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COMPUTED BY: JLS DATE: 1/28/2014
 CHECKED BY: JYP DATE: 3/12/2015

(4-21-15)

PROJECT NO.	SHEET NO.
34360.1.2 (R-1015)	3G-1

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
-SERVRD-	32+80	56+74	RT	SD	2400
				SD	4000
				TOTAL LF:	6400

*UD = Underdrain
 *BD = Blind Drain
 *SD = Subsurface Drain

**SUMMARY OF
 BRIDGE WAITING PERIODS**

Bridge Description	End Bent/ Bent No.	MONTHS
BRIDGE 276 OVER EAST PRONG OF SLOCUM CREEK ON US 70 BYPASS (LEFT LANES)	EB #2	3
BRIDGE 277 OVER EAST PRONG OF SLOCUM CREEK ON US 70 BYPASS (RIGHT LANES)	EB #2	3
BRIDGE 278 OVER CAMP LEJEUNE RR ON US 70 BYPASS (LEFT LANES)	EB #1 & #2	1
BRIDGE 279 OVER CAMP LEJEUNE RR ON US 70 BYPASS (RIGHT LANES)	EB #1 & #2	1
BRIDGE 280 OVER US 70 BYPASS ON SR 1756	EB #1 & #2	1
BRIDGE 284 OVER NCRRL ON US 70 BYPASS (LEFT LANES)	EB #1 & #2	2
BRIDGE 284 OVER NCRRL ON US 70 BYPASS (RIGHT LANES)	EB #1 & #2	2
BRIDGE 286 ON US 70 BYPASS OVER US 70 BUS LEFT LANES	EB #1 & #2	2
BRIDGE 287 ON US 70 BYPASS OVER US 70 BUS RIGHT LANES	EB #1 & #2	2

**SUMMARY OF
 SETTLEMENT GAUGES**

Gauge No.	LINE	Approx. Station	Approx. Offset
1	-L-	186+00	60ft LT
2	-L-	186+00	60ft RT
		TOTAL GAUGES (EACH):	2

**SUMMARY OF PERMANENT SOIL
 REINFORCEMENT MAT**

LINE	Beginning Slope	Approx. Station	Ending Slope	Approx. Station	Location LT/RT	SY
-L-	2.75:1	345+25	2.75:1	351+25	LT	1380
-L-	2.75:1	349+75	2.75:1	380+25	RT	8320
-L-	2.75:1	389+75	2.75:1	393+25	LT	800
					TOTAL SY:	10500

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

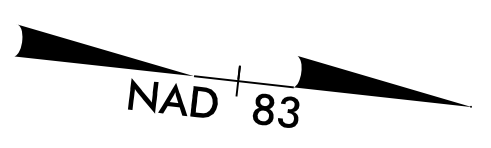
LINE	Station	Station	Aggregate Type ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
-L-	32+80	547+00							50600
-LP2A-	83+75	87+25	ASU			650			
			ASU	12	1000	1900	3000		
					TOTAL CY/TONS/SY:	1000	2550	3000*	0

ASU = Aggregate Subgrade, AST = Aggregate Stabilization
 *Total square yards of Geotextile for Soil Stabilization is only the estimated quantity for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

8/17/99

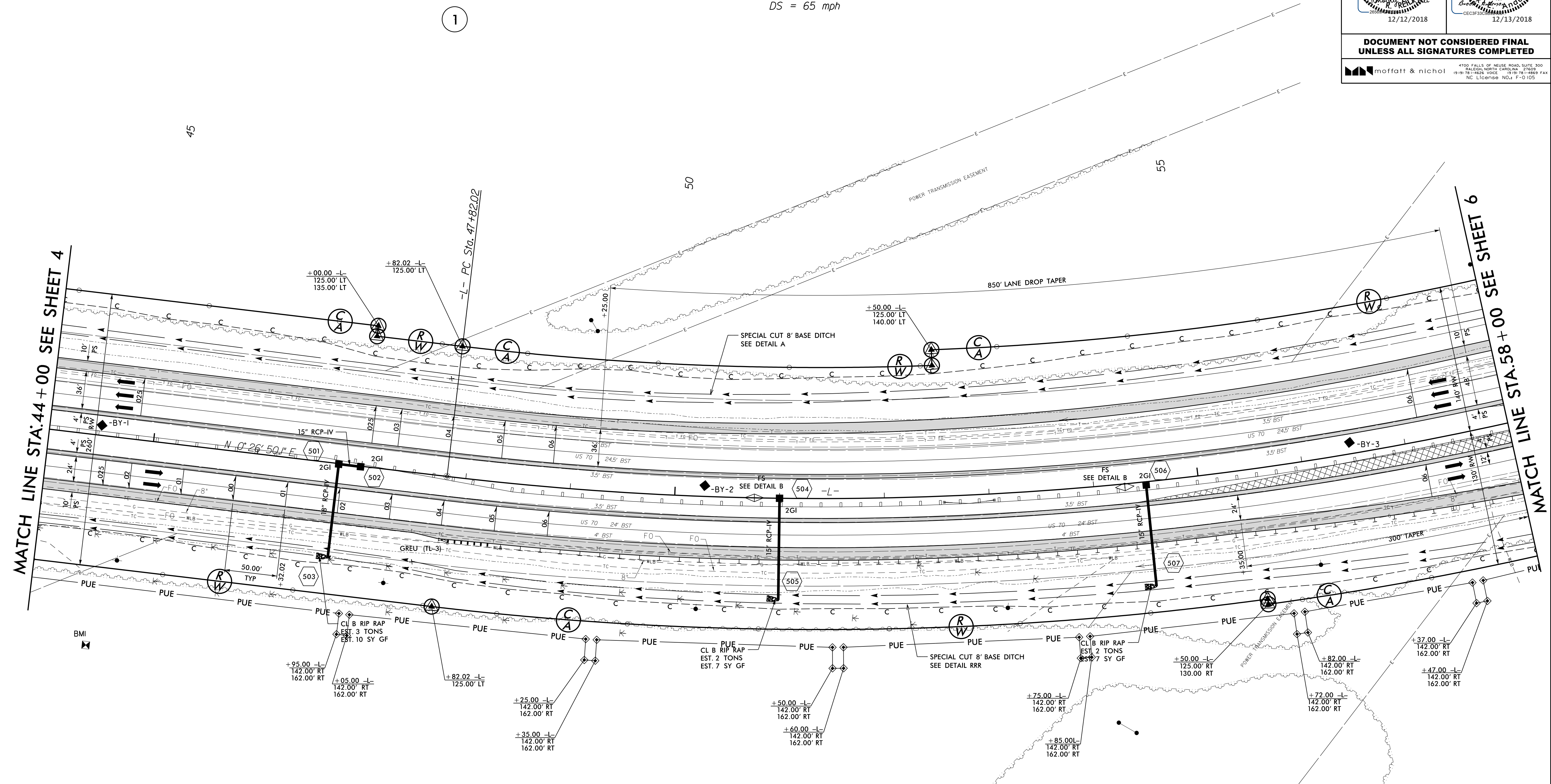
PROJECT REFERENCE NO. R-1015		SHEET NO. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018		HYDRAULICS ENGINEER SEAL 032581 12/13/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC License No. F-0105	

-L-
 PI Sta 58+21.81
 $\Delta = 38^{\circ} 01' 15.2''$ (LT)
 $D = 1' 53' 54.5''$
 $L = 2,002.71'$
 $T = 1,039.80'$
 $R = 3,018.00'$
 $SE = 0.06$
 $RO = 300.00'$
 $DS = 65$ mph



DEPARTMENT OF AGRICULTURE
 CROATAN NATIONAL FOREST
 DB 336 - PG 9
 DB 336 - PG 72
 7375.2 AC (DEED)

1



DEPARTMENT OF AGRICULTURE
 CROATAN NATIONAL FOREST
 DB 336 - PG 9
 DB 336 - PG 72
 7375.2 AC (DEED)

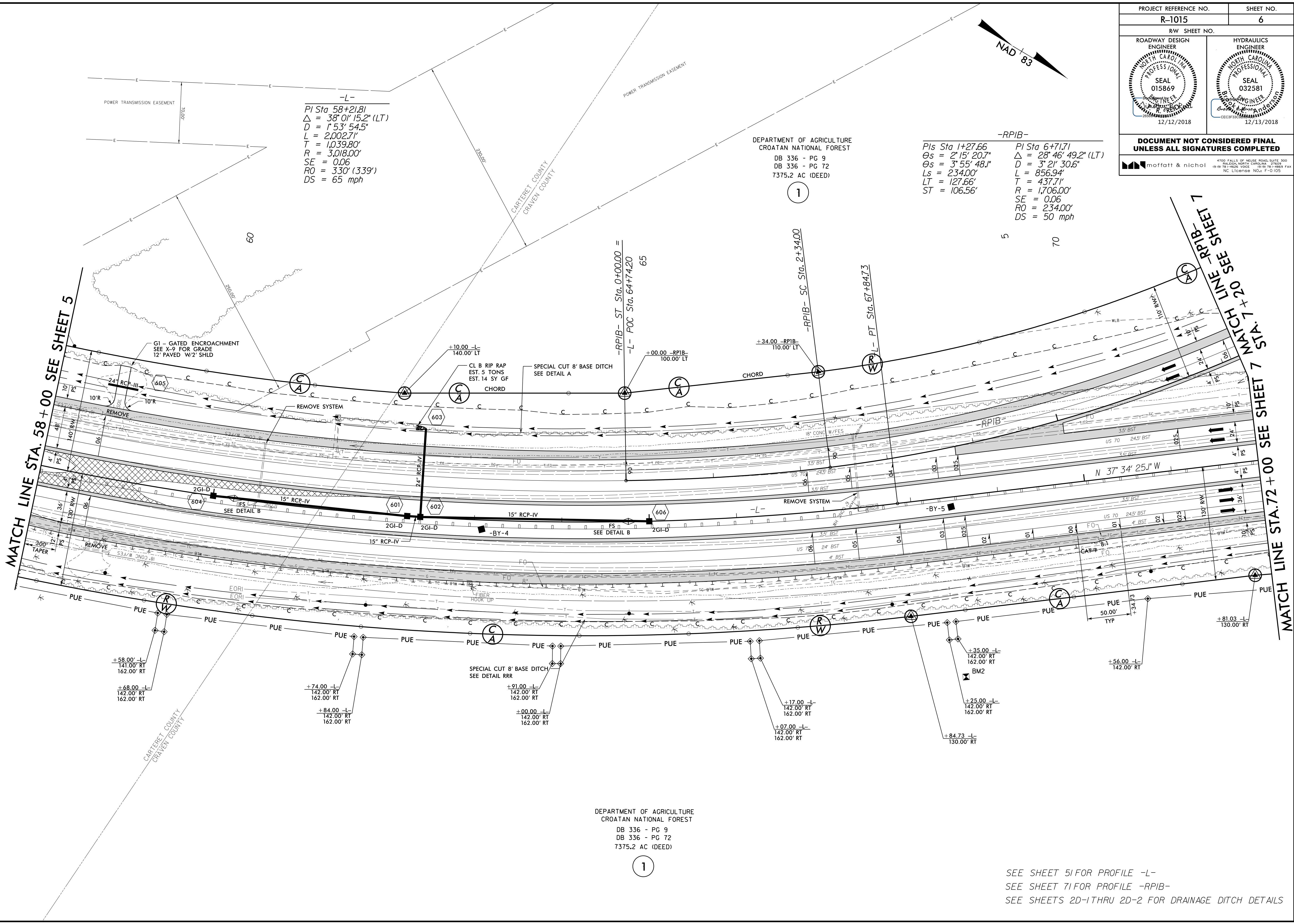
1

SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS
 SEE SHEET 50 FOR PROFILE -L-

12/12/2018
 I:\RA\9729-02\CA000\RI015\Roadway\Proj\1015_rdl_esh5.dgn
 moffatt & nichol

8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED 	



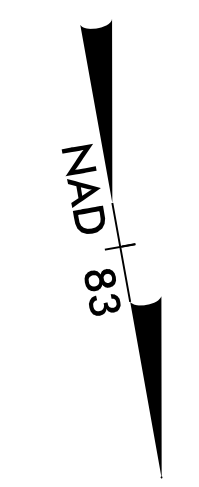
8/17/19
I:\2018\10-18-19\1015\Roadway\Proc\1015_rdl_rsh8.dgn

-L-
Pls Sta 99+69.02
 $\theta_s = 3^\circ 42' 07.2''$
Ls = 390.00'
LT = 260.06'
ST = 130.05'

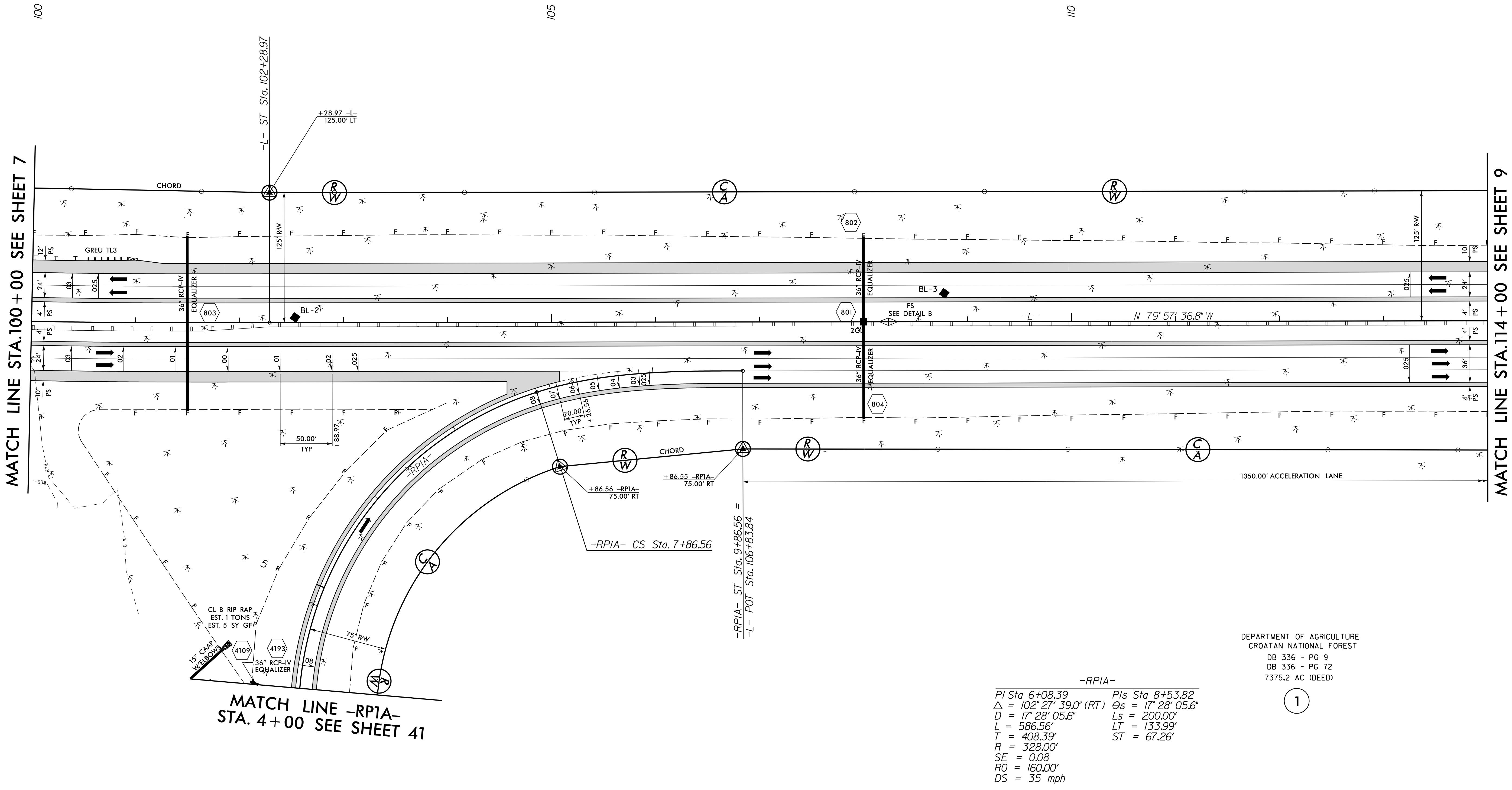
DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

1

BM5



PROJECT REFERENCE NO. R-1015		SHEET NO. 8	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018		HYDRAULICS ENGINEER SEAL 032581 12/13/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC LICENSE NO. F-0105	



