B. WILLIAMS & WIFE PHYLLIS I. WILLIAMS
DB 1696 PG 464

GRAHAM SCOTT OLDHAM & WIFE MARY LEWIS OLDHAM
DB 613 PG 110
PB 93 PG 92

TONI M. SANDERS & HUSBAND FREDERICK D. SANDERS
DB 575 PG 921
PB 91 PG 211

RACHEL KUDLER
DB 1485 PG 109
PB 26 PG 89

CAROLYN M. MORROW
DB 916 PG 811
PB 99 PG 122
PB 90 PG 306

KIOK KIM
DB 2058 PG 376

RAYMOND K. BOULDIN, JR.
DB K-0 PG 435
DB 1448 PG 758

STEVEN EUGENE OLDHAM, JR.
DB 1707 PG 1
PB 2013 PG 184

VICKY T. OLDHAM
DB 2083 PG 525
PB 2019 PG 218

VICKY T. OLDHAM
WB 021-E PG 88

VICKY T. OLDHAM
DB 1885 PG 1092
PB 88 PG 310

VICKY T. OLDHAM
DB 2008 PG 827

ROCK SPRINGS BAPTIST CHURCH
DB 1189 PG 272
PB 94 PG 64

TOWN OF PITTSBORO
DB 574 PG 717
DB 301PG 10

SR 1520 RUSSELL CHAPEL CHURCH ROAD

CHATHAM PARK WAY

PI Sta 24+51.06
△ = 33° 20' 02.0" (RT)
D = 4° 02' 05.7"
L = 826.14'
T = 425.13'
R = 1,420.00'
SE = EXIST
RO = EXIST

PI Sta 39+49.89
△ = 27° 39' 48.2" (LT)
D = 2° 27' 51.6"
L = 1,122.55'
T = 572.44'
R = 2,325.00'
SE = EXIST
RO = EXIST

BM=9 ELEVATION = 464.40'
N 733,956 E 1,952,454
BY7 STATION 9+61.1, 24.2' LEFT
Y11 STATION 25+89.39, 466.13' LEFT
RAILROAD SPIKE IN 20" OAK

-L- POT Sta.165+32.78=
-Y11- POC Sta.24+17.74
END TIP PROJECT R-5930B

-Y11- POT Sta. 32+20.00
END OVERLAY

-Y11- PT Sta. 28+52.06

-Y11- PC Sta. 33+77.45

-Y11- US 15-501

-L- STA 165+00

-L- STA 160+50 (SEE SHEET 9)

-Y11- STA 22+50 (SEE SHEET 11)

-Y11- STA 36+00 (SEE INSET A)

INSET A -Y11- STA 36+00

MATCHLINE -Y11- STA 36+00 (SEE INSET A)

MATCHLINE -L- STA 160+50 (SEE SHEET 9)

MATCHLINE -Y11- STA 22+50 (SEE SHEET 11)

REMOVE 148 LF OF 18" RCP

REMOVE 30 LF OF 18" RCP

600' STORAGE
400' SHIFT
150' EXIST BAY TAPER
100' SHIFT
450' STORAGE
375' STORAGE
200' TAPER
100' TAPER

4 MONO CONC ISLAND

15" RCP-IV
18" RCP-IV
18" RCP-V

TIE TO EXISTING 18" RCP
TIE PROPOSED 18" RCP-IV TO EXISTING DI
ADJUST DI

10' MULTI-USE PATH

CLASS 'B' RIP RAP
EST. 2 TONS
EST. 7 SY GFD

RETAINING WALL #1 SEE RETAINING WALL PLANS FOR DETAILS
RETAINING WALL #2 SEE RETAINING WALL PLANS FOR DETAILS

SEPTIC LINES PROVIDED BY PIEDMONT ENVIRONMENTAL ASSOCIATES, P.A. JULY 10, 2023 (TYP)

