OHANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABL
grading	1	LUMP SUM	\$77,000.00	\$77,000.00	
CLEARING AND GRUDDING	3.4	ACRES	\$1,500.00	5,100.00	
GRATE INLET DI-1	2	EACH	\$1,200.00	\$2,400.00	
GRATE INLET DI-7	1	EACH	\$1,500.00	\$1,500,00	
CURB INLET DI-3	4	EACH	\$1,500.00	\$6,000.00	
12° HDPE STORM DRAIN (TEMP.)	88	LIN. FT.	\$18.00	\$1,594.00	
15' CONCRETE STORM DRAIN	212	LIN. FT.	\$22.00	\$4,664.00	
151 HDPE STORM DRAIN	34	LIN. FT.	\$22.00	\$748.00	·
181 CONCRETE STORM DRAIN	58	LIN. FT.	\$27.00	\$1,566.00	
24' CONCRETE STORM DRAIN	40	LIN. FT.	\$36.00	\$1,440.00	
151 EV-1, CONCRETE END SECTION	1	EACH	\$600.00	\$600.00	
18' EV-1, CONCRETE END SECTION	1	EACH	\$650.00	\$650.00	
STORM DRAIN MANHOLE	1	EACH	\$1,500.00	\$1,500,00	
8º 21-A AGGREGATE	1010	S.Y,	\$6.00	\$6,060.00	
6' BM-25	1010	S.Y.	\$12.00	\$12,120.00	
2° SM-9,5A ASPHALT	1010	S.Y.	\$ 5.00	\$5,050.00	
121 VATER LINE	580	LIN. FT.	\$18.00	\$10,440.00	
AIR RELEASE VALVES	2	EACH	\$700.00	\$1,400.00	
BLOW OFFS W/VAULT, FRAME & COVER	2	EACH	\$700,00	\$1,400,00	
8' SANITARY SEVER	540	LIN, FT.	\$20.00	\$10,800.00	
4' LATERAL, CLEANOUT, STUBOUT	1	EACH	\$ 300.00	\$3 00.00	
STEATERAL, CLEANOUT, STUBOUT	3	EACH	\$400.00	\$1,200.00	
STANDARD MANHOLE W/FRAME & COVER	3	EACH	\$1,200.00	\$3,600.00	la la partido de la composição de la c
SAN SEV. SAMPLING MH W/FRAME & COVER	4	EACH	\$1,200,00	\$4,800.00	
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SUBTOTAL				\$16,193.00	
SUBTOTAL 10% CONTINGENCY		· · · · · · · · · · · · · · · · · · ·		AND DESCRIPTION OF THE PROPERTY OF THE PERSON OF THE PERSO	PROPERTY AND PERSONS
LOX CENTINGENCY				\$170 115 00	
				\$179, 115.00	
10% CONTINGENCY				\$178,115.00	

GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County, the Western Virginia Water Authority and/or the Virginia Department of Transportation,

The contractor or developer is required to notify the Roanoke County Engineering Division and the Western Virginia Water Authority in writing at least three (3) days prior to construction, including, but not limited to the following

- A. Installation of approved erosion control devices
- B. Clearing and grubbing
- C. Subgrade excavation D. Installing storm sewers or culverts
- E. Setting curb and gutter forms
- F. Placing curb and gutter
- G. Placing other concrete
- H. Placing gravel base
- I. Placing any roadway surface
- J. Installing water lines K. Installing sanitary sewer lines

A pre-construction conference should be scheduled with the Roanoke County Engineering Division and the Western Virginia Water Authority, to be held at least one (1) day prior to any construction.

Measures to control erosion and siltation must be provided prior to plan approval. Plan approval in no way relieves the developer or contractor of the responsibilities contained within the erosion and siltation control policies.

A penmit must be obtained from the V.D.O.T. Residency Office, Roanoke County, prior to construction in the highway right-of-way.

Plan approval does not guarantee Issuance of any permits by V.D.D.T.

An approved set of plans and all permits must be available at the construction site.

Field construction shall honor proposed drainage divides as shown

All unsultable material shall be removed from the construction limits of the roadway before placing embankment.

Pavement sections on approved plans are based on a minimum CBR of 10. CBR tests are to be performed by the engineer and submitted to V.D.D.T. and to the Roanoke County Engineering Division prior to placement. CBR values < 10 will require revised pavement sections.

All roadside ditches or grades of more than 5 percent shall be paved with cement concrete to the limits as indicated on the plans and as required at the field inspection.

Location of guard rails shall be determined at a joint field inspection by the County and V.D.C.T.

All springs shall be capped and piped to the nearest storm sewer or natural watercourse. The pipe shall be 6 inch minimum diameter and conform to V.D.O.T. Standard SB-1.

Standard street and traffic control signs shall be enected at each intersection by the developer prior to final street acceptance,

Construction debris shall be containerized in accordance with the Virginia Litter Control Act. No less than one litter receptacle shall be provided on site.

trucks and/or other equipment prior to entering public streets. It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times.

