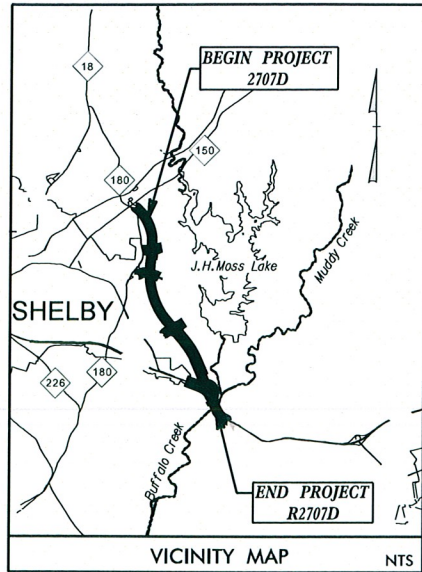


09/06/19

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



25% PLAN SUBMITTAL

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

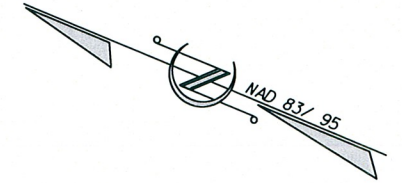
**CLEVELAND COUNTY**

LOCATION: US 74, SHELBY BYPASS FROM EAST OF NC 150  
TO EXISTING US 74, WEST OF SR 2238  
(LONG BRANCH ROAD)

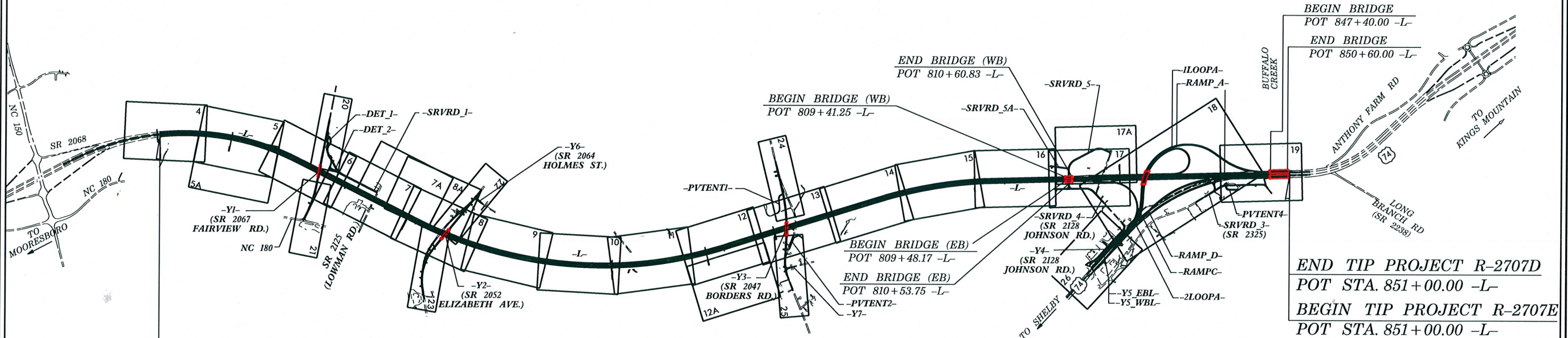
TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURES

REDLINE DRAINAGE PLANS - 4B MEETING

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2707D	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34497.1.F56	N/A	P.E.	
		R/W & UTIL	



TIP PROJECT: R-2707D



END TIP PROJECT R-2707C

POC STA. 635+00.00 -L-

BEGIN TIP PROJECT R-2707D

POC STA. 635+00.00 -L-

END TIP PROJECT R-2707D

POT STA. 851+00.00 -L-

BEGIN TIP PROJECT R-2707E

POT STA. 851+00.00 -L-

THIS PROJECT IS NOT WITHIN ANY CITY LIMITS

THIS IS A CONTROLLED ACCESS PROJECT  
WITH ACCESS BEING LIMITED TO INTERCHANGES

CLEARING FOR THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD \_\_\_\_\_

INCOMPLETE PLANS  
DO NOT USE FOR R/W ACQUISITION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2019 = 41,600

ADT 2040 = 59,200

K = 11 %

D = 55 %

T = 15 % \*

V = 70 MPH

\* TTST = 10% DUAL 5%

FUNC CLASS = FREEWAY

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-2707D = 4.008 MI.

LENGTH OF STRUCTURE TIP PROJECT R-2707D = 0.083 MI.

TOTAL LENGTH OF TIP PROJECT R-2707D = 4.091 MI.

STRUCTURE LENGTHS BASED ON WB LANES



PREPARED IN THE OFFICE OF:  
STANTEC CONSULTING  
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License No. F-0672

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
FEBRUARY 2018

LETTING DATE:  
FEBRUARY 19, 2019

JOSEPH T. KELVINGTON, P.E.  
PROJECT ENGINEER

MICHAEL LINDGREN, P.E.  
PROJECT DESIGN ENGINEER

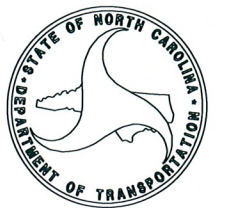
J. B. MCSWAIN  
NCDOT DIVISION 12

HYDRAULICS ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.

ROADWAY DESIGN  
ENGINEER

SIGNATURE: \_\_\_\_\_ P.E.



1/2/2018 R2707D\_Hyd\_PSH\_01.dgn belm

CONTRACT:

8/17/99

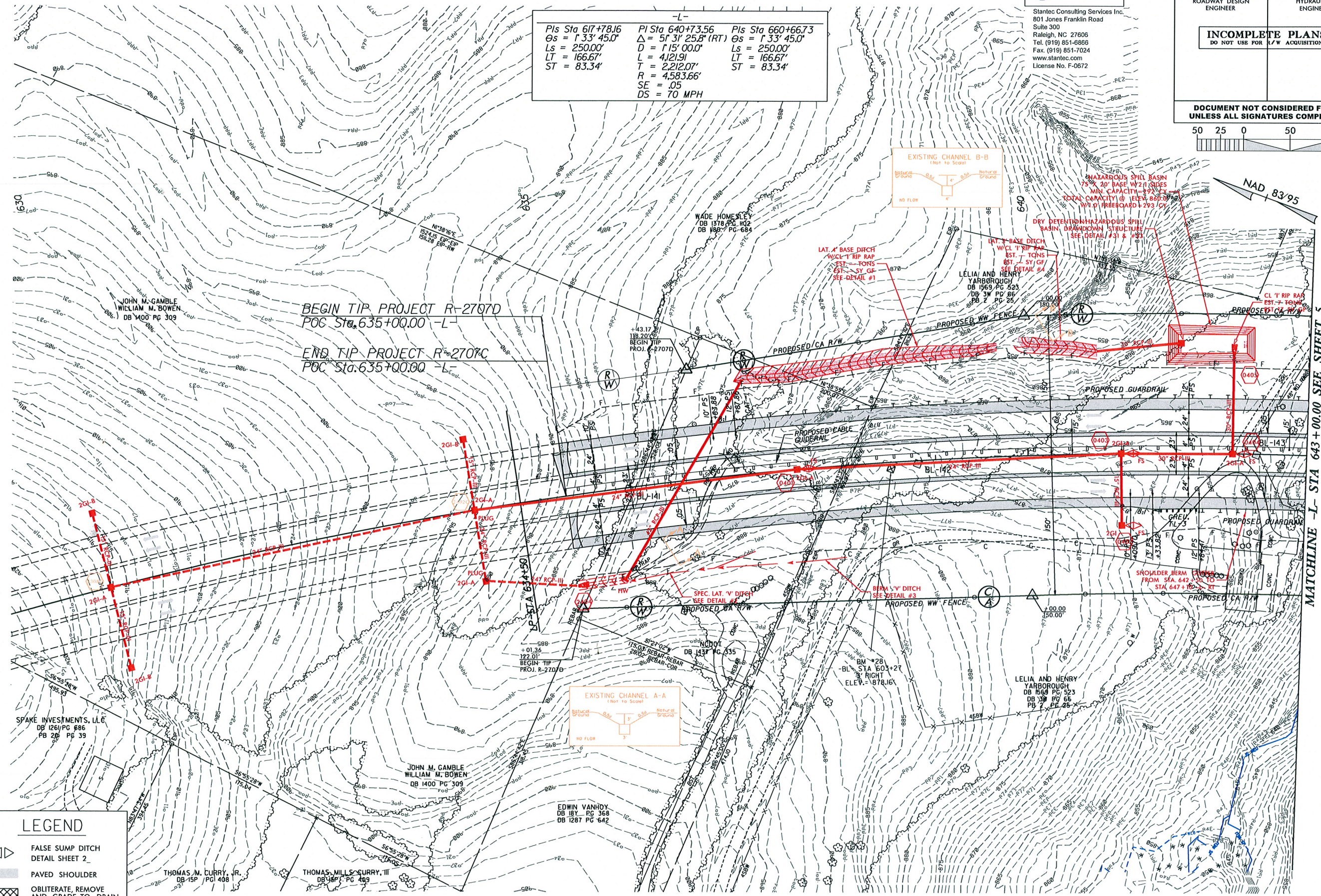


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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>4</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



Pls Sta 617+78.16 Os = 1' 33" 45.0" Ls = 250.00' LT = 166.67' ST = 83.34'	PI Sta 640+73.56 Δ = 51' 31" 25.8" (RT) D = 1' 15" 00.0" L = 4,121.91' T = 2,212.07' R = 4,583.66' SE = .05 DS = 70 MPH	Pls Sta 660+66.73 Os = 1' 33" 45.0" Ls = 250.00' LT = 166.67' ST = 83.34'
---	--	---



BEGIN TIP PROJECT R-2707D  
POC Sta. 635+00.00 -L-  
END TIP PROJECT R-2707C  
POC Sta. 635+00.00 -L-

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLETE, REMOVE AND GRADE TO DRAIN
	CONCRETE

REVISIONS

MATCHLINE L- STA 643 + 00.00 SEE SHEET 5

12/2/2018 Hyd\_PSH\_04.dgn

8/17/99

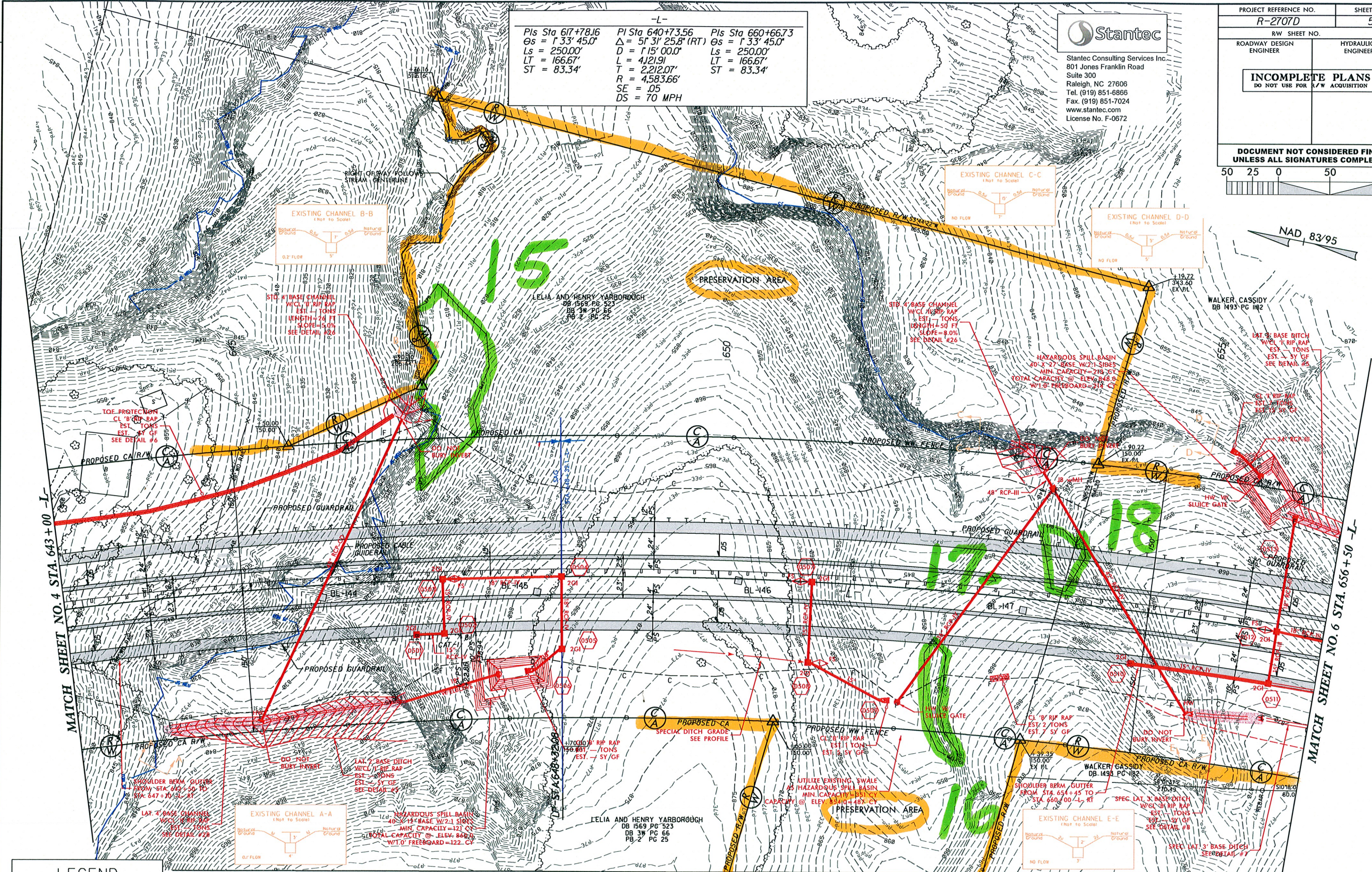
-L-		
Pls Sta 617+78.16	PI Sta 640+73.56	Pls Sta 660+66.73
Os = 1' 33" 45.0"	Δ = 51' 31" 25.8" (RT)	Os = 1' 33" 45.0"
Ls = 250.00'	D = 1' 15" 00.0"	Ls = 250.00'
LT = 166.67'	L = 4121.91'	LT = 166.67'
ST = 83.34'	T = 2,212.07'	ST = 83.34'
	R = 4,583.66'	
	SE = .05	
	DS = 70 MPH	

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>5</b>
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	

