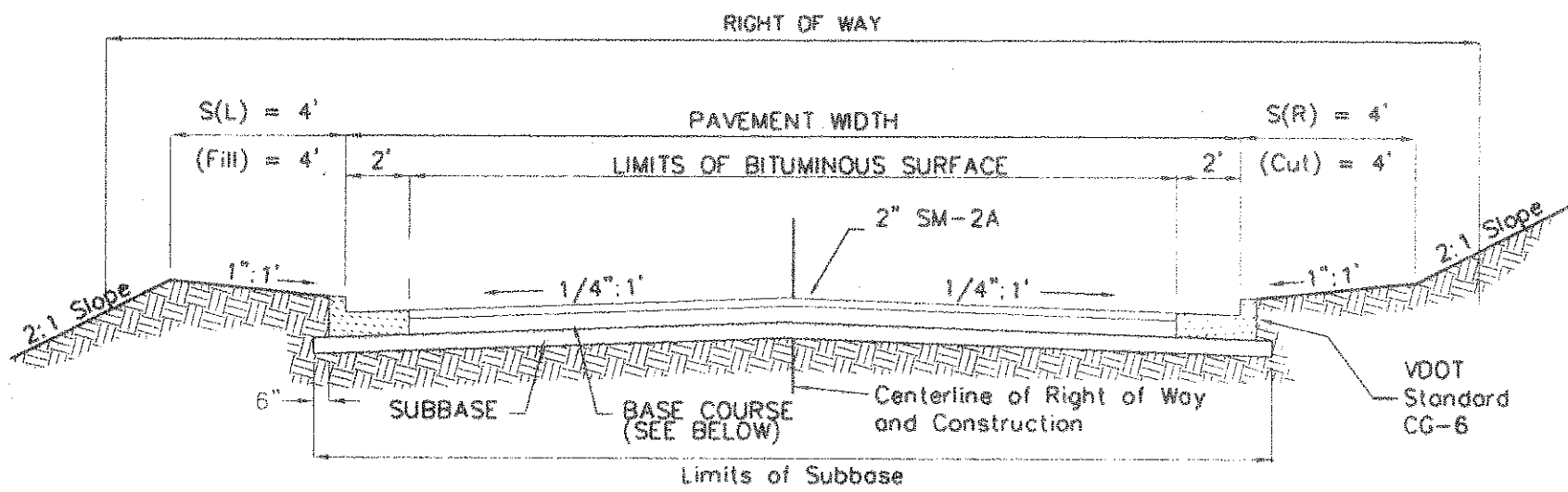


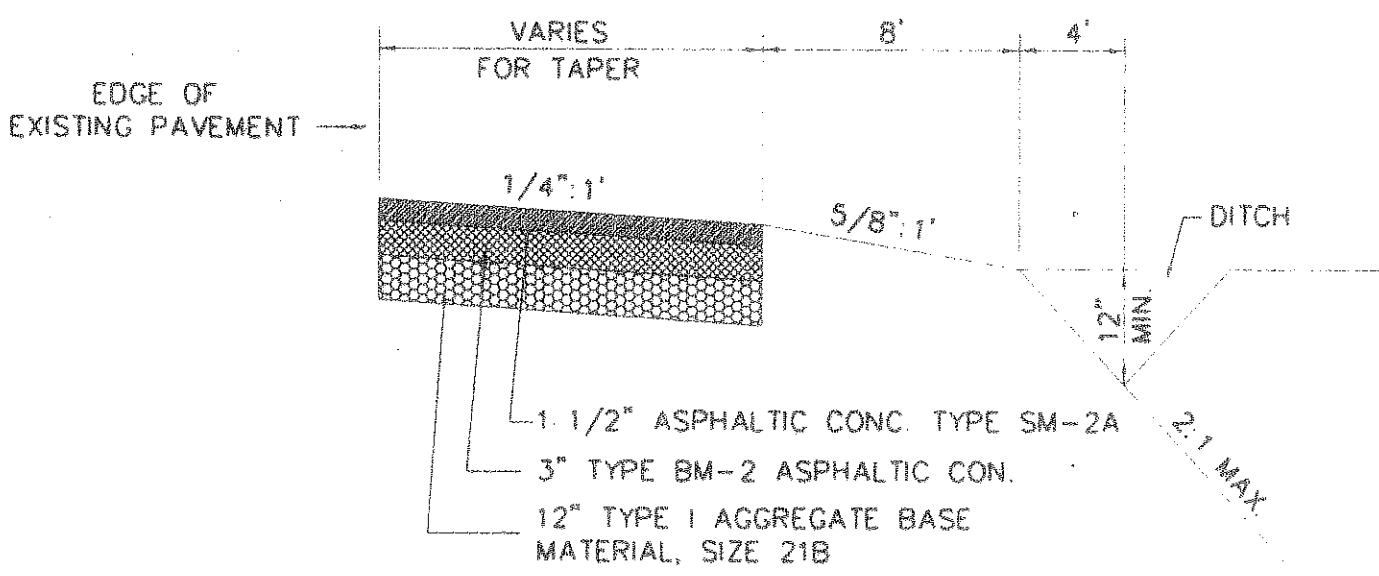
VIRGINIA DEPARTMENT OF TRANSPORTATION NOTES.

