

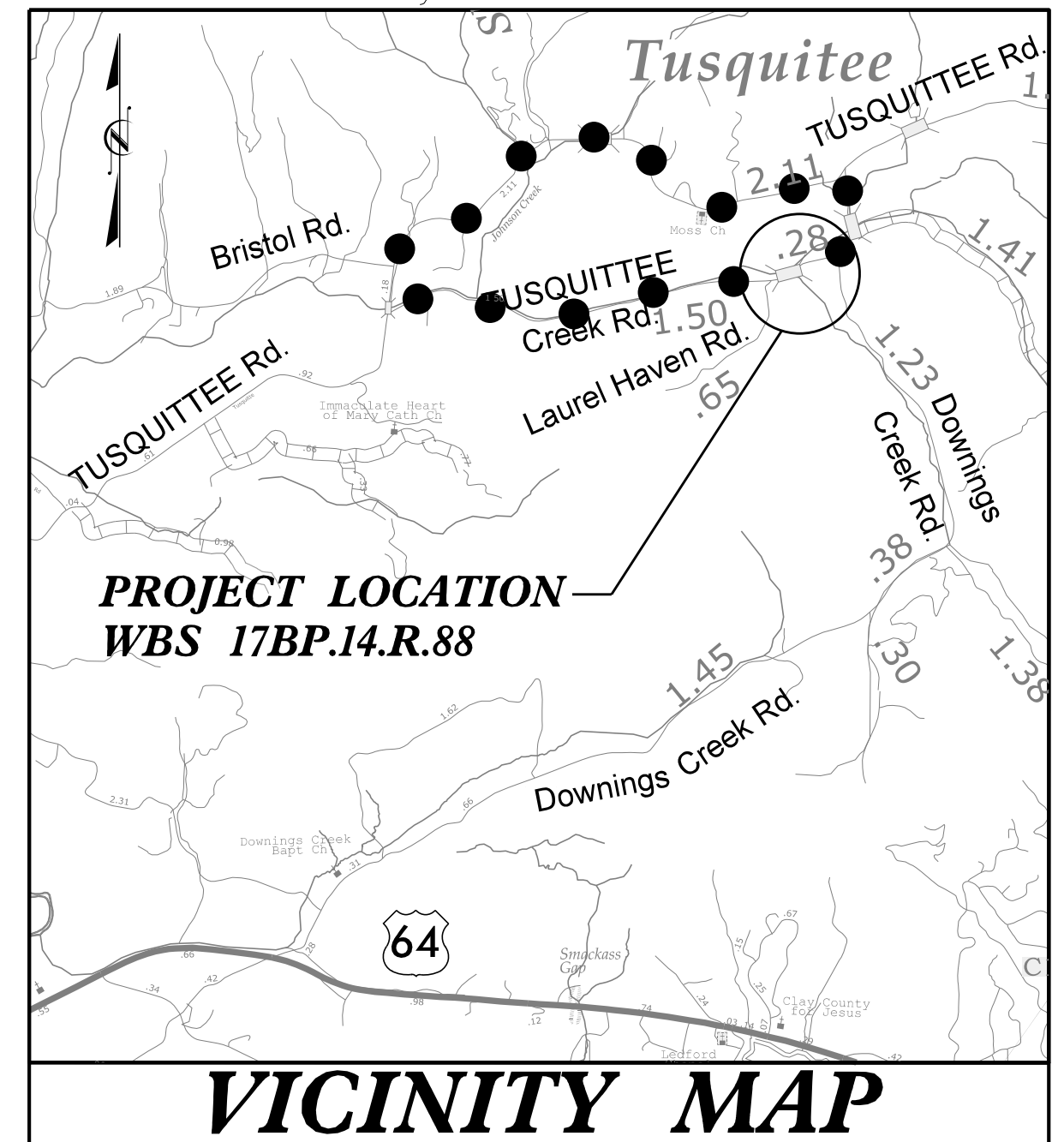
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with their signature on that page.**

**This file or an individual page  
shall not be considered a certified document.**

09/08/99

See Sheet 1A For Index of Sheets  
See Sheet 1B For Conventional Symbols  
See Sheet 1C For Survey Control



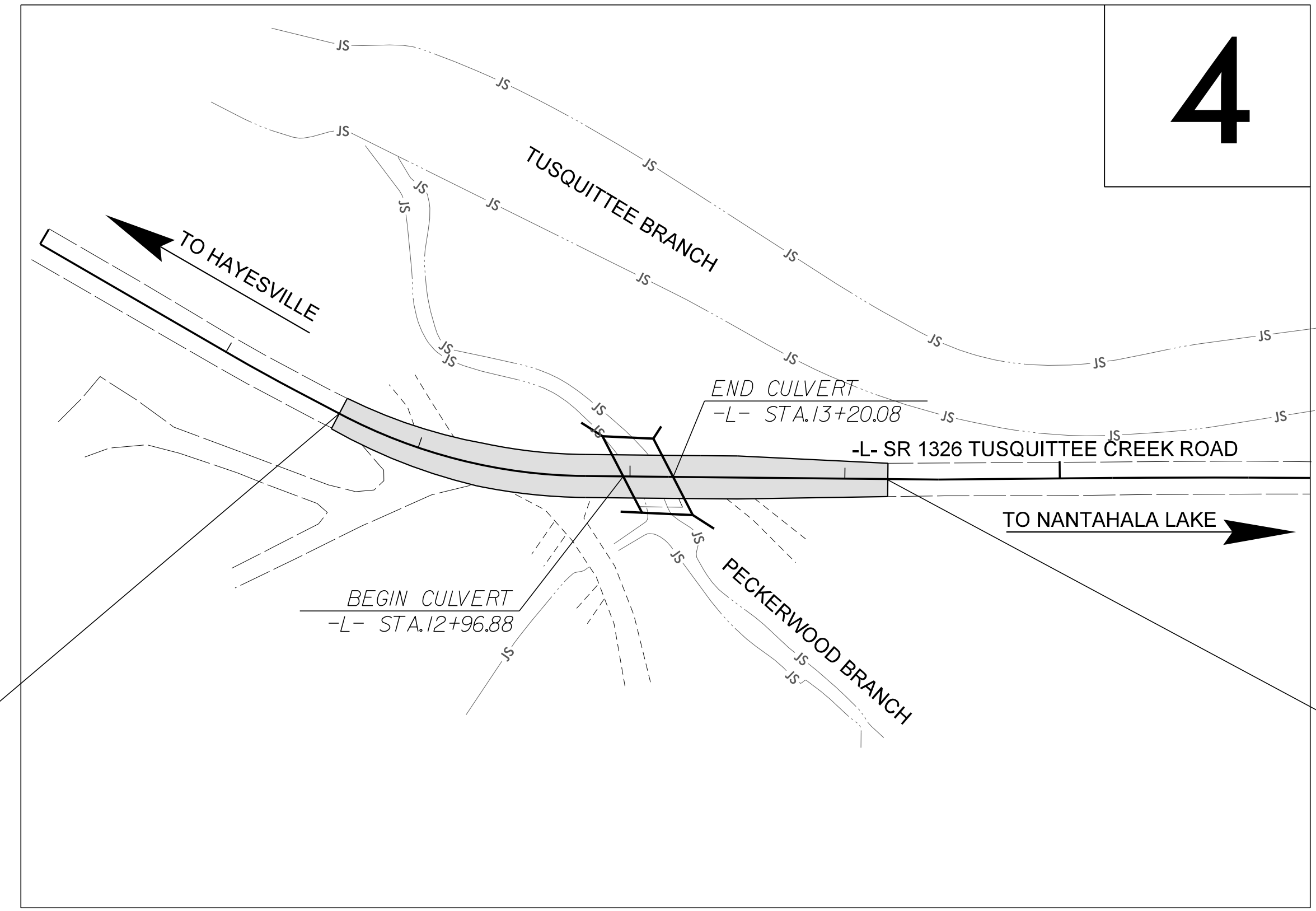
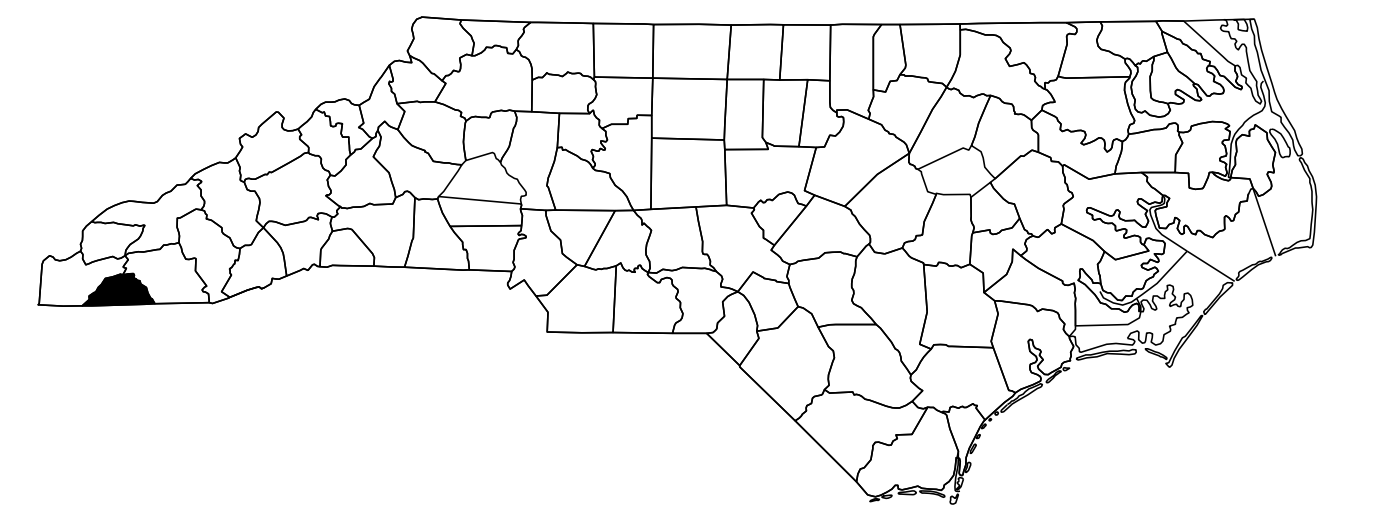
**TIP PROJECT: 17BP.14.R.88**

**CONTRACT: DN00613**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**CLAY COUNTY**

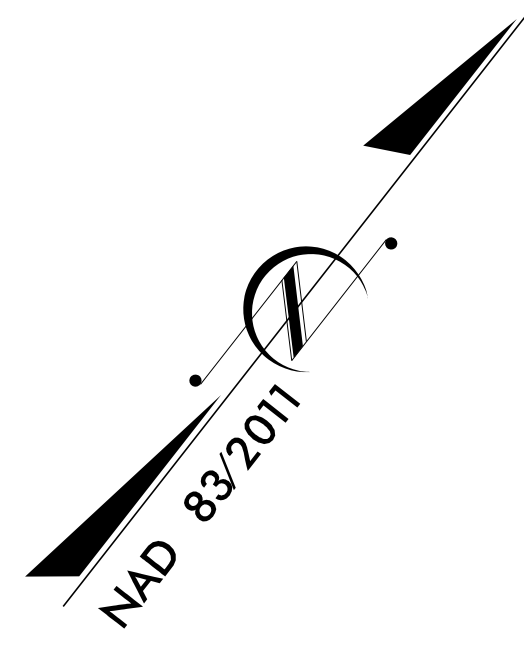
**LOCATION: BRIDGE NO. 76 ON TUSQUITTEE CREEK ROAD (SR 1326)  
OVER PECKERWOOD BRANCH, 0.28 MILES SW OF SR 1326  
INTERSECTING DOWNING CREEK ROAD (SR 1325)  
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.88	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
17BP.14.R.88		P. E.	
17BP.14.R.88		ROW	
17BP.14.R.88		UTIL.	
17BP.14.R.88		CONSTRUCTION	

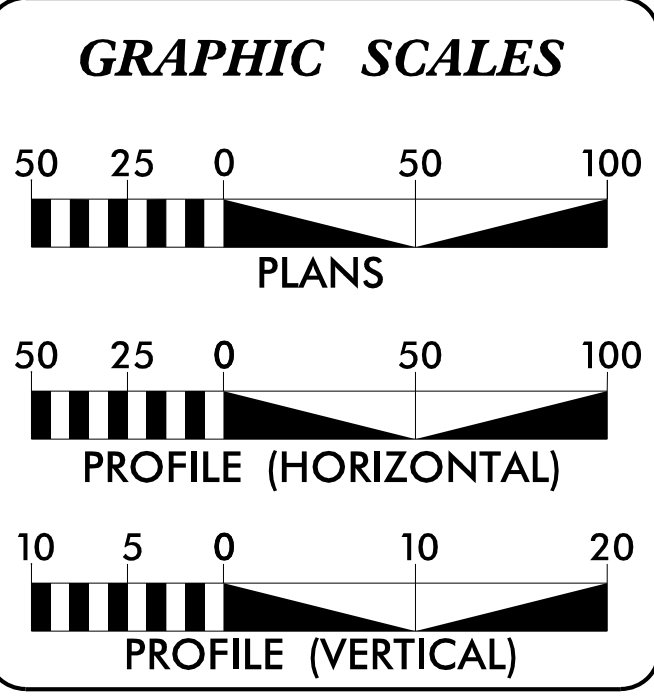


**BEGIN PROJECT WBS 17BP.14.R.88  
-L- POT STA. 11+60.00**

**END PROJECT WBS 17BP.14.R.88  
-L- POT STA. 14+20.00**



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**DESIGN DATA**

ADT 2011	=	280
ADT 2025	=	560
DHV	=	N/A %
D	=	N/A %
T	=	6 % *
V	=	35 MPH
* TTST = NA DUAL		
FUNC CLASS =		
LOCAL		
SUB-REGIONAL TIER		

**PROJECT LENGTH**

LENGTH ROADWAY PROJECT 17BP.14.R.88	=	0.044 MILES
LENGTH STRUCTURE PROJECT 17BP.14.R.88	=	0.005 MILES
TOTAL LENGTH PROJECT 17BP.14.R.88	=	0.049 MILES

**PLANS PREPARED BY:**

DRMP, INC.  
5950 FAIRVIEW ROAD, SUITE 320  
CHARLOTTE, NORTH CAROLINA 28210  
(704) 332-2289  
NC LICENSE NO. C-2213

**DIVISION OF HIGHWAYS**

2018 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
NOVEMBER 10, 2014

**LETTING DATE:**  
JANUARY 23, 2018

**PROJECT ENGINEER:**  
JAMES E. BECK, P.E.

**PROJECT DESIGN ENGINEER:**  
MICHAEL D. HAGE, P.E.

**NC DOT CONTACT:**  
JOSHUA B. DEYTON, P.E.  
DIVISION 4 PROJECT MANAGER

**HYDRAULICS ENGINEER**

SIGNATURE: Raina Stansell P.E. 12/13/2017

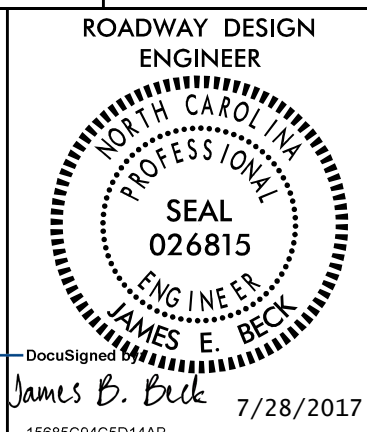
**ROADWAY DESIGN ENGINEER**

SIGNATURE: James E. Beck P.E. 12/13/2017

8/17/99

DS  
JEB

PROJECT REFERENCE NO. 17BP.14.R.88	SHEET NO. 1-A
---------------------------------------	------------------



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

GENERAL NOTES: 2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 07/30/12

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SUBSURFACE PLANS:

SUBSURFACE PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR ON THIS PROJECT.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

AT&T COMMUNICATION - 5390 OVERBEND TRAIL, SUWANEE, GA 30024

BLUE RIDGE MOUNTAIN EMC - P.O. BOX 9, EC100, YOUNG HARRIS, GA 30582

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT IN ACCORDANCE WITH SECTION 801 OF THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

2012 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, 2012 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 Super-elevation - Two Lane Pavement
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 Super-elevated Curve - Method I
DIVISION 8 - INCIDENTALS	
848.02	Driveway Turnout - Radius Type

SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C	SURVEY CONTROL SHEETS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	ROADWAY SUMMARIES
4	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-2	TRAFFIC MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1	SIGNING PLANS
UC-1	UTILITIES CONSTRUCTION PLANS
UO-1	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-4	CROSS-SECTIONS
C-1 THRU C-5	STRUCTURE PLANS



12/05/11

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EIP
Property Corner	-----
Property Monument	□ ECM
Parcel/Sequence Number	①23
Existing Fence Line	-x-x-x-
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-
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	?? ??

