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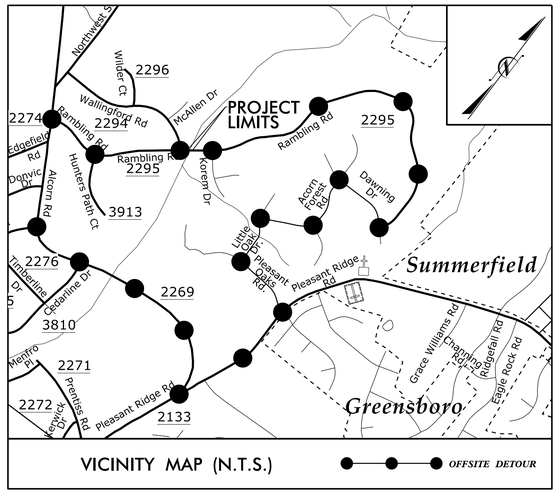
09/08/99

WBS PROJECT: 17BP.7.C.20

CONTRACT:

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



100% SUBMITTAL

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

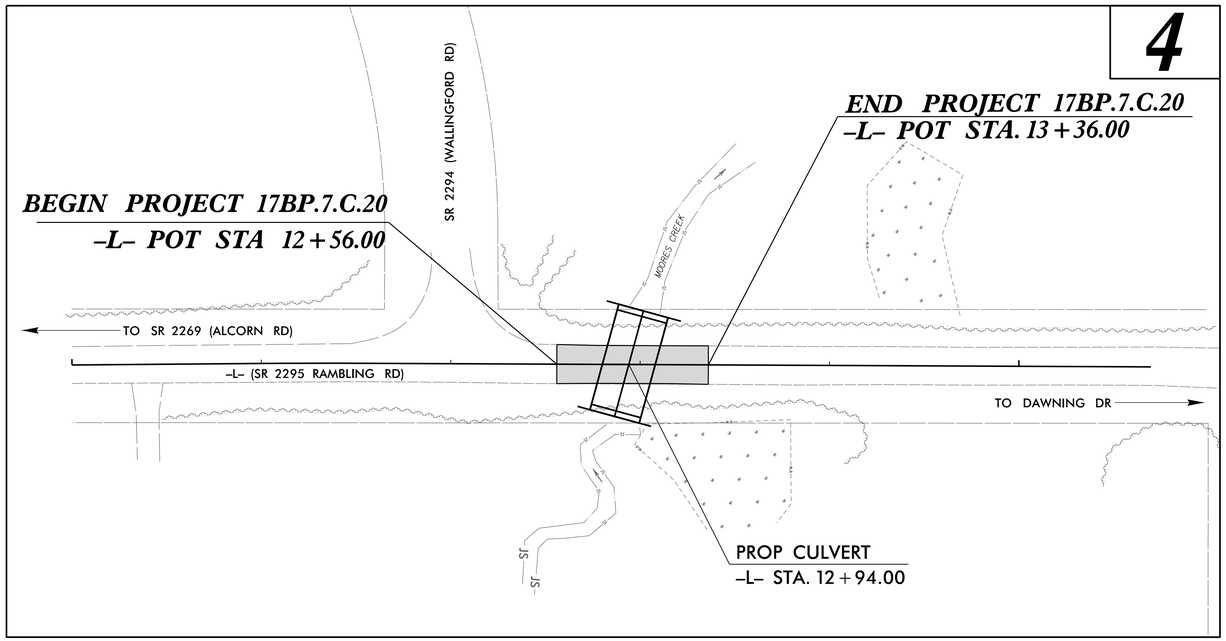
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.7.C.20	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
17BP.7.PE.20		PE
17BP.7.ROW.20		ROW/UTIL
17BP.7.C.20		CONSTRUCTION

LOCATION: REPLACE PIPE #40 2184 ON SR 2295 (RAMBLING RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT

4



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GRAPHIC SCALES

20 10 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 2 0 4 8
PROFILE (VERTICAL)

DESIGN DATA

ADT 2022 = 590
ADT 2042 = 720
V = 40MPH

FUNC CLASS = LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY WBS PROJECT 17BP.7.C.20 = 0.010 MI

LENGTH OF STRUCTURE WBS PROJECT 17BP.7.C.20 = 0.005 MI

TOTAL LENGTH WBS PROJECT 17BP.7.C.20 = 0.015 MI

Prepared in the Office of:
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JUNE 2, 2022

LETTING DATE: MAY 16, 2023

BRIAN P. BLACKWELL, PE
PROJECT ENGINEER

TIM POWERS, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

DocuSigned by: Galen Cail 09F0D7D90411405...
10/6/2022
P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 022000 ENGINEER GALEN CAIL

ROADWAY DESIGN ENGINEER

DocuSigned by: Brian Blackwell 0C4D73BE1E8D4B7...
10/6/2022
P.E.
SIGNATURE:

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BRIAN P. BLACKWELL

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

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HNTB

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER BLACKWELL 10/6/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

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 II.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

COMMUNICATIONS – AT&T
COMMUNICATIONS – SPECTRUM
GAS – PNG

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT–OF–WAY MARKERS:

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

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	
200.02	METHOD OF CLEARING – METHOD II
225.02	GUIDE FOR GRADING SUBGRADE – SECONDARY AND LOCAL
225.04	METHOD OF OBTAINING SUPERELEVATION – TWO LANE PAVEMENT
DIVISION 3 – PIPE CULVERTS	
300.01	METHOD OF PIPE INSTALLATION
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	METHOD OF SHOULDER CONSTRUCTION – HIGH SIDE OF SUPERELEVATED CURVE – METHOD I
DIVISION 8 – INCIDENTALS	
876.01	RIP RAP IN CHANNELS

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9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	1B

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY & PROJECT CONTROL:

- 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 — RW
- Existing Control of Access Line — CA
- Proposed Control of Access Line — CA
- Proposed ROW and CA Line — RW CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage/Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE

ROADS AND RELATED FEATURES:

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

VEGETATION:

- Single Tree
- Single Shrub
- Hedge

- Woods Line
- Orchard
- Vineyard — Vlneyard

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

** 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 — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H–Frame Pole
- U/G Power Line Test Hole (SUE – LOS A)*
- U/G Power Line (SUE – LOS B)* — P
- U/G Power Line (SUE – LOS C)* — P
- U/G Power Line (SUE – LOS D)* — P

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

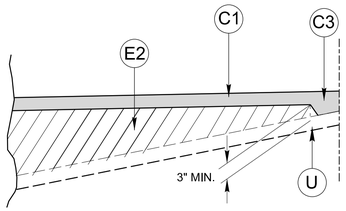
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line (SUE – LOS B)* — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- Abandoned According to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

8/17/99

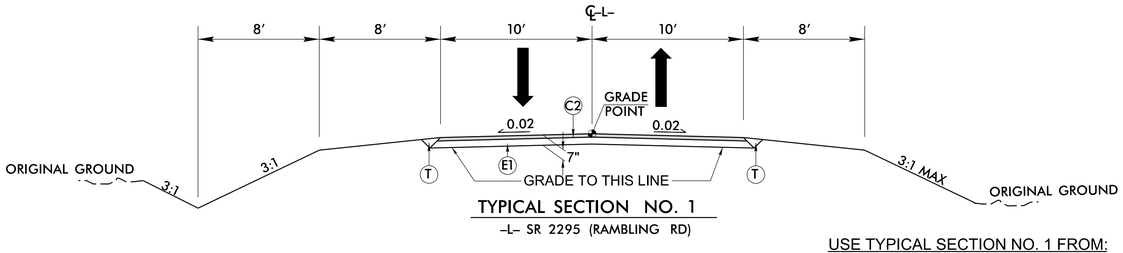
PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ.YD.
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE TYPE S9.5C, AT AN AVERAGE RATE OF 224 LBS. PER SQ.YD.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ.YD
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING BITUMINOUS PAVEMENT 1.5" DEPTH
W	PAVEMENT WEDGING (SEE WEDGING DETAIL)

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

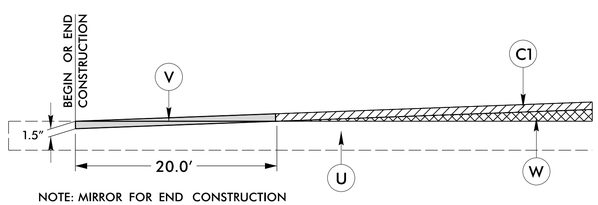


DETAIL SHOWING METHOD OF WEDGING
USE WITH TYPICAL SECTION 1



TYPICAL SECTION NO. 1
–L– SR 2295 (RAMBLING RD)

USE TYPICAL SECTION NO. 1 FROM:
-L- STA 12+56.00 TO STA 13+36.00



NOTE: MIRROR FOR END CONSTRUCTION

MILLING DETAIL

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	2A–1
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 043122 ENGINEER JOHN P. BLACKWELL
10/6/2021

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12/06/07

COMPUTED BY: TAR DATE: 6/24/22
CHECKED BY: BPB DATE: 6/27/22

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	3B–1

SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
–L– STA. 12+56.00	–L– STA. 13+36.00	38	42	4	
TOTALS:		38	42	4	
PROJECT TOTALS:		38	42	4	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT					
GRAND TOTALS:		38	42	4	
SAY:		40		5	