TIE EXIST DITCH INTO CUT SLOPE GRADE TO DRAIN

POSSIBLE ABANDONED GAS LINE PER CONVERSATION WITH DOMINION ENERGY REPRESENTATIVE

END CONSTRUCTION
-Y11- POC Sta. 40+80.00

★ PROP. TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND
PROP. PAVEMENT REMOVAL

SEE SHEET 17 FOR -L- PROFILE
SEE SHEETS 17 & 18 FOR -Y11- PROFILE
SEE SHEET 2B-1 TO 2B-2 FOR INTERSECTION DETAILS
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS
SEE SHEETS W-1 TO W-4 FOR RETAINING WALL DETAILS

3/12/2025

RUSSEL CHAPEL CHURCH RD

	AVERAGE DAILY TRAFFIC	DHV	DIR	TTST	DUAL
2025	AVERAGE DAILY TRAFFIC	8%	65%	1%	3%
2045	AVERAGE DAILY TRAFFIC	8%	65%	1%	3%

2100 / 2700

14800 / 22000 — 900 / 1200 — 1000 / 800 — 18700 / 28500

-Y11- (15-501): DHV = 8%, DIR = 55%, TTST = 1%, DUAL = 3%

300 / 1900 — 4100 / 8800

-Y11- (15-501): DHV = 8%, DIR = 55%, TTST = 1%, DUAL = 3%

4600 / 11400

-L- (CPW): DHV = 8%, DIR = 55%, TTST = 1%, DUAL = 2%

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PROJECT REFERENCE NO.	SHEET NO.
R-5930B	11
R-5930 R/W SHEET NO.	16

RIGHT-OF-WAY REV.

CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
Vance W. Blanton
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
Kaitlyn Faugerstrom
2/10/2025

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REVISIONS
5/14/99

K:\RAL_Roadway\0I036532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_psh_II.dgn

1/29/2025

NAD 83 /NA 2011

BEGIN CONSTRUCTION
-Y11- POC Sta. 10+68.00

-Y11- PC Sta. 10+00.00

-Y11- PT Sta. 12+35.04

-Y11- PC Sta. 20+25.93

-Y11- STA 22+50 (SEE SHEET 10)

-Y11-
US 15-501

GRAHAM SCOTT OLDHAM
DB 907 PG 988

GRAHAM SCOTT OLDHAM
& WIFE
MARY L. OLDHAM
DB 1038 PG 867
DB G-Z PG 111

ERNEST RADCLIFF RAMSEY
DB 452 PG 737
PB 18 PG 55

BRYAN LACARIO RAMSEY
DB 1928 PG 451
PB 18 PG 55

JEAN P. DURHAM
DB 1875 PG 351

JAMES CECIL ELLIS
DB 815 PG 281

ROBERT W. WYRICK, JR.
& CINDY C. WYRICK
DB 1160 PG 844
PB 18 PG 55

ANTHONY JOHN AMERO
& DANIEL AMERO
DB 1770 PG 921

RACHEL KUDLER
DB 1485 PG 109
PB 26 PG 89

(22) CAROLYN M. MORROW
DB 916 PG 811
PB 99 PG 122
PB 90 PG 306

(25) THOMAS JONATHAN OLDHAM
DB 1541PG 454

THOMAS JONATHAN OLDHAM
DB 1539 PG 626

(21) STEVEN EUGENE OLDHAM, JR.
DB 1707 PG 1
PB 2013 PG 184

N 76°16'55" E
625.31'

S 78°01'21" W
998.92'

N 59°15'35" W
477.13'

S 74°02'19" E
434.84'

S 37°29'55" W
64.00'

S 26°23'01" E
86.37'

S 02°29'25" W
182.48'

S 02°33'36" W
340.26'

S 40°30'49" E
281.98'

S 45°32'59" E
177.01'

N 45°16'59" W
(MEASURED POINTE OF EASEMENT TO RECORD CORNER UNKNOWN)
(DISTANCE UNKNOWN)
(05.54')