MATCH LINE -RPIA-
STA. 4 + 00 SEE SHEET 41

-RPIA-
 PI Sta 6+08.39 Pls Sta 8+53.82
 $\Delta = 102^\circ 27' 39.0''$ (RT) $\theta_s = 17^\circ 28' 05.6''$
 $D = 17^\circ 28' 05.6''$ Ls = 200.00'
 $L = 586.56'$ LT = 133.99'
 $T = 408.39'$ ST = 67.26'
 $R = 328.00'$
 $SE = 0.08$
 $RO = 160.00'$
 $DS = 35$ mph

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

1

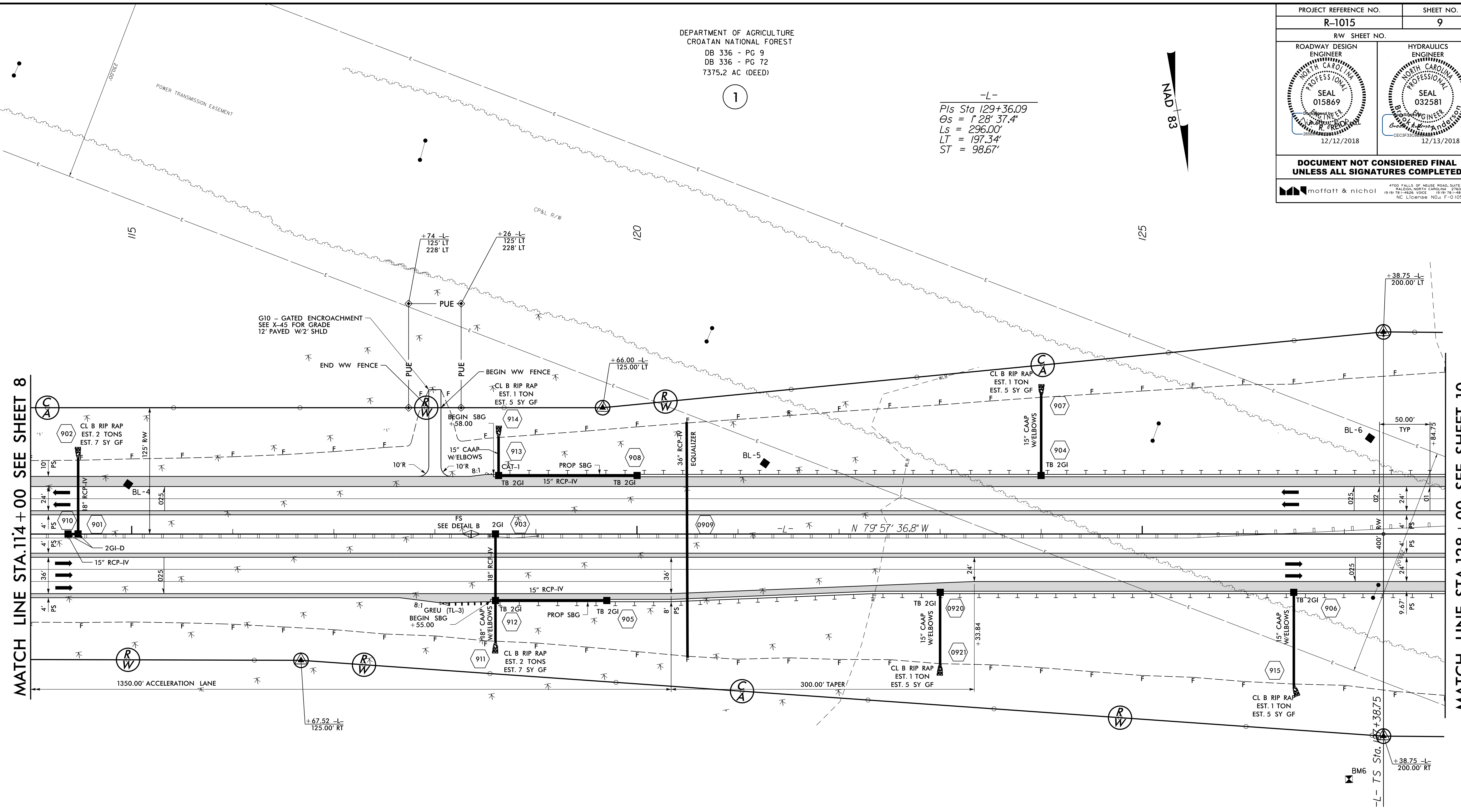
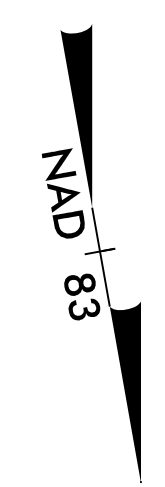
SEE SHEET 52 FOR PROFILE -L-
SEE SHEET 71 FOR PROFILE -RPIA-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

8/17/19

PROJECT REFERENCE NO. R-1015		SHEET NO. 9	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018		HYDRAULICS ENGINEER SEAL 032581 12/13/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4669 FAX NC License No. F-0105	

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CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG T2
7375.2 AC (DEED)

-L-
Pls Sta 129+36.09
Os = 1' 28' 37.4"
Ls = 296.00'
LT = 197.34'
ST = 98.67'



MATCH LINE STA. 114 + 00 SEE SHEET 8

MATCH LINE STA. 128 + 00 SEE SHEET 10

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG T2
7375.2 AC (DEED)

1

SEE SHEETS 53 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

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CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

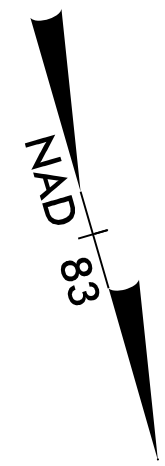
1

-L-
Pls Sta 129+36.09 PI Sta 137+14.92
 $\Theta_s = 1^\circ 28' 37.4"$ $\Delta = 13^\circ 30' 48.2" (RT)$
 $L_s = 296.00'$ $D = 0^\circ 59' 52.8"$
 $LT = 197.34'$ $L = 1,354.03'$
 $ST = 98.67'$ $T = 680.17'$
 $R = 5,741.00'$
 $SE = 0.04$
 $RO = 200.00'$
 $DS = 70 \text{ mph}$

-RR EYI-
POT Sta. 10+00.00

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CROATAN NATIONAL FOREST

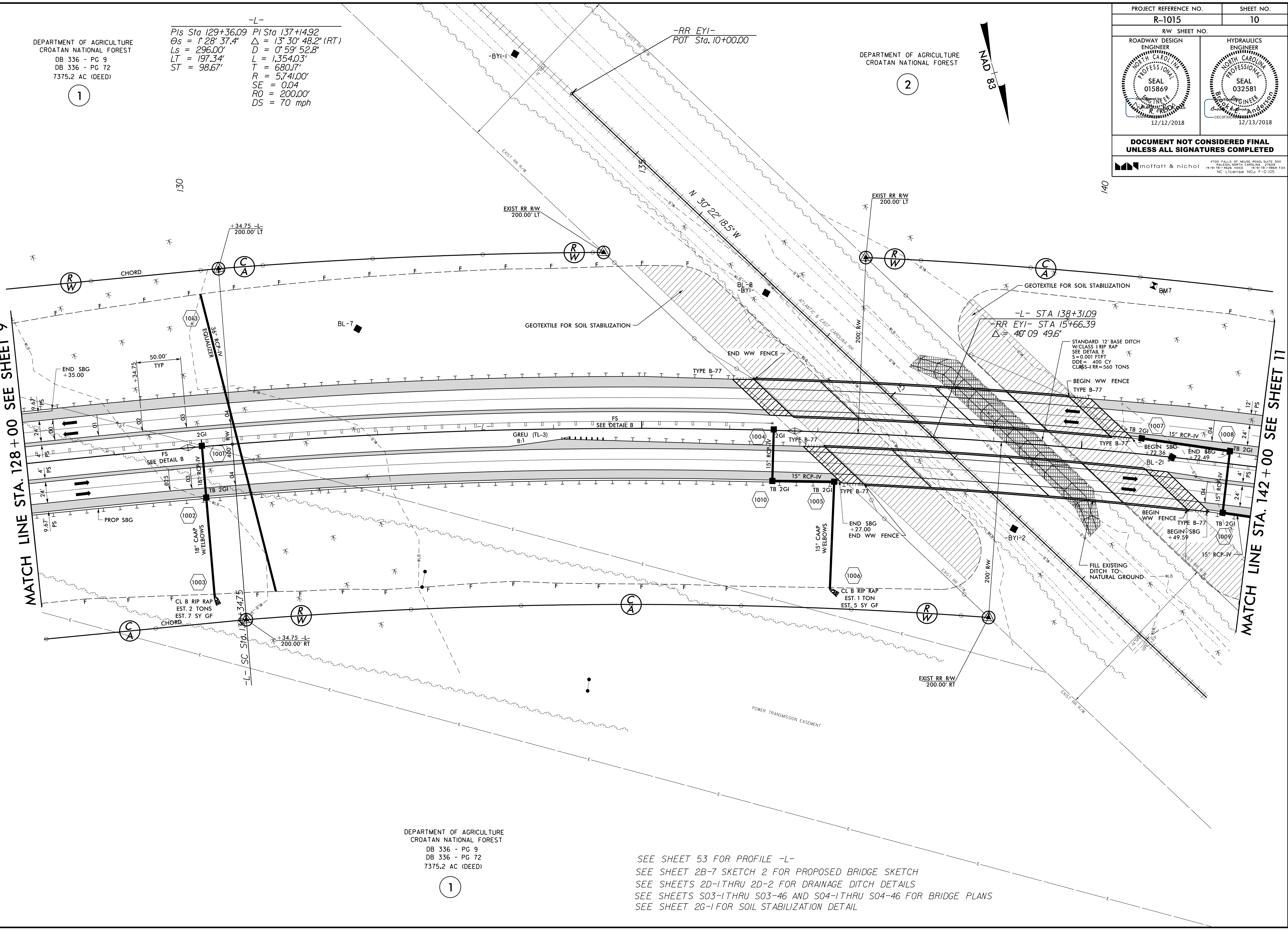
2



PROJECT REFERENCE NO. R-1015	SHEET NO. 10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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MATCH LINE STA. 128 + 00 SEE SHEET 9

MATCH LINE STA. 142 + 00 SEE SHEET 11



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CROATAN NATIONAL FOREST
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

1

SEE SHEET 53 FOR PROFILE -L-
SEE SHEET 2B-7 SKETCH 2 FOR PROPOSED BRIDGE SKETCH
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS
SEE SHEETS S03-1 THRU S03-46 AND S04-1 THRU S04-46 FOR BRIDGE PLANS
SEE SHEET 26-1 FOR SOIL STABILIZATION DETAIL

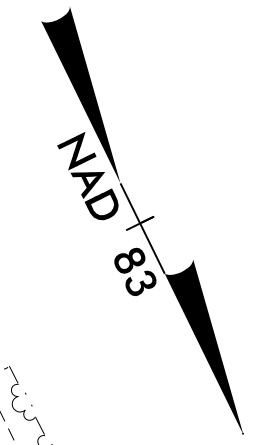
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8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 MOTT & NICHOL	HYDRAULICS ENGINEER SEAL 032581 MOTT & NICHOL
2/28/2019	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moffatt & nichol	

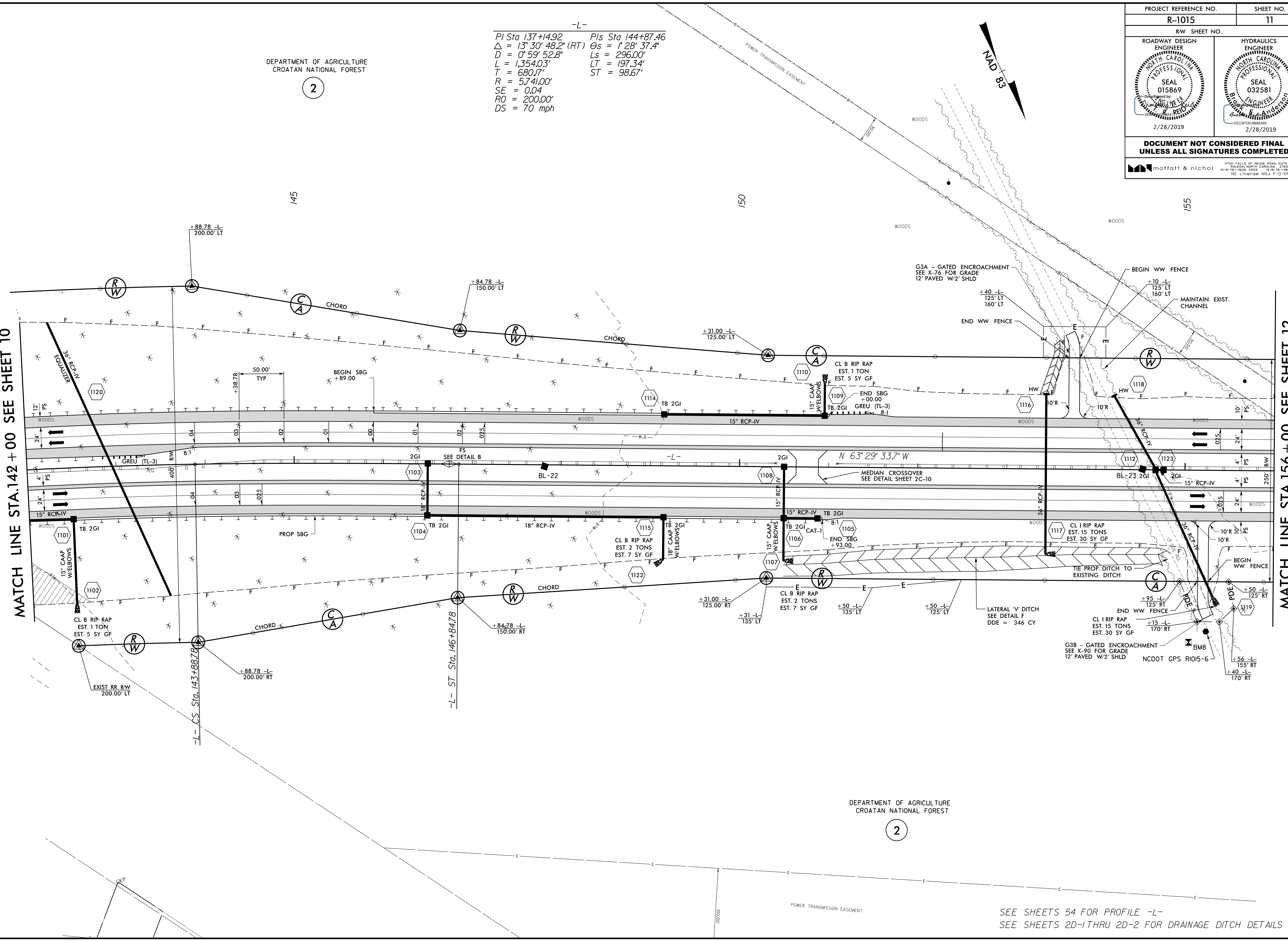
-L-
 PIs Sta 137+14.92 PIs Sta 144+87.46
 $\Delta = 13^{\circ} 30' 48.2''$ (RT) $\Theta_s = 1^{\circ} 28' 37.4''$
 $D = 0^{\circ} 59' 52.8''$ $L_s = 296.00'$
 $L = 1,354.03'$ $LT = 197.34'$
 $T = 680.17'$ $ST = 98.67'$
 $R = 5,741.00'$
 $SE = 0.04$
 $RO = 200.00'$
 $DS = 70$ mph

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CROATAN NATIONAL FOREST
2



MATCH LINE STA. 142 + 00 SEE SHEET 10

MATCH LINE STA. 156 + 00 SEE SHEET 12



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CROATAN NATIONAL FOREST
2

SEE SHEETS 54 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

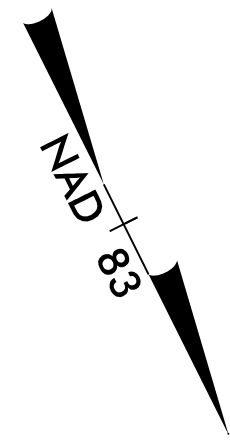
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8/17/19

PROJECT REFERENCE NO.		SHEET NO.	
R-1015		12	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
2/28/2019		2/28/2019	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		<small>4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4669 FAX NC License No. F-0105</small>	