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

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

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD²
–L–	12+56.00	13+36.00	CL	181.54
			TOTAL:	181.54
			SAY:	190

ROW AREA DATA SUMMARY

PARCEL NO.	PROPERTY OWNERS NAMES	PROP. R/W	PERM. UTILITY EASE.	PERM. DRAIN. EASE.	PERM. DRAINAGE UTILITY EASE.	CONST. EASE.
1	RICHARD E JOHNSON			1785.85 SF		
2	KEVIN & DEBORAH J DEVINE			412.64 SF		
2Z	KEVIN & DEBORAH J DEVINE			235.72 SF		
3	KEITH B PRICE, JR & WIFE NANETTE HURLEY PRICE			506.46 SF		
4	TALENA M COBLE			714.65 SF		

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 54" & OVER)

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CAAP SIZE: 54" 60" 66" 72" 78" 84" 90" 96"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHERWISE) SIZE: 54" 60" 66" 72" 78" 84" 90" 96"	CLASS IV R.C. PIPE OR C.S. PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D				ENDWALLS: STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS: STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A: 5.0' THRU 10.0'	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. B: 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G		D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	T.B.D.I. (N.S.) FRAME AND TWO GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	TB GRATED D.I., TYPE 'B' STD. 840.35					CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
–L– 12+90.30	CL																																					61′	REMOVE EXIST 90" CMP
–L– 13+01.62	CL																																					62′	REMOVE EXIST 90" CMP
TOTAL																																						123′	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

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HNTB

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.7.C.20	RW01	4

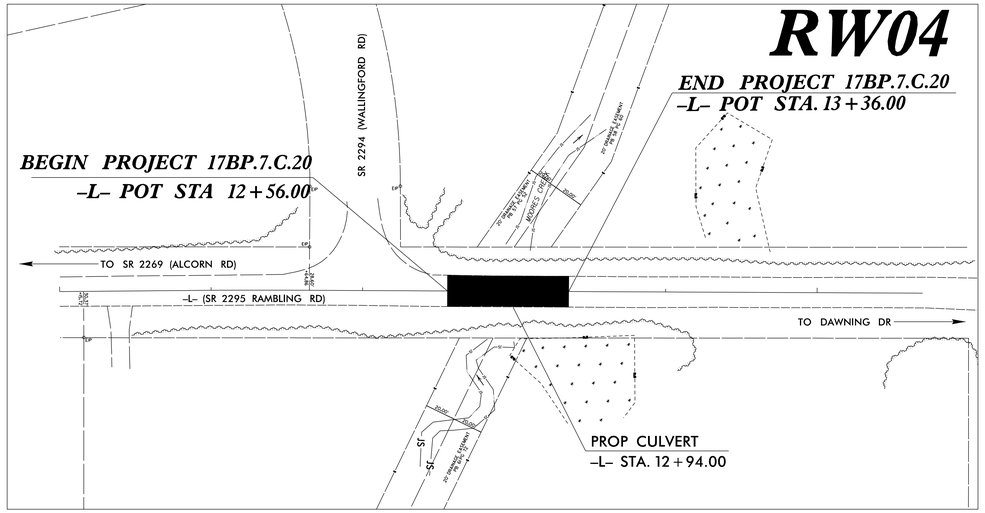
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES, RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

GUILFORD COUNTY

TIP PROJECT: 17BP.7.C.20

NAD 83/ NSRS 2007



GRAPHIC SCALE

50 25 0 50 100

PLANS

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY CH ENGINEERING FOR MONUMENT "BL-101" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 874,017.4136(ft) EASTING: 1,719,370.7535(ft) ELEVATION: 897.04(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999956867 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-101" TO -L- STATION 12+56.00 IS N 50-21'41.1" E 741.85(ft) ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Prepared In the Office of:

GEL Engineering of NC, Inc. DBA

GEL SOLUTIONS

an Affiliate of THE GEL GROUP, INC.

111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	*LETTING DATE:*
06/02/2022	*09/01/2022*

PROFESSIONAL LAND SURVEYOR

NORTH CAROLINA GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H. ICENHOUR, JR.

Date: 2022.09.06 16:19:10 -04'00'

SIGNATURE: *Date:*

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

6/2/99

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW02C-1

Location and Surveys

GEL SOLUTIONS
an Affiliate of THE GEL GROUP, INC.
111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H ICENHOUR

NORTH CAROLINA GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

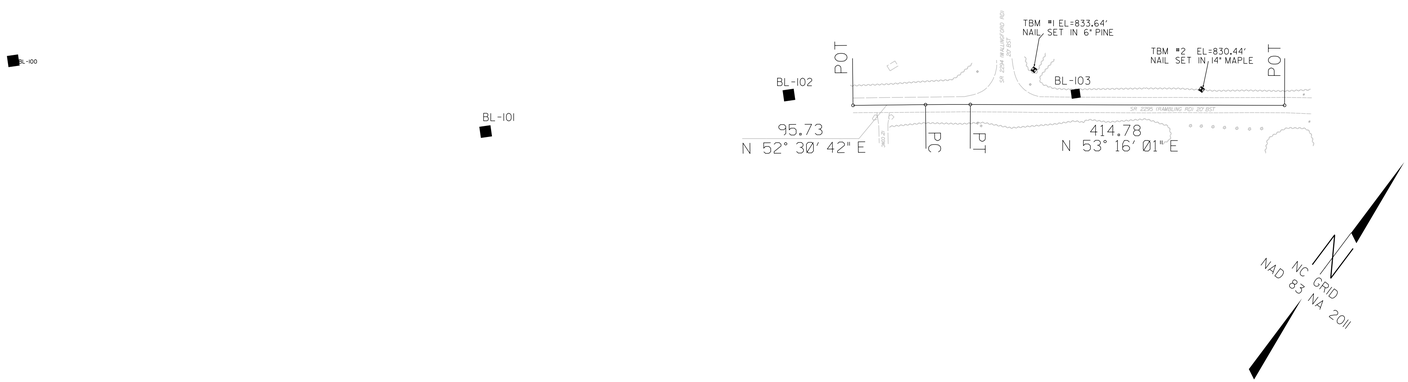
I, Parks H Icenhour Jr, PLS, certify that the Project Control was performed by other from an actual GPS survey made by others and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure:
Dates of survey: Unknown
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A[Project Control if applicable, N/A for RTN]
Localized around: BL-101
Northing:874017.4136
Easting:1719370.7535
Combined grid factor:0.999956867
Geoid model:12BNC
Units:FEET

This 6th day of September, 2022.

Date: 2022.09.06 16:22:17 -04'00'

Professional Land Surveyor L-3996



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY CH ENGINEERING FOR MONUMENT "BL-101" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 874017.4136(ft) EASTING: 1719370.7535(ft) ELEVATION: 897.04(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999956867
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-101" TO -L- STATION IS

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

SEE SHEET RW02C-3
FOR FURTHER
ALIGNMENT DETAILS

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

06-SEP-2022 08:24
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Andy Smith AT ANDYSMITH

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

BL

POINT	DESC.	NORTH	EAST	ELEVATION
100	BL-100	873717.7153	1718815.9527	907.03
101	BL-101	874017.4136	1719370.7535	897.04
102	BL102	874296.2986	1719661.9903	863.76
103	BL103	874525.0038	1719963.6163	831.02

****

BM1 ELEVATION = 833.64
N 874517 E 1719901
NAIL IN 6" PINE

****

****

BM2 ELEVATION = 830.44
N 874629 E 1720093
NAIL IN 14" MAPLE

****

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW02C-2

Location and Surveys

GEL SOLUTIONS
an Affiliate of THE GEL GROUP, INC.
111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H ICENHOUR JR

GEL ENGINEERING OF NC, INC NO. C-1938 CERTIFICATE OF AUTHORIZATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, Parks H Icenhour Jr, PLS, certify that the Project Control was performed by others from an actual GPS survey made by others and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure:
Dates of survey: Unknown
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A
Localized around: BL-101
Northing:874017.4136
Easting:1719370.7535
Combined grid factor:0.999956867
Geoid model:12BNC
Units:FEET

This 6TH day of September, 2022.

Parks H Icenhour Jr Date: 2022.09.06 16:18:13 -04'00'

Professional Land Surveyor L-3996

SEE SHEET RW02C-3
FOR FURTHER
ALIGNMENT DETAILS

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

06-SEP-2022 14:01
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Andy Smith AT ANDYSMITH

6/2/99

REVISIONS

SURVEY CONTROL SHEET

W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW02C-3

Location and Surveys

GEL SOLUTIONS
an Affiliate of THE GEL GROUP, INC.
111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H ICENHOUR JR

GEL ENGINEERING OF NC, INC NO. C-1938 CERTIFICATE OF AUTHORIZATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

POINT	N	E	BEARING	DIST	DELTA	D	L	T	R
EL									
POT	874336.246	1719737.873							
LINE			N 52°30'42.2" E	95.73					
PC	874394.507	1719813.834							
CURVE			N 52°53'21.6" E	59.19	00°45'18.9"(RT)	01°16'33.5"	59.19	29.60	4490.37
PT	874430.219	1719861.035							
LINE			N 53°16'01.0" E	414.78					
POT	874678.297	1720193.456							

I, Parks H Icenhour Jr, PLS, certify that the Project Control was performed by others from an actual GPS survey made by others and the following information was used to perform the survey:

Class of survey: ***AA***
Type of GPS field procedure:
Dates of survey: Unknown
Datum/Epoch:NAD83/NA2011
Published/Fixed-control use: N/A
Localized around: BL-101
Northing:874017.4136
Easting:1719370.7535
Combined grid factor:0.999956867
Geoid model:12BNC
Units:FEET

This 6TH day of September, 2022.

