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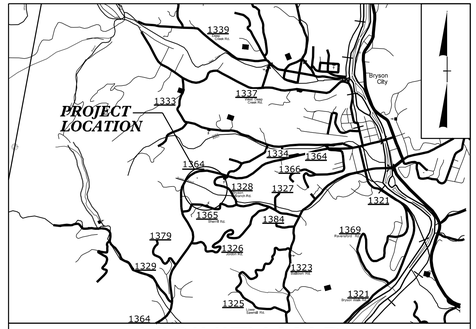
09/08/99

TIP PROJECT: 48786

CONTRACT: DN00783

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SWAIN COUNTY

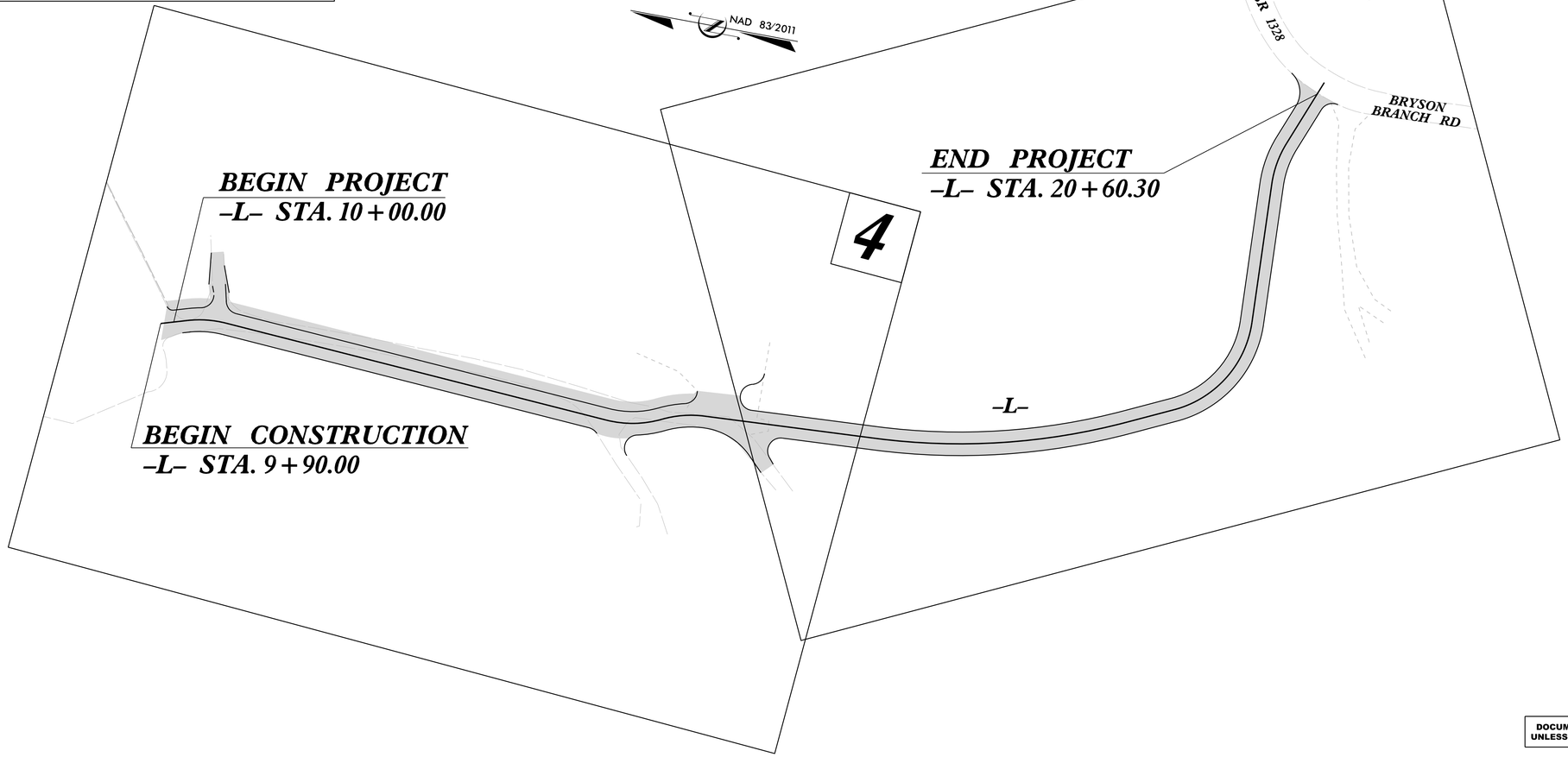
LOCATION: SWAIN COUNTY HIGH SCHOOL

TYPE OF WORK: GRADING, PAVING, DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	48786	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
48786		PE
48786		CONST

DIVISION 14



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GRAPHIC SCALES

20 0 20 40
PLANS

20 10 0 20 40
PROFILE (HORIZONTAL)

4 0 4 8
PROFILE (VERTICAL)

DESIGN DATA

ADT 2019 = 370 VPD

V = 20 MPH

FUNC CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY PROJECT = 0.201 MI

TOTAL LENGTH PROJECT = 0.201 MI

Prepared in the Office of:

GANNETT FLEMING
One Glenwood Avenue Suite 900 Raleigh, NC 27603 919-420-7660 NC Lic. No. F-0270

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE: JUNE 14, 2022

RICKY A. TIPTON, PE, PLS
PROJECT ENGINEER

ANGELA B. PRIDGEN, PE
PROJECT DESIGN ENGINEER

CHRIS LEE, PE
NCDOT DIVISION PROJECT MANAGER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 023454 ENGINEER ANNE D GAMBER

DocuSigned by: Anne D. Gamber 2312C09D2465429...

P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 032579 ENGINEER ANGELA B PRIDGEN

DocuSigned by: Angela Pridgen 75A410DDAE7A4...

P.E.

SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

5/4/2022
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bwhite

5/14/99

GANNETT FLEMING
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PROJECT REFERENCE NO.	SHEET NO.
48786	1A
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 032579 ENGINEER ANGELA B. PRIDGEN

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INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A–1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B	ROADWAY SUMMARIES
4 THRU 6	PLAN AND PROFILE SHEETS
TMP–1 THRU TMP–5	TRANSPORTATION MANAGEMENT PLANS
PMP–1 THRU PMP–2	PAVEMENT MARKING PLANS
EC–1 THRU EC–5	EROSION CONTROL PLANS
RF–1 THRU RF–2	REFORESTATION PLANS
SIGN–1 THRU SIGN–2	SIGNING PLANS
X–1 THRU X–14	CROSS SECTIONS

GENERAL NOTES

EFFECTIVE: 01–16–2018
REVISED:

GENERAL NOTES: 2018 SPECIFICATIONS

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. 225.05 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. 560.02

DRIVEWAYS:

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

CURB RAMPS

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

STANDARD DRAWINGS

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
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 – SUBGRADE, BASES, AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 8 – INCIDENTALS	
840.03	Frame, Grates and Hood – for Use on Standard Catch Basin
840.16	Drop Inlet Frame and Grates – for use with Std. Dwg 840.14 and 840.15
840.45	Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout – Radius Type
848.03	Driveway Turnout – Drop Curb Type
848.05	Curb Ramp – Proposed Curb & Gutter
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

4/21/2022
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9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
48786	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)
- 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)*

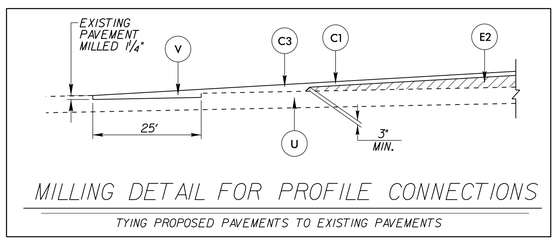
MISCELLANEOUS:

- 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.

PRELIMINARY PAVEMENT SCHEDULE

C1	PROP. APPROX. 1.5″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3″ ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1″ IN DEPTH OR GREATER THAN 1½″ IN DEPTH.
E1	PROP. APPROX. 4″ ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1″ DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3″ IN DEPTH OR GREATER THAN 5½″ IN DEPTH.
J1	4″ AGGREGATE BASE COURSE
J2	VARIABLE DEPTH AGGREGATE BASE COURSE
R1	2′-6″ CONCRETE CURB & GUTTER
S1	4″ CONCRETE SIDEWALK
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	1½″ MILLING ASPHALT PAVEMENT

NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE NOTED.



MILLING DETAIL FOR PROFILE CONNECTIONS

TYING PROPOSED PAVEMENTS TO EXISTING PAVEMENTS

GANNETT FLEMING
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919-420-7660
NC Lic. No. F-0270

PROJECT REFERENCE NO.	SHEET NO.
48786	2A–1
RW SHEET NO.	

ROADWAY DESIGN ENGINEER

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 032579 ENGINEER ANGELA B. PRIDGEN

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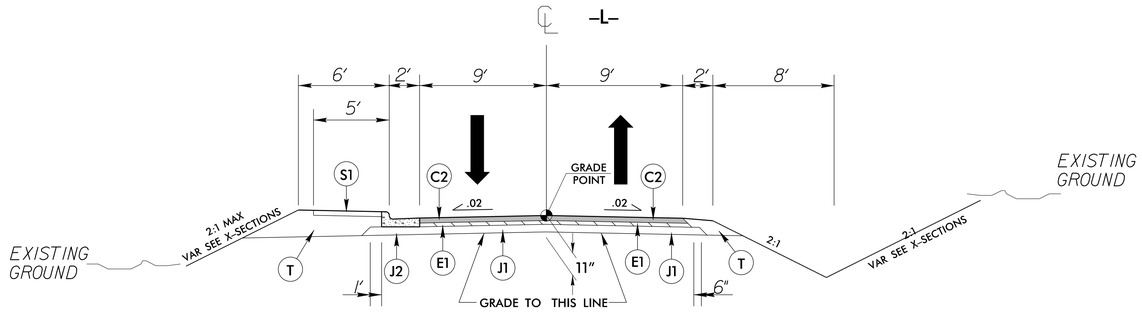
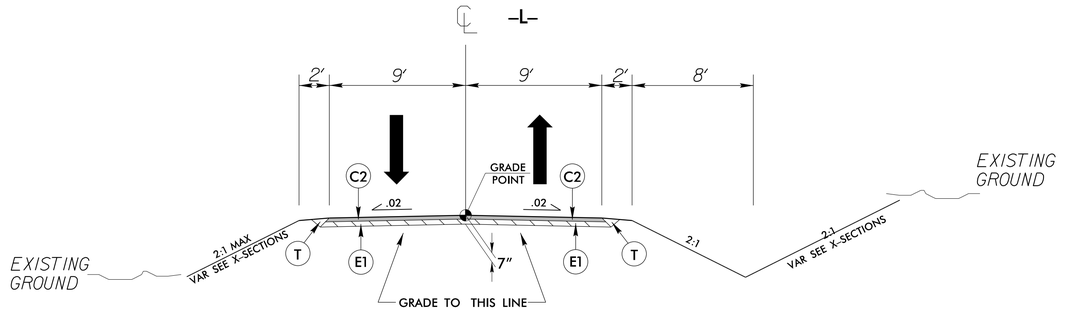


TYPICAL SECTION NO. 1

–L– STA. 10+00.00 TO STA. 14+10.00



TYPICAL SECTION NO. 2

–L– STA. 14+10.00 TO STA. 20+60.30

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5/14/99

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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Raleigh, NC 27603
919-420-7660
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PROJECT REFERENCE NO.	SHEET NO.
48786	3B-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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SUMMARY OF EARTHWORK

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +15%	BORROW	WASTE
10+00	20+60.30	1144	1500	389		2,255
SUBTOTALS:		1144	1500	389		2,255
LOSS DUE TO CLEARING AND GRUBBING		–200				–200
ADDITIONAL UNDERCUT			450	518	518	450
WASTE IN LIEU OF BORROW					–518	–518
GRAND TOTALS:		944	1,950	906		1,987
SAY:		960				

ESTIMATED DDE = 33 CUBIC YARDS
SHOULDER BORROW = 13 CUBIC YARDS
SELECT GRANULAR MATERIAL = 1700 CUBIC YARDS
TOTAL SHALLOW UNDERCUT = 100 CUBIC YARDS
CLASS IV SUBGRADE STABILIZATION = 100 TONS

NOTE: 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.

