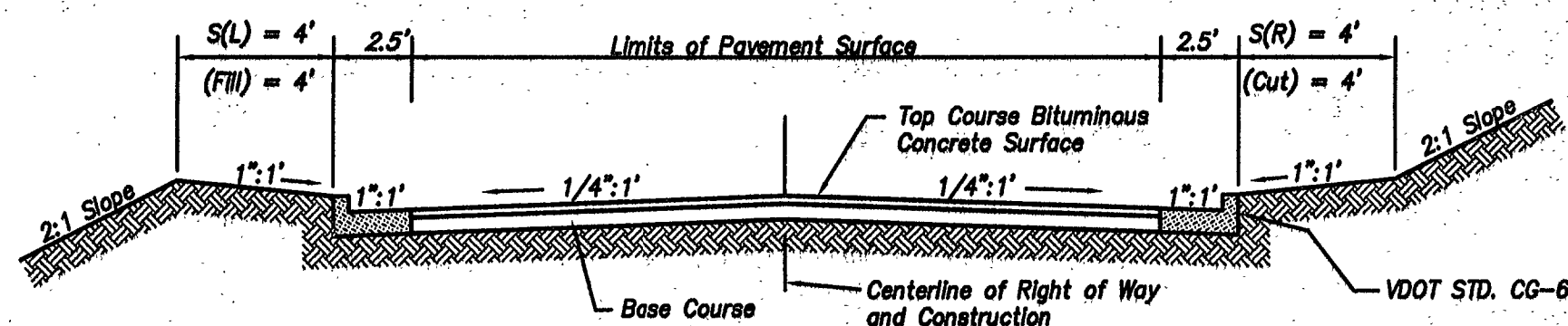


# VIRGINIA DEPARTMENT OF TRANSPORTATION NOTES:

- QUALITY CONTROL**  
STREETS TO BE GRADED, PAVED AND ALL STRUCTURAL COMPONENTS ERECTED IN ACCORDANCE WITH CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS AND ROAD DESIGN STANDARDS AND ROANOKE COUNTY DESIGN STANDARDS AND SPECIFICATIONS. ALL MATERIALS USED SHALL BE TESTED IN ACCORDANCE WITH STANDARD POLICIES. THE DEVELOPER MUST CONTACT THE OFFICE OF THE RESIDENT ENGINEER PRIOR TO BEGINNING ANY CONSTRUCTION AT WHICH TIME AN INSPECTION AND TESTING PROCEDURE POLICY WILL BE DRAWN. THE DEVELOPER WILL PRODUCE TEST REPORTS FROM APPROVED INDEPENDENT LABORATORIES AT THE DEVELOPER'S EXPENSE.  
  
THE SUBGRADE MUST BE APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO PLACEMENT OF THE BASE. BASE MUST BE APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION FOR DEPTH, TEMPLATE AND COMPACTION BEFORE SURFACE IS APPLIED.
- UTILITIES**  
ALL NECESSARY UTILITY LATERALS ALONG WITH PROVISIONS FOR CONDUITS (I.E. WATER, SEWER, STORM, GAS AND TELEPHONE) WILL BE CONSTRUCTED PRIOR TO PLACEMENT OF BASE MATERIAL.  
  
GAS OR PETROLEUM TRANSMISSION LINES WILL NOT BE PERMITTED WITHIN THE PAVEMENT OR SHOULDER ELEMENT (BACK OF CURB TO BACK OF CURB) OF THIS DEVELOPMENT. SERVICE LATERALS CROSSING AND PIPE LINES LOCATED OUTSIDE THE PAVEMENT BUT INSIDE THE RIGHT OF WAY WILL BE CONSTRUCTED IN CONFORMITY WITH ASA B 31.8 SPECIFICATIONS AND SAFETY REGULATIONS. DISTRIBUTION LINES WITH PRESSURES LESS THAN 120 LBS. ARE UNAFFECTED BY THE ABOVE.  
  
PERMITS WILL BE REQUIRED FOR ALL UTILITIES WITHIN STREET RIGHT OF WAY PRIOR TO ACCEPTANCE INTO THE SECONDARY HIGHWAY SYSTEM. ANY EASEMENTS GRANTED TO A UTILITY COMPANY FOR PLACEMENT OF POWER, TELEPHONE, ETC. MUST BE RELEASED PRIOR TO ACCEPTANCE.
- PRIVATE ENTRANCES**  
MODIFIED C&G GUTTER WILL BE PROVIDED AT ALL ENTRANCES TO PRIVATE LOTS WHERE STANDARD C&G CURB AND GUTTER IS APPROVED FOR USE.  
  