Date: 2022.09.06 16:21:54 -04'00'

Professional Land Surveyor L-3996

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

06-SEP-2022 14:05
C:\40-2184\rwsheets\17BP7.C.20_LS_rw02c-3.dgn
Andy Smith AT ANDYSMITH

PROPOSED ALIGNMENT CONTROL SHEET

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	874336.2458	1719737.8734
PC	10+95.73	874394.5074	1719813.8336
PT	11+54.92	874430.2195	1719861.0352
POT	15+69.70	874678.2970	1720193.4564

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW02D-1

Location and Surveys

NC Engineering of NC Inc. 2664

GEL SOLUTIONS

an Affiliate of THE GEL GROUP, INC.

111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H ICENHOUR JR

NORTH CAROLINA GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I, Parks H Icenhour Jr, PLS, certify that the data compiled came from available surveys/mapping performed by others and provided to me by NCDOT and do not certify to the accuracy or quality of the individual data sources.

This 6th day of September, 2022.

Date: 2022.09.06 16:18:41 -04'00'

Professional Land Surveyor L-3996

NOTES:

1. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.

2. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

REVISIONS

06-SEP-2022 06:25
C:\Users\ASMITH\DOCUMENTS\NCDOT - 2022 Projects\ncdot04922 p5709_402184_con_gel\Submittal\40-2184_LS_rw02d-1.dgn
Andy Smith AT ANDYSMITH

RIGHT OF WAY CONTROL SHEET

PERMANENT EASEMENT-E REBAR AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+60.00	31.01	874468.2142	1719963.7960
L	12+60.00	56.00	874448.1863	1719978.7423
L	12+66.00	-29.02	874519.9085	1719932.7044
L	12+66.00	-51.00	874537.5279	1719919.5555
L	12+85.00	-70.00	874564.1188	1719923.4190
L	12+86.00	56.00	874463.7366	1719999.5795
L	13+15.00	45.00	874489.8969	1720016.2420
L	13+15.00	30.79	874501.2882	1720007.7409
L	13+30.00	-70.00	874591.0327	1719959.4834
L	13+30.00	-29.28	874558.3947	1719983.8404

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW03E-1

Location and Surveys

GEL Engineering of NC, Inc. DBA

GEL SOLUTIONS

an Affiliate of THE GEL GROUP, INC.

111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL SEAL L-3996 LAND SURVEYOR PARKS H. ICENHOUR JR.

NORTH CAROLINA GEL ENGINEERING OF NC, INC. NO. C-1938 CERTIFICATE OF AUTHORIZATION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , Parks H Icenhour Jr , certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 8/02/2022 to 8/08/2022, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 6th day of September, 2022.

Date: 2022.09.06 16:21:13 -04'00'

Professional Land Surveyor L-3996

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 08/02/2022 TO 08/08/2022 .

REVISIONS

06-SEP-2022 06:28
C:\Users\ASMITH.RW\NCDOT\NCDOT - 2022 Projects\hcdt04922 p5709_402184.con_gel\Submittal\40-2184_LS_rw03e-1.dgn
Andy Smith AT ANDYSMITH

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	RW04

Location and Surveys

GEL SOLUTIONS
an Affiliate of THE GEL GROUP, INC.
111 CREEK RIDGE ROAD
SUITE C
GREENSBORO,NC 27406
(336) 516-9840
WWW.GEL-SOLUTIONS.COM

PROJECT SURVEYOR

NORTH CAROLINA PROFESSIONAL LAND SURVEYOR SEAL L-3996 PARKS H ICENHOUR JR

GEL ENGINEERING OF NC, INC. NO. C-1938 NORTH CAROLINA CERTIFICATE OF AUTHORIZATION

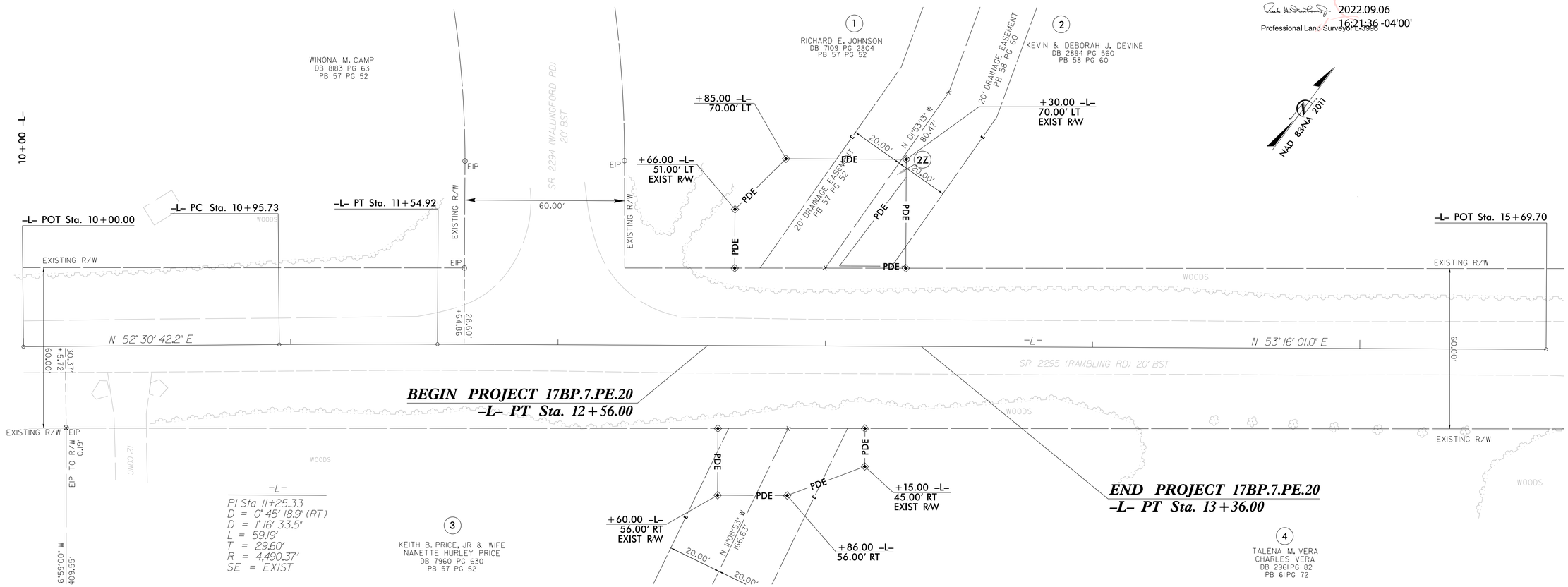
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

I , Parks H Icenhour Jr , certify that the right of way and permanent easement monumentation for this project shown herein was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:10,000 (Class A). Field work was performed from 8/2/2022 to 8/8/2021, and all coordinates are based on NAD83/2011; That this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 6th day of September, 2022.

Date: 2022.09.06 16:21:36 -04'00'

Professional Land Surveyor L-3996



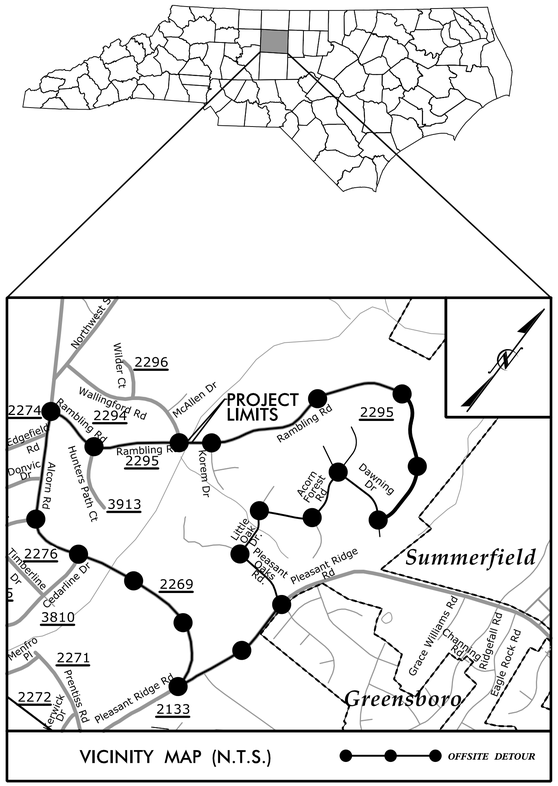
NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
2. PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
3. RIGHT OF WAY MONUMENTATION ESTABLISHED 08/02/2022 TO 08/08/2022.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

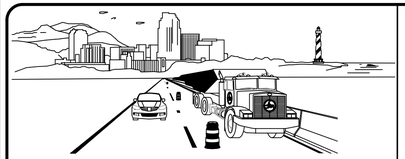
TRANSPORTATION MANAGEMENT PLAN

GUILFORD COUNTY



LOCATION: REPLACE PIPE #40 2184 ON SR 2295 (RAMBLING RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT



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

PLANS PREPARED BY:	*NCDOT CONTACTS:*
HELEN SHYU, P.E.	DAWN MCPHERSON
PROJECT ENGINEER	*DIV TRAFFIC ENGINEER*
JESSICA ISZCZYSZYN, P.E.	
PROJECT DESIGN ENGINEER	

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

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1A	GENERAL NOTES AND PHASING
TMP-2	RAMBLING ROAD DETOUR
TMP-2A	TEMPORARY SIGN DESIGN

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - 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
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)

LEGEND

GENERAL

NORTH ARROW

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY SIGNING

STATIONARY SIGN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Ste 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: DocuSigned by: Helen Shyu 0F15975A95E44EF...

