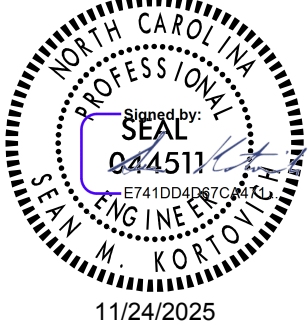
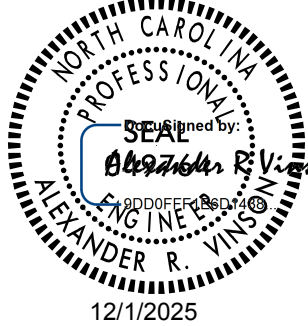


8/17/99

REVISIONS

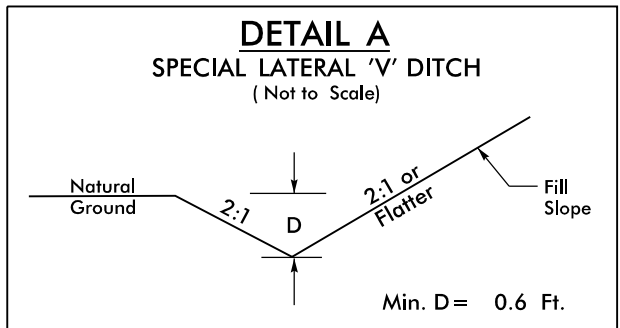
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SSSUSSENFAMESSS

CULVERT NO. 430190

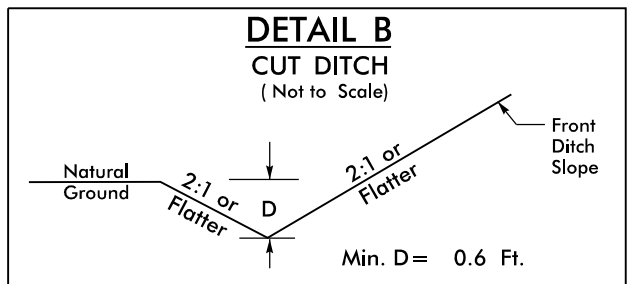
PROJECT REFERENCE NO.		SHEET NO.
BPI4.R002		7
RW SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

8521 SIX FORKS ROAD, SUITE 400  
RALEIGH, NC 27615  
NC FIRM LICENSE No: F-0493

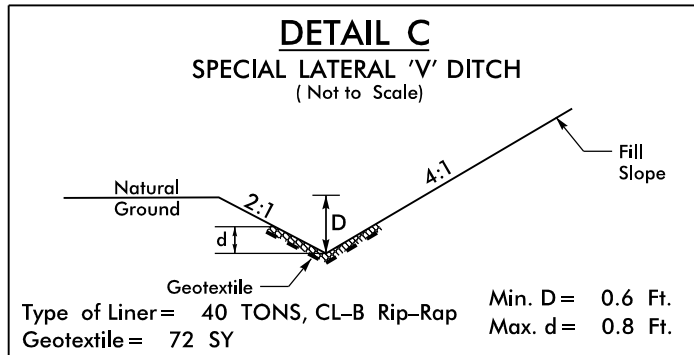
RS&H



FROM -LI90- STA. 13+50 TO STA. 13+65 LT  
FROM -LI90- STA. 14+25 TO STA. 15+00 RT



FROM -LI90- STA. 11+07 TO STA. 12+24 LT  
FROM -LI90- STA. 12+60 TO STA. 13+50 LT



FROM -LI90- STA. 15+00 TO STA. 16+18 RT

-DRIVE- CURVE DATA

PI Sta 10+44.12  
 $\Delta = 81^\circ 19' 22.6''$  (RT)  
 $D = 229' 10'' 59.2''$   
 $L = 35.48'$   
 $T = 21.47'$   
 $R = 25.00'$

PI Sta 11+98.55  
 $\Delta = 17^\circ 46' 51.0''$  (LT)  
 $D = 16' 51'' 06.1''$   
 $L = 105.51'$   
 $T = 53.18'$   
 $R = 340.00'$   
SE = 06

PI Sta 12+97.55  
 $\Delta = 15^\circ 37' 55.0''$  (RT)  
 $D = 16' 51'' 06.1''$   
 $L = 92.76'$   
 $T = 46.67'$   
 $R = 340.00'$   
SE = 06

