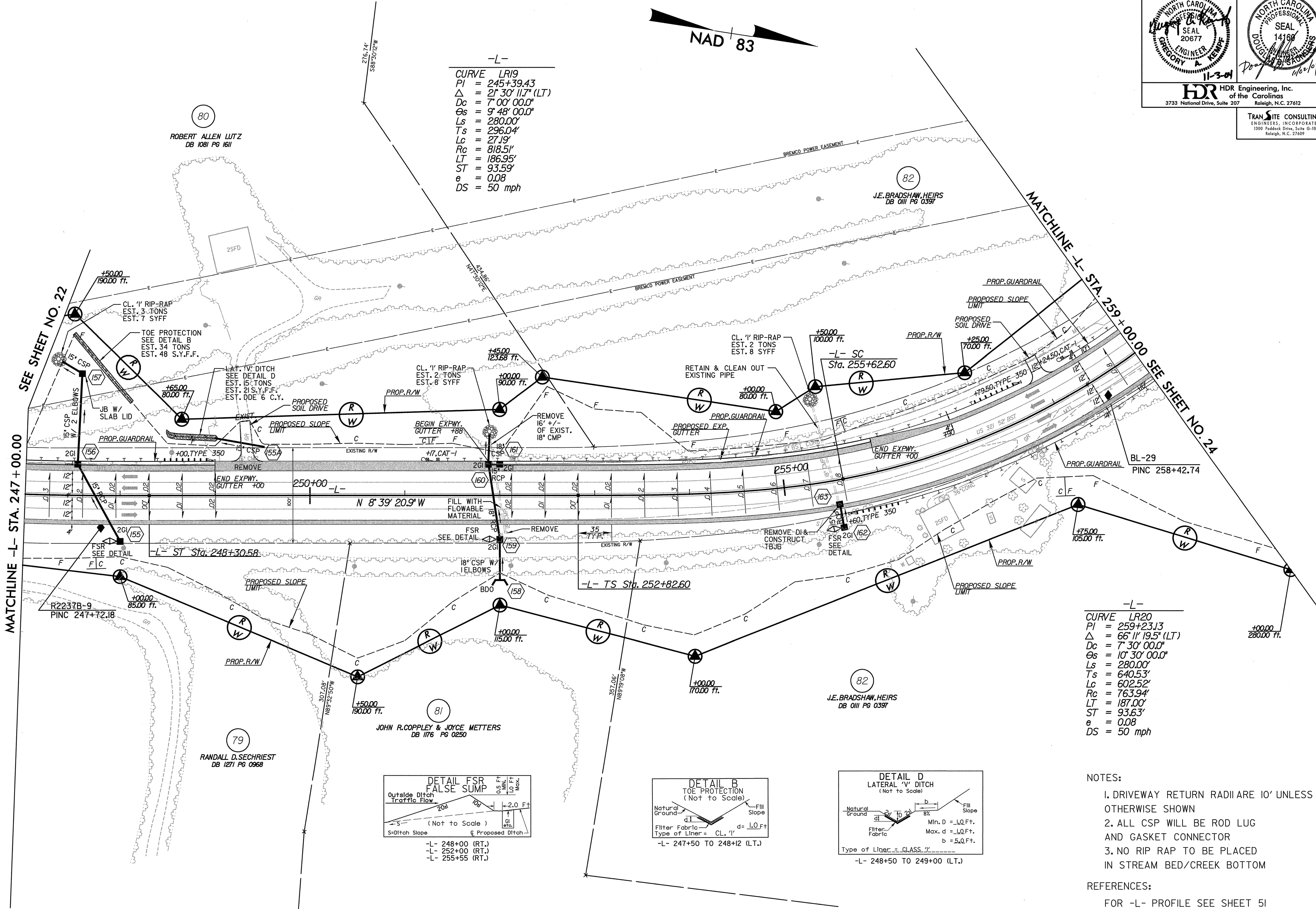
PROJECT REFERENCE NO.	SHEET NO.
R-2237B	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20677 ENGINEER GREGORY A. KEMPF 11-3-04

NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS SAUNDERS 11/02/04

HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612

TRANSITE CONSULTING ENGINEERS, INCORPORATED
1300 Paddock Drive, Suite G-10
Raleigh, N.C. 27609



