County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

January 13, 2009

Shane M. Murphy
One Freedom Square
11951 Freedom Drive
Reston, Virginia 20190

RE: Proffered Condition Amendment Application PCA 78-C-098-03

Dear Mr. Murphy:

Enclosed you will find a copy of an Ordinance adopted by the Board of Supervisors at a regular meeting held on January 12, 2009, approving Proffered Condition Amendment Application PCA 78-C-098-03 in the name of Gregor, LLC. The Board's action amends the proffers for Rezoning Application RZ 78-C-098, previously approved for 60 multi-family residences and a hotel with an overall Floor Area Ratio (FAR) of 0.65 and a density of 11.57 du/ac to permit commercial development with an overall Floor Area Ratio of 1.5 as a development option. The subject property is located on the west side of Old Reston Avenue approximately 400 feet north of its intersection with Sunset Hills Road on approximately 5.19 acres of land zoned PDC [Tax Map 17-4 ((1)) 1], in the Hunter Mill District and is subject to the proffers dated December 18, 2008.

The Board also:

- Waived the limitation on residential uses within the PDC District.
- Approved a variance of the maximum height limitation on fences in the front yard to permit the existing five-foot wall along Old Reston Avenue to remain.
- Waived the transitional screening and barrier requirements between on-site uses.
- Modified the transitional screening and barrier requirements along the northern, eastern, and western property lines to that shown on the CDPA/FDPA.

On January 8, 2009, the Planning Commission approved Final Development Plan Amendment Application FDPA 78-C-098-04 subject to the Board's approval of PCA 78-C-098-04.

Sincerely,

Nancy Vehrs

Nancy Vehrs
Clerk to the Board of Supervisors
NV/dms
Enclosure

Office of the Clerk to the Board of Supervisors
12000 Government Center Parkway, Suite 533
Fairfax, Virginia 22035
Phone: 703-324-3151 ♦ Fax: 703-324-3926 ♦ TTY: 703-324-3903
Email: clerktothebos@fairfaxcounty.gov
http://www.fairfaxcounty.gov/bosclerk

Cc: Supervisor Catherine Hudgins, Hunter Mill District
Janet Coldsmith, Director, Real Estate Division. Dept. of Tax Administration
Regina Coyle, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Dept. of Planning and Zoning
Angela K. Rodeheaver, Section Chief, Transportation. Planning Division
Ellen Gallagher, Capital Projects and Operations Div., Dept. of Transportation
Ken Williams, Plans & Document Control, ESRD, DPWES
Department of Highways-VDOT
Sandy Stallman, Park Planning Branch Manager, FCPA
Charlene Fuhrman-Schulz, Development Officer, DHCD/Design Development Division
District Planning Commissioner
Barbara J. Lippa, Executive Director, Planning Commission
Denise James, Office of Capital Facilities/Fairfax County Public Schools
Karyn Moreland, Chief Capital Projects Sections, Dept. of Transportation

At a regular meeting of the Board of Supervisors of Fairfax County, Virginia, held in the Board Auditorium in the Government Center at Fairfax, Virginia, on the 12th day of January, 2009, the following ordinance was adopted.

AN ORDINANCE AMENDING THE ZONING ORDINANCE
PROFFERED CONDITION AMENDMENT PCA 78-C-098-03

WHEREAS, Gregor, LLC, filed in the proper form an application to amend the proffers for RZ 78-C-098 hereinafter described, by amending conditions proffered and accepted pursuant to Virginia Code Ann. 15.2-2303(a), and

WHEREAS, at a duly called public hearing the Planning Commission considered the application and the propriety of amending the Zoning Ordinance in accordance therewith, and thereafter did submit to this Board its recommendation, and

WHEREAS, this Board has today held a duly called public hearing and after due consideration of the reports, recommendation, testimony and facts pertinent to the proposed amendment, the Board is of the opinion that the Ordinance should be amended,

NOW, THEREFORE, BE IT ORDAINED, that that certain parcel of land situated in the Hunter Mill District, and more particularly described as follows (see attached legal description):

Be, and hereby is further restricted by the amended conditions proffered and accepted pursuant to Virginia Code Ann., 15.2-2303(a), which conditions are incorporated into the Zoning Ordinance as it affects said parcel, and

BE IT FURTHER ENACTED, that the boundaries of the Zoning Map heretofore adopted as a part of the Zoning Ordinance be, and they hereby are, amended in accordance with this enactment, and that said zoning map shall annotate and incorporate by reference the additional conditions governing said parcels.

GIVEN under my hand this 12th day of January, 2009.

Nancy Vehrs

Nancy Vehrs
Clerk to the Board of Supervisors

4114814

ZAPS USER GENERATED REPORTS
ZONING APPLICATION SUMMARY REPORT
APPLICATION NUMBER: PCA 78-C -098-03

DECISION DATE: 1/12/2009

HEARING BODY: BOS

CRD: NO

MAGISTERIAL DISTRICT: HUNTER MILL

APPLICANT NAME GREGOR, LLC

STAFF COORDINATOR: SWILLI

ACTION: APPROVE

DECISION SUMMARY:

ON JANUARY 12, 2009, THE BOARD UNANIMOUSLY APPROVED PCA 78-C-098-03, ON A MOTION BY SUPERVISOR HUDGINS, SUBJEC T TO PROFFERS DATED DECEMBER 18, 2008.

ZONING INFORMATION

EXISTING ZONING

DISTRICT	AREA
PDC	5.19 ACRES
TOTAL	5.19 ACRES

APPROVED AREA

DISTRICT	AREA
PDC	5.19 ACRES
TOTAL	5.19 ACRES

TAX MAP NUMBERS

017-4- /01/ /0001-

APPROVED ZONING DISTRICT DATA

ZONING DISTRICT: PDC

	APROVED RESIDENTIAL DEVELOPMENT				APROVED NON-RESIDENTIAL DEVELOPMENT				
LAND USE	DWELLING UNITS	LAND AREA	UNIT OF MEASURE	NO. OF ADU'S	FLOOR AREA	UNIT OF MEASURE	LAND AREA	UNIT OF MEASURE	FAR
HOTEL/MOTL									
OFFC/GENRL							5.19	ACRES	0.22
RESIDENTIL									
TOTAL					0.00	SQ FEET	5.19	ACRES	0.22

PROFFER INFORMATION

PROFFER STATEMENT DATE: 12-18-2008

ITEM	DUE DATE	TRIGGER NO.	TRIGGER EVENT	CONTRIB AMT	EXPIRATION DATE
ARCHITECTURE / BUILDING MATERIALS	01-01-0001	0	N/A	$	01-01-0001
CONTRIBUTION - FCPA / RECREATION	01-01-0001	0	N/A	$	01-01-0001
CONTRIBUTION - SCHOOLS	01-01-0001	0	N/A	$	01-01-0001
FLOOR AREA RATIO (FAR) / GROSS FLO(	01-01-0001	0	N/A	$	01-01-0001
HISTORIC STRUCTURE / SITE PRESERV/	01-01-0001	0	N/A	$	01-01-0001
HOUSING TRUST FUND	01-01-0001	0	N/A	$	01-01-0001
LANDSCAPE PLAN REQUIRED	01-01-0001	0	N/A	$	01-01-0001
LIGHTING / GLARE	01-01-0001	0	N/A	$	01-01-0001
MINOR MODIFICATION	01-01-0001	0	N/A	$	01-01-0001

PROFFER INFORMATION

PROFFER STATEMENT DATE: 12-18-2008

ITEM	DUE DATE	TRIGGER NO.	TRIGGER EVENT	CONTRIB AMT	EXPIRATION DATE
OFF-SITE CONTRIBUTION - RECREATION	01-01-0001	0	N/A	$	01-01-0001
OFF-SITE IMPROVEMENT - RECREATION	01-01-0001	0	N/A	$	01-01-0001
OPTIONAL / ALTERNATIVE PLANS	01-01-0001	0	N/A	$	01-01-0001
OTHER - GENERAL	01-01-0001	0	N/A	$	01-01-0001
PROFFERED PLANS	01-01-0001	0	N/A	$	01-01-0001
PUBLIC AMENITIES	01-01-0001	0	N/A	$	01-01-0001
RECREATION FACILITIES	01-01-0001	0	N/A	$	01-01-0001
RETAINING WALLS	01-01-0001	0	N/A	$	01-01-0001
SIGNAGE	01-01-0001	0	N/A	$	01-01-0001
STORMWATER MANAGEMENT POND - OI	01-01-0001	0	N/A	$	01-01-0001
TREE PRESERVATION / SURVEY	01-01-0001	0	N/A	$	01-01-0001
USE RESTRICTIONS	01-01-0001	0	N/A	$	01-01-0001
	01-01-0001	0	N/A	$	01-01-0001
ARCHITECTURAL REVIEW (ARB)	01-01-0001	0	N/A	$	01-01-0001

WAIVERS/MODIFICATIONS

APPROVED WAIVERS/MODIFICATIONS

MODIFY BARRIER REQUIREMENT

MODIFY TRANSITIONAL SCREENING REQUIREMENT

SEE FILE FOR ALL WAIVERS AND MODIFICATIONS

VARIANCE FOR HEIGHT OF FENCE IN FRONT YARD

WAIVE BARRIER REQUIREMENT

WAIVE TRANSITIONAL SCREENING REQUIREMENT

SUPPLEMENTAL MOTIONS

SUPPLEMENTAL MOTIONS APPROVED

COUNTY OF FAIRFAX
Department of Planning and Zoning
Zoning Evaluation Division
12055 Government Center Parkway, Suite 801
Fairfax, VA 22035 (703) 324-1290, TTY 711
www.fairfaxcounty.gov/dpz/zoning/applications

APPLICATION No: PCA 78-C-098-03 and
(Assigned by staff) FDPA 78-C-098-04

RECEIVED
Department of Planning & Zoning
JUL 18 2008
Zoning Evaluation Division

APPLICATION FOR A REZONING

(PLEASE TYPE or PRINT IN BLACK INK)

PETITION

TO: THE BOARD OF SUPERVISORS OF FAIRFAX COUNTY, VIRGINIA

I (We), Gregor, LLC, the applicant (s) petition you to adopt an ordinance amending the Zoning Map of Fairfax County, Virginia, by reclassifying from the PDC District to the PDC District the property described below and outlined in red on the Zoning Section Sheet(s) accompanying and made part of this application.

APPLICATION TYPE(S):	PCA (X)	CDP ( )	FDP ( )	CDPA (X)	FDPA (X)

LEGAL DESCRIPTION:

			18745	1155
Lot(s)	Block(s)	Subdivision	Deed Book	Page No.

TAX MAP DESCRIPTION:

17-4	((1))		1	5.19 acres
Map No.	Double Circle No.	Single Circle No.	Parcel(s)/Lot(s) No.	Total Acreage

POSTAL ADDRESS OF PROPERTY:

1850, 1852, 1856, 1860 Old Reston Avenue, Reston, VA 20190

ADVERTISING DISCRIPTION: (Example - North side of Lee Highway approx. 1000 feet west of its intersection with Newgate Blvd.)

West side of Old Reston Ave. approx. 400 feet north of its intersection with Sunset Hills Rd.

PRESENT USE: Hotel/Office/Residential **PROPOSED USE:** Hotel/Office/Residential

MAGISTERIAL DISTRICT: Hunter Mill **OVERLAY DISTRICT (S):** NA

The name(s) and address(s) of owner(s) of record shall provided on the affidavit form attached and made part of this application. The undersigned has the power to authorize and does hereby authorize Fairfax County staff representative on official business to enter on the subject property as necessary to process the application.

Shane M. Murphy
Type or Print Name

Signature of Applicant or Agent

11951 Freedom Drive, Reston, VA 20190
Address

(Work)(703) 456-8055 (Mobile)
Telephone Number

Please provide name and telephone number of contact if different from above:

PCA 2008-0206
FDPA 2008-0207 7/30/08

DO NOT WRITE BELOW THIS SPACE

Date application accepted: 7/30/08 Virginia Ruppert

Fee Paid $7,020.00

urban™

PLANNERS
ENGINEERS
LANDSCAPE ARCHITECTS
LAND SURVEYORS

July 17, 2008

Description of
the Property of
Boxwoods Inc.
Deed Book 18745 Page 1155
Fairfax County, Virginia

RECEIVED
Department of Planning & Zoning
JUL 18 2008
Zoning Evaluation Division

Beginning at a point being on the westerly right of way of Old Reston Avenue, Route 5734, width varies, said point being at the intersection of said right of way with the northerly line of the property of Northern Virginia Regional Park Authority (NVRPA) as acquired in Deed Book 5030 at Page 789 among the land records of Fairfax County, Virginia; thence departing said point and running with the northerly lines of said NVRPA

North 54° 06' 29" West, 50.26 feet to a point; thence

491.28 feet along the arc of a curve deflecting to the left having a radius of 2204.79 feet and a chord bearing and distance of North 60° 29' 29" West, 490.26 feet to a point being the southerly corner of the property of Stratford Condominium Unit Owners Association, Deed Book 11251 Page 104; thence departing NVRPA and running with said Stratford Condominium

North 13° 05' 13" East, 465.42 feet to a point; thence

North 80° 56' 21" East, 175.46 feet to a point on said right of way of Old Reston Avenue; thence departing Stratford Condominium and running with said Old Reston Avenue

South 32° 20' 04" East, 217.20 feet to a point; thence

241.28 feet along the arc of a curve deflecting to the right having a radius of 475.00 feet and a chord bearing and distance of South 17° 46' 56" East, 238.70 feet to a point; thence

South 03° 13' 48" East, 214.49 feet to a point; thence

127.59 feet along the arc of a curve deflecting to the right having a radius of 415.76 feet and a chord bearing and distance of South 05° 33' 42" West, 127.09 feet to a point; thence

South 14° 21' 12" West, 0.46 feet to the point of beginning, containing 225,911 square feet or 5.1862 acres, more or less.

PROFFERS

GREGOR, LLC

PCA 78-C-098-3

December 18, 2008

Pursuant to Section 15.2-2303(A) Code of Virginia, 1950, as amended, Gregor LLC (hereinafter referred to as the "Applicant"), for themselves, their successors and assigns, in PCA 78-C-098-3 filed on property identified as Fairfax County tax map reference 17-4((1)) 1 (hereinafter referred to as the "Application Property"), hereby proffers to the following, provided that the Board of Supervisors approves PCA 78-C-098-3 in conjunction with a Conceptual Development Plan Amendment/Final Development Plan Amendment providing options for (1) hotel and residential use ("Residential Option"), and (2) commercial office use ("Office Option"), and all requested modifications and variances. If accepted, these proffers shall replace and supersede any previous proffers approved on the Application Property.

1. Conceptual Development Plan Amendment/Final Development Plan Amendment ("CDPA/FDPA")

   a. Development of the Application Property shall be in substantial conformance with the CDPA/FDPA entitled Boxwoods, containing twenty sheets prepared by Urban Engineering and Assoc., Inc. and dated September, 2005, as revised through December 4, 2008.

   b. Notwithstanding that the CDPA/FDPA is presented on 20 sheets and is the subject of Proffer 1(a) above, it shall be understood that the CDPA shall be limited to the points of access, location and amount of open space, the maximum square footage of office use under the Office Option (as defined in Proffer 2) and the maximum square footage and maximum number of dwelling units under the Residential Option (as defined in Proffer 2), the general location and arrangement of the buildings, uses and parking spaces/garage and the setbacks to the peripheral lot lines. The Applicant shall have the option to request a FDPA for elements other than the CDPA elements from the Planning Commission for all of, or a portion of, the CDPA/FDPA in accordance with the provisions of Sect. 16-402 of the Zoning Ordinance.

   c. Pursuant to Par. 5 of Sect. 18-204 and Par. 4 of Sect. 16-403 of the Zoning Ordinance, minor modifications to the proffers and the CDPA/FDPA may be permitted as determined by the Zoning Administrator. Pursuant to these Zoning Ordinance provisions, minor modifications to the size, dimensions, footprints, and location of entrances/exits of the proposed development at time of site plan submission based on utility locations and final engineering design may

be made, provided such are in accordance with the above-referenced Zoning Ordinance provisions.

d. The architectural design of the buildings, whether under the Residential Option or Office Option (as each is defined in Proffer 2), shall be in general conformance with the character of the elevations on Sheets 18 and 19 of the CDPA/FDPA and the exterior building materials for the Residential Option shall primarily consist of a combination of slate, stone, brick and glazing. The Office option shall primarily consist of a combination of brick and glazing.

2. Uses and Intensity

A. Hotel and Residential Option ("Residential Option"). A hotel, consisting of a maximum of six (6) guest rooms, shall be permitted as the permanent principal use in the Manor House, shown as the existing 3 story brick building on the CDPA/FDPA, and a maximum of sixty (60) multiple family dwelling units shall be permitted as a secondary use of the Application Property. The length of stay in the hotel shall be limited to less than thirty (30) days per visit. Other permitted accessory uses of the Manor House shall include a lobby, meeting space, management office and possibly an arts and crafts studio for the multiple family dwellings. In addition, as ancillary uses, the Manor House may be used for cooking displays and demonstrations, educational dinners and other similar community/social functions, and the Manor House and/or grounds may be leased for catered weddings or other similar community/social functions. Upon exercising the Residential Option, and for the duration of development of the Residential Option, the Applicant may elect to use the Manor House and the existing Display Center, for the principal use of offices. Other permitted secondary uses shall include accessory uses, accessory service uses and home occupations as permitted by Article 10 of the Zoning Ordinance. Additional principal and secondary uses may be permitted with the approval of a subsequent final development plan amendment or special exception in accordance with the provisions of Sect. 6-205 of the Zoning Ordinance.

The amount of gross floor area allocated to hotel and residential uses under the Residential Option shall be in general accordance with the gross floor areas specified on the CDPA/FDPA, provided the gross floor area for hotel uses may be increased by up to a maximum of 1000 square feet, with a corresponding reduction in the residential gross floor area. In no event shall the maximum overall gross floor area and FAR exceed 147,806 square feet and 0.65, respectively.

B. Office Option ("Office Option"). As an alternative to the Residential Option described in Proffer 2A, the Applicant shall be permitted to retain the existing office use as the principal use of the Property. Under the Office Option, the Applicant may provide a maximum of 50,000 square feet of office space distributed on the Property generally as depicted on the CDPA/FDPA.

As part of this option, the Applicant may use the Manor House for office use and may perform any necessary renovations to ensure the Manor House structure complies with applicable building codes and regulations. The Applicant may also renovate the existing Display Center as additional office space. The Applicant may also add approximately 2,400 square feet to the existing office building. Should the Applicant exercise the Office Option, the Applicant shall demolish the existing Bathhouse and replace it with turf and other landscaping in accordance with the CDPA/FDPA.

3. Landscaping

A landscape plan ("Landscape Plan") shall be submitted as part of any site plan for the Residential Option or the Office Option and shall be coordinated with and approved by the Urban Forest Management Division ("UFM") of the Department of Public Works and Environmental Services ("DPWES"). If the Applicant elects to exercise the Residential Option, the Landscape Plan shall be in substantial conformance with the plantings shown on Sheet 7 of the CDPA/FDPA. If the Applicant elects to exercise the Office Option, the Landscape Plan shall be in substantial conformance with the plantings shown on Sheet 8 of the CDPA/FDPA. The Landscape Plan and specifications shall incorporate techniques designed to reduce maintenance requirements and contribute to a cleaner and healthier environment with improved air quality, stormwater management, and energy conservation capabilities that can be provided by trees and other desirable vegetation. Such techniques may include, but are not limited to:

a. Provide mulched planting beds incorporating groups of trees and other plants to provide a root zone environment more favorable to trees and shrubs. Areas proposed for turf and mulched beds shall be delineated on the Landscape Plan submitted with the site plan. Turf shall cover no more than 75% of the pervious area on the site.

b. Use best faith efforts to preserve Category III or IV trees, as designated in the Public Facilities Manual ("PFM"), at the south and southwest sides of buildings to contribute to energy conservation on the site.

c. Use soil conditioners and aeration treatment to increase water infiltration capacity, root growth and resulting plant health, as determined in coordination with UFM, where soil in planting sites is in poor condition or has been disturbed/compacted by construction activities.

d. Use of a diverse selection of native and non-invasive plants to reduce the need for supplemental watering, and also reduce the need for

chemical fertilizers, herbicides, and chemical control of insects and diseases.

The location of plantings shown on the Landscape Plan may be adjusted based on utility locations and final engineering details as approved by UFM as part of the Tree Preservation Plan (as defined in Proffer 4) and/or site plan, or when actual plantings occur, to adjust to field conditions.

4. Tree Preservation

a. The Applicant commits to tree preservation as detailed on Sheets 9 and 10 of the CDPA/FDPA, which classifies trees according to three categories: trees to be saved ("Save"); trees that the Applicant will try to save ("Try"); and trees that may be removed ("Lose"). These designations are a result of a survey of the existing trees which provides condition analysis ratings as percentages based on the guidelines and methods set forth in the latest edition of the *Guide for Plant Appraisal* published by the International Society of Arboriculture.

The Applicant shall use best faith efforts to save those trees designated as Try on Sheet 10 of the CDPA/FDPA. Some of the trees that are designated as Lose may be relocated on the Application Property if determined feasible by the Applicant and UFM.

In addition, within those areas containing trees designated as Save and Try, the Applicant shall be able to do the following activities, as long as doing so does not jeopardize those trees designated as Save, as determined by UFM:

(1) renovate or reconstruct the existing wall along Old Reston Avenue; and/or

(2) dredge the existing pond in the area along the southern and southeastern portions of the Application Property; and/or

(3) remove existing undergrowth in the area along the southern and southwestern portions of the Application Property; and/or

(4) remove the existing trees designated as Lose on Sheet 10 of the CDPA/FDPA in the area along the western boundary of the Application Property.

In addition, within those areas containing trees designated as Try, the Applicant retains the right to install sanitary sewer and storm sewer lines.

b. The Applicant shall submit a tree preservation plan ("Tree Preservation Plan"). The Tree Preservation Plan shall be prepared by a professional

with experience in the preparation of preservation and transplanting plans, such as a certified arborist or landscape architect, and such Plan shall be reviewed and approved by the UFM of DPWES. Such Plan may be approved prior to site plan approval but shall be included as part of the approved site plan.

The Tree Preservation Plan shall consist of a tree survey that includes the location, species, size, crown spread and condition rating percentage of all trees designated as Save on Sheet 10 of the CDPA/FDPA. The condition analysis ratings shall be prepared using methods outlined in the latest edition of the *Guide for Plant Appraisal* published by the International Society of Arboriculture. During the Tree Preservation Plan review and approval process, the Applicant shall work with UFM on procedures necessary to ensure that trees designated as Save shall be saved and to facilitate preserving the trees that are designated as Try on Sheet 10 of the CDPA/FDPA while accommodating the activities specified in Proffer 4a above. Specific tree preservation activities and procedures that will maximize the survivability of trees identified to be preserved, such as crown pruning, root pruning, mulching, fertilization, and other techniques as necessary, shall be clearly identified, labeled, and detailed on the plan, and the Applicant shall implement the procedures in the development process.

c. The Applicant shall retain the services of a certified arborist or landscape architect, and shall have marked, with a line of flagging prior to the walk-through meeting, the on-site limits of clearing and grading, if any, and the tree preservation areas, which shall be established to preserve the trees designated as to be saved on the Tree Preservation Plan. During the tree preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk such limits of clearing and grading and tree preservation areas with a UFM representative to determine whether adjustments to the clearing limits or tree preservation areas can be made to increase the tree preservation area and the survivability of trees at the edge of the limits of clearing and grading or tree preservation areas, and such adjustments shall be made. The Applicant shall notify the Hunter Mill District Supervisor seven (7) days in advance of the tree preservation walk-through meeting and the Hunter Mill District Supervisor or representative shall be given the opportunity to attend the meeting.