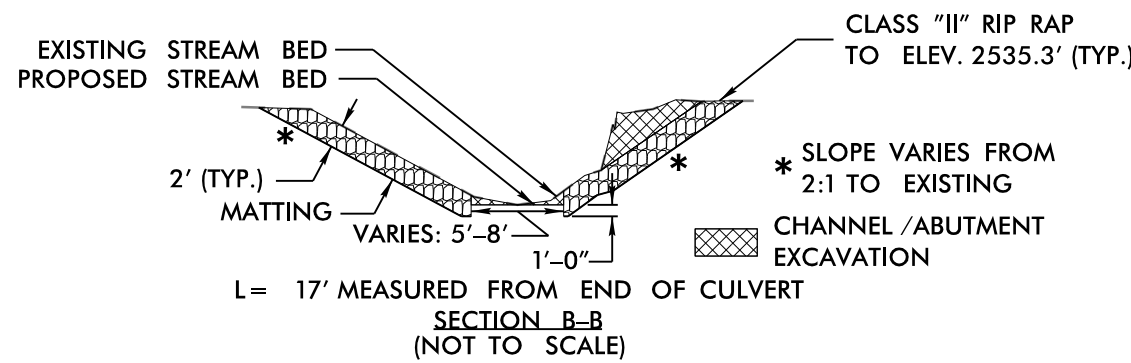
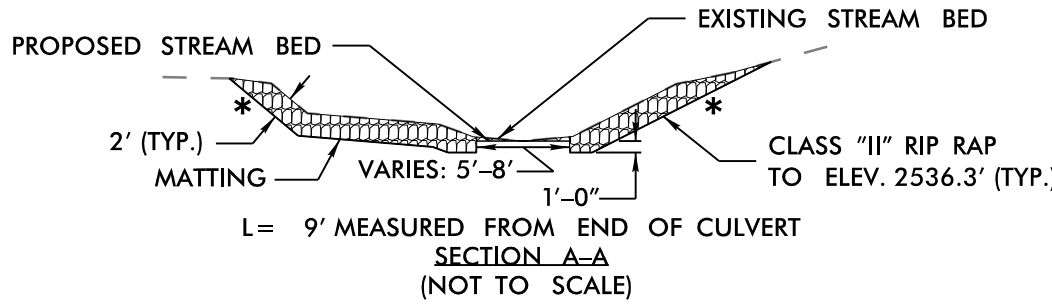
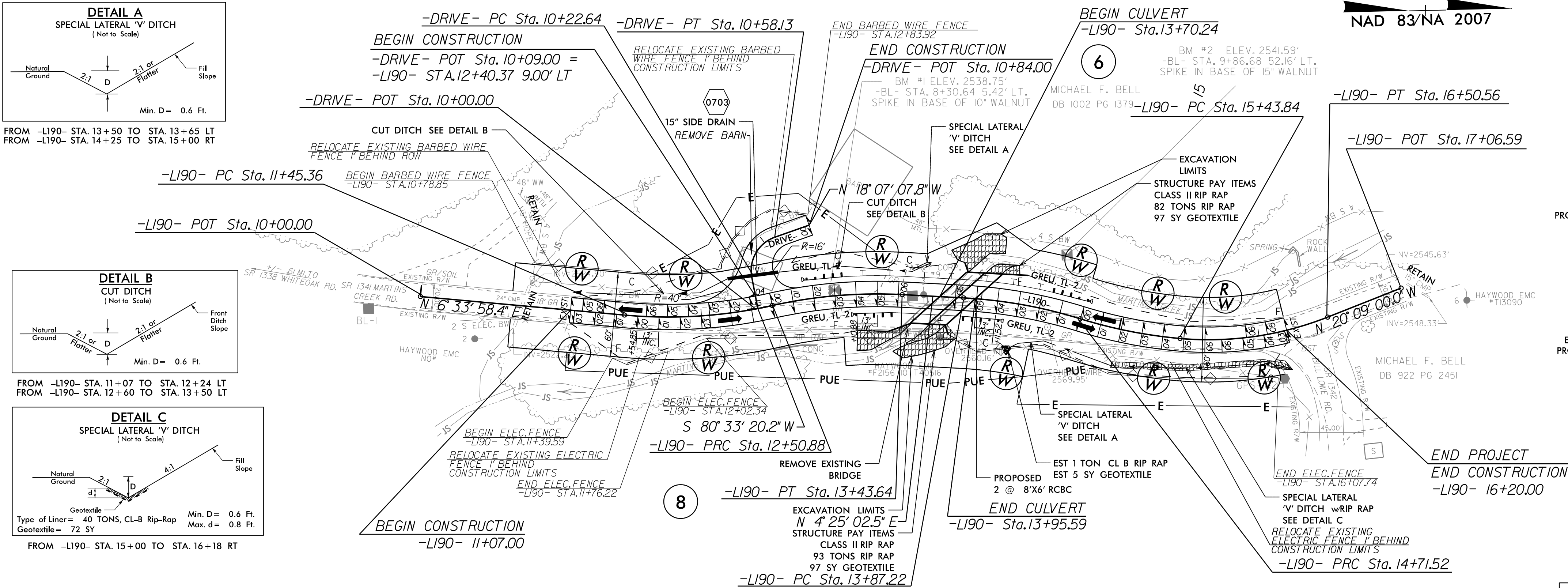
-LI90- CURVE DATA

PI Sta 14+29.59  
 $\Delta = 14^\circ 12' 19.4''$  (RT)  
 $D = 16' 51'' 06.1''$   
 $L = 84.30'$   
 $T = 42.37'$   
 $R = 340.00'$   
SE = 06