DRIVEWAYS CONNECTING TO ROADS WITHOUT CURB & GUTTER SHALL CONFORM TO THE PAVEMENT, SHOULDER & SLOPE.  
  
PERMITS WILL BE REQUIRED FOR ALL PRIVATE ENTRANCES CONSTRUCTED ON STREET RIGHTS OF WAY AFTER ACCEPTANCE INTO THE SECONDARY HIGHWAY SYSTEM.  
  
ALL PRIVATE ENTRANCES WITHIN THE RIGHT-OF-WAY AREA SHOULD NOT EXCEED EIGHT PERCENT (8%) MAXIMUM GRADE.
- EROSION CONTROL AND LANDSCAPING**  
CARE MUST BE TAKEN DURING CONSTRUCTION TO PREVENT EROSION, DUST AND MUD FROM DAMAGING ADJACENT PROPERTY, CLOGGING DITCHES, TRACKING PUBLIC STREETS AND OTHERWISE CREATING A PUBLIC OR PRIVATE NUISANCE TO SURROUNDING AREAS.  
  
THE ENTIRE CONSTRUCTION AREA INCLUDING DITCHES, CHANNELS, BACK OF CURBS AND OR PAVEMENT ARE TO BE BACKFILLED AND SEEDED AT THE EARLIEST POSSIBLE TIME AFTER FINAL GRADING.  
  
DRAINAGE EASEMENTS MUST BE DEFINED BY EXCAVATED DITCHES OR CHANNELS FOR THEIR FULL LENGTH TO WELL DEFINED EXISTING NATURAL WATERCOURSES.  
  
THE ROAD WILL BE REVIEWED DURING CONSTRUCTION FOR THE NEED OF PAVED DITCHES. IF EROSION IS ENCOUNTERED IN ANY DRAINAGE EASEMENT, IT WILL BE THE RESPONSIBILITY OF THE DEVELOPER TO SOD, RIP RAP, GROUT, PAVE OR TO DO WHATEVER IS NECESSARY TO CORRECT THE PROBLEM.  
  
ALL VEGETATION AND OVERBURDEN TO BE REMOVED FROM SHOULDER TO SHOULDER PRIOR TO THE CONDITIONING (CUTTING AND/OR PREPARATION) OF THE SUBGRADE.
- INTERSECTION PAVEMENT RADIUS**  
MINIMUM PAVEMENT RADIUS OF 25 FEET IS REQUIRED AT ALL STREET INTERSECTION.
- CONNECTIONS TO STATE-MAINTAINED ROADS**  
WHILE THESE PLANS HAVE BEEN APPROVED, SUCH APPROVAL DOES NOT EXEMPT CONNECTIONS WITH EXISTING STATE-MAINTAINED ROADS FROM CRITICAL REVIEW AT THE TIME PERMIT APPLICATIONS ARE MADE. THIS IS NECESSARY IN ORDER THAT THE PREVAILING CONDITIONS BE TAKEN INTO CONSIDERATION REGARDING SAFETY ACCOMPANIMENTS SUCH AS TURNING LANES.
- GUARDRAILS**  
STANDARD GUARDRAIL WITH SAFETY END SECTIONS MAY BE REQUIRED ON FILLS AS DEEMED NECESSARY BY THE RESIDENT ENGINEER. AFTER COMPLETION OF ROUGH GRADING OPERATIONS, THE OFFICE OF THE RESIDENT ENGINEER, SHALL BE NOTIFIED SO THAT A FIELD REVIEW MAY BE MADE OF THE PROPOSED LOCATIONS.  
  
WHERE GUARDRAILS ARE TO BE INSTALLED THE SHOULDER WIDTH SHALL BE INCREASED IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS.
- STORM DRAINAGE**  
FIELD REVIEW WILL BE MADE DURING CONSTRUCTION TO DETERMINE THE NEED AND LIMITS OF PAVED DITCHES AND/OR DITCH STABILIZATION TREATMENTS, AND TO DETERMINE THE NEED AND LIMITS OF ADDITIONAL DRAINAGE EASEMENTS. ALL DRAINAGE EASEMENTS MUST BE CUT AND MADE TO FUNCTION TO A NATURAL WATERCOURSE. ANY EROSION PROBLEMS ENCOUNTERED IN AN EASEMENT MUST BE CORRECTED BY WHATEVER MEANS NECESSARY PRIOR TO SUBDIVISION ACCEPTANCE.  
  
