

SANITARY SEWER MANHOLE
AND MIN. F.F. ELEVATIONS

LINE	BEARING	DISTANCE
"A" to "B"	S. 40°31'25" E.	136.48
"B" to "C"	S. 37°15'59" E.	259.48
"C" to "D"	S. 66°13'09" W.	90.62
"D" to "E"	N. 31°00'15" W.	189.72
"E" to "F"	N. 31°30'17" W.	279.69
"F" to "G"	N. 81°49'32" E.	150.15
"F" to "H"	N. 14°51'47" E.	97.77
"H" to "I"	S. 46°59'32" W.	144.68
"E" to "J"	N. 58°27'02" E.	238.10
"J" to "K"	N. 44°29'22" E.	388.11
"K" to "L"	S. 75°30'42" E.	190.98
"K" to "M"	N. 01°13'37" E.	204.82
"M" to "N"	N. 43°07'00" W.	83.25
"N" to "O"	N. 84°03'07" E.	210.69
"O" to "P"	N. 46°59'32" E.	210.70

LOT	DOWNSREAM MANHOLE	DIST.	TOP OF S.S. MAIN	MIN. F.F. ELEVATION
1	N	194.5	993.5	996.5
2	O	0	993.8	996.8
3	O	50.7	996.7	999.7
4	O	130.7	1001.3	1004.3
5	P	0	1005.7	1008.7
6	H	105.5	999.9	1002.9
7	H	64.4	996.8	994.3
8	G	0	991.2	994.2
9	G	0	991.2	994.2
10	G	0	991.2	994.2
11	E	192.4	972.8	975.8
12	E	112.4	965.2	968.2
13	E	32.4	957.5	960.5
14	D	142.1	950.1	953.1
15	D	62.1	942.9	945.9
16	D	0	937.3	940.3
17	D	0	937.3	940.3
18	D	0	937.3	940.3
19	B	131.0	929.6	932.6
21	D	30.8	940.1	943.1
22	D	96.3	945.9	948.9
23	E	66.1	960.7	963.7
24	E	148.1	968.4	971.4
25	E	255.1	978.8	981.8
26	H	64.7	996.8	999.8
27	I	0	1002.7	1005.7
28	O	171.5	1003.6	1006.6
29	O	91.5	999.0	1002.0
30	O	14.8	994.6	997.6
31	N	27.1	991.4	994.4
32	K	187.1	989.7	992.7
33	K	107.7	988.0	991.0
34	J	333.7	973.6	976.6
35	J	254.9	970.6	973.6
36	J	174.9	967.5	970.5
37	J	95.0	964.4	967.4
38	J	7.7	961.1	964.1
39	E	156.5	958.5	961.5
40	E	168.1	958.8	961.8
41	J	4.1	960.9	963.9
42	J	84.1	964.0	967.0
43	J	168.5	967.3	970.3
44	J	249.0	970.4	973.4
45	J	325.8	973.3	976.3
46	K	114.4	977.4	980.4
47	L	0	977.5	980.5
48	K	184.4	978.1	981.1
49	K	184.4	978.1	981.1
50	K	74.6	987.3	990.3
51	K	161.9	989.2	992.2
52	M	13.9	989.6	992.6

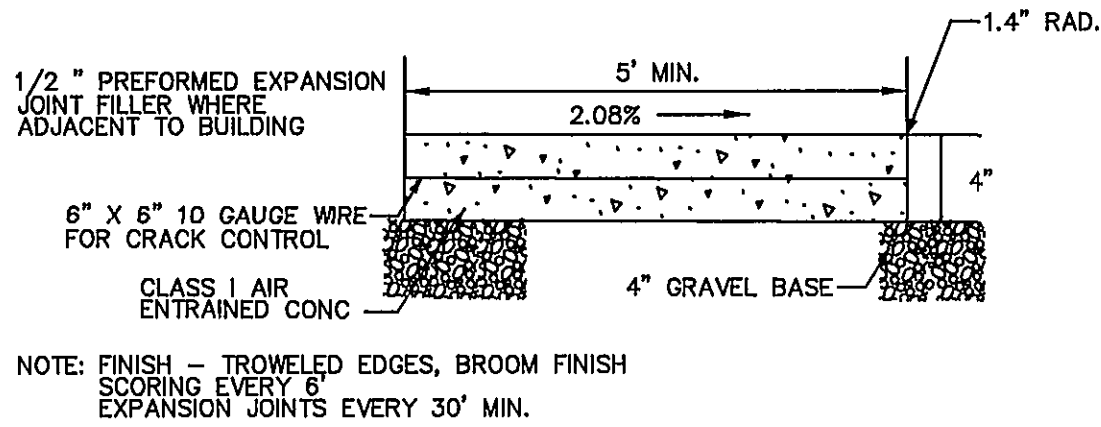
STATIONS AND OFFSETS ARE MEASURED ALONG A BASELINE FROM CENTER OF MANHOLE TO CENTER OF MANHOLE WITH 0+00.0 BEING THE BEGINNING AT THE LOWER MANHOLE.

