

# PROFFER CONDITION AMENDMENT WOLFTRAP FIRE STATION 1315 BEULAH ROAD DRANESVILLE DISTRICT FAIRFAX COUNTY, VIRGINIA



**SITE TABULATIONS OVERALL**

- Site Location: Fairfax County Tax Map 19-3 (11) 20 (Part of) Deed Book 07957, Page 0390 (Most Recent)  
Owner: Fairfax County Board of Supervisors
  - Address: 9501 Leesburg Pike, Vienna VA 22182
  - Site Area: Lot 20: 530,173 Square Feet or 12.1711 Acres (Survey)
- Proposed Dedication To Public R.O.W. (Fire Station)  
Beulah Road 12,554 Square Feet  
Route 7 5,930 Square Feet  
Total Dedication 18,484 Square Feet
- Proposed Dedication To Public R.O.W. (Future Subdivision)  
Beulah Road 4,636 Square Feet
- Remaining Site Area: 509,053 Square Feet or 11.6403 Acres
- Site Zoning: R-2 (Residential 2 DU/AC)
  - Zoning of Surrounding Properties:  
North: R-1 (Residential 1 DU/AC)  
West: R-1 (Residential 1 DU/AC)  
East: R-1 (Residential 1 DU/AC)  
South: R-2 (Residential 2 DU/AC)  
Southeast: R-1 (Residential 1 DU/AC)
- Site Use:  
Existing: Vacant Land 12.1711 acres  
Proposed: A. Fire and Rescue Station - 6.0371 acres (Public Use, by right)  
B. Single Family Residential Lots (Future Subdivision) - 5.6032 acres (R-2 Standard by right)  
C. Right-of-Way Dedication - 0.5308 acre (23,120 sf)

**GENERAL NOTES FOR WHOLE SITE**

- The site will be served by public water by extension of the existing 12-inch watermain in Beulah Road.
- The site will be served by public sewer by construction of a gravity sewer connection to the public sewer being constructed for the adjacent Maymont Subdivision.
- The Site is not in any RPA or Flood plain.
- There are no known gravesites on the Site.
- Field-run Topographic and Boundary Survey was prepared and completed by B.W. Smith and Associates, Inc. in December 2004.
- A waiver of Article 17-201, Service Drive requirement along Route 7 will be requested.
- No utility easements having a width of 25 feet or greater have been found on the site.
- There are no known hazardous or toxic substances on the site.

**SITE TABULATIONS WOLFTRAP FIRE STATION**

- Site Location: Fairfax County Tax Map 19-3 (11) 20 (Part of) Deed Book 07957, Page 0390 (Most Recent)  
Owner: Fairfax County Board of Supervisors
- Proposed Address: 1315 Beulah Road, Vienna VA 22182
- Site Zoning: R-2 (Residential 2 DU/AC)
- Site Area:  
Proposed: A. Fire and Rescue Station - 6.0371 acres (Public Use, by right)  
B. Right-of-Way Dedication - 0.4243 acres (Fire Station)  
C. Total Area: 6.4614 acres
- Building Construction Type: 2B  
Building Use Group: Business B (offices)  
Vehicle Bays/Storage S-1  
Bank Rooms are R-2
- Proposed Staff: 18 Staff Per Shift, Full Time  
Hours of Operation: 24 Hours Per Day
- Required Building Networks (Non-residential use)  
Front Yards: There are two, along Beulah and along E.C. 7, 35 ft. min. for 45' angle of bulk plane, but not less than 35 ft.  
Side Yard: The eastern property line (or 40' angle of bulk plane, but not less than 15 ft.)  
Rear Yard: The southern property line (or 40' angle of bulk plane, but not less than 25 ft.)
- Maximum Building Height (R-2): 60 Feet for Fire Station  
Screening 2, Unbroken Height - 44 Feet (at Hose Tower)
- Proposed Fire Station Floor Area Ratio (FAR):  
Allowable FAR in R-2 Zone = 0.25  
Proposed Fire Station Total Site Area including Right-of-Way Dedication 262,976 Square Feet or 6.0371 Acres  
Allowable Floor Area for the Wolf Trap Fire Station Site (0.25x262,976) = 65,744 S.F.  
Total Proposed Gross Floor Area = 14,380 Square Feet  
Proposed FAR = (14,380 / 262,976) = 0.055 ~ 0.25

**SITE TABULATIONS WOLFTRAP FIRE STATION (CON'T)**

- Required Parking:  
Fire Station: As determined by Director  
Proposed Parking: 45 parking spaces for cars  
36 spaces for Staff (to accommodate shift change for 18 staff)  
9 Visitor spaces, including 2 Van-Accessible Handicapped Spaces  
Note: Fire Equipment Vehicles will be parked in the equipment bays.
- Landscaping, Screening, Tree Cover:  
Tree Cover Requirements: preservation and planting of trees at a minimum of 20% coverage.  
Proposed Site Area 262,976 S.F.  
Area of Buildings 14,380 S.F.  
Calculation Area 248,596 S.F.  
Required tree cover 20% x (248,596) = 49,719 S.F. or 1.14 Acres  
Existing Tree Cover to Remain (Fire Station Site) 1.15 Acres  
Proposed Tree Cover (Fire Station Site) = 0.70 Acres  
Total Provided Tree Cover = 1.85 AC/6,0371 AC = 31% ~ 20% OK
- Interior Parking Lot Landscaping:  
Parking Lot Area 17,000 S.F.  
Landscaping Required 5% x (17,000) = 850 S.F.  
Landscaping Provided 1,400 SF > 850 SF OK
- Open Space:  
Proposed Open Space 165,000 S.F. or 3.788 Ac  
Net Open Space Provided 5,788 AC or 0.937 Ac
- Transitional Screening Requirements:  
Screening 2, unbroken strap of open space a minimum of 35 feet wide and planted with:  
One large evergreen at a height of 40 feet or more for every 10 linear feet  
One medium evergreen at a height of 20 to 40 feet for every 5 linear feet  
One deciduous tree at a height of 50 feet or more for every 30 linear feet  
Barrier Requirements:  
Barrier D: 42-48 inch chain link fence  
Director may require to have inserts in the fence fabric or to be supplemented by trees and/or shrubs OR  
Barrier E: Six foot wall, brick or architectural block faced on the side facing the existing use and may be required to be so faced on both sides as determined by the Director. OR  
Barrier F: Six foot high solid wood or solid fence  
Note: A Modification is requested for Article 13-304, Transitional Screening, based on the proposed use as a Fire Station. The requirement for Sight Distance visibility of Beulah Road, Route 7 and the intersection of the two routes from the Control Center prohibits planting in the areas to the front and side of the facility. In addition, along the southern and eastern site boundaries, we propose that existing vegetation to remain will fill the requirements for transitional screening.  
Note: A waiver of Article 13-304, Barrier Requirements is requested based on the proposed use as a fire station. The requirement for Sight Distance visibility of Beulah Road, Route 7 and the intersection of the two routes from the Control Center prohibits construction of barriers in the areas to the front and east side of the facility. The great expanse of open and wooded space between the rear (south east side) of the facility and the adjacent residentially zoned property should make any barriers non-effective and superfluous. Similarly, the great expanse of undeveloped land along the south side of the facility again make barriers non-effective. Should the portion of the parcel south of the facility ever be developed as a residential subdivision, the individual home sites will be provided with barriers.
- With the granting of the listed waivers and modifications, and approval of the requested Proffer Condition Amendments, the proposed development will conform to the provisions of all applicable ordinances, regulations and adopted standards.

**SITE TABULATIONS FUTURE SUBDIVISION**

- Site Location: Fairfax County Tax Map 19-3 (11) 20 (Part of) Deed Book 07957, Page 0390 (Most Recent)  
Owner: Fairfax County Board of Supervisors
- Site Zoning: R-2 (Residential 2 DU/AC)
- Site Area:  
Proposed: Single Family Residential Lots (R-2 Standard) 5.6032 acres  
Proposed Area Dedicated to Right-of-Way - 0.1065 acre  
Total Area - 5.7097 acres
- Required Building Networks: (Residential, Single Family Dwellings)  
Front Yard: 35 ft. min.  
Side Yard: 15 ft. min.  
Rear Yard: 25 ft. min.
- Future Subdivision Density Calculations:  
Allowable Density (2 DU/AC)  
Proposed Total Site Area (6-21) 5.7097 Acres or 248,715 Square Feet  
Maximum Number of Units Proposed 11  
Proposed Density = 11 / 5.7097 = 1.95 ~ 2 OK
- Landscaping, Screening, Tree Cover:  
Tree Cover Requirements: preservation and planting of trees at a minimum of 20% coverage.  
Proposed Site Area 25,672 S.F.  
Required tree cover 20% x (25,672) = 5,134 S.F. or 1.14 Acres  
Total = 1.7371 S.F. or 0.169 Ac

**STATEMENT OF JUSTIFICATION  
WOLF TRAP FIRE AND RESCUE STATION  
PROFFER CONDITION AMENDMENT APPLICATION**

Current Address: 9501 Leesburg Pike  
Tax Map No. 0193-01-0020  
Dranesville District  
Fairfax County, Virginia

**Statement of Justification**

The site is currently approved for an approximately 9,500 square-foot (SF), three-bay fire station. An increase of approximately 4,500 SF is required to provide a four-bay fire station to meet Fairfax County Fire and Rescue Department (FRD) needs in the service area.

- Number of Personnel Required for Facility:** ~18 full time per shift, working 24 hour shifts for ten days per 30 days.
- Hours of Operations:** 24 Hours a Day, Seven Days a Week
- Facility Maintenance Requirements** - Standard janitorial services, facility and equipment repairs and routine grounds maintenance.
- Facility Size** - 14,000 square feet building with 50 parking spaces, (18 staff; 36 spaces required for shift change; 14 visitor spaces including accessible spaces)
- Facility Color and Material** - Detailed design work for the building has not been performed. The facility's exterior finishes will be comparable to other fire stations in the Fairfax County which in general have brick and CMU exteriors with accents of same or other materials for aesthetic enhancement.
- Facility Power/Energy Requirements and Operating Frequency** - Standard power and telecommunication requirements for a high technology public facility. Proposed antenna is approximately 2' x 2' attached to the side of the structure.
- Manufacturer's specifications for proposed equipment** - not applicable
- Auxiliary Equipment/Facility Required in Support of Proposed Facility** - None

The Wolftrap Fire Station project was included as part of the Fall 1989 Public Safety Bond Referendum. Based on the 1988 Fire Station Location Master Plan, an approximately 10,000 SF, three-bay fire station was required to fill a void in the service area. On November 30, 1989 a Planning Determination was approved based on building an approximate 9,500 SF, three-bay fire station on 3.5 acres (see attachment #1). In 1991, Fairfax County acquired an approximate 12-acre site at the intersection of Beulah Road and Route 7 in Vienna, Virginia for the fire station. This site is more than adequate to support the recommended four-bay fire station.

