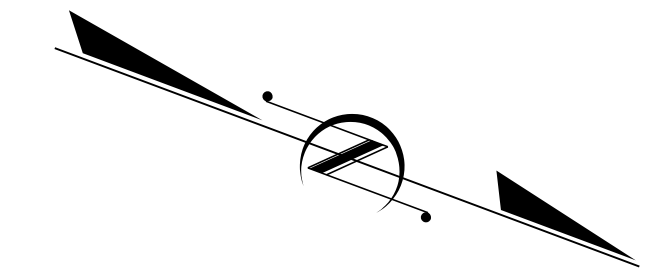
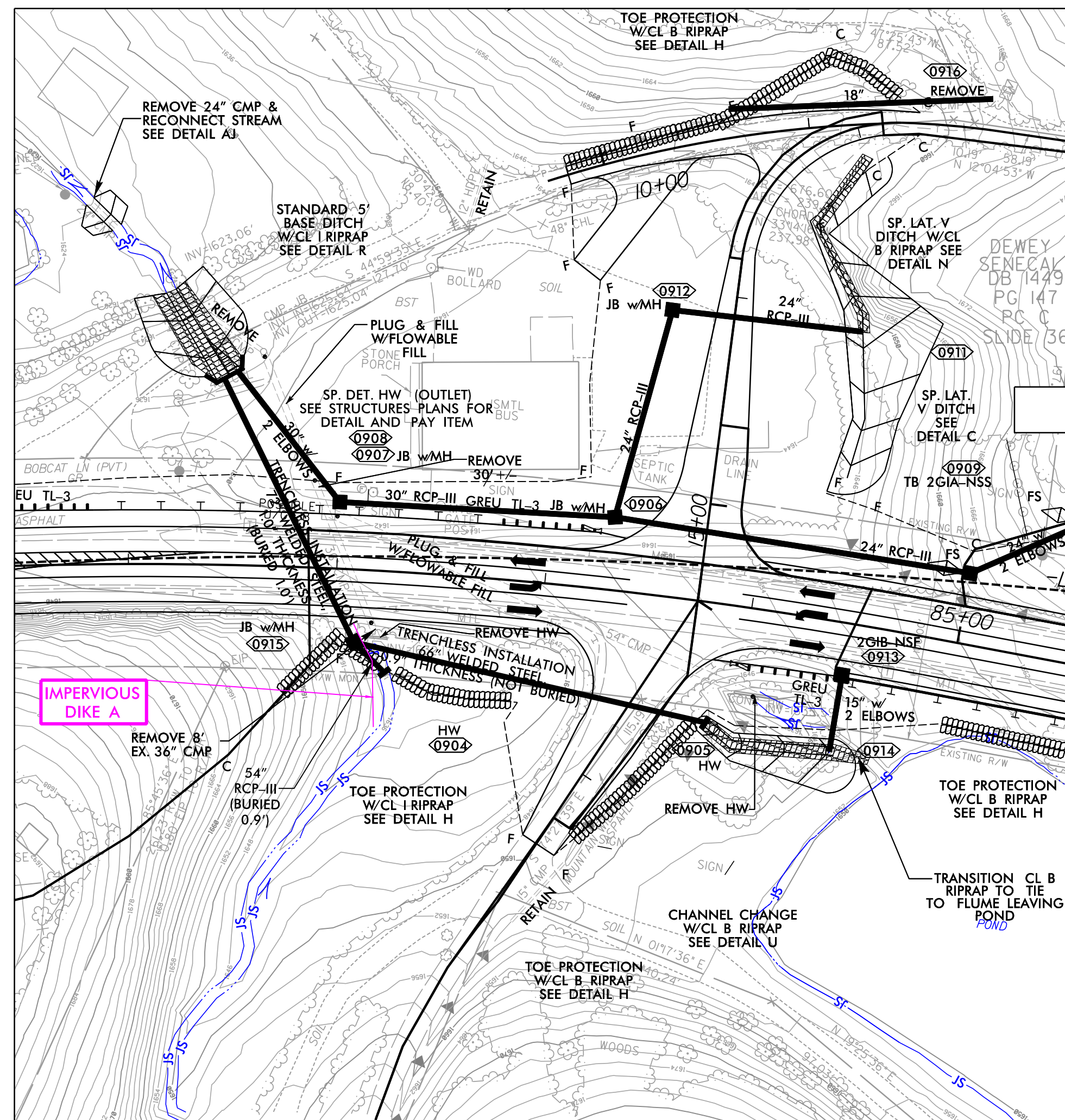


PROJECT REFERENCE NO. R-5861	SHEET NO. EC-9A/CONST.9A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



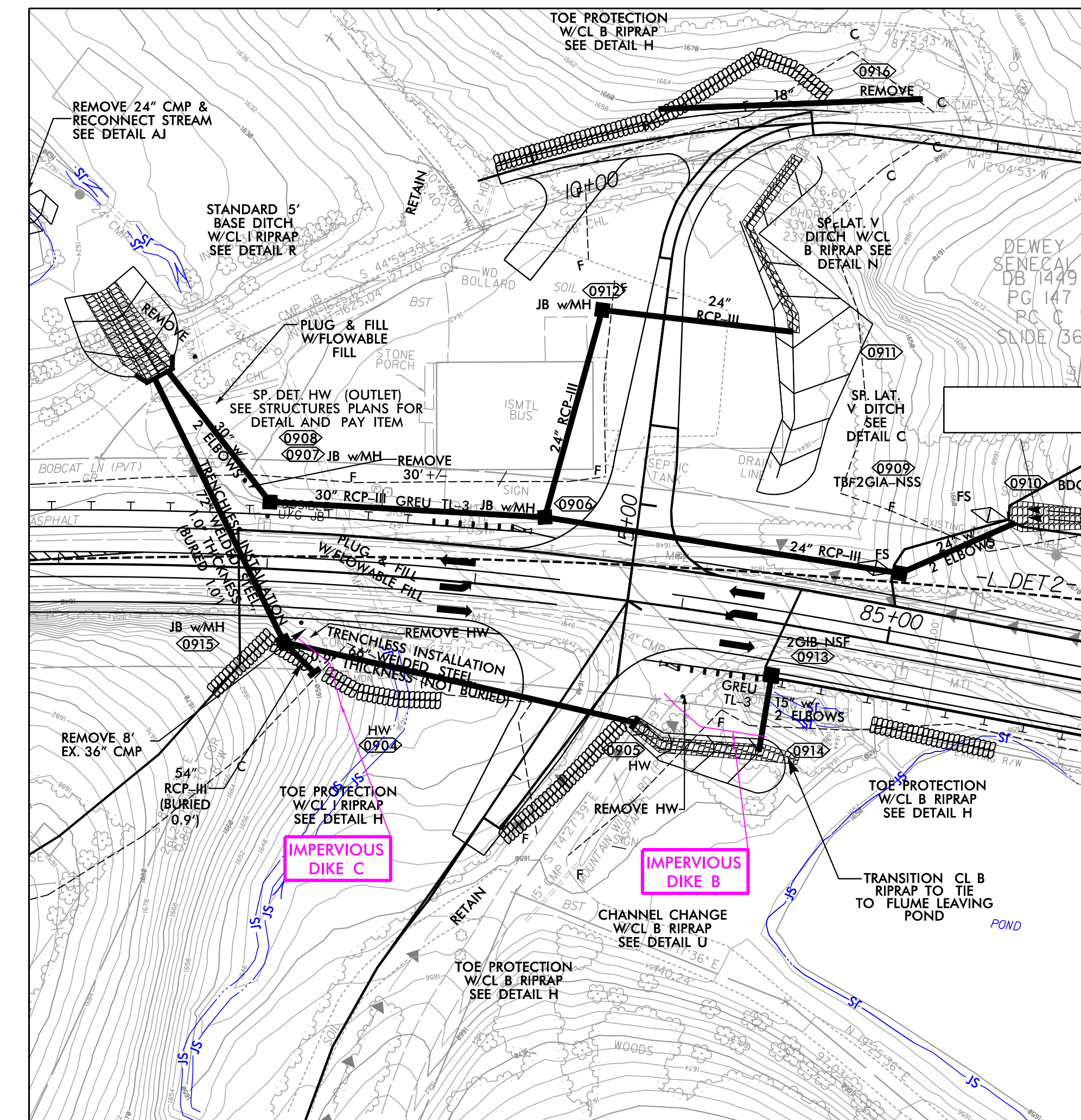
## PIPE INSTALLATION SEQUENCE 1 STA. 81+96 -L-

1. INSTALL SPECIAL STILLING BASIN(S) AS NEEDED.
2. INSTALL IMPERVIOUS DIKE 'A' AS SHOWN ON PLANS TO MAINTAIN FLOW THROUGH THE EXISTING 36" CMP AND INSTALL SPECIAL STILLING BASIN(S) AS NEEDED.
3. INSTALL ENTRANCE AND RECEIVING BORE PITS AS NECESSARY.
4. INSTALL TRENCHLESS INSTALLATION 72" WELDED STEEL PIPE UNDER -L-.
5. INSTALL JUNCTION BOX W/MANHOLE, STRUCTURE NO. 0915.
6. INSTALL OUTLET CHANNEL IMPROVEMENTS (DETAIL R), UTILIZING PUMP AROUND OPERATIONS AS NECESSARY TO REMOVE EX. 24" CMP AND BUILD STD. DITCH.
7. UTILIZE PUMP AROUND OPERATIONS AS NECESSARY TO INSTALL HEADWALL & 54" RCP-III ENTRANCE. SEE EC-2C.
8. REMOVE IMPERVIOUS DIKE 'A' AND DIVERT WATER INTO NEWLY CONSTRUCTED 72" PIPE.



## PIPE INSTALLATION SEQUENCE 2 STA. 10+57 -Y5-

1. INSTALL IMPERVIOUS DIKE 'B' AND 'C' AS SHOWN ON PLANS TO MAINTAIN FLOW THROUGH THE EXISTING 54" CMP HW & 24" CMP OUTLET
2. INSTALL ENTRANCE AND RECEIVING BORE PITS AS NECESSARY.
3. INSTALL TRENCHLESS INSTALLATION 66" WELDED STEEL PIPE UNDER -Y5-
4. UTILIZE PUMP AROUND OPERATIONS TO CONSTRUCT LAST FEW FT OF 66" WSP INTO PREVIOUSLY CONSTRUCTED JB W/MH #0915. SEE EC-2C.
5. REMOVE IMPERVIOUS DIKES AND DIVERT WATER THROUGH NEWLY CONSTRUCTED PIPES. REMOVE SPECIAL STILLING BASIN(S).
6. PLUG & FILL /REMOVE NECESSARY EXISTING PIPES PER PLANS.



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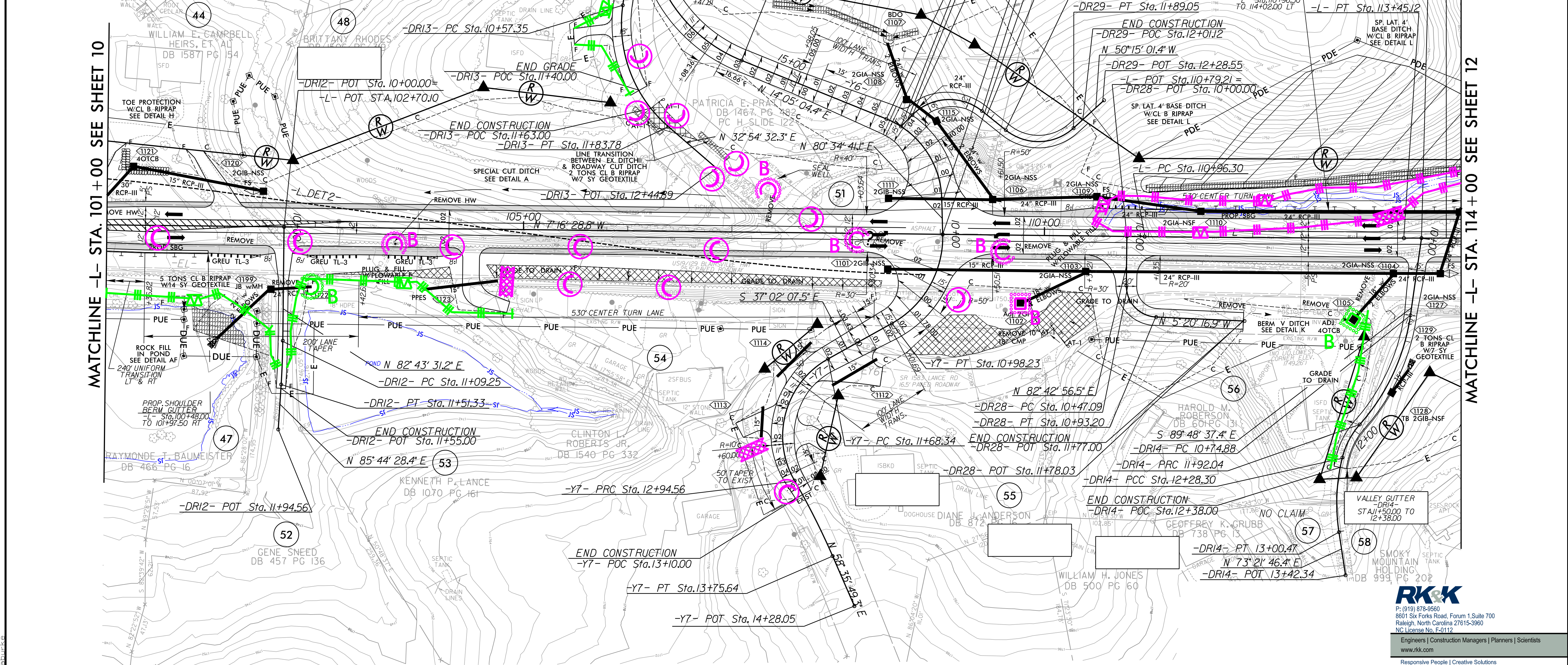






PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-II/CONST.II
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

<p><b>-L-</b></p> <p>PI Sta 112+20.71  <math>\Delta = 0' 38" 52.86" (LT)</math>  <math>D = 0' 15" 37.57"</math>  <math>L = 248.82'</math>  <math>T = 124.41'</math>  <math>R = 22,000.00'</math>  <math>SE = NC</math>  <math>RO = 70'</math>  <math>DS = 60 MPH</math></p>	<p><b>-Y6-</b></p> <p>PI Sta 13+60.37  <math>\Delta = 8' 00" 06.6" (LT)</math>  <math>D = 39' 30" 51.6"</math>  <math>L = 204.99'</math>  <math>T = 123.85'</math>  <math>R = 145.00'</math>  <math>SE = 0.06</math>  <math>RO = 100'</math>  <math>DS = 25 MPH</math></p>	<p><b>-DR12-</b></p> <p>PI Sta 16+47.26  <math>\Delta = 66' 29" 36.7" (RT)</math>  <math>D = 67' 24" 24.5"</math>  <math>L = 98.65'</math>  <math>T = 55.72'</math>  <math>R = 85.00'</math>  <math>SE = 0.05</math>  <math>RO = 75'</math>  <math>DS = 20 MPH</math></p>	<p><b>-DR12-</b></p> <p>PI Sta 11+30.31  <math>\Delta = 3' 00" 57.2" (RT)</math>  <math>D = 7' 09" 59.9"</math>  <math>L = 42.08'</math>  <math>T = 21.06'</math>  <math>R = 800.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>
<p><b>-Y7-</b></p> <p>PI Sta 10+57.52  <math>\Delta = 62' 57" 11.4" (RT)</math>  <math>D = 63' 30" 49.4"</math>  <math>L = 98.23'</math>  <math>T = 57.52'</math>  <math>R = 95.00'</math>  <math>SE = 0.02</math>  <math>RO = 30'</math>  <math>DS = 20 MPH</math></p>	<p><b>-Y6-</b></p> <p>PI Sta 12+54.78  <math>\Delta = 90' 57" 44.5" (LT)</math>  <math>D = 72' 03" 49.5"</math>  <math>L = 126.22'</math>  <math>T = 86.44'</math>  <math>R = 85.00'</math>  <math>SE = 0.02</math>  <math>RO = 30'</math>  <math>DS = 20 MPH</math></p>	<p><b>-Y7-</b></p> <p>PI Sta 13+35.18  <math>\Delta = 6' 35" 41.2" (RT)</math>  <math>D = 8' 08" 02.0"</math>  <math>L = 81.08'</math>  <math>T = 40.62'</math>  <math>R = 705.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR28-</b></p> <p>PI Sta 10+76.09  <math>\Delta = 88' 03" 13.4" (LT)</math>  <math>D = 190' 59" 09.4"</math>  <math>L = 46.10'</math>  <math>T = 29.00'</math>  <math>R = 30.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>
<p><b>-DR13-</b></p> <p>PI Sta 10+28.00  <math>\Delta = 49' 09" 14.4" (LT)</math>  <math>D = 229' 10" 59.2"</math>  <math>L = 21.45'</math>  <math>T = 11.43'</math>  <math>R = 25.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR13-</b></p> <p>PI Sta 11+28.22  <math>\Delta = 57' 11" 36.3" (LT)</math>  <math>D = 45' 14" 23.0"</math>  <math>L = 126.42'</math>  <math>T = 70.87'</math>  <math>R = 130.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR29-</b></p> <p>PI Sta 10+60.63  <math>\Delta = 84' 11" 20.2" (RT)</math>  <math>D = 114' 35" 29.6"</math>  <math>L = 73.47'</math>  <math>T = 45.71'</math>  <math>R = 50.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR29-</b></p> <p>PI Sta 11+61.05  <math>\Delta = 81' 06" 48.1" (LT)</math>  <math>D = 114' 35" 29.6"</math>  <math>L = 70.78'</math>  <math>T = 42.79'</math>  <math>R = 50.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>
<p><b>-DR14-</b></p> <p>PI Sta 11+35.19  <math>\Delta = 33' 33" 54.5" (RT)</math>  <math>D = 28' 38" 52.4"</math>  <math>L = 117.16'</math>  <math>T = 60.32'</math>  <math>R = 200.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR14-</b></p> <p>PI Sta 12+10.53  <math>\Delta = 27' 41" 53.8" (LT)</math>  <math>D = 76' 23" 39.7"</math>  <math>L = 36.26'</math>  <math>T = 18.49'</math>  <math>R = 75.00'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	<p><b>-DR14-</b></p> <p>PI Sta 12+64.86  <math>\Delta = 22' 41" 36.9" (LT)</math>  <math>D = 31' 26" 41.0"</math>  <math>L = 72.17'</math>  <math>T = 36.56'</math>  <math>R = 182.21'</math>  <math>SE = 0.02</math>  <math>DS = 15 MPH</math></p>	