DATE: 10/5/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042517 ENGINEER HELEN SHYU

SHEET NO.
TMP-1

17BP.7.C.20

TIP PROJECT:

12:36:18 P.M.
...\TCP\17BP.7.C.6_tc_TMP-01.dgn
10/5/2022

PROJ. REFERENCE NO.	SHEET NO.
17BP.7.C.20	TMP-1A

GENERAL NOTES

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

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

LANE AND SHOULDER CLOSURE REQUIREMENTS

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

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN ON TMP-2.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

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

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKING AND MARKERS

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

ROAD NAME	MARKING	MARKERS
SR 2295 (RAMBLING ROAD)	THERMO	RAISED

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

I) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS.

J) PASSING ZONE WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PHASING

PHASE I

PRIOR TO ANY CONSTRUCTION OPERATIONS, PLACE AND COVER OFF-SITE DETOUR SIGNS AS SHOWN ON TMP-2 AND IN ACCORDANCE WITH RSD 1101.03 (SHEET 1 AND 2 OF 9).

PHASE II

USING OFF-SITE DETOUR, UNCOVER DETOUR SIGNS, CLOSE -L- (SR 2295/RAMBLING ROAD) TO TRAFFIC AND CONSTRUCT PROPOSED DRAINAGE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF SURFACE COURSE.

PHASE III

UPON COMPLETION OF DRAINAGE AND ROADWAY, PLACE FINAL PAVEMENT MARKINGS AND MARKERS IN ACCORDANCE WITH RSD 1205.01, 1205.02, 1205.12, 1250.01, AND 1251.01. REMOVE BARRICADES AND DETOUR SIGNS, AND OPEN -L- (SR 2295/RAMBLING ROAD) TO TRAFFIC.

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: Docusigned by: Helen Shyu DF15975A95E44EF

DATE: 10/5/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042517 ENGINEER HELEN SHYU

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TRANSPORTATION MANAGEMENT PLAN

GENERAL NOTES AND PHASING

12:36:20 PM
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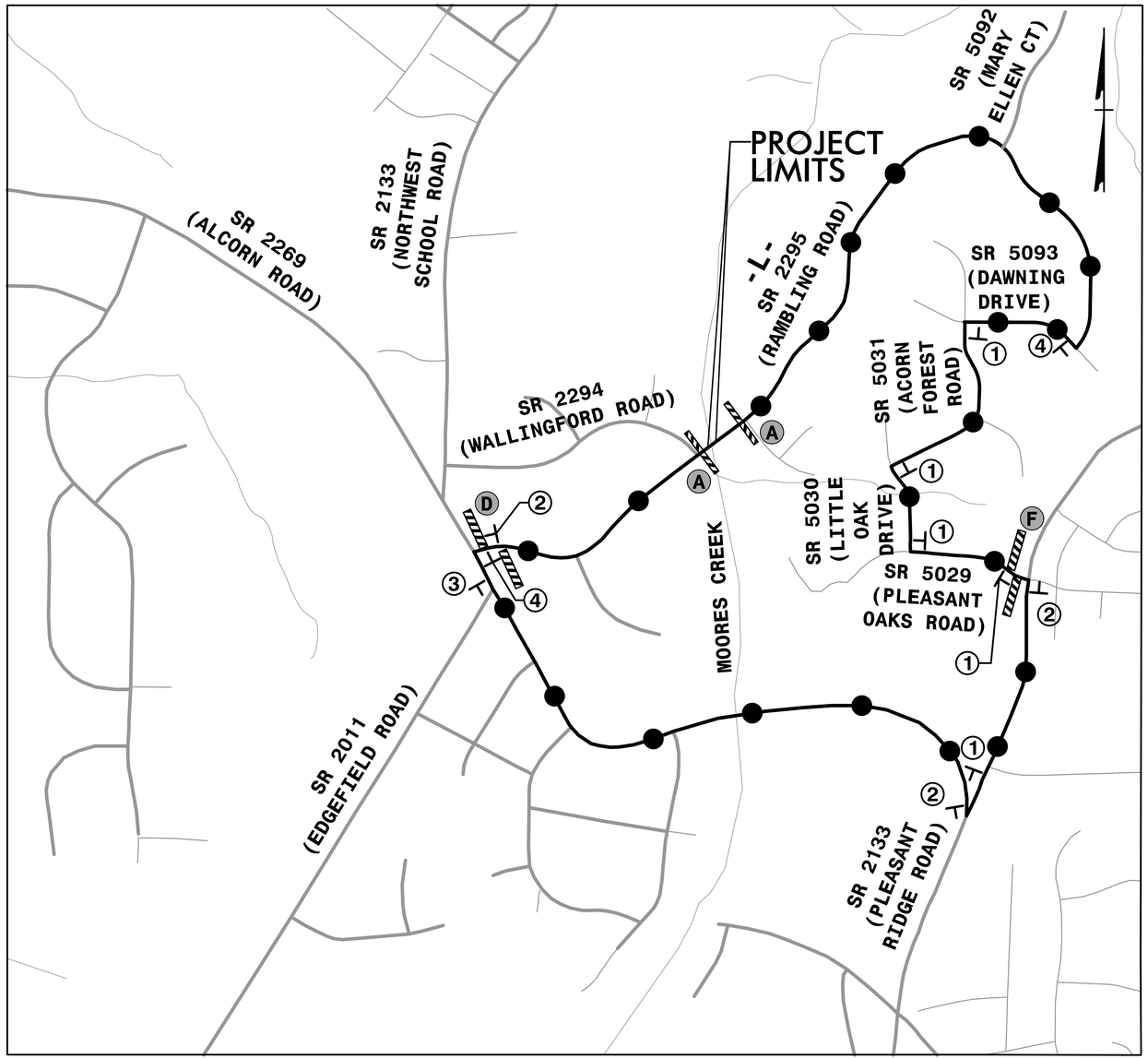
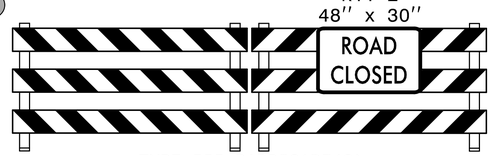
10/5/2022

PROJ. REFERENCE NO.	SHEET NO.
17BP.7.C.20	TMP-2



SEE RSD 1101.03 (SHEET 1 AND 2 OF 9) FOR ADDITIONAL TRAFFIC CONTROL DEVICES

A R11-2 48″ x 30″



TYPE III BARRICADE(S)

D R11-4 60″ x 30″

M4-10R 48″ x 18″

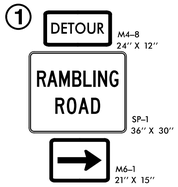
TYPE III BARRICADE

F R11-3 60″ x 30″

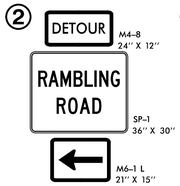
M4-10L 48″ x 18″

TYPE III BARRICADE

1



2



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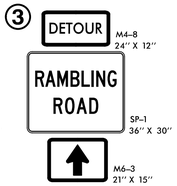


4

APPROVED: Docusigned by: Helen Shyu DF15075A95E44EF

DATE: 10/5/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042517 ENGINEER HELEN SHYU

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TRANSPORTATION MANAGEMENT PLAN

RAMBLING ROAD DETOUR

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

12:36:23 PM
...\17BP.7.C.6_tc_TMP-02_Rambling.dgn
10/5/2022

PROJ. REFERENCE NO.	SHEET NO.
17BP.7.C.20	TMP-2A

SIGN NUMBER: SP-1
TYPE: D
QUANTITY: 9

SIGN WIDTH: 3'-0"
HEIGHT: 2'-6"
TOTAL AREA: 7.5 Sq.Ft.

BORDER TYPE: RECESSED
RECESS: 0.38"
WIDTH: 0.38"
RADII: 1.5"

NO. Z BARS: N/A
LENGTH: N/A

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080" ALUMINUM

NOTES:

1. Legend and border shall be direct applied non-reflective sheeting.
2. Background shall be Grade B, fluorescent orange, reflective sheeting.
3. To be mounted with Detour signing.