THE MIN. FLOOR ELEVATION IS BASED ON SEC. 200.02-2-G-1-h OF THE WESTERN VIRGINIA WATER AUTHORITY WATER & SEWER REGULATIONS. LOT OWNERS REQUESTING A LOWER SERVICE ELEVATION WILL REQUIRE THE USE OF A PRIVATE SEWAGE PUMP FACILITY, INSTALLED AND MAINTAINED BY THE HOMEOWNER.

CRITICAL LOCATION POINTS

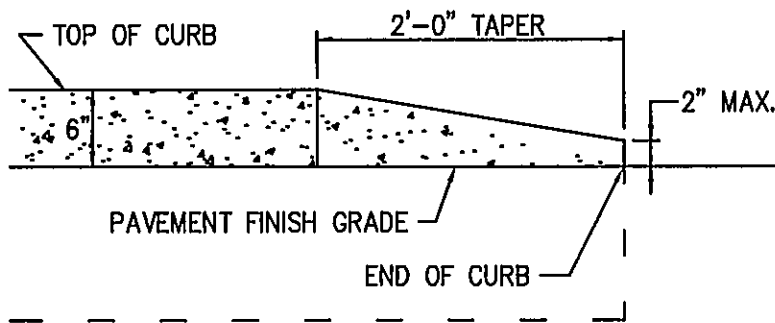
STRUCTURE	ALIGNMENT	STATION	OFFSET
INLET #1-1	LOT 16/17	0+95.6	18.6' LT.
INLET #1-2	SAVANNAH DR.	22+56.8	32.2' RT.
INLET #1-5	SAVANNAH DR.	22+56.8	37.2' LT.
INLET #1-6	SAVANNAH DR.	20+04.7	16.5' LT.
INLET #1-7	NICHOLAS CT.	10+35.7	16.5' RT.
INLET #1-8	MOUNTAIN BROOK DR.	20+32.6	16.5' RT.
INLET #1-9	SAVANNAH DR.	10+45.3	16.5' LT.
INLET #1-10	MOUNTAIN BROOK DR.	19+16.2	24.1' RT.
INLET #1-11	MOUNTAIN BROOK DR.	19+16.2	24.0' LT.
INLET #1-12	LOT 1/2	1+37.9	3.9' LT.
INLET #1-13	SKYLAR CT.	12+17.4	0
INLET #1-14	MOUNTAIN BROOK DR.	24+49.5	16.5' RT.
INLET #1-15	MOUNTAIN BROOK DR.	26+52.4	16.5' RT.
INLET #1-16	MOUNTAIN BROOK DR.	28+81.6	16.5' RT.
INLET #1-17	MOUNTAIN BROOK DR.	30+53.7	16.5' RT.
INLET #1-18	SAVANNAH DR.	20+97.7	16.5' LT.
INLET #1-20	SAVANNAH DR.	19+95.2	16.5' RT.
INLET #1-21	MOUNTAIN BROOK DR.	18+27.8	20.2' LT.
INLET #1-22	MOUNTAIN BROOK DR.	16+14.7	23.0' LT.
SDMH #1-23	MOUNTAIN BROOK DR.	16+14.1	6.5' LT.
INLET #1-24	MOUNTAIN BROOK DR.	13+38.9	16.5' LT.
INLET #1-25	MOUNTAIN BROOK DR.	10+10.6	16.1' LT.
INLET #1-26	MOUNTAIN BROOK DR.	10+00.6	20.1' LT.
INLET #1-27	MOUNTAIN BROOK DR.	9+98.5	16.5' RT.
SDMH #1-28	MOUNTAIN BROOK DR.	9+64.4	23.5' RT.
SDMH #1-29	BELLE AVE. WATERLINE	14+81.2	6.5' RT.
SDMH #1-30	BELLE AVE. WATERLINE	14+00.5	6.5' RT.
SDMH #1-31	BELLE AVE. WATERLINE	11+93.8	6.5' RT.

