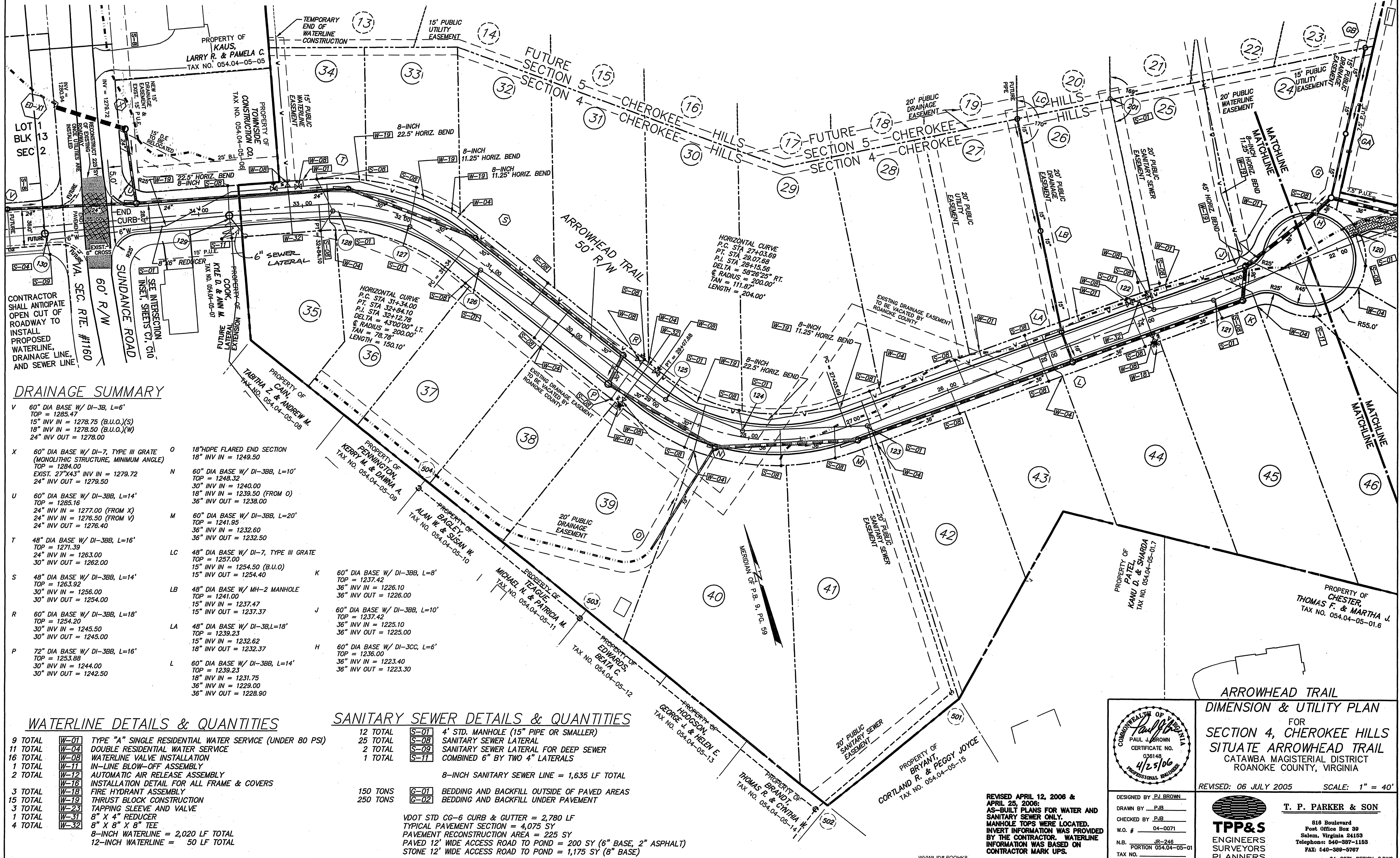




### DRAINAGE SUMMARY

3.04.04-05-08  
ANDREW M.

|   |                                                                                                                                                            |    |                                                                                                                                  |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| V | 60" DIA BASE W/ DI-3B, L=6'<br>TOP = 1285.47<br>15" INV IN = 1278.75 (B.U.O.)(S)<br>18" INV IN = 1278.50 (B.U.O.)(W)<br>24" INV OUT = 1278.00              |    |                                                                                                                                  |
| X | 60" DIA BASE W/ DI-7, TYPE III GRATE<br>(MONOLITHIC STRUCTURE, MINIMUM ANGLE)<br>TOP = 1284.00<br>EXIST. 27"x43" INV IN = 1279.72<br>24" INV OUT = 1279.50 | O  | 18"HDPE FLARED END SECTION<br>18" INV IN = 1249.50                                                                               |
| U | 60" DIA BASE W/ DI-3BB, L=14'<br>TOP = 1285.16<br>24" INV IN = 1277.00 (FROM X)<br>24" INV IN = 1276.50 (FROM V)<br>24" INV OUT = 1276.40                  | N  | 60" DIA BASE W/ DI-3BB, L=10'<br>TOP = 1248.32<br>30" INV IN = 1240.00<br>18" INV IN = 1239.50 (FROM O)<br>36" INV OUT = 1238.00 |
| T | 48" DIA BASE W/ DI-3BB, L=16'<br>TOP = 1271.39<br>24" INV IN = 1263.00<br>30" INV OUT = 1262.00                                                            | M  | 60" DIA BASE W/ DI-3BB, L=20'<br>TOP = 1241.95<br>36" INV IN = 1232.60<br>36" INV OUT = 1232.50                                  |
| S | 48" DIA BASE W/ DI-3BB, L=14'<br>TOP = 1263.92<br>30" INV IN = 1256.00<br>30" INV OUT = 1254.00                                                            | LC | 48" DIA BASE W/ DI-7, TYPE III GRATE<br>TOP = 1257.00<br>15" INV IN = 1254.50 (B.U.O.)<br>15" INV OUT = 1254.40                  |
| R | 60" DIA BASE W/ DI-3BB, L=18'<br>TOP = 1254.20<br>30" INV IN = 1245.50<br>30" INV OUT = 1245.00                                                            | LB | 48" DIA BASE W/ MH-2 MANHOLE<br>TOP = 1241.00<br>15" INV IN = 1237.47<br>15" INV OUT = 1237.37                                   |
| P | 72" DIA BASE W/ DI-3BB, L=16'<br>TOP = 1253.88<br>30" INV IN = 1244.00<br>30" INV OUT = 1242.50                                                            | LA | 48" DIA BASE W/ DI-3B, L=18'<br>TOP = 1239.23<br>15" INV IN = 1232.62<br>18" INV OUT = 1232.37                                   |
|   |                                                                                                                                                            | L  | 60" DIA BASE W/ DI-3BB, L=14'<br>TOP = 1239.23<br>18" INV IN = 1231.75<br>36" INV IN = 1229.00<br>36" INV OUT = 1228.90          |

