

## APPROXIMATE QUANTITY + OPINION OF COSTS

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	1.12	ACRES	5,000	7,500	
EXCAVATION	3,500	C.Y.	15	52,500	
EMBANKMENT		C.Y.			
CURB INLET DI-3A	2	EACH	3,000	6,000	
DROP INLET DI-7	4	EACH	3,000	12,000	
DROP INLET DI-1	2	EACH	3,000	6,000	
MANHOLE MH-2	4	EACH	2,000	10,000	
MANHOLE MH-		EACH			
15-IN. CONCRETE PIPE, CLASS III	275	LIN. FT.	40	11,060	
18-IN. CONCRETE PIPE, CLASS III	524	LIN. FT.	50	26,200	
6-IN. PVC CULVERT	18	LIN. FT.	20	360	
-IN. C.M. CULVERT		LIN. FT.			
CONCRETE EQUIPMENT PAD	1	CU. YD.	200	200	
SIDEWALK	130	CU. YD.	200	26,000	
RIPRAP - CLASS		S.F.			
SODDED SWALE		S.Y.			
-IN. CONCRETE ENDWALL EW-		EACH			
GUARD RAIL GR-2	185	LIN. FT.	30	5,550	
CURB & GUTTER CG-2	2442	LIN. FT.	14.80	36,142	
CURB & GUTTER CG-6	176	LIN. FT.	16.30	2,869	
EXTRUDED CURB	154	LIN. FT.	10.50	1,617	
GRAVEL BASE		S.Y.			
GRAVEL SHOULDER		S.Y.			
SURFACE TREATMENT		S.Y.			
HEAVY DUTY PAVEMENT	4820	S.Y.	13.9	66,998	
LIGHT DUTY PAVEMENT	1742	S.Y.	30.5	53,114	
-IN. BASE MATERIAL		C.Y.			
-IN. SUBBASE MATERIAL		C.Y.			
TRAFFIC BARRICADE		EACH			
8" WATER LINE	154	LIN. FT.	50	7,770	
6" WATER LINE		LIN. FT.			
FIRE HYDRANT ASSEMBLIES	1	EACH	10,000	10,000	
BLOW OFFS W/VAULT, FRAME & COVER		EACH			
8-IN. GATE VALVES, W/VAULT, FRAME & COVER	1	EACH	1,500	1,500	
-IN. GATE VALVES, W/VAULT, FRAME & COVER		EACH			
4" SANITARY SEWER LATERAL	270	LIN. FT.	25	6,750	
STANDARD MANHOLE W/FRAME & COVER		EACH			
SAMPLING MANHOLE/PORT		EACH			
AS-BUILT PLANS		LUMP SUM		4,000	
LANDSCAPING		LUMP SUM		17,072	
STORMWATER MANAGEMENT		LUMP SUM		5,000	
SUBTOTAL				376,202	
10% CONTINGENCY				37,620	
ESTIMATED TOTAL				413,822	

I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.  
SIGNED: *Steve Soupir* DATE: 5/12/06

## 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

## 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 NOT APPLICABLE (EXISTING)

## LEGEND

Property Line	---
Right-of-way	--- R/W ---
Centerline	---
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	--- 24" S.D. ---
Proposed Limits of Clearing	--- 8" M.H. ---
Proposed Storm Sewer	--- 18" S.D. ---
Proposed Sanitary Sewer	--- 8" SAN. ---
Proposed Water Main	--- 4" W ---

## COUNTY OF ROANOKE

NAME OF DEVELOPMENT COX COMMUNICATIONS RENOVATIONS AND ADDITIONS

MAGISTERIAL DISTRICT(S) CAVE SPRINGS

OWNER (name, address, telephone) COX COMMUNICATIONS  
BARBARA ROBERTSON  
5400 FALLWATER LANE  
ROANOKE, VA 24036  
PHONE: (540) 777-7376  
FAX: (540) 776-8360

DEVELOPER (name, address, telephone) SAME AS ABOVE

ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone) DRAPER ADEN ASSOCIATES  
2206 SOUTH MAIN STREET  
BLACKSBURG, VA 24060  
PHONE: (540) 552-0444  
FAX: (540) 552-0291

TAX MAP NO(S) 77.19 BLOCK NO(S) 01 PARCEL NO(S) 34

I, \_\_\_\_\_ 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.

