

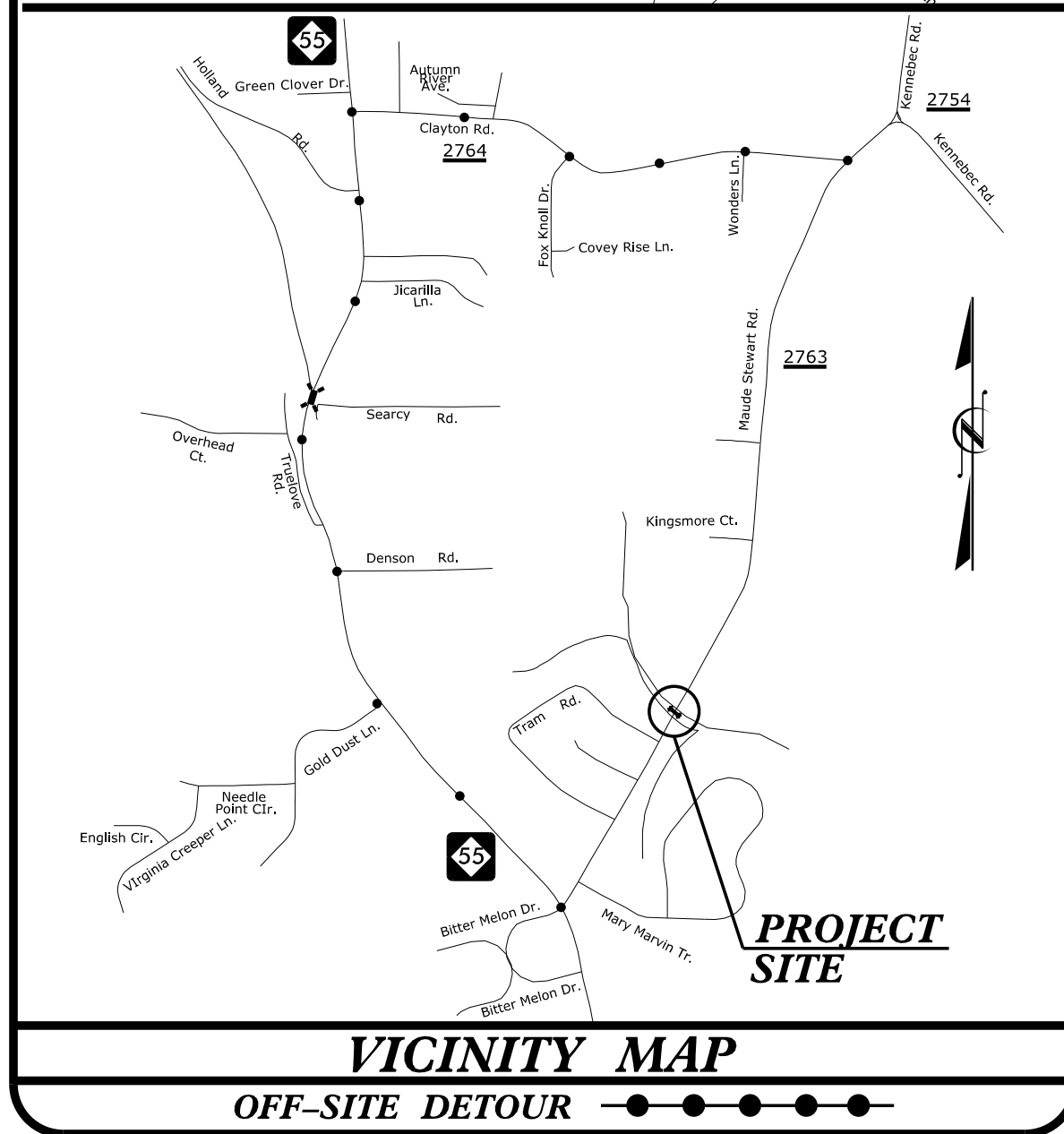
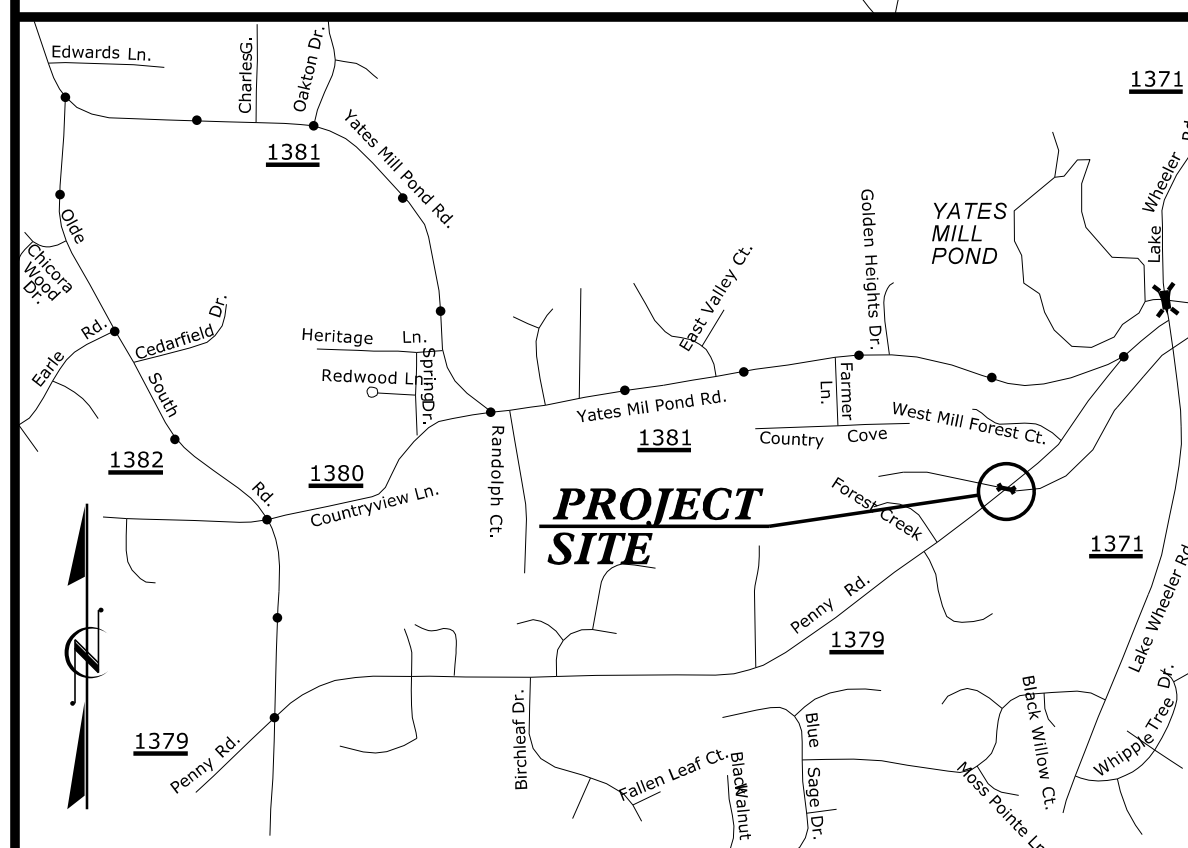
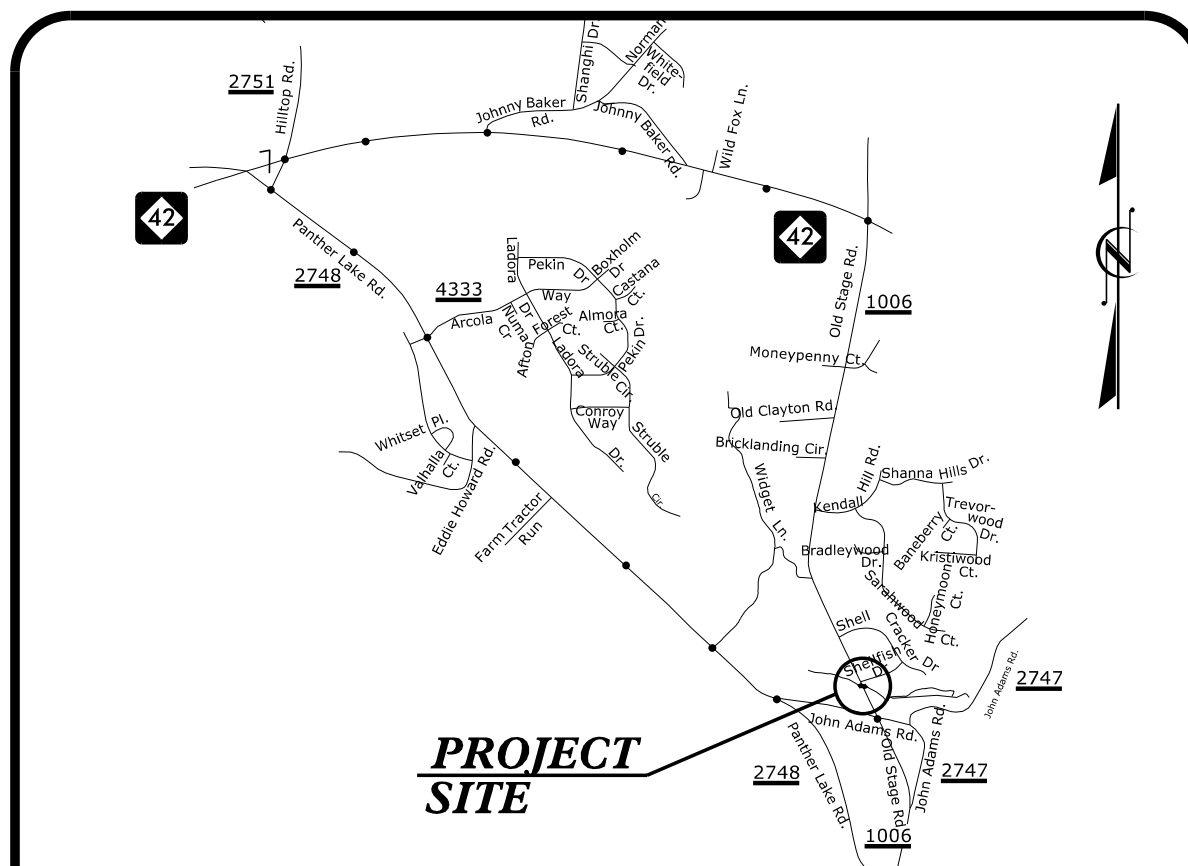
**This electronic collection of documents is provided  
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and is Not a Certified Document –**

**The documents contained herein were originally issued  
and sealed by the individuals whose names and license  
numbers appear on each page, on the dates appearing  
with their signature on that page.**

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

**PROJECT: 5B.209214.5**

**CONTRACT: C204276**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**WAKE COUNTY**

**LOCATION: PIPE CROSSING ON SR 2763 (MAUDE STEWART ROAD)  
PIPE CROSSING ON SR 1006 (OLD STAGE ROAD)  
PIPE CROSSING ON SR 1379 (PENNY ROAD)**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING & STRUCTURE**