DITCH SLOPES ARE TO BE FOUR TO ONE (4:1) FOR SHOULDER WIDTHS OF SIX FEET (6') OR GREATER AND THREE TO ONE (3:1) FOR SHOULDER WIDTHS OF FOUR FEET (4') OR FIVE FEET (5'), UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- ENTRANCE PERMIT**  
CONTRACTOR SHALL OBTAIN ENTRANCE PERMIT TO THE EXISTING VIRGINIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY FROM RESIDENT ENGINEER PRIOR TO ROAD CONSTRUCTION.
- INSPECTION**  
AN INSPECTOR WILL NOT BE FURNISHED EXCEPT FOR PERIODIC PROGRESS INSPECTION. THE ABOVE MENTIONED FIELD REVIEWS AND CHECKING FOR REQUIRED STONE DEPTHS. THE DEVELOPER WILL BE REQUIRED TO POST A SURETY TO GUARANTEE THE ROAD FREE OF DEFECTS FOR ONE YEAR AFTER ACCEPTANCE BY THE DEPARTMENT OF TRANSPORTATION.
- STREET MAINTENANCE**  
THE STREETS MUST BE PROPERLY MAINTAINED UNTIL ACCEPTANCE. AT SUCH TIME AS ALL REQUIREMENTS HAVE BEEN MET FOR ACCEPTANCE, ANOTHER INSPECTION WILL BE MADE TO DETERMINE THAT THE STREET HAS BEEN PROPERLY MAINTAINED.
- UNDERGROUND UTILITIES**  
CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHOWN ON THE PLANS IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK BY CONTACTING MISS UTILITY. CONTACT SITE ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, AND UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THIS PLAN, CALL "MISS UTILITY" OF CENTRAL VIRGINIA AT 1-800-532-7001.
- REVISIONS OF SPECIFICATIONS AND STANDARDS**  
APPROVAL OF THESE PLANS WILL BE BASED ON SPECIFICATIONS AND STANDARDS IN EFFECT AT THE TIME OF APPROVAL AND WILL BE SUBJECT, UNTIL COMPLETION OF THE ROADWAY AND ACCEPTANCE BY THE DEPARTMENT, TO FUTURE REVISIONS OF THE SPECIFICATIONS AND STANDARDS.