Trees that are to be removed shall be removed in a manner that avoids damage to surrounding trees and vegetation that are to be retained. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and vegetation that are to be retained.

d. Trees that are designated to be saved on the Tree Preservation Plan shall be protected by tree protection fencing. Tree protection fencing of a type approved by UFM shall be installed after the tree preservation walk-through but prior to any clearing and grading activities. The tree protection fencing shall be installed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Five (5) days prior to commencement of any clearing, grading, or demolition activities, but subsequent to the installation of the tree protection fencing, UFM and the Hunter Mill District Supervisor shall be notified and given the opportunity to inspect the Application Property to assure that all tree preservation devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities to include demolition of existing structures shall occur until the fencing is installed correctly, as determined by UFM.

e. The Applicant shall retain a professional arborist with experience in plant appraisal to determine the replacement value of those trees that meet the following criteria: (1) are located within 25 feet of the limits of disturbance, (2) are designated as "save" on Sheet 10 of the CDPA/FDPA, (3) have a condition rating of 80 or better on Sheet 10 of the CDPA/FDPA and (4) are 10 inches in size or greater on Sheet 10 of the CDPA/FDPA. These trees and their value shall be identified on the Tree Preservation Plan. The replacement value shall take into consideration the age, size and condition of these trees and shall be determined by the "Trunk Formula Method" contained in the latest edition of the *Guide for Plan Appraisal* published by the International Society of Arboriculture, subject to review and approval by UFM.

f. At the time of the Tree Preservation Plan approval, the Applicant shall both post a cash bond and a letter of credit payable to the "County of Fairfax" to ensure preservation and/or replacement of those trees that die or are dying and meet all of the following criteria: (1) are located within 25 feet of the limits of disturbance, (2) are designated on the Tree Preservation Plan as "save," (3) have a condition rating of 80% or better on Sheet 10 of the CDPA/FDPA, and (4) are 10 inches in size or greater on Sheet 10 of the CDPA/FDPA. The letter of credit shall be equal to 50% of the replacement value of the bonded trees. The cash bond shall consist of 33% of the amount of the letter of credit.

At any time prior to final bond release, should any bonded tree die, be removed, or be determined to be dying by UFM due to unauthorized construction activities, the Applicant shall replace such trees at its expense. The replacement trees shall be of equivalent species and canopy cover, and have a size of not less than 3", as approved by UFM. In addition to this replacement obligation, the Applicant shall also make

a payment equal to the value of any bonded tree that is dead or dying or improperly removed due to unauthorized activity. This payment shall be paid to a fund established by the County for furtherance of tree preservation objectives. At the time of the approval of the final Residential Use Permit (RUP) for the Residential Option or the Non-Residential Use Permit (Non-RUP) for the Office Option, the Applicant shall be entitled to request a release of any monies remaining in the cash bond and a reduction in the letter of credit to an amount equal to 20% of the total amounts originally committed, or 100% release if approved by UFM. Any funds remaining in the letter of credit or cash bond will be released one (1) year from the date of release of the Application Property's conservation escrow, or sooner, when approved by UFM.

g. During any clearing or tree/vegetation/structure removal on the Application Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by UFM. The Applicant shall retain the services of a certified arborist or landscape architect to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFM approvals. The monitoring schedule shall be described and detailed in the Tree Preservation Plan, and reviewed and approved by UFM. The Hunter Mill District Supervisor shall be notified of the name and contact information of the Applicant's representative responsible for site monitoring at the tree preservation walk- though meeting.

h. For the Residential Option only, notwithstanding the above provisions, prior to site plan approval, the Applicant may elect to demolish the existing office buildings and/or bathhouse and remove some of the existing trees designated as Lose on Sheet 10 of the CDPA/FDPA. Such shall be allowed only with the submission and approval by UFM of a partial or total Tree Preservation Plan, which Plan shall be prepared in accordance with the specifications of Proffer 4b above. If a partial Tree Preservation Plan is submitted, the plan shall identify the area of the Application Property involved in the proposed demolition, tree removal, and subject to the partial Tree Preservation Plan. Such removal and demolition may also occur prior to marking the limits of clearing and grading and areas of tree preservation and erecting the tree protection fencing for the entire site; provided the limits of clearing and grading and areas of tree preservation and any tree protection fencing relevant to the areas of the Application Property affected by the demolition, transplanting and/or tree removal are installed, inspected and approved in advance by UFM.

5. <u>Retaining Walls</u>

A. Retaining walls with a maximum height of three (3) feet shall be allowed throughout the Application Property. Retaining walls with heights greater than three (3) feet shall be permitted only as shown on sheet 4 or 5 of the CDPA/FDPA and shall consist of stone and/or brick and/or architectural grade concrete. Retaining walls exceeding 3 feet are provided on Sheet 4 only as shown on the approved CDPA/FDPA. The retaining wall details are by the structural engineer and thus included on the building plans, not on the site plan. The retaining wall materials shall conform with this proffer.

6. Site Amenities

Site amenities shall include:

a. Retention and renovation of the existing gazebo (circa 1890) and pond, and retention, as shown on the CDPA/FDPA, of many of the existing mature trees and shrubbery. An aerator may be added to the pond and other changes may be made if necessary to meet stormwater management/best management practice requirements, as approved by DPWES.

b. For the Residential Option only, walkways and paths throughout the Application Property connecting the residential uses with the Manor House, cabana and gazebo and pond, to include covered walkways between the Manor House and the residential buildings.

c. For the Residential Option only, a landscaped plaza between the two residential buildings.

d. For the Residential Option only, addition of a new cabana structure containing a warming kitchen facility and possible restroom facility.

e. For the Residential Option only, an exercise/fitness facility within a multiple family residential building, and possibly an arts and crafts studio for painting, sculpting and hobbies, which may be located either in the basement of the Manor House or in one of the multiple family residential buildings. If the arts and craft studio is located within the basement of the Manor House, it shall be open to residents and hotel guests only.

7. Stormwater Management

At the time of site plan submission and review, the existing on-site pond will be analyzed for stormwater management and best management practices, and if possible, the existing pond will be retrofitted to provide stormwater management and best management practices for the development. If adequate capacities can not be achieved on-site, the Applicant will pursue other options to meet these requirements, which may include entering into a maintenance

agreement ("Agreement") with the owner of the offsite facilities. Such Agreement shall be reviewed and approved by the County Attorney's Office and DPWES prior to the recordation of the Agreement in the land records of the County, and such recordation shall occur prior to final site plan approval for the development.

8. Parks and Recreation

a. For the Residential Option only, the development shall comply with Par. 2 of Sect. 6-209 and Sect. 16-404 of the Zoning Ordinance regarding developed recreational facilities for residential uses. The developed recreational facilities to be provided on-site include the trails and gazebo, cabana, and exercise/fitness facility. At the time of site plan review, the Applicant shall demonstrate that the value of the proposed developed recreational facilities is equivalent to the minimum of $1,500 per dwelling unit as required by Sect. 6-209 of the Zoning Ordinance. In the event it is demonstrated that the proposed facilities do not have sufficient value, the Applicant shall have the option to: (1) provide additional on-site developed recreational facilities within the open space areas shown on the CDPA/FDPA, provided it is determined that the location and facility are in substantial conformance with the CDPA/FDPA; and/or (2) contribute funds to the Fairfax County Park Authority for off-site recreational purposes in a location(s) that is in the vicinity of the Application Property and that is reasonably expected to serve the future residents of the approved development.

b. In addition to the above and for the Residential Option only, prior to the issuance of the first RUP, the Applicant shall contribute the sum of $34,185 to the Fairfax County Park Authority for use at park facilities in the vicinity of the Application Property. This contribution is based upon a total of sixty (60) dwelling units; in the event that less than sixty (60) units are shown on the approved site plan, the contribution shall be decreased on a pro-rata basis.

c. For the Office Option only, the Applicant shall contribute, prior to bond release, the sum of $5,000 to the County of Fairfax to be used for off-site pedestrian improvements within the vicinity of the Property.

9. Lighting

For the Residential Option, all existing outdoor lighting shall be removed and replaced with new outdoor lighting which shall be in accordance with the Performance Standards contained in Part 9 of Article 14 of the Zoning Ordinance. For the Office Option, the Applicant will combine existing outdoor lighting with new lighting that meets the Performance Standards contained in Part 9 of Article 14 of the Zoning Ordinance.

10. Heritage Resources

a. The Manor House (also known as the Wiehle House and the A. Smith Bowman House) shall be preserved on the Application Property and shall not be removed. Although the present exterior design shall be retained, minor modifications, replacement and/or maintenance of items such as wood trim, the porch, windows and other exterior elements of the Manor House shall be permitted. Replacement elements shall be of similar style as the existing features. The architectural plans for such exterior modifications and additions to the Manor House shall be subject to review and approval by the Fairfax County Architectural Review Board (ARB) prior to the issuance of a building permit for any proposed building addition.

b. All new structures on the Application Property shall be of compatible architectural style with the existing Manor House on the site and shall be subject to review and comment by the ARB.

11. School Contribution

For the Residential Option only, per the Residential Development Criteria Implementation Motion adopted by the Board of Supervisors on September 9, 2002, effective January 7, 2003, prior to the issuance of the first RUP on the Application Property, the Applicant shall contribute $52,500 to the Board of Supervisors for transfer to the Fairfax County School Board for use at the schools serving the Application Property. This contribution is based upon a total of sixty (60) dwelling units; in the event that less than sixty (60) units are shown on the approved site plan, the contribution shall be decreased on a pro-rata basis.

12. Affordable Housing

Should the applicant elect to pursue the Residential Option, the Applicant shall contribute to the Fairfax County Housing Trust Fund a sum equal to 0.5 percent of the estimated sales price of all of the units approved for the Application Property, as shown on the approved site plan. This contribution shall be payable prior to the issuance of the first building permit for a dwelling unit, and the contribution shall be based upon the aggregate sales price of all of the units, as if all of those units were sold at the time of the issuance of the first building permit for a dwelling unit, and is estimated through comparable sales of similar type units.

13. Temporary Signs

No temporary signs (including "Popsicle" style paper or cardboard signs) which are prohibited by Article 12 of the Zoning Ordinance, and no signs which are prohibited by Chapter 7 of Title 33.1 or Chapter 8 of Title 46.2 of the Code of Virginia shall be placed on the Application Property or at any other location off the Application Property by the Applicant or at the Applicants' direction to assist in the initial sale or rental of residential units on the Application Property. Furthermore, the Applicant shall direct its agents and employees involved in marketing and sale and/or rental of residential units on the Application Property to adhere to this proffer.

14. Successors and Assigns

These proffers will bind and inure to the benefit of the Applicants and his/her successors and assigns.

15. Severability

Any of the sections/buildings within the Application Property may be subject to Proffered Condition Amendments or Final Development Plan Amendments without joinder or consent of the other sections.

Gregor, LLC, a Virginia limited liability company

By: Locus, LLC,
its Managing Member

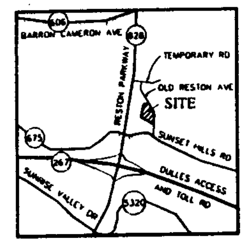
By:_____
Name: Jorge A. Kfoury
Title: Managing Member

377743 v6/RE

CONCEPTUAL DEVELOPMENT PLAN AMENDMENT (CDPA) AND FINAL DEVELOPMENT PLAN AMENDMENT (FDPA) FOR PCA 78-C-098-03

BOXWOODS

HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA



VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

1. THE PROPERTY IS IDENTIFIED ON FAIRFAX COUNTY TAX ASSESSMENT MAP 17-4 ((1))-01
2. THE ABOVE REFERENCED PROPERTY IS CURRENTLY ZONED PDC PER CDPA#78-C-098
3. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON ALTA/ACSM LAND TITLE SURVEY, PREPARED BY BURGESS & NIPLE, DATED SEPTEMBER 2002.
4. THE TOPOGRAPHY SHOWN HEREON IS AT A TWO-FOOT CONTOUR INTERVAL. COMPILED BY UEA. ALL TOPOGRAPHY WAS OBTAINED VIA AIR SURVEY.
5. THE PROPERTY SHOWN ON THIS CDPA & FDPA PLAN IS LOCATED IN THE HUNTER MILL DISTRICT
6. THIS PROPOSED DEVELOPMENT IS IN CONFORMANCE WITH THE COMPREHENSIVE PLAN AND ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED CONDITIONS EXCEPT FOR.
   A. A WAIVER UNDER PAR. 5 OF SECTION 6-206 OF THE ZONING ORDINANCE IS HEREBY REQUESTED. TO ALLOW GROSS FLOOR AREA FOR DWELLINGS AS A SECONDARY USE TO EXCEED 50% OF THE GROSS FLOOR AREA OF THE PRINCIPAL USE AND
   B. A WAIVER UNDER PAR. 8 OF SECTION 16401 OF THE ZONING ORDINANCE IS HEREBY REQUESTED TO ALLOW FOR WALLS GREATER THAN 4' IN HEIGHT IN THE FRONT YARD
7. THIS SITE IS SERVED BY PUBLIC SEWER AND WATER
8. STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMP) ARE PROVIDED BY ONSITE AND OR OFFSITE SWM/BMP FACILITIES. SEE STORMWATER MANAGEMENT NARRATIVE AND OUTFALL NARRATIVE THIS SHEET
9. UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THERE ARE NO KNOWN EXISTING UTILITY EASEMENTS OF 25' OR MORE IN WIDTH ON THE SITE
10. INDIVIDUAL UTILITY PLANS AND PROFILES WILL BE SUBMITTED DURING THE SITE PLAN STAGE FOR CONSTRUCTION PURPOSES
11. THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON THIS SITE. IF ANY SUBSTANCES ARE FOUND, THE METHODS FOR DISPOSAL SHALL ADHERE TO COUNTY, STATE, OR FEDERAL LAW.
12. NO HAZARDOUS OR TOXIC SUBSTANCES, HAZARDOUS WASTES OR PETROLEUM PRODUCTS ARE TO BE GENERATED, UTILIZED, STORED, TREATED AND/OR DISPOSED OF ON THIS SITE. EXCEPT FOR STORAGE OF DEISEL FUEL FOR GENERATORS AND GASOLINE FOR LAWN MAINTENANCE EQUIPMENT. THERE ARE NO EXISTING STORAGE FACILITIES FOR SUCH PRODUCTS ON THIS SITE
13. THERE ARE NO KNOWN BURIAL SITES.
14. ALL PUBLIC STREETS SHALL CONFORM TO FAIRFAX COUNTY AND/OR VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) STANDARDS AND SPECIFICATIONS UNLESS MODIFIED. PRIVATE STREETS SHALL CONFORM TO STANDARDS SET BY THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL SECTION 7 UNLESS MODIFIED
15. IN ACCORDANCE WITH PARAGRAPH 4 OF SECTION 16-403 OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE SIZE, DIMENSIONS, FOOTPRINTS, AND LOCATION OF BUILDINGS, PARKING SPACES, GARAGES, RETAINING WALLS AND SIDEWALKS MAY OCCUR WITH FINAL ENGINEERING AND DESIGN.
16. THERE ARE NO DESIGNATED FLOOD PLAINS, ENVIRONMENTAL QUALITY CORRIDORS, OR RPAs ON THE SUBJECT SITE PER FAIRFAX COUNTY MAPS.
17. THERE ARE SCENIC ASSETS OR NATURAL FEATURES ON THE SUBJECT SITE WHICH WOULD DESERVE PROTECTION OR PRESERVATION, SUCH AS THE MANOR HOUSE, GAZEBO, TREES, AND POND.
18. THE SPECIAL AMENITIES PROPOSED WITH THIS SITE SHALL INCLUDE.
    - PEDESTRIAN SIDEWALKS
    - CABANA (RESIDENTIAL OPTION ONLY)
    - GAZEBO
19. THE DEVELOPMENT SCHEDULE SHALL BE DETERMINED BY THE APPLICANT BASED UPON MARKET CONDITIONS
20. THE PROPOSED PUBLIC ROAD IMPROVEMENTS ILLUSTRATE THE REQUIRED IMPROVEMENTS PER THE COMPREHENSIVE PLAN. THE APPROVAL OF THIS PLAN WILL ONLY BIND THE OWNER TO CONSTRUCTING THE ROAD IMPROVEMENTS AS SHOWN. AT THIS TIME THERE ARE NO REQUIRED IMPROVEMENTS
21. SIGNAGE WILL BE PROVIDED IN ACCORDANCE WITH THE FAIRFAX COUNTY ZONING ORDINANCE.
22. AFFORDABLE DWELLING UNITS ARE NOT REQUIRED PER PAR. 1 OF SECTION 2-803.
23. ARCHITECTURAL SKETCHES OF STRUCTURES PROVIDED ON SHEET #18-19
24. OMITTED
25. TABULATIONS FOR SITE, BUILDING, PARKING AND LOADING DATA ARE PROVIDED ON THIS SHEET.
26. UTILITY LAYOUT SUBJECT TO CHANGE WITH FINAL SITE PLAN.
27. THERE ARE EXISTING BUILDINGS ON SITE.
28. LOCATIONS OF MECHANICAL EQUIPMENT (INCLUDING TRANSFORMERS AND GENERATORS) ON SITE TO BE PROVIDED WITH THE FINAL SITE PLAN
29. THE EXISTING ORIGINAL HOUSE IS TO REMAIN WITH MINOR MODIFICATIONS TO UPDATE IT WITH STAIRS AND/OR ELEVATORS AS A HOTEL USE OR OFFICE USE. IN THE RESIDENTIAL USE OPTION, THE DETACHED EXISTING GARAGE WILL BE DEMOLISHED AND A CABANA WILL BE CONSTRUCTED
30. IN THE RESIDENTIAL OPTION, THE EXISTING PRISON FELLOWSHIP OFFICE BUILDING, GARAGE AND BATHHOUSE WILL BE DEMOLISHED AND REPLACED WITH THE NEW RESIDENTIAL PROJECT. MOST OF THE MECHANICAL EQUIPMENT AND STRUCTURES TO THE EXISTING BUILDING WILL BE REMOVED. IN THE OFFICE OPTION, ONLY THE BATHHOUSE IS TO BE DEMOLISHED
31. THE PROPOSED LANDSCAPING AND TREE PRESERVATION AREAS IN AND NEAR THE EXISTING STORMWATER MANAGEMENT FACILITY ARE SHOWN ON SHEETS #7-10 OF THIS PLAN
32. THE APPLICANT RESERVES THE RIGHT TO INSTALL COVERED SIDEWALKS ON THE SITE WITH THE FINAL SITE PLAN.

STORMWATER MANAGEMENT NARRATIVE

STORMWATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMP) ARE PROVIDED FOR THIS PROPERTY BY A SERIES OF EXISTING ONSITE AND OFFSITE PONDS AS SHOWN ON THE APPROVED FAIRFAX COUNTY PLAN #8766-SP-001-2, ENTITLED "SALLIEMAE," PREPARED BY DEWBERRY & DAVIS, APPROVED ON JUNE 28, 1994. FOR INFORMATION PURPOSES, SHEETS #11-17 OF THIS APPLICATION ARE REFERENCED FROM APPROVED PLAN #8766-SP-001-2 TO DEMONSTRATE THAT THE EXISTING FACILITIES SERVE THIS DEVELOPMENT. SHEET #10 IS PROVIDED TO SHOW THE PONDS LOCATIONS IN PLAN VIEW. SHEET #14 IS INCLUDED TO SHOW THAT THE EXISTING FACILITIES WERE DESIGNED TO ACCOMMODATE SWM FOR USES CONSISTENT WITH THIS APPLICATION. SHEET #13 IS INCLUDED TO SHOW THAT THE EXISTING FACILITIES WERE DESIGNED TO ACCOMMODATE BMP FOR USES CONSISTENT WITH THIS APPLICATION. THE NARRATIVE ON SHEET #11 DESCRIBES HOW THE EXISTING ONSITE POND WAS RECONSTRUCTED WITH PLAN #8766-SP-001-2. THEREFORE, THERE ARE NO ADDITIONAL SWM OR BMP REQUIREMENTS FOR THIS PLAN.

AS CAN BE SEEN IN THE DESIGN DATA REFERENCED ABOVE, THE DESIGN CALCULATIONS CONTEMPLATED A LEVEL OF DEVELOPMENT FOR THE SUBJECT SITE WITH IMPACTS EXCEEDING THOSE PROPOSED WITH THIS PLAN. AT THE TIME OF FINAL SITE PLAN, ONCE FINAL DEVELOPMENT CONDITIONS ARE KNOWN, THE EXISTING POND WILL BE ANALYZED FOR SWM AND BMP PURPOSES. IF POSSIBLE, THE EXISTING POND WILL BE RETROFITTED TO PROVIDE SWM AND BMP FOR THIS SITE. IF ADEQUATE CAPACITIES CANNOT BE ACHIEVED ONSITE, THE APPLICANT WILL PURSUE OTHER OPTIONS TO MEET THESE REQUIREMENTS, WHICH MAY INCLUDE ENTERING INTO A MAINTENANCE AGREEMENT THAT RUNS WITH THE LAND WITH THE OWNER OF THE OFFSITE FACILITIES.

OUTFALL NARRATIVE

THIS SITE DRAINS NORTH TO SOUTH TO THE EXISTING ONSITE WET POND. A PRELIMINARY LAYOUT OF THE ON-SITE STORM DRAINAGE INLETS AND PIPES IS SHOWN ON SHEET #4-5. THE CHARACTERISTICS OF THE EXISTING FACILITY ARE PROVIDED IN THE CHECKLIST ON THIS SHEET. RUNOFF IS THEN CONVEYED UNDER OLD RESTON AVENUE THROUGH EXISTING CLOSED CONDUIT PIPES. THIS IS THE ONLY SITE OUTFALL, LABELED AS "SITE OUTFALL #1" ON SHEET #4-5. THE EXISTING POND FUNCTIONS IN SERIES WITH 3 ADDITIONAL PONDS ACROSS OLD RESTON AVENUE TO PROVIDE SWM AND BMP FOR A 158.3 AC DRAINAGE SHED. AS SHOWN ON SHEET #11, CROSS-SECTION 20 VERIFIES THE ADEQUACY OF THE EXISTING CHANNEL IMMEDIATELY DOWNSTREAM OF THE EXISTING FACILITIES. THE EXISTING VEGETATED CHANNEL PROCEEDS THROUGH THE HIDDEN CREEK GOLF COURSE. THE CHANNEL ENTERS THE FAIRFAX COUNTY MAPPED FLOODPLAIN APPROXIMATELY 1500 FT. DOWNSTREAM OF CROSS-SECTION 20. THE CHANNEL CONTINUES AND AT A POINT APPROXIMATELY 2400 FT DOWNSTREAM OF CROSS-SECTION 20, THE TOTAL DRAINAGE AREA IS 568 ACRES. THIS DRAINAGE AREA IS OVER 100 TIMES THE SITE AREA. IT IS THE OPINION OF URBAN ENGINEERING THAT AN ADEQUATE OUTFALL IS PROVIDED. FURTHER, THE ADEQUATE OUTFALL REQUIREMENTS OF THE PUBLIC FACILITIES MANUAL WILL BE SATISFIED WITH THE FINAL SITE PLAN, INCLUDING CROSS SECTIONAL ANALYSIS TO DEMONSTRATE THAT THE EXISTING NATURAL CHANNEL IS ADEQUATE TO HANDLE THE 2-YEAR POST-DEVELOPMENT ROUTED FLOWS AT NON-EROSIVE VELOCITIES.