Since 1988, additional demands have been placed on fire station facilities and the Wolftrap/Tyson's Corner area now requires an increased level of response. In addition, fire station design requirements have changed, and additional considerations are required for compliance with health and safety standards. The increase in women in the fire department has resulted in the need for facilities that can accommodate separate women's and men's bunkroom areas. There also is an increased need for fitness equipment for firefighter training, equipment storage, and gear cleaning. As a result of these changed conditions, FRD has requested that the Wolftrap Fire Station be constructed as a 14,000 SF, four-bay fire station, in lieu of the three-bay station that was originally proposed.

Fairfax County has grown and the needs for FRD service have changed since the 1988 Master Plan. Frequent flooding occurs in the service area for this new station that has necessitated activation of swift water rescue resources into the area. The areas surrounding the fire station site (Tyson's Corner, McLean, Vienna, and Reston) have also been identified as potential target area for terrorists due to the critical commercial areas, secure government facilities, and infrastructure. Wolftrap Fire station will serve as a western staging area for response resources that enter Fairfax County, from the west on Leesburg Pike. This station will also be critical if response units are unable to access the Tyson's Corner area via traditional travel routes such as Route 123 and Capital Beltway. Furthermore, the construction of the proposed Dulles Rail project is likely to bring increased population into the station service area leading to increased call volume.

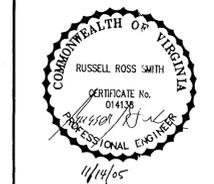
The Fairfax County Comprehensive Plan, 2003 Edition, Public Facilities, Amended through 1-10-2005, states:

**Objective 21.** While adhering to constructing new full service fire stations of a minimum 14,000 SF, all efforts should be made to construct new stations to be compatible with the surrounding community.

- Policy a. New fire stations should consider the following site/design guidelines:  
-Be constructed on site of approximately five acres;  
-Be designed to be compatible with the character of the surrounding area.

The last four fire stations designed for FRD have been approximately 14,000 SF, four-bay facilities. These include Burke Volunteer, Crosspointe, North Point, and Kingstowne. In addition, Fairfax Center Fire Station is an approximately 24,000 SF, five-bay facility that includes the hazardous materials response unit. Constructing the Wolftrap Fire Station as a 14,000 SF, four-bay station will allow FRD to accommodate the increased program requirements, respond to the needs of the area, and create flexibility for future response configuration of various types of apparatus and functions. At this time the lower portion of the site has an 8-family lots shown similar to the 1979 Rezoning application 78-13-060. The County continues to evaluate the best use for the balance of the site. Once a determination has been made the proposed use will be subject to a separate 2232 review.

NO.	DATE	DESCRIPTION	ISSUE

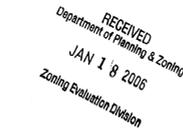


THIS DRAWING SHALL BE USED FOR THE PROJECT INDICATED IN THE TITLE BLOCK ONLY AND ONLY IF IT IS STAMPED WITH AN ORIGINAL BLACK STAMP AND SIGNED IN BLUE.

Application No. PA 18-D-060 Staff FB  
**APPROVED DEVELOPMENT PLAN**  
 (DP) (GDP) (CDP) (FDP)  
 SEE PROFFERS DATED 12/1/05  
 Date of (BOS) (PC) approval 1/18/06  
 Sheet 1 of 8

**SHEET INDEX**

- C-00 COVER SHEET
- C-01 EXISTING CONDITIONS PLAT
- C-02 EXISTING VEGETATION PLAN
- C-03 SITE DEVELOPMENT PLAN
- C-04 PARTIAL SITE DEVELOPMENT PLAN, BULK PLANE DETAILS & BMP DETAILS
- C-05 STORMWATER MANAGEMENT CALCULATIONS & DETAILS
- C-06 STORMWATER MANAGEMENT CALCULATIONS & DETAILS
- C-07 SITE DISTANCE PLAN AND PROFILES

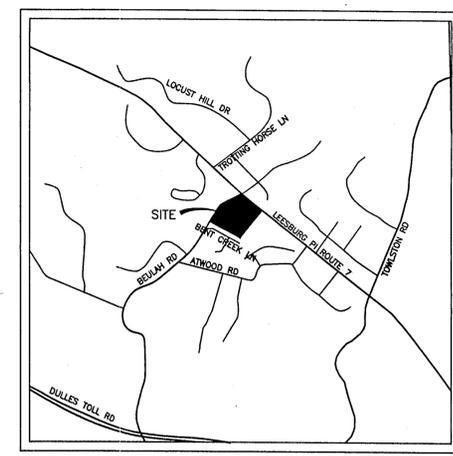
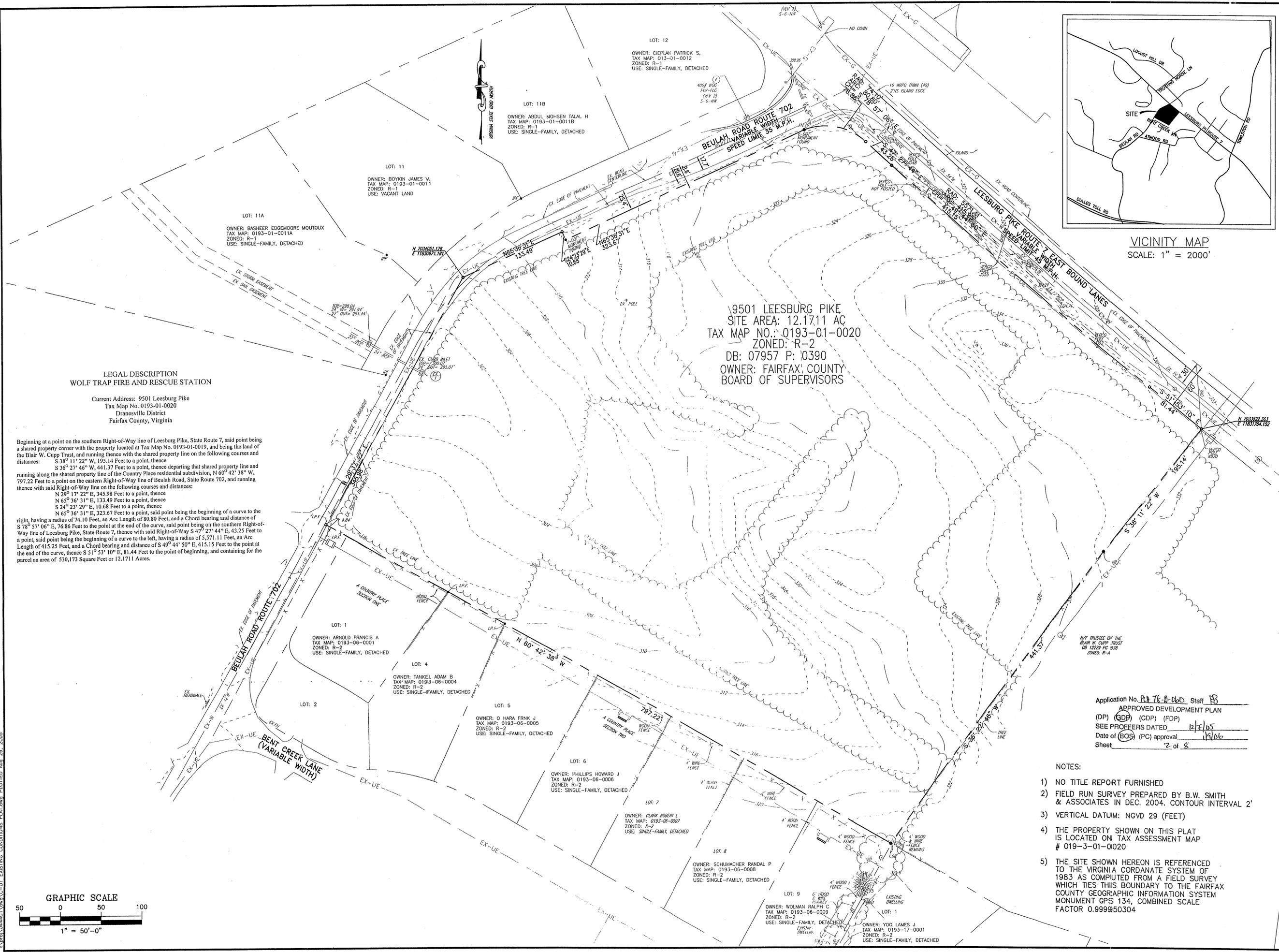


**WOLFTRAP FIRE STATION  
1315 BEULAH ROAD  
VIENNA, VIRGINIA**

COVER SHEET

TITLE:	N/A	DATE:	OCT 2005	SHEET:	COVER OF 7
DRAWN:	DJS	CHECKED:	BF	PROJECT:	0444.01
NO.		NUMBER:		DRAWING:	C-00
				NUMBER:	

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VICINITY MAP  
SCALE: 1" = 2000'

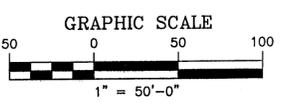


**LEGAL DESCRIPTION**  
**WOLF TRAP FIRE AND RESCUE STATION**

Current Address: 9501 Leesburg Pike  
Tax Map No. 0193-01-0020  
Dranesville District  
Fairfax County, Virginia

Beginning at a point on the southern Right-of-Way line of Leesburg Pike, State Route 7, said point being a shared property corner with the property located at Tax Map No. 0193-01-0019, and being the land of the Blair W. Cupp Trust, and running thence with the shared property line on the following courses and distances:  
S 38° 11' 22" W, 195.14 Feet to a point, thence  
S 36° 27' 46" W, 441.37 Feet to a point, thence departing that shared property line and running along the shared property line of the Country Place residential subdivision, N 60° 42' 38" W, 797.22 Feet to a point on the eastern Right-of-Way line of Beulah Road, State Route 702, and running thence with said Right-of-Way line on the following courses and distances:  
N 29° 17' 22" E, 345.98 Feet to a point, thence  
N 65° 36' 31" E, 133.49 Feet to a point, thence  
S 24° 22' 29" E, 10.68 Feet to a point, thence  
N 65° 36' 31" E, 323.67 Feet to a point, said point being the beginning of a curve to the right, having a radius of 74.10 Feet, an Arc Length of 80.80 Feet, and a Chord bearing and distance of S 78° 57' 06" E, 76.86 Feet to the point at the end of the curve, said point being on the southern Right-of-Way line of Leesburg Pike, State Route 7, thence with said Right-of-Way S 47° 27' 44" E, 43.25 Feet to a point, said point being the beginning of a curve to the left, having a radius of 5,571.11 Feet, an Arc Length of 415.25 Feet, and a Chord bearing and distance of S 49° 44' 50" E, 415.15 Feet to the point at the end of the curve, thence S 51° 53' 10" E, 81.44 Feet to the point of beginning, and containing for the parcel an area of 530,173 Square Feet or 12.1711 Acres.

