County of Fairfax, Virginia

MEMORANDUM

DATE: 3/23/2015

TO: Distribution List

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

SUBJECT: Zoning Application Analysis

REFERENCE: Application No. **RZ 2015-SP-003 (Christopher Land, LLC)**

Case Information

Staff Coordinator: **Nick Rogers**

Pre-Staffing:	**5/4/15**	Staffing:	**6/18/15**
Tentative PC:	**9/23/15**	Tentative BOS:	**TBD**

Memo Includes Full-Size Development Plans for Noted (❶) Addressees: Yes ☒ No ☐

Attached for your review and comment is the zoning case information for the subject application.

Action addressees are requested to provide written comments to the staff coordinator by **(4/27/2015)** to be considered in preparing staff's recommendation on this application. Information addressees may also submit any comments by the same date.

ction Addressees

❸ DPZ Planning Division
Chief, Env. & Dev. Review Br.
Attn: Pam Nee

❸ DPWES Site and Addressing
Attn: Brandy Dyer

❶ DPWES Sanitary-Sewer
Attn: Gilbert Osei-Kwadwo

❶ VDOT
Attn: Paul Kraucunas

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

❶ Fairfax County Public Schools
Facilities & Transportation Svcs
Facilities Planning Svcs
Attn: Greg Bokan

❶ Dept. of Transportation
Transportation Planning
Chief, Site Analyst Section
Attn: Michael Davis

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

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

❶ Northern Va Soil and Water
Conservation District
Attn: Willie Woode

❶ Planning Commission
❶ Board of Supervisors
Springfield District

❶ Office of Community
Revitalization/Reinvestment
Attn: Barbara Byron
CRD/CRA or Tysons only

Fairfax County Water Authority
Planning & Engineering Div.
Manger, Planning Dept.
Attn: Greg Prelewicz

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

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

Fairfax County Public Schools
Facilities & Transportation Svcs
Office of Design & Construction
Services
Attn: Eric Brunner

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

Virginia Department of Forestry
Forester
Attn: Jim Mc Glone

Information Addressees

❶ Economic Dev. Authority
Director, Real Estate Services
Attn: Curtis Hoffman

❶ Planning Commission
Executive Director
Attn: Jill Cooper

Clerk to Board of Supervisors
Attn: Cathy Chianese

DPZ-ZED Division Director
Attn: Barbara Berlin, AICP

DPZ-ZED Asst. Director
Attn: Regina Coyle

DPZ-ZED
Attn: Branch Chiefs

DPZ-ZED
Chief, Proffer Interp. Branch
Attn: Kevin Guinaw

DPZ-ZED
Admin. Asst., Legal Notices
Attn: Lori Mallam

DPZ Chief Zoning Inspector
Attn: Joe Bakos

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

Dept. of Information Technology
Technology Infrastructure Div.
Attn: Steve Brundage

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

Southeast Fairfax Dev. Corp.
Attn: Tony Fontana
MV or LEE only

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 2015-SP-003
(Assigned by staff)

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Department of Planning & Zoning
FEB 19 2015
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), Christopher Land, LLC, the applicant (s) petition you to adopt an ordinance amending the Zoning Map of Fairfax County, Virginia, by reclassifying from the R1 District to the R8 District the property described below and outlined in red on the Zoning Section Sheet(s) accompanying and made part of this application.

LEGAL DESCRIPTION:

Lot(s)	Block(s)	Subdivision	Deed Book	Page No.
Lot 2			20126	1188

TAX MAP DESCRIPTION:

Map No.	Double Circle No.	Single Circle No.	Parcel(s)/Lot(s) No.	Total Acreage
78-3	1		2	1.88

POSTAL ADDRESS OF PROPERTY:

9537 Burke Lake Road, Burke, Virginia 22015

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

Eastern side of Burke Lake Road, 600 feet from Shiplett Boulevard and Burke Lake Road

PRESENT USE: Single Family Home **PROPOSED USE:** Single Family Attached Homes

MAGISTERIAL DISTRICT: Springfield **OVERLAY DISTRICT (S):** N/A

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.

E. John Regan, Jr., EVP, Christopher Management, Inc., Manager
Towns at Burke Lake Crossing, LLC
Type or Print Name

Signature of Applicant or Agent

10461 White Granite Drive, Suite 103, Oakton, Virginia 22124
Address

(Work) 703-352-5950 **(Mobile)** 703-927-8677
Telephone Number

Please provide name and telephone number of contact if different from above: RZ 2015-0060 MPC 3/16/15

DO NOT WRITE BELOW THIS SPACE

Date application accepted: March 16, 2015 Fee Paid $ 28,420.00

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Department of Planning & Zoning

FEB 19 2015

Zoning Evaluation Division

NARRATIVE STATEMENT OF JUSTIFICATION

Pursuant to Section 1/-204 of the Fairfax County Zoning Ordinance, dated August 14, 1978, as amended (the "Ordinance"), Christopher Land, LLC (the "Applicant"), hereby requests approval of a rezoning application from the R-1 to the R-8 District as further described below.

The Applicant is the contract purchaser of approximately 1.88 acres in the Springfield Magisterial District, which is identified among the Fairfax County tax map records as 78-3 ((1)) 2 (the "Subject Property"). The Subject Property is located on the east side of Burke Lake Road and is bordered on the north by land owned by the Fairfax County Park Authority. The property to the east is developed with a townhouse community identified as Cardinal Glen, Section1. The property to the south is a one acre parcel of land zoned R- 1 and developed with a single family home built in 1940. The area on the opposite side of Burke Lake Road is developed as a single family community known as Burke Hills Association. The surrounding area includes properties zoned and developed to the R-1 and R-5 Districts. The Applicant proposes a rezoning for residential development that will be compatible with the surrounding area.

The Subject Property is located within the Pohick Planning District of the Area III Comprehensive Plan (the "Plan"); specifically, within the P2 Main Branch Planning Sector. The Plan does not provide specific language for the development of the property, however, the Comprehensive Plan Map recommends residential development at a density of 5-8 dwelling per acre. The Applicant is proposing a rezoning of the Subject Property from the R-1 to the R-8 District in accordance with the Plan recommendation. The adjacent neighborhood to the east, Cardinal Glen, is zoned R-5, formerly known as the RTC-5 zoning district. The property was rezoned by the Fairfax County Board of Supervisors on September 11, 1972. Section 1 of Cardinal Glen adjoins the Subject Property and contained 114 townhouses situated on approximately 40.52 acres. Approximately 22.69 acres of the 40.52 acres were dedicated to the Fairfax County Park Authority, resulting in an effective density on the remaining 17.83 acreage of 6.39 dwelling units per acre.

The Applicant proposes a residential community in harmony with the Plan recommendation of five to eight dwelling units per acre and compatible with the surrounding area. The Applicant has prepared and submitted a Generalized Development Plan (GDP) that illustrates thirteen single-family attached dwelling units at a density of 6.9 dwelling units per acre. The proposed residential subdivision results in 30% open space on the Subject Property, substantially greater than the 20% required in the R-8 District. The proposed residential community will allow for the further completion of the infill development.

The Applicant's proposed residential layout is compatible in density and scale with the surrounding development. Surrounding properties are developed with similar use, type, and intensity to the Applicant's proposal. In addition, the Applicant meets the Plan's residential development criteria as follows:

Site Design

A rezoning of the Subject Property to the R-8 District will allow for the further completion of the infill development. The surrounding properties located to the east of the Subject Property are already zoned and developed residentially in accordance with Plan recommendations. The Applicant attempted to coordinate development with the adjacent 1.01 acre parcel of land identified as 78-3 ((1)) parcel 3 but was unsuccessful. The proposed layout integrates the elements of open space, landscaping, and functional quality design in a residential development that conforms to the Plan recommendations. Thirty percent (30%) of the site will be open space. The proposed house locations will allow all the homes to back to open space. Landscape details have been provided on the GDP to illustrate the quality and quantity of the proposed vegetation.

Neighborhood Context

The Applicant proposes a residential development that will allow for further completion of established residential development patterns. The proposed new single-family attached residential units will be developed at a density consistent with the Plan recommendations. Illustrative elevations are included on the GDP. The proposed homes will utilize high quality materials and design. Further, the bulk and massing of the proposed homes are in harmony with the recent construction in the surrounding neighborhood.

Environment

The Applicant's proposed residential development results in 30% open space on the subject Property. The Applicant is proposing to construct a rain garden on the site with underground stone storage and a piped outfall to meet SWM / BMP requirements. The Applicant proposes constructing the units to achieve certification in accordance with either the National Green Building Standard (NGBS) using the ENERGY STAR (version 3.0) Qualified Homes path for energy performance or the Earth Craft House Program.

Tree Preservation and Tree Cover Requirements.

Tree cover requirements will be met through a combination of tree preservation and tree plantings as further depicted on the GDP.

Transportation

The Applicant proposes safe and adequate access to the adjacent road network. The entry to the proposed community from Burke Lake Road has been established in consultation

with VDOT. The Applicant is providing a future interparcel access for the 1.01 acre parcel of land located to the south of the Subject Property. The Applicant will provide sidewalks within the proposed development to tie into the existing 5' concrete walk located along the Burke Lake Road frontage of the Subject Property. A minimum driveway length of twenty feet is provided for each unit to insure adequate parking on site.

Public Facilities

The proposed residential community may be classified as infill development that will be served by existing adequate public facilities. The Applicant's proposal of thirteen new single-family attached homes will not have a measurable impact on public facilities. The Applicant will proffer to make a contribution to public schools in accordance with adopted formulas adopted by the Board of Supervisors.

Affordable Housing

The requirements of the Affordable Dwelling Unit Ordinance do not apply to the Applicant's proposal, as it is less than fifty residential dwelling units. The Applicant will make a contribution for affordable housing in accordance with policies adopted by the Board of Supervisors.

Heritage Resources

The Applicant is unaware of any heritage resources that may be located on the subject Property.

Summary

The Applicants proposal meets the objectives of the Plan, which recommends residential development at a density of five to eight dwelling units per acre. Further, the Applicant's proposal may be characterized as infill development that is compatible in use, type, and intensity with the surrounding area. The Applicant's proposal will allow for further completion of an existing and established residential development pattern. Further, the layout and design of the proposed residential developments satisfies the residential development criteria as outlined herein. Lastly, the proposed development may be supported by existing transportation and public facilities.

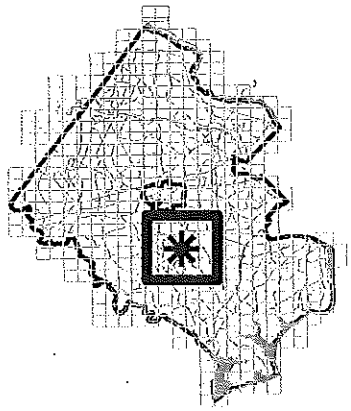
Christopher Land, LLC

2/19/2015

By: E. John Regan, Jr. Date

Rezoning Application

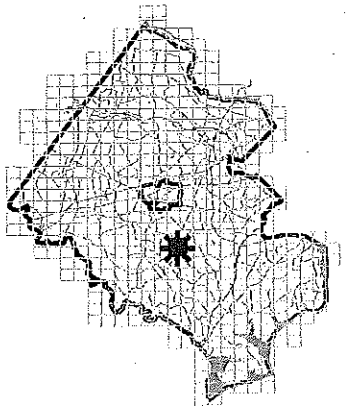
RZ 2015-SP-003



Applicant:	CHRISTOPHER LAND, LLC
Accepted:	03/16/2015
Proposed:	RESIDENTIAL
Area:	1.88 AC OF LAND; DISTRICT - SPRINGFIELD
Zoning Dist Sect:	
Located:	EAST SIDE OF BURKE LAKE ROAD, 600 FEET NORTH OF ITS INTERSECTION WITH SHIPLETT BOULEVARD
Zoning:	FROM R- 1 TO R- 8
Overlay Dist:	
Map Ref Num:	078-3- /01/ /0002

Rezoning Application

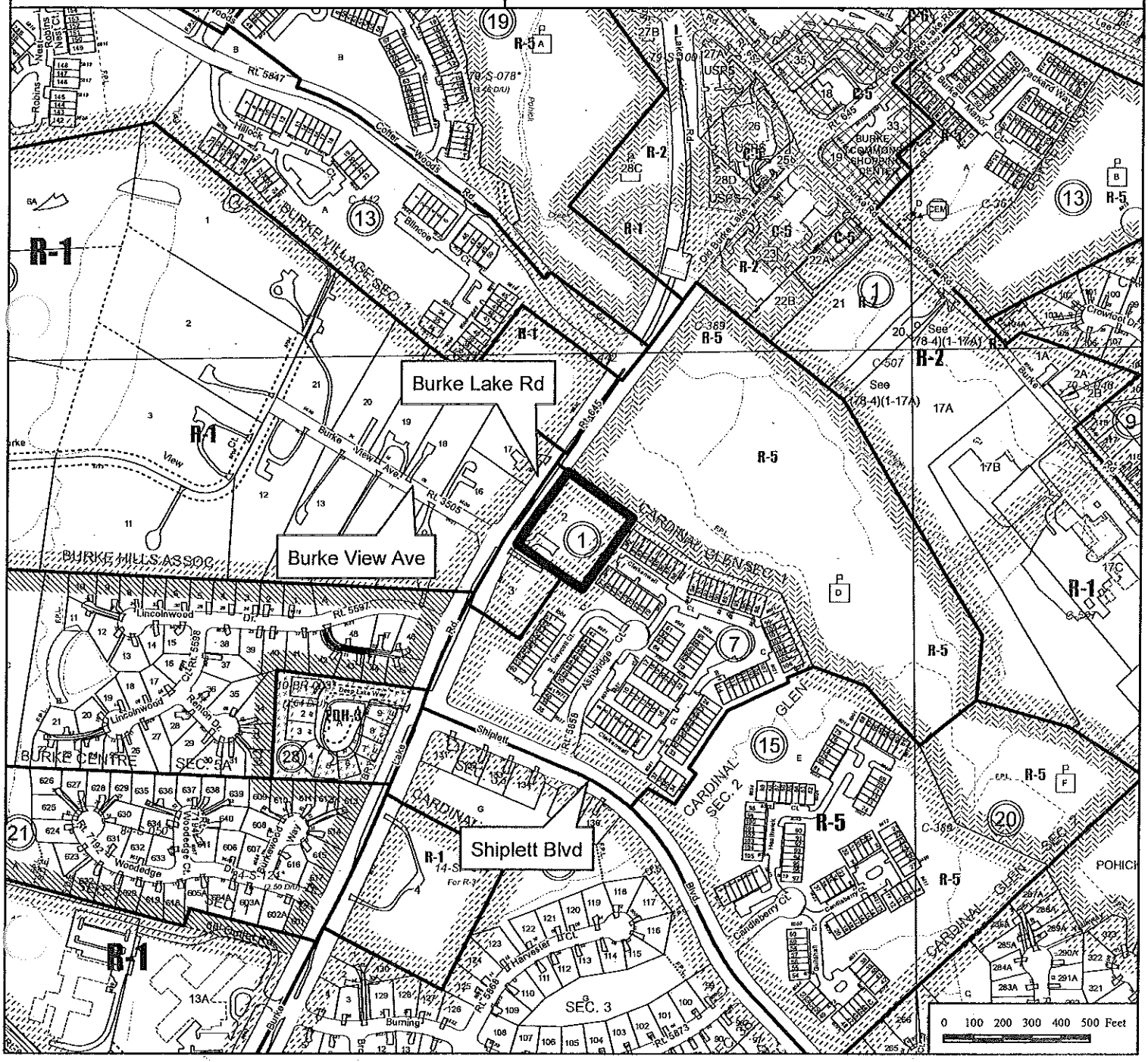
RZ 2015-SP-003



Applicant: CHRISTOPHER LAND, LLC
Accepted: 03/16/2015
Proposed: RESIDENTIAL
Area: 1.88 AC OF LAND; DISTRICT - SPRINGFIELD