The contractor shall provide adequate means of cleaning mud from

The developer and/or contractor shall supply all utility companies with copies of approved plans, advising them that all grading and installation shall conform to approved plans.

Contractors shall notify utilities of proposed construction at least

two (2), but not more than ten (10) working days in advance. Area public utilities may be notified thru "Miss Utility" 1-800-552-7001

The developen or contractor shall supply the county and the Western Virginia Water Authority with correct As-Built plans before final acceptance.

All work shall be subject to inspection by Roanoke County, the Western Vinginia Water Authority, and/or V.D.D.T. inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division and the Western Virginia Water Authority prior to such construction.

Grade stakes shall be set for all curb and gutter, culvert, sanitary

SEWER NOTES

All sanitary sewer connections to existing lines shall be coordinated with and performed by the Western Virginia Water Authority.

All sanitary sewer facilities are to be installed according to the Western Virginia Water Authority Design and Construction Standards.

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering all manholes after paving. Manhole tops shall be adjusted to grade

All existing utilities may not be shown or may not be shown in the exact location. The contractor shall comply with State Water Works Regulations, Section 12.05.03, where lines cross.

House connections are to be made with 4" pipe installed at a minimum grade of 1/4 inch to 1 foot in R/W.

Laterals from manholes shall be PVC or Ductile Iron of sufficient length to provide two (2) feet of bearing on natural ground. The transition from ductile iron to asbestos cement or concrete pipe shall be made with an adapter coupling in R/W.

All trenches in existing or future rights-of-way shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

WATER NOTES

All water connections to existing lines shall be coordinated with and performed by the Western Virginia Water Authority.

All water facilities are to be installed according to the Western Virginia Water Authority Design and Construction Standards

A minimum cover of three (3) feet is required over proposed lines.

Contractor shall be responsible for locating and uncovering valve vaults after paving and adjustment to final grade if necessary.

All existing utilities may not be shown or may not be shown in the exact location. The contractor shall comply with the State Water Works Regulations, Section 12.05.03, where lines cross.

All trenches in existing or future highway right-of-ways shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C150 or DR-14 PVC in accordance with AWWA C-900.

LEGEND

Availability number ____

Proposed Water Main

	A CONTRACT OF THE CONTRACT OF
Property Line	
Right-of-way	R/V
Centerline	<u> </u>
Minimum Building Line	MBL.
Existing Storm Sewer	====18' S,D,=======18' S,D,=====
Existing Sanitary Sewer	====0" SAN ===================================
Existing Water Main	4' V
Existing Contour	1045
Proposed Contour	1045

HYDRANT VALVE

Proposed Drainage Divide Proposed Limits of Clearing

Proposed Storm Sewer Proposed Sanltary Sewer

100 year floodway and floodplain information shall be shown where

sever and storm sever.

SURVEY INFORMATION

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

Horizontal	and	vertico	I control su	rveys w	ere perfor	med in (year)	20	04
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All elevation	ons n	nust b	e referenced	l to the	National	Geodetic	Vertical	Datum	of 1929.

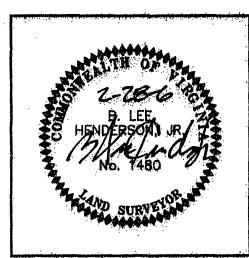
VICINITY MAP

AERIAL MAPPING Source of topographic mapping is AUGUST 9, 2004

LUMSDEN ASSOCIATES, P.C. Boundary was performed by_ NOVEMBER 2005

The professional seal and signature below certifies the boundary survey and topographic mapping to be accurate and correct.

> BENCHMARK: SITE BENCHMARK TO BE ESTABLISHED PRIOR TO BEGINING GRADING AND



PROFESSIONAL SEAL AND SIGNATURE

COUNTY OF ROANOKE

INDEX

SEE LUMSDEN ASSOCIATES. P.C. COVER SHEET

WEST VILLAGE NAME OF DEVELOPMENT PHASE II

CAVE SPRING MAGISTERIAL DISTRICT(S)

OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE DEVELOPMENT PLAN AND OTHER APP-LICABLE COUNTY CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS. UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW.

OWNER (name, address, telephone)

WEST VILLAGE, L.L.C. PO BOX 21721 ROANOKE, VIRGINIA 24018

BLOVOFP

15401 556-6224 WEST VILLAGE, L.L.C. I ATTN. DAVID VAUGHN I

PO BOX 21721 DEVELOPER (name, address, telephone) ROANOKE, VIRGINIA 24018

[540] 556-6224 LUMSDEN ASSOCIATES, P.C. P.O. BOX 20669

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)

ROANOKE. VIRGINIA 24018 18401 774-4411

TAX MAP NO(S)

BLOCK NO(S)

PARCEL NO(S)

COMM NO: 2004-230

SHEET 2 OF 12