## 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	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 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:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite R/W Marker	▲
Proposed Control of Access Line with Concrete C/A Marker	○
Existing Control of Access	○
Proposed Control of Access	○
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	-----
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

## ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	○
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	□
VEGETATION:	
Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

Orchard	-----
Vineyard	-----

## EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
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:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	○
Power Line Tower	□
Power Transformer	□
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

## TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	○
Telephone Booth	□
Telephone Pedestal	□
Telephone Cell Tower	●
U/G Telephone Cable Hand Hole	□
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

## WATER:

Water Manhole	○
Water Meter	○
Water Valve	⊗
Water Hydrant	○
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

## TV:

TV Satellite Dish	☾
TV Pedestal	□
TV Tower	⊗
U/G TV Cable Hand Hole	□
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

## GAS:

Gas Valve	◇
Gas Meter	○
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

## SANITARY SEWER:

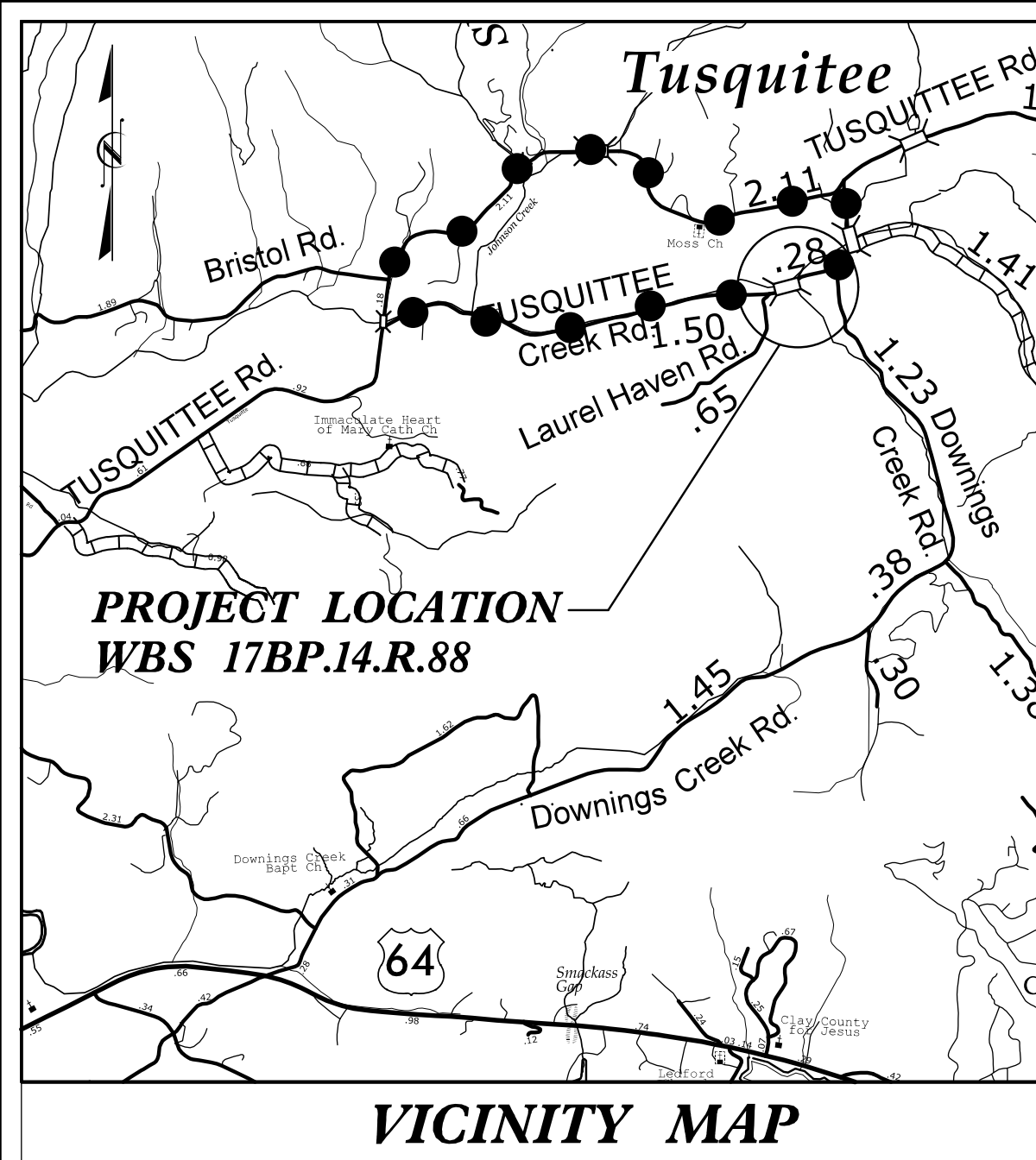
Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

## MISCELLANEOUS:

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



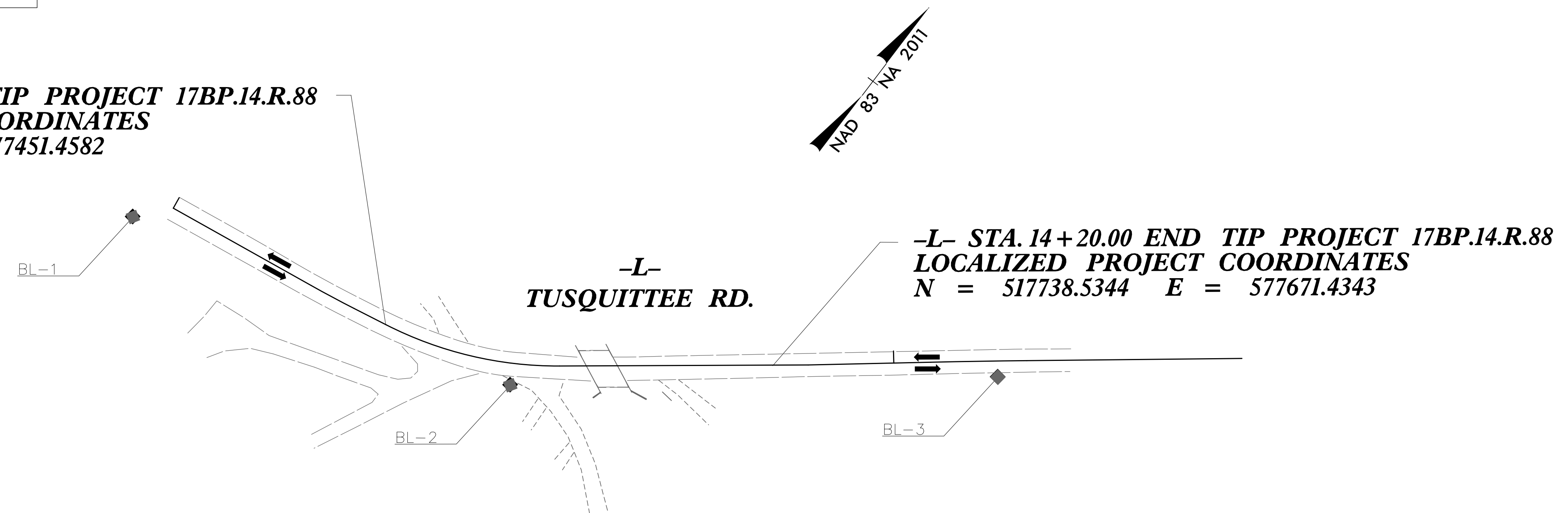
# SURVEY CONTROL SHEET 17BP.14.R.88



**VICINITY MAP**

BL	POINT	DESC.	NORTH	EAST	ELEVATION	EL STATION	OFFSET
1	BL-1		517560.9060	577275.5790	1922.83	OUTSIDE PROJECT LIMITS	
2	BL-2		517623.3780	577541.2870	1915.84	12+48.36	14.58 RT
3	BL-3		517822.5680	577794.3930	1915.05	15+68.62	10.74 RT

**-L- STA. 11+60.00 BEGIN TIP PROJECT 17BP.14.R.88**  
**LOCALIZED PROJECT COORDINATES**  
**N = 517605.4606 E = 577451.4582**



**-L- STA. 14+20.00 END TIP PROJECT 17BP.14.R.88**  
**LOCALIZED PROJECT COORDINATES**  
**N = 517738.5344 E = 577671.4343**

**NOTES:**

- THE CONTROL DATA FOR THIS PROJECT WAS PROVIDED BY NCDOT. CONTROL POINTS PROVIDED ARE AS FOLLOWS:  
 BL-1  
 BL-2  
 BL-3
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.
- ◆ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.
  - ◆ INDICATES CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY NCDOT.

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "210076 G-102" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 517968.918(±) EASTING: 578180.061(±) ELEVATION: 1918.23(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999789435

