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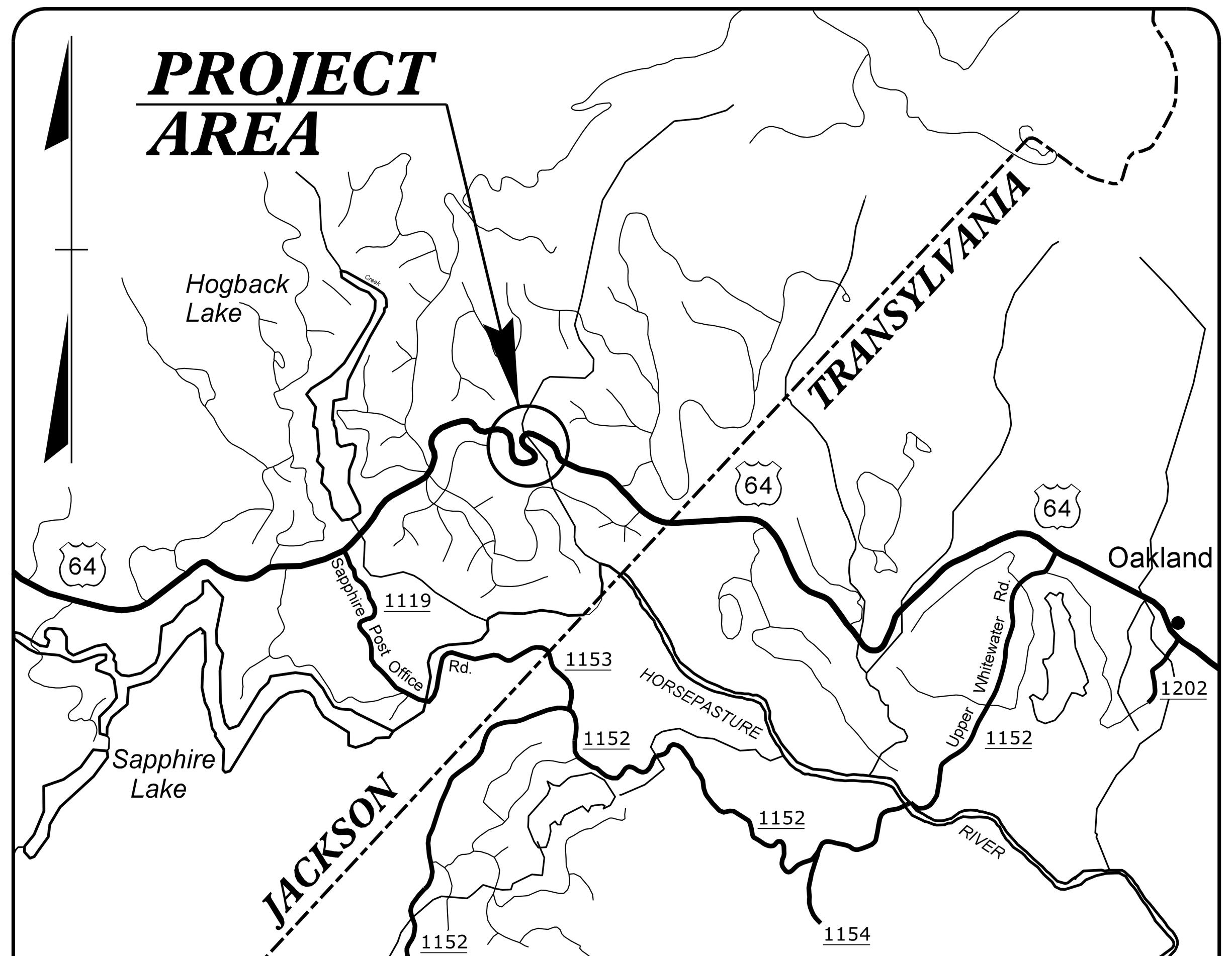
09/08/99

TIP PROJECT: W–5714E

CONTRACT: DN01057

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



VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

JACKSON COUNTY

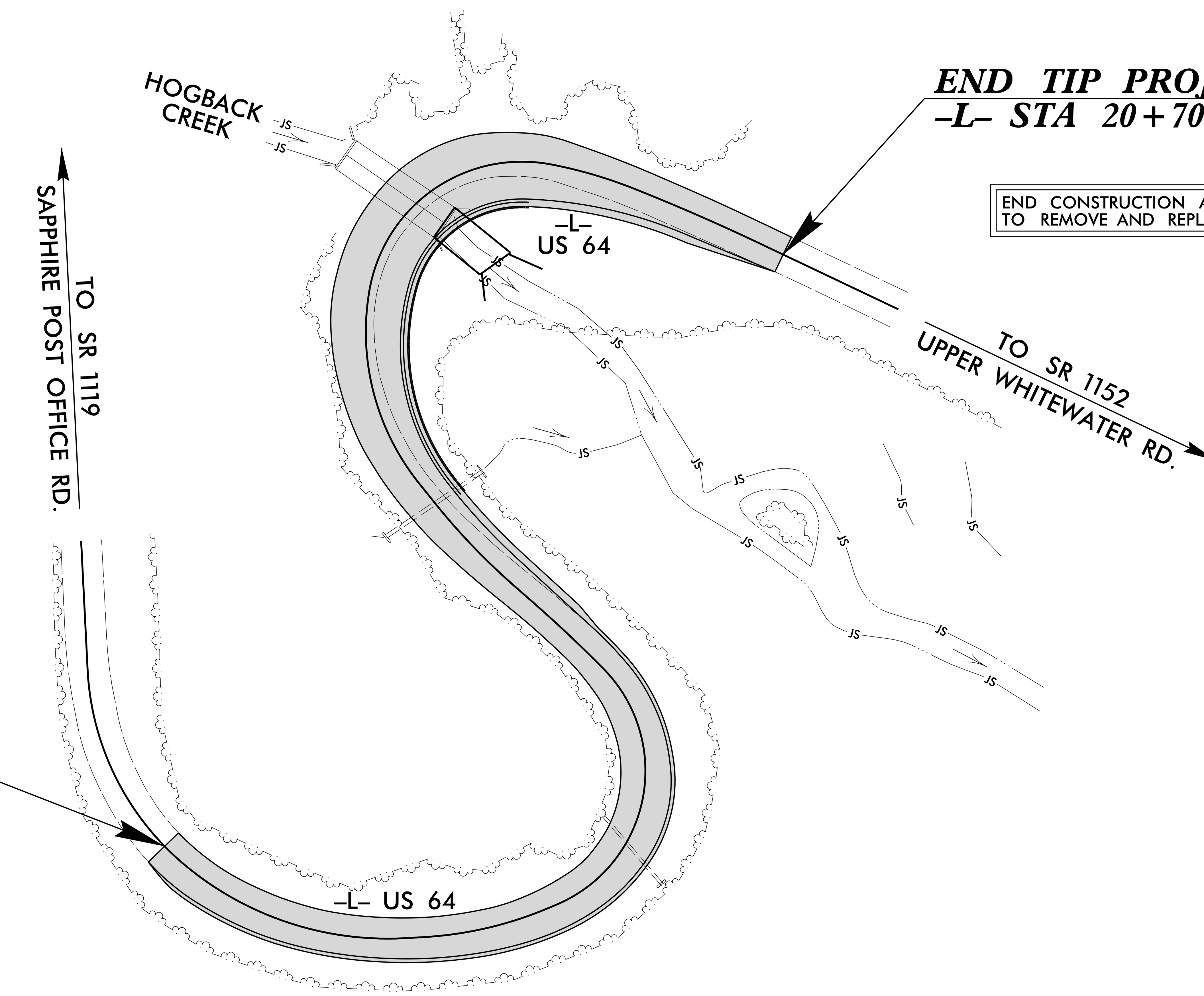
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W–5714E	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
44862.1.5	HSIP–0064(197)	PE
44862.2.5	HSIP–0064(197)	R/W & UTILITIES
44862.3.5	HSIP–0064(197)	CONSTR.

LOCATION: US 64 APPROXIMATELY 0.8 MILE EAST OF SR 1119 (SAPPHIRE POST OFFICE RD.) AT "CHRYSLER CURVE" NEAR SAPPHIRE

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT

FINAL PLANS



NAD 83/2011

**PROPOSED DESIGN EXCEPTION FOR DESIGN SPEED AND SHOULDER WIDTH.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2020 = 3,400
ADT 2040 = 6,800

T = 7 % *
V = 15 MPH**
* TTST = 1 DUAL = 6
FUNC CLASS = MINOR ARTERIAL REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY PROJECT W–5714E	=	0.170 MILES
TOTAL LENGTH PROJECT W–5714E	=	0.170 MILES

Plans Prepared By:
ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

Plans Prepared For:
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION 14
253 WEBSTER ROAD
SYLVA, NC 28779

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 28, 2018

LETTING DATE:
JULY 23, 2024

MAC MCDOWELL
NCDOT CONTACT

M. TRAVIS POTTS, PE
PROJECT ENGINEER

NYA K. BOAYUE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by: Andrea Hayden 5/3/2024
C4A93D325CF4490...
SIGNATURE: P.E.
SEAL 028933 NORTH CAROLINA PROFESSIONAL ENGINEER ANDREA S. HAYDEN

ROADWAY DESIGN ENGINEER

DocuSigned by: M. Travis Potts 5/6/2024
4CB1B21EEB284DF...
SIGNATURE: P.E.
SEAL 041453 NORTH CAROLINA PROFESSIONAL ENGINEER M. TRAVIS POTTS

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

03-MAY-2024 10:31
N:\DOT\60068\16-00 W-5714E Chrysler Curve\Roadway\Proj\W5714E_rdy_tsh.dgn
$$$$USERNAME$$$$

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041453 ENGINEER M. TRAVIS POTTS

DocuSigned by: M. Travis Potts 4/20/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX OF SHEETS

GENERAL NOTES:

2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

RIGHT-OF-WAY MARKERS:

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

2018 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-16-2018
REV.

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	
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation (Special Detail for Sheet 6 of 8)
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

9/10/2021

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	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 — Vineyard

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

** 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.

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	2A-1
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

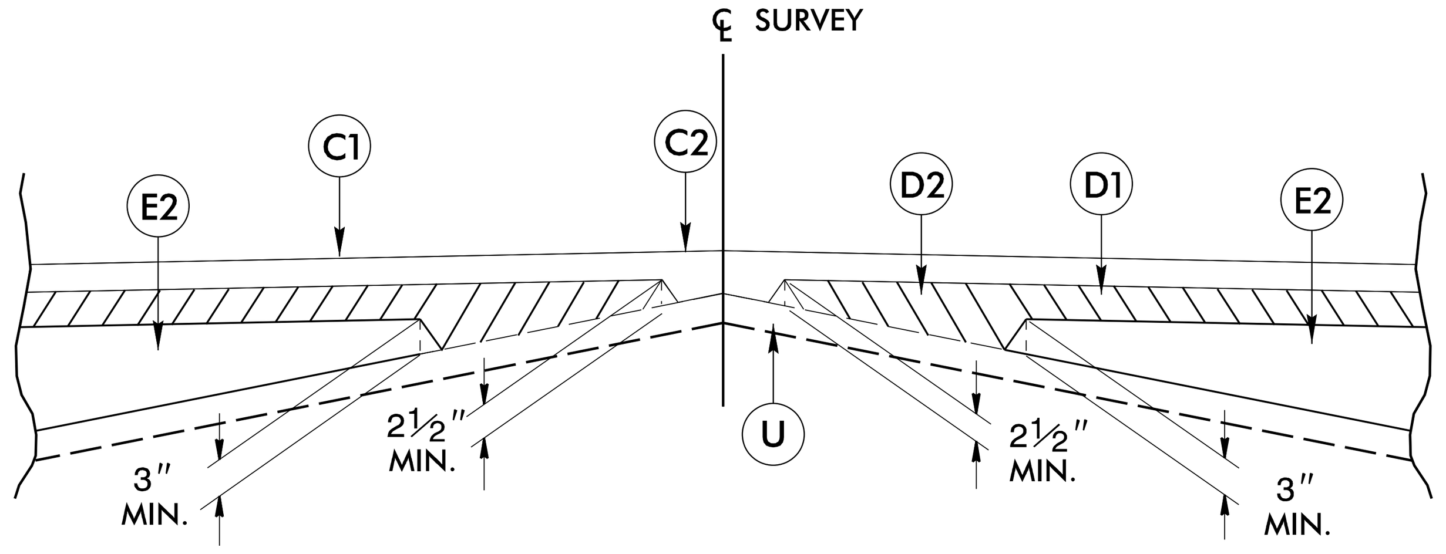
NORTH CAROLINA PROFESSIONAL SEAL 041453 ENGINEER M. TRAVIS POTTS
DocuSigned by: M. Travis Potts 4/20/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

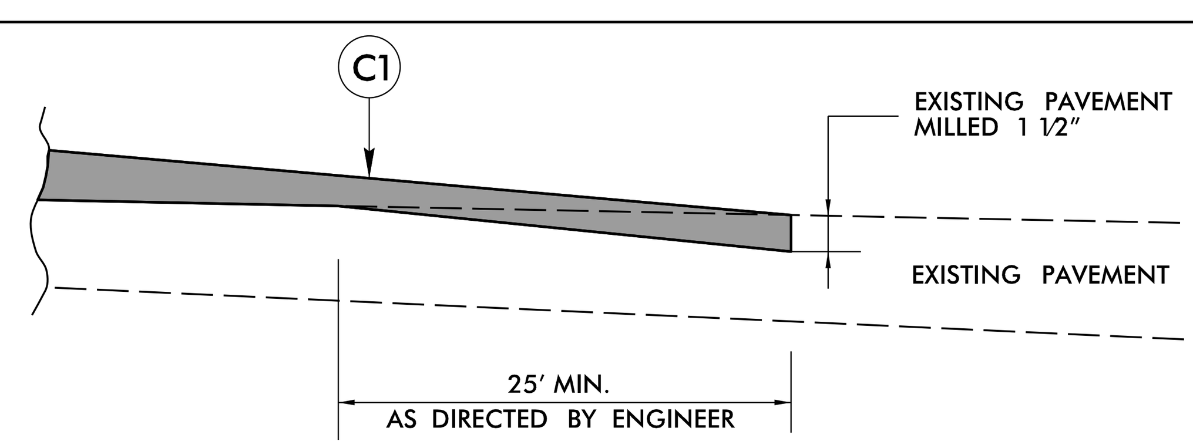
PAVEMENT SCHEDULE
PRELIMINARY PAVEMENT DESIGN

C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2½" OR GREATER THAN 4" 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" OR GREATER THAN 5½" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING).