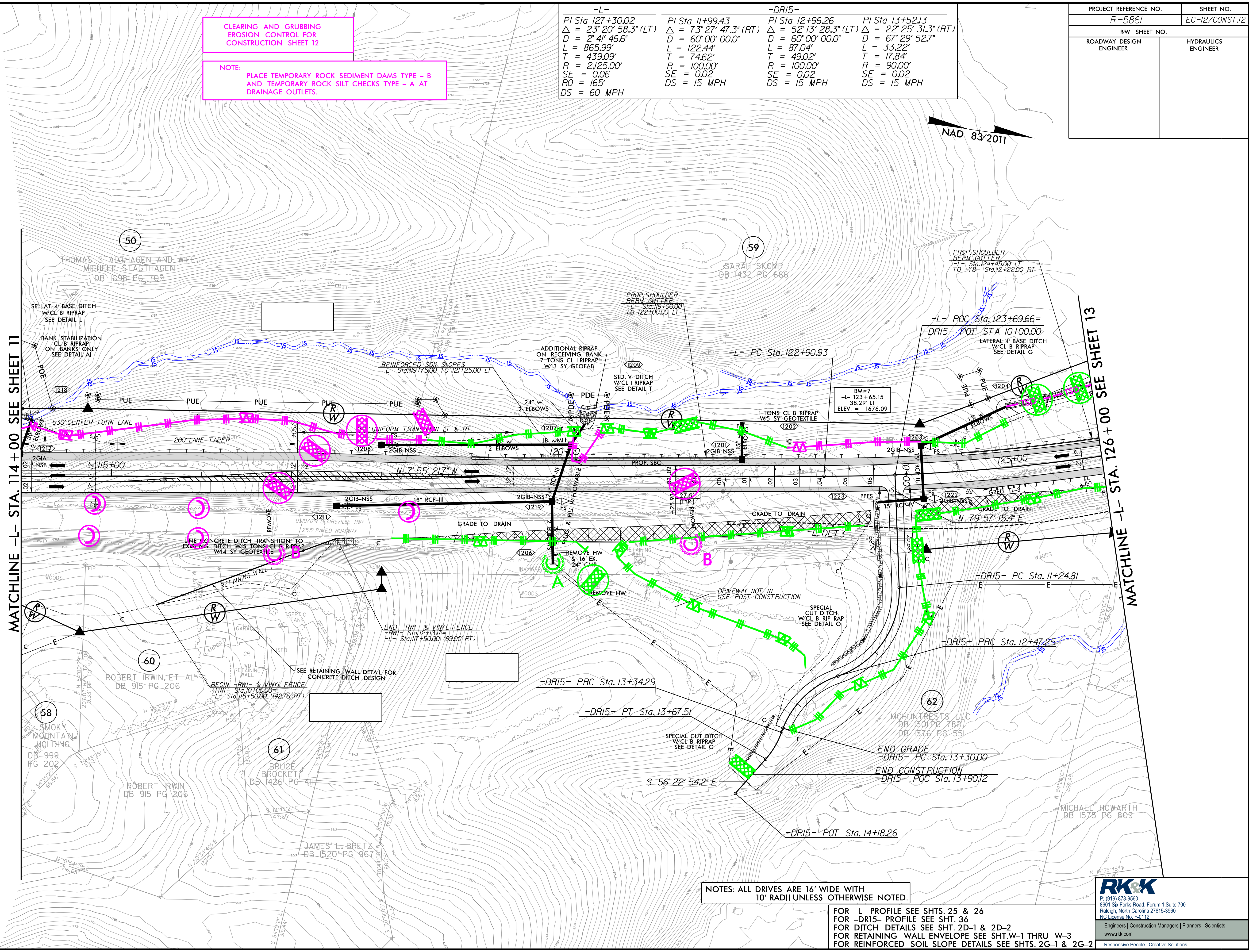


CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 11

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



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**CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 12**

**NOTE:**  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

-L-	-DR15-	-DR15-	-DR15-
PI Sta 127+30.02	PI Sta 11+99.43	PI Sta 12+96.26	PI Sta 13+52.13
$\Delta = 23^{\circ} 20' 58.3" (LT)$	$\Delta = 73^{\circ} 27' 47.3" (RT)$	$\Delta = 52^{\circ} 13' 28.3" (LT)$	$\Delta = 22^{\circ} 25' 31.3" (RT)$
D = 2' 41' 46.6"	D = 60' 00' 00.0"	D = 60' 00' 00.0"	D = 67' 29' 52.7"
L = 865.99'	L = 122.44'	L = 87.04'	L = 33.22'
T = 439.09'	T = 74.62'	T = 49.02'	T = 17.84'
R = 2125.00'	R = 100.00'	R = 100.00'	R = 90.00'
SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 165'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH

PROJECT REFERENCE NO. R-5861	SHEET NO. EC-12/CONST.12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/2011

MATCHLINE -L- STA. 114+00 SEE SHEET 11

MATCHLINE -L- STA. 126+00 SEE SHEET 13

**NOTES: ALL DRIVES ARE 16' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED.**

FOR -L- PROFILE SEE SHTS. 25 & 26  
FOR -DR15- PROFILE SEE SHT. 36  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2  
FOR RETAINING WALL ENVELOPE SEE SHT. W-1 THRU W-3  
FOR REINFORCED SOIL SLOPE DETAILS SEE SHTS. 2G-1 & 2G-2

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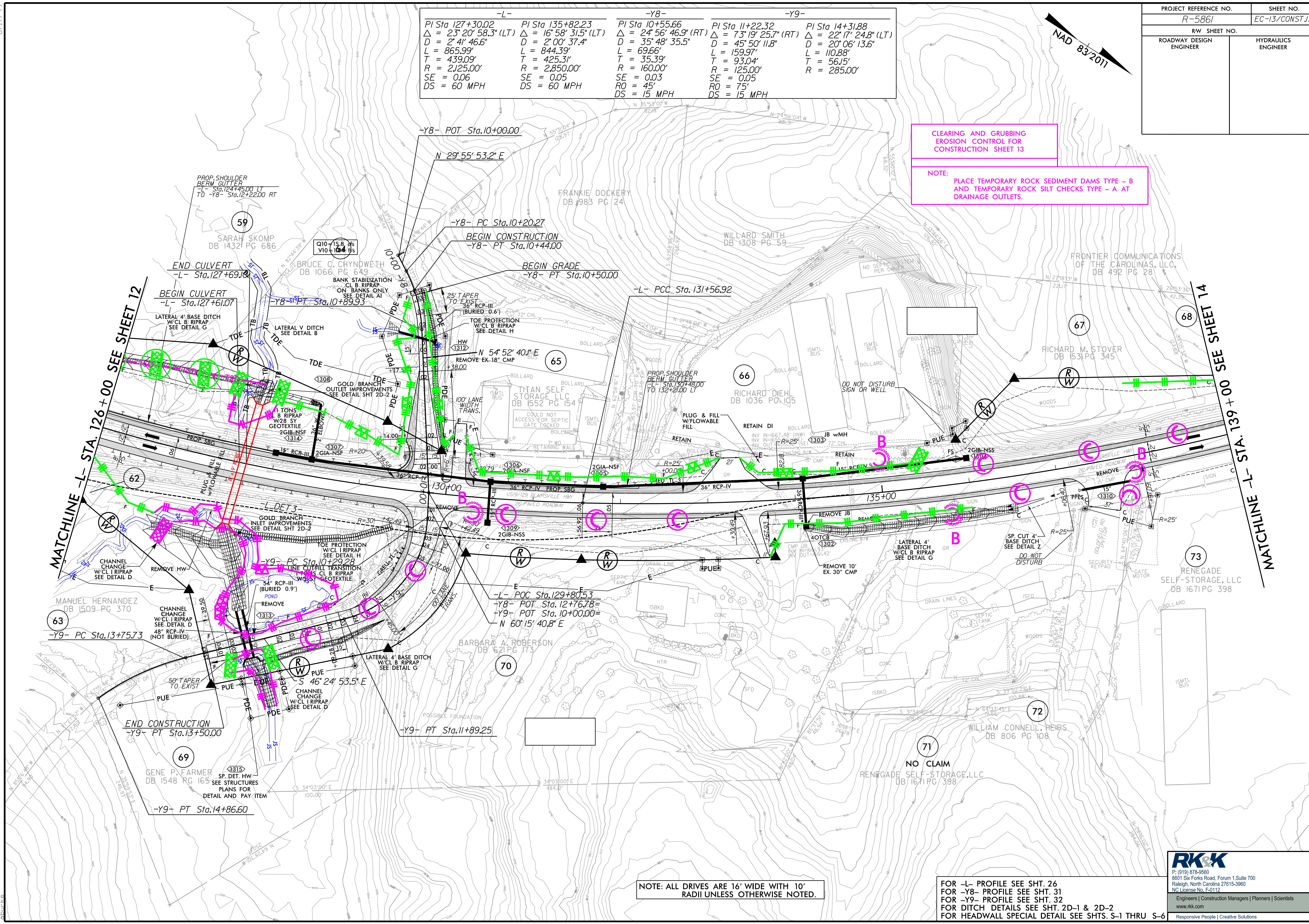
PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-13/CONST.13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-	-Y8-	-Y9-
PI Sta 127+30.02 Δ = 23° 20' 58.3" (LT) D = 2' 4" 46.6" L = 865.99' T = 439.09' R = 2,125.00' SE = 0.06 DS = 60 MPH	PI Sta 135+82.23 Δ = 16° 58' 31.5" (LT) D = 2' 00' 37.4" L = 844.39' T = 425.31' R = 2,850.00' SE = 0.05 DS = 60 MPH	PI Sta 10+55.66 Δ = 24° 56' 46.9" (RT) D = 35' 48' 35.5" L = 69.66' T = 35.39' R = 160.00' SE = 0.03 RO = 45' DS = 15 MPH
		PI Sta 11+22.32 Δ = 73° 19' 25.7" (RT) D = 45' 50' 11.8" L = 159.97' T = 93.04' R = 125.00' SE = 0.05 RO = 75' DS = 15 MPH
		PI Sta 14+31.88 Δ = 22° 17' 24.8" (LT) D = 20' 06' 13.6" L = 110.88' T = 56.15' R = 285.00'



CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 13

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



MATCHLINE -L- STA. 126+00 SEE SHEET 12

MATCHLINE -L- STA. 139+00 SEE SHEET 14

-L- POC Sta. 129+80.53  
-Y8- POT Sta. 12+76.78=  
-Y9- POT Sta. 10+00.00=  
N 60° 15' 40.8" E

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADIUS UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHT. 26  
FOR -Y8- PROFILE SEE SHT. 31  
FOR -Y9- PROFILE SEE SHT. 32  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2  
FOR HEADWALL SPECIAL DETAIL SEE SHTS. S-1 THRU S-6

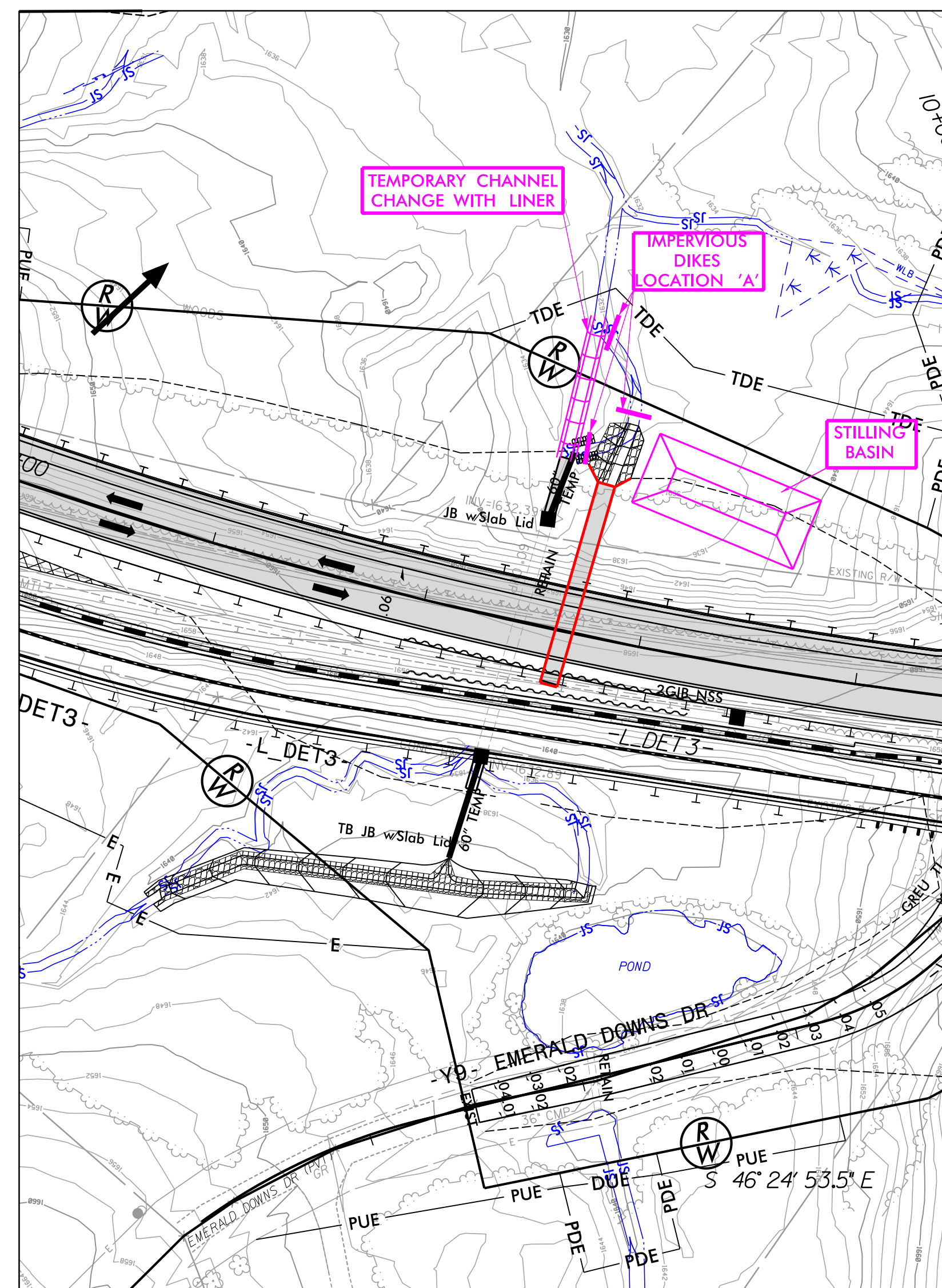
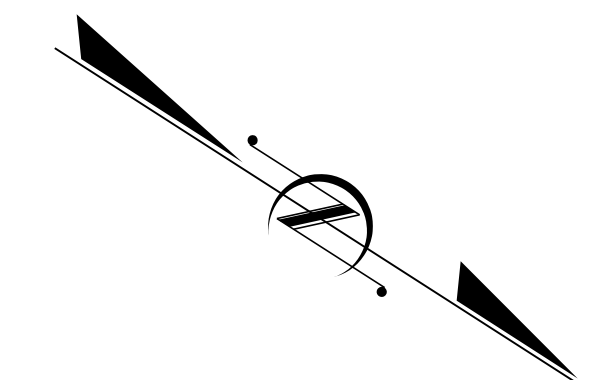
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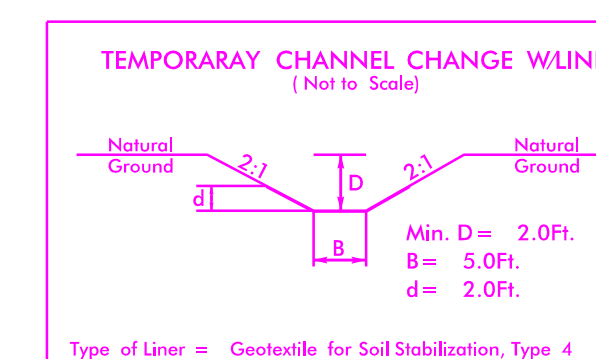


PROJECT REFERENCE NO. <i>R-5861</i>	SHEET NO. <i>EC-13A/CONST13A</i>
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## CULVERT INSTALLATION SEQUENCE 1 STA. 127+65 -L-

1. CONSTRUCT DETOUR -L-DET3- AND DETOUR DRAINAGE ACCORDING TO ROADWAY PLANS.
2. SHIFT ALL TRAFFIC TO DETOUR LANE.
3. INSTALL STILLING BASIN WITH MINIMUM CAPACITY OF 115 CY AT OUTLET OF PROPOSED CULVERT.
4. INSTALL IMPERVIOUS DIKES AS SHOWN ON PLAN. INSTALL APPROX. 68 LF OF TEMPORARY CHANNEL CHANGE W/LINER AS SHOWN IN DETAIL BELOW.
5. DIVERT STREAM THROUGH TEMPORARY CHANNEL.
6. INSTALL APPROX. 95 LF OF PROPOSED 8'x9' RCBC WITH HEADWALL, WINGWALLS AND OUTLET CHANNEL IMPROVEMENTS.
7. CONSTRUCT ROADWAY AND EMBANKMENTS ACCORDING TO ROADWAY PLANS LEAVING AS MUCH OF THE STILLING BASIN AS POSSIBLE UNTIL CONSTRUCTION IS FINISHED.
8. SWITCH TRAFFIC TO NEWLY CONSTRUCTED PAVEMENT.
9. REMOVE DETOUR ROADWAY AND TEMPORARY DRAINAGE STRUCTURES.
10. REMOVE REMAINING PORTION OF STILLING BASIN AT OUTLET END.