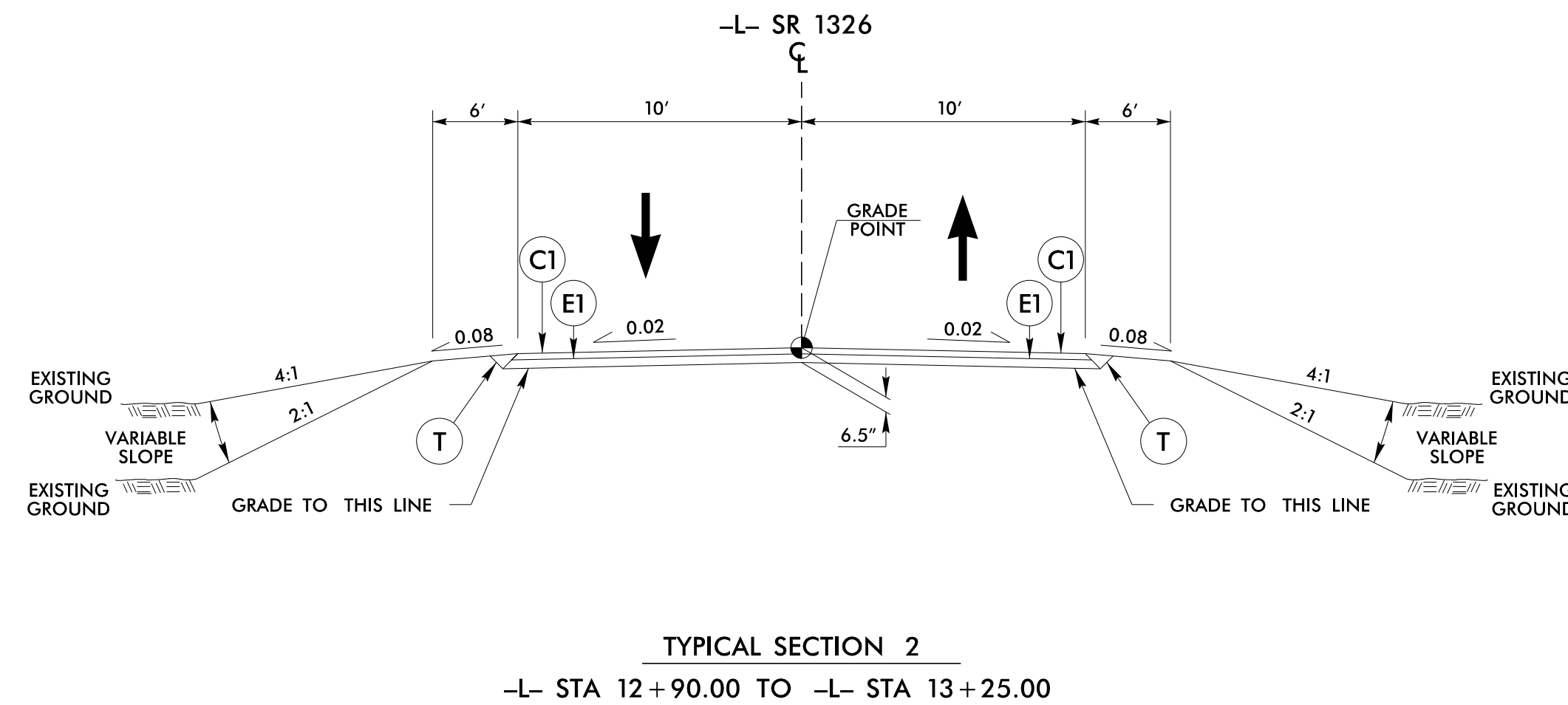
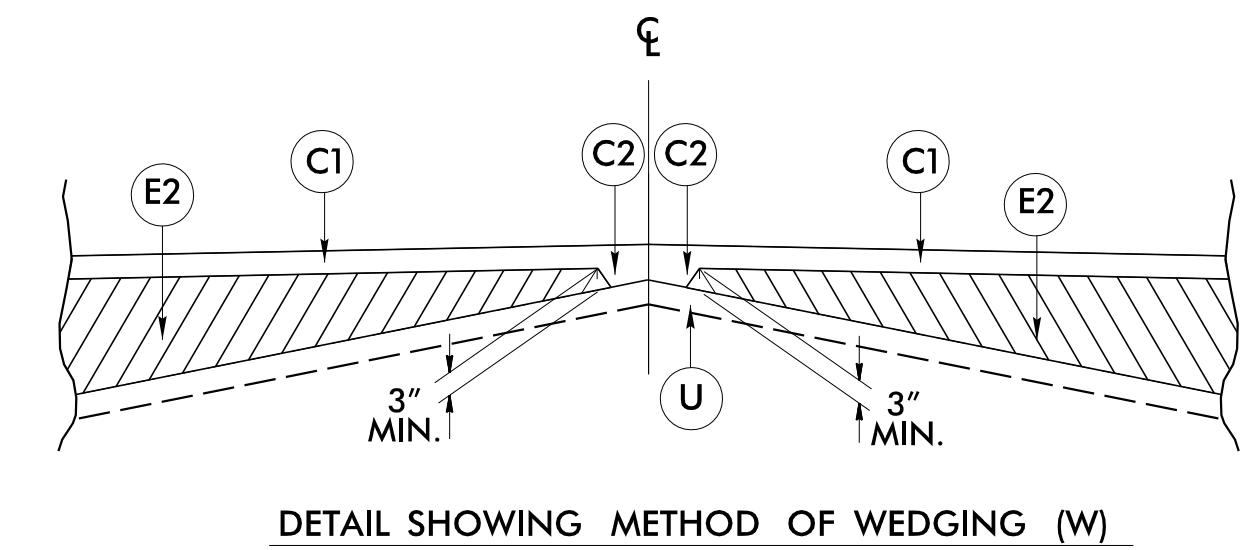
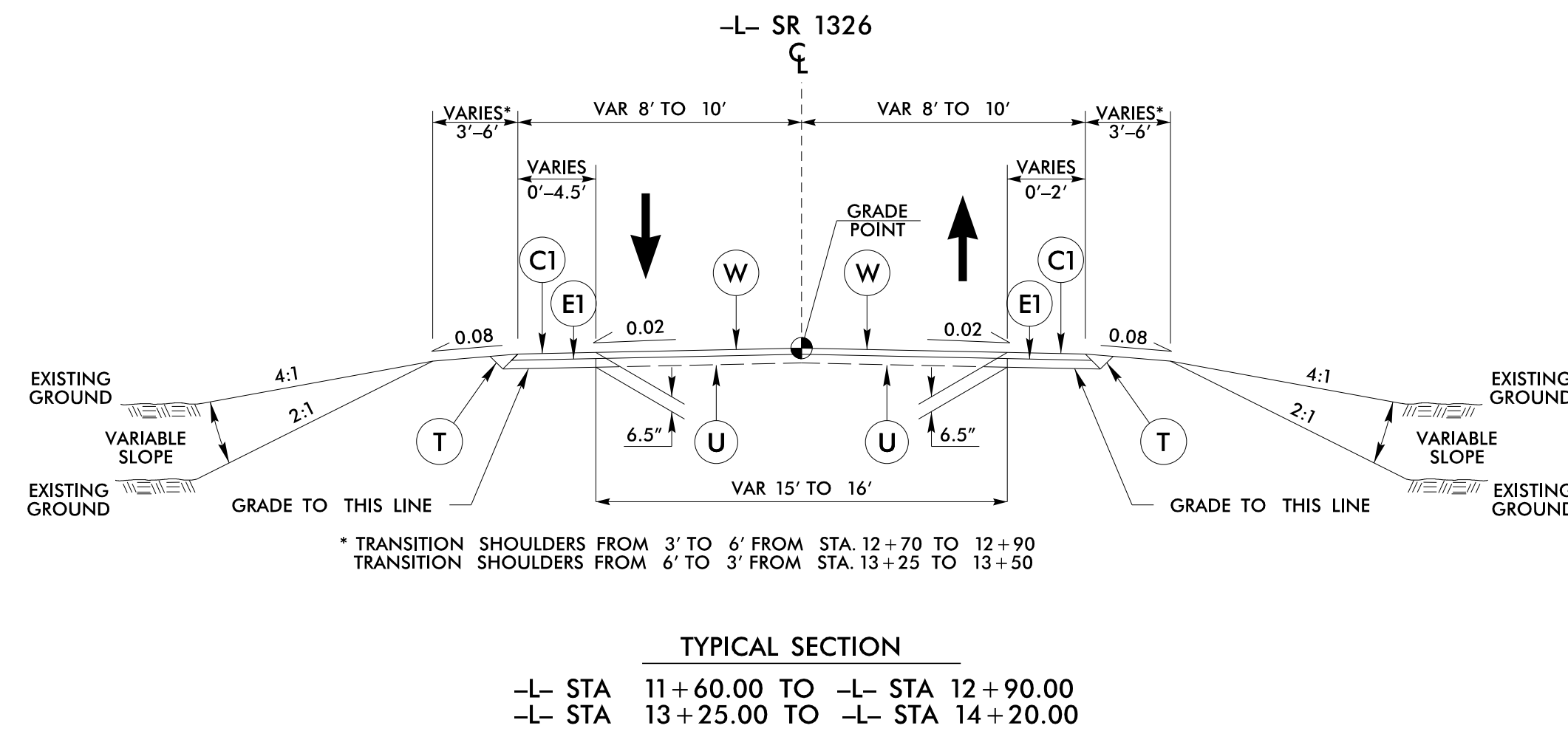
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "210076 G-102" TO -L- STATION IS

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

PROJECT REFERENCE NO. 17BP.14.R.88	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER JAMES E. BECK 15685 CASCO ROAD FARMINGDALE, N.C. 27834 7/27/2017 SEAL 026815 PROFESSIONAL ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHEET NO. 2).

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



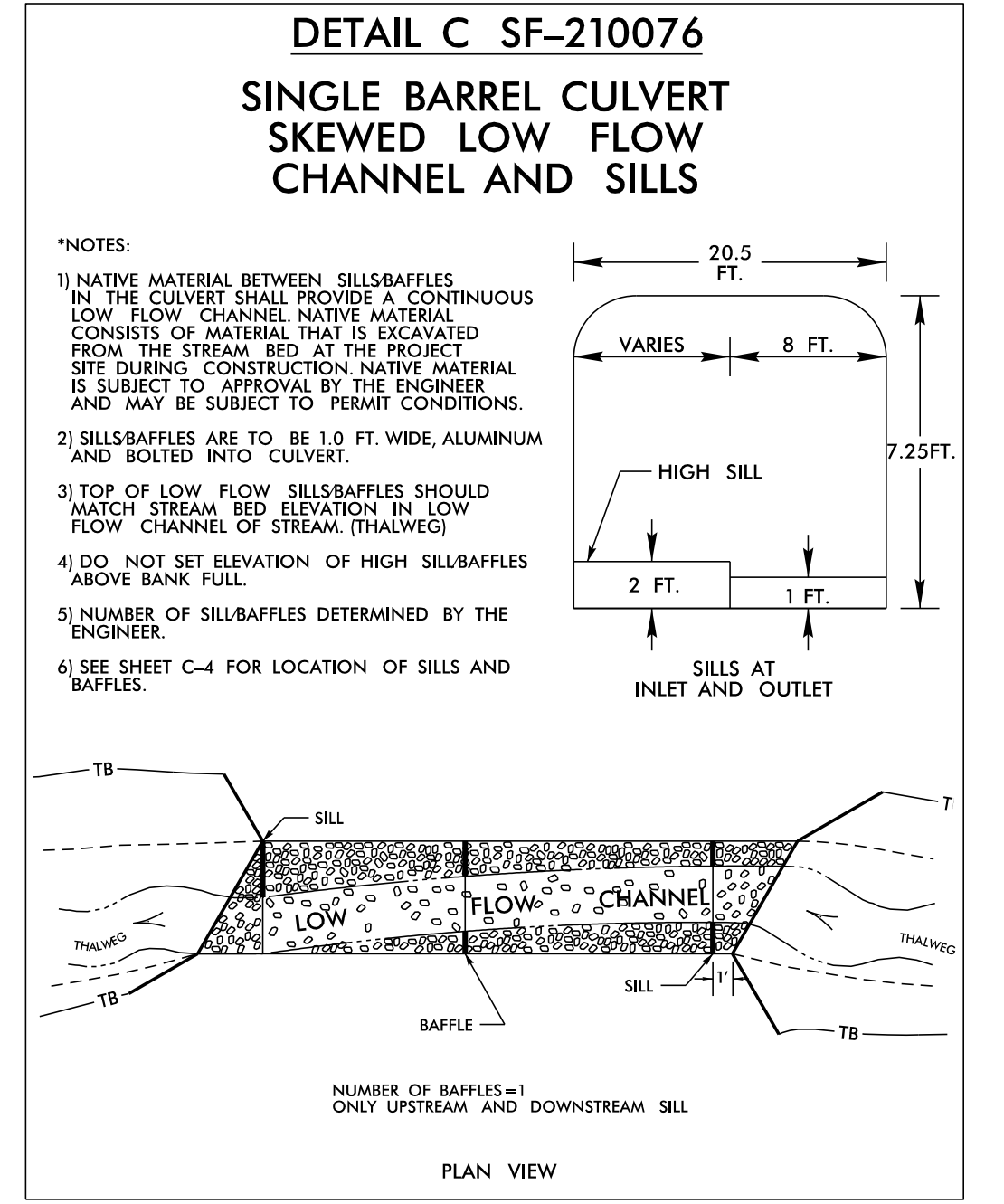
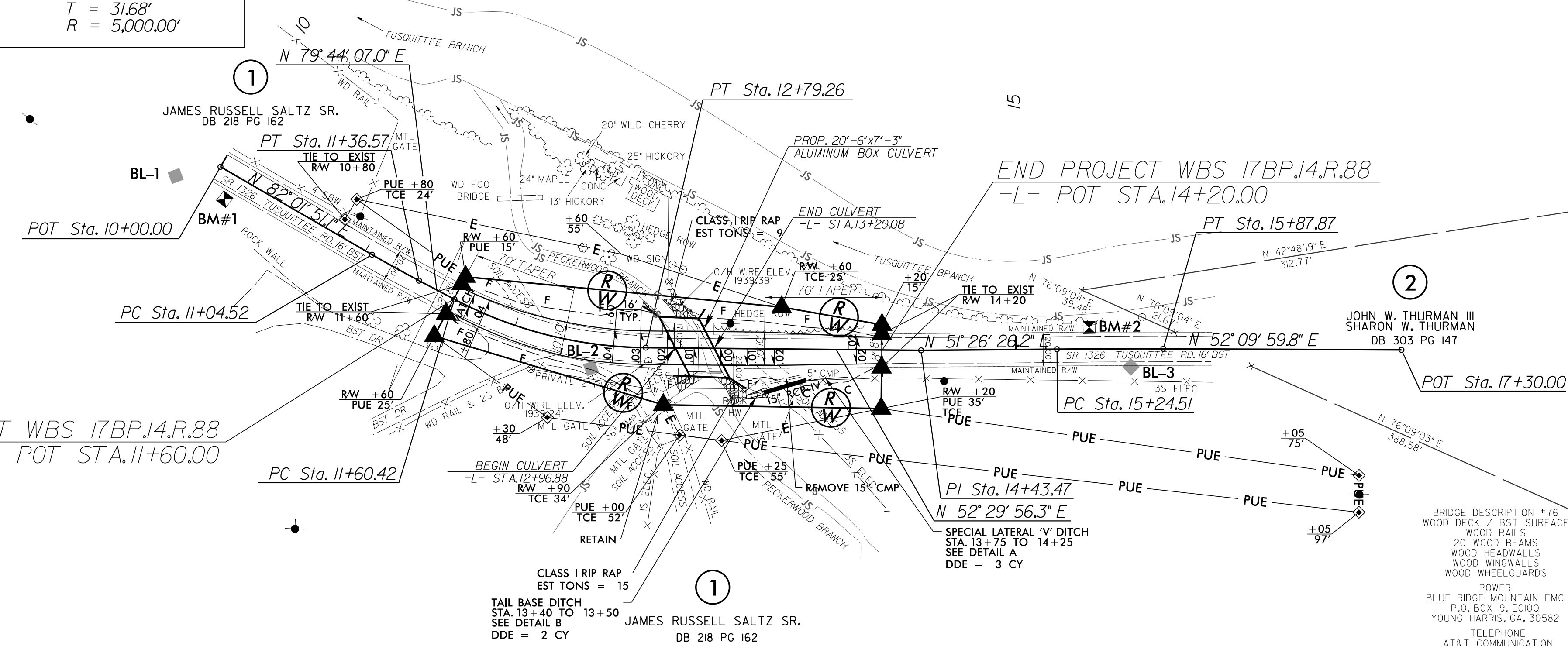
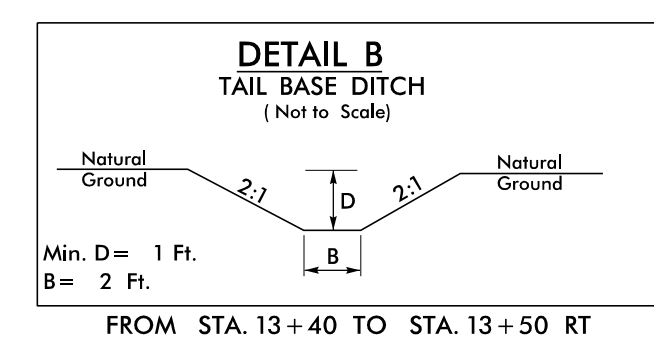
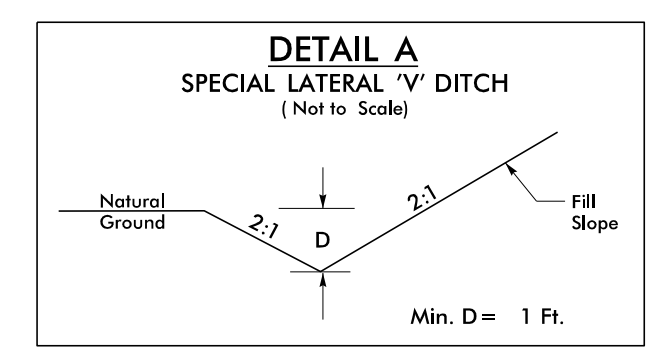