9501 LEESBURG PIKE  
SITE AREA: 12.1711 AC  
TAX MAP NO.: 0193-01-0020  
ZONED: R-2  
DB: 07957 P: 10390  
OWNER: FAIRFAX COUNTY BOARD OF SUPERVISORS



Application No. PA 16-A-060 Staff RS  
APPROVED DEVELOPMENT PLAN  
(DP) (BDP) (CDP) (FDP)  
SEE PROFESSIONALS DATED 12/1/05  
Date of (BOS) (PC) approval 1/19/06  
Sheet 2 of 8

- NOTES:
- 1) NO TITLE REPORT FURNISHED
  - 2) FIELD RUN SURVEY PREPARED BY B.W. SMITH & ASSOCIATES IN DEC. 2004. CONTOUR INTERVAL 2'
  - 3) VERTICAL DATUM: NGVD 29 (FEET)
  - 4) THE PROPERTY SHOWN ON THIS PLAT IS LOCATED ON TAX ASSESSMENT MAP # 019-3-01-0020
  - 5) THE SITE SHOWN HEREON IS REFERENCED TO THE VIRGINIA CORDANATE SYSTEM OF 1983 AS COMPUTED FROM A FIELD SURVEY WHICH TIES THIS BOUNDARY TO THE FAIRFAX COUNTY GEOGRAPHIC INFORMATION SYSTEM MONUMENT GPS 134, COMBINED SCALE FACTOR 0.999950304

NO.	DATE	DESCRIPTION	ISSUE

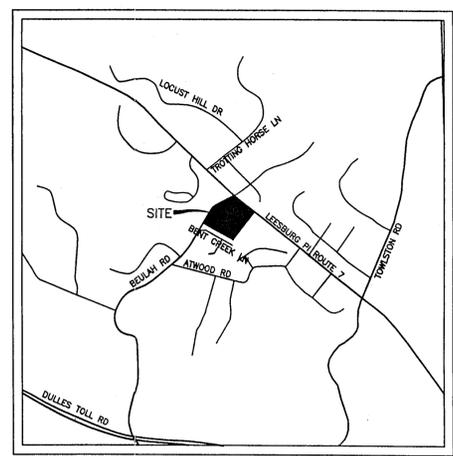
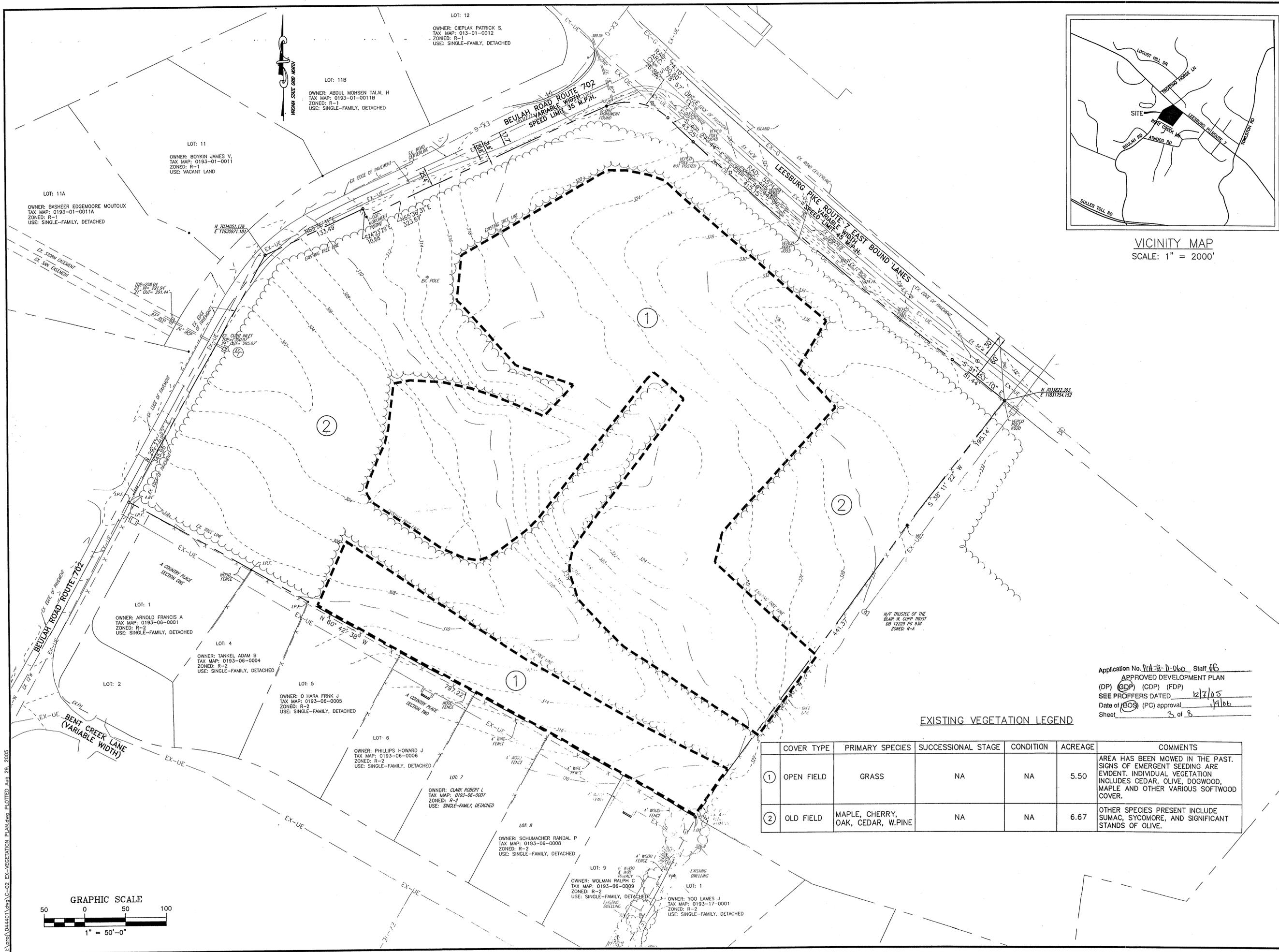


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**WOLFTRAP FIRE STATION**  
**1315 BEULAH ROAD**  
**VIENNA, VIRGINIA**

EXISTING CONDITIONS PLAT

SCALE: 1"=50'	DATE: AUG 2005	SHEET 1 OF 7
DRAWN BY: DUS	CHECKED BY: KDE	PROJECT NUMBER: 0444.01
		DRAWING NUMBER: C-01



VICINITY MAP  
SCALE: 1" = 2000'



NO.	DATE	DESCRIPTION	ISSUE

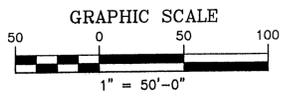


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Application No. PR-13-D-060 Staff #6  
 APPROVED DEVELOPMENT PLAN  
 (DP)  (GDP) (GDP) (FDP)  
 SEE PROFFERS DATED 12/7/05  
 Date of (BOS) (PC) approval 1/19/06  
 Sheet 3 of 8

EXISTING VEGETATION LEGEND

	COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACREAGE	COMMENTS
①	OPEN FIELD	GRASS	NA	NA	5.50	AREA HAS BEEN MOWED IN THE PAST. SIGNS OF EMERGENT SEEDING ARE EVIDENT. INDIVIDUAL VEGETATION INCLUDES CEDAR, OLIVE, DOGWOOD, MAPLE AND OTHER VARIOUS SOFTWOOD COVER.
②	OLD FIELD	MAPLE, CHERRY, OAK, CEDAR, W.PINE	NA	NA	6.67	OTHER SPECIES PRESENT INCLUDE SUMAC, SYCOMORE, AND SIGNIFICANT STANDS OF OLIVE.