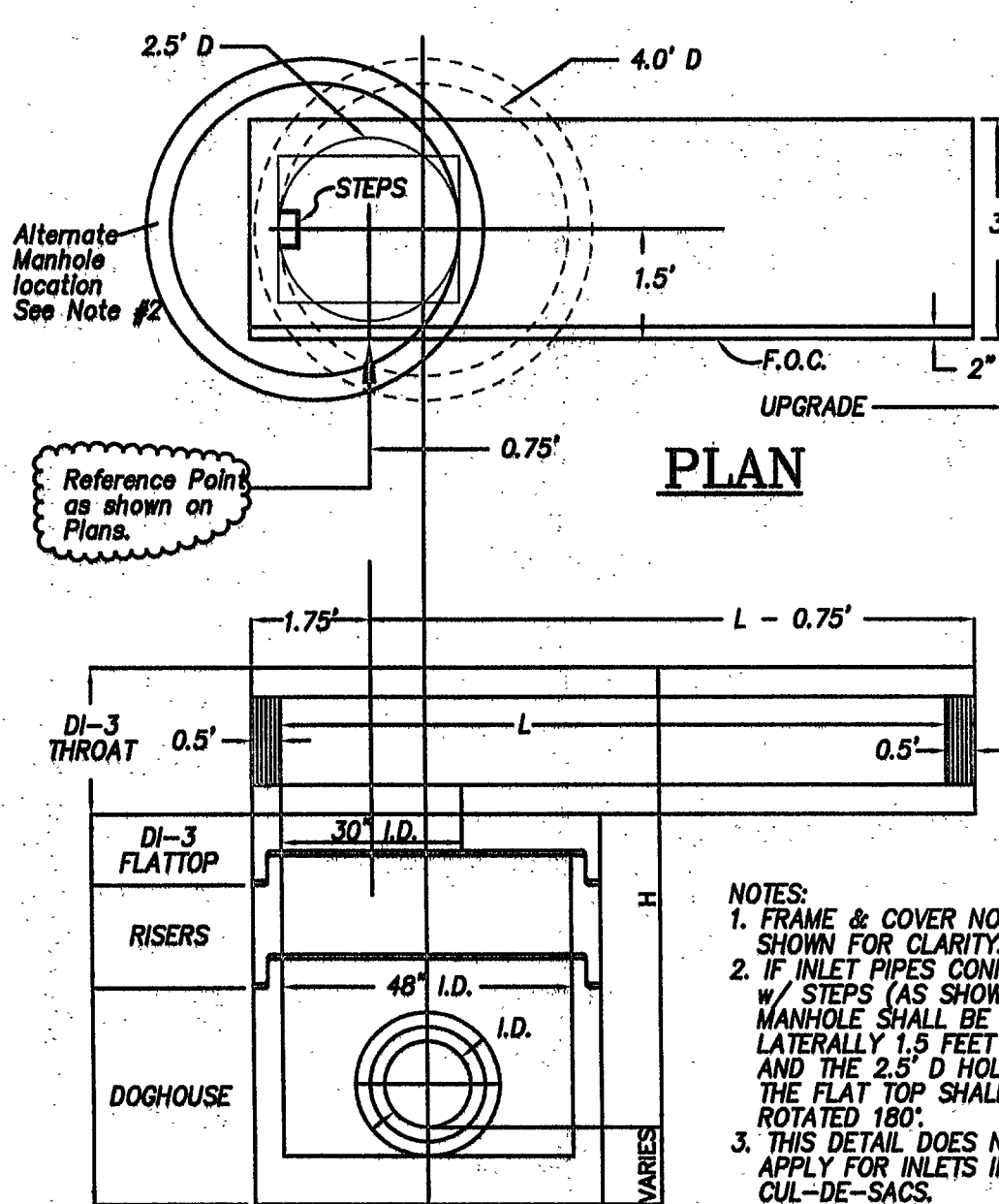
TYPICAL STREET SECTION

NO SCALE

PAVEMENT SPECIFICATIONS:						
STREET NAME	FROM STATION TO STATION	PAVEMENT WIDTH	RIGHT OF WAY WIDTH	VEHICLE TRIPS PER DAY	NUMBER OF REQ'D CBR TESTS	PAVEMENT SPECIFICATION
CRUMPACKER DRIVE	14+40± TO 22+40±	32'	50'	1,560	5 (INCL. ONE AT EACH CONNECTION POINT OF EXIST. CRUMPACKER DR.)	220 PSY ASPH. CONCRETE (2"), TYPE SM-9.5A 330 PSY ASPH. CONCRETE (3"), TYPE BM-25.0 8" AGGREGATE BASE-21B
CRUMPACKER DRIVE	22+40± TO 30+20±	32'	50'	1,350		220 PSY ASPH. CONCRETE (2"), TYPE SM-9.5A 330 PSY ASPH. CONCRETE (3"), TYPE BM-25.0 6" AGGREGATE BASE-21B
TOLMAN CIRCLE	40+18 TO CUL DE SAC	24'	40'	70	2	220 PSY ASPH. CONCRETE (2"), TYPE SM-9.5A 8" AGGREGATE BASE-21B, -- SEE NOTE 1 BELOW