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".

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

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)							
SIZE								12"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE															
14+00	LT	401		1924.4											
14+50	LT	401	402		1921.4	1917.8									
18+00	LT	504		1916.4											
18+00	LT	504	503		1913.7	1913.0									
16+75	LT	503		1915.8											
16+75	LT	503	502		1913.0	1909.0									
16+85	RT	502		1912.0											
16+85	RT	502	501		1907.9	1894.0									
20+45	LT	505		1906.0											
20+45	LT	505	506		1903.25	1901.61									
19+50	LT	509		1912.31											
19+50	LT	509	507		1909.56	1909.47									
19+50	LT	507		1912.31											
20+10	LT	507	508		1909.47	1909.14									
TOTALS															
SAY															

STATION	STRUCTURE NO. FROM	STRUCTURE NO. TO	C.S. PIPE (UNLESS NOTED OTHRWISE)								CLASS III R.C. PIPE (UNLESS OTHERWISE NOTED)								15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE
SIZE			12"	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"			
THICKNESS OR GAUGE			.064	.064	.064	.064	.079	.079	.109	.109											
14+00	401																				
14+50	401	402										52									
18+00	504																				
18+00	504	503										124									
16+75	503																				
16+75	503	502										36									
16+85	502																				
16+85	502	501		40																	
20+45	505																				
20+45	505	506										32									
19+50	509																				
19+50	509	507										32									
19+50	507																				
20+10	507	508										112									
TOTALS				40								388									
SAY				40								388									

STATION	STRUCTURE NO. FROM	STRUCTURE NO. TO	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	ENDWALLS CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	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. 840.37	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	J.B. STD. 840.31 OR 840.32	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	CONCRETE CATCH BASIN STD. 840.02	G.D.I. FRAME WITH GRATE STD. 840.03					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
14+00	401				1						1													1	1									
14+50	401	402																																
18+00	504				1								1	1																				
18+00	504	503																																
16+75	503				1								1	1																				
16+75	503	502																																
16+85	502				1																	1												
16+85	502	501																												2–15″				
20+45	505				1								1	1																				
20+45	505	506																																
19+50	509				1								1	1																				
19+50	509	507																																
19+50	507				1								1	1																				
20+10	507	508																																
TOTALS					7						1		5	5								1		1						2–15″				
SAY					7						1		5	5								1		1						2–15″				

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

5/4/2022
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PROJECT REFERENCE NO.	SHEET NO.
48786	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032579 ANGELA B. PRIDGEN	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023454 ANNE D. GAMBER

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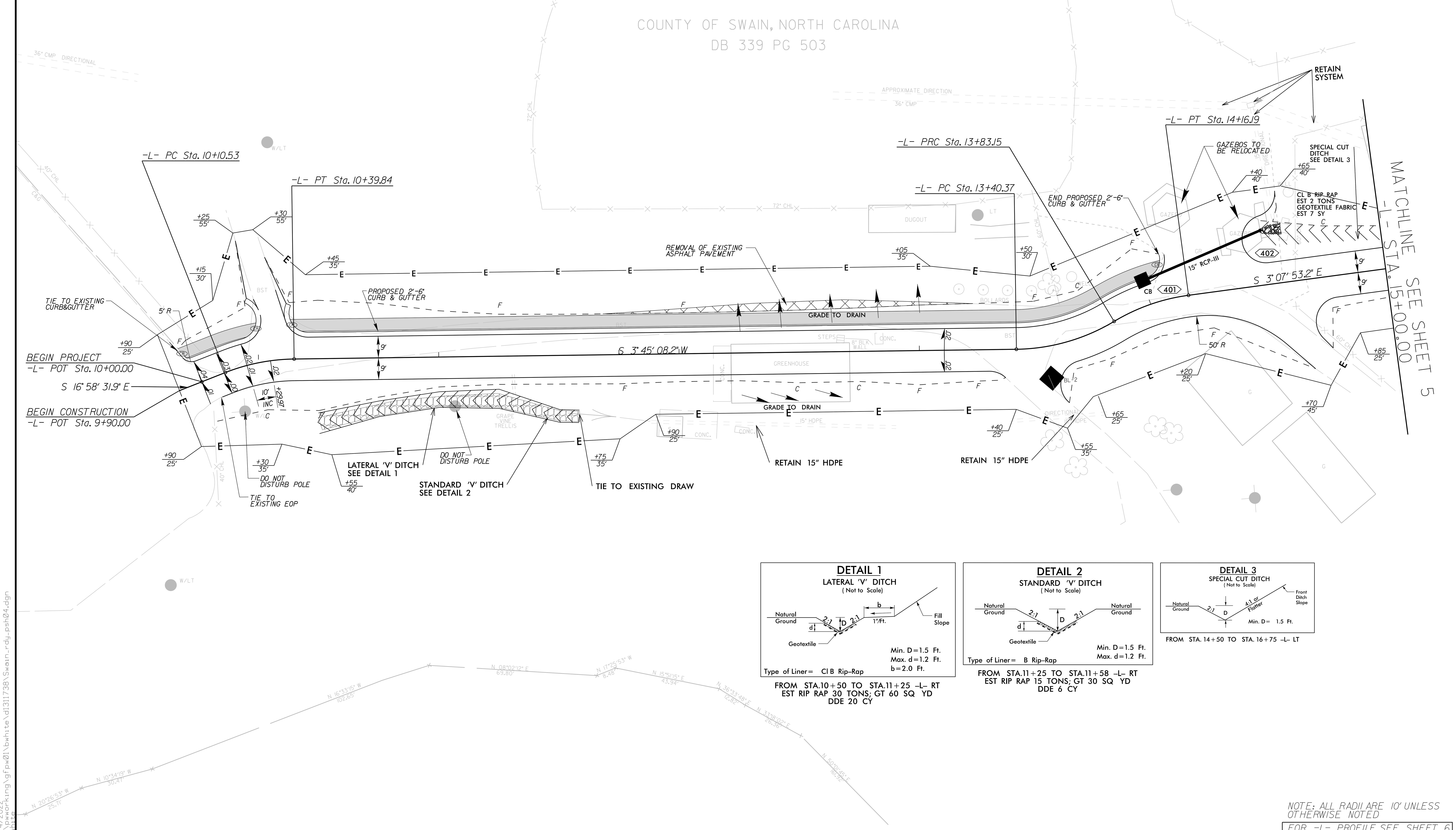
GANNETT FLEMING — One Glenwood Avenue, Suite 900, Raleigh, NC 27603, 919-420-7660, NC Lic. No. F-0270

-L-

PI Sta 10+25.35	PI Sta 13+62.27	PI Sta 13+99.90
△ = 20° 43' 40.1" (RT)	△ = 30° 15' 23.3" (LT)	△ = 23° 22' 21.9" (RT)
D = 70° 44' 07.9"	D = 70° 44' 07.9"	D = 70° 44' 07.9"
L = 29.30'	L = 42.77'	L = 33.04'
T = 14.81'	T = 21.90'	T = 16.75'
R = 81.00'	R = 81.00'	R = 81.00'
SE = SEE PLANS	SE = NC	SE = NC



NAD 83/2011
COUNTY OF SWAIN, NORTH CAROLINA
DB 339 PG 503
-L- PC Sta. 10+10.53
-L- PT Sta. 10+39.84
-L- PRC Sta. 13+83.15
-L- PC Sta. 13+40.37
-L- PT Sta. 14+16.19
BEGIN PROJECT
-L- POT Sta. 10+00.00
S 16° 58' 31.9" E
BEGIN CONSTRUCTION
-L- POT Sta. 9+90.00
S 3° 45' 08.2" W
S 3° 07' 53.2" E
TIE TO EXISTING CURB&GUTTER
PROPOSED 2'-6" CURB & GUTTER
REMOVAL OF EXISTING ASPHALT PAVEMENT
END PROPOSED 2'-6" CURB & GUTTER
GAZEBOS TO BE RELOCATED
RETAIN SYSTEM
SPECIAL CUT DITCH SEE DETAIL 3
CL B RIP RAP EST 2 TONS GEOTEXTILE FABRIC EST 7 SY
15" RCP-III
CB 401
402
GRADE TO DRAIN
DO NOT DISTURB POLE
TIE TO EXISTING EOP
LATERAL 'V' DITCH SEE DETAIL 1
STANDARD 'V' DITCH SEE DETAIL 2
TIE TO EXISTING DRAW
RETAIN 15" HDPE
50' R
MATCHLINE SEE SHEET 5 -L- STA. 15+00.00
DETAIL 1
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Geotextile
Min. D = 1.5 Ft.
Max. d = 1.2 Ft.
b = 2.0 Ft.
Type of Liner = Cl B Rip-Rap
FROM STA. 10+50 TO STA. 11+25 -L- RT
EST RIP RAP 30 TONS; GT 60 SQ YD
DDE 20 CY
DETAIL 2
STANDARD 'V' DITCH
(Not to Scale)
Natural Ground
Geotextile
Min. D = 1.5 Ft.
Max. d = 1.2 Ft.
Type of Liner = B Rip-Rap
FROM STA. 11+25 TO STA. 11+58 -L- RT
EST RIP RAP 15 TONS; GT 30 SQ YD
DDE 6 CY
DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground
4:1 or Flatter
Front Ditch Slope
Min. D = 1.5 Ft.
FROM STA. 14+50 TO STA. 16+75 -L- LT
NOTE: ALL RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE, SEE SHEET 6

PROJECT REFERENCE NO.	SHEET NO.
48786	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 032579 ENGINEER ANGELA B. PRIDGEN	NORTH CAROLINA PROFESSIONAL SEAL 023454 ENGINEER ANNE D. GAMBER

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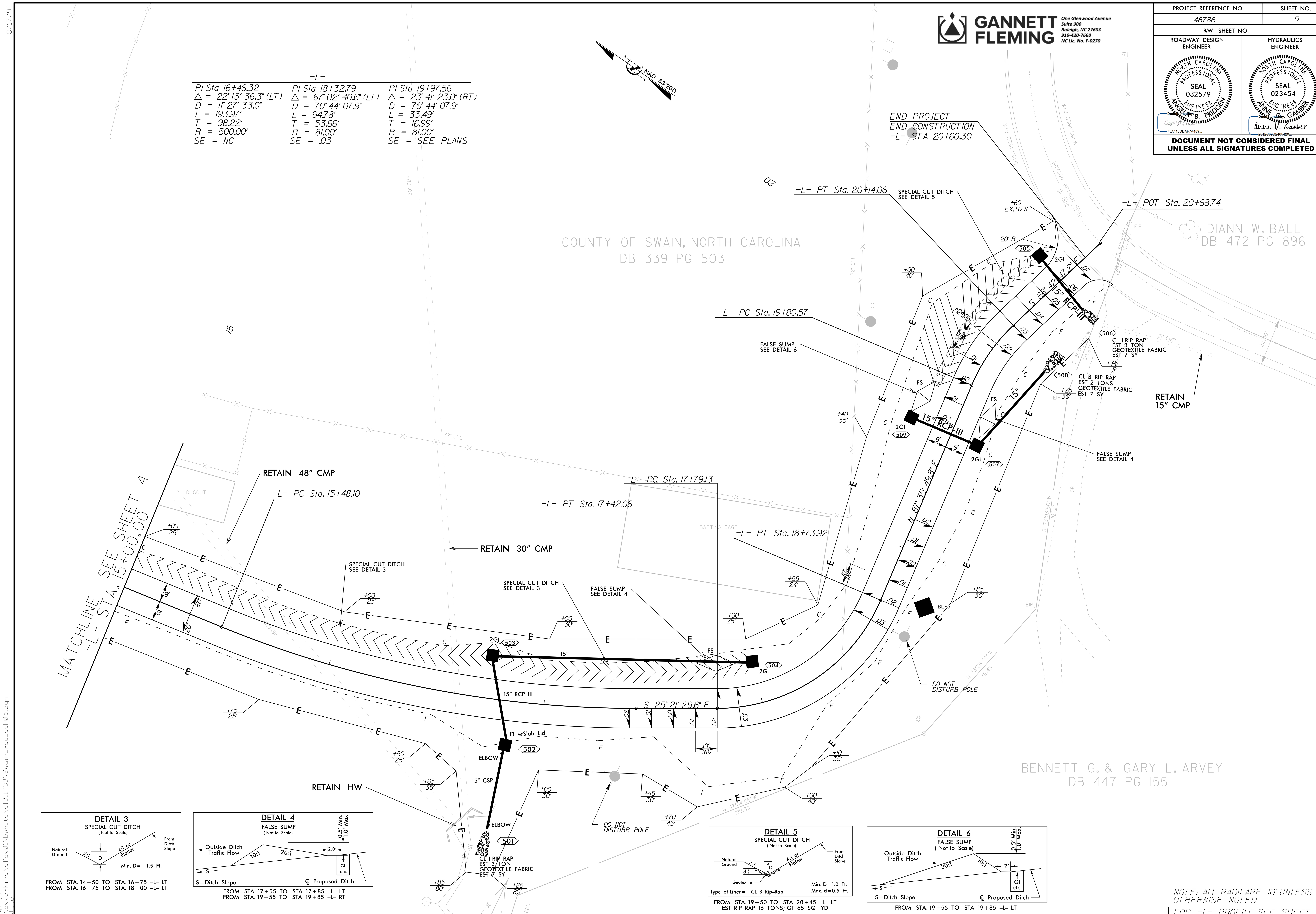

