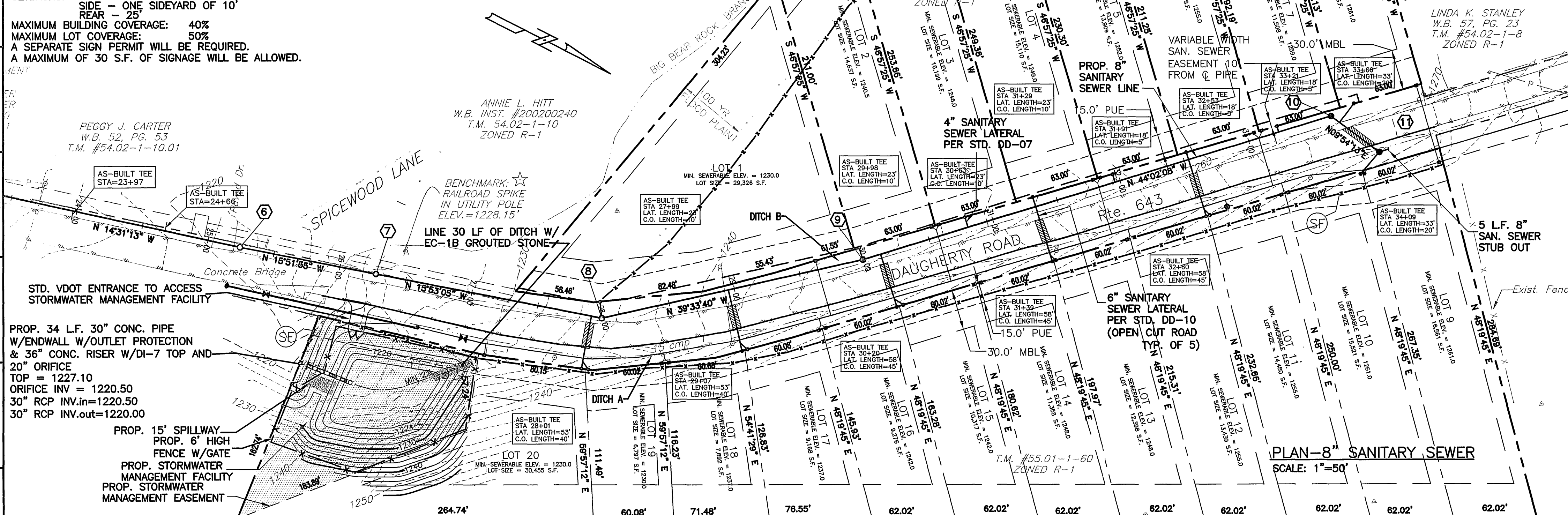


SITE SUMMARY:
 OWNER: A.M. COOPER CONSTRUCTION
 DEVELOPER: 4430 OLD CAVE SPRING ROAD
 ROANOKE, VA 24018
 (540)-989-0920

TAX MAP NUMBER: 54.02-1-9.9.1 & 55.01-1-60
 SIZE: 6.5 AC
 ZONING: R1 - ZERO LOT LINE OPTION
 MINIMUM LOT SIZE REQUIRED: 5760 SF
 MINIMUM LOT FRONTAGE REQUIRED: 48.0'
 MINIMUM LOT FRONTAGE PROVIDED: 60.02'
 SETBACKS: FRONT - 30'
 SIDE - ONE SIDEYARD OF 10'
 REAR - 25'
 MAXIMUM BUILDING COVERAGE: 40%
 MAXIMUM LOT COVERAGE: 50%
 A SEPARATE SIGN PERMIT WILL BE REQUIRED.
 A MAXIMUM OF 30 S.F. OF SIGNAGE WILL BE ALLOWED.