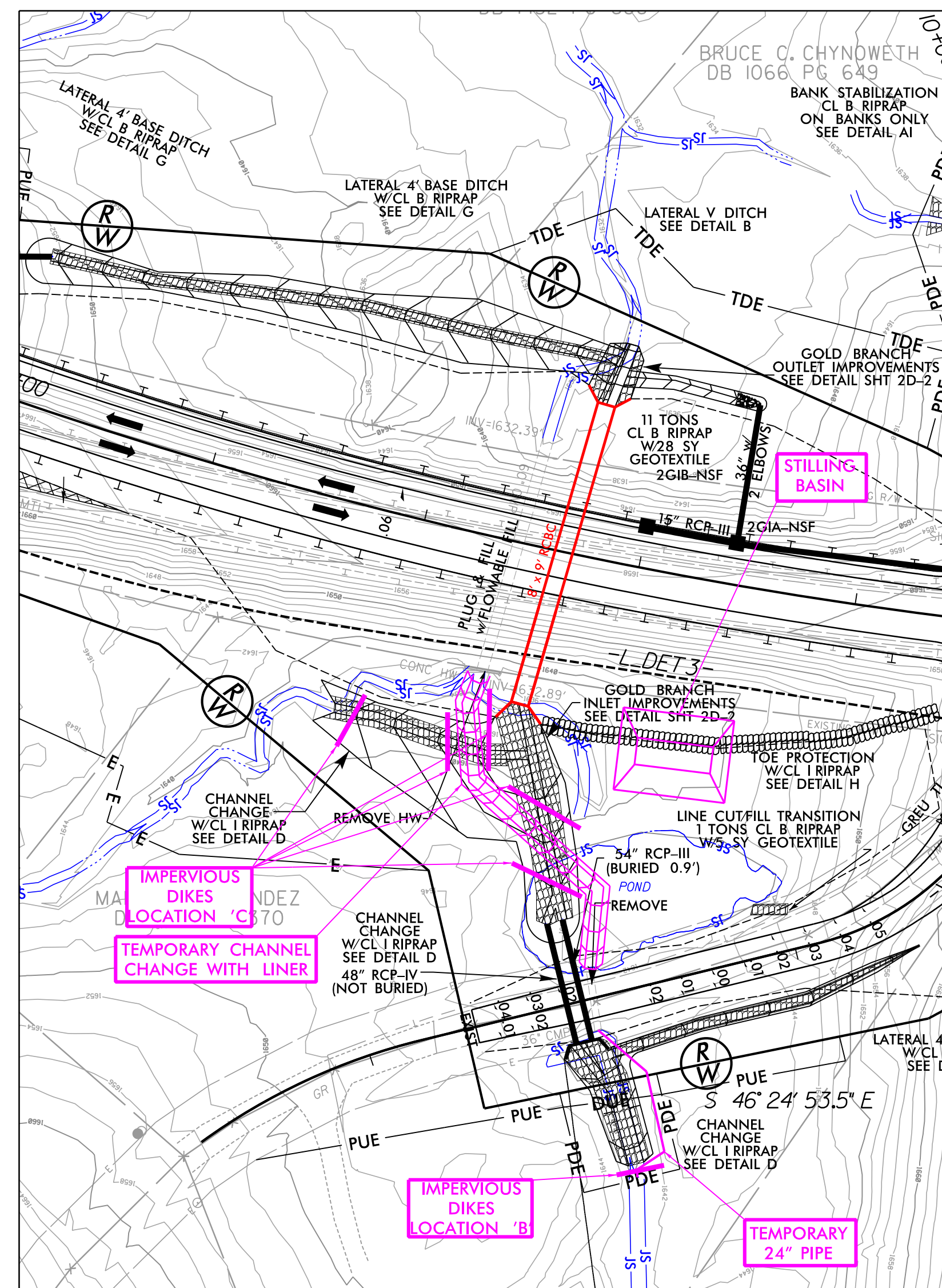
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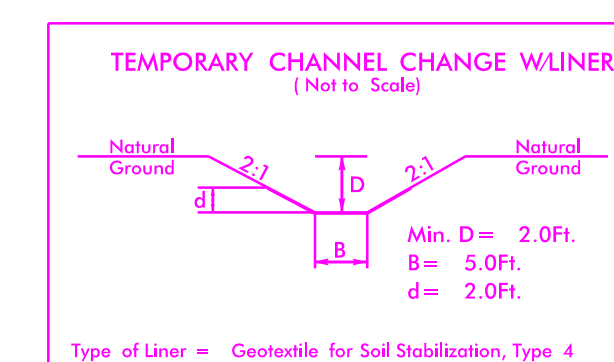
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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## CULVERT INSTALLATION SEQUENCE 2 STA. 127+65 -L-

1. MAINTAIN TEMPORARY CHANNEL CHANGE AND IMPERVIOUS DIKES FROM SEQUENCE 1. INSTALL STILLING BASIN AT INLET END WITH A MINIMUM CAPACITY OF 67 CY.
2. INSTALL 24" TEMPORARY PIPE AND USE TRANSITION FITTING TO CONNECT TO EXISTING 36" PIPE UNDER -Y9-.
3. INSTALL IMPERVIOUS DIKE IN LOCATION 'B.'
4. DRAIN POND ACCORDING TO SPECIAL PROVISIONS AND CONSTRUCT TEMPORARY CHANNEL CHANGE W/LINER AS SHOWN IN DETAIL BELOW.
5. INSTALL IMPERVIOUS DIKES IN LOCATION 'C.'
6. DIVERT STREAM THROUGH TEMPORARY PIPE AND CHANNEL CHANGE.
7. CONSTRUCT 57 LF (2)-48" PIPES, STANDARD BASE DITCH AS PER DETAIL T, PROPOSED 8'x9' RCBC WITH HEADWALL, WINGWALLS, INLET CHANNEL IMPROVEMENTS, 100 LF STANDARD BASE DITCH W/RIP RAP AS PER DETAIL T AND 90 LF CHANNEL CHANGE W/RIP RAP AS PER DETAIL D.
8. UTILIZE PUMP AROUND OPERATIONS TO COMPLETE CONSTRUCTION OF STANDARD BASE DITCH, DETAIL T.
9. UTILIZE PUMP AROUND OPERATIONS TO COMPLETE CONSTRUCTION OF CHANNEL CHANGE, DETAIL D, AND TIE TO EXISTING STREAM.
10. REMOVE IMPERVIOUS DIKES AT LOCATIONS 'A', 'B' AND 'C'. REMOVE STILLING BASIN AND TEMPORARY CHANNEL CHANGES.
11. DIVERT STREAM THROUGH NEWLY CONSTRUCTED BASE DITCHES AND CULVERT.
12. CONSTRUCT PROPOSED ROADWAY AND EMBANKMENTS ACCORDING TO ROADWAYS PLANS.

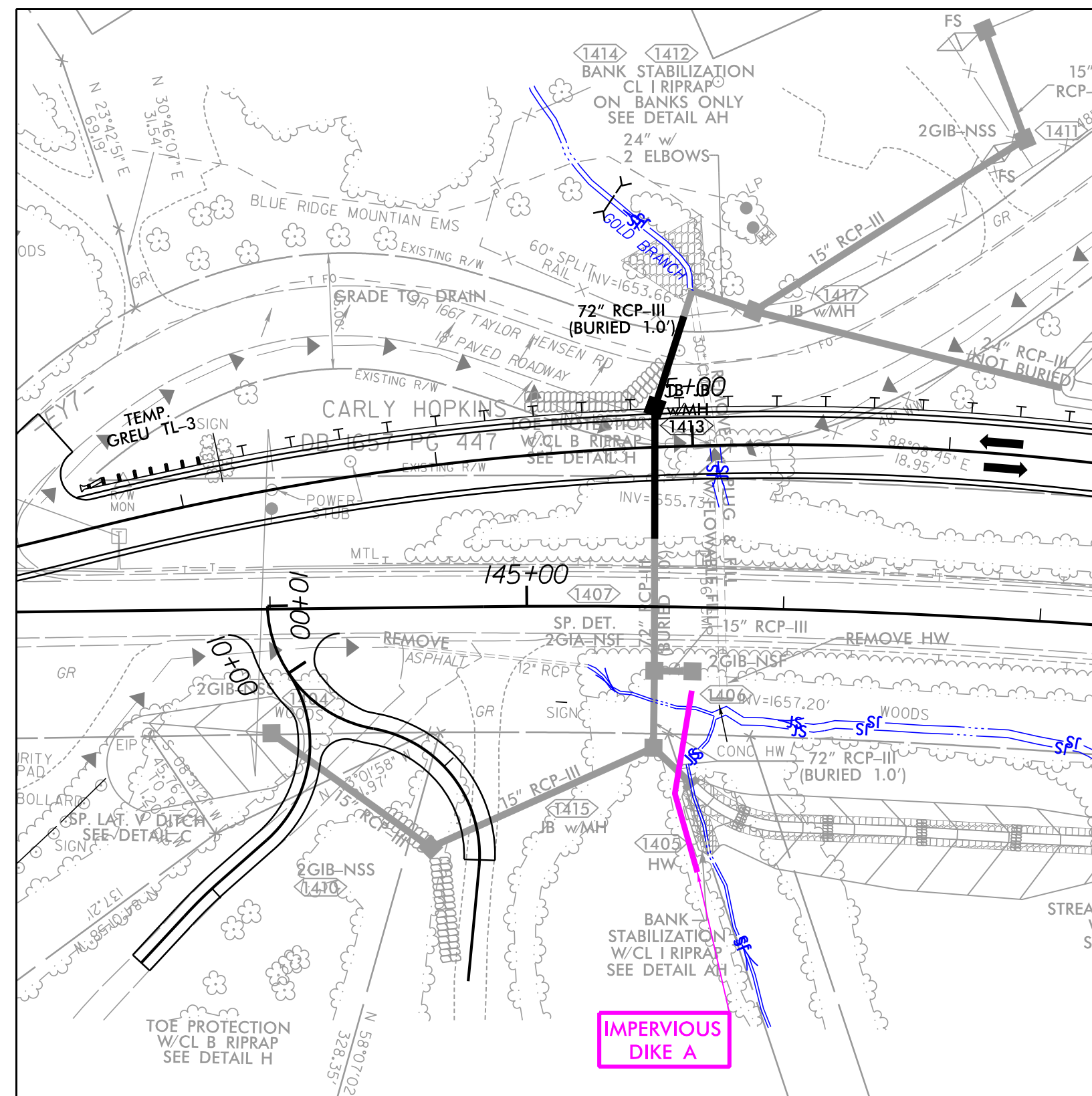
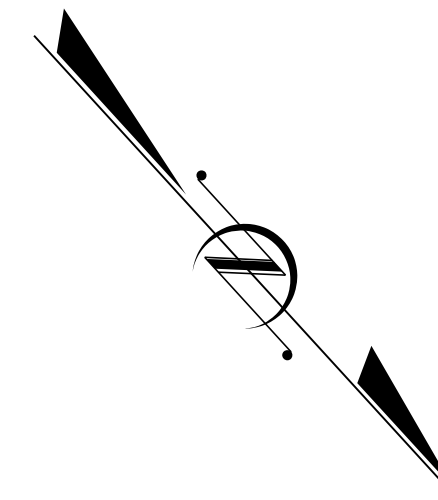






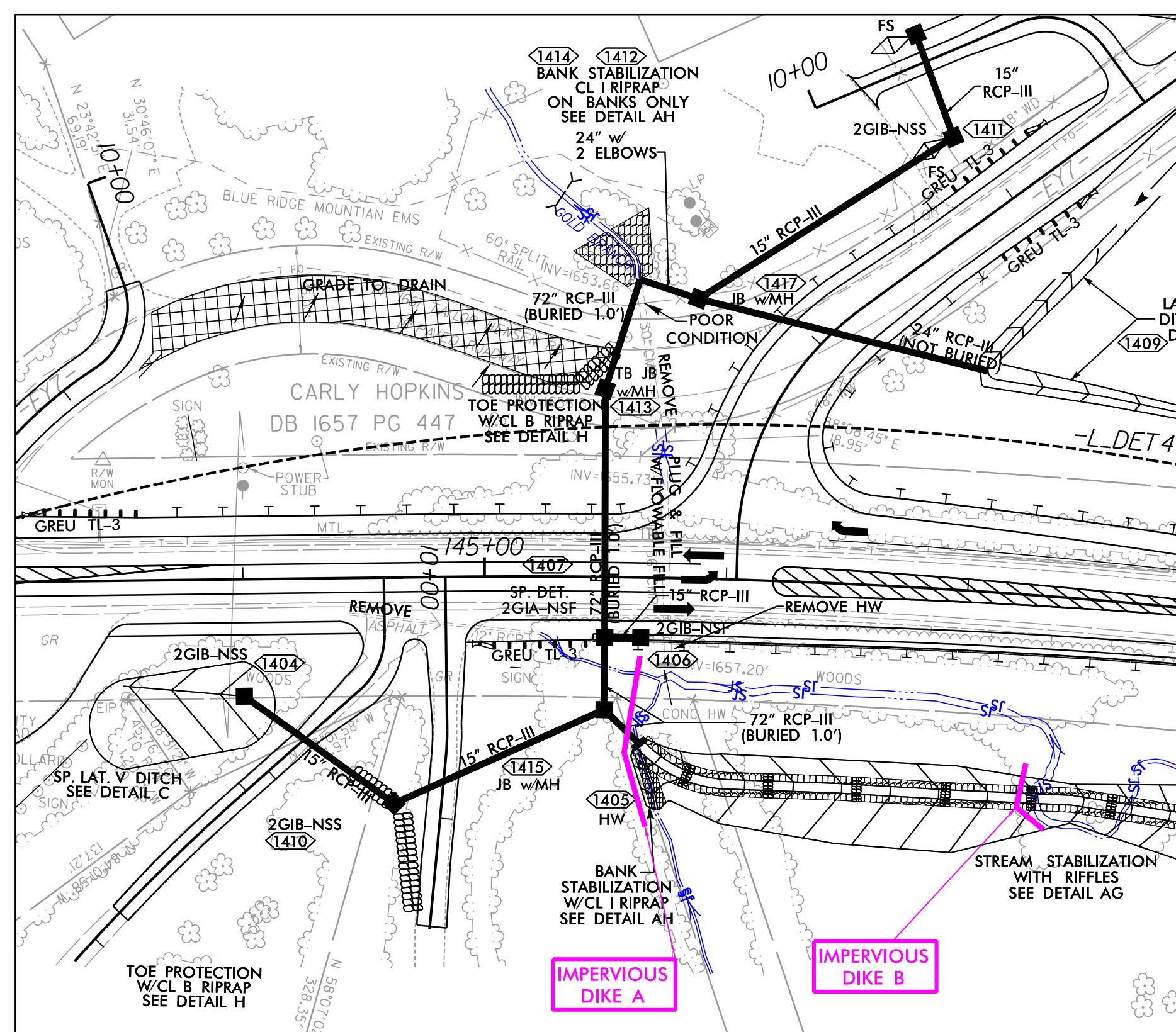


PROJECT REFERENCE NO. R-5861	SHEET NO. EC-14A/CONSTJ4A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



## PIPE INSTALLATION SEQUENCE 1 STA. 145+50 -L-

1. INSTALL SPECIAL STILLING BASIN(S) AS NEEDED.
2. BEFORE -L\_DET4- CONSTRUCTION, INSTALL PROPOSED TB JB W/MH #1413
3. CONSTRUCT 36 LF 72" RCP DOWNSTREAM OF JB & 50 LF 72" RCP UPSTREAM OF JB
4. CONSTRUCT DETOUR -L\_DET4- AND DETOUR DRAINAGE ACCORDING TO ROADWAY PLANS.
5. SHIFT ALL TRAFFIC TO DETOUR LANE.
6. INSTALL IMPERVIOUS DIKS 'A' AS SHOWN ON PLANS TO MAINTAIN FLOW THROUGH EXISTING 36" CMP
7. INSTALL PROPOSED DRAINAGE STRUCTURES #1415 & #1407 AS SHOWN ON PLANS.
8. INSTALL 72" RCP-III UNDER -L- BETWEEN DRAINAGE STRUCTURES ABOVE.



## PIPE INSTALLATION SEQUENCE 2 STA. 145+50 -L-

1. SHIFT ALL TRAFFIC BACK TO NEWLY CONSTRUCTED PAVEMENT.
2. INSTALL REMAINDER OF 72" RCP-III TO THE OUTLET, REMOVING DETOUR DRAINAGE AS NECESSARY.
3. INSTALL IMPERVIOUS DIKE 'B' AS SHOWN ON PLANS.
4. INSTALL CHANNEL CHANGE W/RIFFLES (DETAIL AG) BETWEEN IMPERVIOUS DIKES
5. UTILIZE PUMP AROUND OPERATIONS TO CONSTRUCT PROPOSED HW AND ENTRANCE 72" RCP AROUND CHANNEL CHANGE IMPROVEMENTS.
6. REMOVE IMPERVIOUS DIKES 'A' AND 'B' TO DIVERT STREAM INTO NEWLY CONSTRUCTED CHANNEL AND PIPE. REMOVE ANY NEEDED SPECIAL STILLING BASIN(S).