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

[illegible]

☑ 1. [illegible]
☑ 2. [illegible] Sheet 4 [illegible]
☑ 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)
Existing wet pond	[illegible]	126	22.25	[illegible]	[illegible]	[illegible]

☑ 4. [illegible] Sheet 4 [illegible] 4
☑ 5. [illegible] Sheet 4 [illegible]
☑ 6. [illegible] Sheet 4
☑ 7. [illegible] Sheet 1
☑ 8. [illegible] 1
☑ 9. [illegible] 1 [illegible]
☑ 10. [illegible] 1 & 4
☑ 11. [illegible] N/A
☑ 12. [illegible] N/A

SHEET INDEX

1. COVER SHEET
2. EXISTING CONDITIONS AND SOILS MAP
3. CERTIFIED PLAT
4. CONCEPTUAL AND FINAL DEVELOPMENT PLAN - RESIDENTIAL
5. CONCEPTUAL AND FINAL DEVELOPMENT PLAN - OFFICE
6. GARAGE LAYOUTS
7. LANDSCAPE PLAN - RESIDENTIAL
8. LANDSCAPE PLAN - OFFICE
9.-10. EXISTING VEGETATION MAP AND TREE SURVEY
11-17 SWM/BMP DETAILS
18. SECTION PLANS - RESIDENTIAL
19. SECTION PLANS - OFFICE
20. EXISTING SIGHT DISTANCE PROFILE

OWNER / DEVELOPER

GREGOR, LLC
1856 OLD RESTON AVE.
RESTON VA. 20190

ZONING TABULATIONS: RESIDENTIAL OPTION

SITE AREA= 225,910.87 SF OR 5.1862 ACRES
EXISTING ZONING= PDC
PROPOSED ZONING= PDC
PROPOSED USE= MULTIFAMILY RESIDENTIAL AND HOTEL
BUILDING GROSS FLOOR AREA = 7,169 GSF HOTEL (INCLUDES MANOR HOUSE, MANOR HOUSE EXPANSION AND CABANA)
140,637 GSF MULTIFAMILY RESIDENTIAL
147,806 GSF TOTAL

NUMBER OF HOTEL ROOMS = 6 ROOMS
NUMBER OF RESIDENTIAL UNITS = 60 UNITS
MAXIMUM FAR = 1.5
BUILDING F.A.R. PROVIDED = 147,806/225,910.87 = 0.65
RESIDENTIAL DENSITY = 60 UNITS/5.1862 AC = 11.57 UNITS/ACRE
MAXIMUM BUILDING HEIGHT ALLOWED = NO MAXIMUM
MAXIMUM BUILDING HEIGHT PROVIDED= 40 FT FOR HOTEL
= 49.97 FT FOR MULTIFAMILY RESIDENTIAL
= 25.00 FT FOR CABANA
= 12.25 FT FOR PORTICO
= 25.00 FT FOR EX. GAZEBO (TO REMAIN)
YARDS REQUIRED = FRONT(NONE) SIDE (NONE) REAR (NONE)
YARDS PROVIDED = FRONT (35') SIDE (40') REAR (25')
OPEN SPACE REQUIRED = 15% OR 33,900 SF
OPEN SPACE PROVIDED = 45% OR 101,660 SF

PARKING TABULATIONS
HOTEL USE = 1 SPACE/ROOM + 4 SP /50 ROOMS = 7 SPACES
MULTIFAMILY USE = 1.6 SPACES/UNIT= 60 X 1.6 = 96 SPACES
TOTAL 103 SPACES

PARKING PROVIDED:
85 SPACES IN THE GARAGE
56 SURFACE SPACES
141 TOTAL
HANDICAPPED PARKING REQUIRED
5 SPACES (1 VAN ACCESSIBLE)
HANDICAPPED PARKING PROVIDED:
5 SPACES (2 VAN ACCESSIBLE)

LOADING SPACES REQUIRED.
MULTIFAMILY RESIDENTIAL - 1SP/25,000 GSF+1 SP /100,000 GSF = 2 SPACES
HOTEL - 1 SP /10,000 GSF+ 1 SP /100,000 GSF = 1 SPACE
TOTAL = 3 SPACES

LOADING SPACES PROVIDED.
3 SPACES

ZONING TABULATIONS: OFFICE OPTION

SITE AREA = 225,910.87 SF. OR 5.1862 ACRES
EXISTING ZONING = PDC
PROPOSED ZONING = PDC
PROPOSED USE = OFFICE BUILDINGS
BUILDING GROSS FLOOR AREA = 40,645 GSF EXISTING OFFICE BUILDING
= 2,400 GSF PROPOSED OFFICE BUILDING EXPANSION
= 5,126 GSF EXISTING MANOR HOUSE
= 250 GSF PROPOSED MANOR HOUSE EXPANSION
= 950 GSF EXISTING DISPLAY CENTER
TOTAL = 49,371 GSF

MAXIMUM FAR = 1.5
BUILDING F.A.R. PROVIDED = 49,371/225,910.87 = 0.219
MAXIMUM BUILDING HEIGHT ALLOWED = NO MAXIMUM
MAXIMUM BUILDING HEIGHT PROVIDED:
= 35.00 FT FOR EX. OFFICE BLDG (TO REMAIN)
= 25.00 FT FOR EX. GAZEBO (TO REMAIN)
= 20.00 FT FOR EX. DISPLAY CENTER (TO REMAIN)
YARDS REQUIRED = FRONT(NONE) SIDE (NONE) REAR (NONE)
YARDS PROVIDED = FRONT (35') SIDE (40') REAR (25')
OPEN SPACE REQUIRED = 15% OR 33,900 SF
OPEN SPACE PROVIDED = 62% OR 138,923.76 SF

PARKING TABULATIONS
PARKING REQUIRED.
OFFICE BUILDING - 43,045 S.F
3.6 SP./1,000 GSF = 155 SPACES
MANOR HOUSE - 5,376 S.F.
3.6 SP./1,000 GSF = 20 SPACES
DISPLAY CENTER - 950 SF
3.6 SP./1,000 GSF = 4 SPACES
TOTAL = 179 TOTAL

PARKING PROVIDED.
66 SPACES IN THE GARAGE
113 SURFACE SPACES
179 TOTAL
HANDICAPPED PARKING REQUIRED:
6 SPACES (1 VAN ACCESSIBLE)
HANDICAPPED PARKING PROVIDED:
6 SPACES (2 VAN ACCESSIBLE)
LOADING SPACES REQUIRED.
OFFICE - 1 SP./10,000 GSF+ 1 SP./20,000 GSF = 3 SPACES

LOADING SPACES PROVIDED
3 SPACES

PLAN DATE
09-28-05
10-18-05
11-30-05
01-12-06
02-08-06
07-11-06
08-19-06
10-16-06
12-04-06

No.	DATE	DESCRIPTION	REV'D BY	APPROVED	DATE

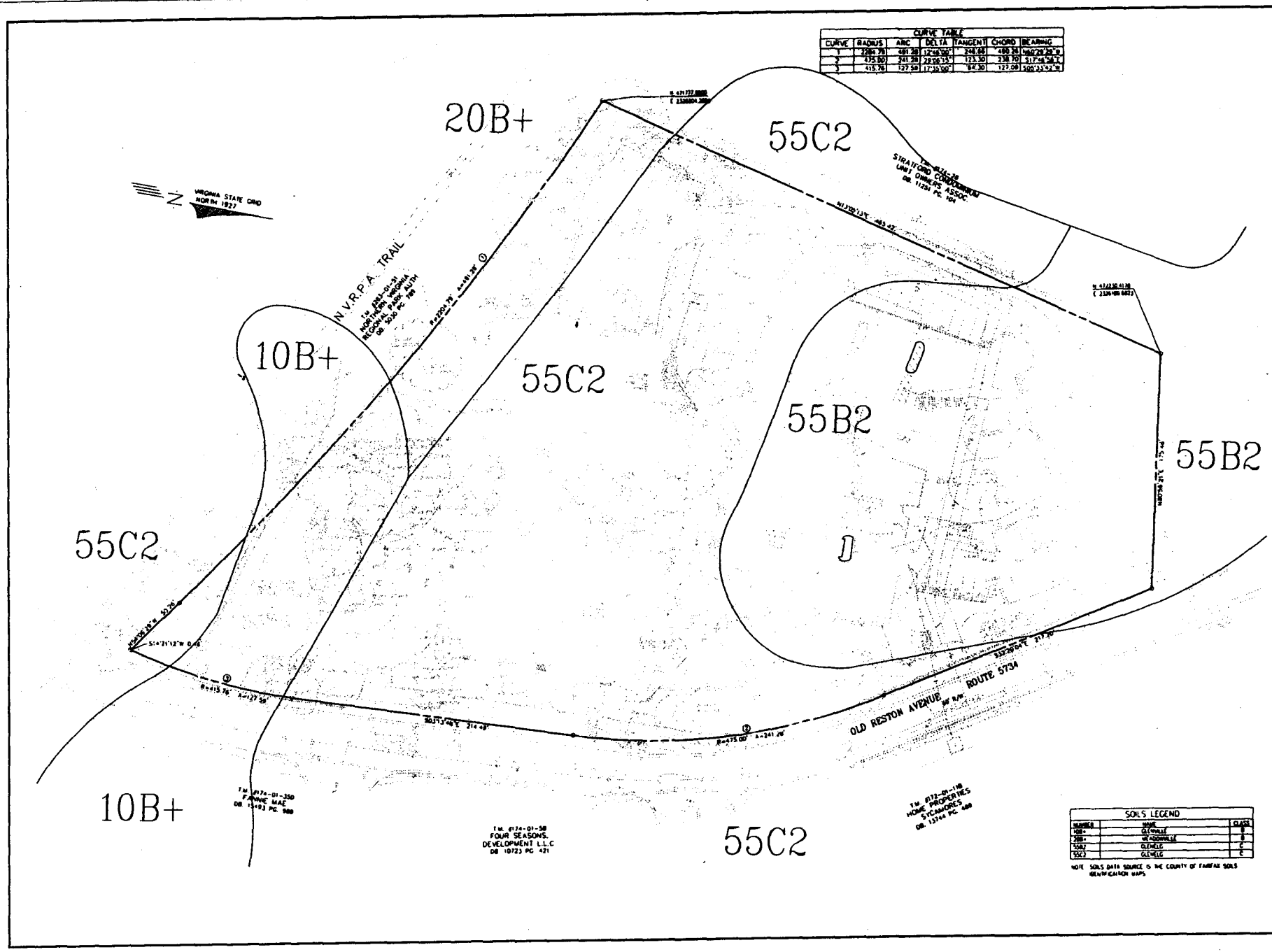
REVISION APPROVED BY DIVISION OF DESIGN REVIEW

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

COVER SHEET
BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: AS NOTED C.I. = N/A DATE: SEPT., 2005

SHEET 1 OF 20
FILE No. ZP-1612



CURVE TABLE						
CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
1	2204.79	491.28	12°46'00"	246.66	490.26	N60°29'29"W
2	475.00	241.28	29°06'15"	123.30	238.70	S17°46'58"E
3	415.76	127.59	17°35'00"	64.30	127.08	S05°33'42"W

SOILS LEGEND		
NUMBER	NAME	CLASS
10B+	GLENVILLE	B
20B+	MEADOWVILLE	B
55B2	GLENELG	C
55C2	GLENELG	C

NOTE: SOILS DATA SOURCE IS THE COUNTY OF FAIRFAX SOILS IDENTIFICATION MAPS

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
09-29-85
11-30-85
02-08-86
07-11-86
09-19-86
10-16-86
12-04-86

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7112 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8000

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

EXISTING CONDITIONS AND SOILS MAP

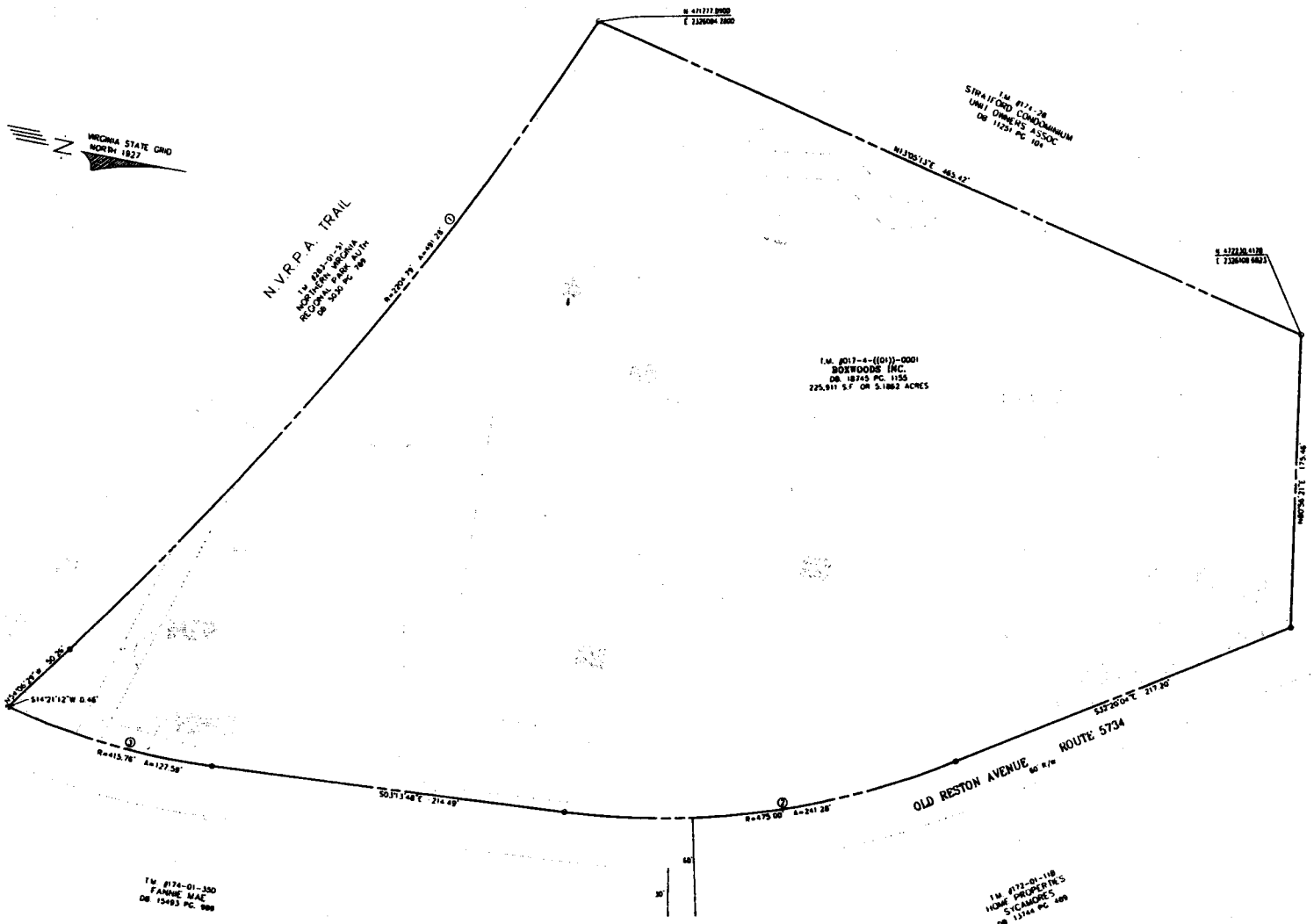
BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=80' C.I.=2' DATE: SEPT., 2005

SHEET 2 OF 20

FILE No. ZP-1612

CURVE TABLE						
CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
1	2200.76	491.28	12°48'00"	246.66	490.28	N60°28'28"W
2	475.00	241.28	29°06'35"	123.30	238.70	S17°49'36"E
3	415.76	127.58	17°35'00"	64.30	127.09	S05°33'42"E



No.	DATE	DESCRIPTION	REVISIONS APPROVED	DATE

REVISIONS APPROVED BY DIVISION OF DESIGN REVIEW

Revisions
10-19-05
10-20-05
11-30-05
01-31-06
02-11-06
03-13-06
09-05-06
10-16-06
12-04-06

URBAN ENGINEERING & ASSOC., INC.

CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
Scott K. Cox
LICENSED PROFESSIONAL ENGINEER
8/30/06

CERTIFIED PLAT

BOXWOODS

HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE 1"=80' C.I. = N/A DATE SEPT. 2005

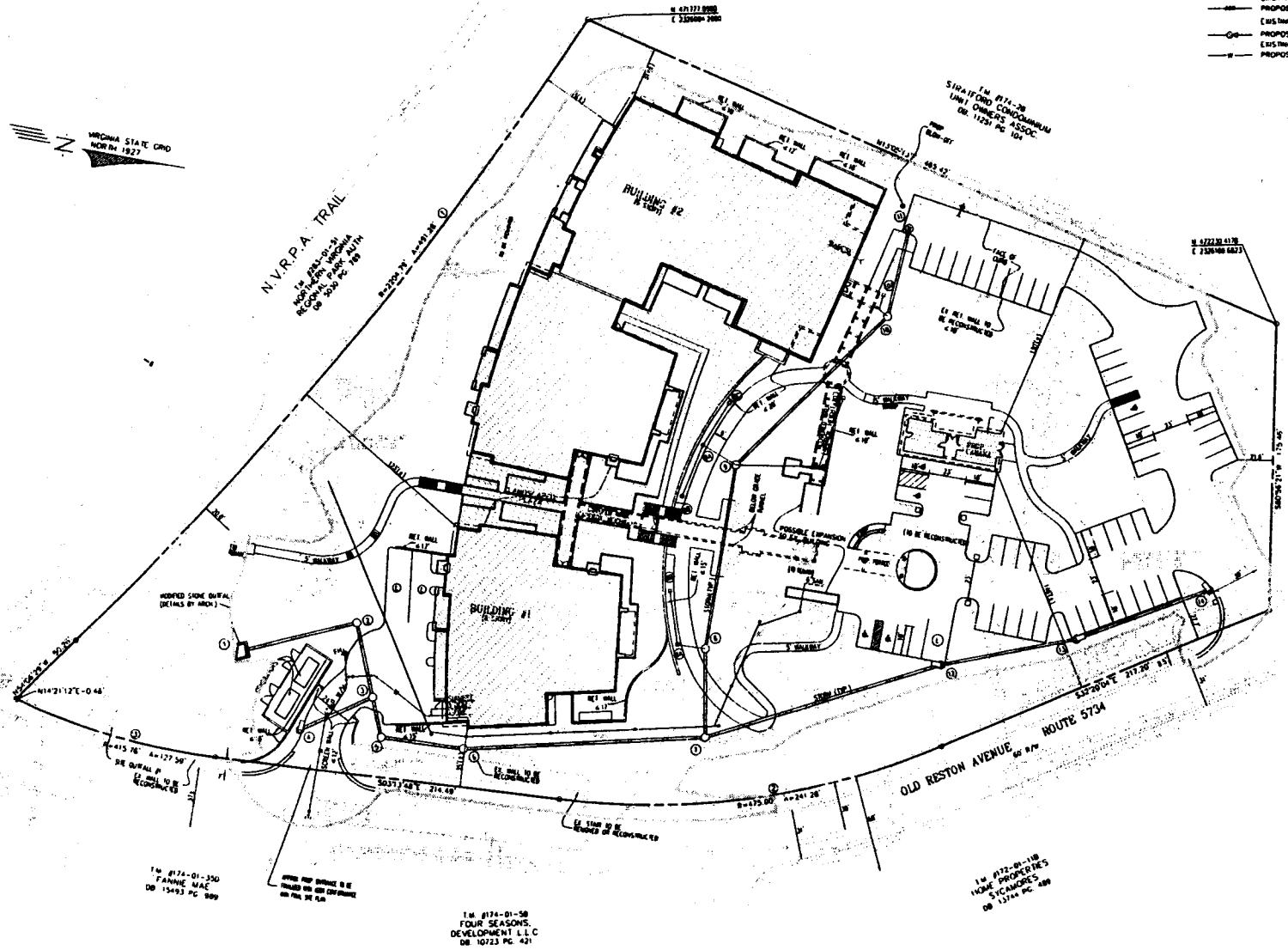
SHEET 3 OF 20

FILE No. ZP-1612

CURVE TABLE						
CURVE	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
1	2204.79	481.28	12°48'00"	241.66	480.28	N60°28'29"W
2	475.00	241.38	29°08'15"	123.30	238.79	S17°46'36"E
3	415.76	127.58	17°35'00"	64.30	127.09	S05°31'42"W

LEGEND:

- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- CURB & GUTTER TRANSITION
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED WATER LINE



NO.	DATE	DESCRIPTION	PLAN APPROVED BY	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
06-28-00
10-11-00
11-13-00
01-11-01
02-14-01
03-14-01
05-30-01
09-11-01
12-04-01

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ANNANDALE, VIRGINIA 22003 (703) 642-0880