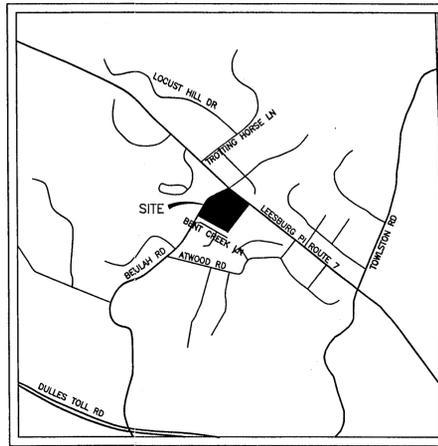
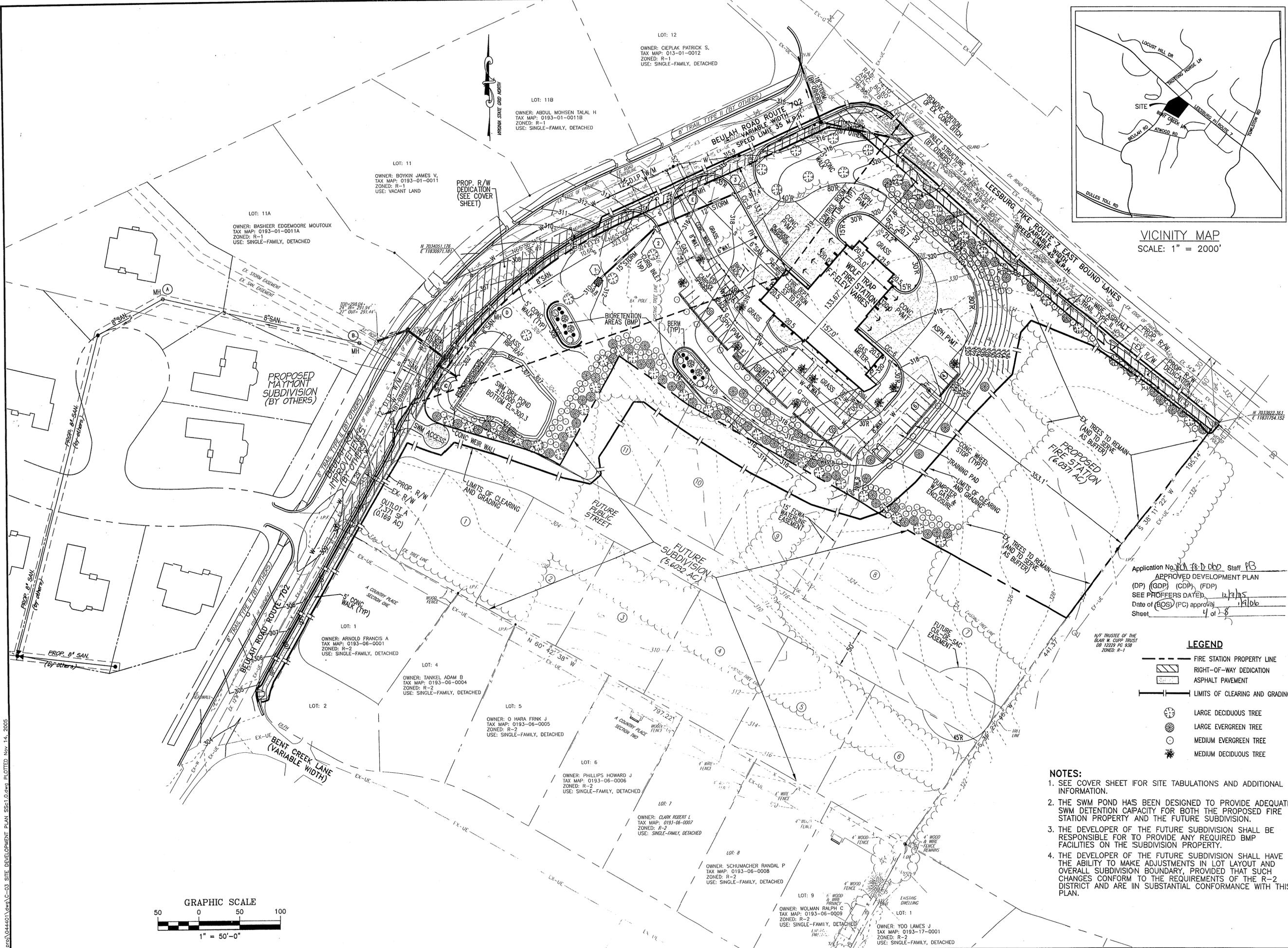


**WOLFTRAP FIRE STATION**  
**1315 BEULAH ROAD**  
**VIENNA, VIRGINIA**

**EXISTING VEGETATION PLAN**

SCALE: 1"=50'  
 DRAWN BY: DJS  
 DATE: AUG 2005  
 CHECKED BY: KDE  
 PROJECT NUMBER: 0444.01  
 SHEET 2 OF 7  
 DRAWING NUMBER: C-02

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VICINITY MAP  
SCALE: 1" = 2000'



NO.	DATE	DESCRIPTION	ISSUE



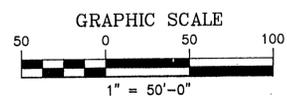
Application No. 114405 Staff PB  
 APPROVED DEVELOPMENT PLAN  
 (DP) (GDP) (CDP) (FDP)  
 SEE PROFFERS DATED 12/7/05  
 Date of (BOS) (PC) approval 1/10/06  
 Sheet 4 of 8

**LEGEND**

- FIRE STATION PROPERTY LINE
- RIGHT-OF-WAY DEDICATION
- ASPHALT PAVEMENT
- LIMITS OF CLEARING AND GRADING
- LARGE DECIDUOUS TREE
- LARGE EVERGREEN TREE
- MEDIUM EVERGREEN TREE
- MEDIUM DECIDUOUS TREE

**NOTES:**

1. SEE COVER SHEET FOR SITE TABULATIONS AND ADDITIONAL INFORMATION.
2. THE SWM POND HAS BEEN DESIGNED TO PROVIDE ADEQUATE SWM DETENTION CAPACITY FOR BOTH THE PROPOSED FIRE STATION PROPERTY AND THE FUTURE SUBDIVISION.
3. THE DEVELOPER OF THE FUTURE SUBDIVISION SHALL BE RESPONSIBLE FOR TO PROVIDE ANY REQUIRED BMP FACILITIES ON THE SUBDIVISION PROPERTY.
4. THE DEVELOPER OF THE FUTURE SUBDIVISION SHALL HAVE THE ABILITY TO MAKE ADJUSTMENTS IN LOT LAYOUT AND OVERALL SUBDIVISION BOUNDARY, PROVIDED THAT SUCH CHANGES CONFORM TO THE REQUIREMENTS OF THE R-2 DISTRICT AND ARE IN SUBSTANTIAL CONFORMANCE WITH THIS PLAN.



**WOLFTRAP FIRE STATION**  
 1315 BEULAH ROAD  
 VIENNA, VIRGINIA

**SITE DEVELOPMENT PLAN**

SCALE: 1"=50'	DRAWN BY: DJS	CHECKED BY: KDE	DATE: OCT 2005	PROJECT NUMBER: 0444.01	DRAWING NUMBER: C-03	SHEET 3 OF 7
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# STORMWATER RUNOFF CALCULATIONS

SITE DATA:  
 AREA = 12.17 AC  
 DRAINAGE AREA = 15.45 AC  
 Q = RUNOFF RATE (CFS)  
 Q = CIA  
 C = RUNOFF COEFFICIENT  
 I = INTENSITY (IN/HR)  
 A = AREA (ACRES)

### PRE-DEVELOPMENT RUNOFF COEFFICIENT

A = 15.45 AC  
 OFFSITE AREA: 4.33 AC  
 ROAD AREA: 0.85 AC  
 IMPERVIOUS AREA = 0.32 AC  
 $C = (0.32 \times 0.9 + 0.53 \times 0.30) / 0.85 = 0.52$

OFFSITE UNDEVELOPED AREA: 1.78 AC C=0.35

OFFSITE DEVELOPED AREA: 1.70 AC C=0.45

ONSITE AREA: 11.12 AC  
 IMPERVIOUS AREA: 0.00 AC  
 C=0.30

$CPRE = \text{SUM}(C \times A) / DA = (0.85 \times 0.52 + 11.12 \times 0.3 + 1.7 \times 0.45 + 1.78 \times 0.35) / 15.45 = 0.33$

### POST-DEVELOPMENT RUNOFF COEFFICIENT

A = 15.45 AC  
 OFFSITE AREA: 4.33 AC  
 ROAD AREA TO BE CONTROLLED: 0.85 AC  
 IMPERVIOUS AREA = 0.81 AC  
 $C = (0.81 \times 0.9 + 0.04 \times 0.30) / 0.85 = 0.87$

OFFSITE UNDEVELOPED AREA TO BY-PASS: 1.78 AC C=0.35

OFFSITE DEVELOPED AREA TO BY-PASS: 1.70 AC C=0.45

ONSITE AREA: 11.12 AC  
 IMPERVIOUS AREA: 1.51 AC  
 FUTURE SUBDIVISION (TO BE DEVELOPED) AREA: 5.66 AC C=0.45  
 $C = (1.51 \times 0.9 + 2.44 \times 0.30 + 5.66 \times 0.45) / 11.12 = 0.42$

$CPost = \text{SUM}(C \times A) / DA = (0.85 \times 0.87 + 11.12 \times 0.42 + 1.7 \times 0.45 + 1.78 \times 0.35) / 15.45 = 0.44$

### PRE-DEVELOPMENT RUNOFF

$CPRE = 0.33$   
 $Tc = 10$  MIN. (SEE TR-55 BELOW)  
 FROM TABLE 6.7 IN FAIRFAX COUNTY PUBLIC FACILITIES MANUAL:  
 $I_2 = 4.60$  IN/HR  
 $I_{10} = 5.92$  IN/HR  
 $I_{100} = 8.10$  IN/HR  
 $Q_2-PRE = (0.33)(4.60)(15.45) = 23.76$  CFS  
 $Q_{10}-PRE = (0.33)(5.92)(15.45) = 30.58$  CFS  
 $Q_{100}-PRE = (0.33)(8.10)(15.45) = 41.84$  CFS

### POST-DEVELOPMENT RUNOFF

$CPost = 0.44$   
 $Tc = 10$  MIN. (SEE TR-55 BELOW)  
 FROM TABLE 6.7 IN FAIRFAX COUNTY PUBLIC FACILITIES MANUAL:  
 $I_2 = 4.60$  IN/HR  
 $I_{10} = 5.92$  IN/HR  
 $I_{100} = 8.10$  IN/HR  
 $Q_2-POST = (0.44)(4.60)(15.45) = 31.27$  CFS  
 $Q_{10}-POST = (0.44)(5.92)(15.45) = 40.24$  CFS  
 $Q_{100}-POST = (0.44)(8.10)(15.45) = 55.06$  CFS

### NET INCREASE IN RUNOFF

$Q_2 - (31.27 - 23.76) = 7.51$  CFS  
 $Q_{10} - (40.24 - 30.58) = 9.66$  CFS  
 $Q_{100} - (55.06 - 41.84) = 13.22$  CFS

TIME OF CONCENTRATION AND TRAVEL TIME TR-55 Version 2.10

PRE AND POST-DEVELOPMENT  
 Project : WOLF TRAP FIRE STATION User: DS Date: MAY 2005  
 County : FAIRFAX State: VA