## NOTES:

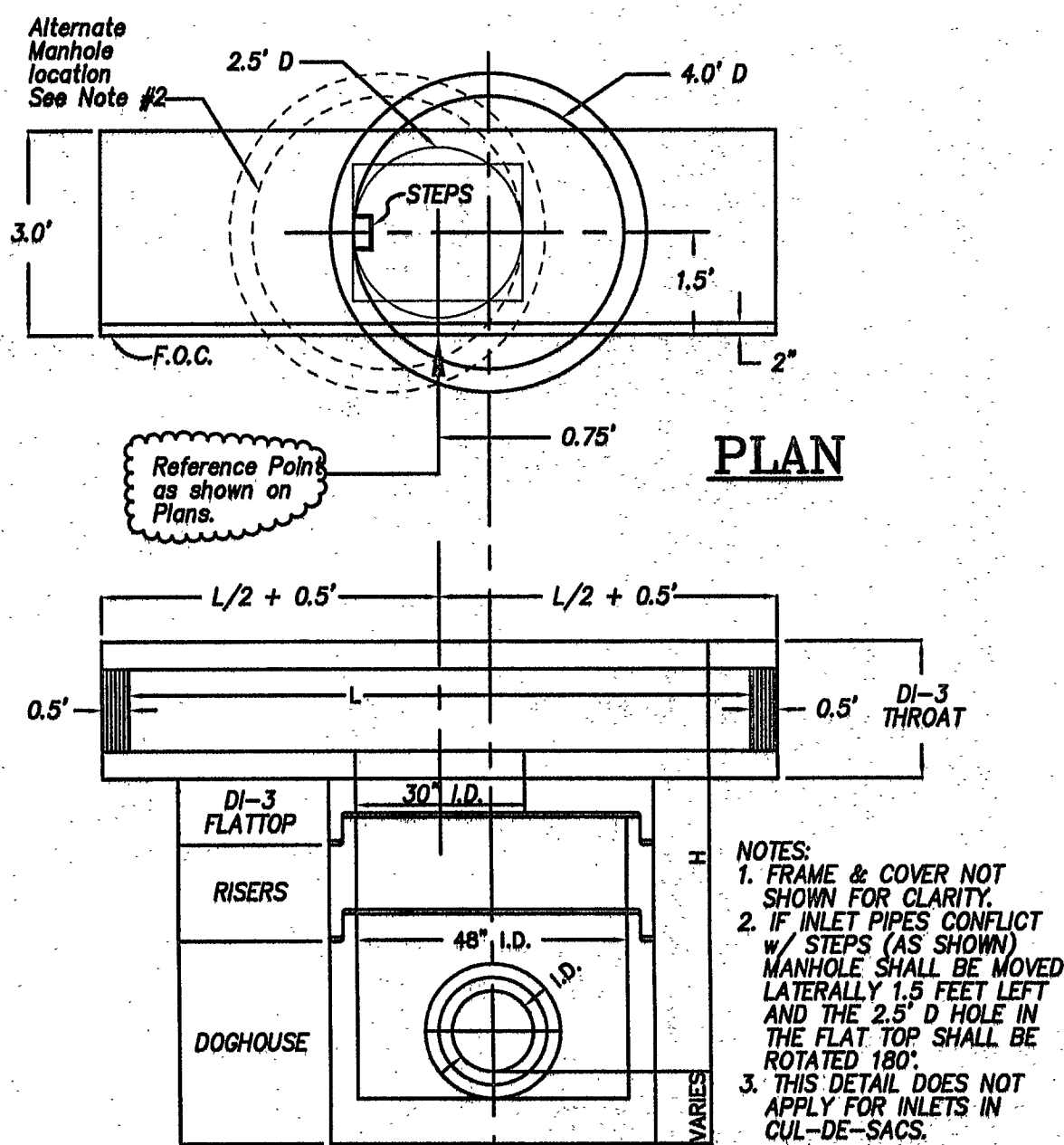
- THE SIZE 21B AGGREGATE SHALL BE PRIMED WITH APPROXIMATELY 0.35 GAL/SY OF RC-250 ASPHALT AND COVERED WITH 16 TO 18 LBS/SY OF SIZE 8-P AGGREGATE BEFORE PLACING THE SM-9.5A.
- THE PRELIMINARY PAVEMENT DESIGNS SHOWN ARE BASED ON A PREDICTED SUB-GRADE CBR VALUE OF 7.0 AND A RESILIENCY FACTOR (RF) OF 2.0 AS SHOWN IN APPENDIX I OF THE 2000 VIRGINIA DEPARTMENT OF TRANSPORTATION PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS. THE SUB-GRADE SOIL IS TO BE TESTED BY AN INDEPENDENT LABORATORY AND THE RESULTS SUBMITTED TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO BASE CONSTRUCTION. SHOULD THE SUB-GRADE CBR VALUE AND/OR THE RF VALUE BE LESS THAN THE PREDICTED VALUES, ADDITIONAL BASE MATERIAL WILL BE REQUIRED IN ACCORDANCE WITH DEPARTMENTAL SPECIFICATIONS. REFER TO THE SAME MANUAL FOR THE NUMBER AND LOCATIONS OF THE REQUIRED SOIL SAMPLES TO BE TESTED. ALL PAVEMENT DESIGNS SHALL BE SUBMITTED TO THE DEPARTMENT FOR REVIEW AND APPROVAL. (CHANGE VALUES FOR EACH SPECIFIC LOCATION).
- THE SUB-GRADE SHALL BE APPROVED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION PRIOR TO THE PLACEMENT OF THE BASE. BASE SHALL BE APPROVED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION FOR DEPTH, TEMPLATE, AND COMPACTION BEFORE SURFACE IS APPLIED.



PROFILE

LOCATION DETAIL FOR DI-3B (PRECAST)