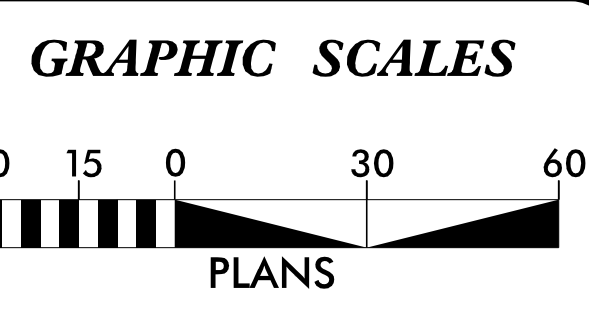
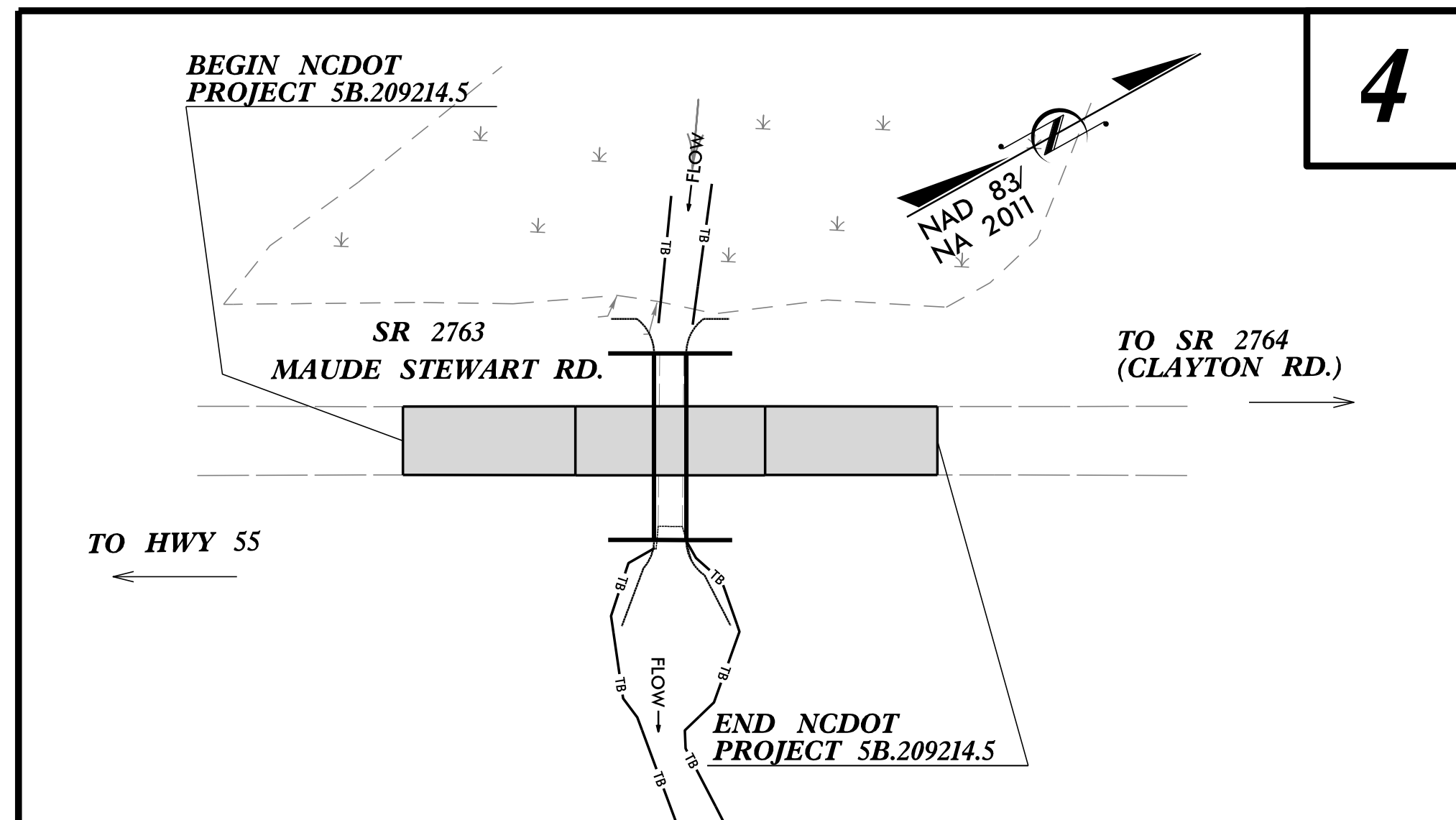
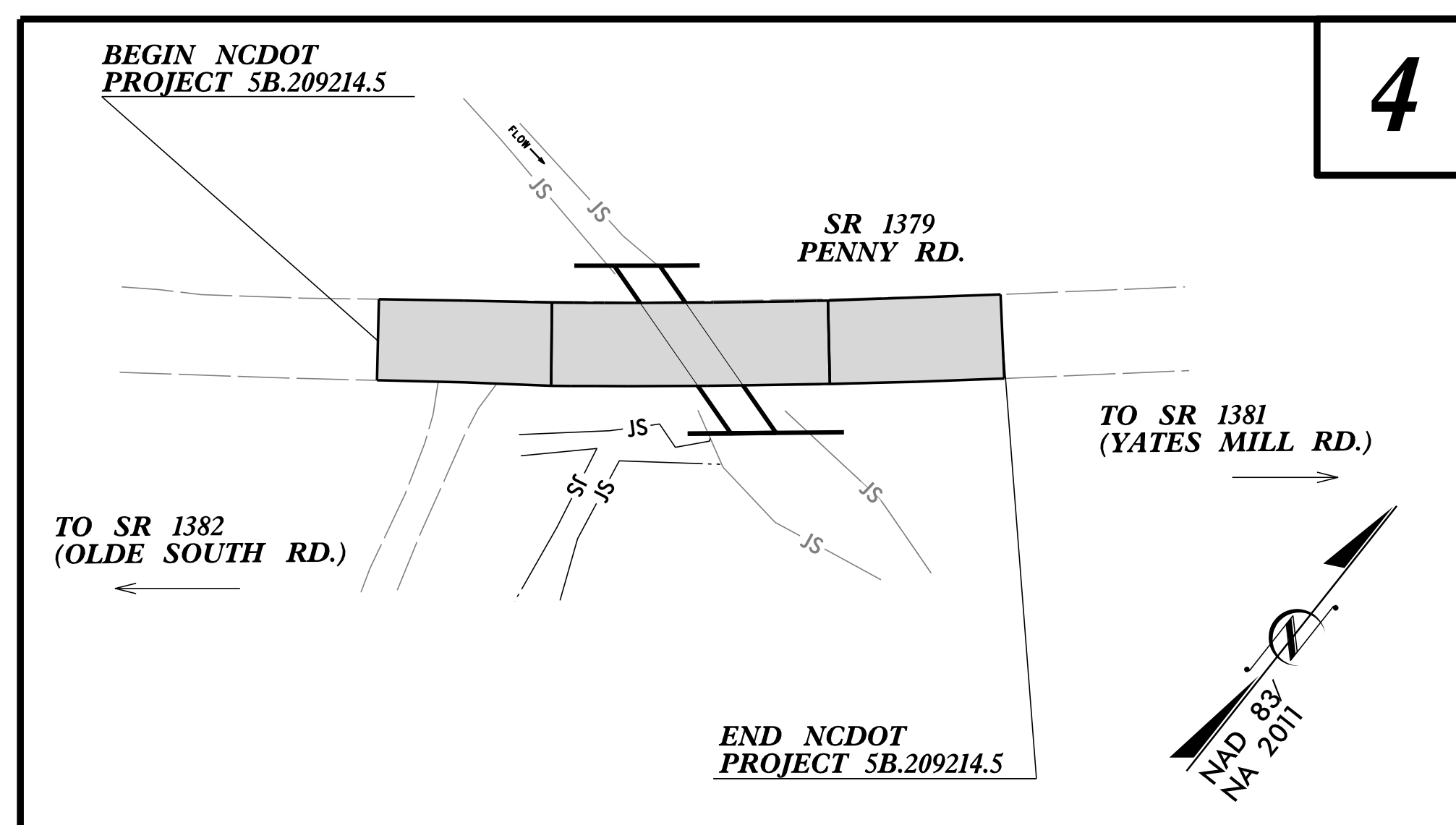
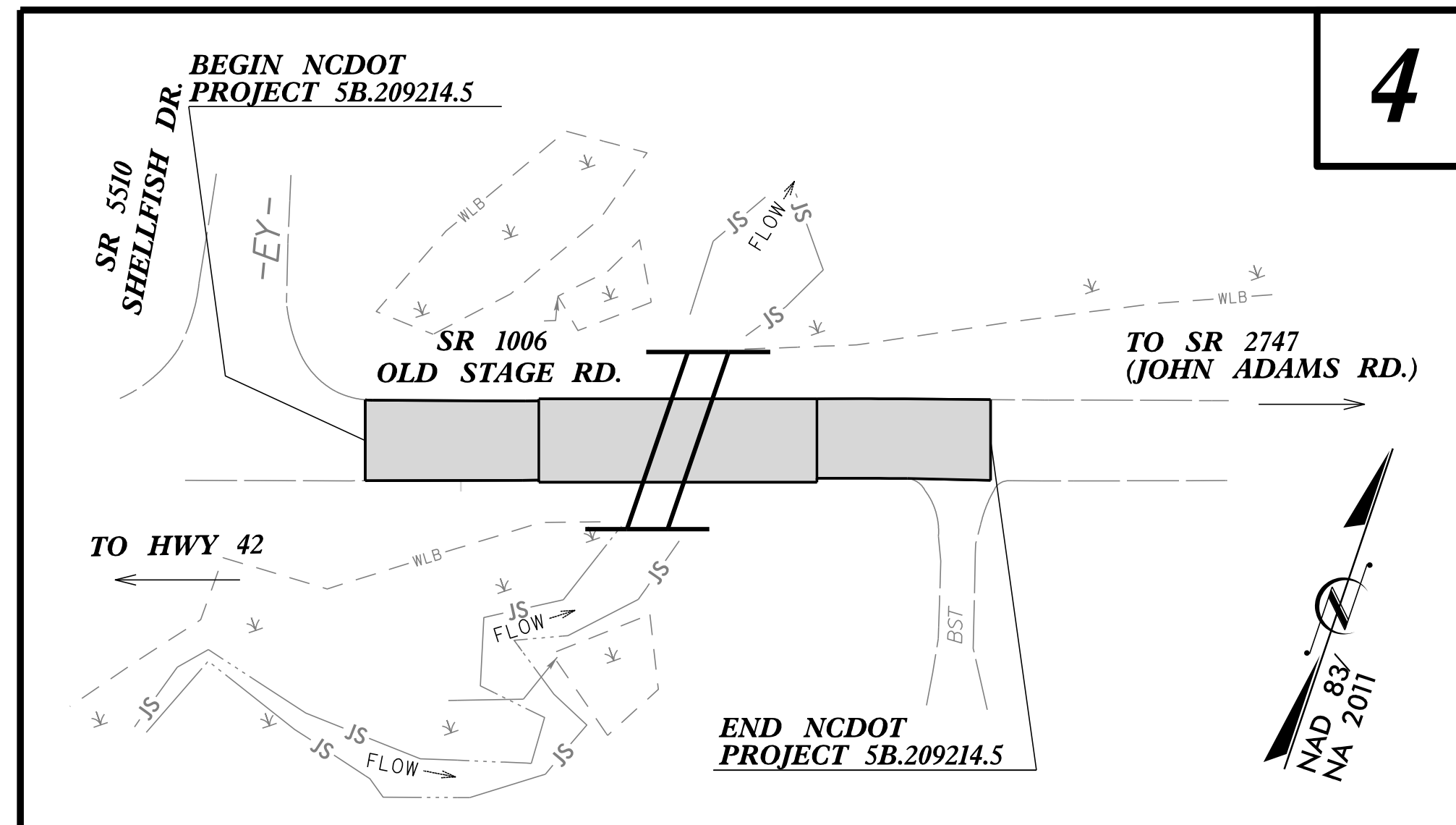
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	5B.209214.5	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
5B.209214.5		PE, UTIL., RW	
5B.209214.5		CONST.	

**WETHERILL ENGINEERING**

1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**FINAL PLANS**



**PROJECT LENGTH**

LENGTH ROADWAY PROJECT 5B.209214.5 (SR 1006, OLD STAGE RD.)	=	0.034 MILES
LENGTH ROADWAY PROJECT 5B.209214.5 (SR 1379, PENNY RD.)	=	0.032 MILES
LENGTH ROADWAY PROJECT 5B.209214.5 (SR 2763, MAUDE STEWART RD.)	=	0.029 MILES
<b>TOTAL LENGTH PROJECT 5B.209214.5</b>	<b>=</b>	<b>0.095 MILES</b>

**NCDOT CONTACT:** **REESE BRILEY**  
BRIDGE SUPERINTENDENT

Prepared for:  
**DIVISION OF HIGHWAYS**  
**DIVISION FIVE**  
2612 N. Duke Street, Durham NC, 27704

2018 STANDARD SPECIFICATIONS  
**RIGHT OF WAY DATE:** **EDWARD G. WETHERILL, PE**  
PROJECT ENGINEER

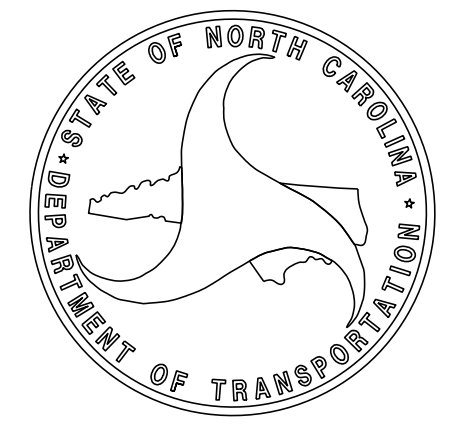
**LETTING DATE:** **GREG S. PURVIS, PE**  
PROJECT DESIGN ENGINEER  
FEBRUARY 19, 2019

**HYDRAULICS ENGINEER**  
12/3/2018

**EDWARD G. WETHERILL, PE**  
SIGNATURE

**ROADWAY DESIGN ENGINEER**  
12/3/2018

**GREG S. PURVIS, PE**  
SIGNATURE



DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

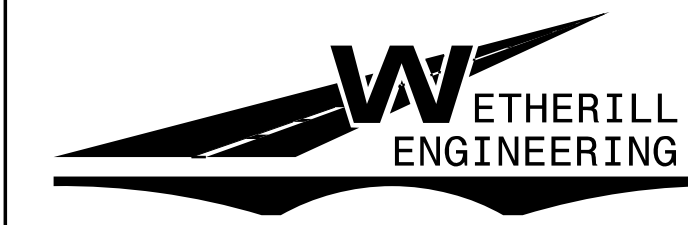
8/17/99

REVISIONS

11/30/2018  
 11:56:20 2145\_Maude Stewart\_rdy\_psh 02A-1.tjg.dgn  
 USER:KRNENNY

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL)

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

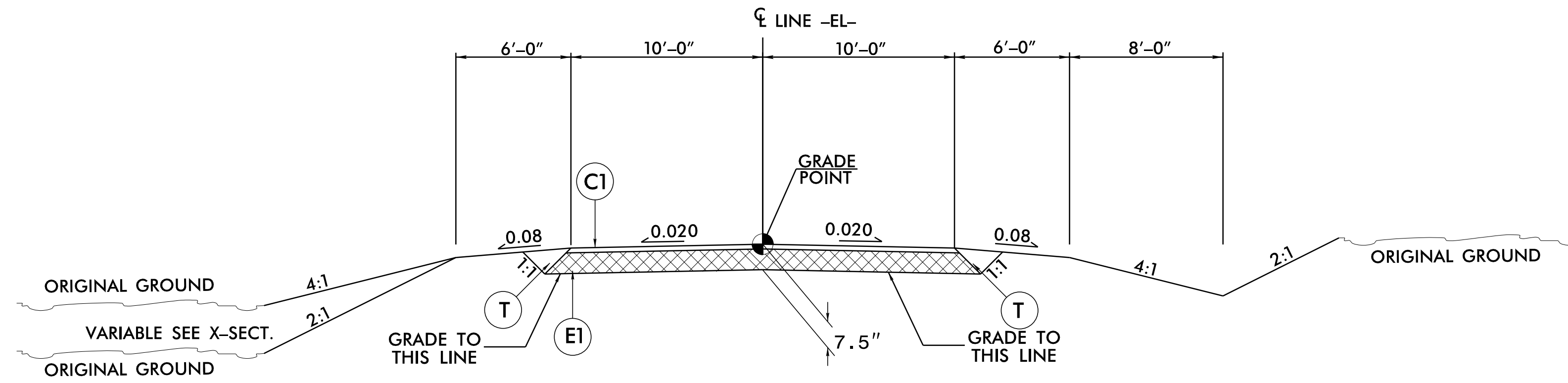


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 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107

