QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABL
WATER CONNECTION TO MAIN	1	EA	\$1,600		\$1,600
FIRE HYDRANT ASSEMBLY AND VALVE	2	EA	\$1,600		\$3,200
2" PVC WATERLINE	235	LF	\$18.00		\$4,230
6" D.I. WATERLINE	305	LF	\$20.00		\$6,100
8" D.I. WATERLINE	310	LF	\$45.00		\$13,950
TEMPORARY BLOW-OFF VALVE	1	EA	\$1,000		\$1,000
FDC - SIAMESE YARD CONNECTION	1	EA	\$1,600		\$1,600
DIRECTIONAL DRILLING (8" DIP)	1	LS	\$20,000		\$20,000
8" WATER VALVES W/ VAULT AND F&C	2	EA	\$400		\$800
WATER VAULT W/ METER AND DETECTOR CHECK	1	EA	\$21,000		\$21,000
OIL/WATER SEPARATOR	1	EA	\$3,000		\$3,000
DOWNSPOUT CLEANOUT	4 .	EA	\$120		\$480
SANITARY LINE CLEANOUT	2	EA	\$150		\$300
6" SDR35 PVC PIPE -SANATARY SYSTEM	305	LF	\$20		\$6,100
8" SDR35 PVC PIPE-DOWNSPOUT SYSTEM	505	LF	\$19		\$9,595
6" CONNECTION TO EXISTING SSMH	1	EA	\$4,000		\$4,000
SAMPLING MANHOLE, CONC. W/ MH-1 F&C	1	EA	\$3,200		\$3,200
DROP INLET, VDOT ST'D DI-7, GRATE A TYPE III	3	EA	\$2,200		\$6,600
DROP INLET, VDOT ST'D DI-3B, L=6'	2	EA	\$2,200	 	\$4,400
DROP INLET, VDOT ST'D DI-3B, L=8'	1	EA	\$2,600	 	\$2,600
DROP INLET, VDOT ST'D DI-3C, L=6'	4	EA	\$2,200		\$8,800
MANHOLE, VDOT ST'D MH-2	3	EA	\$2,200		\$6,600
MANHOLE, VDOT ST'D MH-1 FRAME & COVER	3	EA	\$500		\$1,500
36" CONC. ENDSECTION, VDOT ST'D ES-1	1	EA	\$1,700		\$1,700
24" PIPE SPILLOUT, VDOT ST'D PS-3	1	EA	\$1,800		\$1,800
24" PAVED FLUME, VDOT STD. PG-4	40	LF	\$165		\$6,600
15" REINFORCED CONC. PIPE, CLASS III	361	LF	\$30		\$10,830
24" HDPE , N-12 PIPE	180	LF	\$21		\$3,780
24" REINFORCED CONC. PIPE, CLASS III	179	LF	\$ 48		\$8,592
36" REINFORCED CONC. PIPE	267	LF	\$96		\$25,632
UNDERGROUND SWM-ALL INCLUSIVE	1	EA	\$32,000		\$32,000
1.5-IN. ASPHALT CONC. SURFACE COURSE, TYPE SM-9.5					
3-IN. ASPHALT CONC. BASE COURSE, BM-25.0 6-IN. AGGREGATE SUBBASE MATERIAL TYPE 1, SIZE 21A	3333	SY	\$20		\$66,660
DODE AND CONCRETE DAVENEUE (US)	4.2.2		\$ 35		#774
PORTLAND CONCRETE PAVEMENT (HD)	1060	SY	\$1,000	-	\$37,100
CONCRETE CURB. CC. 2	1110	EA	\$1,000		\$1,000 \$13.34
CONCRETE CURB, CG-2 CONCRETE CURB & GUTTER, CG-6	1112	LF	\$12 \$15		\$13,344 \$13,920
CONCRETE CORB & GOTTER, CG-8 CONCRETE SIDEWALK AND PADS	928 220	LF SY	\$4		\$880
RETAINING WALL	300	SF	\$16		\$4,800
GRADING	1	LS	\$40,500		\$40,50
SURVEYING/STAKEOUT	1	LS	\$2,400		\$2,400
CLEARING AND GRUBBING	2.4	AC	\$2,500		\$6,000
8' HIGH STOCKADE FENCE	220	LF	\$14		\$3,080
SUBTOTAL					\$432,89
					\$43,290
10% CONTINGENCY					\$476,18
	1	•	1	1	
10% CONTINGENCY TOTAL					1

ALL ESTIMATED COSTS, UNIT COSTS, AND QUANTITIES ARE FOR BONDING PURPOSES ONLY.

