QUANTITY AND COST ESTIMATE

CLEARING AND GRUSSHINE 3.0600 S.Y. 12.00 \$ 67,775.00	ITEM	QUANTITY	UNIT	UNIT PRICE	CDST	BONDABLE
The content of the		77.000		00.04	\$ 67.776.00	
MANHELL PH-1 3	LADING	33,880	2,1,	\$2.00	\$ 67,776.00	
MANUFACT 3	CURB INLET DI-3	7	EACH	1.500.00	10.500.00	
1						
TYPE 75' BITCH		1			,	
TYPE 75' BITCH						
TYPE 'C' DITCH 500 LIN. FT. 8.00 4.00.00 15° & 18° ES-1 2 EACH 1,000.00 2.000.00 25° & 18° ES-1 2 EACH 1,000.00 2.000.00 28° \$N-9-50.13° BN-650 6° 21-9 AGGREGATE 3.200 28° \$N-9-50.13° BN-650 6° 21-9 AGGREGATE 3.200 28° WATER LINE 190 EACH 400.00 28° WATER SERVICE 1070 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 29° SANTARY SEVER 1 EACH 700.00 29° SANTARY SEVER 800 LIN. FT. 30.00 20° SINGLE VATEN SERVICE 4 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SANTARY SEVER 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SANTARY SEVER 800 LIN. FT. 30.00 20° SANTARY 8	15" & 18" CONCRETE PIPE	677	LIN, FT,	30.00	20,310.00	
TYPE 'C' DITCH 500 LIN. FT. 8.00 4.00.00 15° & 18° ES-1 2 EACH 1,000.00 2.000.00 25° & 18° ES-1 2 EACH 1,000.00 2.000.00 28° \$N-9-50.13° BN-650 6° 21-9 AGGREGATE 3.200 28° \$N-9-50.13° BN-650 6° 21-9 AGGREGATE 3.200 28° WATER LINE 190 EACH 400.00 28° WATER SERVICE 1070 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 400.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 28° SINGLE VATEN SERVICE 1 EACH 500.00 29° SANTARY SEVER 1 EACH 700.00 29° SANTARY SEVER 800 LIN. FT. 30.00 20° SINGLE VATEN SERVICE 4 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SANTARY SEVER 1 EACH 500.00 20° SINGLE VATEN SERVICE 1 EACH 500.00 20° SANTARY SEVER 800 LIN. FT. 30.00 20° SANTARY 8						
TYPE 'T' DITCH 515 LIN. FT. B.00 4,123.00 137 & 187 ES-1 2 EACH 1,000.00 2.000.00 CURB & GUTTER CG-6 2.100 LIN. FT. 12.00 2.500.0		 				
15" & 18" & 5" 2		· · · · · · · · · · · · · · · · · · ·			.,,	
CURB & GUTTER CG-6 2,100 LIN. FT. 12.00 25,200.00 2° SH-9:5AJ 3° BH-250 6° 21-B AGGREGATE 3,260 S.Y. 15.00 48,300.00 2° SH-9:5AJ 3° BH-250 6° 21-B AGGREGATE 3,260 S.Y. 15.00 48,300.00 2° VATER LINE 1070 LIN. FT. 16.00 17,780.00 2° SUBJELE WATER SERVICE 18 EACH 400.00 7,600.00 2° SINGLE WATER SERVICE 1 EACH 500.00 7,000.00 2° SINGLE WATER SERVICE 1 EACH 500.00 1,000.00 2° SILON EFTS W/VALLT, FRAME & COVER 1 EACH 700.00 770.00 2° SANTARY SEWER 500.00 1,000.00 2° SANTARY SEWER 600.00 1,000.00 2° SANTARY SEWER 600.00 1,000.00 2° STANDARD MANHOLE W/FRAME & COVER 4 EACH 1,000.00 4,000.00 2° STANDARD MANHOLE W/FRAME & COVER 4 EACH 1,000.00 5,000.00 1° STANDARD MANHOLE W/FRAME & COVER 6 LUN. FT. 200 17,000.00 2° STANDARD MANHOLE W/FRAME & COVER 6 LUN. FT. 200 1,000.00 2° SANTARY SEWER 7 LANDSCAPE BUFFER 1 LUNP SUM 5,000.00 5,000.00 3° STANDARD MANHOLE W/FRAME & COVER 6 LUNP SUM 5,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3°	TIPE D' DITCH	515	LIN, FI,	8.00	4,120.00	