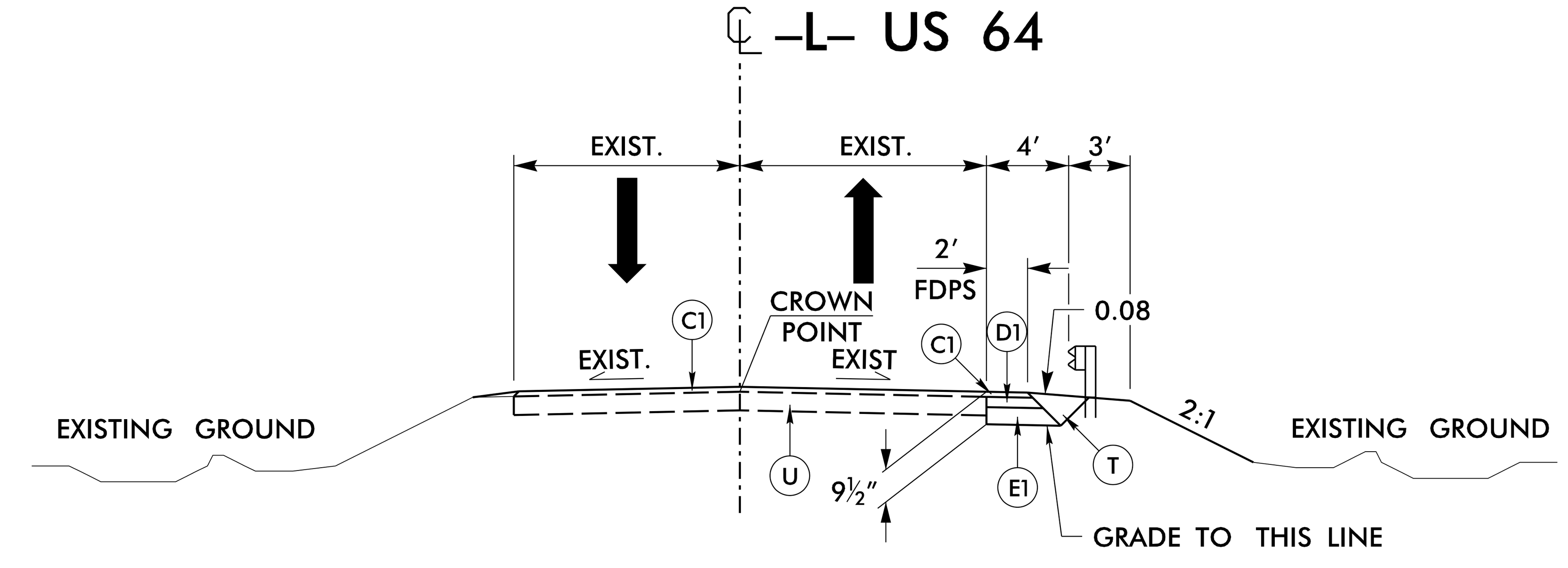
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging

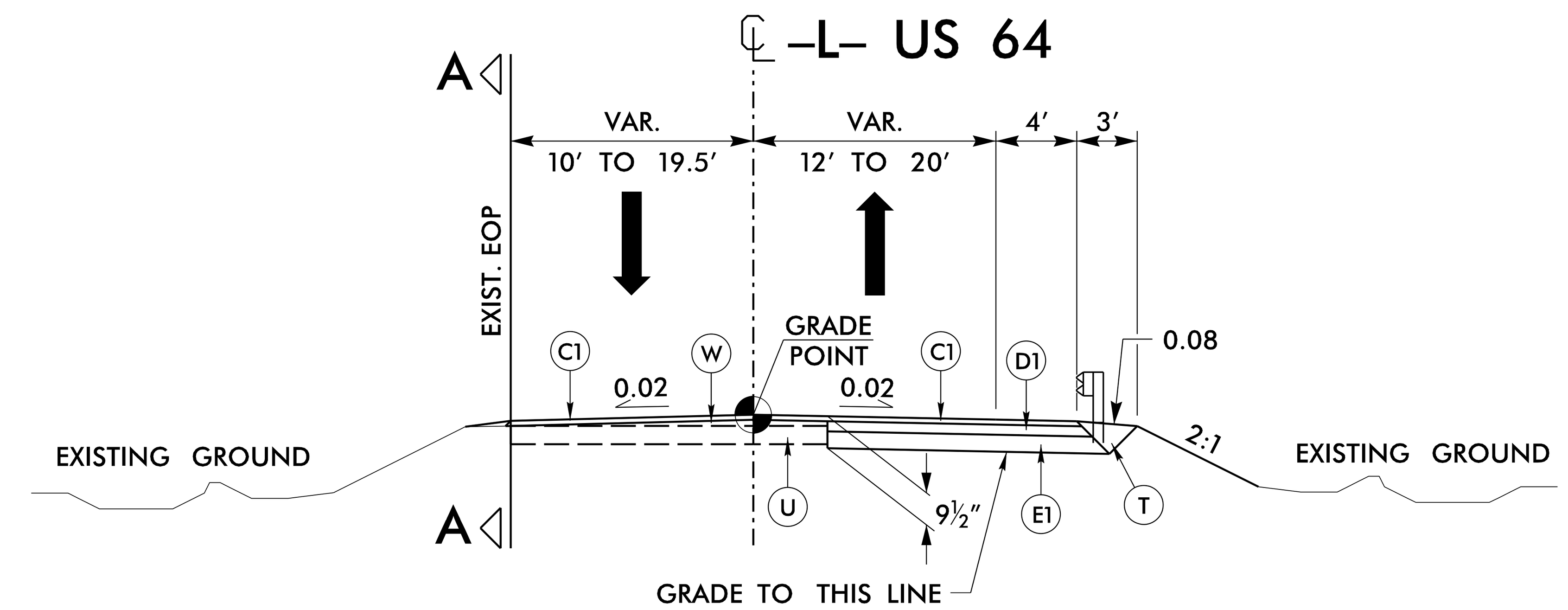


Incidental Milling Existing Pavement



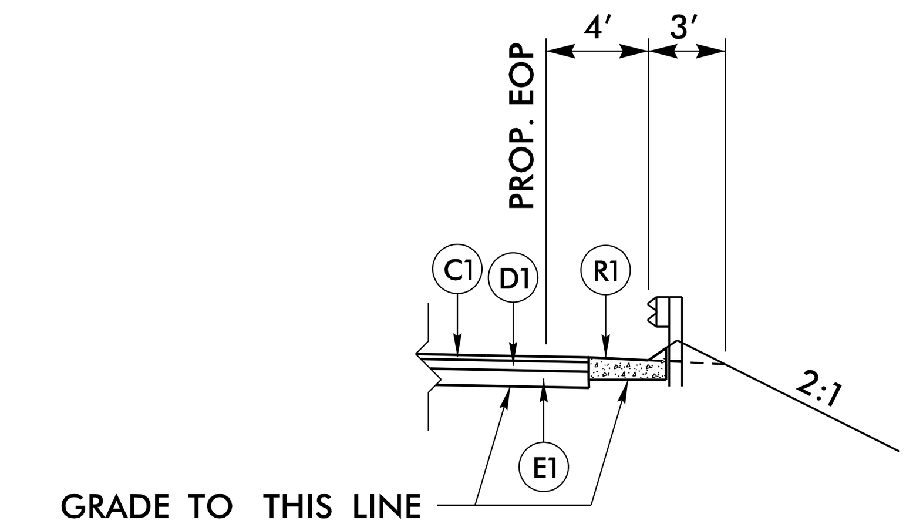
TYPICAL SECTION NO. 1

-L- STA. 11+75.00 TO -L- STA. 15+70.07



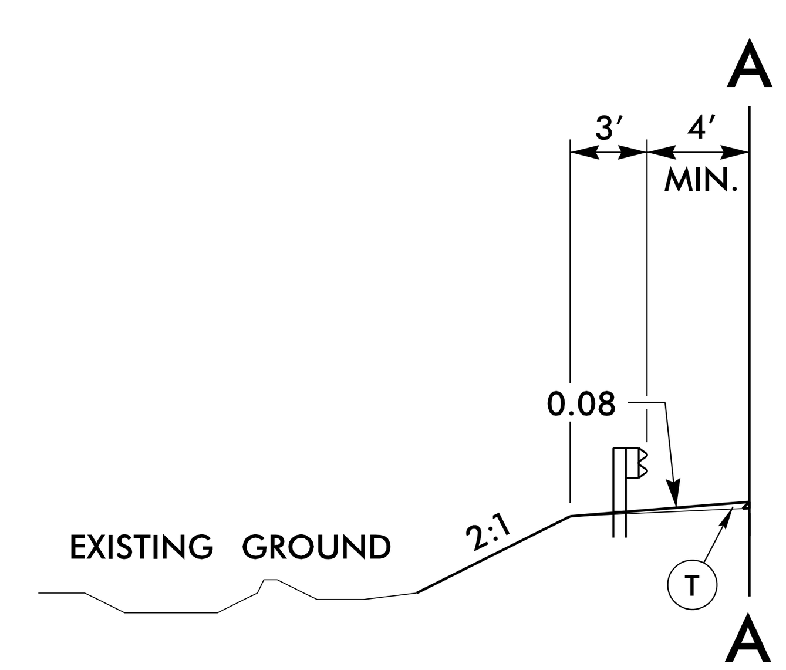
TYPICAL SECTION NO. 2

-L- STA. 15+70.07 TO -L- STA. 20+70.14



SHOULDER BERM GUTTER DETAIL

-L- STA. 16+75.00 TO -L- STA. 19+25 (RT)



INSET A

USE INSET A AS FOLLOWS:

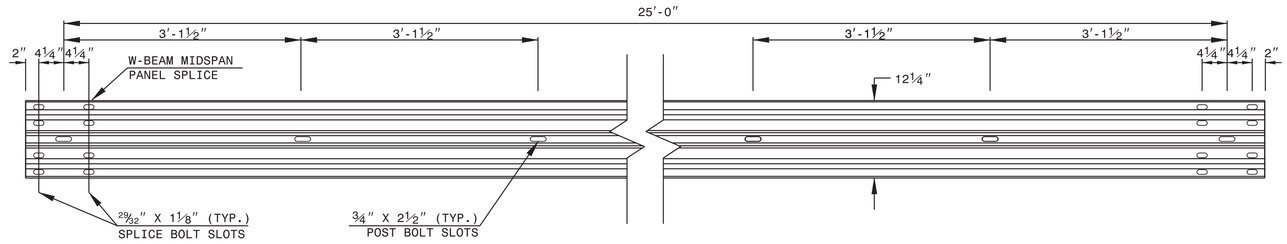
-L- STA. 16+50 +/- TO -L- STA. 17+20 +/- (LT)
-L- STA. 18+00 +/- TO -L- STA. 19+20 +/- (LT)

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	2C-1
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

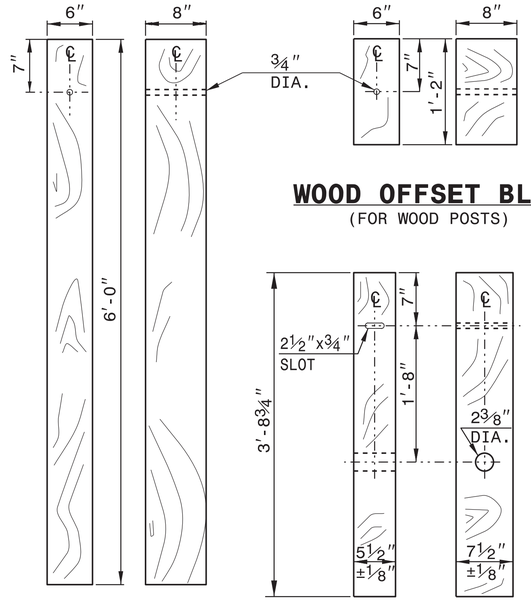
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02



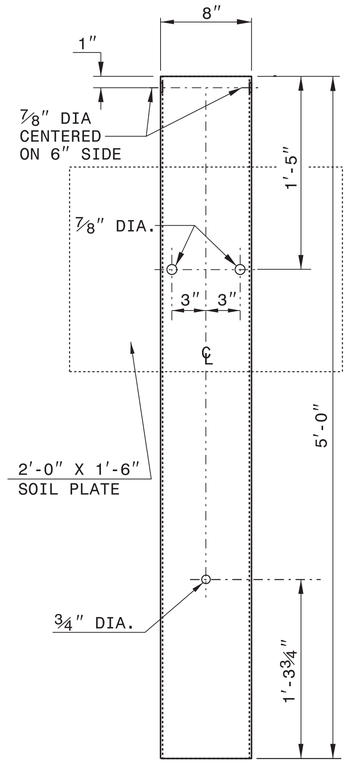
STANDARD W-BEAM GUARDRAIL



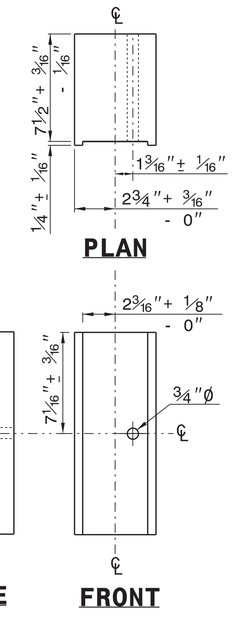
WOOD OFFSET BLOCK
(FOR WOOD POSTS)

STANDARD LINE POST

SHORT WOOD BREAKAWAY POST



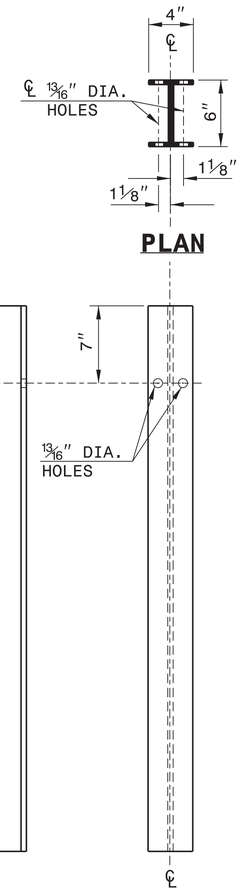
STEEL TUBE
TS 6"x8"x0.1875"



PLAN

SIDE **FRONT**

ROUTED OFFSET BLOCK



PLAN

SIDE **FRONT**

"W6" STEEL POST

SYSTEM PARTS

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

ROADWAY DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 6 OF 8
862D02

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOHN S HOWERTON
9/24/2018

DocuSigned by:
873F3D17DCDC45F...

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

SEE TITLE BLOCK

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

12/06/07

COMPUTED BY: NB	DATE: DECEMBER 3, 2021
CHECKED BY: MTP	DATE: DECEMBER 3, 2021

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	3B-1

SUMMARY OF EARTHWORK
VOLUME IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L- 11+75.00	-L- 20+70.14	50	4,764	4,714	0
SUBTOTAL:		50	4,764	4,714	0
TOTAL:		50	4,764	4,714	0
PROJECT TOTAL:		50	4,764	4,714	0
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				236	
GRAND TOTAL:		50	4,764	4,950	0
SAY:		60		5,200	

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

Approximate quantities only. Unclassified excavation, fine grading, and clearing and grubbing be paid for at the lump sum price for "Grading".