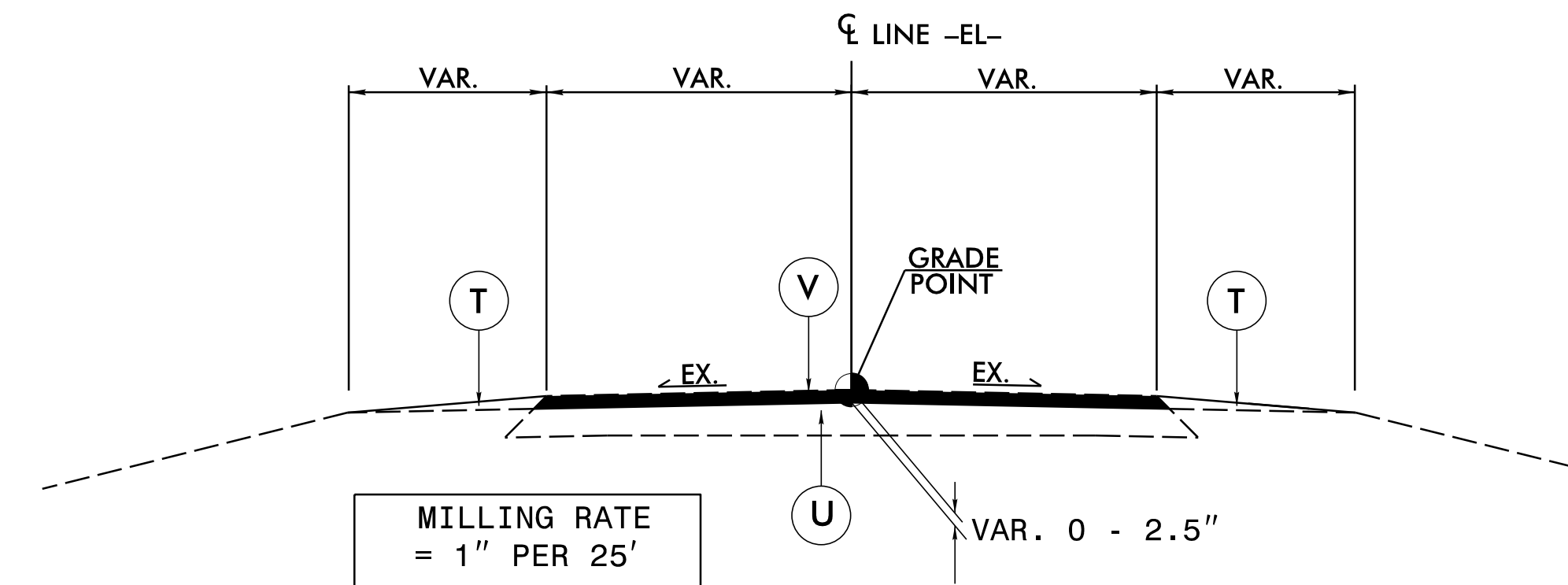
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**MAUDE STEWART ROAD  
 (SR 2763)**

PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>2A-1</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
12/3/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



**TYPICAL SECTION WITHIN EXCAVATION**



**V: MILLING DETAIL**



8/17/09

REVISIONS



1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
 Bus: 919 851 8077  
 Fax: 919 851 8107

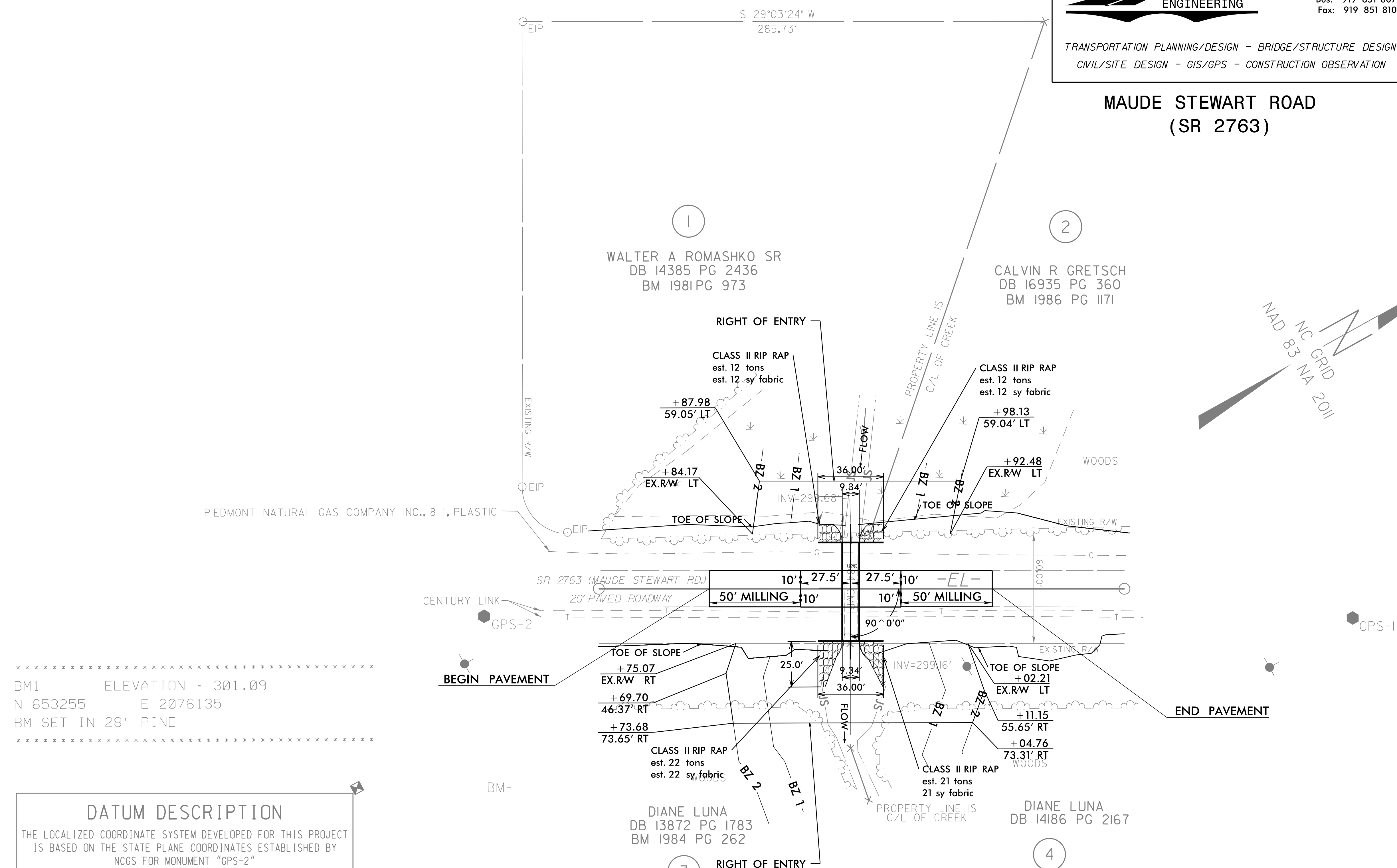
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**MAUDE STEWART ROAD  
 (SR 2763)**

PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>4</b>
ROADWAY DESIGN ENGINEER 12/3/2018 	HYDRAULICS ENGINEER 12/3/2018 

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

SCALE 1" = 30'



\*\*\*\*\*  
 BM1 ELEVATION = 301.09  
 N 653255 E 2076135  
 BM SET IN 28" PINE  
 \*\*\*\*\*

**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 653307.43(±) EASTING: 2076057.46(±) ELEVATION: 309.07(±) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998761256 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "" TO -L- STATION IS  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

**PLAN VIEW 112" X 75" CORRUGATED ALUMINUM PIPE-ARCH W/HEADWALLS**

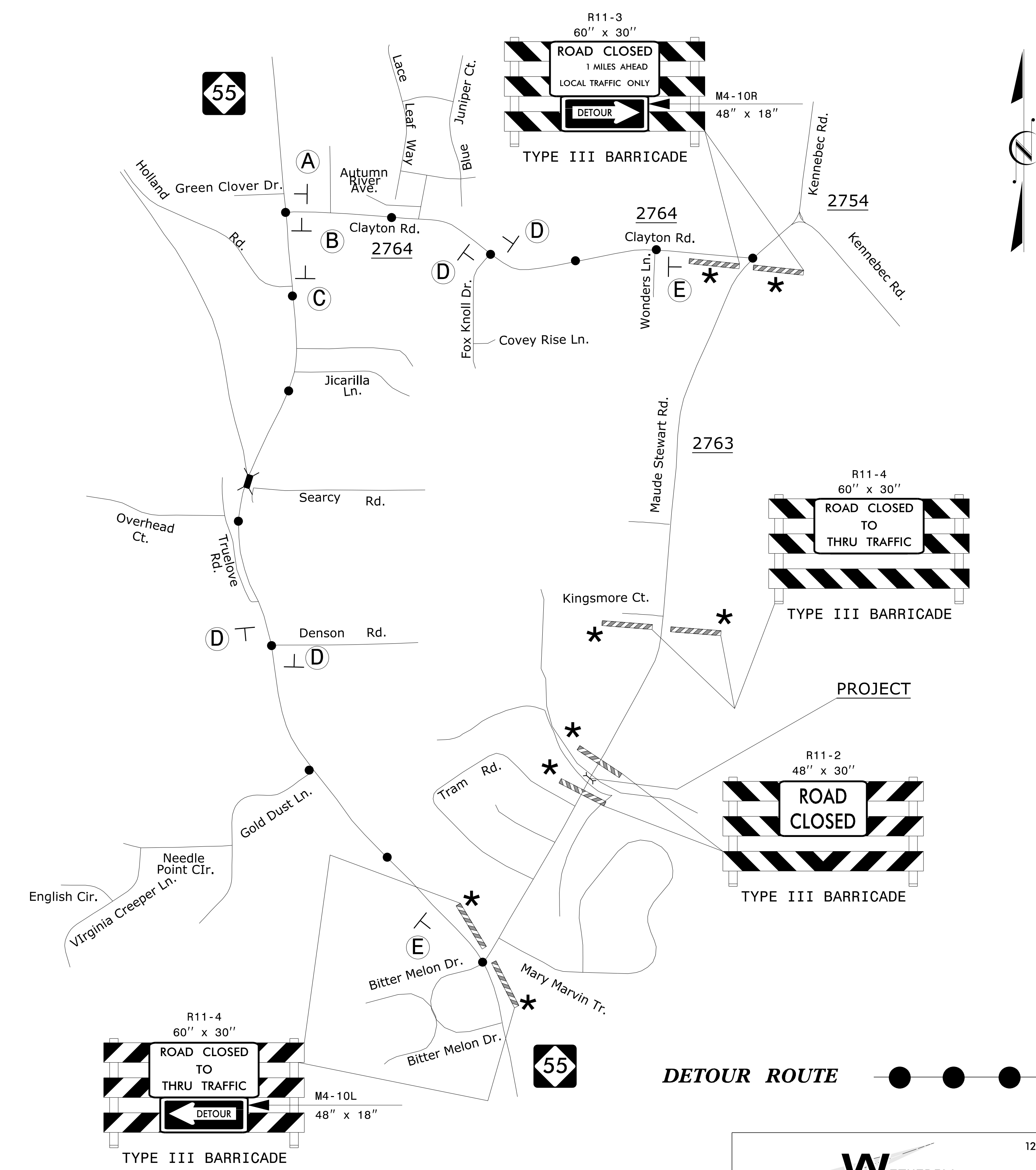
Point	North	East	Elevation
GPS-1	653722.6800	2076289.6600	307.5100
GPS-2	653307.4300	2076057.4600	309.0700

11/29/2018 11:45:08 Maude\_Stewart\_r.dwg psh 04.dgn  
 TTB:SKENED

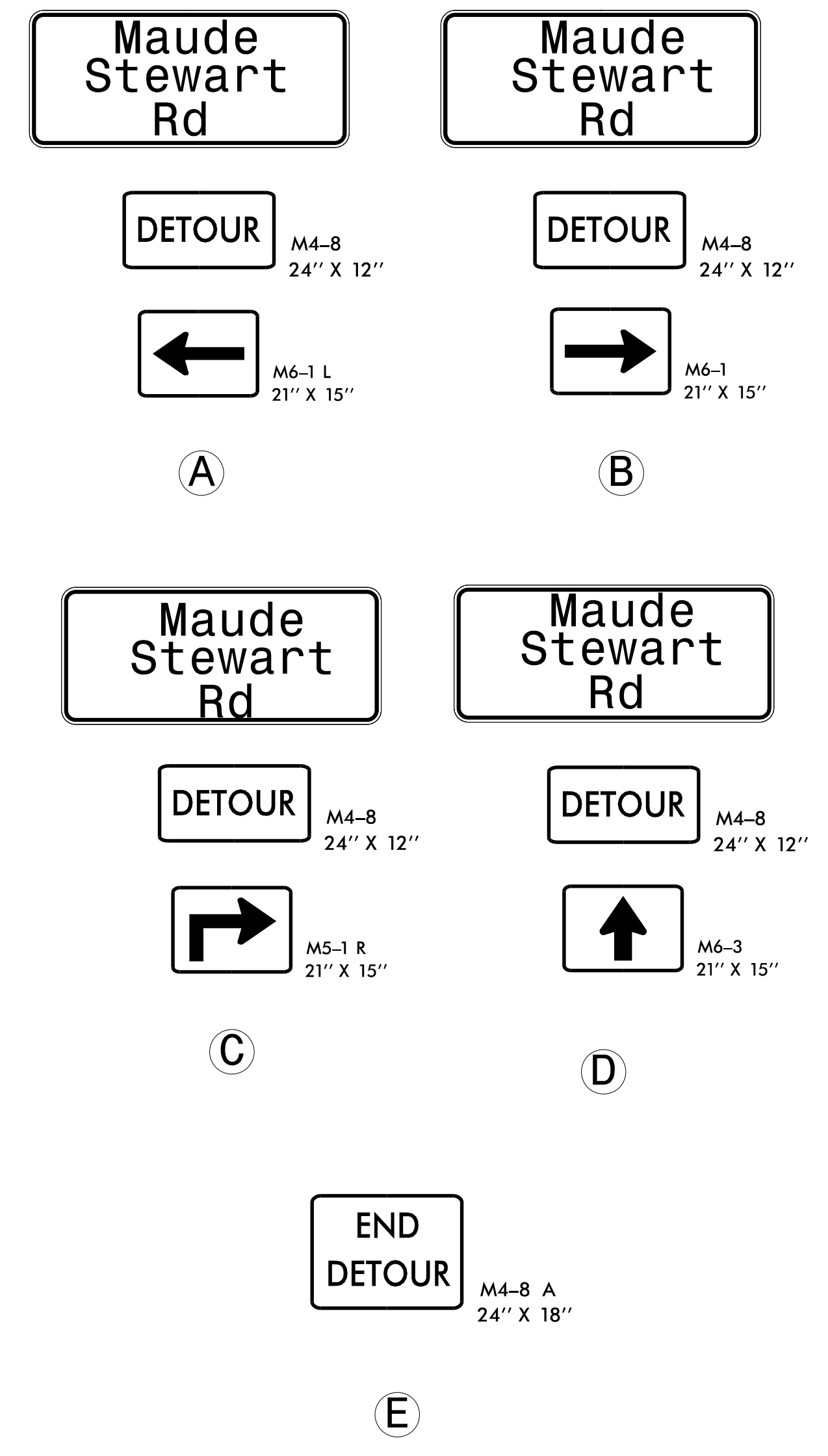








### DETOUR SIGNING



NOTES: SEE TMP-1 FOR "MAUDE STEWART ROAD" SPECIAL SIGN DESIGN.  
 ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.  
 \* SEE RSD 1101.03, SHEET 1 OF 9, FOR TYPE III BARRICADE LOCATION WITH ATTACHED SIGNING & ADDITIONAL SIGNING FOR ROAD CLOSURE.