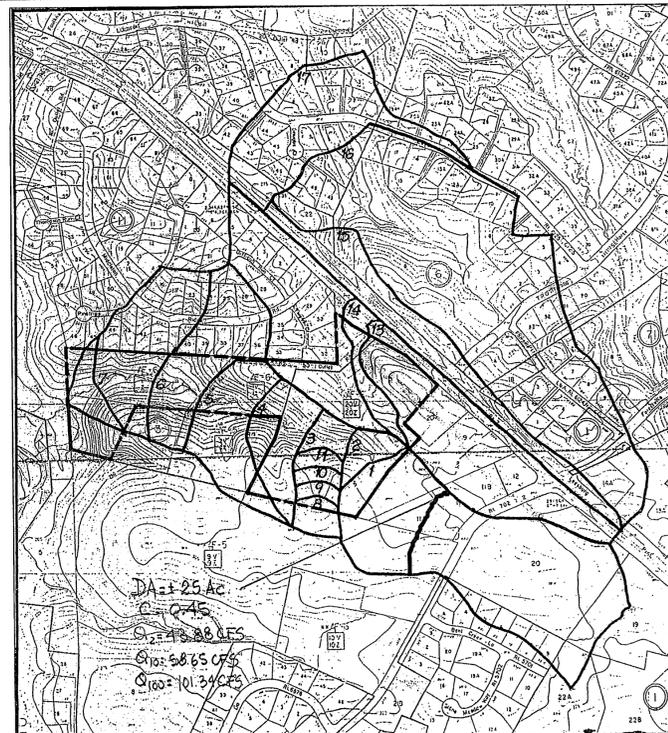
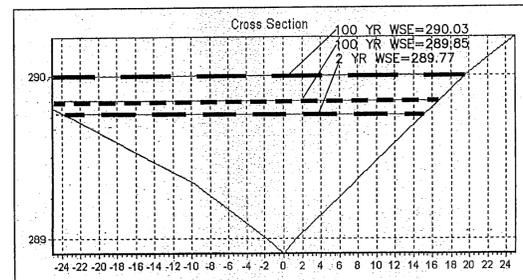
Flow Type	2 year rdn	Length (ft)	Slope (ft/ft)	Surface code	n	Subarea #1 Area (sq/ft)	Wp (ft)	Velocity (ft/sec)	Time (hr)
Sheet	3.5	100	.05	E					0.11
Shallow Conc.	290	.058	U (UNPAVED)						0.02
Shallow Conc.	540	.024	U (UNPAVED)						0.06

Time of Concentration = 0.19 hr = 11 min (say 10 min)

--- Sheet Flow Surface Codes ---  
 A Smooth Surface F Grass, Dense  
 B Fallow (No Res.) G Grass, Bermuda  
 C Cultivated < 20 % Res. H Woods, Light  
 D Cultivated > 20 % Res. I Woods, Dense  
 E Grass-Range, Short J Range, Natural

### TYPICAL CROSS SECTION

EXISTING GRASS LINED SWALE BETWEEN  
 BEULAH ROAD AND BLUEBERRY HILL



OVERALL DRAINAGE DIVIDES MAP W/ CROSS SECTION LC  
 SCALE: 1" = 50'

SOURCE:  
 FAIRFAX COUNTY TOPO MAPS WERE USED FOR OFFSITE CROSS SECTION  
 AERIAL TOPO WAS USED FOR THE ONSITE CROSS SECTIONS.

Channel Geometry		Tail Water Hydraulic Data					Left Main Right			
Tail water method:	Irregular	Flow (ft³/s)	Elev. (ft)	Vel. (ft/s)	Shr. (psf)	Fr	n	Sta. (ft)	Elev. (ft)	L/R
Slope	0.0100	40.000	289.746	2.668	0.245	0.752	0.0300	0.0300	0.0300	
		43.880	289.772	2.744	0.252	0.763		-25.000	289.800	L
		52.268	289.821	2.909	0.271	0.782		-9.629	289.331	L
		58.402	289.852	3.033	0.287	0.794		-1.860	288.999	L
		64.536	289.881	3.149	0.301	0.805		0.000	288.901	M
		70.670	289.909	3.256	0.315	0.815		1.339	288.999	R
		76.804	289.937	3.357	0.329	0.824		14.701	289.731	R
		82.938	289.963	3.452	0.341	0.833		19.600	290.000	R
		89.072	289.988	3.542	0.353	0.841		21.329	290.079	R
		95.206	290.013	3.627	0.365	0.849		25.000	290.240	R
		101.340	290.037	3.708	0.376	0.856				

Channel Geometry		Tail Water Hydraulic Data					Left Main Right			
Tail water method:	Irregular	Flow (ft³/s)	Elev. (ft)	Vel. (ft/s)	Shr. (psf)	Fr	n	Sta. (ft)	Elev. (ft)	L/R
Slope	0.0100	3.436	5.542	0.015	15.994					
		P 24.105	14.725	0.751	39.581				289.772	R
		R 0.391	0.444	0.021	0.404					
		T 24.089	14.701	0.750	39.540					
		Ym 0.392	0.445	0.021	0.404					
		Conveyance 250.13	188.67	0.06	438.885	487.287				
		Manning's Flow 25.013	18.867	0.006	43.887	48.729			289.77220	R
		Manning's Velocity 2.651	2.884	0.372	2.744	3.047				
				Alpha 1.007	1.226					
				Shear 0.252						
				Froude 0.763						
Segment	Area	Wet P	Hyd Rad	Conveyance	Mean Y	Width (T)				
1-2	3.190	14.467	0.220	57.67	0.22	14.46				
2-3	4.717	7.776	0.607	167.45	0.61	7.77				
3-4	1.529	1.863	0.821	66.42	0.82	1.86				
4-5	1.101	1.343	0.820	47.77	0.82	1.34				
5-6	5.441	13.382	0.407	147.92	0.41	13.36				
6-7	0.015	0.751	0.021	0.06	0.02	0.75				
7-8	0.000	0.000	0.000	0.00	0.00	0.00				
8-9	0.000	0.000	0.000	0.00	0.00	0.00				

Channel Geometry		Tail Water Hydraulic Data					Left Main Right			
Tail water method:	Irregular	Flow (ft³/s)	Elev. (ft)	Vel. (ft/s)	Shr. (psf)	Fr	n	Sta. (ft)	Elev. (ft)	L/R
Slope	0.0100	11.444	7.730	0.136	19.309					
		P 25.017	14.725	2.225	41.967				289.653	R
		R 0.457	0.525	0.061	0.460					
		T 25.000	14.701	2.222	41.923					
		Ym 0.458	0.525	0.061	0.461					
		Conveyance 336.53	249.16	1.04	586.733	636.081				
		Manning's Flow 33.653	24.916	0.104	58.673	63.608			289.65301	R
		Manning's Velocity 2.941	3.223	0.767	3.039	3.294				
				Alpha 1.015	1.195					
				Shear 0.287						
				Froude 0.795						
Segment	Area	Wet P	Hyd Rad	Conveyance	Mean Y	Width (T)				
1-2	4.419	15.378	0.287	95.32	0.29	15.37				
2-3	5.345	7.776	0.687	206.21	0.69	7.77				
3-4	1.680	1.863	0.902	77.65	0.90	1.86				
4-5	1.209	1.343	0.901	55.85	0.90	1.34				
5-6	6.521	13.382	0.487	200.00	0.49	13.36				
6-7	0.136	2.225	0.061	1.04	0.06	2.22				
7-8	0.000	0.000	0.000	0.00	0.00	0.00				
8-9	0.000	0.000	0.000	0.00	0.00	0.00				

Channel Geometry		Tail Water Hydraulic Data					Left Main Right			
Tail water method:	Irregular	Flow (ft³/s)	Elev. (ft)	Vel. (ft/s)	Shr. (psf)	Fr	n	Sta. (ft)	Elev. (ft)	L/R
Slope	0.0100	16.044	10.435	0.855	27.334					
		P 25.017	14.725	5.717	45.458				290.037	R
		R 0.641	0.709	0.150	0.601					
		T 25.000	14.701	5.709	45.410					
		Ym 0.642	0.710	0.150	0.602					
		Conveyance 591.00	410.84	11.94	1013.777	1059.139				
		Manning's Flow 59.100	41.084	1.194	101.378	105.914			290.03701	R
		Manning's Velocity 3.684	3.937	1.396	3.709	3.675				
				Alpha 1.033	1.140					
				Shear 0.376						
				Froude 0.856						
Segment	Area	Wet P	Hyd Rad	Conveyance	Mean Y	Width (T)				
1-2	7.247	15.378	0.471	217.40	0.47	15.37				
2-3	6.775	7.776	0.871	306.10	0.87	7.77				
3-4	2.022	1.863	1.085	105.78	1.09	1.86				
4-5	1.455	1.343	1.084	76.08	1.09	1.34				
5-6	8.979	13.382	0.671	340.89	0.67	13.36				
6-7	0.840	4.906	0.171	12.83	0.17	4.90				
7-8	0.015	0.811	0.018	0.05	0.02	0.81				
8-9	0.000	0.000	0.000	0.00	0.00	0.00				

### MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:  
 Special Permits (8-011 2J & 2L) Special Exceptions (9-011 2J & 2L)  
 Cluster Subdivision (9-615 1G & 1N) Commercial Revitalization Districts (9-622 2A (12) & (14))  
 Development Plans PRC District (16-302 3 & 4L) PRC Plan (16-303 1E & 1O)  
 FDP P Districts (except PRC) (16-502 1F & 1Q) Amendments (18-202 10F & 10I)

1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').	2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet C-03.	3. Provide:				
Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
DRY POND	11.12	4.33	15.45	7,800	15,500	N/A (WEIR WALL)
Totals						