SSMH 'A'	SADDLE ON EX. 27" SS AS INDICATED ON	SHEET C-11
SSMH 'B'	LOT 19/20	2+42.8
SSMH 'C'	LOT 20/21	0+63.3
SSMH 'D'	SAVANNAH DR.	22+42.8
SSMH 'E'	SAVANNAH DR.	20+46.6
SSMH 'F'	SAVANNAH DR.	17+74.2
SSMH 'G'	NICHOLAS CT.	11+54.2
SSMH 'H'	SAVANNAH DR.	18+75.9
SSMH 'I'	SAVANNAH DR.	15+30.6
SSMH 'J'	MOUNTAIN BROOK DR.	28+50.0
SSMH 'K'	MOUNTAIN BROOK DR.	24+63.1
SSMH 'L'	SKYLAR CT.	11+95.3
SSMH 'M'	MOUNTAIN BROOK DR.	22+56.8
SSMH 'N'	MOUNTAIN BROOK DR.	21+82.8
SSMH 'O'	SAVANNAH DR.	12+19.1
SSMH 'P'	SAVANNAH DR.	14+29.8



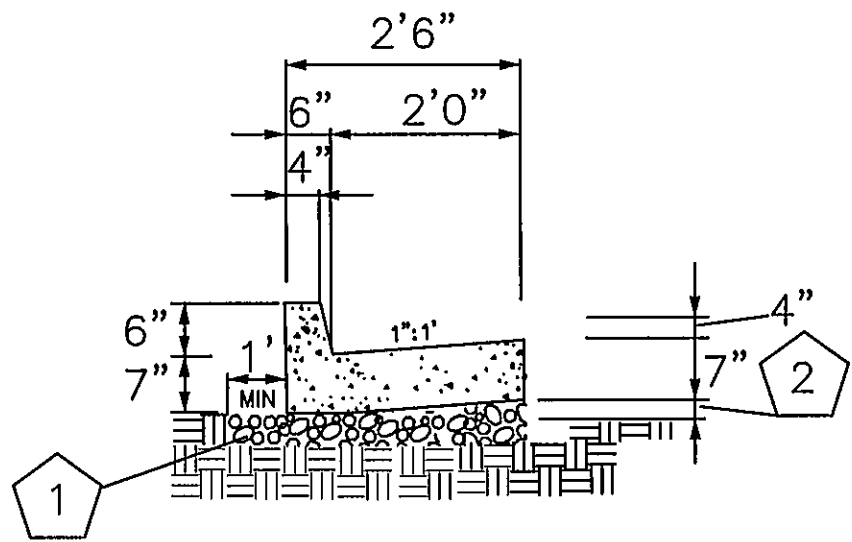
SIDEWALK DETAIL

NO SCALE



CURB TAPER DETAIL

NO SCALE



1 MIN DEPTH- 4" OF #57 #68 #78 CLEAN STONE

2 THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBSURFACE COURSES PROVIDED A MINIMUM DEPTH OF 7" IS MAINTAINED.

STANDARD CG-6 CURB & GUTTER

NO SCALE

SITE SUMMARY

TAX MAP NUMBER: 7050106

SIZE: 26.87 ACRES

ZONING: R-12

MINIMUM LOT SIZE REQUIRED: 12,000 SF

MINIMUM LOT FRONTAGE REQUIRED: 80' ON EXISTING R/W

LOT FRONTAGE PROVIDED: 80' MINIMUM

SETBACKS: FRONT: 20' MINIMUM OFF OF EXISTING R/W

SIDE: 8' MINIMUM
18' COMBINED FOR ADJACENT LOTS

REAR: 30' MINIMUM

MAXIMUM BUILDING HEIGHT: 35'

MAXIMUM LOT COVERAGE: 50%

FEMA MAP #: 51161C0046 D (EFFECTIVE DATE 10/15/93) &
51161C0047 D (EFFECTIVE DATE 10/15/93)