PI Sta 15+07.81  
 $\Delta = 12^\circ 11' 12.2''$  (LT)  
 $D = 16' 51'' 06.1''$   
 $L = 72.32'$   
 $T = 36.30'$   
 $R = 340.00'$   
SE = 06

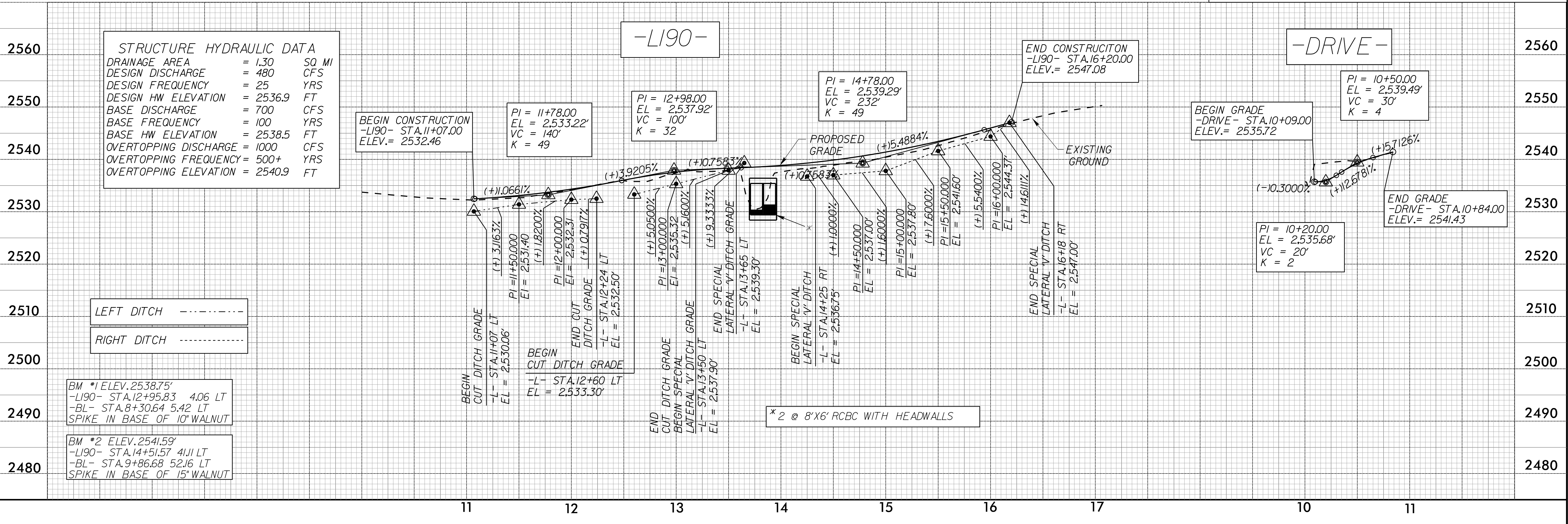
PI Sta 15+98.18  
 $\Delta = 26^\circ 35' 09.7''$  (LT)  
 $D = 24' 54'' 40.4''$   
 $L = 106.72'$   
 $T = 54.34'$   
 $R = 230.00'$   
SE = EXIST

NAD 83/NA 2007



SEE SHEET RW07 FOR -LI90- RW

SEE SHEETS C4-1 THRU C4-10 FOR CULVERT PLANS



**STRUCTURE HYDRAULIC DATA**

DRAINAGE AREA	= 1.30	SQ MI
DESIGN DISCHARGE	= 480	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 2536.9	FT
BASE DISCHARGE	= 700	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2538.5	FT
OVERTOPPING DISCHARGE	= 1000	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 2540.9	FT

LEFT DITCH -----  
RIGHT DITCH -----

BM #1 ELEV. 2538.75'  
-LI90- STA. 12+95.83 4.06 LT  
-BL- STA. 8+30.64 5.42 LT  
SPIKE IN BASE OF 10" WALNUT

BM #2 ELEV. 2541.59'  
-LI90- STA. 14+51.57 4.11 LT  
-BL- STA. 9+86.68 5.216 LT  
SPIKE IN BASE OF 15" WALNUT

BEGIN CONSTRUCTION  
-LI90- STA. 11+07.00  
ELEV. = 2532.46

PI = 11+78.00  
EL = 2533.22'  
VC = 140'  
K = 49

PI = 12+98.00  
EL = 2537.92'  
VC = 100'  
K = 32

PI = 14+78.00  
EL = 2539.29'  
VC = 232'  
K = 49

END CONSTRUCTION  
LI90- STA. 16+20.00  
ELEV. = 2547.08

BEGIN GRADE  
-DRIVE- STA. 10+09.00  
ELEV. = 2535.72

PI = 10+50.00  
EL = 2539.49'  
VC = 30'  
K = 4

PI = 10+20.00  
EL = 2535.68'  
VC = 20'  
K = 2

END GRADE  
-DRIVE- STA. 10+84.00  
ELEV. = 2541.43