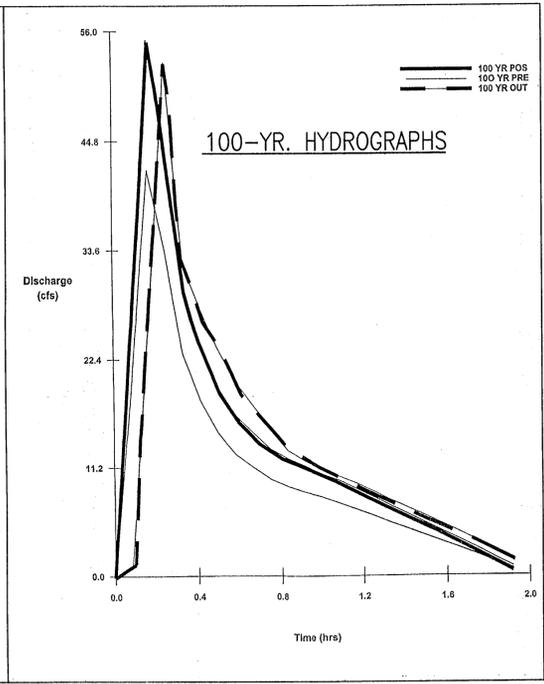
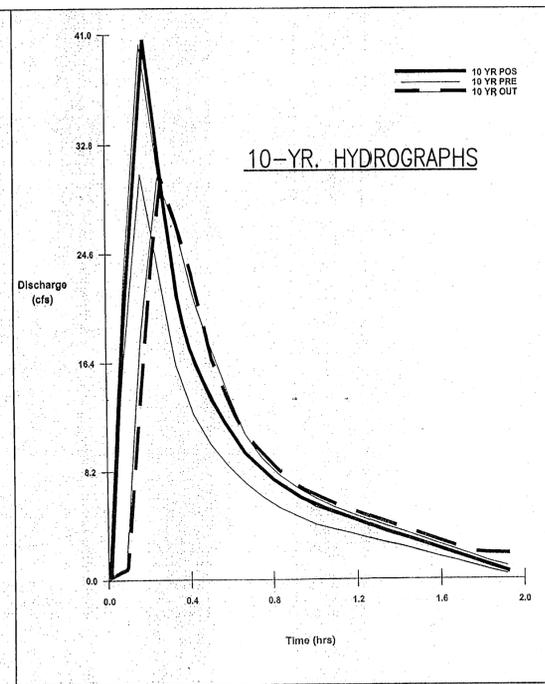
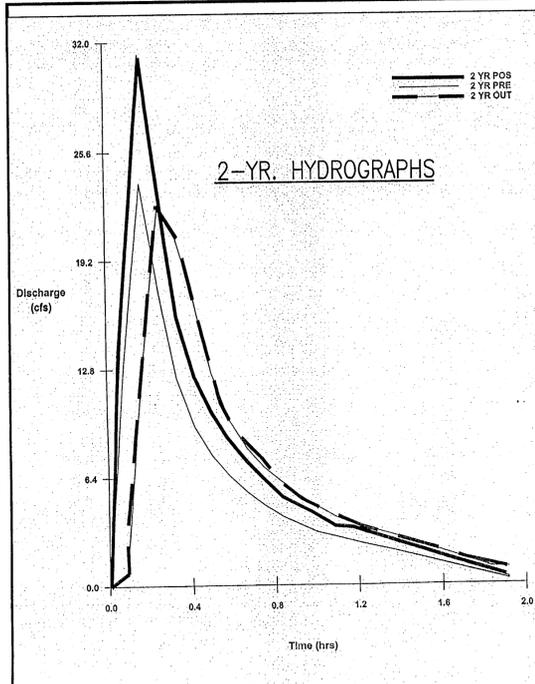
- 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet C-03. Pond inlet and outlet pipe systems are shown on Sheet C-06.
- 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet C-03. Type of maintenance access road surface noted on the plat is ASPHALT (asphalt, geotext, gravel, etc.).
- 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet C-03.
- 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet C-05.
- 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet C-05.
- 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet C-05.
- 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets C-01.
- 11. A submission waiver is requested for N/A.
- 12. Stormwater management is not required because N/A.

### SWM OUTFALL NARRATIVE

ADEQUATE OUTFALL ANALYSIS:

RUNOFF FROM THE PROJECT SITE (INCLUDING THE FUTURE SUBDIVISION PORTION) WILL BE ROUTED THROUGH A DRY POND FOR QUANTITY CONTROL, AND INTO A CULVERT PASSING BENEATH THE RE-CONSTRUCTED BEULAH ROAD. BEULAH ROAD WILL BE RE-CONSTRUCTED TO MEET VDOT STANDARDS FOR CURVATURE, ELEVATIONS, AND WIDTH BY THE DEVELOPERS OF THE MAYMONT SUBDIVISION, LOCATED ALONG THE NORTH SIDE OF BEULAH ROAD ACROSS FROM THE FIRE STATION SITE. THE CULVERT PASSING BENEATH BEULAH ROAD WILL BE DESIGNED WITH ADEQUATE CAPACITY TO ACCOMMODATE THE ROUTED RELEASE RATES FROM THE FIRE STATION POND. NOTE THAT THE FIRE STATION POND IS ALSO DESIGNED TO ACCEPT AND DETAIN RUNOFF FROM A PORTION OF THE RE-CONSTRUCTED BEULAH ROAD.

THE ROUTED POND DISCHARGE PASSES THROUGH THE BEULAH ROAD CULVERT AND INTO AN EXISTING SHALLOW, WIDE GRASS-LINED SWALE SHAPED LIKE A V-DITCH. THE SWALE RUNS NORTH ACROSS A PORTION OF THE MAYMONT PROPERTY AND THEN ACROSS THE ADJACENT SCHOOL SITE, RUNNING ACROSS THE WESTERN PORTION OF THE SITE THROUGH AN OPEN GRASS-COVERED FIELD. THE SWALE THEN ENTERS THE PROPERTY OF THE BLUEBERRY HILL SUBDIVISION, AND BECOMES A DEFINED BED-AND-BANKS CHANNEL, RUNNING DOWN TO WOLFTRAP RUN, WHICH HAS BEEN COMPLETELY STUDIED AND FOUND TO BE ADEQUATE BY CHRISTOPHER CONSULTANTS, DESIGNERS OF THE BLUEBERRY HILL SUBDIVISION. THE BLUEBERRY HILL STUDY, APPROVED BY THE COUNTY AUTHORITIES IN PLAN # 9931-SD-00-2, ASSUMED THAT THE WATERS



### 2-YR. STORM ROUTING

Modified Puls Routing

Inflow Hydrograph: I:\PROJ\044401\ENG044-1\NEWPOND\2PROP.HYD  
 Storage/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E5  
 Discharge/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E0

Basin Bypass Capacity = 0.0 cfs  
 Starting Pool Elevation = 300.30 feet  
 Time Interval = .0833 hours

Event Time (hours)	Hydrograph Inflow (cfs)	Basin Inflow (cfs)	Storage Used (acre-ft)	Elevation Above MSL (feet)	Basin Above MSL Outflow (cfs)	Outflow Total (cfs)	Detention Time (hours)
0.00	0.00	0.00	0.000	300.30	0.00	0.00	0.00
0.08	17.47	17.47	0.058	301.16	0.73	0.73	0.08
0.17	31.27	31.27	0.179	301.96	1.61	1.61	0.10
0.25	23.11	23.11	0.247	302.36	2.22	2.22	0.13
0.33	16.04	16.04	0.234	302.28	2.03	2.03	0.16
0.42	12.37	12.37	0.203	302.10	1.69	1.69	0.17
0.50	10.13	10.13	0.179	301.95	1.52	1.52	0.19
0.58	8.50	8.50	0.167	301.87	1.43	1.43	0.22
0.67	7.21	7.21	0.159	301.82	1.38	1.38	0.25
0.75	6.19	6.19	0.154	301.79	1.34	1.34	0.28
0.83	5.30	5.30	0.148	301.75	1.31	1.31	0.32
0.92	4.69	4.69	0.144	301.72	1.29	1.29	0.35
1.00	4.08	4.08	0.140	301.70	1.28	1.28	0.39
1.08	3.47	3.47	0.136	301.67	1.27	1.27	0.44
1.17	3.00	3.00	0.134	301.65	1.26	1.26	0.46
1.25	2.66	2.66	0.132	301.64	1.25	1.25	0.50
1.33	2.32	2.32	0.130	301.63	1.25	1.25	0.55
1.42	2.08	2.08	0.128	301.62	1.25	1.25	0.61
1.50	1.84	1.84	0.126	301.61	1.24	1.24	0.70
1.58	1.70	1.70	0.124	301.59	1.24	1.24	0.81
1.67	1.56	1.56	0.122	301.58	1.24	1.24	0.98
1.75	1.42	1.42	0.120	301.56	1.23	1.23	1.24
1.83	1.28	1.28	0.118	301.55	1.23	1.23	1.72
1.92	1.14	1.14	0.115	301.53	1.22	1.14	2.18

Total Routing Mass Balance Discrepancy is 0.18%

### 10-YR. STORM ROUTING

Modified Puls Routing

Inflow Hydrograph: I:\PROJ\044401\ENG044-1\NEWPOND\10PROP.HYD  
 Storage/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E5  
 Discharge/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E0

Basin Bypass Capacity = 0.0 cfs  
 Starting Pool Elevation = 300.30 feet  
 Time Interval = .0833 hours

Event Time (hours)	Hydrograph Inflow (cfs)	Basin Inflow (cfs)	Storage Used (acre-ft)	Elevation Above MSL (feet)	Basin Above MSL Outflow (cfs)	Outflow Total (cfs)	Detention Time (hours)
0.00	0.00	0.00	0.000	300.30	0.00	0.00	0.00
0.08	22.09	22.09	0.073	301.26	0.79	0.79	0.08
0.17	40.24	40.24	0.220	302.20	1.80	1.80	0.09
0.25	30.79	30.79	0.295	302.64	3.08	3.08	0.12
0.33	21.35	21.35	0.278	302.54	2.70	2.70	0.14
0.42	16.52	16.52	0.242	302.33	2.16	2.16	0.15
0.50	13.53	13.53	0.210	302.14	1.77	1.77	0.16
0.58	11.35	11.35	0.186	302.00	1.50	1.50	0.18
0.67	9.59	9.59	0.172	301.91	1.34	1.34	0.20
0.75	8.23	8.23	0.164	301.86	1.24	1.24	0.23
0.83	7.07	7.07	0.158	301.82	1.18	1.18	0.26
0.92	6.25	6.25	0.153	301.79	1.14	1.14	0.28
1.00	5.44	5.44	0.149	301.76	1.11	1.11	0.31
1.08	4.96	4.96	0.145	301.73	1.09	1.09	0.34
1.17	4.55	4.55	0.142	301.71	1.07	1.07	0.36
1.25	4.08	4.08	0.139	301.69	1.06	1.06	0.39
1.33	3.60	3.60	0.136	301.67	1.05	1.05	0.43
1.42	3.20	3.20	0.133	301.65	1.04	1.04	0.48
1.50	2.84	2.84	0.131	301.64	1.03	1.03	0.54
1.58	2.54	2.54	0.128	301.62	1.02	1.02	0.63
1.67	2.24	2.24	0.125	301.60	1.01	1.01	0.75
1.75	1.96	1.96	0.123	301.58	1.00	1.00	0.95
1.83	1.68	1.68	0.120	301.56	0.99	0.99	1.33
1.92	1.48	1.48	0.117	301.54	0.94	1.48	1.99