1. 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 PAVEMENT DESIGNS SHOWN ARE BASED ON A SUBGRADE CBR VALUE OF 10 OR GREATER. THE SUBGRADE 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 SUBGRADE CBR VALUES BE LESS THAN 10, THEN ADDITIONAL BASE MATERIAL WILL BE REQUIRED IN ACCORDANCE WITH DEPARTMENTAL SPECIFICATIONS.
- 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.
2. 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.
3. PRIVATE ENTRANCES  
MODIFIED CG-9D GUTTER WILL BE PROVIDED AT ALL ENTRANCES TO PRIVATE LOTS WHERE STANDARD CG-6 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.
4. 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.
5. INTERSECTION PAVEMENT RADIUS  
MINIMUM PAVEMENT RADIUS OF 35 FEET IS REQUIRED AT ALL STREET INTERSECTION.
6. 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.
7. 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.
8. 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.
9. ENTRANCE PERMIT  
CONTRACTOR SHALL OBTAIN ENTRANCE PERMIT TO THE EXISTING VIRGINIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY FROM RESIDENT ENGINEER PRIOR TO ROAD CONSTRUCTION.
10. 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.
11. 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.
12. 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 1-800-552-7001.
13. 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.

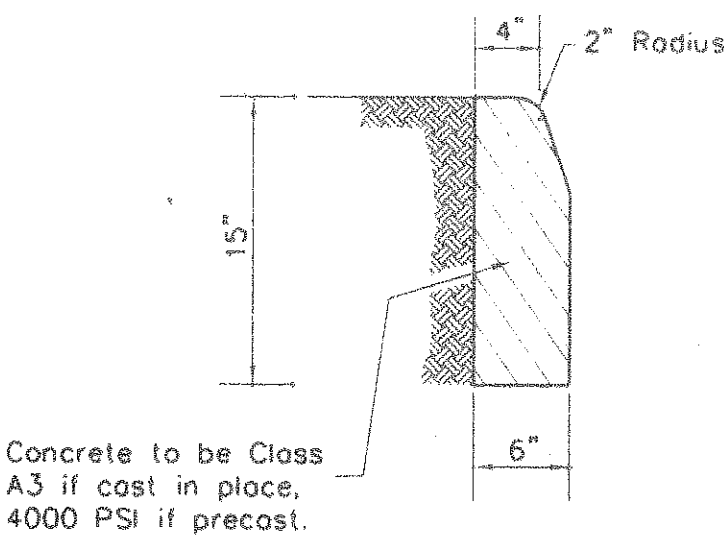


TYPICAL CURB AND GUTTER

PAVEMENT SPECIFICATIONS				
STREET NAME	FROM STATION TO STATION	CATEGORY	PAVEMENT WIDTH	PAVEMENT SPECIFICATIONS
GREAT GLEN DRIVE	10+00 TO 14+13.62	III	36	220 PSY ASPHALTIC CONC., TYPE SM-2A 12" AGGREGATE BASE SIZE 21B
GREAT GLEN DRIVE	14+13.62 TO 15+18.17	TAPER	VARIES	220 PSY ASPHALTIC CONC., TYPE SM-2A 12" AGGREGATE BASE SIZE 21B
GREAT GLEN DRIVE	15+18.17 TO 20+38.63	II	28	220 PSY ASPHALTIC CONC., TYPE SM-2A 8" AGGREGATE BASE SIZE 21B
LOMOND CIRCLE	30+00 TO 36+37.75	I	28	220 PSY ASPHALTIC CONC., TYPE SM-2A 6" AGGREGATE BASE SIZE 21B
CELTIC CIRCLE	60+00 TO 66+62.83	I	28	220 PSY ASPHALTIC CONC., TYPE SM-2A 6" AGGREGATE BASE SIZE 21B