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

NAD, 83/95



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

MATCH SHEET NO. 5A

MATCH SHEET NO. 4 STA. 643+00 -L-

MATCH SHEET NO. 6 STA. 656+50 -L-

REVISIONS

42808 Hyd\_PSH\_05.dgn

REFERENCE:  
 FOR -L- PROFILE, SEE SHEET NO.27

8/17/99

REVISIONS

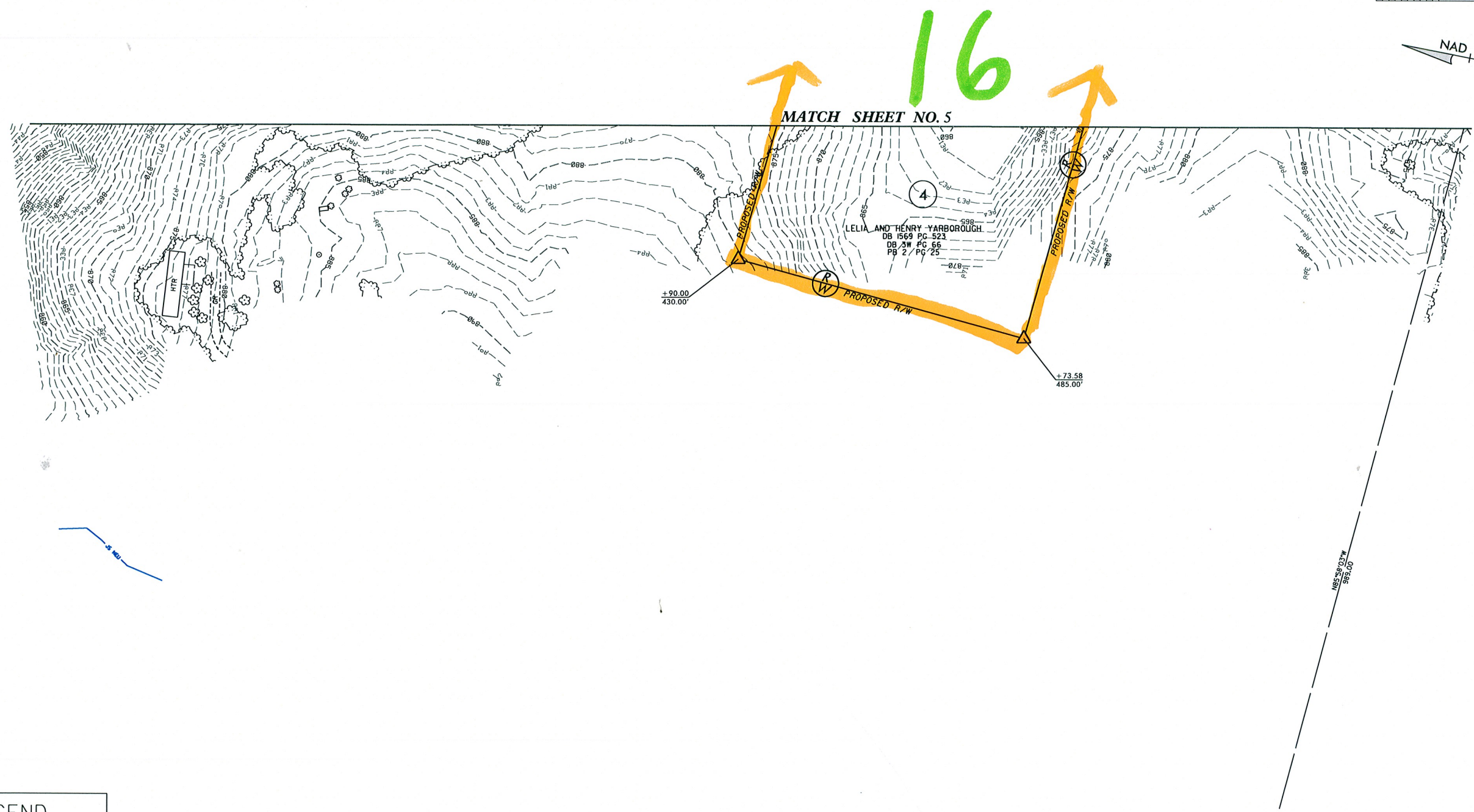
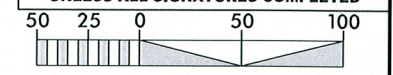
12/28/2017  
R2780\_Hyd\_PSH\_05A.dgn  
Relm



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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>5A</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	

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

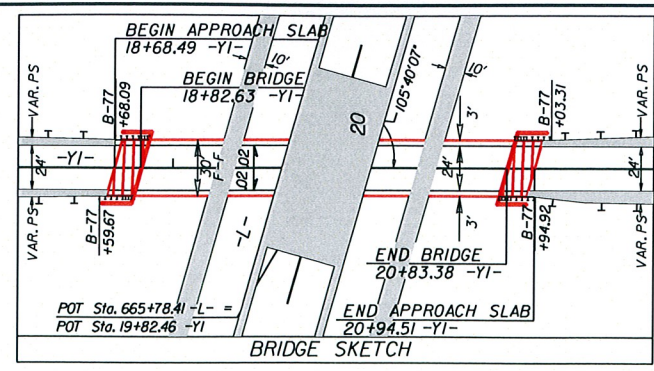


LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

-L-			-SRVRD J-		
PIs Sta 617+78.16	PI Sta 640+73.56	PIs Sta 660+66.73	PI Sta 17+75.32		
Os = 1' 33' 45.0"	Δ = 5' 31' 25.8" (RT)	Os = 1' 33' 45.0"	Δ = 35' 15' 10.8" (LT)		
Ls = 250.00'	D = 1' 15' 00.0"	Ls = 250.00'	D = 14' 19' 26.2"		
LT = 166.67'	L = 4,121.91'	LT = 166.67'	L = 246.11'		
ST = 83.34'	T = 2,212.07'	ST = 83.34'	T = 127.09'		
	R = 4,583.66'		R = 400.00'		
	SE = .05		SE = .03		
	DS = 70 MPH		DS = 15 MPH		

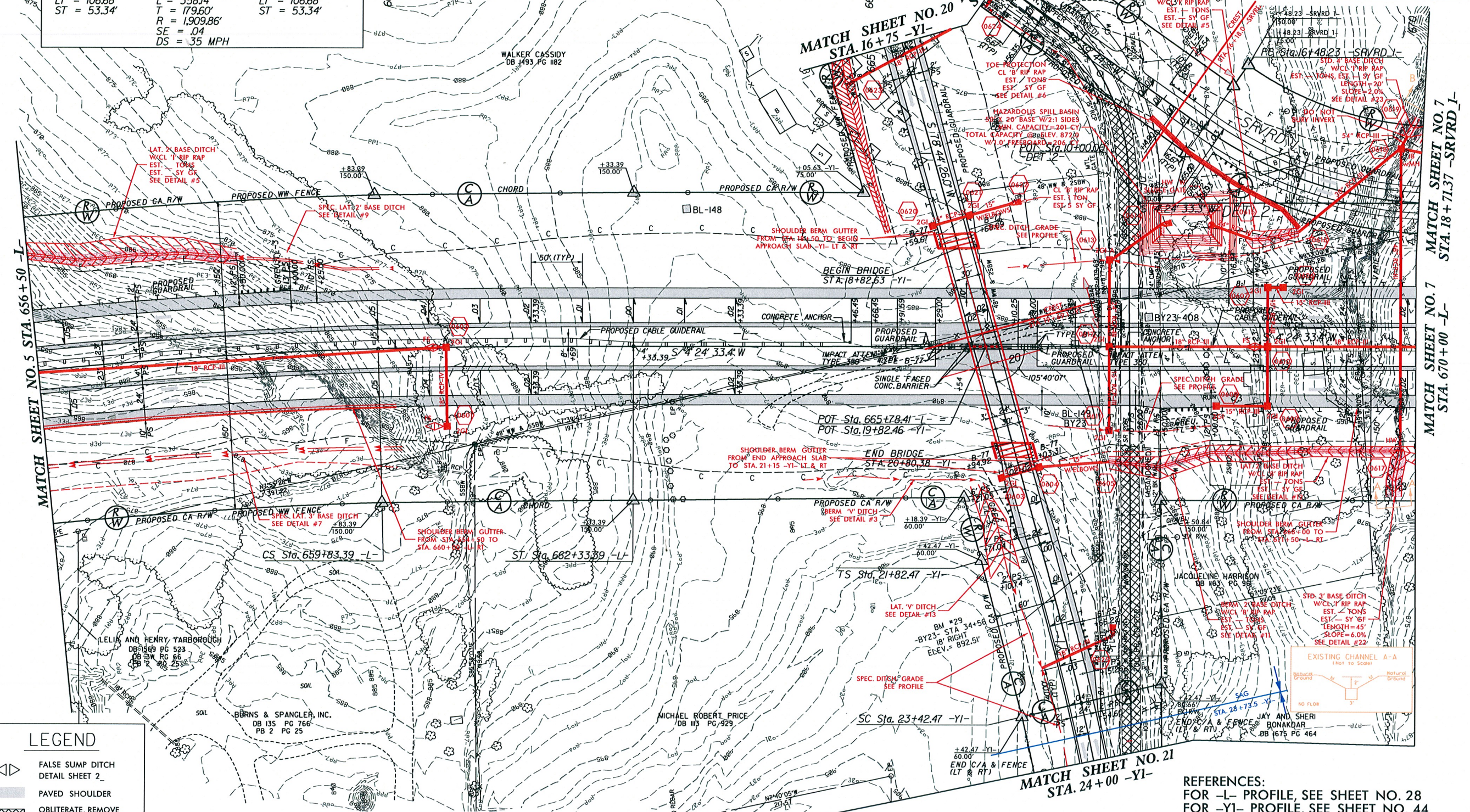
  

-YI-		
PIs Sta 22+89.15	PI Sta 25+22.07	PIs Sta 27+53.96
Os = 2' 24' 00.0"	Δ = 3' 00' 00.0" (RT)	Os = 2' 24' 00.0"
Ls = 160.00'	D = 1' 15' 00.0"	Ls = 160.00'
LT = 106.68'	L = 358.14'	LT = 106.68'
ST = 53.34'	T = 179.60'	ST = 53.34'
	R = 1,909.86'	
	SE = .04	
	DS = 35 MPH	



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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>6</b>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLETE, REMOVE AND GRADE TO DRAIN
	CONCRETE

**REFERENCES:**  
 FOR -L- PROFILE, SEE SHEET NO. 28  
 FOR -YI- PROFILE, SEE SHEET NO. 44  
 FOR -SRVRD 1- PROFILE, SEE SHEET NO. 50  
 FOR -DET 1- PROFILE, SEE SHEET NO. 2B-1  
 FOR -DET 2- PROFILE, SEE SHEET NO. 2B-2

REVISIONS

MATCH SHEET NO. 5 STA. 656+50 -L-

MATCH SHEET NO. 20 STA. 16+75 -YI-

MATCH SHEET NO. 20 STA. 14+00 -SRVRD 1-

MATCH SHEET NO. 7 STA. 18+71.37 -SRVRD 1-

MATCH SHEET NO. 7 STA. 670+00 -L-

MATCH SHEET NO. 21 STA. 24+00 -YI-

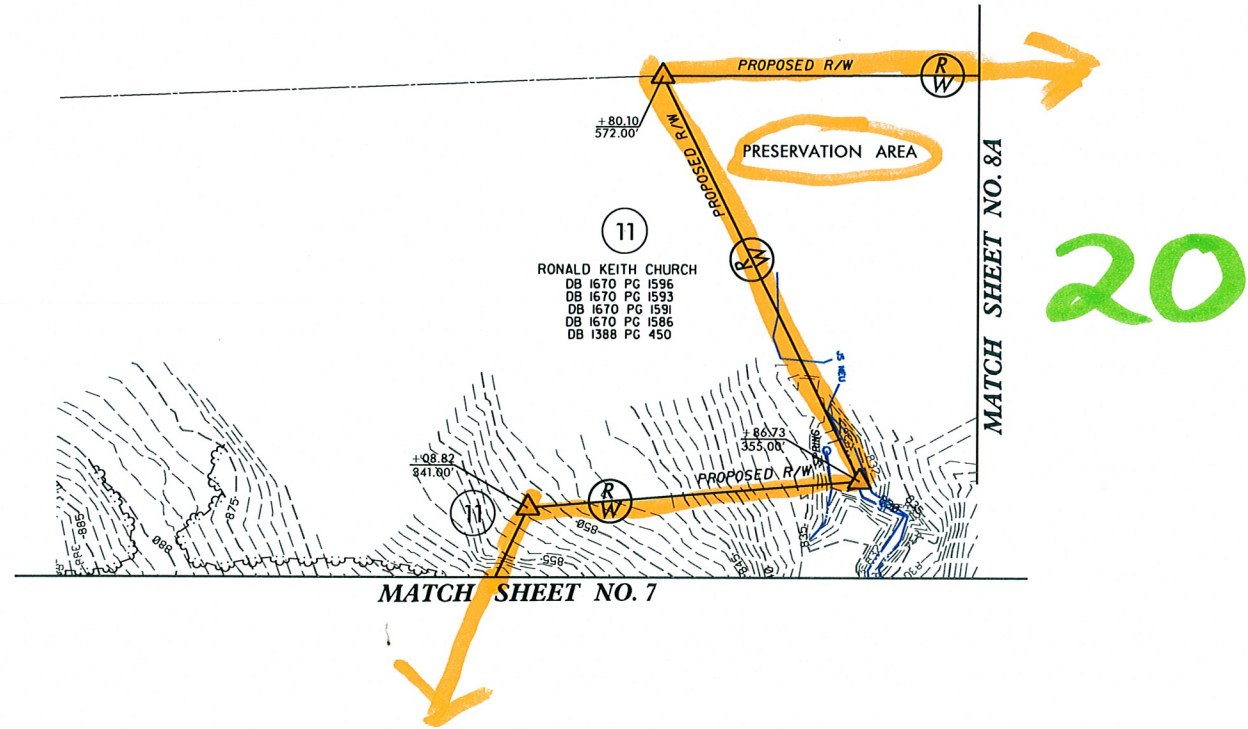
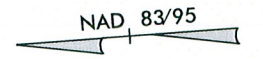


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REVISIONS

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PROJECT REFERENCE NO. <i>R-2707D</i>	SHEET NO. <i>7A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**LEGEND**

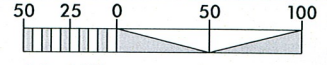
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	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

K:\2707D\_Hyd\_PSH\_07A.dgn  
 8/17/99

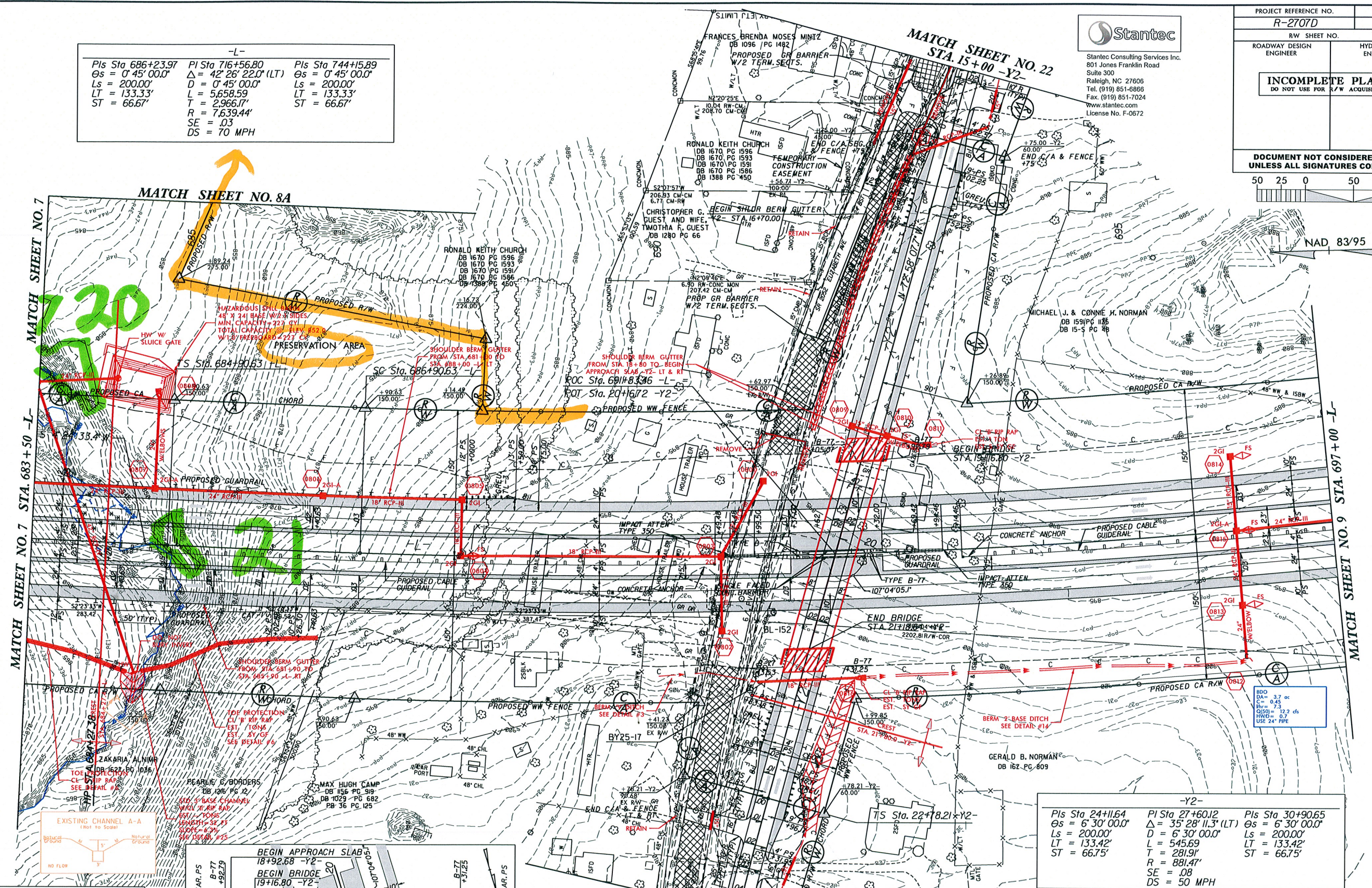
-L-		
Pls Sta 686+23.97	PI Sta 716+56.80	Pls Sta 744+15.89
Os = 0' 45' 00.0"	Δ = 42' 26' 22.0" (LT)	Os = 0' 45' 00.0"
Ls = 200.00'	D = 0' 45' 00.0"	Ls = 200.00'
LT = 133.33'	L = 5658.59'	LT = 133.33'
ST = 66.67'	T = 2,966.17'	ST = 66.67'
	R = 7,639.44'	
	SE = .03	
	DS = 70 MPH	