N 33°07'56.0" E

S 60°27'11" E
459.62'

N 63°40'53" W
345.35'

S 26°44'02" W
346.48'

S 24°47'38" W
175.00'

100' BAY TAPER
450' STORAGE
400' SHIFT
200' BAY TAPER
200' SHIFT
200' TAPER
44'R
16'DR
20'DR
15'R
4'PS
2'PS
RETAIN
REMOVE
COLLAR AND EXTEND 30" RCP
TIE INTO EXISTING 30" RCP
4' MONO CONC ISLAND
15" RCP-V / CONC ISLAND
TIE PROP DITCH TO EXISTING DITCH AT 19+00 -Y11-
CLEANOUT EXISTING DITCH AND LINE WITH CLASS 'B' RIP RAP
EST. 5 CY DDE
EST. 55 TONS RR
EST. 40 SY GFD
DO NOT DISTURB EXIST CHAIN LINK FENCE
SPECIAL CUT DITCH SEE DETAIL 1-SHEET 2D-1
BEGIN C/A +05 EX. R/W 105' RT
END C/A +80 EX. R/W
+52 132' RT
+40 105' RT
+94.48 EX. R/W
+09.39 EX. R/W
+84.90 EX. R/W
+13 124' RT
+40 114' RT
+25 102' RT
+93 EX. R/W
EXISTING R/W
8.45'

BM=11 ELEVATION = 445.25'
N 732.105 E 1,951,754
BY5 STATION 5+09.5, 119.7' RIGHT
Y11 STATION 8+24.96, 114.64' RIGHT
RAILROAD SPIKE IN 10"POPLAR

-Y11-

PI Sta 11+17.53	PI Sta 24+51.06
△ = 1° 41' 38.1" (LT)	△ = 33° 20' 02.0" (RT)
D = 0° 43' 14.5"	D = 4° 02' 05.7"
L = 235.04'	L = 826.14'
T = 117.53'	T = 425.13'
R = 7,950.00'	R = 1,420.00'
SE = EXIST	SE = EXIST
RO = EXIST	RO = EXIST

PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND
PROP. PAVEMENT REMOVAL

SEE SHEET 18 FOR -Y11- PROFILE
SEE SHEET 2B-1 FOR INTERSECTION DETAIL
SEE SHEETS 2D-1 TO 2D-3 FOR DRAINAGE DETAILS

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RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	12
R-5930 R/W SHEET NO.	4

RIGHT-OF-WAY REV.

CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS
5/14/99

K:\RAL_Roadway\011036532 - R-5930 North CPW\Roadway\Proj\R-5930B_rdy_psh_12.dgn

1/3/2025

NAD 83 /NA 2011

AREA UNDER CONSTRUCTION

BM#1 ELEVATION = 470.55'
N 721,385 E 1,955,349
BL STATION 10+13.5, 437.1' LEFT
L STATION 17+20.57, 486.05' LEFT
RAILROAD SPIKE IN 12"PINE

CHATHAM PARK INVESTORS LLC
DB 1403 PG 34
PB 35 PG 43

CHATHAM PARK INVESTORS LLC
DB 1387 PG 660
PB 2007 PG 473

-L- POC Sta.18+18.24 =
-YILPD- POT Sta. 10+00.00
Δ = 99°09'05"

-L- POC Sta.17+82.45 =
-YIRPD- POT Sta. 10+00.00
Δ = 101°19'18"

BEGIN CONSTRUCTION
-L- POT Sta. 13+44.00

195' STRIPED OUT LEFT TURN LANE

-L- CHATHAM PARK WAY

N 28°23'35.7" E

-L- PT Sta. 18+89.96

MATCHLINE -L- STA 23+00 (SEE SHEET 13)