OWNER/ DEVELOPER: MOUNTAIN BROOK, LLC.
1611 NORFOLK AVE. SW
ROANOKE, VA 24013

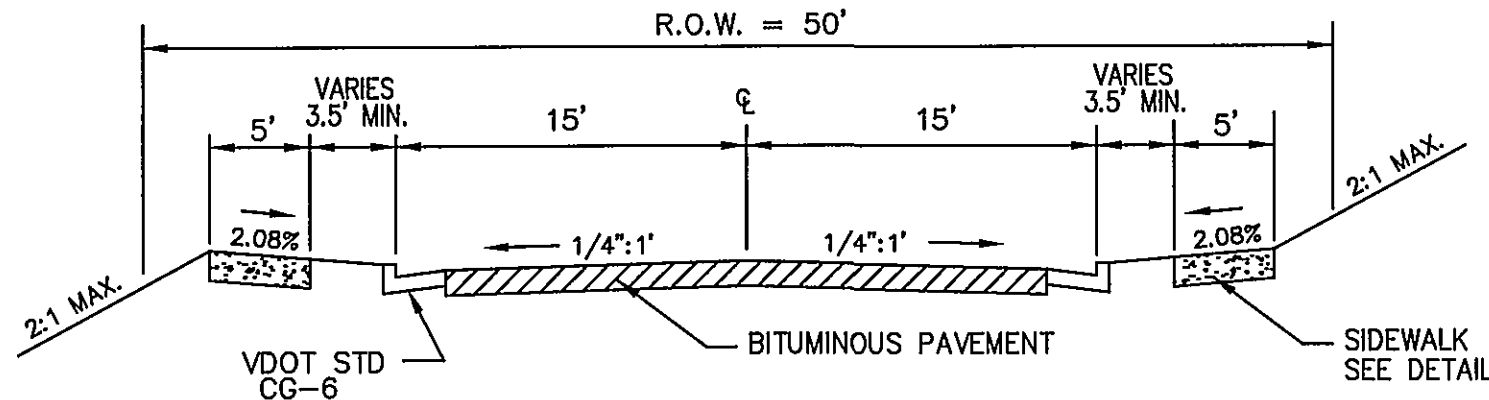
STREET CATAGORY: VARIES - SEE CROSS SECTIONS

PARKING: DEVELOPER SHALL PROVIDE A MINIMUM OF 2 OFF-STREET PARKING SPACES FOR EACH LOT.

NOTES:

1. ALL PROPOSED ROADS TO BE PUBLIC.
2. ALL SANITARY SEWER EASEMENTS TO BE PUBLIC.
3. ALL SANITARY SEWER LINE TO BE SDR-35 PIPE.
4. ALL SANITARY SEWER MANHOLES SHALL HAVE STANDARD FRAMES AND COVERS UNLESS OTHERWISE NOTED.
5. ALL WATERLINE EASEMENTS TO BE PUBLIC.
6. ALL WATERLINE TO BE DUCTILE IRON PIPE.
7. INDIVIDUAL PRESSURE REDUCING VALVES TO BE INSTALLED IN ALL WATER METERS IN ACCORDANCE WITH WVWA STD. DETAIL W-02. ALL WATER METERS TO BE 5/8" DIAMETER.
8. ALL STORM SEWER EASEMENTS TO BE PUBLIC.
9. ALL STORM SEWER PIPE TO BE CLASS III RCP UNLESS OTHERWISE NOTED.
10. ALL STORMWATER MANAGEMENT EASEMENTS TO BE PRIVATE AND TO BE MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
11. TRASH REMOVAL AND RECYCLING TO BE HANDLED BY CITY OF ROANOKE CURBSIDE PICKUP.