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>8</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



NAD 83/95

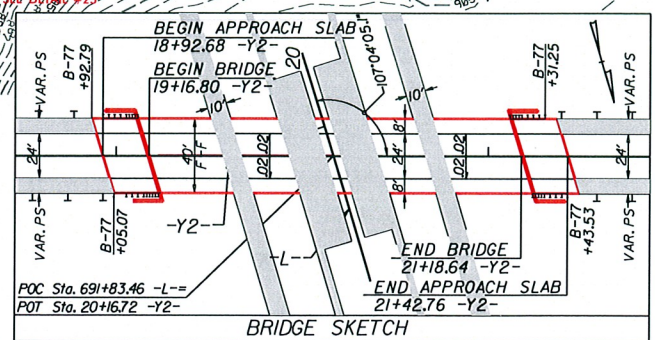


MATCH SHEET NO. 7 STA. 683 + 50 -L-

MATCH SHEET NO. 9 STA. 697 + 00 -L-

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLETE, REMOVE AND GRADE TO DRAIN
	CONCRETE



-Y2-		
Pls Sta 24+11.64	PI Sta 27+60.12	Pls Sta 30+90.65
Os = 6' 30' 00.0"	Δ = 35' 28' 11.3" (LT)	Os = 6' 30' 00.0"
Ls = 200.00'	D = 6' 30' 00.0"	Ls = 200.00'
LT = 133.42'	L = 545.69'	LT = 133.42'
ST = 66.75'	T = 281.91'	ST = 66.75'
	R = 881.47'	
	SE = .08	
	DS = 50 MPH	

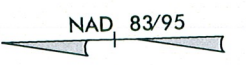
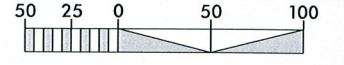
REFERENCE:  
 FOR -L- PROFILE, SEE SHEET NO. 29  
 FOR -Y2- PROFILE, SEE SHEET NO. 45

8/17/99

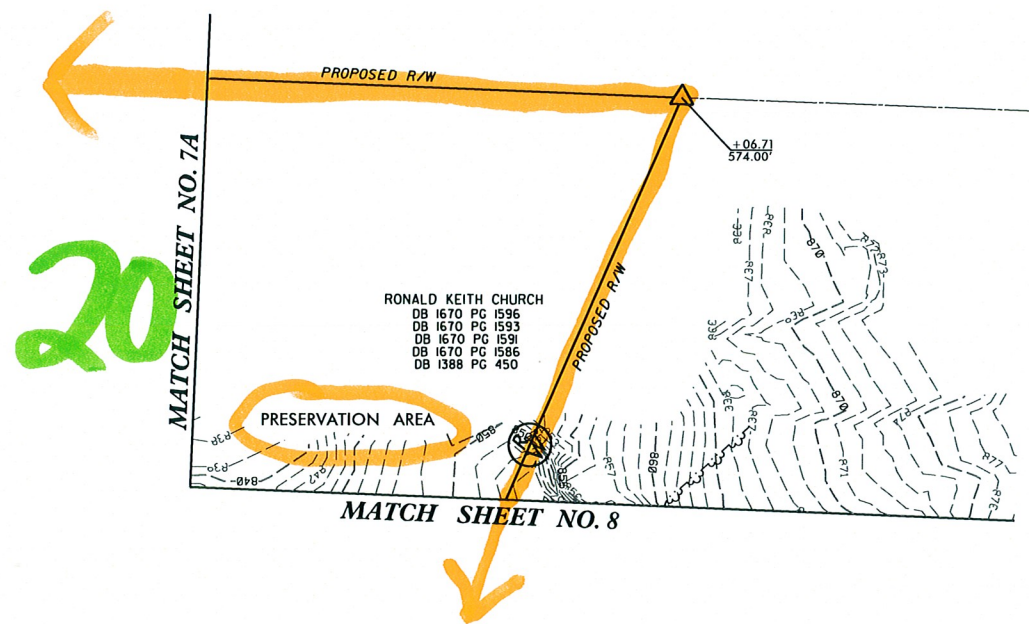


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PROJECT REFERENCE NO. <i>R-2707D</i>	SHEET NO. <i>8A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



REVISIONS



LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

142707D\_Hyd\_PSH\_08A.dgn

8/17/99

REVISIONS

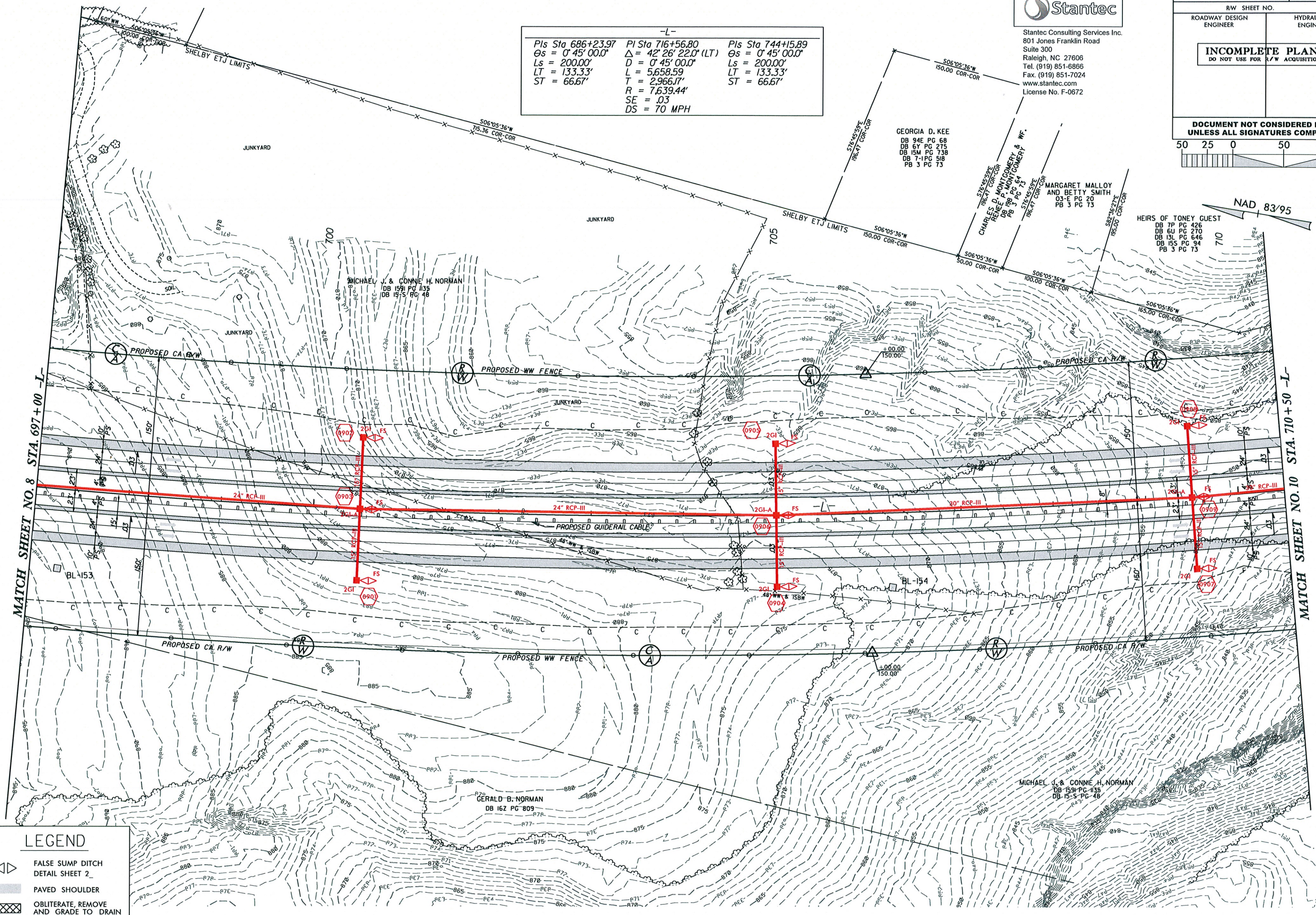
12/18/08 J.L.Hyd.PSH.dgn

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>9</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	
50 25 0 50 100	

-L-

Pls Sta 686+23.97 Os = 0' 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'	PI Sta 716+56.80 Δ = 42' 26' 22.0" (LT) D = 0' 45' 00.0" L = 5,658.59' T = 2,966.17' R = 7,639.44' SE = .03 DS = 70 MPH	Pls Sta 744+15.89 Os = 0' 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'
---	--	---



**LEGEND**

- FALSE SUMP DITCH  
DETAIL SHEET 2
- PAVED SHOULDER
- OBLITERATE, REMOVE  
AND GRADE TO DRAIN
- CONCRETE

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 29

8/17/99

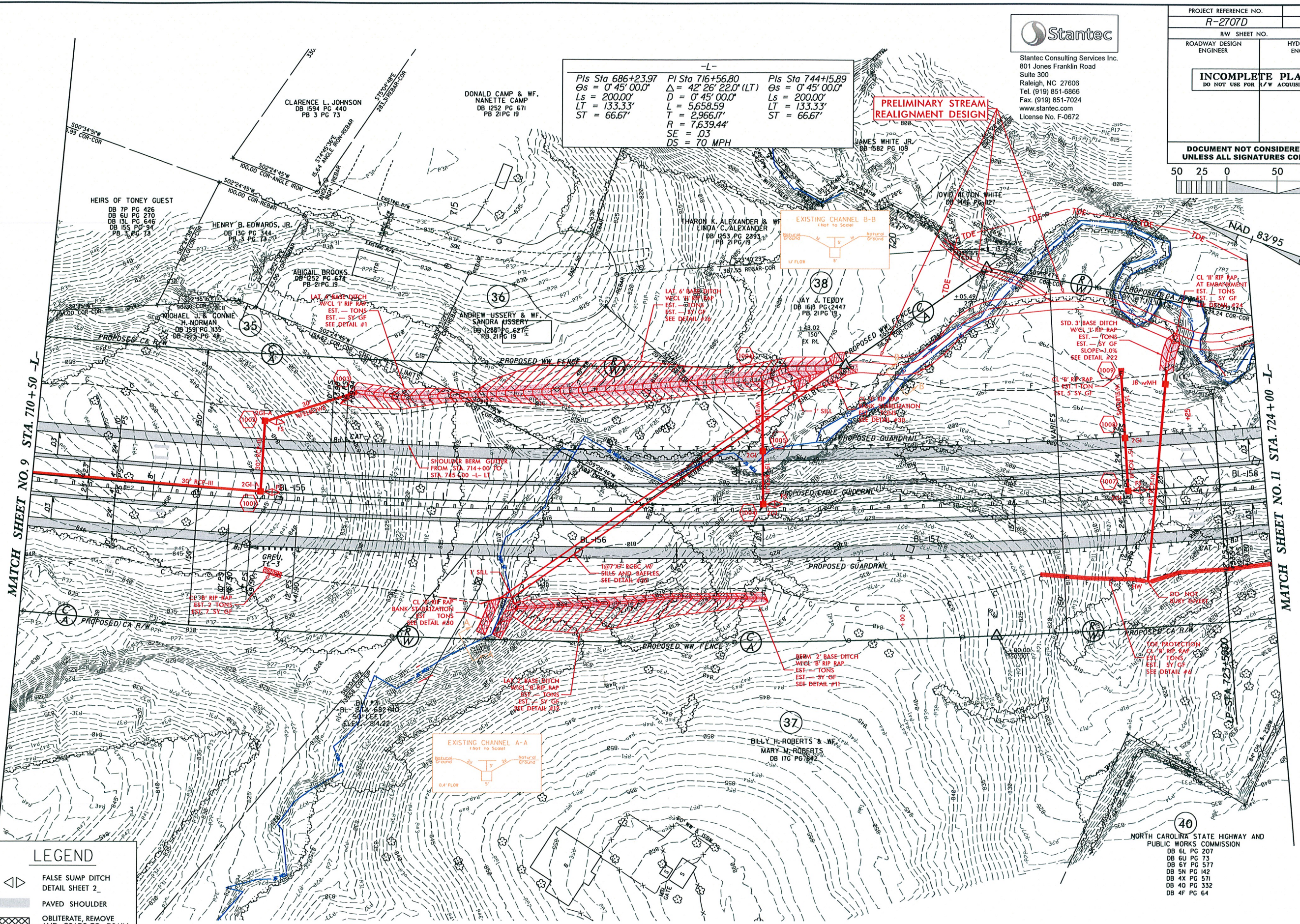
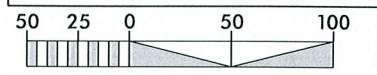
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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>10</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

-L-

Pls Sta 686+23.97 Cs = 0' 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'	PI Sta 716+56.80 Δ = 42' 26' 22.0" (LT) D = 0' 45' 00.0" L = 5,658.59' T = 2,966.77' R = 7,639.44' SE = .03 DS = 70 MPH	Pls Sta 744+15.89 Cs = 0' 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'
---	--	---