8/15/2018 P:\2018\1812109.DIV 5 PIPE REPLACEMENT\Wake SR 2763\TrafficControl\TOP\Wake SR 2763\_TC\_TMP\_PSH\_02.dgn User:SKENNEDY

**DETOUR ROUTE** ●—●—●

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

**WETHERILL ENGINEERING**

1223 Jones Franklin Rd.  
 Raleigh, N.C. 27606  
 License No. F-0377  
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 Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

APPROVED: *Greg S. Purvis* DATE: 12/3/2018

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER  
 GREG S. PURVIS  
 22999

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

**DETOUR  
MAUDE STEWART ROAD  
(SR 2763)**

8/17/99



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Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

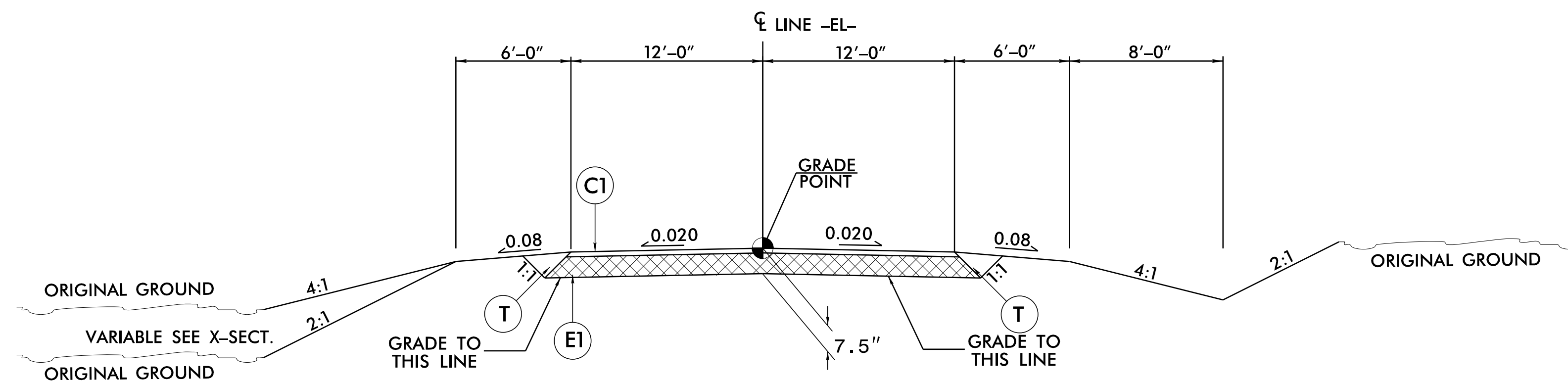
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>2A-1</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

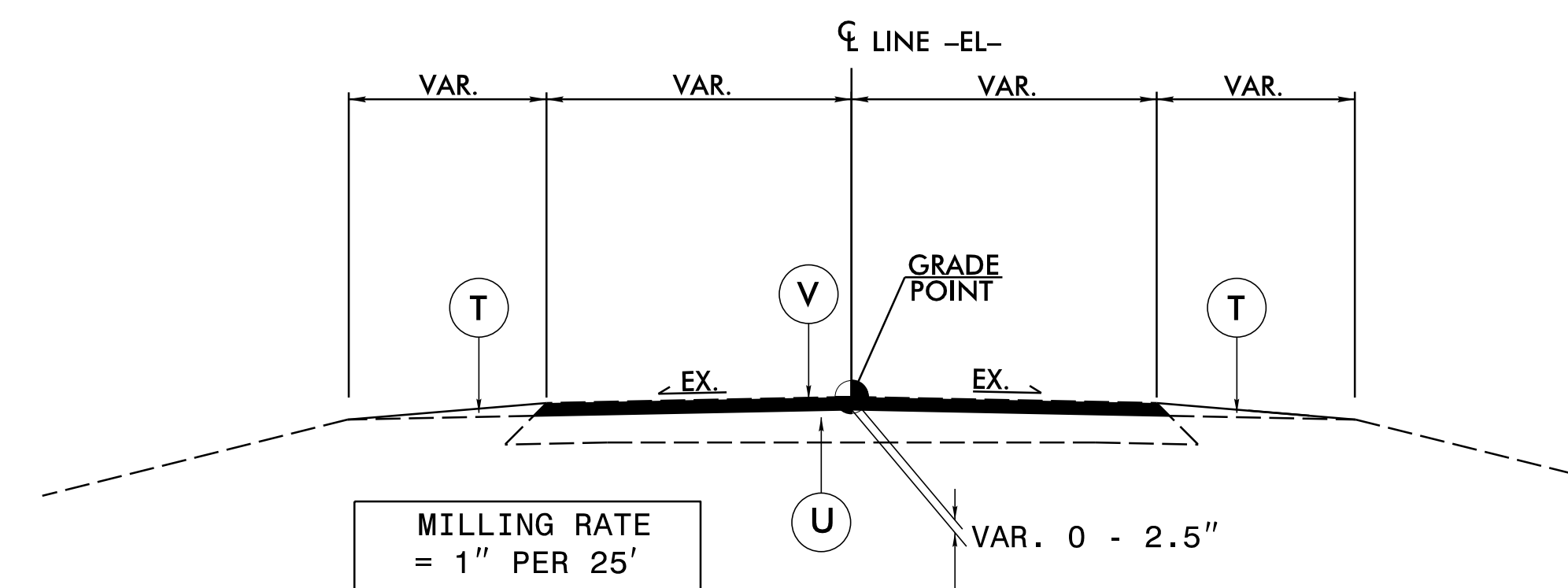
**OLD STAGE ROAD  
(SR 1006)**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL)

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



**TYPICAL SECTION WITHIN EXCAVATION**



**V: MILLING DETAIL**

REVISIONS

11/28/2018  
11:56:06 SR\_1006\_rdy\_psh\_6.dgn  
USER:SKENNETH



8/17/99

REVISIONS

PROPERTY LINE TABLE

LINE	BEARING	DISTANCE
L-1	N 82°27'41" E	13.81'
L-2	S 39°55'55" E	9.24'
L-3	S 16°24'01" W	10.38'
L-4	S 23°53'39" W	7.76'
L-5	S 38°31'30" E	25.72'

HYDRO STRUCTURES

NAME	INVERT
A	INV=254.06'
B	INV=254.25'
C	INV=253.54'
D	INV=253.69'

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 662830.43(±) EASTING: 2092301.84(±) ELEVATION: 292.07(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999879786

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION IS

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



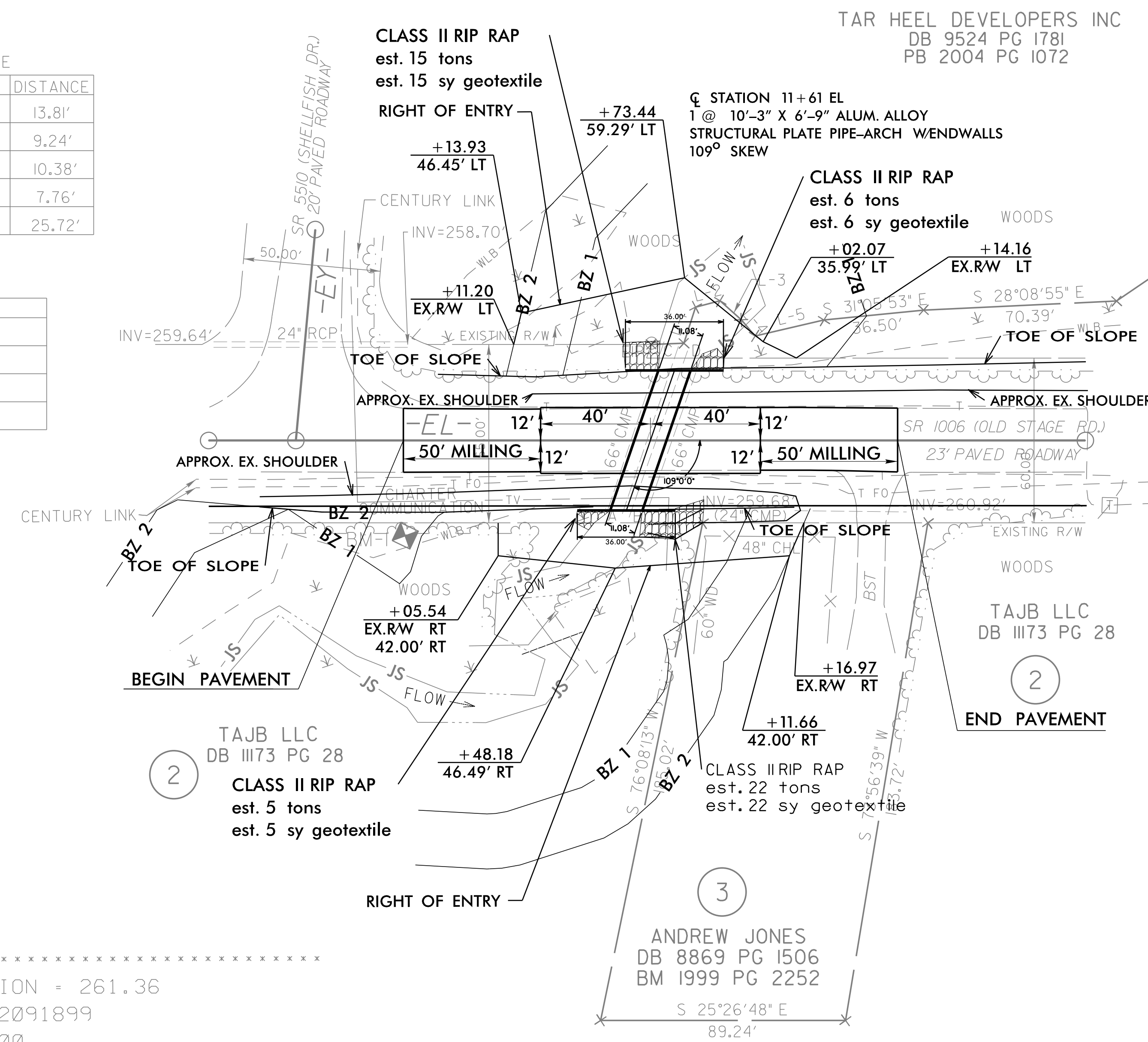
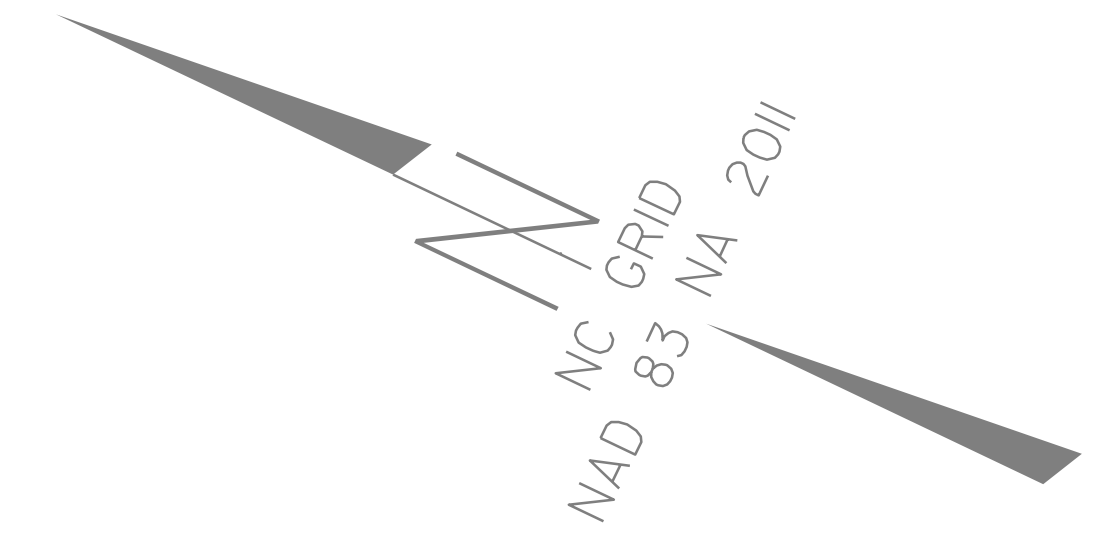
1223 Jones Franklin Rd.  
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License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO.	SHEET NO.
5B.209214.5	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
12/3/2018	12/3/2018
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

## OLD STAGE ROAD (SR 1006)

SCALE 1" = 30'



PROJECT PRIMARY CONTROL

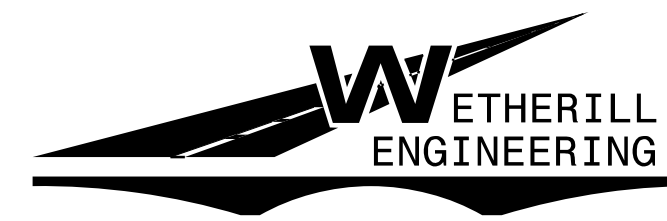
Point	North	East	Elevation
GPS1	663267.8900	2092091.9000	273.65
GPS2	662830.4300	2092301.8400	292.07