Zoning Dist Sect:
Located: EAST SIDE OF BURKE LAKE ROAD, 600 FEET NORTH OF ITS INTERSECTION WITH SHIPLETT BOULEVARD

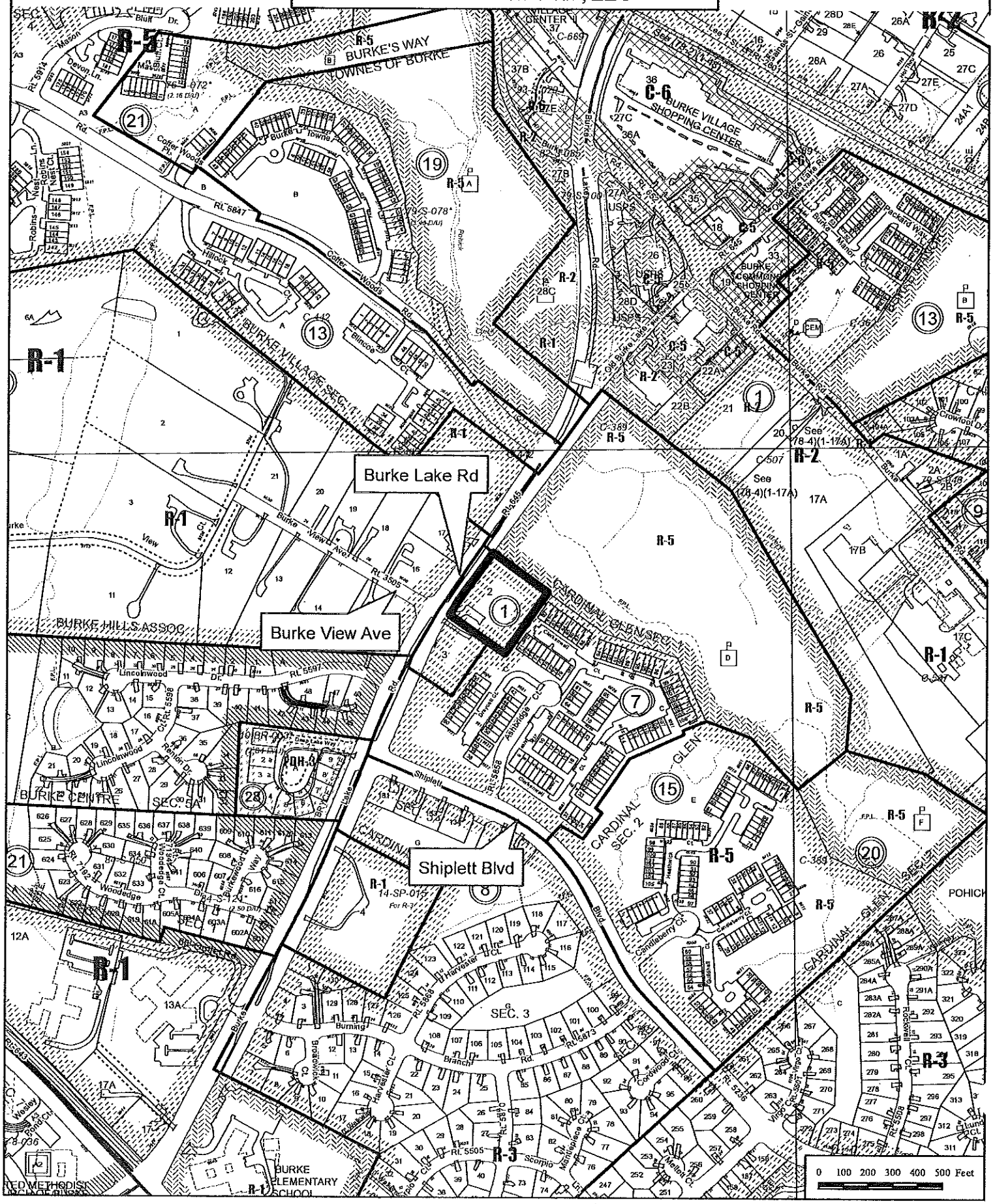
Zoning: FROM R- 1 TO R- 8
Overlay Dist:
Map Ref Num: 078-3- /01/ /0002



Rezoning Application

RZ 2015-SP-003

CHRISTOPHER LAND, LLC



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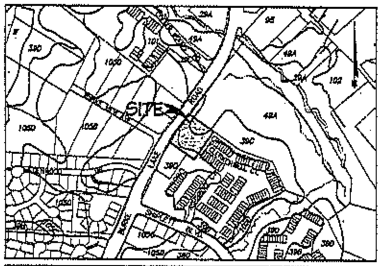
MAR 16 2015

Zoning Evaluation Division

GENERALIZED DEVELOPMENT PLAN

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA



SOIL I.D. #	SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS	GEOTECH REPORT REQ'D
39C	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I	NO
39D	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I	NO
48A	HATBORO SILT LOAM	POOR	POOR	LOW	II	YES
95	URBAN LAND	N/A	N/A	N/A	N/A	N/A

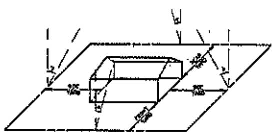
SOILS MAP/DATA
SCALE : 1" = 500'

NOTES

1. THE SUBJECT PROPERTY DELINEATED ON THIS PLAN IS LOCATED ON FAIRFAX COUNTY TAX ASSESSMENT MAP NUMBER 78-3((1))12. THE SITE IS CURRENTLY ZONED R-1. THE PROPOSED ZONING DISTRICT IS R-8.
2. THE PROPERTY HEREON IS CURRENTLY UNDER THE OWNERSHIP OF EVERTH QUEZADA AND ROSMERY VEGA IN DEED BOOK 20128 AT PAGE 1188 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
3. BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A FIELD RUN SURVEY PREPARED BY CHARLES P. JOHNSON & ASSOCIATES, DATED JANUARY 2015. CONTOUR INTERVAL EQUALS TWO FEET NGVD 1929.
4. THERE ARE NO 100-YEAR FLOODPLAINS ON-SITE. NO FLOODPLAIN OR DRAINAGE STUDIES ARE REQUIRED FOR THIS PROJECT.
5. THERE ARE NO RESOURCE PROTECTION AREAS (RPAs) OR ENVIRONMENTAL QUALITY CORRIDORS (EQCs) IMPACTING THIS SITE. A WATER QUALITY IMPACT ASSESSMENT WILL NOT BE REQUIRED.
6. TO THE BEST OF OUR KNOWLEDGE, THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION.
7. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN GRAVES, OBJECTS, OR STRUCTURES MARKING A PLACE OF BURIAL.
8. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR GREATER, NOR ANY MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED WITHIN THE SITE.
9. ANY EXISTING WELLS ON-SITE ARE TO BE CAPPED AND ABANDONED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
10. SEE SHEET 3 FOR A DESCRIPTION OF THE EXISTING VEGETATION.
11. EXISTING STRUCTURES ARE TO BE REMOVED. THE EXISTING DWELLING WAS CONSTRUCTED IN 1955.
12. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 116.4, 302.4, AND 355; ALL HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA/DEPARTMENT OF WASTE MANAGEMENT VR 672-10-1 – VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON-SITE AND THE SIZE AND CONTENTS OF ANY EXISTING OR PROPOSED STORAGE TANKS OR CONTAINERS.
13. THERE ARE NO ZONING OVERLAY DISTRICTS IMPACTING THIS SITE.
14. THERE ARE NO AFFORDABLE DWELLING UNITS (ADUs) REQUIRED FOR THIS PROJECT.
15. NO DENSITY REDUCTIONS ARE REQUIRED BY ZONING ORDINANCE SECTION 2-308. DENSITY CREDIT FOR ANY DEDICATION OF LAND FOR PUBLIC USE SHALL BE RESERVED FOR THE SUBJECT PROPERTY IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN PAR. 4 OF §2-308 OF THE ZONING ORDINANCE.
16. THE TRAFFIC AND PEDESTRIAN CIRCULATION SYSTEMS SHALL BE PROVIDED AS GENERALLY SHOWN ON THIS PLAN, SUBJECT TO FINAL ENGINEERING.
17. PRIVATE STREETS AND INTERIOR TRAVELWAYS SHALL CONFORM TO THE FAIRFAX COUNTY PFM, UNLESS OTHERWISE MODIFIED.
18. A TRAIL IS NOT REQUIRED FOR THIS PROJECT PER THE FAIRFAX COUNTY TRAILS PLAN.
19. PARKING SPACES WILL BE PROVIDED AS GENERALLY SHOWN ON THE PLAN. THE NUMBER OF PARKING SPACES MAY BE INCREASED OR DECREASED FROM THAT NUMBER REPRESENTED IN THAT TABULATION AS LONG AS THE MINIMUM NUMBER OF SPACES IS PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.
20. THE LANDSCAPE CONCEPTS, SCREENING MEASURES, AND PROPOSED TREE COVER PROVIDED SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 12 OF THE FAIRFAX COUNTY PFM AND ARTICLE 13 OF THE ZONING ORDINANCE. LANDSCAPING SHOWN ON THIS PLAN IS FOR SCHEMATIC PURPOSES ONLY, AND IS SUBJECT TO CHANGE WITH FINAL ENGINEERING. THE LOCATION OF LANDSCAPING MAY BE ADJUSTED TO ACCOMMODATE UTILITY, SIGNAGE, SIGHT DISTANCE, AND OTHER REQUIREMENTS, FROM THOSE SHOWN ON THIS PLAN.
21. ALL LIGHTING ON SITE WILL BE SHIELDED AND LOCATED IN SUCH A MANNER AS TO REDUCE GLARE ON ADJACENT PROPERTIES IN ACCORDANCE WITH THE STANDARDS SET FORTH IN ARTICLE 14 OF THE ZONING ORDINANCE.
22. THE PROPOSED UTILITY ALIGNMENTS SHOWN ON THE PLAN ARE SCHEMATIC AND SUBJECT TO CHANGE WITH FINAL ENGINEERING DESIGN, UTILITY PLANS AND PROFILES, AS WELL AS ALL NECESSARY EASEMENTS WILL BE PROVIDED WITH THE SITE PLAN(S).
23. IN ACCORDANCE WITH THE ADOPTED COMPREHENSIVE PLAN, THE PROPOSED DEVELOPMENT WILL PROVIDE RESIDENTIAL DEVELOPMENT AT 6.9 DWELLING UNITS PER ACRE AND WILL CONFORM TO ALL APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS EXCEPT AS NOTED BELOW :
    - A WAIVER OF THE MINIMUM DISTRICT SIZE OF FIVE (5) ACRES IS HEREBY REQUESTED.
    - A MODIFICATION OF THE TRANSITIONAL SCREENING REQUIREMENT OF ZONING ORDINANCE ARTICLE 13-303 ALONG BURKE LAKE ROAD IS HEREBY REQUESTED.
    - A WAIVER OF THE BARRIER REQUIREMENT OF Z.O. ARTICLE 13-304 IS HEREBY REQUESTED.
    - A DEVIATION FROM THE TREE PRESERVATION TARGET REQUIREMENT OF PFM §12-508 IS HEREBY REQUESTED (SEE LETTER ON SHEET 5).
24. PROPOSED PUBLIC IMPROVEMENTS ;
    - WATER SERVICE TO BE PROVIDED BY AN EXISTING 12" MAIN LOCATED IN BURKE LAKE ROAD
    - SANITARY SERVICE TO BE PROVIDED BY AN EXISTING 8" MAIN LOCATED BEHIND LOT 80 IN CARDINAL GLEN SECTION ONE
25. THERE ARE NO RECREATIONAL FACILITIES PROPOSED WITH THIS DEVELOPMENT.
26. SPECIAL AMENITIES ARE NOT PROPOSED WITH THIS PLAN.
27. A DEVELOPMENT SCHEDULE HAS NOT BEEN DETERMINED AT THIS TIME.
28. ARCHITECTURAL SKETCHES ARE NOT AVAILABLE AT THIS TIME.
29. THE ARCHITECTURAL FEATURES PROVIDED WITH THIS PLAN, INCLUDING BUILDING SECTIONS AND FLOOR PLANS, ARE SUBJECT TO MODIFICATION OR REVISION WITH FINAL ENGINEERING.
30. FIRE LANE LOCATION(S), AND THE STRIPING AND SIGNAGE THEREOF, WILL BE PROVIDED WITH THE SITE PLAN.
31. PARCEL "A" WILL BE CONVEYED TO A HOMEOWNERS ASSOCIATION FOR OWNERSHIP AND MAINTENANCE.
32. THE APPLICANT RESERVES THE RIGHT TO LOCATE ONE OR MORE TEMPORARY SALES OFFICES ON THE PROPERTY IN ACCORDANCE WITH ARTICLE 8-808 OF THE ZONING ORDINANCE.
33. MINOR MODIFICATIONS TO THE BUILDING FOOTPRINTS, LOT AREAS, DIMENSIONS, UTILITY LAYOUT, AND LIMITS OF CLEARING AND GRADING MAY OCCUR WITH THE FINAL ENGINEERING DESIGN, IN SUBSTANTIAL CONFORMANCE WITH THE GDP, PROVIDED SUCH ARE IN ACCORDANCE WITH THE MINOR MODIFICATIONS PROVISION IN SECTION 18-204 OF THE ZONING ORDINANCE.