DESIGN BY: TRT CHECKED BY: ADK
PROJECT ID: 17BP.7.C.20 DIV: 07 DATE: October 2022

Spacing Factor is 1 unless specified otherwise
Spacing Factor for "RAMBLING" is 0.7

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
	3	R 3.7	A 4.4	M 4.9	B 4.1	L 3.6	I 1.8	N 4.2	G 3.4	3																	C 2000 30.1
		R 9.7	O 4.3	A 4.3	D 4.7	3.4	9.7																				C 2000 16.6

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: DocuSigned by: Helen Shyu DF15975A95E44EF
DATE: 10/5/2022
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042517 ENGINEER HELEN SHYU

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

TRANSPORTATION MANAGEMENT PLAN

TEMPORARY SIGN DESIGN

12:36:33 PM
...\17BP.7.C.6_tc_TMP-02A_Temp-Sign-Dsn.dgn
10/5/2022

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.7.C.20	EC-1	

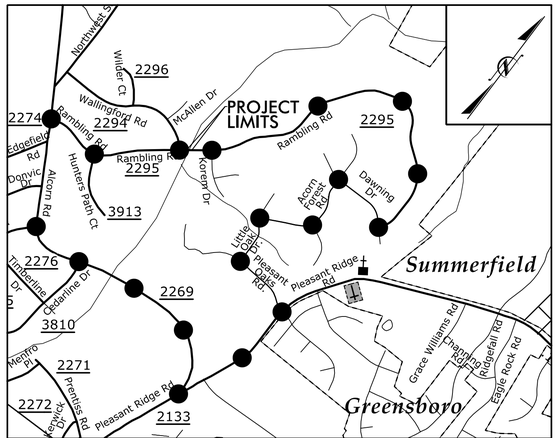
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

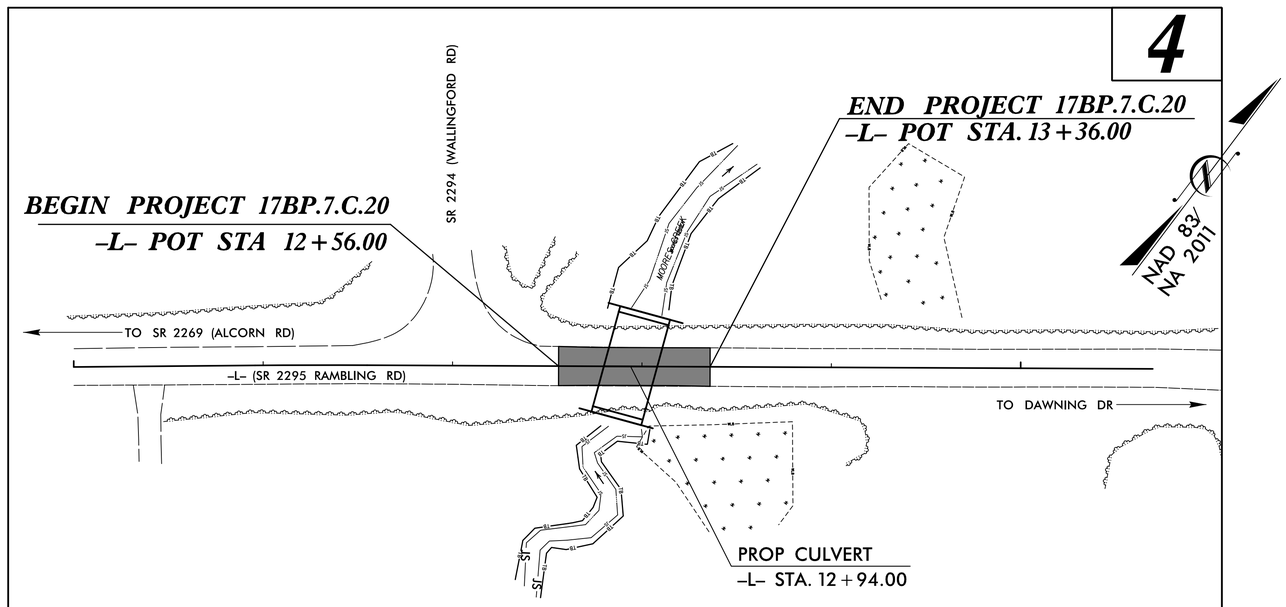
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
GUILFORD COUNTY

LOCATION: REPLACE PIPE #40 2184 ON SR 2295 (RAMBLING RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND CULVERT

TIP PROJECT: 17BP.7.C.20





EROSION AND SEDIMENT CONTROL MEASURES

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

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE

50 25 0 50 100

PLANS

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

HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
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Prepared In the Office of:

HNTB HNTB NORTH CAROLINA, P.C.
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NC License No: C-1554

Designed by:

NATALIE CHAN, P.E. *3444*

NAME *LEVEL III CERTIFICATION NO.*

Roadway Standard Drawings

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

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

6/27/2022
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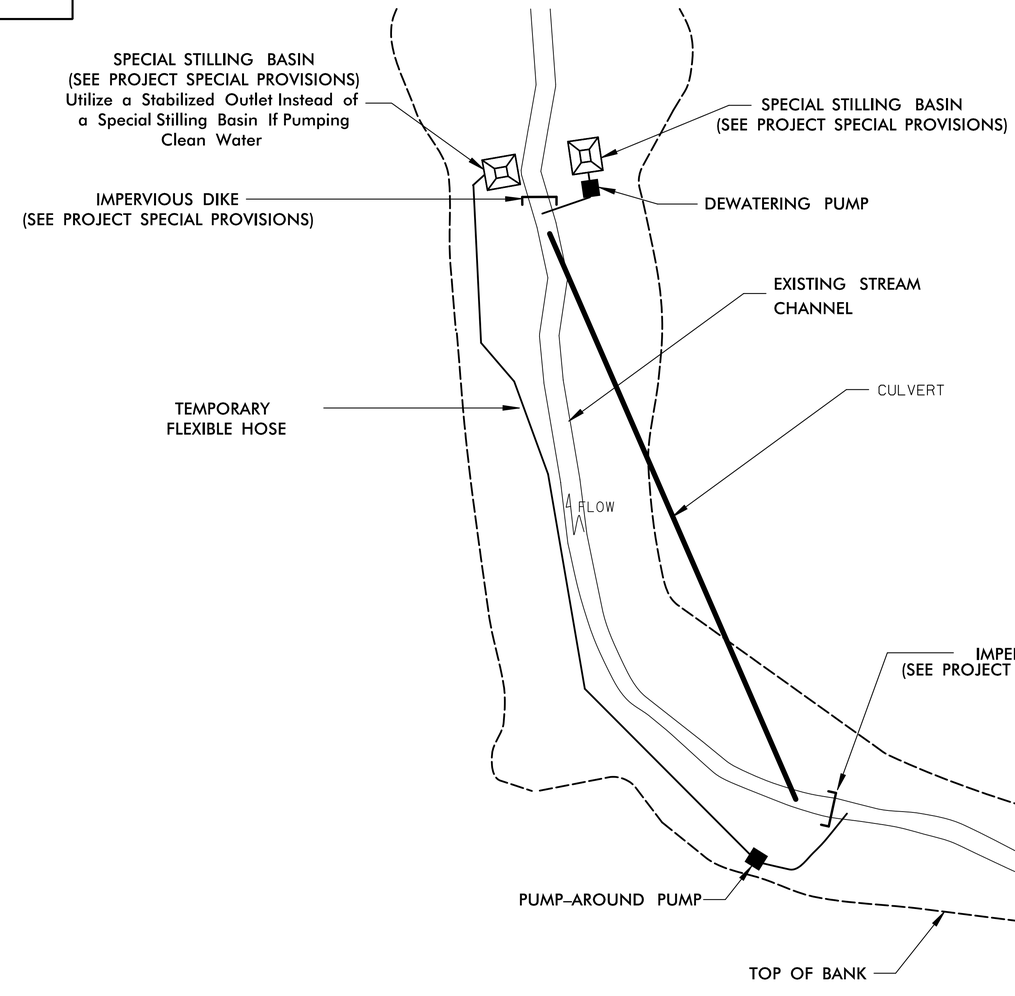
PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

EXAMPLE OF PUMP–AROUND OPERATION

NOTES:
1) All excavation shall be performed in only dry or isolated areas of the work zone.
2) Impervious dikes are to be used to isolate work from stream flow when necessary.
3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
4) Pumps and hoses shall be of sufficient size to dewater the work area.

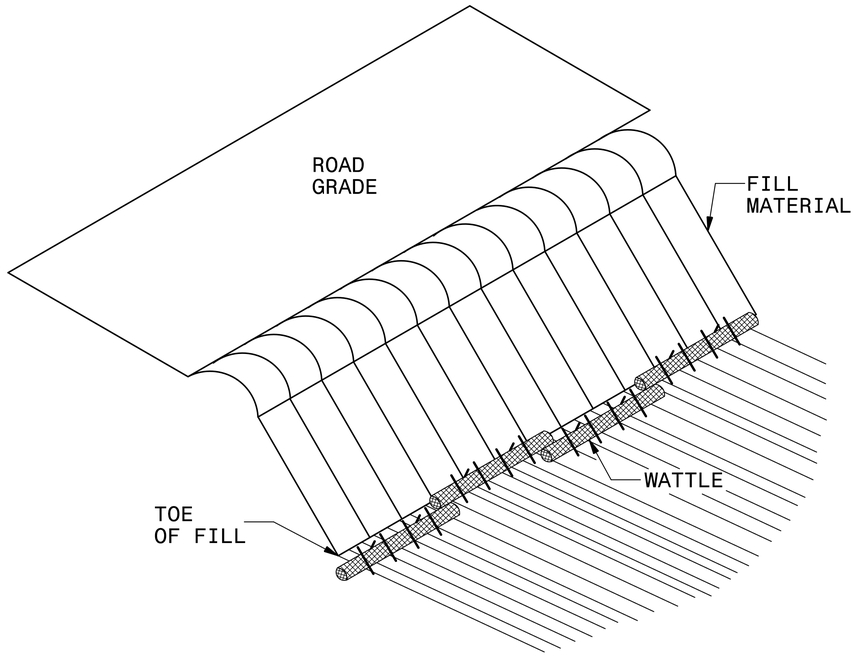


SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

WATTLE BARRIER DETAIL



ISOMETRIC VIEW

NOTES:

USE MINIMUM 18 IN. NOMINAL DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 2 TO 3 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLES ON TOE OF SLOPE.