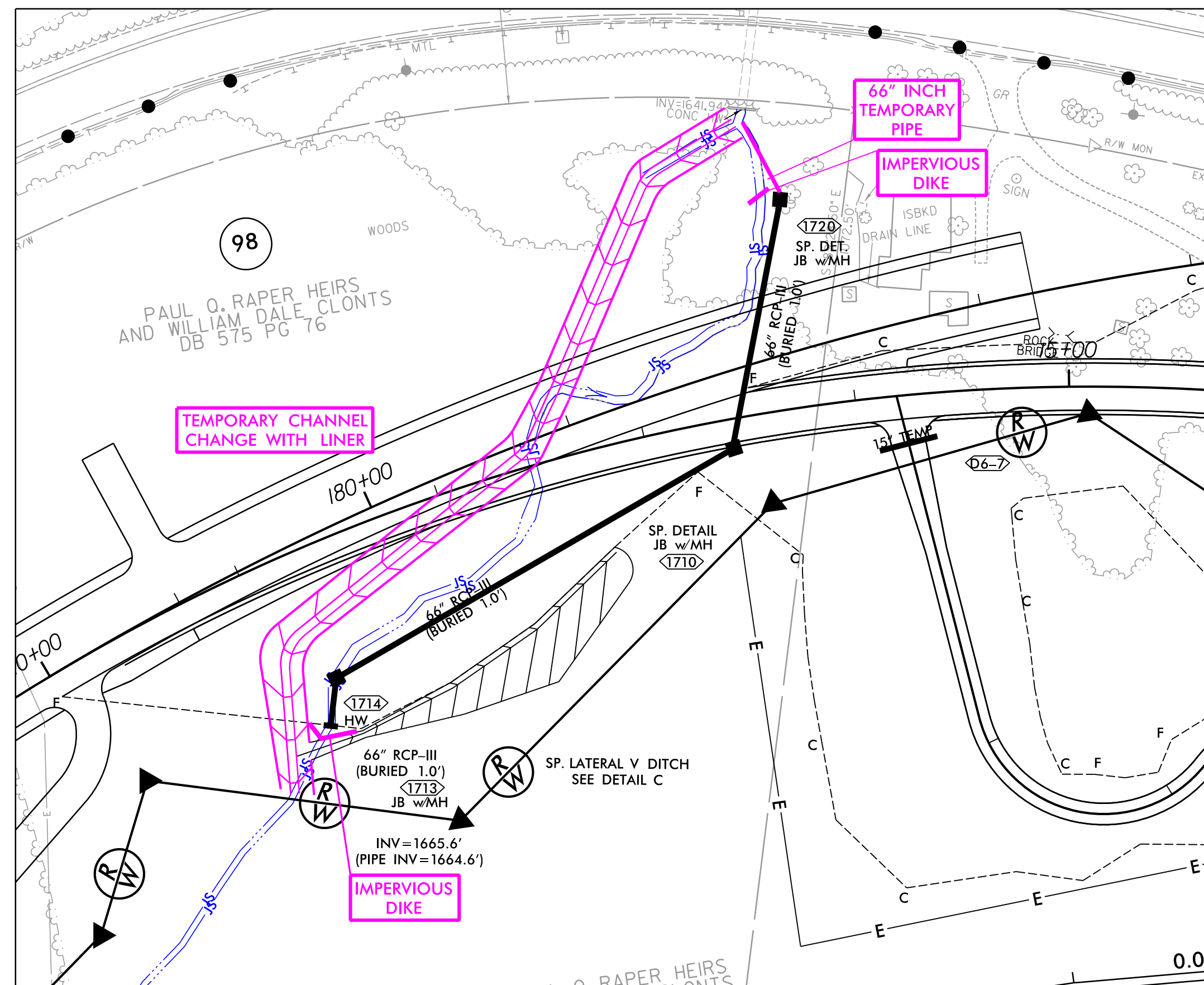






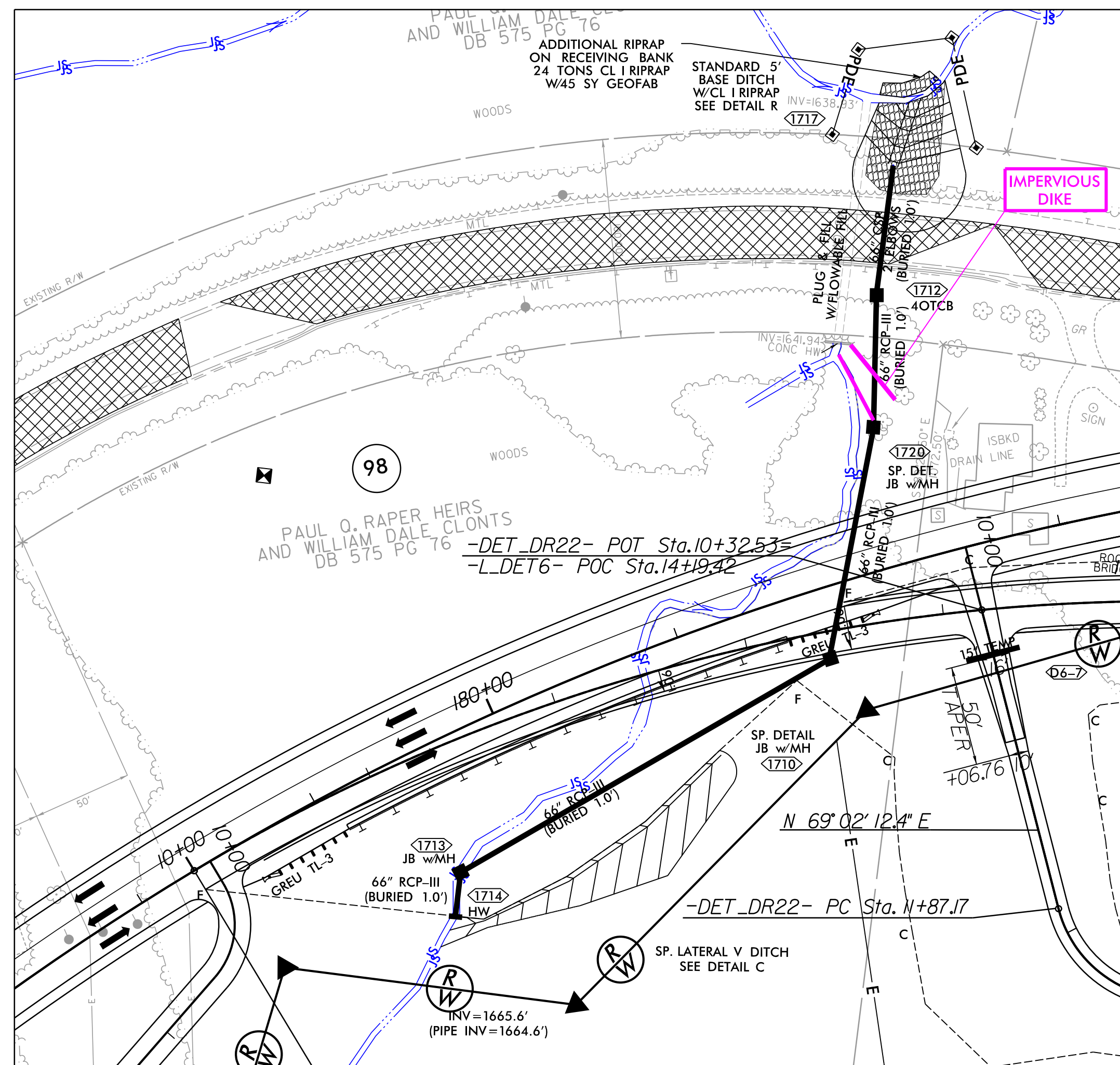
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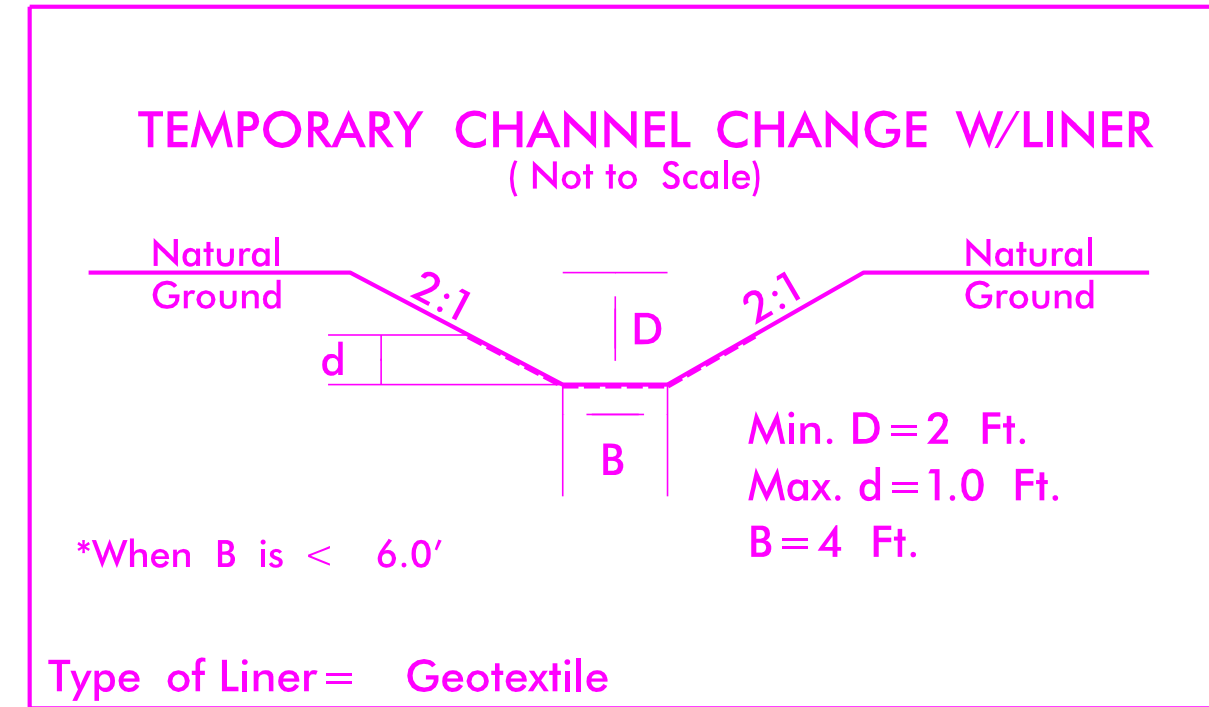
### PIPE INSTALLATION SEQUENCE 1 STA. 182 + 00 -L-

- BEFORE -L\_DET6- CONSTRUCTION BEGINS, INSTALL PROPOSED TEMPORARY CHANNEL WITH LINER, INSTALL IMPERVIOUS DIKES AND UTILIZE SPECIAL STILLING BASINS AS NEEDED.
- WHEN TEMPORARY CHANNEL IS COMPLETE, START TO FILL IN AREA FROM STRUCTURE # 1720 TO DETOUR TO MEET DETOUR ROADWAY GRADES AND PROPOSED DESIGN (SEE TRAFFIC CONTROL PHASE 2 PLANS).
- CONSTRUCT SP. LATERAL V DITCH, SEE DETAIL C.
- CONSTRUCT PROPOSED HW # 1714, PROPOSED JB w/MH # 1713, # 1710 AND # 1720 AND 66" RCP BETWEEN STRUCTURES AS SHOWN ON PLANS.
- INSTALL TEMPORARY 66" PIPE FROM THE FINAL JB # 1720 DOWN TO THE PREVIOUSLY CONSTRUCTED TEMPORARY CHANNEL CHANGE, MAINTAINING FLOW THROUGH THE EXISTING 48" CMP UNDER THE EXISTING ROADWAY.
- REMOVE IMPERVIOUS DIKES AND TEMPORARY CHANNEL CHANGE TO DIVERT FLOW INTO THE STORM DRAINAGE SYSTEM
- FINISH CONSTRUCTION OF DETOUR -L\_DET6- ACCORDING TO ROADWAY AND TCP PLANS & OPEN TO TRAFFIC.



### PIPE INSTALLATION SEQUENCE 2 STA. 182 + 00 -L-

- INSTALL IMPERVIOUS DIKES AS SHOWN TO CONTINUE DIVERTING FLOW THROUGH THE EXISTING 48" CMP FROM STRUCTURE # 1720
- INSTALL PROPOSED STD. 5' BASE DITCH (DETAIL R) AT OUTLET, 4OTCB #1712 AND 66" CSP BETWEEN STRUCTURES. WHILE STILL MAINTAINING FLOW THROUGH EXISTING 48" PIPE.
- REMOVE 66" TEMPORARY PIPE AND IMPERVIOUS DIKE AT STRUCTURE #1720 AND UTILIZE TEMPORARY PUMP AROUNDS AS NECESSARY TO CONNECT FINAL 66" RCP BETWEEN STRUCTURES #1720 & #1712.
- MAINTAIN DETOUR DRAINAGE AS PROPOSED ROADWAY CONDITIONS ARE BUILT.
- INSTALL PROPOSED DRAINAGE AS CONSTRUCTION ALLOWS AND REMOVE SPECIAL STILLING BASINS.
- SHIFT TRAFFIC TO PROPOSED ROADWAY AND REMOVE DETOUR.



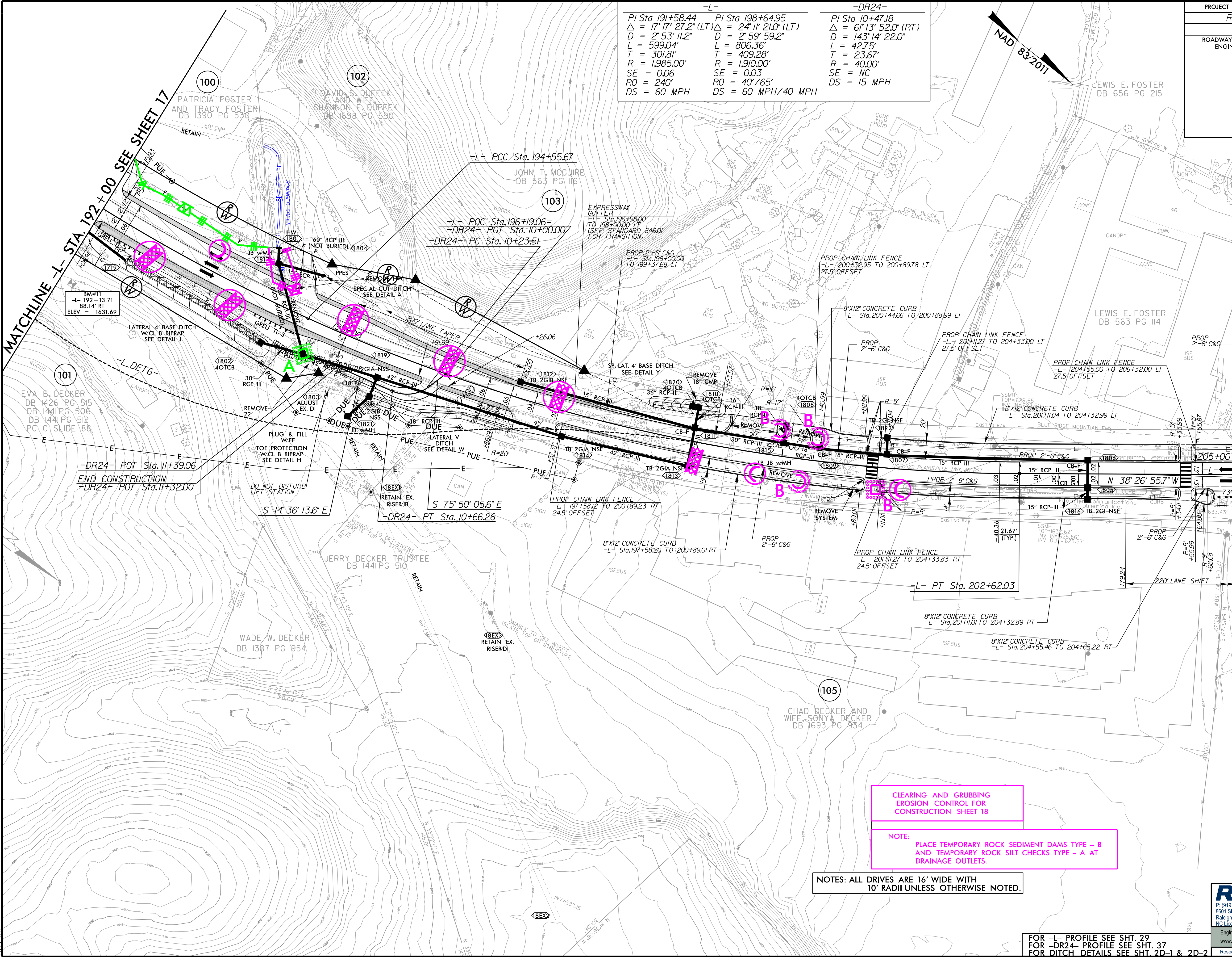
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8/17/199

PROJECT REFERENCE NO.		SHEET NO.	
R-5861		EC-18/CONST 18	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

-L-			-DR24-		
PI Sta 191+58.44	PI Sta 198+64.95	PI Sta 10+47.18	$\Delta = 17' 17" 27.2"$ (LT)	$\Delta = 24' 11" 21.0"$ (LT)	$\Delta = 6' 13' 52.0"$ (RT)
D = 2' 53' 11.2"	D = 2' 59' 59.2"	D = 143' 14' 22.0"	L = 599.04'	L = 806.36'	L = 42.75'
T = 301.81'	T = 409.28'	T = 23.67'	R = 1,985.00'	R = 1,910.00'	R = 40.00'
SE = 0.06	SE = 0.03	SE = NC	RO = 240'	RO = 40'/65'	DS = 15 MPH
DS = 60 MPH	DS = 60 MPH/40 MPH				



MATCHLINE -L- STA. 192+00 SEE SHEET 17

MATCHLINE -L- STA. 205+00 SEE SHEET 19

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 18

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.

NOTES: ALL DRIVES ARE 16' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHT. 29  
FOR -DR24- PROFILE SEE SHT. 37  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2

