County of Fairfax, Virginia

MEMORANDUM

DATE: 2/14/2013

TO: Distribution List

FROM: Barbara C. Berlin, AICP
Director
Zoning Evaluation Division
Department of Planning and Zoning

FEB 20 RECD

SUBJECT: Development Plan Analysis

REFERENCE: Application No. RZ 2013-SP-005 (MHI-Spring Lake, LLC) concurrent with SPA 76-S-200-02
Development Plan: Included X Not Included ____

Case Information

Staff Coordinator: **Joe Gorney**
Pre-Staffing Date: **3/11/2013** Staffing Date: **5/20/2013**
Tentative PC Date: **7/25/2013**
Tentative BOS Date:

Attached for your review and comment is the Rezoning Statement/Final Development Plan of Justification, Location map and Development Plans (if available) for the subject application.

Action addressees are requested to provide written comments to this office to staff coordinator by 2/28/2013 to be considered in preparing staff's recommendation on this application. Information addressees who wish to submit comments should provide them by the same date.

Information Addresses

____Clerk to the Board of Supervisors
Attn: Cathy Chianese

____Planning Commission
Executive Director
Attn: Barbara Lippa

____Economic Development Authority
Dir. of Market Research and Communication
Attn: Nate Edwards

____DPZ-ZED Division Director
Barbara Berlin, AICP

____DPZ-ZED
Branch Chiefs

____DPZ-ZED
Chief, Proffer Interpretation Branch
Attn: Kevin Guinaw

____DPZ-ZED
Admin Asst. IV Legal Notices
Attn. Lori Mallam

____Dept. of Facilities Mgmt.
Analyst, Property Mgmt. Div.
Attn:Marguerite Guarino

____Dept. of Information Technology
Network Services Div.
Radio Engineer, Radio Center

____Southeast Fairfax Dev. Corp.
Attn: Tony Fontana
***MV or LEE cases only**

____Dept. of Family Services
Adult Aging Services
AAA, B-3-708
Attn: Jacquie Woodruff

Action Addresses

____DPZ- Planning Division
Chief, Env. & Dev. Review Br.
Attn: Pam Nee

____DPZ
Chief Zoning Inspector
Attn: Joe Bakos
***CSPA Applications only**

____DPWES
Site and Addressing
Attn: Hallala Faraj

____DPWES
Sanitary-Sewer
Attn: Gilbert Osei-Kwadwo

____VDOT
Attn: Deborah Townley

____Fire & Rescue Dept.
Information & Technology
Attn: Eric Fisher

____Fire Prevention Div
Plans Review Section
Attn: Dave Thomas/Sandra Ward

____Fairfax County Public Schools
Facilities Svcs. Division
Office of Design & Construction Services
Attn: Weldon Spurling

____Fairfax County Public Schools
Office of Facilities Planning

____Fairfax County Water Authority
Planning & Engineering Div.
Manger, Planning Dept.
Attn: Traci Goldberg

____Dept. of Transportation
Transportation Planning
Chief, Site Analyst Section
Angela Rodeheaver

____Dept. of Housing & Comm. Dev.
Housing Development Div.
Housing Development Officer
Attn: Charlene Fuhrman-Schulz

____Dept. of Tax Administration
Real Estate Division
Acting Director
Attn: Tim Shirocky

____Dept. of Health
Div. of Environmental Health
Technical Review and Information Resources
Attn: Kevin Wastler

____Fairfax County Park Authority
Planning & Development Div.
Plan Review Coordinator
Attn: Lynne Johnson 4th fl.

____Virginia Department of Forestry
Forester
Attn: Jim Mc Glone

____Northern Va Soil and Water Conservation District
Attn: Willie Woode

____Planning Commissioner
Springfield District

____Board of Supervisors
Springfield District

____Office of Community Revitalization/Reinvestment
Attn: Barbara Byron
***CRD or Tysons Cases only**

Department of Planning and Zoning
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5509
Phone 703 324-1290
FAX 703 324-3924
www.fairfaxcounty.gov/dpz/

DEPARTMENT OF PLANNING & ZONING

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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: RZ 2013-SP-005 (Assigned by staff)

Concurrent with SPA 76-S-200-02

RECEIVED
Department of Planning & Zoning
FEB 01 2013
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), MHI-Spring Lake, L.L.C., the applicant (s) petition you to adopt an ordinance amending the Zoning Map of Fairfax County, Virginia, by reclassifying from the R-1 District to the R-3 District the property described below and outlined in red on the Zoning Section Sheet(s) accompanying and made part of this application.

LEGAL DESCRIPTION:

See attached				
Lot(s)	Block(s)	Subdivision	Deed Book	Page No.

TAX MAP DESCRIPTION:

88-1	((2))		8	5.28 ac.
Map No.	Double Circle No.	Single Circle No.	Parcel(s)/Lot(s) No.	Total Acreage

POSTAL ADDRESS OF PROPERTY:

6408 Spring Lake Drive, Burke, VA 22015

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

Western side of Spring Lake Dr. (Rte 7101), approx. 400 ft from its intersection with Old *

PRESENT USE: Undeveloped **PROPOSED USE:** Residential-Sgl family detached

MAGISTERIAL DISTRICT: Springfield **OVERLAY DISTRICT (S):**

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. *Keene Mill Road (Rte. 644)

Martin D. Walsh, attorney/agent
Type or Print Name

MDWalsh
Signature of Applicant or Agent

Walsh, Colucci, Lubeley, Emrich & Walsh, P.C.
2200 Clarendon Blvd, #1300
Address Arlington, VA 22201

(Work) (703) 528-4700 (Mobile)
Telephone Number

Please provide name and telephone number of contact if different from above: Elizabeth D. Baker, (703) 528-4700 Mpc 2/7/13

DO NOT WRITE BELOW THIS SPACE

RZ 2012-0293

Date application accepted: February 7, 2013

Fee Paid $ 30,700.00

Virginia Ruffner

Elizabeth D. Baker
Senior Land Use Planner
(703) 528-4700 Ext. 5414
ebaker@arl.thelandlawyers.com

WALSH COLUCCI
LUBELEY EMRICH
& WALSH PC

RECEIVED
Department of Planning & Zoning
DEC 20 2012
Zoning Evaluation Division

December 19, 2012

Barbara C. Berlin
Director, Zoning Evaluation Division
Fairfax County Department of Planning & Zoning
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035

Re: MHI-Spring Lake, LLC (the "Applicant")
Application for Rezoning from R-1 District to the R-3 District
Tax Map 88-1 ((2)) 8 (the "Property")

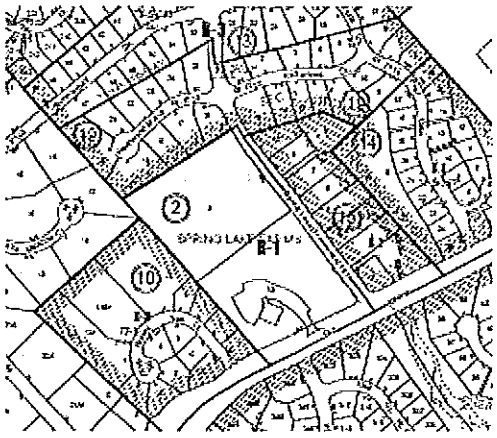
Dear Ms. Berlin:

This letter serves as a statement as justification for an application seeking rezoning of the Property from the R-1 District to the R-3 District for the development of 15 single family detached homes at a density of 2.84 dwelling units per acre. The Applicant is the contract purchaser of the Property, which is currently owned by the Trustees of Calvary Christian Church.

Property Description

The 5.28 acre Property is located on the western side of Spring Lake Drive (Route 7101), approximately 400 feet from its intersection with Old Keene Mill Road (Route 644) in the Springfield Magisterial District of Fairfax County. The Property is currently undeveloped. It is owned by the Trustees of the Calvary Christian Church. The Property is rectangular in shape and is bordered by the:

- Westwood Manor Court subdivision to the north (zoned R-3);
- Spring Oaks Woods subdivision to the east (zoned R-2);
- Calvary Christian Church to the south (zoned R-1);
- Honey Tree subdivision to the west (zoned R-3); and,
- For a very small portion; Burke Lake Meadow subdivision to the west (zoned R-1).



Zoning History

The Property is zoned to the R-1 District. On September 17, 1976, the Board of Zoning Appeals approved Special Permit Application SP 76-S-200 in the name of Calvary Christian Church for a church and related facilities on 10.13 acres of land. This Special Permit application currently governs development of the Property and land to the south identified as Tax Map 88-1 ((2)) 10 ("Parcel 10"). On December 17, 1996, the Board of Zoning Appeals approved Special Permit Amendment Application SPA 76-S-200 in the name of Calvary Christian Church to permit building additions to the existing church and site modifications on 9.96 acres of land (the reduction of land area is the result of right of way dedications); however, this application expired and is no longer valid.

A separate Special Permit Amendment application has been filed concurrently with this application to delete the Property from the land area encumbered by SP 76-S-200.

Comprehensive Plan Recommendations

The Property is located within the Pohick Planning District (Area III); Middle Run Community Planning Sector (P6). The Plan Map indicates that the Property is planned for residential development at 2-3 dwelling units per acre. There is no site specific recommendation for the Property in the Comprehensive Plan, however a general land use recommendation states, *"The Middle Run Community Planning Sector is largely developed as stable residential neighborhoods. Infill development in these neighborhoods should be of a compatible use, type and intensity in accordance with the guidance provided by the Policy Plan under Land Use Objectives 8 and 14."* Land Use Objectives 8 and 14 state:

Objective 8: Fairfax County should encourage a land use pattern that protects, enhances and/or maintains stability in established residential neighborhoods.

Objective 14: Fairfax County should seek to achieve a harmonious and attractive development pattern which minimizes undesirable visual, auditory, environmental and other impacts created by potentially incompatible uses.

The application seeks approval of single family residential development at 2.84 dwelling units per acre, which is in accordance with the recommendations of the Comprehensive Plan. An analysis of the residential development criteria is enclosed. The proposed development is compatible with the use of, and is of a similar development density to, the surrounding single family detached subdivisions, as further described in the section below.

Description of the Proposed Development

The proposed development consists of 15 single family detached lots and homes within a conventional R-3 District as depicted on the accompanying Generalized Development Plan ("GDP"). All homes are proposed to have public street access. Lots 1, 2, and 3 are proposed to access directly onto Spring Lake Drive. A new public street is proposed perpendicular to Spring Lake Drive that extends west into the Property. Another new public street is proposed to intersect

with the street previously described, and which will terminate in a cul-de-sac on its northern end and in a "stub" to Parcel 10 on its southern end.

Two parking spaces will be provided for each home in garages, and two additional parking spaces will be available in each driveway. Parking spaces will be available on-street, as permitted by the Fire Marshal.

This is a conventional subdivision and, as such, there is no common property such as you would find in a planned development. Tree save areas are proposed to be located on most lots within the development. These tree save areas are protected by limits of clearing and grading as indicated on the GDP. As is also indicated on the GDP, there will be adequate room on each lot for additions to the individual homes, such as covered porches and/or patios.

Stormwater Management and BMPs are proposed to be located off-site, on Parcel 10. Modifications to the existing SWM/BMP pond on Parcel 10 are under consideration pursuant to the Special Permit Amendment application that was submitted concurrently with this application.

The proposed development is for single family detached homes, the same use of all adjacent subdivisions. The proposed single family detached development continues the existing single family detached development pattern of the surrounding area, which promotes stability of these existing neighborhoods. The proposed R-3 District classification is mirrored to the east and west, and is similar to the northern subdivision's R-2 classification. No transitional screening or barriers are required between the proposed development and the adjacent uses because the proposed use is considered compatible with the adjacent uses.

The proposed density and development pattern is compatible with the surrounding development. Along Spring Lake Drive, four homes are proposed opposite four existing residential lots. Along the northern periphery, four homes are proposed opposite four existing lots. Along the western periphery, five homes are proposed opposite three lots; however, one of the abutting R-3 zoned lots (TM 88-1 ((10)) 12, "Parcel 12")) is very large and all five of the lots proposed along the western periphery abut Parcel 12.

To the best of our knowledge and belief, the proposed use will be in conformance with all applicable ordinances, regulations and adopted standards with the following one exception. The Applicant requests a waiver of the requirement to provide a sidewalk along Spring Lake Drive, as there are no other existing sidewalks on the street.

Summary

The Applicant proposes an R-3 conventional subdivision in conformance with the Comprehensive Plan recommended development density of 2-3 dwelling units per acre. Much thought has been given to the siting of the proposed residential lots in order to orient fronts of homes to public streets and to provide similar numbers of lots to those already existing opposite to or abutting them. The Applicant submits that the proposed development will be an asset to the community and requests approval of the rezoning.

Please do not hesitate to contact me should you have any questions or require additional information.

Very truly yours,

WALSH, COLUCCI, LUBELEY, EMRICH & WALSH, P.C.

Elizabeth D Baker

Elizabeth D. Baker
Senior Land Use Planner

Enclosures

{A0539976.DOCX / 1 RZ Statement of Justification 000577 000108}

Residential Development Criteria Analysis
MHI-Spring Lake, LLC

Residential Development Criteria have been adopted in order to evaluate zoning requests for new residential development. This document is a summary of the MHI-Spring Lake, LLC development proposal as it relates to these criteria.

I. **Site Design**—All applications are to be characterized by high-quality site design. The Applicant believes that its proposal provides high-quality site design as follows:

A. Consolidation—The Application Property is 5.28 acres in size. No adjacent properties are undeveloped. Adjacent properties to the north, east and west are developed with single family and an existing church sits to the south.

B. Layout—The proposed layout provides logical, functional, and appropriate relationships between the new residential uses and adjacent existing uses. The site has been designed to respect and mirror the development pattern of adjacent properties. Front yards along Spring Lake Drive address front yards on the opposite side of the street. Similarly, at the periphery of the site's back yards abut backyards on adjacent lots.

C. Open Space—As a conventional R-3 zoning; no common open space is provided.

D. Landscaping—Ample landscaping is provided along the streetscape, between lots and along the periphery to complement the tree preservation areas.

E. Amenities—As a conventional R-3 District, there are no common amenities. Generously sized lots, tree preservation areas and interior sidewalks combine to provide an inviting residential community.

II. **Neighborhood Context**—New developments are to fit into the fabric of their adjacent neighborhoods. Properties to the north, east and west are developed with single-family homes. Care has been taken to design and orient the proposed lots to respect existing homes on adjacent properties. Along Spring Lake Drive, four homes are proposed opposite four existing residential lots. Along the northern periphery, four homes are proposed opposite four existing lots. Along the western periphery, five homes are proposed opposite three lots; however, one of the abutting R-3 zoned lots (TM 88-1 ((10)) 12, "Parcel 12")) is very large and all five of the lots proposed along the western periphery abut Parcel 12.

III. **Environment**—Proposals should be consistent with the policies and objectives of the environmental element of the Plan.

A. Preservation—There are no EQCs, RPAs or other environmentally sensitive areas on the property. The existing site is wooded, care has been taken to preserve trees along the north, east and west perimeters where the property abuts existing

homes. Supplemental plantings in the tree save area will provide enhance the tree save areas and provide a buffer to neighbors.

B. Slopes and Soils—Soils information available to date should present no problems for residential development.

C. Water Quality—Best Management Practices for stormwater management will be provided in a proposed pond on adjacent Parcel 10.

D. Stormwater Management— The site is currently undeveloped. The Applicant will be providing stormwater detention in an off-site pond on Parcel 10.

E. Noise— Noise impacts are not anticipated, but if determined necessary, the homes will include construction measures for noise mitigation to ensure the County's noise standards are met.

F. Lighting—Lighting on the site will be shielded and directed downward in order to minimize neighborhood glare and impacts to the night sky. The Applicant commits to meet the County's adopted lighting and glare regulations.

G. Energy/Green Building Practice—The dwelling units will be constructed to meet or exceed current energy efficiency standards.

IV. **Tree Preservation and Tree Cover Requirements**—The Applicant proposes to preserve trees along the northern, eastern and western perimeters of the site. The Applicant will work with the Urban Forester to ensure implementation of a comprehensive tree preservation program.

V. **Transportation**—Applications are to implement measures to address planned transportation improvements. The Applicant has located the intersection of the new street with Spring Lake Road in a location that meets safety and sight distance standards. Traffic generation from the development will be minimal, but the Applicant will work with FCDOT to address any transportation concerns.

VI. **Public Facilities**—It is anticipated that residential development impacts to the Public Facility System will occur. These include impacts on the public schools and public parks. The Applicant anticipates making a contribution to the Board of Supervisors for school purposes and a contribution to the Park Authority. It is expected that the Public Facilities' recommendation will be satisfied with these contributions.

VII. **Affordable Housing**—Because the 15 proposed dwelling units proposed are less than the 50 units threshold in the ADU Ordinance, ADUS are not required. It is anticipated that the Applicant will make a contribution to the County's Housing Trust Fund.

VIII. **Heritage Resources**—There are no significant cultural, architectural, economic, social, political, or historic heritage sites or structures located on the property.

IX. **Density**— The Comprehensive Plan recommends residential development of the site with a density of 2 to 3 dwelling units per acre. The proposed 15 dwellings on 5.28 acres results in a density of 2.8 dwelling units per acre in Fairfax County. Thus, the proposed density is in keeping with the Comprehensive Plan recommendations.