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

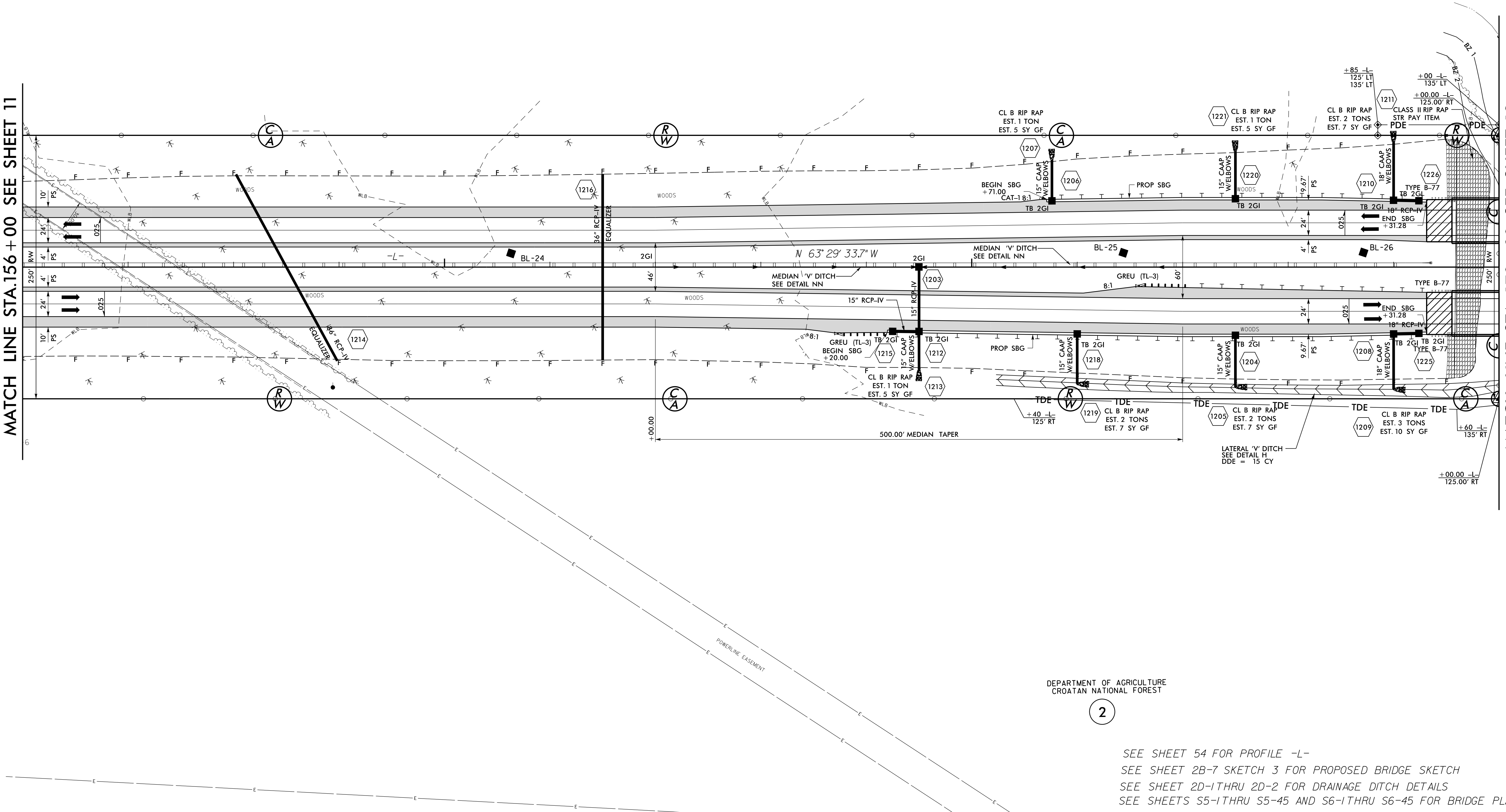


160

165

MATCH LINE STA. 156 + 00 SEE SHEET 11

MATCH LINE STA. 170 + 00 SEE SHEET 13



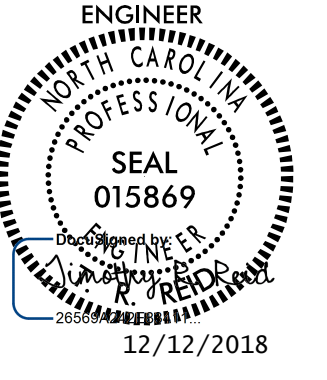


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CROATAN NATIONAL FOREST

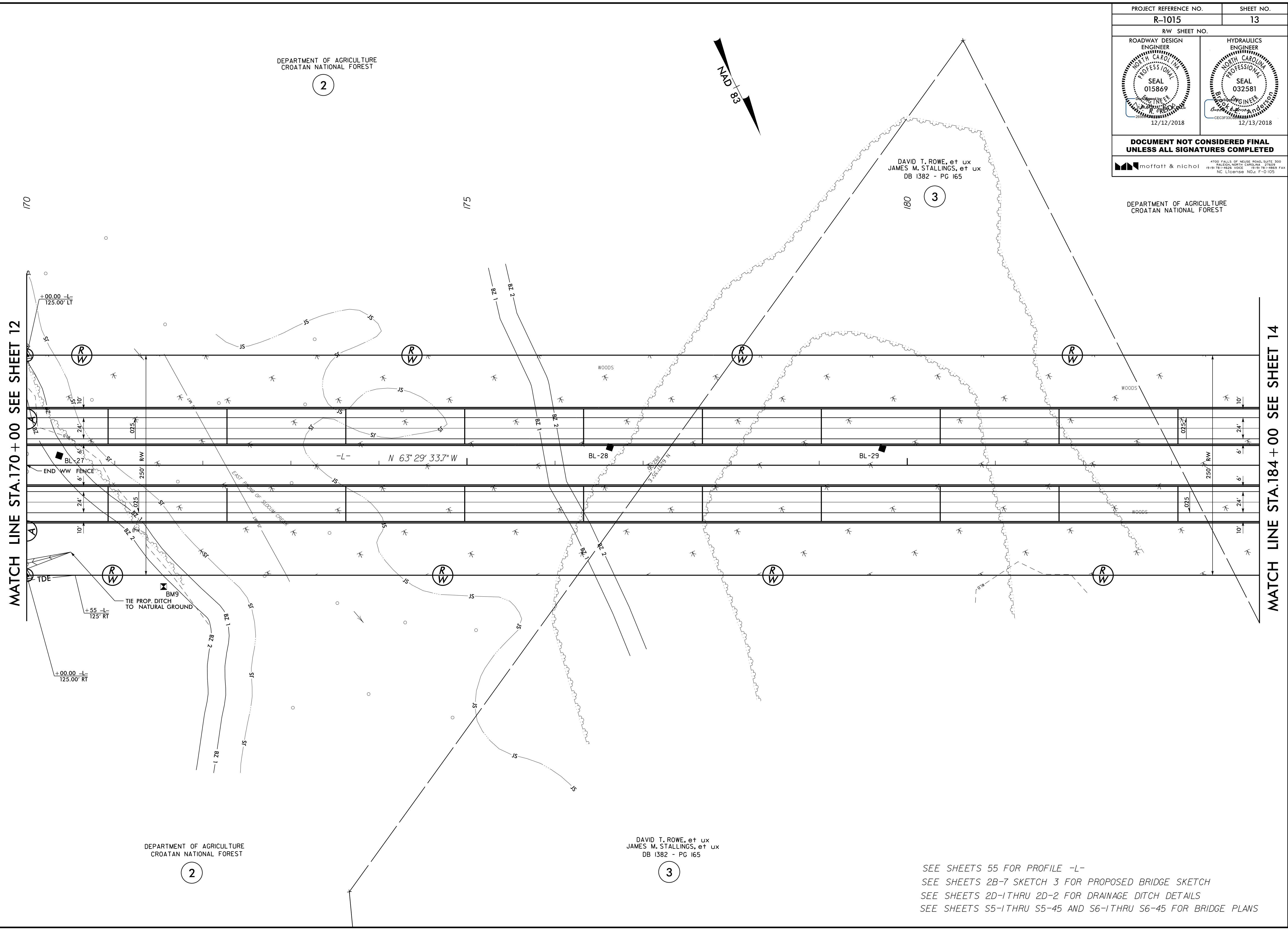
2

SEE SHEET 54 FOR PROFILE -L-
 SEE SHEET 2B-7 SKETCH 3 FOR PROPOSED BRIDGE SKETCH
 SEE SHEET 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS
 SEE SHEETS S5-1 THRU S5-45 AND S6-1 THRU S6-45 FOR BRIDGE PLANS

2/28/2019
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8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 <small>4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC LICENSE NO. F-0105</small>	



MATCH LINE STA.170 + 00 SEE SHEET 12

MATCH LINE STA.184 + 00 SEE SHEET 14

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CROATAN NATIONAL FOREST
2

DAVID T. ROWE, et ux
JAMES M. STALLINGS, et ux
DB 1382 - PG 165
3

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CROATAN NATIONAL FOREST

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
2

DAVID T. ROWE, et ux
JAMES M. STALLINGS, et ux
DB 1382 - PG 165
3

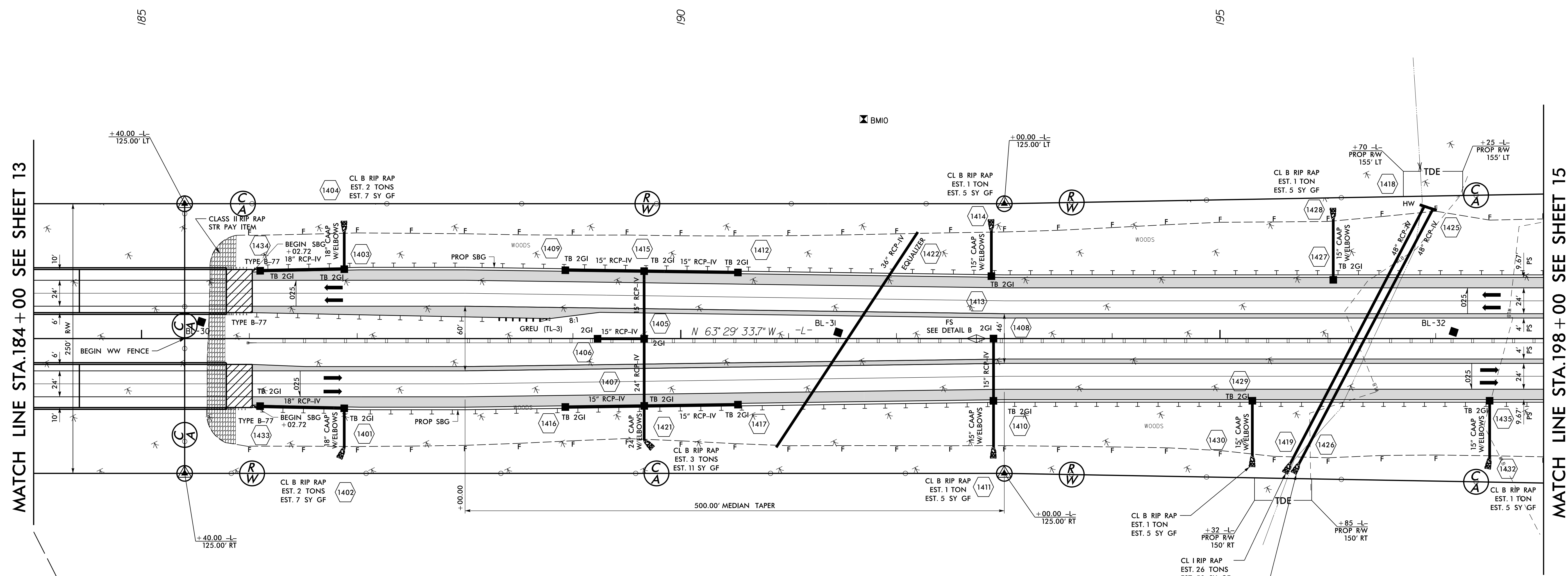
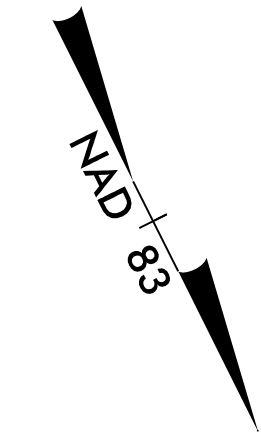
SEE SHEETS 55 FOR PROFILE -L-
SEE SHEETS 2B-7 SKETCH 3 FOR PROPOSED BRIDGE SKETCH
SEE SHEETS 2D-1THRU 2D-2 FOR DRAINAGE DITCH DETAILS
SEE SHEETS S5-1THRU S5-45 AND S6-1THRU S6-45 FOR BRIDGE PLANS

11/28/2018
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PROJECT REFERENCE NO. R-1015	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moffatt & nichol	

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CROATAN NATIONAL FOREST

2



MATCH LINE STA.184 + 00 SEE SHEET 13

MATCH LINE STA.198 + 00 SEE SHEET 15

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

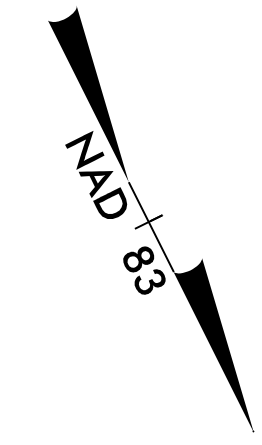
SEE SHEET 55 FOR PROFILE -L-
 SEE SHEET 2B-7 SKETCH 3 FOR PROPOSED BRIDGE SKETCH
 SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS
 SEE SHEETS S5-1 THRU S5-45 AND S6-1 THRU S6-45 FOR BRIDGE PLANS

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8/17/19

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CROATAN NATIONAL FOREST

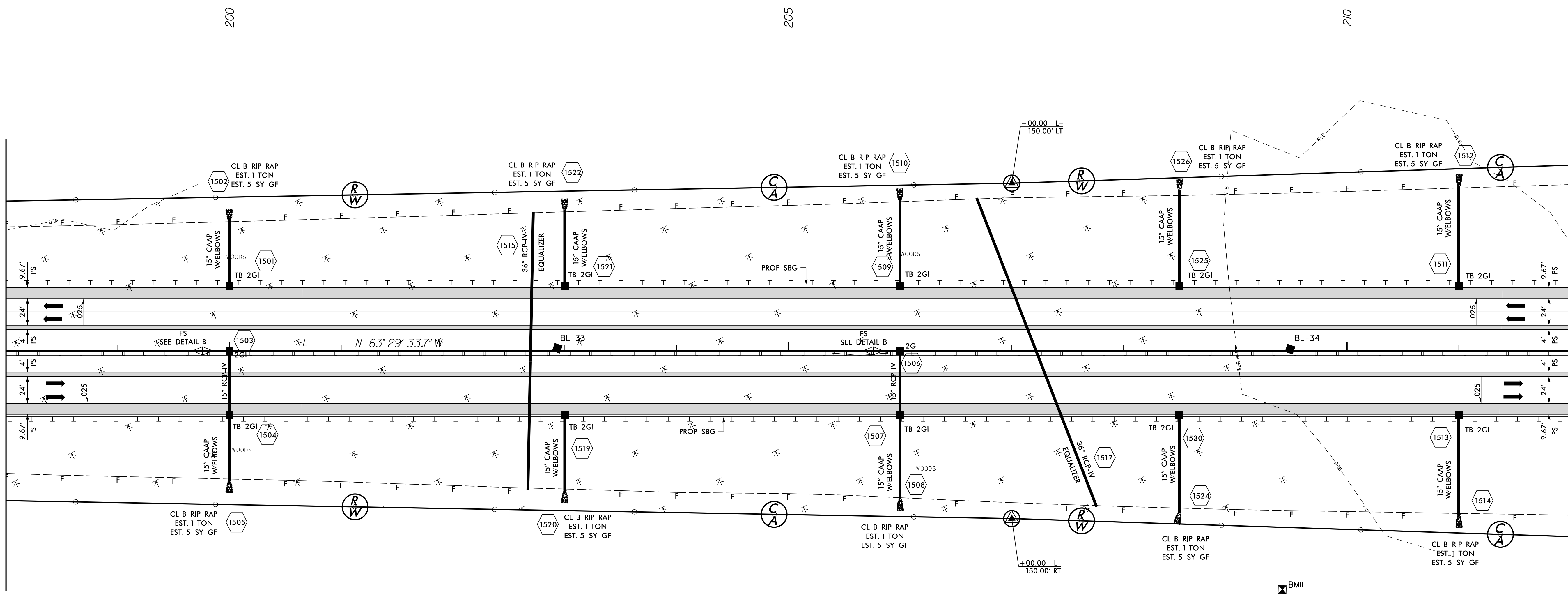
2



PROJECT REFERENCE NO. R-1015	SHEET NO. 15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCH LINE STA. 198 + 00 SEE SHEET 14