CELTIC CIRCLE	60+00 TO 55+00	I	28	220 PSY ASPHALTIC CONC., TYPE SM-2A 6" AGGREGATE BASE SIZE 21B
NEVIS DRIVE	40 00 TO 47 86.96	I	28	220 PSY ASPHALTIC CONC., TYPE SM-2A 6" AGGREGATE BASE SIZE 21B



TAPER AND TURNING LANE



CONCRETE CURB (CG-2)

GENERAL NOTES:

- THE PROPERTY SHOWN ON THESE PLANS IS LOCATED AT ROANOKE COUNTY TAX ASSESSMENT MAP #55.01-1-5.1
- DEVELOPER: AL M. COOPER CONSTRUCTION INCORPORATED  
1108 MT CHESTNUT ROAD  
ROANOKE, VIRGINIA 24018
- THE ASSESSED AREA IS APPROXIMATELY 5.752 ACRES
- NO TITLE REPORT FURNISHED FOR THIS PROPERTY.
- THE PROPERTY SHOWN ON THESE PLANS IS TO BE SERVED BY PUBLIC WATER AND SEWER.
- THE DEVELOPMENT SHOWN ON THESE PLANS SHALL BE ACCESSED BY PUBLIC ROADS.
- PLANIMETRIC DATA PROVIDED BY PHOTOGRAMMETRIC DATA SERVICES WITH HORIZONTAL & VERTICAL CONTROL SUPPLIED BY FIELD SURVEY PERFORMED BY LUMSDEN ASSOCIATES, P.C. THE CONTOUR INTERVAL = 2'

SITE AND ZONING TABULATIONS

PROPOSED ZONING - R-1  
PROPOSED USE - SINGLE FAMILY DETACHED LOTS  
SITE ACREAGE - 5.752 ACRES  
PROPOSED NUMBER OF LOTS - 14  
MINIMUM LOT AREA REQUIRED - 7,200 SQ. FT.  
MINIMUM FRONTAGE REQUIRED (MEASURED AT THE R.O.W. LINE) - 60'  
MINIMUM REQUIRED SETBACKS:  
FRONT - 30'  
REAR - 25'  
SIDE YARD - 10'  
CORNER LOTS - SIDE YARD ABUTTING A STREET - 30'  
MAXIMUM HEIGHT ALLOWED - 45'  
MAXIMUM BUILDING COVERAGE - 30% OF TOTAL LOT AREA FOR ALL BUILDINGS & 7% FOR ACCESSORY BUILDINGS  
MAXIMUM LOT COVERAGE - 50% OF TOTAL LOT AREA

CONSTRUCTION NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT COUNTY OF ROANOKE STANDARDS AND SPECIFICATIONS.
- 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 MADE BY 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 AREAS TO BE GRADED SHALL BE STRIPPED OF PAVEMENT AND ORGANIC MATTER. ALL MATERIAL NOT SUITED FOR USE AS FILL MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. FILL MATERIAL SHALL BE CLEAN EARTH AND PLACED IN 8-INCH LIFTS. FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY, STANDARD PROCTOR. ANY BORROW OR WASTE SITE MUST HAVE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN PRIOR TO CONSTRUCTION.

