#### **QUANTITY + COST ESTIMATE**

GRADING ITEM	QUANTITY	UNIT LUMP SUM	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	<u> </u>	ACRES		, ,	, ,
OCCHRING HID GRODDING		HONES			
GRATE INLET DI-1		EACH	\$1,200.00		
GRATE INLET DI-7		EACH	\$1,500.00		
CURB INLET DI-3		EACH	\$1,500.00		
12" HDPE STORM DRAIN (TEMP.)		LIN, FT.	\$18.00		
15' CONCRETE STORM DRAIN 15' HDPE STORM DRAIN		LIN, FT.	\$22.00 \$22.00		
18' CONCRETE STORM DRAIN		LIN, FT.	\$27.00	<u>.</u>	
24" CONCRETE STORM DRAIN	<del> </del>	LIN, FT.	\$36.00	t <u>.                                    </u>	<u> </u>
15' EW-1, CONCRETE END SECTION		EACH	\$600.00	<u> </u>	
18" EW-1, CONCRETE END SECTION		EACH	\$650.00	<u> </u>	
STORM DRAIN MANHOLE		EACH	\$1,500.00		
8° 21-A AGGREGATE		S,Y,	\$6,00		
6" BM-25	<del> </del>	S,Y,	\$12.00		
2" SM-9.5A ASPHALT	<del> </del>	S.Y.	\$5.00		
12" WATER LINE	<del></del>	LIN, FT.	\$18.00		
AIR RELEASE VALVES		EACH	\$700.00	<u>, ., ., ., ., ., ., ., ., .</u>	
BLOW OFFS W/VAULT, FRAME & COVER		EACH	\$700.00	, .	
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8" SANITARY SEWER, PVC, SDR 35	800	LIN FT	\$40.00	\$32,000.00	
8' SANITARY SEWER, DUCTILE IRON (BORE)	234	LIN. FT.	\$75,00	\$17,550.00	
STANDARD MANHOLE W/FRAME & COVER	8	EACH	\$1,200.00	\$9,600.00	
	<b></b>			1	<u> </u>
AS-BUILT PLANS	1	1 (1647) (214)	<b>AE00.00</b>	#E00.00	<u> </u>
AS-BUILT PLANS		LUMP SUM	\$500.00	\$500.00	
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SUBTOTAL				<b>\$5</b> 9,650.00	
10% CONTINGENCY				<b>\$5,965.00</b>	
ESTIMATED TOTAL		,		\$65,615.00	
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## **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
- B. 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 permit 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 unsuitable material shall be removed from the construction limits of the roadway before placing embankment,

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.D.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.D.T. Standard SB-1.

Standard street and traffic control signs shall be erected 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.

It is the contractors responsibility to insure that the streets are in a clean, mud and dust free condition at all times. The developer and/or contractor shall supply all utility companies

The contractor shall provide adequate means of cleaning mud from trucks and/or other equipment prior to entering public streets.

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 developer 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 Virginia 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,

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

100 year floodway and floodplain information shall be shown where

sewer and storm sewer.

**INDEX** 

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

#### 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 if necessary.

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 begring 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.

#### VICINITY MAP

#### **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.

Availability number \_\_\_

# LEGEND

Property Line	
Right-of-way	
Centerline	
Minimum Building Line	
Existing Storm Sever	
-Existing Sanitary Sewer	8" SM
Existing Vater Main	
Existing Contour	
Proposed Contour	
Proposed Brainage Divide	
Proposed Limits of Clear	'Ing
Proposed Storm Sewer	# 33.
Proposed Sanitary Sewer	8' MH.
Proposed Water Main	
opseen naver cont	HYDRANT DUVOFP BLOVOFP

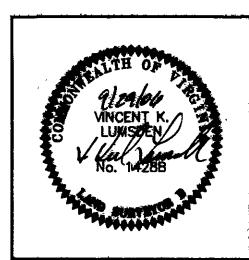
### SURVEY INFORMATION

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

	ys were performed in (year)
Ail elevations must be referenced to	the National Geodetic Vertical Datum of 1929.
Source of topographic mapping is dated	TOPOGRAPHIC SURVEY BY LUMSDEN ASSOCIATES, PC
Boundary was performed by  datedN/A	N/A

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 BEGINNING GRADING AND CONSTRUCTION ACTIVITIES.



PROFESSIONAL SEAL AND SIGNATURE

# COUNTY OF ROANOKE

NAME	OF	DEVELOPMENT

MAGISTERIAL DISTRICT(S)

CANTERBURY PARK SEWER LIFT STATION REMOVAL PROJECT

CAVE SPRING

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.

**DWNER** (name, address, telephone)

WESTERN VIRGINIA WATER AUTHORITY (ATTN. GREG REED) 601 SOUTH JEFFERSON STREET, SUITE SOO ROANOKE. VIRGINIA 24011 *18401 883-6468* 

DEVELOPER (name, address, telephone)

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

SEE OWNER

LUMBDEN ASSOCIATES, P.C. P.O. BOX 20669 ROANOKE, VIRGINIA 24018

18401 774-4411

PARCEL NO(S)

BLOCK NO(S)

SHEET 2 DE 6

COMM NO: 2005-203