MATCH LINE STA. 212 + 00 SEE SHEET 16



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CROATAN NATIONAL FOREST

2

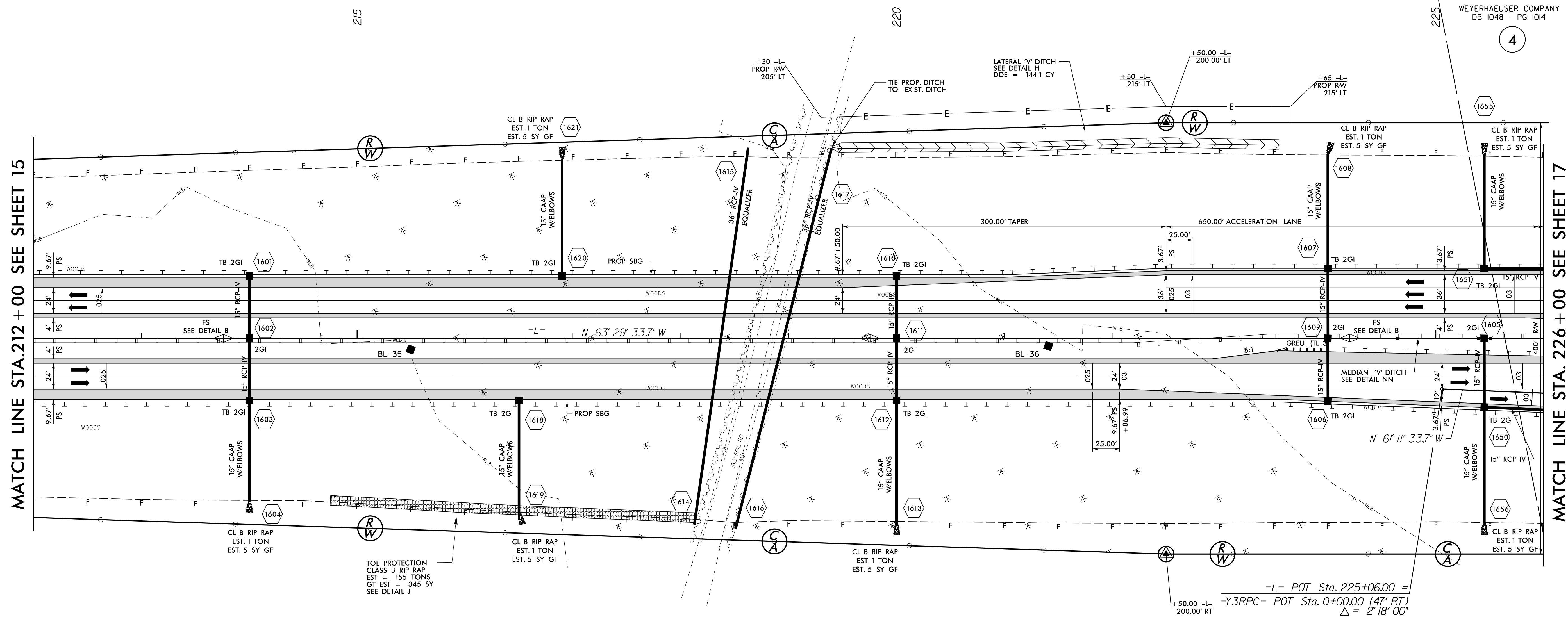
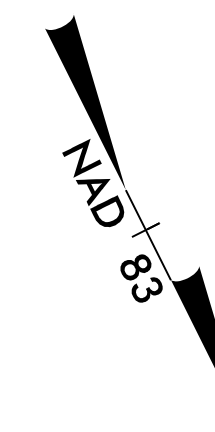
SEE SHEETS 56 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

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PROJECT REFERENCE NO. R-1015	SHEET NO. 16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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CROATAN NATIONAL FOREST

2



MATCH LINE STA. 212 + 00 SEE SHEET 15

MATCH LINE STA. 226 + 00 SEE SHEET 17

WEYERHAEUSER COMPANY
DB 1048 - PG 1014

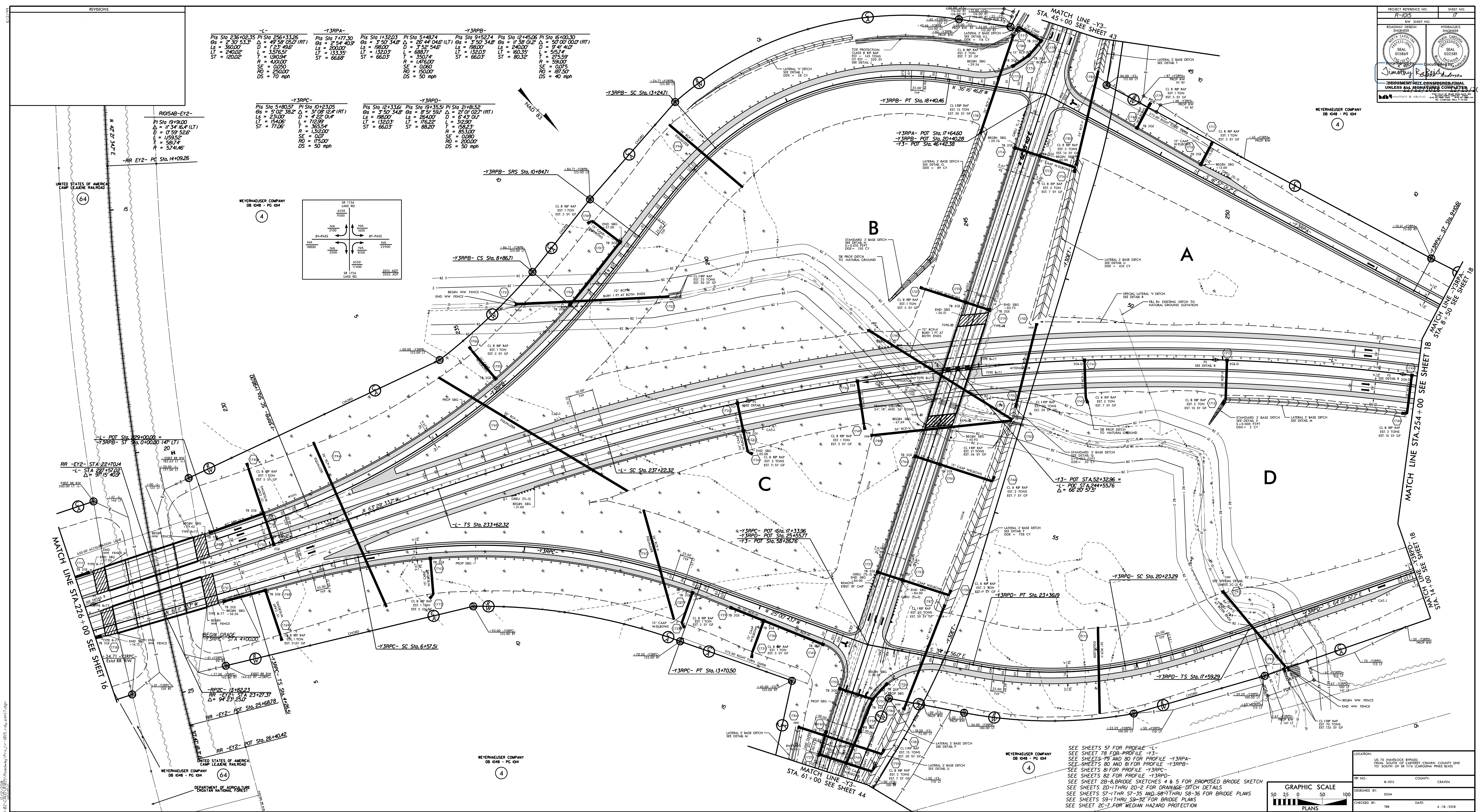
4

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

SEE SHEET 56 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

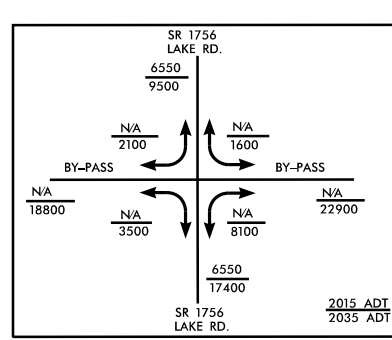
1/28/2018
I:\Projects\1015\Roadway\Proj\1015_rdi_psh16.dgn



-L-		-Y3RPA-		-Y3RPB-	
PI Sta 236+02.35	PI Sta 256+33.26	PI Sta 7+17.30	PI Sta 11+32.03	PI Sta 5+48.74	PI Sta 9+52.74
OS = 2°30'53.3"	Δ = 49°59'05.0" (RT)	OS = 3°52'34.8"	Δ = 86°44'04.0" (LT)	OS = 3°50'34.8"	OS = 1°58'02.2"
LS = 360.00	D = 123°49.6'	LS = 198.00	D = 3°52'54.6'	LS = 198.00	LS = 240.00
LT = 240.00	L = 357.65'	LT = 132.03	L = 688.71'	LT = 132.03	L = 80.35'
T = 150.00	R = 4.0000'	ST = 66.03'	T = 130.74'	ST = 66.03'	T = 275.59'
SE = 0.0000'	SE = 0.0000'	SE = 0.0000'	SE = 0.0000'	SE = 0.0000'	SE = 0.0000'
RO = 250.00'	RO = 250.00'	RO = 150.00'	RO = 150.00'	RO = 187.50'	RO = 187.50'
DS = 70 mph	DS = 70 mph	DS = 50 mph	DS = 50 mph	DS = 50 mph	DS = 40 mph

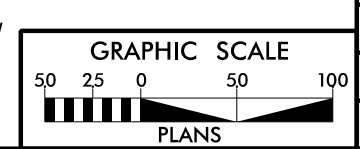
-Y3RPC-		-Y3RPD-	
PI Sta 5+80.57	PI Sta 10+23.05	PI Sta 12+33.61	PI Sta 19+35.51
OS = 3°02'36.2"	Δ = 31°08'12.4" (RT)	OS = 3°50'34.8"	OS = 8°51'59.7"
LS = 210.00	D = 4°25'09.4'	LS = 254.00	D = 6°43'01.7'
LT = 154.00	L = 712.92'	LT = 132.03	L = 312.90'
T = 365.54'	R = 1.31200'	T = 158.23'	R = 85.100'
SE = 0.0000'	SE = 0.0000'	SE = 0.0000'	SE = 0.0000'
RO = 175.00'	RO = 175.00'	RO = 200.00'	RO = 200.00'
DS = 70 mph	DS = 70 mph	DS = 50 mph	DS = 50 mph

RR EY2 - STA 14+09.26
 PI Sta 19+91.00
 Δ = 11°54'18.4" (LT)
 D = 0°59'32.6"
 L = 129.52'
 T = 580.74'
 R = 574.146'



PROJECT REFERENCE NO. R-105
 SHEET NO. 17
 ROADWAY DESIGN ENGINEER
 SEAL 015869
 SEAL 032581
 METERHAUSER COMPANY
 DB 1048 - PG 104
 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.
 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.

SEE SHEETS 57 FOR PROFILE -L-
 SEE SHEET 78 FOR PROFILE -Y3-
 SEE SHEETS 79 AND 80 FOR PROFILE -Y3RPA-
 SEE SHEETS 80 AND 81 FOR PROFILE -Y3RPB-
 SEE SHEETS 81 FOR PROFILE -Y3RPC-
 SEE SHEETS 82 FOR PROFILE -Y3RPD-
 SEE SHEET 28-B BRIDGE SKETCHES 4 & 5 FOR PROPOSED BRIDGE SKETCH
 SEE SHEETS 20-1 THRU 20-2 FOR DRAINAGE-DITCH DETAILS
 SEE SHEETS 37-1 THRU 37-35 AND 38-1 THRU 38-36 FOR BRIDGE PLANS
 SEE SHEETS 39-1 THRU 39-12 FOR BRIDGE PLANS
 SEE SHEET 20-7 FOR MEDIAN HAZARD PROTECTION

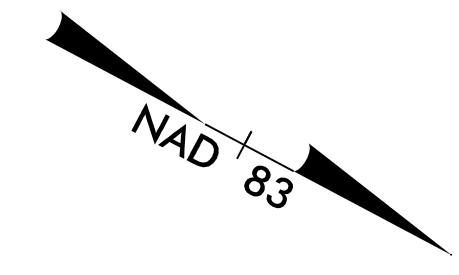


LOCATION:	S. 10. 38. HANDELCO BRIDGE FROM SOUTH OF EASTERN CRAVEN COUNTY LINE 100 SOUTH OF SR 170, CRAVEN PINE BLVD		
TRP NO.:	8-1015	COUNTY:	CRAVEN
DESIGNED BY:	DGM	CHECKED BY:	TBR
DATE:	6/18/2018		

8.17.17.199
I:\2018\10-22\CA000\1015\Roadway\Proj\1015_rdl\psh18.dgn

-L-		-Y3RPA-		-Y3RPA-	
PIs Sta 236+02.35	PI Sta 256+33.26	PIs Sta 0+66.67	PI Sta 6+37.36	PIs Sta 4+97.39	
$\Theta_s = 2^\circ 30' 53.3''$	$\Delta = 49^\circ 58' 05.0''$ (RT)	$\Theta_s = 1^\circ 22' 52.6''$	$\Delta = 4^\circ 16' 02.1''$ (RT)	$\Theta_s = 2^\circ 54' 40.9''$	
$L_s = 360.00'$	$D = 1^\circ 23' 49.6''$	$L_s = 200.00'$	$D = 2^\circ 54' 40.9''$	$L_s = 200.00'$	
$LT = 240.02'$	$T = 3,576.51'$	$LT = 133.34'$	$L = 146.57'$	$LT = 133.35'$	
$ST = 120.02'$	$R = 4,101.00'$	$ST = 66.67'$	$T = 73.32'$	$ST = 66.68'$	
	$SE = 0.050$		$R = 1,968.00'$		
	$RO = 250.00'$		$SE = 0.060$		
	$DS = 70$ mph		$RO = 125.00'$		
			$DS = 50$ mph		

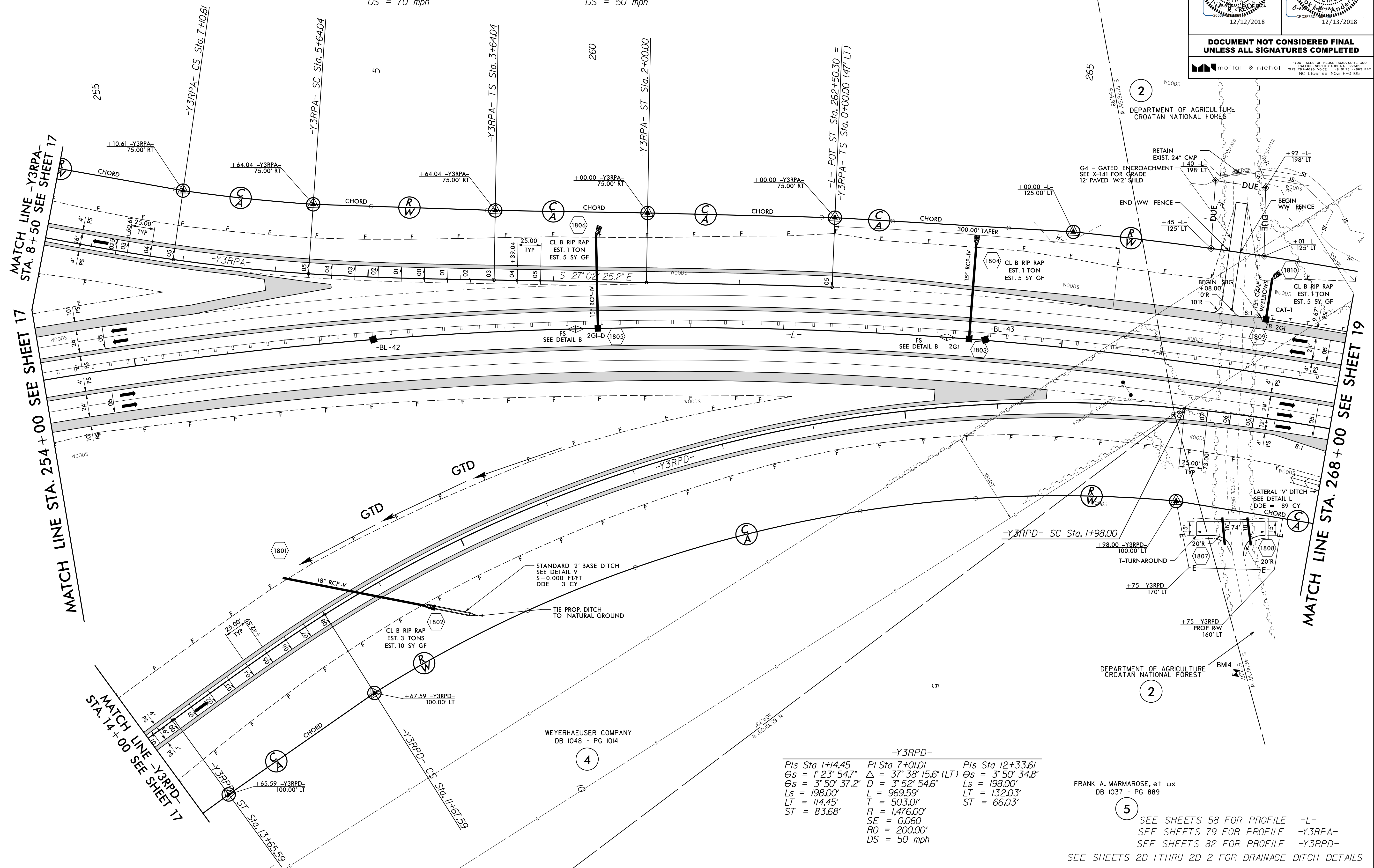
WEYERHAEUSER COMPANY
DB 1048 - PG 1014
4