NAD 83
-L-
CURVE LR19
PI = 245+39.43
Δ = 21° 30' 11.7" (LT)
Dc = 7° 00' 00.0"
Θs = 9° 48' 00.0"
Ls = 280.00'
Ts = 296.04'
Lc = 27.19'
Rc = 818.51'
LT = 186.95'
ST = 93.59'
e = 0.08
DS = 50 mph
80
ROBERT ALLEN LUTZ
DB 1081 PG 1611
82
J.E.BRADSHAW,HEIRS
DB 0111 PG 0397
BREMCO POWER EASEMENT
MATCHLINE -L- STA. 259+00.00 SEE SHEET NO. 24
SEE SHEET NO. 22
MATCHLINE -L- STA. 247+00.00
CL. 'I' RIP-RAP
EST. 3 TONS
EST. 7 SYFF
TOE PROTECTION
SEE DETAIL B
EST. 34 TONS
EST. 48 S.Y.F.F.
LAT. 'V' DITCH
SEE DETAIL D
EST. 15 TONS
EST. 21 S.Y.F.F.
EST. DDE 6 C.Y.
PROPOSED SOIL DRIVE
PROPOSED SLOPE LIMIT
JB W/ SLAB LID
15' CSP W/ 2 ELBOWS
PROP. GUARDRAIL
+00, TYPE 350
REMOVE
END EXPWY. GUTTER +00
250+00 -L-
N 8° 39' 20.9" W
CL. 'I' RIP-RAP
EST. 2 TONS
EST. 8 SYFF
BEGIN EXPWY. GUTTER +88
+17, CAT-I
REMOVE 16' +/- OF EXIST. 18" CMP
FILL WITH FLOWABLE MATERIAL
FSR SEE DETAIL
18" CSP W/ 1 ELBOWS
BDO
-L- ST Sta. 248+30.58
-L- TS Sta. 252+82.60
-L- SC Sta. 255+62.60
255+00
RETAIN & CLEAN OUT EXISTING PIPE
CL. 'I' RIP-RAP
EST. 2 TONS
EST. 8 SYFF
PROPOSED EXP. GUTTER
END EXPWY. GUTTER +00
REMOVE DI & CONSTRUCT TBJB
+60, TYPE 350
+79.50, TYPE 350
+24.50, CAT-I
BL-29
PINC 258+42.74
R2237B-9
PINC 247+72.18
PROP. R/W
EXISTING R/W
+50.00 190.00 ft.
+65.00 80.00 ft.
+45.00 123.68 ft.
+00.00 90.00 ft.
+00.00 80.00 ft.
+50.00 100.00 ft.
+25.00 70.00 ft.
+75.00 105.00 ft.
+00.00 280.00 ft.
+00.00 85.00 ft.
+50.00 190.00 ft.
+00.00 115.00 ft.
+00.00 170.00 ft.
81
JOHN R.COPPLEY & JOYCE METTERS
DB 1176 PG 0250
79
RANDALL D.SECHRIEST
DB 1271 PG 0968
82
J.E.BRADSHAW,HEIRS
DB 0111 PG 0397
-L-
CURVE LR20
PI = 259+23.13
Δ = 66° 11' 19.5" (LT)
Dc = 7° 30' 00.0"
Θs = 10° 30' 00.0"
Ls = 280.00'
Ts = 640.53'
Lc = 602.52'
Rc = 763.94'
LT = 187.00'
ST = 93.63'
e = 0.08
DS = 50 mph
DETAIL FSR
FALSE SUMP
Outside Ditch
Traffic Flow
(Not to Scale)
S=Ditch Slope
℄ Proposed Ditch
-L- 248+00 (RT.)
-L- 252+00 (RT.)
-L- 255+55 (RT.)
DETAIL B
TOE PROTECTION
(Not to Scale)
Natural Ground
Fill Slope
Filter Fabric
Type of Liner = CL. 'I'
d= 1.0 Ft
-L- 247+50 TO 248+12 (LT.)
DETAIL D
LATERAL 'V' DITCH
(Not to Scale)
Natural Ground
Fill Slope
Filter Fabric
Min. D = 1.0 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.
Type of Liner = CLASS 'I'
-L- 248+50 TO 249+00 (LT.)

NOTES:

1. DRIVEWAY RETURN RADII ARE 10' UNLESS OTHERWISE SHOWN
2. ALL CSP WILL BE ROD LUG AND GASKET CONNECTOR
3. NO RIP RAP TO BE PLACED IN STREAM BED/CREEK BOTTOM

REFERENCES:

FOR -L- PROFILE SEE SHEET 51

REVISIONS

8/17/99

10/28/2004