CONCEPTUAL AND FINAL DEVELOPMENT PLAN - RESIDENTIAL OPTION

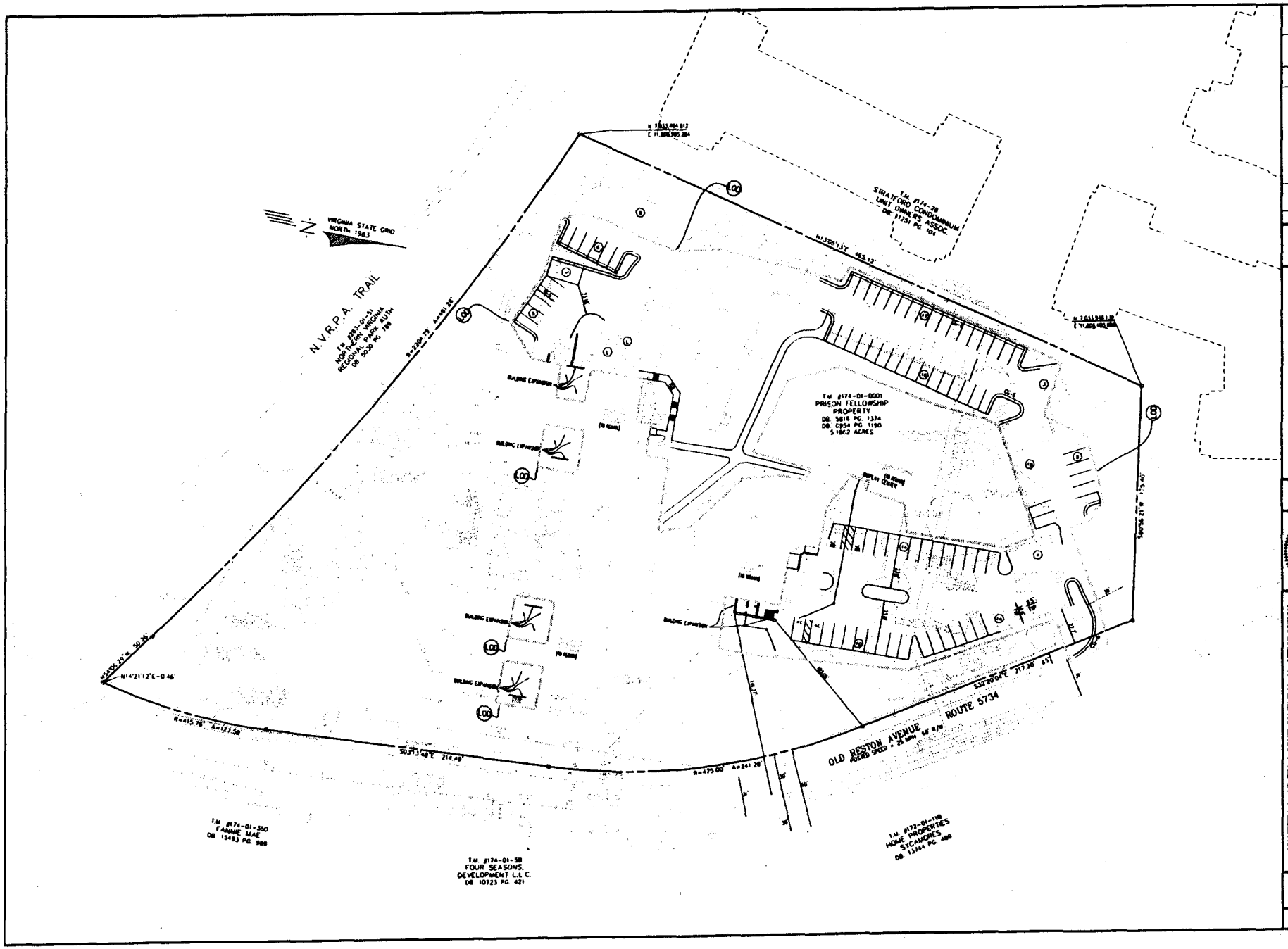
BOXWOODS

HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=30'
DATE: SEPT. 2001

SHEET 4 OF 20

FILE No. ZP-1612



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CONCEPTUAL AND FINAL DEVELOPMENT PLAN - OFFICE OPTION

BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

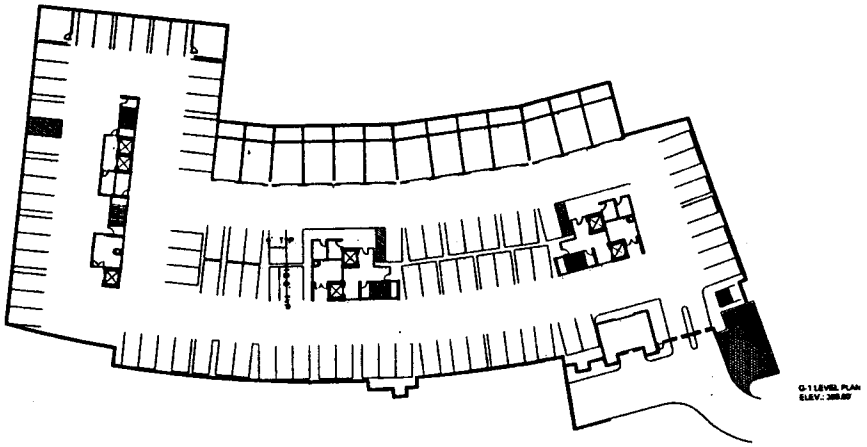
SCALE: 1"=30' C.I.=2' DATE: SEPT. 2005

SHEET 5 OF 20

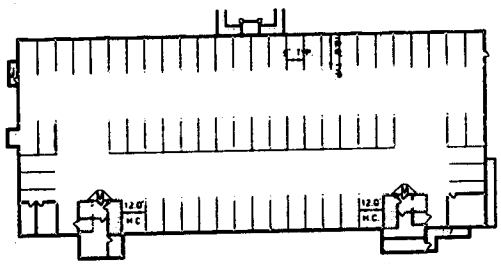
FILE No. ZP-1612

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE



PROPOSED GARAGE LAYOUT - RESIDENTIAL OPTION - 85 SPACES



EXISTING GARAGE LAYOUT - OFFICE OPTION - 64 SPACES

No	DATE	DESCRIPTION	REV. BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
09-28-05
11-30-05
07-11-06
09-18-06
10-16-06
12-04-06

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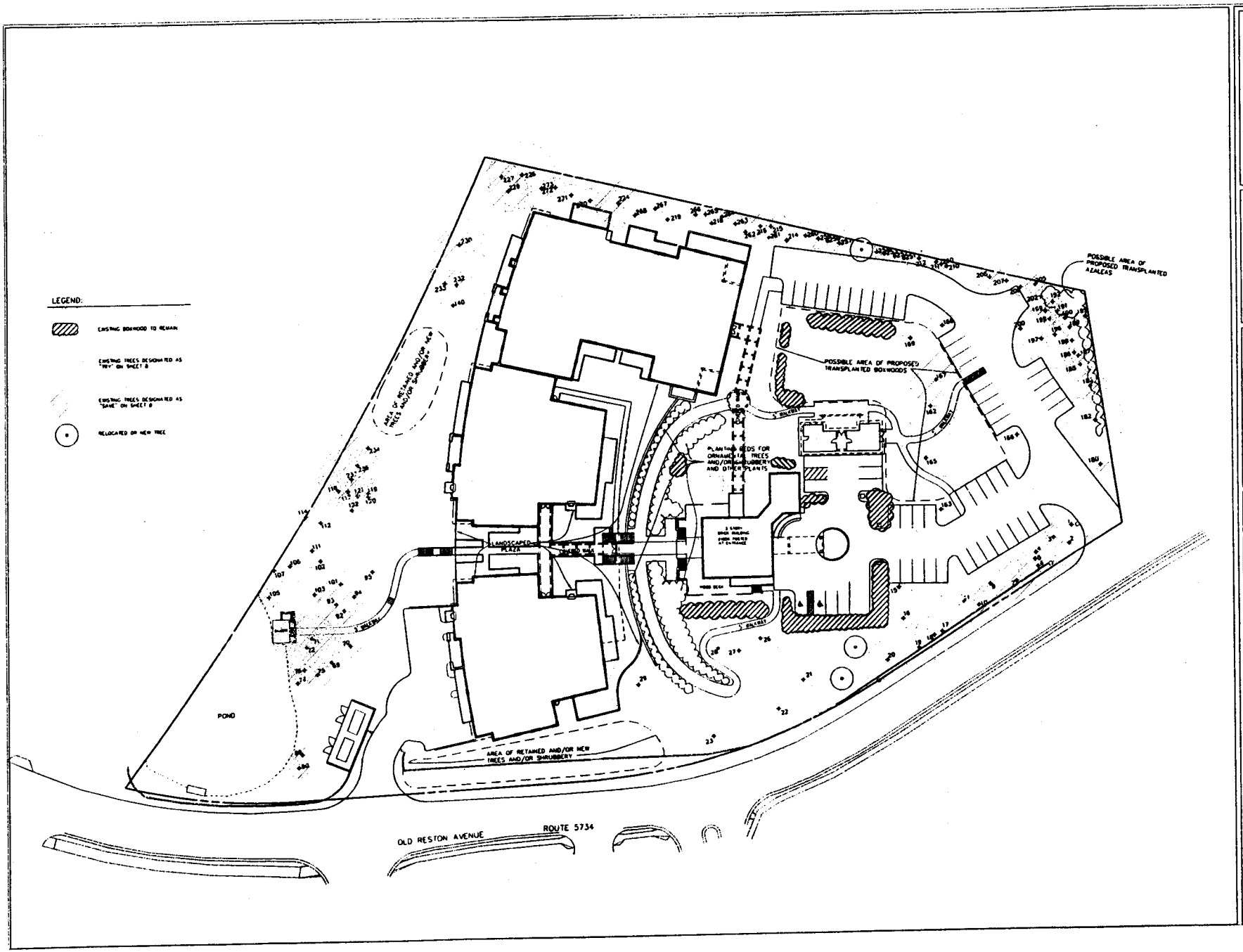
GARAGE LAYOUTS

BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=30' C.I.=N/A DATE: SEPT. 2005

SHEET
6
OF
20

FILE No.
ZP-1612



GRAHAM LANDSCAPE ARCHITECTURE

229 Prince George Street
Annapolis, MD 21401-1831
Bell 410.269.5886 Wash
301.858.5330
Fax 410.268.4032
www.grahamlandarch.com

REVISIONS

02-08-06

02-14-06

10-16-08

12-04-08

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

BOXWOODS
FAIRFAX COUNTY, VIRGINIA

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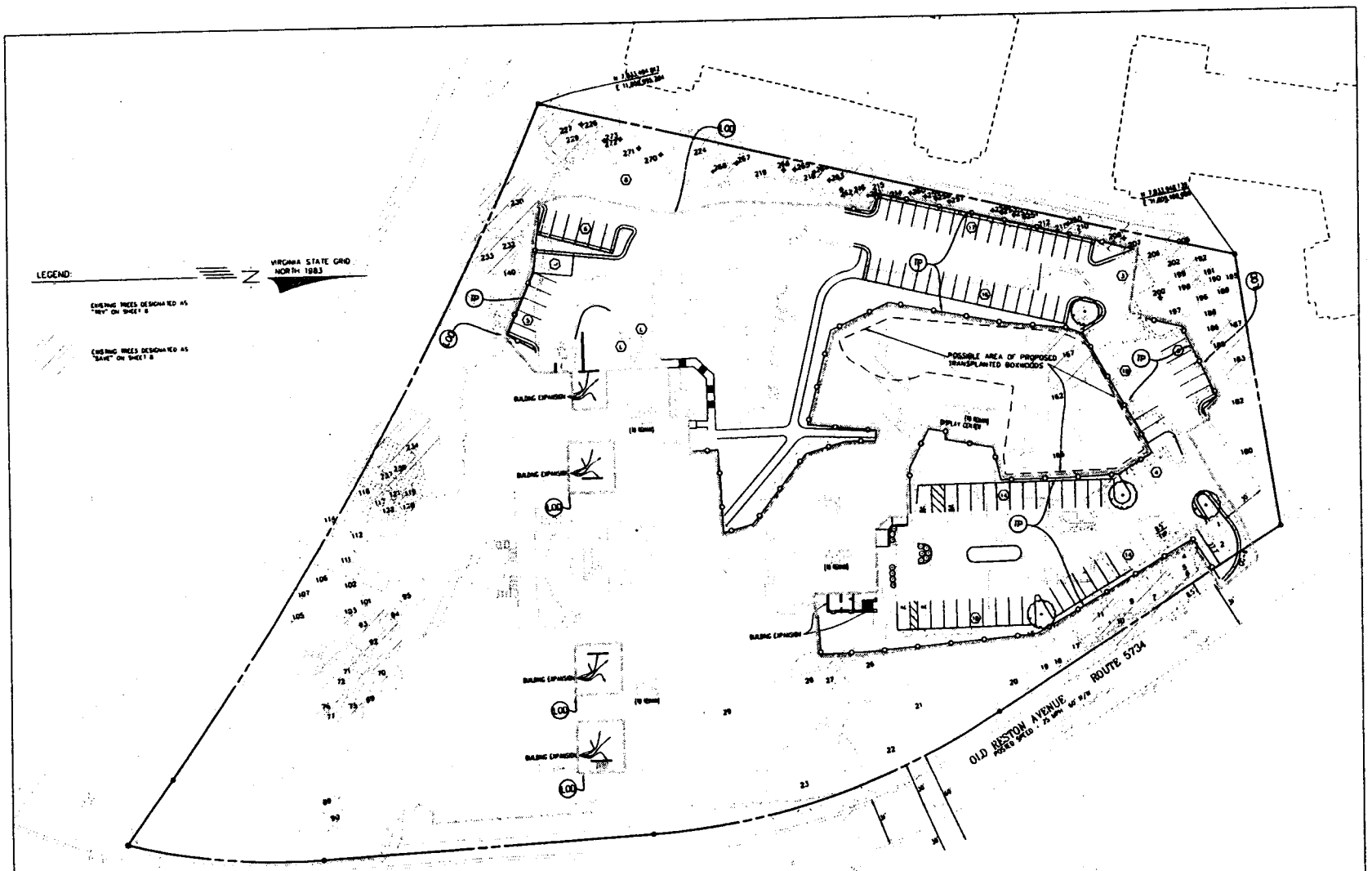
LANDSCAPE PLAN - RESIDENTIAL OPTION

DRAWN BY:	AMH
APPROVED BY:	
PROJECT #:	2512
SCALE:	1" = 30'0"

L 1.0
SHEET 7 of 20

19 SEPTEMBER 2005



GRAHAM LANDSCAPE ARCHITECTURE

REVISIONS

02-08-06

02-14-06

10-15-08

12-04-08

BOXWOODS
FAIRFAX COUNTY, VIRGINIA

LANDSCAPE PLAN - OFFICE OPTION

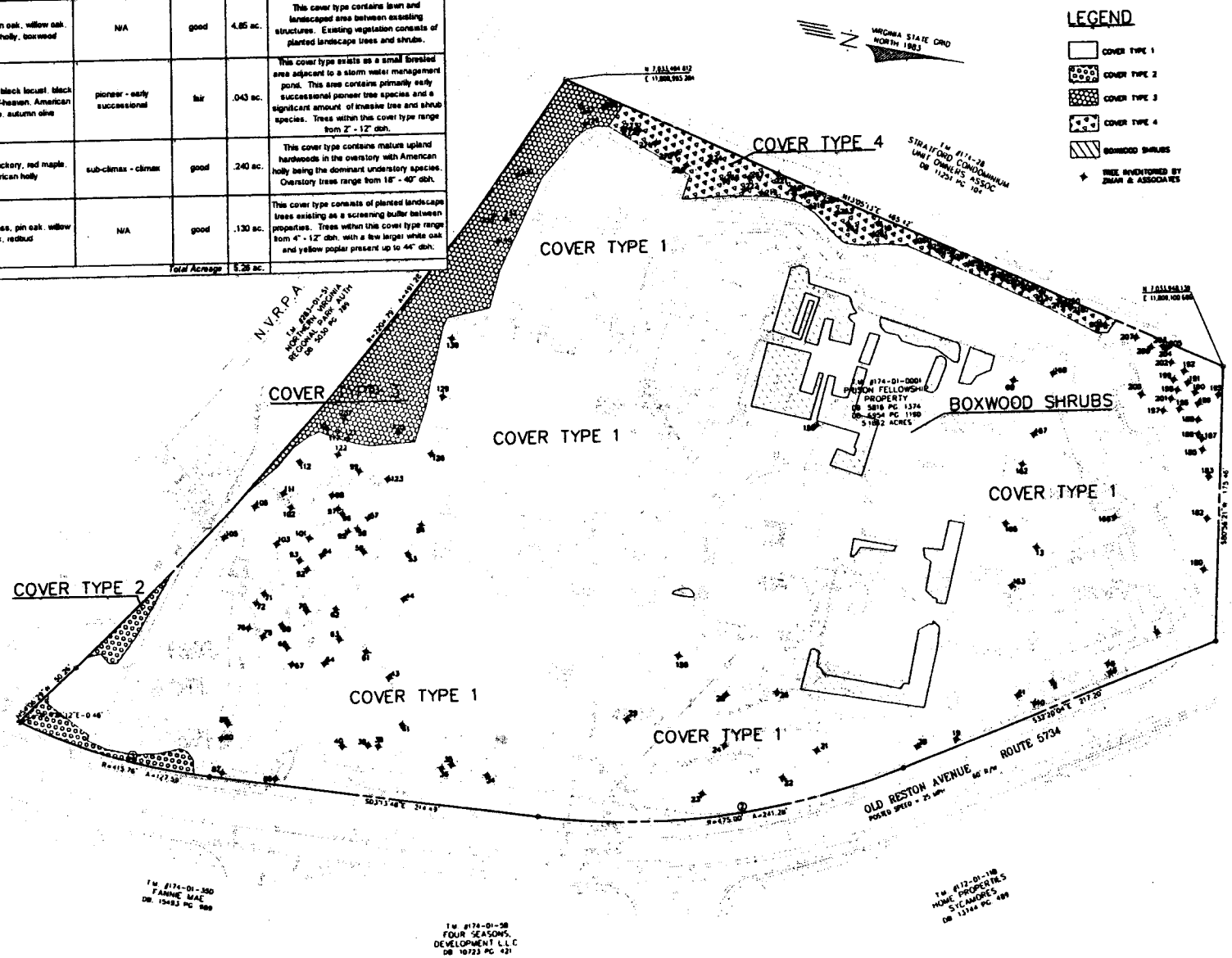
DRAWN BY:	AMH
APPROVED BY:	
PROJECT #:	2512
SCALE:	1" = 30'0"

L 1.0
SHEET 8 of 20

19 SEPTEMBER 2005

EVM SUMMARY TABLE

	Cover Type	Primary Species	Successional Stage	Condition	Acreage	Comments
1	developed/maintained grasslands	red maple, pin oak, willow oak, American holly, boxwood	N/A	good	4.85 ac.	This cover type contains lawn and landscaped area between existing structures. Existing vegetation consists of planted landscape trees and shrubs.
2	old field/bottomland hardwoods	yellow poplar, black locust, black willow, tree-of-heaven, American sycamore, autumn olive	pioneer - early successional	fair	.043 ac.	This cover type exists as a small forested area adjacent to a storm water management pond. This area contains primarily early successional pioneer tree species and a significant amount of invasive tree and shrub species. Trees within this cover type range from 2" - 12" dbh.
3	upland hardwoods	white oak, hickory, red maple, American holly	sub-climax - climax	good	.240 ac.	This cover type contains mature upland hardwoods in the overstory with American holly being the dominant understory species. Overstory trees range from 18" - 40" dbh.
4	maintained grasslands	leyland cypress, pin oak, willow oak, redbud	N/A	good	.130 ac.	This cover type consists of planted landscape trees existing as a screening buffer between properties. Trees within this cover type range from 4" - 12" dbh, with a few larger white oak and yellow poplar present up to 44" dbh.
				Total Acreage	5.26 ac.	



SEE LEGEND ON SHEET #2.

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE

PLAN DATE 02-08-06 10-16-06 12-04-06

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EXISTING VEGETATION MAP

BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=30' C.I. = 2' DATE: FEB., 2006

SHEET 9 OF 20

FILE No. SP-1612

Linden Springs Tree Survey 10/2008

Tree #	Species	Size	Condition	Canopy Position	Crown Density	Crown Spread	Problems	Comments	Impacted by Other Development Option	Status	Impacted by Residential Development Option	Status
1	American sycamore	34	60%	dominant	45	30	dieback, exposed roots, thin crown, basal decay		Yes	Lose	Yes	Lose
5	dogwood	5	70%	suppressed	90	15	small deadwood, exposed roots, root damage		No	Save	No	Save
6	eastern red cedar	16	70%	co dominant	80	30	poor pruning		No	Save	Yes	Try
9	sweet gum	9	70%	co dominant	80	35	exposed roots, minor damage		No	Save	Yes	Try
10	red maple	16	80%	co dominant	80	30			No	Save	No	Save
11	willow oak	15	75%	co dominant	85	35	exposed roots, minor damage		Yes	Try	Yes	Try
13	sugar maple	7	75%	co dominant	90	25	moderate dieback, potential transplant shock	Moved to location of removed tree #163	Yes	Try	Yes	Lose
19	American holly	13	70%	co dominant	85	30	exposed roots, buried root flare, mulch too high		No	Save	No	Save
20	red maple	33	60%	dominant	80	80	exposed roots, decay cavity present - extent not determined	Tree should be monitored yearly to assess decay and cavity expansion	No	Save	No	Save
21	dogwood	3	75%	co dominant	90	12	buried root flare, mulch too high		No	Save	No	Save
22	basswood	34	60%	dominant	85	60	exposed roots, weak co dominant union, trunk decay, root damage, minor damage	4 co dominant leads, existing lightning protection, cable support system installed	No	Save	Yes	Try
23	post oak	47	40%	dominant	65	40	basal decay, trunk decay, major branch decay, moderate decline		No	Save	Yes	Lose
24	hickory	6	80%	intermediate	75	15	buried root flare, mulch too high		No	Save	Yes	Lose
25	willow oak	13	85%	dominant	95	30	exposed roots, small deadwood		Yes	Try	Yes	Lose
28	willow oak	13	65%	dominant	85	30	buried root flare, mulch too high		No	Save	Yes	Lose
29	American holly	17	65%	dominant	95	45	trunk decay, major branch decay, weak co dominant union	3 co dominant leads	No	Save	Yes	Lose
34	Norway maple	13	75%	co dominant	70%	40	exposed roots, root damage, girdling roots	2 co dominant leads	No	Save	Yes	Lose
35	American holly	12	70%	co dominant	80	40	weak co dominant union, trunk decay		No	Save	Yes	Lose
36	American holly	17	80%	dominant	85	15	trunk decay		No	Save	Yes	Lose
38	pin oak	14	80%	dominant	90	35	buried root flare, mulch too high, small deadwood		No	Save	Yes	Lose
39	American holly	7	85%	intermediate	90	10	exposed roots		No	Save	Yes	Lose
40	pin oak	11	60%	co dominant	95	30	exposed roots, minor damage, root decay, moderate dieback		No	Save	Yes	Lose
41	American sycamore	13	40%	dominant	30	35	exposed roots, minor damage		No	Save	Yes	Lose
43	ash	8	75%	co dominant	80	35	exposed roots, root damage		No	Save	Yes	Lose
44	red maple	7	75%	dominant	75	25	exposed roots, buried root flare, mulch too high		No	Save	Yes	Lose
53	silver maple	18	75%	dominant	90	20	exposed roots, minor damage		No	Save	Yes	Lose
56	dogwood	7	80%	co dominant	80	15	buried root flare, mulch too high		No	Save	Yes	Lose
57	honey locust	12	75%	dominant	80	35	exposed roots, root damage		No	Save	Yes	Lose
58	dogwood	7	75	suppressed	80	20	small deadwood	multistem	No	Save	Yes	Lose
59	red maple	30	60%	co dominant	80	35	severe girdling roots, lower old wounds, exposed roots, root damage		No	Save	Yes	Lose
60	willow oak	8	60%	co dominant	80	15	dieback, transplant shock, decline	Moved to location of removed tree #180	Yes	Lose	Yes	Lose
61	red maple	7	80%	dominant	75	15	girdling roots, root damage, root decay, recent lower bed excavation	Excavation has damaged roots	No	Save	Yes	Lose
62	red maple	10	70%	co dominant	90	35	exposed roots, root damage, recent lower bed excavation	Excavation has damaged roots	No	Save	Yes	Lose
63	American holly	7	60%	intermediate	90	10	broken limbs, major branch decay	poor form	No	Save	Yes	Lose
64	white oak	35	50%	dominant	80	90	trunk decay, basal decay, storm damage, significant cavity present, major branch decay, overall decline	Potential hazard	No	Save	Yes	Lose
67	eastern red cedar	7	85%	suppressed	80	15	small deadwood		No	Save	Yes	Lose
68	black locust	8	75%	intermediate	75	20	exposed roots		No	Save	Yes	Lose
69	red maple	8	75%	intermediate	70	30	exposed roots, root damage		No	Save	Yes	Lose
70	willow oak	7	75%	co dominant	75	20	thin crown, root damage		No	Save	Yes	Lose
71	pignut hickory	16	70%	co dominant	75	75	basal decay, buried root flare, mulch too high	support cabled to tree #72	No	Save	Yes	Lose
72	white oak	37	60%	dominant	75	90	excessive lean, one sided, buried root flare, basal decay, mulch too high	support cabled to tree #71	No	Save	Yes	Lose
75	sugar maple	6	80%	intermediate	80	20	small deadwood	2 co dominant leads	No	Save	Yes	Lose
76	hemlock	2	80%	suppressed	75	10			No	Save	Yes	Lose
86	black walnut	20	80%	co dominant	80	40	trunk decay, basal decay	poor form	No	Save	Yes	Lose
87	yellow poplar	34	65%	dominant	70	35		2 co dominant leads	No	Save	Yes	Lose
89	eastern red cedar	7	80%	intermediate	85	15	thin crown, dieback		No	Save	No	Save
90	black willow	6	70%	intermediate	70	15	one-sided		No	Save	No	Save
92	white oak	22	80%	co dominant	80	30	one-sided		No	Save	Yes	Try
93	white oak	23	80%	co dominant	75	30	small deadwood, conflicting branches	multistem	No	Save	Yes	Try
94	dogwood	4	75%	suppressed	75	15	small deadwood, exposed roots		No	Save	Yes	Lose
95	dogwood	3	75%	suppressed	75	20	one-sided		No	Save	Yes	Lose
96	American holly	8	80%	intermediate	75	20	one-sided		No	Save	Yes	Lose
97	American holly	6	80%	intermediate	75	15	exposed roots, root damage		No	Save	Yes	Lose
98	pin oak	12	75%	co dominant	80	30	poor pruning		No	Save	Yes	Lose
99	American holly	10	60%	intermediate	85	20	trunk decay cavities, major branch decay, poor pruning	multistem	No	Save	Yes	Lose
101	American holly	5	60%	suppressed	90	20	exposed roots, root damage, small deadwood		No	Save	Yes	Try
102	sweet gum	12	75%	co dominant	80	40	mechanical damage, root damage		No	Save	Yes	Try
103	dawn redwood	3	75%	suppressed	75	10	weak co dominant union	2 co dominant leads	No	Save	No	Save
105	hemlock	6	75%	intermediate	80	15	exposed roots, root damage, girdling roots		No	Save	No	Save
106	silver maple	13	70%	co dominant	70	25	exposed roots, root damage		No	Save	No	Save
111	willow oak	11	75%	co dominant	75	25	exposed roots, root damage, girdling roots		No	Save	No	Save
112	red maple	8	75%	intermediate	70	25	one-sided, small deadwood, poor pruning		No	Save	No	Save
117	American holly	5	75%	suppressed	80	15	one-sided, poor pruning		No	Save	No	Save
118	American holly	4	75%	suppressed	80	15	poor pruning		No	Save	No	Save
121	American holly	4	75%	suppressed	85	15	exposed roots, root damage, poor pruning		No	Save	No	Save
122	sweet gum	16	75%	dominant	80	25	poor form		No	Save	No	Save
123	American holly	12	80%	co dominant	85	25			No	Save	Yes	Lose
125	American holly	8	80%	intermediate	30	25			No	Save	Yes	Lose
126	yellow poplar	10	65%	dominant	80	20	thin crown		No	Save	Yes	Lose
129	yellow poplar	8	80%	dominant	75	15	basal decay, recent excavation in root zone, buried root flare		No	Save	Yes	Lose
130	yellow poplar	7	70%	co dominant	90	25			No	Save	Yes	Lose