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 The Virginia 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:

- 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

County and V.D.O.T.

A pre-construction conference should be scheduled with the Roanoke County Engineering Division, to be held at least one (1) day prior to

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. Salem Residency Office, Salem, Virginia, 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

All unsuitable material shall be removed from the construction limits before placing embankment.

Pavement sections on approved plans are based on a minimum CBR of 7. 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 < 7 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

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

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

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.

may be notified thru "Miss Utility": 1-800-552-7001.

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

Any new alignments, changes in grades, alternate pipe materials and sizes or manholes will require a new plan set stamped by a professional engineer. County engineers will review the plans within three days of submittal. Plan sheets can be 8.5" x 11" if the information is legible.

INDEX

EXISTING SITE CONDITIONS AND DEMOLITION PLAN

GRADING, DRAINAGE, EROSION CONTROL PLAN

PROFILES AND DRAINAGE DESCRIPTIONS

SHEET SP-10 WATER PLAN, PROFILE, AND MYWA DETAILS

ALTERNATE 1, ADDITIONAL GRADING AND DRAINAGE PLAN

ROANOKE COUNTY EROSION & SEDIMENT CONTROL DETAILS

UNDERGROUND STORMWATER MANAGEMENT DETAILS

ROANOKE COUNTY COVER SHEET

SITE LAYOUT & LANDSCAPING PLAN

UTILITY PLAN

SITE DETAILS

SEWER NOTES

Manhole tops shall be adjusted to grade if necessary. All existing utilities may not be shown or may not be shown in their exact.

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

according to V.D.O.T. standards. Lines shall be staked prior to

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.

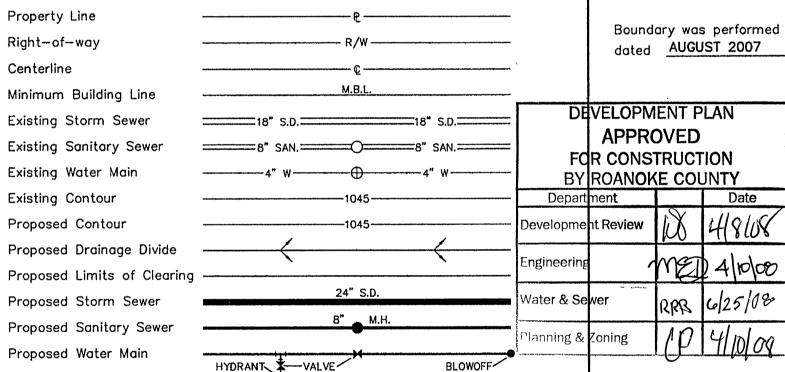
All trenches in existing or future highway right—of—ways shall be compacted according to V.D.O.T. standards.

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: 07-461

LEGEND



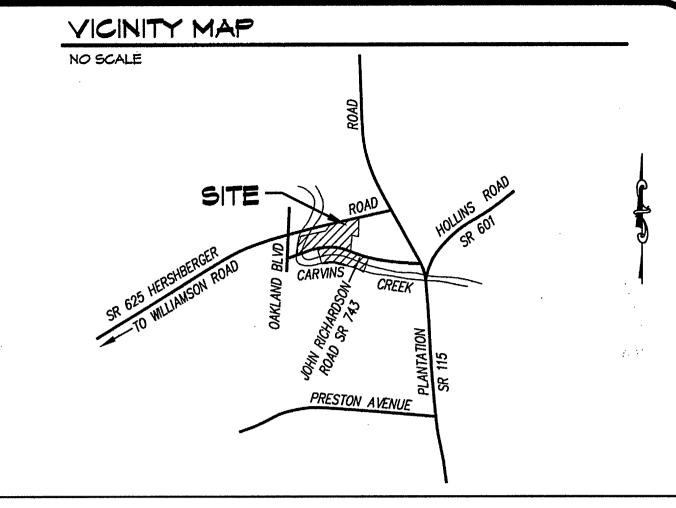


All sanitary sewer facilities shall be installed according to the Western Virginia Water Authority Design and Construction Standards. (Latest Edition).