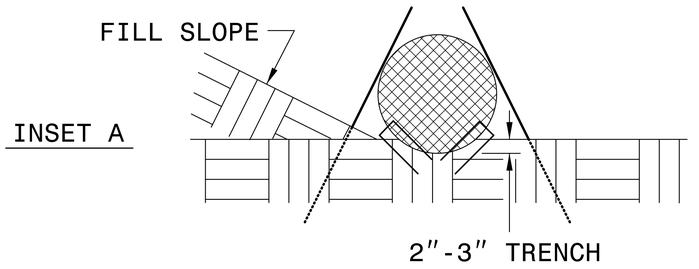
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

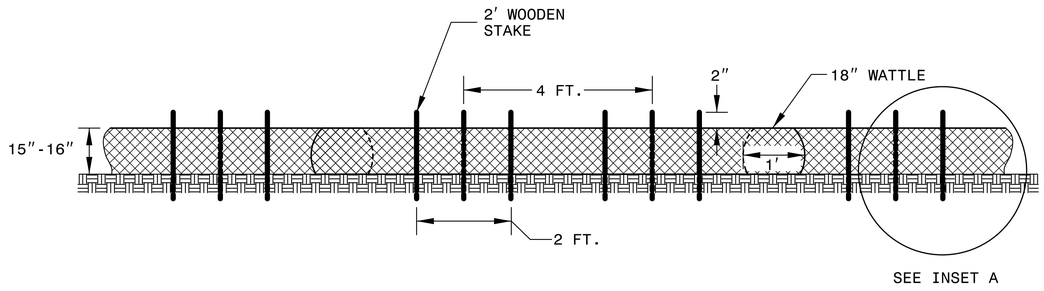
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

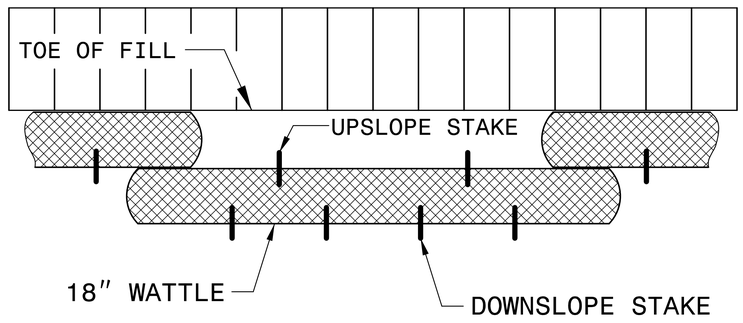
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

FOR BREAKS ALONG LARGE SLOPES, USE MAXIMUM SPACING OF 25 FT.





FRONT VIEW



TOP VIEW

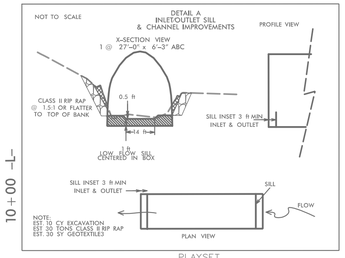
PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

8/17/99



CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

HNTB NORTH CAROLINA, P.C.
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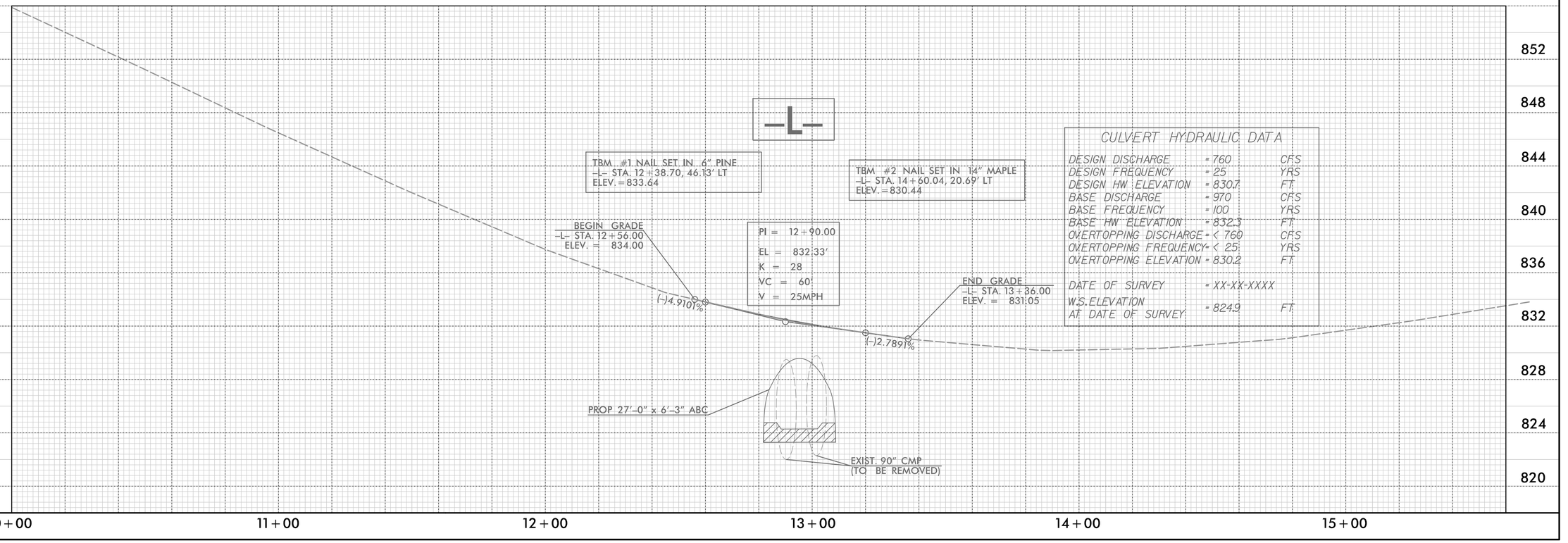
NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 760	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 830.7	FT
BASE DISCHARGE	= 970	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 832.3	FT
OVERTOPPING DISCHARGE	= < 760	CFS
OVERTOPPING FREQUENCY	= < 25	YRS
OVERTOPPING ELEVATION	= 830.2	FT
DATE OF SURVEY	= XX-XX-XXXX	
W.S. ELEVATION AT DATE OF SURVEY	= 824.9	FT

10/4/2022
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HNTB

CULVERT CONSTRUCTION SEQUENCE STA. 12+94 –L–

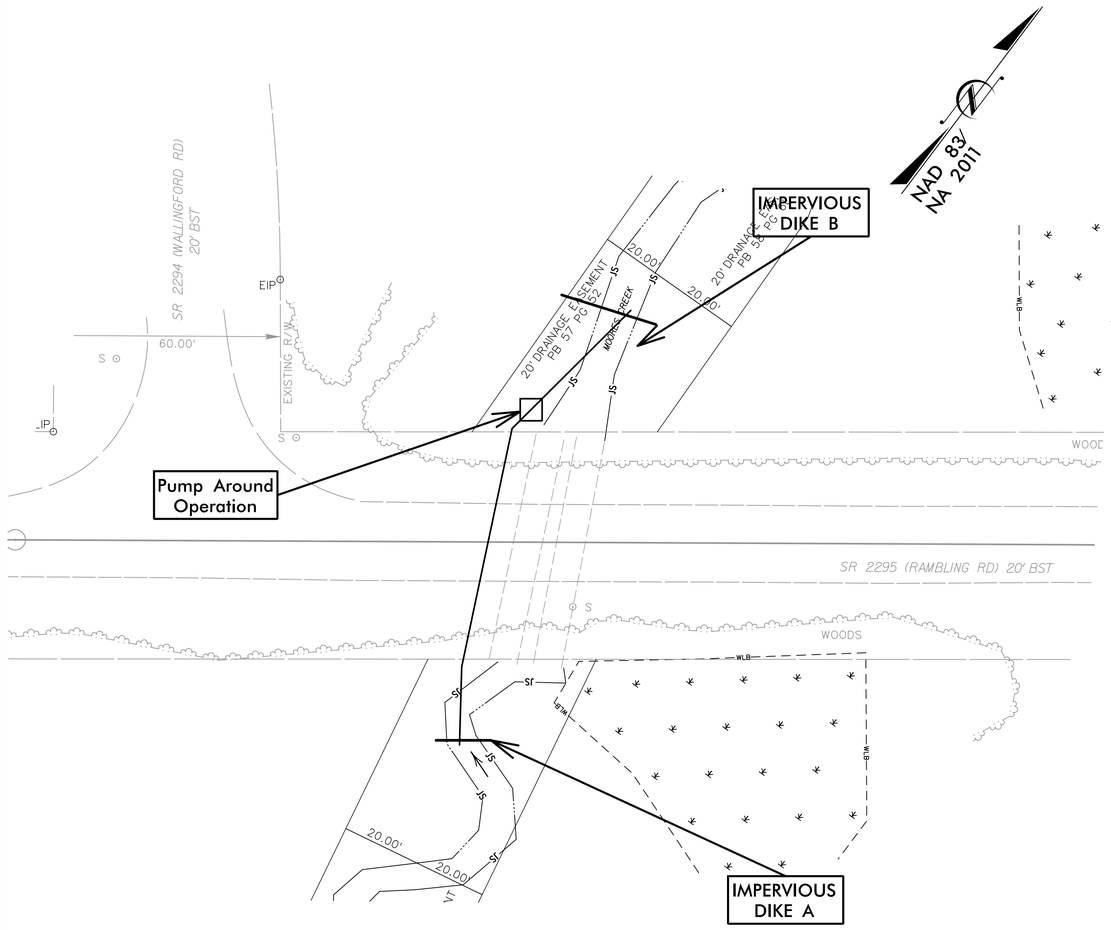
PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-4A/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