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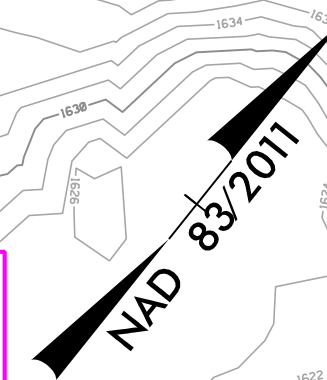
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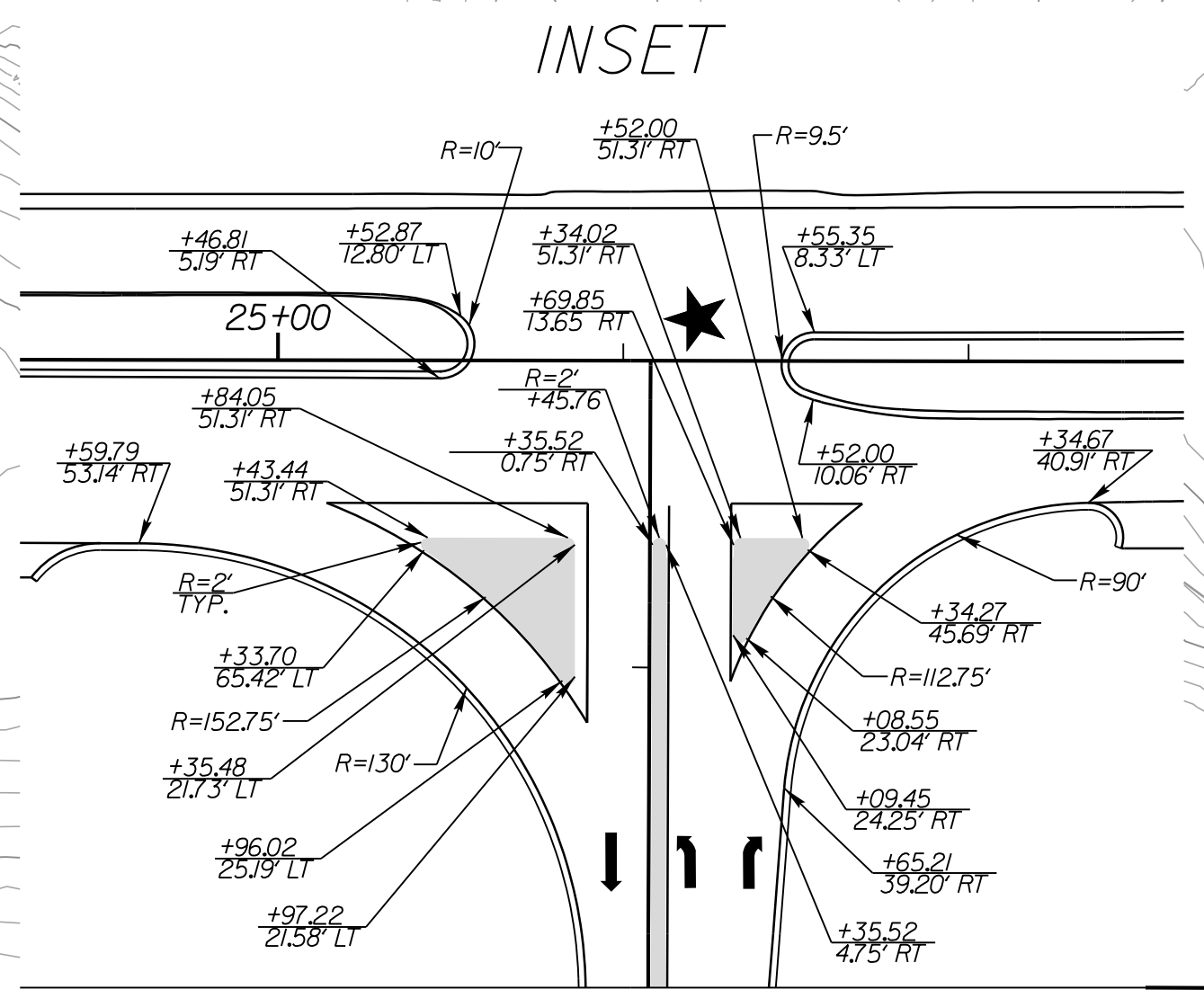
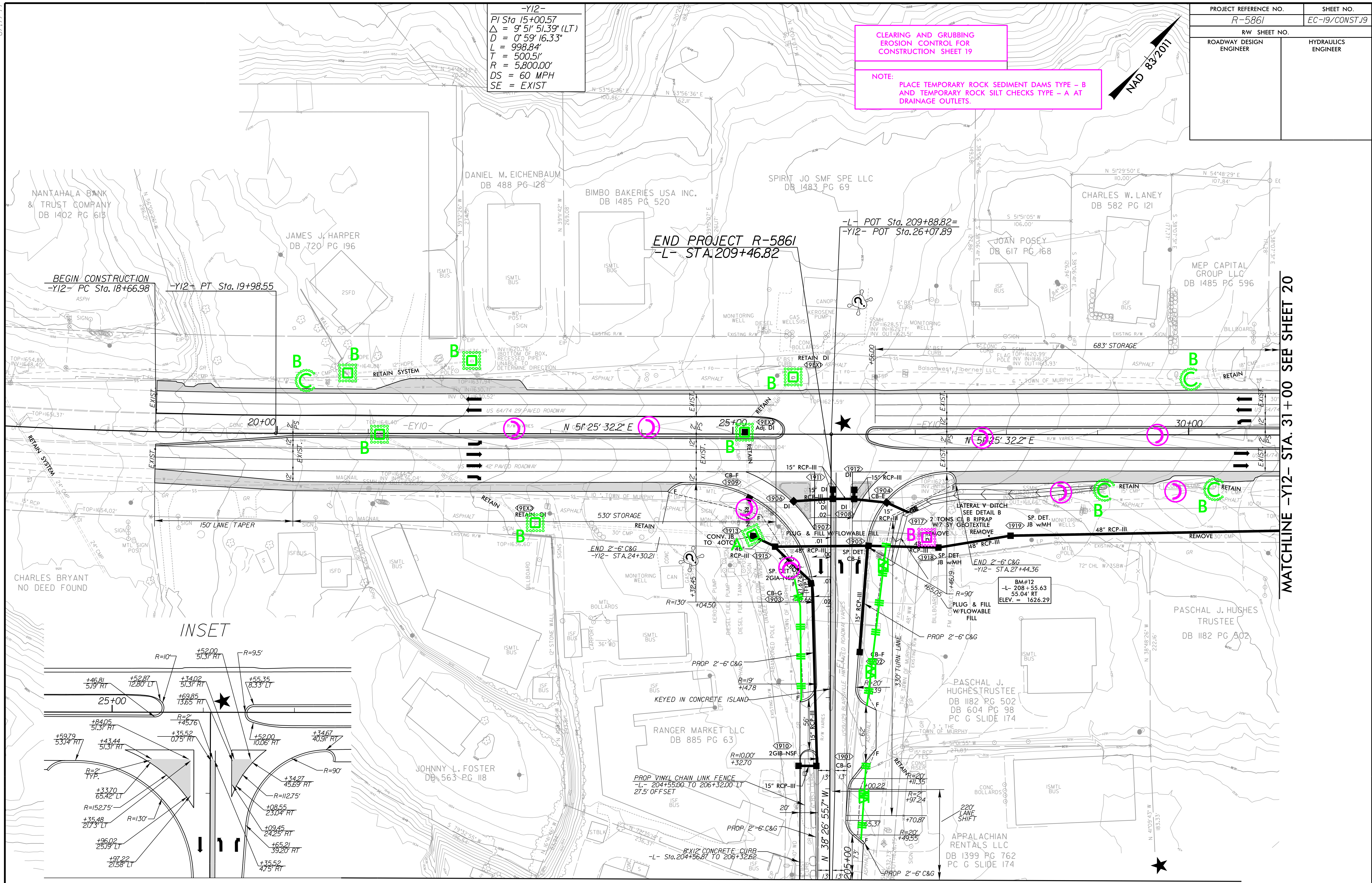
PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-19/CONST.19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 19

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



-Y12-  
PI Sta 15+00.57  
 $\Delta = 9^{\circ}51'51.39''$  (LT)  
 $D = 0^{\circ}59'16.33''$   
 $L = 998.84'$   
 $T = 500.51'$   
 $R = 5,800.00'$   
 $DS = 60$  MPH  
 $SE =$  EXIST



MATCHLINE -L- STA. 205+00 SEE SHEET 18

MATCHLINE -Y12- STA. 31+00 SEE SHEET 20

8.17.7.99  
10/23/2023  
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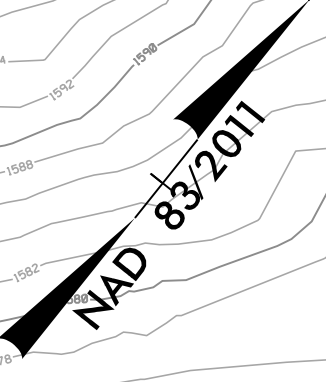
8/17/99  
10/23/2023  
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-Y12-  
PI Sta 38+31.35  
 $\Delta = 13^{\circ} 36' 06.4" (RT)$   
 $D = 0^{\circ} 59' 16.3"$   
 $L = 1,376.90'$   
 $T = 691.70'$   
 $R = 5,800.00'$   
 $DS = 60 MPH$   
 $SF = EXIST.$

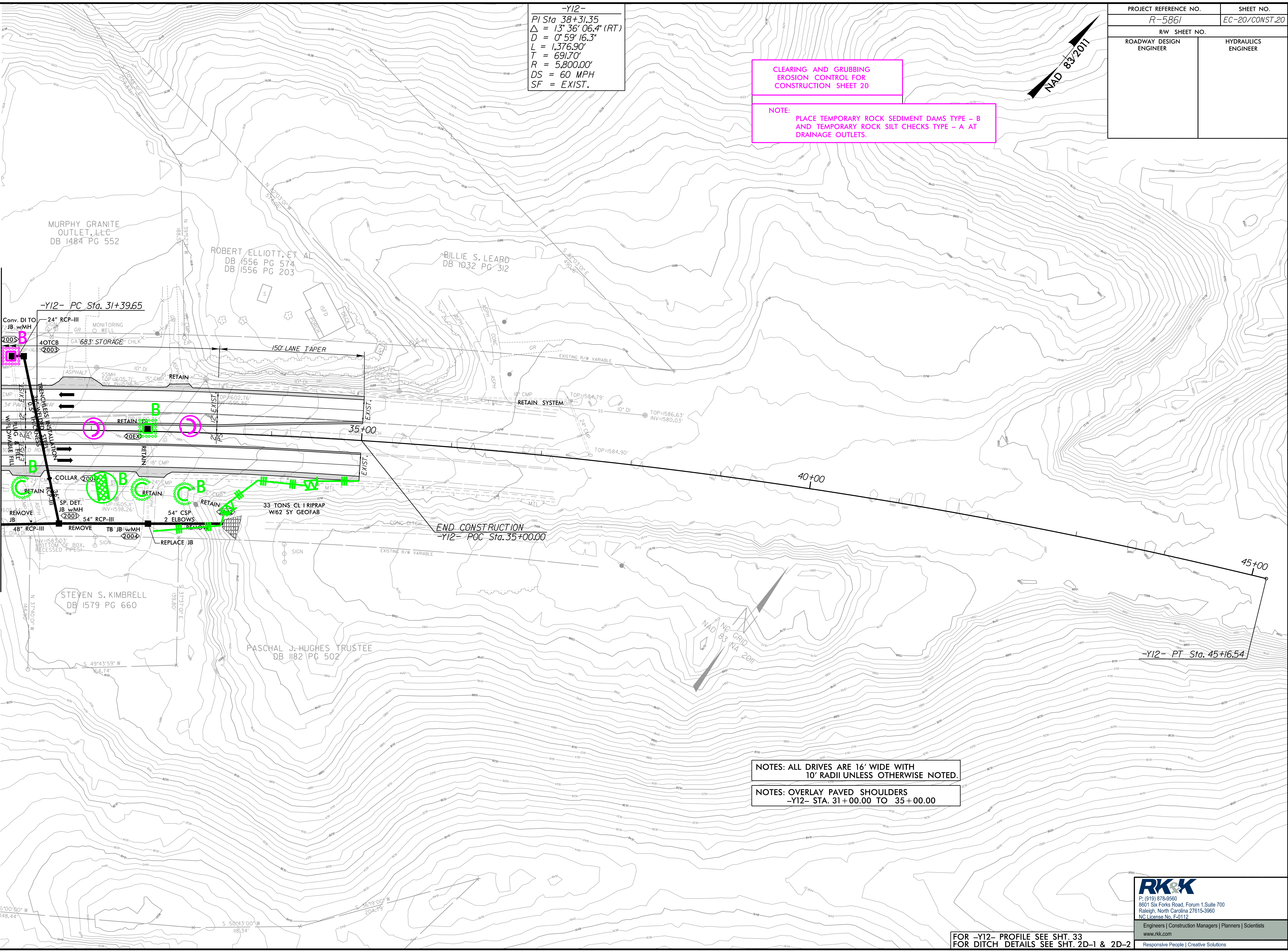
PROJECT REFERENCE NO. R-5861	SHEET NO. EC-20/CONST.20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING  
EROSION CONTROL FOR  
CONSTRUCTION SHEET 20

NOTE:  
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B  
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT  
DRAINAGE OUTLETS.



MATCHLINE -Y12- STA. 31+00 SEE SHEET 19



NOTES: ALL DRIVES ARE 16' WIDE WITH  
10' RADII UNLESS OTHERWISE NOTED.

NOTES: OVERLAY PAVED SHOULDERS  
-Y12- STA. 31+00.00 TO 35+00.00

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FOR -Y12- PROFILE SEE SHT. 33  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2





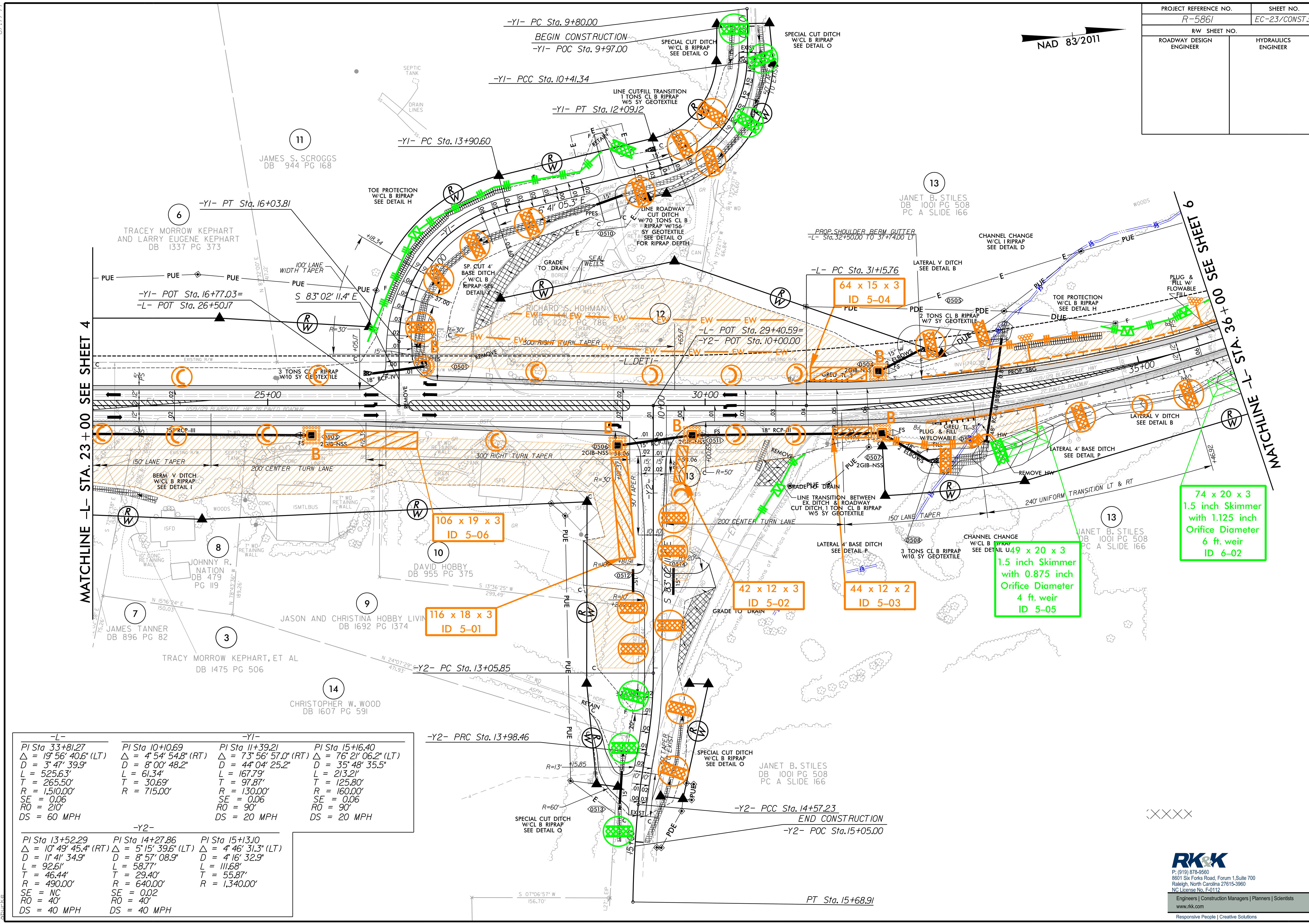






PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-23/CONST.5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/2011



MATCHLINE -L- STA. 23+00 SEE SHEET 4

MATCHLINE -L- STA. 36+00 SEE SHEET 6

-L-		-Y1-	
PI Sta 33+81.27	PI Sta 10+10.69	PI Sta 11+39.21	PI Sta 15+16.40
$\Delta = 19^\circ 56' 40.6''$ (LT)	$\Delta = 4^\circ 54' 54.8''$ (RT)	$\Delta = 73^\circ 56' 57.0''$ (RT)	$\Delta = 76^\circ 21' 06.2''$ (LT)
D = 3' 47' 39.9"	D = 8' 00' 48.2"	D = 44' 04' 25.2"	D = 35' 48' 35.5"
L = 525.63'	L = 61.34'	L = 167.79'	L = 213.21'
T = 265.50'	T = 30.69'	T = 97.87'	T = 125.80'
R = 1510.00'	R = 715.00'	R = 130.00'	R = 160.00'
SE = 0.06	SE = 0.06	SE = 0.06	SE = 0.06
RO = 210'	RO = 90'	RO = 90'	RO = 90'
DS = 60 MPH	DS = 20 MPH	DS = 20 MPH	DS = 20 MPH

-Y2-		
PI Sta 13+52.29	PI Sta 14+27.86	PI Sta 15+13.10
$\Delta = 10^\circ 49' 45.4''$ (RT)	$\Delta = 5^\circ 15' 39.6''$ (LT)	$\Delta = 4^\circ 46' 31.3''$ (LT)
D = 11' 41' 34.9"	D = 8' 57' 08.9"	D = 4' 16' 32.9"
L = 92.61'	L = 58.77'	L = 111.68'
T = 46.44'	T = 29.40'	T = 55.87'
R = 490.00'	R = 640.00'	R = 1,340.00'
SE = NC	SE = 0.02	SE = 0.02
RO = 40'	RO = 40'	RO = 40'
DS = 40 MPH	DS = 40 MPH	DS = 40 MPH

106 x 19 x 3  
ID 5-06

116 x 18 x 3  
ID 5-01

42 x 12 x 3  
ID 5-02

44 x 12 x 2  
ID 5-03

64 x 15 x 3  
ID 5-04

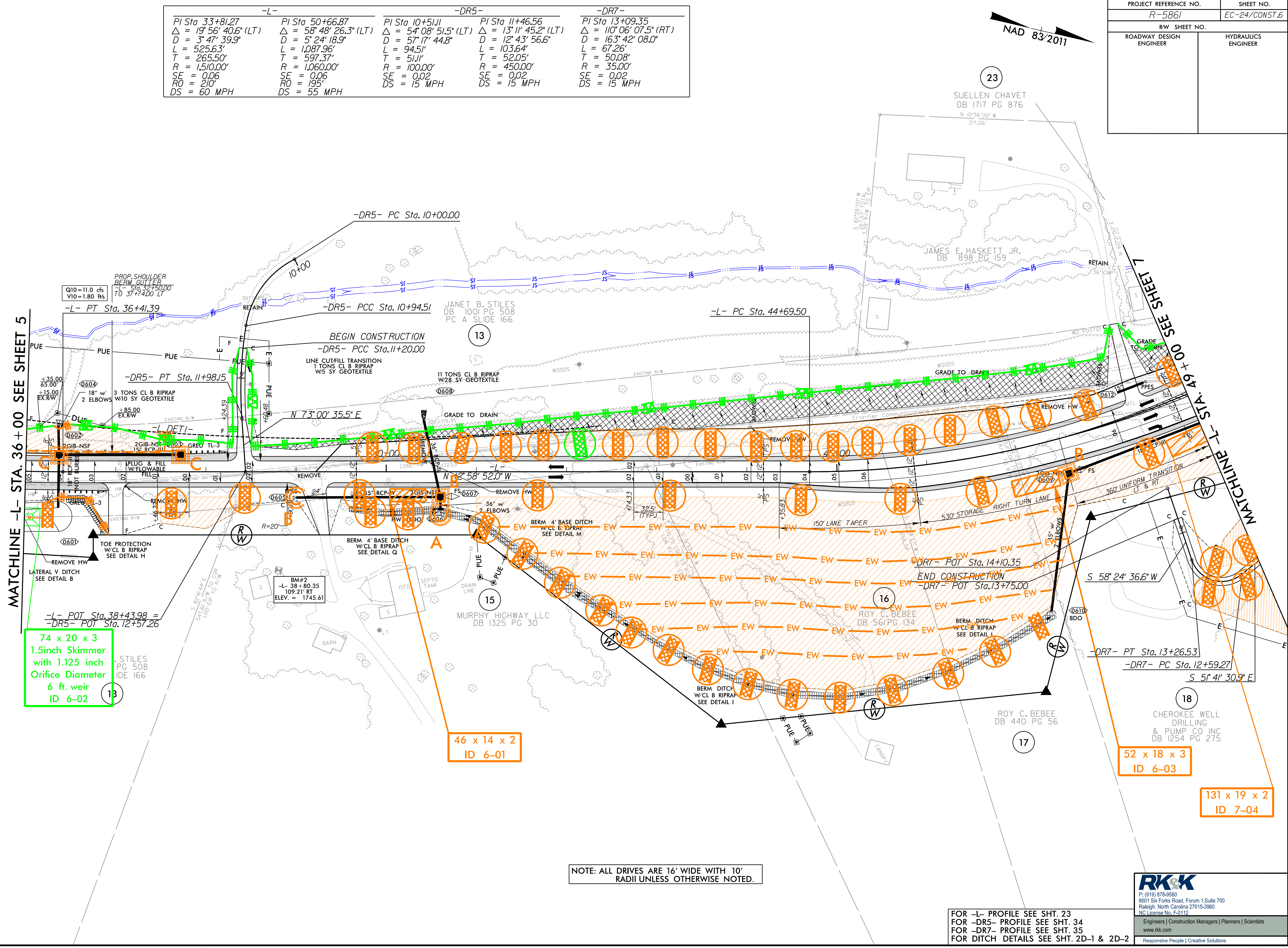
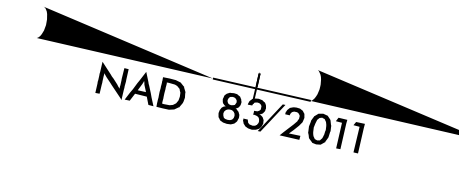
1.5 inch Skimmer  
with 0.875 inch  
Orifice Diameter  
4 ft. weir  
ID 5-05