PROJECT REFERENCE NO. R-1015	SHEET NO. 18
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

moftatt & nichol



WEYERHAEUSER COMPANY
DB 1048 - PG 1014
4

-Y3RPD-		
PIs Sta 1+14.45	PI Sta 7+01.01	PIs Sta 12+33.61
$\Theta_s = 1^\circ 23' 54.7''$	$\Delta = 37^\circ 38' 15.6''$ (LT)	$\Theta_s = 3^\circ 50' 34.8''$
$L_s = 3^\circ 50' 37.2''$	$D = 3^\circ 52' 54.6''$	$L_s = 198.00'$
$L_s = 198.00'$	$L = 969.59'$	$LT = 132.03'$
$LT = 114.45'$	$T = 503.01'$	$ST = 66.03'$
$ST = 83.68'$	$R = 1,476.00'$	
	$SE = 0.060$	
	$RO = 200.00'$	
	$DS = 50$ mph	

FRANK A. MARMAROSE, et ux
DB 1037 - PG 889
5

SEE SHEETS 58 FOR PROFILE -L-
SEE SHEETS 79 FOR PROFILE -Y3RPA-
SEE SHEETS 82 FOR PROFILE -Y3RPD-
SEE SHEETS 2D-1THRU 2D-2 FOR DRAINAGE DITCH DETAILS

8/17/19

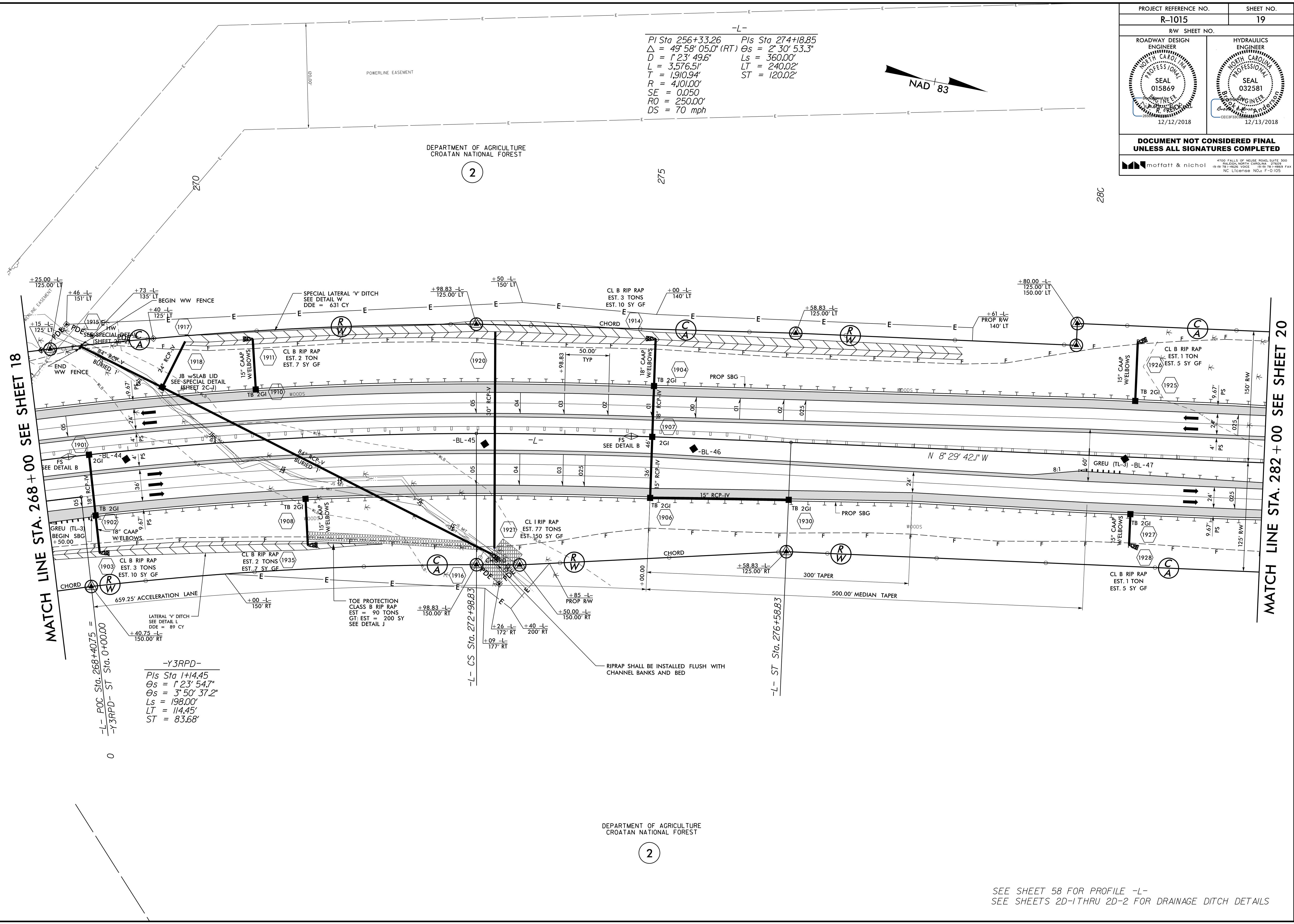
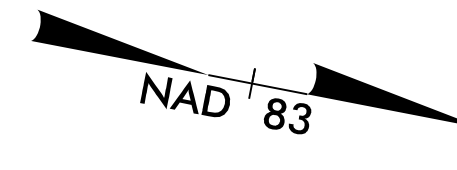
PROJECT REFERENCE NO. R-1015	SHEET NO. 19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

moffatt & nichol

4700 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27603
(919) 781-4626 VOICE (919) 781-4869 FAX
NC LICENSE NO. F-0105

-L-
 PI Sta 256+33.26 PIs Sta 274+18.85
 $\Delta = 49^\circ 58' 05.0''$ (RT) $\Theta_s = 2^\circ 30' 53.3''$
 $D = 1^\circ 23' 49.6''$ $L_s = 360.00'$
 $L = 3,576.51'$ $LT = 240.02'$
 $T = 1,910.94'$ $ST = 120.02'$
 $R = 4,101.00'$
 $SE = 0.050$
 $RO = 250.00'$
 $DS = 70$ mph



MATCH LINE STA. 268 + 00 SEE SHEET 18

MATCH LINE STA. 282 + 00 SEE SHEET 20

-Y3RPD-
 PIs Sta 1+14.45
 $\Theta_s = 1^\circ 23' 54.7''$
 $L_s = 3^\circ 50' 37.2''$
 $L = 198.00'$
 $LT = 114.45'$
 $ST = 83.68'$

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

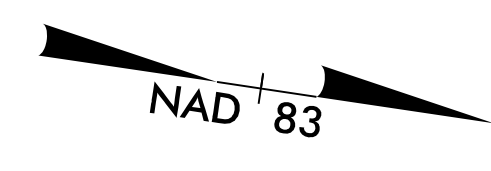
2

SEE SHEET 58 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

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8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 22
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

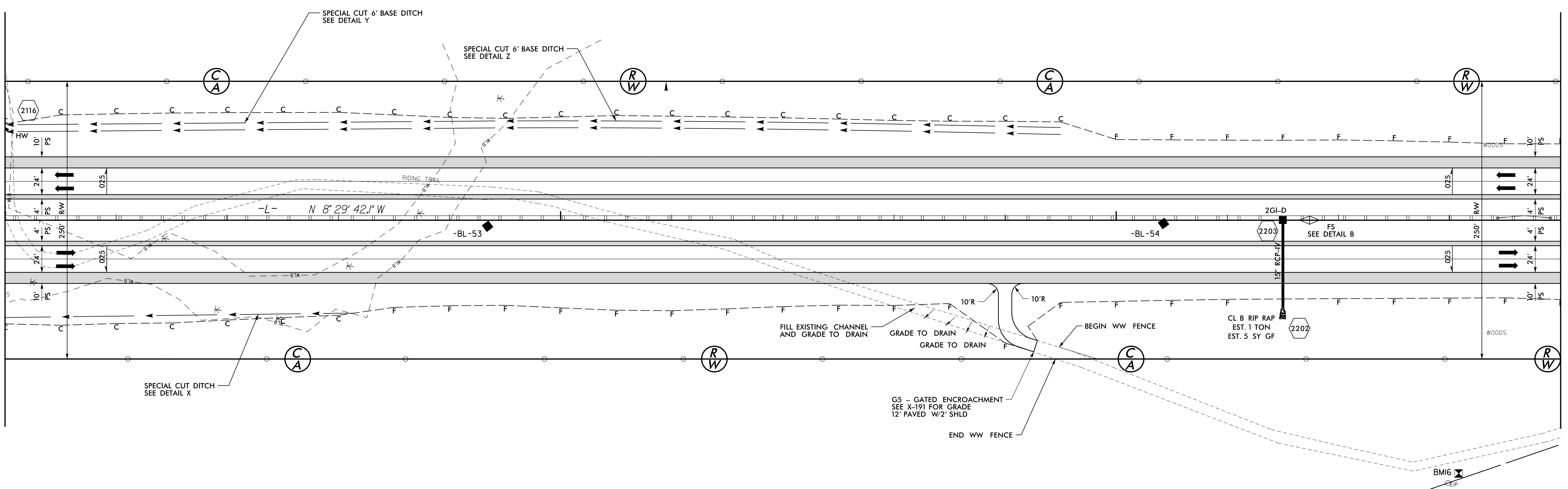
310

315

320

MATCH LINE STA. 310 + 00 SEE SHEET 21

MATCH LINE STA. 324 + 00 SEE SHEET 23



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

EDWARD J. CIESZKO (ESTATE)
DB 1704 - PG 242
DB 1605 - PG 238

6

SEE SHEETS 60 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

I:\28\2018\15\RA\9729-02\CA000\1015\Roadway\Proj\1015_rdl_rsh_22.dgn

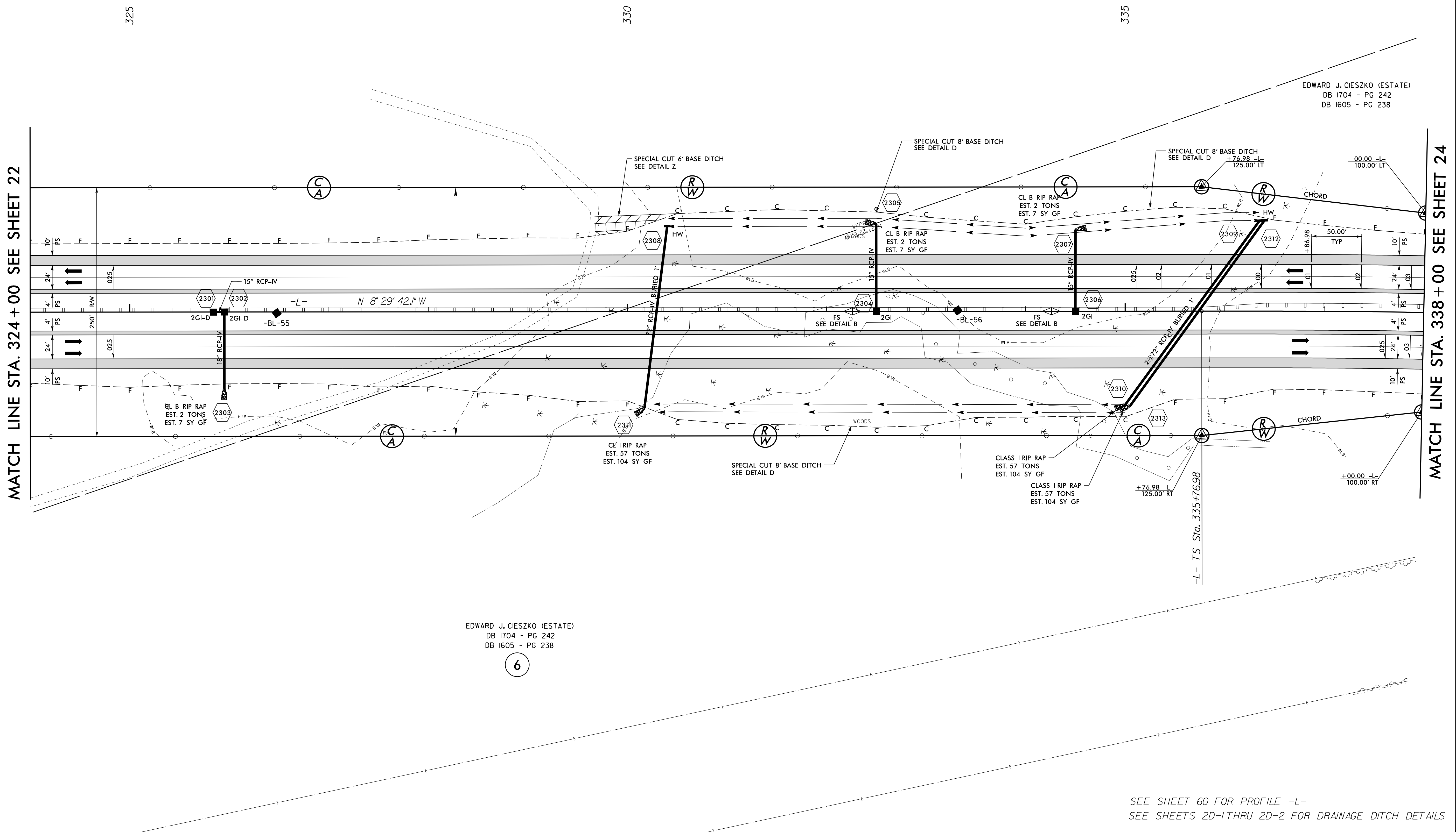
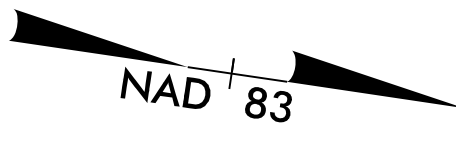
8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 23
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MOFFATT & NICHOL SEAL 015869 12/12/2018	HYDRAULICS ENGINEER MOFFATT & NICHOL SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

-L-
Pls Sta 338+17.02
Os = 3' 08' 39.4"
Ls = 360.00'
LT = 240.04'
ST = 120.03'