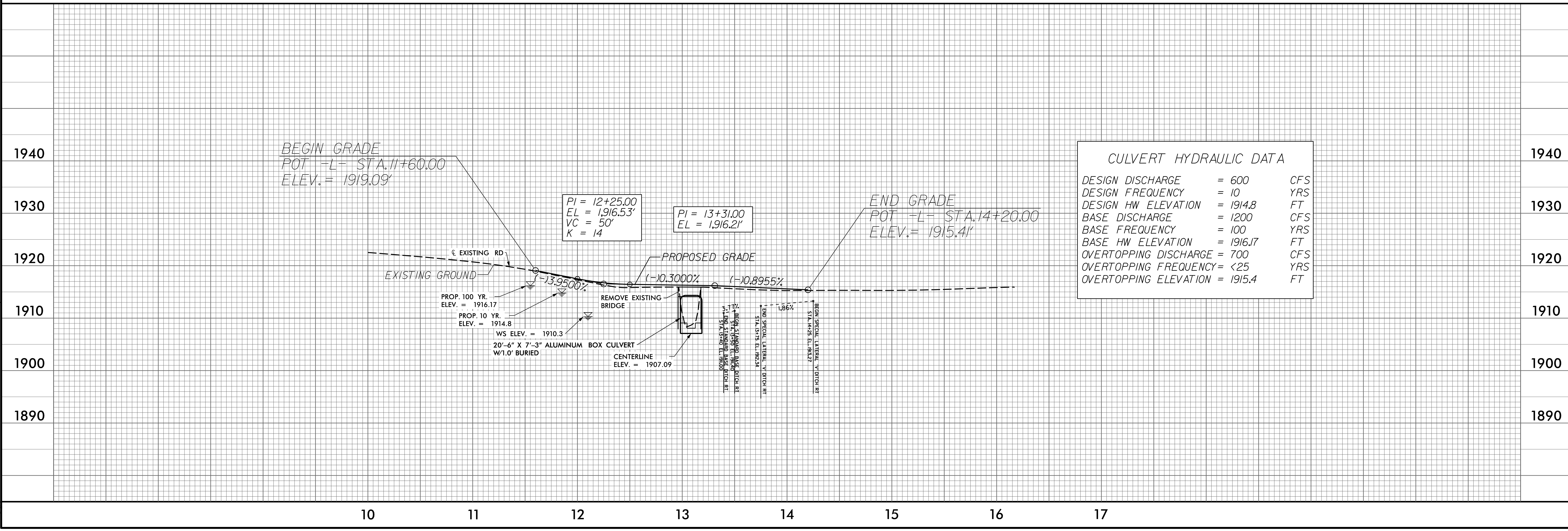
PROJECT REFERENCE NO. <b>17.BP.14.R.88</b>	SHEET NO. <b>04</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER <b>JAMES E. BECK</b> SEAL 026815 7/27/2017	HYDRAULICS ENGINEER <b>KARA STANSELL</b> SEAL 027876 7/27/2017
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

**-L- CURVE DATA**

PI Sta 11+20.54 Δ = 2°17'44.2" (LT) D = 7°09'43.1" L = 32.05' T = 16.03' R = 800.00'	PI Sta 12+20.98 Δ = 27°14'10.7" (LT) D = 22°55'05.9" L = 118.84' T = 60.57' R = 250.00'	PI Sta 15+56.19 Δ = 0°43'33.6" (RT) D = 1°08'45.3" L = 63.36' T = 31.68' R = 5,000.00'
---	--	---



REVISIONS



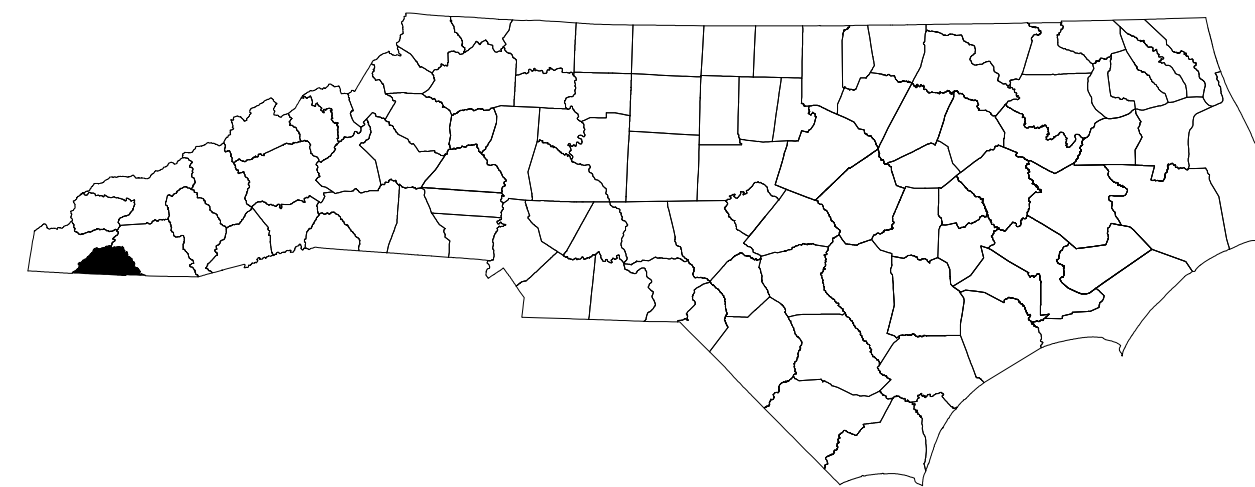
5/10/2017 2:08:28 PM  
H:\Roadway\Proj\210076-Fdy-psh\_04.dgn



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**TRANSPORTATION MANAGEMENT PLAN**

**CLAY COUNTY**



**INDEX OF SHEETS**

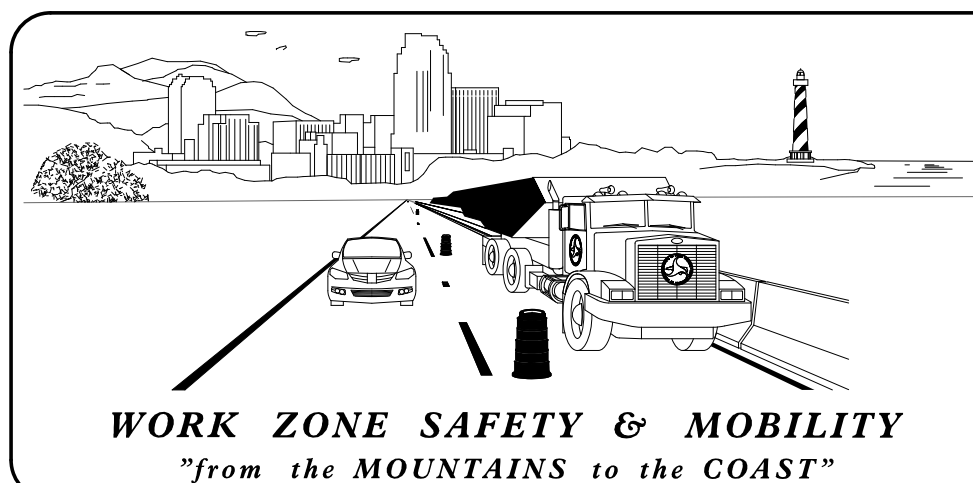
SHEET NO.	TITLE
TMP-1	TITLE SHEET, INDEX OF SHEETS LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1A	CONSTRUCTION PHASING AND GENERAL NOTES
TMP-2	OFFSITE DETOUR PLAN
SP-1	SPECIAL SIGN DESIGN

**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:

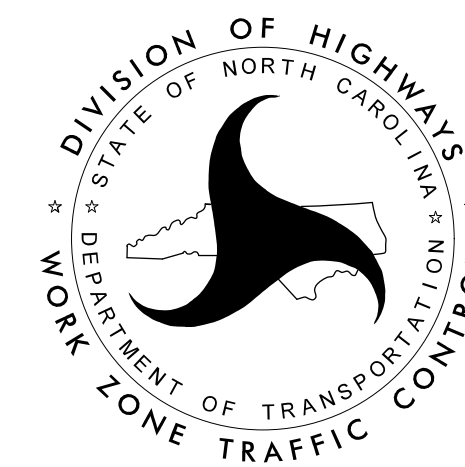
STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**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) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER  
DON PARKER, P.E. TRAFFIC CONTROL PROJECT ENGINEER  
TRAFFIC CONTROL PROJECT DESIGN ENGINEER  
TRAFFIC CONTROL DESIGN ENGINEER



**LEGEND**

**GENERAL**

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

**TRAFFIC CONTROL DEVICES**

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

**TEMPORARY SIGNING**

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

**SIGNALS**

- EXISTING
- PROPOSED
- TEMPORARY

**PAVEMENT MARKINGS**

- EXISTING LINES
- TEMPORARY LINES

**PAVEMENT MARKERS**

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

**PAVEMENT MARKING SYMBOLS**

- PAVEMENT MARKING SYMBOLS



APPROVED:   
DATE: 12/12/2019

SEAL



# PROJECT NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.R.88	TMP-1A

## CONSTRUCTION PHASING

**STEP 1:**

INSTALL WORK ZONE ADVANCE WARNING SIGNS AND DETOUR AS SHOWN ON TMP-2. PLACE TYPE III BARRICADES WITH "ROAD CLOSED" SIGNS AND CLOSE S.R. #1326 (TUSQUITTEE CREEK ROAD) TO THRU TRAFFIC.

**STEP 2:**

REMOVE THE EXISTING BRIDGE OVER PECKERWOOD BRANCH AND BEGIN CONSTRUCTION OF -L- CULVERT OVER PECKERWOOD BRANCH.

-L- STA. 12+96 +/- TO 13+20 +/- (BRIDGE)

**STEP 3:**

COMPLETE CONSTRUCTION OF THE FOLLOWING:

-L- STA. 12+96 +/- TO 13+20 +/- (CULVERT)

CONSTRUCT THE FOLLOWING, INCLUDING THE FINAL LAYER OF SURFACE COURSE BETWEEN THE FOLLOWING STATIONS:

-L- STA. 11+60 +/- TO 14+20 +/- (BOTH DIRECTIONS)

**STEP 4:**

INSTALL PERMANENT PAVEMENT MARKINGS IN THE FOLLOWING LOCATIONS:

-L- STA. 11+60 +/- TO 14+20 +/- (BOTH DIRECTIONS)

**STEP 5:**

REMOVE TYPE III BARRICADES AND DETOUR, AND OPEN S.R. #1326 (TUSQUITTEE CREEK ROAD) TO TRAFFIC.

## GENERAL NOTES

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

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

**TRAFFIC PATTERN ALTERATIONS**

A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

**SIGNING**

B) 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.

C) CONTRACTOR SHALL PROVIDE PERMANENT SIGNING.

D) CONTRACTOR SHALL PROVIDE SIGNING REQUIRED FOR OFF-SITE DETOUR ROUTE AS SHOWN IN TRAFFIC CONTROL PLANS.

E) COVER OR REMOVE ALL DETOUR SIGNS WITHIN THE PROJECT LIMITS WHEN A DETOUR IS NOT IN OPERATION.

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

**TRAFFIC CONTROL DEVICES**

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

**PAVEMENT MARKINGS AND MARKERS**

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

ROAD NAME	MARKING	MARKER
TUSQUITTEE CREEK RD	PAINT	NONE

I) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

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

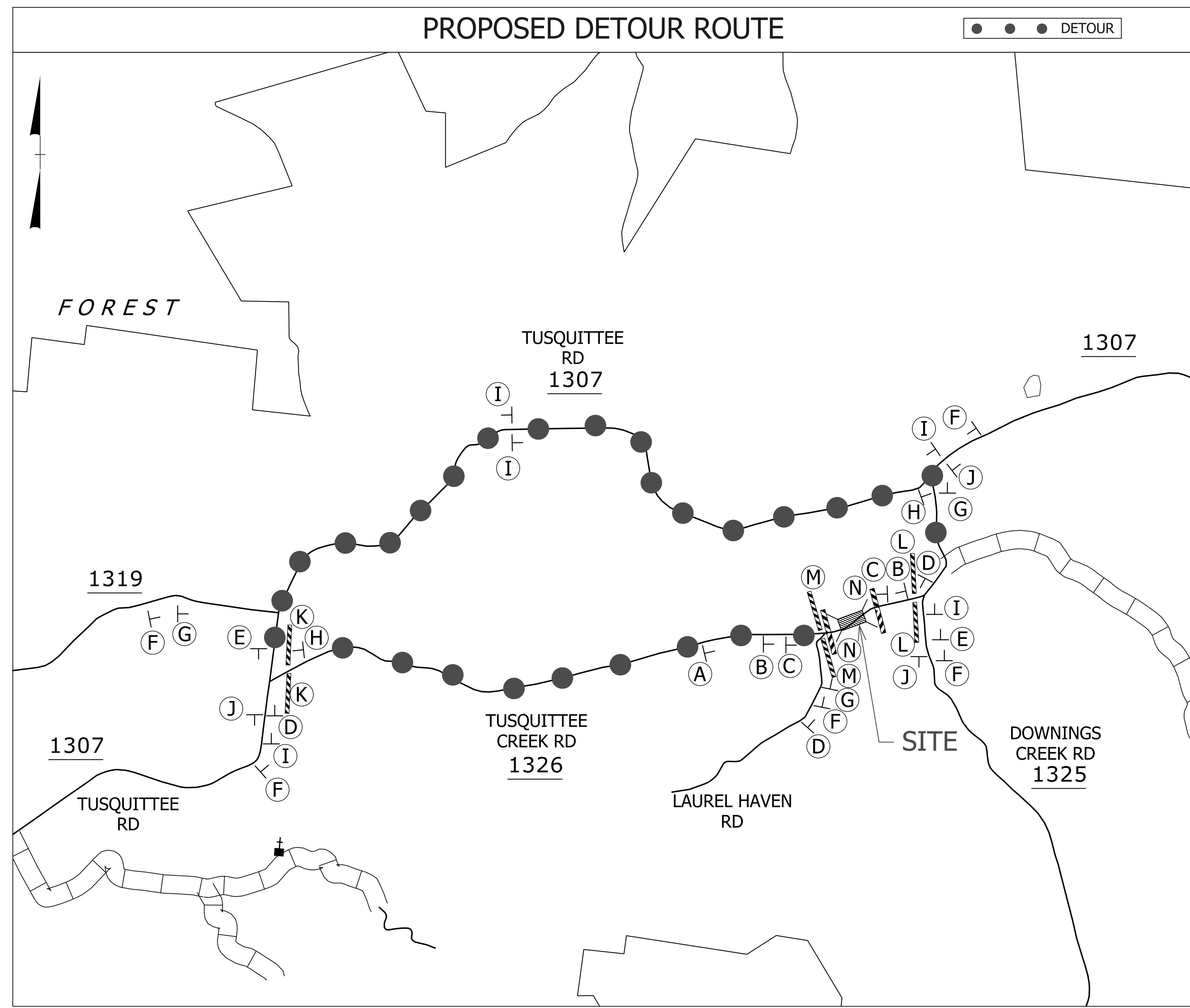
K) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

5/18/2017 1:48:42 PM \\raleigh\office\ncdot\17BP\GROUP\17BP\14.R.88\20076\TrafficControl\17BP\14.R.88\_TC\_PSH\_01A.dgn

<p style="font-size: x-small;">434 Fayetteville Street Suite 1500 Raleigh, NC 27601 - 919.836.4099 www.wsp.com LICENSE NO. F-0891</p>	<p style="font-size: x-small;">APPROVED <i>Richard Odynski</i> DATE: 7/27/2017</p> <div style="text-align: center;"> <p style="font-size: x-small;">SEAL</p> </div>	<div style="text-align: center;"> <p style="font-size: x-small;">DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p> </div>	<h2 style="margin: 0;">CONSTRUCTION PHASING AND GENERAL NOTES</h2>
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<b>(A)</b>  ROAD CLOSED AHEAD W20-3 48" x 48"	<b>(B)</b>  ROAD CLOSED 1000 FT W20-3 48" x 48"	<b>(C)</b>  ROAD CLOSED 500 FT W20-3 48" x 48"
<b>(D)</b>  ROAD CLOSED AHEAD W20-3 48" x 48"	<b>(E)</b>  ROAD CLOSED AHEAD W20-3 48" x 48"	<b>(F)</b>  DETOUR AHEAD W20-2 48" x 48"
<b>(D)</b> NEXT RIGHT SP-4R 42" X 12"	<b>(E)</b> NEXT LEFT SP-4L 42" X 12"	
<b>(G)</b> Tusquittee Creek Rd SP-1 48" x 12"	<b>(H)</b> Tusquittee Creek Rd SP-1 48" x 12"	<b>(I)</b> Tusquittee Creek Rd SP-1 48" x 12"
<b>(D)</b> DETOUR M4-8 24" x 12"	<b>(E)</b> DETOUR M4-8 24" x 12"	<b>(F)</b> DETOUR M4-8 24" x 12"
 M6-1 21" x 15"	 M6-1 21" x 15"	 M6-3 21" x 15"
<b>(J)</b> END DETOUR M4-8 A 48" x 18"		