APPROVED:

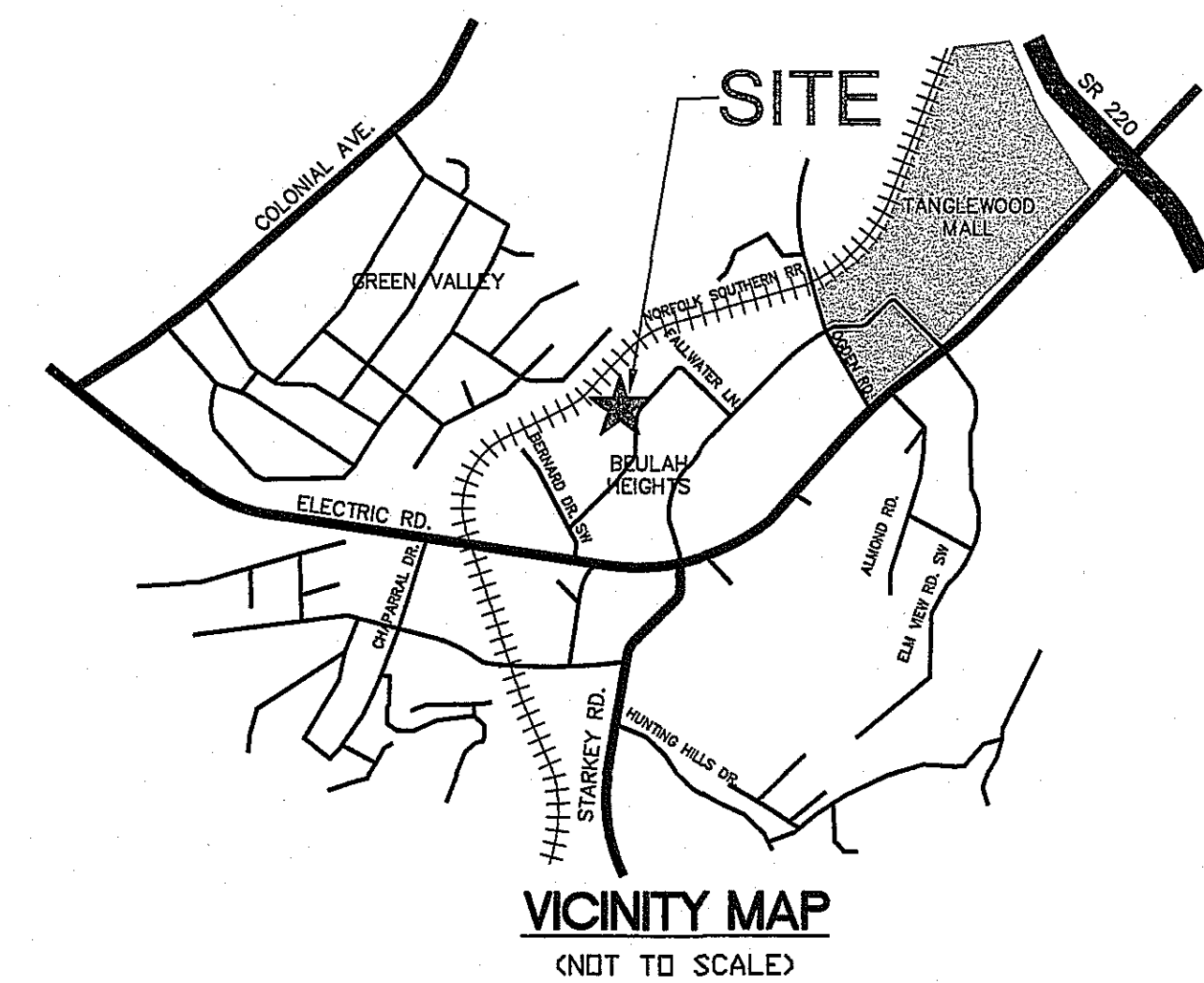
INSPECTOR'S (MARK SINK)