Rezoning Application

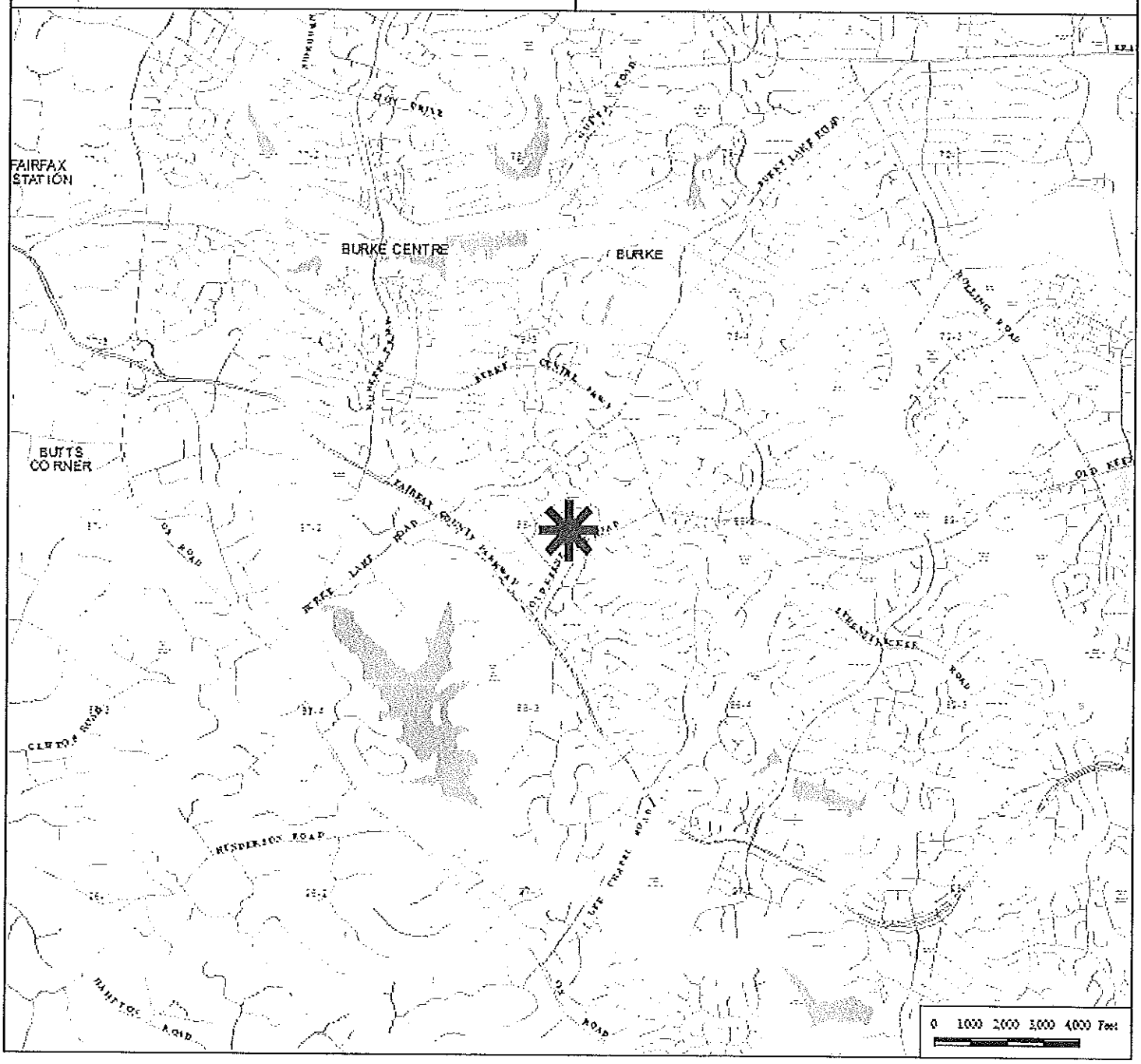
RZ 2013-SP-005

Applicant:	MHI-SPRING LAKE, L.L.C.
Accepted:	02/07/2013
Proposed:	RESIDENTIAL
Area:	5.28 AC OF LAND; DISTRICT - SPRINGFIELD
Located:	6408 SPRING LAKE DRIVE, BURKE, VA 22015
Zoning:	FROM R-1 TO R-3
Map Ref Num:	088-1- /02/ /0008

Special Permit Amendment

SPA 76-S-200-02

Applicant:	TRUSTEES OF CALVARY CHRISTIAN CHURCH
Accepted:	02/07/2013
Proposed:	AMEND SP 76-S-200 PREVIOUSLY APPROVED FOR CHURCH TO PERMIT SITE MODIFICATIONS AND DELETE LAND AREA.
Area:	9.67 AC OF LAND; DISTRICT - SPRINGFIELD
Zoning Dist Sect:	03-0103
Art 8 Group and Use:	3-02
Located:	6408 SPRING LAKE DRIVE, BURKE, VA 22015
Zoning:	R-1
Map Ref Num:	088-1- /02/ /0008 /02/ /0010



Rezoning Application

RZ 2013-SP-005

Applicant: MHI-SPRING LAKE, L.L.C.
Accepted: 02/07/2013
Proposed: RESIDENTIAL
Area: 5.28 AC OF LAND; DISTRICT - SPRINGFIELD

Located: 6408 SPRING LAKE DRIVE, BURKE, VA 22015

Zoning: FROM R-1 TO R-3

Map Ref Num: 088-1- /02/ /0008

Special Permit Amendment

SPA 76-S-200-02

Applicant: TRUSTEES OF CALVARY CHRISTIAN CHURCH
Accepted: 02/07/2013
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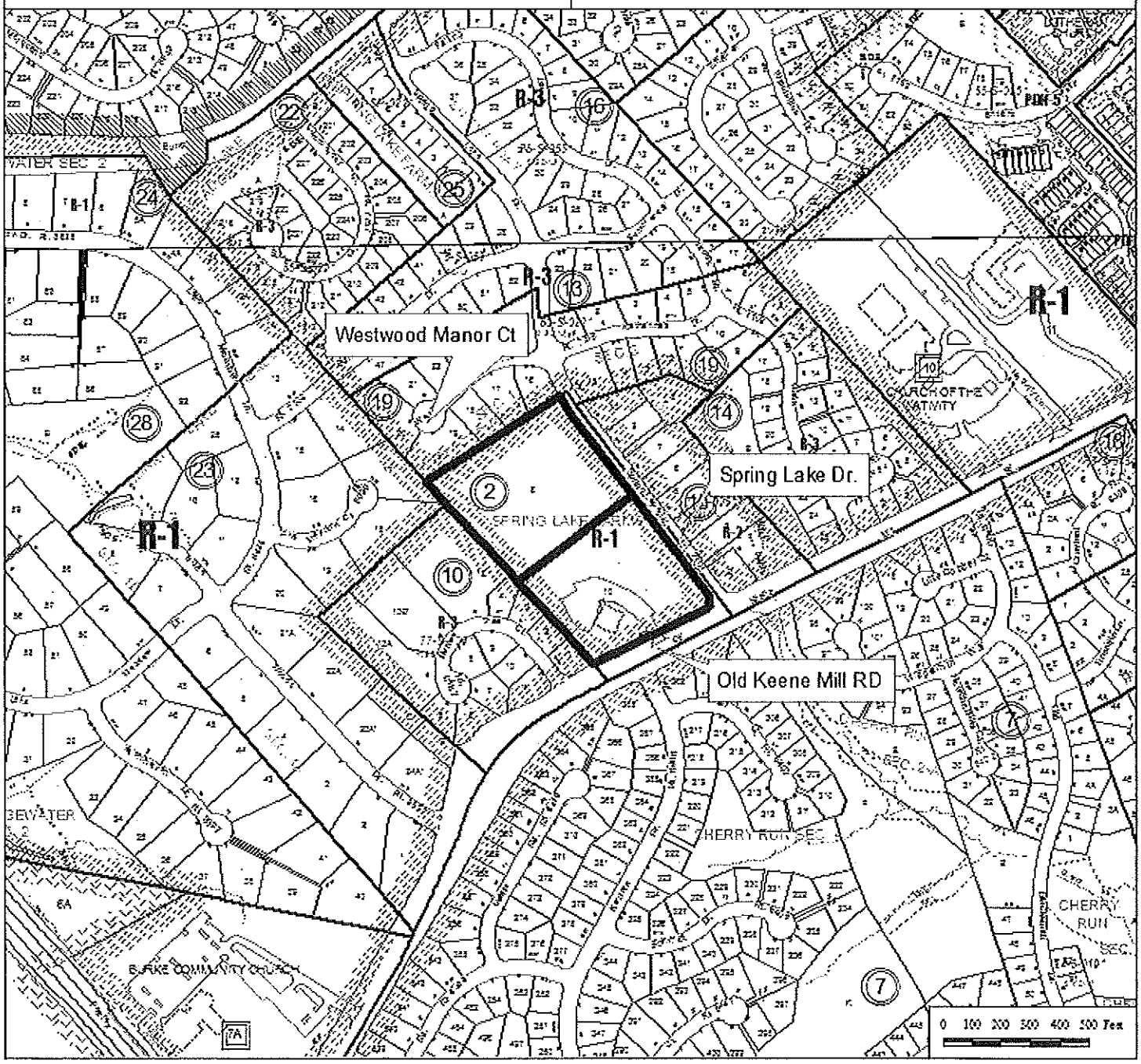
Zoning Dist Sect: 03-0103
Art 8 Group and Use: 3-02
Located: 6408 SPRING LAKE DRIVE, BURKE, VA 22015

Zoning: R-1

Map Ref Num: 088-1- /02/ /0008 /02/ /0010



ENCLAVE OF BURKE

GENERALIZED DEVELOPMENT PLAN

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA
JANUARY, 2013

VICINITY MAP
SCALE: 1" = 2,000'

OWNER

TRUSTEES OF THE CALVARY CHRISTIAN CHURCH
9800 OLD KEENE MILL ROAD
BURKE, VA 22015

APPLICANT/ CONTRACT PURCHASER

MHI-SPRING LAKE, LLC, C/O MADISON HOMES INC.
112 Pleasant Street NW
Suite H
Vienna, VA 22180
Telephone 703.506.9292

ATTORNEY/AGENT

WALSH COLUCCI LUBELEY EMRICH AND WALSH, PC
2200 CLARENDON BLVD, 13TH FLOOR
ARLINGTON, VA 22201
TELEPHONE 703.528.4700

SHEET INDEX

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Sheet Number	Sheet Title
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2	GENERALIZED DEVELOPMENT PLAN
3	GENERAL NOTES AND COMMENTS
4	EXISTING VEGETATION MAP
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6	LANDSCAPE DETAILS
7	TREE PRESERVATION PLAN
8	TREE PRESERVATION PLAN
9	TREE INVENTORY AND CONDITION ANALYSIS
10	TREE PRESERVATION DETAILS
11	BMP COMPUTATIONS
12	STORMWATER CALCULATIONS
13	SIGHT DISTANCE

ENGINEER/LANDSCAPE ARCHITECT/PLANNER

THE BC CONSULTANTS
12600 Fair Lakes Circle
Suite 100
Fairfax, VA 22033
Telephone 703.449.8100
Fax 703.449.8108

BC Consultants
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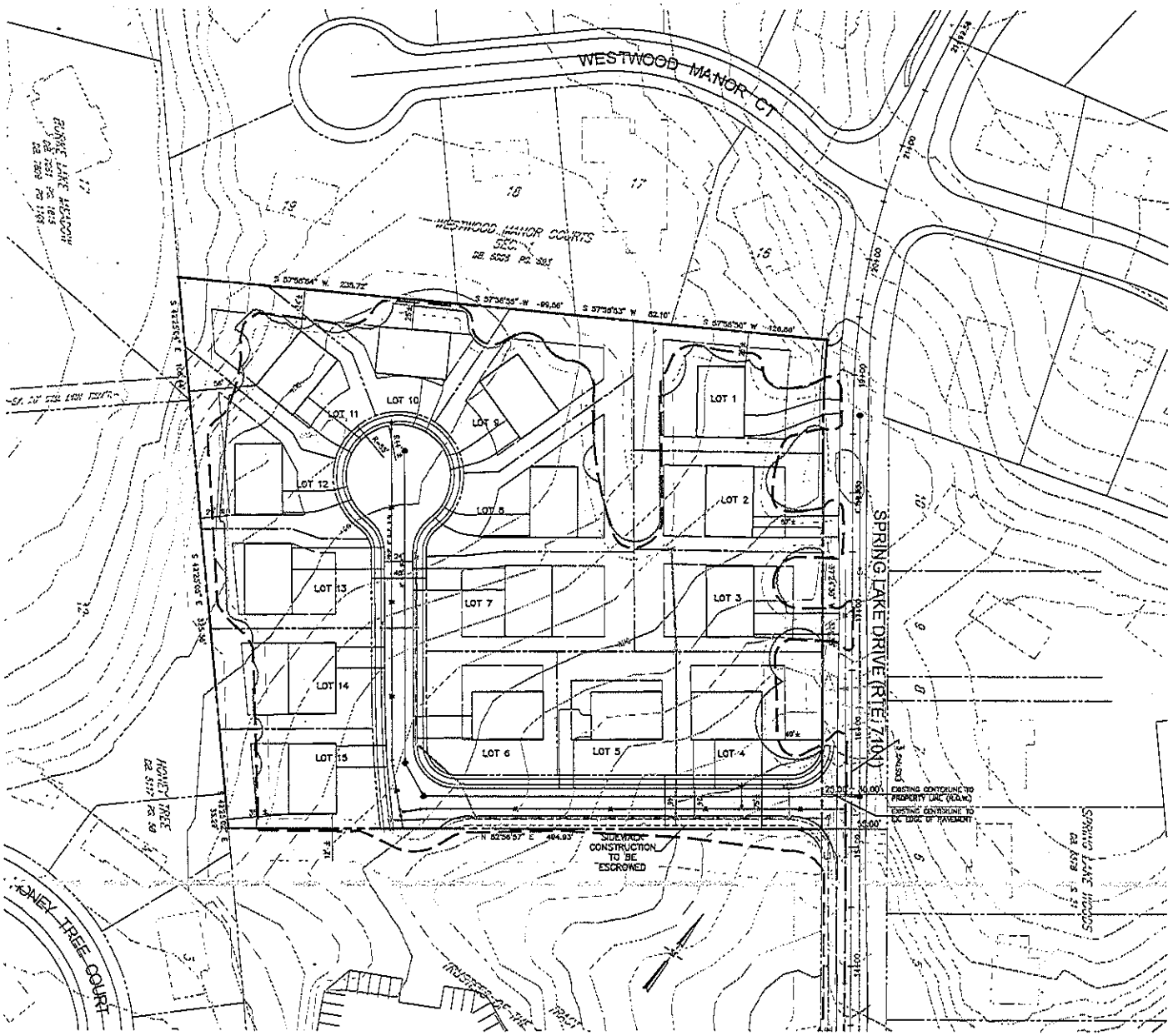
(703)449-8100 (703)449-8108 (Fax)
www.bcconsultants.com



LEGEND:

	EXISTING BUILDING
ENTIRE SITE IS WOODED	EXISTING TREELINE
	PROPOSED TREELINE
	LIMITS OF CLEARING AND GRADING

SITE TABULATIONS:

GROSS SITE AREA (G.S.A.):	230,312 s.f.± or 5.28 Ac.±
EXISTING ZONE:	R-1
PROPOSED ZONE:	R-3
MINIMUM LOT AREA REQUIRED:	10,500 s.f.
MINIMUM LOT AREA PROVIDED:	10,500 s.f.
AVERAGE LOT AREA REQUIRED:	11,500 s.f.
AVERAGE LOT AREA PROVIDED:	12,937 s.f.±
PROPOSED DENSITY:	2.84 DU/AC
MAXIMUM LOTS ALLOWED:	15
MAXIMUM LOTS PROVIDED:	15
MAXIMUM BUILDING HEIGHT:	35'
YARD SETBACK REQUIREMENTS:	
FRONT YARD:	30'
SIDE YARD:	12'
REAR YARD:	25'
MINIMUM LOT WIDTH (INTERIOR):	80'
MINIMUM LOT WIDTH (CORNER):	105'
PARKING REQUIRED:	30 (2 SPACES PER HOUSE)
PARKING PROVIDED:	60 (2 SPACES IN GARAGE & 2 SPACES IN DRIVEWAY PER HOUSE)

40' 20' 0' 40' 80'
SCALE 1"= 40'

BC Consultants
Planners • Engineers • Surveyors • Landscape Architects
12600 Fair Lakes Circle, Suite 100, Fairfax, VA 22033
(703)449-8100 (703)449-8108 (Fax)
www.bccon.com

COMMONWEALTH OF VIRGINIA
PETER L. RIKE
Lic. No. 344
LICENSED PROFESSIONAL ENGINEER

GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS

APPLICANT:

DESIGNED BY: PLR
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: JANUARY 2013
SCALE: HOR. 1"= 40' VERT. N/A

SHEET 2 OF 13

CD. NO.
CAD NAME: 011562GDP
LAYOUT: GDP
FILE NO. 11562.01-00

GENERAL NOTES:

1. THE PROPERTY DELINEATED ON THIS GENERALIZED DEVELOPMENT (GDP) IS IDENTIFIED ON FAIRFAX COUNTY TAX MAP 88-1-((2)), PARCEL B, AND IS ZONED R-1.

2. THE PROPERTY DELINEATED HEREON IS BASED ON DEEDS OF RECORD AND ADJACENT INFORMATION AND IS NOT A FIELD SURVEY. MERIDIAN BASED ON ADJACENT VCS 27 DATUM CONVERTED TO VCS 83 AND HAS NOT BEEN VERIFIED.

3. THE TOPOGRAPHIC INFORMATION SHOWN ON THIS GDP IS OBTAINED FROM FAIRFAX COUNTY GIS DATA AND HAS BEEN INTERPOLATED INTO TWO FOOT INTERVALS.

4. THE PROPERTY SHOWN ON THIS GDP IS IN THE SPRINGFIELD MAGISTERIAL DISTRICT, LOWER POTOMAC SANITARY SEWER SHED AND THE POHICK CREEK WATERSHED.