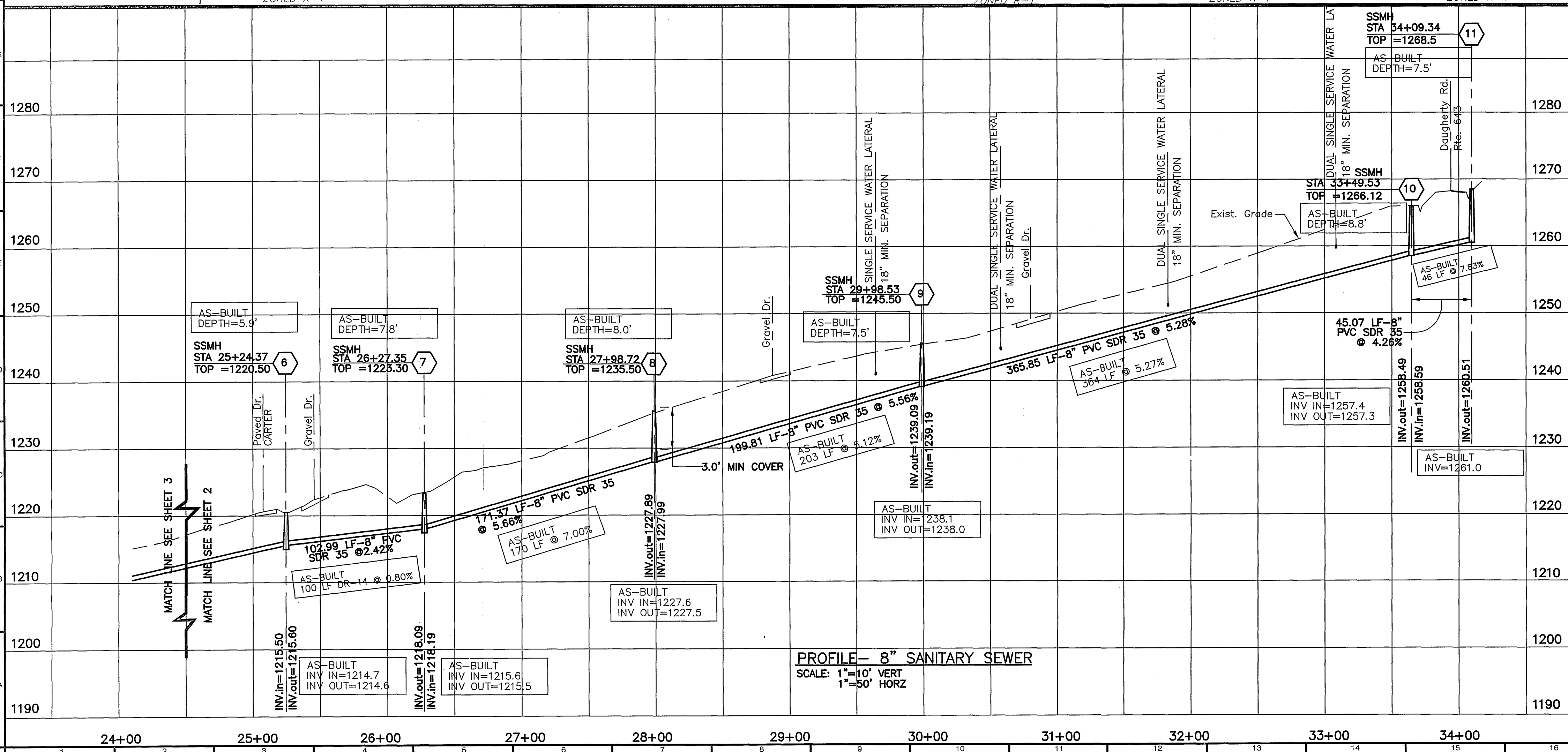
SANITARY SEWER NOTES:

- SEWER PIPE SHALL BE PVC SDR-35.
- ALL SANITARY LATERALS WITHIN RIGHTS-OF-WAY AND EASEMENTS SHALL BE FOUR (4) INCH DIAMETER FOR LATERALS SERVING ONE LOT AND SIX (6) INCH DIAMETER FOR LATERALS SERVING TWO LOTS WITH A MINIMUM GRADE OF 2.08% (1/4"=1'). MATERIAL TO BE PVC SDR-35. THE CONTRACTOR IS TO INSTALL THE SANITARY SEWER LATERALS.
- REFERENCE THE ROANOKE COUNTY UTILITY DEPARTMENT WATER AND SEWER REGULATIONS, LATEST EDITION.
- PROVIDE A MINIMUM 3.0' COVER OVER SANITARY SEWER LINES MINIMUM VERTICAL SEPARATION BETWEEN UTILITIES AND STORM DRAIN 5'.
- ALL TAPS TO EXISTING SANITARY SEWER LINES TO BE PERFORMED BY THE ROANOKE COUNTY UTILITY DEPARTMENT.

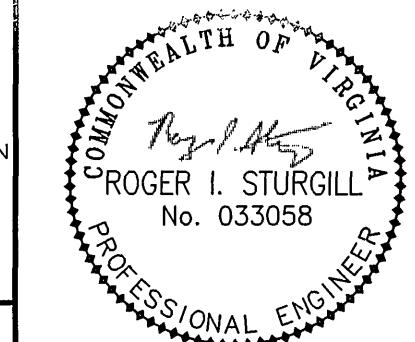


GENERAL UTILITY NOTES:

- SUPPLY AND INSTALL ALL MATERIALS AND METHODS FOR WATERLINES, SANITARY SEWERS AND STORM DRAINAGE IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS OF ROANOKE COUNTY AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION "ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS", LATEST EDITION.
- OBTAIN ALL REQUIRED PERMITS AND NOTIFY APPROPRIATE OFFICIALS 48 HOURS PRIOR TO COMMENCEMENT OF WORK. OBTAIN INFORMATION FROM ROANOKE COUNTY CONCERNING PERMITS AND CONNECTIONS TO EXISTING LINES.
- ALL WORK SHALL BE SUBJECT TO INSPECTION BY ROANOKE COUNTY. NOTIFY APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF WORK.
- USE SELECT MATERIAL FREE FROM FROST, LARGE CLODS, STONES, AND DEBRIS FOR BACK FILL FROM THE BOTTOM OF THE TRENCH TO TWELVE (12) INCHES ABOVE THE PIPE.
- MAKE ALL PIPE JOINTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE COUNTY'S SPECIFICATIONS. MAKE JOINTS BETWEEN DIFFERENT PIPE MATERIALS WITH STANDARD FITTINGS MANUFACTURED FOR THE PURPOSE.
- MAINTAIN ALL WATER LINES AT TEN (10) FEET HORIZONTAL SEPARATION FROM SEWER LINES AND MANHOLES; MEASURE THE DISTANCE EDGE-TO-EDGE. WHEN LOCAL CONDITIONS PREVENT THE DESIRED HORIZONTAL SEPARATION, THE WATERLINE MAY BE LAID CLOSER TO THE SEWER OR MANHOLE PROVIDED THAT THE BOTTOM OF THE WATERLINE SHALL BE AT LEAST EIGHTEEN (18) INCHES ABOVE THE TOP OF THE SEWER. WHERE THIS VERTICAL SEPARATION CANNOT BE OBTAINED, CONSTRUCT THE SEWER OF AWWA APPROVED WATER PIPE AND PRESSURE TREAT IN PLACE PRIOR TO BACKFILLING. THE SEWER MANHOLE SHALL BE OF WATERTIGHT CONSTRUCTION TESTED IN PLACE.
- SEWER AND WATER TAPS SHALL BE LOCATED BY THE CONTRACTOR AND MADE BY THE COUNTY AT THE DEVELOPER'S EXPENSE.
- LOCATE AND UNCOVER VALVE VAULTS AND MANHOLES AFTER PAVING AND ADJUST TO FINAL GRADE, IF NECESSARY.
- VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT THE ENGINEER IMMEDIATELY IF:
 - ANY LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS.
 - IF THERE APPEARS TO BE ANY CONFLICT.
 UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS. TO MISS UTILITIES, CALL "MISS UTILITY" OF VIRGINIA (TOLL FREE 1-800-552-7001) 48 HOURS BEFORE YOU DIG. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF THIS WORK. EXISTING UTILITY LOCATIONS SHOWN ARE A RESULT OF A COMBINATION OF EXISTING INFORMATION AND FIELD LOCATION OF SURFACE FEATURES. LOCATIONS ARE APPROXIMATE.
- REPAIR ALL DAMAGE CAUSED TO ANY UTILITY, PUBLIC OR PRIVATE, AS A RESULT OF THIS WORK AT NO ADDITIONAL COST TO OWNER.
- PROVIDE A CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL PIPE. REMOVE STONES AND ROCKS FOUND IN THE TRENCH FOR A DEPTH OF AT LEAST SIX (6) INCHES BELOW THE BOTTOM OF THE PIPE AND TAMP SELECT FILL BEDDING PROVIDED. AFTER THE PIPE HAS BEEN PLACED IN THE TRENCH, BACK FILL THE TRENCH WITH SELECT MATERIAL, THOROUGHLY COMPACT TO 90% (95% UNDER PAVEMENT OR CONCRETE SLAB) OF THE STANDARD PROCTOR (ASTM D-698) USING CARE NOT TO DAMAGE THE PIPE. USE VDOT STANDARD PB-1 TRENCH FOR STORM SEWER AND UB-1 FOR SANITARY SEWER AND WATER.
- MINIMUM COVER OVER WATER AND SANITARY SEWER LINES SHALL BE THREE (3) FEET.
- THE COUNTY OF ROANOKE COUNTY SHALL MAKE ALL CONNECTIONS TO EXISTING WATER MAINS.
- THE CONTRACTOR SHALL INSTALL ALL WATER SERVICE CONNECTIONS AND METER BOXES.



NOTE:
 SEE DETAIL FOR DRIVEWAY CULVERTS ON DITCH A AND B



REFLECTING TOMORROW
 PLANNERS • ARCHITECTS
 ENGINEERS • SURVEYORS

1208 Corporate Circle
 Roanoke, Virginia 24018
 Phone: 540/772-9580
 FAX: 540/772-8050

501 Branchway Road
 Richmond, Virginia 23238
 Phone: 804/784-0571
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 Glen Allen, Virginia 23059
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 FAX: 804/653-0133

448 Peppers Ferry Road
 Christiansburg, Virginia 24073
 Phone: 540/381-4200
 FAX: 540/381-4291

1857 Commerce Road
 Suite 201
 Verona, Virginia 24482
 Phone: 540/248-3221
 FAX: 540/248-3221

BEAR ROCK SUBDIVISION
SEWER PLAN AND PROFILE
 CATAWBA MAGISTERIAL DISTRICT
 ROANOKE COUNTY, VIRGINIA

DRAWN BY: DRB
 DESIGNED BY: SMH
 CHECKED BY: RIS
 DATE: AUG. 25, 2003

REVISIONS:
 11/06/03
 12/23/03
 02/04/04
 04/16/04
 12/13/04
 03/06/06

WWW ID# 8PUQAN
 SCALE: 1" = 50'

SHEET NO.

3 OF 6

JOB NO.
 R0300146.00