NAD 83/2011
-L-
PI Sta 16+46.32 △ = 22° 13' 36.3" (LT) D = 11° 27' 33.0" L = 193.97' T = 98.22' R = 500.00' SE = NC
PI Sta 18+32.79 △ = 67° 02' 40.6" (LT) D = 70° 44' 07.9" L = 94.78' T = 53.66' R = 81.00' SE = .03
PI Sta 19+97.56 △ = 23° 41' 23.0" (RT) D = 70° 44' 07.9" L = 33.49' T = 16.99' R = 81.00' SE = SEE PLANS
COUNTY OF SWAIN, NORTH CAROLINA
DB 339 PG 503
DIANN W. BALL
DB 472 PG 896
BENNETT G. & GARY L. ARVEY
DB 447 PG 155
END PROJECT
END CONSTRUCTION
-L- STA 20+60.30
-L- PT Sta. 20+14.06
-L- POT Sta. 20+68.74
-L- PC Sta. 19+80.57
-L- PC Sta. 15+48.10
-L- PC Sta. 17+79.13
-L- PT Sta. 17+42.06
-L- PT Sta. 18+73.92
SPECIAL CUT DITCH SEE DETAIL 5
SPECIAL CUT DITCH SEE DETAIL 3
FALSE SUMP SEE DETAIL 6
FALSE SUMP SEE DETAIL 4
CL I RIP RAP EST 3 TON GEOTEXTILE FABRIC EST 7 SY
CL B RIP RAP EST 2 TONS GEOTEXTILE FABRIC EST 7 SY
CL I RIP RAP EST 3/TON GEOTEXTILE FABRIC EST 7 SY
RETAIN 15" CMP
RETAIN 48" CMP
RETAIN 30" CMP
RETAIN HW
DO NOT DISTURB POLE
MATCHLINE -L- STA. 15+00.00 SEE SHEET 4
S 25° 21' 29.6" E
N 87° 35' 49.8" E
S 68° 42' 47.2" E
15" RCP-III
15" CSP
JB w/Slab Lid
ELBOW
2GI
501 502 503 504 505 506 507 508 509
BL-3
DUGOUT
BATTING CAGE
DETAIL 3
SPECIAL CUT DITCH (Not to Scale)
Natural Ground
Front Ditch Slope
4:1 or Flatter
Min. D = 1.5 Ft.
FROM STA. 14+50 TO STA. 16+75 -L- LT
FROM STA. 16+75 TO STA. 18+00 -L- LT
DETAIL 4
FALSE SUMP (Not to Scale)
Outside Ditch Traffic Flow
0.5' Min. 1.0' Max.
S = Ditch Slope
℄ Proposed Ditch
FROM STA. 17+55 TO STA. 17+85 -L- LT
FROM STA. 19+55 TO STA. 19+85 -L- RT
DETAIL 5
SPECIAL CUT DITCH (Not to Scale)
Natural Ground
Geotextile
Front Ditch Slope
4:1 or Flatter
Type of Liner = CL B Rip-Rap
Min. D = 1.0 Ft.
Max. d = 0.5 Ft.
FROM STA. 19+50 TO STA. 20+45 -L- LT
EST RIP RAP 16 TONS; GT 65 SQ YD
DETAIL 6
FALSE SUMP (Not to Scale)
Outside Ditch Traffic Flow
0.5' Min. 1.0' Max.
S = Ditch Slope
℄ Proposed Ditch
FROM STA. 19+55 TO STA. 19+85 -L- LT
NOTE: ALL RADII ARE 10' UNLESS OTHERWISE NOTED
FOR -L- PROFILE, SEE SHEET 6

8/17/99
5/4/2022

PROJECT REFERENCE NO.	SHEET NO.
48786	6

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ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032579 ANGELA B. PRIDGEN — DocuSigned by: 75A410DDAF7A489...

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023454 ANNE D. GAMBER — DocuSigned by: Anne D. Gamber 2312C09D2465429...

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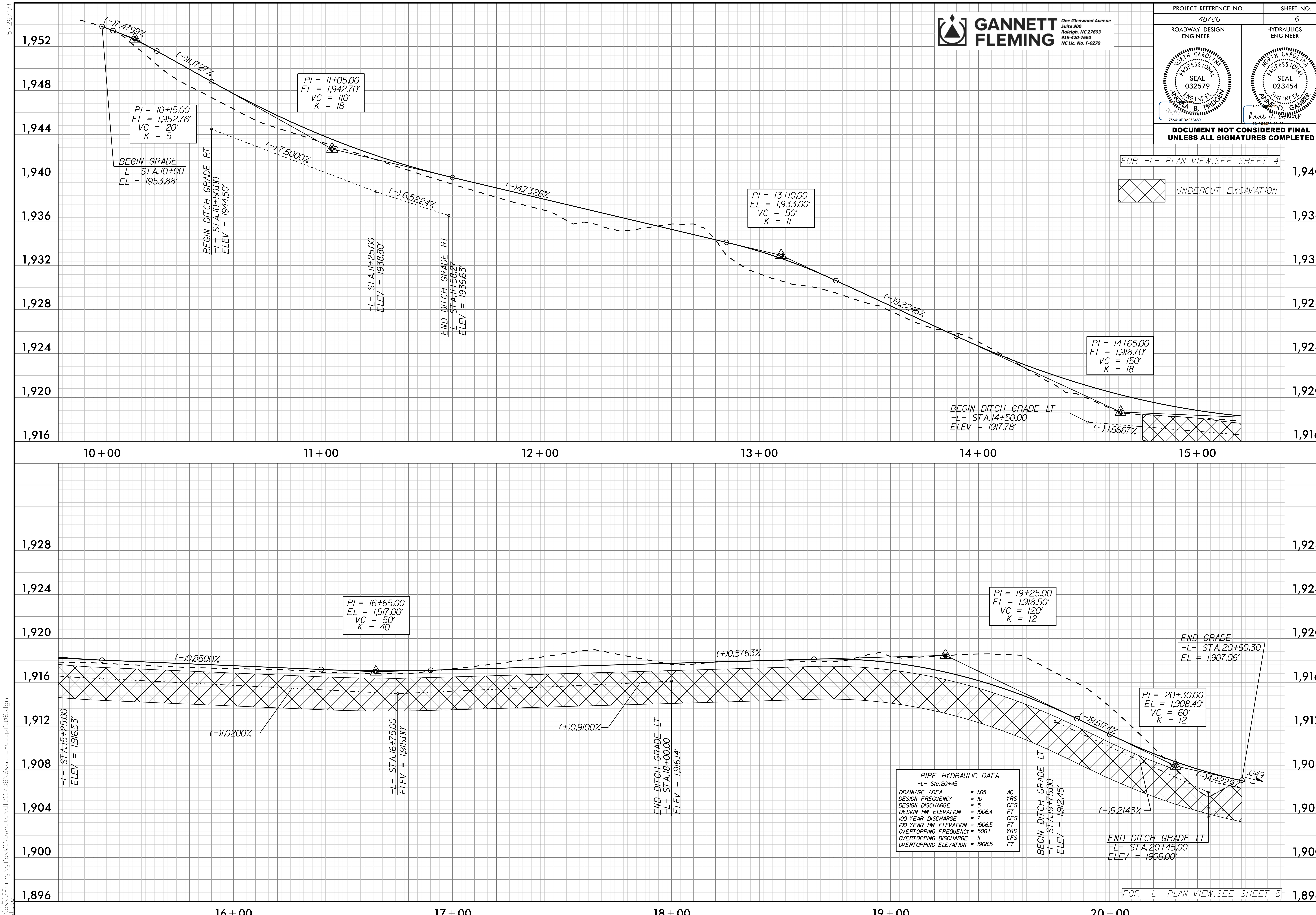


PIPE HYDRAULIC DATA
-L- Sta.20+45

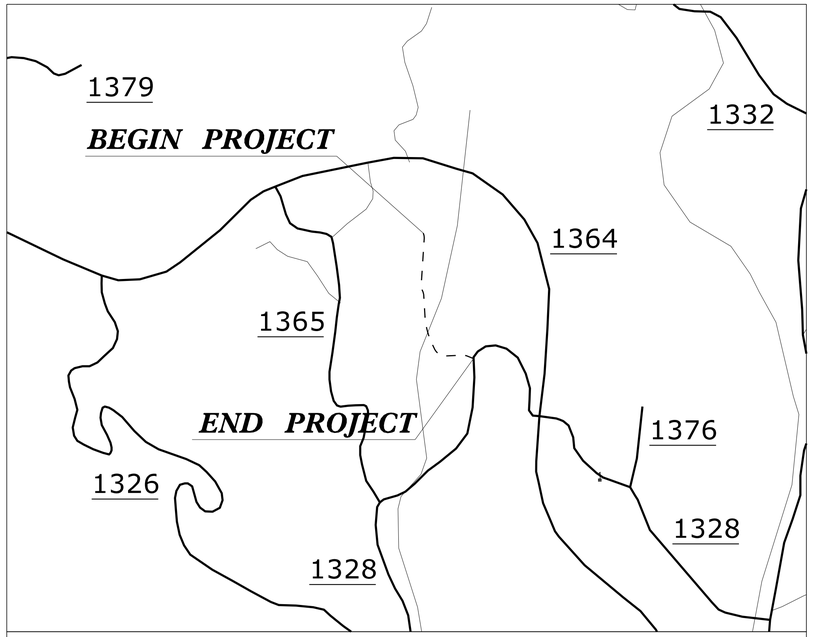
DRAINAGE AREA	=	1.65	AC
DESIGN FREQUENCY	=	10	YRS
DESIGN DISCHARGE	=	5	CFS
DESIGN HW ELEVATION	=	1906.4	FT
100 YEAR DISCHARGE	=	7	CFS
100 YEAR HW ELEVATION	=	1906.5	FT
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING DISCHARGE	=	11	CFS
OVERTOPPING ELEVATION	=	1908.5	FT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

SWAIN COUNTY

LOCATION: NEW ENTRANCE ROAD FOR SWAIN COUNTY HIGH SCHOOL

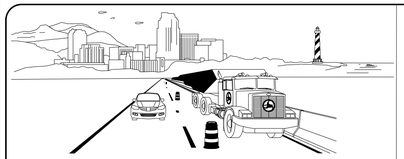


SKETCH MAP SHOWING THE VICINITY OF PROJECT

INDEX OF SHEETS

SHEET NO.
TMP-1

TIP PROJECT: 48786



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

PLANS PREPARED BY:

RICKY A. TIPTON, PE
PROJECT ENGINEER

BENJAMIN A. WHITE, PE
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

PROJECT ENGINEER

PROJECT DESIGN ENGINEER

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

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DATE: 5/4/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

PROJ. REFERENCE NO.	SHEET NO.
48786	TMP-1A

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
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

LEGEND

GENERAL

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

SIGNALS

EXISTING | PROPOSED | TEMPORARY | PORTABLE

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

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NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

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

ROADWAY STANDARD DRAWINGS & LEGEND

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PROJ. REFERENCE NO.	SHEET NO.
48786	TMP-1B

MANAGEMENT STRATEGIES

THE PROPOSED ROADWAY WILL BE CONSTRUCTED USING A MULTI-PHASE APPROACH

LOCAL TRAFFIC WILL BE MAINTAINED USING A TWO-WAY, ONE-LANE PATTERN TO ACHIEVE TIE-IN OF THE PROPOSED ROADWAY TO THE EXISTING ROADWAY.