5. TO THE BEST OF OUR KNOWLEDGE THIS DEVELOPMENT IS IN CONFORMANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN AND WILL CONFORM TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES WITH THE EXCEPTION OF THE FOLLOWING
   A) A WAIVER IS BEING REQUESTED FOR THE SIDEWALK ALONG SPRING LAKE DRIVE BASED ON THE CONDITION THAT THERE ARE NO OTHER EXISTING SIDEWALKS ON THE STREET.

6. ACCORDING TO THE FAIRFAX COUNTY-COUNTYWIDE TRAILS PLAN (ADOPTED BY THE BOARD OF SUPERVISORS ON JUNE 17, 2002) THERE IS NO TRAILS REQUIREMENT.

7. THE FAIRFAX COUNTY WATER AUTHORITY IS THE PUBLIC WATER SUPPLY AGENCY FOR THIS DEVELOPMENT. THE COUNTY OF FAIRFAX IS THE SANITARY SEWER SUPPLY AGENCY FOR THIS DEVELOPMENT.

8. THERE ARE NO EXISTING UTILITY EASEMENTS ON THE SITE.

9. THERE ARE NO KNOWN GRAVES OR PLACES OF BURIAL ON SITE.

10. THE PROPOSED LIMITS OF CLEARING AND GRADING ARE AS SHOWN ON THIS GDP. THESE LIMITS ARE APPROXIMATE AND SUBJECT TO ADJUSTMENT AT THE TIME OF FINAL GRADING, ENGINEERING AND LOCATION OF PROPOSED UTILITIES. WHERE THE LIMITS OF CLEARING AND GRADING ARE SHOWN ADJACENT TO A PROPERTY LINE, IT SHOULD BE ASSUMED THAT THE LIMITS EXTEND TO THE PROPERTY LINE.

11. PARKING WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.

12. THE PROPERTY IS LOCATED WITHIN THE MIDDLE RUN COMMUNITY PLANNING SECTOR (P8) OF THE POHICK PLANNING DISTRICT (AREA III) OF THE COMPREHENSIVE PLAN AND IS PLANNED FOR RESIDENTIAL 2-3 du/ac

13. IT IS UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS BENCHES, WALKWAYS, FLAGPOLES, TRELLISES, WATER FOUNTAINS OR FEATURES, SIGNS, WALLS, FENCES, LIGHT STANDARDS AND/OR UTILITY MAINTENANCE STRUCTURES NOT REPRESENTED ON THIS GDP MAY BE PROVIDED AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THIS GDP. ALL SIGNS WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 12 OF THE ZONING ORDINANCE.

18-202 GENERALIZED DEVELOPMENT PLAN COMMENTS:

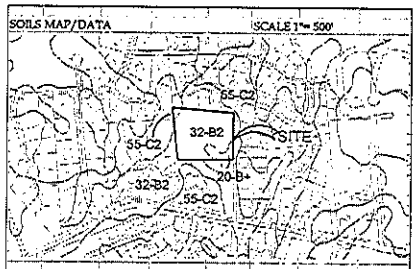
1. APPLICATION TO BE SUBMITTED SEPARATELY.
2. A. PROPERTY LINE INFORMATION AS SHOWN ON PLAN.
   B. REFER TO THE SITE TABULATIONS FOR OVERALL SITE AREA.
   C. SCALE AND NORTH ARROW AS SHOWN ON PLAN.
   D. THERE ARE NO EXISTING STRUCTURES ON THE SITE.
   E. EXISTING STREET INFORMATION AS SHOWN ON PLAN.
   F. SEAL AND SIGNATURE ARE SHOWN ON PLAN.
3. LEGAL DESCRIPTIONS AND REZONING PLATS TO BE SUBMITTED SEPARATELY.
4. FAIRFAX COUNTY ZONING MAP (1"=500') WITH SITE HIGHLIGHTED IN RED TO BE SUBMITTED SEPARATELY.
5. FOR RESIDENTIAL DEVELOPMENTS-FAIRFAX COUNTY SOIL IDENTIFICATION MAP SEE SHEET 3.
6. AFFADAVIT TO BE SUBMITTED SEPARATELY.
7. APPLICATION TO BE SUBMITTED SEPARATELY.
8. N/A
9. STATEMENT OF JUSTIFICATION TO BE SUBMITTED SEPARATELY.
10. FOR REZONING APPLICATIONS TO AN R, C OR I DISTRICT THIS GDP SHALL SHOW THE FOLLOWING INFORMATION:
    A. SCALE AND NORTH ARROW AS SHOWN ON PLAN.
    B. REFER TO THE SITE TABULATIONS AND/OR PLAN FOR PROPOSED STRUCTURE INFORMATION.
    C. PROPOSED CIRCULATION AS SHOWN ON PLAN. SEE GENERAL NOTE #6.
    D. NO COMMON OPEN SPACE PROPOSED.
    E. PROPOSED SANITARY SEWER SHOWN ON PLAN.
    F. REFER TO STORM WATER MANAGEMENT SHEETS. REFER TO GENERAL NOTE 8.
    G. REFER TO GENERAL NOTE 8.
    H. REFER TO SITE TABULATIONS FOR PARKING CALCULATIONS.
    I. TOPOGRAPHY AS SHOWN ON PLAN. SEE GENERAL NOTE 3.
    J. AREAS OF TREE PRESERVATION ARE SHOWN ON PLAN.

    K. DIMENSIONS OF BUILDING SETBACK AND SUPPLEMENTAL TREE PLANTINGS ARE SHOWN ON PLAN.
    L. NO EXISTING STRUCTURES ON SITE.
    M. G.F.A. AND F.A.R ARE NOT APPLICABLE.
    N. N/A
    N. REFER TO SITE TABULATIONS FOR THE NUMBER OF UNITS AND DENSITY. NO OPEN SPACE IS REQUIRED OF PROPOSED.
    P. ANY AND ALL PUBLIC IMPROVEMENTS AS SHOWN ON PLAN.
    Q. DEVELOPMENT SCHEDULE TO BE DETERMINED AS MARKET CONDITIONS ALLOW.
    R. NO EQC, RPA, OR FLOODPLAIN EXISTS ON THE SITE.
    S. EXISTING AND PROPOSED ROADS AS SHOWN ON PLAN.
    T. EXISTING VEGETATION MAP (TMA) PROVIDED ON SHEET 4.
       PROPOSED LANDSCAPE PLAN PROVIDED ON SHEET 5.
    U. THERE ARE NO KNOWN GRAVES OR PLACES OF BURIAL ON SITE.
    V. OWNER
       TRUSTEES OF THE CALVARY CHRISTIAN CHURCH
       9900 OLD KEENE MILL ROAD
       BURKE, VA 22015
       DB. 4317 PG. 34
       TAX MAP IDENTIFICATION:

TAX I.D. NO.	PARCEL #
88-1-((2))	B

11. THIS DEVELOPMENT IS IN CONFORMANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN WHICH WHICH RECOMMENDS RESIDENTIAL DEVELOPMENT AT 2/3 DU/AC.
12. THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON SITE.
13. THIS DEVELOPMENT SHALL CONFORM TO PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS, WITH THE EXCEPTION OF GENERAL NOTE #5.
14. N/A AT THIS TIME.
15. N/A
16. N/A
17. APPLICATION FEE TO BE SUBMITTED SEPARATELY.

SOILS MAP/DATA SCALE 1"= 500'

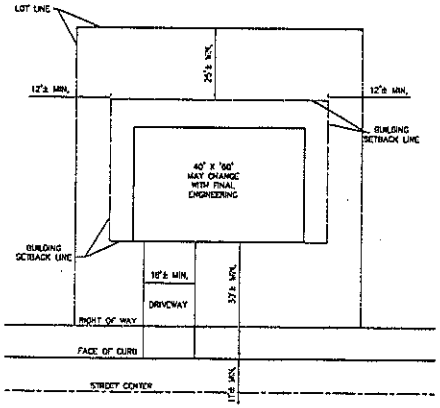


SOIL U.L. NUMBER	NAME	FOUNDATION SUPPORT	SURFACE DRAINAGE	SLOPE STABILITY	ERODIBILITY	UNSATISFACTORY FEATURES	NEW SOIL PROBLEM PLAN
55	GLENELG	GOOD	GOOD	GOOD	SEVERE	NO	C
32	FAIRFAX(BILL)	GOOD-P	FAIR-P	GOOD	GOOD	SEVERE	B
20	MEADOWVILLE	FAIR-S,W	MARGINAL-W	GOOD	MODERATE	B	B

TYPICAL LOT LAYOUT

NOT TO SCALE

(FOR ILLUSTRATIVE PURPOSES ONLY)



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(703)449-0100, (703)449-0108 (Fax)
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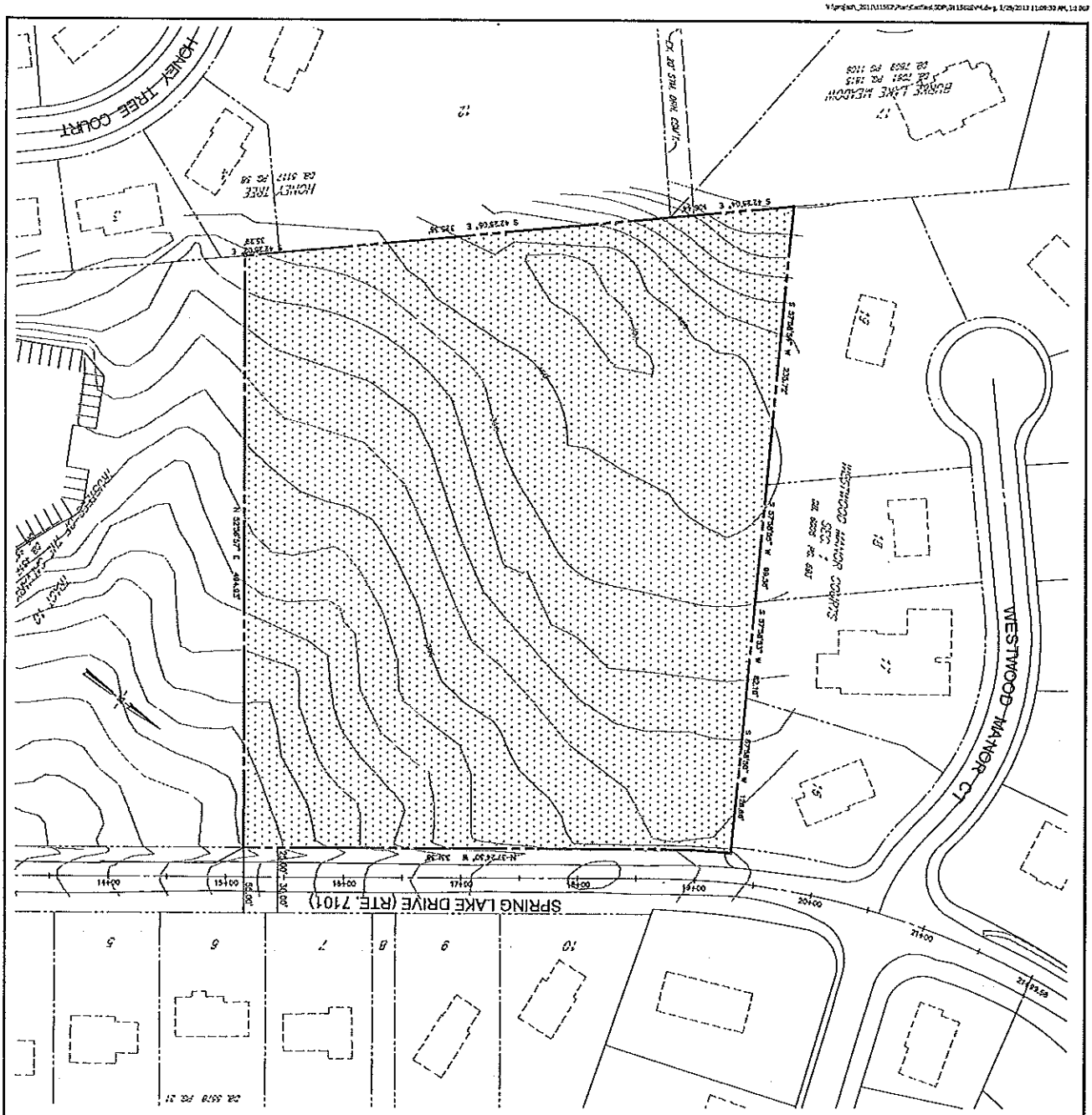
COMMONWEALTH OF VIRGINIA
FOR L. BRIX
LIC. NO. 343
PROFESSIONAL ENGINEER

GENERAL NOTES AND COMMENTS
GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS	APPROVALS
DESIGNED BY: FLR	
DRAFTED BY: CAD	
CHECKED BY: FLR	
DATE: JANUARY 2013	
SCALE: HOR. N/A VERT. N/A	
SHEET 3 OF 13	
CO. NO.	
CAD NAME: 011562NOT	
LAYOUT: GDP	
FILE NO. 11562.01-00	



EXISTING VEGETATION MAP LEGEND:

COVER TYPE 2 (UPLAND FOREST)
THIS COVER TYPE REPRESENTS THE EXISTING PRE-DEVELOPMENT TREE CANOPY.

EXISTING VEGETATION MAP SUMMARY AND NARRATIVE:

COVER TYPE NO.	COVER TYPE DESIGNATION	SUCCESSIONAL STAGE	HEALTH AND CONDITION	AREA (Acres)	NARRATIVE
2	UPLAND FOREST	N/A	N/A	6.25 AC. ±	UPLAND HARDWOODS: OAK, HICKORY AND YELLOW-POPLAR UPLAND SOFTWOODS: VIRGINIA PINE

SCALE: 1" = 40'

BC REVISIONS	
APPLICANT:	
DESIGNED BY: PLR	
DRAFTED BY: CAD	
CHECKED BY: PLR	
DATE: JANUARY 2013	
SCALE: HOR. 1" = 40' VERT. N/A	
SHEET 4 OF 13	
CO. NO.	
CAD NAME: C11062EVM	
LAYOUT: CVM	
FILE NO. 11062.01-00	

EXISTING VEGETATION MAP
GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PETER L. BEEK
Lic. No. 358
LANDSCAPE ARCHITECT

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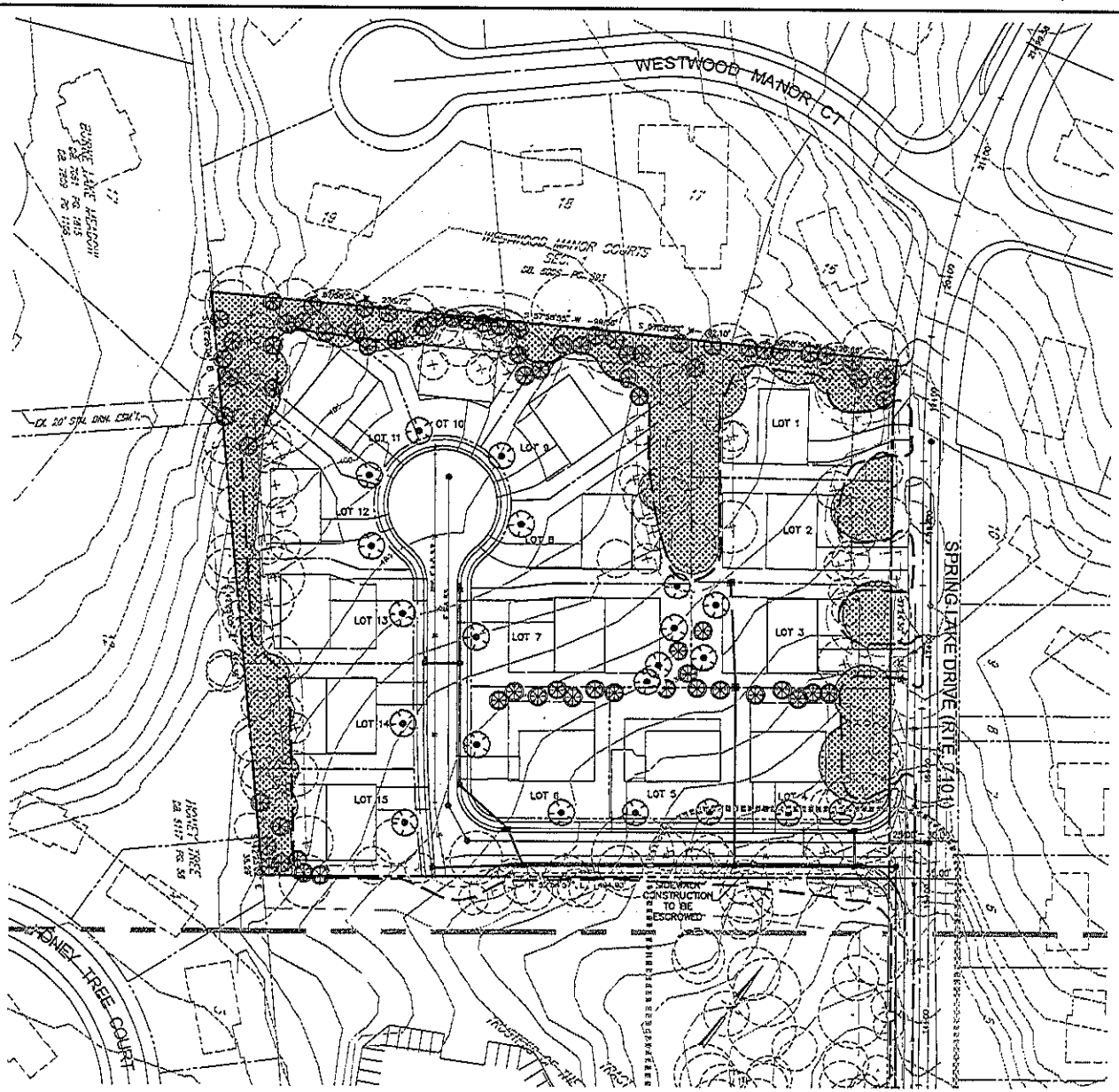
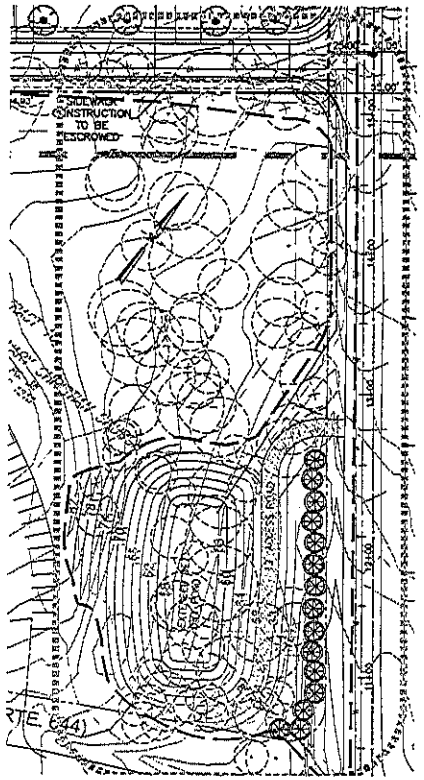