\*\*\*\*\*  
 BM1 ELEVATION = 261.36  
 N 663554 E 2091899  
 BL STATION 5+00.00  
 N 33°58'34.9" W DIST 344.97  
 BM SET IN 24" PINE  
 \*\*\*\*\*

11/28/2018 SR 1006.rdy.psh 4.dgn  
TERRACENNY

8/17/99

REVISIONS

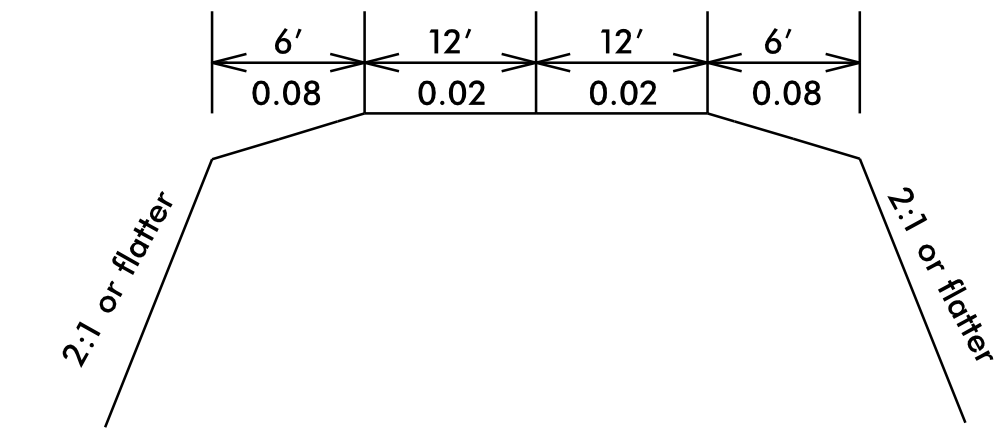
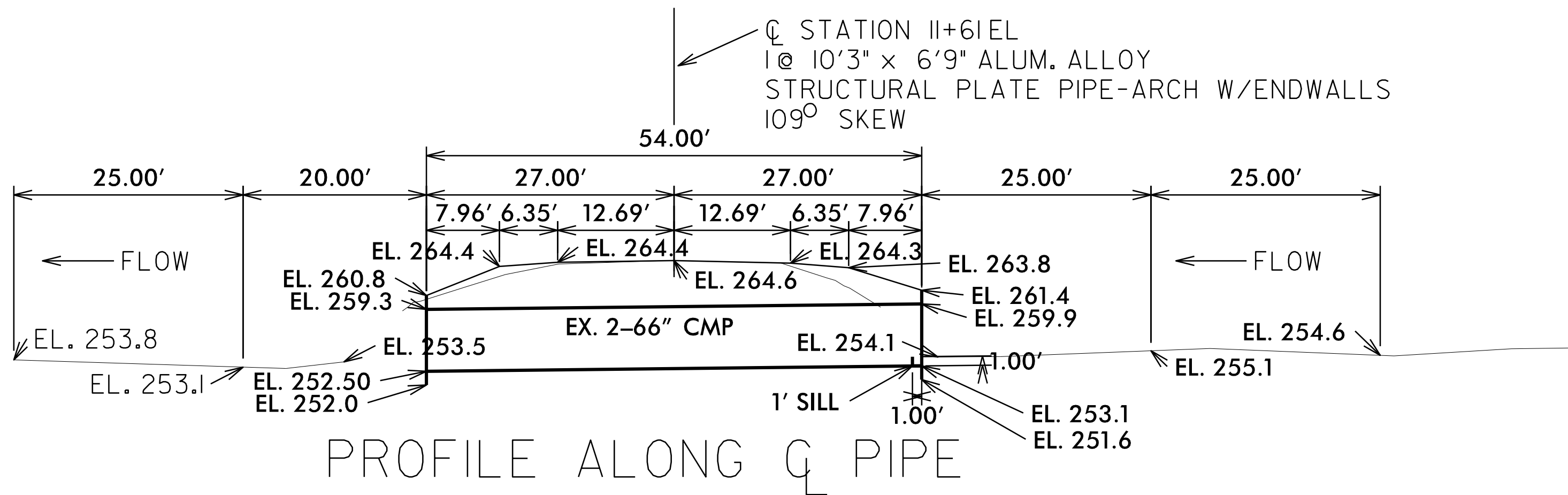


1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**OLD STAGE ROAD  
(SR 1006)**

PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>5</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 12/3/2018 	HYDRAULICS ENGINEER 12/3/2018 
Developed by: <i>Greg S. Purvis</i> Checked by: <i>Jerry L. Lindsey</i> <b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



**PROFILE VIEW 10'-3" X 6'-9" CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE-ARCH**

PROPOSED ELEVATIONS:  
CENTERLINE ROADWAY OVER PIPE  
ELEVATION = 264.6

INLET:

TOP OF HEADWALL = 261.4  
TOP OF PIPE = 259.9  
STREAM BED = 254.1  
INVERT PIPE = 253.1

OUTLET:

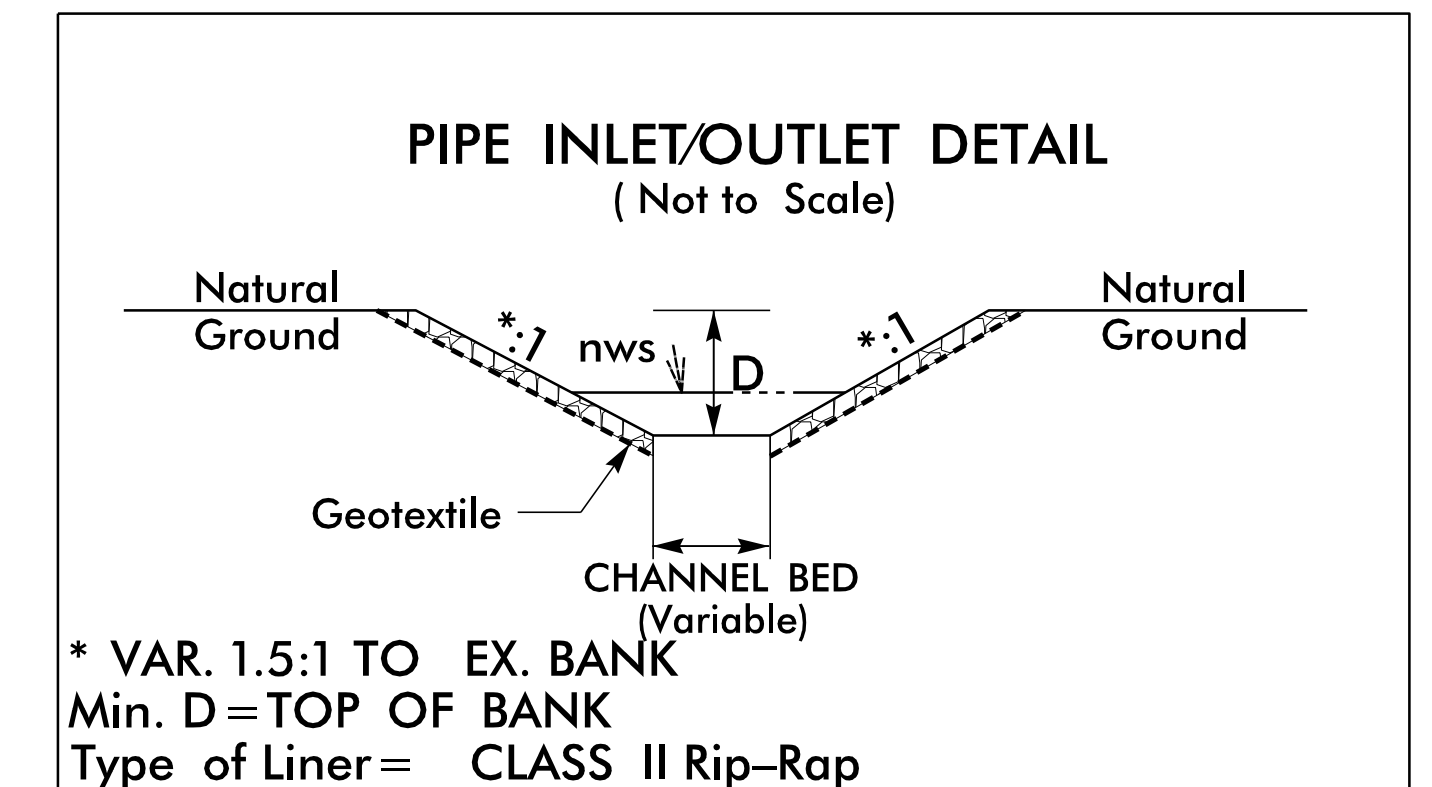
TOP OF HEADWALL = +/- 260.8  
TOP OF PIPE = +/- 259.3  
STREAM BED = +/- 253.1  
INVERT PIPE = +/- 252.5

CENTERLINE LENGTH = 54'-0" OF 10'-3" X 6'-9" CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE-ARCH.

TWO 36'-0" WIDE BY 9'-3" TALL FULLY WELDED STRUCTURAL ALUMINUM STRUCTURAL PLATE HEADWALLS W/2 SECTIONS OF 10'-3" X 6'-9" 0.150" ALUMINUM PLATE STUBBED OUT, WHICH SHALL BE FULLY WELDED TO ALUMINUM STRUCTURAL PLATE HEADWALL.

MINIMUM COVER = 1.5' AT HEADWALL;  
4.0' AT SHOULDER POINT.  
MAXIMUM COVER OVER PIPE = 5.0' AT CL

THE STRUCTURE AND ALL COMPONENTS SHALL BE DESIGNED TO MEET OR EXCEED ASSHTO HL-93 LOADING.



11/28/2018  
11:56:06 AM  
SR\_1006\_rdy\_psh\_5.dgn  
USER:SKENNETH



# 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
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

# PHASING

## PHASE I

- STEP 1: - USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 AND SHEET TMP-2 CLOSE OLD STAGE ROAD (SR 1006) TO TRAFFIC.
- STEP 2: - INSTALL PROPOSED DRAINAGE AND RECONSTRUCT PROPOSED ROADWAY, UP TO & INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE ROADWAY PLANS).
  - PLACE THE FINAL MARKINGS (THERMOPLASTIC) IN THE EXISTING TRAFFIC PATTERN.
- STEP 3: - OPEN OLD STAGE ROAD (SR 1006) TO THE FINAL TRAFFIC PATTERN AND REMOVE ALL TRAFFIC CONTROL DEVICES FROM THE PROJECT.

<p><b>SIGN NUMBER:</b> name  <b>TYPE:</b> STATIONARY  <b>QUANTITY:</b> SEE PLANS  <b>SIGN WIDTH:</b> 3'-0"  <b>HEIGHT:</b> 2'-0"  <b>TOTAL AREA:</b> 6.0 Sq.Ft.  <b>BORDER TYPE:</b> INSET  <b>RECESS:</b> 0.38"  <b>WIDTH:</b> 0.63"  <b>RADII:</b> 1.5"  <b>NO. Z BARS:</b>  <b>LENGTH:</b></p>	<p><b>BACKG COLOR:</b> Fluorescent Orange  <b>COPY COLOR:</b> Black  <b>SYMBOL</b></p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>SYMBOL</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p><b>MAT'L:</b> 0.080" (2.0 mm) ALUMINUM</p>	SYMBOL	X	Y	WID	HT																																																			<p><b>DESIGN BY:</b> SLK  <b>PROJECT ID:</b> 17BP.5.C.PE  <b>CHECKED BY:</b> JWG  <b>DIV:</b> 5  <b>DATE:</b> Apr 16, 2018</p> <div style="text-align: center;"> <p><b>BORDER</b>  R=1.5"  TH=0.63"  IN=0.38"</p> <p style="text-align: right;">Spacing Factor is 1 unless specified otherwise</p> </div>
SYMBOL	X	Y	WID	HT																																																					
<p><b>USE NOTES:</b> 1,2</p> <p>1. Legend and border shall be direct applied black non-reflective sheeting.                  2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.</p>																																																									
<p><b>LETTER POSITIONS</b></p> <p style="text-align: center;">Letter locations are panel edge to lower left corner</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Letter</th> <th>Series/Size</th> <th>Text Length</th> </tr> </thead> <tbody> <tr> <td>O</td> <td>D 2000</td> <td>9.2</td> </tr> <tr> <td>13.4</td> <td>18</td> <td>19.6</td> </tr> <tr> <td>S</td> <td>D 2000</td> <td>28.3</td> </tr> <tr> <td>3.9</td> <td>7.6</td> <td>9.9</td> </tr> <tr> <td>t</td> <td>13.5</td> <td>17.3</td> </tr> <tr> <td>a</td> <td>20.2</td> <td>25.2</td> </tr> <tr> <td>g</td> <td>29.2</td> <td></td> </tr> <tr> <td>e</td> <td></td> <td></td> </tr> <tr> <td>R</td> <td></td> <td></td> </tr> <tr> <td>d</td> <td></td> <td></td> </tr> </tbody> </table>			Letter	Series/Size	Text Length	O	D 2000	9.2	13.4	18	19.6	S	D 2000	28.3	3.9	7.6	9.9	t	13.5	17.3	a	20.2	25.2	g	29.2		e			R			d																								
Letter	Series/Size	Text Length																																																							
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t	13.5	17.3																																																							
a	20.2	25.2																																																							
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<p>FILENAME: Guidesign6_022617</p> <p style="text-align: right;">NORTH CAROLINA D.O.T. SIGN DETAIL</p>																																																									

NOTE: TEMPORARY SIGNS TO BE PAID FOR AS "STATIONARY WORK ZONE SIGNS".