74 x 20 x 3  
1.5 inch Skimmer  
with 1.125 inch  
Orifice Diameter  
6 ft. weir  
ID 6-02



-L-		-DR5-		-DR7-	
PI Sta. 33+81.27	PI Sta. 50+66.87	PI Sta. 10+51.11	PI Sta. 11+46.56	PI Sta. 13+09.35	
$\Delta = 19^{\circ} 56' 40.6" (LT)$	$\Delta = 58^{\circ} 48' 26.3" (LT)$	$\Delta = 54^{\circ} 08' 51.5" (LT)$	$\Delta = 13^{\circ} 11' 45.2" (LT)$	$\Delta = 110^{\circ} 06' 07.5" (RT)$	
D = 3' 47' 39.9"	D = 5' 24' 18.9"	D = 57' 17' 44.8"	D = 12' 43' 56.6"	D = 163' 42' 08.0"	
L = 525.63'	L = 1,087.96'	L = 94.51'	L = 103.64'	L = 67.26'	
T = 265.50'	T = 597.37'	T = 51.11'	T = 52.05'	T = 50.08'	
R = 1,510.00'	R = 1,060.00'	R = 100.00'	R = 450.00'	R = 35.00'	
SE = 0.06	SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02	
RO = 210'	RO = 195'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH	
DS = 60 MPH	DS = 55 MPH				

PROJECT REFERENCE NO. R-5861	SHEET NO. EC-24/CONST.6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



MATCHLINE -L- STA. 36+00 SEE SHEET 5

MATCHLINE -T- STA. 49+00 SEE SHEET 6

74 x 20 x 3  
1.5inch Skimmer  
with 1.125 inch  
Orifice Diameter  
6 ft. weir  
ID 6-02

46 x 14 x 2  
ID 6-01

52 x 18 x 3  
ID 6-03

131 x 19 x 2  
ID 7-04

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHT. 23  
FOR -DR5- PROFILE SEE SHT. 34  
FOR -DR7- PROFILE SEE SHT. 35  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2

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8.17.19  
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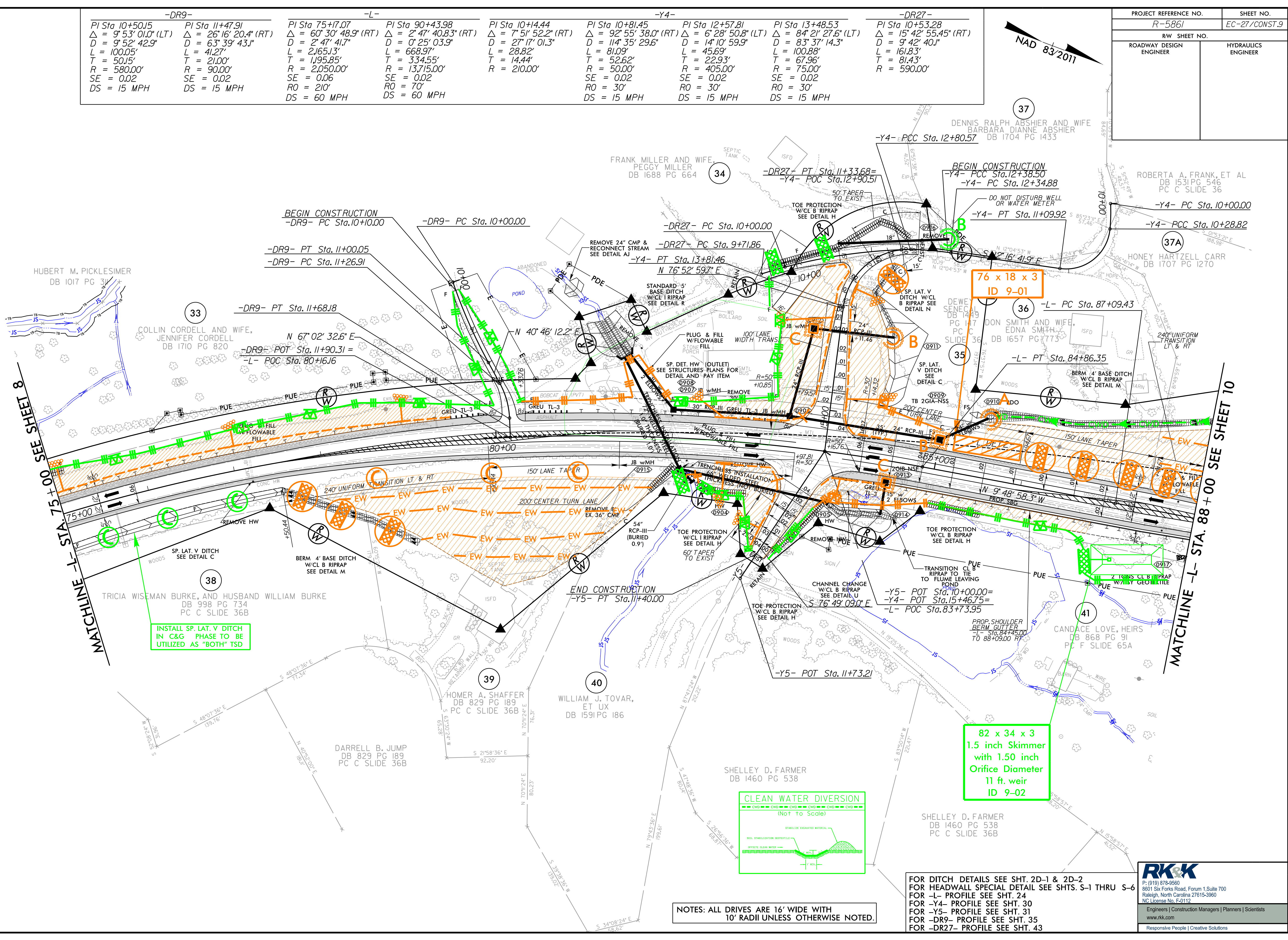






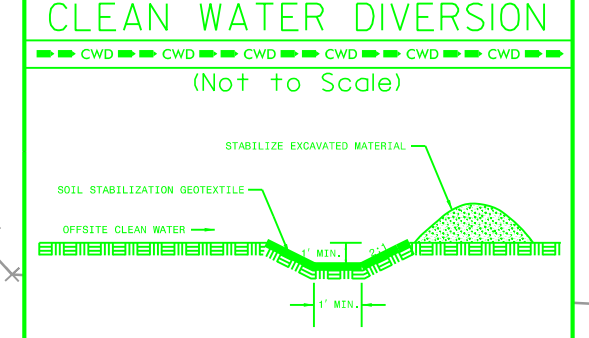
-DR9-		-L-		-Y4-		-DR27-	
PI Sta 10+50.15	PI Sta 11+47.91	PI Sta 75+17.07	PI Sta 90+43.98	PI Sta 10+14.44	PI Sta 10+81.45	PI Sta 12+57.81	PI Sta 13+48.53
$\Delta = 9^{\circ} 53' 01.0" (LT)$	$\Delta = 26^{\circ} 16' 20.4" (RT)$	$\Delta = 60^{\circ} 30' 48.9" (RT)$	$\Delta = 2^{\circ} 47' 40.83" (RT)$	$\Delta = 7^{\circ} 51' 52.2" (RT)$	$\Delta = 92^{\circ} 55' 38.0" (RT)$	$\Delta = 6^{\circ} 28' 50.8" (LT)$	$\Delta = 84^{\circ} 21' 27.6" (LT)$
$D = 9^{\circ} 52' 42.9"$	$D = 63^{\circ} 39' 43.1"$	$D = 2^{\circ} 47' 41.7"$	$D = 0^{\circ} 25' 03.9"$	$D = 27^{\circ} 17' 01.3"$	$D = 114^{\circ} 35' 29.6"$	$D = 14^{\circ} 10' 59.9"$	$D = 83^{\circ} 37' 14.3"$
$L = 100.05'$	$L = 41.27'$	$L = 2165.13'$	$L = 668.97'$	$L = 28.82'$	$L = 28.82'$	$L = 45.69'$	$L = 100.88'$
$T = 50.15'$	$T = 21.00'$	$T = 1195.85'$	$T = 334.55'$	$T = 14.44'$	$T = 52.62'$	$T = 22.93'$	$T = 67.96'$
$R = 580.00'$	$R = 90.00'$	$R = 2,050.00'$	$R = 13,715.00'$	$R = 210.00'$	$R = 50.00'$	$R = 405.00'$	$R = 750.00'$
$SE = 0.02$	$SE = 0.02$	$SE = 0.06$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$
$DS = 15 MPH$	$DS = 15 MPH$	$DS = 60 MPH$	$DS = 60 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$

PROJECT REFERENCE NO. R-5861	SHEET NO. EC-27/CONST.9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



INSTALL SP. LAT. V DITCH IN C&G PHASE TO BE UTILIZED AS "BOTH" TSD

82 x 34 x 3  
1.5 inch Skimmer  
with 1.50 inch  
Orifice Diameter  
11 ft. weir  
ID 9-02



FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2  
FOR HEADWALL SPECIAL DETAIL SEE SHTS. S-1 THRU S-6  
FOR -L- PROFILE SEE SHT. 24  
FOR -Y4- PROFILE SEE SHT. 30  
FOR -Y5- PROFILE SEE SHT. 31  
FOR -DR9- PROFILE SEE SHT. 35  
FOR -DR27- PROFILE SEE SHT. 43

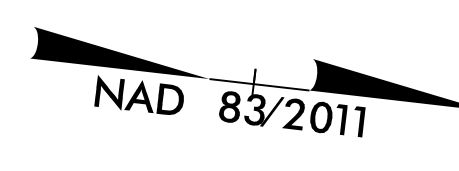
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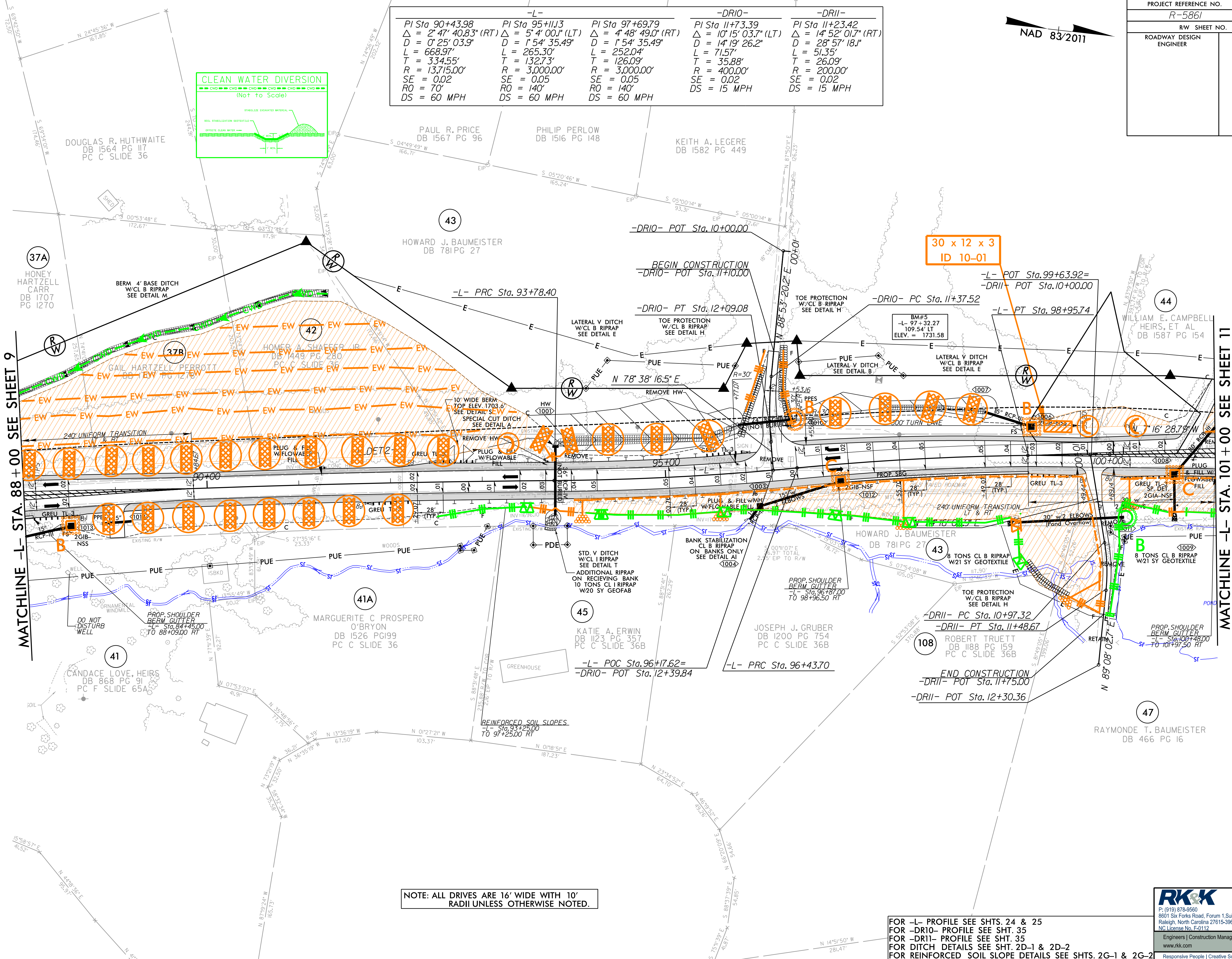
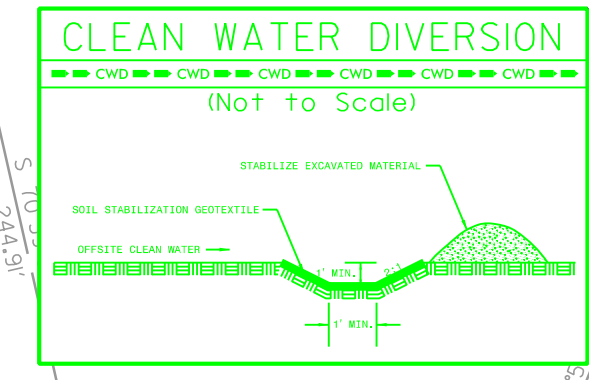
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PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-28/CONST.10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



-L-			-DRIO-		-DRII-	
PI Sta 90+43.98	PI Sta 95+11.13	PI Sta 97+69.79	PI Sta 11+73.39	PI Sta 11+23.42		
$\Delta = 2^{\circ} 47' 40.83''$ (RT)	$\Delta = 5^{\circ} 4' 00.1''$ (LT)	$\Delta = 4^{\circ} 48' 49.0''$ (RT)	$\Delta = 10^{\circ} 15' 03.7''$ (LT)	$\Delta = 14^{\circ} 52' 01.7''$ (RT)		
D = 0' 25' 03.9"	D = 1' 54' 35.49"	D = 1' 54' 35.49"	D = 14' 19' 26.2"	D = 28' 57' 18.1"		
L = 668.97'	L = 265.30'	L = 252.04'	L = 71.57'	L = 51.35'		
T = 334.55'	T = 132.73'	T = 126.09'	T = 35.88'	T = 26.09'		
R = 13,715.00'	R = 3,000.00'	R = 3,000.00'	R = 400.00'	R = 200.00'		
SE = 0.02	SE = 0.05	SE = 0.05	SE = 0.02	SE = 0.02		
RO = 70'	RO = 140'	RO = 140'	DS = 15 MPH	DS = 15 MPH		
DS = 60 MPH	DS = 60 MPH	DS = 60 MPH				



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHTS. 24 & 25  
 FOR -DRIO- PROFILE SEE SHT. 35  
 FOR -DRII- PROFILE SEE SHT. 35  
 FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2  
 FOR REINFORCED SOIL SLOPE DETAILS SEE SHTS. 2G-1 & 2G-2