LEGEND:

- CATEGORY IV (2" CAL.) DECIDUOUS (OVERSTORY) TREES
- CATEGORY II (6' HT.) EVERGREEN (UNDERSTORY) TREES
- POST DEVELOPMENT 10-YEAR TREE CANOPY CREDIT AREA (40,349 s.f.)
- EXISTING BUILDING
- ENTIRE SITE IS WOODED
- EXISTING TREELINE
- PROPOSED TREELINE
- LIMITS OF CLEARING AND GRADING



THIS PLAN FOR LANDSCAPING PURPOSES ONLY

40' 20' 0' 40' 80'
SCALE: 1"= 40'

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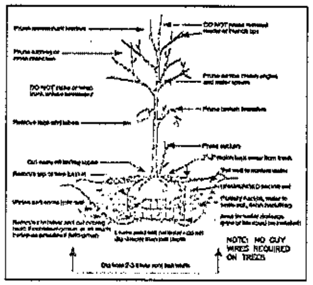
COMMONWEALTH OF VIRGINIA
PAUL L. BRIE
Lic. No. 381
LANDSCAPE ARCHITECT

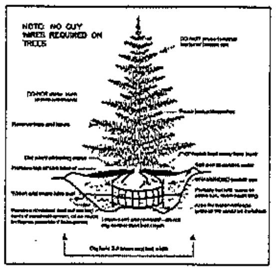
LANDSCAPE PLAN
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS	APPROVAL
DESIGNED BY: PLR	
DRAFTED BY: CAD	
CHECKED BY: PLR	
DATE: JANUARY 2013	
SCALE: HOR. 1"= 40' VERT. N/A	
SHEET 5 OF 13	
CO. NO.	
CAD NAME: C11562LSC	
LAYOUT: LSC	
FILE NO. 11062.01-00	



1/6 TREE PLANTING GUIDELINE

NOT TO SCALE — 12A—Tree Planting—VA



2/6 EVERGREEN PLANTING GUIDELINE

NOT TO SCALE — 12A—Tree Planting—VA

PLANT LIST:

DECIDUOUS OVERSTORY TREES					
Category	Total Quantity	Height	Caliper	10 Yr. Tree Canopy (s.f.)	Total 10 Yr. Tree Canopy (s.f.)
IV	21		2" Cal.	250	5,250
		Total Overstory Trees		Subtotal	5,250
EVERGREEN TREES					
	74	6' Ht.		75	5,550
		Total Evergreen Trees		Subtotal	5,550

TRANSITIONAL SCREENING AND BARRIER SUMMARY :

SUMMARY PROVIDED FOR INFORMATIONAL PURPOSES.

EXISTING USE (SITE): VACANT

NORTHERN BOUNDARY (WESTWOOD MANOR):

NO TRANSITIONAL SCREENING OR BARRIERS ARE REQUIRED. ADJACENT USE IS ALSO SINGLE FAMILY DETACHED DWELLINGS.

EASTERN BOUNDARY (ACROSS SPRING LAKE ROAD):

NO TRANSITIONAL SCREENING OR BARRIERS ARE REQUIRED. ADJACENT USE IS ALSO SINGLE FAMILY DETACHED DWELLINGS.

SOUTHERN BOUNDARY:

NO TRANSITIONAL SCREENING OR BARRIERS ARE REQUIRED. ADJACENT USE IS CALVARY CHRISTIAN CHURCH.

WESTERN BOUNDARY:

NO TRANSITIONAL SCREENING OR BARRIERS ARE REQUIRED. ADJACENT USE IS ALSO SINGLE FAMILY DETACHED DWELLINGS.

10-YEAR TREE CANOPY CALCULATIONS:

A.	TREE PRESERVATION TARGET CALCULATIONS AND STATEMENT	Totals (s.f.)
A1	Predevelopment Area of Existing Tree Canopy	230,317
A2	Percentage of Gross Site Area Covered by Existing Tree Canopy (A1/B1)	100.0%
A3	Percentage of 10-year Tree Canopy Required for the Site	25%
A4	Percentage of the 10-Year Tree Canopy Requirement That Should be Met Through Tree Preservation	100.0%
A5	Proposed Percentage of Canopy Requirement That Will be Met Through Tree Preservation (C10/B7)	100.6%
A6	Has the Tree Preservation Target minimum been met?	Yes
A7	If A6 is no, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in §12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be meet. Provide sheet number where deviation request is located. The narrative shall be prepared in accordance with §12-0507.4.	N/A
B.	TREE CANOPY REQUIREMENT	
B1	Identify Gross Area	230,317
B2	Subtract Areas Dedicated to Parks, and Road Frontage	0
B3	Subtract Area of Exemption	0
B4	Adjusted Gross Site Area (B1 - (B2+B3))	230,317
B5	Identify Site's Zoning and/or Use	R3
B6	Percentage of 10-Year Tree Canopy Required	25%
B7	Area of 10 Year Tree Canopy Required (B4xB6)	57,579
B8	Modification of 10-Year Tree Canopy Requirements Requested	No
B9	If B8 is Yes, Then List Plan Sheets Where Modification Request is Located	N/A
C.	TREE CANOPY PRESERVATION	
C1	Tree Preservation Target Area (B7 x A4)	57,579
C2	Total Canopy Area Meeting Standards of §12-0200	46,344
C3	C2 x 1.25	57,930
C3.1	Total Canopy Area Meeting Standards of §12-0200 But Does Not Qualify for Bonus Multiplier	0
C3.2	C3.1 x 1.00	0
C4	Total Canopy Area Provided by Unique or Valuable Forest or Woodland Community	0
C5	C4 x 1.5	0
C6	Total Canopy Area Provided by "Heritage," Memorial," Specimen," or "Street" Tree"	0
C7	C6 x 1.5 to 3.0	0
C8	Canopy Area of Trees Within Resource Protection Areas and 100-Year Floodplains	0
C9	C8 x 1.0	0
C10	Totals of C3, C3.1, C5, C7 and C9	57,930
D.	TREE PLANTING	
D1	Area of Canopy to be Met Through Tree Planting (B7-C10)	(350)
D2	Area of Canopy Planted for Air Quality Benefits	0
D3	D2 x 1.5	0
D4	Area of Canopy Planted for Energy Conservation	0
D5	D4 x 1.5	0
D6	Area of Canopy Planted for Water Quality Benefits	
D7	D6 x 1.25	0
D8	Area of Canopy Planted for Wildlife Benefits	
D9	D8 x 1.5	0
D10	Area of Canopy Provided by Native Species	0
D11	D10 x 1.5	0
D12	Area of Canopy Provided by Improved Cultivars and Varieties	0
D13	D12 x 1.25	0
D14	Area of Canopy Provided Through Tree Seedling	0
D14.1	D14 x 1.0	0
D15	Area of Canopy Provided Through Native Shrubs or Woody Seed Mix	0
D15.1	D15 x 1.0	0
D16	Percentage of D14 Represented by D15 (D15/D14) Must not exceed 33% of D14	0
D16.1	Area of Canopy Planted With No Multiplier	
D17	Total Canopy Area Provided Through Tree Planting (Totals of D3, D5, D7, D9, D11, D13, D14.1, D15.1 and D16.1)	0
D18	Is an Offsite Planting Relief Requested?	No
D19	Tree Bank or Tree Fund	N/A
D20	Canopy Area Requested to be Provided Through Offsite Banking or Tree Fund	0
D21	Amount to be Deposited into the Tree Preservation and Planting Fund	0
E.	TOTAL OF 10-YEAR TREE CANOPY PROVIDED	
E1	Total of Canopy Area Provided Through Tree Preservation (C10)	57,930
E2	Total of Canopy Area Provided Through Tree Planting (D17)	5,550
E3	Total of Canopy Area Provide Through Offsite Mechanisms (D20)	0
E4	Total of 10-Year Tree Canopy Provided (Totals of E1, E2 and E3)	63,480

LANDSCAPE IMPLEMENTATION POLICY

URBAN FOREST MANAGEMENT
POLICY ON LANDSCAPE IMPLEMENTATION
January 1, 2009

This compilation of selected portions of the Public Facilities Manual is intended to summarize and clarify regulations pertaining to the implementation of landscape plans on development sites subject to review and inspection by the County. Included are regulations governing the most common areas of noncompliance experienced by staff in the course of conducting landscape inspections, and a brief summary of the policy regarding seasonal landscape deferrals.

Tree Species and Size
1. Trees and shrubs that are planted shall be of the species and size specified on the approved plans. There shall be no deviations from the approved sizes specified except as approved by Fairfax County Urban Forest Management (UFMD). (PFM 12-0701.1A)

2. All trees and shrubs shall meet the standards for size and quality established in the American Association of Nurserymen's American Standard for Nursery Stock (ANSI Z60.1-1996). See additional PFM 12-0701.1B)

Species Substitutions
3. Species substitutions within the tree categories listed in Table 12.19 are generally accepted unless otherwise specified by proffered conditions, development conditions, special exceptions, or special permits. Any tree substitution shall also be in conformance with the following: (PFM 12-0701.1C)
a. Plant Diversity - The use of substitute trees shall not result in any species making up more than 10 percent of the total number of trees required to be planted on the site. (PFM 12-0514.1E)
b. Authorization - A letter signed by the permittee shall be provided to UFMD acknowledging any proposed substitutions to trees and shrubs shown on the approved plans. (PFM 12-0701.1C(2))
c. Substitutions Outside of Tree Category - Substitution of a tree shown on the approved plan from one tree category, as listed in PFM Table 12.19, with a tree from a different category shall require a revision to the approved plan. (PFM 12-0701.1C(3))
d. Species Suitability - Substituted species must be suited to the post development conditions of the planting location for which it is intended. (PFM 12-0601.1A)
e. Additional Tree Cover Credit - In cases where additional tree cover credit has been given, no tree substitution shall be made except as approved by the Urban Forest Management. Examples of additional credit include the following:
Energy Conservation, PFM 12-0509.4B(2) — Air Quality, PFM 12-0509.4B(1)
Wildlife Benefits, PFM 12-0509.4B(4) — Water Quality, PFM 12-0509.4B(3) — Native Trees, PFM 12-0509.4B(5)

Planting Locations
4. Planting locations of all trees on the site shall be in substantial conformance with the approved plan. UFMD acknowledges that not all trees may be optimally located, as shown on the plan, and encourages input from Permittees and their landscape professionals regarding proposed improvements that might be implemented. Any substantive deviations from the approved plan that are made in the field must be approved by UFMD and shall be in conformance with the following:
a. Planting Area - At least the minimum size planting area shall be provided for each tree according to its projected 10-year tree cover area as found in Table 12.7. (PFM 12-0601.1B)
b. Environmental Conditions - Light, moisture, and other conditions affecting the health and viability of the tree at the field location shall be suitable for the species. (PFM 12-0601.1E)
c. Compacted Soil - If planting in areas that have been previously compacted, the soil shall be properly prepared (tilled and amended as needed based on soil samples) to a depth of 12 inches, prior to installation of landscape material. Soil within individual planting holes shall not be amended. (PFM 12-0702.3B)
d. Restrictive Barriers - Trees shall be planted no closer than four feet from any restrictive barrier. (PFM 12-0509.4B(1))
e. Spacing - Trees shall be spaced so that the outer limit of their projected 10-year tree cover area, as indicated in Table 12.19, does not significantly overlap or as determined acceptable by UFMD for site conditions and to promote long-term survival. (PFM 12-0509.4F(6))
f. Easements - Trees may be planted within or over utility easements within the limits of storm drainage easements that contain pipes. In addition, trees shall not be planted in an area that will interfere with access or proposed utilities, or with maintenance of the utility, as determined by the Director of DPWES. (PFM 12-0514.4B)

Staking and Guying
5. Staking and guying should only be implemented where site conditions warrant their use. Planted trees should be staked individually and staking and guying installed only as required. Conditions where staking and guying may be necessary to ensure stability include: windy conditions, steep slopes, or where vandalism may be a concern. All staking and guying materials must be removed within one year of plant installation. (PFM 12-0703.3E)

Seasonal Landscape Deferrals
6. A Seasonal Landscape Deferral may be granted when seasonal or weather-related conditions, such as excessively wet soil, extended periods of drought, or frozen ground, substantially reduce the survivability of the plant material, as determined by the Urban Forest Management. A request for a landscape deferral will not be granted for landscaping required prior to the issuance of a RUP or non-RUP when seasonal or weather-related conditions are the sole reason for not providing planting. Lack of species availability may justify the approval of a Seasonal Landscape Deferral where specific plant species are required by proffers or conditions.

7. The party responsible for the placement of the performance bond and conservation deposit for the project of all sites is the Applicant for the seasonal deferral. Seasonal Landscape Deferral request forms can be obtained from the Environmental and Facilities Inspections Division or the Urban Forest Management.

8. At the close of the inspection for release of performance bond and conservation deposit, all of the plant material is inspected. Plant material previously inspected, as part of the process to release any deferral deposit that may have occurred, is reinspected at the final inspection. All plant material must be healthy and in good condition.

Requirements Prior to Approval of RUPs/non-RUP
9. The landscaping and screening requirements of Article 13 or of any approved proffered condition, special permit, special exception or variance must be completed prior to approval of any Residential or Non-Residential Use Permit; provided, however, that completion of the requirements may be delayed when justification satisfactory to the Director is provided; such justification shall include an agreement and bond with surety satisfactory to the Director for completion in accordance with a time schedule for timely completion. (ZO 13-104.3) See Seasonal Landscape Deferrals above.

THIS SHEET FOR LANDSCAPING PURPOSES ONLY

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COMMONWEALTH OF VIRGINIA — PETE L. RICE — Lic. No. 319 — LANDSCAPE ARCHITECT

LANDSCAPE DETAILS
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

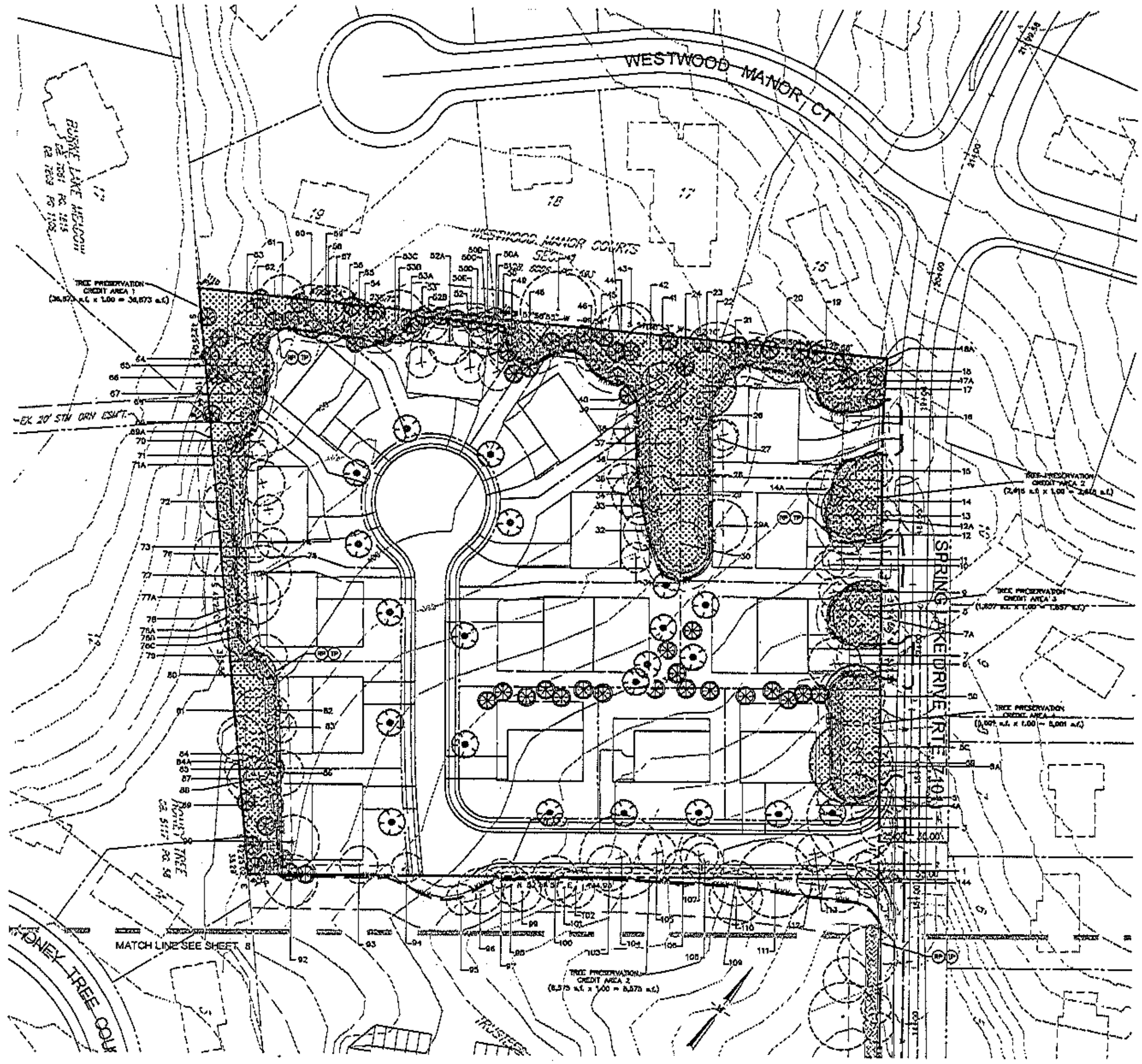
BC REVISIONS — APPLICANT

DESIGNED BY: PLR
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: JANUARY 2013
SCALE: HOR. N/A VERT. N/A
SHEET 6 OF 13
CO. NO.
CAD NAME: 011562LSC-DET
LAYOUT: LSC-DETAILS
FILE NO. 11562.01-00

LEGEND:

- LIMITS OF CRITICAL ROOT ZONE (CRZ)
- (CRZ) EXISTING TREES TO BE PRESERVED
- (CRZ) EXISTING TREES TO BE REMOVED
- MULCH AREA
- POST DEVELOPMENT 10-YEAR TREE CANOPY CREDIT AREA (46,349 s.f.)
- ROOT PRUNE (RP) AND/OR TREE PROTECTION FENCE (TP)
- LIMITS OF CLEARING AND GRADING
- EXISTING TREELINE
- PROPOSED TREELINE

SEE SHEET 9 FOR TREE INVENTORY AND CONDITION ANALYSIS, AND SHEET 10 FOR TREE PRESERVATION DETAILS.