GENERAL & LOCAL 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.

B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

   WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

PAVEMENT EDGE DROP OFF REQUIREMENTS

F) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

   BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

   BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

   BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

G) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

J) 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 IN THE TRAFFIC CONTROL PLANS.

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

L) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

M) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

PAVEMENT MARKINGS AND MARKERS

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

P) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

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

R) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAY'S TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

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

MANAGEMENT STRATEGIES

GENERAL & LOCAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
48786	TMP-3

PHASING NOTES

PHASE I

STEP 1: CONSTRUCT PROPOSED ROADWAY FROM -L- STA 14+77± TO STA 20+60±(SEE SHEET TMP-4).

STEP 2: USING RSD 1101.02 (SHEET 1 OF 14), SHIFT TRAFFIC INTO A ONE-LANE, TWO-WAY TEMPORARY PATTERN ON SR 1328 (BRYSON BRANCH ROAD) AND CONSTRUCT THE TIE-IN AT -L- STA 20+60±(SEE SHEET TMP-4).

PHASE II

STEP 1: CONSTRUCT PROPOSED ROADWAY FROM -L- STA 9+96± TO STA 14+77±(SEE SHEET TMP-5).

STEP 2: PLACE FINAL PAVEMENT MARKINGS ON -L- (SEE PAVEMENT MARKING PLANS). REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN PROJECT TO FINAL TRAFFIC PATTERN.

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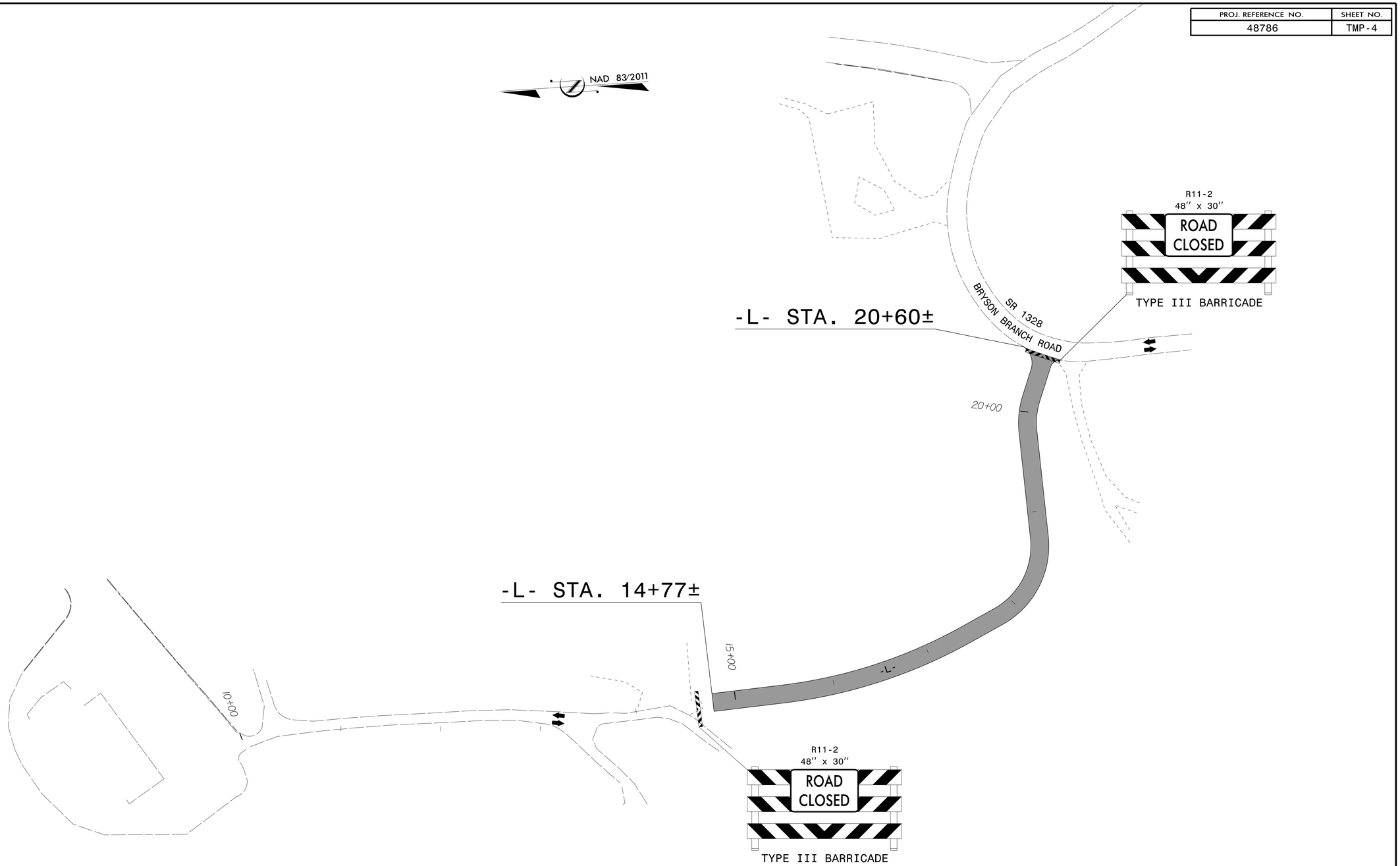
PHASING NOTES

PROJ. REFERENCE NO.	SHEET NO.
48786	TMP-4

NAD 83/2011



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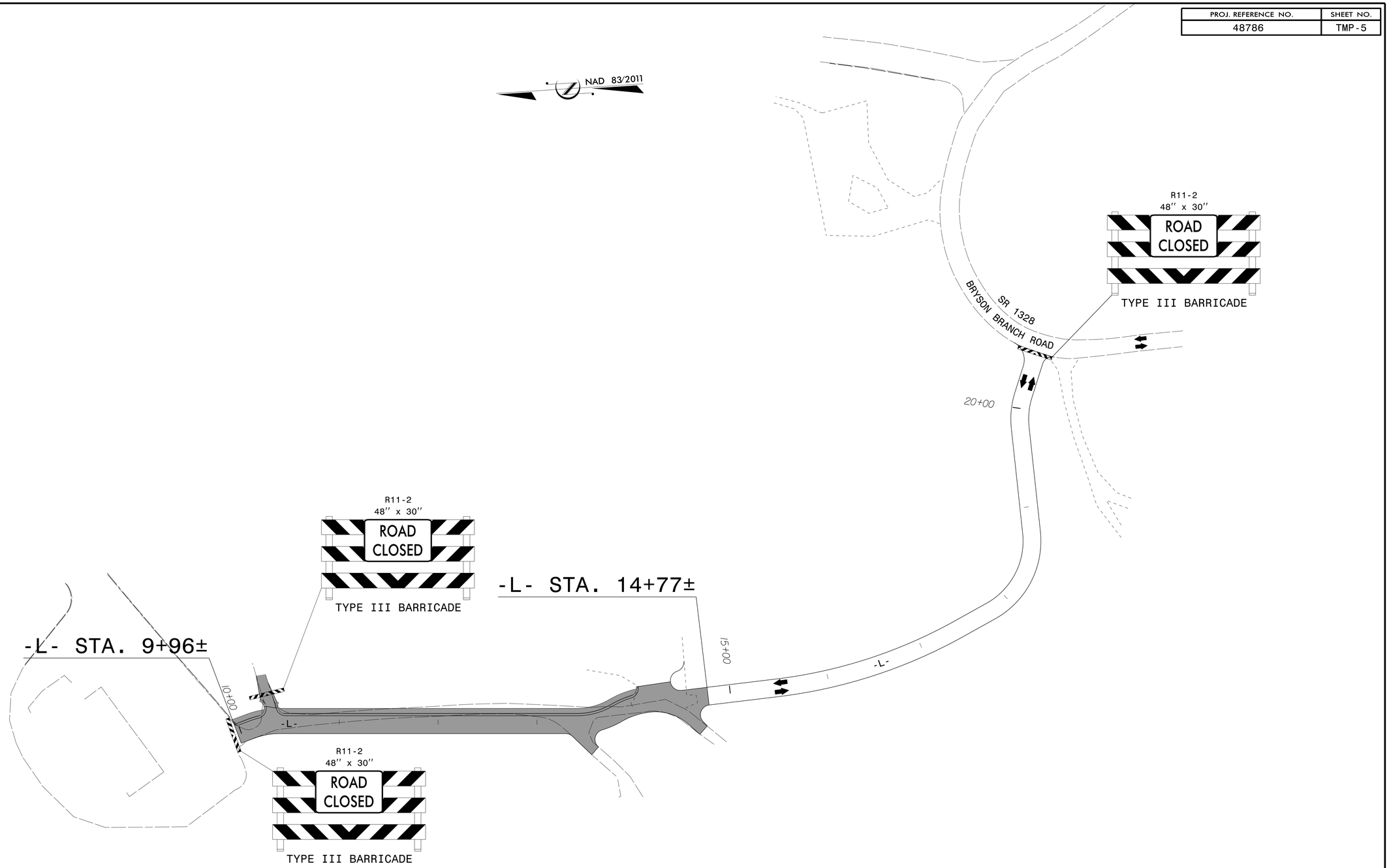
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN PHASE I

PROJ. REFERENCE NO.	SHEET NO.
48786	TMP-5

NAD 83/2011



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

TRANSPORTATION OPERATIONS PLAN PHASE II

T.I.P.: 48786

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
SWAIN COUNTY
LOCATION: NEW ENTRANCE ROAD FOR SWAIN COUNTY HIGH SCHOOL

TIP NO.	SHEET NO.
48786	PMP-1

APPROVED: DocuSigned by: Benjamin A. White 68F7762216744...

DATE: 5/4/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

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INDEX

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

GENERAL NOTES

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

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

ROAD NAME	MARKING	MARKER
(-L-)	PAINT	N/A
(-L-)	THERMOPLASTIC	N/A

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

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

D) UNLESS OTHERWISE SPECIFIED, HEATED-IN-PLACE THERMOPLASTIC MAY BE USED IN LIEU OF EXTRUDED THERMOPLASTIC FOR STOP BARS, SYMBOLS, CHARACTERS AND DIAGONALS. IF HEATED-IN-PLACE IS USED, IT SHALL BE PAID FOR USING THE EXTRUDED THERMOPLASTIC PAY ITEM.

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
P1	4″ WHITE EDGELINE
P13	4″ YELLOW DOUBLE CENTER
T61	24″ WHITE STOPBAR

PLAN PREPARED BY:

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RICKY A TIPTON, PE, PLS PROJECT ENGINEER

BENJAMIN A. WHITE, PE PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

4/2/2022
pw:\\gfnet-pw.bentley.com:gfnet-pw-01\Documents\Projects\65663\48786 (Swain Co HS)\Traffic\TrafficControl\PMP\100585_PMP_PMP01.dgn
User:BWhite

TIP NO.	SHEET NO.
48786	PMP-2

APPROVED: DocuSigned by: Benjamin A White 68F776221617443...