-YIRPD- US 64 EB ON RAMP
S 56°26'41.7" E

-YILPD- US 64 EB OFF RAMP
S 56°33'53.3" E

195' STRIPED OUT THRU LANE

100' TAPER

-YIRPD- PC Sta. 13+11.03

-YILPD- POT Sta. 13+30.00

-YIRPD- PT Sta. 15+30.00

-YI- PT Sta. 19+00.00

15+00

20+00

-L- PC Sta. 10+00.00

N 85°25'49" W 554.51'

N 85°25'49" W 250.15'

S 04°44'03" W 311.25'

N 04°21'16" E 505.39'

N 85°25'59" W 533.09'

1055.86'
N 04°45'24" E

-L-
PI Sta 14+76.88
Δ = 50° 59' 26.5" (RT)
D = 5°43' 46.5"
L = 889.96'
T = 476.88'
R = 1,000.00'

-YIRPD-
PI Sta 14+23.41
Δ = 31° 45' 41.4" (LT)
D = 14° 30' 18.9"
L = 218.97'
T = 112.38'
R = 395.00'

D

★ PROP. TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	13
R-5930 R/W SHEET NO.	5

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RALEIGH, NC 27601

RIGHT-OF-WAY REV.
CONST. REV.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

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REVISIONS
5/14/99

K:\RAL_Roadway\011036532 - R-5930 North CPW\Roadway\Pro\NR-5930B_rdy_psh_13.dgn
1/3/2025

MATCHLINE -L- STA 23+00 (SEE SHEET 12)

-Y1- PC Sta. 10+00.00

-L- POT Sta. 24+21.31 =
-Y1- POC Sta. 14+11.53
△ = 106°44'32"

-YILPA- PT Sta. 15+00.00

-YILPA- PC Sta. 12+21.72

-L- POT Sta. 30+51.27 =
-YILPA- POT Sta. 10+00.00
△ = 101°43'27"

END CONSTRUCTION
-L- POT Sta. 32+00.00

-L- PC Sta. 30+96.25

-L- POT Sta. 30+79.61
△ = 101°43'27"

CHATHAM PARK INSVESTORS LLC
DB 1475 PG 311

CHATHAM PARK INSVESTORS LLC
DB 1471PG 1

CHATHAM PARK INSVESTORS LLC
DB 1393 PG 1003
PB 2005 PG 343

CHATHAM PARK INVESTORS LLC
DB 1382 PG 377
PB 4 PG 74
PB 2021PG 49
PB 2021PG 191

SUTTLES ROAD
CLOSED AND RELOCATED
AS PART OF R-5963D

R-5963D
(BY OTHERS)

R-5930A
(BY OTHERS)

CHATHAM PARK WAY

US 64 WB ON RAMP

N 28°23'35.7" E

S 04°55'26" W
178.85'

N 88°47'32" W
800.18'

S 49°52'56.9" E

N 42°21'31" W
345.85'

NAD 83 /NA 2011

BM•3 ELEVATION - 540.21'
N 722.729 E 1,956.641
BL STATION 27+08.5, 73.5' RIGHT
L STATION 34+21.49, 73.78' RIGHT
RAILROAD SPIKE IN 20"OAK

-L-
PI Sta 38+89.64
△ = 60° 30' 59.0" (LT)
D = 4° 12' 46.5"
L = 1,436.45'
T = 793.39'
R = 1,360.00'

-YILPA-
PI Sta 13+72.62
△ = 54° 58' 51.0" (RT)
D = 19° 45' 25.8"
L = 278.28'
T = 150.90'
R = 290.00'

★ PROP. TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
R-5930B	14

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLIN FAUGERSTROM
2/10/2025

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-L- STA 84+41.99=
-Y7- STA 15+78.54
ELEV = 490.24'

END TIP PROJECT R-5930A (BY OTHERS)
BEGIN TIP PROJECT R-5930B
-L- STA 87+00.00
ELEV = 491.64'