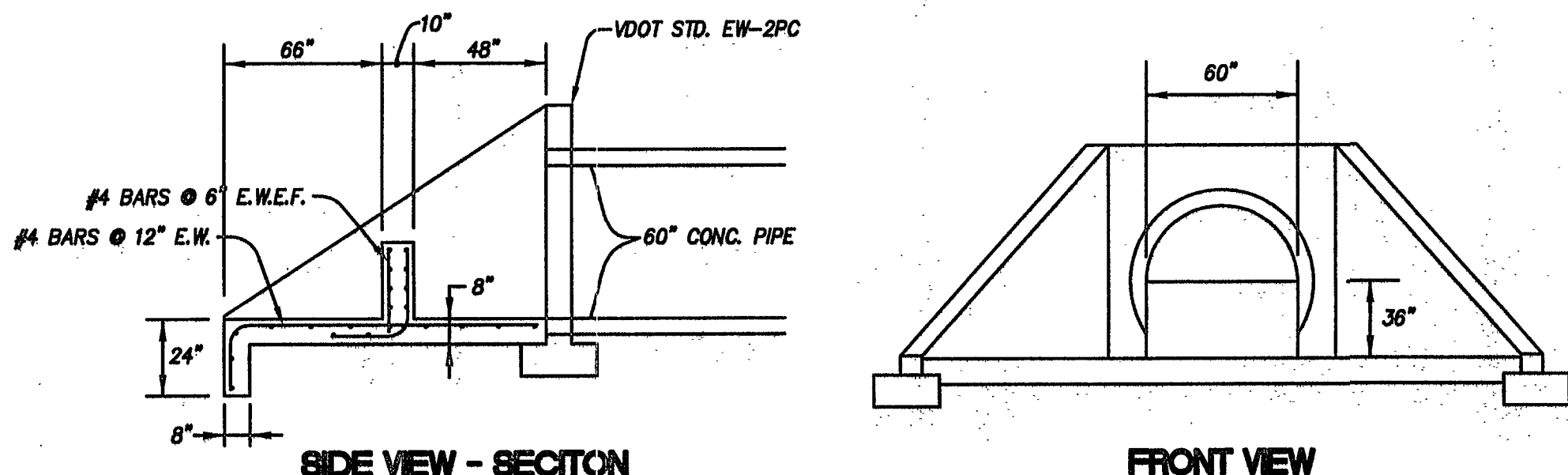
NO SCALE



PROFILE

LOCATION DETAIL FOR DI-3C (PRECAST)

NO SCALE



## NOTES:

- CONCRETE SHALL BE 4,000 PSI MINIMUM STRENGTH.
- REINFORCING STEEL SHALL BE 60,000 PSI MINIMUM STRENGTH.
- PROVIDE #4 X18\"/>

60\"/>

NO SCALE

PIPE I.D.	H	L	A	B
12"	2.00'	4.00'	1.83'	1.83'
15"	2.25'	5.00'	1.83'	1.83'
18"	2.50'	6.00'	1.83'	1.83'
24"	3.17'	8.00'	1.83'	1.83'
30"	3.83'	10.00'	1.83'	1.83'
36"	4.33'	12.00'	1.83'	1.83'
42"	5.50'	14.00'	3.00'	2.83'
48"	6.00'	16.00'	3.00'	2.83'

## NOTES:

- CONCRETE 4,000 P.S.I.
- REINFORCING #4 @ 6\"/>

EW-1 MODIFIED WITH ENERGY DISSIPATER

NO SCALE

## SITE AND ZONING TABULATIONS

CURRENT ZONING: R1  
PROPOSED USE: SINGLE FAMILY DETACHED DWELLINGS - ZERO LOT LINE OPTION  
SITE ACREAGE: 20.6+/- ACRES  
PROPOSED NUMBER OF LOTS: 38  
MINIMUM LOT AREA REQUIRED: 5,760 S.F.  
MINIMUM FRONTAGE REQUIRED: 48'  
MINIMUM REQUIRED SETBACKS:  
FRONT: 24'  
REAR: 20' (25' ALONG SUBDIVISION BOUNDARY)  
SIDE YARD: 0' ON ONE SIDE AND 10' ON SIDE OPPOSITE THE ZERO SIDE LINE (10' ALONG SUBDIVISION BOUNDARY)  
MAXIMUM HEIGHT ALLOWED: 45' (PRINCIPAL STRUCTURE)  
MAXIMUM BUILDING COVERAGE: 40%  
MAXIMUM LOT COVERAGE: 60%