CURB & GUTTER CG-6 2,100 LIN. FT. 12.00 25,200.00 2° SH-9:5AJ 3° BH-250 6° 21-B AGGREGATE 3,260 S.Y. 15.00 48,300.00 2° SH-9:5AJ 3° BH-250 6° 21-B AGGREGATE 3,260 S.Y. 15.00 48,300.00 2° VATER LINE 1070 LIN. FT. 16.00 17,780.00 2° SUBJELE WATER SERVICE 18 EACH 400.00 7,600.00 2° SINGLE WATER SERVICE 1 EACH 500.00 7,000.00 2° SINGLE WATER SERVICE 1 EACH 500.00 1,000.00 2° SILON EFTS W/VALLT, FRAME & COVER 1 EACH 700.00 770.00 2° SANTARY SEWER 500.00 1,000.00 2° SANTARY SEWER 600.00 1,000.00 2° SANTARY SEWER 600.00 1,000.00 2° STANDARD MANHOLE W/FRAME & COVER 4 EACH 1,000.00 4,000.00 2° STANDARD MANHOLE W/FRAME & COVER 4 EACH 1,000.00 5,000.00 1° STANDARD MANHOLE W/FRAME & COVER 6 LUN. FT. 200 17,000.00 2° STANDARD MANHOLE W/FRAME & COVER 6 LUN. FT. 200 1,000.00 2° SANTARY SEWER 7 LANDSCAPE BUFFER 1 LUNP SUM 5,000.00 5,000.00 3° STANDARD MANHOLE W/FRAME & COVER 6 LUNP SUM 5,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNFER 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3° SANTARY SEWER 8 LUNF 1 LUNP SUM 1,000.00 3°	15" & 18" FS-1	2	FACH	1 000 00	2 000 00	
PY SH-95AL 3' BH-850 6' RI-B AGGREGATE 3,280 S.Y. 18.00 48,900.00 BY WATCR LINE 1979 LIN. FT. 16.00 17,730.00 DIUBLE VATER SERVICE 19 EACH 460.00 7,860.00 SINGLE WATER SERVICE 1 EACH 500.00 1,800.00 SILDW EFFS W/WALLT, FRAME & COVER 1 EACH 700.00 7,000.00 SILDW EFFS W/WALLT, FRAME & COVER 2 EACH 800.00 1,800.00 SINGLE WATER SERVICE 2 EACH 800.00 1,800.00 SINGLE WATER WATER SERVICE 2 EACH 800.00 1,800.00 SINGLE WATER EACH 800.00 SINGLE WATER EACH 1,800.00 SINGLE WATER EACH 1,800.	15 & 16 25 1	2	LHOIT	1,000.00	2,000.00	
B* VATER LDNE	CURB & GUTTER CG-6	2,100	LIN. FT.	12.00	25,200.00	
B* WATER LINE 1070 LIN. FT. 16.00 17.120.00 DUBLE WATER SERVICE 19 EACH 400.00 7.600.00 SIROLE WATER SERVICE 11 EACH 300.00 1.600.00 SIROLE WATER SERVICE 11 EACH 1.500.00 7.000.00 SIROLE WATER SERVICE 11 EACH 1.500.00 7.000.00 SIROLE WATER SERVICE 11 EACH 1.500.00 7.000.00 SIROLE WATER SERVICE 11 EACH 7.000.00 7.000.00 SIROLE WATER SERVICE 11 EACH 7.000.00 7.000.00 SIROLE WATER SERVICE 12 EACH 800.00 1.600.00 SIROLE WATER SERVICE 12 EACH 800.00 1.600.00 SIROLE WATER SERVICE 12 EACH 800.00 1.7600.00 SIROLE WATER SERVICE 4 EACH 1.200.00 4.800.00 SIROLE WATER SERVICE 4 EACH 300.00 SIROLE WATER SERVICE WATER SERVIC					,	
DUIRLE WATER SERVICE 18	2" SM-9.5A; 3" BM-25.0 6" 21-B AGGREGATE	3,260	S.Y.	15.00	48,900.00	
DOUBLE WATER SERVICE 19	8" WATER LINE	1070	I IN ET	16.00	17.120.00	
SINGLE WATER SERVICE 1 EACH 30000 90000 FIRE HYDRANT ASSEMBLIES 1 EACH 1,500.00 1,500.00 BILDV GFS V/VAULT, FRAME & COVER 1 EACH 700.00 700.00 BILDV GFS V/VAULT, FRAME & COVER 2 EACH 800.00 1,600.00 8' SANTARY SEVER 800 LIN.FT. 20.00 17,800.00 8' SANTARY SEVER 4 EACH 1,200.00 4,800.00 CATALORAN DIE WYFRAME & COVER 4 EACH 1,200.00 4,800.00 LATERAL CLEANGUT, AND STUBGUT 20 EACH 300.00 5,000.00 TYPE 'A' LANDSCAPE BUFFER LUMP SUM 5,000.00 3,000.00 TYPE 'A' LANDSCAPE BUFFER LUMP SUM 1,500.00 1,500.00 ASSEMBLIT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBSTITIAL \$ 255,995.00 SUBSTITIAL \$ 255,995.00 FSLIMATED LUME INTELLED				<u> </u>		
FIRE HYDRANT ASSEMBLIES 1		<u> </u>		<u> </u>		
BLDW DFS W/AWULT, FRAME & COVER 1		 				
### B-IN. GATE VALVES. W/VAULT, FRAME & COVER 2 EACH 800.00 1.500.00 ### SANITARY SEVER 880 LIN. FT. 20.00 17,600.00 ### STANITARY SEVER 880 LIN. FT. 20.00 17,600.00 ### STANITARY SEVER 880 LIN. FT. 20.00 17,600.00 ### LACH 1,200.00 4.800.00 ### LACH 1,200.00 6.000.00 ### LACH 1,200.00 6.000.00 ### LACH 1,200.00 6.000.00 ### LUMP SUM 5,000.00 ### SUM 5,000.00 ### LUMP SUM 5,000		1		L		
BY SANITARY SEVER 880 LIN. FT. 20.00 17,500.00 STANDARD MANNIQLE V/FRAME & COVER 4 EACH 1,200.00 4,800.00 LATERAL CLEANDUT, AND STUBBUT 20 EACH 300.00 6,000.00 STANDARD MANNIQLE W/FRAME & COVER 4 EACH 1,200.00 4,800.00 STANDARD MANNIQLE W/FRAME & COVER 4 EACH 300.00 6,000.00 STANDARD MANNIQLE W/FRAME & COVER 5,000.00 STANDARD STUBBUT 20 EACH 300.00 5,000.00 STANDARD STUBBUT STANDARD STUBBUT STANDARD STUBBUT STANDARD STUBBUT STANDARD STANDAR						