DATE: 5/4/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GANNETT FLEMING
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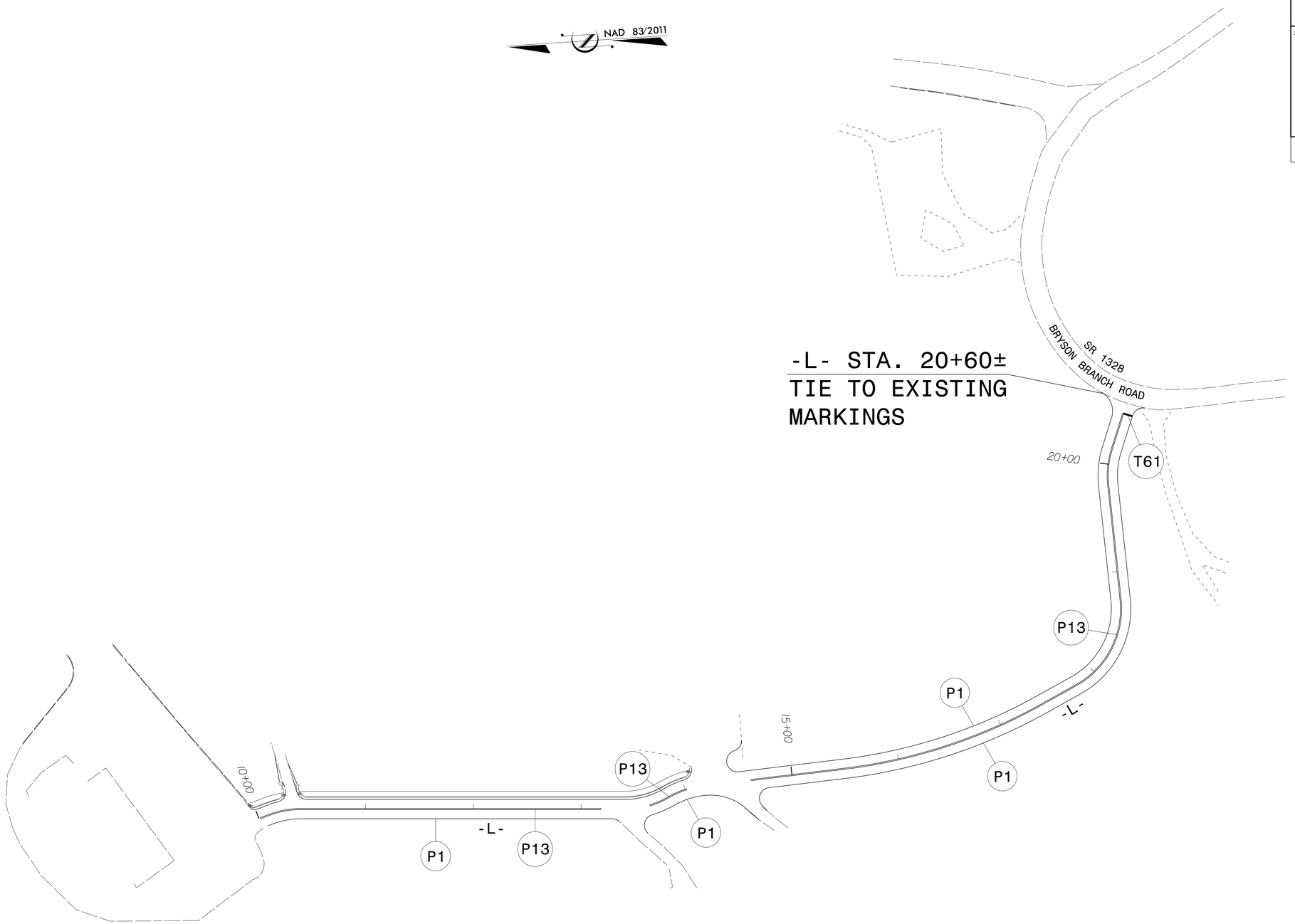
Raleigh, NC 27603
919-420-7660
NC Lic. No. F-0270

NAD 83/2011

-L- STA. 20+60±
TIE TO EXISTING
MARKINGS



PAVEMENT MARKING DETAIL

TIP PROJECT: 48786

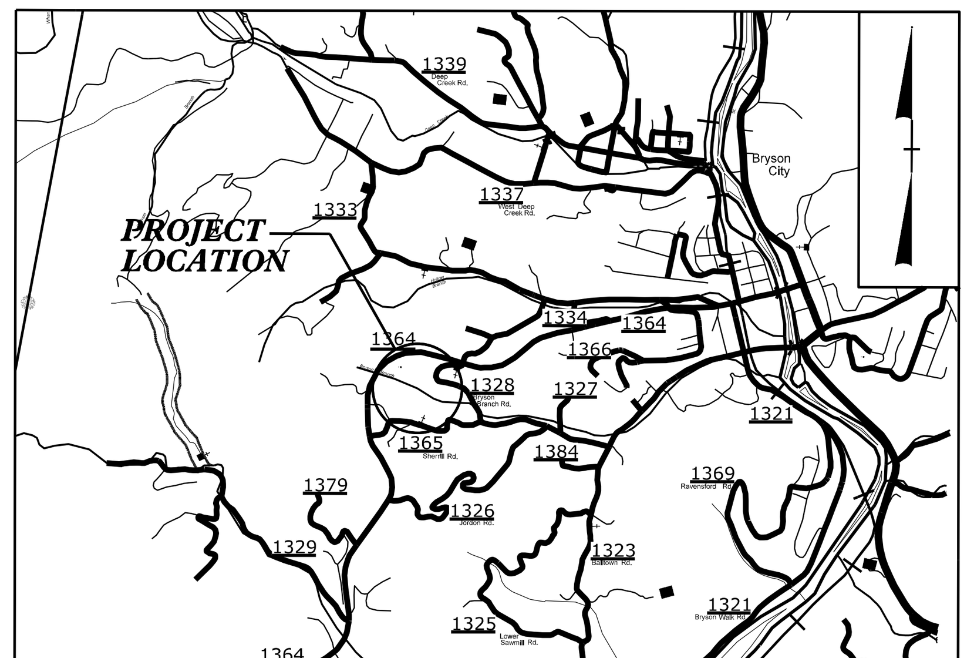
STATE OF NORTH CAROLINA
SWAIN COUNTY
LOCATION: SWAIN COUNTY HIGH SCHOOL

TYPE OF WORK: GRADING, PAVING, DRAINAGE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	48786	EC-1	

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

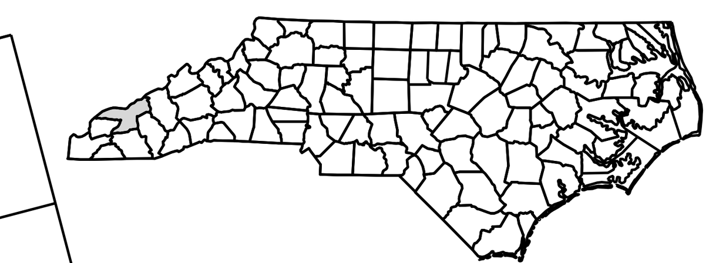
See Sheet 1A For Index of Sheets
See Sheet 1B For Symbology

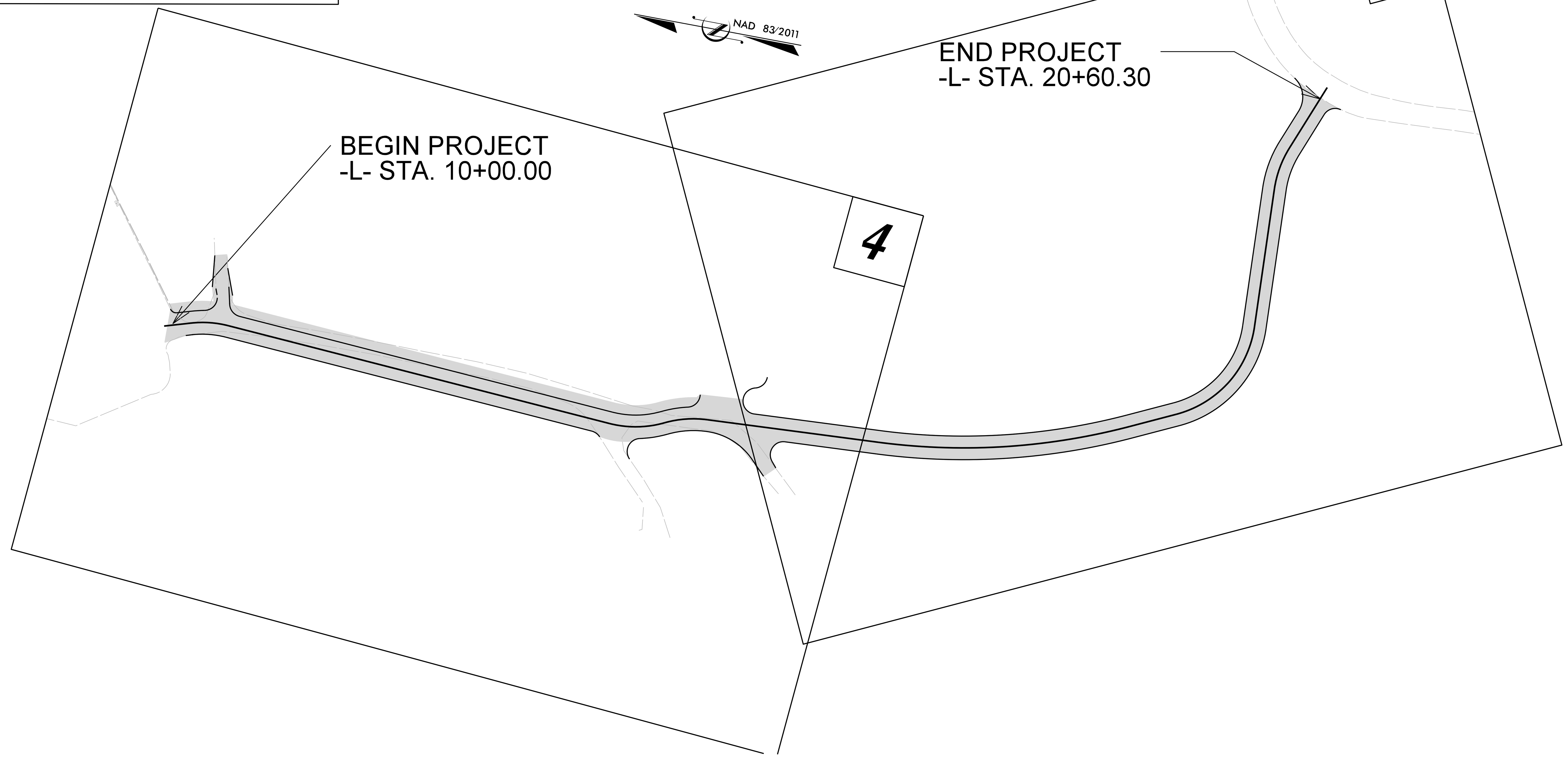


VICINITY MAP

DIVISION OF HIGHWAYS
PROPOSED EROSION CONTROL PLANS

DIVISION 14





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	EW / 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	
	Tiered Skimmer Basin	
	Infiltration Basin	

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

NORTH CAROLINA PROFESSIONAL SEAL 023454 ENGINEER ANNE D. GAMBER

DocuSigned by:
Anne D. Gamber
2312C09D2465429...

GRAPHIC SCALE

20 0 40
PLANS

20 0 40
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

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

Prepared In the Office of:

GANNETT FLEMING
One Glenwood Avenue
Suite 900
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919-420-7660
NC Lic. No. F-0270

Designed by:

ANNE D GAMBER — 0322
NAME — LEVEL III CERTIFICATION NO.