<b>(K)</b> R11-4 60" x 30"  ROAD CLOSED TO THRU TRAFFIC DETOUR M4-10L 48" x 18" TYPE III BARRICADE	<b>(L)</b> R11-4 60" x 30"  ROAD CLOSED TO THRU TRAFFIC DETOUR M4-10R 48" x 18" TYPE III BARRICADE	<b>(M)</b> R11-4 60" x 30"  ROAD CLOSED TO THRU TRAFFIC TYPE III BARRICADE	<b>(N)</b> R11-2 48" x 30"  ROAD CLOSED TYPE III BARRICADE(S)
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DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**wsp**

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Raleigh, NC 27601 - 919.836.4099  
www.wsp.com  
LICENSE NO. F-0891

APPROVED: *Richard A. Odynski* DATE: 7/27/2017

SEAL

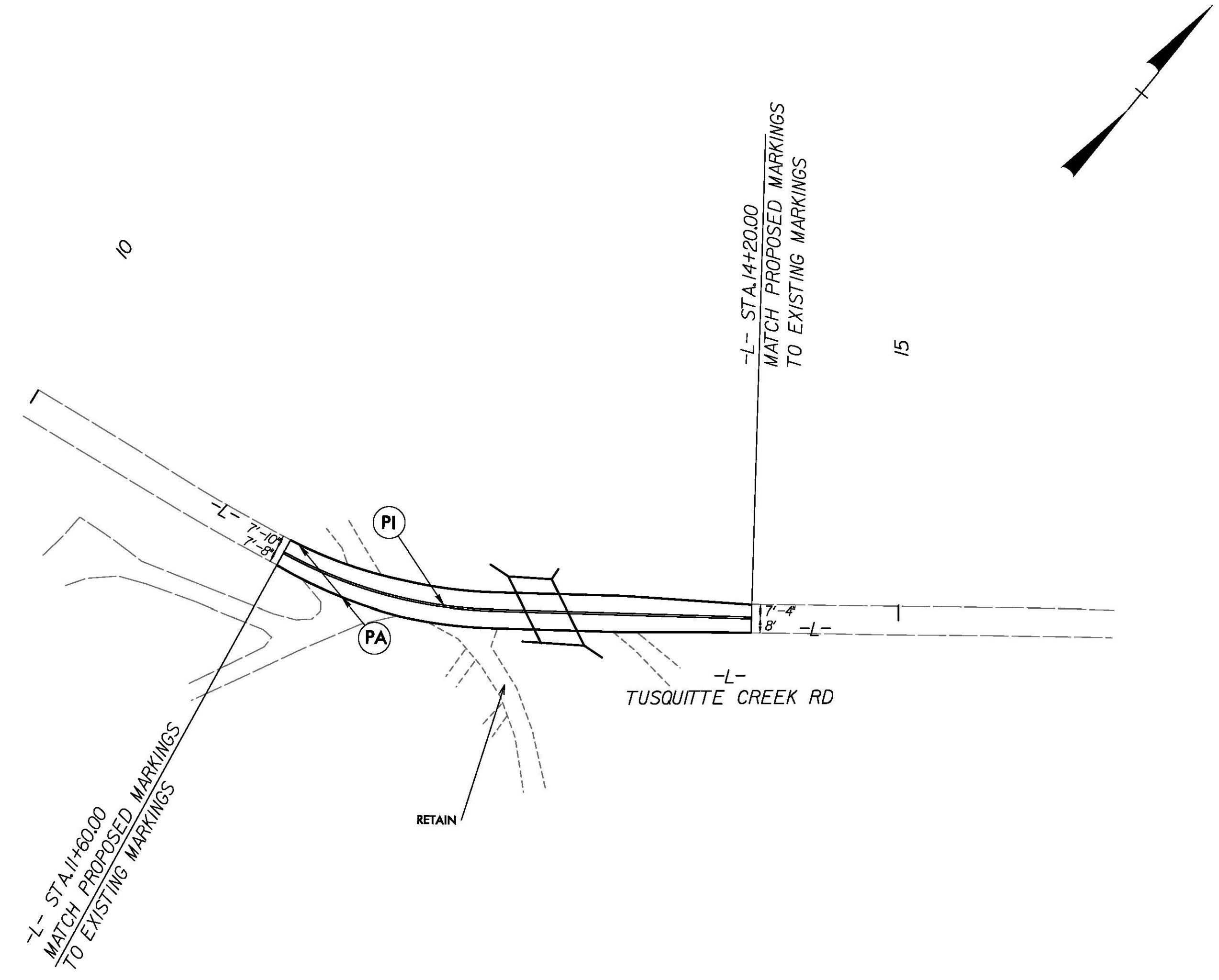
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
WORK ZONE TRAFFIC CONTROL

## OFFSITE DETOUR PLAN

5/16/2017 10:00:00 AM N:\7BP\14.R.88\20076\TrafficControl\7BP\14.R.88\_TC\_PSH\_02.dgn  
RA:Raleigh  
odynskir

PAVEMENT MARKING SCHEDULE TIP PROJECT # 17BP.14.R.88				
SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS	PAY ITEM QUANTITY BREAKDOWN	TOTAL QUANTITY
PI	YELLOW DOUBLE CENTER	PAINT (4", 2 COATS)	520 LF	1040 LF
PA	WHITE EDGELINE	PAINT (4", 2 COATS)	520 LF	1040 LF

NOTES:  
1. WHITE EDGE TO MATCH EXISTING LANE WIDTHS THROUGHOUT NEWLY CONSTRUCTED AREA.



2/1/2018 W:\Raleigh\Office NCDOT\7BP GROUP\17BP.14.R.88\_210076\TrafficControl\17BP.14.R.88\_TC\_PSH\_PMP.dgn USHC04407

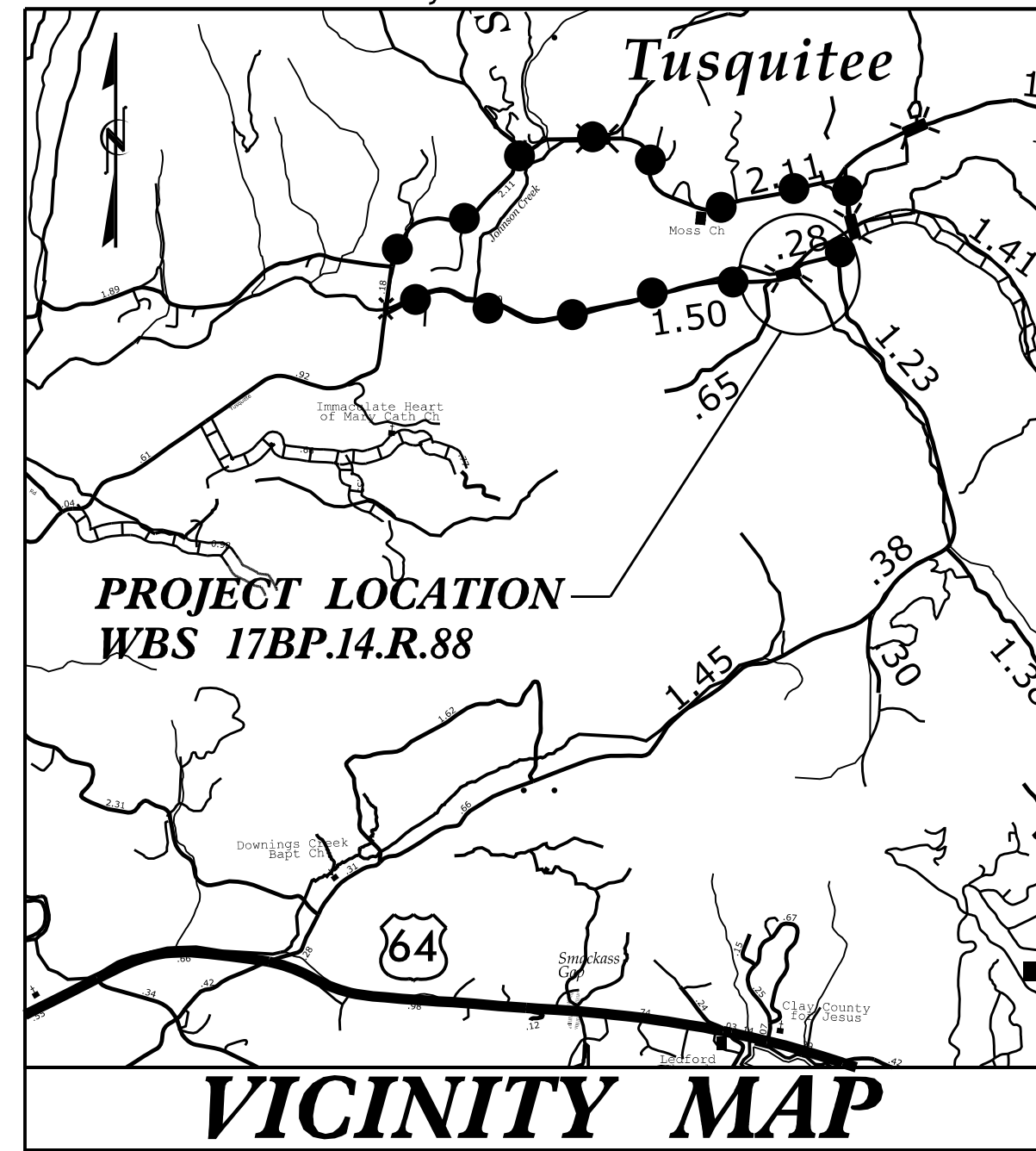
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

<p>434 Fayetteville Street Suite 1500 Raleigh, NC 27601 - 919.836.4040 www.wspgroup.com LICENSE NO. F-0891</p>	<p>APPROVED: <i>Michael N. Swasey</i> DATE: 2/1/2018</p> <p>15598A02705E50B</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p>	<p><b>PAVEMENT MARKING PLAN</b></p>
	<p>SEAL</p>		

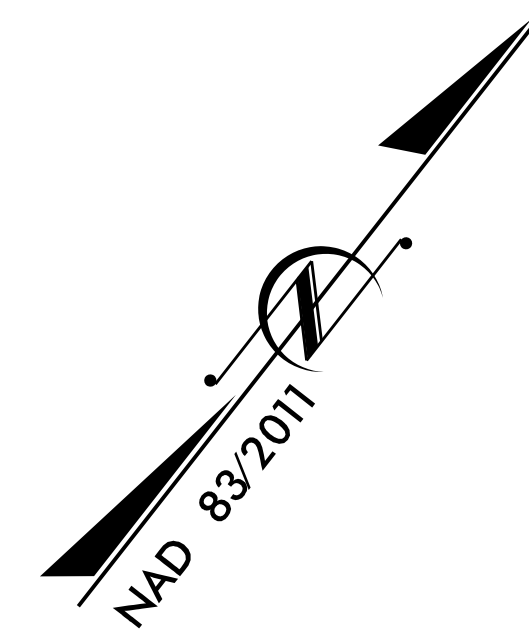


**TIP PROJECT: 17BP.14.R.88**

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols  
See Sheet 1-C For Survey Control



●●●●● OFFSITE DETOUR



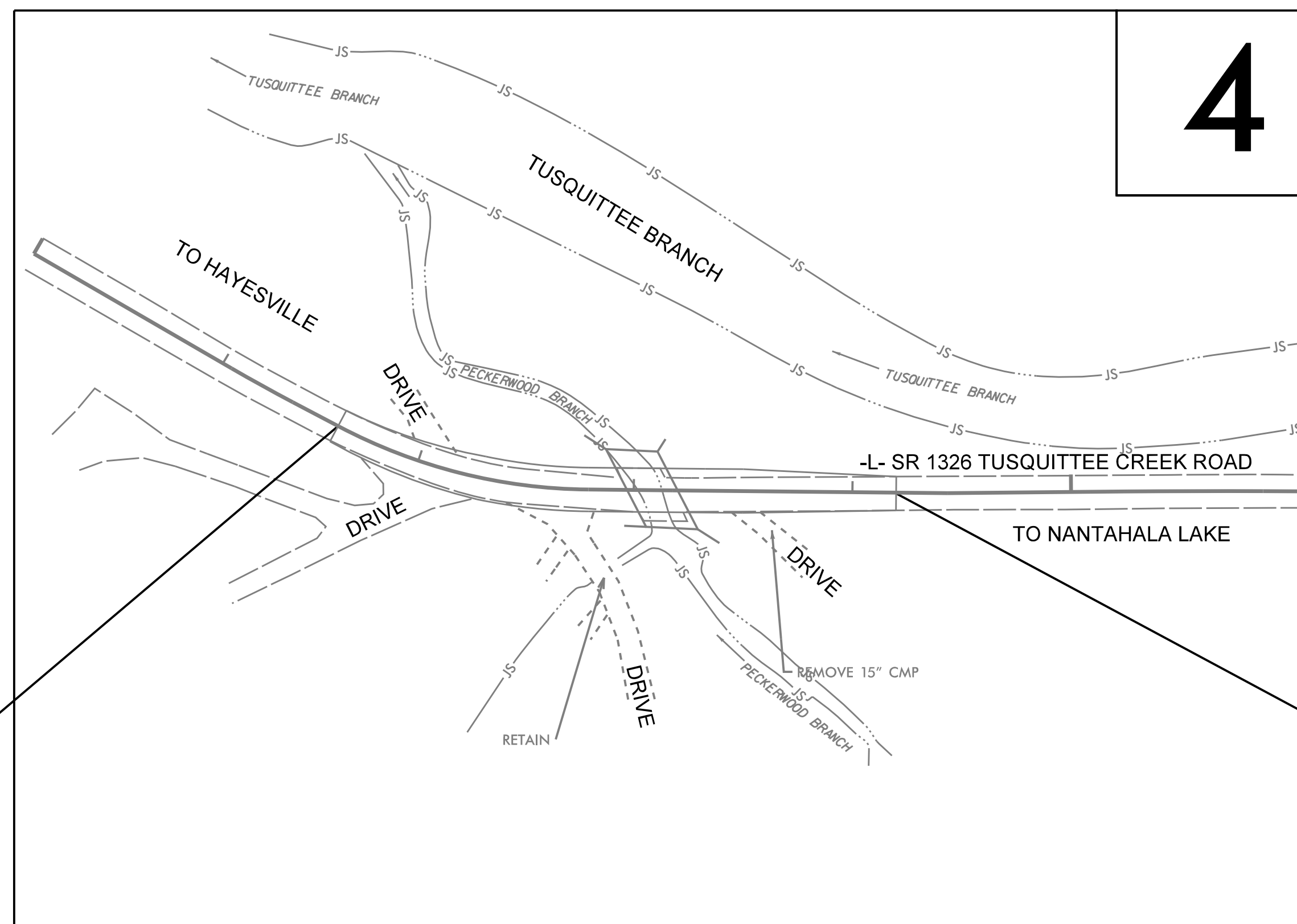
**BEGIN PROJECT WBS 17BP.14.R.88**  
-L- POT STA. 11 + 60.00