SCALE: 1" = 40'

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COMMONWEALTH OF VIRGINIA — FRED L. RICE Lic. No. 318 — LANDSCAPE ARCHITECT

TREE PRESERVATION PLAN
GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS

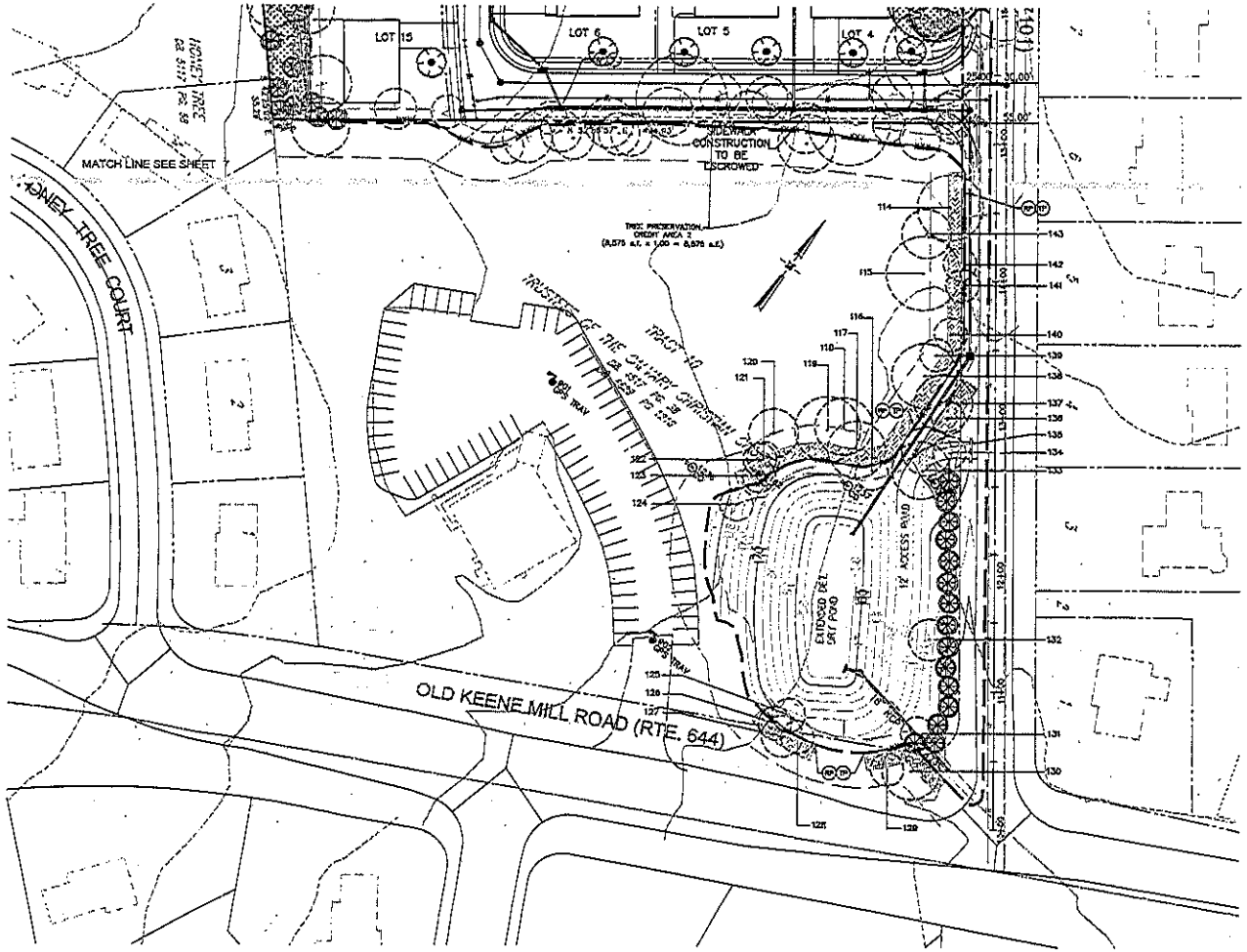
APPLICANT

DESIGNED BY:	PLR
DRAFTED BY:	CAD
CHECKED BY:	PLR
DATE:	JANUARY 2013
SCALE:	HOR. 1" = 40' VERT. N/A
SHEET 7 OF 13	
CO. NO.	
CAD NAME:	C11562TPP
LAYOUT:	TPP
FILE NO.	11562.01-00

LEGEND:

- LIMITS OF CRITICAL ROOT ZONE (CRZ)
- (CRZ) EXISTING TREE TO BE PRESERVED
- (CRZ) EXISTING TREE TO BE REMOVED
- MULCH AREA
- PROJECT DEVELOPMENT 10-YEAR TREE CANOPY CREDIT AREA (87,575 s.f.)
- RP TP ROOT PRUNE (RP) AND/OR TREE PROTECTION FENCE (TP)
- LIMITS OF CLEARING AND GRADING
- EXISTING TREELINE
- PROPOSED TREELINE

SEE SHEET 9 FOR TREE INVENTORY AND CONDITION ANALYSIS , AND SHEET 10 FOR TREE PRESERVATION DETAILS .



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COMMONWEALTH OF VIRGINIA
REID L. BREE
Lic. No. 383
PROFESSIONAL ENGINEER

TREE PRESERVATION PLAN
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
PROPOSED SUBDIVISION
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS	APPROVAL
DESIGNED BY: PLR	
DRAFTED BY: CAD	
CHECKED BY: PLR	
DATE: JANUARY 2013	
SCALE: HOR. 1"= 40' VERT. N/A	
SHEET 8 OF 13	
CD. NO.	
CAD NAME: 011562TPP	
LAYOUT: TPP (2)	
FILE NO. 11562.01-00	

TREE INVENTORY AND CONDITION ANALYSIS

TREE KEY	BOTANICAL NAME/COMMON NAME	SIZE DBH (IN.)*	CRZ** RADIUS (FT.)	CONDITION % ***	CANOPY POSITION	CROWN DENSITY %	AVERAGE CROWN SPREAD D (FT.)	FINAL STATUS	ROOT PRUNE	MULCH	FERTILIZE	PRUNE	TREAT PESTS	OTHER	PROBLEMS	COMMENTS
1	Quercus spp./Oak	15	15					R		X						Good condition
2	Acer rubrum/Red Maple	12	12					R		X						Good condition
3	Dead							R								
4	Quercus spp./Oak	36	36					R							Few dead branches	Very good
4A	Pinus virginiana/Virginia Pine/Virginia Pine	12	12		Co-dominant	30	20	P							Many dead branches;	Very Poor
5	Quercus spp./Oak	15	15					R								Good condition
5A	Dead	12	12					R								
5B	Quercus spp./Oak	33	33					P								Good condition
5C	Quercus spp./Oak	12	12		Co-dominant	40	24	P							One sided branches;	Fair condition
5D	Quercus spp./Oak	24	24					P								
6	Quercus spp./Oak	21	21					R								Excellent condition
7	Quercus spp./Oak	18	18		Co-dominant			R							Some broken branches	Good condition
7A	Quercus spp./Oak	27	27					P								Good condition
8	Quercus spp./Oak	12	12					R								Good condition
9	Quercus spp./Oak	12	12					R								Good condition
10	Quercus spp./Oak	15	15					R								Good condition
11	Quercus spp./Oak	16	16					R		X						Good condition
12	Dead							R								
12A	Quercus spp./Oak	14	16					P								Excellent condition
13	Quercus spp./Oak	16	16		Co-dominant			P		X					Some broken branches	Fair condition
14	Quercus spp./Oak	12	12		Co-dominant			P							Top main leader broken; some broken branches	Fair condition
15	Quercus spp./Oak	15	15		Dominant			P		X					Branches at top part only; trunk damage with scars	Poor condition
16	Quercus spp./Oak	12	12		Dominant			R							Crooked leader on top; no lower branches; one sided branches	Fair condition
17	Quercus spp./Oak	18	18					P								Good condition
17A	Acer rubrum/Red Maple	12	12					P								Good condition
18	Liriodendron tulipifera/Tulip Poplar	18	18					P		X						Good condition
18A	Quercus spp./Oak	14	14					P		X						Good condition
19	Quercus spp./Oak	16	16					P		X						Good condition
20	Quercus spp./Oak	21	21					P								Good condition
21	Quercus spp./Oak	12	12					R								Good condition
22	Liriodendron tulipifera/Tulip Poplar	24	24					P								Good condition
23	Quercus spp./Oak	18	18					P								Good condition
24	Carya spp./Hickory	12	12		Co-dominant	10	10	P								Good condition
25	Quercus spp./Oak	27	27					P								Fair Condition
26	Quercus spp./Oak	12	12					R								Good condition
27	Liquidambar styraciflua/Sweet Gum	12	12					R								Excellent condition
28	Quercus spp./Oak	12	12					P								Good condition
29	Dead	15	15					R								Good condition
29A	Quercus spp./Oak	21	21		Co-dominant	40	40	R							No lower and middle branches	Fair Condition
30	Quercus spp./Oak	14	14					P		X						Good condition
31	Quercus spp./Oak	12	12		Co-dominant	50	20	R							Short stunted branches along trunk	Fair condition
32	Quercus spp./Oak	10	18		Co-dominant	70	20	R							Rotten trunk cavity	Fair condition
33	Quercus spp./Oak	15	15					R								Good condition
34	Dead							R		X						
35	Dead							R								
36	Quercus spp./Oak	14	14					P								Good condition
37	Dead							R								
38	Quercus spp./Oak	12	12					R								Good condition
39	Liriodendron tulipifera/Tulip Poplar	14	14					P								Good condition
40	Liriodendron tulipifera/Tulip Poplar	12	12					P								Good condition
41	Quercus spp./Oak	14	14					R								Good condition
42	Quercus spp./Oak	21	18					P								Good condition
43	Quercus spp./Oak	14	14					P								Good condition
44	Quercus spp./Oak	21	21					P								Excellent condition
45	Quercus spp./Oak	12	12		Co-dominant			P							Crooked leader on top; no lower branches	Good condition
46	Quercus spp./Oak	12	12					R							Some broken branches	Good condition
48	Quercus spp./Oak	18	18					P								Good condition
49	Liriodendron tulipifera/Tulip Poplar	14	14					P								Good condition
50	Pinus virginiana/Virginia Pine/Virginia Pine	12	12					R								Good condition
50A	Quercus spp./Oak	15	15		Co-dominant			R								Good condition
50B	Dead	17	17					R								
50C	Quercus spp./Oak	8	8		Co-dominant			R								Good condition
50D	Pinus virginiana/Virginia Pine/Virginia Pine	12	12		Co-dominant	20	15	R							Fleeting bark; crooked trunk; one side branches	Dying
50E	Quercus spp./Oak	18	18					R								Good condition
51	Quercus spp./Oak	16	16					R								Good condition
52	Pinus virginiana/Virginia Pine/Virginia Pine	17	17					P								Good condition
52A	Quercus spp./Oak	18	18					R							Twin	Good condition
52B	Quercus spp./Oak	15	15					R							Multi	Good condition
53	Dead							R								
53A	Pinus virginiana/Virginia Pine/Virginia Pine	17	17					R								
53B	Quercus spp./Oak	21	21					P								
53C	Quercus spp./Oak	12	12					P								
54	Quercus spp./Oak	18	18		Co-dominant			P		X					Crooked trunk; one sided branches	Fair condition
55	Quercus spp./Oak	12	12					P							Lower broken branches	Good condition
56	Dead							R								
57	Quercus spp./Oak	14	14					P							One sided branches	Good condition
58	Liriodendron tulipifera/Tulip Poplar	14	14					P		X						Good condition
59	Robinia pseudoacacia/Black Locust	15	15					P								Good condition
60	Quercus spp./Oak	21	21					P								Good condition
61	Liriodendron tulipifera/Tulip Poplar	14	14					P								Good condition
62	Quercus spp./Oak	15	15					P								Good condition
63	Quercus spp./Oak	15	15					P								Good condition
64	Quercus spp./Oak	16	16		Co-dominant			P							Co-dominant trunk	Excellent condition
65	Liriodendron tulipifera/Tulip Poplar	12	12					P		X						Good condition
66	Quercus spp./Oak	12	12					P								Good condition
67	Liriodendron tulipifera/Tulip Poplar	14	14					P								Good condition
68	Dead							R								
69	Liriodendron tulipifera/Tulip Poplar	17	17					P		X						Good condition
69A	Quercus spp./Oak	14	14					P								Good condition
70	Quercus spp./Oak	16	16					P								Good condition
71	Quercus spp./Oak	12	12		Co-dominant			P							No lower branches	Fair condition
71A	Quercus spp./Oak							P								Good condition
72	Quercus spp./Oak	15	15					P								Good condition
73	Quercus spp./Oak	12	12					R								Good condition
73A	Quercus spp./Oak															
74	Quercus spp./Oak	12	12			70	15	R							Split; half trunk broke off; little cavity decay;	Fair condition
75	Quercus spp./Oak	24	24					P								Good condition
76	Quercus spp./Oak	15	15					P								Good condition
77	Quercus spp./Oak	14	14					P							Twin	Excellent condition
77A	Quercus spp./Oak	10	10					P							Crooked leader	Good condition
78	Quercus spp./Oak	21	21					P								Good condition
78A	Quercus spp./Oak	12	12					P							Co-dominant trunk; leaning	Excellent condition
79	Quercus spp./Oak	15	15					P							Twin	Good condition
79A	Quercus spp./Oak	17	17					P								Good condition
79C	Liriodendron tulipifera/Tulip Poplar	14	14					P								Good condition
79D	Dead							R		X						Good condition
80	Pinus virginiana/Virginia Pine/Virginia Pine	14	14					P								Good condition
81	[illegible]	14	14					P								
82	Prunus spp./Cherry	12	12					P								Good condition
83	Quercus spp./Oak	12	12					P								Good condition
84	Liriodendron tulipifera/Tulip Poplar	16	16			30	20	P								Fair condition
84A	Quercus spp./Oak	14	14					P								Good condition
85	Quercus spp./Oak	12	12					P		X						Good condition
86	Quercus spp./Oak	14	14					P							Broken lower branches; one side branches	Good condition
87	Quercus spp./Oak	16	16					P								Good condition
88	Quercus spp./Oak	16	16					P								Good condition
89	Liriodendron tulipifera/Tulip Poplar	19	19					P								Good condition
90	Liriodendron tulipifera/Tulip Poplar	19	19					P								Good condition
92	Liriodendron tulipifera/Tulip Poplar	21	21					P							No lower branches; some upper broken branches;	Good condition