### WATERLINE DETAILS & QUANTITIES

|          |      |                                                          |
|----------|------|----------------------------------------------------------|
| 9 TOTAL  | W-01 | TYPE "A" SINGLE RESIDENTIAL WATER SERVICE (UNDER 80 PSI) |
| 11 TOTAL | W-04 | DOUBLE RESIDENTIAL WATER SERVICE                         |
| 16 TOTAL | W-08 | WATERLINE VALVE INSTALLATION                             |
| 1 TOTAL  | W-11 | IN-LINE BLOW-OFF ASSEMBLY                                |
| 2 TOTAL  | W-12 | AUTOMATIC AIR RELEASE ASSEMBLY                           |
|          | W-16 | INSTALLATION DETAIL FOR ALL FRAME & COVERS               |
| 3 TOTAL  | W-18 | FIRE HYDRANT ASSEMBLY                                    |
| 15 TOTAL | W-19 | THRUST BLOCK CONSTRUCTION                                |
| 3 TOTAL  | W-23 | TAPPING SLEEVE AND VALVE                                 |
| 1 TOTAL  | W-31 | 8" X 4" REDUCER                                          |
| 4 TOTAL  | W-32 | 8" X 8" X 8" TEE                                         |
|          |      | 8-INCH WATERLINE = 2,020 LF TOTAL                        |
|          |      | 12-INCH WATERLINE = 50 LF TOTAL                          |

### SANITARY SEWER DETAILS & QUANTITIES

|          |      |                                       |
|----------|------|---------------------------------------|
| 12 TOTAL | S-01 | 4" STD. MANHOLE (15" PIPE OR SMALLER) |
| 25 TOTAL | S-08 | SANITARY SEWER LATERAL                |
| 2 TOTAL  | S-09 | SANITARY SEWER LATERAL FOR DEEP SEWER |
| 1 TOTAL  | S-11 | COMBINED 6" BY TWO 4" LATERALS        |

8-INCH SANITARY SEWER LINE = 1,635 LF TOTAL

|          |      |                                             |
|----------|------|---------------------------------------------|
| 150 TONS | G-01 | BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS |
| 250 TONS | G-02 | BEDDING AND BACKFILL UNDER PAVEMENT         |

VDOT STD CG-6 CURB & GUTTER = 2,780 LF  
TYPICAL PAVEMENT SECTION = 4,075 SY  
PAVEMENT RECONSTRUCTION AREA = 225 SY  
PAVED 12' WIDE ACCESS ROAD TO POND = 200 SY (6" BASE, 2" ASPHALT)  
STONE 12' WIDE ACCESS ROAD TO POND = 1,175 SY (8" BASE)

COMMONWEALTH OF VIRGINIA  
PAUL J. BROWN  
CERTIFICATE NO. 056148  
4/25/06  
PROFESSIONAL ENGINEER

**ARROWHEAD TRAIL**  
**DIMENSION & UTILITY PLAN**  
FOR  
**SECTION 4, CHEROKEE HILLS**  
**SITUATE ARROWHEAD TRAIL**  
CATAWBA MAGISTERIAL DISTRICT  
ROANOKE COUNTY, VIRGINIA

REVISED: 06 JULY 2005      SCALE: 1" = 40'

DESIGNED BY: P.J. BROWN  
DRAWN BY: P.J.B.  
CHECKED BY: P.J.B.  
W.O. #: 04-0071  
N.B. JR-246  
PORTION 054.04-05-01  
TAX NO.:

**T. P. PARKER & SON**  
816 Boulevard  
Post Office Box 39  
Salem, Virginia 24153  
Telephone: 540-387-1153  
FAX: 540-388-5767  
04-0071-DESIGN-8.DWG  
SHEET 05 of 20

REVISED APRIL 12, 2006 &  
APRIL 25, 2006:  
AS-BUILT PLANS FOR WATER AND  
SANITARY SEWER ONLY.  
MANHOLE TOPS WERE LOCATED.  
INVERT INFORMATION WAS PROVIDED  
BY THE CONTRACTOR. WATERLINE  
INFORMATION WAS BASED ON  
CONTRACTOR MARK UPS.

WWW.ID# 600K8