Total Routing Mass Balance Discrepancy is 0.10%

### 100-YR. STORM ROUTING

Modified Puls Routing

Inflow Hydrograph: I:\PROJ\044401\ENG044-1\NEWPOND\100PROP.HYD  
 Storage/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E5  
 Discharge/Elevation Curve: I:\PROJ\044401\ENG044-1\NEWPOND\NEWWOLF.E0

Basin Bypass Capacity = 0.0 cfs  
 Starting Pool Elevation = 300.30 feet  
 Time Interval = .0833 hours

Event Time (hours)	Hydrograph Inflow (cfs)	Basin Inflow (cfs)	Storage Used (acre-ft)	Elevation Above MSL (feet)	Basin Above MSL Outflow (cfs)	Outflow Total (cfs)	Detention Time (hours)
0.00	0.00	0.00	0.000	300.30	0.00	0.00	0.00
0.08	25.02	25.02	0.083	301.32	0.83	0.83	0.08
0.17	55.06	55.06	0.269	302.48	2.38	2.38	0.08
0.25	43.98	43.98	0.340	302.90	5.82	5.82	0.09
0.33	30.18	30.18	0.303	302.68	3.21	3.21	0.12
0.42	23.79	23.79	0.283	302.57	2.64	2.64	0.13
0.50	19.44	19.44	0.256	302.41	2.30	2.30	0.14
0.58	16.52	16.52	0.230	302.26	1.99	1.99	0.15
0.67	14.75	14.75	0.208	302.13	1.74	1.74	0.16
0.75	13.12	13.12	0.191	302.03	1.54	1.54	0.17
0.83	12.10	12.10	0.181	301.97	1.45	1.45	0.16
0.92	11.35	11.35	0.176	301.94	1.41	1.41	0.18
1.00	10.47	10.47	0.172	301.91	1.38	1.38	0.19
1.08	9.86	9.86	0.169	301.89	1.36	1.36	0.20
1.17	8.97	8.97	0.166	301.87	1.35	1.35	0.22
1.25	8.09	8.09	0.162	301.84	1.34	1.34	0.23
1.33	7.14	7.14	0.158	301.81	1.33	1.33	0.26
1.42	6.25	6.25	0.153	301.79	1.32	1.32	0.28
1.50	5.37	5.37	0.149	301.75	1.31	1.31	0.31
1.58	4.49	4.49	0.143	301.72	1.30	1.30	0.36
1.67	3.60	3.60	0.138	301.69	1.29	1.29	0.42
1.75	2.72	2.72	0.133	301.65	1.28	1.28	0.52
1.83	1.77	1.77	0.127	301.61	1.27	1.27	0.71
1.92	0.88	0.88	0.122	301.58	1.26	0.88	1.16

Total Routing Mass Balance Discrepancy is 0.12%

### PROPOSED CONDITION UNIT HYDROGRAPH

Wolf Trap Fire Station  
 Proposed Condition Unit Hydrograph  
 SWM Pond

Time Interval = 10 minutes  
 Tc = 10 Min  
 CA = 6.7979

Time (hours)	2-YR	10-YR	100-YR
0	0	0	0
5	2.57	17.47	3.25
10	4.60	31.27	5.82
15	3.40	23.11	4.53
20	2.36	16.04	3.14
25	1.82	12.37	2.43
30	1.49	10.13	1.90
35	1.25	8.50	1.67
40	1.06	7.21	1.41
45	0.91	6.19	1.21
50	0.78	5.30	1.04
55	0.69	4.69	0.92
60	0.60	4.08	0.80
65	0.55	3.74	0.73
70	0.50	3.40	0.67
75	0.45	3.08	0.60
80	0.40	2.72	0.53
85	0.36	2.38	0.47
90	0.30	2.04	0.40
95	0.25	1.70	0.33
100	0.20	1.36	0.27
105	0.15	1.02	0.20
110	0.10	0.68	0.13
115	0.05	0.34	0.07
120	0.00	0.00	0.00

### Outlet Rating Table for

Basin Water Elevation	Basin Outflow (cfs)
300.30	0.00
300.55	0.13
300.80	0.44
301.05	0.67
301.30	0.82
301.55	0.95
301.80	7.26
302.05	15.98
302.30	20.86
302.55	27.01
302.80	36.68
303.05	68.00

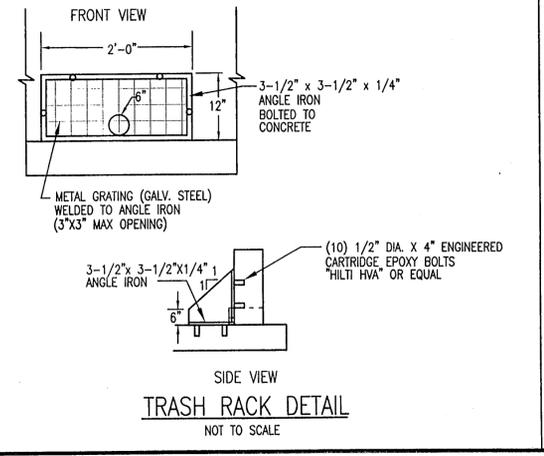
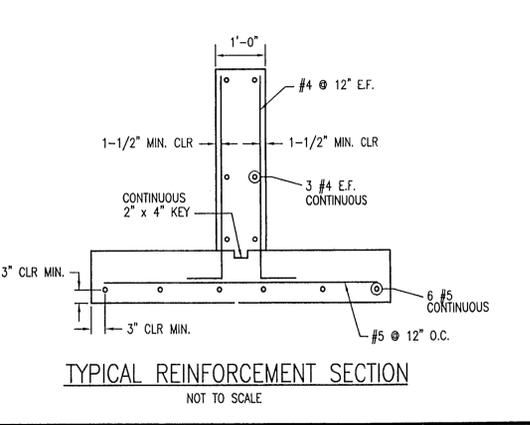
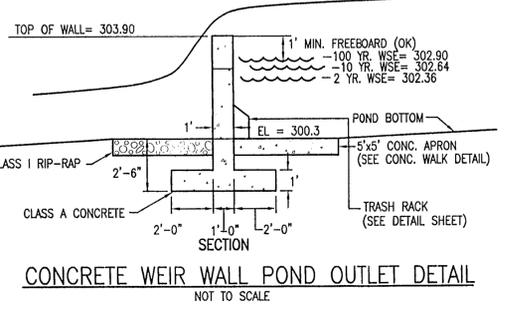
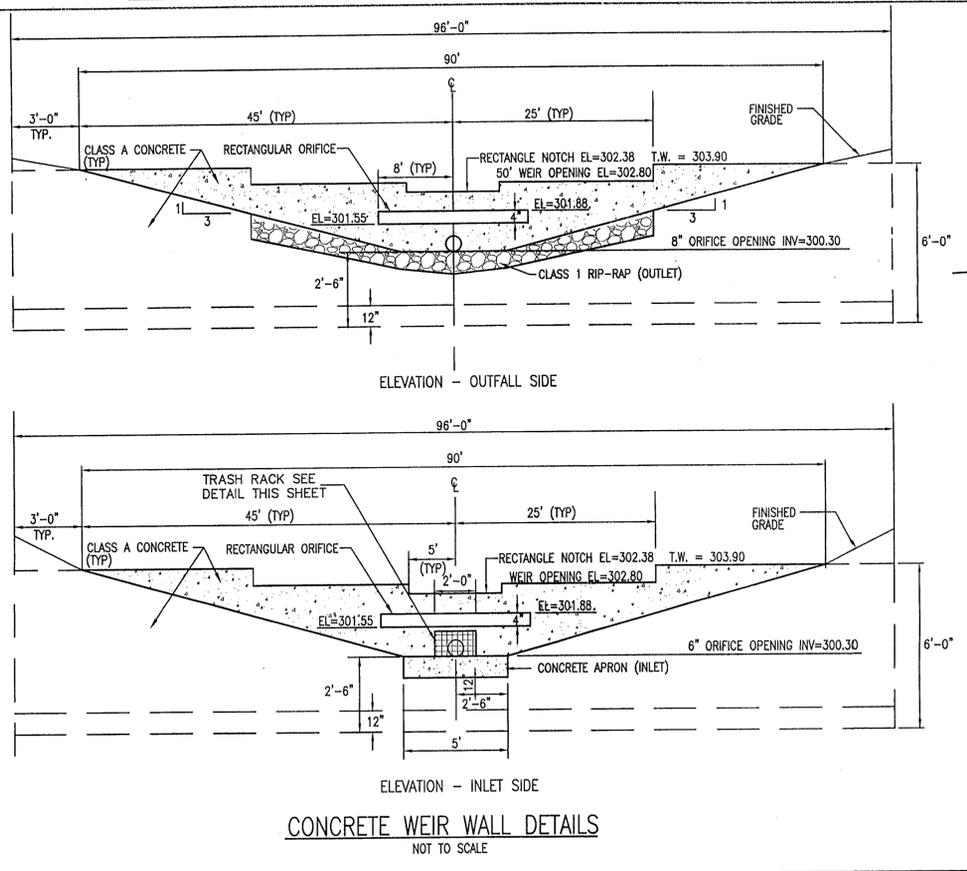
### Outlet Structure Configuration for

Stage 1: Circular Orifice  
 Invert Elevation = 300.3 feet  
 Diameter = 5 feet  
 Discharge Coefficient = .6

Stage 2: Rectangular Orifice  
 Invert Elevation = 301.55 feet  
 Width = 16 feet  
 Height = .3333 feet  
 Discharge Coefficient = .6

Stage 3: Rectangular Weir  
 Crest Elevation = 302.38 feet  
 Length = 10 feet  
 Discharge Coefficient = 3.1

Stage 4: Rectangular Weir  
 Crest Elevation = 302.8 feet  
 Length = 50 feet  
 Discharge Coefficient = 3.1