Reviewed In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2018 STANDARD SPECIFICATIONS

Reviewed by:

REID WHITEHEAD, PE, CPESC

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.

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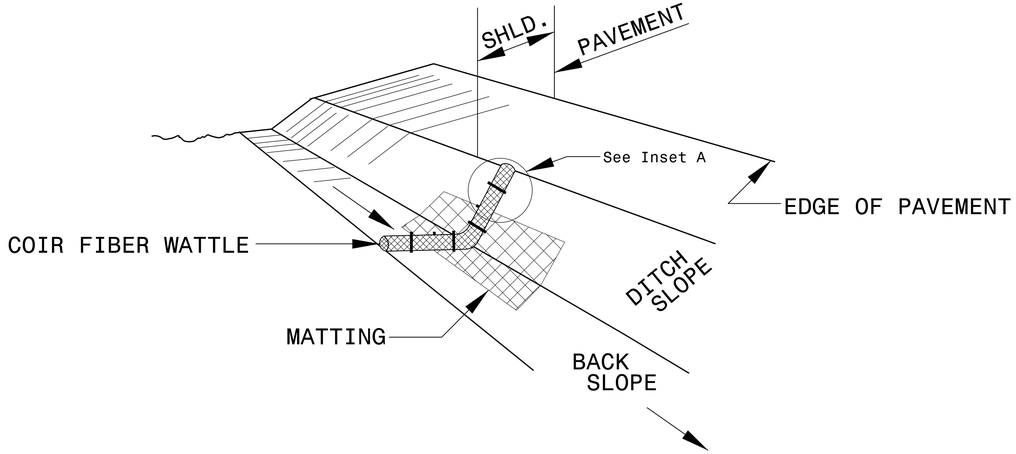
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check 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		

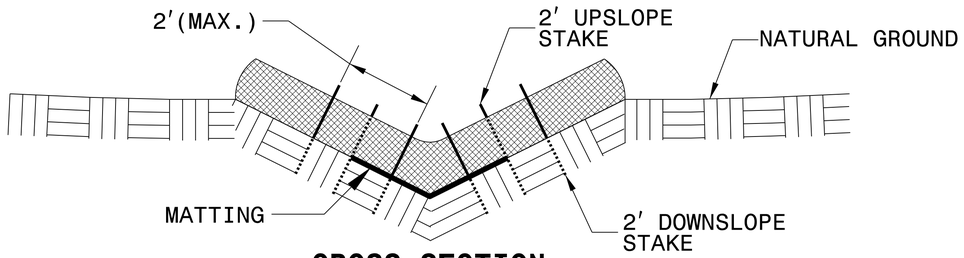
5/3/2022
bwhite

PROJECT REFERENCE NO.	SHEET NO.
48786	EC-2
R/W SHEET NO.	

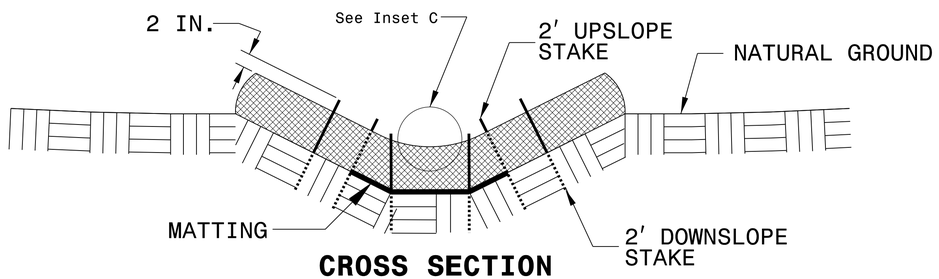
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE.

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

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

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

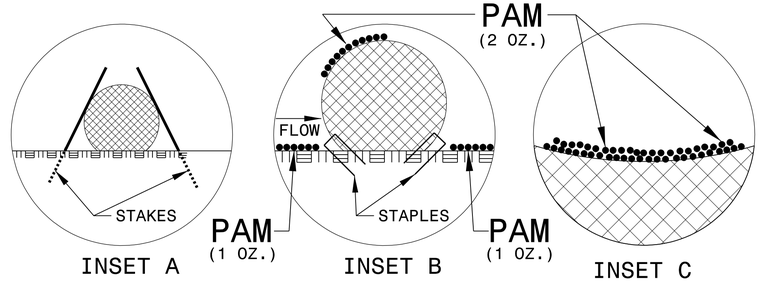
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12″ IN LENGTH.

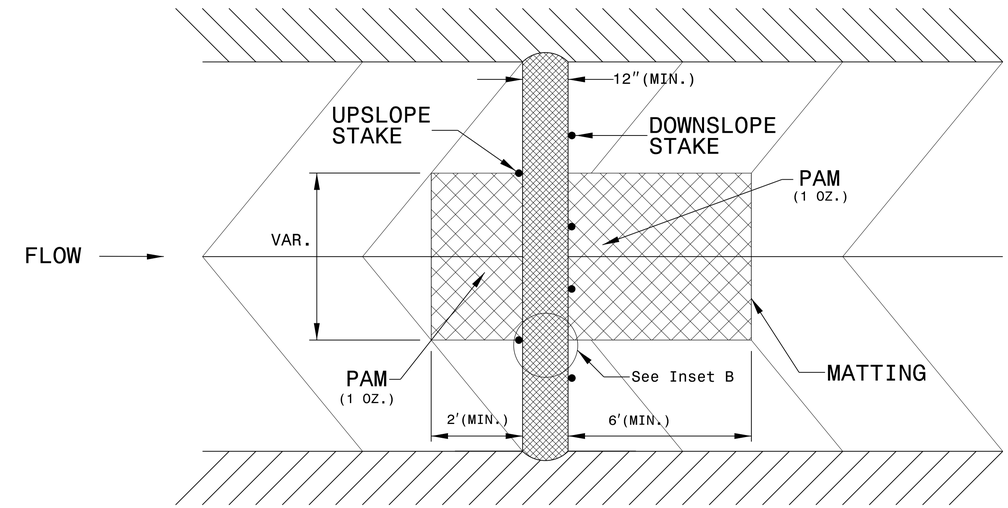
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.





TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
48786	EC-3

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.

PROJECT REFERENCE NO.	SHEET NO.
48786	EC-3A

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4 - 5	L	14+50	16+75	LT	60
5	L	16+75	18+00	LT	40
5	L	17+65	18+10	RT	1413
5	L	19+00	19+50	RT	25
				SUBTOTAL	1538
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					10
				TOTAL	1548
				SAY	1550

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
48786	EC-04/CONST.04
R/W SHEET NO.	

GANNETT FLEMING
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EROSION CONTROL PLAN

NAD 83/2011

-L- PC Sta. 10+10.53

-L- PT Sta. 10+39.84

-L- PRC Sta. 13+83.15

-L- PC Sta. 13+40.37

-L- PT Sta. 14+16.19

RETAIN SYSTEM

SPECIAL CUT DITCH SEE DETAIL 3

CL B RIP RAP EST 2 TONS
GEOTEXTILE FABRIC EST 7 SY

15" RCP-III

S 3° 07' 53.2" E

MATCHLINE -L- STA. 15+00.00 SEE SHEET 5

BEGIN PROJECT
-L- POT Sta. 10+00.00
S 16° 58' 31.9" E

BEGIN CONSTRUCTION
-L- POT Sta. 9+90.00

S 3° 45' 08.2" W

CWD → CWD → CWD → CWD

LATERAL 'V' DITCH SEE DETAIL 1

STANDARD 'V' DITCH SEE DETAIL 2

TIE TO EXISTING DRAW

GRADE TO DRAIN

RETAIN 15" HDPE

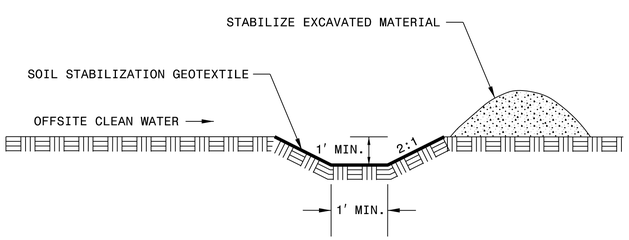
RETAIN 15" HDPE

20 x 9 x 3
ID 4.1

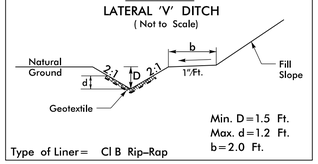
CLEAN WATER DIVERSION

→ → CWD → → CWD → → CWD → → CWD → → CWD → → CWD → → CWD

(Not to Scale)



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

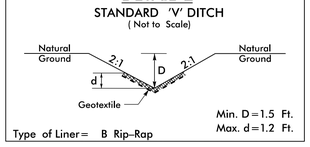


Min. D=1.5 Ft.
Max. d=1.2 Ft.
b=2.0 Ft.

Type of Liner= Cl B Rip-Rap

FROM STA.10+50 TO STA.11+25 -L- RT
EST RIP RAP 30 TONS; GT 60 SQ YD
DDE 20 CY

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

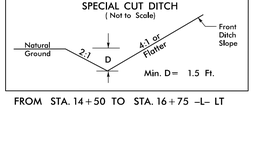


Min. D=1.5 Ft.
Max. d=1.2 Ft.

Type of Liner= B Rip-Rap

FROM STA.11+25 TO STA.11+58 -L- RT
EST RIP RAP 15 TONS; GT 30 SQ YD
DDE 6 CY

DETAIL 3
SPECIAL CUT DITCH
(Not to Scale)



Min. D= 1.5 Ft.

FROM STA. 14+50 TO STA. 16+75 -L- LT

NOTE:
PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED DURING CLEARING AND GRUBBING PHASE.

NOTE: ALL RADII ARE 10' UNLESS OTHERWISE NOTED

FOR -L- PROFILE, SEE SHEET 6

5/3/2022
c:\pwworking\gfpw01\bwhite\d1311715\Swain_hyd_ec_tsh&4.dgn
bwhite

PROJECT REFERENCE NO.	SHEET NO.
48786	EC-05/CONST.05
R/W SHEET NO.	