TREE INVENTORY AND CONDITION ANALYSIS

TREE KEY	BOTANICAL NAME/COMMON NAME	SIZE DBH (IN.)*	CRZ** RADIUS (FT.)	CONDITION % ***	CANOPY POSITION	CROWN DENSITY %	AVERAGE CROWN SPREAD D (FT.)	FINAL STATUS	ROOT PRUNE	MULCH	FERTILIZE	PRUNE	TREAT PESTS	OTHER	PROBLEMS	COMMENTS
93	Quercus spp./Oak	16	16		Co-dominant			R								Good condition
94	Acer rubrum/Red Maple	12	12					R								Good condition
95	Quercus spp./Oak	12	12		Co-dominant			R								Good condition
96	Quercus spp./Oak	18	18		Co-dominant			R							Co-dominant leader, crooked leader	Good condition
97	Quercus spp./Oak	12	12					R		X						Good condition
98	Liriodendron tulipifera/Tulip Poplar	18	18					P								Good condition
99	Liriodendron tulipifera/Tulip Poplar	16	16					P								Good condition
100	Quercus spp./Oak	16	16					P								Good condition
101	Quercus spp./Oak	16	16					P								Good condition
102	Liriodendron tulipifera/Tulip Poplar	15	15					P								Good condition
103	Quercus spp./Oak	16	18					R								Good condition
104	Quercus spp./Oak	33	33					R								Good condition
105	Quercus spp./Oak	16	16					R								Good condition
106	Quercus spp./Oak	16	16		Co-dominant			P		X						Good condition
107	Dead							R								
108	Quercus spp./Oak	15	15					P		X						Good condition
109	Quercus spp./Oak	14	18					R								Good condition
110	Quercus spp./Oak	21	21					P								Good condition
111	Quercus spp./Oak	30	30					P								Excellent condition
112	Acer rubrum/Red Maple	12	12					P								
113	Liriodendron tulipifera/Tulip Poplar	15	15					R								Good condition
114	Quercus spp./Oak	24	24					P		X					One sided branches; some broken branches	Good condition
115	Quercus spp./Oak	27	27					P								Excellent condition
116	Quercus spp./Oak	12	12					R								Good condition
117	Quercus spp./Oak	21	21		Dominant			P		X					Some lower broken branches	Excellent condition
118	Quercus spp./Oak	21	21					P								Good condition
119	Quercus spp./Oak	24	24					P								Good condition
120	Quercus spp./Oak	18	18					P								Good condition
121	Liriodendron tulipifera/Tulip Poplar	12	12					P		X						Good condition
122	Liriodendron tulipifera/Tulip Poplar	12	12					P		X						Good condition
123	Liriodendron tulipifera/Tulip Poplar	12	12					R								Good condition
124	Liquidambar styraciflua/Sweet Gum	12	12					R								Good condition
125	Quercus spp./Oak	12	12					R								Good condition
126	Prunus spp./Black Cherry	12	12		Co-dominant			R							Leaning	Good condition
127	Quercus spp./Oak	16	16		Co-dominant			P		X					One sided branches; some lower broken branches	Good condition
128	Liriodendron tulipifera/Tulip Poplar	17	12					R								Good condition
129	Quercus spp./Oak	12	12					P								Good condition
130	Quercus spp./Oak	21	21					P								Good condition
131	Quercus spp./Oak	12	12					R								Good condition
132	Quercus spp./Oak	15	15					R								Good condition
133	Quercus spp./Oak	21	21					R								Good condition
134	Quercus spp./Oak	12	12					R								Good condition
135	Quercus spp./Oak	18	18					R								Good condition
136	Liquidambar styraciflua/Sweet Gum	12	12					R								Good condition
137	Quercus spp./Oak	21	21					R								Good condition
138	Quercus spp./Oak	24	24					P								Good condition
139	Acer rubrum/Red Maple	12	12					P								Good condition
140	Quercus spp./Oak	12	12					P		X						Good condition
141	Quercus spp./Oak	12	12		Co-dominant			R							One sided branches; some lower broken branches	Fair condition
142	Liriodendron tulipifera/Tulip Poplar	12	12		Co-dominant			R							One sided branches;	Good condition
143	Quercus spp./Oak	18	18		Co-dominant			P							Crooked leader	Fair condition
144	Acer rubrum/Red Maple	12	12					P		X						Good condition

LEGEND:

- TBD : POTENTIAL HAZARD, STATUS TO BE DETERMINED IN CONSULTATION WITH THE UFMD.
- P : PRESERVE
- R : REMOVE
- POS : PRESERVE OFF-SITE
- RWP : REMOVE WITH PERMISSION FROM THE UFMD. TREE IS WITHIN UNDISTURBED AREA BUT CONDITIONS WARRANT ITS REMOVAL.
- X : CONDUCT ACTIVITY INDICATED
- * : DBH/DIAMETER BREAST HEIGHT AS MEASURED 4.5 FEET ABOVE GROUND.
- ** : CRZ/CRITICAL ROOT ZONE (ONE FOOT OF RADIUS FOR EVERY INCH OF TREE DIAMETER. CRZ FOR TREES WITH MULTIPLE STEMS ARE CALCULATED BASED ON THE DIAMETER OF A TREE WITH A BASAL AREA EQUIVALENT TO THE SUM OF THE BASAL AREAS FOR ALL STEMS MEASURED.
- *** : CONDITION RATINGS ARE PROVIDED AS PERCENTAGES BASED ON METHODS OUTLINED IN THE LATEST EDITION OF THE GUIDE FOR PLANT APPRAISAL PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.

BC Consultants
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(703)449-8100 (703)449-8108 (Fax)
www.bcconsultants.com

COMMONWEALTH OF VIRGINIA — LANDSCAPE ARCHITECT — LIC. No. [illegible]

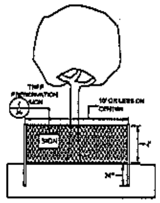
TREE INVENTORY AND CONDITION ANALYSIS
GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

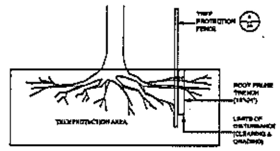
BC REVISIONS
APPLICANT:

DESIGNED BY: PLR
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: JANUARY 2013
SCALE: HOR. N/A VERT. N/A
SHEET 9 OF 13
CO. NO.
CAD NAME: G11562TPP-INV
LAYOUT: TPP-INV
FILE NO. 11562.01-00



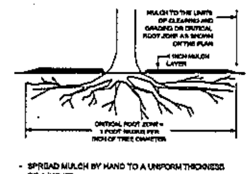
- PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL INDIVIDUAL AND GROUPS OF TREES MARKED FOR PRESERVATION SHALL BE PROTECTED WITH TREE PROTECTION FENCING.
- TREE PROTECTION FENCE SHALL BE POSITIONED DIRECTLY IN THE ROOT PRUNING TRENCH AND BACKFILLED FOR STABILITY OR JUST OUTSIDE THE TRENCH WITHIN THE DISTURBED AREA.
- TREE PROTECTION FENCING SHALL CONSIST OF FOUR FOOT 14-GUAGE WELDED WIRE FENCE ATTACHED TO SIX FOOT TALL T-POSTS DRIVEN 18 INCHES INTO THE GROUND. POSTS SHALL BE NO FURTHER THAN 10 FEET APART.
- WHERE APPROPRIATE, BASED ON EROSION AND SEDIMENT CONTROL PLANS, SUPER SILT FENCE MAY BE USED AS TREE PROTECTION FENCING WITH THE APPROVAL OF FAIRFAX COUNTY.
- TREE PROTECTION FENCING SHALL BE MADE CLEARLY VISIBLE TO ALL CONSTRUCTION PERSONNEL. SIGNS, IN ENGLISH AND SPANISH, WHICH STATES "TREE PRESERVATION AREA - KEEP OUT" SHALL BE INSTALLED ON TREE PROTECTION FENCING EVERY 30 FEET.
- A CERTIFIED ARBORIST SHALL MONITOR THE INSTALLATION OF TREE PROTECTION FENCING.

(1/20) TREE PROTECTION FENCE
NOT TO SCALE



- PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL TREES MARKED FOR PRESERVATION ALONG THE LIMITS OF CLEARING AND GRADING SHALL BE ROOT PRUNED WHERE SHOWN ON THE PLAN.
- ROOT PRUNING SHALL BE CONDUCTED USING A TRENCHER OR VIBRATORY PLOW.
- THE ROOT PRUNING TRENCH SHALL BE A MAXIMUM OF 6 INCHES WIDE AND 18-24 INCHES DEEP, ONCE COMPLETED, THE ROOT PRUNING TRENCH SHALL BE IMMEDIATELY BACKFILLED.
- ROOT PRUNING SHALL BE CONDUCTED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST.

(2/20) ROOT PRUNING
NOT TO SCALE



- SPREAD MULCH BY HAND TO A UNIFORM THICKNESS OF 4 INCHES.
- MULCH SHALL COVER AS MUCH OF THE ENTIRE CRITICAL ROOT ZONE AS POSSIBLE UP TO 10' FROM THE LIMITS OF CLEARING AND GRADING.
- MULCH SHALL CONSIST OF A WOODY MATERIAL THAT HAS BEEN CHIPPED OR SHREDDED OR OTHER APPROVED MATERIAL.
- MULCH SHALL NOT TOUCH THE BASE OF THE TREE.

(3/20) PROTECTIVE MULCHING
NOT TO SCALE

TREE PRESERVATION AREA
KEEP OUT
NO EQUIPMENT OR MATERIALS ARE TO BE STORED OR DEPOSITED WITHIN THIS AREA. TRAFFIC BY CONSTRUCTION EQUIPMENT AND PERSONNEL IS PROHIBITED.
(CONSTRUCTION COMPANY NAME)
(COMPANY CONTACT PERSON & TELEPHONE NUMBER)
PENALTY FOR VIOLATIONS
STRICTLY ENFORCED

SPECIFICATIONS:
DIMENSIONS: WIDTH: 17 INCHES MINIMUM
HEIGHT: 11 INCHES MINIMUM
BACKGROUND COLOR: WHITE
LETTER COLOR: BLACK
LETTER SIZE:
LETTER 1: 1.5 INCH MINIMUM (LARGEST)
LETTER 2: 0.75 INCH MINIMUM
LETTER 3: 0.5 INCH MINIMUM
LETTER 4: 0.375 INCH MINIMUM (SMALLEST)
LANGUAGE: ENGLISH AND SPANISH (SEPARATE SIGNS)

NOTE: ALTERNATE SIGNAGE MAY BE SUBMITTED TO FAIRFAX COUNTY FOR APPROVAL.

(4/20) TREE PRESERVATION SIGN
NOT TO SCALE

SITE MONITORING SCHEDULE

LIST OF DUTIES	DATE	DESCRIPTION OF DUTIES
PRE-CONSTRUCTION MEETING IN FIELD TO WALK LIMITS OF CLEARING AND GRADING	SPECIFIED BY UFMD	PRIOR TO THE PRE-CONSTRUCTION MEETING AND BEFORE ANY CLEARING, GRADING OR DEMOLITION ACTIVITIES HAVE OCCURED, A CERTIFIED ARBORIST SHALL WALK THE LIMITS OF CLEARING AND GRADING WITH A REPRESENTATIVE FROM FAIRFAX COUNTY'S URBAN FOREST MANAGEMENT DIVISION (UFMD) TO DETERMINE WHERE ADJUSTMENTS TO THE CLEARING LIMITS CAN BE MADE TO INCREASE THE SURVIVABILITY OF TREES TO BE PRESERVED THAT OCCUR ALONG THE EDGE OF THE LIMITS OF CLEARING AND GRADING, AND/OR TO IDENTIFY HAZARDOUS, DAMAGED OR DISEASED TREES THAT NEED TO BE REMOVED.
INSTALLATION OF TREE PROTECTION FENCE	AFTER UFMD'S APPROVAL OF LOCATION	THE INSTALLATION OF ALL TREE PROTECTION FENCING SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS REQUIRED TO BE PRESERVED. AT LEAST THREE DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING OR DEMOLITION ACTIVITIES AND PRIOR TO THE INSTALLATION OF TREE PROTECTION FENCING, UFMD SHALL BE NOTIFIED IN WRITING AND GIVEN THE OPPORTUNITY TO INSPECT THE SITE TO ASSURE THAT ALL INDIVIDUAL TREES TO BE PRESERVED AND ALL AREAS TO BE LEFT UNDISTURBED HAVE BEEN CORRECTLY DELINEATED.
CONSTRUCTION/ SITE ANALYSIS	MONTHLY ANALYSIS OF SITE OR AS SPECIFIED BY UFMD	THE APPLICANT SHALL ACTIVELY MONITOR THE SITE TO ENSURE THAT INAPPROPRIATE ACTIVITIES SUCH AS THE STORAGE OF CONSTRUCTION MATERIALS, DUMPING OF CONSTRUCTION DEBRIS, AND TRAFFIC BY CONSTRUCTION EQUIPMENT AND PERSONNEL DO NOT OCCUR WITHIN THESE AREAS

CERTIFIED ARBORIST

International Society of Arboriculture
CERTIFIED ARBORIST
Dennis Dale Dixon

TREE PRESERVATION NARRATIVE:

1. ALL WORK PERFORMED IN ASSOCIATION WITH THIS PLAN SHALL MEET OR EXCEED CURRENT INDUSTRY STANDARDS AS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), OR THE TREE CARE INDUSTRY ASSOCIATION (TCIA). IN THE EVENT TREATMENTS PRESCRIBED ARE NOT COVERED BY AN EXISTING STANDARD, WORK SHALL MEET OR EXCEED STANDARDS APPROVED BY FAIRFAX COUNTY'S URBAN FOREST MANAGEMENT DIVISION (UFMD).
2. THE DEVELOPER SHALL RETAIN A CERTIFIED ARBORIST ("THE ARBORIST") TO ENSURE THE PROPER IMPLEMENTATION OF THE TREE PRESERVATION PLAN ("THIS PLAN"). ALL WORK REQUIRED BY THIS PLAN SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF THE ARBORIST AS SPECIFIED IN THE SITE MONITORING SCHEDULE AND TO ENSURE THAT ALL ACTIVITIES ARE CONDUCTED IN ACCORDANCE WITH THIS PLAN, ANY APPLICABLE DEVELOPMENT CONDITIONS AND/OR AS APPROVED BY UFMD. MONITORING SHALL OCCUR AT ALL TIMES DURING THE INSTALLATION OF TREE PROTECTION FENCING AND, DURING ANY CLEARING OR GRADING, REMOVAL OF TREES, VEGETATION, OR STRUCTURES OR, THE TRANSPLANTING OF TREES OR VEGETATION OR, ANY OTHER SIMILAR ACTIVITIES ON THE SITE WITHIN 25 FEET OF THE LIMITS OF CLEARING AND GRADING.
3. PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL INDIVIDUAL TREES AND GROUPS OF TREES SHOWN TO BE PRESERVED ON THIS PLAN SHALL BE PROTECTED BY FENCING AS SPECIFIED ON THIS PLAN. THE PROTECTIVE FENCE INSTALLATION SHALL BE MONITORED AS NOTED IN THE SITE MONITORING SCHEDULE. THE FENCING SHALL BE MADE CLEARLY VISIBLE TO ALL CONSTRUCTION PERSONNEL. THE FENCING SHALL BE INSTALLED PRIOR TO ANY WORK BEING CONDUCTED ON THE SITE, INCLUDING THE DEMOLITION OF ANY EXISTING STRUCTURES OR FENCES. THE ARBORIST MUST VERIFY IN WRITING THAT THE FENCING HAS BEEN INSTALLED PRIOR TO ANY WORK OR DEMOLITION ACTIVITIES AND IN ACCORDANCE WITH THE STANDARDS SET FORTH BY THIS PLAN.
4. THE ARBORIST SHALL WALK THE LIMITS OF CLEARING AND GRADING WITH AN URBAN FORESTER FROM UFMD AS NOTED IN THE SITE MONITORING SCHEDULE. ANY ADJUSTMENTS AGREED TO BY THE ARBORIST AND UFMD SHALL BE MEMORIALIZED IN WRITING BY BOTH PARTIES BEFORE ANY SUCH ADJUSTMENTS ARE IMPLEMENTED. TREES TO BE REMOVED SHALL BE TAGGED IN THE FIELD. TREES WITHIN THE UNDISTURBED AREA THAT ARE IDENTIFIED IN WRITING BY UFMD AS DEAD OR DYING, IN POOR CONDITION (INCLUDING DISEASED AND DAMAGED, OR TREES THAT POSE A POTENTIAL HAZARD TO HUMAN HEALTH OR PROPERTY MAY BE REMOVED AS PART OF THE CLEARING OPERATION. ANY TREE THAT IS SO IDENTIFIED SHALL BE REMOVED USING A CHAIN SAW AND SUCH REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT AVOIDS DAMAGE TO SURROUNDING TREES AND ASSOCIATED UNDERSTORY VEGETATION. 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 THE ADJACENT TREES AND ASSOCIATED UNDERSTORY VEGETATION AND SOIL CONDITIONS.
5. ALL TREE PRESERVATION RELATED WORK OCCURRING IN OR ADJACENT TO TREE PRESERVATION AREAS SHALL BE ACCOMPLISHED IN A MANNER THAT MINIMIZES DAMAGE TO VEGETATION TO BE PRESERVED, INCLUDING ANY WOODY AND/OR HERBACEOUS VEGETATION OCCURRING IN THE UNDERSTORY. TREES DESIGNATED FOR REMOVAL ALONG THE LIMITS OF DISTURBANCE SHALL BE REMOVED USING A CHAINSAW SO AS TO AVOID DAMAGE TO SURROUNDING TREES TO BE PRESERVED AND UNDERSTORY VEGETATION. THE USE OF POWER EQUIPMENT IN THESE AREAS SHALL BE LIMITED TO SMALL HAND-OPERATED EQUIPMENT SUCH AS CHAINSAWS. ANY WORK THAT REQUIRES THE USE OF LARGER MOTORIZED EQUIPMENT SUCH AS, BUT NOT LIMITED TO, TREE TRANSPLANTING SPADES, SKID LOADERS, TRACTORS, OR ANY ACCESSORY OR ATTACHMENT CONNECTED TO SUCH EQUIPMENT SHALL NOT OCCUR UNLESS REVIEWED AND APPROVED IN WRITING BY UFMD.
6. AS PART OF THE IMPLEMENTATION OF THIS PLAN AND THE SITE PLAN, MANAGEMENT PRACTICES SHALL PROVIDE FOR THE PROTECTION OF UNDERSTORY PLANT MATERIALS, LEAF LITTER AND SOIL CONDITIONS FOUND IN AREAS TO BE LEFT UNDISTURBED, SUBJECT TO THE APPROVAL OF UFMD. THE APPLICANT SHALL ACTIVELY MONITOR THE SITE TO ENSURE THAT INAPPROPRIATE ACTIVITIES SUCH AS THE STORAGE OF CONSTRUCTION MATERIALS, DUMPING OF CONSTRUCTION DEBRIS, AND TRAFFIC BY CONSTRUCTION EQUIPMENT AND PERSONNEL DO NOT OCCUR WITHIN THESE AREAS. THE UNDERSTORY PLANT MATERIALS, LEAF LITTER AND SOIL CONDITIONS SHALL BE RESTORED BY THE APPLICANT TO THE SATISFACTION OF UFMD IF THESE ARE FOUND TO BE DAMAGED, REMOVED OR ALTERED IN A MANNER NOT ALLOWED IN WRITING BY UFMD.
7. PRIOR TO THE SITE PRE-CONSTRUCTION MEETING AND SITE WALK WITH AN URBAN FORESTER FROM UFMD AND THE ARBORIST, THE APPLICANT SHALL HAVE THE LIMITS OF CLEARING AND GRADING MARKED WITH A CONTINUOUS LINE OF FLAGGING.
8. AT LEAST THREE DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING, OR DEMOLITION ACTIVITIES AND PRIOR TO THE INSTALLATION OF TREE PROTECTION FENCING, UFMD SHALL BE NOTIFIED IN WRITING AND GIVEN THE OPPORTUNITY TO INSPECT THE SITE TO ASSURE THAT ALL INDIVIDUAL TREES TO BE PRESERVED AND ALL AREAS TO BE LEFT UNDISTURBED HAVE BEEN CORRECTLY DELINEATED. UFMD SHALL PROVIDE WRITTEN NOTICE TO THE APPLICANT AS TO WHETHER OR NOT THE AREAS HAVE BEEN DELINEATED CORRECTLY. IF IT IS DETERMINED BY UFMD THAT THE AREAS ARE NOT DELINEATED CORRECTLY, NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR ON THE SUBJECT PROPERTY UNTIL THE DELINEATION IS CORRECTED AND FIELD VERIFIED BY THE UFMD.
9. ROOT PRUNING: ROOT PRUNING SHALL BE PERFORMED WHEREVER GRADES WILL BE ALTERED WITHIN THE CRITICAL ROOT ZONE OF A TREE TO BE PRESERVED AND SHALL BE CONDUCTED WHERE SHOWN ON THE PLAN OR AS MOST PRACTICAL GIVEN SITE CONSTRAINTS. A VIBRATING PLOW, TRENCHER, STUMP CUTTER OR ARBORIST APPROVED EQUAL SHALL BE USED TO A DEPTH OF 18 INCHES. IF A TRENCHER IS USED THE TRENCH SHALL BE BACKFILLED IMMEDIATELY TO PREVENT ROOT DEHYDRATION. IF SILT FENCE IS TO BE INSTALLED AT THE LIMITS, THE ROOT PRUNING TRENCH MAY BE USED FOR THE INSTALLATION OF SILT FENCE. WHEREVER POSSIBLE, ROOT PRUNING TRENCHES SHOULD BE MULCHED WITH WOOD CHIPS OR MULCH FOUR INCHES DEEP.
10. WOOD CHIPS OR MULCH: WOOD CHIPS OR LEAF AND BRANCH MULCH SHALL BE PLACED AROUND THE LIMITS OF CLEARING AND GRADING IN AREAS WHERE TREES ARE WITHIN 20' OF THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THIS PLAN. CHIPS OR MULCH THAT ARE PRODUCED AS A RESULT OF CLEARING OPERATIONS ON-SITE MAY BE USED FOR THIS PURPOSE AND SHALL BE PLACED BY HAND WITHOUT THE USE OF ENGINE-DRIVEN MACHINERY. CHIPS OR MULCH ARE NOT TO BE PLACED MORE THAN TEN FEET BEYOND THE LIMITS OF CLEARING AND GRADING AND SHALL NOT BE PLACED AT A DEPTH OF NO MORE THAN FOUR INCHES WITHIN THE PRESERVATION AREAS. OUTSIDE THE PRESERVATION AREAS, (WITHIN THE DISTURBED AREA), CHIPS OR LEAF AND BRANCH MULCH MAY BE PLACED AT A DEPTH NOT TO EXCEED TEN INCHES.