VICINITY MAP
SCALE : 1" = 2000'

MINIMUM REQUIRED YARD FOR BUILDING WITH 35' HEIGHT
RESIDENTIAL



FRONT YARD : 15° WITH A BUILDING HEIGHT OF 35', THE FRONT YARD = 8' BUT NOT LESS THAN 5'
SIDE YARD : 15° WITH A BUILDING HEIGHT OF 35', THE SIDE YARD = 9' BUT NOT LESS THAN 10'
REAR YARD : 30° WITH A BUILDING HEIGHT OF 35', THE REAR YARD = 20' BUT NOT LESS THAN 20'

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

- ☒ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- ☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 4.
- ☒ 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)
Rain Garden	1.87	0	1.87	2,500	4,125	N/A
UG Storm Storage	1.67	2.64	4.51	3,500	6,650	N/A
Totals	1.87	2.64	4.51	3,500	10,775	

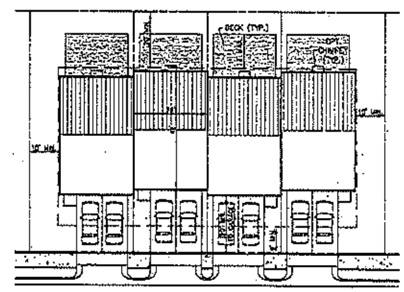
- ☒ 4. Onsite drainage channels, outfalls, and pipe systems are shown on Sheet 4. Pond inlet and outlet pipe systems are shown on Sheet 4.
- ☒ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 4. Type of maintenance access road surface noted on the plat is asphalt.
- ☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 5.
- ☒ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 9.
- ☒ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 9.
- ☒ 9. A description of how the outfall requirements, including known changes to contributing drainage areas (i.e. drainage diversions), of the Public Facilities Manual will be satisfied is provided on Sheet 9.
- ☒ 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 1 & 2.
- ☐ 11. A submission waiver is requested for N/A
- ☐ 12. Stormwater management is not required because N/A

SITE TABULATIONS

SITE AREA :		
LOT AREA	35,870±	(0.823 Ac)
PARCEL "A"	46,046±	(1.057 Ac)
TOTAL	81,916±	(1.880 Ac)

R-8 ZONE	REQUIRED	PROVIDED
MINIMUM DISTRICT SIZE	5 Ac	1.88 Ac*
NUMBER OF UNITS	—	13 Single-family Attached
MAXIMUM DENSITY	8 DU/Ac	6.9 DU/AC
MINIMUM LOT AREA	N/A	2,200± ±
AVERAGE LOT AREA	N/A	2,750± ±
MINIMUM LOT WIDTH	Interior Lot – 18' Corner Lot – N/A	Interior Lot – 20' Corner Lot – N/A
MAXIMUM BUILDING HEIGHT	35'	35'
MINIMUM YARDS : FRONT / SIDE / REAR	15'/5' 15'/10' 30'/20'	See angle of bulk-plane diagram this sheet
OPEN SPACE	20% (0.38 Ac)	30%± (0.56 Ac±)
PARKING	2.7 spaces/unit (36 total)	3.8 spaces/unit (13 garage + 26 driveway + 10 surface = 49 total)

* SEE WAIVER REQUEST WITH NOTE #23



TYPICAL LOT LAYOUT
SCALE : 1" = 20'

NOTES :
- EXTENSIONS INTO REQUIRED YARDS ARE TO BE PERMITTED IN ACCORDANCE WITH ARTICLE 2-412.
- DECKS MAY BE PERMITTED IN ACCORDANCE WITH ARTICLE 2-412, WHICH ALLOWS A 12' EXTENSION INTO THE REQUIRED MINIMUM YARD, BUT SET BACK AT LEAST FIVE (5) FEET FROM PROPERTY LINE(S).
- EACH UNIT IS TO HAVE TWO(2) 8.5' x 18.0' PARKING SPACES IN THE DRIVEWAY

DEVELOPER
THE CHRISTOPHER COMPANIES
10461 WHITE GRANITE ROAD
SUITE 103
OAKTON, VIRGINIA 22124
(703) 352-5950

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10 DRAINAGE MAPS
11 BMP CALCULATIONS
12 POTENTIAL FUTURE LAYOUT FOR 78-3((1))13

CPJ Associates Charles P. Johnson & Associates, Inc.

DATE : MARCH 13, 2015

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MAR 16 2015

Zoning Evaluation Division

BURKE VIEW AVENUE
ROUTE #3505
(50' WIDTH)

BURKE LAKE ROAD – ROUTE #645
(VARIABLE WIDTH)

EX. MEDIAN
EX. 17' D.P. W/N
EX. CURB
EX. 5' CONC. WALK
17' D.P. EASEMENT (D.B. 7432, PG. 1947)
10' V.E.P.C.O. EST'S (D.B. 7945, PG. 1936)
EX. RIGHT-OF-WAY
EX. DRIVEWAY
EX. FLAGPOLE TYP.
EX. DRIVEWAY TYP.
EX. ONE-STORY DWELLING TO BE REMOVED
#6537
EX. DECK
EX. PRIVATE TO BE REMOVED
EX. CAP. W/N EASEMENT (D.B. 3382, PG. 1216)
EX. CAP. CLEANOUTS
VIRGINIA STATE GRID NORTH (VCS83)

PARCEL 3
N/F
ANN L. HARPER
(D.B. 8541, PG. 440)
(M.B. 604, PG. 57)
ZONE : R-1 USE : RESIDENTIAL

PARCEL "D"
N/F
FAIRFAX COUNTY PARK AUTHORITY
(D.B. 4171, PG. 1)
ZONE : R-SC USE : PARK

POHICK STREAM VALLEY PARK

CARDINAL GLEN
SECTION ONE

CLERKENWELL COURT
(PRIVATE STREET)

LOT 71
LOT 72
LOT 80
LOT 81

PARCEL "C"
N/F
CARDINAL GLEN HOMES ASSOCIATION
(D.B. 3837, PG. 318)
ZONE : R-SC USE : OPEN SPACE

LOT 51

DRAYCOTT COURT
(PRIVATE STREET)

GRAPHIC SCALE
SCALE: 1" = 20'

LEGEND

- EXISTING CONTOUR
- EXISTING INDEX CONTOUR
- EXISTING TREELINE
- EX. STORM DRAIN & EASEMENT
- EX. SAN. SEWER & EASEMENT
- EX. WATERMAIN & EASEMENT
- EXISTING UTILITY LINE & POLE
- EXISTING STREET LIGHT

CPJ Associates
Charles P. Johnson & Associates, Inc.

NO. | DATE | REVISION PRIOR TO APPROVAL

EXISTING CONDITIONS PLAN

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
LIC. NO. 016550
2-13-15
PROFESSIONAL ENGINEER

NO. | DESCRIPTION OF REVISIONS | BY | APPROVED | DATE

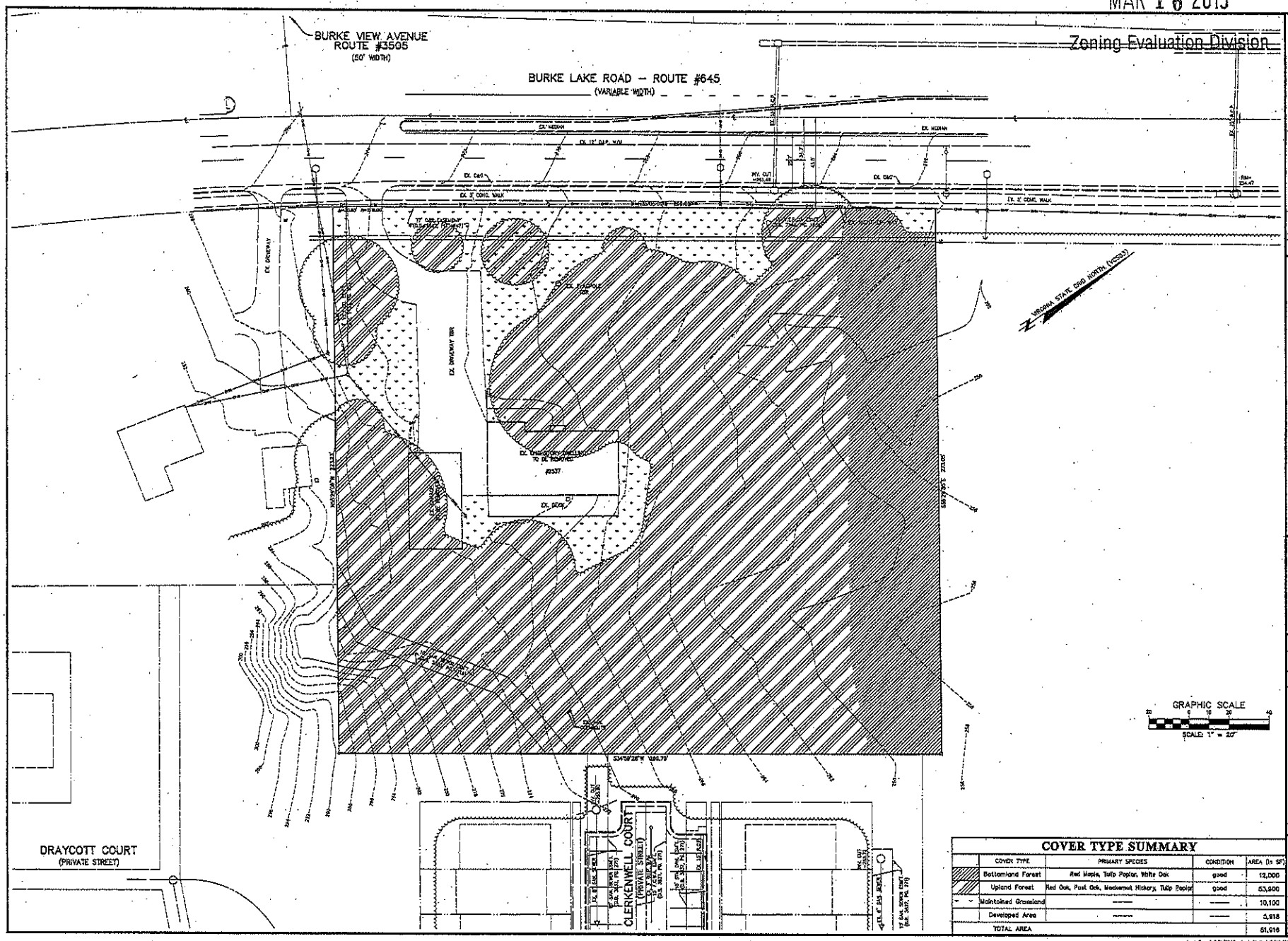
DESIGN: PMJ
DRAWN: K.W.
APPROVED: PMJ
DATE: FEB. 2015
SCALE: 20'
DATE: ---
SHEET 2 OF 12
PRJ. NO: 13-531
TYPE: GDP

Last Saved: 2/13/2015 Last Plotted: 2/13/2015 11:06 AM Sheet N:\13531\DWG\00-0200

RECEIVED
Department of Planning & Zo

MAR 16 2015

Zoning Evaluation Division



COVER TYPE SUMMARY

COVER TYPE	PRIMARY SPECIES	CONDITION	AREA (in SF)
Bottomland Forest	Red Maple, Tulip Poplar, White Oak	good	12,000
Upland Forest	Red Oak, Post Oak, Mockernut Hickory, Tulip Poplar	good	53,900
Maintained Grassland	——	——	10,100
Developed Area	——	——	5,918
TOTAL AREA			81,918

EXISTING VEGETATION MAP

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

Charles P. Johnson & Associates, Inc.

NO.	DATE	REVISION PRIOR TO APPROVAL

COMMONWEALTH OF VIRGINIA
PAUL A. GOSSOM
Lic. No. 011450
Expires

NO.	DATE	DESCRIPTION	BY	APPROVED	DATE

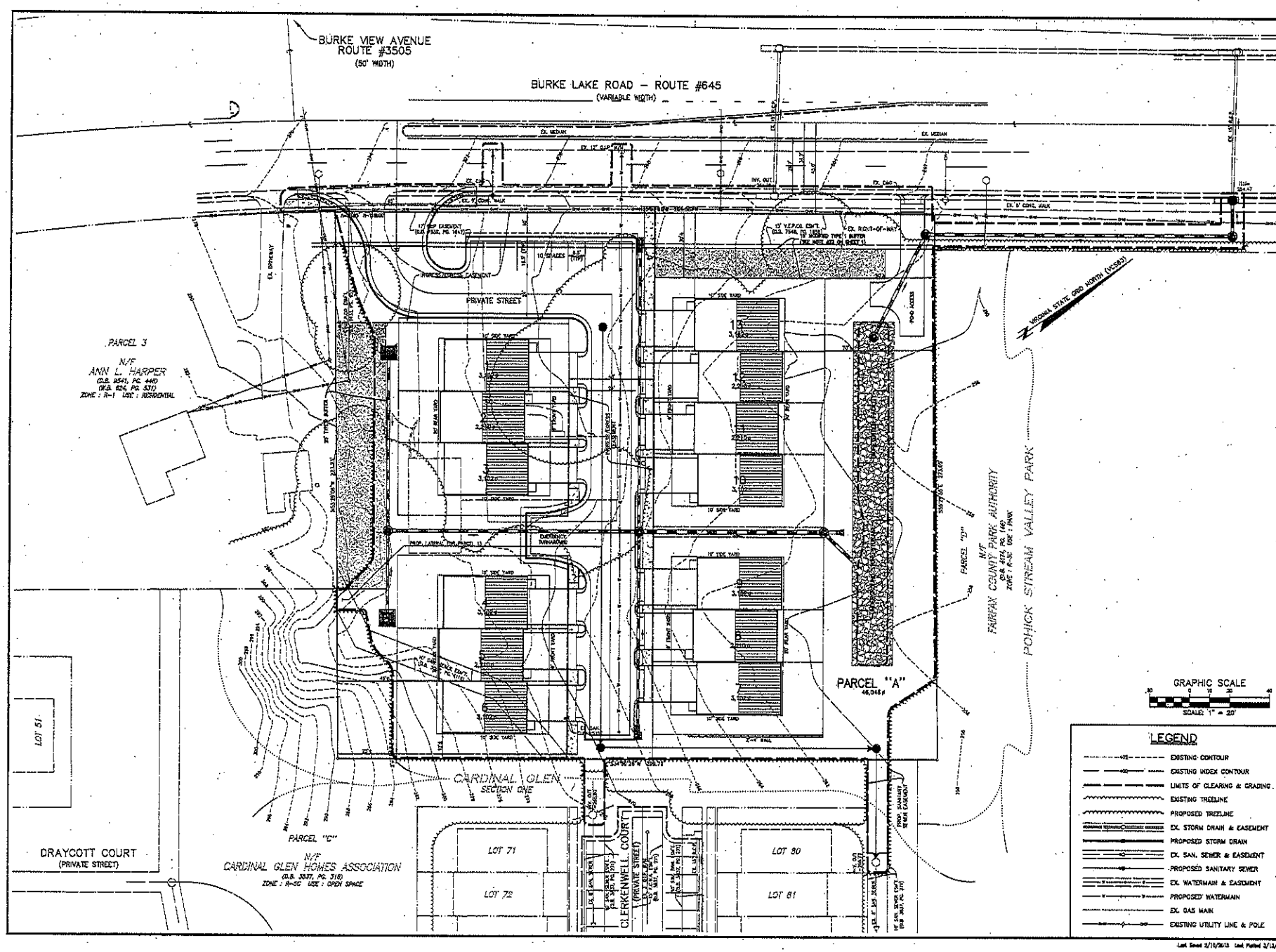
DESIGN	PAUL LEO
DRAWN	LEO
APPROVED	
DATE	FEB. 2015
HORIZ. SCALE	20'
VERT. SCALE	—

SHEET 3 OF 12

PRJ NO: 13-531

TYPE: CDP

Last Saved 2/9/2015 Last Plotted 2/10/2015 11:04 AM Sheet N:\13531\DWG\00-07001



GENERALIZED DEVELOPMENT PLAN

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

CPJ Associates
Charles P. Johnson & Associates, Inc.