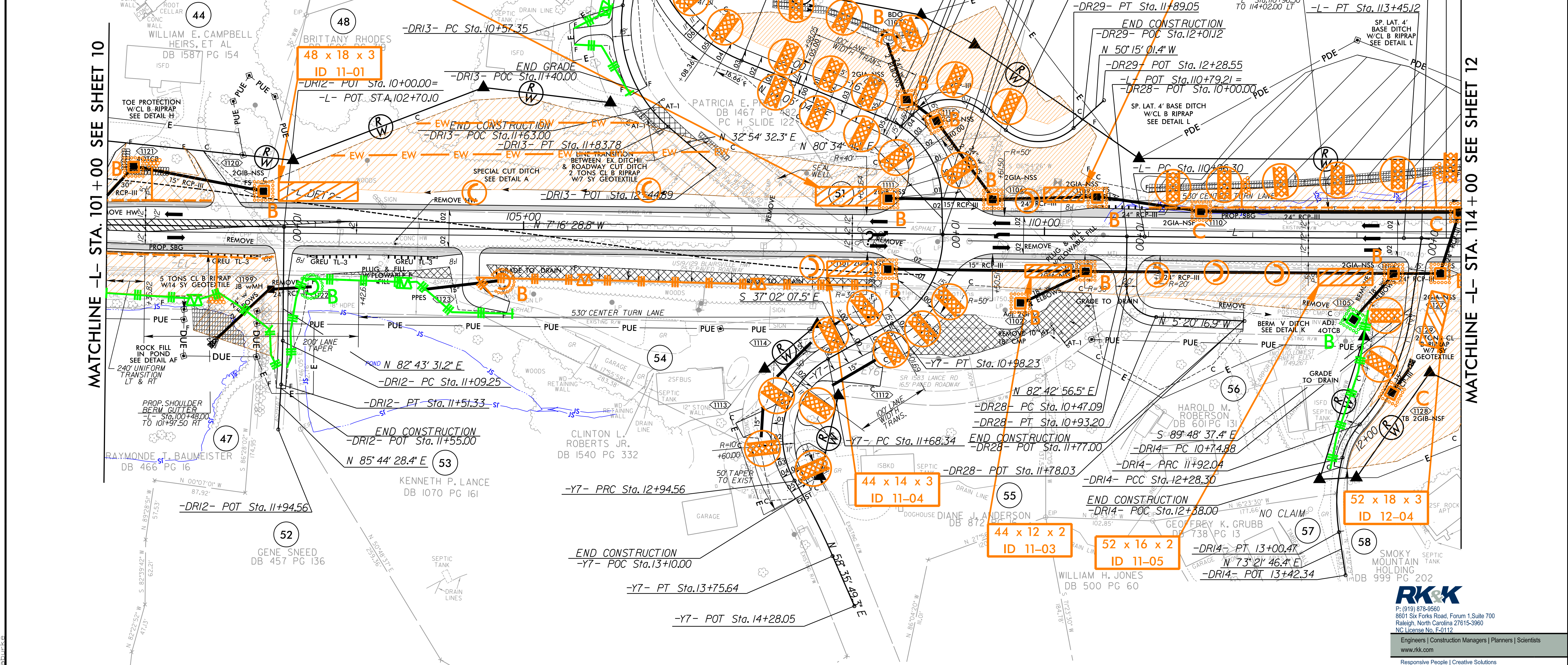
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PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-29/CONST.11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-		-Y6-		-DR12-	
PI Sta 112+20.71	PI Sta 13+60.37	PI Sta 16+47.26	PI Sta 11+30.31	PI Sta 11+30.31	PI Sta 11+30.31
$\Delta = 0' 38" 52.86" (LT)$	$\Delta = 8' 00" 06.6" (LT)$	$\Delta = 66' 29' 36.7" (RT)$	$\Delta = 3' 00' 57.2" (RT)$	$\Delta = 3' 00' 57.2" (RT)$	$\Delta = 3' 00' 57.2" (RT)$
$D = 0' 15' 37.57"$	$D = 39' 30' 51.6"$	$D = 67' 24' 24.5"$	$D = 7' 09' 59.9"$	$D = 7' 09' 59.9"$	$D = 7' 09' 59.9"$
$L = 248.82'$	$L = 204.99'$	$L = 98.65'$	$L = 42.08'$	$L = 42.08'$	$L = 42.08'$
$T = 124.41'$	$T = 123.85'$	$T = 55.72'$	$T = 21.06'$	$T = 21.06'$	$T = 21.06'$
$R = 22,000.00'$	$R = 145.00'$	$R = 85.00'$	$R = 800.00'$	$R = 800.00'$	$R = 800.00'$
$SE = NC$	$SE = 0.06$	$SE = 0.05$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$
$RO = 70'$	$RO = 100'$	$RO = 75'$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$
$DS = 60 MPH$	$DS = 25 MPH$	$DS = 20 MPH$			
-Y7-		-DR28-			
PI Sta 10+57.52	PI Sta 12+54.78	PI Sta 13+35.18	PI Sta 10+76.09	PI Sta 10+76.09	PI Sta 10+76.09
$\Delta = 62' 23' 11.4" (RT)$	$\Delta = 90' 57' 44.5" (LT)$	$\Delta = 6' 35' 41.2" (RT)$	$\Delta = 88' 03' 13.4" (LT)$	$\Delta = 88' 03' 13.4" (LT)$	$\Delta = 88' 03' 13.4" (LT)$
$D = 63' 30' 49.4"$	$D = 72' 03' 49.5"$	$D = 8' 08' 02.0"$	$D = 190' 59' 09.4"$	$D = 190' 59' 09.4"$	$D = 190' 59' 09.4"$
$L = 98.23'$	$L = 126.22'$	$L = 81.08'$	$L = 46.10'$	$L = 46.10'$	$L = 46.10'$
$T = 57.52'$	$T = 86.44'$	$T = 40.62'$	$T = 29.00'$	$T = 29.00'$	$T = 29.00'$
$R = 95.00'$	$R = 85.00'$	$R = 705.00'$	$R = 30.00'$	$R = 30.00'$	$R = 30.00'$
$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$
$RO = 30'$	$RO = 30'$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$
$DS = 20 MPH$	$DS = 20 MPH$				
-DR13-		-DR29-			
PI Sta 10+28.00	PI Sta 11+28.22	PI Sta 10+60.63	PI Sta 11+61.05	PI Sta 11+61.05	PI Sta 11+61.05
$\Delta = 49' 09' 14.4" (LT)$	$\Delta = 57' 11' 36.3" (LT)$	$\Delta = 84' 11' 20.2" (RT)$	$\Delta = 81' 06' 48.1" (LT)$	$\Delta = 81' 06' 48.1" (LT)$	$\Delta = 81' 06' 48.1" (LT)$
$D = 229' 10' 59.2"$	$D = 45' 14' 23.0"$	$D = 114' 35' 29.6"$	$D = 114' 35' 29.6"$	$D = 114' 35' 29.6"$	$D = 114' 35' 29.6"$
$L = 21.45'$	$L = 126.42'$	$L = 73.47'$	$L = 70.78'$	$L = 70.78'$	$L = 70.78'$
$T = 11.43'$	$T = 70.87'$	$T = 45.17'$	$T = 42.79'$	$T = 42.79'$	$T = 42.79'$
$R = 25.00'$	$R = 130.00'$	$R = 50.00'$	$R = 50.00'$	$R = 50.00'$	$R = 50.00'$
$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$	$SE = 0.02$
$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$
-DR14-					
PI Sta 11+35.19	PI Sta 12+10.53	PI Sta 12+64.86			
$\Delta = 33' 33' 54.5" (RT)$	$\Delta = 27' 41' 53.8" (LT)$	$\Delta = 22' 41' 36.9" (LT)$			
$D = 28' 38' 52.4"$	$D = 76' 23' 39.7"$	$D = 31' 26' 41.0"$			
$L = 117.16'$	$L = 36.26'$	$L = 72.17'$			
$T = 60.32'$	$T = 18.49'$	$T = 36.56'$			
$R = 200.00'$	$R = 75.00'$	$R = 182.21'$			
$SE = 0.02$	$SE = 0.02$	$SE = 0.02$			
$DS = 15 MPH$	$DS = 15 MPH$	$DS = 15 MPH$			



MATCHLINE -L- STA. 101+00 SEE SHEET 10

MATCHLINE -L- STA. 114+00 SEE SHEET 12

62 x 18 x 3  
ID 11-02

48 x 18 x 3  
ID 11-01

38 x 14 x 2  
ID 11-06

44 x 14 x 3  
ID 11-04

44 x 12 x 2  
ID 11-03

52 x 16 x 2  
ID 11-05

52 x 18 x 3  
ID 12-04

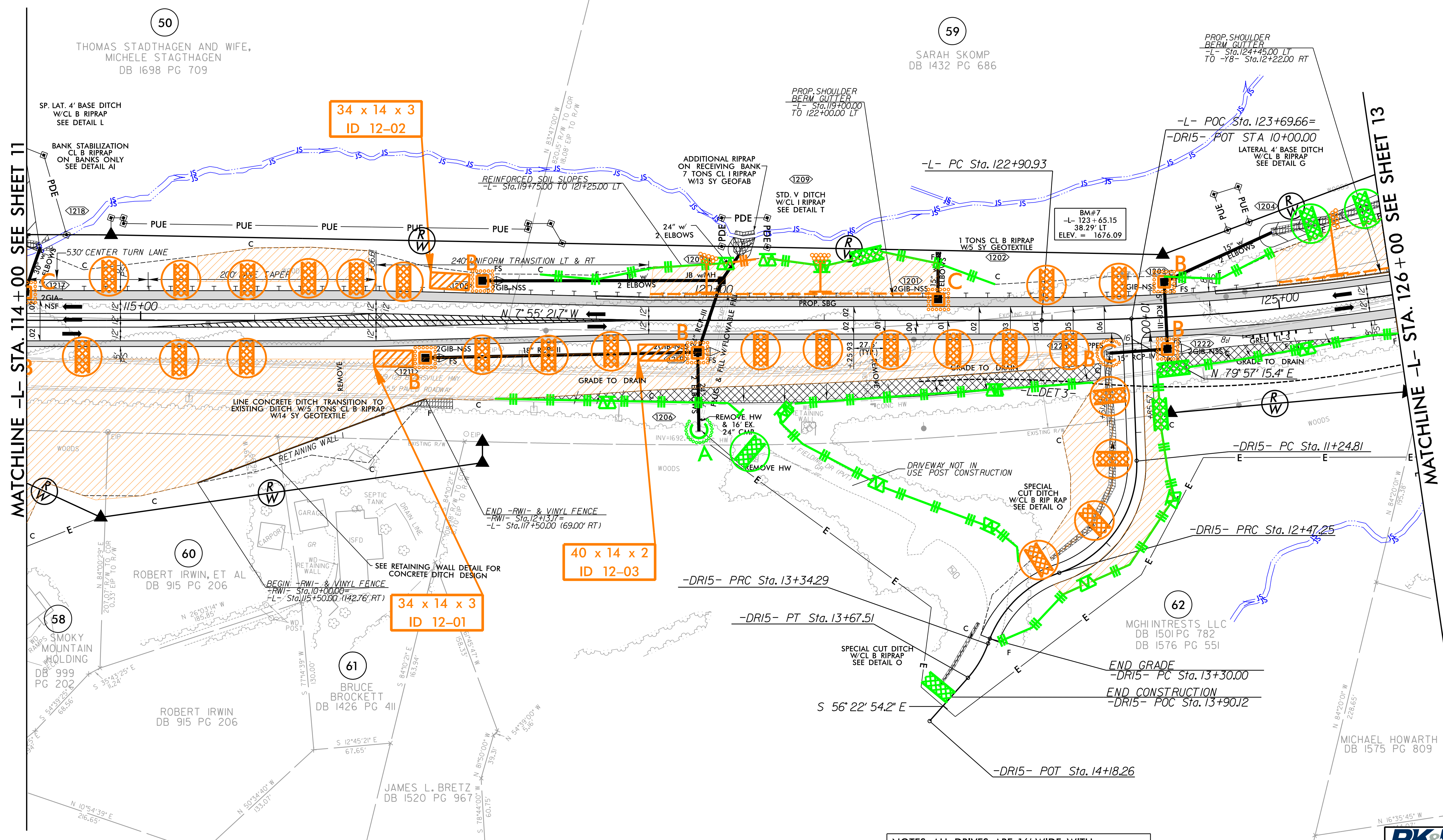
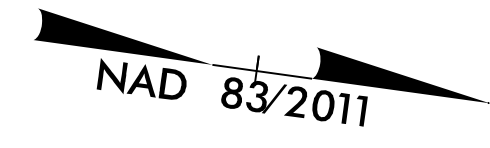
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-L-	-DR15-	-DR15-	-DR15-
PI Sta 127+30.02	PI Sta 11+99.43	PI Sta 12+96.26	PI Sta 13+52.13
$\Delta = 23^{\circ}20'58.3"$ (LT)	$\Delta = 73^{\circ}27'47.3"$ (RT)	$\Delta = 52^{\circ}13'28.3"$ (LT)	$\Delta = 22^{\circ}25'31.3"$ (RT)
D = 2' 41' 46.6"	D = 60' 00' 00.0"	D = 60' 00' 00.0"	D = 67' 29' 52.7"
L = 865.99'	L = 122.44'	L = 87.04'	L = 33.22'
T = 439.09'	T = 74.62'	T = 49.02'	T = 17.84'
R = 2425.00'	R = 100.00'	R = 100.00'	R = 90.00'
SE = 0.06	SE = 0.02	SE = 0.02	SE = 0.02
RO = 165'	DS = 15 MPH	DS = 15 MPH	DS = 15 MPH

PROJECT REFERENCE NO. R-5861	SHEET NO. EC-30/CONSTJ2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



34 x 14 x 3  
ID 12-02

40 x 14 x 2  
ID 12-03

34 x 14 x 3  
ID 12-01

NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHTS. 25 & 26  
FOR -DR15- PROFILE SEE SHT. 36  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2  
FOR RETAINING WALL ENVELOPE SEE SHT. W-1 THRU W-3  
FOR REINFORCED SOIL SLOPE DETAILS SEE SHTS. 2G-1 & 2G-2

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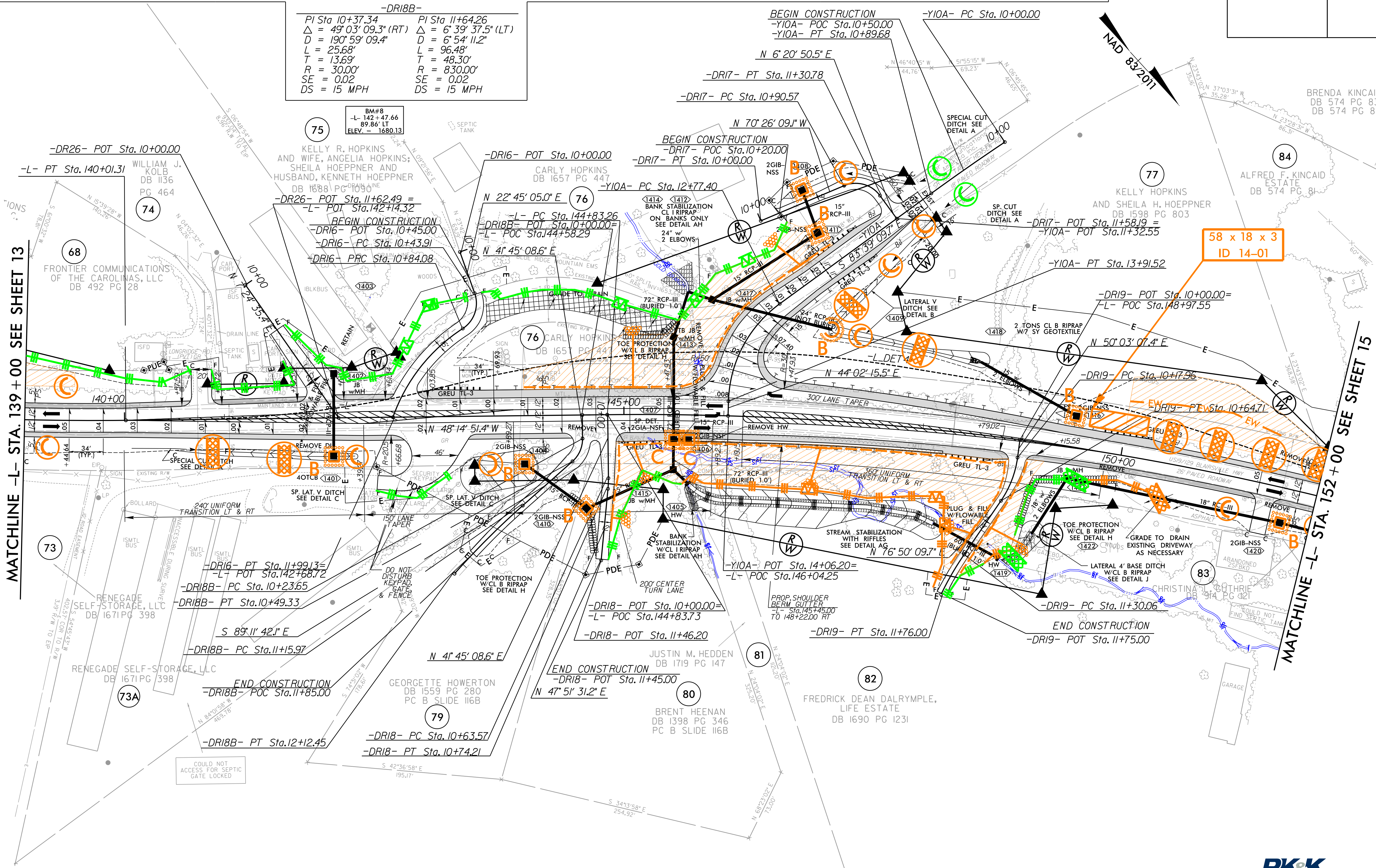




PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-32/CONST.14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L-	-Y10A-	-DR16-	-DR17-	-DR18-	-DR19-				
PI Sta 135+82.23 Δ = 16° 58' 31.5" (LT) D = 2' 00' 37.4" L = 844.39' T = 425.31' R = 2,850.00' SE = 0.05 DS = 60 MPH	PI Sta 151+02.43 Δ = 24° 25' 52.3" (RT) D = 2' 00' 12.1" L = 1,219.52' T = 619.17' R = 2,860.00' SE = 0.05 RO = 170' DS = 60 MPH	PI Sta 10+44.85 Δ = 2° 20' 08.2" (LT) D = 2' 36' 15.7" L = 89.68' T = 44.85' R = 2,200.00'	PI Sta 13+38.78 Δ = 52° 18' 34.8" (LT) D = 45° 50' 11.8" L = 114.12' T = 61.39' R = 125.00' SE = 0.03 RO = 45' DS = 20 MPH	PI Sta 10+67.65 Δ = 76° 43' 07.2" (RT) D = 190° 59' 09.4" L = 40.17' T = 23.74' R = 30.00' SE = 0.02 DS = 15 MPH	PI Sta 11+43.77 Δ = 37° 40' 05.5" (LT) D = 32° 44' 25.6" L = 115.05' T = 59.69' R = 175.00' SE = 0.02 DS = 15 MPH	PI Sta 11+14.34 Δ = 76° 46' 59.6" (RT) D = 190° 59' 09.4" L = 40.20' T = 23.77' R = 30.00' SE = 0.02 DS = 15 MPH	PI Sta 10+68.89 Δ = 6° 05' 49.0" (RT) D = 57° 17' 44.8" L = 10.64' T = 5.33' R = 100.00' SE = 0.02 DS = 15 MPH	PI Sta 10+41.77 Δ = 26° 47' 02.3" (RT) D = 57° 17' 44.8" L = 46.75' T = 23.81' R = 100.00' SE = 0.02 DS = 15 MPH	PI Sta 11+53.07 Δ = 8° 46' 24.5" (LT) D = 19° 05' 54.9" L = 45.94' T = 23.01' R = 300.00' SE = 0.02 DS = 15 MPH

-DR18B-	-DR17-
PI Sta 10+37.34 Δ = 49° 03' 09.3" (RT) D = 190° 59' 09.4" L = 25.68' T = 13.69' R = 30.00' SE = 0.02 DS = 15 MPH	PI Sta 11+64.26 Δ = 6° 39' 37.5" (LT) D = 6° 54' 11.2" L = 96.48' T = 48.30' R = 830.00' SE = 0.02 DS = 15 MPH