**PRELIMINARY STREAM REALIGNMENT DESIGN**



MATCH SHEET NO. 9 STA. 710+50 -L-

MATCH SHEET NO. 11 STA. 724+00 -L-

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 30

REVISIONS

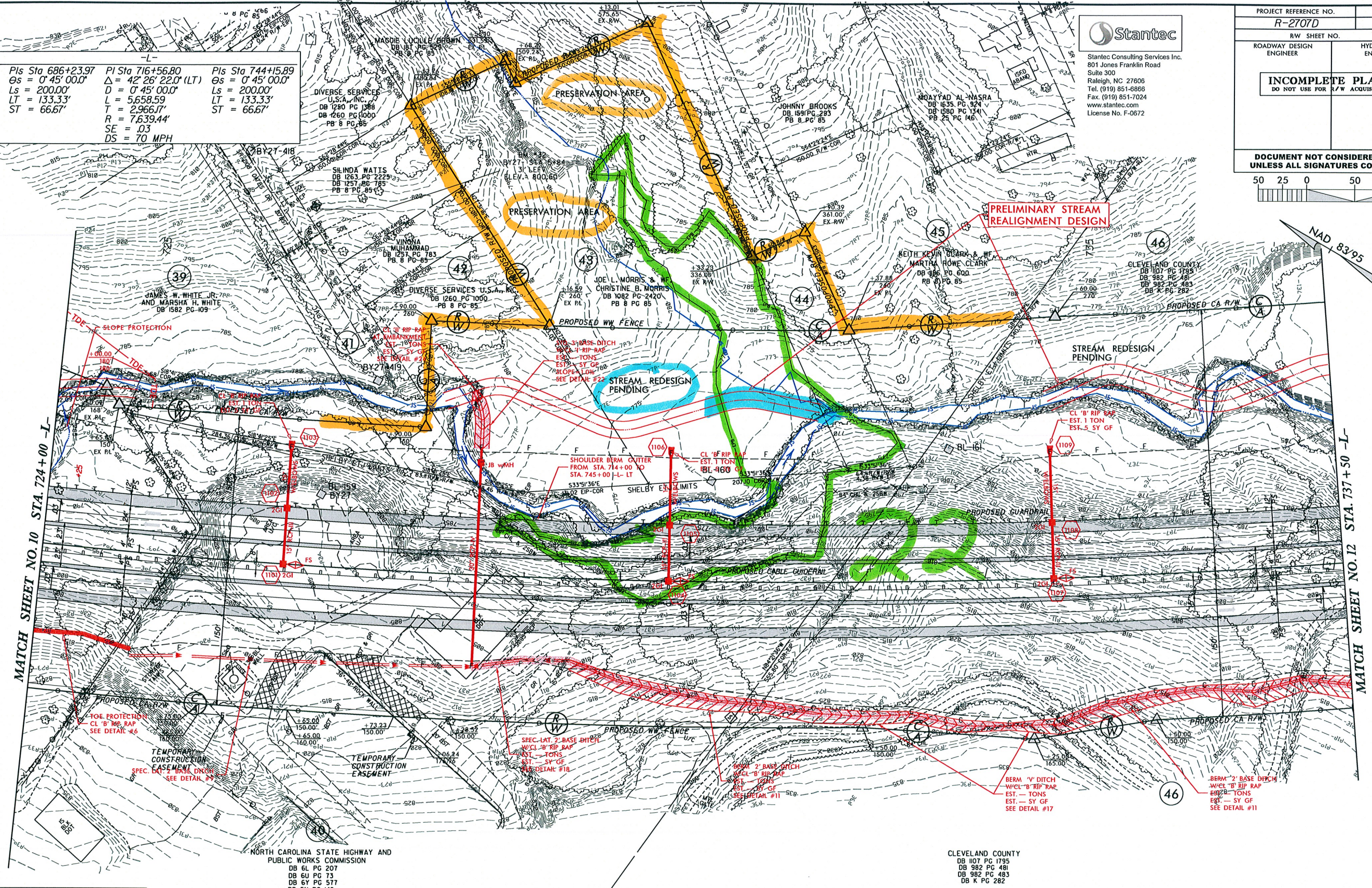
424208  
2/27/01 J. Hyd. PSH-10.dgn

8/17/99

Pls Sta 686+23.97    Pls Sta 716+56.80    Pls Sta 744+15.89  
 $\Delta s = 0^{\circ} 45' 00.0''$      $\Delta = 42^{\circ} 26' 22.0''$  (LT)     $\Delta s = 0^{\circ} 45' 00.0''$   
 Ls = 200.00'    L = 5,658.59    Ls = 200.00'  
 LT = 133.33'    T = 2,966.17'    LT = 133.33'  
 ST = 66.67'    R = 7,639.44'    ST = 66.67'  
 SE = .03  
 DS = 70 MPH

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>11</b>
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	
50 25 0 25 50 100	



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

NORTH CAROLINA STATE HIGHWAY AND  
 PUBLIC WORKS COMMISSION  
 DB 6L PG 207  
 DB 6Y PG 577  
 DB 5N PG 142  
 DB 4X PG 571  
 DB 40 PG 332  
 DB 4F PG 64

CLEVELAND COUNTY  
 DB 107 PG 1795  
 DB 982 PG 481  
 DB 982 PG 483  
 DB K PG 282

REFERENCE:  
 FOR -L- PROFILE, SEE SHEET NO. 30  
 NOTE:  
 ALL PIPES ARE RCP UNLESS OTHERWISE NOTED

REVISIONS

L:\2707D\_Hyd\_PSH\_11.dgn

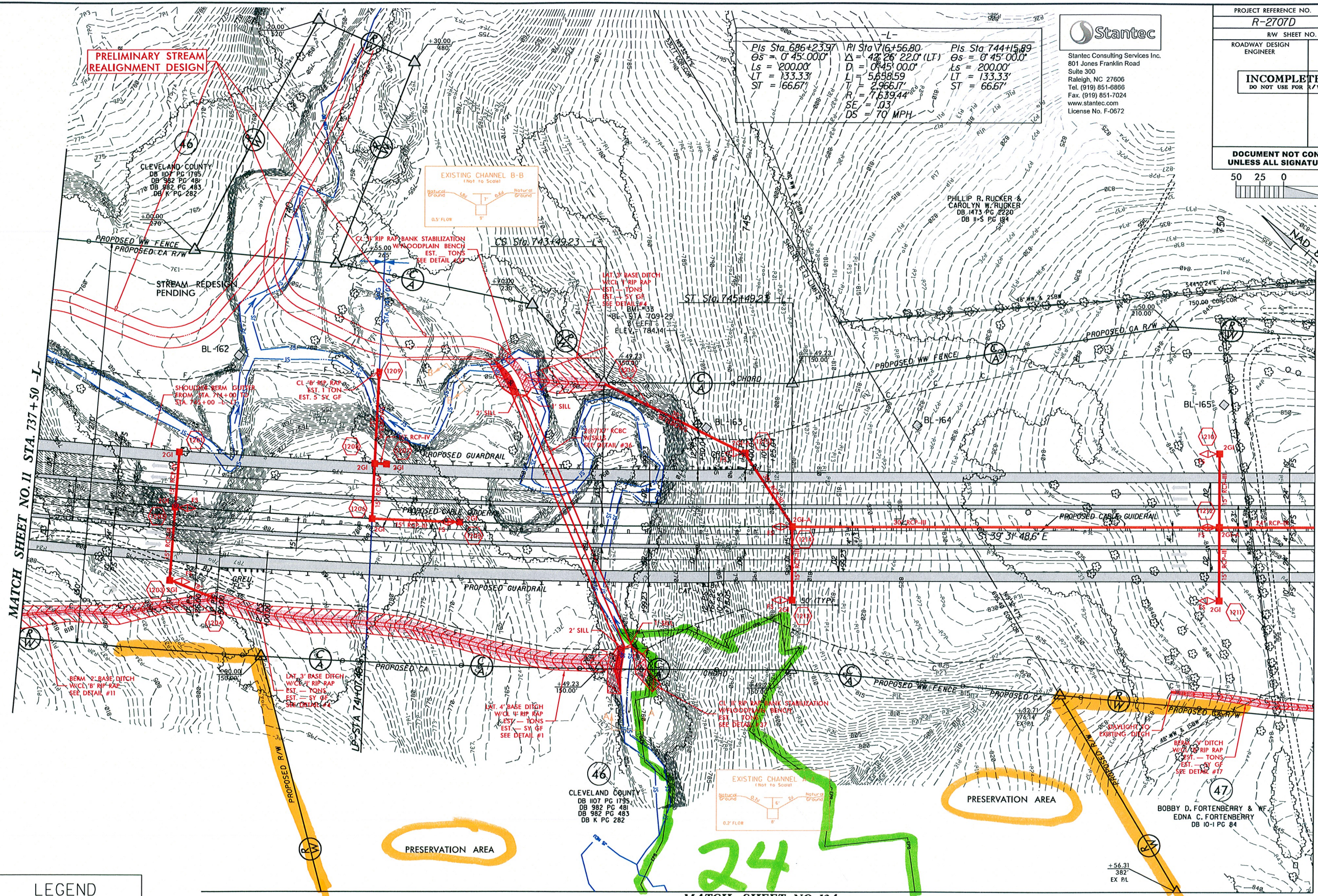
8/17/99

**PRELIMINARY STREAM REALIGNMENT DESIGN**

$Pis Sta 686+23.97$ $\Theta s = 0' 45' 00.0"$ $Ls = 200.00'$ $LT = 133.33'$ $ST = 166.67'$	$PI Sta 716+56.80$ $\Delta = 42' 26' 22.0" (LT)$ $D = 0' 45' 00.0"$ $L = 568.59'$ $T = 2966.17'$ $R = 7639.44'$ $SE = .03$ $DS = 70 MPH$	$Pis Sta 744+15.89$ $\Theta s = 0' 45' 00.0"$ $Ls = 200.00'$ $LT = 133.33'$ $ST = 66.67'$
--	---	---

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 Fax. (919) 851-7024  
 www.stantec.com  
 License No. F-0672

PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>12</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



MATCH SHEET NO. 11 STA. 737+50 -L-

MATCH SHEET NO. 13 STA. 751+00 -L-

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

8/21/08 PS-12.dgn

PRESERVATION AREA

MATCH SHEET NO. 12A

24

PRESERVATION AREA

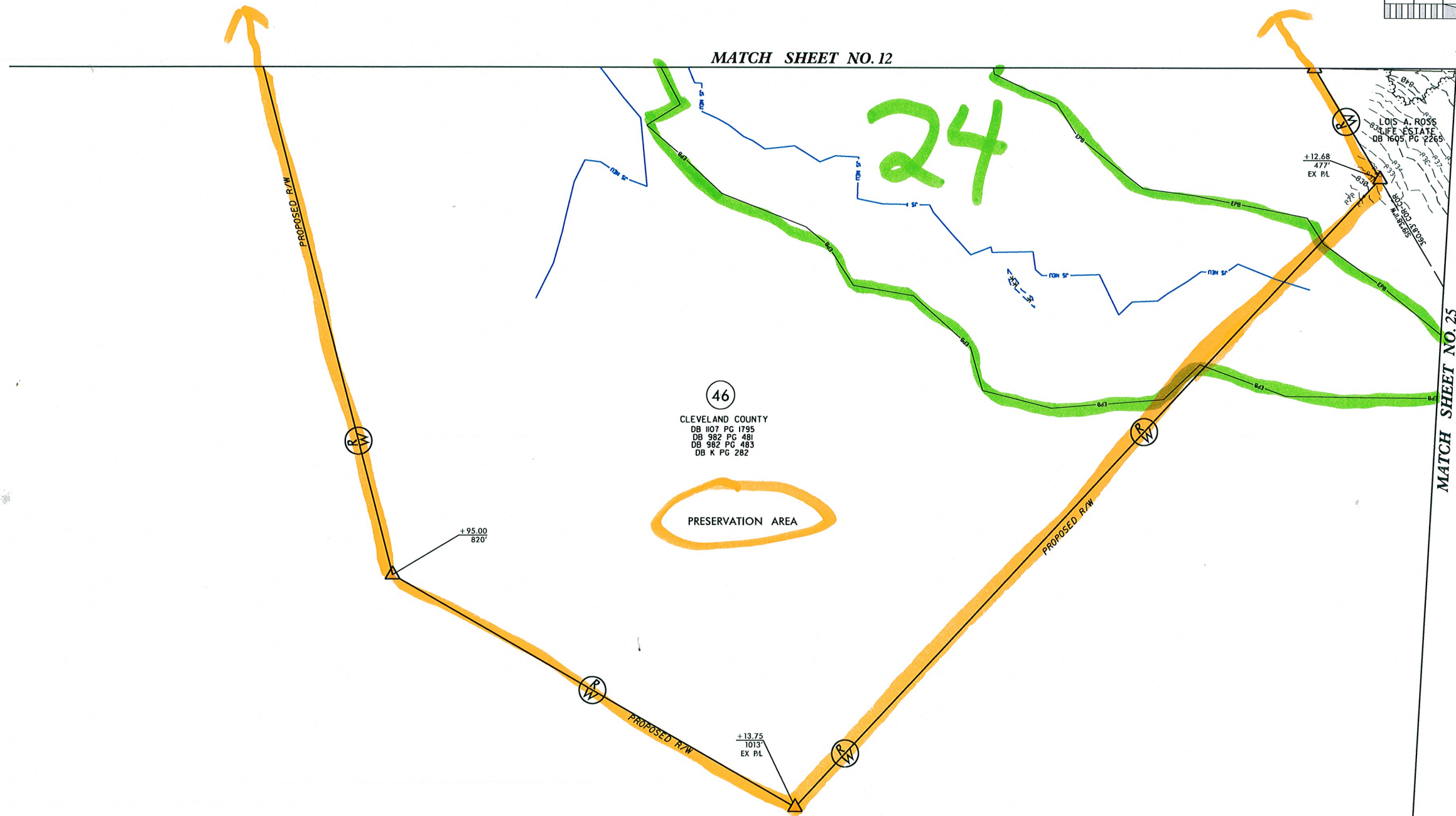
REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 31

8/17/99

REVISIONS

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PROJECT REFERENCE NO. <i>R-2707D</i>	SHEET NO. <i>12A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

K:\2707D\_Hyd\_PSH\_12A.dgn

8/17/99

-Y3-		
PI Sta 15+95.11 θs = 1'18" 45.0" Ls = 150.00' LT = 100.00' ST = 50.00'	PI Sta 20+76.29 Δ = 15'00" 18.8" (RT) L = 857.44 R = 3,274.04' SE = .04 DS = 50 MPH	PI Sta 25+52.55 θs = 1'18" 45.0" Ls = 150.00' LT = 100.00' ST = 50.00'

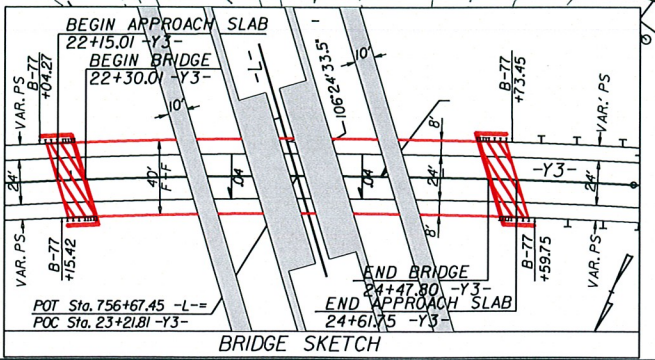
-PVTENT1-	
PI Sta 6+40.93 Δ = 7'06" 22.1" (LT) D = 76'23" 39.7" L = 93.08' T = 53.60' R = 75.00'	

LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

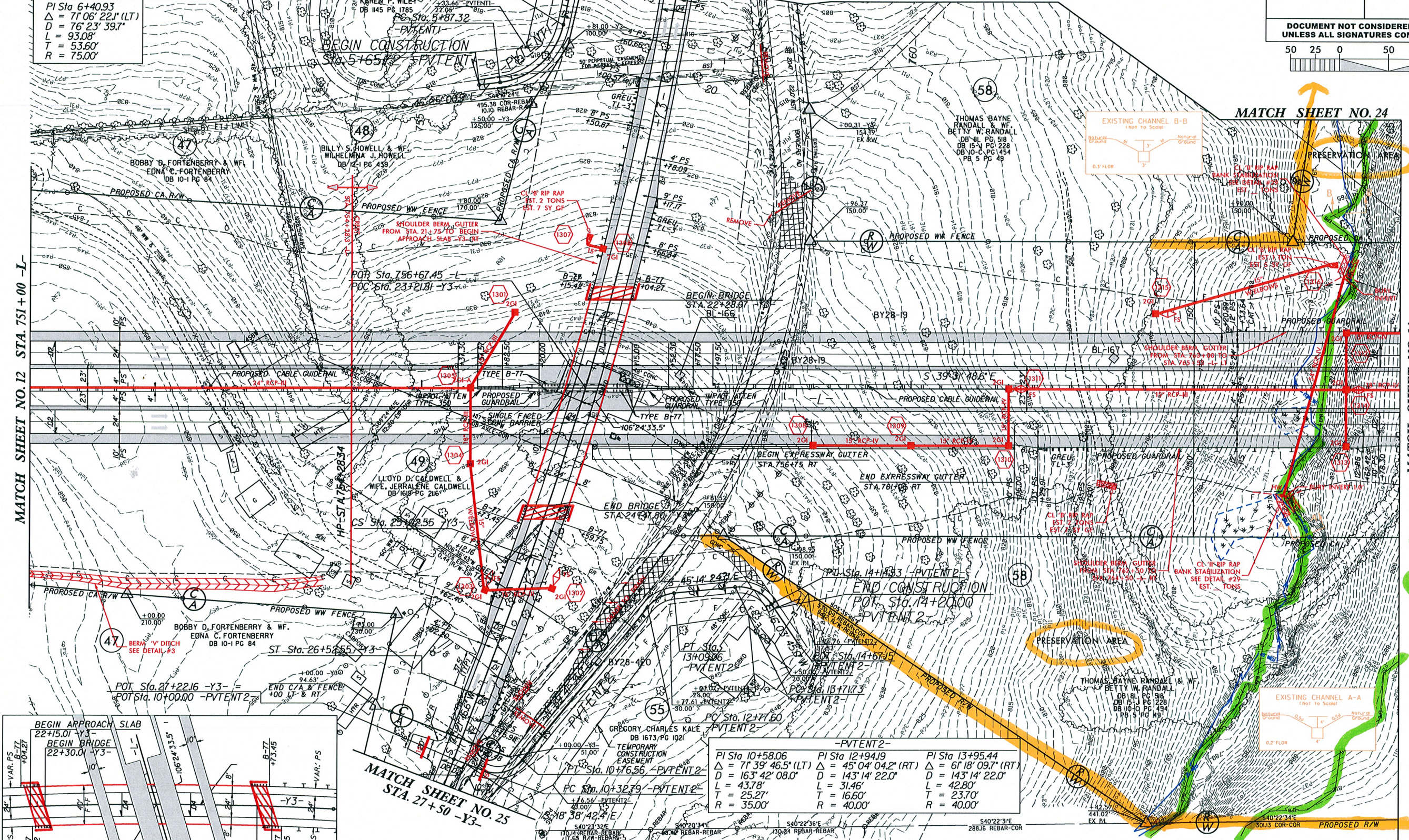
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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>13</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	
50 25 0 50 100	

MATCH SHEET NO. 12 STA. 751+00 -L-



MATCH SHEET NO. 24 STA. 19+00 -Y3-  
MATCH SHEET NO. 24 STA. 7+39.96 -PVTENT1-



-PVTENT2-		
PI Sta 10+58.06 Δ = 7'39" 46.5" (LT) D = 163'42" 08.0" L = 43.78' T = 25.27' R = 35.00'	PI Sta 12+94.19 Δ = 45'04" 04.2" (RT) D = 143'14" 22.0" L = 31.46' T = 16.60' R = 40.00'	PI Sta 13+95.44 Δ = 6'18" 09.7" (RT) D = 143'14" 22.0" L = 42.80' T = 23.70' R = 40.00'

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 32  
FOR -Y3- PROFILE, SEE SHEET NO. 46  
FOR -PVTENT1- & -PVTENT2- PROFILES, SEE SHEET NO. 55

MATCH SHEET NO. 14 STA. 765+00 -L-

25

624808 07-01-Hyd.-PSH-13.dgn

8/17/99

MATCH SHEET NO. 24

MATCH SHEET NO. 13  
STA. 765+00 -L-

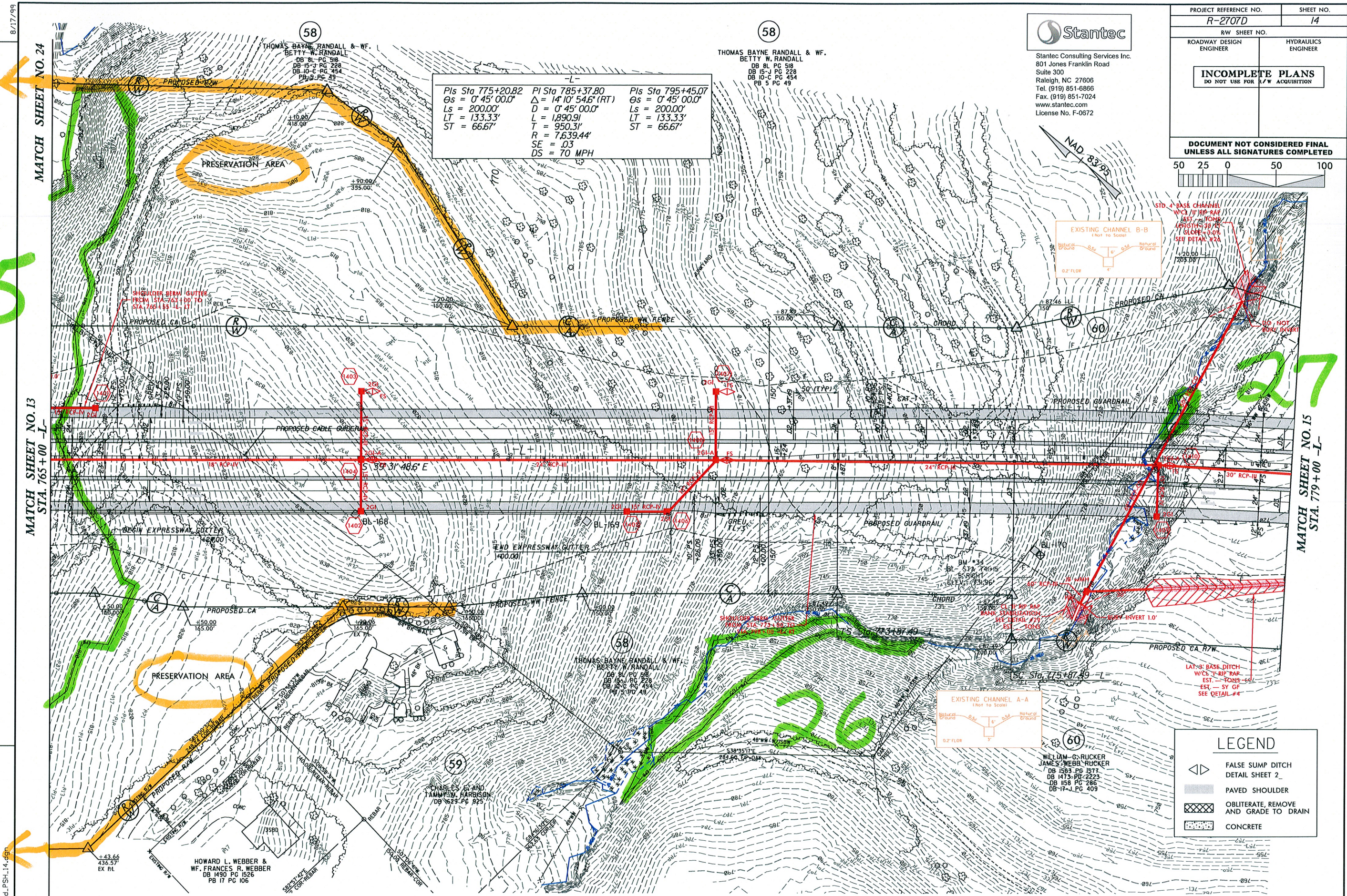
MATCH SHEET NO. 15  
STA. 779+00 -L-

REVISIONS

25

26

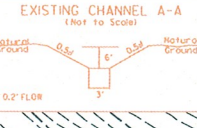
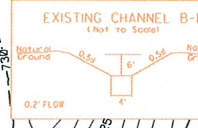
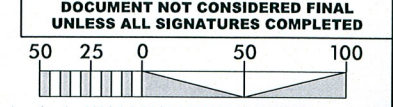
27



PIs Sta 775+20.82 $\Theta_s = 0' 45' 00.0''$ $L_s = 200.00'$ $LT = 133.33'$ $ST = 66.67'$	PI Sta 785+37.80 $\Delta = 14' 10' 54.6'' (RT)$ $\Theta_s = 0' 45' 00.0''$ $L = 1,890.91'$ $T = 950.31'$ $R = 7,639.44'$ $SE = .03$ $DS = 70 MPH$	PIs Sta 795+45.07 $\Theta_s = 0' 45' 00.0''$ $L_s = 200.00'$ $LT = 133.33'$ $ST = 66.67'$
---	--	---

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PROJECT REFERENCE NO. R-2707D	SHEET NO. 14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 33

12/1/00 B.L.Hyd. PSH-14.cdw  
B.L.H.

8/17/99

REVISIONS

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>15</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	
50 25 0 50 100	

-L-

Pls Sta 775+20.82 θs = 0° 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'	PI Sta 785+37.80 Δ = 14° 10' 54.6" (RT) D = 0° 45' 00.0" L = 1,890.91' T = 950.31' R = 7,639.44' SE = .03 DS = 70 MPH	Pls Sta 795+45.07 θs = 0° 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'
---	--	---

**60**  
 WILLIAM G. RUCKER  
 JAMES WEBB RUCKER  
 DB 1563 PG 1577  
 DB 1473 PG 2223  
 DB 1158 PG 286  
 DB 17-J PG 409

**61**  
 JOSEPH NEWTON CRAVER II &  
 ADELAIDE AUSTELL CRAVER  
 DB 1262 PG 979  
 DB 1262 PG 980  
 DB 1080 PG 1442

MATCH SHEET NO. 14  
STA. 779+00 -L-

MATCH SHEET NO. 16  
STA. 793+00 -L-

**LEGEND**

- FALSE SUMP DITCH  
DETAIL SHEET 2
- PAVED SHOULDER
- OBLITERATE, REMOVE  
AND GRADE TO DRAIN
- CONCRETE

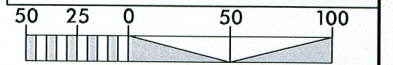
12/2/01B  
2707D\_Hyd\_PSH\_15.dgn

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 34

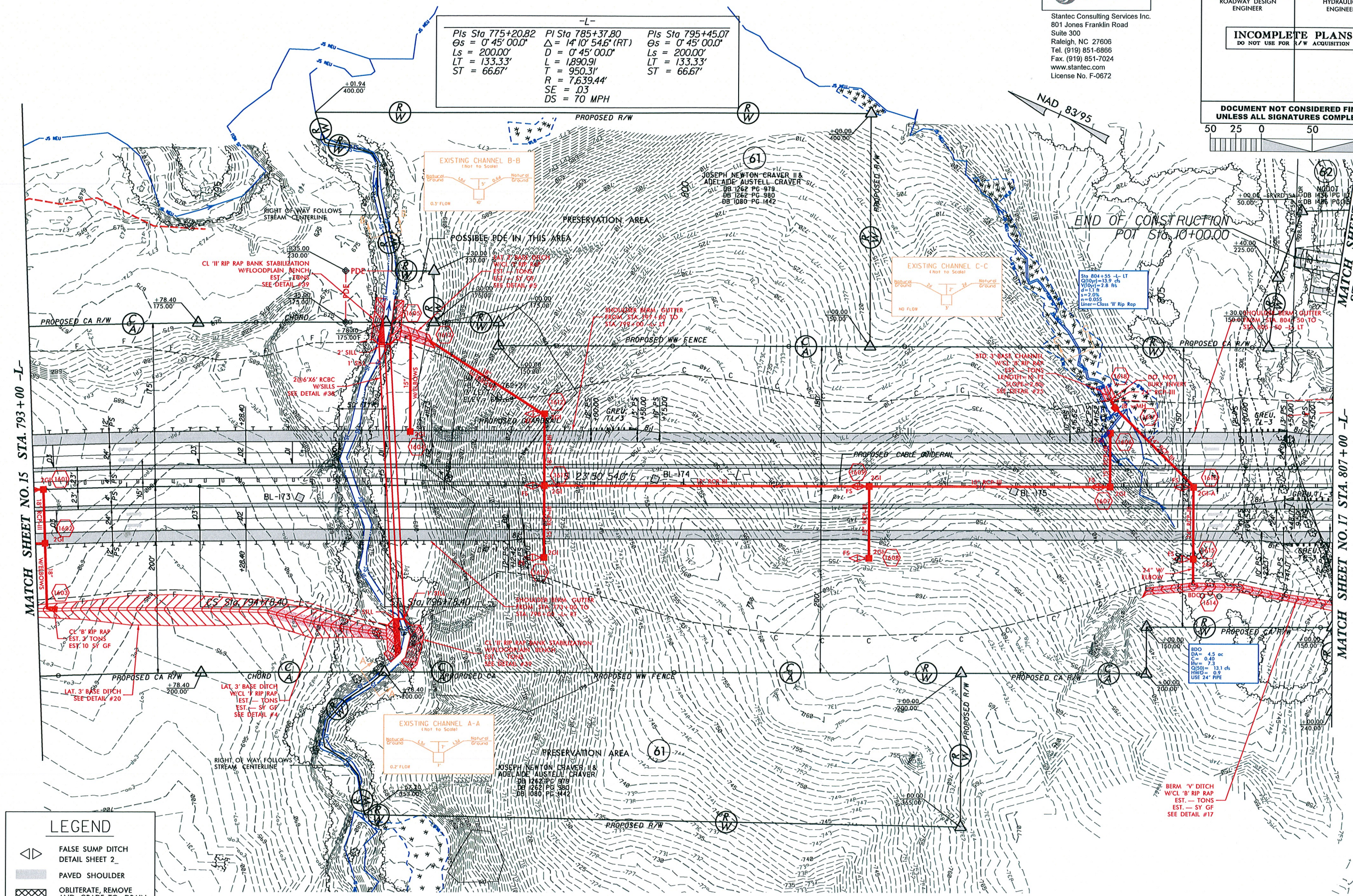
8/17/99

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>16</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-L-		
Pls Sta 775+20.82 θs = 0° 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'	Pl Sta 785+37.80 Δ = 14° 10' 54.6" (RT) D = 0° 45' 00.0" L = 1890.91' T = 950.31' R = 7,639.44' SE = .03 DS = 70 MPH	Pls Sta 795+45.07 θs = 0° 45' 00.0" Ls = 200.00' LT = 133.33' ST = 66.67'