NO.	DATE	REVISION PRIOR TO APPROVAL

NO.	DESCRIPTION	REVISIONS	REVIEW	APPROVED	DATE

DESIGN: KJV | DRAFT: KJV | APPROVED: HJE | DATE: MAR. 2015 | SCALE: HORIZ: 1" = 20' VERT: ---

SHEET 4 OF 12

PRJ NO: 13-531
TYPE: GDP

Last Saved 2/18/2015 Last Plotted 3/13/2015 10:24 AM Sheet N:\13531\DWG\00-00001

THIS SHEET IS FOR LANDSCAPE PURPOSES ONLY

CPJ Associates

Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

February 10, 2015

Fairfax County
Urban Forest Management Division
12055 Government Center Parkway
Fairfax, Virginia 22035

Attention: Mr. Keith Cline

Re: The Townes at Burke Lake Crossing

Dear Mr. Cline:

The purpose of this letter is to request a deviation from the Tree Preservation Target Area requirement of PFM § 12-0505.

The applicant is proposing to meet the 10-year tree canopy requirement through proposed landscaping as shown on Sheet 5 of the CDP/FDP, as well as preserving existing trees. As calculated from the Existing Vegetation Map on Sheet 2, 50.4% of the 10-year tree canopy requirement should include tree preservation. However, the applicant is providing 30.1% of the requirement through preservation, and requests a modification of this tree preservation target, indicating that conformance would preclude development of the use and intensity permitted by the Zoning Ordinance.

In order to meet the full target requirement (an additional 6,242 square feet of tree preservation), at least three (3) lots would have to be removed, which would result in a 33% reduction in the total number of units, leaving the development five (5) units short of the proposed maximum density of eight (8) per acre. Any additional tree preservation would be difficult to achieve, due to the allowance for interparcel access to the adjacent property to the south, meeting stormwater and BMP requirements through a rain garden along the northern lot boundary, and the overhead utility easements encumbering the site along Burke Lake Road.

If you have any questions or concerns, please do not hesitate to contact me at 703-385-7555 or kvestal@cpja.com.

Sincerely,

Kenneth J. Vestal, LA

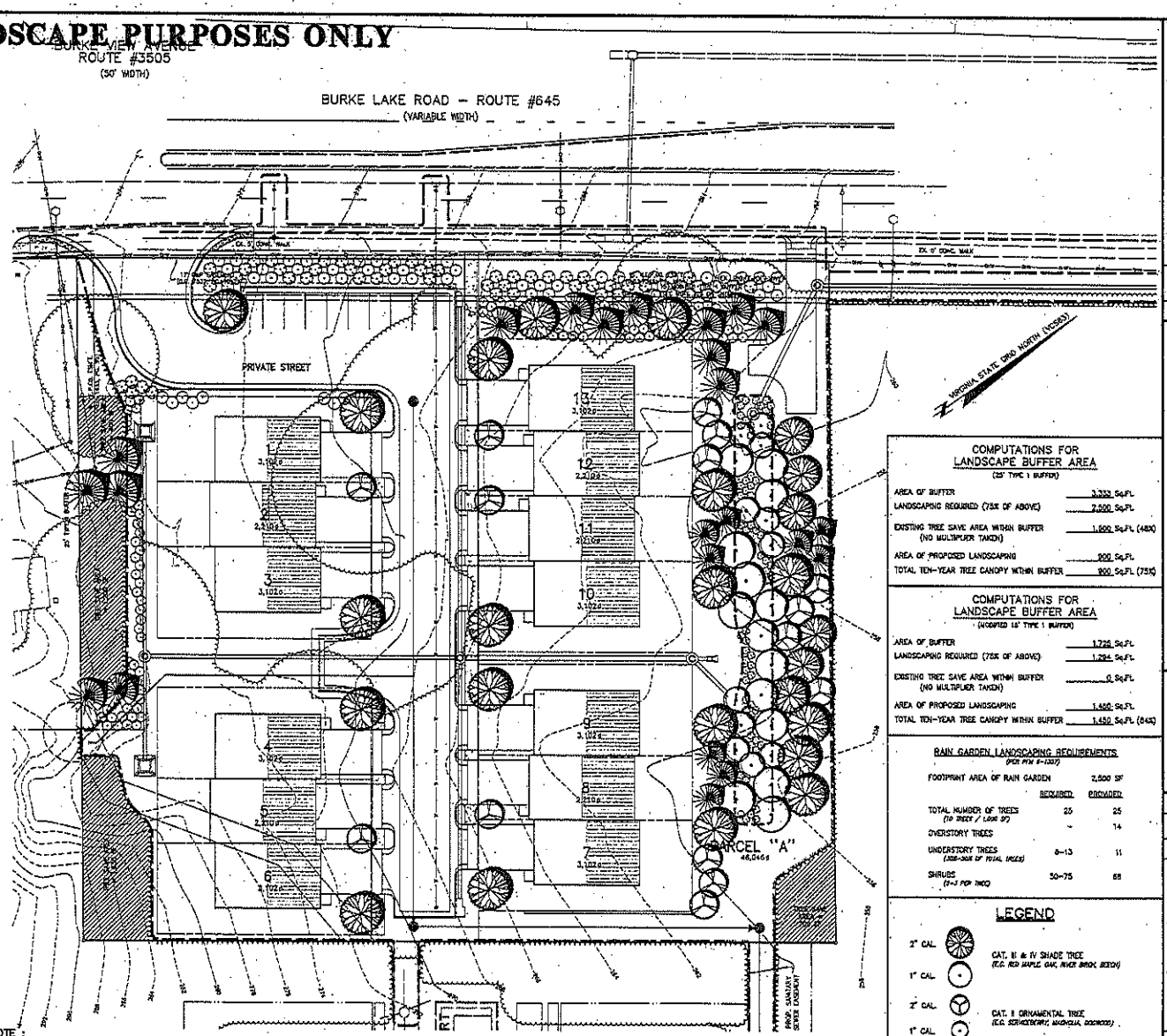
N:\13531\wp\reviews\13531 Tree Preservation Target Area.doc

3959 Pender Drive, Suite 210 • Fairfax, VA 22030 • 703-385-7555 • Fax: 703-273-6595 • www.cpja.com

Table 12.10 10-YEAR TREE CANOPY CALCULATION WORKSHEET

A. Tree Preservation Target Calculations and Statement (Table 12.2)			
A	Pre-development area of existing tree canopy		SF
B	Percentage of gross site area covered by existing tree canopy		%
C	Percentage of 10-year canopy required for site	20	%
D	*Percentage of 10-year canopy requirement that should be met through tree preservation*		%
E	*Proposed percentage of canopy requirement that will be met through tree preservation*		%
F	Has the Tree Preservation Target minimum been met?	NO	
G	If no, provide sheet number where deviation approval is located.	SHEET 5	
B. Tree Canopy Requirements			
1	Identify gross site area		SF
2	Subtract area dedicated to meet drainage and parks	0	SF
3	Subtract area of exemptions	0	SF
4	*Adjusted gross site area (B1 – B2 – B3)*		SF
5	Identify site's zoning and/or use	R-8	
6	*Percentage of 10-year canopy required*		%
7	*Area of 10-year canopy required (B4 x B6)*		SF
8	Is a modification of canopy requirements being requested?	NO	
9	If B8 is yes, provide sheet number where modification request is located.	N/A	
C. Tree Preservation			
1	*Tree Preservation Target Area*	13,139	SF
2	Total canopy area meeting standards of §12-0200	- 3,500	SF
3	x 1.25		SF
4	Total canopy area of unique or valuable forest or woodland communities	0	SF
5	x 1.50		SF
6	Total canopy area of Heritage, Memorial, Specimen or Street Trees	0	SF
7	x 1.5 to 3.0		SF
8	Canopy area of trees within Resource Protection Areas and 100-year floodplains	0	SF
9	x 1.0		SF
10	Canopy area of Virginia Pines	0	SF
11	x 1.0		SF
12	*Total of C3, C5, C7, C9, and C11*		SF
D. Tree Planting			
1	*Area of canopy to be met through tree planting (B7 - C12)*		SF
2	Area of canopy to be planted	12,225	SF
3	x 1.0		SF
4	Area of canopy provided through tree seedings	0	SF
5	x 1.0		SF
6	Area of canopy provided through native shrubs or woody seed mix	0	SF
7	x 1.0		SF
8	Percentage of line D4 represented by line D6 (must not exceed 50% of D4)		%
9	*Total of canopy area to be provided through tree planting*		SF
10	Is offsite planting being requested?	NO	
11	Tree Bank or Tree Fund?	N/A	
12	Canopy area requested to be provided through offsite banking or tree fund		SF
13	Amount to be deposited into the Tree Preservation and Planting Fund	0	
E. Total of 10-year Tree Canopy Provided			
1	Total canopy area provided through tree preservation (C12)	4,835	SF
2	Total canopy area provided through tree planting (D9)	12,225	SF
3	Total canopy area provided through offsite mechanism (D12)	N/A	SF
4	*Total 10-year tree canopy provided*		SF
	Total 10-year tree canopy provided (% of net site area)		%

* Plant species and additional credit types (if applicable) are to be specified with the final site/landscape plan.
Total 10-year tree canopy provided with the site plan shall be equivalent to that shown on the CDP/FDP.



NOTE :

TREE PRESERVATION CANOPY AREAS MEETING STANDARDS OF §12-0200 WERE CALCULATED USING THE FOLLOWING THREE GUIDELINES :

- CANOPY CREDIT IS TAKEN ONLY FOR TREES WITH MAIN TRUNKS LOCATED ON THE SITE BEING DEVELOPED WITHIN THE TREE PRESERVATION AREAS.
- TREES THAT WERE BISECTED BY THE DEVELOPMENT SITE'S OUTER PROPERTY LINE THAT ARE ASSUMED TO SURVIVE FOR THE MINIMUM 10 YEARS AFTER PLAN APPROVAL. CREDIT WAS TAKEN ONLY FOR THE PART OF THE TREE'S CANOPY THAT DIRECTLY OVERHANGS THE DEVELOPMENT SITE.
- WHERE SHARED PROPERTY LINES BISECT DENSE FOREST STANDS AND, IT IS NOT PRACTICAL OR FEASIBLE TO DETERMINE WHICH PROPERTY A CANOPY ORIGINATES FROM, THE EXTENT OF ON-SITE CANOPY AREAS MAY BE DEFINED BY THE SHARED PROPERTY LINE.

PLEASE REFER TO THE TREE PRESERVATION PLAN ON SHEET 6 TO SEE INDIVIDUAL TREES 12" AND GREATER IN DIAMETER THAT CONTRIBUTE TO THE TREE PRESERVATION CANOPY AREA PER THE ABOVE GUIDELINES.

COMPUTATIONS FOR LANDSCAPE BUFFER AREA
(25' TYPE 1 BUFFER)

AREA OF BUFFER	3,332 Sq.Ft.
LANDSCAPING REQUIRED (75% OF ABOVE)	2,500 Sq.Ft.
EXISTING TREE SAVE AREA WITHIN BUFFER (NO MULTIPLIER TAKEN)	1,600 Sq.Ft. (48%)
AREA OF PROPOSED LANDSCAPING	900 Sq.Ft.
TOTAL TEN-YEAR TREE CANOPY WITHIN BUFFER	900 Sq.Ft. (75%)

COMPUTATIONS FOR LANDSCAPE BUFFER AREA
(MODIFIED 15' TYPE 1 BUFFER)

AREA OF BUFFER	1,726 Sq.Ft.
LANDSCAPING REQUIRED (75% OF ABOVE)	1,294 Sq.Ft.
EXISTING TREE SAVE AREA WITHIN BUFFER (NO MULTIPLIER TAKEN)	0 Sq.Ft.
AREA OF PROPOSED LANDSCAPING	1,450 Sq.Ft.
TOTAL TEN-YEAR TREE CANOPY WITHIN BUFFER	1,450 Sq.Ft. (84%)

RAIN GARDEN LANDSCAPING REQUIREMENTS
(PER PFM 6-1307)

FOOTPRINT AREA OF RAIN GARDEN 2,500 SF

	REQUIRED	PROVIDED
TOTAL NUMBER OF TREES (1/0 TREES / 1,000 SF)	25	25
OVERSTORY TREES	–	14
UNDERSTORY TREES (30%-50% OF TOTAL TREES)	8–13	11
SHRUBS (5-8 PER TREE)	50–75	68

LEGEND

- 2" CAL. / 1" CAL. — CAT. III & IV SHADE TREE (E.G. RED MAPLE, OAK, RIVER BIRCH, BEECH)
- 2" CAL. / 1" CAL. — CAT. II ORNAMENTAL TREE (E.G. SERVICEBERRY, MAGNOLIA, DOGWOOD)
- CAT. I-IV EVERGREEN TREE (8' HGT.) (E.G. HOLLY, LABELLOW, HEMLOCK, SPRUCE)
- MEDIUM DECIDUOUS SHRUB (E.G. WEIGELA, HYDRANGEA, DOGWOOD)
- MEDIUM EVERGREEN SHRUB (E.G. HOLLY, JUNIPER)

* LANDSCAPING IS CONCEPTUAL IN NATURE. FINAL LOCATIONS AND SPECIES ARE TO BE DETERMINED WITH FINAL SITE PLAN. NATIVE AND/OR DESIRABLE SPECIES WILL BE USED WHERE POSSIBLE. TREE LOCATIONS AND SIZES MAY VARY WITH FINAL OVERHEAD & UNDERGROUND UTILITY LOCATIONS.

