

5/28/09

TGS ENGINEERS
SUITE 141
975 WALNUT STREET
CARY, NC 27511
PH (919) 319-8850

PROJECT REFERENCE NO. B-3694 SHEET NO. 6

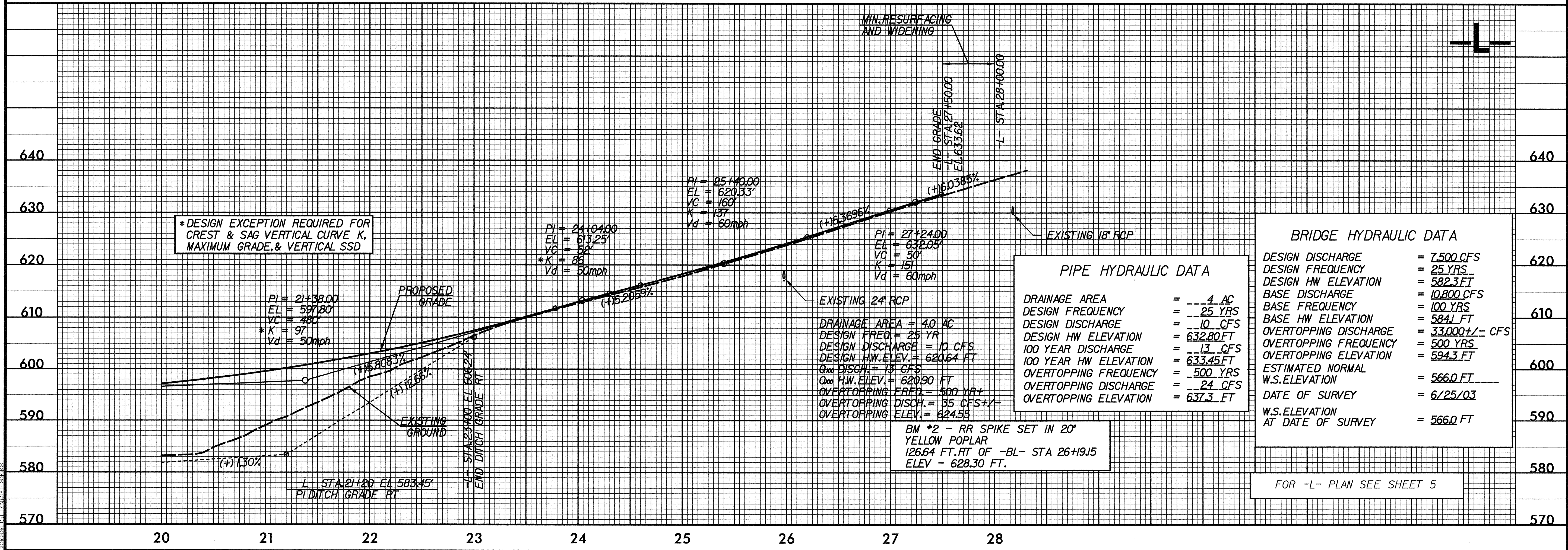
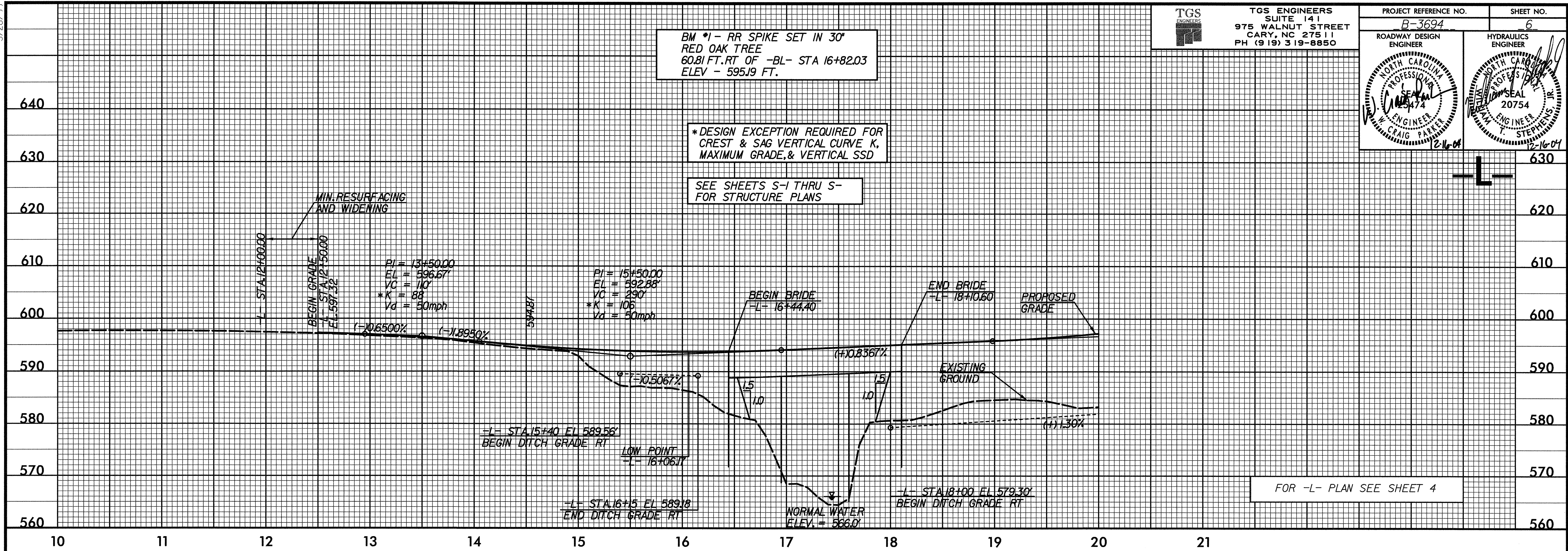
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL NO. 474
W. CRAIG PARKER
12-16-04

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL NO. 20754
T. STEPHENS
12-16-04

BM *1 - RR SPIKE SET IN 30' RED OAK TREE
60.81 FT. RT OF -BL- STA 16+82.03
ELEV - 595.19 FT.

*DESIGN EXCEPTION REQUIRED FOR CREST & SAG VERTICAL CURVE K, MAXIMUM GRADE, & VERTICAL SSD

SEE SHEETS S-1 THRU S-4 FOR STRUCTURE PLANS



*DESIGN EXCEPTION REQUIRED FOR CREST & SAG VERTICAL CURVE K, MAXIMUM GRADE, & VERTICAL SSD

PIPE HYDRAULIC DATA

DRAINAGE AREA	= 4.0 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 10 CFS
DESIGN HW ELEVATION	= 632.80 FT
100 YEAR DISCHARGE	= 13 CFS
100 YEAR HW ELEVATION	= 633.45 FT
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING DISCHARGE	= 24 CFS
OVERTOPPING ELEVATION	= 637.3 FT

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 7.500 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 582.3 FT
BASE DISCHARGE	= 10.800 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 584.1 FT
OVERTOPPING DISCHARGE	= 33,000 +/- CFS
OVERTOPPING FREQUENCY	= 500 YRS
OVERTOPPING ELEVATION	= 594.3 FT
ESTIMATED NORMAL W.S. ELEVATION	= 566.0 FT
DATE OF SURVEY	= 6/25/03
W.S. ELEVATION AT DATE OF SURVEY	= 566.0 FT

BM *2 - RR SPIKE SET IN 20' YELLOW POPLAR
126.64 FT. RT OF -BL- STA 26+19.15
ELEV - 628.30 FT.

FOR -L- PLAN SEE SHEET 5

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