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

REFERENCE:  
FOR -L- PROFILE, SEE SHEET NO. 34

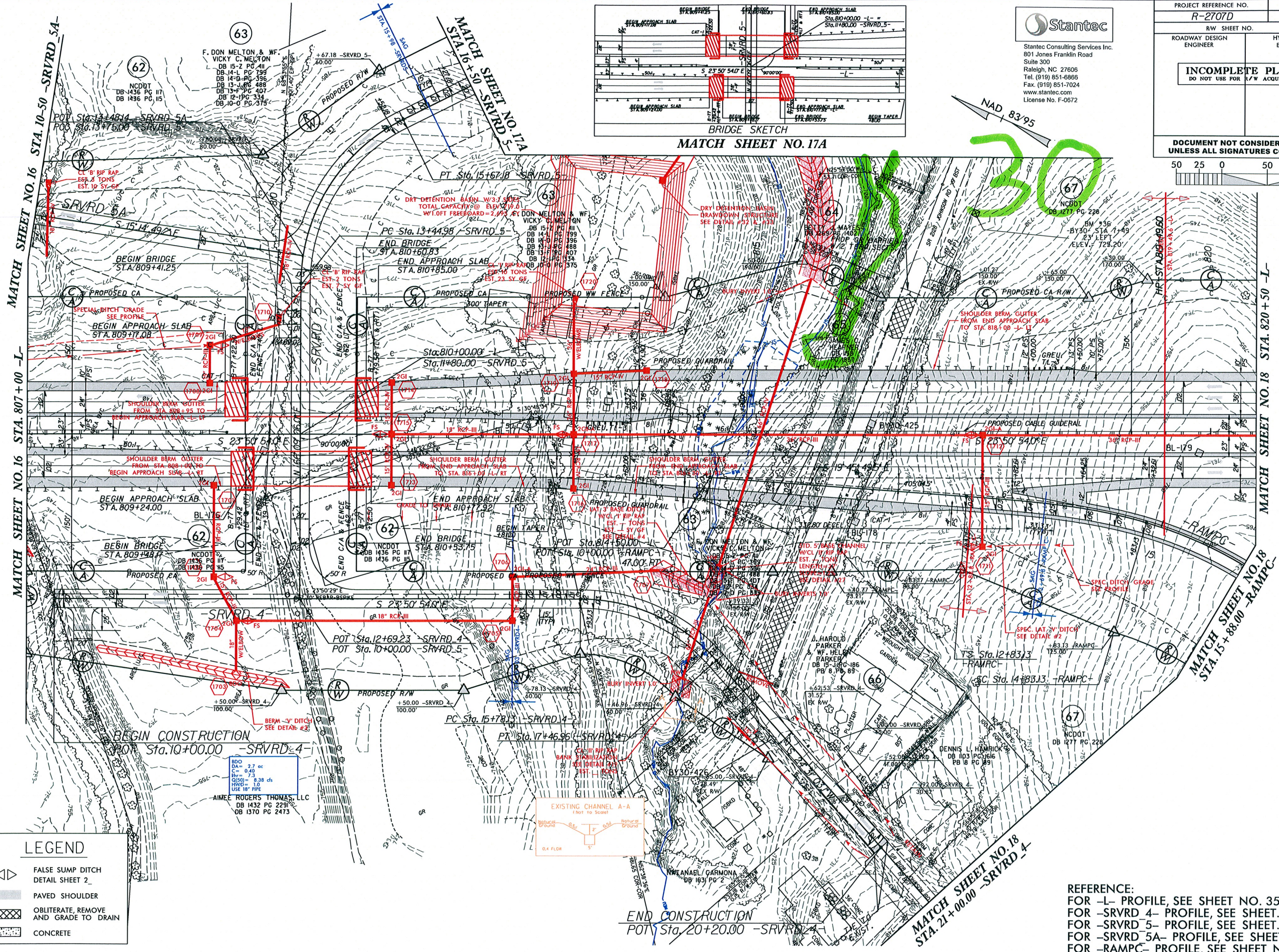
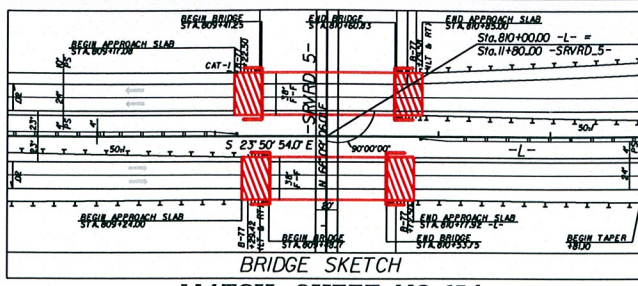
REVISIONS

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8/17/95

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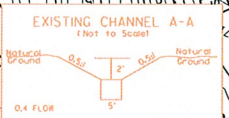
PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>17</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



REVISIONS

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE



**REFERENCE:**  
 FOR -L- PROFILE, SEE SHEET NO. 35  
 FOR -SRVD 4- PROFILE, SEE SHEET. NO. 52  
 FOR -SRVD 5- PROFILE, SEE SHEET. NO. 52  
 FOR -SRVD 5A- PROFILE, SEE SHEET. NO. 53  
 FOR -RAMP C- PROFILE, SEE SHEET NO. 42

12/18/08 Hgd.PSH.17.dgn

8/17/99

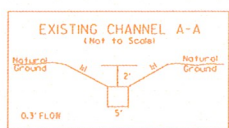
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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>17A</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	

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



**-SRVRD\_5-**  
 PI Sta 20+75.52  
 $\Delta = 50^{\circ}03'50.7''$  (RT)  
 $D = 28^{\circ}38'52.4''$   
 $L = 174.76'$   
 $T = 93.40'$   
 $R = 200.00'$   
 $SE = .03$   
 $RO = 45'$   
 $DS = 15$  MPH



**63**  
 F. DON MELTON & WF.  
 VICKY C. MELTON  
 DB 15-Z PG 411  
 DB 14-L PG 799  
 DB 14-D PG 396  
 DB 13-J PG 488  
 DB 13-F PG 407  
 DB 12-1 PG 334  
 DB 10-0 PG 375

GLOBAL FINANCIAL LLC  
 DB 1392 PG 361  
 PB 8 PG 89

STD. 5' BASE CHANNEL  
 W/CL 11" RIP RAP  
 EST. - TONS  
 LENGTH=25'  
 SLOPE=2.5%  
 SEE DETAIL #27

PC Sta. 19+82.13 -SRVRD\_5-

PT Sta. 21+56.88 -SRVRD\_5-

MATCH SHEET NO. 17  
 STA 16+50 -SRVRD\_5-

MATCH SHEET NO. 17

**30**

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

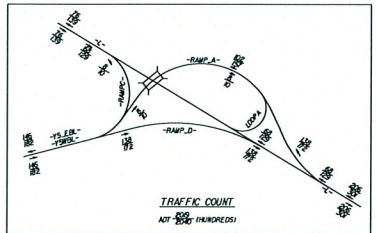
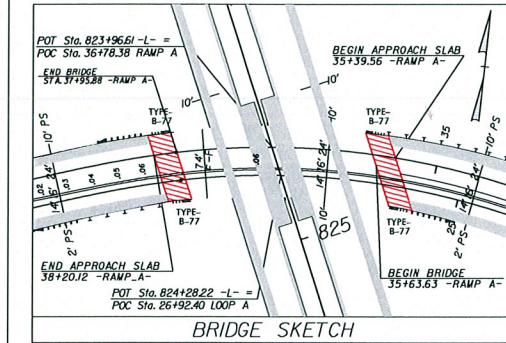
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FOR -SRVRD\_5- PROFILE, SEE SHEET NO. 53

REVISIONS

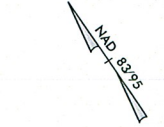
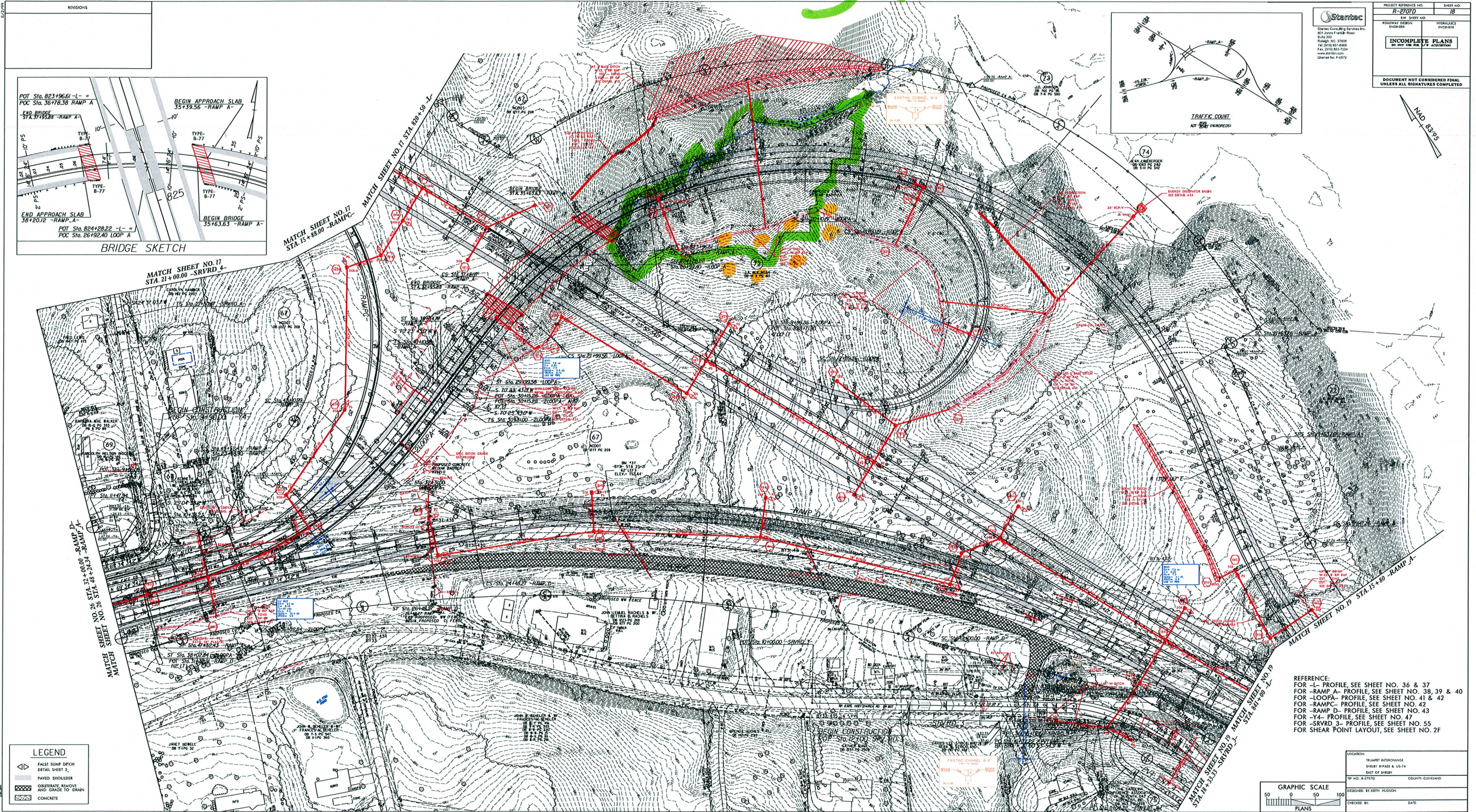
1/27/2018  
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31

REVISIONS

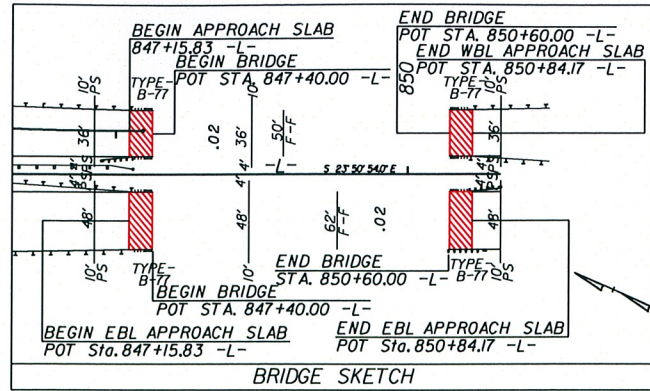


PROJECT REFERENCE NO.	A-2707D	SHEET NO.	18
ROADWAY DESIGN PROGRAM		PROJECT PROGRAM	
INCOMPLETE PLANS BY ANY ONE OF THE ABOVE			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



LOCATION	TRUMENTY INTERCHANGE SHORE ROAD & US-74 EAST OF SHREY
PROJECT NO.	A-2707D
COUNTY	CLEVELAND
DESIGNED BY	KEITH HUDSON
CHECKED BY	
DATE	

8/17/99

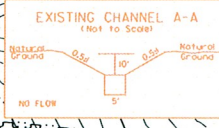


**-RAMP A-**

PI Sta 18+19.82	PI Sta 14+72.62	PI Sta 11+15.11
$\Delta s = 5' 09" 23.8"$	$\Delta = 26' 46" 20.1" (RT)$	$\Delta s = 5' 09" 23.8"$
$Ls = 216.00'$	$D = 4' 46" 28.7"$	$Ls = 216.00'$
$LT = 144.06'$	$T = 560.72'$	$LT = 144.06'$
$ST = 72.06'$	$R = 285.57'$	$ST = 72.06'$
	$SE = .07$	
	$DS = 50 MPH$	

**-SRVRD\_3-**

PI Sta 23+77.25	PI Sta 24+49.57
$\Delta = 62' 02" 16.0" (RT)$	$\Delta = 6' 08" 58.8" (LT)$
$D = 57' 17" 44.8"$	$D = 12' 43" 56.6"$
$L = 108.28'$	$L = 48.30'$
$T = 60.13'$	$T = 24.17'$
$R = 100.00'$	$R = 450.00'$
$SE = .02$	$SE = EXIST.$
$RO = 80'$	$RO = EXIST.$
$DS = 30 MPH$	



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PROJECT REFERENCE NO. **R-2707D** SHEET NO. **19**

R/W SHEET NO.

ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER

**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

50 25 0 50 100

NAD 83/95

REVISIONS

MATCH SHEET NO. 18  
 STA. 841+00 -L-

MATCH SHEET NO. 18  
 STA. 15+80 -RAMP A-

MATCH SHEET NO. 18  
 STA. 18+33.33 -SRVRD\_3-

**LEGEND**

- FALSE SUMP DITCH  
DETAIL SHEET 2\_
- PAVED SHOULDER
- OBLITERATE, REMOVE AND GRADE TO DRAIN
- CONCRETE

REFERENCE:  
 FOR -L- PROFILE, SEE SHEET NO. 37  
 FOR -RAMP A- PROFILE, SEE SHEET NO. 38  
 FOR -SRVRD\_3- PROFILE, SEE SHEET NO. 52

NOTE:  
 ALL PIPES ARE RCP UNLESS OTHERWISE NOTED

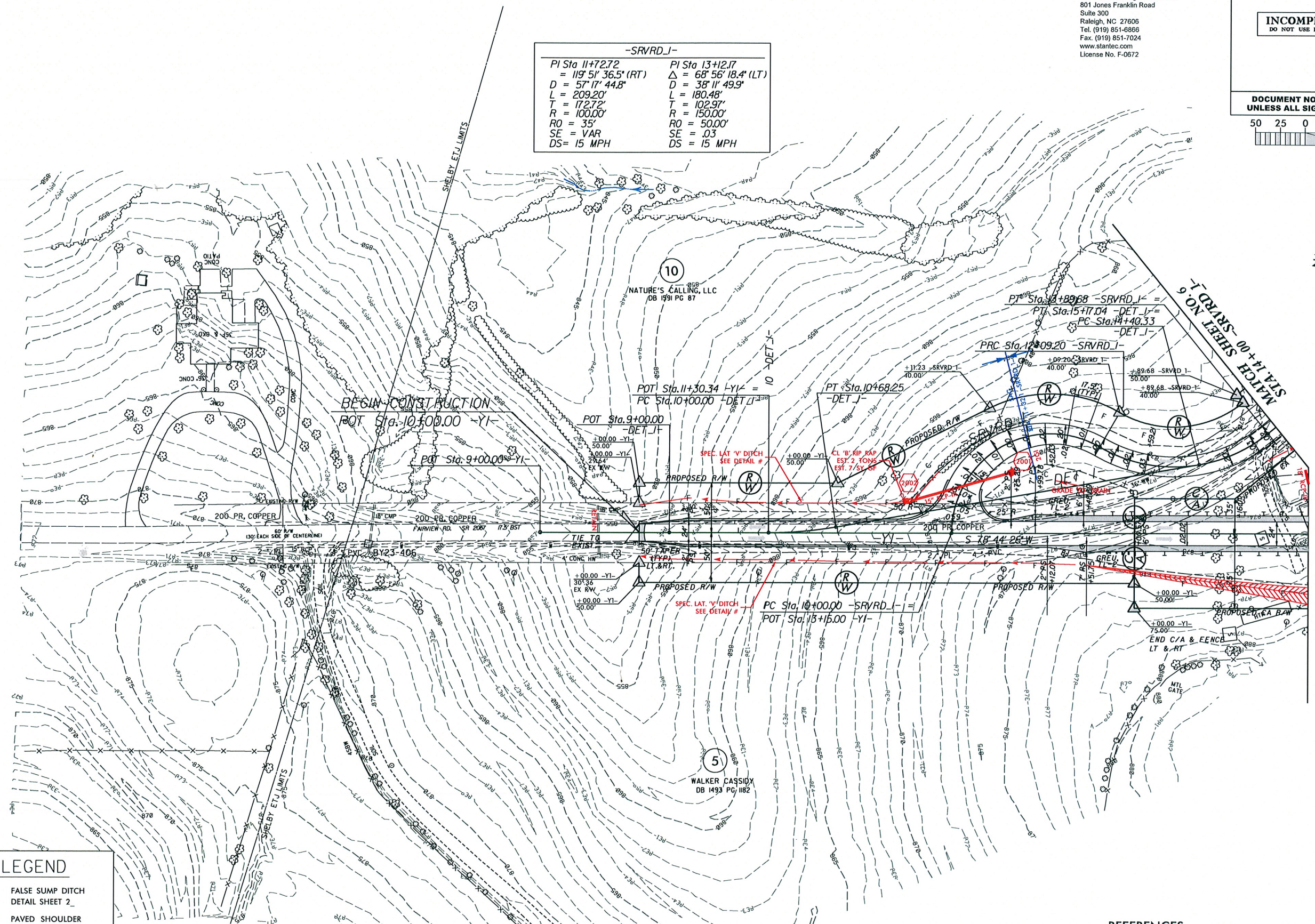
V2707D\_Hyd\_PSH\_19.dgn

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 License No. F-0672

PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>20</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