NO.	DATE	REVISION PRIOR TO APPROVAL

Charles P. Johnson & Associates, Inc.

LANDSCAPE PLAN

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

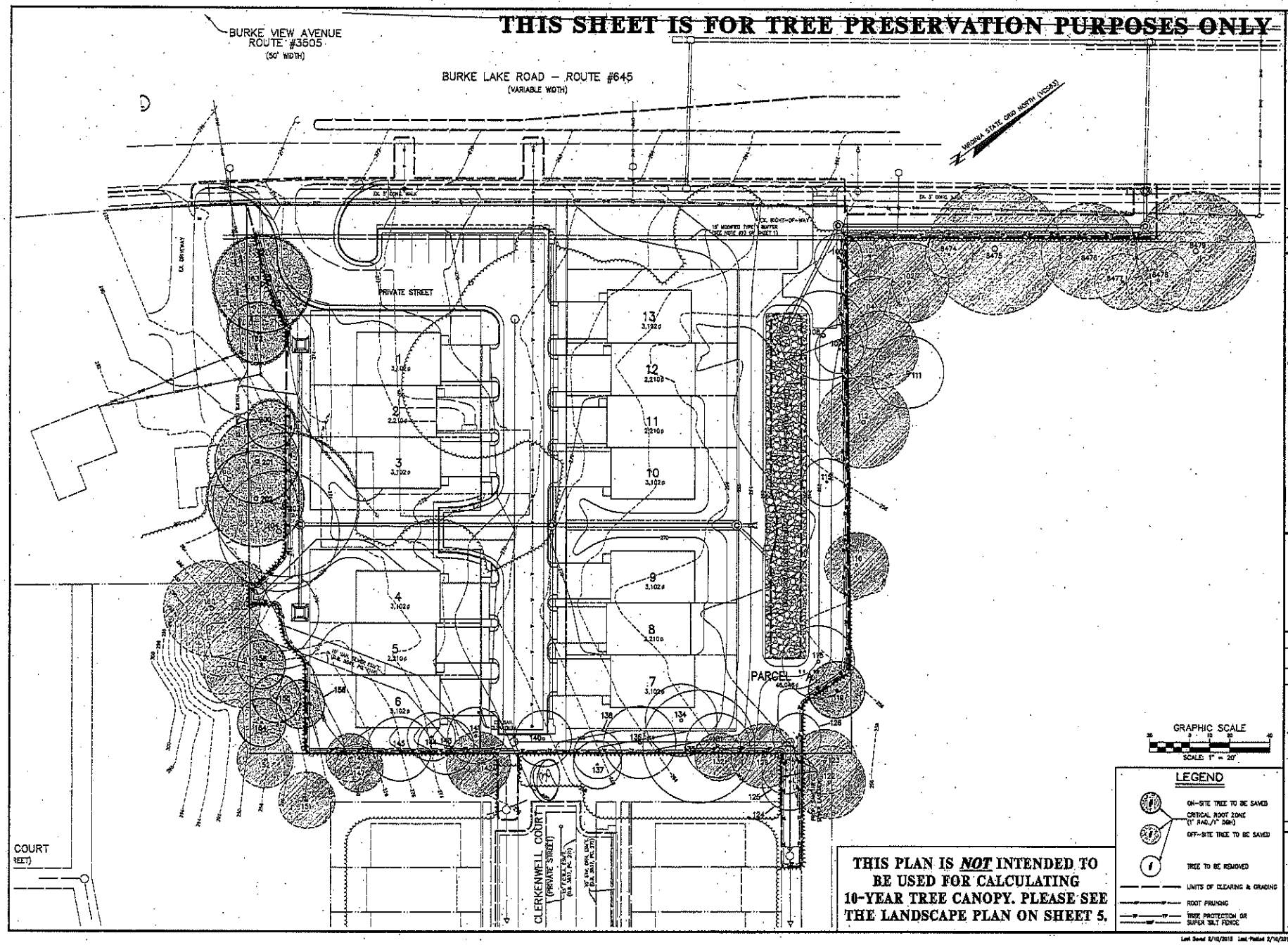
COMMONWEALTH OF VIRGINIA — KENNETH J. VESTAL — LANDSCAPE ARCHITECT — 0402 — PROFESSIONAL SEAL

NO.	DATE	DESCRIPTION	BY
		REVISIONS	

DRAWN BY: K.H. / K.J.V.
CHECKED BY: KJV
DATE: JAN. 2015
SCALE: HORZ. 1" = 20' VERT. N/A
SHEET 5 OF 12
PRJ NO: 13-531
TYPE: CDP

Last Saved 2/9/2015 Last Plotted 2/10/2015 12:18 PM Sheet N:\13531\DWG\00-C6001

THIS SHEET IS FOR TREE PRESERVATION PURPOSES ONLY



THIS PLAN IS *NOT* INTENDED TO BE USED FOR CALCULATING 10-YEAR TREE CANOPY. PLEASE SEE THE LANDSCAPE PLAN ON SHEET 5.

NO. | DATE | REVISION PRIOR TO APPROVAL

CPJ Associates
Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape • Surveyors
3959 Pender Dr., Ste. 300 Fairfax, VA 22030 703-385-0553 Fax: 703-273-3573
Annapolis • Bowie • Frederick • Hagerstown • Leesburg • Lexington Park • Mt. Airy • Pasadena • Richmond • Tysons Corner • Winchester

TREE PRESERVATION PLAN

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
2-10-15
PROFESSIONAL ENGINEER

NO. | DESCRIPTION | REVISIONS | BY | APPROVED | DATE

DESIGN LBD | DRAFT LBD | APPROVED PBJ | DATE FEB 2015 | SCALE HORIZ. 1" = 20' VERT. | NO.

SHEET 6 OF 12

PRJ NO: 13-331

TYPE: GDP

Last Saved: 2/10/2015 Last Plotted: 2/10/2015 11:01 AM Sheet M:\13331\DWG\00-00001

TREE PRESERVATION NARRATIVE:

Trees as referred to in this document are considered those trees that are protected by limits of clearing and grading and shown for preservation on approved plans.

1. **Flagging/ Site Layout:** Prior to requesting a pre-construction meeting, the contractor is responsible for flagging the limits of clearing and grading. These limits shall not exceed that shown on the approved plans.

2. **Pre-Construction Meeting:** After clearing limits have been staked a meeting shall be requested by the contractor to walk with owner or owner's designated representative, arborist/forester hired by owner, site superintendent, clearing contractor and UFMD, DPWES representative to make minor adjustments as necessary to observe trees listed in tree preservation activity schedule. Additional preservation activities will be coordinated with the Urban Forestry Division at this time.

3. **Tree Protection Approval:** Selective tree removals, root pruning, and tree protection fence installation should be completed prior to any demolition or land clearing operations. An UFMD, DPWES, representative shall be contacted a minimum of three (3) days prior to any site clearing, grading or demolition activities are to begin, to inspect the site to insure that the tree protection has been installed.

4. **Protection of Existing Understory Vegetation and Soil Conditions in Tree Preservation Areas:** 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 in the lower canopy environment, and to the existing top soil and leaf litter layers that provide nourishment and protection to that vegetation. Any removal of any vegetation or soil disturbance in tree preservation areas including the removal of plant species that may be perceived as noxious or invasive, such as poison ivy, greenbrier, multi-floral rose, etc. shall be subject to the review and approval of UFMD, DPWES

5. **Use of Equipment:** Except as qualified herein, the use of motorized equipment in tree preservation areas will be limited to hand-operated equipment such as chainsaws, wheel barrows, rake and shovels. Any work that requires the use of motorized equipment, such as tree transplanting spades, skid loaders, tractors, trucks, stump-grinders, etc., or any accessory or attachment connected to this type of equipment shall not occur unless pre-approved by UFMD.

6. **Root Pruning:** Tree preservation Areas shall be root pruned along the limits of clearing adjacent to significant trees 20" dbh and greater or as noted by the project arborist in the Tree Inventory and Activity Schedule. Root pruning shall be a minimum of 18" deep and shall be accomplished using a small walk behind trencher or air spade. The root pruning trench shall be backfilled immediately. Silt fence/super silt fence installation utilizing walk behind trencher can be substituted for root pruning as long as a minimum depth of 18" is achieved.

7. **Mulching:** Mulch shall be placed in areas as indicated on approved plans and/or extending in a swath fifteen feet wide along the Limit of Disturbance adjacent to indicated trees at minimum. Trees/Areas indicated will be mulched with wood chips generated from on site clearing or tree removal and pruning operations when possible. Shredded hardwood mulch from offsite maybe utilized if approved by project arborist. Mulch shall be spread in a uniform depth of three (3") inches by hand.

8. **Tree Protection Fencing:** Tree Preservation Areas shall be protected by per the attached Tree Protection Detail. Super-Silt fencing may be used for tree protection fencing as approved by UFMD. Fencing shall be erected at the limits of clearing and grading as shown on the demolition, and erosion and sediment control sheets. The installation of all tree protection fence types should be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Tree protection fencing shall be made clearly visible to all construction personnel. Bilingual signs stating "TREE PRESERVATION AREA – KEEP OUT" shall be affixed to the tree preservation fence at least every 30 feet, and three (3) working days prior to the commencement of any clearing, grading, or demolition activities, but subsequent to the installation of the tree protection devices including fencing. UFMD and the district supervisor staff shall be notified and given the opportunity to inspect the site to assure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by UFMD.

9. **Tree Protection Maintenance:** Fencing shall be maintained in an upright position for the duration of the project. Tree protection fencing that is damaged as a result of land clearing operations shall be repaired prior to the end of the workday that the damage occurred.

10. **Pruning:** All pruning shall conform to current ANSI A300-2001 pruning standards. Trees designated for pruning shall be crown cleaned of deadwood 2" and greater unless otherwise specified by the project arborist. The interior of trees shall not be stripped of live tissue, suckers, or epicormic branches. Damaged, crossing, and rubbing branches may be removed at the arborist's discretion. Debris from pruning operations may be chipped and deposited into the Tree Preservation Areas and spread by hand to a uniform depth or be removed from the site.

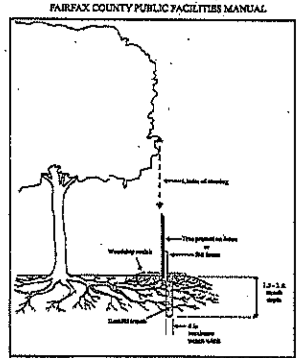
11. **Site Monitoring:** During any clearing or tree/vegetation structure removal or transplantation of vegetation on the subject site, a representative of the applicant shall be present to monitor the process and ensure that the activities are conducted as approved by UFMD. The applicant should retain the services of a certified arborist to monitor all construction work and tree preservation efforts in order to ensure conformance with all tree preservation conditions, and UFMD approvals. Monitoring inspections to ensure compliance with tree preservation plans and other jurisdictional requirements shall be conducted daily during initial site clearing operations, weekly through the erosion and sediment control phase, weekly for four weeks there after and monthly for 12 months. The 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-through meeting.

NOTE: AS STATED BY SECTION 12-0507.1B IN THE PUBLIC FACILITIES MANUAL, DEAD TREES AND TREES THAT REPRESENT A POTENTIAL HAZARD TO HUMAN HEALTH AND PROPERTY WHICH ARE 12 INCHES IN DIAMETER OR GREATER THAT RESIDE IN ONE OF THE TWO FOLLOWING AREAS WILL BE IDENTIFIED IN THE TREE INVENTORY.

AREA 1. 100 FEET FROM THE PROPOSED LIMITS OF CLEARING AND GRADING WITHIN THE UNDISTURBED AREA.

AREA 2. 10 FEET FROM THE PROPOSED LIMITS OF CLEARING AND GRADING WITHIN THE DISTURBED AREA.

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



ROOT PRUNING

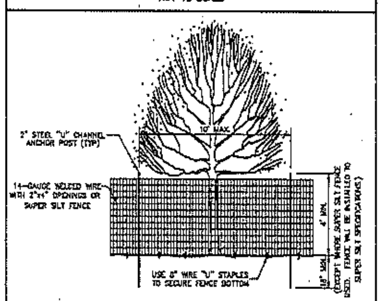
PLATE NO. 7-12

TREE PROTECTION AREA
DO NOT ENTER

ZONA DE PROTECCIÓN DE ÁRBOLES
NO ENTRE

NOTES: 1. TREE PROTECTION SIGNS SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
2. BILINGUAL SIGNS WILL BE POSTED ON THE TREE PROTECTION FENCE AT LEAST EVERY 30 FEET.
3. SIGN SHOWN IS FOR INFORMATIONAL PURPOSES ONLY AND ACTUAL SIGNS MAY DIFFER IN APPEARANCE AND WORDING. CONTENT SHALL BE EQUAL.

TREE PROTECTION SIGN DETAIL
NOT TO SCALE



NOTE : TREE PROTECTION FENCING SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION

TREE PROTECTION FENCE DETAIL
NOT TO SCALE

NOTE: TREES TO BE PRESERVED WITH IVY OR VINES GROWING ON THEM SHALL HAVE ALL VINES CUT AT THE BASE OF THE VINE. VINES SHALL BE LEFT TO DIE ON THE TREE. NO VINES OR IVY SHALL BE PULLED FROM THE TRUNK OR LIMBS OF THE TREE AS THIS CAN CAUSE INJURY TO THE TRUNK OR LIMBS.

THIS PLAN IS *NOT* INTENDED TO BE USED FOR CALCULATING 10-YEAR TREE CANOPY. PLEASE SEE THE LANDSCAPE PLAN ON SHEET 5.