**WETHERILL ENGINEERING**

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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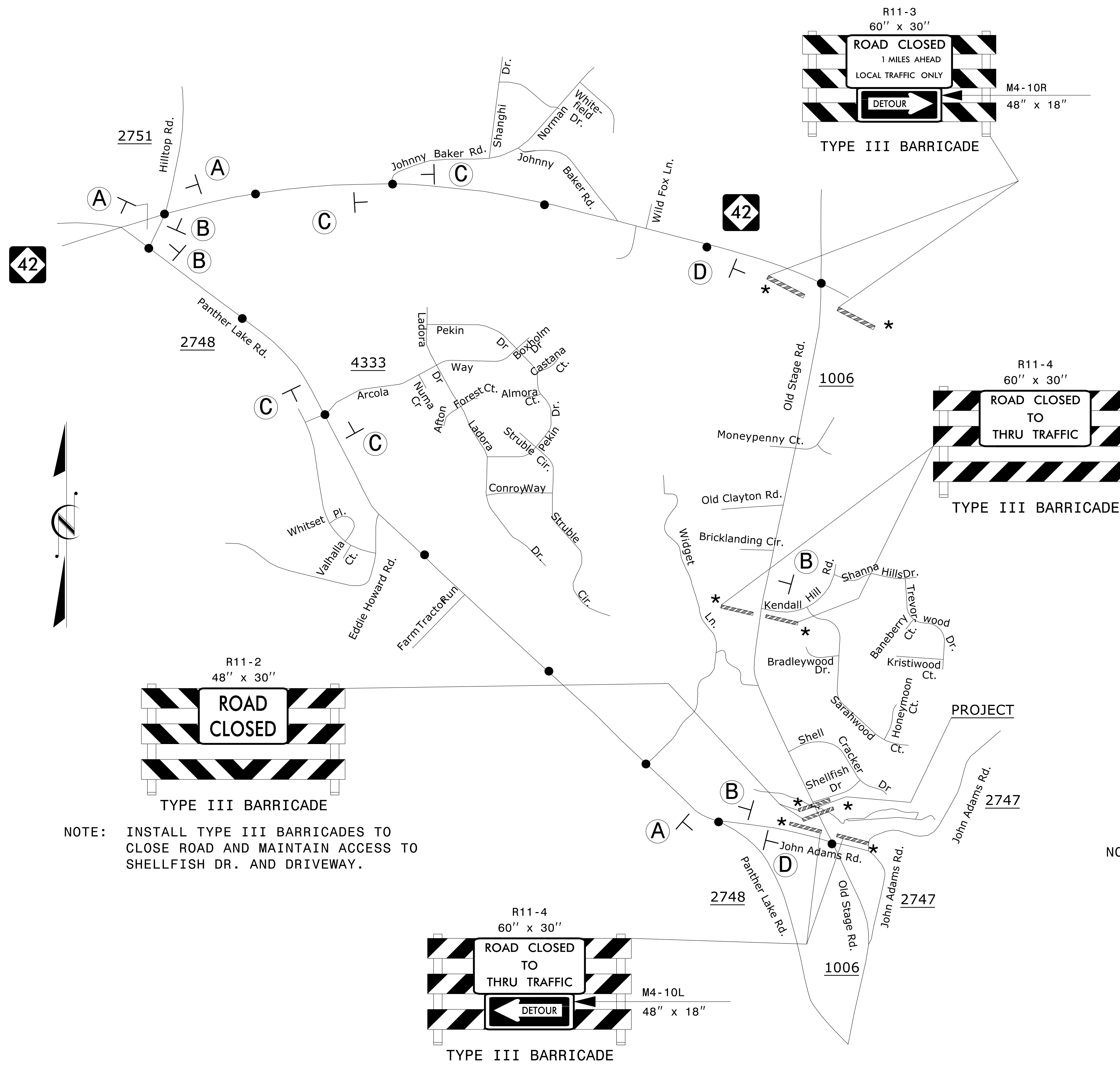
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APPROVED: DATE: 12/3/2018

SEAL

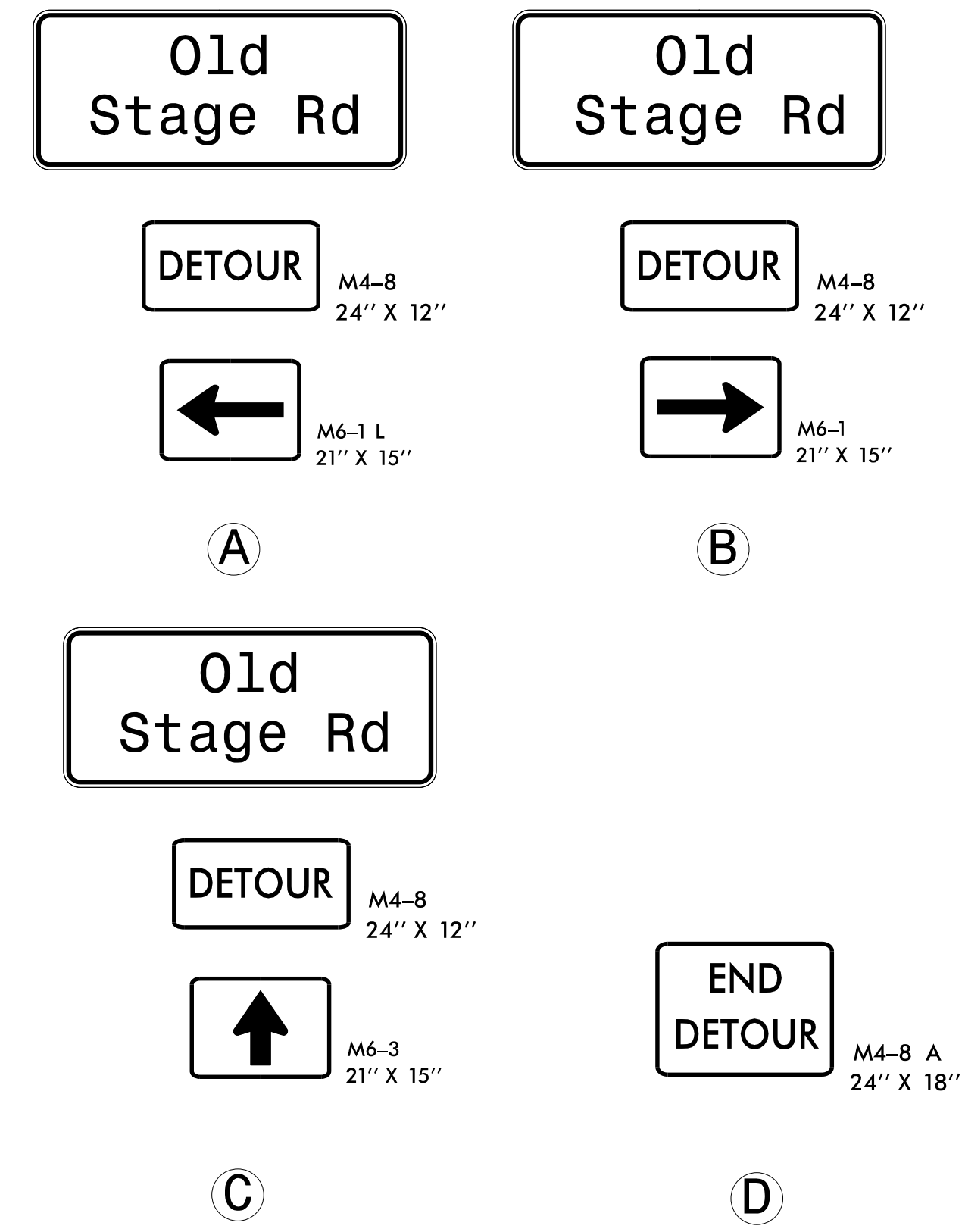
**ROAD STANDARD DRAWINGS,  
 PHASING AND SPECIAL  
 SIGN DESIGN FOR  
 OLD STAGE ROAD  
 (SR 1006)**





NOTE: INSTALL TYPE III BARRICADES TO CLOSE ROAD AND MAINTAIN ACCESS TO SHELLFISH DR. AND DRIVEWAY.

### DETOUR SIGNING



NOTES: SEE TMP-1 FOR "OLD STAGE ROAD" SPECIAL SIGN DESIGN.  
 \* ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.  
 SEE RSD 1101.03, SHEET 1 OF 9, FOR TYPE III BARRICADE LOCATION WITH ATTACHED SIGNING & ADDITIONAL SIGNING FOR ROAD CLOSURE.

DETOUR ROUTE ●—●—●

8/15/2018 P:\2018\1812109.DIV 5 PIPE REPLACEMENT\Wake SR 1006\TC\_TMP\_PSH\_02.dgn User:SKENNEDY

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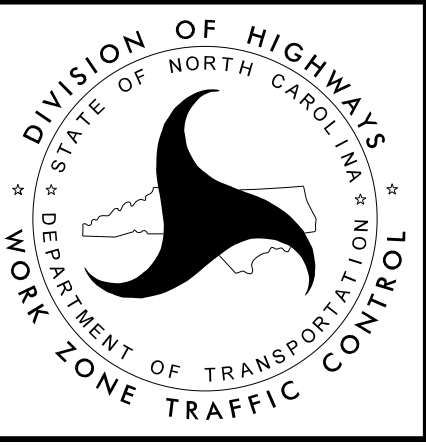
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APPROVED: *Greg S. Purvis* DATE: 12/3/2018

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER  
 GREG S. PURVIS  
 22999



DETOUR  
 OLD STAGE ROAD  
 (SR 1006)

8/17/99



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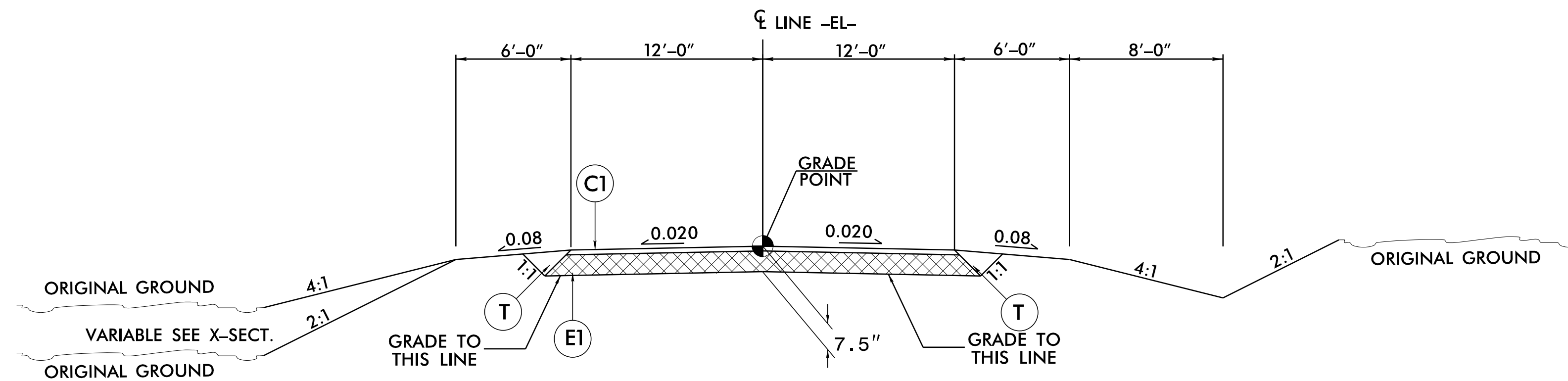
PROJECT REFERENCE NO.	SHEET NO.
5B.209214.5	2A-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	
12/3/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

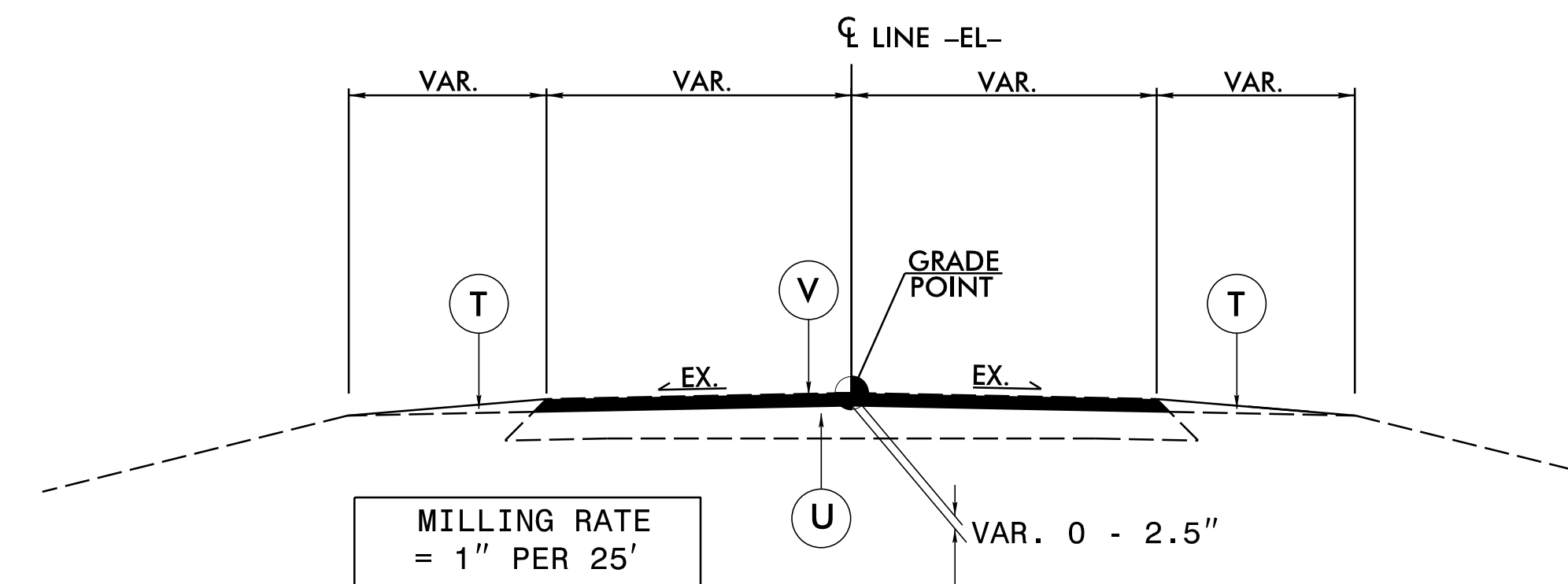
**PENNY ROAD  
(SR 1379)**

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 138 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. (SEE MILLING DETAIL)