EXISTING GROUND
PROPOSED GRADE
R-5930A (BY OTHERS)
UNDERCUT EXCAVATION

PI = 91+85.00
EL = 494.31'
VC = 950'
K = 129

(+)0.5508%

(-)10.00%
(+)1.67%

BEGIN SPECIAL DITCH GRADE RT
-L- STA 90+50
ELEV = 483.50'

-L- STA 91+00 RT
ELEV = 478.50'

24" RCP

EXISTING GROUND

BM•6 ELEVATION = 445.84'
N 728,259 E 1,955,699
BL STATION 84+67.9, 331.0' LEFT
L STATION 91+56.97, 375.34' LEFT
RAILROAD SPIKE IN 13" OAK

LEGEND
DITCH GRADE LT
DITCH GRADE RT

CULVERT HYDRAULIC DATA
1 @ 24" RCP

DESIGN DISCHARGE	= 14.71 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 479.06 FT
BASE DISCHARGE	= 15.55 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 479.07 FT
OVERTOPPING DISCHARGE	= 47.61 CFS
OVERTOPPING FREQUENCY	= >100 YR
OVERTOPPING ELEVATION	= 487.35 FT

-L- CHATHAM PARK WAY

SEE SHEETS NO. 4 AND NO. 5 FOR -L- PLAN

(-)16.8364%
(+)1.67%

END SPECIAL DITCH GRADE RT
-L- STA 92+50
ELEV = 481.00'

PI = 91+85.00
EL = 494.31'
VC = 950'
K = 129

PROPOSED GRADE

-L- STA 94+35.72 =
-Y8- STA 16+19.30
ELEV = 475.21'

BEGIN SPECIAL DITCH GRADE RT
-L- STA 96+50
ELEV = 456.00'

BEGIN SPECIAL DITCH GRADE LT
-L- STA 96+50
ELEV = 444.45'

(-)19.75%
(-)22.90%
(-)16.00%
(-)13.50%

-L- STA 97+00 LT
ELEV = 433.00'

-L- STA 97+50 RT
ELEV = 446.25'

END SPECIAL DITCH GRADE LT
-L- STA 97+50
ELEV = 430.00'

-L- STA 98+50 RT
ELEV = 432.75'

(+)1.83%

24" RCP

END SPECIAL DITCH GRADE RT
-L- STA 100+00
ELEV = 435.00'

EXISTING GROUND

CULVERT HYDRAULIC DATA
1 @ 24" RCP

DESIGN DISCHARGE	= 13.43 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 434.60 FT
BASE DISCHARGE	= 14.20 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 434.74 FT
OVERTOPPING DISCHARGE	= 20.96 CFS
OVERTOPPING FREQUENCY	= >100 YR
OVERTOPPING ELEVATION	= 435.50 FT

-L- STA 105+21.53=
-Y9- STA 12+44.69
ELEV = 402.97'

PI = 109+15.00
EL = 376.04'
VC = 990'
K = 97

BEGIN SPECIAL DITCH GRADE RT
-L- STA 106+00
ELEV = 393.75'

LEGEND
DITCH GRADE LT
DITCH GRADE RT

-L- CHATHAM PARK WAY

SEE SHEET NO. 5 FOR -L- PLAN

K:\RAL_Roadway\0110536532 - R-5930 North CPW\Roadway\Pro\NR-5930B_rdy_pf1_14.dgn
1/3/2025

