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## QUANTITY + COST ESTIMATE

ITEM	QUANTITY	UNIT	UNIT PRICE	COST	BONDABLE
CLEARING AND GRUBBING	16.50	ACRES	\$3500.00	\$57,750.00	
STORM DRAINAGE -					
GRATE INLET DI-1	7	EACH	\$1500.00	\$10,500.00	
CURB INLET DI-3B	19	EACH	\$2000.00	\$38,000.00	
SD MANHOLE	2	EACH	\$1500.00	\$3,000.00	
DI-3C	9	EACH	\$2500.00	\$22,500.00	
4" RAIN LEADER	1000	LIN. FT.	\$12.00	\$12,000.00	
6" RAIN LEADER	250	LIN. FT.	\$15.00	\$3,750.00	
8" RAIN LEADER	600	LIN. FT.	\$18.00	\$10,800.00	
10" RAIN LEADER	375	LIN. FT.	\$20.00	\$7,500.00	
15" RAIN LEADER	135	LIN. FT.	\$22.00	\$2,970.00	
15" STORM DRAIN	2225	LIN. FT.	\$65.00	\$144,625.00	
18" STORM DRAIN	401	LIN. FT.	\$68.00	\$27,268.00	
24" STORM DRAIN	716	LIN. FT.	\$70.00	\$50,120.00	
30" STORM DRAIN	80	EACH	\$100.00	\$8,000.00	
HEADWALL	12	EACH	\$750.00	\$9,000.00	
RIP-RAP	40	C.Y.	\$51.00	\$2,040.00	
			SUB-TOTAL	\$352,073.00	
PAVEMENT -					
BM-25	946	S.Y.	\$7.00	\$6,622.00	
21-A	6913	S.Y.	\$6.70	\$46,317.10	
SM-9.5AL	2304	S.Y.	\$5.90	\$13,593.60	
CG-2 CONCRETE CURBING	10,920	LIN. FT.	\$10.00	\$109,200.00	
CG-6 CONCRETE CURBING	7000	LIN. FT.	\$12.00	\$84,000.00	
CONCRETE SIDEWALK/PAD	44,150	S.Y.	\$32.00	\$1,412,800.00	
			SUB-TOTAL	\$1,672,532.70	
WATER -					
8" WATER LINE	1895	LIN. FT.	\$20.00	\$37,900.00	
12" WATER LINE	1989	LIN. FT.	\$25.00	\$49,725.00	
11-1/4" BEND	1	EACH	\$125.00	\$125.00	
22-1/2" BEND	5	EACH	\$135.00	\$675.00	
45° BEND	10	EACH	\$150.00	\$1,500.00	
TEE	8	EACH	\$200.00	\$1,600.00	
GATE VALVE	17	EACH	\$500.00	\$8,500.00	
CONNECTION TO EXISTING	2	EACH	\$2000.00	\$4,000.00	
FIRE HYDRANT	5	EACH	\$2000.00	\$10,000.00	
VAULT	1	EACH	\$9000.00	\$9,000.00	
			SUB-TOTAL	\$123,025.00	
LANDSCAPING -					
TREES	155	EACH	\$200.00	\$31,000.00	
SHRUBS	330	EACH	\$50.00	\$16,500.00	
SODDING	98	1000 S.F.	\$835.00	\$81,830.00	
HARDWOOD MULCH	60	1000 S.F.	\$400.00	\$24,000.00	
PERMANENT SEEDING	4.50	ACRES	\$1050.00	\$4,725.00	
			SUB-TOTAL	\$158,055.00	
SUB-TOTAL				\$2,363,435.70	
10% CONTINGENCY				\$236,343.57	
ESTIMATED TOTAL				\$2,599,779.27	

I HEREBY CERTIFY THAT THE FOREGOING ESTIMATE REFLECTS THE CURRENT IMPROVEMENT COSTS OF THIS PROJECT.

SIGNED: [Signature] DATE: 8/29/07

## 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.

The preliminary pavement design shown on a predicted subgrade CBR value of 7.0 and with a Resiliency Factor (RF) of 2.0 as shown in Appendix I of the 2000 Virginia Department of Transportation Pavement Design Guide for Subdivision and Secondary Roads. The subgrade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to base construction. Should the subgrade CBR value and/or the RF value be less than the predicted values, additional base material will be required in accordance with Departmental specifications. Refer to the same manual as the number and locations of the required soil samples to be tested. All pavement designs shall be submitted to the Department for review and approval. The subgrade shall be approved by the Virginia Department of Transportation prior to placement of the base. Base shall be approved by the Virginia Department of Transportation for depth, template and compaction before surface is applied.