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



**TYPICAL SECTION WITHIN EXCAVATION**



**V: MILLING DETAIL**

REVISIONS

11/29/2018  
P:\Projects\SR1379\dwg\psh\_02-1.dgn  
GREG S. PURVIS



8/17/09



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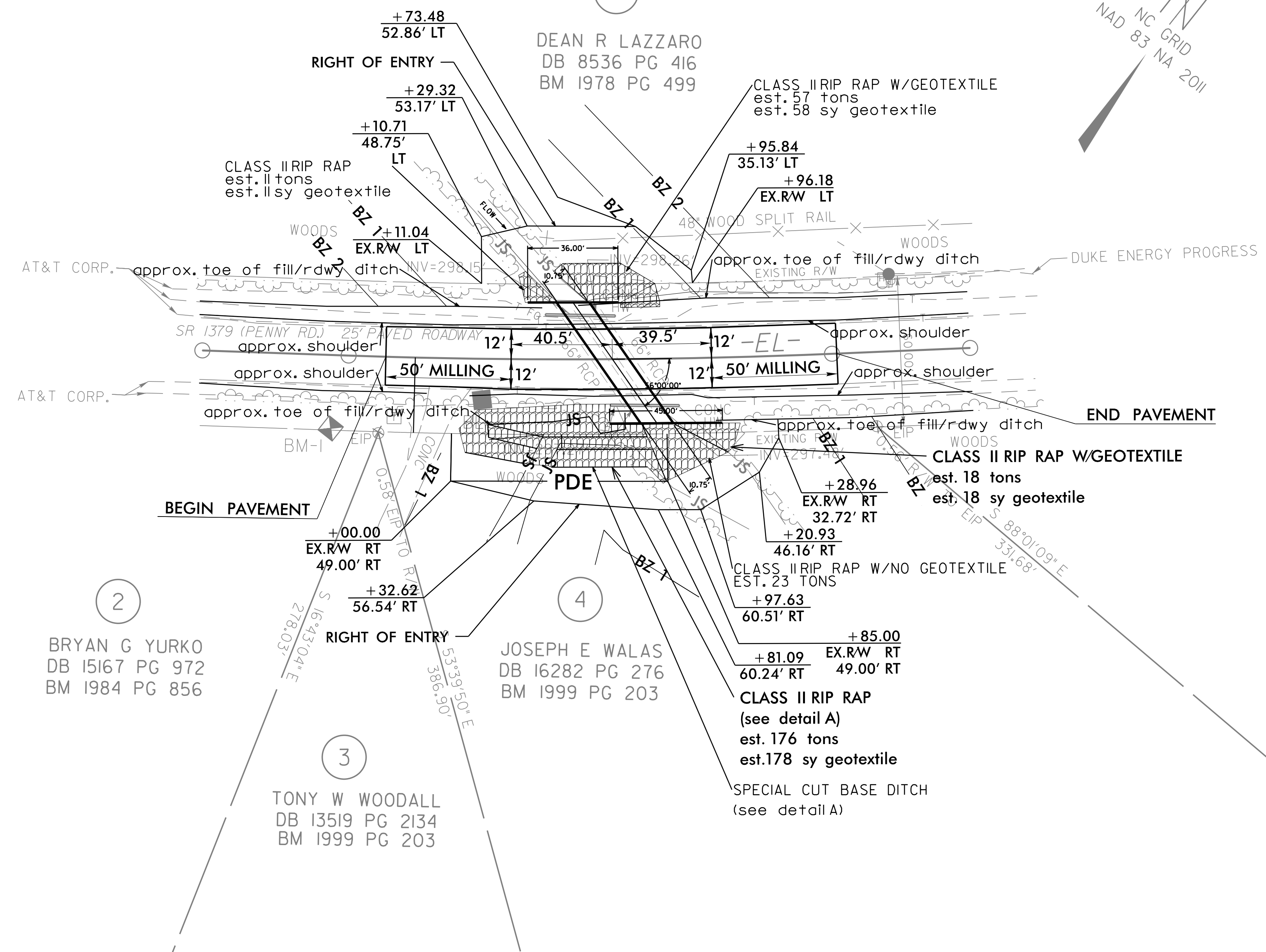
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 12/3/2018	HYDRAULICS ENGINEER 12/3/2018
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**PENNY ROAD  
(SR 1379)**

SCALE 1" = 30'

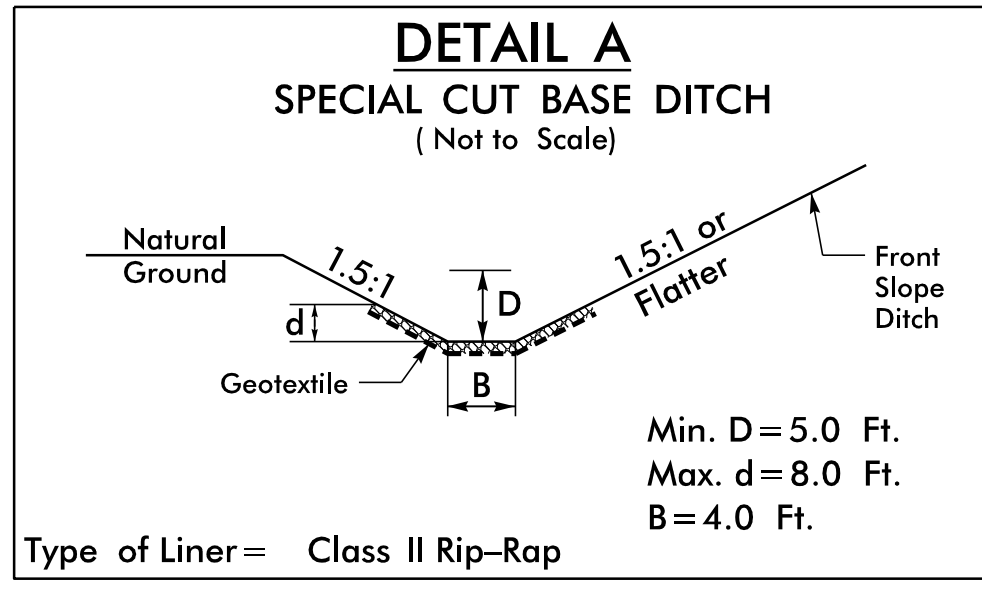
10'-9" x 6'-10" ALUM. ALLOY  
STRUCTURAL PLATE PIPE-ARCH  
WITH ENDWALLS (1)



\*\*\*\*\*  
BM1 ELEVATION = 307.36  
N 714838 E 2091908  
BL STATION 15+62.00 22 RIGHT  
BM SET IN 24" OAK  
\*\*\*\*\*

**DATUM DESCRIPTION**  
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "GPS-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 714251.11(ft) EASTING: 2091028.27(ft) ELEVATION: 374.34 (ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999892693 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS-2" TO -L- STATION IS  
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Point	North	East	Elevation
GPS-1	714496.1300	2091351.7000	349.8200
GPS-2	714251.1100	2091028.2700	374.3400
BL-3	714764.5000	2091719.5450	314.5500
BL-4	714884.3010	2091948.1000	307.8500



REVISIONS

11/28/2018  
11/28/2018  
11/28/2018



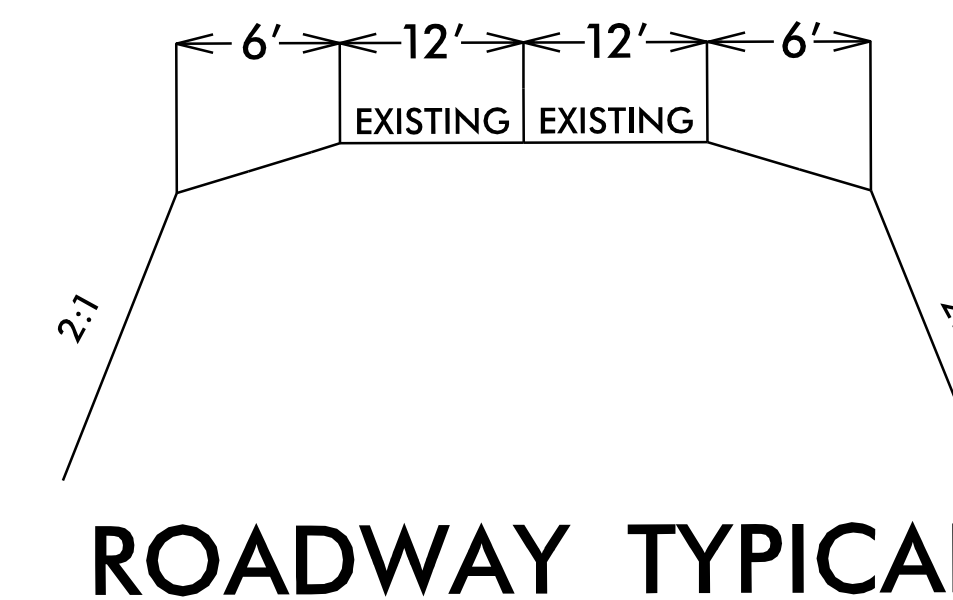
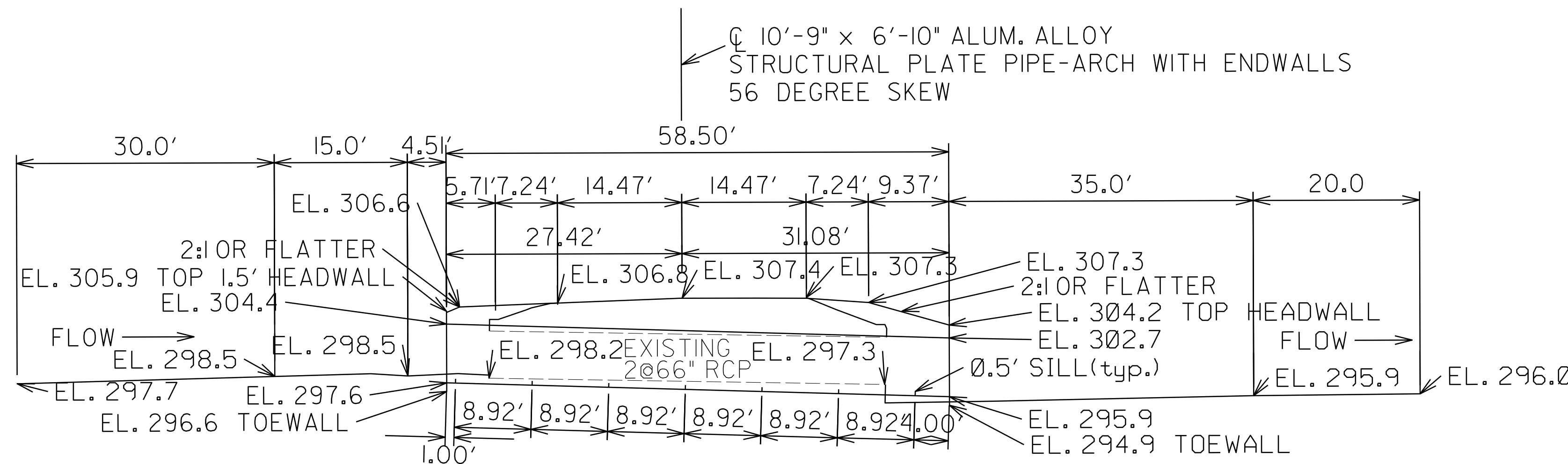


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PROJECT REFERENCE NO. <b>5B.209214.5</b>	SHEET NO. <b>5</b>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER 12/3/2018	HYDRAULICS ENGINEER 12/3/2018
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	

## PENNY ROAD (SR 1379)



## PROFILE VIEW 10'-9" X 6'-10" CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE-ARCH

PROPOSED ELEVATIONS:  
CENTERLINE ROADWAY OVER PIPE  
ELEVATION = 307.4

INLET:

TOP OF HEADWALL = 305.9  
TOP OF PIPE = 304.4  
STREAM BED = 298.1  
INVERT PIPE = 297.6

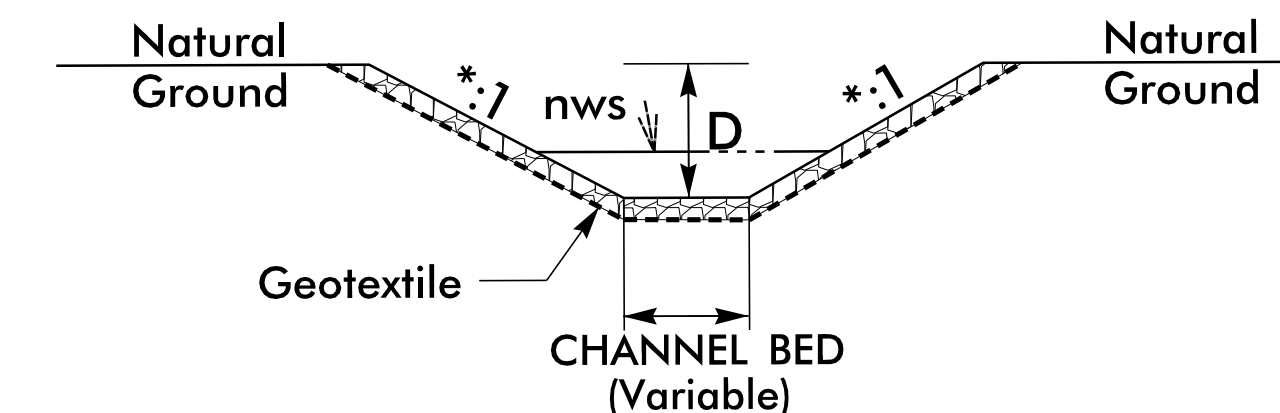
OUTLET:

TOP OF HEADWALL = +/- 304.2  
TOP OF PIPE = +/- 302.7  
STREAM BED = +/- 295.9  
INVERT PIPE = +/- 295.9

CENTERLINE LENGTH = 58'-6" OF 10'-9" X 6'-10" CORRUGATED ALUMINUM STRUCTURAL PLATE PIPE-ARCH.  
ONE 36'-0" WIDE BY 10'-0" TALL (UPSTREAM) AND ONE 45' WIDE BY 10'-0" TALL (DOWNSTREAM) FULLY WELDED STRUCTURAL ALUMINUM STRUCTURAL PLATE HEADWALLS W/2 SECTIONS OF 10'-9" X 6'-10" 0.150" ALUMINUM PLATE STUBBED OUT, WHICH SHALL BE FULLY WELDED TO ALUMINUM STRUCTURAL PLATE HEADWALL.