-SRVRD_1-	
PI Sta 11+72.72 = 119° 51' 36.5" (RT) D = 57' 17" 44.8" L = 209.20' T = 172.72' R = 100.00' RO = 35' SE = VAR DS = 15 MPH	PI Sta 13+12.17 Δ = 68° 56' 18.4" (LT) D = 38' 11" 49.9" L = 180.48' T = 102.97' R = 150.00' RO = 50.00' SE = .03 DS = 15 MPH



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

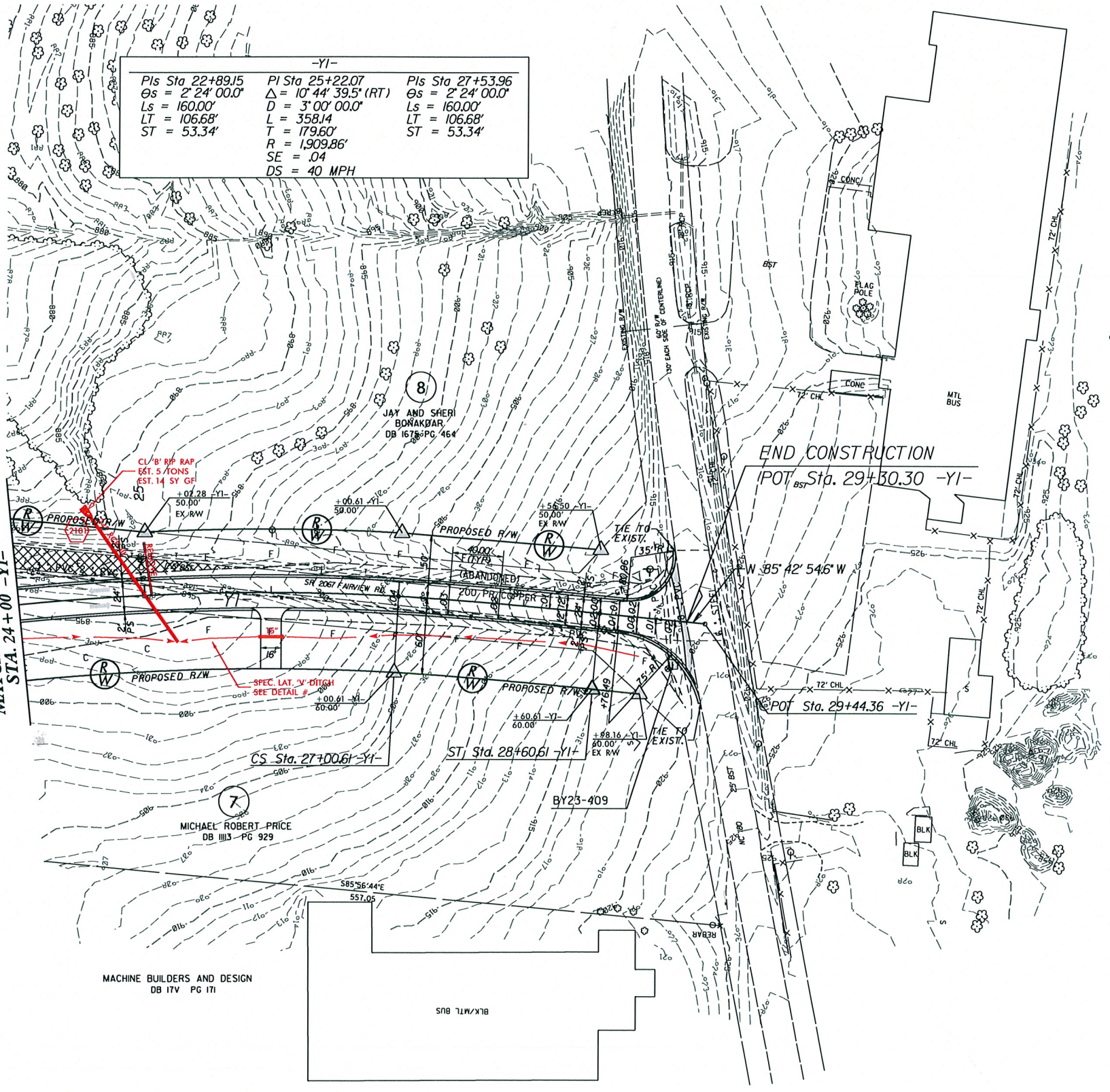
**REFERENCES:**  
 FOR -Y1- PROFILE, SEE SHEET NO. 44  
 FOR -SRVRD\_1- PROFILE, SEE SHEET NO. 50  
 FOR -DET\_1- PROFILE, SEE SHEET NO. 2B-1

MATCH SHEET NO. 6  
 STA. 14+00 -SRVRD\_1-  
 STA. 16+75 -Y1-

8/17/95

REVISIONS

1/27/98  
R-2707D-Hyd.-PSH-21.dgn



-Y1-		
Pls Sta 22+89.15	PI Sta 25+22.07	Pls Sta 27+53.96
$\Theta s = 2' 24' 00.0''$	$\Delta = 10' 44' 39.5'' (RT)$	$\Theta s = 2' 24' 00.0''$
$Ls = 160.00'$	$D = 3' 00' 00.0''$	$Ls = 160.00'$
$LT = 106.68'$	$L = 358.14'$	$LT = 106.68'$
$ST = 53.34'$	$T = 179.60'$	$ST = 53.34'$
	$R = 1,909.86'$	
	$SE = .04$	
	$DS = 40 MPH$	

MATCH SHEET NO. 6  
STA. 24+00 -Y1-

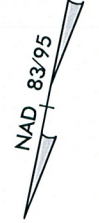
END CONSTRUCTION  
POT Sta. 29+30.30 -Y1-

POT Sta. 29+44.36 -Y1-

LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>21</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	



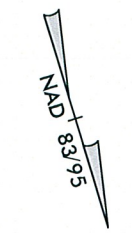
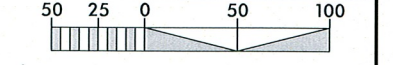
REFERENCES:  
FOR -Y1- PROFILE, SEE SHEET NO. 44

8/17/99

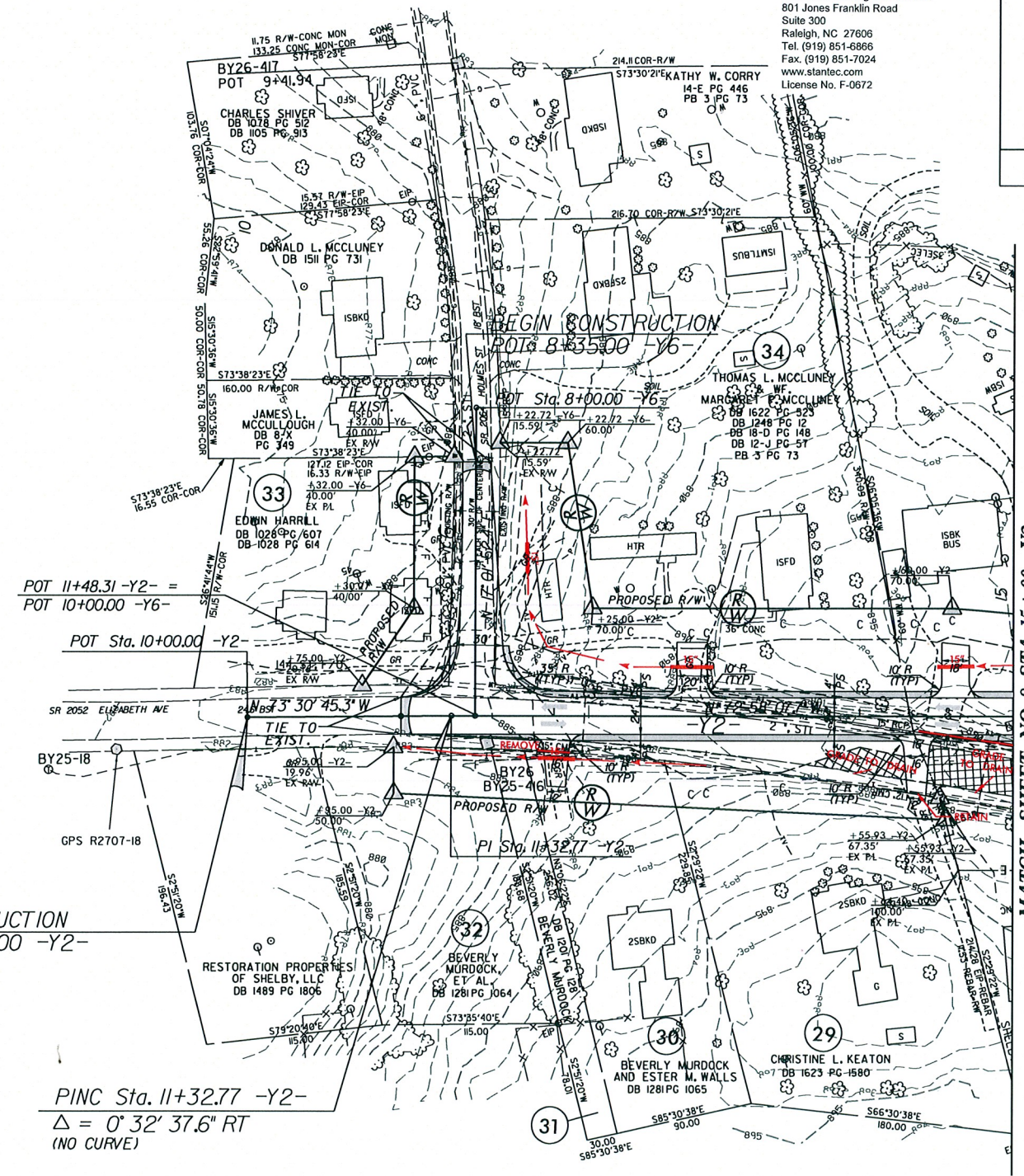


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PROJECT REFERENCE NO. <i>R-2707D</i>	SHEET NO. <b>22</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



REVISIONS



BEGIN CONSTRUCTION  
POT Sta. 10+00.00 -Y2-

PINC Sta. 11+32.77 -Y2-  
 $\Delta = 0^{\circ} 32' 37.6''$  RT  
(NO CURVE)

MATCH SHEET NO. 8 STA. 15+00 -Y2-

LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

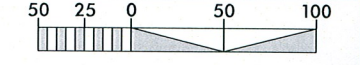
REFERENCE:  
FOR -Y2- PROFILE, SEE SHEET NO. 45  
FOR -Y6- PROFILE, SEE SHEET NO. 49

437808-1-high\_PSH\_22.dgn

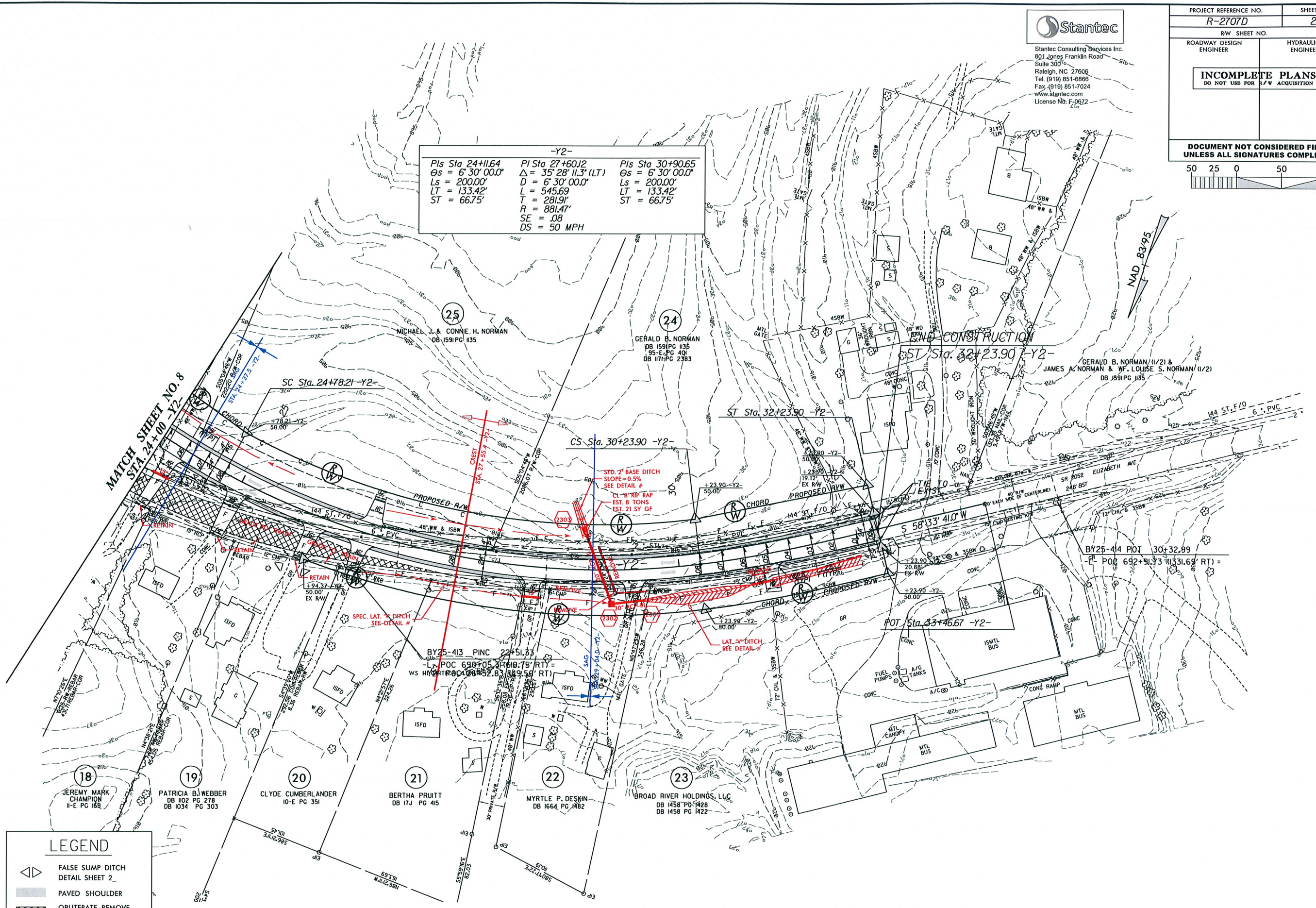


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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>23</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