STANDARDLE V/FRANCE & COVER 4	O III. OATE VALVES, WY VAULT, FRANCE & CUVER		CHUN	800.00	1,000.00	
STANDARDLE V/FRANCE & COVER 4	8' SANITARY SEWER	900	I INI ET	20.00	17 600 00	
LATERAL CLEANIDUT, AND STUBULT 20 EACH 300.00 5,000.00 TYPE "A" LANDSCAPE BUFFER LUMP SUM 5,000.00 5,000.00 1,500.00 AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL 10% CONTINGENCY 3 255,948.00 STUMATED TOTAL				}		
TYPE 'A' LANDSCAPE BUFFER LUMP SUM 5,000.00 5,000.00 5,000.00 1,500.00 1						·
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL 10X CUNTINGENCY \$ 225,948.00 FSITMATED TITTAL	ETTENTE OFFERINGOLY MIND STUDBOL	20	LAUH	300.00	6,000.00	
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL 10X CUNTINGENCY \$ 225,948.00 FSITMATED TITTAL	TYPE "A" LANDSCAPE BUFFER		LIMP SIM	5,000,00	5,000,00	
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTIDIAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00			2011 3011	0,000.00	3,000.00	
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTIDIAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00			· · · · · · · · · · · · · · · · · · ·			
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00					_	
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00						<u> </u>
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						, , , , , , , , , , , , , , , , , , , ,
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00				<u> </u>		<u> </u>
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00		<u> </u>				<u> </u>
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL 10% CONTINGENCY \$ 255,948.00 \$ 25,595.00			, , , , , , , , , , , , , , , , , , , ,			
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00		<u> </u>		<u> </u>		
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						<u> </u>
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00		 				
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00				, #	<u> </u>	
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00			,			
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00						
AS-BUILT PLANS 1 LUMP SUM 1,500.00 1,500.00 SUBTUTAL \$ 255,948.00 10% CUNTINGENCY \$ 25,595.00					·	
SUBTITAL \$ 255,948.00 10% CINTINGENCY \$ 25,595.00			· · · · · · · · · · · · · · · · · · ·			
SUBTOTAL \$ 255,948.00 10% CONTINGENCY \$ 25,595.00				,		<u> </u>
SUBTITAL \$ 255,948.00 10% CINTINGENCY \$ 25,595.00	AS-BUILT PLANS	1	LUMP SUM	1,500.00	1,500.00	
10% CONTINGENCY \$ 25,595.00		 	_3,,, 30,11	.,535.00	1,555.00	
10% CONTINGENCY \$ 25,595.00						
10% CONTINGENCY \$ 25,595.00						
10% CONTINGENCY \$ 25,595.00						
10% CONTINGENCY \$ 25,595.00						
10% CONTINGENCY \$ 25,595.00						
10% CONTINGENCY \$ 25,595.00				 		<u> </u>
10% CONTINGENCY \$ 25,595.00	SUBTOTAL	†			\$ 255,948.00	<u> </u>
FSTIMATED TOTAL		\ <u></u>				
ESTIMATED TOTAL \$ 281.543.00						
ESTIMATED TOTAL \$ 281.543.00		_		<u> </u>	 	