MATCH LINE STA. 324 + 00 SEE SHEET 22

MATCH LINE STA. 338 + 00 SEE SHEET 24

EDWARD J. CIESZKO (ESTATE)
DB 1704 - PG 242
DB 1605 - PG 238

EDWARD J. CIESZKO (ESTATE)
DB 1704 - PG 242
DB 1605 - PG 238

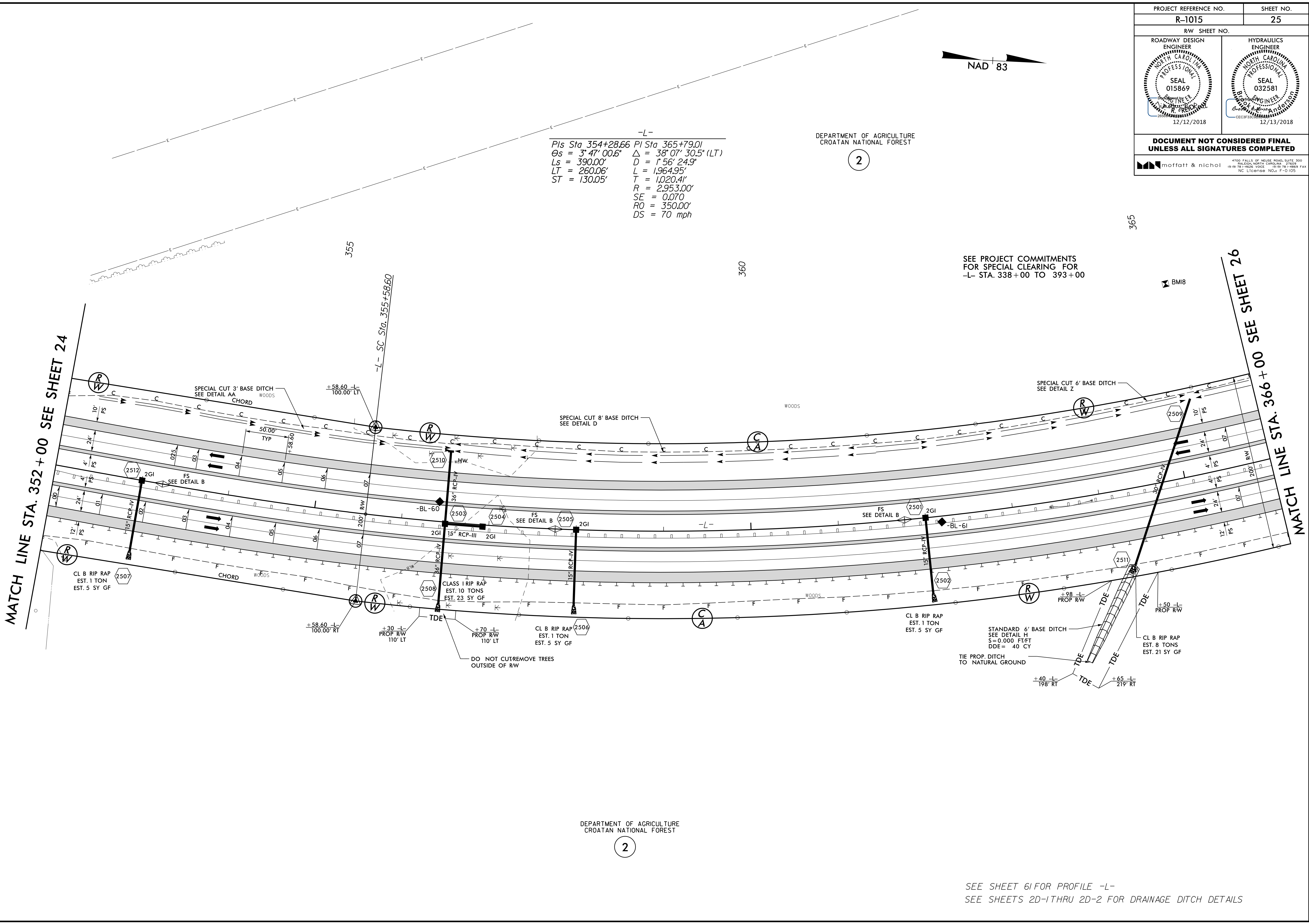
6

SEE SHEET 60 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

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8/17/99

PROJECT REFERENCE NO. R-1015	SHEET NO. 25
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MOFFATT & NICHOL SEAL 015869 12/12/2018	HYDRAULICS ENGINEER MOFFATT & NICHOL SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
<small>4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC LICENSE NO. F-10105</small>	



-L-

PIs Sta 354+28.66	PI Sta 365+79.01
$\Theta_s = 3^\circ 47' 00.6''$	$\Delta = 38^\circ 07' 30.5''$ (LT)
$L_s = 390.00'$	$D = 1^\circ 56' 24.9''$
$LT = 260.06'$	$L = 1,964.95'$
$ST = 130.05'$	$T = 1,020.41'$
	$R = 2,953.00'$
	$SE = 0.070$
	$RO = 350.00'$
	$DS = 70$ mph

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

SEE PROJECT COMMITMENTS
FOR SPECIAL CLEARING FOR
-L- STA. 338+00 TO 393+00

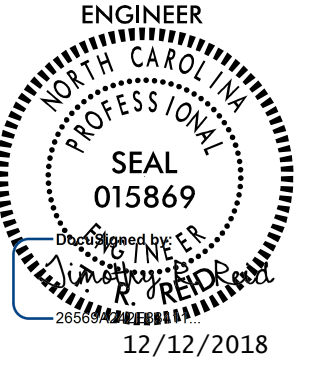


DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

SEE SHEET 61 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

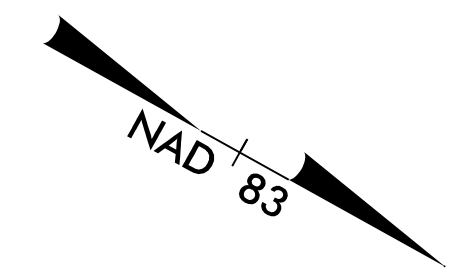
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8/17/99

PROJECT REFERENCE NO. R-1015		SHEET NO. 26	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER 		HYDRAULICS ENGINEER 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
		<small>4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4669 FAX NC License No. F-0105</small>	

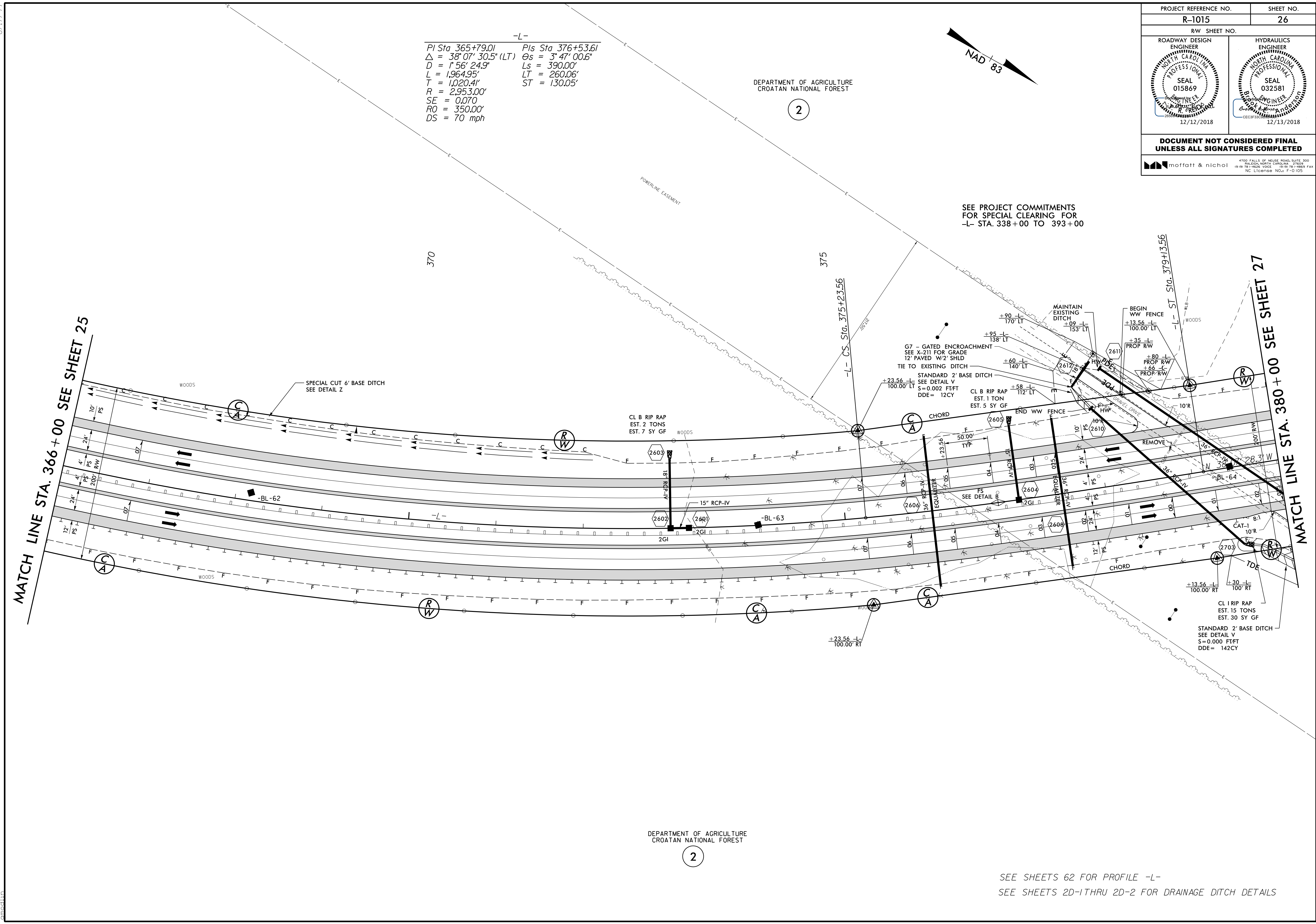
-L-

PI Sta 365+79.01	PIs Sta 376+53.61
$\Delta = 38^{\circ} 07' 30.5" (LT)$	$\Theta s = 3^{\circ} 47' 00.6"$
$D = 1^{\circ} 56' 24.9"$	$Ls = 390.00'$
$L = 1,964.95'$	$LT = 260.06'$
$T = 1,020.41'$	$ST = 130.05'$
$R = 2,953.00'$	
$SE = 0.070$	
$RO = 350.00'$	
$DS = 70 \text{ mph}$	



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
2

SEE PROJECT COMMITMENTS
FOR SPECIAL CLEARING FOR
-L- STA. 338+00 TO 393+00



MATCH LINE STA. 366+00 SEE SHEET 25

MATCH LINE STA. 380+00 SEE SHEET 27

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
2

SEE SHEETS 62 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

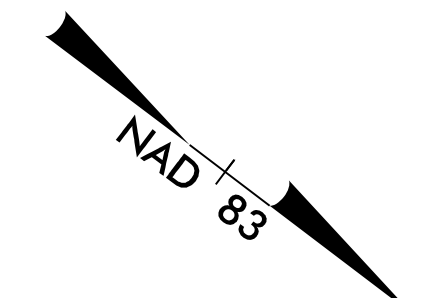
11/28/2018 10:54:59 AM I:\Projects\1015\Roadway\Proj\1015_rdl_psh_26.dgn

8/17/19

PROJECT REFERENCE NO.		SHEET NO.	
R-1015		27	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p>			
moffatt & nichol		<small>4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4669 FAX NC LICENSE NO. F-0105</small>	

-L-

Pls Sta 389+15.83 PI Sta 392+92.64
 $\theta_s = 1' 26'' 08.8''$ $\Delta = 5' 23'' 33.7'' (RT)$
 $L_s = 296.00'$ $D = 0' 58'' 12.5''$
 $LT = 197.34'$ $L = 555.87'$
 $ST = 98.67'$ $T = 278.14'$
 $R = 5,906.00'$ $SE = 0.040$
 $RO = 200.00'$ $DS = 70 \text{ mph}$



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

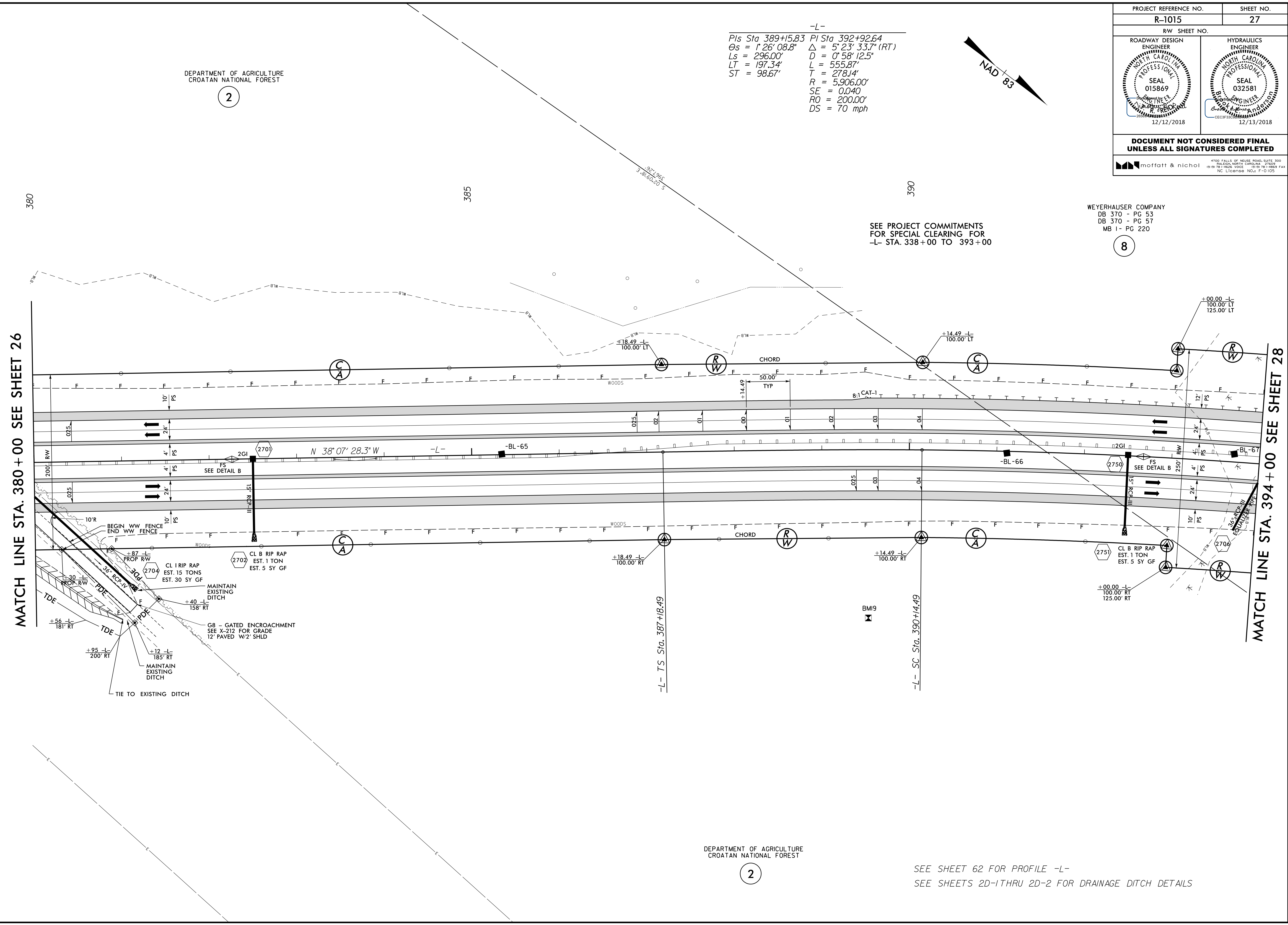
2

WEYERHAUSER COMPANY
DB 370 - PG 53
DB 370 - PG 57
MB 1 - PG 220

8

MATCH LINE STA. 380 + 00 SEE SHEET 26

MATCH LINE STA. 394 + 00 SEE SHEET 28



SEE PROJECT COMMITMENTS
FOR SPECIAL CLEARING FOR
-L- STA. 338+00 TO 393+00

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST

2

SEE SHEET 62 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

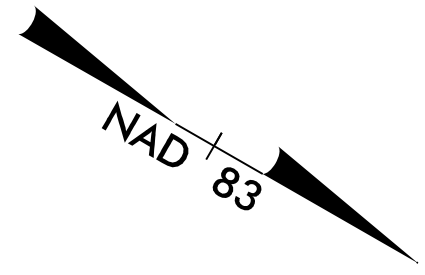
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8/17/99