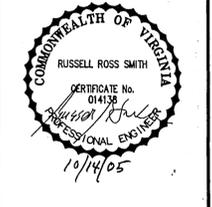
### Stage Storage for SWM Pond

Stage Storage: Conc Approximation Method

PROJECT: WOLF TRAP FIRE STATION  
 ENGINEER/DATE: DS 10/12/05

Elevation (ft)	Area (Sq-Ft)	Incremental Volume (Cu-Ft)	Total Volume (Cu-Ft)
300.30			0.000
301.00	0.144	0.034	1.468
302.00	0.162	0.180	8.121
303.00	0.180	0.170	15.547

Application No. PA 78 D 60 Stamp DS  
 APPROVED DEVELOPMENT PLAN  
 (DP) (GDP) (CDP) (FDP)  
 SEE PROFFERS DATED 12/7/05  
 Date of (OS) (PC) approval 1/19/06  
 Sheet 7 of 8

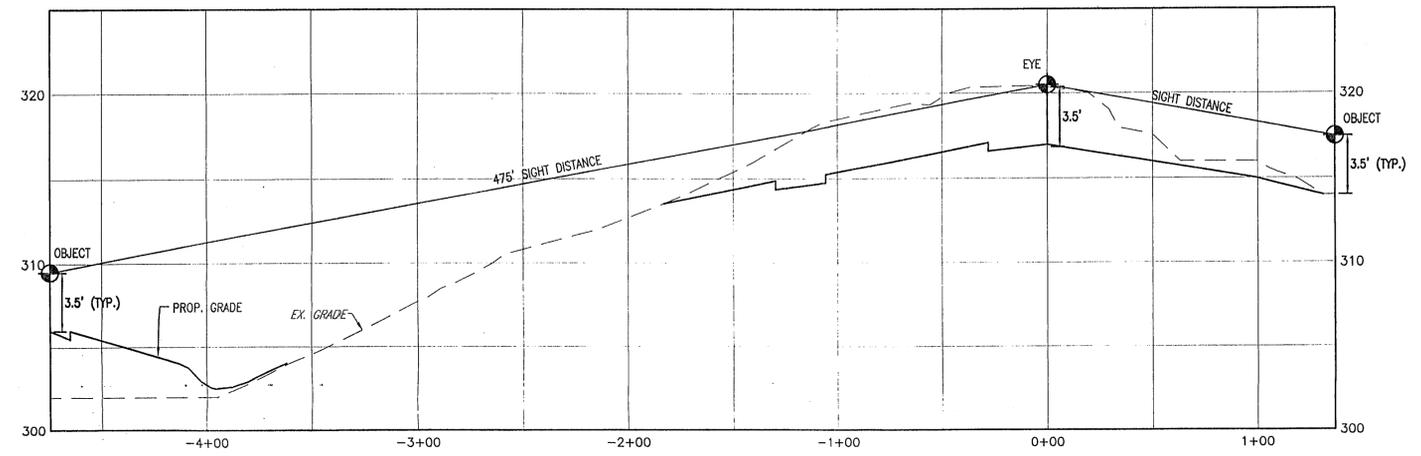
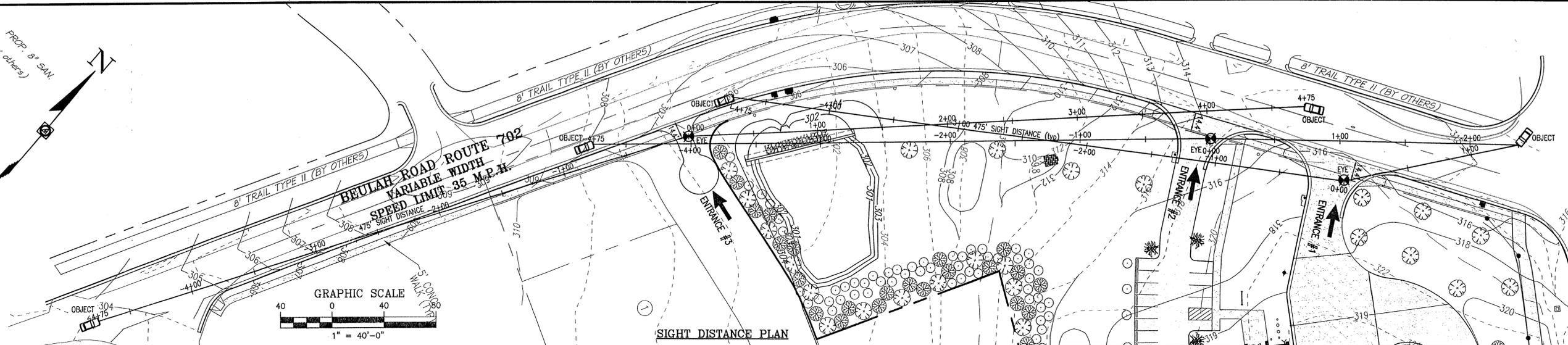
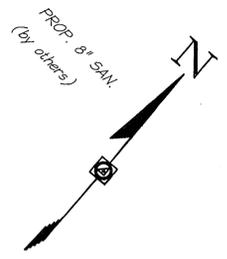


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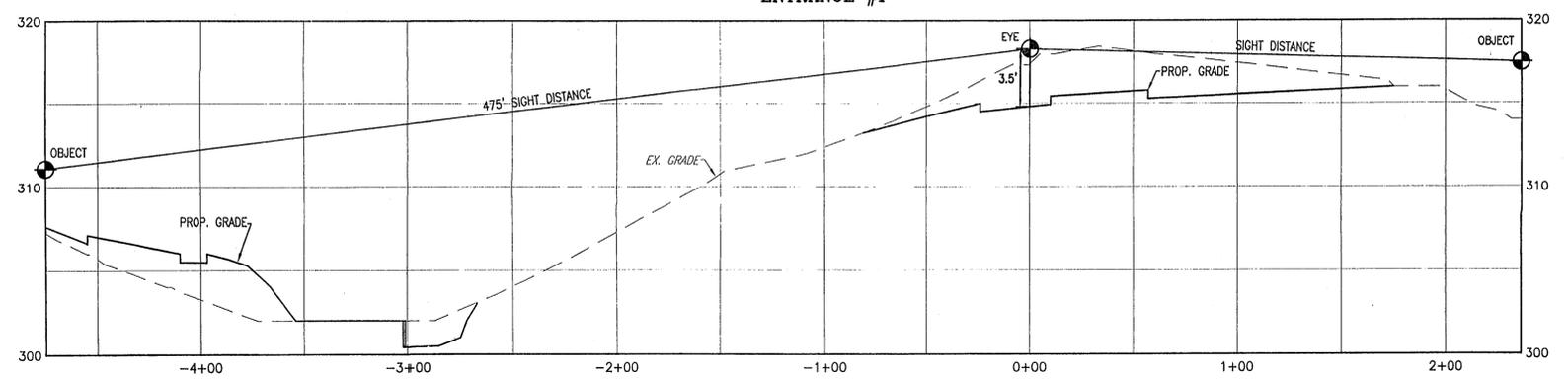
**WOLFTRAP FIRE STATION**  
 1315 BEULAH ROAD  
 VIENNA, VIRGINIA

**STORMWATER MANAGEMENT CALCULATIONS & DETAILS**

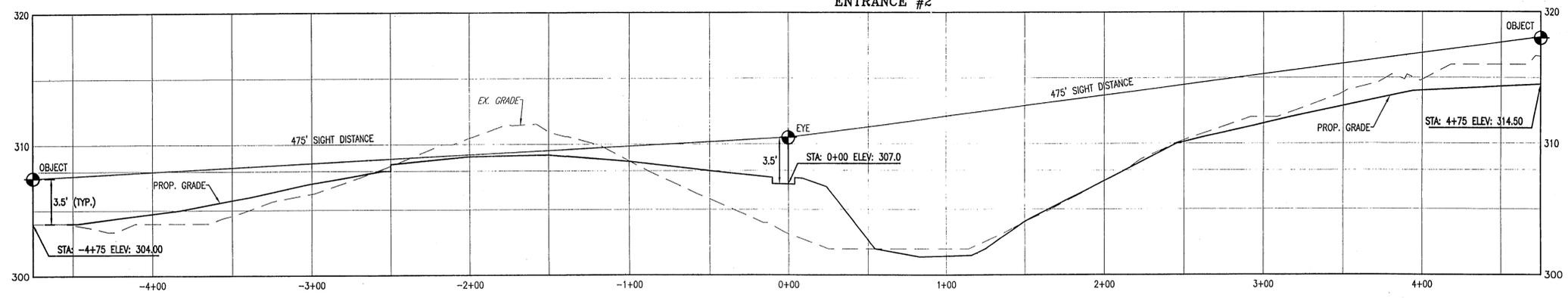
SCALE: 1" = 50'  
 DATE: OCT 2005  
 PROJECT NUMBER: 0444.01  
 SHEET 6 OF 7  
 DRAWING NUMBER: C-06  
 CHECKED BY: DJS  
 BR: [Signature]



SIGHT DISTANCE PROFILE  
ENTRANCE #1

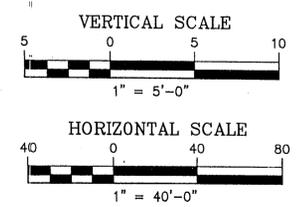


SIGHT DISTANCE PROFILE  
ENTRANCE #2



SIGHT DISTANCE PROFILE  
ENTRANCE #3

Application No. PA 76-D-060 Sta. 45  
 APPROVED DEVELOPMENT PLAN  
 (BP) (GP) (GDP) (FDP)  
 SEE PROFILES DATED 12/1/05  
 Date of (GOS) (PG) approval 1/10/06  
 Sheet 8 of 8



NO.	DATE	DESCRIPTION	ISSUE



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**WOLFTRAP FIRE STATION**  
**1315 BEULAH ROAD**  
**VIENNA, VIRGINIA**

**SIGHT DISTANCE PLAN & PROFILE**

SCALE: AS SHOWN DATE: OCT 2005 SHEET 7 OF 7  
 DRAWN BY: DJS CHECKED BY: KDE PROJECT NUMBER: 0444.01 DRAWING NUMBER: C-07

I:\p05\044401\Draw\C-07\_SIGHT\_DISTANCE.dwg PLOTTED Nov. 14, 2005