5/14/99

Kimley»Horn
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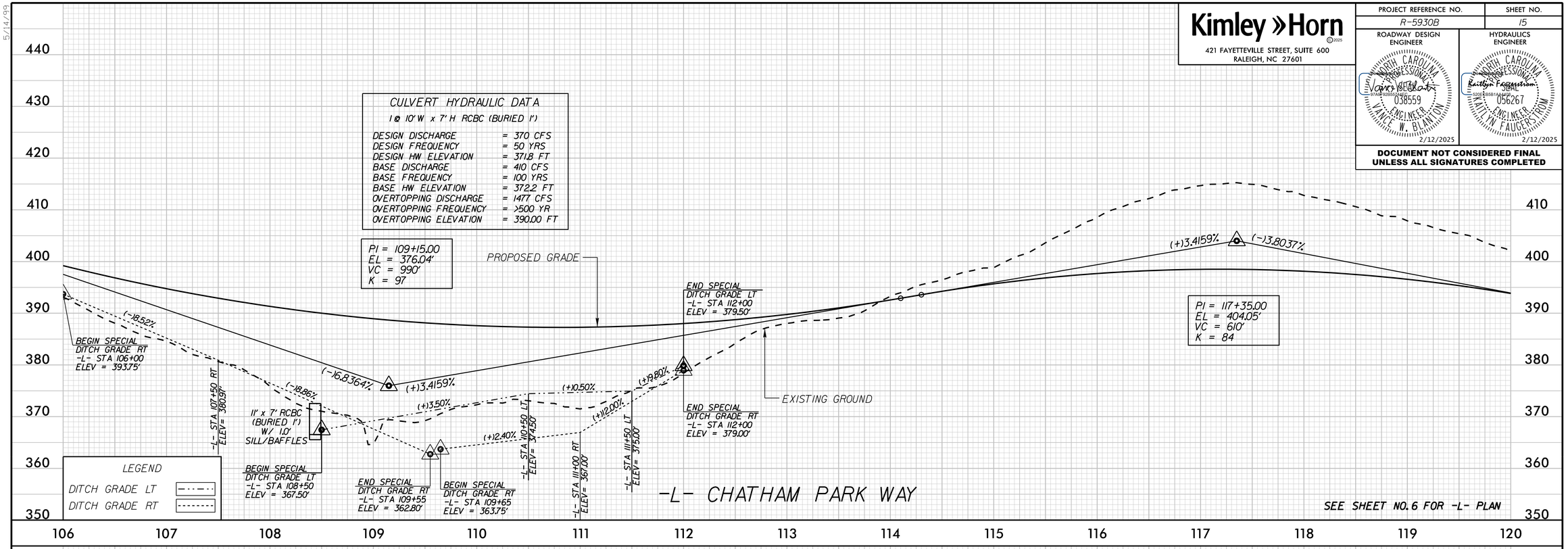
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

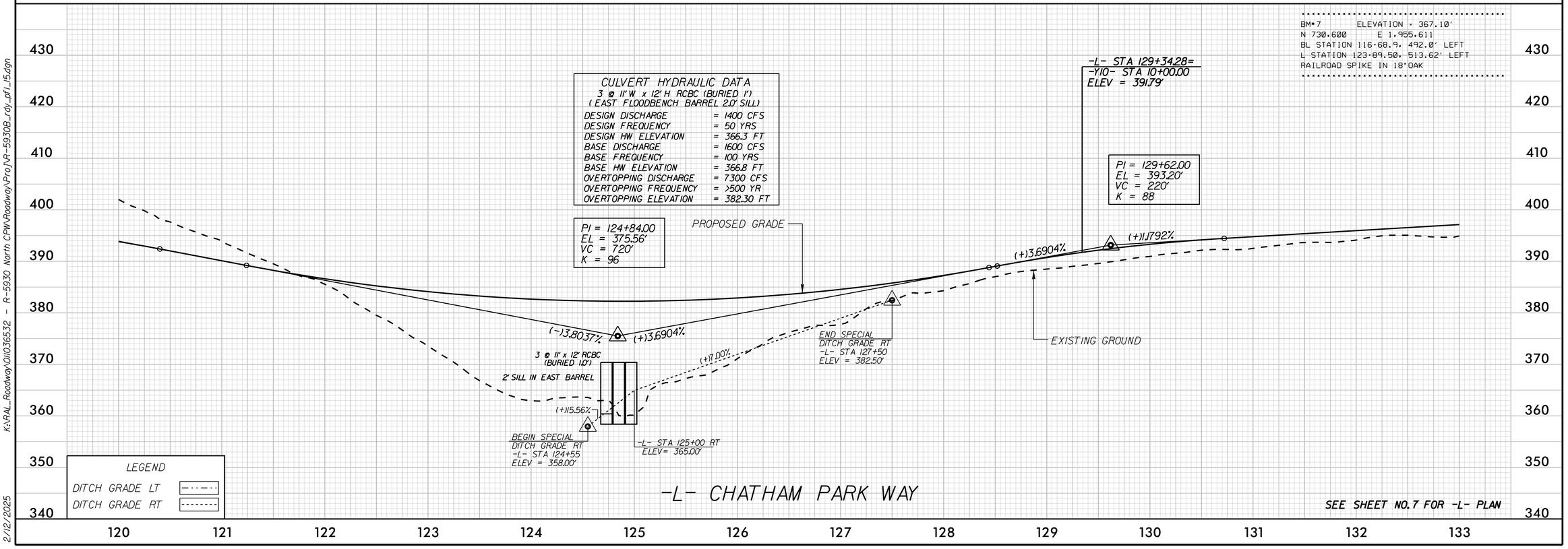
PROJECT REFERENCE NO.	SHEET NO.
R-5930B	15