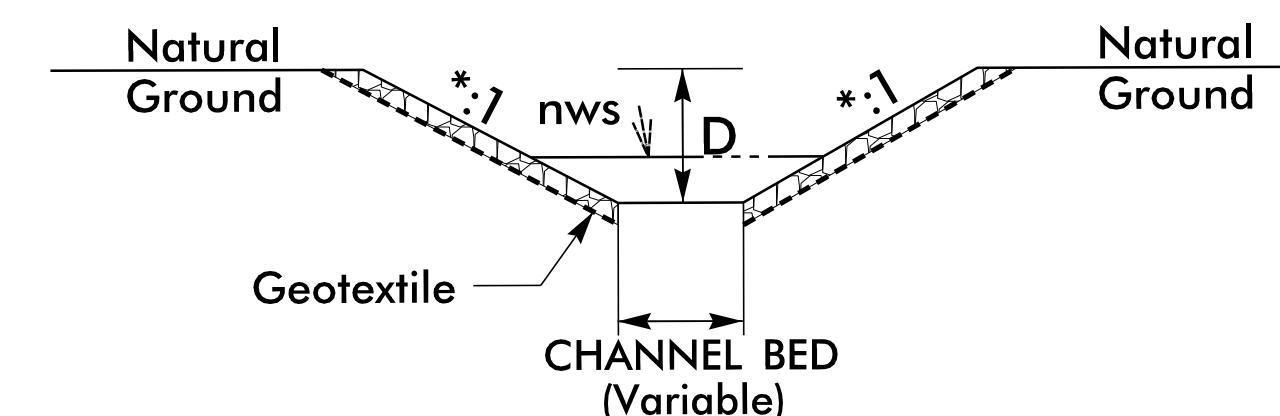
MINIMUM COVER = 1.5' AT HEADWALL;  
2.3 AT SHOULDER POINT.  
MAXIMUM COVER OVER PIPE = 4.2' AT EP HIGH SIDE SUPER  
THE STRUCTURE AND ALL COMPONENTS SHALL BE DESIGNED TO MEET OR EXCEED ASSHTO HL-93 LOADING.

### PIPE OUTLET DETAIL (Not to Scale)



\* VAR. 1.5:1 TO EX. BANK  
Min. D = TOP OF BANK  
Type of Liner = CLASS II Rip-Rap

### PIPE INLET DETAIL (Not to Scale)



\* VAR. 1.5:1 TO EX. BANK  
Min. D = TOP OF BANK  
Type of Liner = CLASS II Rip-Rap

REVISIONS

# 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
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTI-LANE ROADWAYS
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

# PHASING

## PHASE I

- STEP 1: - USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9 AND SHEET TMP-2 CLOSE PENNY ROAD (SR 1379) TO TRAFFIC.
- STEP 2: - INSTALL PROPOSED DRAINAGE AND RECONSTRUCT PROPOSED ROADWAY, UP TO & INCLUDING THE FINAL LAYER OF SURFACE COURSE (SEE ROADWAY PLANS).  
- PLACE THE FINAL MARKINGS (THERMOPLASTIC) IN THE EXISTING TRAFFIC PATTERN.
- STEP 3: - OPEN PENNY ROAD (SR 1379) TO THE FINAL TRAFFIC PATTERN AND REMOVE ALL TRAFFIC CONTROL DEVICES FROM THE PROJECT.

<p>SIGN NUMBER: name      BACKG COLOR: Fluorescent Orange                  TYPE: STATIONARY      COPY COLOR: Black</p> <p>QUANTITY: SEE PLANS</p> <p>SIGN WIDTH: 2'-6"                  HEIGHT: 2'-0"                  TOTAL AREA: 5.0 Sq.Ft.</p> <p>BORDER TYPE: INSET                  RECESS: 0.38"                  WIDTH: 0.63"                  RADII: 1.5"</p> <p>NO. Z BARS:                  LENGTH:</p> <p>MAT'L: 0.080" (2.0 mm) ALUMINUM</p> <p>USE NOTES: 1,2</p> <p>1. Legend and border shall be direct applied black non-reflective sheeting.                  2. Background shall be NC GRADE B fluorescent orange retroreflective sheeting.</p>	<p>DESIGN BY: SLK      CHECKED BY: JWG      Apr 16, 2018                  PROJECT ID: 17BP.5.C.PE      DIV: 5</p>																																																									
<p>LETTER POSITIONS</p> <p style="text-align: center;">Letter locations are panel edge to lower left corner</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Letter</th> <th>X</th> <th>Y</th> <th>WID</th> <th>HT</th> <th>Series/Size</th> <th>Text Length</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>5.7</td> <td>9.5</td> <td>13.2</td> <td>17.1</td> <td>D 2000</td> <td>18.7</td> </tr> <tr> <td>e</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>n</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>n</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>y</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>R</td> <td>11.5</td> <td>15.5</td> <td></td> <td></td> <td>D 2000</td> <td>7</td> </tr> <tr> <td>d</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>FILENAME: Guidesign6_022617      NORTH CAROLINA D.O.T. SIGN DETAIL</p>			Letter	X	Y	WID	HT	Series/Size	Text Length	P	5.7	9.5	13.2	17.1	D 2000	18.7	e							n							n							y							R	11.5	15.5			D 2000	7	d						
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NOTE: TEMPORARY SIGNS TO BE PAID FOR AS "STATIONARY WORK ZONE SIGNS".

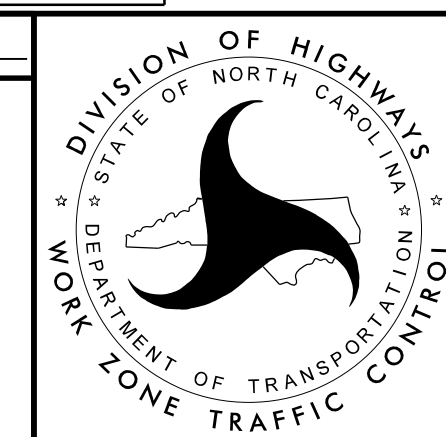
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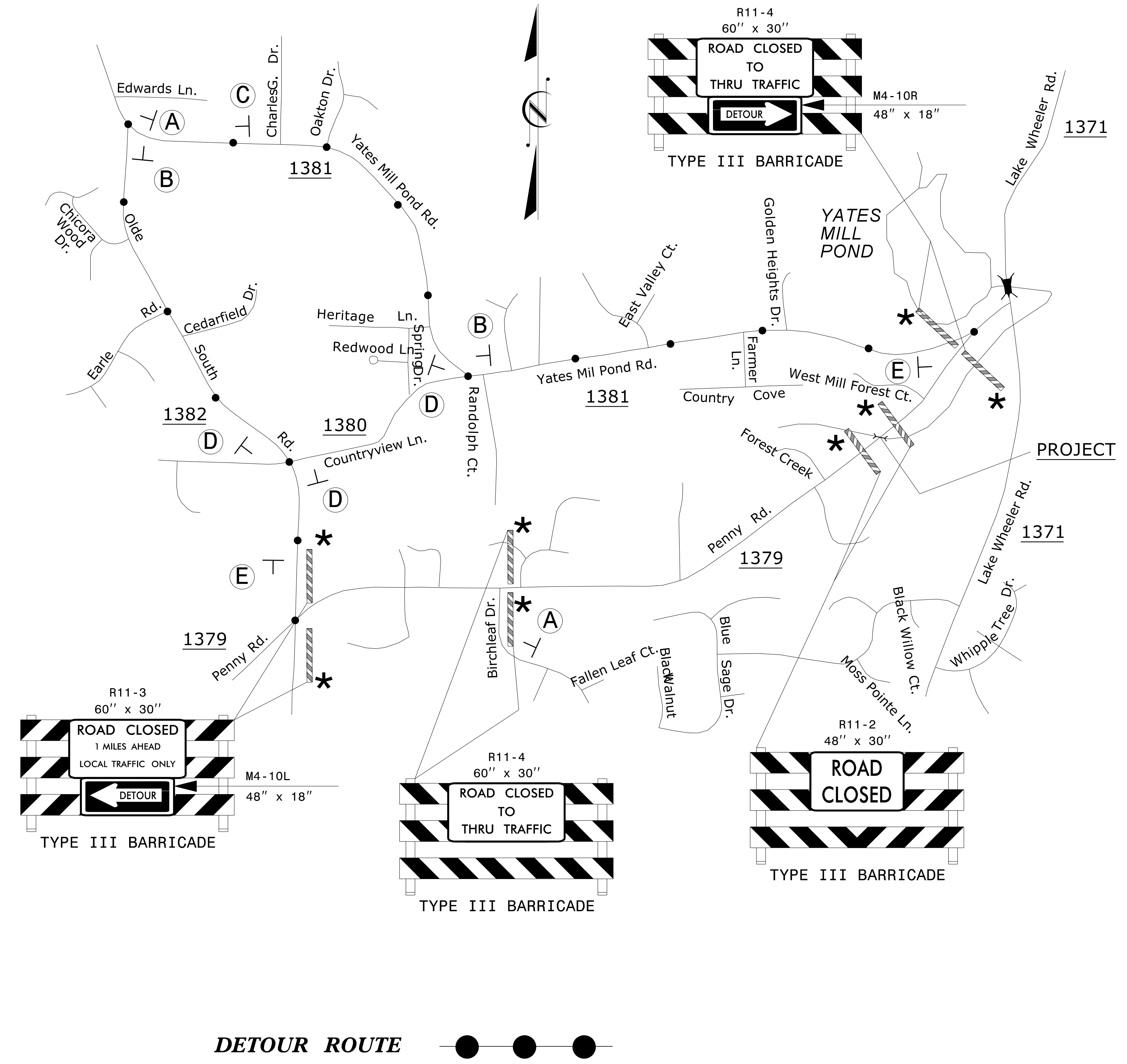
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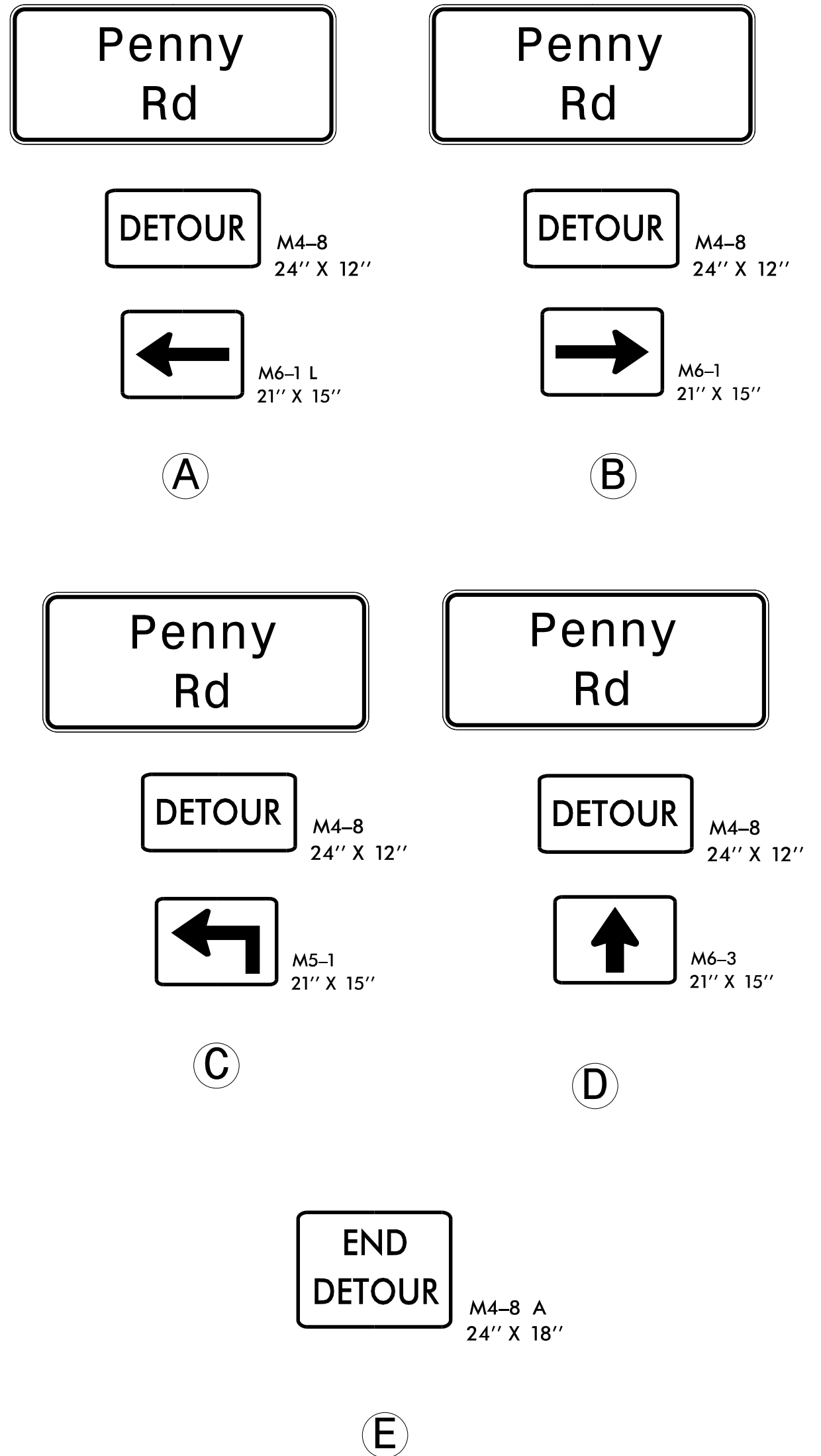


**ROAD STANDARD DRAWINGS,  
 PHASING AND SPECIAL  
 SIGN DESIGN FOR  
 PENNY ROAD  
 (SR 1379)**





### DETOUR SIGNING



**DETOUR ROUTE** ● — ● — ●

- NOTES: SEE TMP-1 FOR "PENNY ROAD" SPECIAL SIGN DESIGN.  
 ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.  
 \* SEE RSD 1101.03, SHEET 1 OF 9, FOR TYPE III BARRICADE LOCATION WITH ATTACHED SIGNING & ADDITIONAL SIGNING FOR ROAD CLOSURE.

8/15/2018 P:\2018\1812109.DIV 5 PIPE REPLACEMENT\Wake SR 1379\TC\TMP\_PSH\_02.dgn User:SKENNEDY

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APPROVED: *Greg S. Purvis* DATE: 12/3/2018

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NORTH CAROLINA PROFESSIONAL ENGINEER GREG S. PURVIS 22999

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

**DETOUR  
PENNY ROAD  
(SR 1379)**