



APPLICATION ACCEPTED: May 21, 2014
APPLICATION AMENDED: September 17, 2014
PLANNING COMMISSION: November 19, 2014
BOARD OF SUPERVISORS: TBD

County of Fairfax, Virginia

November 5, 2014

STAFF REPORT

APPLICATION RZ 2014-PR-012

PROVIDENCE DISTRICT

APPLICANT: Sekas Homes, Ltd.

PRESENT ZONING: R-1 and R-2

REQUESTED ZONING: R-3

PARCEL(S): 48-1 ((1)) 65, 67 and 68;
48-1 ((5)) 1 and 4

ACREAGE: 4.12

FAR/DENSITY: 2.43

PLAN MAP: Residential; 3-4 du/ac

PROPOSAL: To rezone properties to permit 10 single-family detached dwellings.

STAFF RECOMMENDATIONS:

Staff recommends approval of RZ 2014-PR-012 subject to execution of proffers consistent with those in Appendix 1.

Staff recommends approval of a waiver of the sidewalk requirement along Courthouse Road in favor of the walkway depicted on the General Development Plan (GDP).

Staff recommends approval of a waiver of the sidewalk requirement along Sutton Road in favor of the walkway depicted on the GDP.

Suzanne Wright

Staff recommends approval of a waiver of the construction of the curb and gutter along Sutton Road.

The applicant has requested a waiver to permit underground detention in a residential area. The waiver has been advertised with this application, but a determination has not yet been made at the time of the publication of this staff report.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this rezoning does not interfere with, abrogate or annul any easement, covenants, or other agreements between parties, as they may apply to the property subject to this application.

For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

N:\RZ\RZ_FDP 2014-PR-012 Summer Hill Estates\Staff Report and Appendices\Staff Report Cover.doc



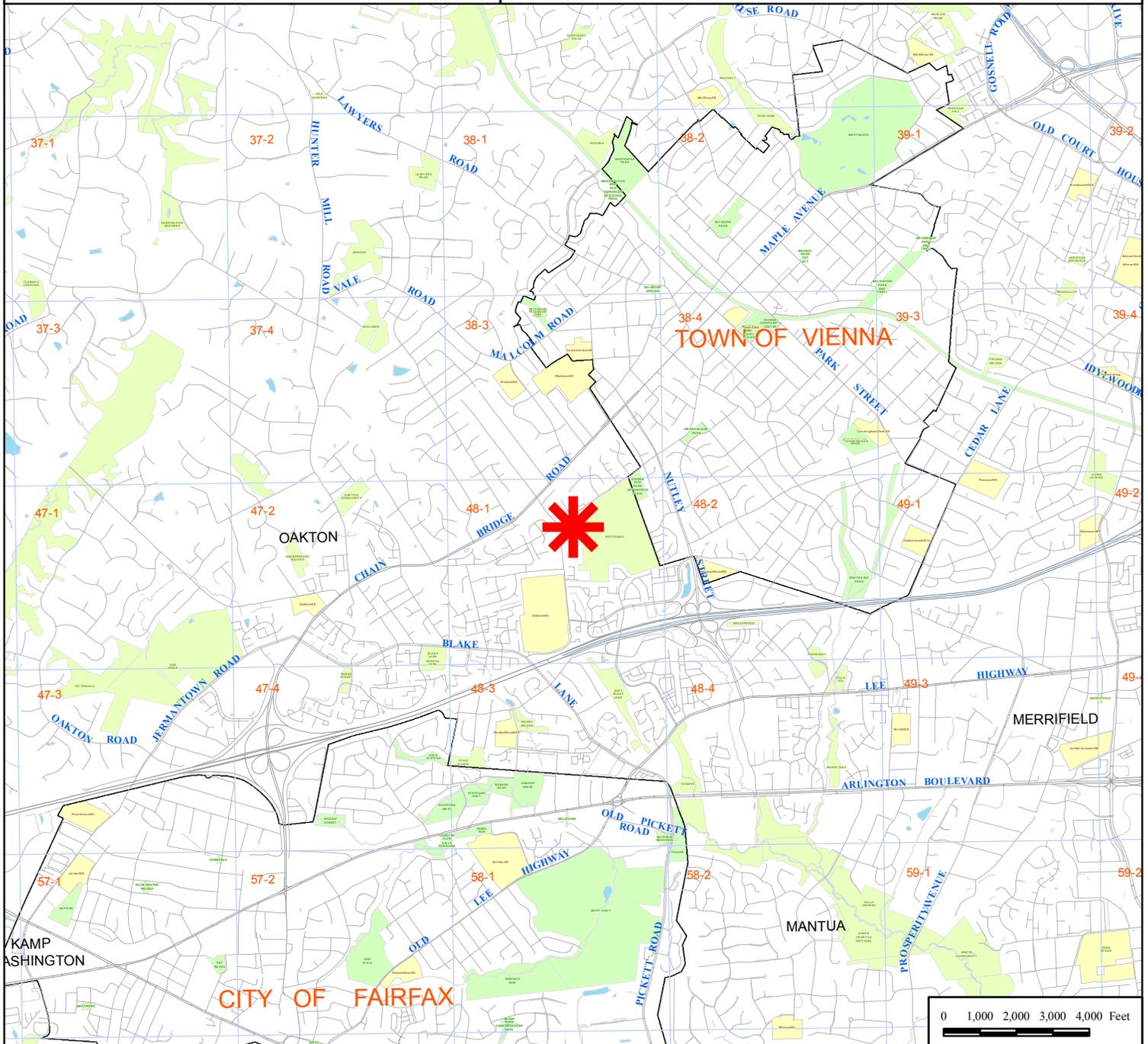
Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 48 hours advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