DBH = Diameter at Breast Height (measured 4.5 feet above ground)
Condition ratings provided as percentages based on methods outlined in the latest edition of the Guide for Plant Appraisal, published by the International Society of Arboriculture

Linden Springs Tree Survey 10/2008

Tree #	Species	Size	Condition	Canopy Position	Crown Density	Crown Spread	Problems	Comments	Impacted by Other Development Option	Status	Impacted by Residential Development Option	Status
140	white oak	40	75%	dominant	75	50	large deadwood, major branch decay		Yes	Try	Yes	Lose
156	willow oak	16	75%	dominant	90	30	exposed roots, root damage, buried root flare, mulch too high		No	Save	Yes	Lose
159	cherry	5	80%	dominant	55	30	buried root flare, mulch too high		No	Save	Yes	Lose
162	pin oak	16	75%	dominant	85	40	exposed roots, root damage		No	Save	Yes	Lose
163	American holly	13	60%	co dominant	90	50	trunk decay, weak co dominant union, poor form, mulch too high	4 co dominant leads	Yes	Lose	Yes	Lose
165	pin oak	15	60%	co dominant	85	40			No	Save	Yes	Lose
166	American holly	30	70%	dominant	90	38	conflicting branches, weak co dominant union, poor form, poor pruning	4 co dominant leads	Yes	Lose	Yes	Lose
167	[illegible] tree	5	10%	dominant	30	40	small deadwood, trunk decay, major branch decay, dieback	multistem	No	Save	Yes	Lose
168	willow oak	8	80%	dominant	75	30	dieback, small deadwood	poor form	Yes	Lose	Yes	Lose
180	yellow poplar	3	85%	intermediate	75	12			No	Save	Yes	Try
182	red maple	11	70%	dominant	85	44	weak co dominant union, root damage, exposed roots, dieback		No	Save	Yes	Try
183	eastern red cedar	15	75%	co dominant	80	25	large deadwood, weak co dominant union, poor pruning, dieback		No	Save	No	Save
185	eastern red cedar	18	70%	co dominant	75	25	dieback, small deadwood		No	Save	No	Save
186	redbud	2	70%	suppressed	55	10	small deadwood		No	Save	No	Save
187	redbud	2	75%	suppressed	80	12	small deadwood, thin crown		No	Save	No	Save
188	redbud	4	70%	suppressed	50	10	dieback, small deadwood		No	Save	No	Save
189	redbud	3	75%	suppressed	70	12	small deadwood		No	Save	No	Save
190	redbud	2	75%	suppressed	90	10	thin crown, dieback, small deadwood		No	Save	No	Save
191	redbud	2	75%	suppressed	60	10	small deadwood		No	Save	No	Save
192	redbud	2	75%	suppressed	30	10			No	Save	No	Save
195	dogwood	5	70%	suppressed	75	15	one-sided, branch decay, mulch too high		No	Save	No	Save
196	white oak	45	75%	dominant	85	90	one-sided, basal decay, major branch decay		Yes	Try	Yes	Try
197	dogwood	2	75%	suppressed	80	10	small deadwood		No	Save	No	Save
198	dogwood	2	80%	suppressed	85	10	one-sided		No	Save	No	Save
199	dogwood	4	80%	suppressed	80	12	small deadwood		No	Save	No	Save
200	white oak	35	50%	dominant	80	50	trunk decay, basal decay, major cavity at base	Potential Hazard Tree	Yes	Lose	Yes	Lose
201	eastern white pine	6	75%	suppressed	75	10	one sided, thin crown		No	Save	No	Save
202	white oak	23	75%	dominant	75	8	dieback, large deadwood		No	Save	Yes	Try
203	dogwood	2	75%	suppressed	75	8	one-sided		No	Save	No	Save
204	American holly	2	80%	suppressed	80	5	one-sided		No	Save	No	Save
205	black gum	3	80%	intermediate	80	15			No	Save	No	Save
206	dogwood	3	80%	suppressed	80	15	small deadwood		No	Save	Yes	Lose
207	eastern white pine	12	75%	co dominant	80	30	buried root flare, mulch too high		Yes	Try	Yes	Lose
208	Leyland cypress	9	75%	co dominant	80	30	weak co dominant union	multistem	Yes	Try	Yes	Lose
210	white oak	3	80%	intermediate	80	12			Yes	Try	Yes	Lose
211	black gum	6	0%	co dominant	50	15	Dead		Yes	Try	Yes	Lose
212	willow oak	8	80%	co dominant	80	30			Yes	Try	Yes	Lose
215	red maple	6	70%	dominant	80	25	exposed roots, severe girdling roots		Yes	Try	Yes	Lose
218	yellow poplar	15	75%	dominant	80	35	minor basal decay	poor form	No	Save	Yes	Lose
219	black gum	11	40%	intermediate	75	30	weak co dominant union, excessive lean		No	Save	No	Save
221	redbud	5	65%	intermediate	85	15			No	Save	Yes	Lose
222	yellow poplar	30	80%	dominant	80	35			Yes	Try	Yes	Lose
224	white oak	28	75%	dominant	70	35			No	Save	Yes	Try
226	white oak	40	75%	dominant	70	50	large deadwood, dieback		No	Save	No	Save
227	American holly	8	80%	co dominant	80	25		2 co dominant leads	No	Save	Yes	Try
229	American holly	11	80%	intermediate	80	30			No	Save	Yes	Try
230	white oak	24	70%	co dominant	75	40	basal decay, dieback, large deadwood		Yes	Try	Yes	Lose
232	white oak	40	75%	dominant	80	60		2 co dominant leads	Yes	Try	Yes	Try
233	white oak	10	40%	co dominant	75	30	one-sided, conflicting branches, poor form		Yes	Try	Yes	Try
234	hickory	22	80%	co dominant	75	45	large deadwood		No	Save	Yes	Save
237	white oak	28	75%	dominant	80	50			No	Save	Yes	Lose
250	eastern red cedar	6	70%	suppressed	100	8			Yes	Try	Yes	Lose
251	eastern red cedar	14	70%	co dominant	80	12			Yes	Try	Yes	Lose
252	eastern red cedar	6	70%	co dominant	60	12			Yes	Try	Yes	Lose
253	eastern red cedar	6	70%	co dominant	60	14			Yes	Try	Yes	Lose
254	eastern red cedar	4	70%	co dominant	60	8			Yes	Try	Yes	Lose
255	Leyland cypress	2	70%	suppressed	70	6			No	Save	Yes	Lose
256	Leyland cypress	3	70%	suppressed	100	6			Yes	Try	Yes	Lose
257	Leyland cypress	16	75%	co dominant	80	20		multi stem	Yes	Try	Yes	Lose
258	Leyland cypress	12	75%	co dominant	80	18		multi-stem	Yes	Try	Yes	Lose
259	Leyland cypress	12	75%	co dominant	80	16		multi stem	Yes	Try	Yes	Lose
260	Leyland cypress	12	75%	co dominant	80	20		multi stem	Yes	Try	Yes	Lose
261	Eastern Red Cedar	12	75%	suppressed	60	10			Yes	Try	Yes	Lose
262	Eastern Red Cedar	12	75%	co dominant	60	12		multi-stem	Yes	Try	Yes	Lose
263	Leyland cypress	9	80%	co dominant	90	14			No	Save	Yes	Lose
264	Eastern Red Cedar	9	60%	suppressed	60	8			No	Save	Yes	Lose
265	Leyland cypress	9	60%	suppressed/co dominant	60	15			No	Save	Yes	Lose
266	Leyland cypress	9	60%	suppressed/co dominant	60	16			No	Save	Yes	Try
267	Leyland cypress	9	70%	suppressed	60	12			No	Save	Yes	Lose
268	Leyland cypress	12	40%	co dominant	70	20			No	Save	Yes	Lose
269	Leyland cypress	12	70%	suppressed/co dominant	60	15			No	Save	Yes	Lose
270	Leyland cypress	13	70%	suppressed/co dominant	70	18			No	Save	Yes	Try
271	Eastern Red Cedar	13	60%	suppressed	50	16			No	Save	Yes	Try
272	Leyland cypress	13	70%	suppressed	50	15			No	Save	Yes	Lose
273	Leyland cypress	14	80%	suppressed	80	14			No	Save		

DBH = Diameter at Breast Height (measured 4.5 feet above ground)
Condition ratings provided as percentages based on methods outlined in the latest edition of the Guide for Plant Appraisal, published by the International Society of Arboriculture

TREE CANOPY COVER REQUIREMENTS

GROSS SITE AREA	225,911 SF
- BLDG FOOTPRINT AREA (DEDUCTION)	
- EXISTING MANOR HOUSE	5,126 SF
- EXISTING OFFICE BUILDING #1	7,680 SF
- EXISTING OFFICE BUILDING #2	7,680 SF
- EXISTING GARAGE	950 SF
- PROPOSED MANOR HOUSE EXPANSION	250 SF
- PROPOSED OFFICE BLDGS EXPANSION	2,400 SF
- RETENTION POND EXISTING	8,836 SF
= ADJUSTED GROSS SITE AREA	192,989 SF
TREE CANOPY COVER REQUIRED (192,874 X 20%)	38,596 SF

TREE CANOPY COVER PROVIDED

TREE CANOPY COVER PROVIDED:	
PROP. LANDSCAPE PROVIDED	0 SF
EX. LANDSCAPING PROVIDED*	
43 CANOPY TREES @ 250 SF	10,750 SF
25 UNDERSTORY TREES @ 125	3,125 SF
46 EVERGREEN TREES @ 125	5,750 SF
TREE SAVE AREA (18,100 SF x 1.25)	22,625 SF
TOTAL	42,250 SF

* ONLY THOSE EX. TREES OUTSIDE LIMITS OF TREE SAVE AREA ARE CREDITED

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
02-08-08
10-16-08
12-04-08

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

TREE SURVEY
BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: N/A
C.I. = 2'
DATE: FEB., 2008

SHEET 10 OF 20

FILE No. SP-1612

STORMWATER MANAGEMENT AND OUTFALL NARRATIVE

PROJECT DESCRIPTION:

STORMWATER MANAGEMENT FOR THE PROPOSED SALLIE MAE DEVELOPMENT IS PROVIDED BY A SERIES OF FOUR WET PONDS ON A TRIBUTARY TO COLVIN RUN.

THE MOST UPSTREAM POND IS LOCATED UPSTREAM OF OLD RESTON AVENUE. THE PROPOSED POND IS THE RECONSTRUCTION OF AN EXISTING POND WHICH HAS FILLED UP WITH SILT. A NEW SPILLWAY AND OUTLET CULVERT WILL BE CONSTRUCTED ALONG WITH THE ROAD IMPROVEMENTS. THE CONSTRUCTION DETAILS FOR THIS POND ARE INCLUDED WITH THE PLANS ENTITLED OLD RESTON AVENUE, WATERBRIDGE RESIDENTIAL, COUNTY PLAN NUMBER 4862-PI-06-1. THESE WERE DEVELOPED FOR A PREVIOUS PROJECT CALLED WATERBRIDGE SQUARE WHICH IS BEING REPLACED BY THE SALLIE MAE DEVELOPMENT. THE PLANS ARE BEING MODIFIED TO MEET THE NEEDS OF THIS DEVELOPMENT.

ON THE SALLIE MAE SITE DIRECTLY DOWNSTREAM OF OLD RESTON AVENUE TWO PONDS EXIST. THE TWO PONDS ARE SEPARATED BY NARROW STRIP OF LAND WITH A SHALLOW OVERFLOW PORTION THAT EQUALIZES THE WATER LEVELS OF THE BOTH PONDS. PROPOSED POND A AND POND B WILL REPLACE THE EXISTING PONDS. POND A WILL REPLACE THE EXISTING UPPER POND. THE PROPOSED MODIFICATIONS INCLUDE THE RECONSTRUCTION OF THE DAM EMBANKMENT, LOWERING OF THE NORMAL POOL OF THE EXISTING POND BY 3.4 FEET TO ELEVATION 377.8, AND CONSTRUCTION OF A SPILLWAY AND WATER FEATURE. POND B WILL REPLACE THE EXISTING LOWER POND. MODIFICATIONS INCLUDE RECONSTRUCTION OF THE DAM EMBANKMENT, LOWERING THE NORMAL POOL OF THE EXISTING POND BY 7.8 FEET TO ELEVATION 372.0, EXCAVATION TO EXPAND THE POND, AND CONSTRUCTION OF A SPILLWAY AND WATER FEATURE. POND C WILL BE A NEW POND CONSTRUCTED DOWNSTREAM OF POND B.

BOTH OFFSITE AND ONSITE WATER FLOWS INTO THE PONDS. THE PORTION OF THE FLOW THAT PASSES THROUGH THE POND A WATER FEATURE FLOWS INTO POND B, THE REMAINING FLOW PASSES THROUGH A SPILLWAY RISER DIRECTLY INTO POND C BYPASSING POND B. ALL OF THE OUTFLOW FROM POND B FLOWS INTO POND C. MOST OF THE SITE DRAINS TO EITHER POND B OR POND C. THE FOLLOWING TABLE SUMMARIZES THE DRAINAGE AREAS TO EACH POND.

LOCATION	POND A	POND B	POND C	DOWNSTREAM PROPERTY LINE
ONSITE DRAINAGE AREA (AC)	1.3	4.2	12.6	23.4
OFFSITE DRAINAGE AREA (AC)	42.0	43.1	111.8	148.8
TOTAL DRAINAGE AREA (AC)	43.3	47.3	124.4	172.2

DRAINAGE AREA, LANDUSE, AND SOILS MAPS ARE PROVIDED ON SHEET P8.

ENGINEERING ANALYSIS:

DISCHARGES WERE CALCULATED FOR THREE CONDITIONS OF LANDUSE.

1. EXISTING CONDITIONS: REPRESENTING DEVELOPMENT THAT NOW EXIST WITHIN THE WATERSHED.
2. PROPOSED CONDITIONS: REPRESENTING THE PROPOSED DEVELOPMENT ONSITE AND EXISTING CONDITIONS OFFSITE.
3. ULTIMATE CONDITIONS: REPRESENTING LANDUSE AS SPECIFIED IN THE FAIRFAX COUNTY COMPREHENSIVE PLAN.

THE U.S. CORPS OF ENGINEERS HEC-1 HYDROLOGIC COMPUTER PROGRAM WAS USED TO CALCULATE THE DISCHARGES. SCS TR-55 METHODOLOGY WAS USED TO CALCULATE THE WATERSHED PARAMETERS FOR 8 SUBBASINS INCLUDING THE RUNOFF CURVE NUMBER AND THE TIME OF CONCENTRATION. CURVE NUMBER AND TIME OF CONCENTRATION CALCULATIONS ARE PROVIDED ON SHEET P8. THE SCS TYPE II DISTRIBUTION WITH A 24-HOUR DURATION WAS USED TO REPRESENT THE RAINFALL. HEC-1 PRINTOUTS ARE PROVIDED ON SHEETS P9, P10, AND P11.

STORMWATER MANAGEMENT DETENTION:

FOR CALCULATING THE STORMWATER MANAGEMENT REQUIREMENTS THE 2 AND 10-YEAR FLOODS WERE ANALYZED. THE ENTIRE SITE DRAINS TO DESIGN POINT 6 WHICH IS AT THE DOWNSTREAM PROPERTY LINE OF THE SALLIE MAE DEVELOPMENT. THE FOLLOWING TABLE COMPARES THE DISCHARGES CALCULATED AT DESIGN POINT 6:

CONDITION	DISCHARGES (CFS) 2-YEAR	10-YEAR
EXISTING CONDITIONS	141	370
PROPOSED CONDITIONS	80	262
DIFFERENCE	-61	-108

THE PROPOSED STORMWATER MANAGEMENT PONDS REDUCE THE DISCHARGES BELOW EXISTING LEVELS. THE 2-YEAR DISCHARGE WAS DETAINED BELOW EXISTING LEVELS IN ORDER TO INSURE THAT AN ADEQUATE OUTFALL IS PROVIDED (SEE ADEQUATE OUTFALL NARRATIVE ON THIS SHEET).

THE THREE WET PONDS PROVIDE ALSO PROVIDE MORE THAN THE REQUIRED WATER QUALITY (BMP) DETENTION (SEE CALCULATIONS ON SHEET P7).

SPILLWAY DESIGN FLOOD AND FREEBOARD DETERMINATION:

THE DAM EMBANKMENTS WERE DESIGNED TO MEET THE PROPOSED FAIRFAX COUNTY DAM DESIGN AND CONSTRUCTION STANDARDS. THE 100-YEAR, 1.5*100-YEAR, AND 2.5*100-YEAR STORMS WERE ANALYZED TO EVALUATE THE SAFETY OF THE DAM EMBANKMENTS. BASED ON THE PROPOSED DAM STANDARDS THE SPILLWAY DESIGN STORM FOR POND A IS THE 1.5*100-YEAR AND THE FREEBOARD HYDROGRAPH IS THE 2.5*100-YEAR FLOOD. FOR POND B AND POND C A 100-YEAR SPILLWAY DESIGN STORM AND A 1.5*100-YEAR FREEBOARD HYDROGRAPH IS REQUIRED.

THE PROPOSED DEVELOPMENT IS BEING BUILT ON A FORMER DISTILLERY AND THE EXISTING GROUND IN THE VICINITY OF THE DAM EMBANKMENTS IS COMPOSED OF FILL. THIS FILL AND OTHER SITE CONSTRAINTS DO NOT ALLOW FOR A OVERLAND EMERGENCY SPILLWAY, THEREFORE, COMBINED PRINCIPAL AND EMERGENCY SPILLWAYS ARE BEING PROVIDED FOR EACH POND. WHEN CALCULATING THE SPILLWAY CAPACITY FOR THE 100-YEAR, SPILLWAY DESIGN STORM, AND FREEBOARD DESIGN STORM THE LOWER ORIFICES AND WEIRS WERE BLOCKED AS REQUIRED BY THE DAM STANDARDS.

THE FOLLOWING TABLE COMPARES THE FLOOD ELEVATIONS TO THE TOP OF DAM ELEVATIONS:

	ELEVATIONS (FT) TOP OF DAM	100-YEAR FLOOD	SPILLWAY DESIGN FLOOD	FREEBOARD HYDROGRAPH
POND A	383.0	380.3	381.0 (1.5*100-YR)	382.3 (2.5*100-YR)
POND B	377.1	375.1	375.1 (100-YR)	375.8 (1.5*100-YR)
POND C	366.0	363.5	363.5 (100-YR)	365.4 (1.5*100-YR)

THE TOP OF DAM ELEVATIONS ARE ABOVE THE FREEBOARD HYDROGRAPH ELEVATIONS. THE PROPOSED EMBANKMENTS WILL ALSO BE AT LEAST 2 FEET ABOVE THE SPILLWAY DESIGN FLOOD AS REQUIRED BY THE DAM STANDARDS.

CONCLUSION:

THE PROPOSED DESIGN PROVIDES MORE THAN THE REQUIRED 2 AND 10-YEAR DETENTION WHILE MEETING THE PROPOSED FAIRFAX COUNTY DAM DESIGN AND CONSTRUCTION STANDARDS.

DRAINAGE OUTFALL NARRATIVE

THE ENTIRE SALLIE MAE DEVELOPMENT WILL DRAIN TO A TRIBUTARY TO COLVIN RUN. DIRECTLY DOWNSTREAM OF THE ENTRANCE ROAD CULVERT THE TRIBUTARY PASSES OVER THE DOWNSTREAM PROPERTY LINE WHERE IT CONTINUES THROUGH THE HIDDEN CREEK COUNTRY CLUB GOLF COURSE. THE TRIBUTARY ENTERS THE GOLF COURSE BY PASSING THROUGH TWO 28 INCH STEEL PIPES UNDER A CART PATH WHICH LEADS TO A GOLF COURSE MAINTENANCE BUILDING. AFTER EXITING THE CULVERTS IT PASSES THROUGH A WELL DEFINED GRASS AND TREE LINED CHANNEL THROUGH THE GOLF COURSE. THIS OUTFALL IS AN ADEQUATE BED AND BANK CHANNEL AS DESCRIBED AND JUSTIFIED BELOW.