## GENERAL NOTES

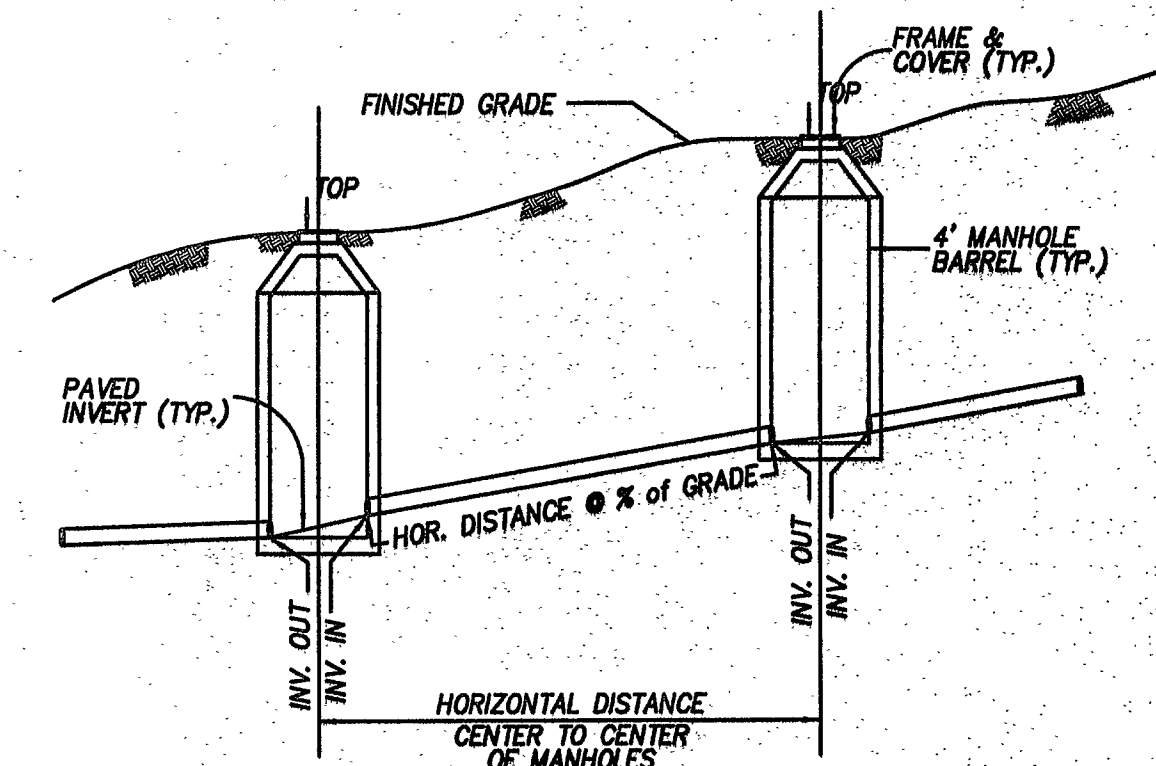
- THE PROPERTY SHOWN ON THESE PLANS IS LOCATED AT ROANOKE COUNTY TAX ASSESSMENT MAP 40.01-01-01.03 AND 40.01-1-4.
- OWNER/DEVELOPER: F. & W. COMMUNITY DEVELOPMENT CORPORATION (ATTN: ANDY KELDERHOUSE)  
P. O. BOX 20089  
ROANOKE, VA 24018 (540) 774-4415
- THE BOUNDARY IS THE DIRECT RESULT OF A FIELD SURVEY BY LUMSDEN ASSOCIATES, P.C. DATED 2000.
- TOPOGRAPHY DATA BASED ON AERIAL MAPPING BY OTHERS AND UPDATED WITH A FIELD SURVEY BY LUMSDEN ASSOCIATES, P.C. IN 2005.
- A TITLE REPORT WAS NOT FURNISHED FOR THIS PROPERTY.
- THE DEVELOPMENT SHOWN ON THESE PLANS SHALL BE SERVED BY WESTERN VIRGINIA WATER AUTHORITY WATER AND SANITARY SEWER.
- THE PROPERTY ON THESE PLANS SHALL BE ACCESSED BY PUBLIC ROADS.
- ALL EXTERIOR LIGHTS SHALL BE DESIGNED, ARRANGED, AND LOCATED SO AS NOT TO DIRECT GLARE ON ADJACENT RESIDENTIAL PROPERTIES OR RIGHT OF WAYS. THE MAXIMUM LIGHTING DENSITY AT ADJOINING PROPERTIES OR RIGHT OF WAYS SHALL NOT EXCEED 0.5 FOOT CANDLES.
- ANY PRIVATE SIGNS SHALL BE SET A MINIMUM OF 15 FEET OFF THE RIGHT OF WAY. A SEPARATE SIGN PERMIT WILL BE REQUIRED FOR ANY EXTERIOR SIGNAGE.
- NO CONSTRUCTION/FIELD REVISIONS ARE ALLOWED WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER, ROANOKE COUNTY, THE WESTERN VIRGINIA WATER AUTHORITY AND/OR THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
- ANY NEW ALIGNMENTS, CHANGES IN GRADES, ALTERNATE PIPE SIZES, MANHOLES, OR ESC MEASURES WILL REQUIRE A NEW SET OF PLANS STAMPED BY THE CONSULTING ENGINEER. COUNTY ENGINEERS WILL REVIEW PLANS WITHIN ONE DAY OF SUBMITTAL. PLAN SHEETS CAN BE 8.5 x 11 IF THE INFORMATION IS LEGIBLE AND WITHIN THE LIMITS OF THE APPROVED PLANS.
- ANY TOPOGRAPHIC CHANGES FROM THE APPROVED PLANS MAY REQUIRE ADDITIONAL DRAINAGE STRUCTURES AND EASEMENTS AS DEEMED NECESSARY BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION AND ROANOKE COUNTY.
- ANY DEVIATIONS BETWEEN THE PROPOSED CONTOURS AND PLANS AND THE AS BUILT CONDITIONS MAY REQUIRE ADDITIONAL DRAINAGE STRUCTURES AND EASEMENTS.
- IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO CLEAN OUT THE EXISTING STORM SEWER SYSTEM WITHIN EXISTING DEVELOPMENTS SHOULD THESE SYSTEMS BECOME SILENT OR BLOCKED IN ANY WAY DUE TO THE CONSTRUCTION OF THIS PROPOSED DEVELOPMENT.

## CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT COUNTY OF ROANOKE STANDARDS AND SPECIFICATIONS AND THE CURRENT EDITION OF VDOT'S ROAD AND BRIDGE STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
- NO SUBSOIL INVESTIGATIONS HAVE BEEN FURNISHED TO THE DESIGNING ENGINEER.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION.
- ALL WATER CONNECTIONS TO EXISTING LINES SHALL BE COORDINATED WITH AND PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
- ALL SANITARY SEWER CONNECTIONS TO EXISTING LINES SHALL BE PERFORMED BY THE CONTRACTOR WITH A WESTERN VIRGINIA WATER AUTHORITY INSPECTOR ONSITE.
- SEE VDOT ROAD AND BRIDGE STANDARDS FOR CONCRETE CURB AND STORM DRAINAGE DETAILS.
- THE CONTRACTOR AND OR OWNER SHALL PROVIDE A STORAGE CONTAINER FOR TEMPORARY STORAGE AND DISPOSAL OF LAND CLEARANCE DEBRIS AND BUILDING MATERIALS. ON-SITE BURIAL OF MATERIAL SHALL NOT BE PERMITTED.

## GRADING NOTES

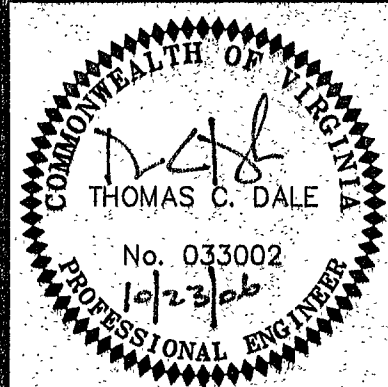
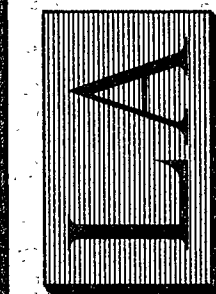
- AREAS TO BE GRADED SHALL BE CLEARED OF ALL VEGETATION, STRUCTURES, AND OTHER PHYSICAL FEATURES IN PREPARATION OF GRADING.
- TOPSOIL SHALL BE REMOVED FROM THE CLEARED AREA AND STOCKPILED FOR FUTURE USE.
- FILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER AND ROCKS LARGER THAN 8 INCHES IN DIAMETER.
- FILL MATERIAL SHALL BE PLACED AND COMPACTED IN EIGHT (8) INCH LOOSE LIFTS AND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF THE MATERIAL'S MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698, STANDARD PROCTOR. MAINTAIN MOISTURE CONTENT OF FILL MATERIAL WITHIN THREE (3) PERCENT OF OPTIMUM TO ATTAIN REQUIRED COMPACTION DENSITY.
- NO SUBSURFACE SOILS INFORMATION HAS BEEN FURNISHED TO THE DESIGNING ENGINEER (LUMSDEN ASSOCIATES, P.C.). A QUALIFIED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE OF VIRGINIA, SHOULD BE CONSULTED CONCERNING SOIL STABILITY, SLOPE STABILIZATION, SOIL COMPACTION, TESTING, AND OTHER SOIL CHARACTERISTICS. LUMSDEN ASSOCIATES ASSUMES NO RESPONSIBILITY OR LIABILITY RELATING TO FAILURES RESULTING FROM SAME.



SANITARY SEWER  
HORIZONTAL AND SLOPE DISTANCE DETAIL

NO SCALE

LUMSDEN ASSOCIATES, P.C.  
ENGINEERS-SURVEYORS-PLANNERS  
ROANOKE, VIRGINIA



NOTES AND  
DETAILS

SECTION No. 16  
SAMUEL'S GATE  
AT THE ORCHARDS  
PREPARED FOR  
F. & W. COMMUNITY  
DEVELOPMENT CORPORATION  
HOLLINS MAGISTERIAL DISTRICT  
ROANOKE COUNTY, VIRGINIA

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		

DATE: October 23, 2006

SCALE: NONE

COMMISSION NO: 2005-346

SHEET 4 OF 16