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
-L- RT	16+75	19+25	204
TOTAL:			204
SAY:			205

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH		W		ANCHORS				IMPACT ATTENUATOR TYPE 350			REMOVE EXISTING GUARDRAIL	REMOVE AND RESET EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GREU TL-2	GREU TL-3	CAT-1	AT-1	EA	G	NG			
-L-	11+80	19+54	RT	362.50	412.50		11+80		4′	7′	25		0.5		1							787		REMOVE AND REPLACE GUARDRAIL
-L-	16+50	17+20	LT	75.00			17+20	16+50	4′	7′	25	25	0.5	0.5	2							90		REMOVE AND REPLACE GUARDRAIL
-L-	18+00	19+20	LT		137.50		19+20	18+00	4′	7′	25	25	0.5	0.5	2							111		REMOVE AND REPLACE GUARDRAIL
-L-	19+54	END EXIST GR	RT	1,100.00				END EXIST GR	EXISTING	EXISTING		50		1		1						1,100		REMOVE AND REPLACE GUARDRAIL; APPROXIMATE LENGTH
		SUBTOTAL		1,537.50	550.00										5	1						2,088		
		ANCHOR DEDUCTIONS																						
		GREU TL-2	5 @ 25	-75	-50																			
		GREU TL-3	1 @ 50	-50																				
		TOTAL		1,412.50	500.00										5	1						2,088		
		SAY		1,425.00	525.00										5	1						2,100		
				EXTRA GUARDRAIL POSTS = 10 EA																				

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$$$$USERNAME$$$$

6206MTP02

COMPUTED BY:	SB	DATE:	4/7/21
CHECKED BY:		DATE:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
W-5714E	3D-1

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

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

LINE & STATION	OFFSET		STRUCTURE NUMBER FROM	STRUCTURE NUMBER TO	TOP ELEVATION FT.	INVERT ELEVATION FT.	INVERT ELEVATION FT.	MINIMUM REQUIRED SLOPE %	C. S. PIPE 12 .064	C. S. PIPE 15 .064	C. S. PIPE 18 .064	C. S. PIPE 24 .064	C. S. PIPE	C. S. PIPE 30 .079	C. S. PIPE	C. S. PIPE	C. S. PIPE 36 .079	R. C. PIPE CLASS III 12	R. C. PIPE CLASS III 15	R. C. PIPE CLASS III 18	R. C. PIPE CLASS III 24	R. C. PIPE CLASS III 30	R. C. PIPE CLASS III 36
SIZE / THICKNESS OR GAUGE																							
L 16+79	31	RT	0401		3034.0																		
			0401	0402		3022.2	3017.9					40											
L 18+91	22	RT	0403		3028.1																		
			0403	0404		3024.6	3024.3												20				
L 19+20	22	RT	0404		3028.4																		
			0404	0405		3024.2	3024.0												36				
L 19+65	35	RT	0405		3029.0																		
			0405	0406		3023.9	3014.0			24													
L 14+52	0	CL																					
SHEET TOTALS										24		40							56				
PROJECT TOTALS										24		40							56				

LINE & STATION	FROM	TO	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY	REINFORCED ENDWALLS CY	DRAINAGE STRUCTURE MASONRY CY	QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH	A 5' THRU 10' LIN. FT.	B 10' AND ABOVE LIN. FT.	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E	F	G		CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06	CONCRETE TRANSITIONAL SECTION C.B. STD. 852.05
L 16+79	0401					1	5.0	2.0							
	0401	0402													
L 18+91	0403					1									
	0403	0404													
L 19+20	0404					1									
	0404	0405													
L 19+65	0405					1	0.1								
	0405	0406													
L 14+52															
SHEET TOTALS						4	5.1	2.0							
PROJECT TOTALS						4	7.7								

LINE & STATION	FROM	TO	OPEN THROAT C.B. STD. 840.04 OR STD. 840.05	CONCRETE BRIDGE APPROACH D.I. STD. 840.13	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATES STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26	G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27	G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28	G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20	G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20	G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22	G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22	G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24	G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24	G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29	G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29	DRIVEWAY D.I. STD. 840.30	FRAME W/ GRATE FOR DRIVEWAY STD. 840.30	J.B. STD. 840.31, STD. 840.32, OR STD. 840.45	ANGLED VANE GRATES AND FRAMES STD. 840.33	T.B.J.B. STD. 840.34	T.B.D.I. STD. 840.35 OR STD. 840.46	T.B.D.I. FOR STEEL GRATES STD. 840.36	STEEL FRAME WITH TWO GRATES STD. 840.37	TEMP STEEL PLATE COVER MASONRY DRAINAGE	##" SPRING BOX PIPE	SPRING BOX STD. 840.41
L 16+79	0401																			1								
	0401	0402																										
L 18+91	0403																1						1					
	0403	0404																										
L 19+20	0404																1						1					
	0404	0405																										
L 19+65	0405																			1								
	0405	0406																										
L 14+52																												
SHEET TOTALS																	2			2			2					
PROJECT TOTALS																	2			2			2					

LINE & STATION	FROM	TO		M.H. STD. 840.51, STD. 840.52, OR STD. 840.53	M.H. FRAME AND COVER STD. 840.54			CONVERT EXISTING C.B. TO J.B.	CONVERT EXISTING C.B. TO D.I.	CONVERT EXISTING D.I. TO J.B.	CONVERT EXISTING J.B. TO D.I.	ADJUST C.B.	ADJUST D.I.	15" C.S. ELBOW	18" C.S. ELBOW	24" C.S. ELBOW	30" C.S. ELBOW	36" C.S. ELBOW	PIPE CLEAN OUT EA	FLOWABLE FILL CY	CONCRETE COLLARS CL. "B" STD. 840.72 CY	CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY	PIPE REMOVAL LIN. FT.	REMARKS
L 16+79	0401				1																			
	0401	0402																						
L 18+91	0403																							
	0403	0404																						
L 19+20	0404																							
	0404	0405																						
L 19+65	0405				1																			
	0405	0406												2										
L 14+52																			1	4				
SHEET TOTALS					2									2					1	4				
PROJECT TOTALS					2									2					1	4				

ABBREVIATIONS

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

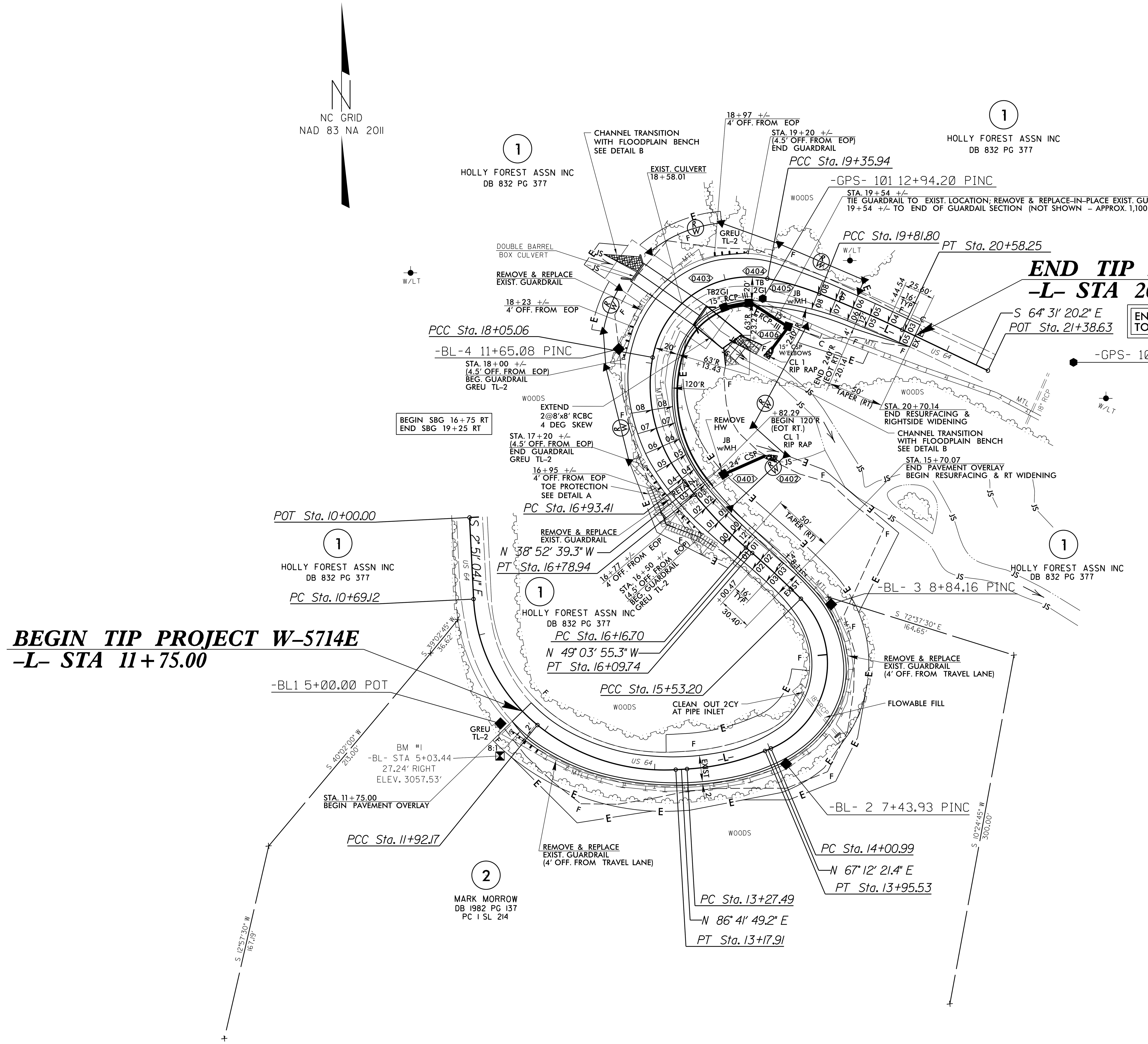
PROJECT REFERENCE NO.	SHEET NO.
W-5714E	4
R/W SHEET NO.	

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 041453 M. TRAVIS POTTS — DocuSigned by: M. Travis Potts 4/20/2022

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 27876 RANA STANSELL — DocuSigned by: Rana Stansell 4/20/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L-			
PI Sta 11+34.53 Δ = 48° 04' 23.2" (LT) D = 39° 04' 01.5" L = 123.05' T = 65.41' R = 146.66'	PI Sta 12+58.07 Δ = 42° 22' 43.5" (LT) D = 33° 42' 12.2" L = 125.74' T = 65.90' R = 170.00'	PI Sta 13+61.85 Δ = 19° 29' 27.8" (LT) D = 28° 38' 52.4" L = 68.04' T = 34.35' R = 200.00'	PI Sta 15+16.21 Δ = 111° 48' 08.1" (LT) D = 73° 27' 22.1" L = 152.20' T = 115.21' R = 78.00'
PI Sta 15+81.49 Δ = 4° 28' 08.6" (LT) D = 7° 54' 11.7" L = 56.55' T = 28.29' R = 724.97' SE = SEE PLANS RO = SEE PLANS	PI Sta 16+47.90 Δ = 10° 11' 16.0" (RT) D = 16° 22' 12.8" L = 62.23' T = 31.20' R = 350.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 17+52.94 Δ = 49° 12' 24.8" (RT) D = 44° 04' 25.2" L = 111.65' T = 59.53' R = 130.00' SE = SEE PLANS RO = SEE PLANS	PI Sta 18+88.57 Δ = 90° 20' 54.3" (RT) D = 69° 01' 51.8" L = 130.88' T = 83.51' R = 83.00' SE = SEE PLANS RO = SEE PLANS
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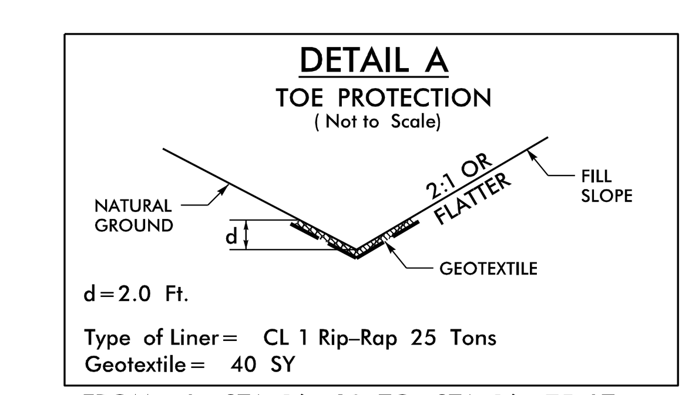
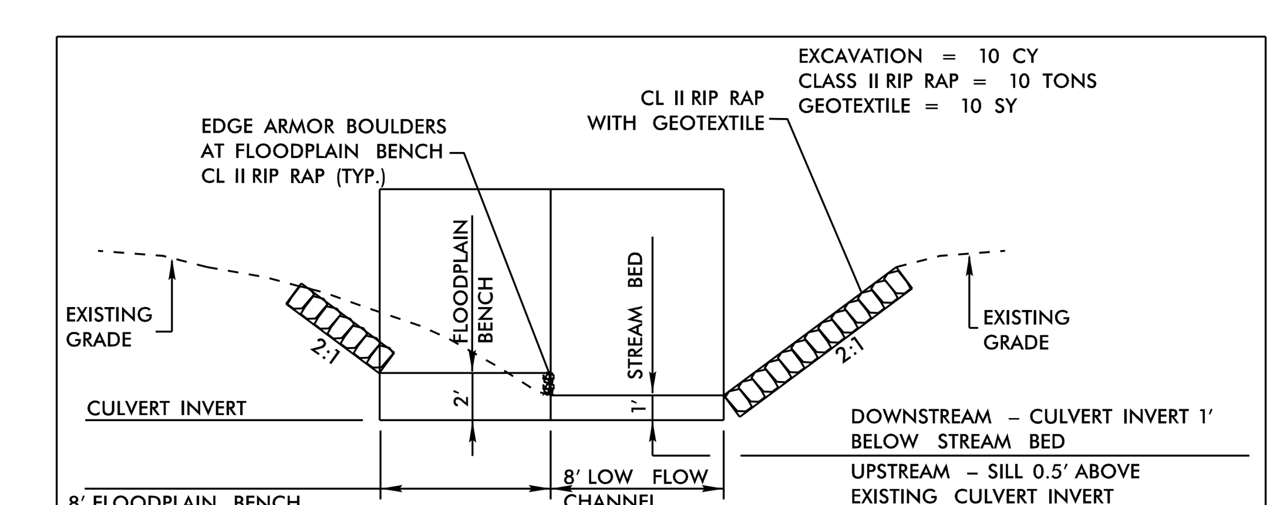


FROM -L- STA. 16+30 TO STA. 16+75 LT
FROM -L- STA. 16+85 TO STA. 17+05 LT



CHANNEL TRANSITION DETAIL B
(LOOKING DOWNSTREAM)

SEE SHEET 4A FOR RIGHT-OF-WAY
SEE SHEET 5 FOR PROFILE
SEE SHEETS C-1 THRU C-9 FOR CULVERT PLANS

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	4A
R/W SHEET NO.	