TREE INVENTORY AND ACTIVITIES SPREADSHEET

Tree #	COMMON NAME	SCIENTIFIC BINOMIAL	DBH(in)	CONDITION	COMMENTS	STATUS	ROOT PRUNE	MULCH	TREE FENCE	PRUNE	FERTILIZE	CABLE	CAMBISTAT	TREAT PESTS
100	White oak	Quercus alba	12	46	Buttressing roots, broken leader, crowding, uneven canopy, dying, epicormic sprouting	Remove								
101	Red maple	Acer rubrum	12	75	Offsite: Buttressing roots, multiple curves in trunk, crowding, leaning canopy, uneven canopy	Preserve	X	X	X					
102	Tulip poplar	Liriodendron tulipifera	20	69	Offsite: Buttressing roots, crowding, limb dieback, sparse canopy, uneven canopy, forest grown form	Preserve			X	X				
103	White oak	Quercus alba	12	69	Buttressing roots, canopy dieback, canopies intertwined, crowding, dual leader, limb dieback, forest grown form	Preserve			X	X				
104	Tulip poplar	Liriodendron tulipifera	18	72	Offsite: Buttressing roots, multiple curves in trunk, crowding, dual leader, limb dieback, uneven canopy	Preserve	X	X	X	X				
106	Scarlet oak	Quercus coccinea	15	69	Adjacent tree, buttressing roots, canopy dieback, canopies intertwined, crowding, dual leader, severely leaning canopy, limb dieback, sparse canopy, uneven canopy	Preserve			X	X				
106	Tulip poplar	Liriodendron tulipifera	24	75	Buttressing roots, girdling roots, crack in trunk, crowding, multileader, forest grown form	Preserve			X	X				
107	Red maple	Acer rubrum	12	66	Buttressing roots, tree at root collar, leaning trunk, multiple curves in trunk, poor trunk form, crowding, multileader, leaning canopy, limb dieback	Remove								
108	Tulip poplar	Liriodendron tulipifera	22	75	Buttressing roots, multiple curves in trunk, crowding, multileader, uneven canopy, forest grown form	Remove								
109	Tulip poplar	Liriodendron tulipifera	29	66	Offsite: Buttressing roots, girdling roots, multiple curves in trunk, canopy dieback, multileader, forest grown form, leader not strong	Preserve			X					
111	Unidentified	dead tree	18	0	Offsite: Dead	Remove								
112	Red maple	Acer rubrum	23	49	Offsite: Buttressing roots, dual trunk, leaning trunk, multiple curves in trunk, poor trunk form, multileader, poor canopy form, epicormic sprouting	Preserve	X	X	X					
115	Red maple	Acer rubrum	12	30	Buttressing roots, jog in trunk, multiple curves in trunk, dual leader, limb dieback, bark damage, dying, remove due to dangerous amount of decay, epicormic sprouting, center rotted out at base	Remove								
116	White oak	Quercus alba	16	75	Offsite: Buttressing roots, multileader, leaning canopy, limb dieback, uneven canopy, epicormic sprouting, forest grown form	Preserve	X	X	X	X				
118	White oak	Quercus alba	18	72	Buttressing roots, dual leader, limb dieback, epicormic sprouting, forest grown form	Remove								
119	Mockernut	Carya tomentosa	14	72	Buttressing roots, girdling roots, multileader, leaning canopy, uneven canopy, forest grown form	Preserve	X	X	X					
120	White oak	Quercus alba	12	72	Crowding, multileader, leaning canopy, uneven canopy, forest grown form	Preserve			X					
121	White oak	Quercus alba	20	70	Buttressing roots, multileader, uneven canopy, epicormic sprouting	Preserve			X					
122	White oak	Quercus alba	18	72	Offsite: Buttressing roots, dual leader, piece of wood nailed to trunk	Preserve			X					
123	White oak	Quercus alba	16	72	Offsite: Buttressing roots, debris at base, crowding, dual leader, limb dieback, uneven canopy, forest grown form	Preserve	X	X	X					
124	White oak	Quercus alba	14	69	Offsite: Buried root collar, severely leaning canopy, poor canopy form, uneven canopy, epicormic sprouting	Preserve	X	X	X	X				
125	White oak	Quercus alba	12	72	Offsite: Canopy dieback, crowding, multileader, limb dieback, epicormic sprouting	Remove								
126	White oak	Quercus alba	12	69	Buttressing roots, multiple curves in trunk, canopy dieback, limb dieback, poor canopy form, sparse canopy, uneven canopy	Remove								
129	White oak	Quercus alba	18	72	Offsite: Buttressing roots, severely leaning trunk, multileader, leaning canopy, limb dieback, uneven canopy	Preserve	X	X	X					
131	Northern red oak	Quercus rubra	16	69	Canopy dieback, dual leader, leaning canopy, poor canopy form, sparse canopy, uneven canopy, epicormic sprouting	Remove								
132	Red maple	Acer rubrum	12	69	Offsite: Leaning trunk, multiple curves in trunk, poor trunk form, canopies intertwined, crowding, dual leader, leaning canopy, poor canopy form, uneven canopy	Preserve	X	X	X	X				
133	White oak	Quercus alba	28	72	Buttressing roots, crowding, multileader, leaning canopy, uneven canopy, rock at base	Remove								
134	White oak	Quercus alba	18	72	Buttressing roots, canopy dieback, crowding, multileader	Remove								
136	White oak	Quercus alba	18	69	Buried root collar, crowding, multileader, leaning canopy, uneven canopy, epicormic sprouting	Remove								
137	Unidentified	dead tree	12	0	Offsite: Dead	Remove								
138	Unidentified	dead tree	12	0	Offsite: Dead	Remove								
140	White oak	Quercus alba	14	69	Buttressing roots, multiple curves in trunk, canopy dieback, canopies intertwined, crowding, multileader, leaning canopy, limb dieback, sparse canopy, uneven canopy	Remove								

Tree #	COMMON NAME	SCIENTIFIC BINOMIAL	DBH(in)	CONDITION	COMMENTS	STATUS	ROOT PRUNE	MULCH	TREE FENCE	PRUNE	FERTILIZE	CABLE	CAMBISTAT	TREAT PESTS
141	White oak	Quercus alba	14	69	Buried root collar, canopy dieback, crowding, leaning canopy, limb dieback, sparse canopy, epicormic sprouting, rock at base	Remove								
142	Mockernut	Carya tomentosa	18	72	Offsite: Buttressing roots, girdling roots, crowding, limb dieback, uneven canopy	Preserve	X	X	X	X				
143	White oak	Quercus alba	14	72	Buried root collar, debris at base, canopy dieback, limb dieback, uneven canopy, epicormic sprouting	Remove								
144	White oak	Quercus alba	12	75	Buried root collar, debris at base, multileader, leaning canopy, limb dieback, uneven canopy	Remove								
145	Scarlet oak	Quercus coccinea	18	75	Buried root collar, debris at base, crowding, leaning canopy, limb dieback, uneven canopy, forest grown form	Remove								
146	White oak	Quercus alba	12	69	Offsite: Buttressing roots, debris at base, canopies intertwined, crowding, limb dieback, vine coverage	Preserve	X	X	X	X				
147	Tulip poplar	Liriodendron tulipifera	12	69	Offsite: Buttressing roots, debris at base, jog in trunk, multiple curves in trunk, poor trunk form, crowding, poor canopy form, epicormic sprouting	Preserve	X	X	X	X				
148	Scarlet oak	Quercus coccinea	22	56	Buttressing roots, debris at base, hole in trunk, canopy dieback, crowding, dual leader, limb dieback, poor canopy form, uneven canopy, bark damage, signs of decay, epicormic sprouting, hole at base	Preserve			X					
151	Post oak	Quercus stellata	14	66	Offsite: Buttressing roots, tree at root collar, crack in trunk, canopy dieback, canopies intertwined, crowding, multileader, severely leaning canopy, limb dieback, poor canopy form, uneven canopy	Preserve			X					
152	Northern red oak	Quercus rubra	14	69	Offsite: Buttressing roots, severely leaning canopy, limb dieback, poor canopy form, uneven canopy	Preserve			X					
154	Post oak	Quercus stellata	12	69	Buried root collar, buttressing roots, debris at base, canopy dieback, canopies intertwined, crowding, multileader, limb dieback, poor canopy form, rubbing branches, epicormic sprouting	Preserve	X	X	X					
155	Post oak	Quercus stellata	12	66	Buried root collar, multiple curves in trunk, canopy dieback, crowding, multileader, leaning canopy, limb dieback, poor canopy, uneven canopy, extensive epicormic sprouting, extensive vine coverage	Preserve								
156	White oak	Quercus alba	12	72	Buttressing roots, canopy dieback, crowding, multileader, limb dieback, poor canopy form, uneven canopy, epicormic sprouting, bulge at base	Preserve								
157	American sycamore	Platanus occidentalis	20	63	Offsite: Buried root collar, debris at base, on steep slope, multiple curves in trunk, canopy dieback, crowding, dual leader, sparse canopy, uneven canopy, epicormic sprouting	Preserve	X	X	X					
158	American beech	Fagus grandifolia	12	69	Buttressing roots, debris at base, on steep slope, multileader, poor canopy form, uneven canopy, epicormic sprouting, rock at base	Remove	X	X	X					
159	Mockernut	Carya tomentosa	12	69	Offsite: Buttressing roots, debris at base, girdling roots, hole in trunk, canopies intertwined, crowding, multileader, poor canopy form, uneven canopy, epicormic sprouting, rocks at base	Preserve	X	X	X					
160	Tulip poplar	Liriodendron tulipifera	24	69	Offsite: On steep slope, jog in trunk, canopy dieback, dual leader, limb dieback, poor canopy form	Preserve	X	X	X					
161	Southern red oak	Quercus falcata	10	72	Debris at base, multiple curves in trunk, multileader, uneven canopy	Preserve			X	X				
162	Green ash	Fraxinus pennsylvanica	12	72	Buttressing roots, J-root, canopy dieback, multileader, under powerlines	Preserve			X	X				
163	Green ash	Fraxinus pennsylvanica	16	72	Buttressing roots, hole in trunk, multileader, limb dieback, uneven canopy, poor pruning scars	Preserve	X	X	X	X				
164	Black gum	Nyssa sylvatica	14	69	Buried root collar, dual leader, poor canopy form, extensive epicormic sprouting	Preserve			X					
165	Tulip poplar	Liriodendron tulipifera	14	63	Buried root collar, dual leader, poor canopy form, extensive epicormic sprouting, J-root damaged	Preserve			X					
200	Virginia pine	Pinus virginiana	12	74	Buttressing roots, crowding, dual leader	Preserve	X	X	X	X				
201	Red maple	Acer rubrum	21	70	Buttressing roots, J-root, dual trunk, jog in trunk, severely leaning trunk, crowding, multileader, limb dieback, uneven canopy	Preserve	X	X	X	X				
202	Scarlet oak	Quercus coccinea	24	74	Debris at base, leaning trunk, multileader, limb dieback, uneven canopy, forest grown form	Preserve	X	X	X	X				
203	Northern red oak	Quercus rubra	36	74	Buttressing roots, debris at base, crowding, multileader, limb dieback, uneven canopy, forest grown form	Remove								
204	White oak	Quercus alba	30	74	Leaning trunk, crowding, multileader, limb dieback	Remove								
8473	White oak	Quercus alba	12	70	Offsite: Multiple curves in trunk, canopy dieback, crowding, multileader, limb dieback, uneven canopy, forest grown form	Preserve			X	X				
8474	Green ash	Fraxinus pennsylvanica	12	50	Offsite: Jog in trunk, multileader, uneven canopy, dying, epicormic sprouting, extensive vine coverage	Preserve	X	X	X					
8475	Tulip poplar	Liriodendron tulipifera	33	67	Offsite: Tree at root collar, canopy dieback, multileader, limb dieback, poor canopy form, extensive epicormic sprouting, forest grown form	Preserve	X	X	X					
8476	Scarlet oak	Quercus coccinea	24	67	Offsite: Buttressing roots, canopy dieback, multileader, leaning canopy, sparse canopy, uneven canopy, epicormic sprouting, forest grown form	Preserve	X	X	X					
8477	Scarlet oak	Quercus coccinea	14	67	Offsite: Buttressing roots, canopies intertwined, crowding, multileader, leaning canopy, uneven canopy, extensive epicormic sprouting	Preserve			X					
8478	White oak	Quercus alba	16	69	Offsite: Canopy dieback, multileader, uneven canopy, epicormic sprouting	Preserve			X					
8479	Red maple	Acer rubrum	30	63	Offsite: Buttressing roots, multitrunk, large hole in trunk, poor trunk form, multileader, poor canopy form, signs of decay, extensive epicormic sprouting, included bark, poor pruning scars	Preserve	X	X	X					

THIS SHEET IS FOR TREE PRESERVATION PURPOSES ONLY

TREE PRESERVATION INVENTORY

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
2-10-15
PROFESSIONAL ENGINEER

CPJ Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
3959 Pender Dr., Ste. 210 Fairfax, VA 22030 703-385-7555 Fax 703-273-8390

NO.	DATE	REVISION PRIOR TO APPROVAL

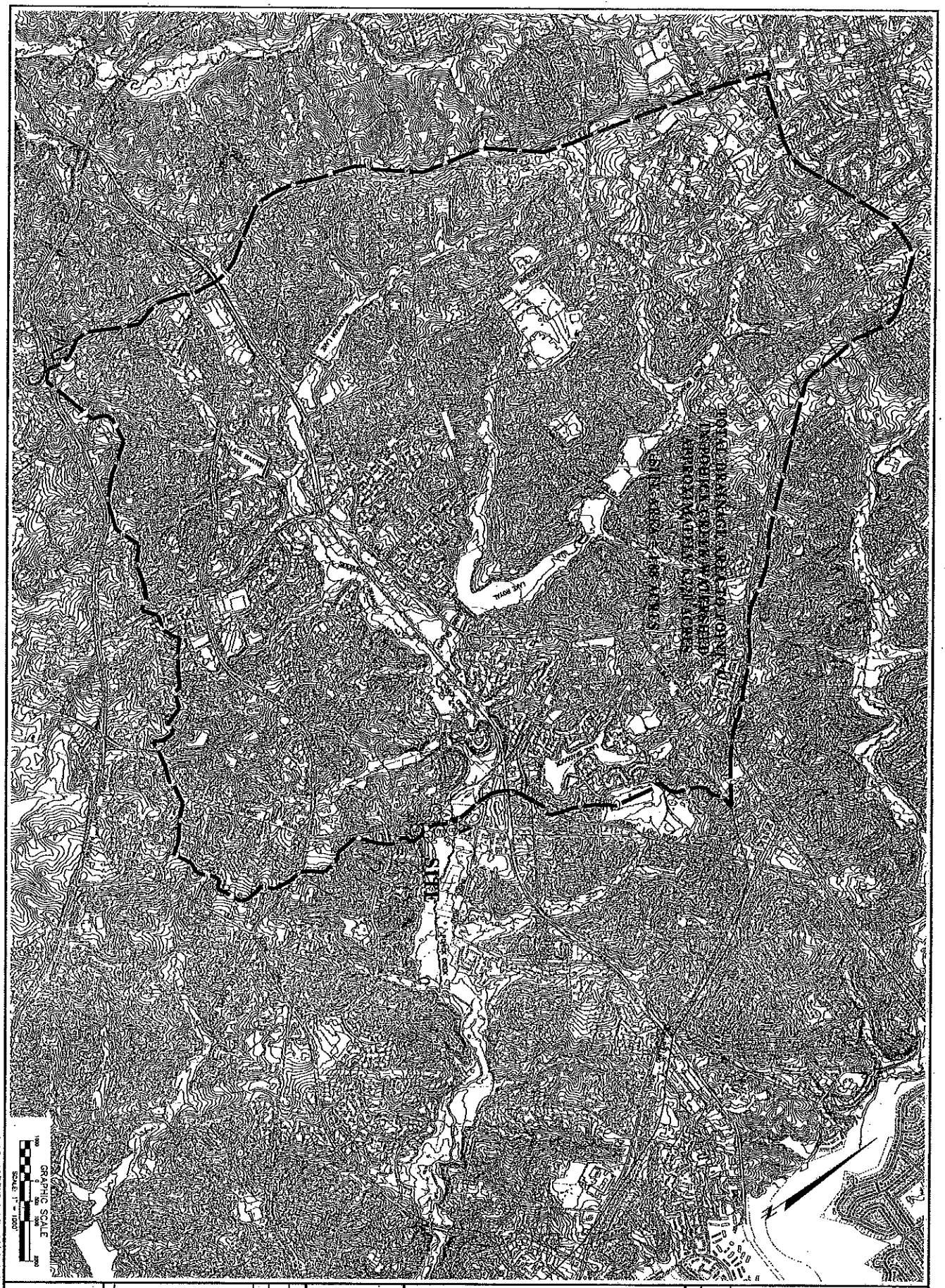
NO.	DESCRIPTION	REVISED BY	APPROVED	DATE
	REVISIONS			

DESIGN	DRAFT	APPROVED	DATE	SCALE
LBO	LBO	HMF	FEB. 2015	HORZ: ---- VERT: ----

SHEET 7 OF 12

PRJ NO: 13-531
TYPE: CDP

Last Saved 2/10/2015 Last Plotted 2/10/2015 2:52 PM



OUTFALL MAP

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

NO.	DATE	REVISION PRIOR TO APPROVAL

CPJ Associates — Charles P. Johnson & Associates, Inc.