**RAW PLANS**

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

**LOCATION: BRIDGE NO. 76 ON TUSQUITTEE CREEK ROAD  
(SR 1326) OVER PECKERWOOD BRANCH  
0.5 MILES SW OF JUNCTION OF 1327**

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



4

RANA STANSELL, PE  
LEVEL IIIA NAME  
  
3597  
LEVEL IIIA CERTIFICATION NO.

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

**END PROJECT WBS 17BP.14.R.88**  
-L- POT STA. 14 + 20.00

**ENVIRONMENTALLY  
SENSITIVE AREA(S) EXIST  
ON THIS PROJECT**  
  
*Refer To E. C. Special Provisions  
for Special Considerations.*

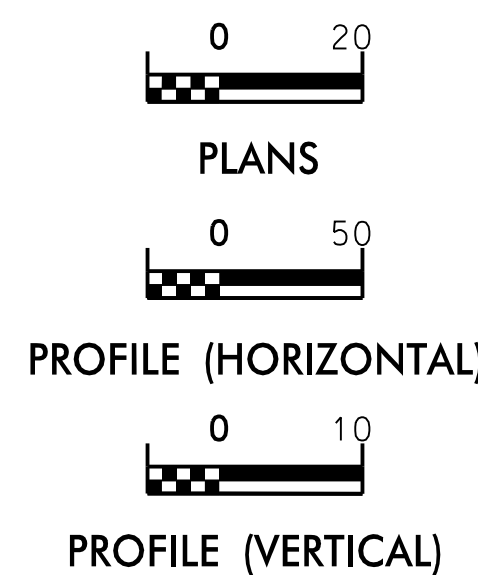
**THIS PROJECT HAS  
BEEN DESIGNED TO  
SENSITIVE WATERSHED  
STANDARDS.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.88	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

**EROSION AND SEDIMENT CONTROL MEASURES**

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	— TD —
1630.05	Temporary Diversion	— TD —
1605.01	Temporary Silt Fence	— SIF —
1606.01	Special Sediment Control Fence	— SCF —
1622.01	Temporary Berms and Slope Drains	— TBSD —
1630.02	Silt Basin Type B	— SB —
1633.01	Temporary Rock Silt Check Type-A	— TRSC —
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	— TRSC/PAM —
1633.02	Temporary Rock Silt Check Type-B	— TRSC —
	Wattle / Coir Fiber Wattle	— W —
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	— W/PAM —
1634.01	Temporary Rock Sediment Dam Type-A	— TRSD —
1634.02	Temporary Rock Sediment Dam Type-B	— TRSD —
1635.01	Rock Pipe Inlet Sediment Trap Type-A	— RPIS —
1635.02	Rock Pipe Inlet Sediment Trap Type-B	— RPIS —
1630.04	Stilling Basin	— SB —
1630.06	Special Stilling Basin	— SSB —
	Rock Inlet Sediment Trap:	
1632.01	Type A	— A —
1632.02	Type B	— B —
1632.03	Type C	— C —
	Skimmer Basin	— SB —
	Tiered Skimmer Basin	— TSB —
	Infiltration Basin	— IB —

**GRAPHIC SCALE**



ROADSIDE ENVIRONMENTAL UNIT  
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY  
WITH THE REGULATIONS SET FORTH BY THE  
NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011  
ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND  
NATURAL RESOURCES DIVISION OF WATER QUALITY.

**WSP**  
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2018 STANDARD SPECIFICATIONS

**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 2012 and the latest revision 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	



DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

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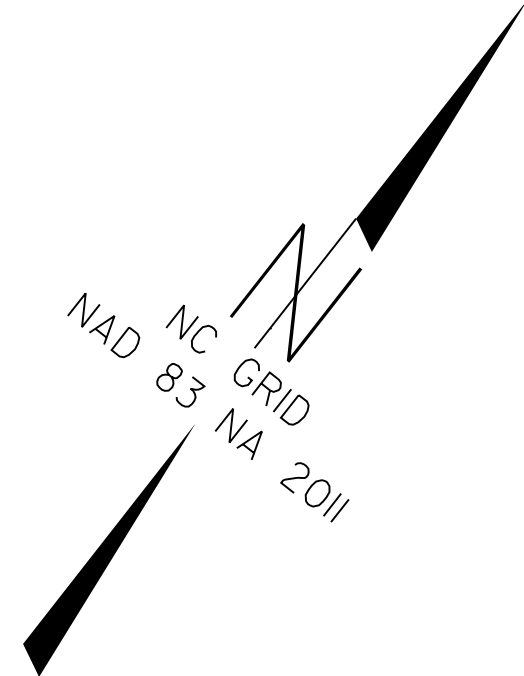
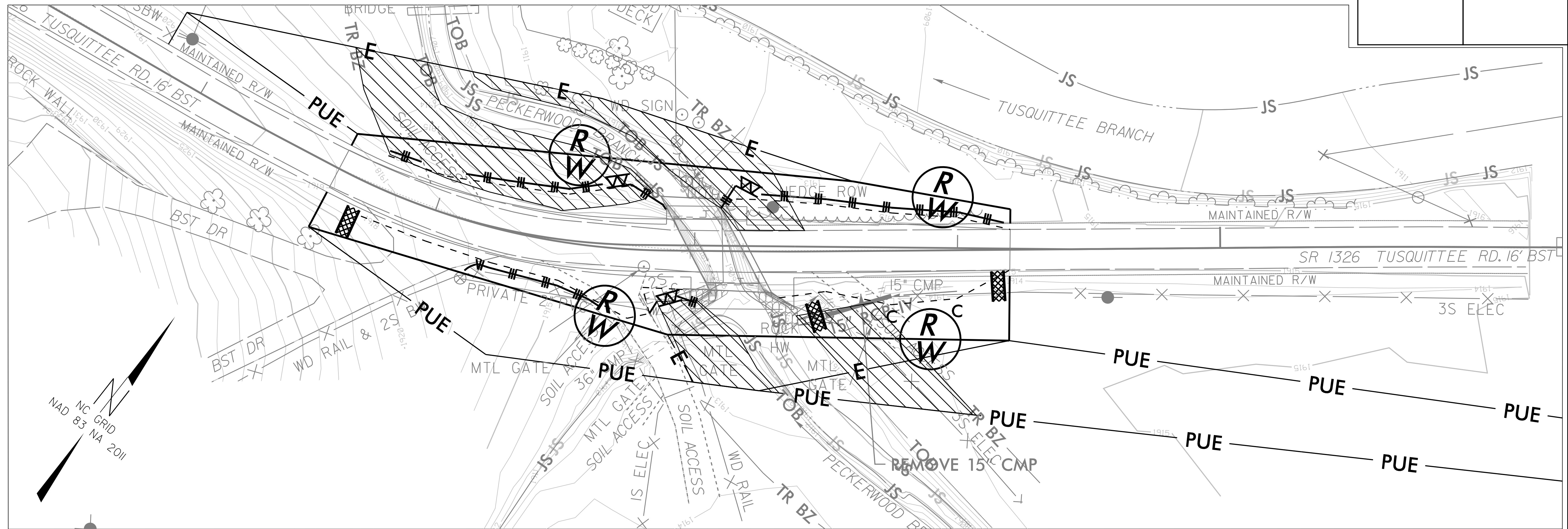
PROJECT REFERENCE NO.	SHEET NO.
<i>17BPJ4.R.88</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# ***SOIL STABILIZATION TIMEFRAMES***

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
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.

# EROSION CONTROL PLAN

PROJECT REFERENCE NO. 17BPJ4.R.88	SHEET NO. EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



CONTRACTOR SHALL INSTALL AN ONSITE CONCRETE WASHOUT STRUCTURE PER THE NCDOT DETAIL AND SPECIAL PROVISIONS. ACTUAL LOCATION OF THE STRUCTURE SHALL BE DETERMINED IN THE FIELD. CONCRETE WASHOUT STRUCTURE SHALL BE MAINTAINED BY THE CONTRACTOR. ALL CONCRETE TRUCKS SHALL USE THE CONCRETE WASHOUT STRUCTURE. NO WASHOUT OF CONCRETE TRUCKS SHALL BE ALLOWED EXCEPT IN THE CONCRETE WASHOUT STRUCTURE.

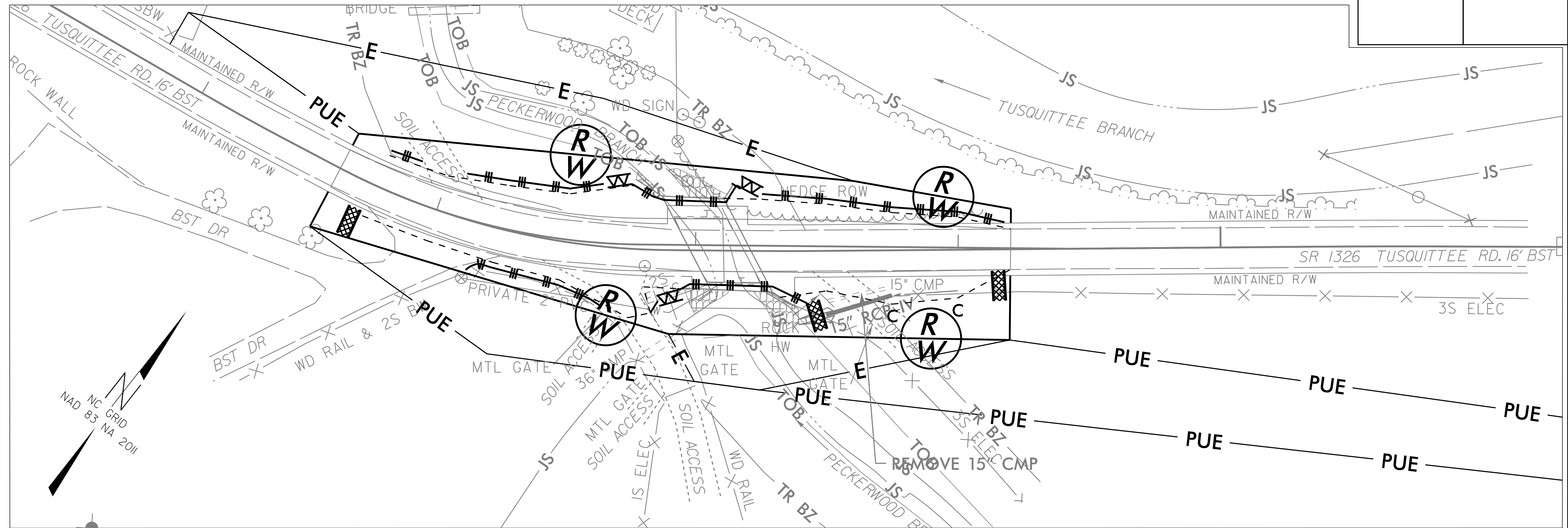
CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 4

BRIDGE REMOVAL AND CULVERT CONSTRUCTION SHALL BE PER REQUIREMENTS IN THE NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL



# EROSION CONTROL PLAN

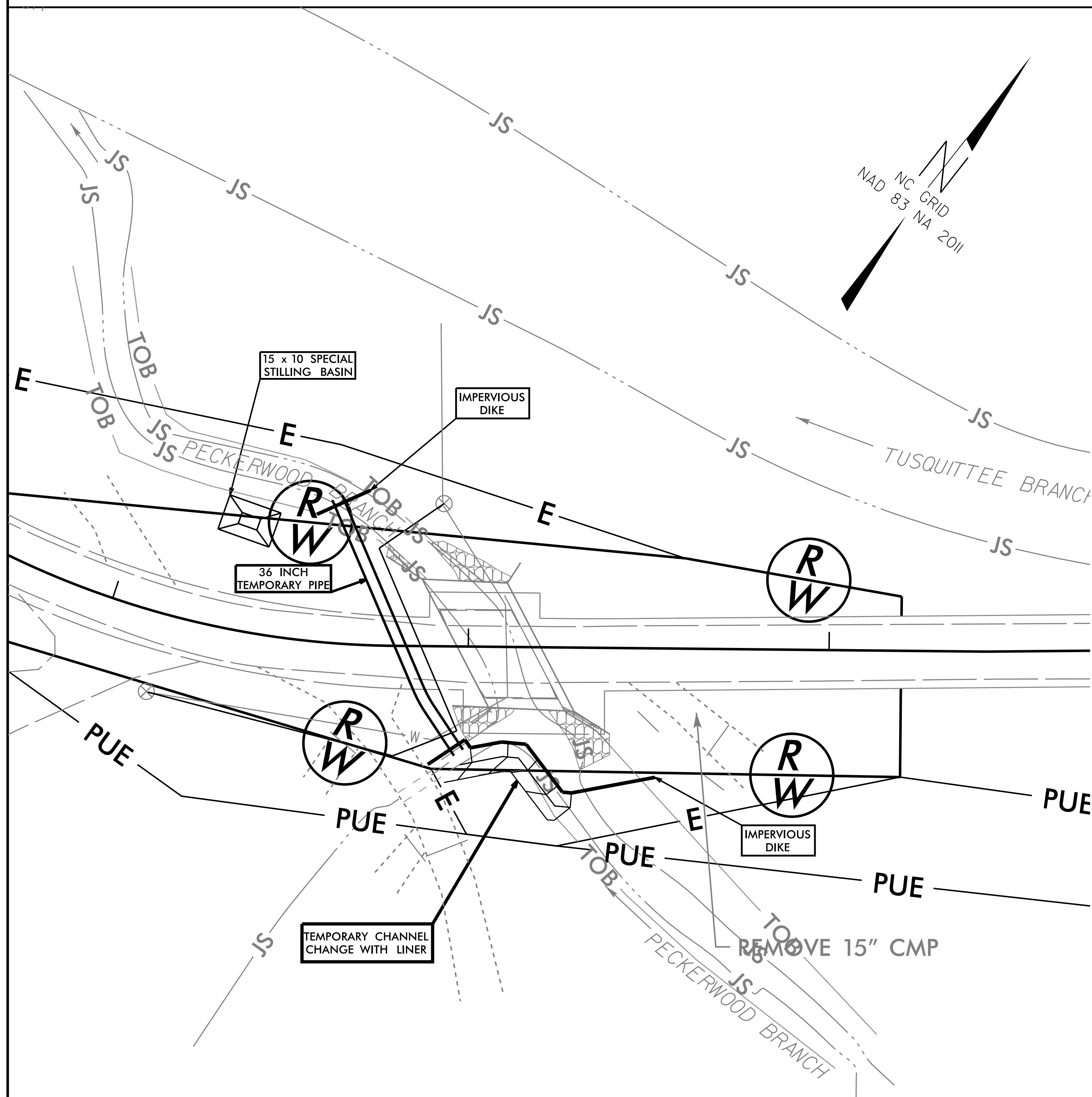
PROJECT REFERENCE NO. 17BPJ4.R.88	SHEET NO. EC-5/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