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.

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## 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.

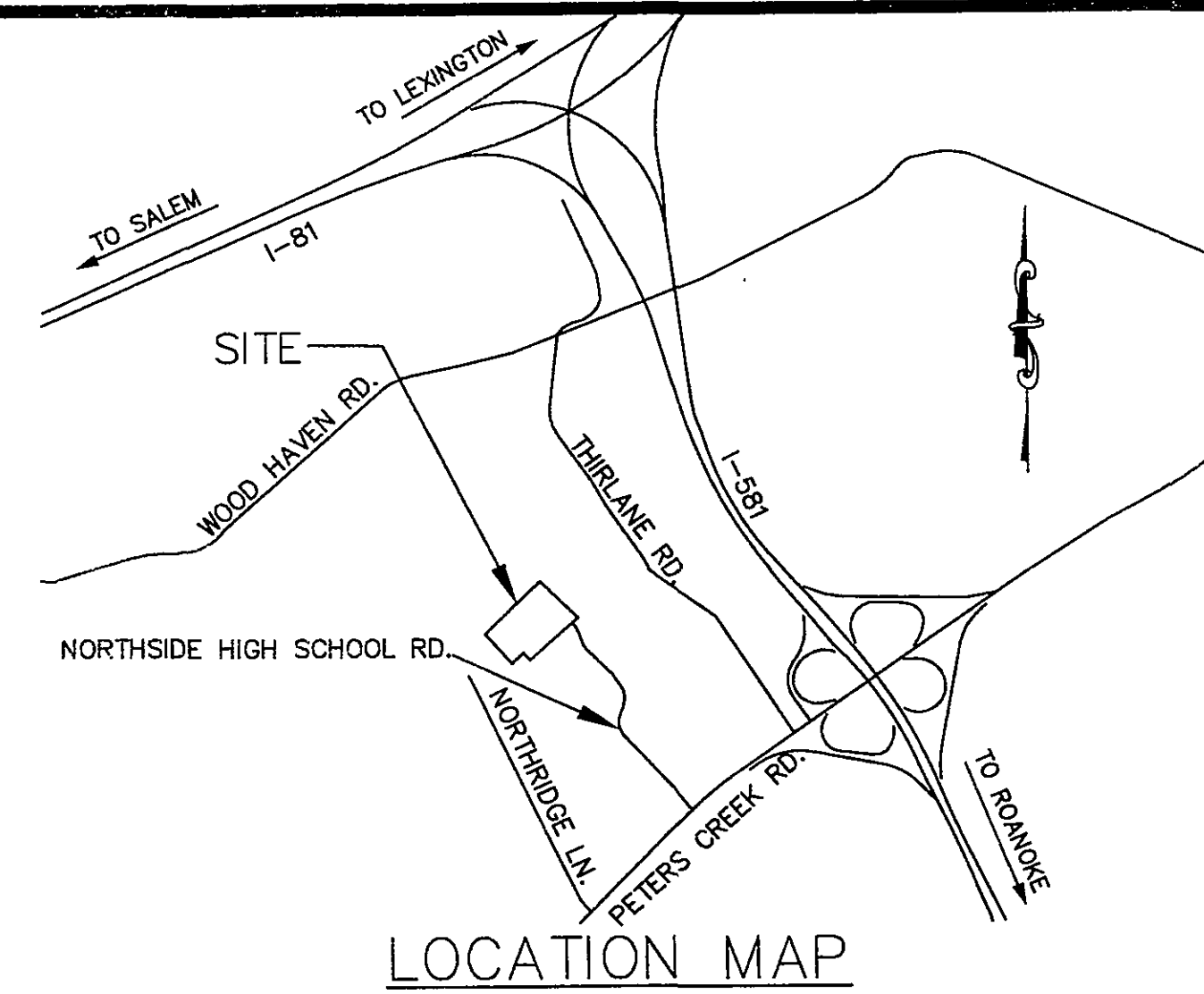
Water main shall be minimum Class 350 Ductile Iron in accordance to AWWA C151 or DR-14 PVC in accordance with AWWA C-900.

