

## QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	1	ACRES	\$1500.00		\$1500.00
EXCAVATION	1	LS			\$8000.00
EMBANKMENT		C.Y.			
CURB INLET DI- 38		EACH	\$1500.00		
CURB INLET DI- 30		EACH	\$1500.00		
VDOT STD. DI-1	5	EACH	\$1500.00		\$7500.00
MANHOLE MH-		EACH			
MANHOLE MH- STORM DRAIN	1	EACH	\$1500.00		\$1500.00
15 -IN. HDPE	261	LIN. FT.	\$35.00		\$9135.00
18 -IN. HDPE	6	LIN. FT.	\$38.00		\$228.00
24 -IN. HDPE		LIN. FT.			
36 -IN. HDPE	780	LIN. FT.	\$40.00		\$31,200
15 -IN. C.M. CULVERT		LIN. FT.	\$25.00		
24 -IN. C.M. CULVERT	100	LIN. FT.	\$30.00		\$3000.00
BOX CULVERT		LUMP SUM			
PAVED DITCH		LIN. FT.			
RIPRAP - CLASS		TONS	\$15.00		
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
-IN. END SECTION ES-		EACH			
CURB & GUTTER CG-2	1428	LIN. FT.	10		\$14280.00
HEADER CURB & GUTTER CG-		LIN. FT.			
CURB & GUTTER CG-6		LIN. FT.	12		
VALLEY GUTTER		EACH			
GRAVEL BASE		S.Y.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN. BIT. CONC.: TYPE B-		S.Y.			
-IN. BIT. CONC.: TYPE SM2A	400	TONS	\$40.00		\$16000.00
6 -IN. BASE MATERIAL 21-B	1000	TONS	\$12.00		\$12000.00
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EACH			
8" WATER LINE		LIN. FT.	\$12.00		
6" WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES		EACH	\$1500.00		
BLOW OFFS W/VAULT, FRAME & COVER		EACH			
8 -IN. GATE VALVES, W/VAULT, FRAME & COVER		EACH	\$1000.00		
-IN. GATE VALVES, W/VAULT, FRAME & COVER		EACH			
8" SANITARY SEWER		LIN. FT.	\$20.00		
STANDARD MANHOLE W/FRAME & COVER		EACH	\$1000.00		
PUMPSTATION		LS			
AS-BUILT PLANS		LUMP SUM	\$1000.00		\$1000.00
STORMWATER MANAGEMENT		LUMP SUM			\$5000.00
SUBTOTAL			\$19155		\$110,343
10% CONTINGENCY					\$10,500
ESTIMATED TOTAL					\$120,843

I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.

SIGNED:

DATE:

## GENERAL NOTES

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

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

- Installation of approved erosion control devices
- Clearing and grubbing
- Subgrade excavation
- Installing storm sewers or culverts
- Setting curb and gutter forms
- Placing curb and gutter
- Placing other concrete
- Placing gravel base
- Placing any roadway surface
- Installing water lines
- Installing sanitary sewer lines

A pre-construction conference should be scheduled with the Roanoke County Engineering Division, 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.O.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 on plans.

All unsuitable 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.O.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.O.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 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.

The contractor shall provide adequate means of cleaning mud from 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 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 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 V.D.O.T. inspectors.

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

100 year floodway and floodplain information shall be shown where applicable.

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

## INDEX

- |    |                       |                     |          |
|----|-----------------------|---------------------|----------|
| 1) | COVER                 | Revision # <u>1</u> | 08/05/05 |
| 2) | PLAN SHEET            |                     |          |
| 3) | GRADING / E & S SHEET | Revision # <u>2</u> | 10/17/05 |
| 4) | PROFILE SHEET         |                     |          |
| 5) | E & S DETAILS SHEET   | Revision # <u>3</u> | 11/17/05 |
| 6) | NARRATIVE SHEET       |                     |          |
| 7) | EXISTING TOPO         | Revision # <u>4</u> | 12/19/05 |

## SEWER NOTES

All sanitary sewer facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards. (Latest Edition).

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 their exact location. The contractor shall comply with (State Water Works Regulations, Section 12.05.03, where lines cross.)

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 facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards/ (Latest Edition).

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 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.