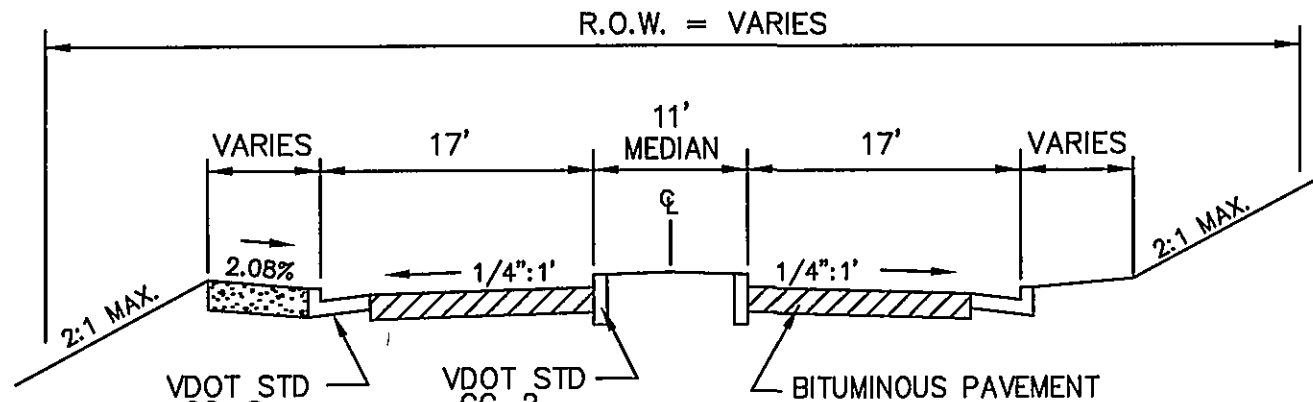
TYPICAL ROAD SECTIONS



TYPICAL ROAD SECTION

CBR TESTS AND FINAL PAVEMENT SPECIFICATIONS TO BE PROVIDED TO THE DESIGN ENGINEER FOR APPROVAL PRIOR TO INSTALLATION

NOTE: SIDEWALK TO BE PLACED ACCORDING TO CONSTRUCTION PLANS



MOUNTAIN BROOK DRIVE
WITH MEDIAN ISLAND INSTALLATION

STA 18+33.80 TO STA 19+41.48

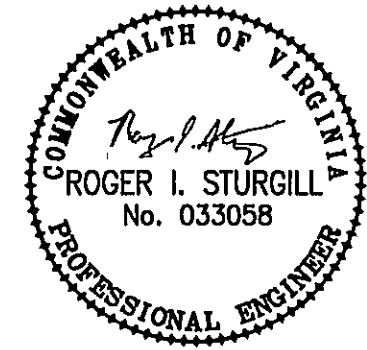
NOTE:

THE PRELIMINARY PAVEMENT DESIGNS SHOWN ARE BASED ON A PREDICTED SUB-GRADE CBR VALUE OF 10.0 AND A RESILIENCY FACTOR (RF) OF 2.0 AS SHOWN IN APPENDIX I OF THE "2000 VIRGINIA DEPARTMENT OF TRANSPORTATION PAVMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS". THE SUB-GRADE SOIL IS TO BE TESTED BY AN INDEPENDANT LABORATORY AND THE RESULTS SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BASE CONSTRUCTION. THESE TESTS SHALL BE MADE AT EACH CHANGE IN SUBGRADE SOILS AND AT A MAXIMUM SPACING OF 500 FEET WHERE SUBGRADE SOILS REMAIN CONSTANT. SPACING OF CBR TESTS SHALL BE IN ACCORDANCE WITH THE VDOT PAVMENT DESIGN GUIDE, AND A MINIMUM OF TWO CBR SAMPLES WILL BE REQUIRED FOR CUL-DE-SAC OR DEAD END STREETS OF LESS THAN 500 FEET IN LENGTH. SHOULD THE SUB-GRADE CBR VALUE AND/OR THE RF VALUE BE LESS THAN THE PREDICATED VALUES, ADDITIONAL BASE MATERIAL WILL BE REQUIRED IN ACCORDANCE WITH THE ENGINEER REQUIREMENTS. REFER TO THE SAME MANUAL FOR THE NUMBER AND LOCATIONS OF THE REQUIRED SOIL SAMPLES TO BE TESTED.

THE SUB-GRADE SHALL BE APPROVED BY ROANOKE CITY PRIOR TO PLACEMENT OF THE BASE. BASE SHALL BE APPROVED BY ROANOKE CITY FOR DEPTH, TEMPLATE AND COMPACTION BEFORE SURFACE IS APPLIED. THE SUBBASE WILL NOT BE INSPECTED BY THE CITY PRIOR TO RECEIVING THE CBR TESTS AND SOIL CLASSIFICATIONS. CONTACT THE CITY SEVEN (7) DAYS PRIOR TO SCHEDULING PLACEMENT OF AGGREGATE BASE COURSE(S) FOR AN INSPECTION.