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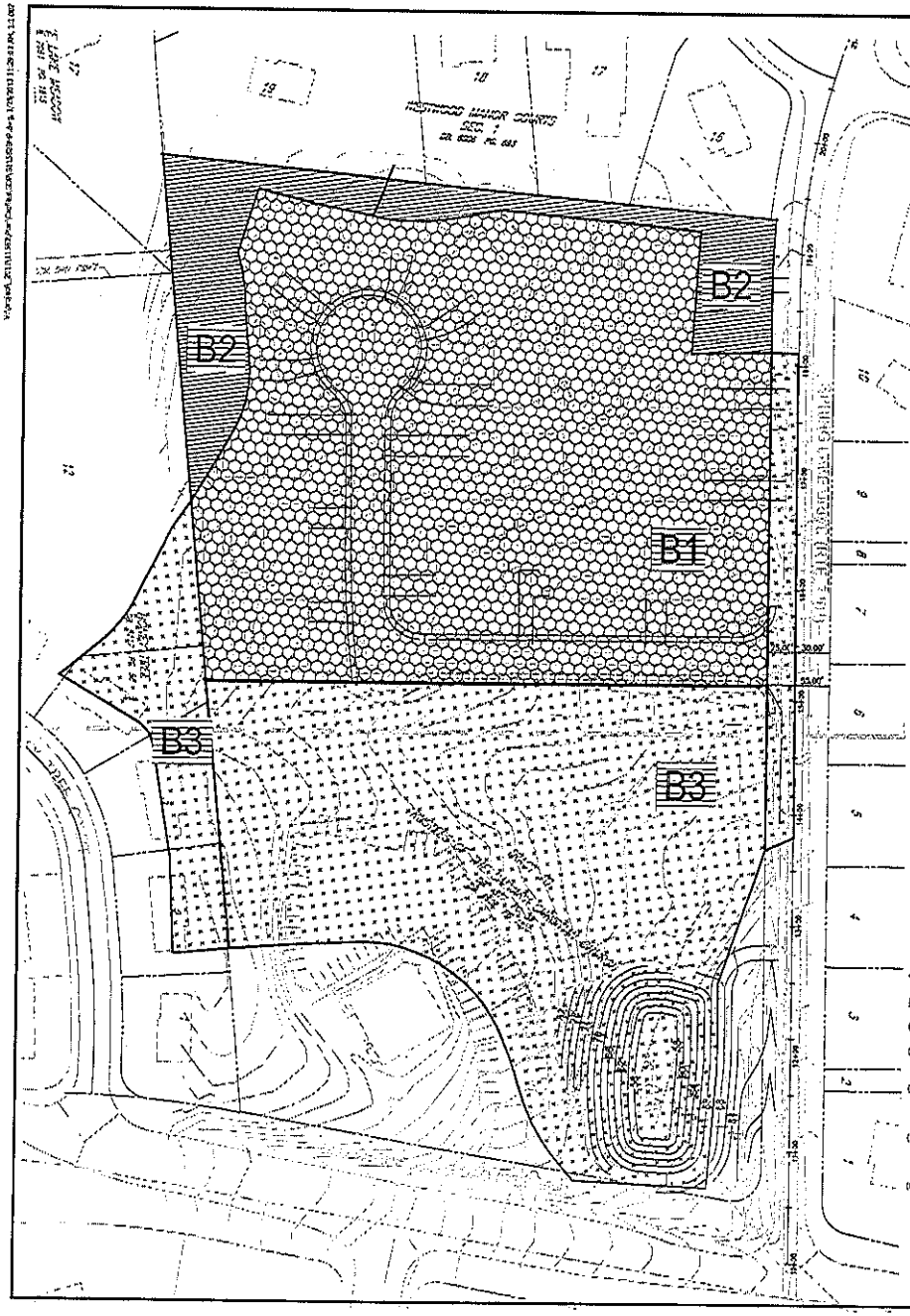
TREE PRESERVATION DETAILS
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

BC REVISIONS
APPLICANT

DESIGNED BY: PLR
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: JANUARY 2013
SCALE: HOR. N/A VERT. N/A
SHEET 10 OF 13
CO. NO.
CAD NAME: C11062TPP-DET
LAYOUT: TPP-DET
FILE NO. 11562.01-00



BMP FACILITY DESIGN CALCULATIONS

Plan Name: Calvary Church Subdivision
Co. Plan #: Rezoning Application

II. WATERSHED INFORMATION

PART 1: LIST ALL OF THE SUBAREAS AND "C" FACTORS USED IN THE BMP COMPUTATIONS

SUBAREA DESIGNATION & DESCRIPTION (1)		"C" (2)	AREA (AC.) (3)
B1	Onsite to Extended Detention	0.55	4.48
B2	Onsite Untreated	0.41	0.80
B3	Offsite to Extended Detention (20% credit)	0.44	4.27

PART 2: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR THE SITE

(A) AREA OF THE SITE (a) 9.55 ACRES

(B) SUBAREA DESIGNATION (1)		"C" (2)		AREA (AC.) (3)		PRODUCT (4)
B1	Onsite to Extended Detention	0.55	X	4.48	=	2.46
B2	Onsite Untreated	0.41	X	0.80	=	0.33
			(b) TOTAL		=	2.79

(C) WEIGHTED AVERAGE "C" FACTOR (b) / (a) = (c) 0.53

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)
B1	Onsite to Extended Detention	40	X	0.85	X	1.04	=	35.30
B2	Onsite Untreated	0	X	0.15	X	0.78	=	0.00
B3	Offsite to Extended Detention (20% credit)	40	X	0.81		0.83	=	5.36
						(a) TOTAL	=	40.66 %

PART 4: DETERMINE COMPLIANCE WITH PHOSPHORUS REMOVAL REQUIREMENT

(A) SELECT REQUIREMENT: (a) 40.0 %
(FAIRFAX COUNTY CHESAPEAKE BAY PRESERVATION AREA - 40%)
OR (FAIRFAX COUNTY WATER SUPPLY OVERLAY DISTRICT - 50%)

(B) IF LINE 3 (a) 40.66 % > LINE 4(a) 40.0 %
THEN PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED.

V. STORAGE

PART 7: COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY

(A) LIST AREAS TO BE CONTROLLED BY THE PROPOSED BMP.

SUBAREA DESIGNATION (1)		"C" (2)		AREA (AC.) (3)		PRODUCT (4)
B1	Onsite to Extended Detention	0.55	X	4.48	=	2.46
B3	Offsite to Extended Detention (20% credit)	0.44	X	4.27	=	1.88
				(a) 8.75		(b) 4.34

(C) WEIGHTED AVERAGE "C" FACTOR (b) / (a) = (c) 0.50

TOTAL IMPERVIOUS AREA TO EXTENDED DETENTION DRY POND 1.94 AC
TOTAL PROPOSED AREA TO EXTENDED DETENTION DRY POND 8.75 AC
TOTAL % IMPERVIOUS TO EXTENDED DETENTION DRY POND 22.17 %

PART 8: DETERMINE THE STORAGE REQUIRED FOR EACH PROPOSED FACILITY

(A) EXTENDED DETENTION DRY POND
CHART A6-40 VALUE (APPENDIX 4-3) FOR BMP STORAGE PER ACRE
[(4075 x "C") - 875] OR [3125 x % IMP.] = (a) 693 CF/AC

DESIGN 1 (48 HOUR DRAWDOWN)
LINE 7(a) 8.75 X LINE 8(a) 693 = 6,062.5 CF

VI. OUTLET COMPUTATION

PART 9: DETERMINE THE REQUIRED ORIFICE SIZE FOR EACH EXTENDED DETENTION FACILITY

(A) BMP STORAGE REQUIREMENT (S) FROM PART 8. (a) 6,063 CF

(B) MAXIMUM HEAD (h) AT THE REQUIRED BMP STORAGE FROM THE ELEVATION STORAGE CURVE FOR THE FACILITY. (b) 1.3 FT.

(C) PEAK OUTFLOW RATE (Qp) AT THE MAXIMUM HEAD FOR DRAWDOWN TIME OF 48 HOURS
[Qp = S / (0.5 x 3600 x 48)]
0.0000116 x LINE 9 (a) 6,063 = (c) 0.07 CFS

(D) REQUIRED ORIFICE AREA (A) [A = Qp / (0.6 x(64.4 x h)^0.5)]
LINE 9(c) 0.07 /(0.60 x (64.4 x LINE 9(b) 1.32)^0.5)
= (d) 0.01 SQ. FT.
OR 1.6 SQ. IN.

(E) DIAMETER OF CIRCULAR ORIFICE
2.0 x (LINE 9(d) 0.01 / 3.1415927)^0.5
= (e) 0.13 FT.
OR 1.5 IN.

WATER QUALITY NARRATIVE

THE USE OF AN EXTENDED DETENTION DRY POND IS PROPOSED TO MEET WATER QUALITY REQUIREMENTS. THE EXTENDED DETENTION DRY POND WILL COLLECT 4.47 ACRES OF ONSITE AND 4.28 ACRES OF OFFSITE RUNOFF. THE EXTENDED DETENTION DRY POND WILL PROVIDE 40% PHOSPHORUS REMOVAL EFFICIENCY. ONLY 20% CREDIT HAS BEEN USED FOR ALL OFFSITE AREAS DRAINING TO THE EXTENDED DETENTION DRY POND, UTILIZING THIS METHOD OF WATER QUALITY TREATMENT IT WILL RESULT IN A TOTAL PHOSPHORUS REMOVAL FOR THE ENTIRE SITE OF 41.00%. SINCE THIS SITE IS LOCATED IN CHESAPEAKE BAY RESOURCE MANAGEMENT AREA (RMA), A REMOVAL EFFICIENCY OF 40% IS REQUIRED AND MET.

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

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

This information is required under the following Zoning Ordinance paragraphs:

Special Exceptions (9-011 SE & SL)	Special Exceptions (9-011 SE & SL)
Cluster Subdivision (9-615 SE & 16)	Commercial Revitalization Districts (9-622 SE (7)) A (14))
Development Plans PRC District (9-308 S & A)	PRD Plan (9-303 SE & 10)
PCD P Districts (except PRC) (9-508 SE & 10)	Amendments (9-202 SE & 10)

☒ 1. Plat to a minimum scale of 1"=50' (unless it is deemed an area should with a minimum scale of 1"=100').

☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading encompassing the stormwater management facility(ies), storm drainage pipe systems and outfall protection, pond spillways, access roads, site outlets, energy dissipation devices, and stream stabilization measures as shown on Sheet 13.

☒ 3. Provide:

Facility Number/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Impervious area (%)	Storage Volume (cf)	25 year, 24 hour Inflow (cf)
Dry Pond 1	4.47	4.28	8.75	22.17	6,063	18,41
Totals:						

☒ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 11.

☒ 5. Maintenance access road to stormwater management facility(ies) are shown on Sheet 13. Type of maintenance access road surface listed on the plat is: grass (paved, gravel, grass, etc.).

☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 7.

☒ 7. A "stormwater management narrative" which contains a description of the proposed best management practices implementation and maintenance is shown on Sheet 2 of 13.

☒ 8. A description of the existing condition of each surface water receiving stormwater flow: the site is a point where is at least: (1) flows the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 13.

☒ 9. A description of how downstream channels, including receiving drainage areas of the Public Facilities Manual will not contribute to potential on Sheet 13.

☒ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 6 + 13.

☐ 11. A hydrologic waiver is requested for: n/a

☐ 12. Stormwater management is not required because: n/a

B1– ONSITE TREATED = 4.47 Ac.

B2–ONSITE UNTREATED = 0.75 Ac.

B3–OFFSITE TREATED = 4.28 Ac.