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 041453 ENGINEER M. TRAVIS POTTS

DocuSigned by: M. Travis Potts 4/20/2022

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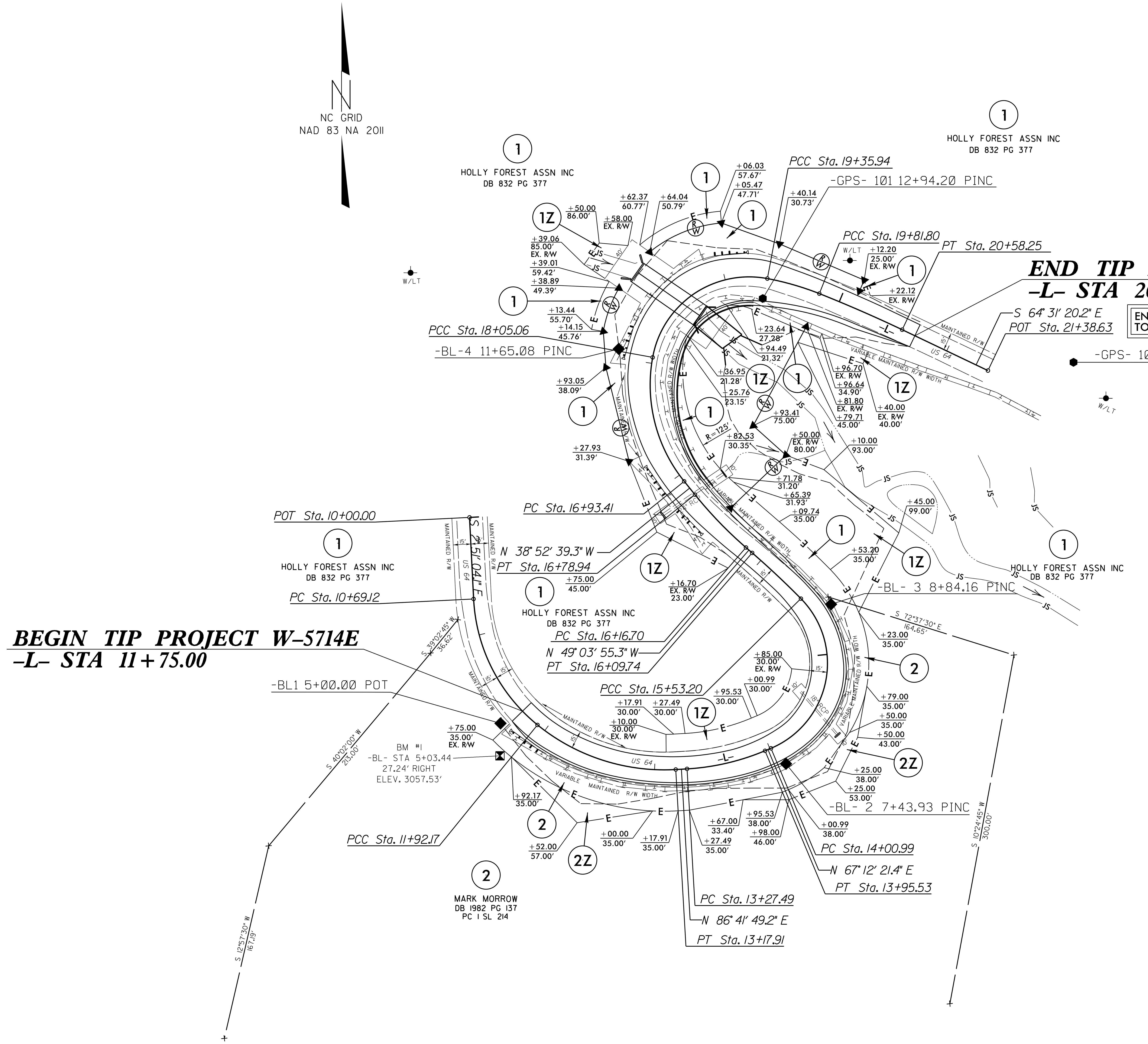

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SEE SHEET 4 FOR DESIGN
SEE SHEET 5 FOR PROFILE
SEE SHEETS C-1 THRU C-9 FOR CULVERT PLANS

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	5

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 041453 ENGINEER M TRAVIS POTTS
DocuSigned by: M Travis Potts 4/20/2022
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HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 27876 ENGINEER RANA STANSELL
DocuSigned by: Rana Stansell 4/20/2022
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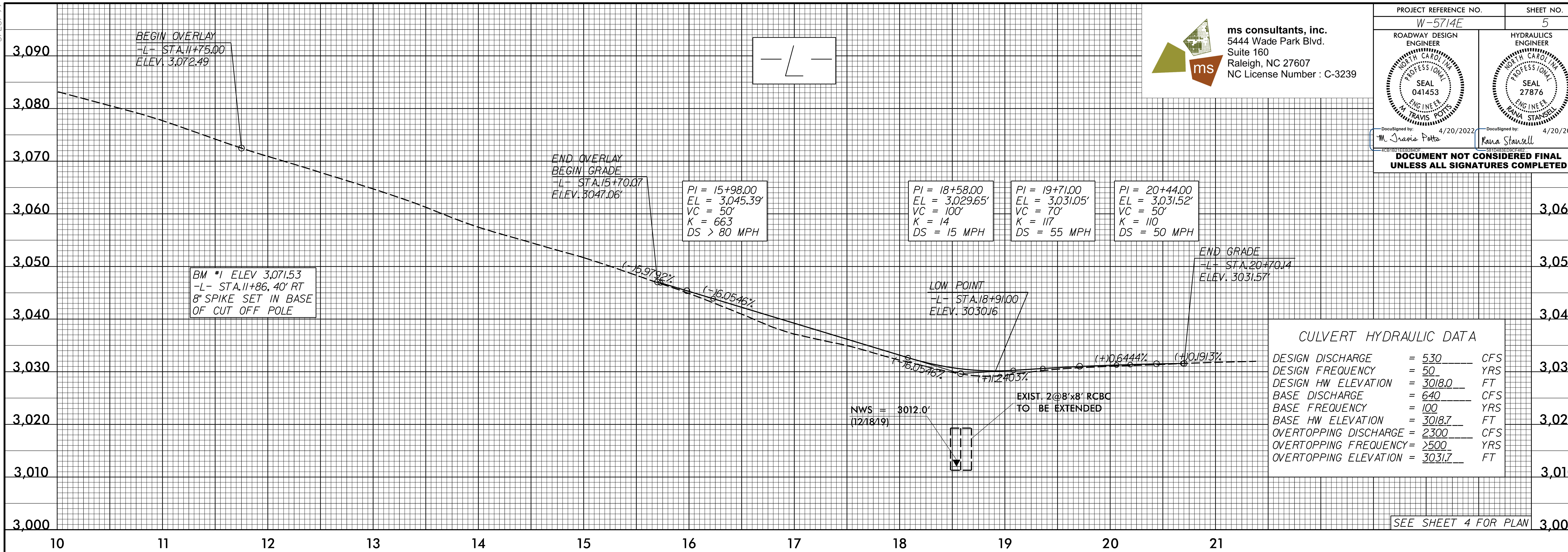

CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	530	CFS
DESIGN FREQUENCY	=	50	YRS
DESIGN HW ELEVATION	=	3018.0	FT
BASE DISCHARGE	=	640	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	3018.7	FT
OVERTOPPING DISCHARGE	=	2300	CFS
OVERTOPPING FREQUENCY	=	>500	YRS
OVERTOPPING ELEVATION	=	3031.7	FT

SEE SHEET 4 FOR PLAN

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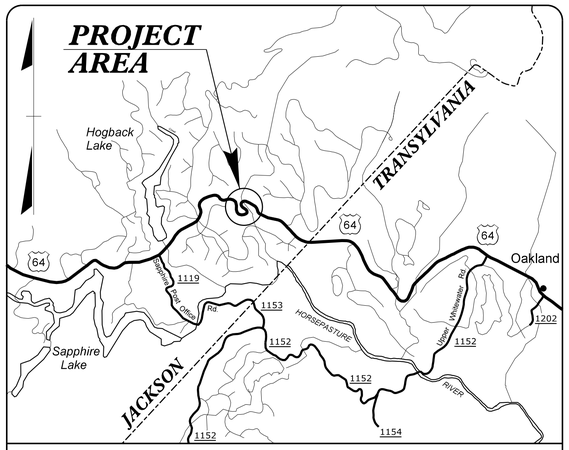
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

JACKSON COUNTY



VICINITY MAP

INDEX OF SHEETS

SHEET NO.
TMP-1

W-5714E

TIP PROJECT:

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

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 814-5000 FAX: (919) 771-2745

J E Hummer, PhD, PE — STATE TRAFFIC MANAGEMENT ENGINEER
_____ — TRAFFIC CONTROL PROJECT ENGINEER
Don A. Parker, PE — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
_____ — TRAFFIC CONTROL DESIGN ENGINEER

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

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ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: DocuSigned by: Jason Graves 39C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER JASON A. GRAVES

6/9/2022
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User:tgroves

PROJ. REFERENCE NO.	SHEET NO.
W-5714E	TMP-2

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN 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
1101.01	WORK ZONE ADVANCE 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	DRUM
1135.01	CONES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY

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

SIGNALS

EXISTING PROPOSED 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

	PAINT(24")
P61	WHITE STOPBAR
	PAINT(4")
P2	WHITE EDGELINE

APPROVED: DocuSigned by: Jason Graves 94C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER JASON A. GRAVES

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

ROADWAY STANDARD DRAWINGS & LEGEND

6/9/2022
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User:tgraves

NOT TO SCALE

PROJ. REFERENCE NO.	SHEET NO.
W-5714E	TMP-3

GENERAL NOTES / 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 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.

C) 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.

PAVEMENT EDGE DROP OFF REQUIREMENTS

D) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

F) 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.

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

H) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FEET IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC CONTROL DEVICES

I) 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.

J) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

K) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
US 64	PAINT	TEMPORARY RAISED

L) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTNERS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

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

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

PHASING

PHASE I

STEP 1 - INSTALL WORK ZONE ADVANCE WARNING SIGNS ALONG EXISTING US 64 (-L-) (SEE ROADWAY STANDARD DRAWINGS NO. 1101.01, SHEET 3 OF 3).

STEP 2 - USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 2 OF 15) AND FLAGGERS, INSTALL THE TEMPORARY PAVEMENT MARKINGS (STOP BARS) FOR THE PORTABLE SIGNALS (SEE SHEET TMP-4) AND INSTALL THE PORTABLE SIGNALS AND SIGNS.

STEP 3 - ACTIVATE PORTABLE SIGNALS, PLACE TRAFFIC ON THE WESTBOUND SIDE IN A ONE-LANE, TWO-WAY TRAFFIC PATTERN, AND CONSTRUCT EASTBOUND SIDE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT.

PHASE II

STEP 1 - WHILE CONTINUING TO USE THE PORTABLE SIGNALS, SWITCH TRAFFIC TO THE EASTBOUND SIDE TO A ONE-LANE, TWO-WAY TRAFFIC PATTERN.

STEP 2 - CONSTRUCT THE WESTBOUND SIDE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT.

STEP 3 - USING ROADWAY STANDARD DRAWING 1101.02 (SHEET 2 OF 15) AND FLAGGERS, WEDGE AND PAVE ALL ROADWAYS UP THRU THE FINAL LAYER OF SURFACE COURSE AND INSTALL FINAL PAVEMENT MARKINGS AND MARKERS (SEE FINAL PAVEMENT MARKING PLANS). REMOVE ALL TEMPORARY WORK ZONE DEVICES.

ms consultants, inc.
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Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: DocuSigned by: Tyson Graves 94C022A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER TYSON A. GRAVES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

GENERAL NOTES AND PHASING

NOT TO SCALE

PROJ. REFERENCE NO.	SHEET NO.
W-5714E	TMP-4

NC GRID
NAD 83 NA 2011

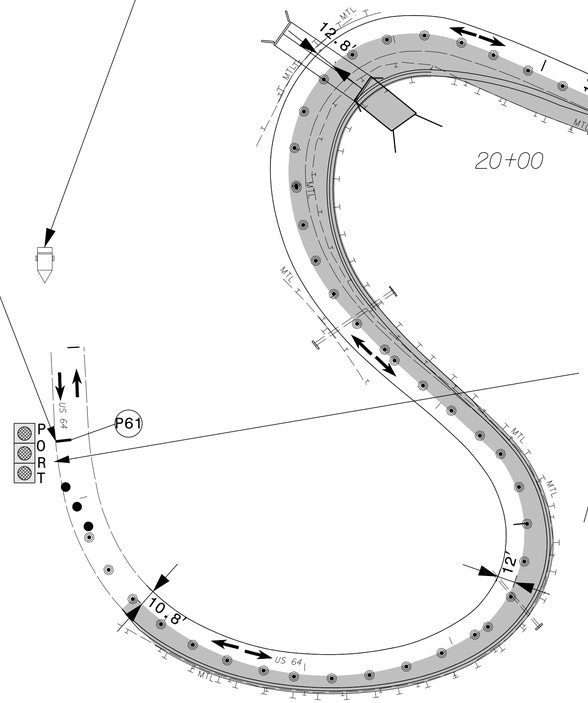
INSTALL CHANGEABLE MESSAGE SIGNS 1/2 MILE IN ADVANCE OF PORTABLE SIGNALS

MESSAGE NO. 1	MESSAGE NO. 2
SIGNAL AHEAD	PREPARE TO STOP

CHANGEABLE MESSAGE SIGN

STA. 21+75+/-

STA. 10+60+/-



INSTALL SIGNS FOR PORTABLE SIGNAL ACCORDING TO NCDOT ROADWAY STANDARD DRAWING 1101.02 (14 OF 14)

NOTE: PLACE SKINNY DRUMS 20′ APART DURING LANE CLOSURES.