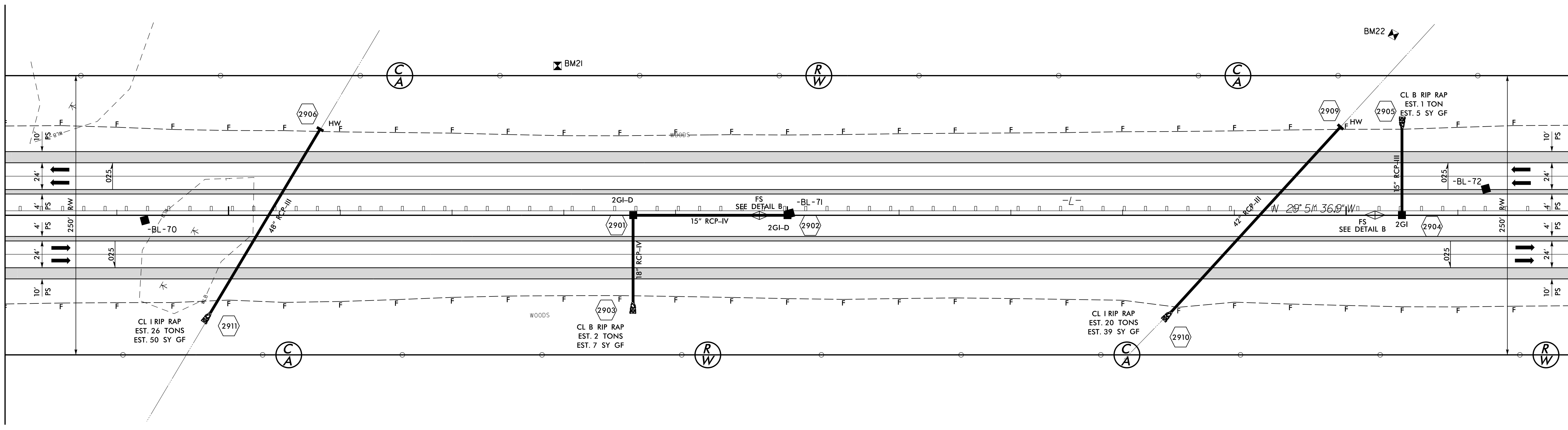
PROJECT REFERENCE NO. R-1015	SHEET NO. 29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moffatt & nichol	

WEYERHAUSER COMPANY
DB 370 - PG 53
DB 370 - PG 57
MB 1 - PG 220

8



MATCH LINE STA. 408 + 00 SEE SHEET 28



MATCH LINE STA. 422 + 00 SEE SHEET 30

WEYERHAUSER COMPANY
DB 370 - PG 53
DB 370 - PG 57
MB 1 - PG 220

8

SEE SHEET 63 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

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8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 30
RW SHEET NO.	
ROADWAY DESIGN ENGINEER MOFFATT & NICHOL SEAL 015869 12/12/2018	HYDRAULICS ENGINEER MOFFATT & NICHOL SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moffatt & nichol <small>4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4869 FAX NC LICENSE NO. F-0105</small>	

MATCH LINE STA. 422 + 00 SEE SHEET 29

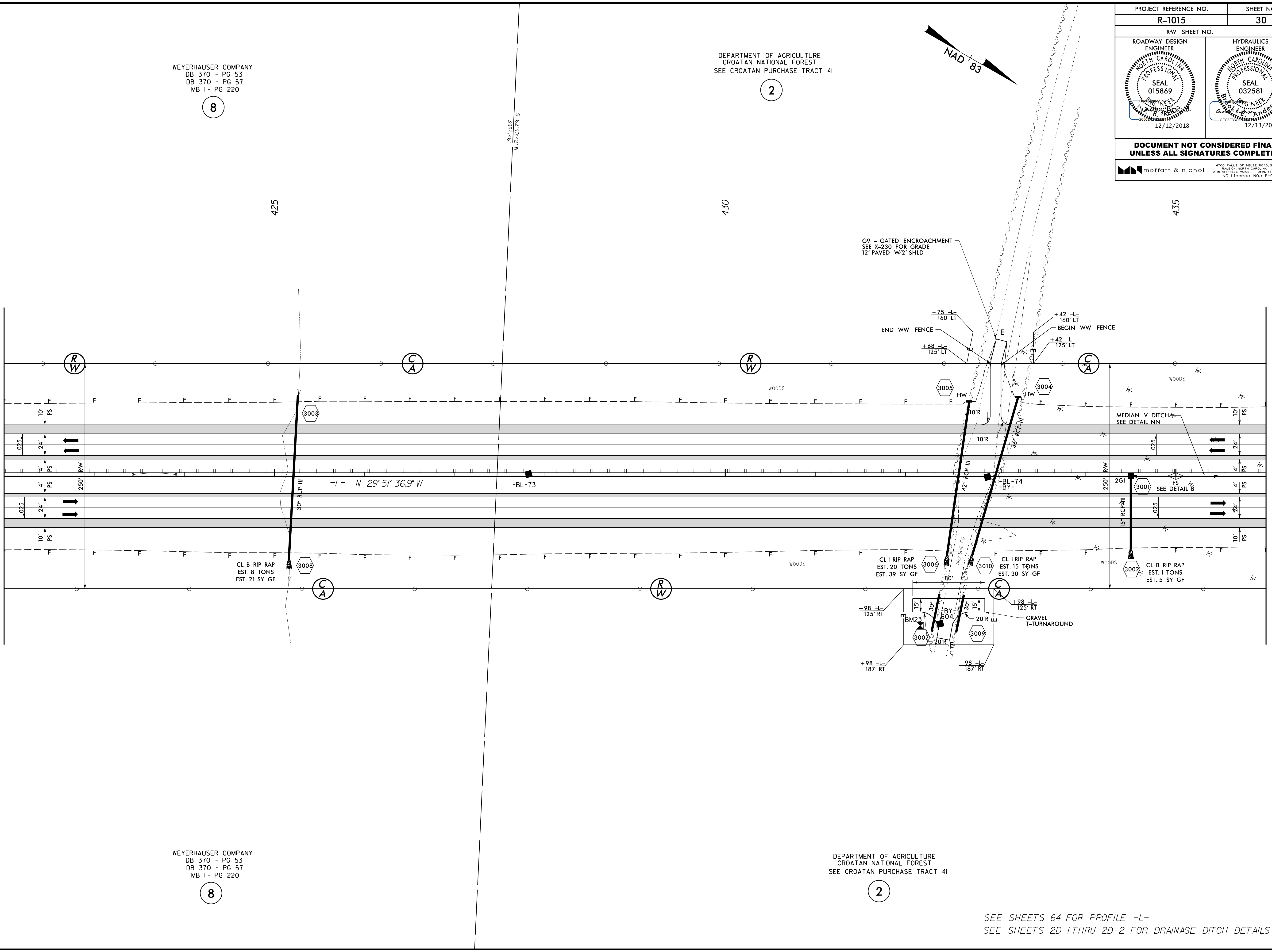
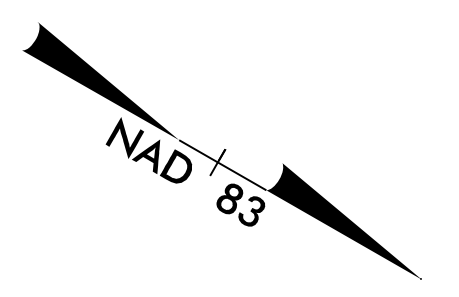
MATCH LINE STA. 436 + 00 SEE SHEET 31

WEYERHAUSER COMPANY
DB 370 - PG 53
DB 370 - PG 57
MB 1 - PG 220

WEYERHAUSER COMPANY
DB 370 - PG 53
DB 370 - PG 57
MB 1 - PG 220

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
SEE CROATAN PURCHASE TRACT 41

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
SEE CROATAN PURCHASE TRACT 41



SEE SHEETS 64 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

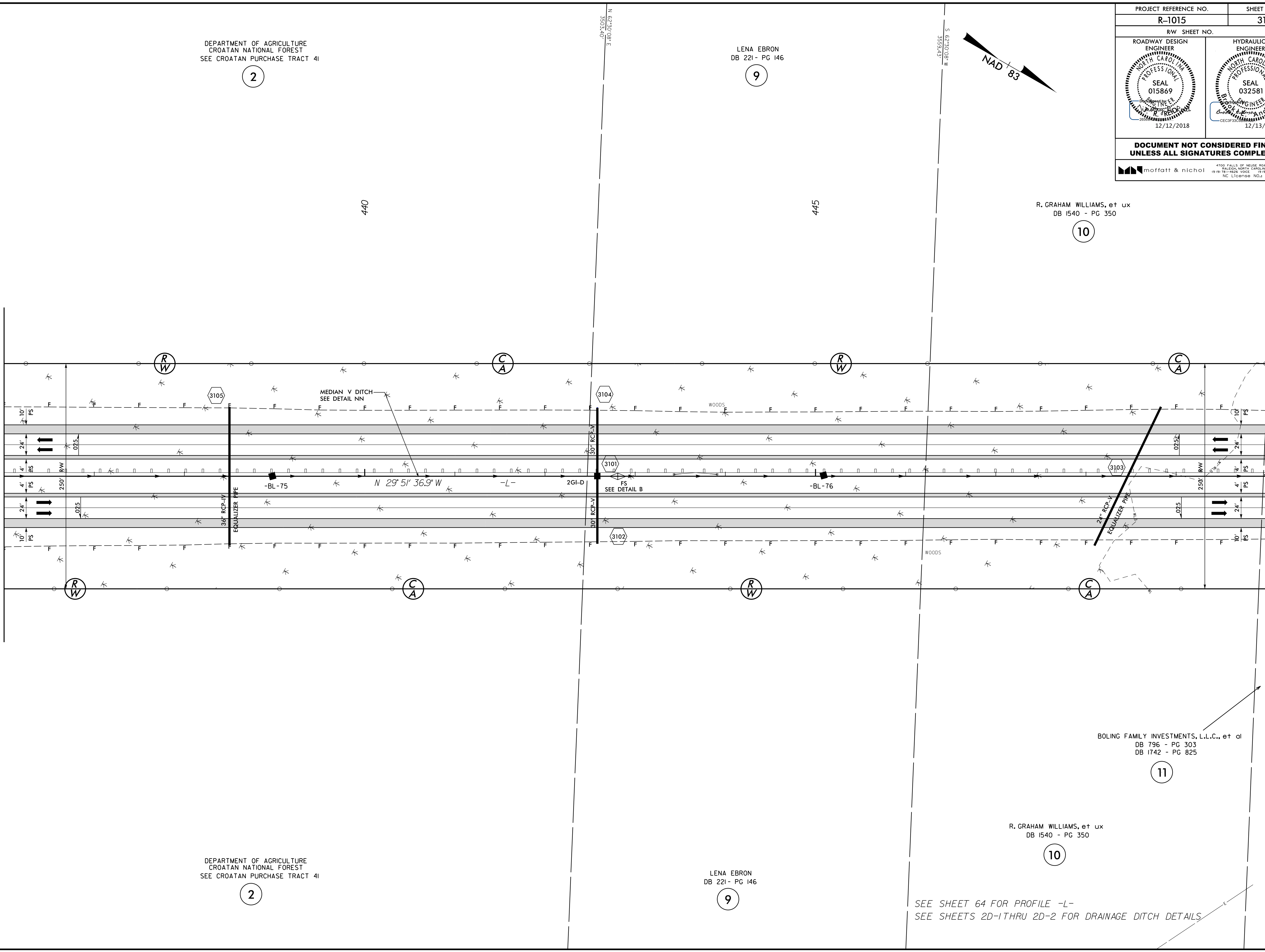
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8/17/19

I:\2018\10-16-19\1015\Roadway\Proj\1015_rdw_psh31.dgn

MATCH LINE STA. 436 + 00 SEE SHEET 30

MATCH LINE STA. 450 + 00 SEE SHEET 32



DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
SEE CROATAN PURCHASE TRACT 41

2

LENA EBRON
DB 221 - PG 146

9

R. GRAHAM WILLIAMS, et ux
DB 1540 - PG 350

10

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
SEE CROATAN PURCHASE TRACT 41

2

LENA EBRON
DB 221 - PG 146

9

R. GRAHAM WILLIAMS, et ux
DB 1540 - PG 350

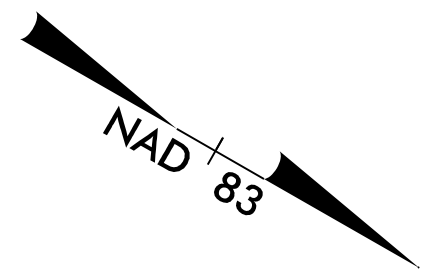
10

BOLING FAMILY INVESTMENTS, L.L.C., et al
DB 796 - PG 303
DB 1742 - PG 825

11

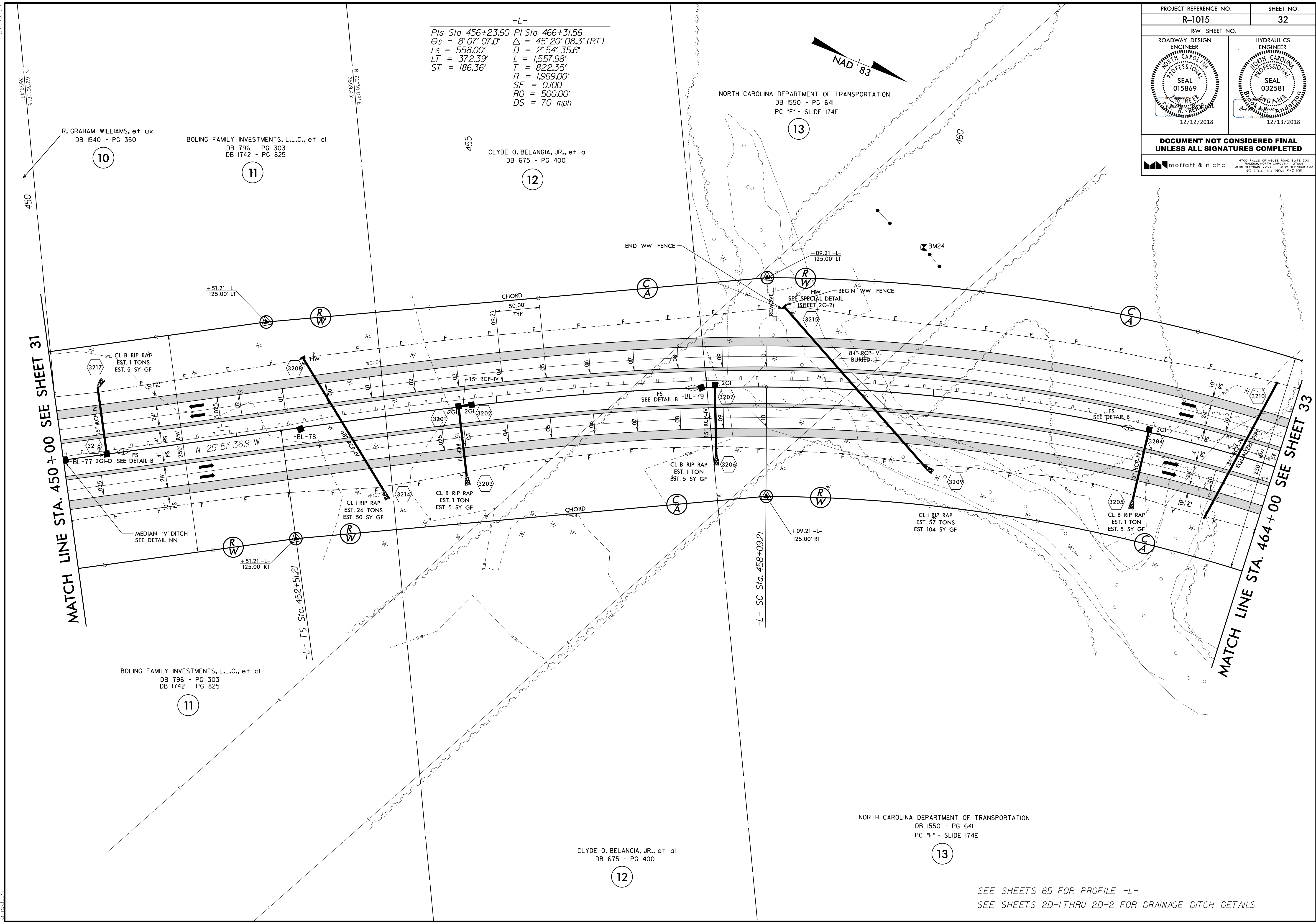
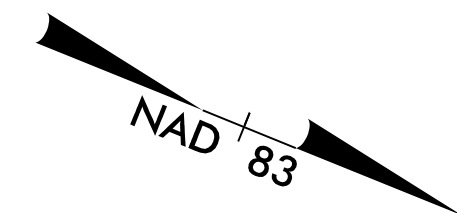
SEE SHEET 64 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

PROJECT REFERENCE NO. R-1015	SHEET NO. 31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
<p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>moffatt & nichol</p> <p>4100 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27603 (919) 781-4626 VOICE (919) 781-4869 FAX NC LICENSE NO. F-0105</p>	



PROJECT REFERENCE NO.		SHEET NO.	
R-1015		32	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			
moffatt & nichol		<small>4700 FALLS OF NEUSE ROAD, SUITE 300 RALEIGH, NORTH CAROLINA 27609 (919) 781-4626 VOICE (919) 781-4669 FAX NC License No. F-0105</small>	