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/12/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/12/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





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2/12/2025

5/14/99

BM#8 ELEVATION = 423.40'
N 732,383 E 1,954,368
BL STATION 137+94.0, 408.5' RIGHT
L STATION 145+97.35, 451.6' RIGHT
RAILROAD SPIKE IN 15" PINE

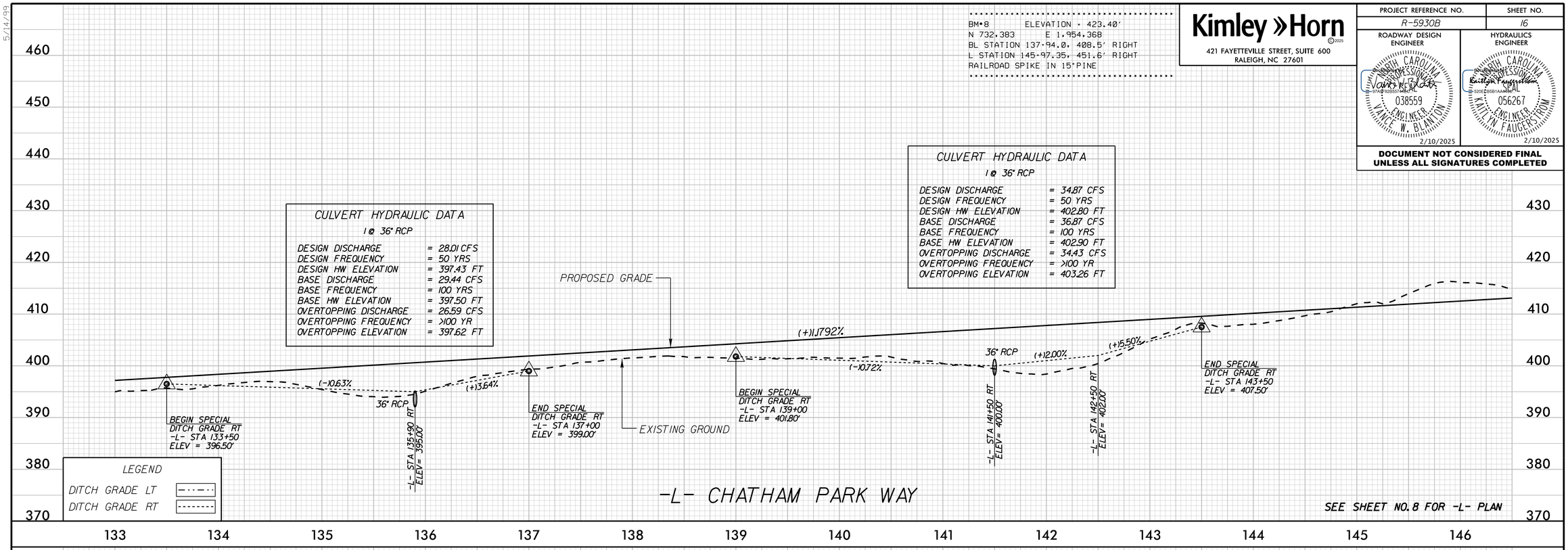
Kimley»Horn © 2025
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601