NO.	DESCRIPTION	REVIEW BY	APPROV.	DATE
	REVISIONS			

COMMONWEALTH OF VIRGINIA — PAUL P. JOHNSON — Lic. No. 016450 — 2-10-15 — PROFESSIONAL ENGINEER

DESIGN ADC | DRAFT ADC
APPROVED ATO
DATE FEB. 2015
SCALE HORIZ. 1"=1000' VERT. ----
SHEET 8 OF 12
PRJ NO. 13-531
TYPE: GDP

Attached Xrefs:

OUTFALL, SWM, AND BMP NARRATIVE

THE SITE CONSISTS OF 1.88 ACRES, ON WHICH 13 SINGLE-FAMILY ATTACHED UNITS ARE PROPOSED TO BE CONSTRUCTED. THE SITE IS PARTIALLY WOODED, WITH SLOPES AVERAGING ABOUT 6%. THE EXISTING HOUSE AND DRIVEWAY ARE TO BE REMOVED.

THE EXISTING SITE DRAINS TOWARD FAIRFAX COUNTY PARK AUTHORITY PROPERTY TO THE NORTH AND EAST, THEN INTO A FLOODPLAIN WHICH FLOWS IN A SOUTHEASTERLY DIRECTION. THIS FLOODPLAIN IS WITHIN THE POHICK STREAM VALLEY PARK.

POST-DEVELOPMENT CONDITIONS

A RAIN GARDEN WITH UNDERGROUND STORAGE WILL BE PROVIDED WITH THIS DEVELOPMENT. A CLOSED STORM SEWER SYSTEM WILL BE INSTALLED TO COLLECT MOST OF THE SITE'S RUNOFF INTO THE PROPOSED RAIN GARDEN. THIS RAIN GARDEN WILL PROVIDE STORMWATER MANAGEMENT & STORMWATER QUALITY CONTROL FOR THIS SITE. THE POST DEVELOPMENT PEAK FLOW WILL BE BELOW THE PRE-DEVELOPMENT PEAK FLOWS.

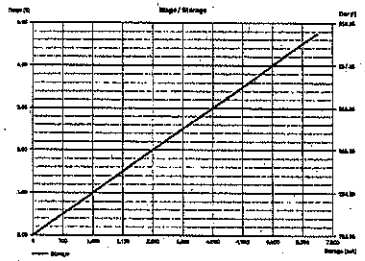
THE OVERALL DRAINAGE AREA MAP SHOWN ON SHEET 8 DEPICTS THE DRAINAGE AREA WHERE THE SITE OUTFALLS INTO THE EXISTING FLOODPLAIN VIA A CLOSED CONDUIT SYSTEM THAT RUNS ALONG BURKE LAKE ROAD. THE TOTAL SITE AREA (1.88 ACRES) DRAINING INTO THE EXISTING FLOODPLAIN AT POINT "A" IS LESS THAN 1% OF THE OVERALL DRAINAGE AREA (6,200 ACRES) OF THE POHICK CREEK WATERSHED. THE EXISTING STREAM CHANNEL IS WELL-DEFINED WITH BED AND BANK. THEREFORE, PER PFM 6-0203.2A, THE EXTENT OF THE DOWNSTREAM DRAINAGE IS COMPLETED AT POINT "A".

SINCE THE FLOWS FROM THE SITE WILL BE REDUCED BELOW PRE-DEVELOPMENT LEVELS, IT IS THE ENGINEER'S OPINION THAT AN ADEQUATE OUTFALL FOR THIS PROJECT HAS BEEN MET.

STORMWATER QUALITY (BMPs) WILL BE PROVIDED VIA A RAIN GARDEN. PRELIMINARY CALCULATIONS SHOW THAT THE TOTAL PHOSPHORUS REMOVAL IS IN COMPLIANCE WITH THE VIRGINIA RUNOFF REDUCTION METHOD. THEREFORE, WATER QUALITY REQUIREMENTS HAVE BEEN MET FOR THIS DEVELOPMENT.

10-YR STORM DRAIN DESIGN COMPUTATIONS

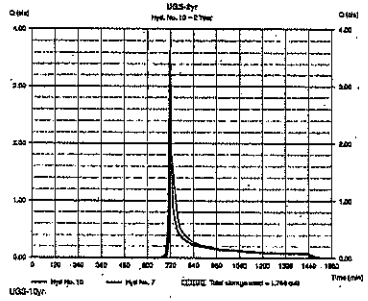
FROM	TO	DRAIN. AREA (ACRES)	RUNOFF COEF. C	C & A INCR.	C & A ACCUM.	TIME OF CONCENTRATION: to TO PIPE (min)	TIME IN PIPE (min)	TIME	I	Q (cfs) INCR. (c.f.s.)	Q (cfs) ACCUM. (c.f.s.)	DESIGN: PIPE DIA. in	SLOPE ft/ft	"n"	MAX. Q (c.f.s.)	VEL. ft/sec	LENGTH ft	FALL ft	UPPER INV	LOWER INV
3	2					Field Notes					6.34	18	0.0526	0.013	8.71	3.2	30.24	0.58	302.59	302.01
2	1										6.34	18	0.0526	0.013	8.47	3.1	173.61	1.79	302.66	300.87
1	EX.E										6.34	18	0.0400	0.013	8.47	3.1	17.78	0.18	300.83	300.65
EX.E	EX.D	0.33	0.70	0.18		5.00		16	4.66	0.78	7.00	42	0.0128	0.013	7.38	7.1	73.24	0.93	299.39	298.46
EX.D	EX.C	14.61	0.40	5.80		10.00		19	4.19	23.80	30.80	30	0.0106	0.013	37.61	12.8	181.93	1.91	298.15	296.24
EX.C	EX.B	1.46	0.40	0.74		8.00		19	4.66	3.48	42.18	30	0.0097	0.013	40.46	13.3	105.30	1.02	296.64	295.62
EX.B	EX.A	0.74	0.40	0.30		5.00		19	4.66	1.39	43.86	30	0.0070	0.013	33.41	20.1	14.00	0.24	295.58	295.34



UG3-2yr

Hydrograph type	= Reservoir	Peak discharge	= 1,790 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 16,304 cuft
Inflow hyd. No.	= 7 - 2yr combined	Max. Elevation	= 254.01 ft
Reservoir name	= UG3	Max. Storage	= 1,790 cuft

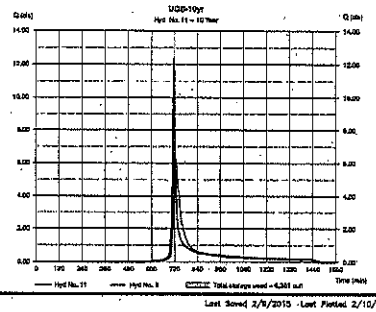
Storage indication method used.



UG3-10yr

Hydrograph type	= Reservoir	Peak discharge	= 6,268 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 30,694 cuft
Inflow hyd. No.	= 8 - 10yr combined	Max. Elevation	= 257.22 ft
Reservoir name	= UG3	Max. Storage	= 3,361 cuft

Storage indication method used.



OUTFALL NARRATIVE & COMPUTATIONS

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PAUL E. CONNOR
Lic. No. 01850
2-10-15
PROFESSIONAL ENGINEER

Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape • Architects • Surveyors
9999 Fairfax Blvd., Ste. 200 Fairfax, VA 22030 703-591-7543 Fax 703-273-3593
www.cpjassociates.com Offices in Fairfax, MD • Gaithersburg, MD • Leesburg, VA • Orange Park, FL • Jacksonville, FL • Orlando, FL

NO.	DATE	REVISION PRIOR TO APPROVAL

NO.	DESCRIPTION	BY	APPROV.	DATE
	REVISIONS			

2300 | 2401 PROJECT NO.
ATD DRAWN BY
PAE APPROVED BY
FEB. 2015 DATE
SCALE HORZ. N/A VERT. ----

SHEET 9 OF 12

PRJ NO: 13-531
TYPE: CDP

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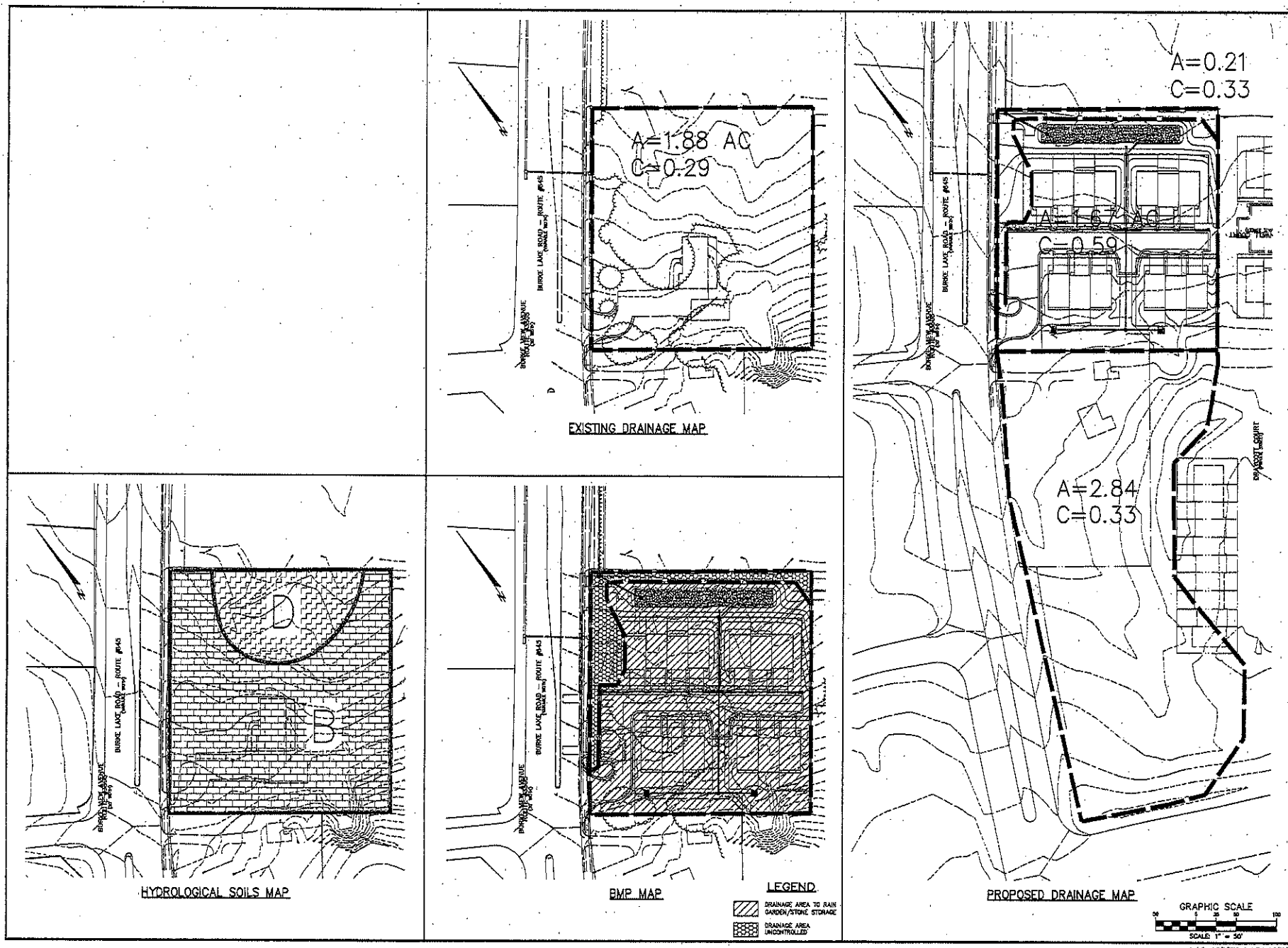

DRAINAGE MAPS

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

CPJ Associates
Charles P. Johnson & Associates, Inc.