50' 25' 0' 50' 100'
SCALE: 1"= 50'

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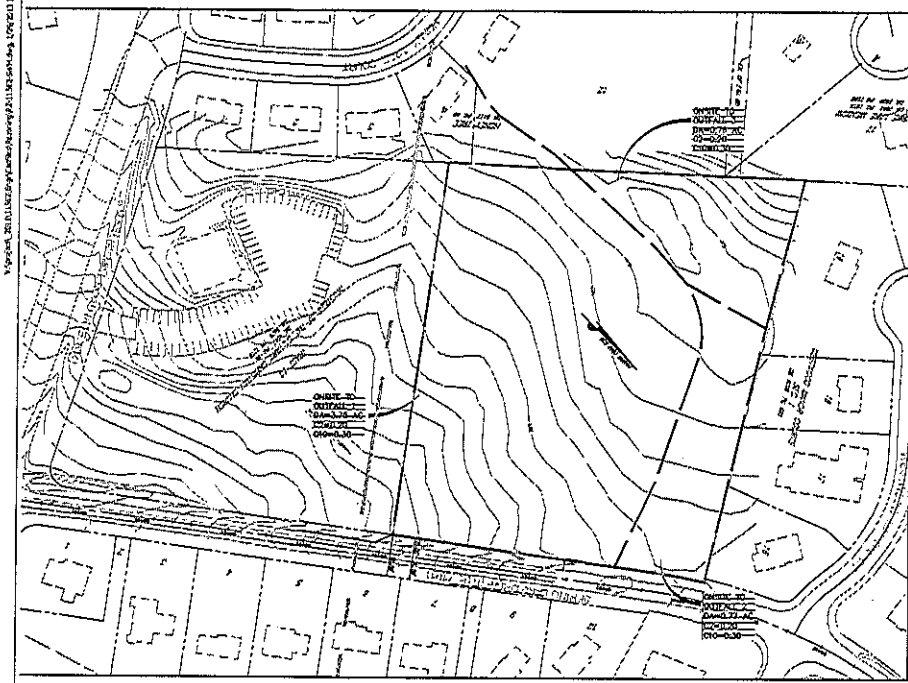
COMMONWEALTH OF VIRGINIA
ROY L. BUTZ
No. 3?1

BMP COMPUTATIONS
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

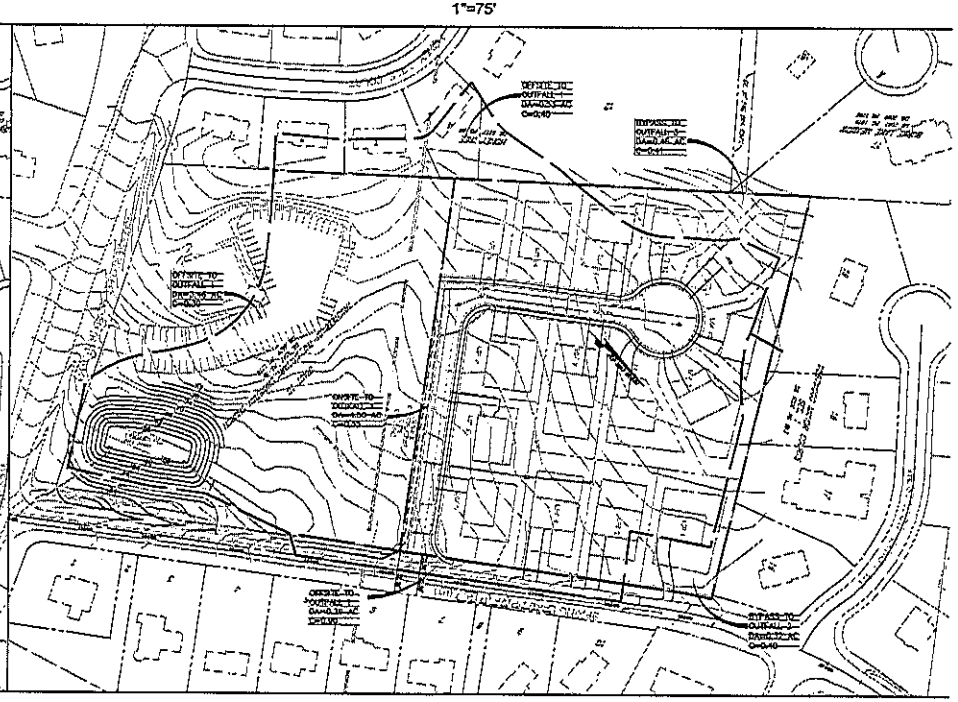
DC REVISIONS	DATE	REVISIONS

DESIGNED BY: PLR
DRAFTED BY: CAD
CHECKED BY: PLR
DATE: JANUARY 2013
SCALE: HOR. 1"= 50' VERT. N/A
SHEET 11 OF 13
CD. NO.
CAD NAME: G11562BMP
LAYOUT: BMP
FILE NO. 11562.01-02

PRE-DEVELOPMENT DRAINAGE DIVIDES
1"=75'



POST-DEVELOPMENT DRAINAGE DIVIDES
1"=75'



OUTFALL ANALYSIS COMPUTATIONS
OUTFALL 1

PART 1: LIST ALL OF THE SUBAREAS WITH CN NUMBERS AND COMPUTE THE AVERAGE CN FOR THE OUTFALL

GOOD FORESTED CONDITION

(A) SUBAREA & DESCRIPTION	CN		AREA (AC.)		PRODUCT
A1 Woods Soil B	55	X	5.25	=	288.40
		TOTAL	5.25		288.40

(B) WEIGHTED AVERAGE CN — TOTAL = AREA / PRODUCT = 55

POST DEVELOPMENT

(C) SUBAREA & DESCRIPTION	CN		AREA (AC.)		PRODUCT
A4 Impervious, Soil B	98	X	1.40	=	137.20
A5 Lawn; Soil B	61	X	3.85		234.85
		TOTAL	5.25		372.05

(D) WEIGHTED AVERAGE CN — TOTAL = AREA / PRODUCT = 71

PART 2: COMPUTE THE DEPTH OF RAINFALL AT OUTFALL

(A) CALCULATE THE RAINFALL AMOUNT (P) FOR THE 1-, 2-, AND 10-YEAR, 24-HOUR STORM. (FROM TABLE 5.19 OF THE PFM)

P_1 = 2.7" P_2 = 3.3" P_{10} = 5.3"

(B) DETERMINE THE RUNOFF DEPTH (d) IN INCHES

$$S = \frac{1000}{CN} - 10$$

$$d = \frac{(P - 0.2S)^2}{P + 0.8S}$$

GOOD FORESTED CONDITION	POST DEVELOPMENT
S = 6.18	S = 4.08
d_1 = 0.13"	d_1 = 0.80"
d_2 = 0.26"	d_2 = 0.96"
d_{10} = 1.06"	d_{10} = 2.37"

PART 3: CALCULATE THE 1-YEAR POST DEVELOPMENT VOLUME

(A) DETERMINE TOTAL VOLUME OF WATER TO BE DETAINED FOR 1-YEAR STORM

V_1 = DRAINAGE AREA (ACRES) x d (INCHES) / 12 (INCHES/FOOT) V_1 = 0.2640 ac.-ft. = 11,500 cu.-ft.

(B) SUBTRACT VOLUME DETAINED IN BMP VOLUME (FROM BMP COMPUTATIONS)

$V_{1STR} = V_1 - V_{BMP}$ V_{BMP} = 6,063 cu.-ft. V_{1STR} = 5,437 cu.-ft.

PART 4: DETERMINE ORIFICE SIZE FOR 1-YEAR STORM

(A) MAXIMUM HEAD (h) AT THE REQUIRED 1-YEAR STORAGE FROM THE ELEVATION STORAGE CURVE FOR THE FACILITY. h = 2.00 ft

(B) PEAK OUTFLOW RATE (Qp) AT THE MAXIMUM HEAD FOR DRAWDOWN TIME OF 24 HOURS.

$$Q_p = \frac{V_{1-STR}}{0.5 \times 3{,}600 \times 24}$$

Q_p = 0.1259 cfs

(C) REQUIRED ORIFICE AREA

$$A_{1-STR} = \frac{Q_p}{0.6\sqrt{64.4h}}$$

A_{ORIF} = 0.0188 sq. ft.

(D) MAXIMUM DIAMETER OF CIRCULAR ORIFICE MAXIMUM DIAMETER = 1.64"

PART 5: DETERMINE ALLOWABLE RELEASE

(A) DETERMINE THE VOLUME OF RUNOFF FOR EACH STORM TO BE ANALYZED

V = DRAINAGE AREA (ACRES) x d (INCHES) / 12 (INCHES/FOOT)

GOOD FORESTED CONDITION	POST DEVELOPMENT
V_2 = 4,792 cu.-ft.	V_2 = 15,556 cu.-ft.
V_{10} = 20,700 cu.-ft.	V_{10} = 43,556 cu.-ft.

(B) DETERMINE THE PROPORTIONAL IMPROVEMENTS FOR EACH STORM TO BE ANALYZED

$$R_i = \left[1 - \frac{V_i}{V_j}\right] x100$$

R_2 = 71.58%
R_{10} = 52.42%

(C) DETERMINE THE ALLOWABLE PEAK RELEASES

GOOD FORESTED CONDITION RELEASE	PROPORTIONAL IMPROVEMENT RELEASE
Q_2 = 0.76 cfs	Q_2 = 0.22 cfs = 1.23 x (1 - R_2)
Q_{10} = 6.50 cfs	Q_{10} = 3.09 cfs = 10.49 x (1 - R_{10})

PART 6: MAXIMUM ALLOWABLE OUTFALL

STORM FREQUENCY	PROPORTIONAL IMPROVEMENT RELEASE (CFS)	-	UNDETAINED TO OUTFALL #1 (CFS)	+	* OFFSITE DETAINED (CFS)	=	MAX. ALLOWABLE OUTFLOW (CFS)
Q_2 =	0.22	-	0.56	+	2.17	=	2.81
Q_{10} =	3.09	-	1.81	+	11.17	=	12.39

STORMWATER DETENTION COMPUTATIONS
Old Keene Mill - Pond 1

Pre-Development: Flow Calculations, Tc = 5 min

Storm Frequency	Cf	C	I	A	Peak Flow
2-Year (Site Area)	1.00	0.200	6.45	5.25	6.78
10-Year (Site Area)	1.00	0.300	7.27	5.25	11.62

Post-Development: Controlled/Uncontrolled Areas Tc = 5 min

Description	Weighted "C"	Weighted "C"x"	Area (ac.)=	C*A	C*I*A	Q-2	Q-10
To Dry Pond 1 - Onsite	0.55	0.55	4.30	2.48	2.48	13.02	18.03
To Dry Pond 1 - Offsite	0.43	0.43	4.25	1.84	1.84	10.03	13.35
Uncontrolled	0.41	0.41	0.79	0.32	0.32	1.74	2.33
Total to Pond 1			8.75	4.72	4.72		
Composite "C" to Pond				0.53	0.53		

Post-Development: Pond 1 Inflow Hydrograph Peaks

Storm Frequency	Cf	C	I	A	Peak Inflow
2-Year	1.00	0.49	6.45	8.75	28.45
10-Year	1.00	0.49	7.27	8.75	31.28

Post-Development: Maximum Allowable Outflow from Pond 1

Storm Frequency	Pre-Dev.	-	Offsite to Pond	-	Unconc. Lots	=	Allowable Release
2-Year	6.78	+	10.03	-	1.74	=	14.05
10-Year	11.62	+	13.35	-	2.33	=	22.67

Post-Development: Actual Flow from Site

Storm Frequency	Actual Release From Facility	+	Post-Uncont. Release	=	Actual Release for Site (cfs)	≤	Pre-Develop. Peak Flow (cfs)
2-Year	0.62	+	1.74	=	2.24	≤	10.78
10-Year	0.61	+	2.33	=	2.94	≤	20.90

STORMWATER MANAGEMENT NARRATIVE

PRE-DEVELOPMENT CONDITIONS

THIS 5.36 ACRE SITE IS CURRENTLY A VACANT LOT THAT IS WOODS COVERED. THE PROPERTY IS CURRENTLY ZONED R-1. THE ADJACENT PARCELS TO THE NORTH, EAST AND WEST ARE SINGLE FAMILY HOUSES AND A RELIGIOUS FACILITY LOCATED TO THE SOUTH. SPRING LAKE DRIVE BORDERS THE PROPERTY TO THE EAST. THE SITE HAS THREE (3) OUTFALLS WHICH ARE OVERLAND. THE FIRST OUTFALL, WHICH IS 3.75 ACRES, FLOWS TO THE EAST CORNER OF THE PROPERTY AND THEN BY A STORM SEWER SYSTEM ACROSS OLD KEENE MILL ROAD. THE SECOND OUTFALL, WHICH IS 0.72 ACRES FLOWS TO THE NORTH CORNER OF THE PROPERTY. THE THIRD OUTFALL, WHICH IS 0.78 ACRES FLOWS TO THE WEST CORNER OF THE PROPERTY. THE OFFSITE WATER MAINLY COMES FROM THE SUBDIVISION TO THE WEST AND FROM SPRING LAKE DRIVE.

POST-DEVELOPMENT CONDITIONS

THE PROPOSED CONDITIONS FOR THE SITE IS FOR 15 SINGLE FAMILY HOMES. AN EXTENDED DETENTION DRY POND WILL BE CONSTRUCTED OFFSITE AND WILL COLLECT WATER FROM THE COMBINATION OF OVERLAND FLOW AND A PROPOSED STORM SEWER SYSTEM. ROUGHLY 4.30 ACRES ONSITE AND 4.25 ACRES OFFSITE ARE DETAINED IN THIS STORMWATER MANAGEMENT FACILITY. THE EXTENDED DETENTION FACILITY DETAINS THE 1-YEAR 24 HOUR STORM EVENT IN ORDER TO MEET THE PFM (SECTION 9-0200) ADEQUATE OUTFALL REQUIREMENTS. REFER TO THE ALLOWABLE RELEASE COMPUTATIONS, OUTFLOW COMPUTATIONS, AND VOLUME SHOWN ON THIS SHEET SHEET. THE SWM FACILITY TAKE OUTFALLS INTO AN EXISTING STORM SEWER SYSTEM THAT EXTENDS ACROSS OLD KEENE MILL ROAD AND INTO THE EXISTING FLOODPLAIN. STORMWATER MANAGEMENT REQUIREMENTS HAVE BEEN MET, AS THE POST-DEVELOPMENT PEAK RELEASE RATES FOR THE 1-YEAR, 2-YEAR AND 10-YEAR STORMS ARE LESS THAN PRE-DEVELOPMENT WOODS GOOD CONDITIONS. SEE THE TABLE ON THIS SHEET FOR A SUMMARY OF FLOWS DEMONSTRATING THE REDUCTION IN PEAK FLOW RATES FOR THE SITE.

THE 1-YEAR, 24 HOUR DETENTION METHOD WAS USED DUE TO THE EXISTING OUTFALL NOT BEING ANALYZED FOR ADEQUACY. STANDARD DETENTION FOR THE 2-YEAR AND 10-YEAR STORM WILL BE USED IF IT IS DETERMINED THAT THE EXISTING OUTFALL IS ADEQUATE.

30' 15' 0' 30' 60'
SCALE: 1"= 30'

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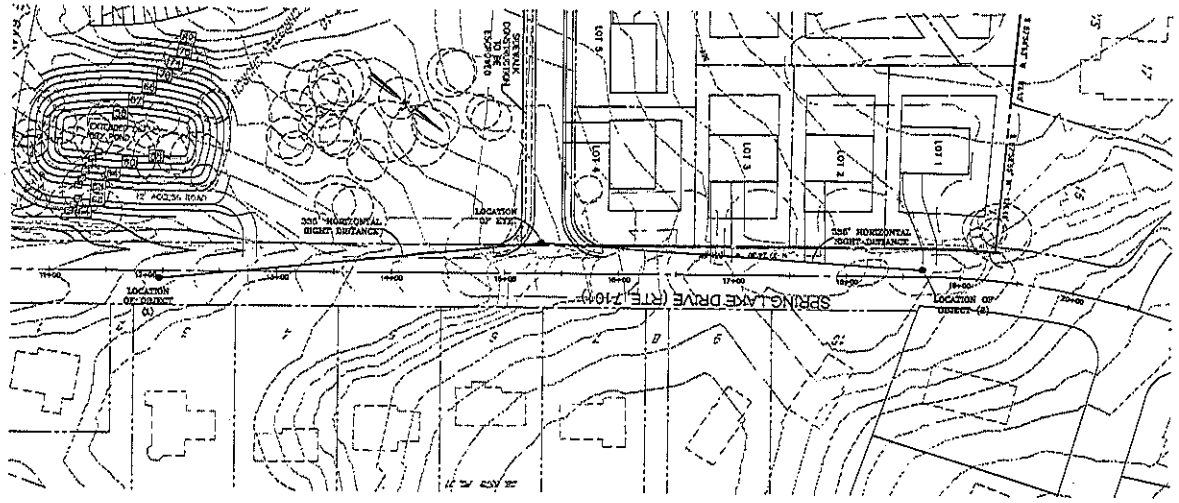
STORMWATER CALCULATIONS
GENERALIZED DEVELOPMENT PLAN
ENCLAVE OF BURKE
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

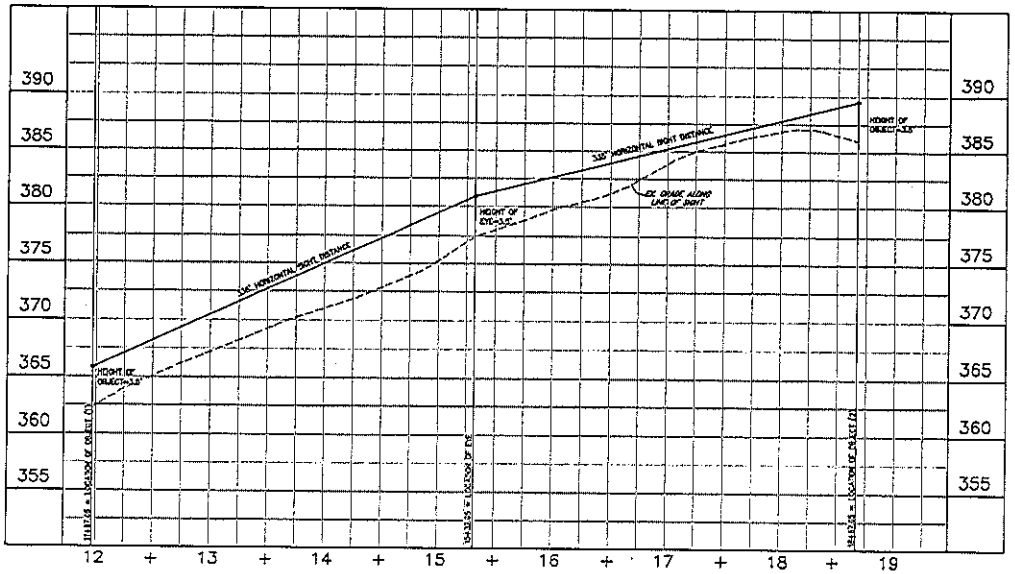
BC REVISIONS	
APPLICANT	
DESIGNED BY: PLR	
DRAFTED BY: CAD	
CHECKED BY: PLR	
DATE: JANUARY 2013	
SCALE: NON AS SHOWN VERTICAL SHOWN	
SHEET 12 OF 13	
CD. NO.	
CAD NAME: DKLSMDASLDWG	
LAYOUT: LAYOUT	
FILE NO. 11562.01-00	



EX. SPRING LAKE DRIVE – ROUTE 2458

ROW=—— VPD=——

DESIGN SPEED= 30 MPH POSTED SPEED= 25 MPH



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COMMONWEALTH OF VIRGINIA — PETER L. BECK — Lic. No. 338

SIGHT DISTANCE

GENERALIZED DEVELOPMENT PLAN

ENCLAVE OF BURKE

FAIRFAX COUNTY, VIRGINIA

BC REVISIONS	DATE	INITIALS

DESIGNED BY: PLR

DRAFTED BY: CAD

CHECKED BY: PLR

DATE: JANUARY 2013

SCALE: HOR. 1"=40' VERT. N/A

SHEET 13 OF 13

BC. NO.

CAD NAME: 11062-R005

LAYOUT: Layout1

FILE NO. 11062.01-00