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APPROVED: Jason Graves
DocuSigned by: 94C02A344C034F6...
DATE: 6-9-2022
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER JASON A GRAVES

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

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PHASE I

6/9/2022
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User:rgraves

NOT TO SCALE

PROJ. REFERENCE NO.	SHEET NO.
W-5714E	TMP-5

NC GRID
NAD 83 NA 2011

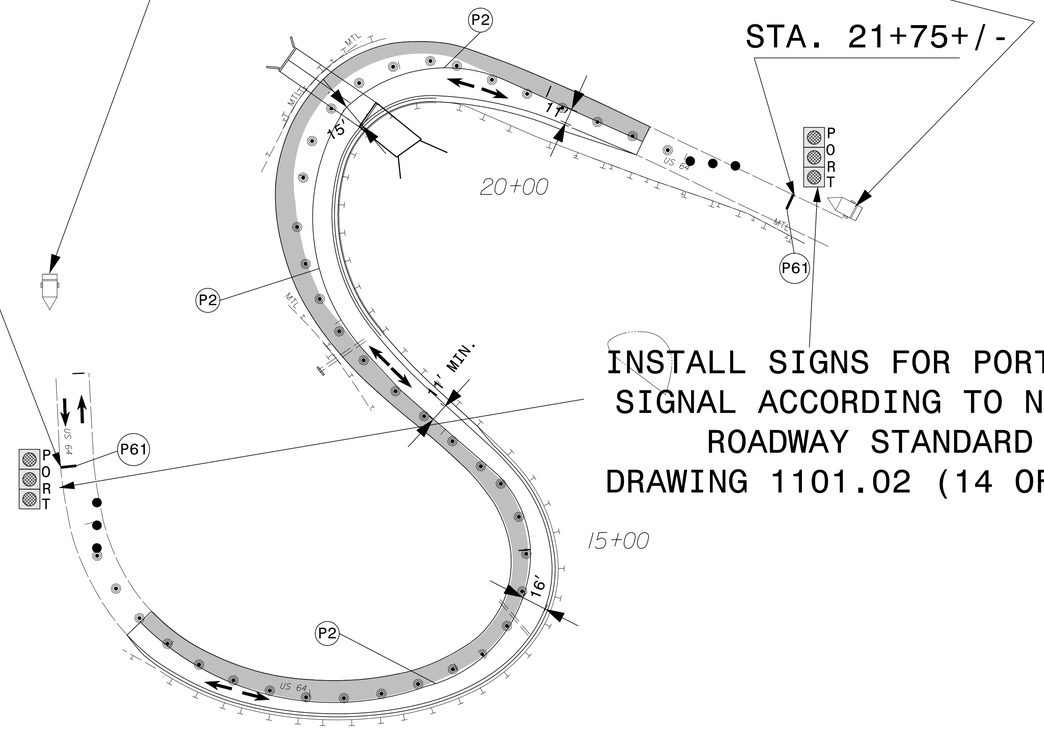
INSTALL CHANGEABLE MESSAGE SIGNS 1/2 MILE IN ADVANCE OF PORTABLE SIGNALS

MESSAGE NO. 1	MESSAGE NO. 2
SIGNAL AHEAD	PREPARE TO STOP

CHANGEABLE MESSAGE SIGN

STA. 21+75+/-

STA. 10+60+/-



INSTALL SIGNS FOR PORTABLE SIGNAL ACCORDING TO NCDOT ROADWAY STANDARD DRAWING 1101.02 (14 OF 14)

NOTE: PLACE SKINNY DRUMS 20′ APART DURING LANE CLOSURES.

ms consultants, inc.
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Suite 160
Raleigh, NC 27607
NC License Number : C-3239

APPROVED: DocuSigned by: Jason Graves 94C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER JASON A GRAVES

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

PHASE II

6/9/2022
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User:rtgraves

T.I.P.: W-5714E

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
JACKSON COUNTY

TIP NO.	SHEET NO.
W-5714E	PMP-1

APPROVED: DocuSigned by: Tyson Graves 04C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER TYSON A GRAVES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

INDEX

PAVEMENT MARKING SCHEDULE

THERMOPLASTIC (4″ YELLOW)

T13 YELLOW DOUBLE CENTER

THERMOPLASTIC (4″WHITE)

T1 WHITE EDGELINE

MARKERS

SNOWPLOWABLE RAISED PAVEMENT MARKERS

ME YELLOW & YELLOW

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
ALL ROADS	THERMOPLASTIC	SNOWPLOWABLE

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

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

D) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

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
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

PLAN PREPARED BY: ms consultants, inc.

Tyson A. Graves, PE PROJECT ENGINEER

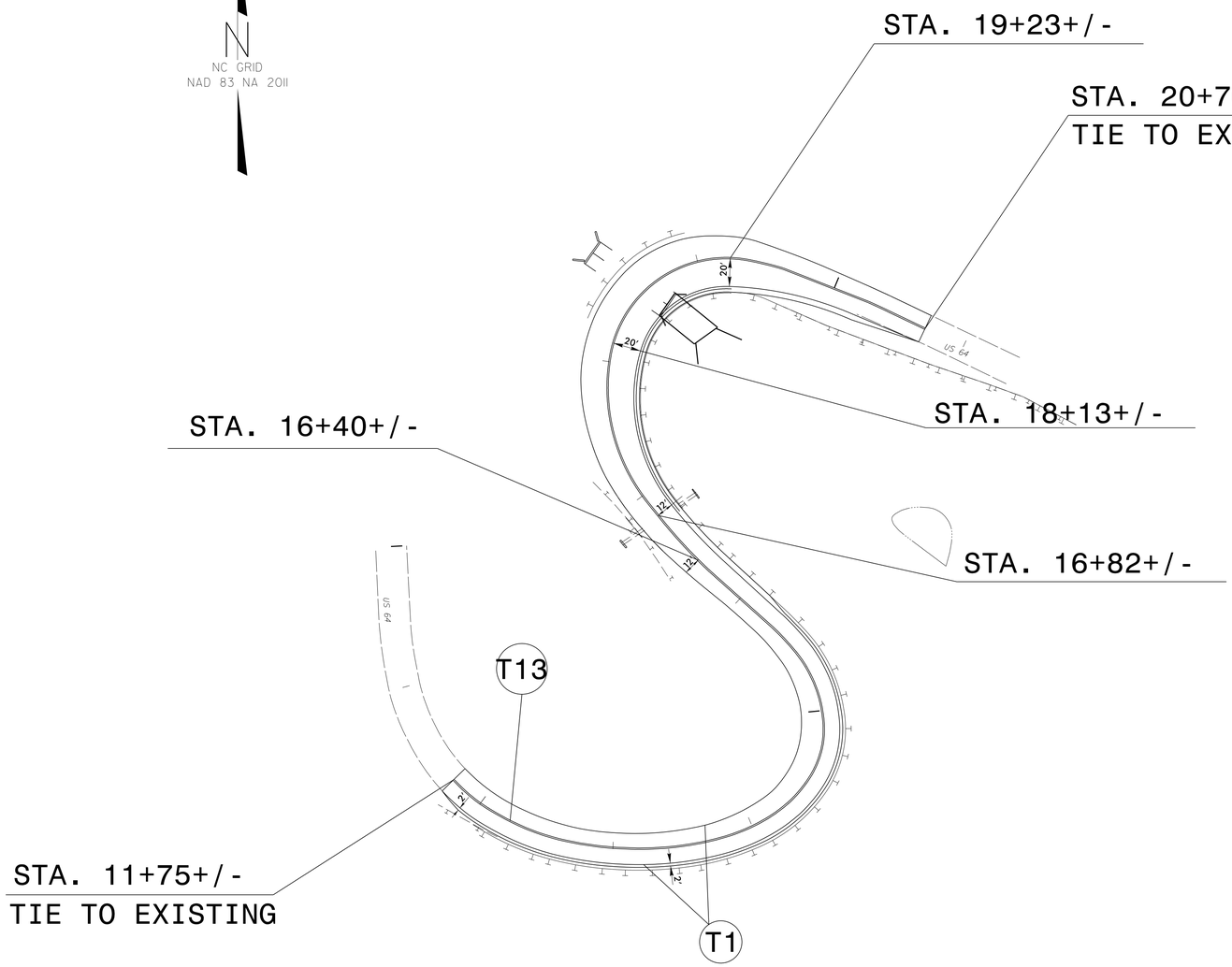
PROJECT DESIGN ENGINEER

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

6/14/2022
8:10:08 AM
R-5706B_06816-00 W-5714E Chrysler Curve\Traffic\SIGNING\W5714E_pmp_title.dgn
User:tgraves

PROJ. REFERENCE NO.	SHEET NO.
W-5714E	PMP-2

NC GRID
NAD 83 NA 2011



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APPROVED: DocuSigned by: Tyson Graves 94C02A344C034F8...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER TYSON A. GRAVES

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

FINAL PAVEMENT MARKINGS

6/14/2022
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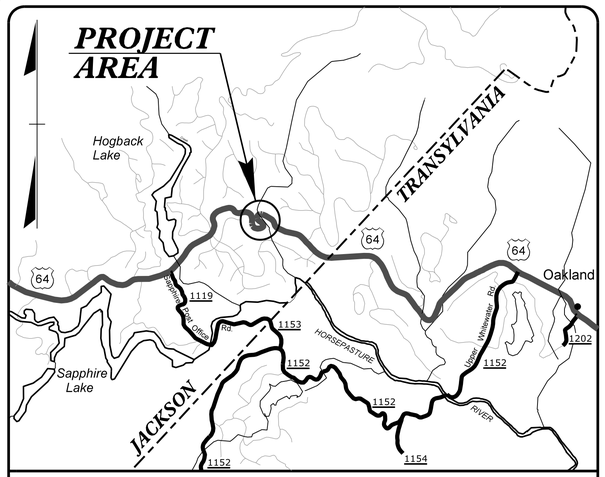
TIP PROJECT: W-5714E



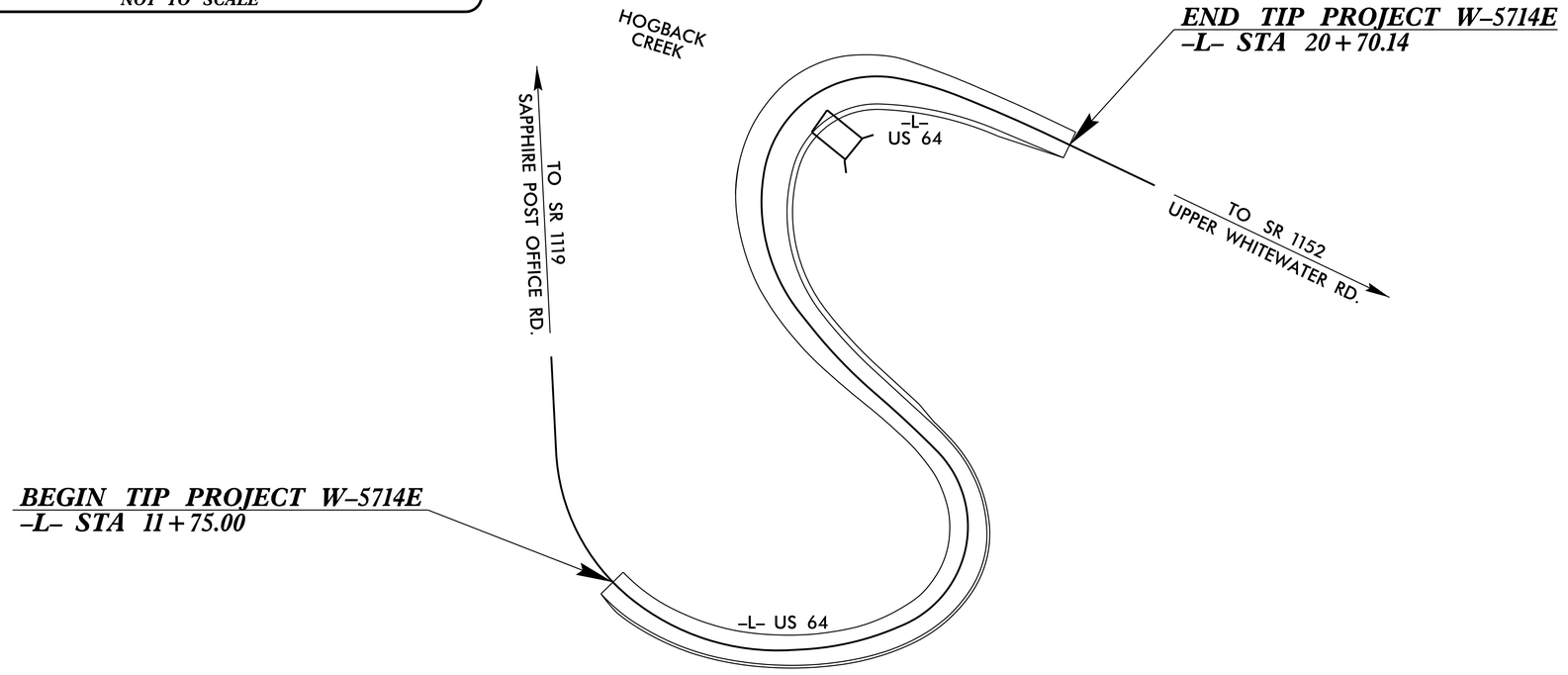
VICINITY MAP
NOT TO SCALE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED HIGHWAY EROSION CONTROL JACKSON COUNTY

LOCATION: US 64 APPROXIMATELY 0.8 MILE EAST OF SR 1119 (SAPPHIRE POST OFFICE RD.) AT "CHRYSLER CURVE" NEAR SAPPHIRE

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5714E	EC-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
44862.1.5	HSIP-0064(197)	PE	

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.

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.

Dewberry

Prepared in the Office of:
DEWBERRY
2610 WYCLIFF ROAD, SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9939
NC COA No. F-0929

Designed by:
STEVEN BONDOR 3077
NAME LEVEL III CERTIFICATION NO.

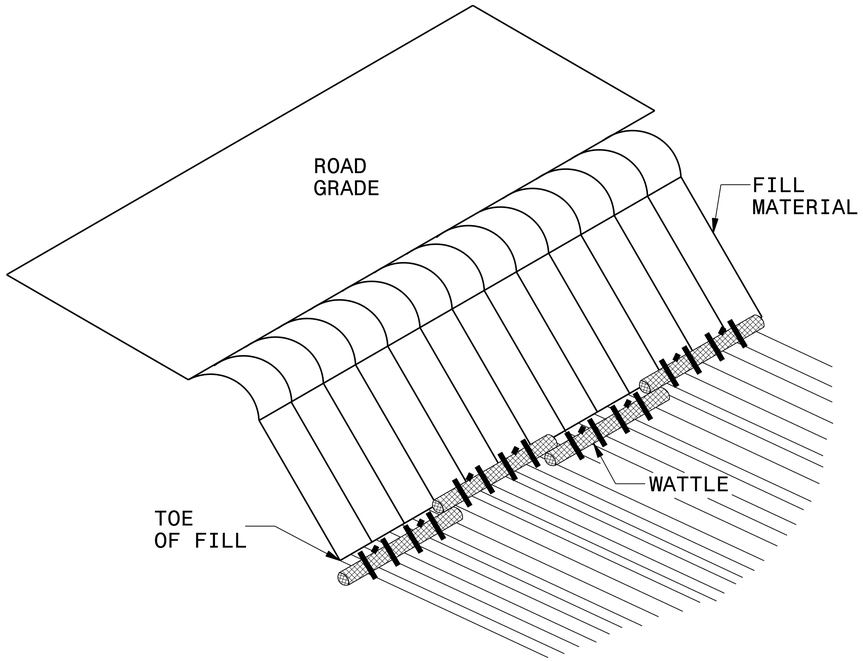
Roadway Standard Drawings

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		

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-2
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.