FLOW CAPACITY:

THE PROPOSED PONDS ON THE SALLIE MAE SITE WERE DESIGNED TO REDUCE THE 2-YEAR DISCHARGE TO LEVELS THAT WOULD INSURE AN ADEQUATE OUTFALL. THE EXISTING CART PATH CULVERTS AND THE CHANNEL DOWNSTREAM WERE ANALYZED TO DETERMINE THE FLOW CAPACITY. STORMWATER DETENTION WAS THAN PROVIDED ONSITE TO ACHIEVE A 2-YEAR DISCHARGE WHICH WOULD NOT EXCEED THIS CAPACITY.

DETENTION BELOW EXISTING LEVELS WAS REQUIRED SINCE THE EXISTING 2-YEAR DISCHARGE AT THE OUTFALL WAS CALCULATED TO BE 141 CFS, WHICH EXCEEDS THE CAPACITY OF BOTH THE CULVERTS AND THE CHANNEL. THE STORMWATER MANAGEMENT PROVIDED WITH THE SALLIE MAE DEVELOPMENT WOULD REDUCE THE PROPOSED CONDITION 2-YEAR DISCHARGE TO 80 CFS. THIS IS WELL BELOW EXISTING CONDITION 2-YEAR DISCHARGE.

TO DETERMINE THE OUTFALL CAPACITY THE CART PATH CULVERTS AND CHANNEL DOWNSTREAM WERE MODELED USING THE U.S. ARMY CORPS OF ENGINEERS HEC-2 HYDRAULIC COMPUTER MODEL. A HEC-2 MODEL OF THE PROPOSED 2-YEAR DISCHARGE (80 CFS) IS INCLUDED ON THIS SHEET. AS CAN BE SEEN FROM THE HEC-2 PRINTOUT THE PROPOSED 2-YEAR DISCHARGE PASSES THROUGH THE CULVERTS WITHOUT OVERTOPPING THE CART PATH AND IS CONTAINED WITHIN THE EXISTING CHANNEL DOWNSTREAM. THEREFORE, THE OUTFALL HAS SUFFICIENT CAPACITY FOR THE PROPOSED 2-YEAR DISCHARGE AND MEETS ADEQUATE OUTFALL CAPACITY REQUIREMENTS.

FLOW VELOCITIES:

THE EXISTING CHANNEL DOWNSTREAM OF THE CART PATH CULVERTS IS A WELL MAINTAINED GRASS LINED CHANNEL. AS SHOWN IN THE HEC-2 PRINTOUT THE FLOW VELOCITIES DO NOT EXCEED 4.5 FT/SEC DURING THE PEAK OF THE 2-YEAR FLOOD. THE BOTTOM OF THE STREAM IS LINED WITH COBBLES AND THE SIDES WITH GRASS AND TREES. DIRECTLY DOWNSTREAM OF THE PROJECT THE CHANNEL APPEARS STABLED AND THERE IS LITTLE EVIDENCE OF EROSION.

THE FAIRFAX COUNTY SOILS MAPS IDENTIFY THE SOILS IN THIS SECTION OF THE TRIBUTARY TO BE MIXED ALLUVIAL (SOIL NO. 1). FAIRFAX COUNTY DEFINES THE EROSION POTENTIAL OF THESE SOILS TO BE "SLIGHT", AND HAS DESIGNATED THE PERMISSIBLE VELOCITY FOR GRASS MIXTURE CHANNELS WITH EROSION RESISTANT SOILS TO BE 5 FT/SEC. THEREFORE, THE PROPOSED 2-YEAR DISCHARGE SHOULD NOT CAUSE EROSIVE VELOCITIES DOWNSTREAM.

CONCLUSION:

THE TRIBUTARY DOWNSTREAM OF THE PROJECT IS A LEGITIMATE BED AND BANK CHANNEL AND HAS THE CAPACITY TO SERVE AS AN ADEQUATE OUTFALL FOR THE PROPOSED SALLIE MAE DEVELOPMENT.

WE ARE OF THE OPINION THAT AN ADEQUATE OUTFALL EXIST FOR THIS PROJECT.

VIRGINIA POWER SUBSTATION STORMWATER MANAGEMENT:

THE BMP AND STORMWATER MANAGEMENT PROVIDED BY THE SALLIE MAE PROJECT INCLUDES THE PROPOSED EXPANSION OF THE VIRGINIA POWER SUBSTATION. APPROXIMATELY 1.5 ACRES OF THE EXPANSION DRAINS TO A SWM FACILITY THAT WILL BE REMOVED TO CONSTRUCT THE ENTRANCE ROAD TO THE SALLIE MAE DEVELOPMENT. THE PROPOSED SALLIE MAE PONDS PROVIDE ADDITIONAL BMP AND SWM DETENTION TO OVERCOMPENSATE FOR THE 1.5 ACRES THAT WILL GO OFF UNDETAINED. THE PORTION OF THE VIRGINIA POWER SUBSTATION THAT DRAINS TO THE WATERSHED STUDIED, INCLUDING THE AREA DRAINING TO THE DISPLACED SUBSTATION POND, IS SHOWN AS PART OF "ONSITE DEVELOPED - UNCONTROLLED" (D1) AREA IN THE BMP CALCULATIONS ON SHEET P7. THIS AREA IS ALSO SHOWN AS PROPOSED INDUSTRIAL DEVELOPMENT IN THE SWM CALCULATIONS, SHEETS P8 AND P8. THE CALCULATIONS ILLUSTRATE THAT THE PROPOSED SALLIE MAE PONDS PROVIDE MORE THAN THE REQUIRED BMP AND SWM DETENTION REQUIRED TO OVERCOMPENSATE FOR THE PORTION OF THE VIRGINIA POWER SUBSTATION EXPANSION BEING IMPACTED.

HYDRAULIC ANALYSIS OF OUTFALL

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*************************************
HEC-2 WATER SURFACE PROFILES
VERSION 4.6.2; MAY 1991
*************************************

T1 SALLIE MAE                          (FILE: 3002-OF.DAT)
T2 OUTFALL ANALYSIS         2-YEAR FLOOD
T3      EXISTING CHANNEL AND TRAIL CULVERTS DOWNSTREAM OF THE PROJECT

J1  ICHECK   INQ    NINV   IDIR   STRT   METRIC  HVINS   Q      WSEL    FQ
      0       2      0      0     0.04     0       0      80    350.6    0
J2  NPROF   IPLOT  PRFVS  XSECV  XSECH   FN     ALLDC   IBW    CHNIM  ITRACE
      1       0     -1      0      0      0      -1      0       0      0
J3  VARIABLE CODES FOR SUMMARY PRINTOUT
     38       1      3     36     26     60      13     14      18     46
     46       6      4

NC    0.1     0.1    0.06    0.1    0.3
X1    10      13     193     207     0       0       0
X3    10
GR    360     30     348.1   80     348.6   148     349.6   183    345.9   197
GR    349.9   202    349.7   207    350     215     352     228    353.3   238
GR    353.2   250    356     290    380     285

X1    30      13     194     208    100     170     185
GR    360     130    208     128.1  354     181     382     181    381     194
GR    348     197    348     203    381     208     361.3   250    382     250
GR    356     310    358     390    360     436

NC                           0.3    0.5
X1    30      13     248     255    118     120     130
X3    10                                                   351.62  361.82
GR    360     96     360     124    356     180     364    141    352.2   245
GR    349.2   240    349.2   254    352.2   250     352.2  252    354     277
GR    364     380    356     430    360     463
  EXISTING GOLF CART PATH TRAIL 2- 28" STEEL CULVERTS
SC    2.010   0.40   2.68    0      2.42    0       28     2.3    348.5   348.2
X1    31      13     132     243    22      22      12
X2                   2       361.82 350
X3    30                                                   350     350
BT    7       100    360     0      130     350     0      180    350     0
BT    360     350    0       360    350     0       445    350     0      472
BT    360     0
GR    380     100    360     131    356     160     354    230    358     238
GR    349.2   230    349.2   248    352     243     354    270    364     342
GR    356     383    366     420    380     466
```

SUMMARY PRINTOUT

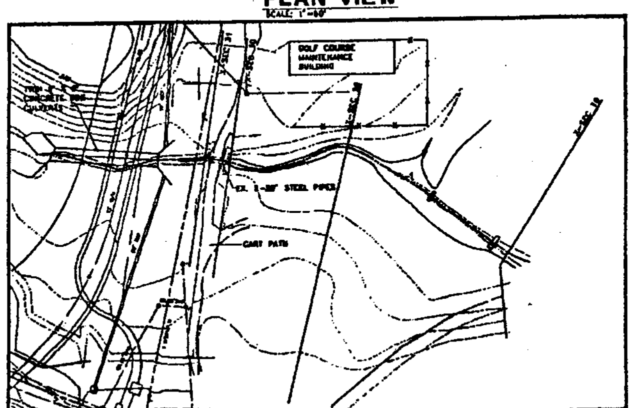
SECNO	CWSEL	EG	VLOB	VCH	VROB	QLOB	QCH	QROB	QCULV	QWEIR	DEPTH	TOPWID
10.000	348.26	348.30	.00	2.90	.00	.00	80.00	.00	.00	.00	2.30	11.03
20.000	350.20	350.54	.00	4.80	.00	.00	80.00	.00	.00	.00	2.80	10.32
30.000	351.80	352.10	.00	4.30	.00	.00	80.00	.00	.00	.00	2.00	9.33
31.000	354.04	354.07	.00	1.30	.00	.00	80.00	.00	80.00	.00	5.74	11.00

SUMMARY OF ERRORS AND SPECIAL NOTES

WARNING SECNO= 31.000 PROFILE= 1 CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

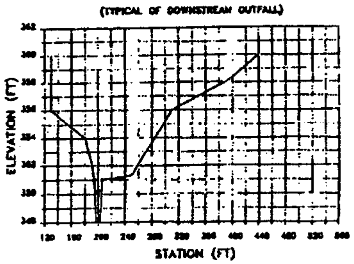
OUTFALL ANALYSIS PLAN VIEW

SCALE: 1"=60'



CROSS-SECTION 20

(TYPICAL OF DOWNSTREAM OUTFALL)



FOR INFORMATION PURPOSES ONLY!

Dewberry & Davis
Architects Engineers Planners Surveyors
8401 Arlington Blvd., Fairfax, VA 22031
703 849-0100

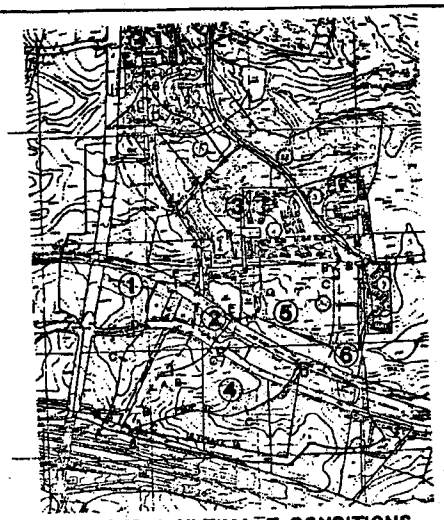
STORMWATER MANAGEMENT AND ADEQUATE OUTFALL NARRATIVE

SallieMae

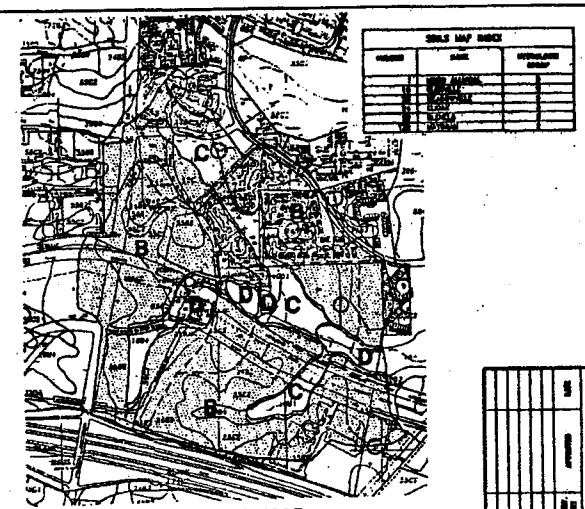
Virginia Consolidation Project

Drawn by: L. J. [illegible]
Designed by: C. C. [illegible]
Date: MARCH, 1994
File number: 8764-SP-01
PDC
SHEET 11 OF 2[illegible]

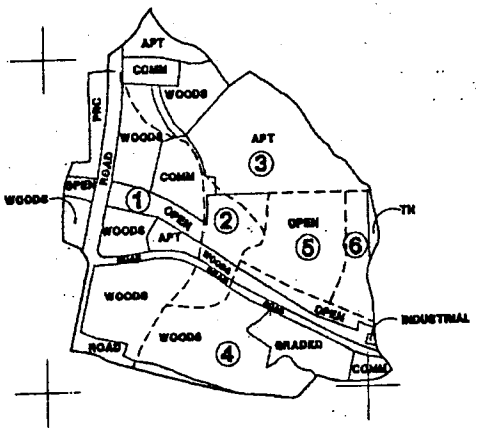
EXISTING CONDITIONS
DRAINAGE AREA MAP



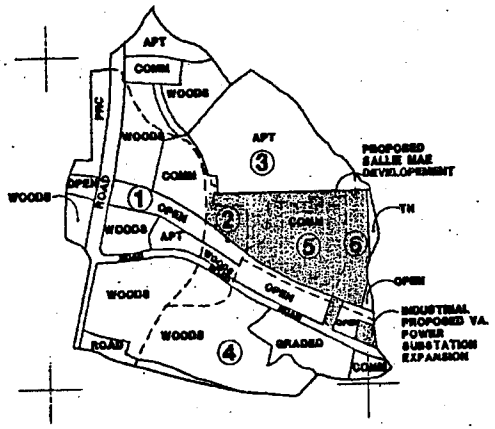
PROPOSED & ULTIMATE CONDITIONS
DRAINAGE AREA MAP



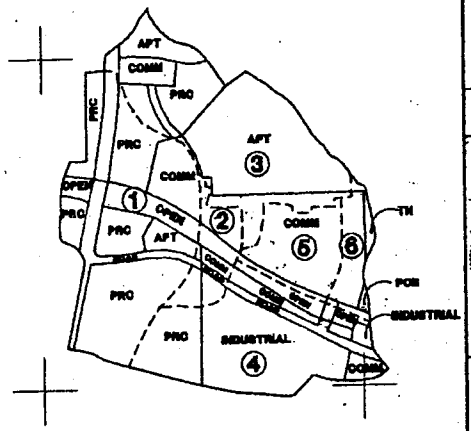
SOILS MAP



EXISTING CONDITIONS
LAND USE



PROPOSED CONDITIONS
LAND USE



ULTIMATE CONDITIONS
LAND USE

FOR INFORMATION PURPOSES ONLY!

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DRAINAGE, SOILS AND
LAND USE MAPS

SallieMae
Virginia Consolidation Project

WATER QUALITY CALCULATIONS

BMP FACILITY DESIGN CALCULATIONS

Plan Name: SALLIE MAE, VIRGINIA CONSOLIDATION PROJECT
Plan Number: 8766-SP-01

I. Water Quality Narrative

The area included in the site consists of 23.0 acres of commercial use, 1.5 acres of industrial use and 0.2 acres of road. 18.1 acres of this site area and 106.5 acres of offsite developed area will drain to the three wet ponds located on the site. 7.3 developed acres drain uncontrolled from the site. The three wet ponds will be privately maintained. The site is located in the Chesapeake Bay Preservation area; therefore, 40% phosphorous removal is required.

II. Watershed Information

Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)
A1 Offsite Developed to Pond A	0.73	62.00
A2 Onsite Developed to Pond A	0.85	1.30
B1 Offsite Developed to Pond B	0.73	43.30
B2 Onsite Developed to Pond B	0.85	4.20
C1 Offsite Developed to Pond C	0.35	1.20
C2 Onsite Developed to Pond C	0.85	12.60
D1 Onsite Developed - Uncontrolled	0.84	7.30

::

IIIa. Phosphorus Removal - "Occoquan Method"

Part 2: Compute the Weighted Average "C" Factor for the Site

(A) Area of the site (a) 28.40 acres

(B) Subarea Designation (1)	"C" (2)	Acres (3)	Product (2)x(3)
A2 Onsite Developed to Pond A	0.85	1.30	1.105
B2 Onsite Developed to Pond B	0.85	4.20	3.570
C2 Onsite Developed to Pond C	0.85	12.60	10.710
D1 Onsite Developed - Uncontrolled	0.84	7.30	6.132

(b) Total 21.617

(C) Weighted Average "C" Factor (b)/(a)=(c) 0.85

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)		Area Ratio (4)	C Factor Ratio (5)	Product (6)
A1	Wet Pond	50	(0.2)A1/28.4=	0.488	0.86	21.036
A2	Wet Pond	50	A2/28.4=	0.061	1.00	2.588
B1	Wet Pond	50	(0.2)B1/28.4=	0.341	0.86	14.690
B2	Wet Pond	50	B2/28.4=	0.148	1.00	6.296
C1	Wet Pond	50	(0.2)C1/28.4=	0.008	0.41	0.165
C2	Wet Pond	50	C2/28.4=	0.498	1.00	24.887
D1	Uncontrolled	—	—		—	0.000

(c) Total 71.67 %

Since 71.67% > 40% Phosphorus removal requirement is satisfied

IV. Site Coverage

Part 1: Determine Compliance with Site Coverage Requirement

Sum all the uncontrolled onsite areas and compute a weighted average "C" factor. Do not include qualifying open space.

(B) Subarea Designation (1)	"C" (2)	Acres (3)	Product (2)x(3)
D1 Onsite Developed - Uncontrolled	0.84	7.30	6.132

(A) Total equivalent uncontrolled area (a) Total 6.132

(B) Total uncontrolled area (b) Total 7.3

(C) Weighted average "C" factor (a)/(b)=(c) 0.84

(D) If Line B(b) < 20% of Line A(a), then the site coverage requirement is satisfied. Line A(a) is the equivalent offsite area for which coverage may be required.

(100)x(line B6)/(line A6)= 28.74 > 20%

Part 4: Determine the Offsite Areas for which Coverage is Required.

(A) For the offsite areas listed in Part 1 which flow to proposed BMPs compute the equivalent areas.

Subarea Designation (1)	"C" (2)	Acres (3)	Product (2)x(3)
A1 Offsite Developed to Pond A	0.73	(0.2)(62)= 12.4	9.052
B1 Offsite Developed to Pond B	0.73	(0.2)(43.3)= 8.66	6.322
C1 Offsite Developed to Pond C	0.35	(0.2)(1.2)= 0.24	0.084

(a) Total 15.458

V. Storage

Part 7: Compute the Weighted Average "C" Factor for each Proposed BMP Facility

(A) List the areas to be controlled by the proposed BMPs

(B) Subarea Designation - POND A (1)	"C" (2)	Acres (3)	Product (2)x(3)
A1 Offsite Developed to Pond A	0.73	(0.2)(62)= 12.40	9.052
A2 Onsite Developed to Pond A	0.85	1.30	1.105

Total (a) 13.7
Total (b) 10.157

(B)

(C) Weighted average "C" factor (b)/(a)=(c) 0.74

(B) Subarea Designation - POND B (1)	"C" (2)	Acres (3)	Product (2)x(3)
B1 Offsite Developed to Pond B	0.73	(0.2)(43.3)= 8.66	6.322
B2 Onsite Developed to Pond B	0.85	4.20	3.570

Total (a) 12.86
Total (b) 9.892

(B)

(C) Weighted average "C" factor (b)/(a)=(c) 0.77

(B) Subarea Designation - POND C (1)	"C" (2)	Acres (3)	Product (2)x(3)
C1 Offsite Developed to Pond C	0.35	(0.2)(1.2)= 0.24	0.084
C2 Onsite Developed to Pond C	0.85	12.60	10.710

Total (a) 12.84
Total (b) 10.794

(B)

(C) Weighted average "C" factor (b)/(a)=(c) 0.84

Part 8: Determine the storage required for each facility

(B) Wet Pond (POND A)
Volume of runoff per acre from mean storm
[1452 x "C"] = 1452 x Line 7(c) (b) 1076 cf/ac

Design 2 (4.0 x Volume of runoff from mean storm)
4.0 x Line 7(c) x line 8(b) = 58000 cf=1.33 AC-FT

(B) Wet Pond (POND B)
Volume of runoff per acre from mean storm
[1452 x "C"] = 1452 x Line 7(c) (b) 1117 cf/ac

Design 2 (4.0 x Volume of runoff from mean storm)
4.0 x Line 7(c) x line 8(b) = 97500 cf=1.32 AC-FT

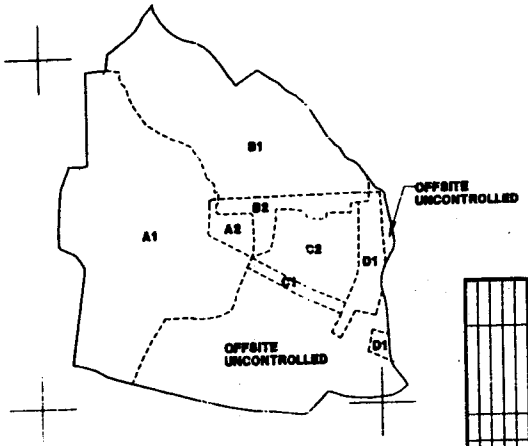
(B) Wet Pond (POND C)
Volume of runoff per acre from mean storm
[1452 x "C"] = 1452 x Line 7(c) (b) 1221 cf/ac

Design 2 (4.0 x Volume of runoff from mean storm)
4.0 x Line 7(c) x line 8(b) = 62700 cf=1.44 AC-FT

VI. SUMMARY

STORAGE VOLUME AT NORMAL POOL

	REQUIRED (AC-FT)	PROVIDED (AC-FT)
POND A	1.36	5.25
POND B	1.32	4.02
POND C	1.44	4.22



PROPOSED CONDITIONS DRAINAGE AREA MAP

FOR INFORMATION PURPOSES ONLY!

Dewberry & Davis
Architects Engineers Planners Surveyors
8401 Arlington Blvd., Fairfax, VA 22031
☎ 703 849-0900

WATER QUALITY CALCULATIONS

SallieMae
Virginia Consolidation Project
HUNTER MILL DISTRICT FAIRFAX COUNTY, VIRGINIA

Checked by GLC
Date NOV 13, 1995
8766-SP-01
PDC
Sheet 36 of 19

SHEET 13 OF 20
ZP-1617

CURVE NUMBER COMPUTATIONS

AREAS (ac)

LANDUSE	SOIL GROUP	CURVE NUMBER	SUBAREA 1		SUBAREA 2			SUBAREA 3			SUBAREA 4			SUBAREA 5			SUBAREA 6		
			EXISTING	PROPOSED	EXISTING	PROPOSED	PROPOSED	EXISTING	PROPOSED	PROPOSED	EXISTING	PROPOSED	PROPOSED	EXISTING	PROPOSED	PROPOSED	EXISTING	PROPOSED	PROPOSED
Woods	A	30	22.0		3.0	3.0		6.1	6.1		10.5	10.2							
	B	55	6.6					2.0	2.0		1.2	1.6							
	C	70																	
	D	77																	
Open	A	61	4.0	4.0	3.7	3.7	3.7	3.7			7.6	6.0	6.0	6.1	1.0	4.0	6.4	6.3	
	B	74	6.1	6.1	6.4			6.7			6.4	6.4	6.4	6.0	6.0	1.0	6.0		
	C	80	1.3	1.3										1.7					
	D	84									6.0	4.0							
Newly graded area	A	77									6.0	6.0							
	B	86																	
	C	91																	
	D	94																	
Planned residential community	A	77	4.0	38.0			2.1			6.3			6.0						6.1
	B	83		3.7						6.4									6.1
	C	87														1.0	1.0		1.0
	D	89																	
Townhouse	A	77																	
	B	85															6.0	6.2	
	C	90																	
	D	92																	
Apartments	A	77	6.4	6.4				38.7	38.7	38.7									
	B	85	6.6	6.6				3.0	3.0	3.0							6.0	6.0	
	C	90																	
	D	92																	
Commercial	A	77	1.4	1.4	6.7	3.0	1.0	6.7	6.3	6.3	1.0	1.0	3.0		6.1				
	B	85	2.2	2.2															
	C	90	6.1	6.1	6.1	6.7	6.7	6.9	3.0	6.5			6.0		1.7		1.0	1.0	
	D	92																	
Industrial	A	77					1.0				6.2	1.0	10.1						
	B	85											2.2						
	C	91																	
	D	93																	
Road & water surface	all	98	6.1	6.1	6.1	6.1	6.1	1.0	1.0	1.0	3.0	3.0	3.0						
Total Area (ac)			63.5	53.0	19.0	6.7	6.7	44.7	47.3	47.3	49.4	46.4	46.4	10.0	13.6	7.3	7.3	7.3	
Calculated curve number			71.3	88.7	86.0	73.3	63.6	38.0	88.3	88.0	65.1	88.0	84.0	67.2	88.0	88.0	88.0	88.0	
USE CURVE NUMBER			71	61	86	73	64	81	88	88	67	88	88	67	91	88	88	88	

TIME OF CONCENTRATION COMPUTATIONS

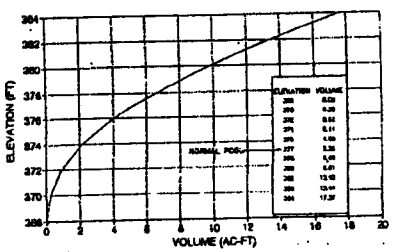
LAND USE DESIGNATION (existing, proposed, or ultimate)

1. SHEET FLOW
   a. Surface description
   b. Manning's roughness coeff., n
   c. Flow length, L (ft)
   d. 2-yr 24-hr rainfall, P2 (inches)
   e. Land slope, s (ft/ft)
   f. Tt = [0.007(nL)^0.8]/[(P2^0.5)(s^0.4)] (hr)
2. SHALLOW CONCENTRATED FLOW
   a. Surface description
   b. Flow length, L (ft)
   c. Watercourse slope, s (ft/ft)
   d. Average velocity, V (ft/sec)
   e. Tt = L/(3600*V) (hr)
3. CHANNEL FLOW
   a. Flow type (natural channel, ditch, sewer)
   b. Flow length, L (ft)
   c. Slope or elevation difference (ft)
   d. Computation Method
   e. Velocity, V (ft/sec)
   f. Tt = L/(3600*V) (hr)
   a. Flow type (natural channel, ditch, sewer)
   b. Flow length, L (ft)
   c. Slope or elevation difference (ft)
   d. Computation Method
   e. Velocity, V (ft/sec)
   f. Tt = L/(3600*V) (hr)
   a. Flow type (natural channel, ditch, sewer)
   b. Flow length, L (ft)
   c. Slope or elevation difference (ft)
   d. Computation Method
   e. Velocity, V (ft/sec)
   f. Tt = L/(3600*V) (hr)
   a. Flow type (natural channel, ditch, sewer)
   b. Flow length, L (ft)
   c. Slope or elevation difference (ft)
   d. Computation Method
   e. Velocity, V (ft/sec)
   f. Tt = L/(3600*V) (hr)
4. WATERSHED TIME OF CONCENTRATION (hr)
5. LAG TIME (0.6*Tc) (hr)

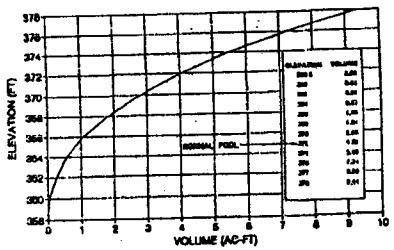
	SUBAREA 1	SUBAREA 2	SUBAREA 3	SUBAREA 4	SUBAREA 5	SUBAREA 6
	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING
1.						
a.	grass	grass	woods	grass	grass	grass
b.	0.24	0.40	0.41	0.41	0.24	0.24
c.	100	100	100	100	100	100
d.	3.1	3.1	3.1	3.1	3.1	3.1
e.	0.020	0.020	0.020	0.040	0.020	0.020
f.	0.14	0.20	0.14	0.11	0.14	0.12
2.						
a.	paved	paved	paved	paved	paved	paved
b.	100	100	100	100	100	100
c.	0.020	0.020	0.020	0.040	0.040	0.040
d.	3.2	2.6	4.9	2.8	1.0	0.92
e.	0.00	0.01	0.01	0.01	0.17	0.01
3.						
a.	natural	sewer	sewer	sewer	sewer	natural
b.	400	1500	100	200	100	100
c.	12				3.5	15
d.	Kirpich	assumed	assumed	assumed	assumed	Kirpich
e.	3.2	10.0	10.0	10.0	10.0	3.3
f.	0.08	0.04	0.01	0.05	0.00	0.06
4.						
a.	sewer		natural	natural	natural	
b.	200		300	300	300	
c.			21	21	30	
d.	assumed		Kirpich	Kirpich	Kirpich	
e.	10		2.9	2.9	2.9	
f.	0.05	0.00	0.03	0.03	0.09	0.00
5.						
a.	50 yard				sewer	
b.	100				1100	
c.	0					
d.	-				assumed	
e.	0				10.0	
f.	0.00	0.00	0.00	0.00	0.03	0.00
6.						
a.					ditch	
b.					200	
c.					10	
d.					Kirpich	
e.					2.3	
f.	0.00	0.00	0.00	0.00	0.05	0.00
7.						
a.						
b.						
c.						
d.						
e.						
f.	0.00	0.00	0.00	0.00	0.21	0.00
8.	0.29	0.18	0.20	0.18	0.59	0.21
9.	0.22	0.11	0.21	0.11	0.18	0.12

	SUBAREA 1	SUBAREA 2	SUBAREA 3	SUBAREA 4	SUBAREA 5	SUBAREA 6
	PROPOSED	PROPOSED	PROPOSED	PROPOSED	PROPOSED	PROPOSED
	PROPOSED	PROPOSED	PROPOSED	PROPOSED	PROPOSED	PROPOSED
1.						
a.	grass	grass	grass	grass	grass	grass
b.	0.24	0.40	0.41	0.41	0.24	0.24
c.	100	100	100	100	100	100
d.	3.1	3.1	3.1	3.1	3.1	3.1
e.	0.020	0.020	0.020	0.040	0.020	0.020
f.	0.14	0.20	0.14	0.11	0.14	0.12
2.						
a.	paved	paved	paved	paved	paved	paved
b.	100	100	100	100	100	100
c.	0.020	0.020	0.020	0.040	0.040	0.040
d.	3.2	2.6	4.9	2.8	1.0	0.92
e.	0.00	0.01	0.01	0.01	0.17	0.01
3.						
a.	natural	sewer	sewer	sewer	sewer	natural
b.	400	1500	100	200	100	100
c.	12				3.5	15
d.	Kirpich	assumed	assumed	assumed	assumed	Kirpich
e.	3.2	10.0	10.0	10.0	10.0	3.3
f.	0.08	0.04	0.01	0.05	0.00	0.06
4.						
a.	sewer		natural	natural	natural	
b.	200		300	300	300	
c.			21	21	30	
d.	assumed		Kirpich	Kirpich	Kirpich	
e.	10		2.9	2.9	2.9	
f.	0.05	0.00	0.03	0.03	0.09	0.00
5.						
a.	50 yard				sewer	
b.	100				1100	
c.	0					
d.	-				assumed	
e.	0				10.0	
f.	0.00	0.00	0.00	0.00	0.03	0.00
6.						
a.					ditch	
b.					200	
c.					10	
d.					Kirpich	
e.					2.3	
f.	0.00	0.00	0.00	0.00	0.05	0.00
7.						
a.						
b.						
c.						
d.						
e.						
f.	0.00	0.00	0.00	0.00	0.21	0.00
8.	0.29	0.18	0.20	0.18	0.59	0.21
9.	0.22	0.11	0.21	0.11	0.18	0.12

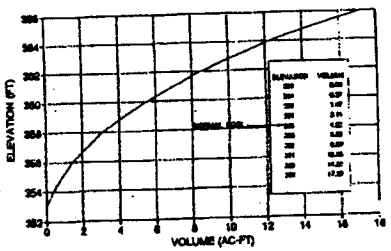
POND A
STAGE-STORAGE CURVE



POND B
STAGE-STORAGE CURVE



POND C
STAGE-STORAGE CURVE



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HYDROLOGIC CALCULATIONS

SallieMae
Virginia Consolidation Project

8366-57-01

FDC

SHEET 14 OF 30

CURVE NUMBER COMPUTATIONS

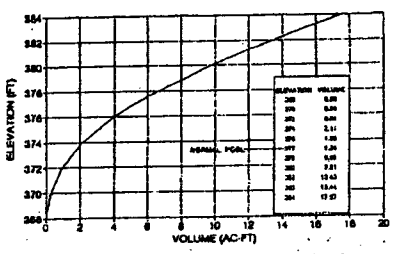
AREAS (ac)

LANDUSE	SOIL GROUP	CURVE NUMBER	SUBAREA 1		SUBAREA 2			SUBAREA 3			SUBAREA 4		SUBAREA 5			SUBAREA 6		
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Woods	B	55	55.0		2.0	2.0		0.1	0.1		16.0	16.0						
	C	70	2.0					0.0	2.0		1.0	1.0						
	D	77																
Open	B	61	4.0	4.0	2.4	1.7	1.7	0.7			0.4	0.4	0.0	0.1	1.0	0.0	0.4	0.3
	C	74	0.4	0.4	0.4			0.7			0.4	0.4	0.0	0.0	0.0		1.0	0.3
	D	80	1.3	1.3										1.7				
Poorly graded area	B	68									0.0	0.0						
	C	81									0.0	0.0						
	D	86																
Planned residential community	B	55	4.0	50.0			0.1			0.3			0.0					0.1
	C	63		0.7						0.4								
	D	80														1.0	1.0	
Townhouse	B	85																
	C	90																
	D	92															0.0	0.0
Apartments	B	85	0.4	0.4				30.0	30.7	30.7								
	C	90	0.0	0.0				0.0	0.0	0.4								
	D	92	1.4	1.4													0.0	0.0
Commercial	B	89	0.0	0.0	0.0	1.0	1.0	0.7	0.7	0.7	1.0	1.0	0.0		0.1			
	C	94	0.4	0.4	0.1	0.7	0.7	0.0	0.0	0.0			0.0		0.0		1.0	1.0
	D	95													1.7			
Industrial	B	81					1.0				0.0	1.0	14.7					
	C	91											0.0					
	D	93																
Road & major surface	all	98	0.1	0.1	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0					
Total Area (ac)			83.0	82.0	16.0	6.7	5.7	44.7	42.3	42.3	45.0	46.0	46.0	15.0	22.0	7.3	7.3	7.3
Calculated curve number			71.3	66.7	66.0	73.3	83.0	88.0	88.3	88.4	87.1	88.3	84.3	87.2	88.5	88.5	88.5	88.0
USE CURVE NUMBER			72	61	90	72	84	81	88	88	87	88	88	87	91	89	88	89

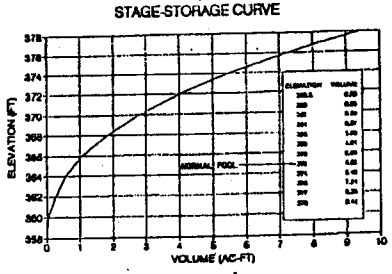
TIME OF CONCENTRATION COMPUTATIONS

	SUBAREA 1		SUBAREA 2		SUBAREA 3		SUBAREA 4		SUBAREA 5		SUBAREA 6	
LAND USE CONDITION (existing, proposed, or ultimate)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1. SHEET FLOW												
a. Surface description	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
b. Manning's roughness coeff., n	0.24	0.24	0.40	0.24	0.24	0.24	0.40	0.24	0.24	0.24	0.24	0.24
c. Flow length, L (ft)	100	80	140	50	50	50	100	80	80	80	80	80
d. Two-yr 24-hr rainfall, P2 (inches)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
e. Land slope, s (ft/ft)	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020	0.020
f. $Tt = [0.007(nL)^{0.8}]/[(P2)^{0.5}(s)^{0.4}]$ (hr)	0.33	0.31	0.70	0.24	0.24	0.24	0.37	0.31	0.31	0.31	0.31	0.31
2. SHALLOW CONCENTRATED FLOW												
a. Surface description	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
b. Flow length, L (ft)	200	100	400	100	100	100	1025	100	700	100	100	100
c. Watercourse slope, s (ft/ft)	0.020	0.020	0.080	0.020	0.020	0.020	0.080	0.020	0.020	0.020	0.020	0.020
d. Average velocity, V (ft/sec)	2.2	2.8	4.0	2.8	2.8	2.8	4.0	2.8	2.8	2.8	2.8	2.8
e. $Tt = L/(3600*V)$ (hr)	0.02	0.01	0.02	0.01	0.01	0.01	0.07	0.01	0.08	0.01	0.01	0.01
3. CHANNEL FLOW												
a. Flow type (natural channel, ditch, sewer)	natural	sewer	sewer	sewer	sewer	sewer	natural	sewer	natural	sewer	natural	sewer
b. Flow length, L (ft)	400	1180	540	460	400	1230	700	1240	500	640	500	670
c. Slope or elevation difference (ft)	12						10		2.5		15	
d. Computation Method	Kirpich	assumed	assumed	assumed	assumed	assumed	Kirpich	assumed	Kirpich	assumed	Kirpich	assumed
e. Velocity, V (ft/sec)	2.1	12.0	10.0	10.0	10.0	10.0	3.3	10.0	1.3	10.0	3.3	10.0
f. $Tt = L/(3600*V)$ (hr)	0.06	0.04	0.00	0.01	0.01	0.04	0.08	0.06	0.07	0.06	0.01	0.06
a. Flow type (natural channel, ditch, sewer)	sewer		natural	natural	natural							
b. Flow length, L (ft)	540		400	300	640							
c. Slope or elevation difference (ft)			24	24	36							
d. Computation Method	assumed		Kirpich	Kirpich	Kirpich							
e. Velocity, V (ft/sec)	10		6.6	6.6	5.1							
f. $Tt = L/(3600*V)$ (hr)	0.06	0.00	0.03	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	
a. Flow type (natural channel, ditch, sewer)	sewer				sewer							
b. Flow length, L (ft)	100				1180							
c. Slope or elevation difference (ft)	0											
d. Computation Method	assumed				assumed							
e. Velocity, V (ft/sec)	6				10.0							
f. $Tt = L/(3600*V)$ (hr)	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	
a. Flow type (natural channel, ditch, sewer)					ditch							
b. Flow length, L (ft)					200							
c. Slope or elevation difference (ft)					10							
d. Computation Method					Kirpich							
e. Velocity, V (ft/sec)					2.4							
f. $Tt = L/(3600*V)$ (hr)	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. WATERSHED TIME OF CONCENTRATION (hr)	0.20	0.10	0.30	0.10	0.34	0.07	0.16	0.21	0.24	0.10	0.17	0.30
5. LAG TIME (0.6*Tc) (hr)	0.12	0.11	0.21	0.11	0.16	0.13	0.25	0.13	0.15	0.06	0.11	0.20

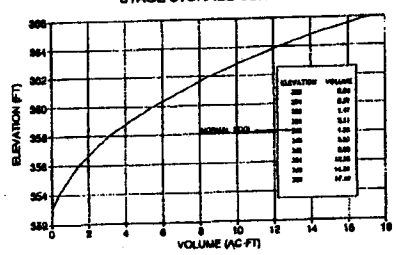
POND A
STAGE-STORAGE CURVE



POND B
STAGE-STORAGE CURVE



POND C
STAGE-STORAGE CURVE



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Architects Engineers Planners Surveyors
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ph 703 849-0100

HYDROLOGIC CALCULATIONS

Virginia Consolidation Project

SHEET 15 OF 25

8766-SP-01

PDC

EXISTING HEC-1 HYDROLOGIC MODELS