-L-
 Pls Sta 456+23.60 PI Sta 466+31.56
 $\theta_s = 8^{\circ}07'07.0''$ $\Delta = 45^{\circ}20'08.3''$ (RT)
 $L_s = 558.00'$ $D = 2^{\circ}54'35.6''$
 $LT = 372.39'$ $L = 1,557.98'$
 $ST = 186.36'$ $T = 822.35'$
 $R = 1,969.00'$
 $SE = 0.00$
 $RO = 500.00'$
 $DS = 70$ mph



MATCH LINE STA. 450+00 SEE SHEET 31

MATCH LINE STA. 464+00 SEE SHEET 33

R. GRAHAM WILLIAMS, et ux
DB 1540 - PG 350

BOLING FAMILY INVESTMENTS, L.L.C., et al
DB 796 - PG 303
DB 1742 - PG 825

CLYDE O. BELANGIA, JR., et al
DB 675 - PG 400

BOLING FAMILY INVESTMENTS, L.L.C., et al
DB 796 - PG 303
DB 1742 - PG 825

CLYDE O. BELANGIA, JR., et al
DB 675 - PG 400

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 1550 - PG 641
PC *F* - SLIDE 174E

SEE SHEETS 65 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

8.17.19
 I:\2018\10-29-18\1015\Roadway\Proj\1015_rdl_psh_32.dgn
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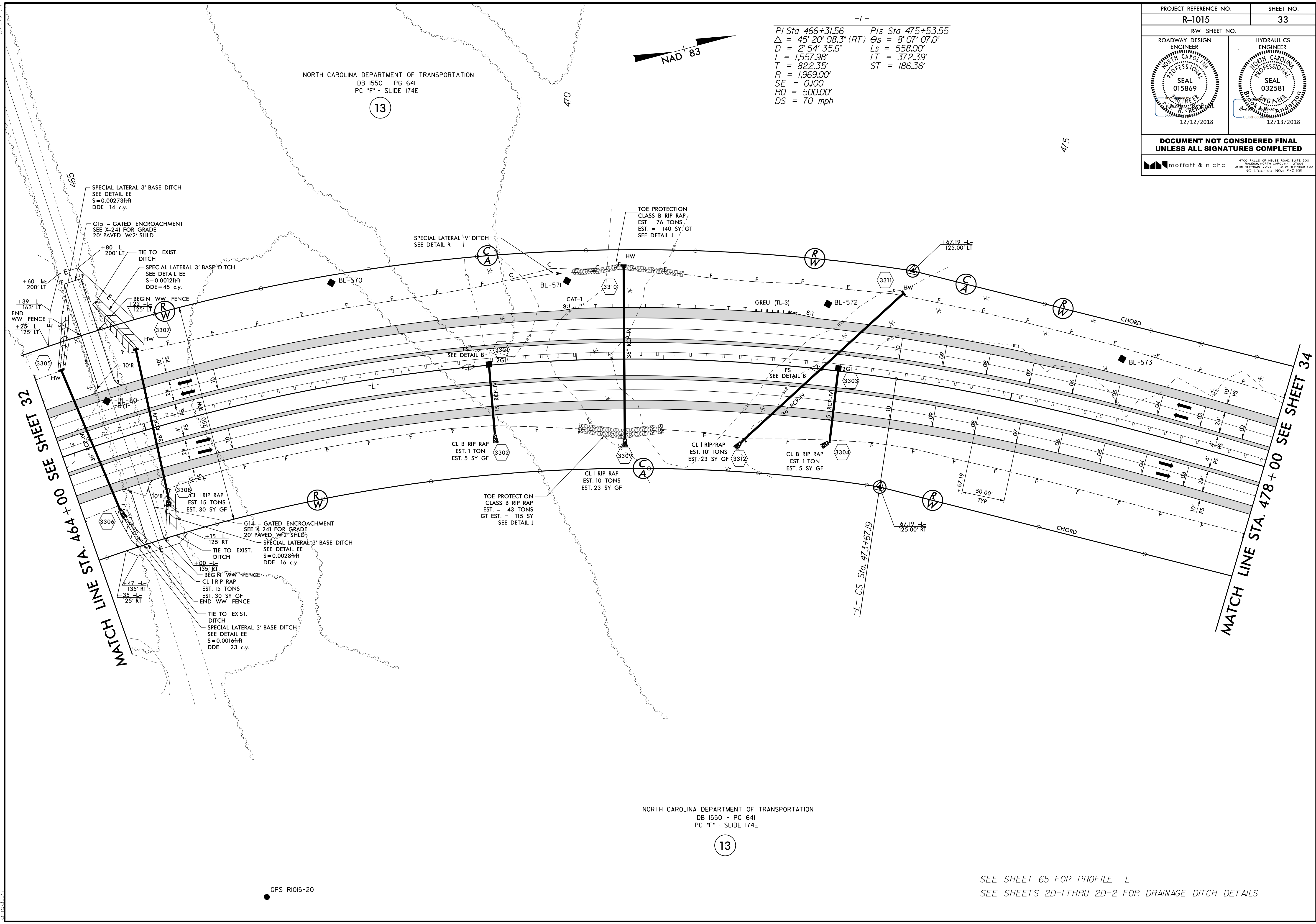
PROJECT REFERENCE NO. R-1015	SHEET NO. 33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
moffatt & nichol	

-L-

<i>PI Sta 466+31.56</i>	<i>PIs Sta 475+53.55</i>
$\Delta = 45^{\circ} 20' 08.3" (RT)$	$\Theta_s = 8^{\circ} 07' 07.0"$
$D = 2^{\circ} 54' 35.6"$	$L_s = 558.00'$
$L = 1,557.98'$	$LT = 372.39'$
$T = 822.35'$	$ST = 186.36'$
$R = 1,969.00'$	
$SE = 0.100$	
$RO = 500.00'$	
$DS = 70 \text{ mph}$	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 1550 - PG 641
PC 'F' - SLIDE 174E

13



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 1550 - PG 641
PC 'F' - SLIDE 174E

13

SEE SHEET 65 FOR PROFILE -L-
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

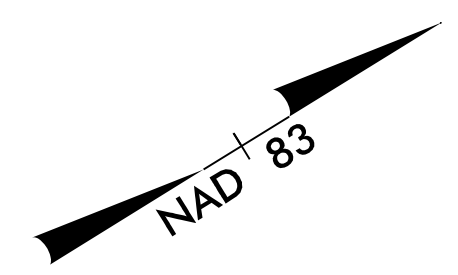
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8/17/19

PROJECT REFERENCE NO. R-1015	SHEET NO. 34
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

-L-
 PIs Sta 475+53.55
 $\theta_s = 8^\circ 07' 07.0''$
 $L_s = 558.00'$
 $LT = 372.39'$
 $ST = 186.36'$

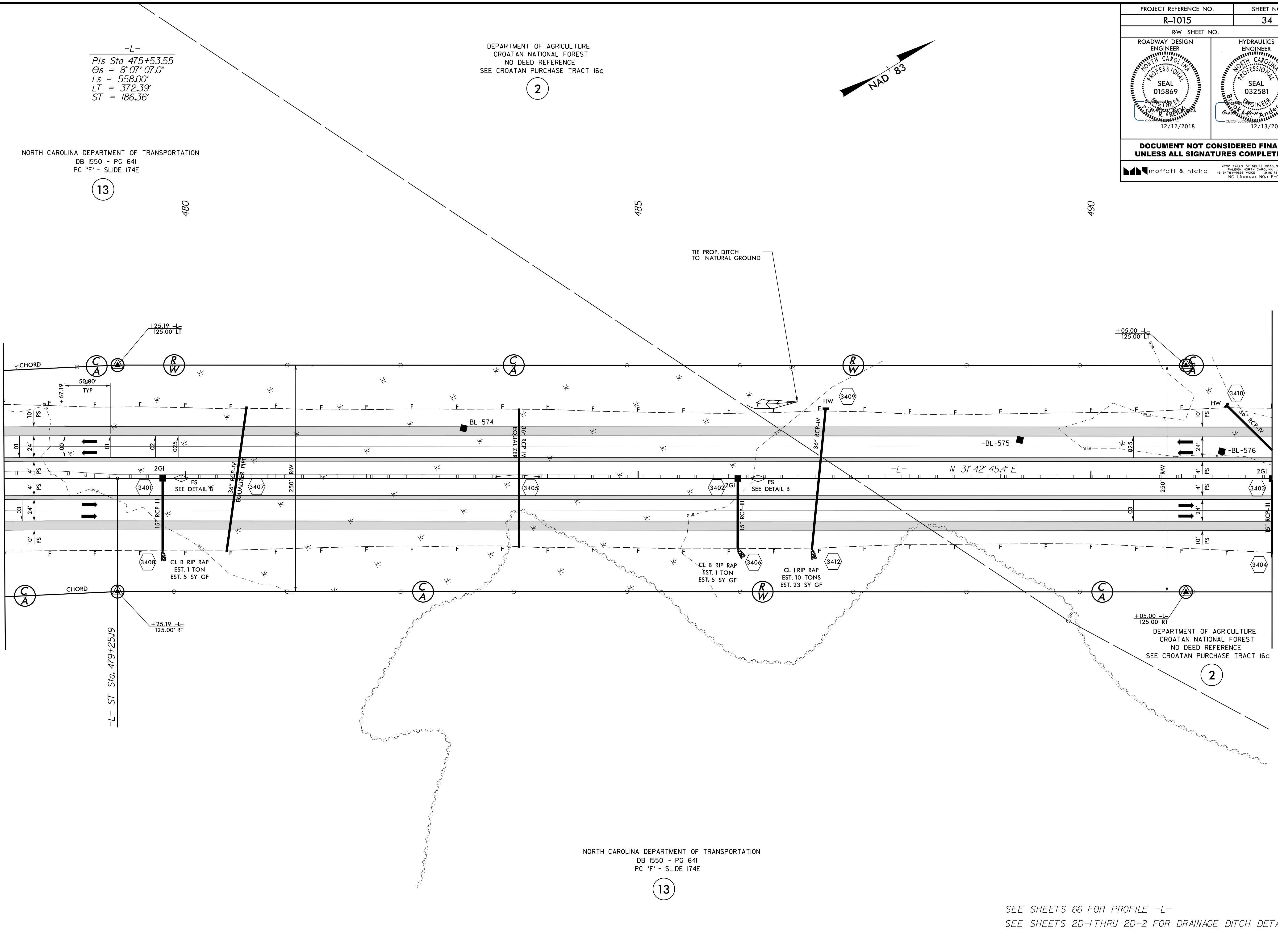
DEPARTMENT OF AGRICULTURE
 CROATAN NATIONAL FOREST
 NO DEED REFERENCE
 SEE CROATAN PURCHASE TRACT 16c



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DB 1550 - PG 641
 PC *F* - SLIDE 174E

MATCH LINE STA. 478 + 00 SEE SHEET 33

MATCH LINE STA. 492 + 00 SEE SHEET 35



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DB 1550 - PG 641
 PC *F* - SLIDE 174E

13

SEE SHEETS 66 FOR PROFILE -L-
 SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

I:\2018\10-18-19\1015\Roadway\Proj\1015_rdl\psh\34.dgn
 10/18/2018 10:54:59 AM

8/17/19

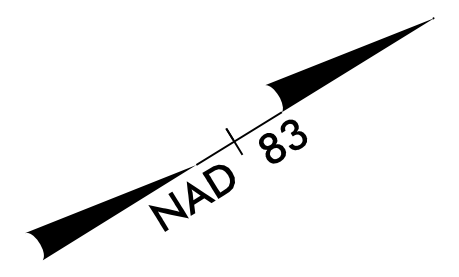
PROJECT REFERENCE NO. R-1015	SHEET NO. 35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 015869 12/12/2018	HYDRAULICS ENGINEER SEAL 032581 12/13/2018

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

moffatt & nichol

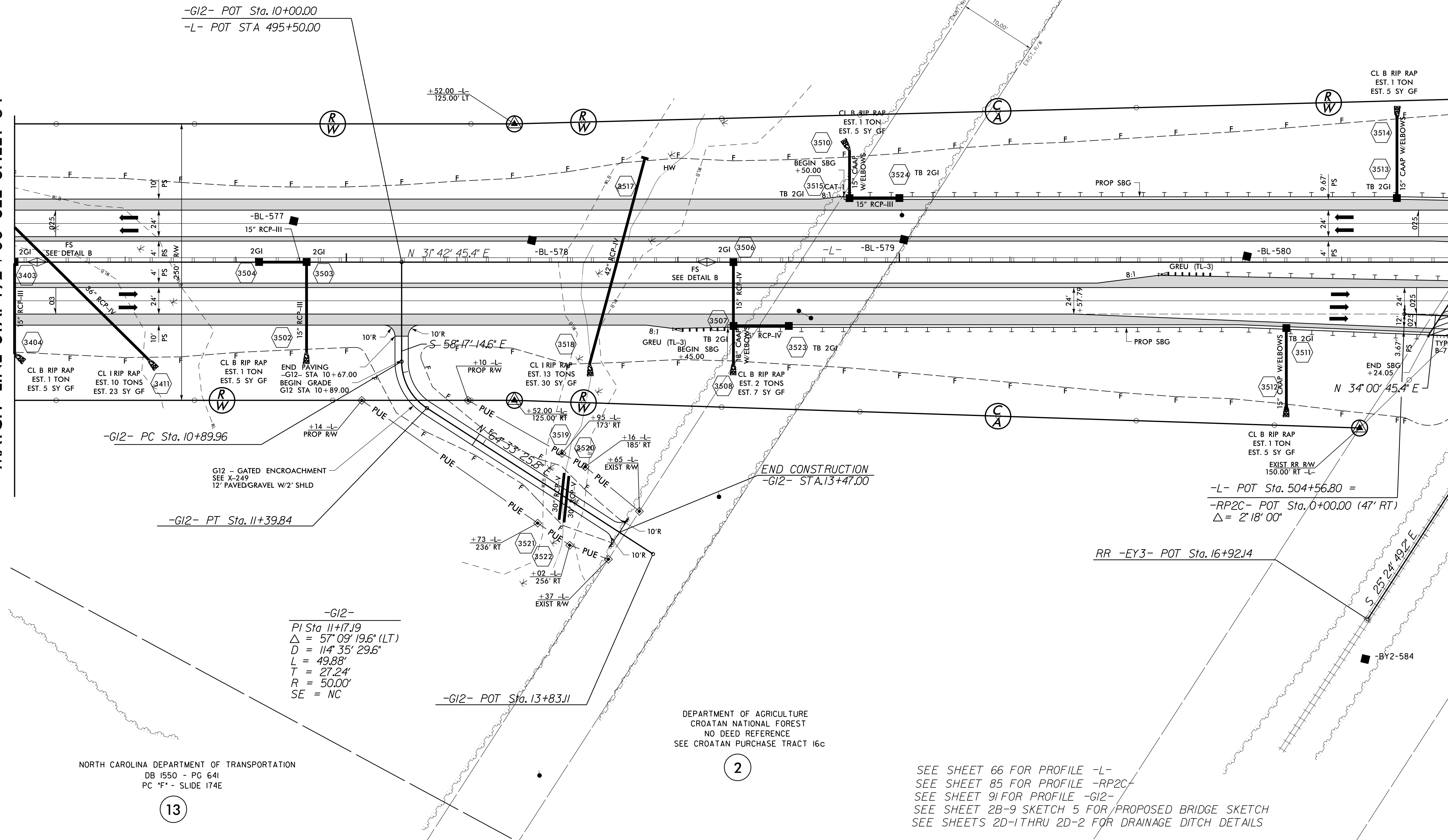
4100 FALLS OF NEUSE ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
(919) 781-4626 VOICE (919) 781-4669 FAX
NC LICENSE NO. F-0105

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MATCH LINE STA. 492 + 00 SEE SHEET 34

MATCH LINE STA. 505 + 00 SEE SHEET 36



-G12-
PI Sta 11+17.19
Δ = 57° 09' 19.6" (LT)
D = 114' 35" 29.6"
L = 49.88'
T = 27.24'
R = 50.00'
SE = NC

DEPARTMENT OF AGRICULTURE
CROATAN NATIONAL FOREST
NO DEED REFERENCE
SEE CROATAN PURCHASE TRACT 16c

SEE SHEET 66 FOR PROFILE -L-
SEE SHEET 85 FOR PROFILE -RP2C-
SEE SHEET 91 FOR PROFILE -G12-
SEE SHEET 2B-9 SKETCH 5 FOR PROPOSED BRIDGE SKETCH
SEE SHEETS 2D-1 THRU 2D-2 FOR DRAINAGE DITCH DETAILS

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DB 1550 - PG 641
PC *P* - SLIDE 174E

13

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