PROJECT REFERENCE NO.	SHEET NO.
R-5930B	16

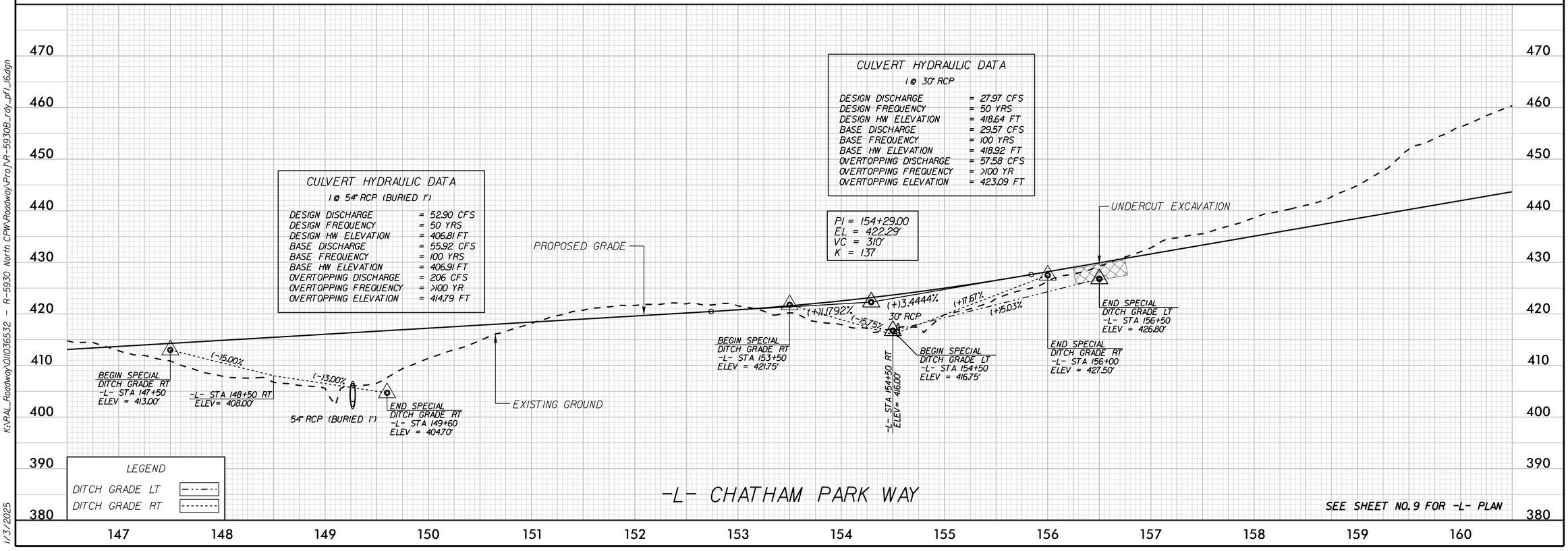
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 038559 ENGINEER VANCE W. BLANTON
2/10/2025

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 056267 ENGINEER KAITLYN FAUGERSTROM
2/10/2025

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



SEE SHEET NO. 8 FOR -L- PLAN



SEE SHEET NO. 9 FOR -L- PLAN

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1/31/2025