PAVEMENT STRUCTURE DESIGN

- PAVEMENT DESIGN IN ACCORDANCE WITH "A DESIGN GUIDE FOR SUBDIVISION ROADS PAVEMENTS IN VIRGINIA" BY DR. M. K. VASWANI IS AN ACCEPTABLE ALTERNATE TO THESE DESIGNS. INCREASE THE THICKNESS EQUIVALENCY VALUE OF THE ASPHALT CONCRETE FROM 1.67 TO 2.25 WHERE ITS TOTAL THICKNESS IS 4.50 INCHES OR MORE AS REQUIRED BY VASWANI'S METHOD. THE NOMOGRAPH OF THICKNESS INDEX (1.1) AND SOIL SUPPORT VALUE (SSV) ARE FOUND IN THE AFOREMENTIONED DESIGN GUIDE, WHICH IS AVAILABLE FROM VDOT'S DISTRICT MATERIALS ENGINEER. IN ADDITION, PAVEMENTS MAY BE DESIGNED UTILIZING THE ASSHTO "PAVEMENT DESIGN GUIDELINES" OR THE PCA COMPUTER PROGRAM.
- THESE DESIGNS ARE BASED ON THE SUBGRADE SOILS, IMMEDIATELY UNDER THE PAVEMENT STRUCTURE, HAVING A SOIL SUPPORT VALUE (SSV) OF 10. IF DIFFERENT THAN 10: ADD 1/2" ASPHALT CONCRETE OR 1" AGGREGATE BASE MATERIAL FOR EACH 5 SSV BELOW. REDUCE BY SAME FOR EACH 10 SSV ABOVE (SOIL SUPPORT VALUE EQUALS THE CALIFORNIA BEARING RATION TIMES THE RESILIENCY FACTOR (SSV = CBR X RF)).
- REPRESENTATIVE CALIFORNIA BEARING RATIO (CBR) SAMPLES, TAKEN AT SUBGRADE ELEVATION, SHOULD BE USED AS THE BASIS FOR EVALUATING THE SOIL SUPPORT VALUE (SSV). GUIDANCE MAY BE OBTAINED FROM VDOT'S DISTRICT MATERIALS ENGINEER TO DETERMINE TEST METHODS AND THE NUMBER OF SAMPLES REQUIRED TO OBTAIN REPRESENTATIVE CBR VALUES.
- ALL UNTREATED AGGREGATE BASE OR SUBBASE MATERIAL SHALL BE 21B GRADATION. IF AGGREGATE IS CEMENT STABILIZED, USE 21A GRADATION.
- ALL MATERIALS AND CONSTRUCTION CONTROLS SHALL BE IN ACCORDANCE WITH CURRENT VDOT SPECIFICATIONS AND SPECIAL PROVISIONS.

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 THE CLEARED AREA AND STOCKPILED FOR FUTURE USE.
- FILL MATERIAL SHALL BE FREE OF ORGANIC MATTER AND ROCKS LARGER THAN 6 INCHES IN DIAMETER. FILL MATERIAL SHALL BE PLACED AND COMPACTED IN 8 INCH LIFTS TO 95% MINIMUM DENSITY, STANDARD PROCTOR.
- TEST RESULTS FOR COMPACTION SHALL BE SUBMITTED TO ROANOKE COUNTY.

REVISION	DATE	DESCRIPTION
DESIGNED	LJH	NOTES AND DETAILS FOR SECTION No. 3
DRAWN	LJH	"THE HIGHLANDS"
CHECKED	MSW	PREPARED FOR AL M. COOPER CONSTRUCTION INCORPORATED
		CATAWBA MAGISTERIAL DISTRICT ROANOKE COUNTY, VIRGINIA
		LUMSDEN ASSOCIATES, P.C. ENGINEERS-SURVEYORS-PLANNERS ROANOKE, VIRGINIA
	SCALE: NONE	COMM: 7-296 AG
	DATE: 7 MARCH 2001	SHEET 4 of 8