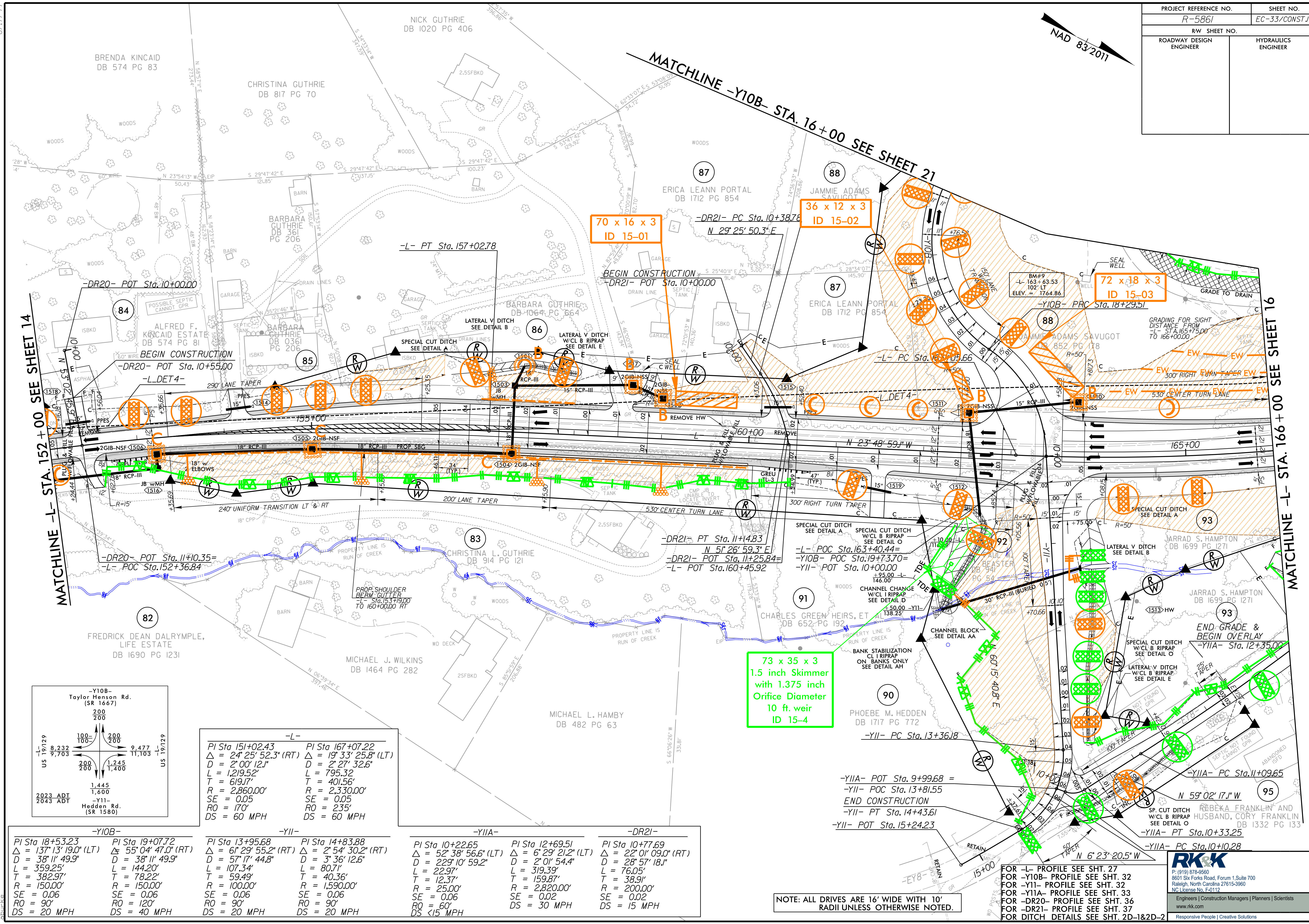
58 x 18 x 3  
ID 14-01

MATCHLINE -L- STA. 139 + 00 SEE SHEET 13

MATCHLINE -L- STA. 152 + 00 SEE SHEET 15

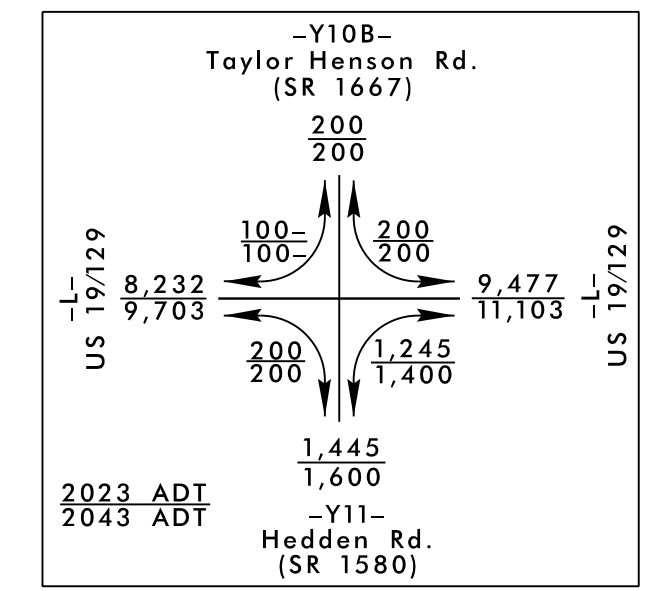
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MATCHLINE -L- STA. 152+00 SEE SHEET 14

MATCHLINE -L- STA. 166+00 SEE SHEET 16



-L-	
PI Sta 151+02.43	PI Sta 167+07.22
$\Delta = 24' 25' 52.3''$ (RT)	$\Delta = 19' 33' 25.8''$ (LT)
D = 2' 00' 12.1"	D = 2' 27' 32.6"
L = 1,219.52'	L = 795.32'
T = 619.17'	T = 401.56'
R = 2,860.00'	R = 2,330.00'
SE = 0.05	SE = 0.05
RO = 170'	RO = 235'
DS = 60 MPH	DS = 60 MPH

-Y10B-	
PI Sta 18+53.23	PI Sta 19+07.72
$\Delta = 137' 13' 19.0''$ (LT)	$\Delta = 55' 04' 47.0''$ (RT)
D = 38' 11' 49.9"	D = 38' 11' 49.9"
L = 359.25'	L = 144.20'
T = 382.97'	T = 78.22'
R = 150.00'	R = 150.00'
SE = 0.06	SE = 0.06
RO = 90'	RO = 120'
DS = 20 MPH	DS = 40 MPH

-Y11-	
PI Sta 13+95.68	PI Sta 14+83.88
$\Delta = 6' 29' 55.2''$ (RT)	$\Delta = 2' 54' 30.2''$ (RT)
D = 57' 17' 44.8"	D = 3' 36' 12.6"
L = 107.34'	L = 80.71'
T = 59.49'	T = 40.36'
R = 100.00'	R = 1,590.00'
SE = 0.06	SE = 0.06
RO = 90'	RO = 90'
DS = 20 MPH	DS = 20 MPH

-Y11A-	
PI Sta 10+22.65	PI Sta 12+69.51
$\Delta = 52' 38' 56.6''$ (LT)	$\Delta = 6' 29' 21.2''$ (LT)
D = 229' 10' 59.2"	D = 2' 01' 54.4"
L = 22.97'	L = 319.39'
T = 12.37'	T = 159.87'
R = 25.00'	R = 2,820.00'
SE = 0.06	SE = 0.02
RO = 60'	RO = 15'
DS < 15 MPH	DS = 30 MPH

-DR21-	
PI Sta 10+77.69	PI Sta 10+77.69
$\Delta = 22' 01' 09.0''$ (RT)	$\Delta = 22' 01' 09.0''$ (RT)
D = 28' 57' 18.1"	D = 28' 57' 18.1"
L = 76.05'	L = 76.05'
T = 38.91'	T = 38.91'
R = 200.00'	R = 200.00'
SE = 0.02	SE = 0.02
DS = 15 MPH	DS = 15 MPH

NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHT. 27  
 FOR -Y10B- PROFILE SEE SHT. 32  
 FOR -Y11- PROFILE SEE SHT. 32  
 FOR -Y11A- PROFILE SEE SHT. 33  
 FOR -DR20- PROFILE SEE SHT. 36  
 FOR -DR21- PROFILE SEE SHT. 37  
 FOR DITCH DETAILS SEE SHT. 2D-1&2D-2

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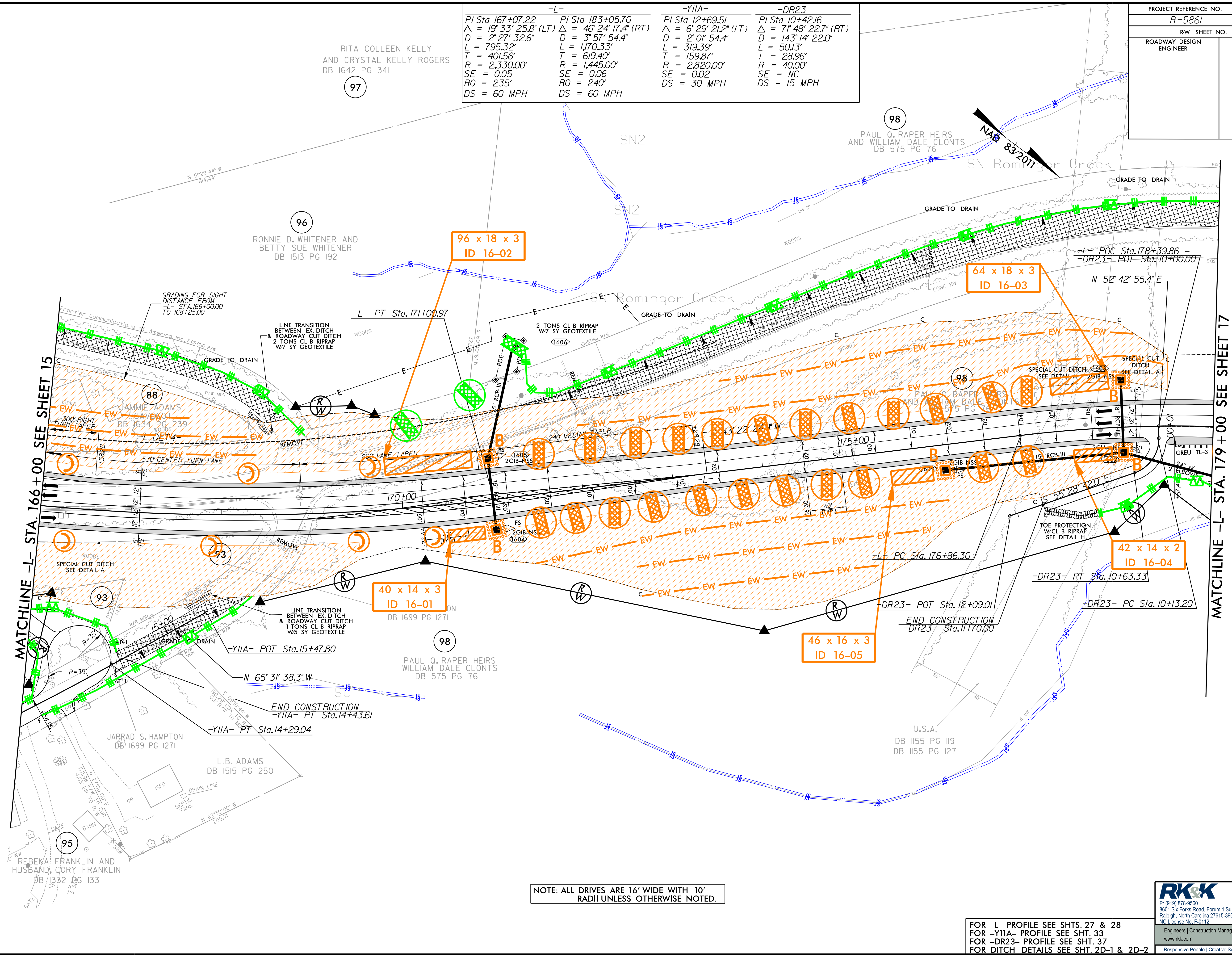
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-L-	-Y11A-	-DR23
PI Sta 167+07.22	PI Sta 183+05.70	PI Sta 12+69.51
$\Delta = 19^{\circ} 33' 25.8" (LT)$	$\Delta = 46^{\circ} 24' 17.4" (RT)$	$\Delta = 6^{\circ} 29' 21.2" (LT)$
$D = 2^{\circ} 27' 32.6"$	$D = 3^{\circ} 57' 54.4"$	$D = 2^{\circ} 01' 54.4"$
$L = 795.32'$	$L = 1,170.33'$	$L = 319.39'$
$T = 401.56'$	$T = 619.40'$	$T = 159.87'$
$R = 2,330.00'$	$R = 1,445.00'$	$R = 2,820.00'$
$SE = 0.05$	$SE = 0.06$	$SE = 0.02$
$RO = 235'$	$RO = 240'$	$DS = 30 MPH$
$DS = 60 MPH$	$DS = 60 MPH$	$DS = 15 MPH$

PROJECT REFERENCE NO. R-5861	SHEET NO. EC-34/CONST.16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NOTE: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

FOR -L- PROFILE SEE SHTS. 27 & 28  
 FOR -Y11A- PROFILE SEE SHT. 33  
 FOR -DR23- PROFILE SEE SHT. 37  
 FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2

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MATCHLINE -L- STA. 179 + 00 SEE SHEET 17









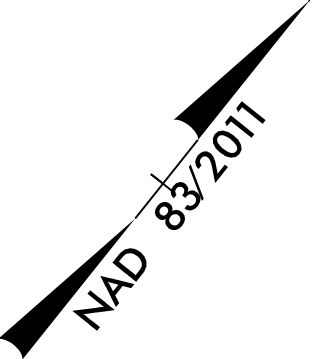






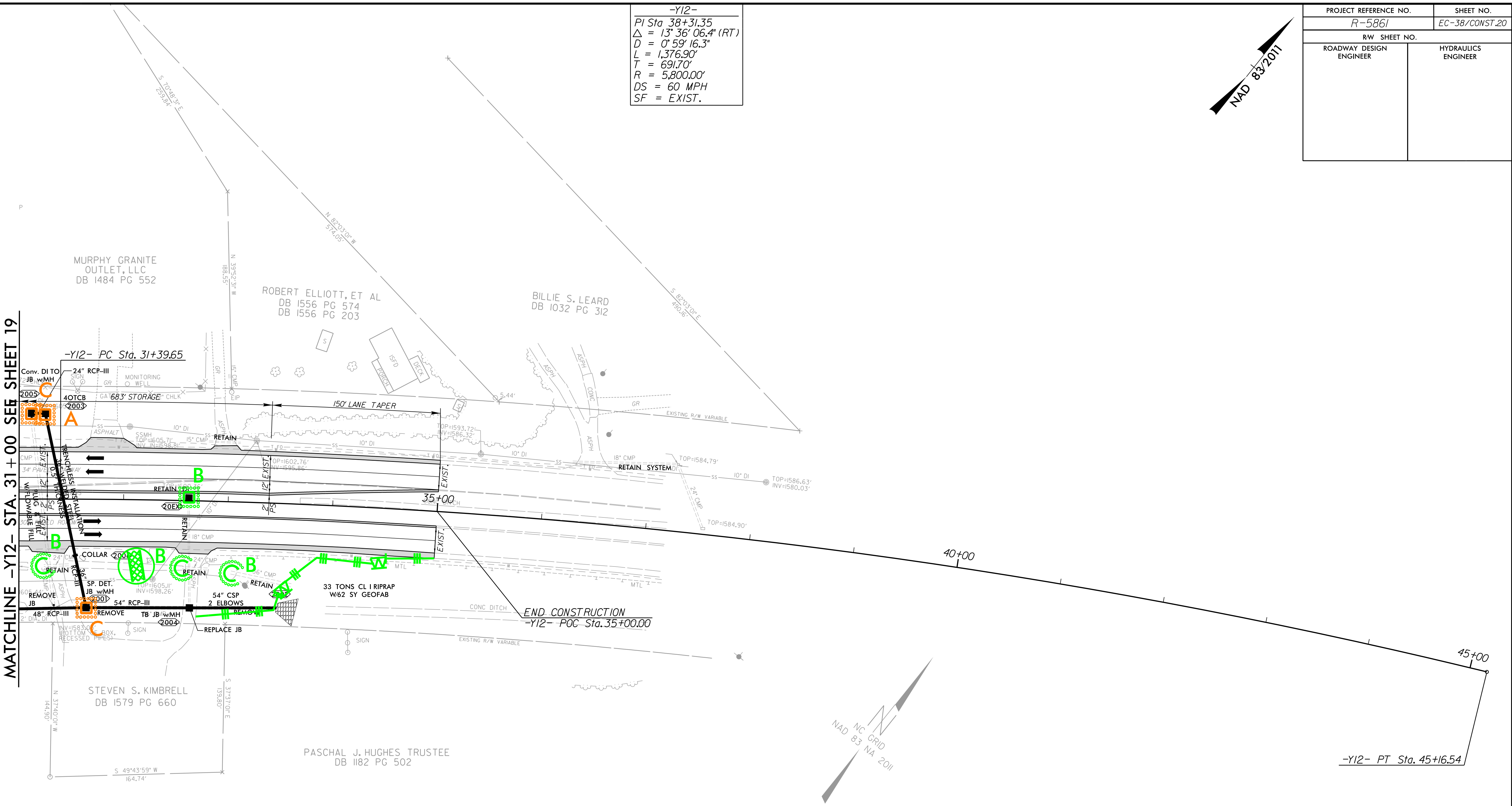
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10/23/2023  
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-Y12-  
PI Sta 38+31.35  
 $\Delta = 13^{\circ} 36' 06.4" (RT)$   
 $D = 0^{\circ} 59' 16.3"$   
 $L = 1,376.90'$   
 $T = 691.70'$   
 $R = 5,800.00'$   
 $DS = 60 \text{ MPH}$   
 $SF = \text{EXIST.}$



PROJECT REFERENCE NO.	SHEET NO.
R-5861	EC-38/CONST.20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCHLINE -Y12- STA. 31+00 SEE SHEET 19



NOTES: ALL DRIVES ARE 16' WIDE WITH 10' RADII UNLESS OTHERWISE NOTED.

NOTES: OVERLAY PAVED SHOULDERS -Y12- STA. 31+00.00 TO 35+00.00

-Y12- PT Sta. 45+16.54

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FOR -Y12- PROFILE SEE SHT. 33  
FOR DITCH DETAILS SEE SHT. 2D-1 & 2D-2



