PROJECT REFERENCE NO.	SHEET NO.
R-2237B	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 20677 ENGINEER GREGORY A. KEMPF — 11-3-04

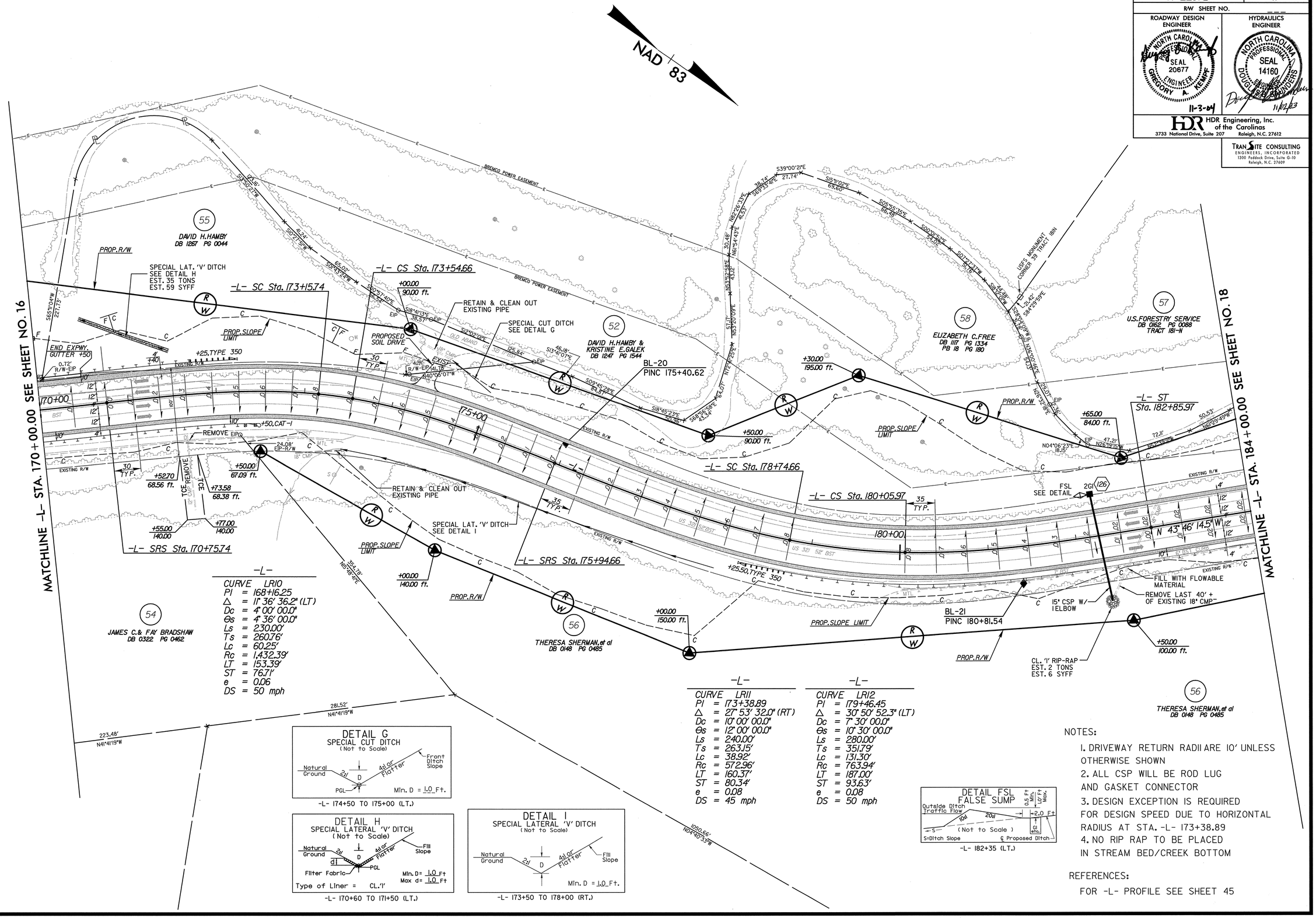
HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 14160 ENGINEER DOUGLAS B. ROBINSON — 11/02/03

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

8/17/99

REVISIONS



-L-
CURVE LR10
PI = 168+16.25
Δ = 11° 36' 36.2" (LT)
Dc = 4° 00' 00.0"
Θs = 4° 36' 00.0"
Ls = 230.00'
Ts = 260.76'
Lc = 60.25'
Rc = 1,432.39'
LT = 153.39'
ST = 76.71'
e = 0.06
DS = 50 mph

-L-
CURVE LR11
PI = 173+38.89
Δ = 27° 53' 32.0" (RT)
Dc = 10° 00' 00.0"
Θs = 12° 00' 00.0"
Ls = 240.00'
Ts = 263.15'
Lc = 38.92'
Rc = 572.96'
LT = 160.37'
ST = 80.34'
e = 0.08
DS = 45 mph

-L-
CURVE LR12
PI = 179+46.45
Δ = 30° 50' 52.3" (LT)
Dc = 7° 30' 00.0"
Θs = 10° 30' 00.0"
Ls = 280.00'
Ts = 351.79'
Lc = 131.30'
Rc = 763.94'
LT = 187.00'
ST = 93.63'
e = 0.08
DS = 50 mph

DETAIL G
SPECIAL CUT DITCH
(Not to Scale)
Natural Ground — 2:1 — D — 4:1 or Flatter — Front Ditch Slope — PGL
Min. D = 1.0 Ft.
-L- 174+50 TO 175+00 (LT.)

DETAIL H
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope — d — PGL
Filter Fabric
Min. D = 1.0 Ft
Max d = 1.0 Ft
Type of Liner = CL.'I'
-L- 170+60 TO 171+50 (LT.)

DETAIL I
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 2:1 — D — 4:1 or Flatter — Fill Slope
Min. D = 1.0 Ft.
-L- 173+50 TO 178+00 (RT.)

DETAIL FSL
FALSE SUMP
Outside Ditch Traffic Flow — 10d — 20d — 0.5 Ft. Min. 1.0 Ft. Max. — +2.0 Ft — d etc.
(Not to Scale)
S=Ditch Slope ℄ Proposed Ditch
-L- 182+35 (LT.)

NOTES:

1. DRIVEWAY RETURN RADII ARE 10' UNLESS OTHERWISE SHOWN
2. ALL CSP WILL BE ROD LUG AND GASKET CONNECTOR
3. DESIGN EXCEPTION IS REQUIRED FOR DESIGN SPEED DUE TO HORIZONTAL RADIUS AT STA. -L- 173+38.89
4. NO RIP RAP TO BE PLACED IN STREAM BED/CREEK BOTTOM

REFERENCES:

FOR -L- PROFILE SEE SHEET 45

11/02/2001
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