-Y2-		
PIs Sta 24+11.64 θs = 6° 30' 00.0" Ls = 200.00' LT = 133.42' ST = 66.75'	PI Sta 27+60.12 Δ = 35° 28' 11.3" (LT) D = 6° 30' 00.0" L = 545.69' T = 281.91' R = 881.47' SE = .08 DS = 50 MPH	PIs Sta 30+90.65 θs = 6° 30' 00.0" Ls = 200.00' LT = 133.42' ST = 66.75'



LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

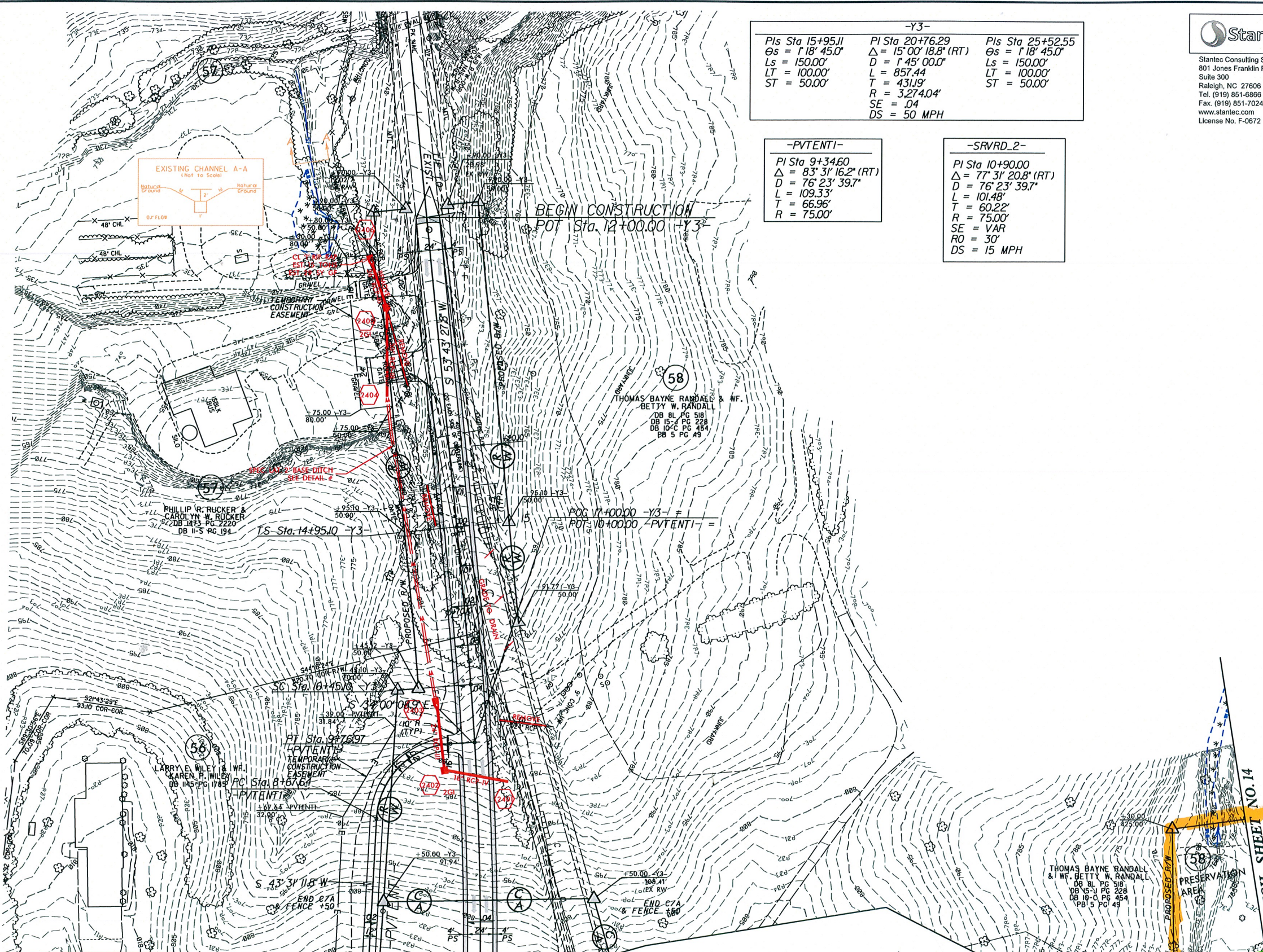
REFERENCE:  
FOR -Y2- PROFILE, SEE SHEET NO. 45

REVISIONS

12/2/08  
R-2707D\_Hyd.PSH\_23.dgn

8/17/95

REVISIONS



-Y3-

PIs Sta 15+95.11 Os = 1'18" 45.0" Ls = 150.00' LT = 100.00' ST = 50.00'	PI Sta 20+76.29 Δ = 15'00" 18.8" (RT) D = 1'45" 00.0" L = 857.44 T = 431.19' R = 3,274.04' SE = .04 DS = 50 MPH	PIs Sta 25+52.55 Os = 1'18" 45.0" Ls = 150.00' LT = 100.00' ST = 50.00'
---	--	---

-PVNTENTI-

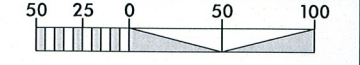
PI Sta 9+34.60 Δ = 83' 31" 16.2" (RT) D = 76' 23" 39.7" L = 109.33' T = 66.96' R = 75.00'
--

-SRVRD\_2-

PI Sta 10+90.00 Δ = 77' 31" 20.8" (RT) D = 76' 23" 39.7" L = 101.48' T = 60.22' R = 75.00' SE = VAR RO = 30' DS = 15 MPH
--

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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>24</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2_
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

MATCH SHEET NO. 13 MATCH SHEET NO. 13  
STA. 7+39.96 -PVNTENTI- STA. 19+00 -Y3-

MATCH SHEET NO. 14  
MATCH SHEET NO. 13

25

REFERENCE:  
FOR -Y3- PROFILE, SEE SHEET NO. 46  
FOR -PVNTENTI- PROFILE, SEE SHEET NO. 55

K2707D\_Hydr.PSH\_24.dgn

8/17/99

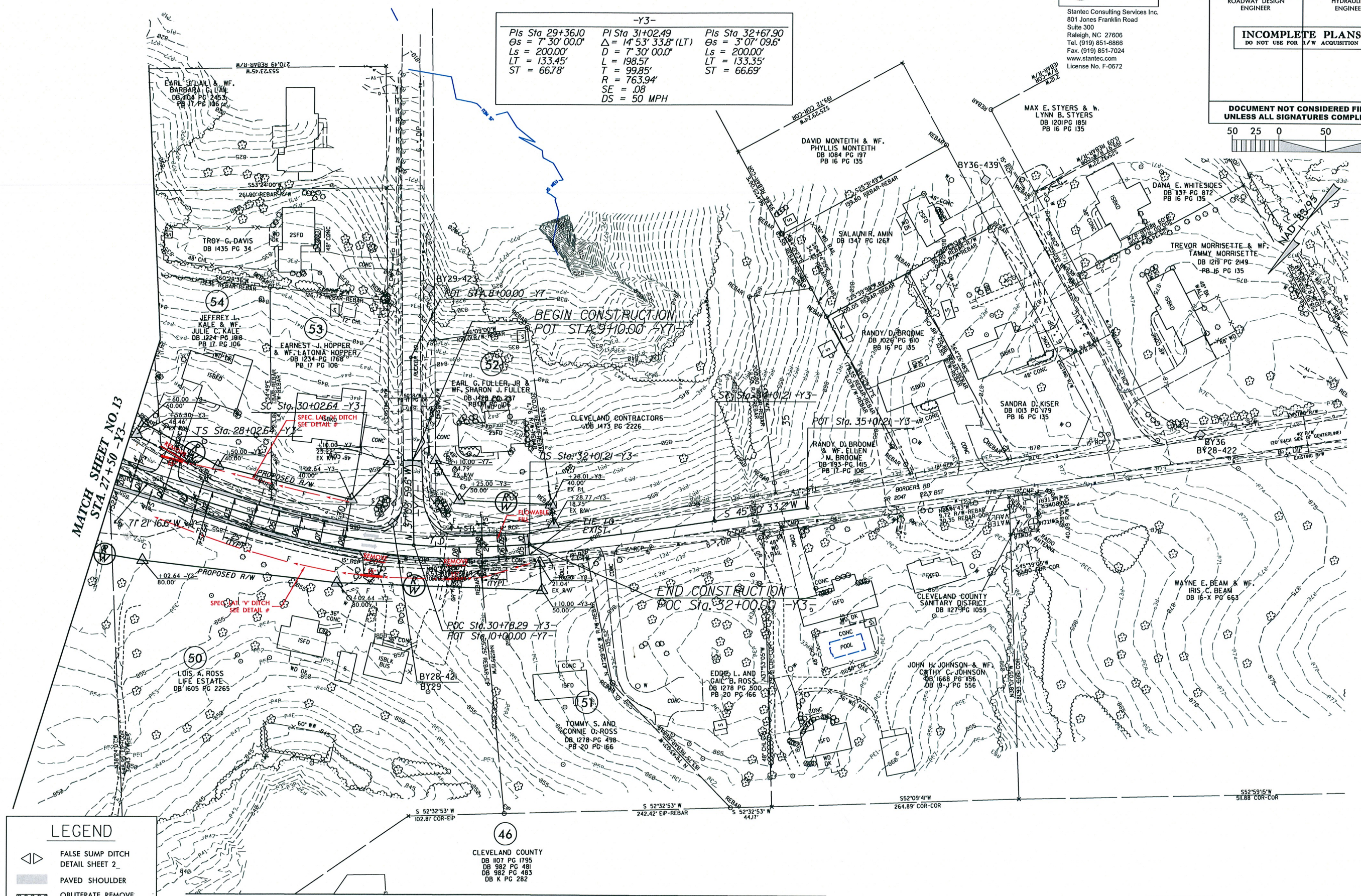


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PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>25</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	



-Y3-		
Pls Sta 29+36.10 Cs = 7' 30' 00.0" Ls = 200.00' LT = 133.45' ST = 66.78'	Pls Sta 31+02.49 Δ = 14' 53' 33.8" (LT) D = 7' 30' 00.0" L = 198.57' T = 99.85' R = 763.94' SE = .08 DS = 50 MPH	Pls Sta 32+67.90 Cs = 3' 07' 09.6" Ls = 200.00' LT = 133.35' ST = 66.69'



LEGEND	
	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLETERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

MATCH SHEET NO. 12A

REFERENCE:  
FOR -Y3- PROFILE, SEE SHEET NO. 46  
FOR -Y7- PROFILE, SEE SHEET NO. 49

REVISIONS

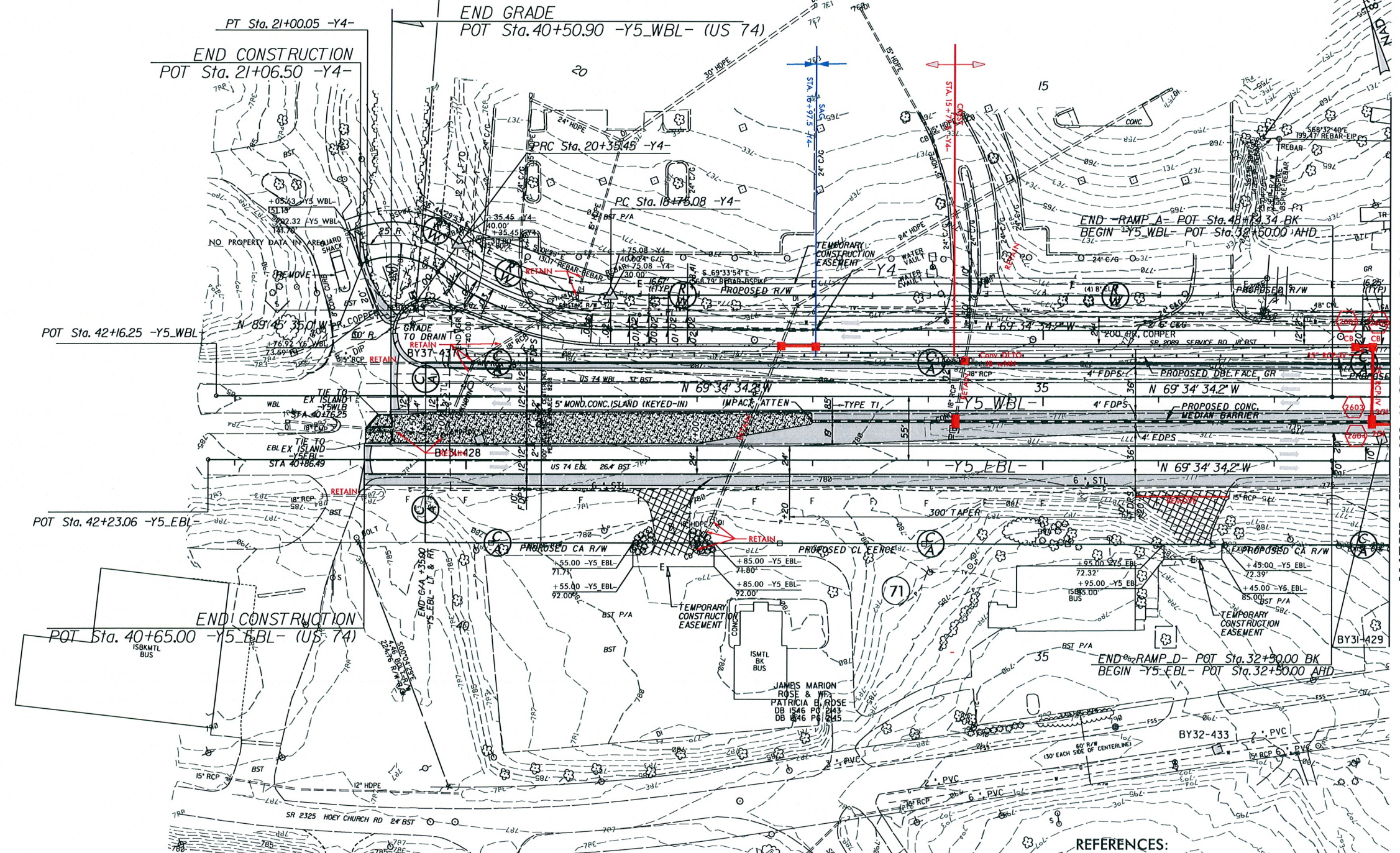
427898  
2707D\_Hyd\_PSH\_25.dgn

PROJECT REFERENCE NO. <b>R-2707D</b>	SHEET NO. <b>26</b>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-Y4-	
PI Sta 19+58.14	PI Sta 20+70.70
$\Delta = 36' 45'' 17.6'' (RT)$	$\Delta = 56' 56'' 18.4'' (LT)$
$D = 22' 55'' 05.9''$	$D = 88' 08'' 50.5''$
$L = 160.37'$	$L = 64.59'$
$T = 83.05'$	$T = 35.25'$
$R = 250.00'$	$R = 65.00'$
$SE = .03$	$SE = VAR$
$RO = 50'$	$RO = 65'$
$DS = 15 MPH$	$DS = 15 MPH$

**(70)**  
 AMEE ROGERS THOMAS, LLC  
 DB 1432 PG 2291  
 DB 1370 PG 2473



MATCH SHEET NO. 18 STA. 32+00.00 -RAMP D-  
 MATCH SHEET NO. 18 STA. 48+24.34 -RAMP A-  
 MATCH SHEET NO. 18 STA. 12+00.00 -Y4-

**LEGEND**

	FALSE SUMP DITCH DETAIL SHEET 2
	PAVED SHOULDER
	OBLITERATE, REMOVE AND GRADE TO DRAIN
	CONCRETE

**REFERENCES:**  
 FOR -Y4- PROFILE, SEE SHEET NO. 47  
 FOR -Y5- PROFILES (EBL & WBL), SEE SHEET NO. 48  
 FOR -RAMP A- PROFILE, SEE SHEET NO. 40