A minimum cover of three (3) feet is required over proposed lines. Contractor shall be responsible for locating and uncovering all

manholes after paving.

All trenches in existing or future rights—of—way shall be compacted



PLEASE NOTE THE 2001 GENERAL ASSEMBLY REVISIONS TO VA EROSION & SEDIMENT CONTROL LAW. EFFECTIVE JULY 1, 2001, ALL LAND DISTURBING PROJECTS THAT REQUIRE APPROVAL OF AN EROSION AND SEDIMENT CONTROL PLAN, GRADING PERMIT OR CLEARING PERMIT SHALL REQUIRE THAT THE APPLICANT PROVIDE THE NAME OF AN INDIVIDUAL, WHO WILL BE RESPONSIBLE FOR LAND DISTURBING ACTIVITIES, HOLDING A RESPONSIBLE LAND DISTURBER CERTIFICATE TO THE COUNTY OF ROANOKE. THE RESPONSIBLE LAND DISTURBER CAN BE ANYONE FROM THE PROJECT TEAM OR DEVELOPMENT TEAM HOLDING A RESPONSIBLE LAND DISTURBER CERTIFICATE THAT WILL BE IN CHARGE OF AND RESPONSIBLE FOR CARRYING OUT THE LAND DISTURBING ACTIVITY FOR THE PROJECT.

CERTIFIED LAND DISTURBER

CERTIFICATE NUMBER

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in by LUMSDEN ASSOCIATES, P.C.

AUGUST 2007

dated AUGUST 2007

IAPPROVED

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

Source of topographic mapping is LUMSDEN ASSOCIATES. P.C.

Boundary was performed by <u>LUMSDEN ASSOCIATES</u>, P.C.

EALTH OF

MARK JOHN AYLES Lic. No. 034160

PROFESSIONAL ENGINEER SEAL AND SIGNATURE

IN ACCORDANCE WITH LOCAL LAW.

OWNER/DEVELOPER, AM AWARE OF THE SITE DESIGN REQUIREMENTS IMPOSED BY THIS SITE

DEVELOPMENT PLAN AND OTHER APPLICABLE COUNTY

AND TOWN CODES. I HEREBY CERTIFY THAT I AGREE TO COMPLY WITH THESE REQUIREMENTS, UNLESS MODIFIED

ROANOKE COUNTY

NAME OF DEVELOPMENT

NORTH ROANOKE COUNTY FIRE STATION

OWNER (name, address, telephone)

ROANOKE COUNTY BOARD OF SUPERVISORS ROANOKE, VIRGINIA 24018-0798

> HUGHES ASSOCIATES ARCHITECTS P.O. BOX 1034 656 ELM AVENUE, SW

CONTACT: MARK AYLES (540) 342-4002 TEL. (540) 342-2060 FAX

(540) 772-2005 TEL.

(540) T72-2193 FAX

(540) 772-2005 TEL.

(540) TT2-2193 FAX

038.16-01-07.00-0000

HUGHES ASSOCIATES ARCHITECTS Architecture = Planning = Consulting

656 ELM AVENUE, S.W. P.O. BOX 1034 ROANOKE, VIRGINIA 24005-1034

TEL (540) 342-4002 FAX (540) 342-2060 www.HughesArchitects.com

ROANOKE COUNTY COYER SHEET

COMMISSION No. 07046H SHEET

No. 1 of 11 C O P Y R I G H T 2 0 0 7
HUGHES ASSOCIATES ARCHITECTS
A PROFESSIONAL CORPORATION

MAGISTERIAL DISTRICT(S)

TAX MAP NO(S) _

HOLLINS - COUNTY OF ROANOKE

ROANOKE COUNTY BOARD OF SUPERVISORS ROANOKE, VIRGINIA 24018-0798

DEVELOPER (name, address, telephone) PO BOX 29800

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) ROANOKE, VIRGINIA 24005

PARCEL NO(S)

SHEET ____ OF ____