```
                                   HEC-1 INPUT                                                    PAGE  1
LINE          IN.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10
   1          ID   SALLIE MAE
   2          ID   EXISTING CONDITIONS LANDUSE
   3          ID   2, 10
   4          IT     5                    300                 HEARPLUNGE        FILE NAME  WHI-KIN.DAT
   5          IO     5
   6          JR   RWRC    0.44    0.71    0.82    1.0     1.5     2.5

   7          KK     1
   8          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 1
   9          BA   .084
  10          PB   7.3
            + 24 HOUR DURATION, TYPE II DISTRIBUTION RAINFALL
  11          IN     6
  12          PC     0.0   .00101   .00202   .00303   .00404   .00515   .00616   .00728   .00838   .00941
  13          PC   .01050   .01161   .01272   .01383   .01494   .01613   .01725   .01840   .01955   .02081
  14          PC    .022    .02311   .02440   .02565   .02688   .02812   .02938   .03066   .03192   .03321
  15          PC   .03450   .03581   .03712   .03843   .03976   .04113   .04248   .04385   .04522   .04661
  16          PC    .048    .04941   .05084   .05229   .05376   .05525   .05678   .05825   .05984   .06141
  17          PC    .063    .06461   .06624   .06788   .06956   .07125   .07298   .07468   .07644   .07821
  18          PC    .08     .08161   .08344   .08529   .08718   .08908   .09108   .09305   .09504   .09701
  19          PC    .098    .10101   .10304   .10508   .10716   .10925   .11136   .11348   .11564   .11781
  20          PC    .12     .12225   .12450   .12675   .12900   .13225   .135     .13785   .14085   .14385
  21          PC    .147    .1508    .15340   .1566    .1608    .163     .16625   .16875   .17325   .17775
  22          PC    .181    .18812   .19045   .19488   .19935   .204     .20864   .21328   .2214    .228
  23          PC    .236    .24248   .25128   .26028   .27148   .282     .30664   .35438   .43079   .56784
  24          PC    .663    .66198   .66864   .71304   .72318   .728     .74344   .76138   .78676   .78844
  25          PC    .772    .77788   .78364   .78604   .79418   .798     .8036    .808     .8122    .8162
  26          PC    .82     .82367   .82728   .83078   .83424   .83763   .84084   .84418   .84738   .85047
  27          PC   .85360   .85647   .85936   .86218   .86484   .86743   .87014   .87278   .87538   .87787
  28          PC    .88     .88328   .88588   .88878   .889     .89118   .89328   .89548   .8978    .89988
  29          PC   .90178   .90378   .9058    .90778   .90976   .91166   .9138    .91348   .91738   .91915
  30          PC    .921    .92179   .92428   .92629   .929     .93066   .93138   .93398   .9364    .93819
  31          PC   .93778   .93925   .9408    .94229   .94378   .94518   .9468    .94798   .94938   .95068
  32          PC    .952    .9533    .95488   .95588   .95718   .95844   .96011   .96098   .96224   .9635
  33          PC   .96475   .966     .96724   .96848   .96971   .97094   .97216   .97338   .97458   .9758
  34          PC    .977    .9788    .97638   .98038   .98176   .98294   .98411   .98528   .98644   .98760
  35          PC   .98875   .9898    .99104   .99218   .99331   .99444   .99556   .99668   .99779   .9989
  36          PC    1.0
  37          LS       71
  38          UD    .22

  39          KK     R AVE
  40          KM   ROUTE THROUGH EXISTING POND BEHIND OLD RESTON AVENUE
  41          RS       1   ELEV     300
  42          SA    .22    0.88    0.38    0.67    3.2
  43          SE    300     300     300     300     302
  44          SV    300     0.4       3       1.5
  45          ST    305       5       3       1.5
  46          SW      0       1     110     170     500
  47          SE    305     307     308     309     310

  48          KK     2
  49          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 2
  50          BA    .010
  51          LS       68
  52          UD    .21

  53          KK     2
  54          KM   ADD HYDROGRAPHS
  55          HC     2

  56          KK     3
  57          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 3
  58          BA    .075
  59          LS       61
  60          UD    .16

  61          KK     3
  62          KM   ADD HYDROGRAPHS
  63          HC     2

  64          KK   3 TO 5
  65          KM   ROUTE THROUGH NATURAL CHANNEL
  66          RM       1    .10     0.5

  67          KK     4
  68          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 4
  69          BA   0.063
  70          LS       67
  71          UD    .28

  72          KK   4 TO 5
  73          KM   ROUTE THROUGH NATURAL CHANNEL
  74          RM       1    .08     .5

  75          KK     5
  76          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 6
  77          BA    .025
  78          LS       67
  79          UD   0.12

  80          KK     5
  81          KM   ADD HYDROGRAPHS (1+2+3)+4+6
  82          HC     3

  83          KK   5 TO 6
  84          KM   ROUTE THROUGH NATURAL CHANNEL
  85          RM       1    .04     .5

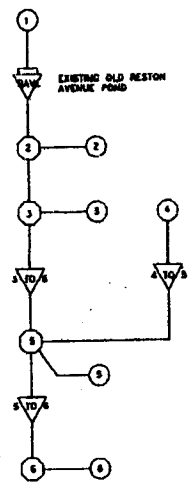
  86          KK     6
  87          KM   RUNOFF HYDROGRAPH FOR SUBBASIN 6
  88          BA   0.031
  89          LS       90
  90          UD   0.11