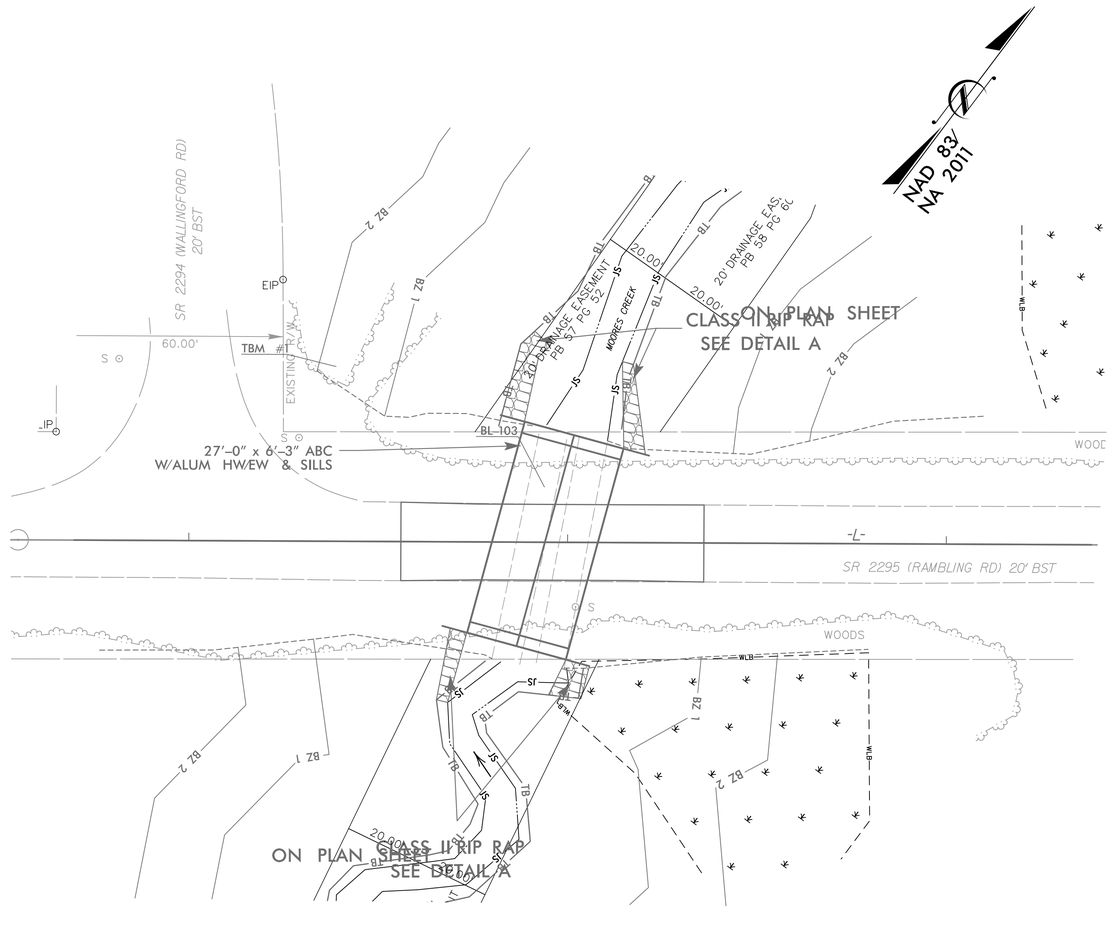
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED DURING CULVERT CONSTRUCTION.
2. CLOSE ROADWAY FOR TRAFFIC AND SET UP DETOUR SIGNS.
3. INSTALL IMPERVIOUS DIKES A AND B.
4. INSTALL PUMP AROUND OPERATION.
5. DEWATER WORK AREA(S) WITH SPECIAL STILLING BASIN(S).
6. REMOVE EXISTING 2@90" CMP.

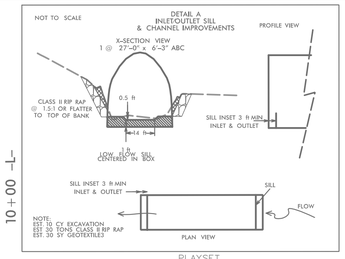
PHASE II

1. INSTALL PROPOSED 27'–0" X 6'–3" ABC WITH HEAD WALL AND SILLS.
2. INSTALL UPSTREAM AND DOWNSTREAM CLASS II RIP RAP.
3. REMOVE IMPERVIOUS DIKES A AND B.
4. REMOVE PUMP AROUND OPERATION.
5. DIVERT FLOW INTO NEWLY CONSTRUCTED 27'–0" X 6'–3" ABC.
6. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
7. COMPLETE ROADWAY.





8/17/99



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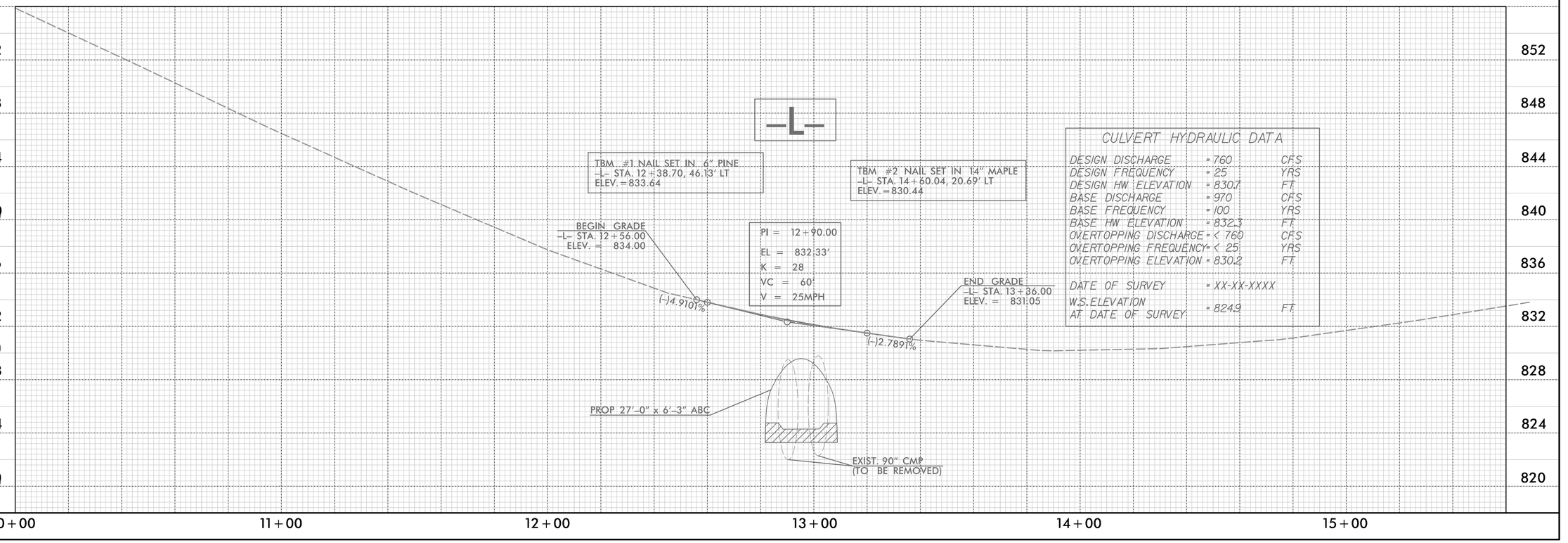
PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



10/4/2022
17BP.7.C.6_Rdy_psh_4.dgn
HNTB

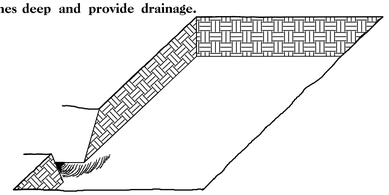
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.7.C.20	RF–1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