GANNETT FLEMING
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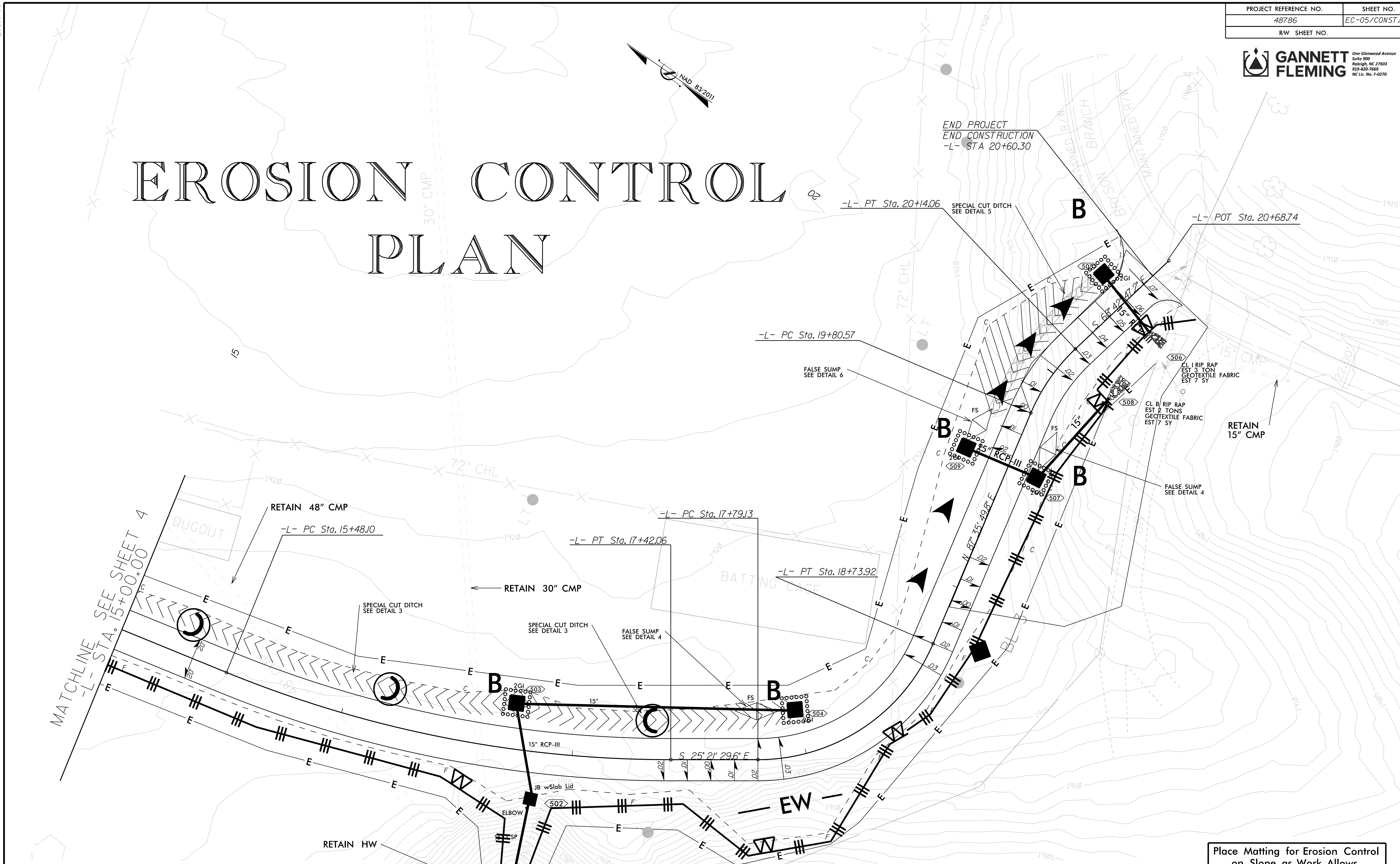
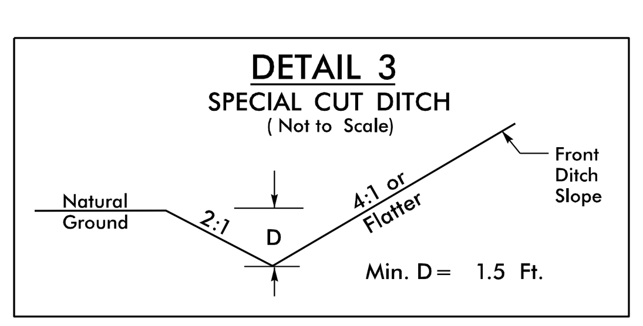
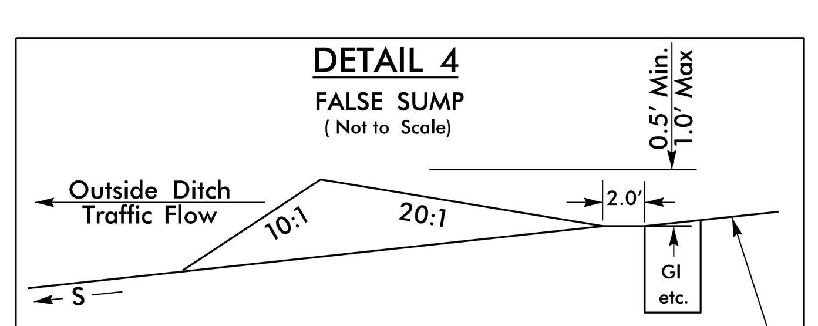
EROSION CONTROL PLAN


NAD 83/2011
END PROJECT
END CONSTRUCTION
-L- STA 20+60.30
-L- PT Sta. 20+14.06
SPECIAL CUT DITCH SEE DETAIL 5
-L- POT Sta. 20+68.74
-L- PC Sta. 19+80.57
FALSE SUMP SEE DETAIL 6
CL I RIP RAP EST 3 TON GEOTEXTILE FABRIC EST 7 SY
CL B RIP RAP EST 2 TONS GEOTEXTILE FABRIC EST 7 SY
RETAIN 15" CMP
FALSE SUMP SEE DETAIL 4
RETAIN 48" CMP
-L- PC Sta. 15+48.10
-L- PT Sta. 17+42.06
-L- PC Sta. 17+79.13
-L- PT Sta. 18+73.92
RETAIN 30" CMP
SPECIAL CUT DITCH SEE DETAIL 3
SPECIAL CUT DITCH SEE DETAIL 3
FALSE SUMP SEE DETAIL 4
MATCHLINE -L- STA. 15+00.00 SEE SHEET 4
15" RCP-III
JB w/Slab Lid
ELBOW
S 25° 21' 29.6" E
N 87° 35' 49.8" E
EW
RETAIN HW
CL I RIP RAP EST 3/TON GEOTEXTILE FABRIC EST 7 SY
DUGOUT
BATTING CAGE
72" CHL
30" CMP
BRYSON BRANCH

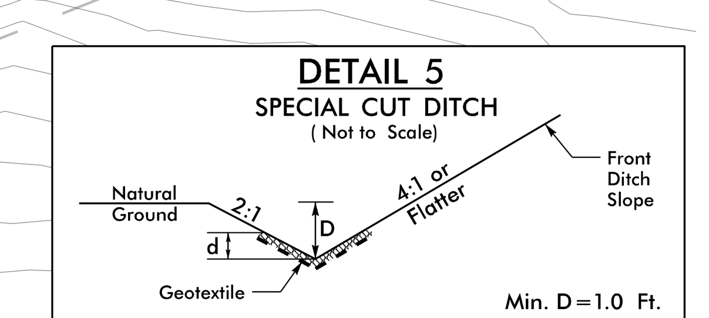
Place Matting for Erosion Control on Slope as Work Allows. Sta. 17+65 to Sta. 18+10 -L- RT



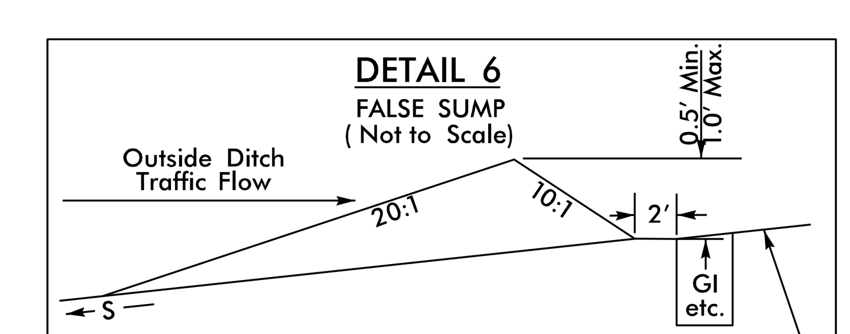
FROM STA. 14+50 TO STA. 16+75 -L- LT
FROM STA. 16+75 TO STA. 18+00 -L- LT



FROM STA. 17+55 TO STA. 17+85 -L- LT
FROM STA. 19+55 TO STA. 19+85 -L- RT



FROM STA. 19+50 TO STA. 20+45 -L- LT
EST RIP RAP 16 TONS; GT 65 SQ YD



FROM STA. 19+55 TO STA. 19+85 -L- LT

NOTE:
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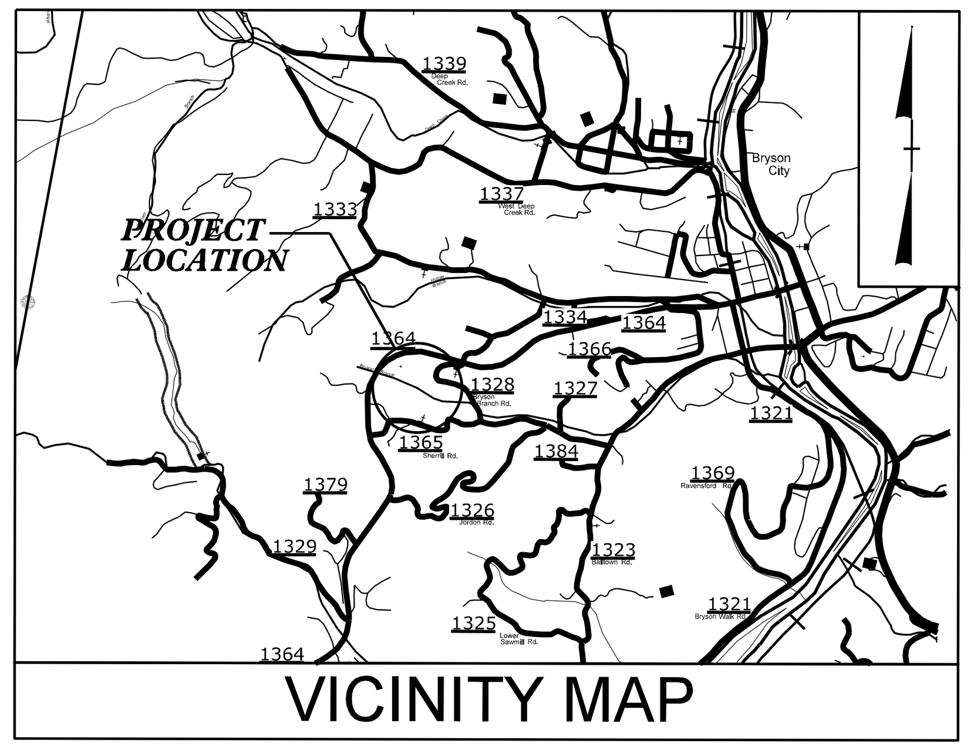
TIP PROJECT: 48786