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 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.C.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.

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

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.

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/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 and storm sewer.

100 year floodway and floodplain information shall be shown where

applicable.

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, unless otherwise specified, 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.

VICINITY MAP

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

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 C151 or DR-14 PVC in accordance with AWWA C-900.

Availability number 08-012

LEGEND

Property Line Right-of-way

Centerline

Minimum Building Lin

Existing Water Mai Existing Contour

Proposed Contour

Proposed Water Main

Proposed Drainage Divide Proposed Limits of Clearing Proposed Storm Sewer Proposed Sanitary Sewer

HYDRANT T-VALVE

SURVEY INFORMATION

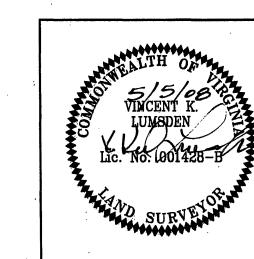
Horizontal and vertical control surveys were performed in (year) 2007 by LUMSDEN ASSOCIATES, P.C.

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

Source of topographic mapping is <u>FIELD SURVEY BY LUMSDEN</u> ASSOCIATES, P.C. dated ___²⁰⁰⁷

Boundary was performed by LUMSDEN ASSOCIATES, P.C.

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



PROFESSIONAL SEAL AND SIGNATURE

COUNTY OF ROANOKE

INDEX

SEE LUMSDEN ASSOCIATES, P.C. COVER SHEET

THE ORCHARDS, APPLEWOOD SECTION No. 19

THIS SITE DEVELOPMENT PLAN AND OTHER APP-LICABLE COUNTY CODES. I HEREBY CERTIFY THAT AGREE TO COMPLY WITH THESE REQUIREMENTS. HOLLINS MAGISTERIAL DISTRICT UNLESS MODIFIED IN ACCORDANCE WITH LOCAL LAW F & W COMMUNITY DEVELOPMENT CORP. (ATTN: ANDY KELDERHOUSE)

UWNER (name, address, telephone)

P.O. BOX 20069 ROANOKE, VIRGINIA 24018 [540] 774-4415

DEVELOPER (name, address, telephone) SAME AS OWNER

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

LUMSDEN ASSOCIATES, P.C.

39.02 TAX MAP NO(S) BLOCK NO(S)

SHEET 2 OF 13

27.05

BLOWOFF/

P.O. BOX 20669 ROANOKE, VIRGINIA 24018

[540] 774-4411

PARCEL NO(S)

John Selander OWNER/DEVELOPER, AM AWARE

OF THE SITE DESIGN REQUIREMENTS IMPOSED BY