  91          KK     6
  92          KM   ADD HYDROGRAPHS AT DOWNSTREAM PROPERTY LINE (1+2+3+4+5)+6
  93          HC     2
```

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIO 1 .44	RATIO 2 .71	RATIO 3 .82	RATIO 4 1.00	RATIO 5 1.50	RATIO 6 2.50
					3-YR	10-YR				
HYDROGRAPH AT +	1	.08	1	FLOW	41.	115.	160.	208.	375.	725.
				TIME	12.17	12.08	12.08	12.08	12.08	12.08
ROUTED TO +	2 AVE	.08	1	FLOW	38.	115.	156.	208.	375.	725.
				TIME	12.17	12.17	12.17	12.08	12.08	12.08
			** PEAK STAGES IN FEET **							
			1	STAGE	305.21	307.30	307.60	307.78	308.21	308.77
				TIME	12.17	12.17	12.17	12.08	12.08	12.08
HYDROGRAPH AT +	2	.02	1	FLOW	7.	21.	27.	36.	71.	136.
				TIME	12.08	12.08	12.08	12.08	12.08	12.08
2 COMBINED AT +	2	.10	1	FLOW	45.	135.	174.	244.	446.	860.
				TIME	12.17	12.17	12.17	12.08	12.08	12.08
HYDROGRAPH AT +	3	.07	1	FLOW	73.	164.	188.	244.	400.	713.
				TIME	12.08	12.08	12.08	12.08	12.08	12.08
2 COMBINED AT +	3	.17	1	FLOW	114.	278.	355.	488.	846.	1566.
				TIME	12.08	12.08	12.08	12.08	12.08	12.08
ROUTED TO +	3 TO 5	.17	1	FLOW	109.	273.	348.	486.	843.	1571.
				TIME	12.17	12.17	12.17	12.17	12.17	12.17
HYDROGRAPH AT +	4	.06	1	FLOW	21.	66.	91.	134.	244.	462.
				TIME	12.17	12.17	12.17	12.17	12.17	12.08
ROUTED TO +	4 TO 5	.06	1	FLOW	21.	66.	91.	131.	244.	462.
				TIME	12.25	12.17	12.17	12.17	12.17	12.17
HYDROGRAPH AT +	5	.03	1	FLOW	11.	34.	46.	63.	118.	234.
				TIME	12.08	12.08	12.08	12.08	12.08	12.08
3 COMBINED AT +	5	.26	1	FLOW	126.	367.	488.	685.	1181.	2225.
				TIME	12.17	12.17	12.17	12.17	12.17	12.17
ROUTED TO +	5 TO 6	.26	1	FLOW	126.	364.	473.	648.	1167.	2202.
				TIME	12.25	12.25	12.25	12.25	12.17	12.17
HYDROGRAPH AT +	6	.01	1	FLOW	5.	18.	24.	32.	61.	N/A
				TIME	12.00	12.00	12.00	12.00	12.00	12.00
2 COMBINED AT +	6	.27	1	FLOW	121.	375.	488.	666.	1165.	2207.
				TIME	12.25	12.25	12.25	12.25	12.17	12.17

HEC-1 SHEMATIC



LEGEND

- (2) SUBBASIN HYDROGRAPH
- 3 TO 5 CHANNEL ROUTING
- (2) COMBINED POINT
- AVE POND ROUTING

FOR INFORMATION PURPOSES ONLY!

Dewberry & Davis
Architects Engineers Planners Surveyors
8401 Arlington Blvd., Fairfax, VA 22031
☎ 703 849-0500

HYDROLOGIC CALCULATIONS

Sallie Mae
Virginia Consolidation Project

8766-SF-01
TDO
8 OF 17

PROPOSED HEC-1 HYDROLOGIC MODEL

```
                                   HEC-1 INPUT
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9.......10
   1      ID  SALLIE MAE
   2      ID  PROPOSED CONDITIONS LAYOUT WITH PROPOSED PONDS
   3      ID  2 AND 10-YEARFLOODS                                   FILE NAME: SM41-PRO.DAT
   4      IT     5                    300
   5      IO     5
   6      JR   PRCC    0.44    0.71

   7      KK     1
   8      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 1
   9      BA   .084
  10      PB    7.3
          * 24 HOUR DURATION, TYPE II DISTRIBUTION RAINFALL
  11      IN     5
  12      PC    0.0   .00181   .00362   .00544   .00813   .00915   .00725   .00625   .00541
  13      PC  .01060  .01181   .01372   .01388   .01488   .01813   .01788   .01846   .01902   .01951
  14      PC   .022   .02331   .02442   .02546   .02640   .02813   .02836   .03065   .03181   .03321
  15      PC  .03460  .03641   .03712   .03848   .03978   .04113   .04248   .04388   .04522   .04651
  16      PC   .046   .04941   .05064   .05228   .05378   .05625   .05675   .05829   .05984   .06145
  17      PC   .063   .06481   .06652   .06788   .06966   .07128   .07298   .07469   .07644   .07821
  18      PC   .08   .08181   .08364   .08549   .08736   .08925   .09115   .09309   .09504   .09701
  19      PC   .099  .10181   .10384   .10589   .10796   .10985   .11136   .11349   .11564   .11781
  20      PC   .12   .12225   .12450   .12675   .12900   .13225   .138     .13785   .14080   .14386
  21      PC   .147  .1802    .15340   .1068    .1588    .163     .16825   .16872   .17232   .17798
  22      PC   .181  .18816   .19048   .19408   .19852   .204     .2094    .2152    .2214    .228
  23      PC   .238  .24288   .28128   .28052   .27148   .283     .30864   .38438   .43078   .48786
  24      PC   .653  .66186   .68864   .71304   .71918   .738     .74344   .76138   .76678   .76864
  25      PC   .772  .77798   .78364   .78904   .79418   .798     .8038    .808     .8122    .8162
  26      PC   .82   .82367   .82788   .83078   .83454   .83783   .84084   .84418   .84728   .85047
  27      PC  .85360  .85667   .85928   .86218   .86484   .86763   .87024   .87278   .87528   .87767
  28      PC   .88   .88233   .88455   .88678   .888     .89119   .89336   .89540   .8970    .89980
  29      PC  .90178  .90378   .9056    .90778   .90975   .91169   .9136    .91549   .91736   .91918
  30      PC   .921  .92278   .92453   .92625   .928     .92968   .93138   .93299   .9346    .93619
  31      PC  .93778  .93928   .9408    .94229   .94378   .94519   .9460    .94798   .94938   .95069
  32      PC   .952   .9533    .95469   .95586   .95716   .95844   .95971   .96094   .96214   .9636
  33      PC  .96475  .966     .96724   .96846   .96971   .97094   .97218   .97336   .97456   .9756
  34      PC   .977   .9782    .97938   .98056   .98178   .98294   .98411   .98528   .98644   .98798
  35      PC  .98878  .9899    .99104   .99218   .99331   .99444   .99556   .99666   .99778   .9989
  36      PC    1.0
  37      LS     71
  38      UD    .22

  39      KK   R AVE
  40      KM   ROUTE THROUGH PROPOSED POND BEHIND OLD RESTON AVENUE
  41      RS     1    ELEV    368
  42      SA   .22     0.28     0.38     0.67     1.2
  43      SE   365     366      368      380      382
  44      SS   300      23       2      1.0
  45      ST   367      15       3      1.5
  46      SP     0     250      520
  47      SE  369.17   380      382

  48      KK     2
  49      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 2
  50      BA   .016
  51      LS     72
  52      UD    .21

  53      KK     2
  54      KM   ADD HYDROGRAPHS AT PROPOSED POND A
  55      HC     2

  56      KK   POND A
  57      KM   ROUTE THROUGH PROPOSED POND A
  58      RS     1    ELEV    377
  59      SA   0.088   0.222    0.482    0.743    1.186    1.387    1.477    1.564    1.644    2.070
  60      SA   2.300
  61      SE   366     370      372      374      376      377      378      380      382      383
  62      SE   384
  63      SL   377.88    1       0.6      0.6
  64      SS   374.5     50      3.0      1.0
  65      ST

  66      KK   DIV AB
  67      KM   DIVERT FLOW THAT PASSES THROUGH POND A WATER FEATURE INTO POND B
  68      DT   DIVAB
  69      DI     0      2.4      4.2      5.4      55.4     157.1    263.0    432.0    602.2    788.3
  70      DO   576.5   986.1    1013.0
  71      DI     0      2.4      4.2      5.4      5.4      7.1      6.0      4.7      3.3      0.0
  72      DO    10.5    11.0     11.5

  73      KK   RET AB
  74      KM   RETRIEVE DIVERTED FLOW TO BE ADDED INTO POND B
  75      DR   DIVAB

  76      KK     3
  77      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 3
  78      BA   .074
  79      LS     82
  80      UD    .16

  81      KK   AB+3
  82      KM   ADD DIVERTED HYDROGRAPH TO SUBBASIN 3 HYDROGRAPH
  83      HC     2

  84      KK   POND B
  85      KM   ROUTE THROUGH PROPOSED POND B
  86      RS     1    ELEV    372
  87      SA     0     0.103    0.129    0.181    0.244    0.433    0.533    0.665    0.770    0.870
  88      SA   1.194   1.212
  89      SE   368.0   380      382      384      386      388      370      372      374      376
  90      SE   377     378
  91      SL   372.88    1       0.6      0.6
  92      SS   372.5     50      3.0      1.5
  93      ST

  94      KK     5
  95      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 5
  96      BA   .082
  97      LS     81
  98      UD    0.06

  99      KK     6
 100      KM   ADD HYDROGRAPHS AT PROPOSED POND C (POND A OUTFLOW + POND B OUTFLOW + 5)
 101      HC     3

 102      KK   POND C
 103      KM   ROUTE THROUGH PROPOSED POND C
 104      RS     1    ELEV    368
 105      SA   0.310   0.441    0.661    0.880    1.538    1.300    1.631    2.128    2.438    2.980
 106      SE   382     384      386      388      .388     390      392      394      396      398
 107      SS   388     14       .3      1.5
 108      ST   381.0   50       3       1.5

 109      KK   5 TO 6
 110      KM   ROUTE THROUGH CHANNEL AND CULVERT
 111      RM     1     .04      .5

 112      KK     4
 113      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 4
 114      BA   0.063
 115      LS     85
 116      UD    .23

 117      KK   4 TO 6
 118      KM   ROUTE THROUGH STORM SEWER
 119      RM     1     .02      .5

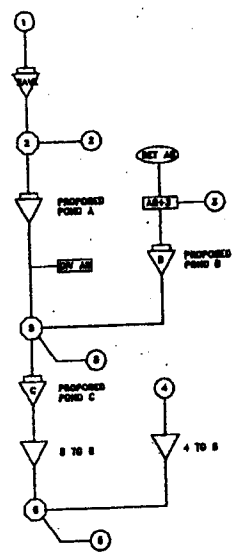
 120      KK     5
 121      KM   RUNOFF HYDROGRAPH FOR SUBBASIN 6
 122      BA   0.011
 123      LS     86
 124      UD    0.06

 125      KK     6
 126      KM   ADD HYDROGRAPHS AT DOWNSTREAM PROPERTY LINE (FEA+FOB46)+446
 127      HC     3
 128      ZZ
```

PEAK FLOW AND STAGE (END-OF-PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
FLOWS IN CUBIC FEET PER SECOND, AREA IN SQUARE MILES
TIME TO PEAK IN HOURS

OPERATION	STATION	AREA	PLAN		RATIOS APPLIED TO PRECIPITATION RATIO 1 .44	RATIO 2 .71
					2-YR	10-YR
HYDROGRAPH AT +	1	.08	1	FLOW	41.	118.
				TIME	12.17	12.00
ROUTED TO +	R AVE	.08	1	FLOW	41.	118.
				TIME	12.17	12.17
				** PEAK STAGES IN FEET **		
			1	STAGE	368.71	369.40
				TIME	12.17	12.17
HYDROGRAPH AT +	2	.01	1	FLOW	5.	23.
				TIME	12.00	12.00
2 COMBINED AT +	2	.10	1	FLOW	46.	130.
				TIME	12.17	12.17
ROUTED TO +	POND A	.10	1	FLOW	5.	68.
				TIME	13.75	12.33
				** PEAK STAGES IN FEET **		
			1	STAGE	376.40	378.02
				TIME	13.75	12.33
DIVERSION TO +	DIVAB	.10	1	FLOW	5.	7.
				TIME	13.75	12.33
HYDROGRAPH AT +	DIV AB	.10	1	FLOW	0.	61.
				TIME	.00	12.33
HYDROGRAPH AT +	RET AB	.00	1	FLOW	5.	7.
				TIME	13.75	12.33
HYDROGRAPH AT +	3	.07	1	FLOW	81.	167.
				TIME	12.00	12.00
2 COMBINED AT +	AB+3	.07	1	FLOW	86.	172.
				TIME	12.00	12.00
ROUTED TO +	POND B	.07	1	FLOW	75.	166.
				TIME	12.17	12.00
				** PEAK STAGES IN FEET **		
			1	STAGE	374.67	374.86
				TIME	12.17	12.00
HYDROGRAPH AT +	5	.02	1	FLOW	41.	72.
				TIME	12.00	12.00
2 COMBINED AT +	6	.10	1	FLOW	96.	230.
				TIME	12.00	12.17
ROUTED TO +	POND C	.10	1	FLOW	67.	188.
				TIME	12.33	12.33
				** PEAK STAGES IN FEET **		
			1	STAGE	380.22	381.08
				TIME	12.33	12.33
ROUTED TO +	5 TO 6	.10	1	FLOW	67.	183.
				TIME	12.33	12.33
HYDROGRAPH AT +	4	.06	1	FLOW	33.	72.
				TIME	12.17	12.17
ROUTED TO +	4 TO 6	.06	1	FLOW	33.	72.
				TIME	12.17	12.17
HYDROGRAPH AT +	6	.01	1	FLOW	00.	30.
				TIME	12.00	12.00
2 COMBINED AT +	6	.17	1	FLOW	96.	260.
				TIME	12.00	12.33

HEC-1 SCHEMATIC



LEGEND

- (1) SUBBASIN HYDROGRAPH
- 3 TO 6 CHANNEL ROUTING
- (2) COMBINED POINT
- RAVE POND ROUTING
- DIV AB DIVERTED FLOW
- RET AB RETRIEVED FLOW

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HYDROLOGIC CALCULATIONS

SallieMae
Virginia Consolidation Project

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8764-97-01
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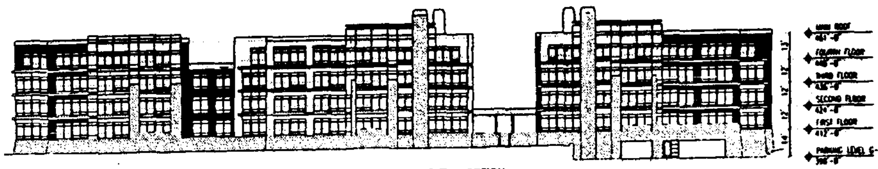
SHEET 17 OF 30

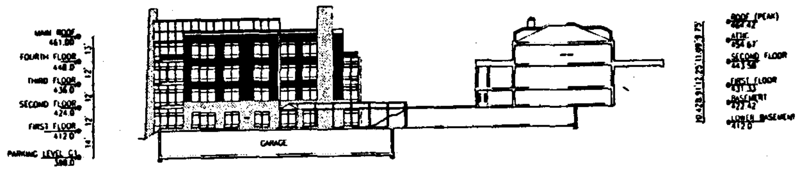


SOUTH ELEVATION - RESIDENTIAL OPTION

Exterior finishes to be a combination of slate, stone and brick.

NORTH ELEVATION - RESIDENTIAL OPTION

Exterior finishes to be a combination of slate, stone and brick.



EAST ELEVATION - RESIDENTIAL OPTION

Exterior finishes to be a combination of slate, stone and brick.

URBAN ENGINEERING & ASSOC., INC.

SECTION PLANS - RESIDENTIAL OPTION

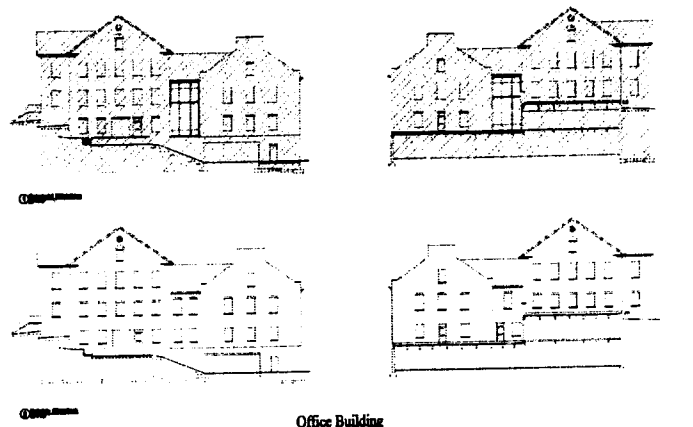
BOXWOODS

HUNTER MILL MAGISTERIAL DISTRICT

FAIRFAX COUNTY, VIRGINIA

SHEET 18 OF 20

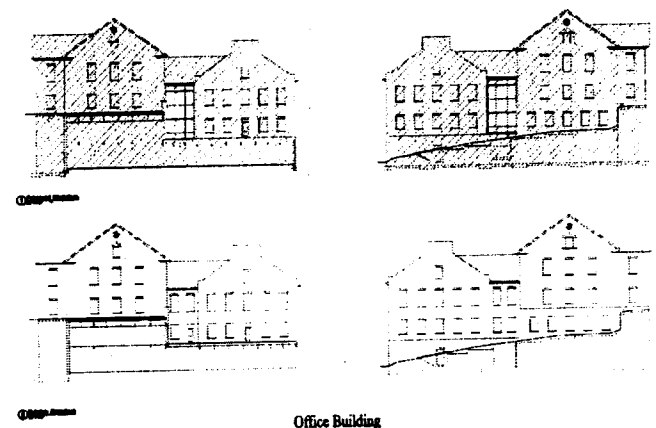
FILE No. ZP-1612



Office Building
West Wing Elevations

Boxwoods
1856 Old Reston Avenue
Reston Virginia 20190

Gregor LLC
1856 Old Reston Avenue
Reston, Virginia 20190



Office Building
East Wing Elevations

Boxwoods
1856 Old Reston Avenue
Reston Virginia 20190

Gregor LLC
1856 Old Reston Avenue
Reston, Virginia 20190

EXISTING OFFICE BUILDING ELEVATIONS - OFFICE OPTION

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
09-28-05
11-30-05
01-12-06
02-08-06
07-11-06
09-19-06
10-18-06
12-04-06

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-0000

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

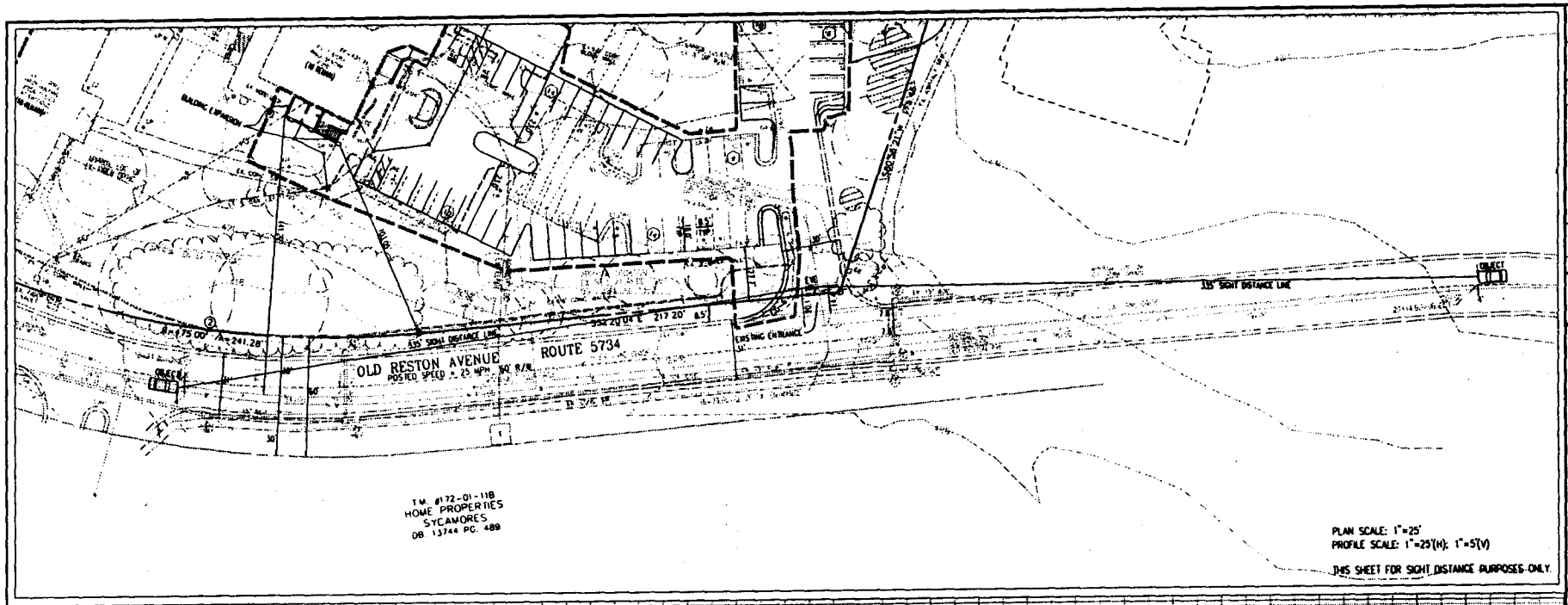
SECTION PLANS - OFFICE OPTION

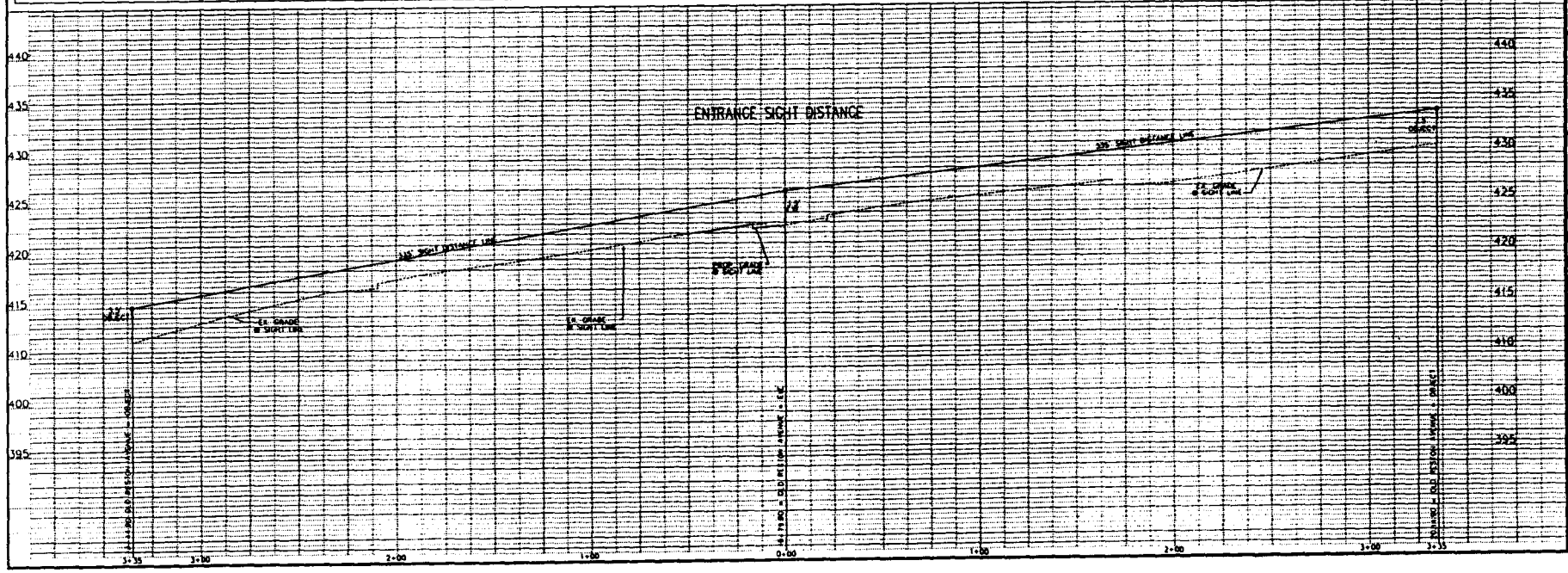
BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=30'
C.I. = N/A
DATE: SEPT., 2005

SHEET
19
OF
20

FILE No.
ZP-1612





No	DATE	DESCRIPTION	REV BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
09-28-05
10-18-05
11-30-05
01-12-06
02-08-06
07-11-06
09-16-06
10-16-06
12-03-06

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

EXISTING SIGHT DISTANCE PROFILE

BOXWOODS
HUNTER MILL MAGISTERIAL DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE 1"=10'
C.I. = 2
DATE: SEPT. 2005

SHEET
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OF
20

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ZP-1612

RECEIVED
Department of Planning & Zoning

JAN 23 2009

Zoning Evaluation Division