

QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	2.25	ACRES	2,500	5,625	
EXCAVATION	10,000	C.Y.	2.5	25,000	
EMBANKMENT		C.Y.			
CURB INLET DI-4C	2	EACH	2,000	4,000	
CURB INLET DI-		EACH			
MANHOLE MH- W/FRAME & COVER	2	EACH	1,500	3,000	
MANHOLE MH-		EACH			
36" -IN. RCP PIPE	259	LIN. FT.	27.00	6,993	
15" -IN. RCP PIPE	40	LIN. FT.	18.00	720	
-IN. C.M. CULVERT		LIN. FT.			
-IN. C.M. CULVERT		LIN. FT.			
BOX CULVERT		LUMP SUM			
PAVED DITCH		LIN. FT.			
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EV-		EACH			
-IN. END SECTION ES-		EACH			
HEADER CURB & GUTTER CG-		LIN. FT.			
CURB & GUTTER CG-6	1,495	LIN. FT.	12.00	17,940	
VALLEY GUTTER		EACH			
GRAVEL BASE		S.Y.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
-IN. BIT. CONC. TYPE B-		S.Y.			
2-IN. BIT. CONC. TYPE SM-9.5	2,150	S.Y.	12.00	25,800	
6 -IN. BASE MATERIAL 21B	716	C.Y.	7.00	5,012	
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EACH			
8" WATER LINE	740	LIN. FT.	15.00	11,100	
6" WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES	1	EACH	1,500	1,500	
BLOW OFFS W/VAULT, FRAME & COVER		EACH			
6-IN. GATE VALVES, W/VAULT, FRAME & COVER	1	EACH	400.00	400.00	
-IN. GATE VALVES, W/VAULT, FRAME & COVER		EACH			
8" SANITARY SEWER	1509	LIN. FT.	25.00	37,725	
STANDARD MANHOLE W/FRAME & COVER	8	EACH	1,500	12,000	
SAMPLING MANHOLE/PORT		EACH			
AS-BUILT PLANS	1	LUMP SUM	1,500	1,500	
STORMWATER MANAGEMENT	1	LUMP SUM	10,000	10,000	
10% CONTINGENCY				16,831	
ESTIMATED TOTAL				185,146	

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, 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 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

A pre-construction conference should be scheduled with the Roanoke County Engineering Division and the Western Virginia Water Authority, to be held at least three days 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.D.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 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.D.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.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.

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

- C1 COVER SHEET
- C2 EXISTING CONDITIONS
- C3 LAYOUT AND UTILITIES
- C4 GRADING AND EROSION CONTROL
- C5 PROFILE A
- C6 PROFILE B
- C7 EROSION CONTROL
- C8 NOTES AND DETAILS
- C9 WVWA DETAILS

REVISED 6-8-05 PER COUNTY AND VDOT COMMENTS
REVISED 6-15-05 PER COUNTY AND VDOT COMMENTS
REVISED 8-8-05 PER COUNTY AND VDOT COMMENTS
REVISED 8-28-05 PER COUNTY COMMENTS
REVISED 10-19-05 PER WVWA COMMENTS
REVISED 10-29-05 PER VDOT COMMENTS

SEWER NOTES

AVAILABILITY # 05-100

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 rights-of-way shall be compacted according to V.D.D.T. standards.

Lines shall be staked prior to construction.

All sanitary sewer connections to existing lines shall be coordinated with and performed by the Western Virginia Water Authority.

All water and sanitary sewer facilities are to be installed according to the Western Virginia Water Authority Design and Construction Standards.

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 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.D.T. standards.

Lines shall be staked prior to construction.

Water main shall be minimum Class 52 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900. Availability number: NEW - 05-100 OLD - 04-130