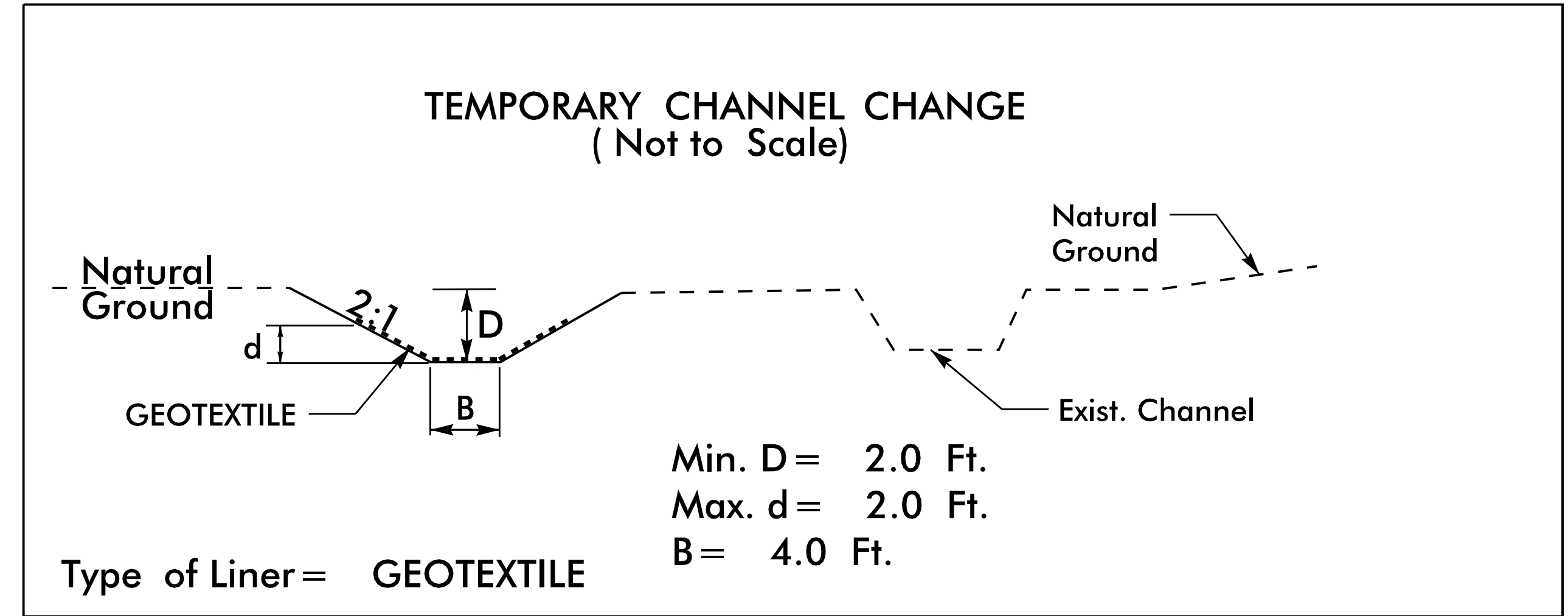
INSTALL MATTING IN THE  
PROPOSED DITCH LINE.  
STA 13+39 TO STA 14+25 -L- RT

PROJECT REFERENCE NO. <b>17BP.RJ4.88</b>	SHEET NO. <b>EC-6/CONST.2A</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

# CULVERT CONSTRUCTION SEQUENCE STA. 13+08 -L-



1. INSTALL 36" TEMPORARY PIPE, IMPERVIOUS DIKES AND TEMPORARY CHANNEL CHANGE WITH LINER. INSTALL THE PORTION OF THE 2" WATER LINE THAT IS UNDER THE 36" TEMPORARY PIPE CONCURRENTLY WITH INSTALLATION OF THE 36" TEMPORARY PIPE.
2. DEWATER CONSTRUCTION AREA INTO SPECIAL STILLING BASIN.
3. INSTALL REMAINING PORTION OF 2" WATER LINE UNDER THE STREAM BED.
4. INSTALL ALUMINUM BOX CULVERT, INCLUDING WINGWALLS.
5. CONSTRUCT SILLS, BAFFLES, AND BENCHES. BACKFILL INSIDE CULVERTS WITH STOCKPILED NATIVE MATERIAL.
6. REMOVE TEMPORARY CHANNEL, TEMPORARY PIPE, IMPERVIOUS DIKES AND STILLING BASIN.
7. FINISH ROADWAY WORK AND OPEN TO TRAFFIC.





STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.14.R.88	RF-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

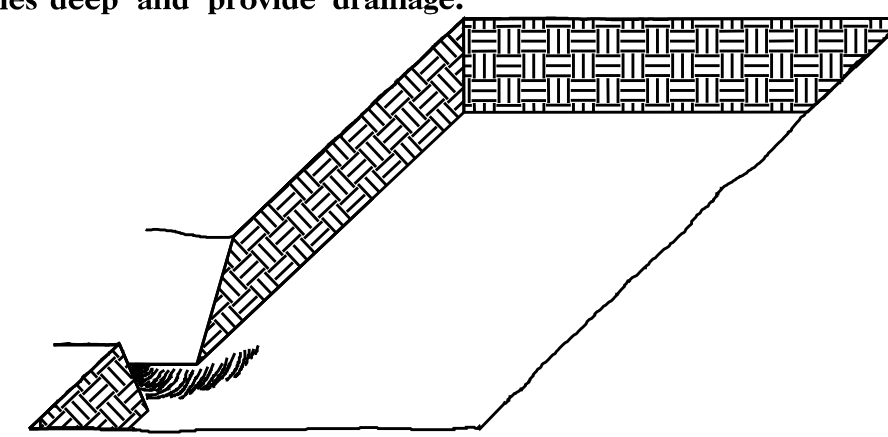
REFORESTATION MAY BE UTILIZED ON THIS PROJECT AT THE DISCRETION OF THE NCDOT FIELD OPERATIONS ENGINEER.

# PLANTING DETAILS

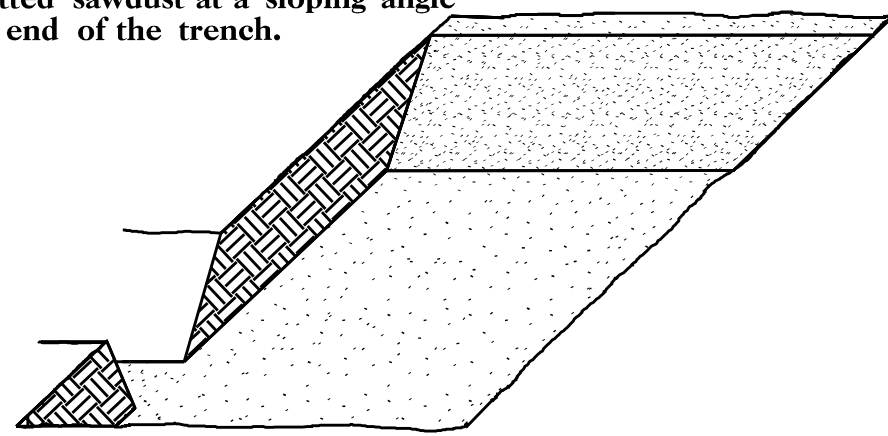
## SEEDLING / LINER BAREROOT PLANTING DETAIL

### HEALING IN

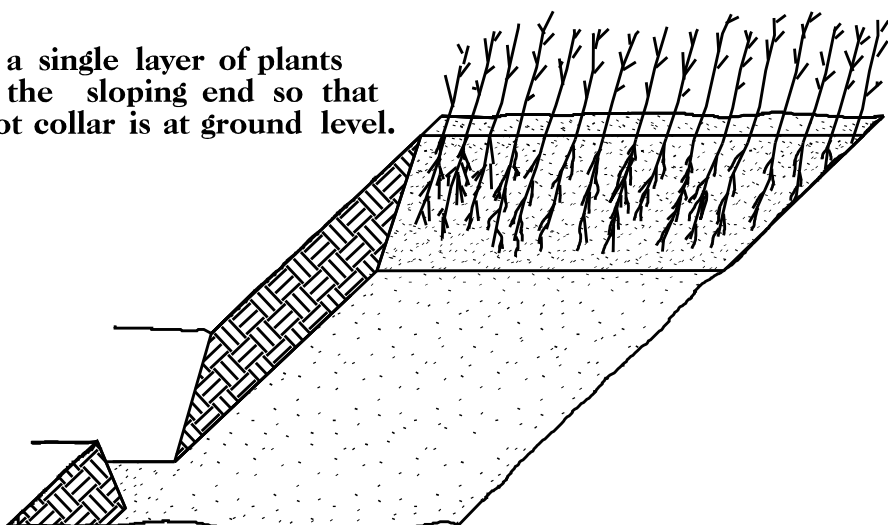
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



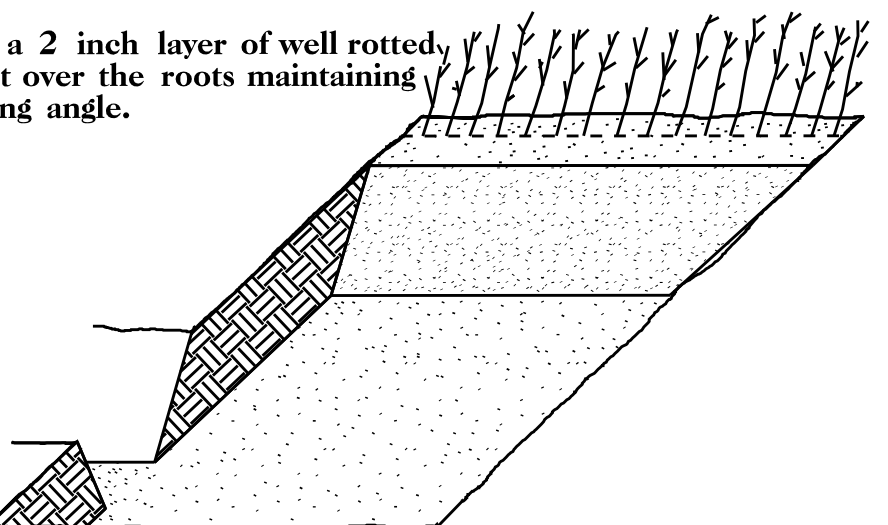
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

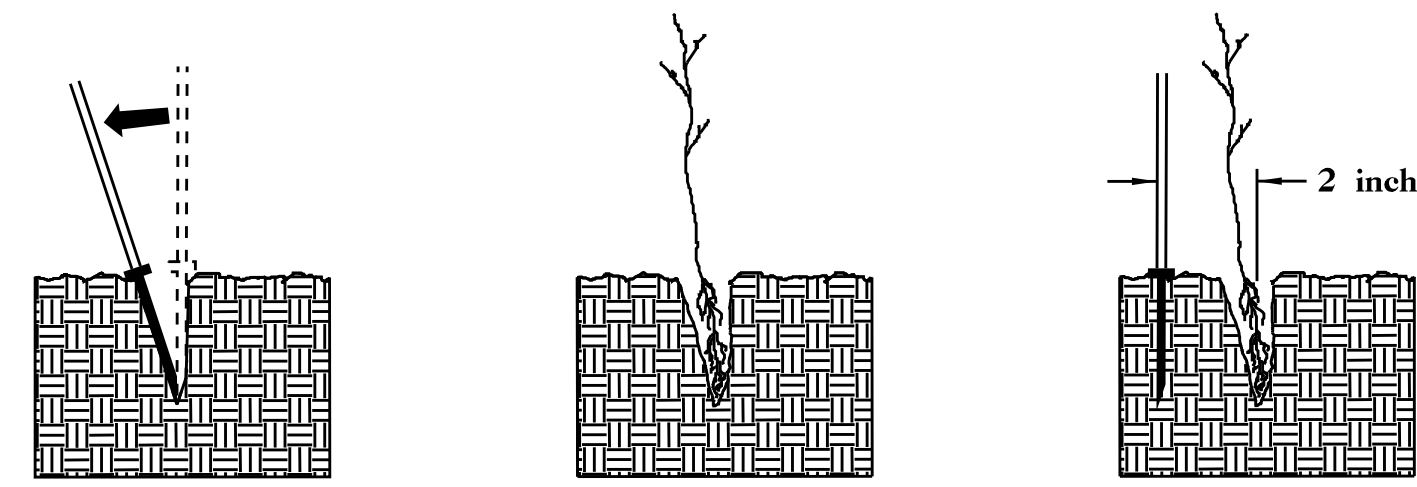


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

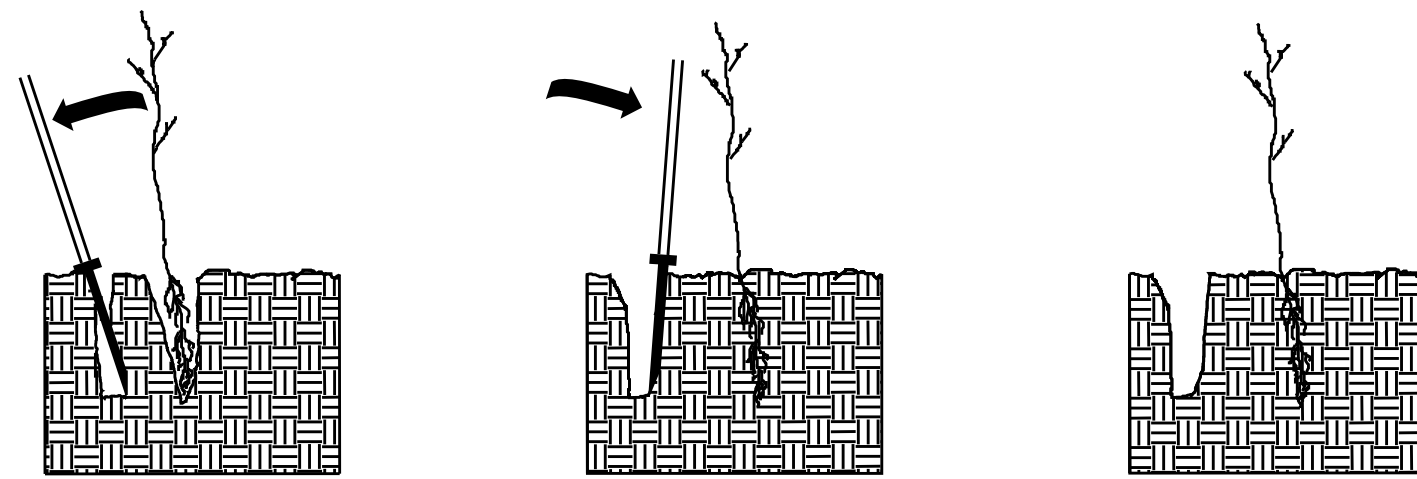


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

### 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.



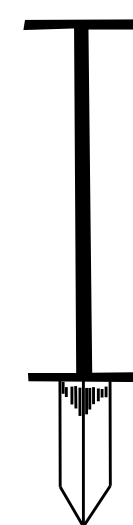
4. Pull handle of bar toward planter, firming soil at bottom.
5. Push handle forward firming soil at top.
6. Leave compaction hole open. Water thoroughly.