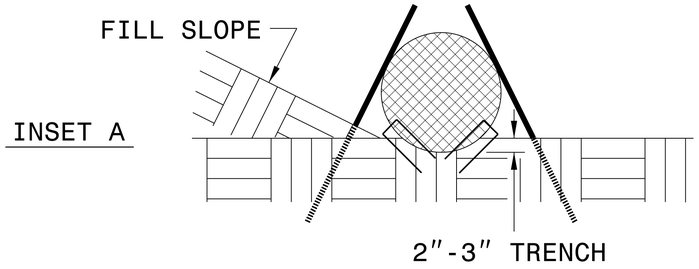
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

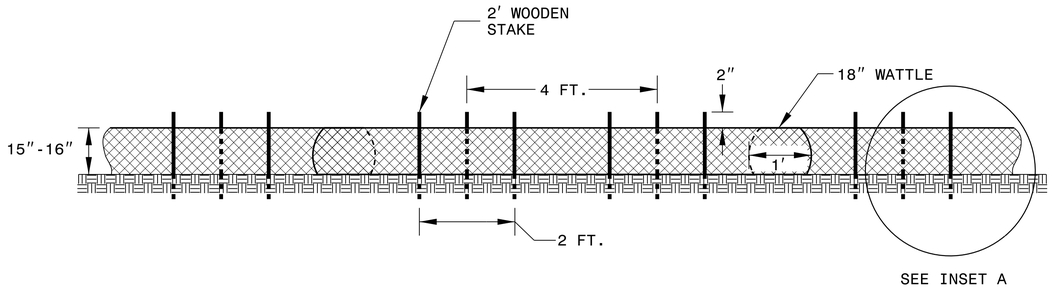
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

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

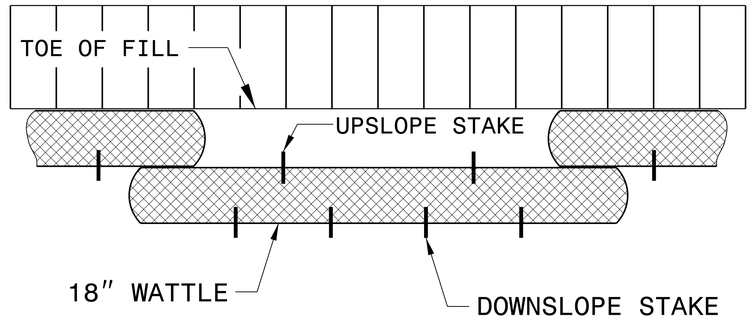
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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





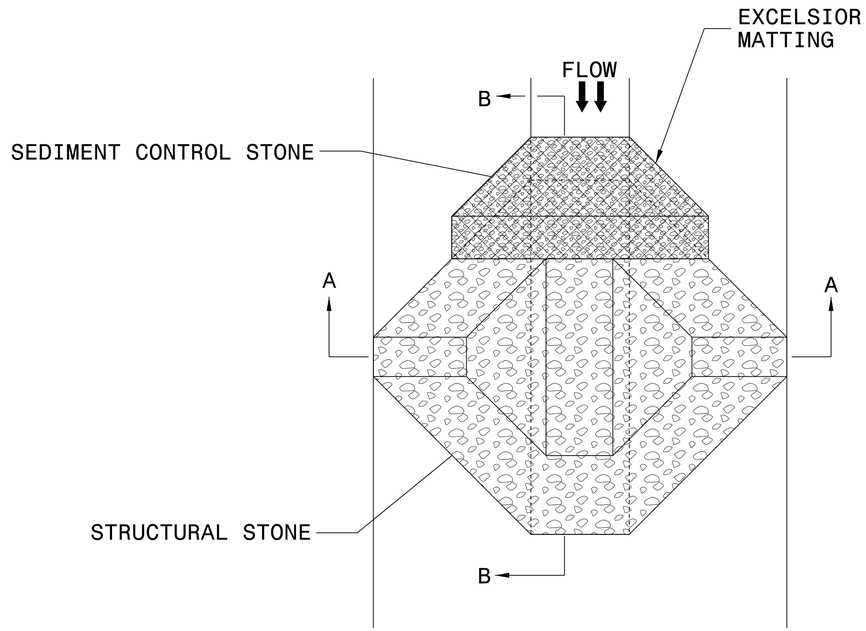
FRONT VIEW



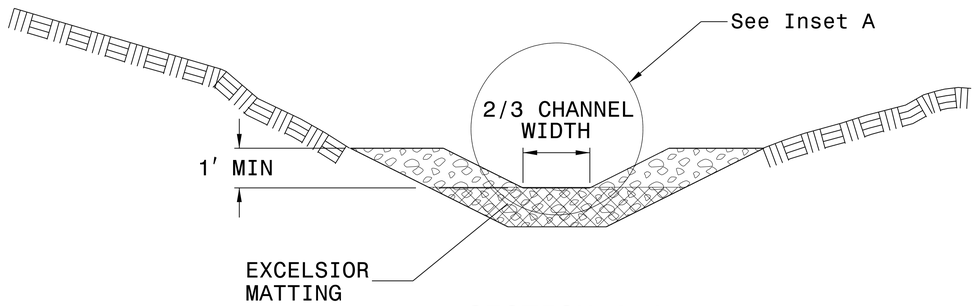
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



SECTION A-A

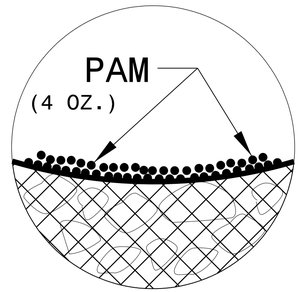
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

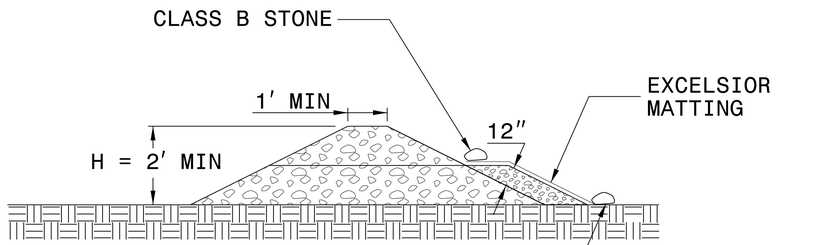
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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 ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-3

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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	-L-	15+50	19+50	RT	1550
4	-L-	18+25	18+80	LT	235
				SUBTOTAL	1785
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					10000
				TOTAL	11785
				SAY	11785

MATTING FOR EROSION CONTROL

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

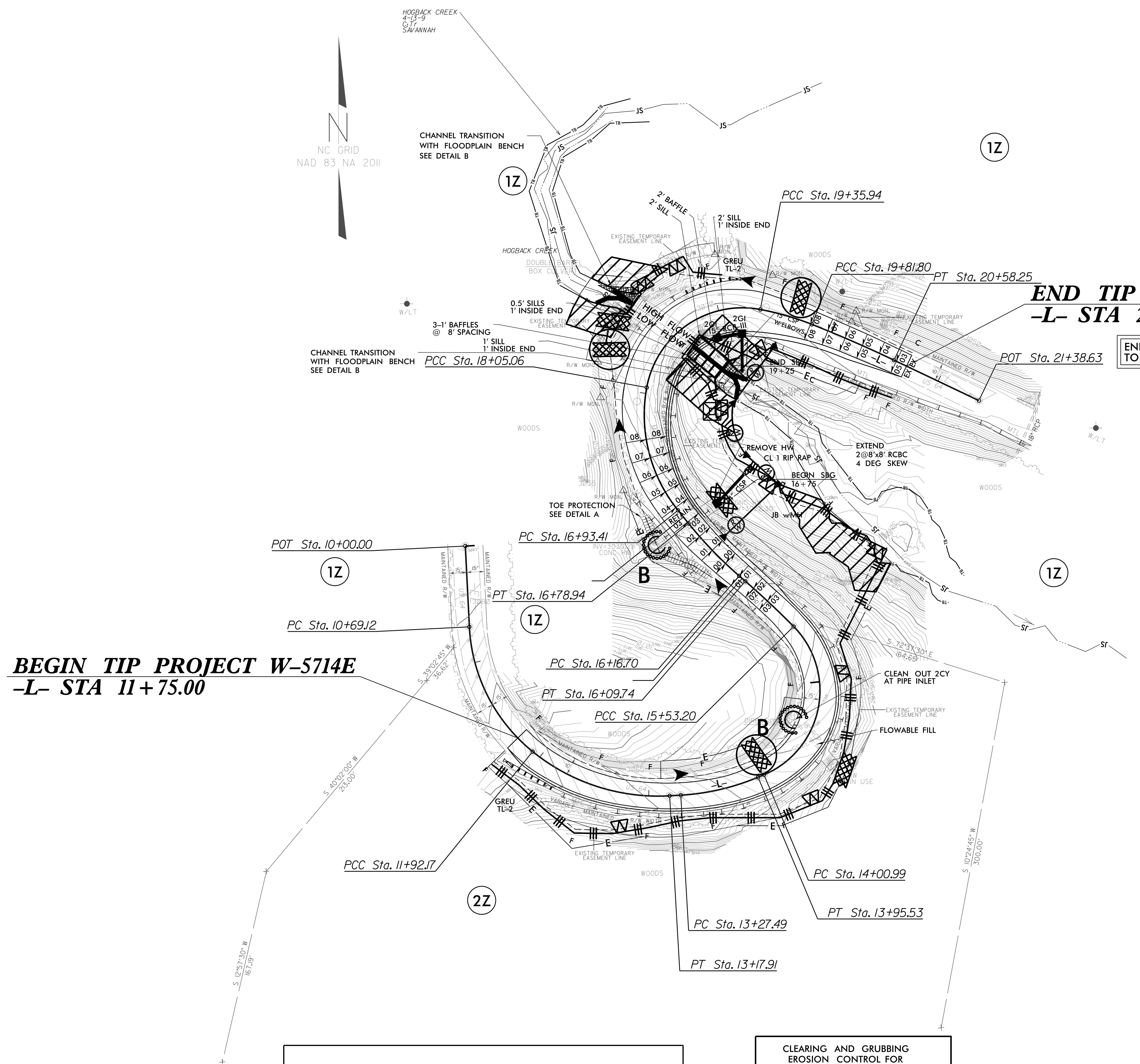
PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

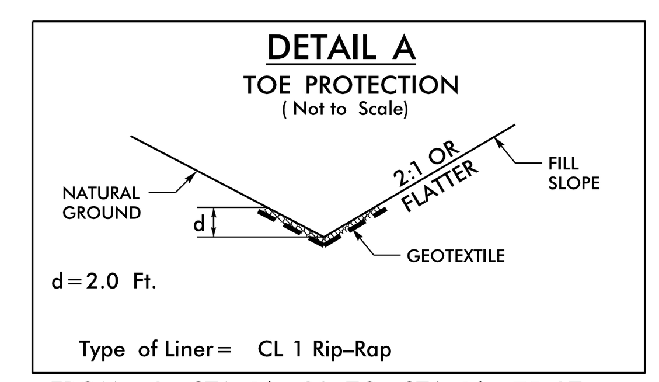
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

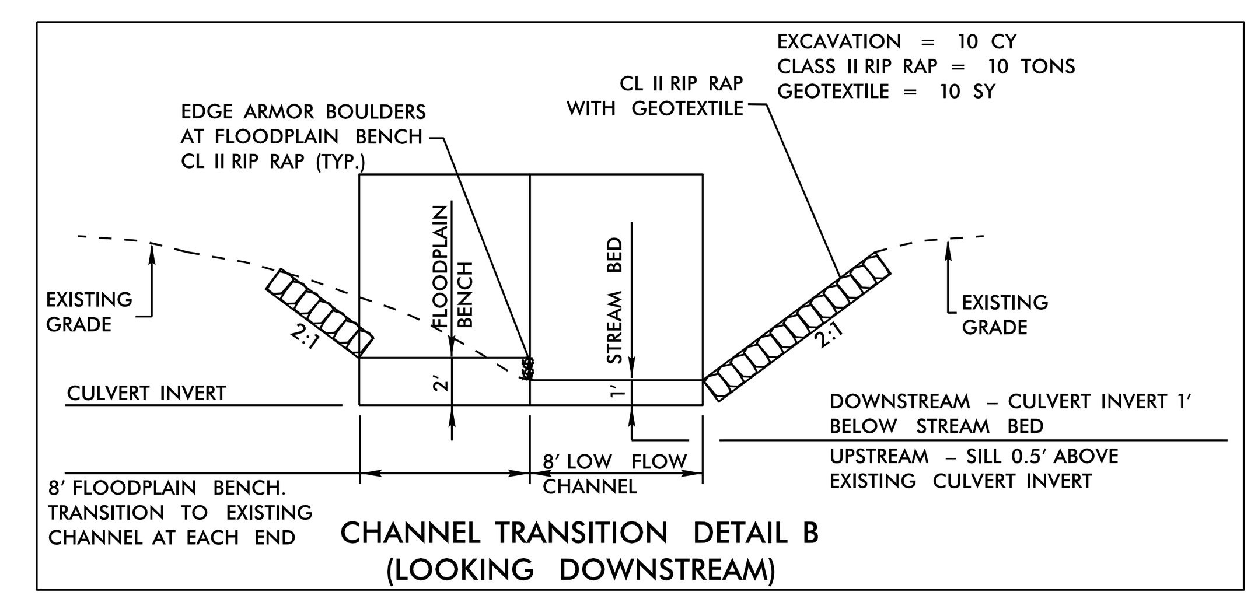
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS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

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-04/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER





FROM -L- STA. 16+30 TO STA. 16+75 LT
FROM -L- STA. 16+85 TO STA. 17+05 LT



ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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.