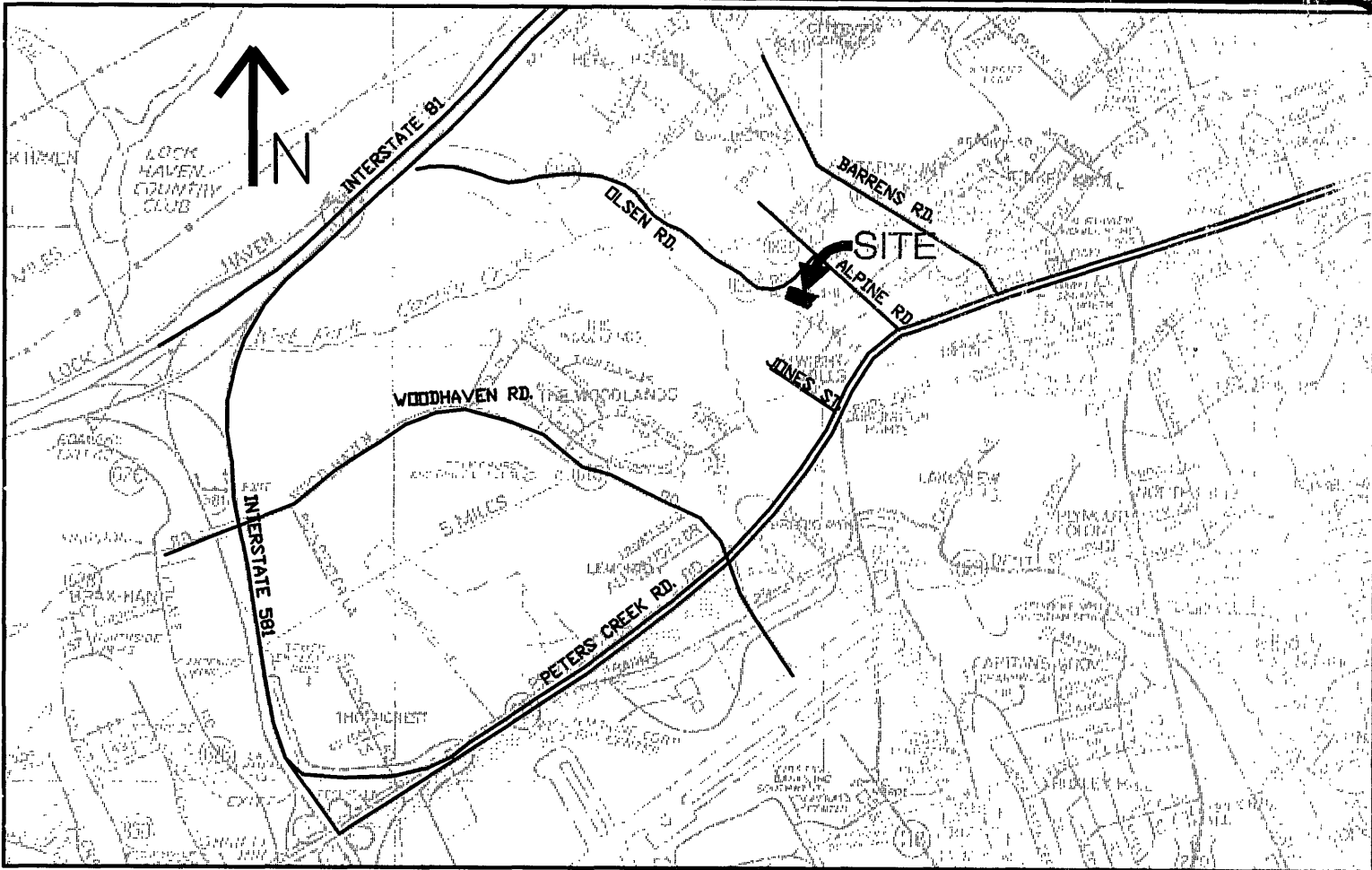
All water connections to existing lines shall be coordinated with and performed by the Western Virginia Water Authority.

All water and sanitary sewer facilities are to be installed according to the Western Virginia Water Authority Design and Construction Standards.

Ductile iron pipe in compliance with the WVWA design and construction standards shall be required for all pipe with a working pressure equal to or greater than 100 psi.

LEGEND

Property Line	_____
Right-of-way	_____
Centerline	_____
Minimum Building Line	_____
Existing Storm Sewer	=====
Existing Sanitary Sewer	=====
Existing Water Main	===== 1155
Existing Contour	----- 1155
Proposed Contour	-----
Proposed Drainage Divide	-----
Proposed Limits of Clearing	-----
Proposed Storm Sewer	=====
Proposed Sanitary Sewer	=====
Proposed Water Main	=====



VICINITY MAP

SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) by BALZER AND ASSOCIATES, INC.

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

Source of topographic mapping is by BALZER AND ASSOCIATES, INC.

Boundary was performed by BALZER AND ASSOCIATES, INC.

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

DEVELOPMENT PLAN APPROVED FOR CONSTRUCTION BY ROANOKE COUNTY	
Department	Date
Development Review	11/12/05
Engineering	11/12/05
Water & Sewer	11/12/05
Planning & Zoning	11/12/06

ROGER I. STURGILL
No. 033058
1/10/06
PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER
SEAL AND SIGNATURE

COUNTY OF ROANOKE

NAME OF DEVELOPMENT CARRIAGE PARK

MAGISTERIAL DISTRICT(S) HOLLINS

OWNER (name, address, telephone) ALAN DEWEESE
686 LEE HIGHWAY
ROANOKE, VA 24018 540-992-3305

DEVELOPER (name, address, telephone) ALAN DEWEESE
686 LEE HIGHWAY
ROANOKE, VA 24018 540-992-3305

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) BALZER AND ASSOCIATES, INC.
1208 CORPORATE CIRCLE
ROANOKE, VA 24018 540-772-9580 FAX 540-772-8050

TAX MAP NDKS) 26.16 BLOCK NDKS) 2 PARCEL NDKS) 13

I, Alan Dewese 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.