NO.	DATE	REVISION PRIOR TO APPROVAL

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
REGISTERED ENGINEER
2-10-15

NO.	DESCRIPTION	REVISIONS	BY	APPROVED	DATE

DESIGN: ADC | DRAFT: ADC | APPROVED: AT | DATE: FEB. 2015 | SCALE: HORIZ: 1" = 50' VERT: ---

SHEET 10 OF 12

PRJ NO: 13-631
TYPE: CDP

Virginia Runoff Reduction Method New Development Worksheet - v2.6 - June 2014

Updating Summary Sheet

Site Data Summary

Total Rainfall = 45 inches

Site Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.74	0.00	0.32	1.06	56.38
Impervious (acres)	0.00	0.75	0.00	0.07	0.82	43.62
					1.88	100.00

Site Rv	0.54
Post Development Treatment Volume (ft3)	3456
Post Development TP Load (lb/yr)	2.30
Post Development TN Load (lb/yr)	18.43
Total TP Load Reduction Required (lb/yr)	1.91
Total Runoff Volume Reduction (ft³)	2750
Total TP Load Reduction Achieved (lb/yr)	2
Total TN Load Reduction Achieved (lb/yr)	15.44
Adjusted Post Development TP Load (lb/yr)	0.53
Remaining Phosphorous Load Reduction (Lb/yr) Required	0.00

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	1.06	0.00	0.00	0.00	0.00	1.06
Impervious (acres)	0.82	0.00	0.00	0.00	0.00	0.82
						1.88

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Red. (lb/yr)	1.94	0.00	0.00	0.00	0.00	1.94
TN Load Red. (lb/yr)	15.44	0.00	0.00	0.00	0.00	15.44

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Turf (acres)	0.00	0.74	0.00	0.32	1.06	56.38
Impervious (acres)	0.00	0.75	0.00	0.07	0.82	43.62
					1.88	

BMP Selections

Practice	Credit Area (acres)		Downstream Practice
6.b. Bioretention #2 (Spec #9)	Impervious:	0.82	
	Turf (Pervious):	0.32	

Total Impervious Cover Treated (acres)	0.82
Total Turf Area Treated (acres)	0.32
Total TP Load Reduction Achieved in D.A. A (lb/yr)	1.94
Total TN Load Reduction Achieved in D.A. A (lb/yr)	15.44

Virginia Runoff Reduction Method New Development Worksheet - v2.6 - June 2014

To be used w/ 2011 BMP Standards and Specifications

Site Data

Project Name: The Townes at Burke Lake Crossing

Date: 1/27/2015

data input cells	
calculated cells	
constant values	

1. Post-Development Project & Land Cover Information

Constants

Annual Rainfall (inches)	45		
Target Rainfall Event (inches)	1.00		
Phosphorus EMC (mg/L)	0.28	Nitrogen EMC (mg/L)	1.86
Target Phosphorus Target Load (lb/acre/yr)	0.41		
Pj	0.90		

Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land					
Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed					
Impervious Cover (acres)					
				Total	

Rv Coefficients

	A soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.16	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Land Cover Summary

Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.02
% Forest	0.00
Managed Turf Cover (acres)	1.06
Weighted Rv(turf)	0.22
% Managed Turf	56.38
Impervious Cover (acres)	0.82
Rv(impervious)	0.95
% Impervious	43.62
Total Site Area (acres)	1.88
Site Rv	0.54

Post-Development Treatment Volume (acre-ft)	0.071		
Post-Development Treatment Volume (cubic feet)	3,456		
Post_Development Load (TP) (lb/yr)	2.30	Post_Development Load (TN) (lb/yr)	18.43
Total Load (TP) Reduction Required (lb/yr)	1.91		

RAIN GARDEN #1

Total Site Area	A =	1.88 ac	
Drainage Area to Rain Garden #1 from Surface	A_d =	1.07 ac	
Total Impervious Area to Rain Garden from Surface	A_i =	0.80 ac	C = 0.50
	Q_{10} =	7.11 cfs	(for rain garden)
Treatment Volume (From Runoff Reduction Spreadsheet)	T_v =	3,855 cf	
Bioretion Soil Media Depth	d =	3 ft	
Gravel Depth	d =	1 ft	
Surface Storage Depth	d =	0.5 ft	

Filter Bed Design

Equivalent Storage Depth	h_f =	1.85 ft		
Required Surface Area of Filter	A_{req} =	WQ_v / h_f		
	=	2215 sf		
Provided Surface Area of Filter	A_f =	2,600 sf	at elevation	261.00
Provided surface area is larger than the required area.				
Depth of Filter	d_f =	3 ft	at elevation	259.00
Coefficient of Permeability of Filter Bed	k_f =	1.5 in/hr		
Drain time through the filter	t_f =	$(WQ_v) * (d_f) / [(k_f / 12) * (0.5h_f + d_f) * A_f]$		
	=	9.17 hrs	< 24 hrs OK	

Channel and Flood Protection

	Weighted CN	1-year storm Adjusted CN	2-year storm Adjusted CN	10-year storm Adjusted CN
Target Rainfall Event (in)		2.70	3.20	5.20
D.A. A CN	80	79	79	79

Site Results

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
IMPERVIOUS COVER	0.82	0.00	0.00	0.00	0.00	
IMPERVIOUS COVER TREATED	0.82	0.00	0.00	0.00	0.00	OK
TURF AREA	1.06	0.00	0.00	0.00	0.00	OK
TURF AREA TREATED	0.32	0.00	0.00	0.00	0.00	OK
AREA CHECK	OK	OK	OK	OK	OK	

Phosphorus

TOTAL TREATMENT VOLUME (cf)	3,456
TOTAL PHOSPHORUS LOAD REDUCTION REQUIRED (LB/YEAR)	1.91
RUNOFF REDUCTION (cf)	2,750
PHOSPHORUS LOAD REDUCTION ACHIEVED (LB/YR)	2.00
ADJUSTED POST-DEVELOPMENT PHOSPHORUS LOAD (TP) (lb/yr)	0.53
REMAINING PHOSPHORUS LOAD REDUCTION (LB/YR) NEEDED	CONGRATULATIONS! YOU EXCEEDED THE TARGET REDUCTION BY 0.4 LB/YEAR!

Practice	Unit	Description of Credit	Credit	Credit Area (acres)	Volume from Upstream RR Practice (cf)	Runoff Reduction (cf)	Remaining Runoff Volume (cf)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices (lbs)	Untreated Phosphorus Load to Practice (lbs)	Phosphorus Removed By Practice (lbs)	Remaining Phosphorus Load (lbs)	Downstream Treatment to be Employed
6. Bioretention													
6.a. Bioretention #1-or Urban Bioretention (Spec #9)	Impervious acres draining to bioretention	40% runoff volume reduction	0.40					25					
	Turf acres draining to bioretention	40% runoff volume reduction	0.40										
6.b. Bioretention #2 (Spec #9)	Impervious acres draining to bioretention	60% runoff volume reduction	0.60					50					
	Turf acres draining to bioretention	60% runoff volume reduction	0.60					50					

	Nitrogen Efficiency (%)	Nitrogen Load from Upstream RR Practices (lbs)	Untreated Nitrogen Load to Practice (lbs.)	Nitrogen Removed By Practice (lbs.)	Remaining Nitrogen Load (lbs.)
6. Bioretention					
	40				
	40				
	60				
	60				

BMP CALCULATIONS

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

Charles P. Johnson & Associates, Inc.

REVISION PER TO APPROVAL

SHEET 11 OF 12

PRJ NO: 13-531

TYPE: GDP

Last Saved 2/9/2015 Last Plotted 2/13/2015 11:34 AM

BURKE LAKE ROAD – ROUTE #645
(VARIABLE WIDTH)

BURKE VIEW AVENUE
ROUTE #3505
(50' WIDTH)

SWM/BMP FACILITY

PARCEL "A"

4 SPACES

PRIVATE STREET

INGRESS/EGRESS EASEMENT

CARDINAL GLEN
SECTION ONE

LOT 59 | LOT 58 | LOT 57 | LOT 56 | LOT 55 | LOT 54 | LOT 53 | LOT 52 | LOT 51

PARCEL "C"
N/F
CARDINAL GLEN HOMES ASSOCIATION
(D.B. 3837, PG. 316)
ZONE : R-5C USE : OPEN SPACE

GRAPHIC SCALE
SCALE: 1" = 20'

SITE TABULATIONS

NO. OF UNITS : 8 SINGLE-FAMILY ATTACHED
DENSITY : 7.3 UNITS/ACRE
SITE AREA : 48,007 SF
(1.102 AC)

ZONE : R-5
SETBACKS :
FRONT – 15'/5'
SIDE – 15'/10'
REAR – 30'/20'
OPEN SPACE :
REQUIRED – 20%
PROVIDED – 25%±

POTENTIAL FUTURE LAYOUT FOR 78-3((1))3

THE TOWNES AT BURKE LAKE CROSSING

SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

COMMONWEALTH OF VIRGINIA
PHIL BOWMAN
Lic. No. 015459
2-10-15
PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY	APPROVED	DATE
		REVISED PRIOR TO APPROVAL			

Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
8229 Boone Blvd., Ste. 250, Vienna, VA 22182 PHO 703-790-9595 FAX 703-790-9011
7700 Leesburg Pike, Bldg. 201, Falls Church, VA 22043 • Annapolis, MD • Gaithersburg, MD • Harrisburg, PA • Lancaster, PA • Lexington, KY • Mechanicsburg, PA • Pittsburgh, PA • Richmond, VA • Roanoke, VA

BOOK	DRAFT	SCALE
PAGE	APPROVED	1" = 20'
	HWC	DATE
	DWN	FEB. 2015

SHEET 12 OF 12

PRJ NO: 13-531

TYPE: CDP

Last Saved 2/9/2015 Last Plotted 2/10/2015 11:06 AM Sheet N:\13531\DWG\10-02002

Plotted Date: 02-10-2015/By: bwh/10-02002

Aff. to J. Ellen
3/10/15

REZONING AFFIDAVIT

DATE: 2/19/2015
(enter date affidavit is notarized)

I, Christopher Land, LLC, do hereby state that I am an
(enter name of applicant or authorized agent)

(check one) [✓] applicant
[ ] applicant's authorized agent listed in Par. 1(a) below

in Application No.(s): _____
(enter County-assigned application number(s), e.g. RZ 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS,** and **LESSEES** of the land described in the application,* and, if any of the foregoing is a **TRUSTEE,**** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS,** and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

(**NOTE**: All relationships to the application listed above in **BOLD** print must be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

NAME (enter first name, middle initial, and last name)	**ADDRESS** (enter number, street, city, state, and zip code)	**RELATIONSHIP(S)** (enter applicable relationships listed in **BOLD** above)
Christopher Land, LLC E. John Rean, Jr., Agent W. Craig Havenner, Agent	10461 White Granite Drive, Suite 103 Oakton, Virginia 22124	Applicant, Contract Purchaser
Tetra Corporation Clark L. Massie, Agent	2653 Black Fir Court, Reston,Virginia 20191	Real Estate Agent
Charles P. Johnson & Associates, Inc. Allan D. Baker, Agent Henry M. Fox, Jr., Agent Paul B. Johnson, Agent Ipek Aktuglu, Agent	3959 Pender Drive, Suite 210 Fairfax, Virginia 22030	Engineer, Agent
Mr. Everth Quezada and Ms Rosemary Vega	9737 Burke Lake Road Burke, Virginia 22015	Title Owner

(check if applicable) [ ] There are more relationships to be listed and Par. 1(a) is continued on a "Rezoning Attachment to Par. 1(a)" form.

* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.

** List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

REZONING AFFIDAVIT

DATE: 2/19/2015
(enter date affidavit is notarized)

for Application No. (s): _____
(enter County-assigned application number(s))

1(b). The following constitutes a listing*** of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders, **and if the corporation is an owner of the subject land, all of the OFFICERS and DIRECTORS of such corporation:**

(**NOTE:** Include **SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES,** and **REAL ESTATE INVESTMENT TRUSTS** herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Christopher Land, LLC
10461 White Granite Drive, Suite 103
Oakton, Virginia 22124

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.

[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.

[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial, and last name)
W. Craig Havenner
E. John Regan, Jr.

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name & title, e.g. **President, Vice President, Secretary, Treasurer,** etc.)

(check if applicable) [✓] There is more corporation information and Par. 1(b) is continued on a "Rezoning Attachment 1(b)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

REZONING AFFIDAVIT

DATE: 2/19/2015
(enter date affidavit is notarized)

for Application No. (s): _____
(enter County-assigned application number(s))

1(c). The following constitutes a listing*** of all of the **PARTNERS,** both **GENERAL** and **LIMITED,** in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

PARTNERSHIP NAME & ADDRESS: (enter complete name, number, street, city, state and zip code)

(check if applicable) [ ] The above-listed partnership has no limited partners.

NAMES AND TITLE OF THE PARTNERS (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner)**

(check if applicable) [ ] There is more partnership information and Par. 1(c) is continued on a "Rezoning Attachment to Par. 1(c)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. ***In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.*** Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

REZONING AFFIDAVIT

DATE: 2/19/2015.
(enter date affidavit is notarized)

for Application No. (s): _____
(enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

[ ] In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land:

[✓] Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER,** or **LESSEE*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

EXCEPT AS FOLLOWS: (**NOTE**: If answer is none, enter "**NONE**" on the line below.)

None

(check if applicable) [ ] There are more interests to be listed and Par. 2 is continued on a "Rezoning Attachment to Par. 2" form.

REZONING AFFIDAVIT

DATE: 2/19/2015.
(enter date affidavit is notarized)

for Application No. (s): _____
(enter County-assigned application number(s))

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than $100, singularly or in the aggregate, with any of those listed in Par. 1 above.

EXCEPT AS FOLLOWS: (NOTE: If answer is none, enter "**NONE**" on line below.)

Friend of Supervisor John Cook- In Excess of $100 by: W. Craig Havenner

(NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Rezoning Attachment to Par. 3" form.

4. **That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.**

WITNESS the following signature:

(check one) [✓] Applicant [✓] Applicant's Authorized Agent

E. John Regan, Jr., Executive Vice President, Christopher Management Inc.
(type or print first name, middle initial, last name, and title of signee)

Manager/The Towns at Burke Lake Crossing

Subscribed and sworn to before me this 19th day of February 2015, in the State/Comm. of Virginia, County/City of Fairfax.

Notary Public

My commission expires: _____

My Commission Expires November 30, 2015

Rezoning Attachment to Par. 1(b)

DATE: 2/19/2015
(enter date affidavit is notarized)

for Application No. (s): _____
(enter County-assigned application number (s))

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

Charles P. Johnson & Associates, Inc.
3959 Pender Drive, Suite 210
Fairfax, Virginia 22030

DESCRIPTION OF CORPORATION: (check one statement)

[ ] There are 10 or less shareholders, and all of the shareholders are listed below.
[✓] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDER: (enter first name, middle initial, and last name)

Charles P. Johnson
Paul B. Johnson

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)
Tetra Corporation
2653
Black Fir Court
Reston, Virginia 20191

DESCRIPTION OF CORPORATION: (check one statement)

[✓] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

NAMES OF OFFICERS & DIRECTORS: (enter first name, middle initial, last name, and title, e.g. **President, Vice-President, Secretary, Treasurer**, etc.)

Clarki L. Massie

(check if applicable) [ ] There is more corporation information and Par. 1(b) is continued further on a "Rezoning Attachment to Par. 1(b)" form.