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 07-073

## LEGEND

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



## SURVEY INFORMATION

Horizontal and vertical control surveys were performed in (year) 2006 by ANDERSON AND ASSOCIATES

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

Source of topographic mapping is FIELD SURVEY BY ANDERSON AND ASSOCIATES dated SEPTEMBER 2006

Boundary was performed by ANDERSON AND ASSOCIATES dated MARCH 2007

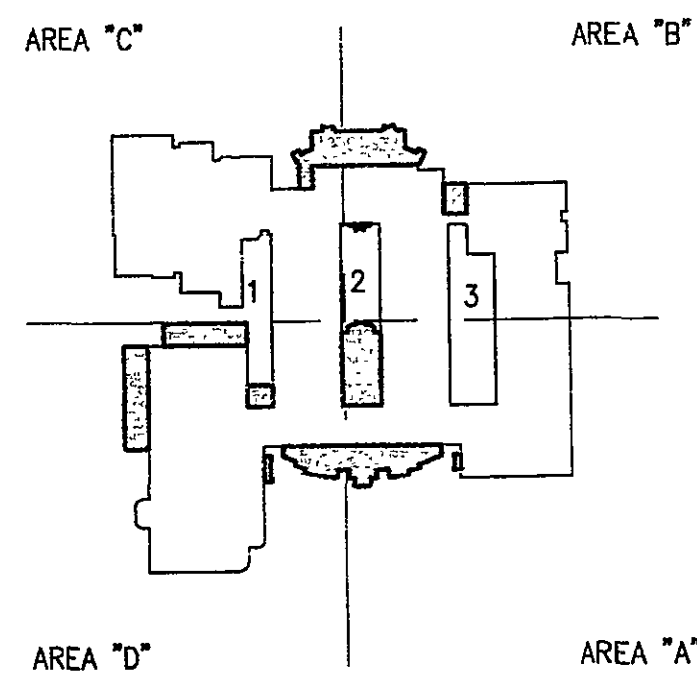
DEVELOPMENT PLAN APPROVED FOR CONSTRUCTION BY ROANOKE COUNTY	
Department	Date
Development Review	10/18/07
Engineering	10/18/07
Water & Sewer	10/18/07
Planning & Zoning	10/18/07

# COUNTY OF ROANOKE

NAME OF DEVELOPMENT	NORTHSIDE HIGH SCHOOL ADDITIONS AND RENOVATIONS	
MAGISTERIAL DISTRICT(S)	CATAWBA	
OWNER (name, address, telephone)	ROANOKE COUNTY SCHOOL BOARD 5937 COVE ROAD ROANOKE, VA 24019	CONTACT: Dr. MARTIN MISICKO (540) 562-3800 (540) 562-3988 (FAX)
DEVELOPER (name, address, telephone)	ROANOKE COUNTY SCHOOL BOARD 5937 COVE ROAD ROANOKE, VA 24019	CONTACT: Dr. MARTIN MISICKO (540) 562-3800 (540) 562-3988 (FAX)
ENGINEER, ARCHITECT OR SURVEYOR (name, address, telephone)	SPECTRUM DESIGN, P.C. PLAZA SUITE 1, 10 CHURCH AVE. SE ROANOKE, VA 24011-2104	540-342-6001
TAX MAP NO(S)	37.10	BLOCK NO(S) 01
PARCEL NO(S)	20	

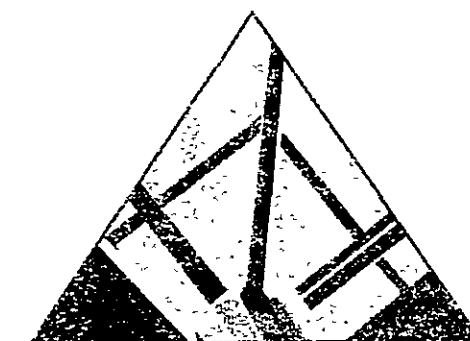
SHEET \_\_\_\_ OF \_\_\_\_

REVISED SHEETS C-1.0, C-1.3, C-1.7, C-1.9, C-2.4, C-2.5, C-3.3, C-8.2 AND L-1.1 AS A RESULT OF COUNTY COMMENTS.



## GENERAL NOTES

APPROVED



SPECTRUM DESIGN

10 CHURCH AVE SE, PLAZA SUITE 1 ROANOKE, VIRGINIA 24011 540 342 6001  
ROANOKE • MARION

## ADDITIONS AND RENOVATIONS TO

## NORTHSIDE HIGH SCHOOL

ROANOKE COUNTY PUBLIC SCHOOLS  
VA DOE #80-52G

SPECTRUM DESIGN PROJECT NO. 00055



DATE 15 APRIL, 2007  
DESIGN ARCHITECT PROJECT ARCHITECT PROJECT ENGINEER CHECKED BY DRAWN BY  
REVISIONS NUMBER DATE  
COUNTY REVIEW 1 5/25/07  
VALUE ENGINEERING REV 2 8/7/07  
COUNTY REVIEW 3 8/28/07

SHEET TITLE  
ROANOKE COUNTY COVER

# C-0.0

As-Built 4.7.09 K. Winslow