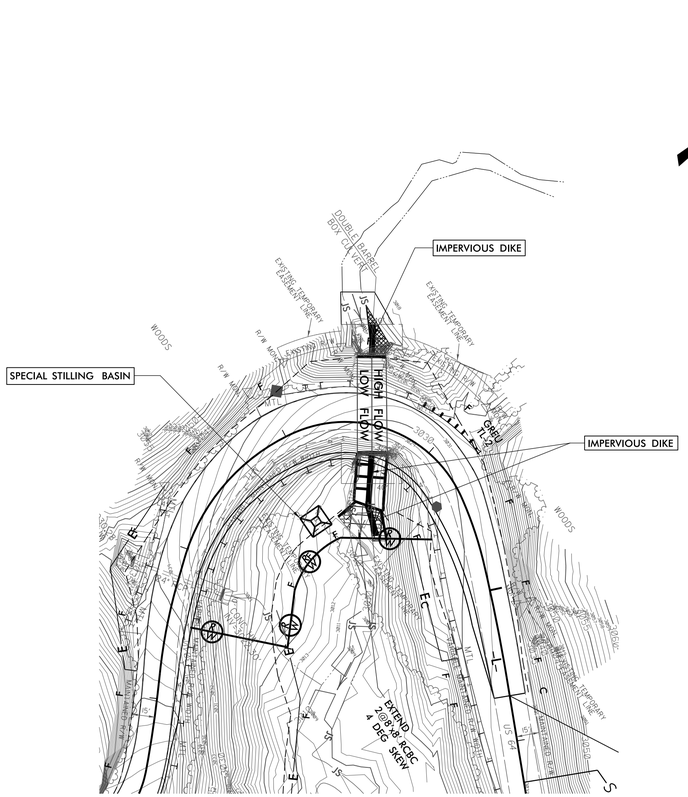
SEE SHEET 5 FOR PROFILE
SEE SHEETS C-1 THRU C-# FOR CULVERT PLANS

CULVERT CONSTRUCTION SEQUENCE STA. 18+58 –L–

PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-04A/CONST.04
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

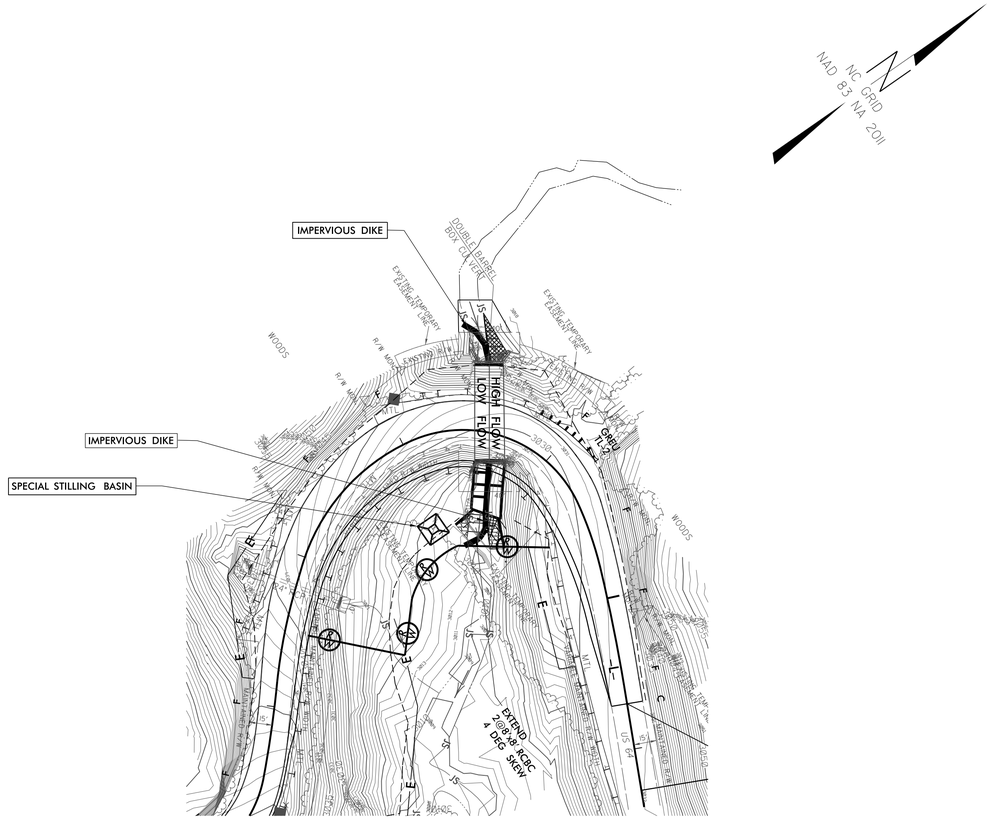
PHASE 1

1. CONSTRUCT SPECIAL STILLING BASIN 10' X 15' PER NCDOT DWG 1630.04.
2. REMOVE EXISTING HEADWALL AND WINGWALL DOWNSTREAM END.
3. CONSTRUCT IMPERVIOUS DIKES TO ISOLATE HIGH FLOW BARREL UPSTREAM AND DOWNSTREAM.
4. DIVERT FLOW THROUGH LOW FLOW BARREL.
5. PUMP EFFLUENT FROM WORK AREA THROUGH SPECIAL STILLING BASIN.
5. CONSTRUCT DOWNSTREAM HIGH FLOW BARREL, SILLS, BAFFLES.
6. CONSTRUCT CHANNEL CHANGE AND FLOODPLAIN BENCH.

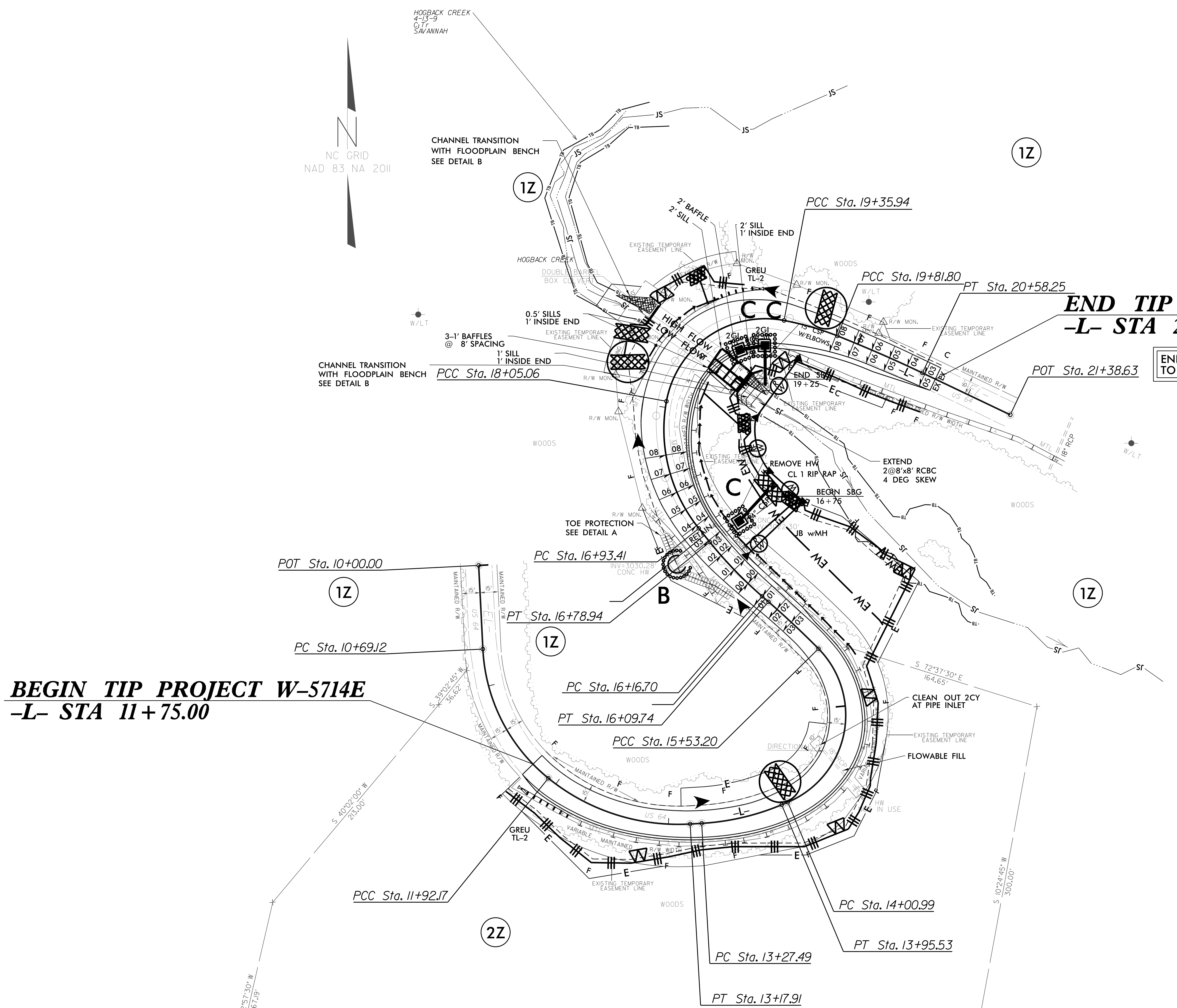


PHASE 2

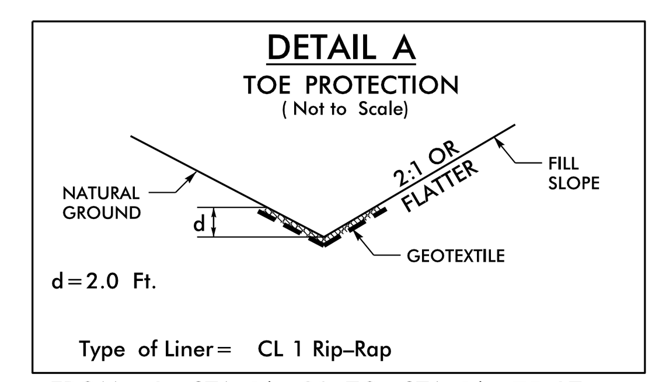
1. REMOVE IMPERVIOUS DIKES FROM HIGH FLOW BARREL.
2. CONSTRUCT IMPERVIOUS DIKES UPSTREAM AND DOWNSTREAM AND DIVERT FLOW THROUGH HIGH FLOW BARREL.
3. PUMP EFFLUENT FROM WORK AREA THROUGH SPECIAL STILLING BASIN.
4. CONSTRUCT DOWNSTREAM LOW FLOW BARREL, SILLS, BAFFLES.
5. CONSTRUCT CHANNEL TRANSITION.
6. REMOVE IMPERVIOUS DIKED AND SPECIAL STILLING BASIN.
7. CONSTRUCT ROADWAY.



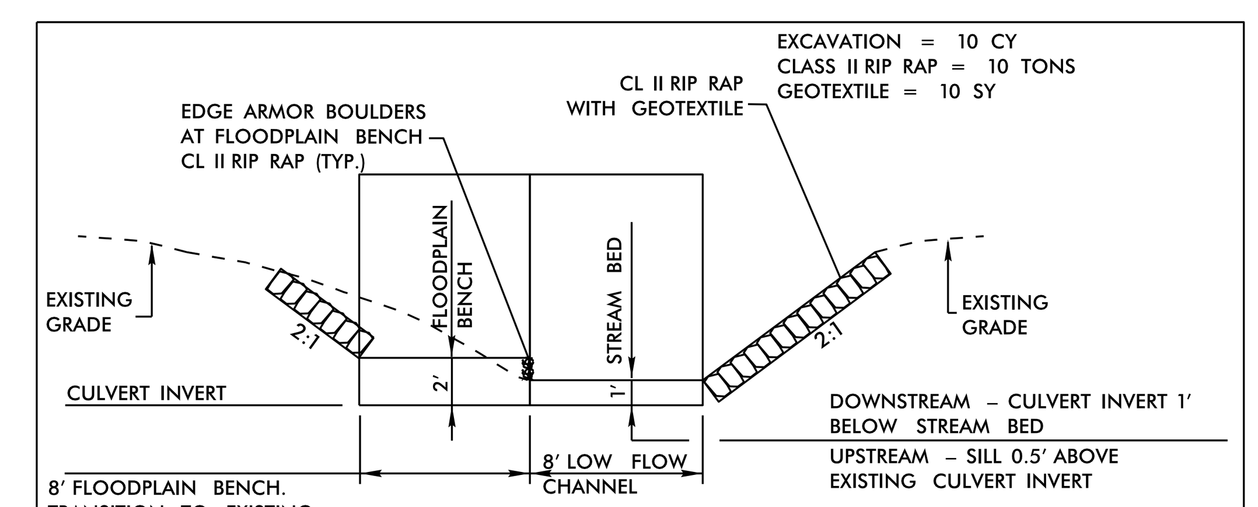
PROJECT REFERENCE NO.	SHEET NO.
W-5714E	EC-05/CONST.04
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



END CONSTRUCTION AS DIRECTED BY THE ENGINEER TO REMOVE AND REPLACE EXISTING GUARDRAIL



FROM -L- STA. 16+30 TO STA. 16+75 LT
FROM -L- STA. 16+85 TO STA. 17+05 LT



CHANNEL TRANSITION DETAIL B
(LOOKING DOWNSTREAM)

SEE SHEET 5 FOR PROFILE
SEE SHEETS C-1 THRU C-# FOR CULVERT PLANS

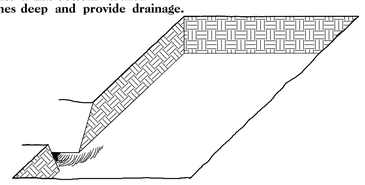
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5714E	RF-1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	

PLANTING DETAILS

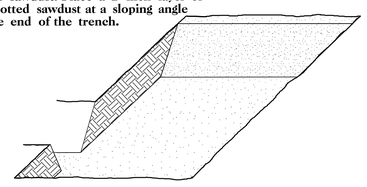
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

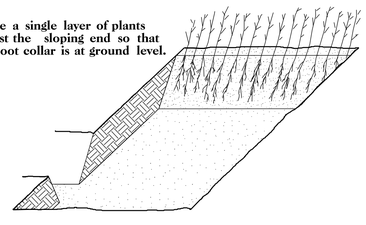
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



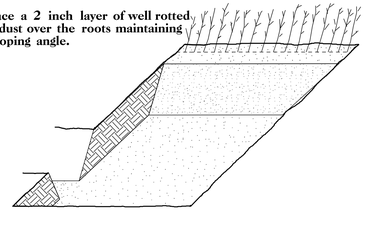
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

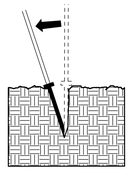


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

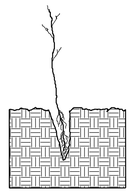


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

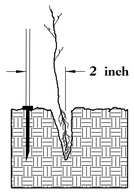
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



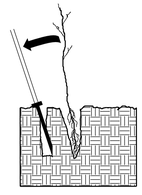
1. Insert planting bar as shown and pull handle toward planter.



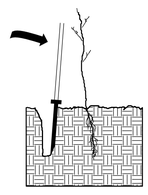
2. Remove planting bar and place seedling at correct depth.



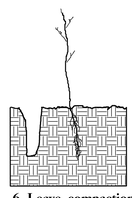
3. Insert planting bar 2 inches toward planter from seedling.



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:

25% LIRIODENDRON TULIPIFERA	TULIP POPLAR	12 in – 18 in BR
25% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in – 18 in BR
25% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
25% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

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

T.I.P.: W-5714E

CONTRACT:

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
JACKSON COUNTY

LOCATION: US 64, 0.5 MILE WEST OF JACKSON/TRANSYLVANIA COUNTY LINE

TIP NO.	SHEET NO.
W-5714E	SIGN-1

APPROVED: DocuSigned by: Tyson Graves 94C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 021080 TYSON A. GRAVES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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
901.50	ARROWS AND SHIELDS
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

PROJECT NOTES

1 DISPOSAL OF SIGN SYSTEM, U CHANNEL

GENERAL NOTES

. ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
. IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
. SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4025000000	901	CONTRACTOR FURNISHED, TYPE E SIGN	26	S.F.
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	30	L.F.
4102000000	904	SIGN ERECTION, TYPE E	4	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	9	EA.
4360000000	SP	LIGHTED SIGN SYSTEM, SPECIAL	14	EA.

INDEX

PLAN PREPARED BY: ms consultants, inc.