### 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	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

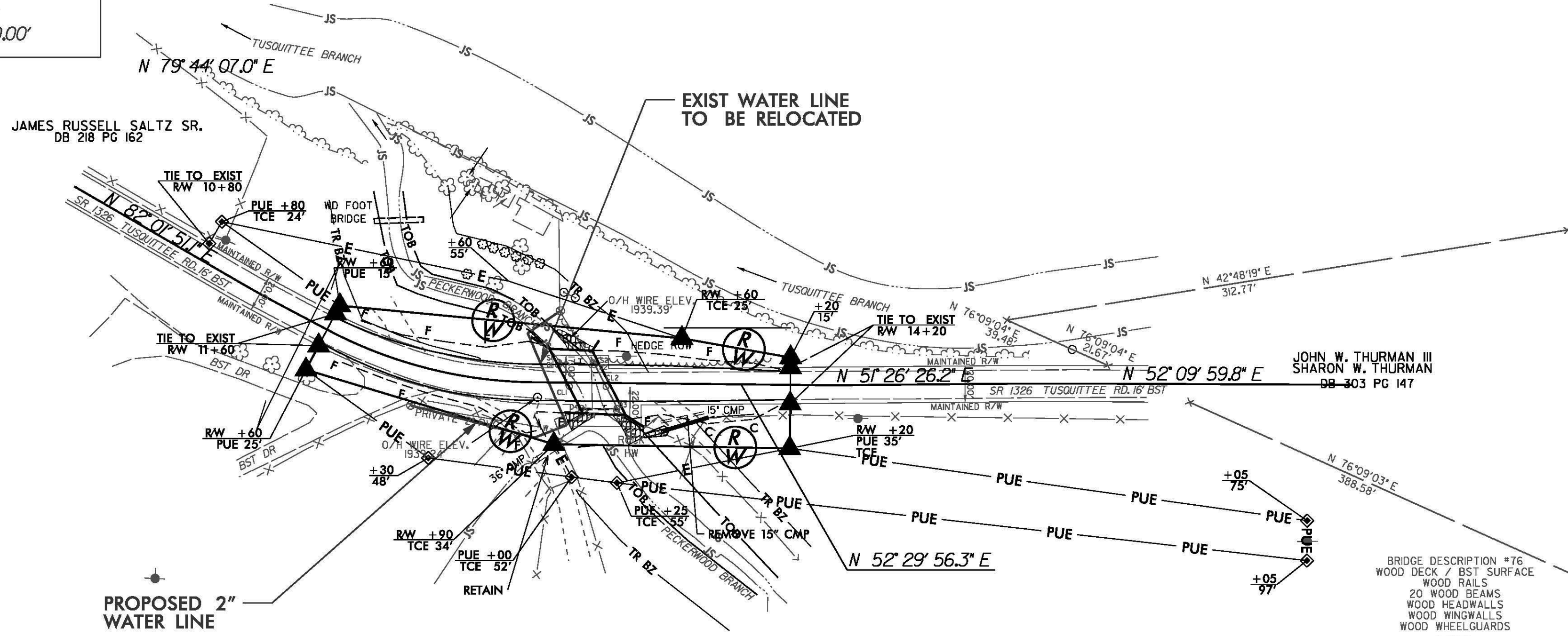




8/17/99

-L- CURVE DATA		
PI Sta 11+20.54	PI Sta 12+20.98	PI Sta 15+56.19
$\Delta = 2^\circ 17' 44.2''$ (LT)	$\Delta = 2^\circ 14' 10.7''$ (LT)	$\Delta = 0^\circ 43' 33.6''$ (RT)
$D = 7^\circ 09' 43.1''$	$D = 22^\circ 55' 05.9''$	$D = 1^\circ 08' 45.3''$
$L = 32.05'$	$L = 118.84'$	$L = 63.36'$
$T = 16.03'$	$T = 60.57'$	$T = 31.68'$
$R = 800.00'$	$R = 250.00'$	$R = 5,000.00'$

PROJECT REFERENCE NO. <i>17.BP.14.R.88</i>	SHEET NO. <i>UC-1</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<p><b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b></p>	

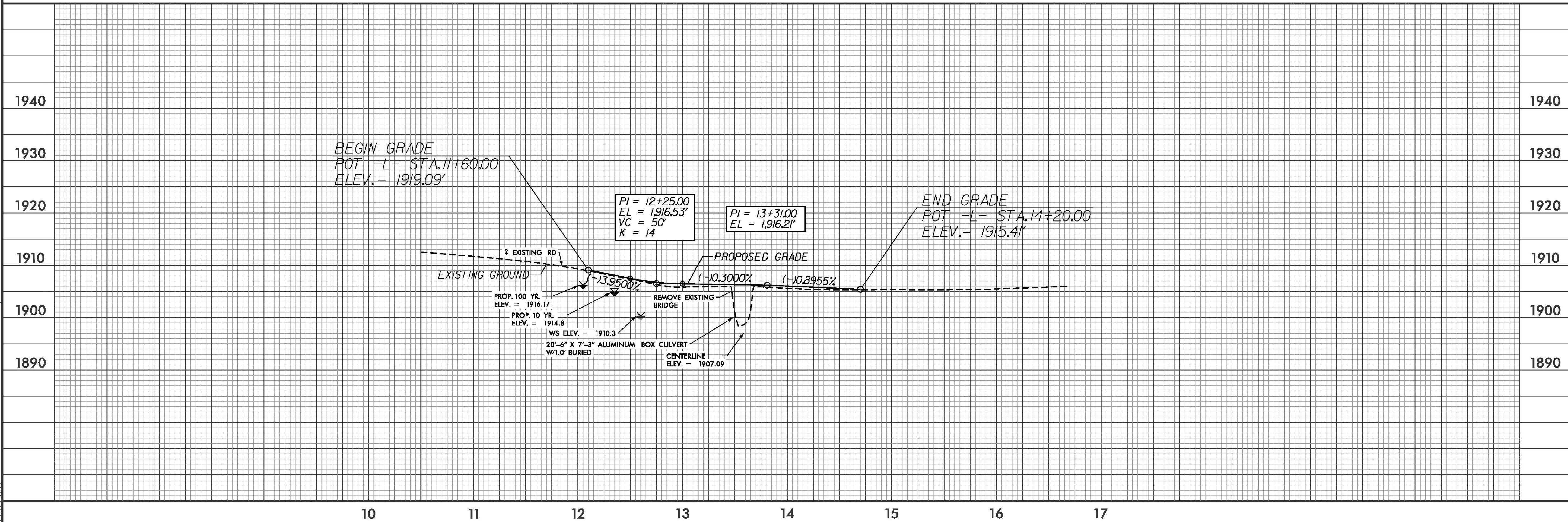


NOTE: EXISTING WATER LINE TO BE RELOCATED AFTER INSTALLATION OF THE IMPERVIOUS DIKE (REFER TO SHEET EC-6) UNDER THE STREAM BED IN THE DEWATERED AREA.

THE PROPOSED 2" WATERLINE SHALL BE BURIED A MINIMUM OF 1' DEEP UNDER SUBGRADE, EMBANKMENTS AND STREAM.

BRIDGE DESCRIPTION \*76  
WOOD DECK / BST SURFACE  
WOOD RAILS  
20 WOOD BEAMS  
WOOD HEADWALLS  
WOOD WINGWALLS  
WOOD WHEELGUARDS  
POWER  
BLUE RIDGE MOUNTAIN EMC  
P.O. BOX 9, EG000  
YOUNG HARRIS, GA, 30582  
TELEPHONE  
AT&T COMMUNICATION  
5390 OVERBEND TRAIL  
SUMNER, GA, 30024-1785  
HIGH WATER ELEV. = 1736.14

REVISIONS

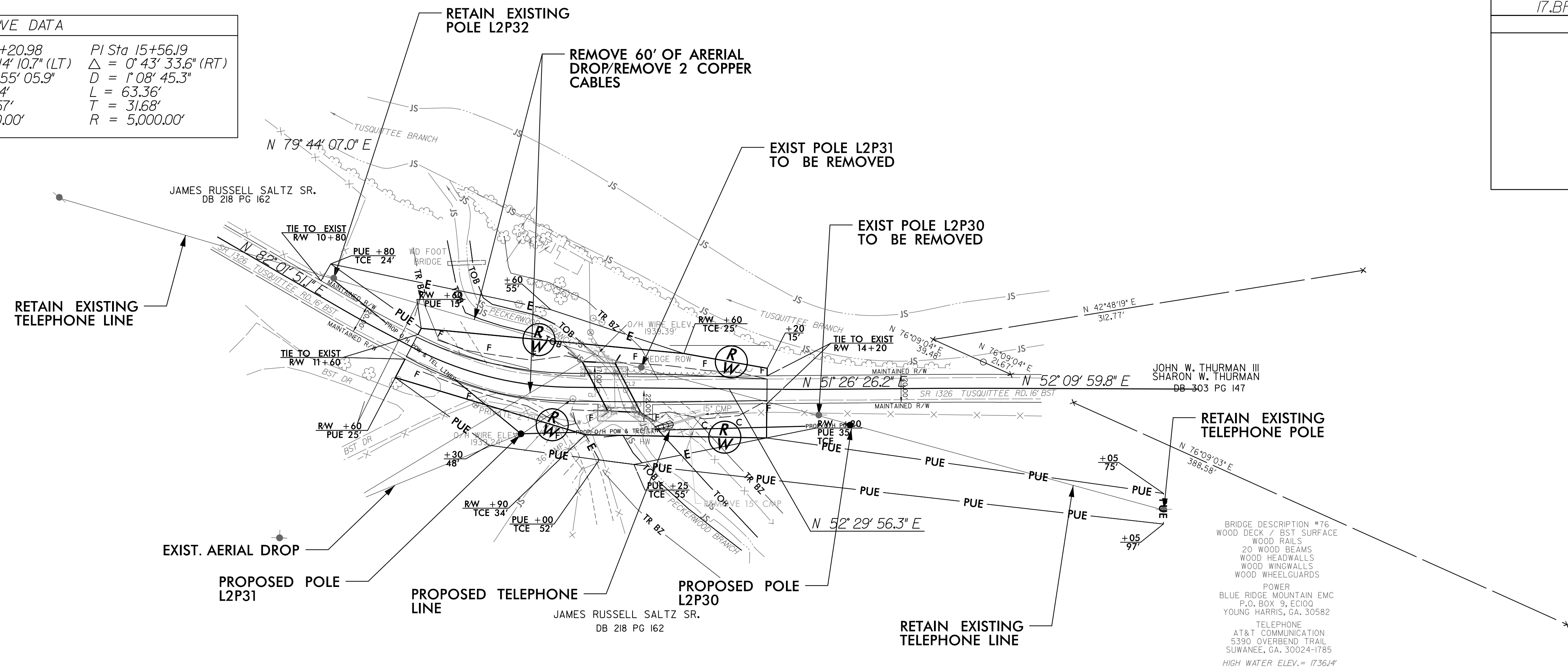


1:28:27 PM  
2/18/07  
Rdy\_U-C.dgn  
2/1/2018

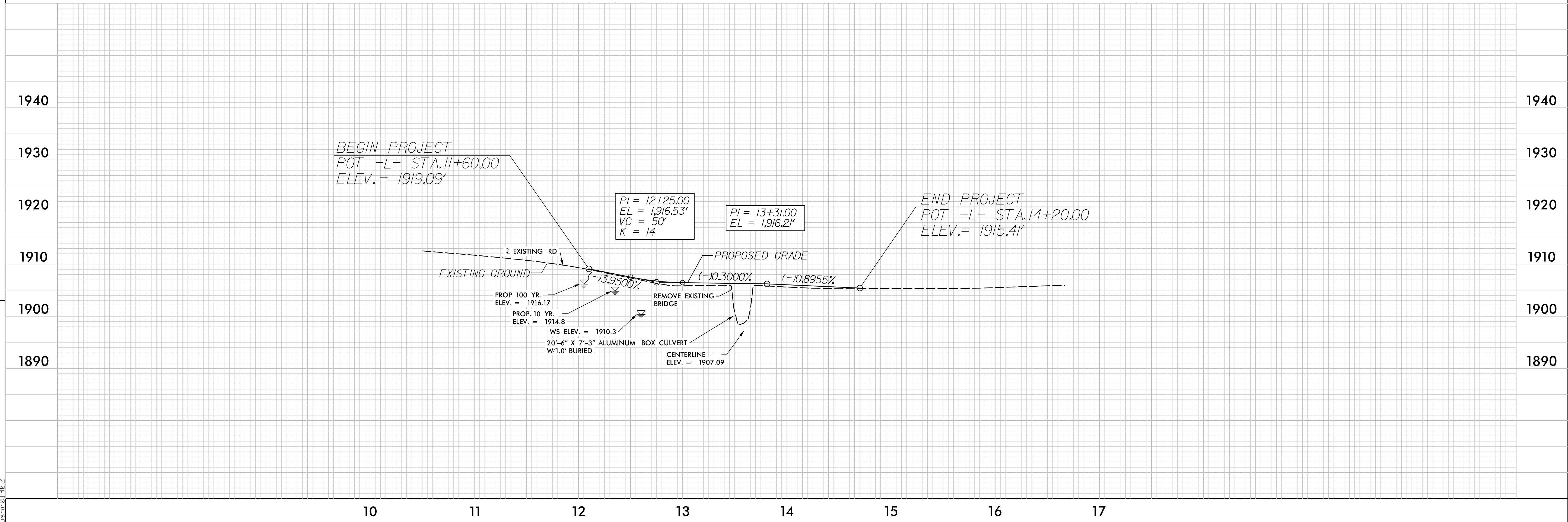


PROJECT REFERENCE NO.	SHEET NO.
17.BP.14.R.88	U0-1
RW SHEET NO.	

-L- CURVE DATA		
PI Sta 11+20.54	PI Sta 12+20.98	PI Sta 15+56.19
$\Delta = 2^\circ 17' 44.2''$ (LT)	$\Delta = 27^\circ 14' 10.7''$ (LT)	$\Delta = 0^\circ 43' 33.6''$ (RT)
$D = 7^\circ 09' 43.1''$	$D = 22^\circ 55' 05.9''$	$D = 1^\circ 08' 45.3''$
$L = 32.05'$	$L = 118.84'$	$L = 63.36'$
$T = 16.03'$	$T = 60.57'$	$T = 31.68'$
$R = 800.00'$	$R = 250.00'$	$R = 5,000.00'$



REVISIONS



8/17/99  
3/17/2016  
R:\Projects\178P GROUP\178P\14.R.88\_210076\Utilities\210076.Redu\_U-01.dgn