AS - BUILT PAGE C7

9/13/2006

COUNTY ENGINEER DATE

COUNTY PLANNER DATE

VICINITY MAP  
(NOT TO SCALE)

## SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) 2006

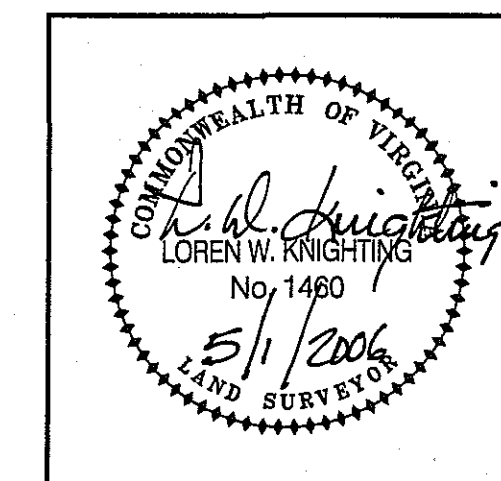
by DRAPER ADEN ASSOCIATES

All elevations must be referenced to the National Geodetic Vertical Datum of 1929. ELEVATIONS BASED ON EXISTING SITE BENCHMARKS PROVIDED BY OTHERS.

Source of topographic mapping is TOPOGRAPHIC SURVEY BY DRAPER ADEN ASSOCIATES dated FEBRUARY 10, 2006

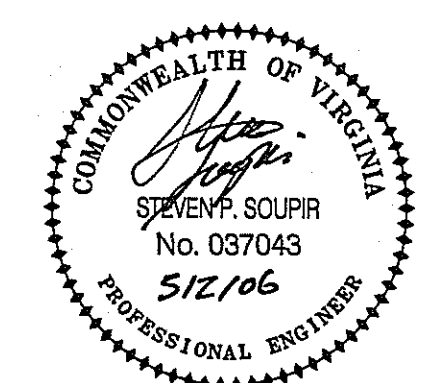
Boundary was performed by COMPILATION dated FEBRUARY 10, 2006

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

PROFESSIONAL  
SEAL AND SIGNATURE

KEYPLAN

**Draper Aden Associates**  
Engineering • Surveying • Environmental Services  
2206 South Main Street  
Blacksburg, VA 24060  
540-552-0444 Fax 540-552-0291  
Richmond, VA  
Charlottesville, VA  
Hampton Roads, VA



PROJECT TITLE

**COX COMMUNICATIONS**  
RENOVATIONS  
AND  
ADDITIONS

COX COMMUNICATIONS  
ROANOKE COUNTY, VIRGINIA

**SFCS** Architecture  
Engineering  
Planning  
Interiors  
SFCS Inc. • 305 South Jefferson Street  
Roanoke, Virginia 24011.2003  
540.344.6664 • Fax 540.343.6925  
www.sfcs.com

PROJECT DESIGNER	:	
PROJECT ARCHITECT	:	
PROJECT ENGINEER	:	STEVEN P. SOUPIR, P.E.
DESIGNED BY	:	SPS
DRAWN BY	:	SPS
CHECKED BY	:	CAH
NO.	REVISION DESCRIPTION	DATE
	CONSTRUCTION	3/14/06
	DRAWING SUBMITTAL	4/06/06
	REVISIONS	4/06/06
	COUNTY COMMENT	5/01/06

DRAWING TITLE

ROANOKE COUNTY  
COVER SHEET

COMM. NO.	DATE
5515.00	MARCH 14, 2006
DRAWING	SHEET

C1  
2 OF 19

WWW.IDP.BPAFAS