#### QUANTITY + COST ESTIMATE

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ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CURB INLET DI-3B	2	EACH	2200.00	4,400.00	
CURB INLET DI-3BB	0	EACH	2700.00	0	
CURB INLET DI-4B	1	EACH	3000.00	3,000.00	***********
CURB INLET DI-4BB	1	EACH EACH	4000.00	8,000.00	
CURB INLET DI-4C	1	EACH	2800.00 2500.00	2,800.00 2,500.00	
CURB INLET DI-4CC	0	EACH	3300.00	2,300.00	
5" CONCRETE PIPE, CLASS III	60	LIN. FT.	22.50	1,350.00	
8" CONCRETE PIPE, CLASS III	0	LIN. FT.	26.00	0	<del></del>
O" CONCRETE PIPE, CLASS III	236	LIN. FT.	40.00	9,440.00	
6" CONCRETE PIPE, CLASS III	370	LIN. FT.	52.00	19,240.00	
2" CONCRETE PIPE, CLASS III	142	LIN. FT.	80.00	11,360.00	
8" CONCRETE PIPE, CLASS III	0	LIN. FT.	75.00	0	
5" EW-1PC	0	EACH	750.00	0	
8" EW-1PC	0	EACH	1000.00	0	
12" EW-2PC 18" EW-2PC	1 1	EACH	2250.00	2,250.00	
-8 EW-2PC -2" EW-2SPC	1 0	EACH EACH	2600.00	2,600.00	
18" EW-2SPC	0	EACH	2500.00	0	
STORM DRAIN MANHOLE (48" DIA BASE)	0	EACH	2800.00 1750.00	0	
2"x30" ECCENTRIC REDUCER	1	EACH	500.00	500.00	
18"x36" ECCENTRIC REDUCER	1 .	EACH	650.00	650.00	·
CURB & GUTTER CG-6	1440	LIN. FT.	0.50	17 690 00	
PAVEMENT-CATEGORY I	2370	SQ. YD.	9.50 9.50	13,680.00 22,515.00	
PAVEMENT-CATEGORY II	0	SQ. YD.	10.50	22,515.00	
PAVEMENT-CATEGORY III	0	SQ. YD.	12.75	0	
8-IN. WATER LINE	620	LIN. FT.	25.00	15,500.00	
FIRE HYDRANT ASSEMBLIES	1	EACH	1650.00	1,650.00	
8-IN. GATE VALVES, W/VAULT, FRAME & COVE		EACH	1000.00	. 0	
AUTOMATIC AIR RELEASE	0	EACH	550.00	0	
PERMANENT BLOWOFF SERVICE CONNECTIONS	13	EACH EACH	600.00	7.050.00	
SERVICE CONNECTIONS	13	EACH	250.00	3,250.00	
8-IN. SANITARY SEWER	500	LIN. FT.	25.00	12,500.00	
STANDARD MANHOLE W/FRAME & COVER	4	EACH	1500.00	6,000.00	
4-IN. LATERALS	11	EACH	600.00	6,600.00	
AS-BUILT PLANS	1	LUMP SUM	400.00	400.00	
STORMWATER MANAGEMENT	0	LUMP SUM	25000.00	0	
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SUB TOTAL			·	150,185.00	
			·	150,185.00 15,015.00	

SIGNED:

### GENERAL NOTES

All construction methods and materials shall conform to the Construction Standards and Specifications of Roanoke County and/or 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 other concrete
- 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, to be held at least one (1) day prior to any construction.

Measures to control erosion and siltation must be provided for prior to plan approval. Plan approval in now 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 with correct As—Built plans before final acceptance.

All work shall be subject to inspection by Roanoke County and/or V.D.O.T. inspectors.

Field corrections shall be approved by the Roanoke County Engineering Division prior to such construction.

100 year floodway and floodplain information shall be shown where

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

#### SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) 1997
by PHILIP W. NESTER. INC.

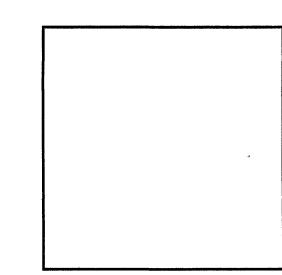
All elevations must be referenced to the National Geodetic Vertical Datum of 1929.

Source of topographic mapping is T.P. PARKER & SON/PSI dated APRIL 1988

Boundary was performed by PHILIP W. NESTER, INC.

dated SEPTEMBER 1997

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



PROFESSIONAL SEAL AND SIGNATURE

## LEGEND

Property Line Right-of-way Centerline Minimum Building Line **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** Proposed Contour Proposed Drainage Divide Proposed Limits of Clearing ——— **Proposed Storm Sewer** 8" \_ M.H. Proposed Sanitary Sewer Proposed Water Main

# **WATER NOTES**

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 of 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 cost construction as per water construction standards.

Water main shall be minimum Class 52 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

Application for utilities to serve development reference number \_\_\_\_\_\_96-218

Water construction per Roanoke County Water and Sanitary Sewer Design and Construction Standards.

#### SEWER NOTES

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 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 right—of—ways shall be compacted according to V.D.O.T. standards.

Lines shall be staked prior to construction.

Sewer construction per Roanoke County Water and Sanitary Sewer Design and Construction Standards.

# COUNTY OF ROANOKE

NAME OF DEVELOPMENT SECTION No. 3 - KINGS CREST

OF THIS
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UNLE

OWNER (name, address, telephone)

FRALIN & WALDRON, INC.
2917 PENN FOREST BLVD., S.W. P.O. BOX 20069
ROANOKE, VIRGINIA 24018 (540-774-4415)

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

OWNER (name, address, telephone)

2917 PENN FOREST BLVD., S.W. P.O. BOX 20069
ROANOKE, VIRGINIA 24018 (540-774-4415)

FRALIN & WALDRON, INC.
2917 PENN FOREST BLVD., S.W. P.O. BOX 20069
ROANOKE, VIRGINIA 24018 (540-774-4415)

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

LUMSDE
4664 B1

TAX MAP NO(S) \_\_\_\_\_45.01

LUMSDEN ASSOCIATES, P.C. 4664 BRAMBLETON AVENUE P.O. BOX 20669 ROANOKE, VIRGINIA 24018 (540)774-4411

Project Completed 10/2005

BLOCK NO(S) 1 PARCEL NO(S)

WVWA ID# 6H2G4M

SHEET 2 OF 5