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



STATE OF NORTH CAROLINA
SWAIN COUNTY

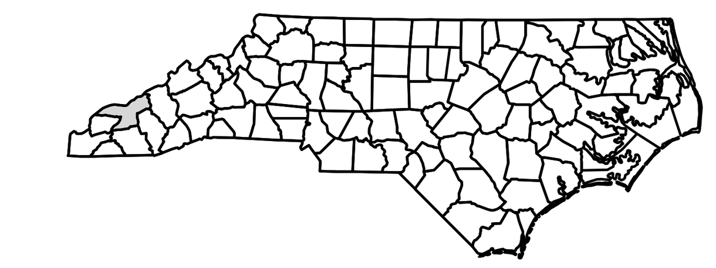
LOCATION: SWAIN COUNTY HIGH SCHOOL

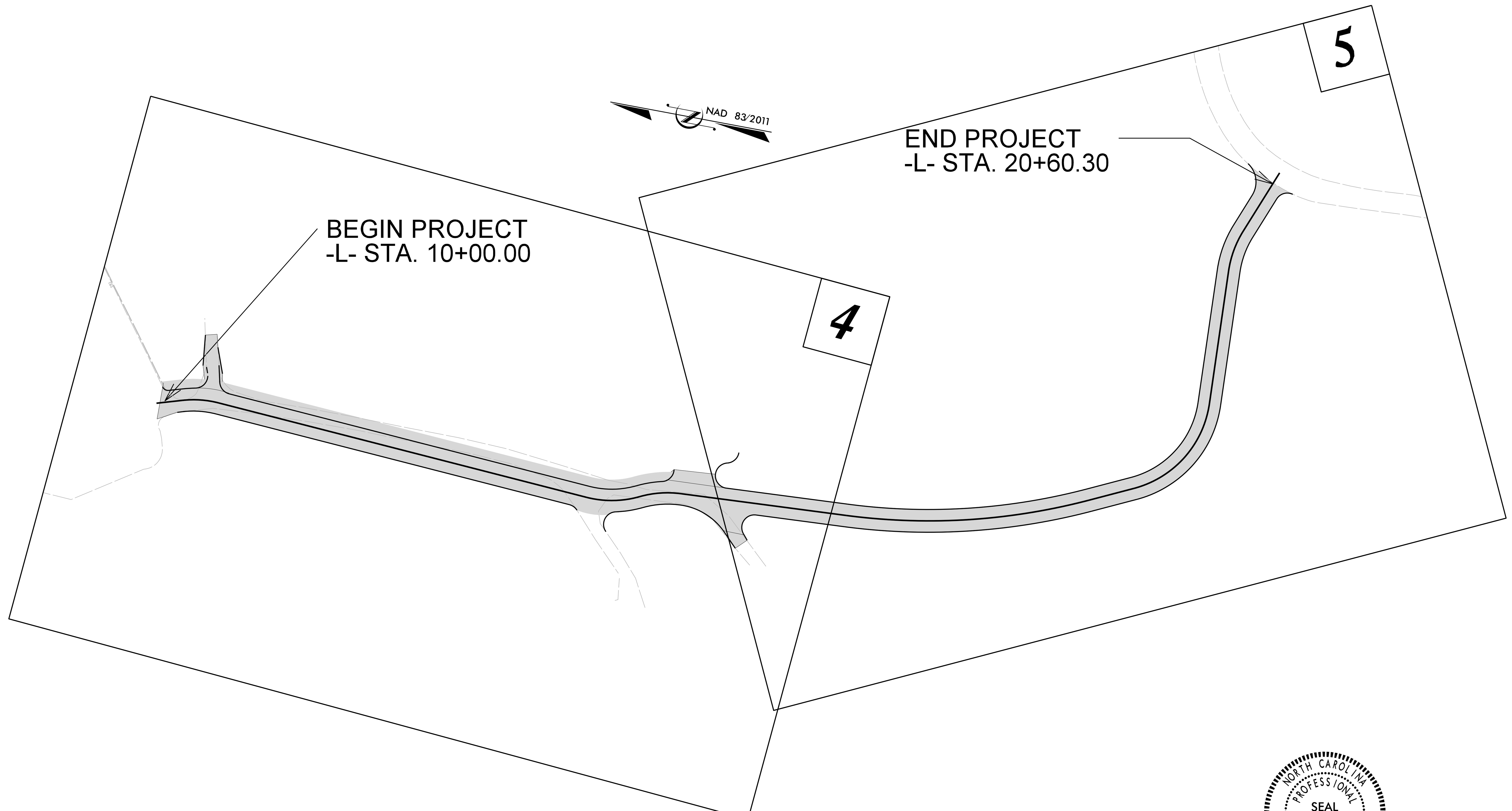
TYPE OF WORK: GRADING, PAVING, DRAINAGE

DIVISION OF HIGHWAYS
REFORESTATION PLANS

STATE	STATE PROJECT REFERENCE NO.		SHEET NO.	TOTAL SHEETS
N.C.	48786		RF-1	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION	

DIVISION 14





NORTH CAROLINA PROFESSIONAL SEAL 023454 ENGINEER ANNE D. GAMBER

DocuSigned by:
Anne D. Gamber
2312C09D2465429...

GRAPHIC SCALE

20 0 40
PLANS

20 0 40
PROFILE (HORIZONTAL)

5 0 10
PROFILE (VERTICAL)

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Prepared In the Office of:

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Raleigh, NC 27603
919-420-7660
NC Lic. No. F-0270

Designed by:

ANNE D GAMBER 0322
NAME LEVEL III CERTIFICATION NO.

Reviewed In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
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1631.01	Matting Installation		

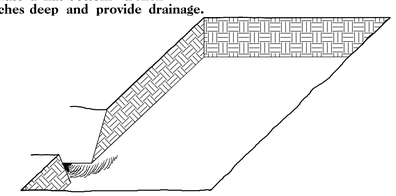
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	48786	RF-2	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

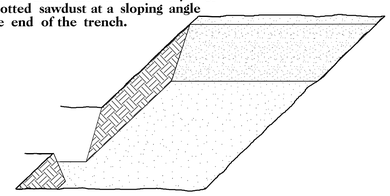
SEEDLING / LINER BAREROOT PLANTING DETAIL

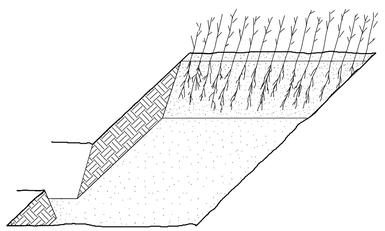
HEALING IN

2. Excavate a flat bottom trench 12 inches deep and provide drainage.

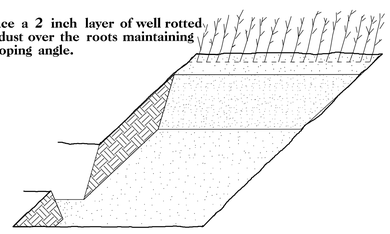


3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.

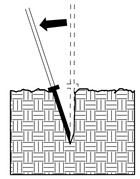




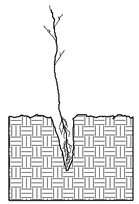
5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.



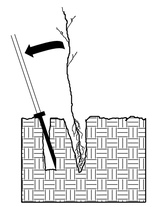
DIBBLE PLANTING METHOD USING THE KBC PL



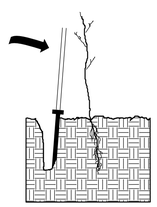
1. Insert planting bar as shown and pull handle toward planter.



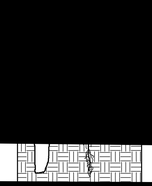
2. Remove planting ba e seedling a



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



5. Push handle forwa firming soil at top.



hole open. Water thoroughly.

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

[redacted] REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, [redacted] 680 PLANTS PER ACRE.

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
[redacted]	[redacted]	[redacted]
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

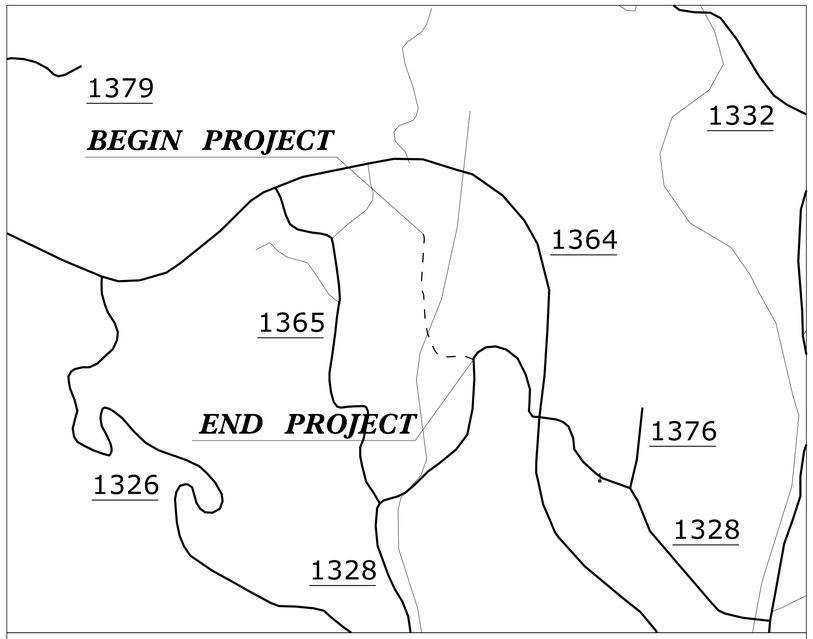
REFORESTATION DETAIL SHEET

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SIGNING PLAN

SWAIN COUNTY

LOCATION: NEW ENTRANCE ROAD FOR SWAIN COUNTY HIGH SCHOOL



SKETCH MAP SHOWING THE VICINITY OF PROJECT

PLAN PREPARED BY:

GANNETT FLEMING — One Glenwood Avenue, Suite 900, Raleigh, NC 27603, 919-420-7660, NC Lic. No. F-0270

RICKY A TIPTON, PE, PLS — PROJECT ENGINEER

BENJAMIN A. WHITE, PE — PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

SHEET NO.	TITLE
SIGN-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
SIGN-2	SIGNING PLAN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

APPROVED: DocuSigned by: Benjamin A. White 68F7762216174443...

DATE: 5/4/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

SHEET NO.
SIGN-1

TIP PROJECT: 48786

TIP NO.	SHEET NO.
48786	SIGN-2

APPROVED: DocuSigned by: Benjamin A White E8F776221617443...

DATE: 5/4/2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 044594 ENGINEER BENJAMIN A. WHITE

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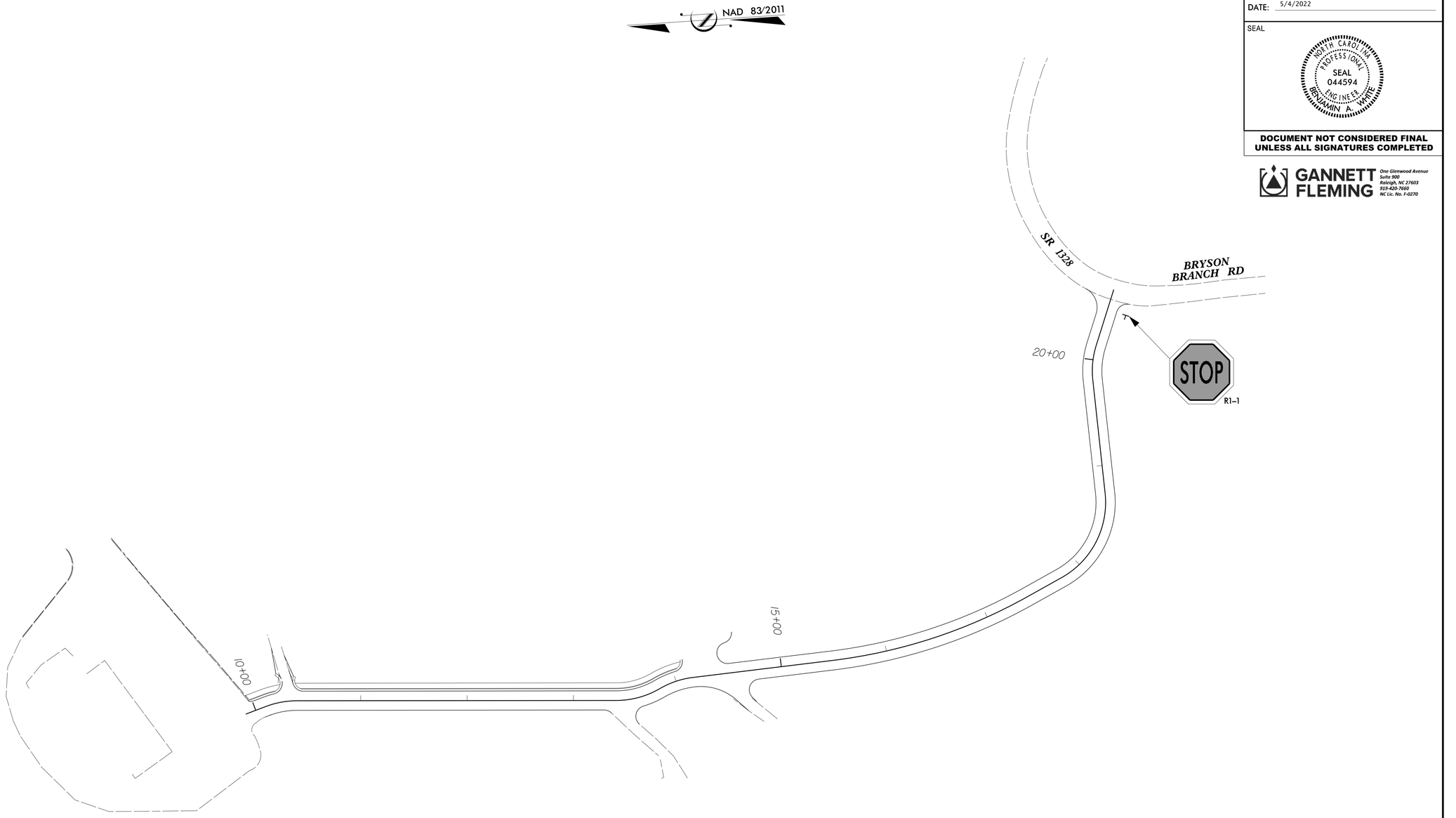

SIGNING PLAN