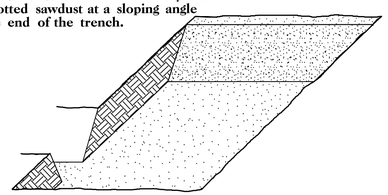
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

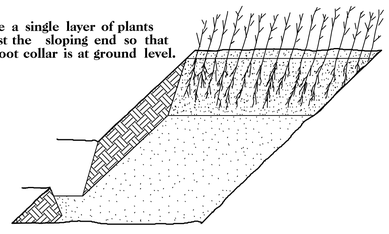
1. Locate a healing–in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



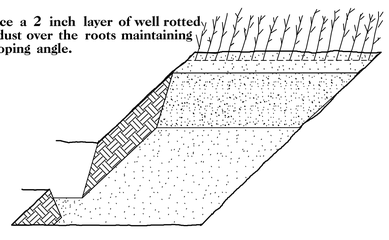
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

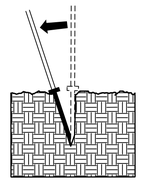


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

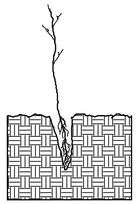


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

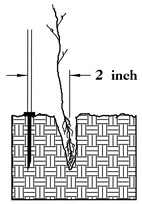
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



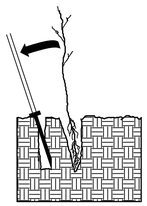
1. Insert planting bar as shown and pull handle toward planter.



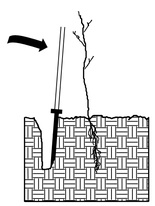
2. Remove planting bar and place seedling at correct depth.



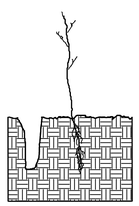
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

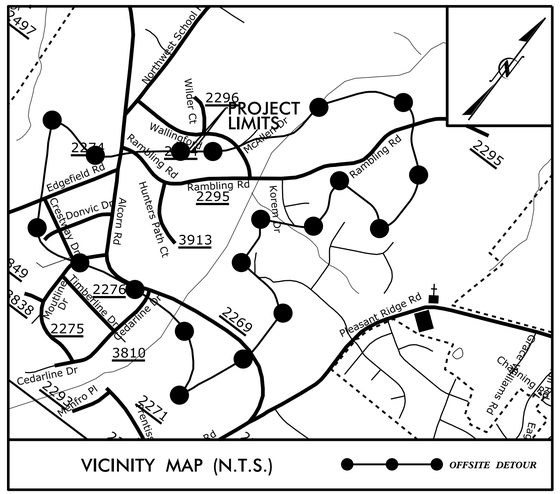
MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

30% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
30% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in – 18 in BR
40% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

TIP PROJECT: 17BP.7.C.20



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
GUILFORD COUNTY

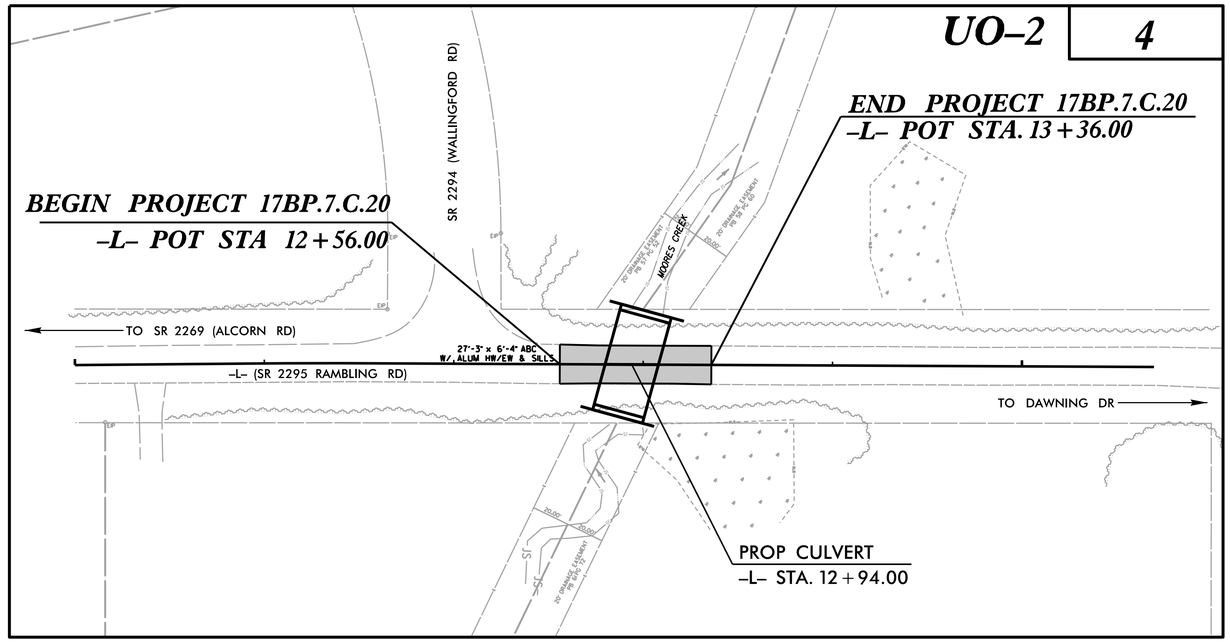
T.I.P. NO.	SHEET NO.
17BP.7.C.20	UO–1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

LOCATION: REPLACE PIPE #40 2184 ON SR 2295 (RAMBLING RD)

TYPE OF WORK: UTILITY RELOCATION GAS AND COMMUNICATIONS

NAD 83/
NA 2011



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

UTILITY OWNERS WITH CONFLICTS

(A) COMMUNICATIONS – AT&T
(B) COMMUNICATIONS – SPECTRUM
(C) GAS – PNG

PREPARED IN THE OFFICE OF:

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Raleigh, NC 27616
(919) 878–7466

Freddie Bunn — *UTILITY PROJECT MANAGER*
Matthew Ward — *PROJECT UTILITY COORDINATOR*

DIVISION OF HIGHWAYS
DIVISION 7
PO BOX 14996
1584 YANCEYVILLE STREET
GREENSBORO, NC 27415–4996

Tim Powers, PE — *DIVISION BRIDGE PROGRAM MANAGER*
Patty Eason, PE — *DIVISION CONSTRUCTION ENGINEER*

8/10/2022
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11:25:39 AM

PROJECT REFERENCE NO.	SHEET NO.
17BP.7.C.20	U0-02

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS. NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR PROPOSED UTILITY WORK SHOWN ON THIS SHEET.

SPECTRUM TIE TO EXIST.

PNG 2" PLASTIC 10' MINIMUM UNDER CREEK

PNG TIE TO EXIST.

PNG TIE TO EXIST.

ABANDONED

ABANDONED

ABANDONED

ABANDONED

ABANDONED

ABANDONED

CLASS II RIP RAP SEE DETAIL A

CLASS II RIP RAP SEE DETAIL A

2" GAS

2" GAS

2" GAS

PROP O/H TEL & CATV LINES

PROP U/G CATV CABLES

AT&T HH

AT&T/SPECTRUM O/H

AT&T TIE TO EXISTING

SPECTRUM TIE TO EXIST.

BEGIN PROJECT 17BP.7.C.20
–L– PT Sta. 12+56.00

END PROJECT 17BP.7.C.20
–L– PT Sta. 13+36.00

WINONA M. CAMP
DB 8183 PG 63
PB 57 PG 52

1 RICHARD E. JOHNSON
DB 7109 PG 2804
PB 57 PG 52

2 KEVIN & DEBORAH J. DEVINE
DB 2894 PG 560
PB 58 PG 60

3 KEITH B. PRICE, JR & WIFE
NANETTE HURLEY PRICE
DB 7960 PG 630
PB 57 PG 52

4 TALENA M. VERA
CHARLES VERA
DB 2961 PG 82
PB 61 PG 72

SR 2294 (WALLINGFORD RD) 20' BST

SR 2295 (RAMBLING RD) 20' BST

27'-0" x 6'-3" ABC W/ ALUM HW/EW & SILLS

POT Sta. 10+00.00

–L– PC Sta. 10+95.73

–L– PT Sta. 11+54.92

–L– POT Sta. 15+69.70

N 40°26'40" E 247.84'

N 52°30'42.2" E

N 53°16'01.0" E

N 15°54'23" W 20.00'

N 36°59'00" W 409.55'

N 53°02'02" E 30.00'

N 53°02'02" E 356.43'

N 17°08'53" W 21.57'

N 17°08'53" W 166.62'

+85.00 –L– 70.00' LT

+66.00 –L– 51.00' LT EXIST R/W

+60.00 –L– 56.00' RT EXIST R/W

+15.00 –L– 45.00' RT EXIST R/W

60.00'

EXISTING R/W

EIP

PDE

JS

WOODS

PLAYSET

PLNTR

15" RCP

12" CMC

18" CMP

24" CMP

30" CMP

36" CMP

20' DRAINAGE EASEMENT PB 57 PG 52

20' DRAINAGE EASEMENT PB 58 PG 60

20' DRAINAGE EASEMENT PB 61 PG 72

MOORES CREEK

TAPER TO EXIST.

EIP TO R/W 0.19'

9/14/2022
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