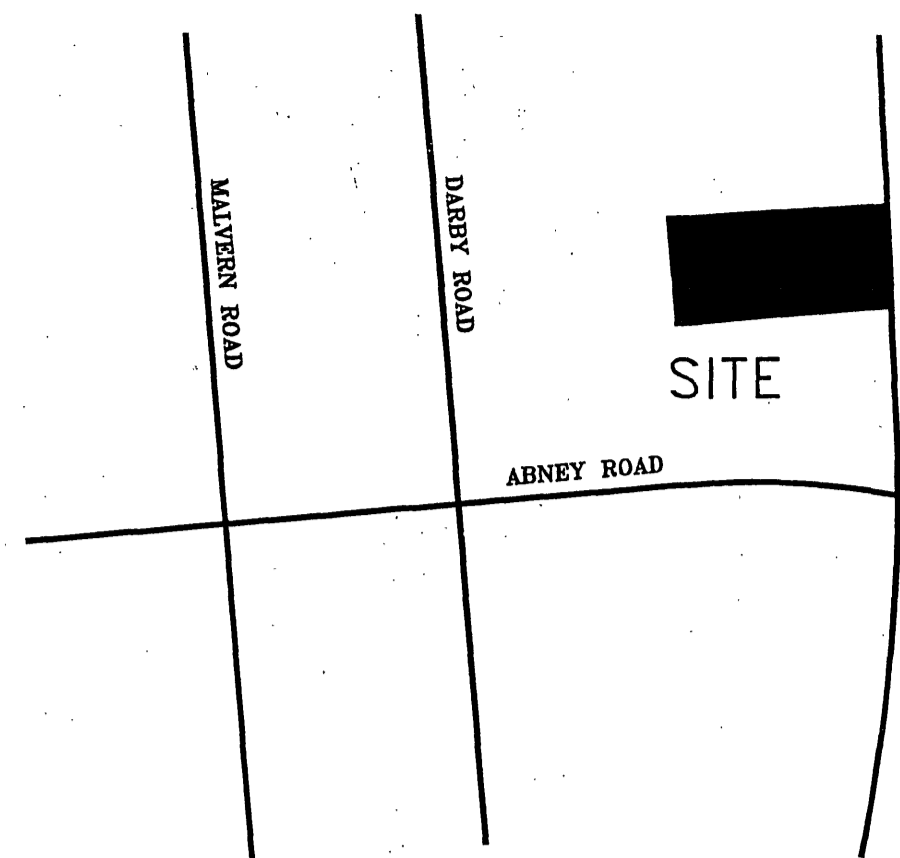
Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Ductile Iron Pipe in accordance with the Western Virginia Water Authority Design and Construction Standards shall be required for all pipe with a working pressure equal to or greater than 100 p.s.i.

Availability letter number 03-34

## LEGEND

Property Line	— — — — — R — — — — —
Right-of-way	— — — — — R/W — — — — —
Centerline	— — — — — C — — — — —
Minimum Building Line	— — — — — M.B.L. — — — — —
Existing Storm Sewer	— — — — — 18" S.D. — — — — — 18" S.D.
Existing Sanitary Sewer	— — — — — 8" SAN. — — — — — 8" SAN.
Existing Water Main	— — — — — 4" W — — — — — 4" W
Existing Contour	— — — — — 1045 — — — — —
Proposed Contour	— — — — — 1045 — — — — —
Proposed Drainage Divide	— — — — — < — — — — — <
Proposed Limits of Clearing	— — — — — 24" S.D. — — — — —
Proposed Storm Sewer	— — — — — 8" M.H. — — — — —
Proposed Sanitary Sewer	— — — — — 8" M.H. — — — — —
Proposed Water Main	— — — — — 8" M.H. — — — — —
HYDRANT	— — — — — VALVE — — — — — BLOWOFF



VICINITY MAP  
VICINITY MAP

## SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) September 2004 by McMurry & Surveying

All elevations must be referenced to the National Geodetic Vertical Datum of 1929.

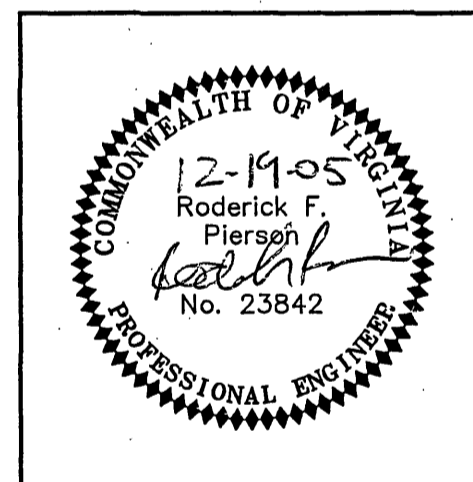
Source of topographic mapping is McMurry Surveying dated September 2004

Boundary was performed by McMurry Surveying dated September 2004

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

I, RODERICK F. PIERSON, IDENTIFY AS THE INDIVIDUAL IN CHARGE OF AND RESPONSIBLE FOR LAND DISTURBING ACTIVITIES ASSOCIATED WITH THIS EROSION AND SEDIMENT CONTROL PLAN. I AGREE TO NOTIFY THE COUNTY OF ROANOKE IN WRITING SHOULD I TRANSFER THIS RESPONSIBILITY TO ANOTHER CERTIFIED INDIVIDUAL BEFORE THE COMPLETION OF THIS PROJECT AND THE RELEASE OF THE EROSION AND SEDIMENT CONTROL BOND.

DEVELOPMENT PLAN APPROVED FOR CONSTRUCTION BY ROANOKE COUNTY	
Department	Date
Development Review	<u>Y</u> <u>4/27/06</u>
Engineering	<u>RRB</u> <u>4/27/06</u>
Water & Sewer	<u>RRB</u> <u>4/27/06</u>
Planning & Zoning	<u>JW</u> <u>4/27/06</u>



PROFESSIONAL ENGINEER  
SEAL AND SIGNATURE

## COUNTY OF ROANOKE

NAME OF DEVELOPMENT Hoefling Rental Properties, LLC

MAGISTERIAL DISTRICT(S) Hollins

OWNER (name, address, telephone) Peter Hoefling, 5623 Williamson Road N.W. 24012

DEVELOPER (name, address, telephone) Peter Hoefling, 5623 Williamson Road N.W. 24012

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) PIERSON ENGINEERING & SURVEYING  
Rodney Pierson, LLS, PE.

Phone: (540) 966-3027

1324 Roanoke Road  
P.O. Box 311  
220 North  
Daleville, VA. 24083

TAX MAP NO(S) 38.10-6- (12, 18, 19 & 20)

BLOCK NO(S) \_\_\_\_\_

PARCEL NO(S) \_\_\_\_\_