BACKFILLING AND COMPACTION:

- 1.) BACKFILL MATERIAL SHALL BE VDOT NO. 21A AGGREGATE, PLACED IN LOOSE LIFTS NOT EXCEEDING 6", AND COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE (VIM-1) WITH THE USE OF MECHANICAL TAMPERS OR VIBRATORY ROLLERS. WATER COMPACTION IS NOT PERMITTED. LOCAL MATERIAL CLASSIFIED AS TYPE I SELECT MATERIAL MAY BE USED AS BACKFILL UPON PRIOR APPROVAL BY THE CITY ENGINEER. MATERIAL CLASSIFICATION SHALL BE PERFORMED ON THE ACTUAL SOIL TO VERIFY THAT SOIL MEETS VDOT SPECIFICATIONS FOR TYPE I SELECT MATERIAL BY A QUALIFIED TESTING LABORATORY AND TEST RESULTS SHALL BE CERTIFIED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER. DENSITY REQUIREMENTS ARE THE SAME AS ABOVE, HOWEVER, MOISTURE CONTENT FOR SOILS MAY BE WITHIN 20% OF OPTIMUM.
- 2.) DENSITY AND MOISTURE TESTING IS REQUIRED ON BOTH AGGREGATE AND SOIL BACKFILL. ALL TESTING SHALL BE PERFORMED AND CERTIFIED BY A GEOTECHNICAL ENGINEER OR A VDOT CERTIFIED TECHNICIAN. RESULTS SHALL BE PROVIDED TO THE INSPECTOR WITHIN 24-HOURS OF TESTING COMPLETION. THE COST OF ALL TESTING IS THE SOLE RESPONSIBILITY OF THE PERMITTEE. THE PERMITTEE SHALL SUBMIT WRITTEN TEST RESULTS TO THE INSPECTOR'S OFFICE.
- 3.) FIELD DENSITY TESTING METHODS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PERFORMING ANY TESTING. A PERMITTEE THAT PERFORMS MORE THAN TEN (10) EXCAVATIONS A MONTH UNDER THESE STANDARDS MAY SUBMIT A WRITTEN QUALITY CONTROL PLAN TO REDUCE THE NUMBER OF REQUIRED FIELD DENSITY TESTS. THE QUALITY CONTROL PLAN MUST INCLUDE THE EXCLUSIVE USE OF A VDOT-CERTIFIED AGGREGATE. THE QUALITY CONTROL PLAN SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.
- 4.) FLOWABLE FILL MAY BE USED AS AN ALTERNATE TO AGGREGATE OR SELECT MATERIAL. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF VDOT SPECIAL PROVISIONS FOR FLOWABLE BACKFILL. THE MATERIAL MUST BE PLANT-CERTIFIED TO PROVIDE A 28-DAY COMPRESSIVE STRENGTH BETWEEN 30 AND 200 PSI. A CERTIFICATE OF MIX DESIGN MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO PLACING THE MATERIAL IN THE TRENCH. A MINIMUM OF FOUR 6 X 12 TEST CYLINDERS SHALL BE TAKEN EVERY 50 CY OF PLACEMENT. CYLINDERS SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY FOR 28-DAY STRENGTH. RESULTS SHALL BE PROVIDED TO THE INSPECTOR'S OFFICE WITHIN 24 HOURS OF TESTING COMPLETION. THE COST OF ALL TESTING IS THE RESPONSIBILITY OF THE PERMITTEE. IF THE REPORT INDICATED THE COMPRESSIVE STRENGTHS ARE NOT BETWEEN 30 AND 200 PSI, THE PERMITTEE WILL BE RESPONSIBLE FOR REMOVING AND REPLACING THE BACKFILL WITH ACCEPTABLE BACKFILL AND COMPLETING THE RESTORATION OF THE STREET AT NO COST TO THE CITY.



BALZER
AND ASSOCIATES, INC.
PLANNERS • ARCHITECTS
ENGINEERS • SURVEYORS

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MOUNTAIN BROOK
SUBDIVISION
CONSTRUCTION NOTES
ROANOKE CITY, VIRGINIA

DRAWN BY: CPB

DESIGNED BY: CPB

CHECKED BY: JVJ

DATE: 06/12/2006

REVISIONS:

- 08/31/06 PER CITY OF ROANOKE 1ST REVIEW
- 10/03/06 PER CITY OF ROANOKE 2ND REVIEW
- 10/17/06 PER CITY OF ROANOKE 3RD REVIEW
- 01/19/07 PER CITY OF ROANOKE 4TH REVIEW
- 03/28/07 PER STORM DRAIN REVISION

SCALE: N/A

SHEET NO.

C-4
JOB NO.
R0500378.01