Tyson A. Graves, PE — PROJECT ENGINEER

PROJECT DESIGN ENGINEER

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

6/9/2022
N:\Work\06816-00 W-5714E Chrysler Curve\Traffic\SIGNING\W5714E_sign_title.dgn
User:tgraves

TIP NO.	SHEET NO.
W-5714E	SIGN-1A

APPROVED: Matthew V. Springer (DocuSigned by: 6/23/2021)

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 042546 ENGINEER MATTHEW V. SPRINGER

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

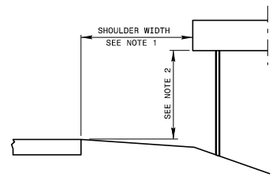
6-21

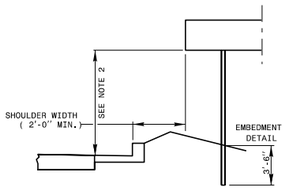
ENGLISH DETAIL DRAWING FOR

TYPE 'D','E' AND 'F' SIGNS MOUNTING OF ON 'U' CHANNEL POSTS

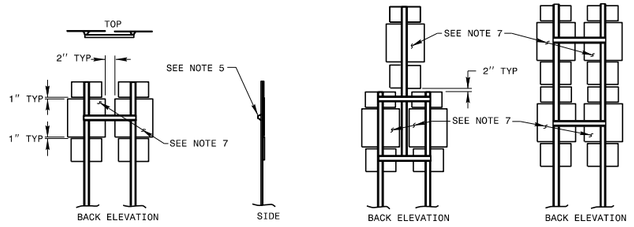
SHEET 1 OF 2

904D50

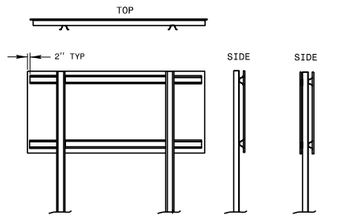




HORIZONTAL AND VERTICAL CLEARANCES



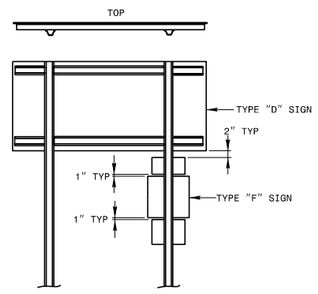
FRAMING AND CROSS-BRACING DETAILS
TYPE "F" SIGNS



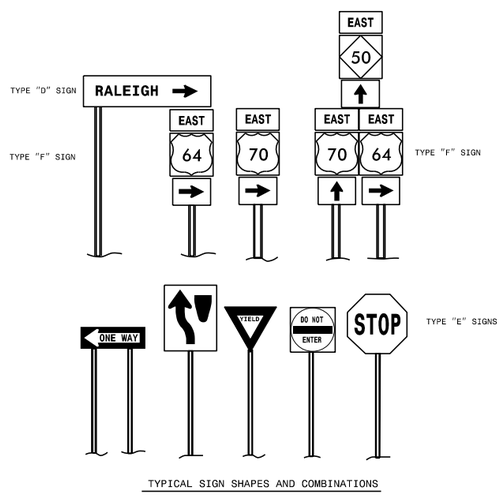
TYPE "D" & "E" SIGN
CROSS BRACING

BACK-TO-BACK
MOUNT

FRAMING AND CROSS BRACE DETAILS
FOR COMBINATION TYPE "D" & "E" SIGNS
WIDE SIDE OF CROSS BRACE GOES TO BACK OF SIGN



FRAMING AND CROSS BRACE DETAILS
FOR COMBINATION TYPE "D" & "F" SIGNS
WIDE SIDE OF FLANGE TO BACK OF "F" SIGN



TYPICAL SIGN SHAPES AND COMBINATIONS

NOTES:

1. ERECT TYPE "D", "E", AND "F" SIGNS ON FREEWAYS WITH THE NEAR EDGE OF THE SIGN 20 FT. FROM THE TRAVEL LANE. ERECT ALL OTHER "D", "E", AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER BREAK (6 FT. MINIMUM CLEARANCE, 12 FT. DESIRABLE, FROM THE EDGE OF TRAVEL LANE), OR AS DIMENSIONED ON PLAN SHEETS.
2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT. ABOVE THE EDGE OF THE TRAVEL LANE ON ROADS WITH 2 OR MORE LANES IN THE SAME DIRECTION AND AT LEAST 5 FT. ON OTHER ROUTES. THE VERTICAL CLEARANCE IS 7 FT. WHERE REQUIRED FOR PEDESTRIAN TRAFFIC AND/OR PARKED VEHICLES.
3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 30" MAXIMUM. THE VERTICAL AND HORIZONTAL DIMENSIONS BETWEEN MOUNTING HOLES IS TO THE WHOLE INCH. EACH SIGN PANEL HAS A MINIMUM OF 2 BOLTS PER SUPPORT.
4. ATTACH SIGN W/ 5/16" HEX HEAD BOLT, NYLON WASHER, SHIM, FLAT WASHER, LOCK WASHER, HEX NUT
   NO BUCKLING OF THE SIGN WILL BE PERMITTED. SEE ASSEMBLY DETAIL SHEET# 2 OF 904.50.
5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT ENDS OF CROSS BRACES W/ APPROVED. ZINC PAINT
6. INSTALL POST AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" AND "F" SIGNS.
7. THE SHIELD HEIGHTS IN THESE ASSEMBLIES CAN NOT BE LARGER THAN 24".
8. IF SIGN ASSEMBLIES REQUIRE MORE THAN TWO U-CHANNEL SUPPORTS, THE SUPPORTS SHALL BE PLACED A MINIMUM OF 4 FT. BETWEEN POSTS. NO MORE THAN TWO POSTS SHALL FALL WITHIN 7 FT. PATH, OR THE SIGN ASSEMBLY MUST BE PLACED BEHIND BARRIER PROTECTION.

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

6-21

ENGLISH DETAIL DRAWING FOR
TYPE 'D','E' AND 'F' SIGNS MOUNTING OF ON 'U' CHANNEL POSTS

SHEET 1 OF 2

904D50

REVISED SIGNING
ROADWAY STANDARD DRAWING

401 QUANTITY REQ'D 2

36" X 36"
W1-3L

ONE "U" POST PER SIGN

402 QUANTITY REQ'D 2

24" X 24"
W13-1

MOUNT UNDER SIGN 401

SP1 QUANTITY REQ'D 7

1 - 24" X 30"
W1-8L

FLASHING CHEVRON SIGN SYSTEM

SP2 QUANTITY REQ'D 7

24" X 30"
W1-8R

FLASHING CHEVRON SIGN SYSTEM

TIP NO.	SHEET NO.
W-5714E	SIGN-2

APPROVED: DocuSigned by: Jason Graves 94C02A344C034F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER JASON A GRAVES

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ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

TYPE "E" & "F" SIGNS

6/9/2022
N:\Data\6686-00 W-5714E Chrysler Curve\Traffic\SIGNING\W5714E_sign_esheet.dgn
User:tgraves

TIP NO.	SHEET NO.
W-5714E	SIGN-3

APPROVED: DocuSigned by: Tyson Graves 94C02A344C0348F6...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER TYSON A GRAVES

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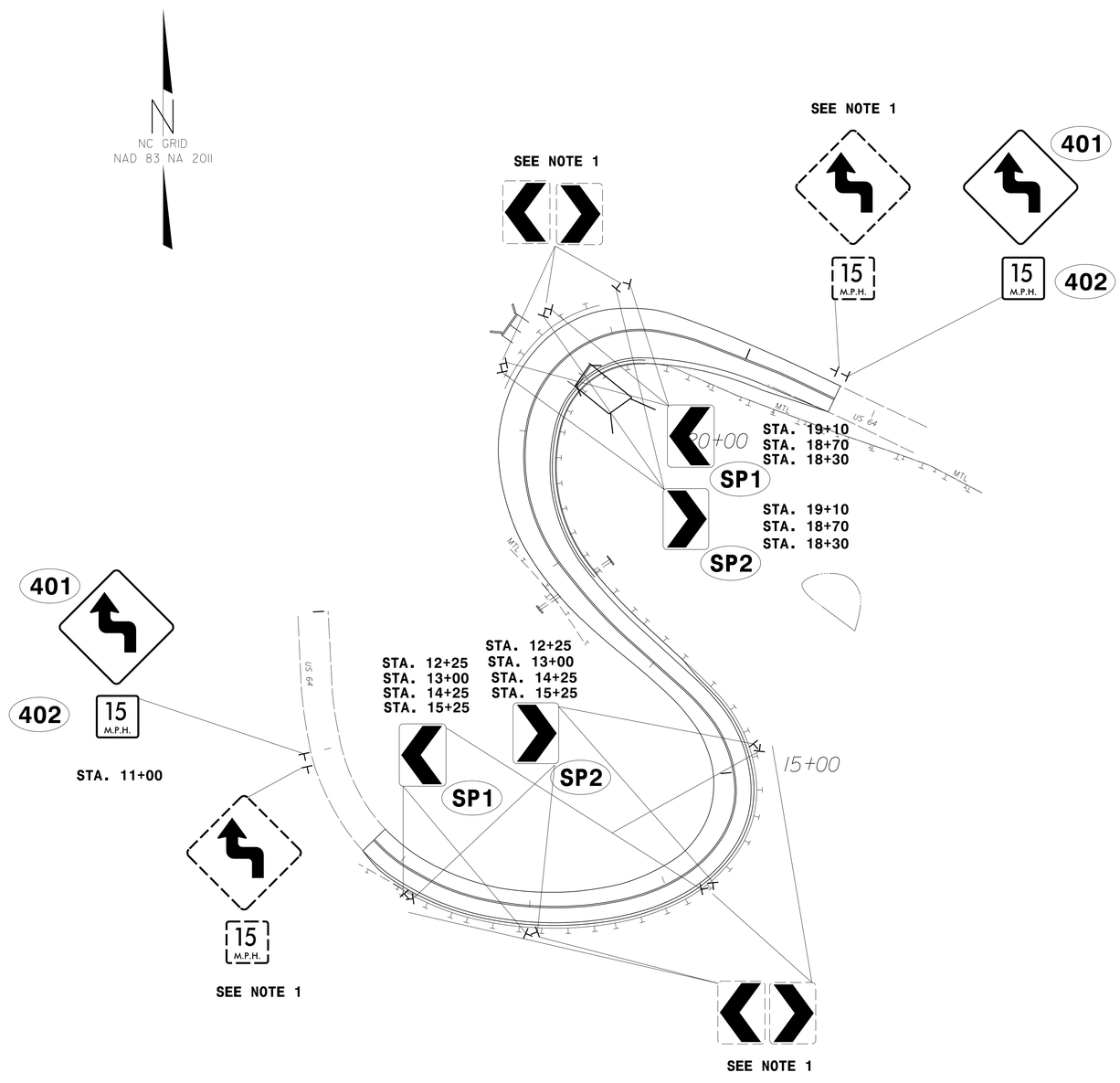

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

EXISTING AND PROPOSED SIGNS

TIP NO.	SHEET NO.
W-5714E	SIGN-4

APPROVED: DocuSigned by: Tyson Graves 194C02A344C034F8...

DATE: 6-9-2022

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 021080 ENGINEER TYSON A GRAVES

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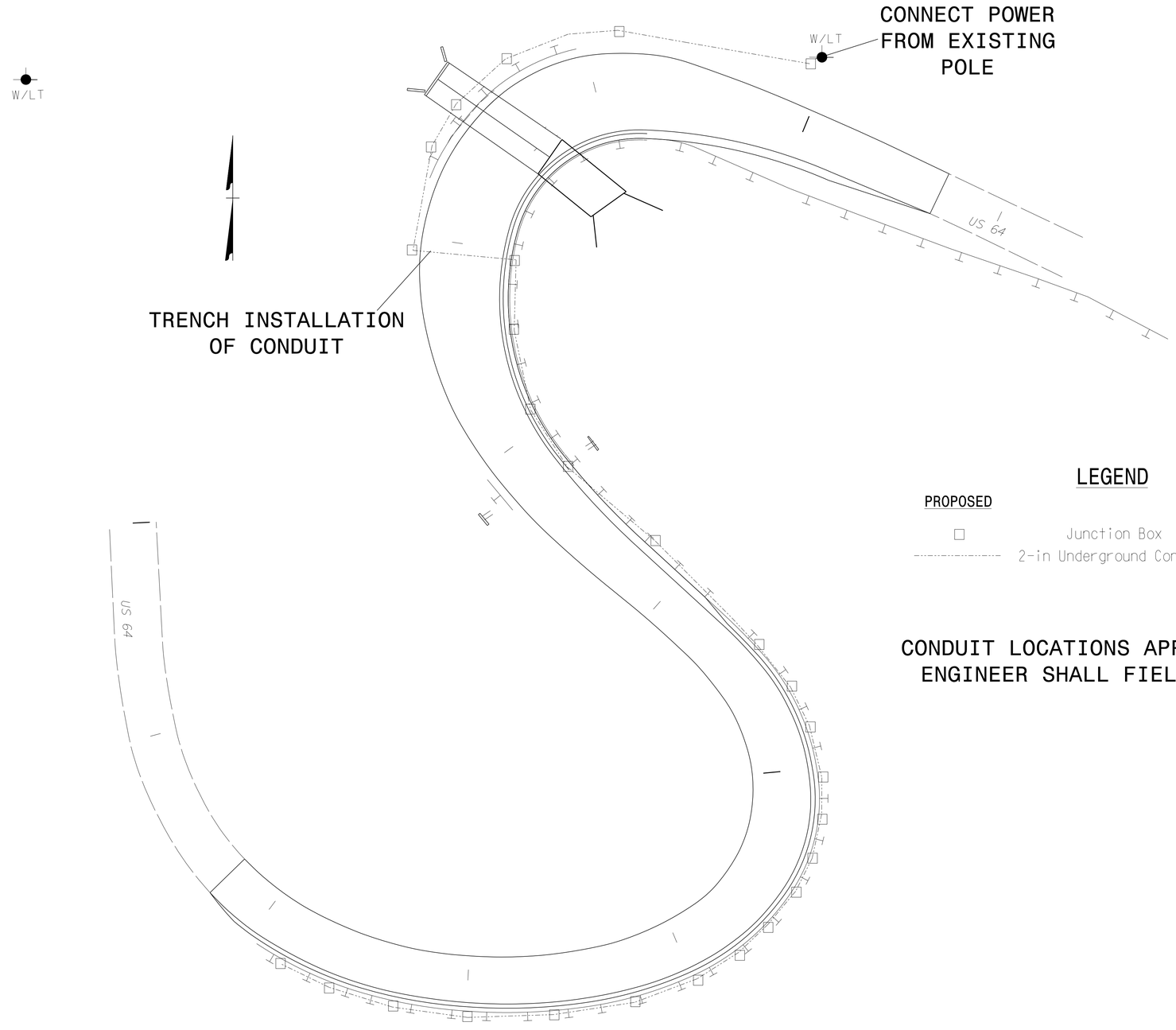

LEGEND

PROPOSED		EXISTING
□	Junction Box	■
----------	2-in Underground Conduit	----------

CONDUIT LOCATIONS APPROXIMATE, ENGINEER SHALL FIELD LOCATE

ms consultants, inc.
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607
NC License Number : C-3239

CONDUIT INSTALLATION