Rezoning Application

RZ 2014-PR-012



Applicant: SEKAS HOMES, LTD.
Accepted: 05/21/2014- AMENDED 09/17/2014
Proposed: RESIDENTIAL
Area: 4.12 AC OF LAND; DISTRICT - PROVIDENCE
Zoning Dist Sect: Located: SOUTHEAST INTERSECTION OF COURTHOUSE ROAD AND SUTTON ROAD
Zoning: FROM R- 1 TO R- 3, FROM R- 2 TO R- 3
Overlay Dist:
Map Ref Num: 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004

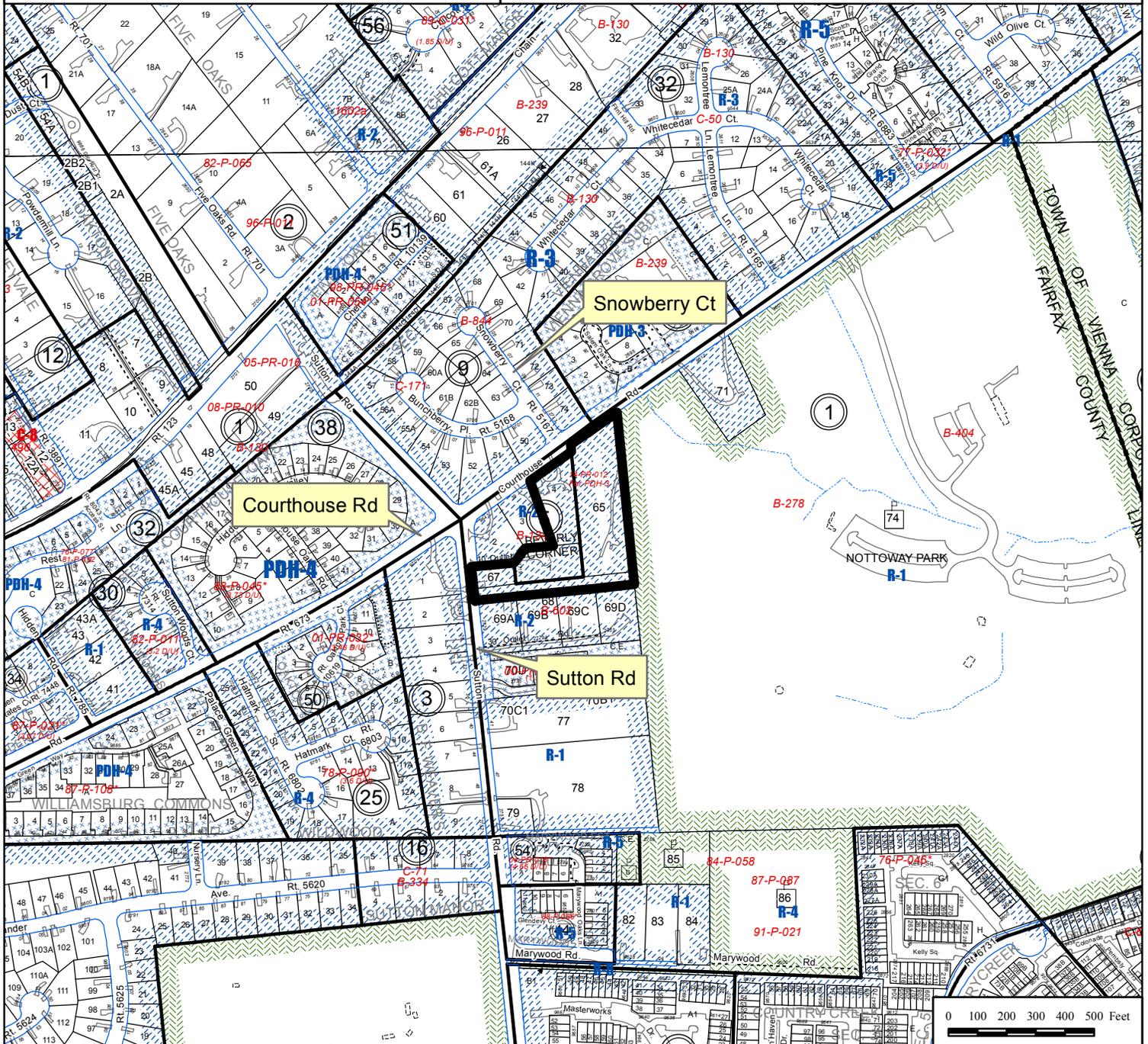


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 Overlay Dist:
 Map Ref Num: 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004

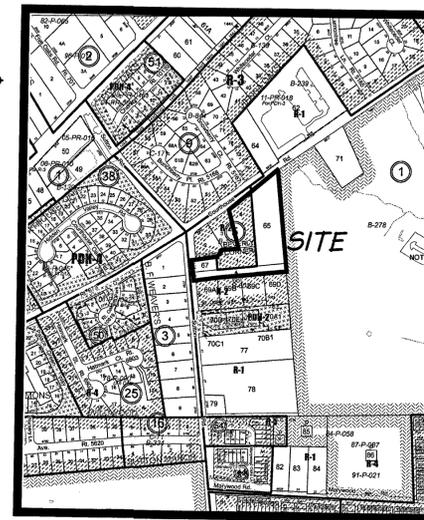


NOTES

- THE PROPERTIES DELINEATED ON THIS PLAT ARE LOCATED ON FAIRFAX COUNTY ASSESSMENT MAP No. 48-1 ((1)) PARCEL 65, 67, 68 AND ARE CURRENTLY ZONED R-1 AND 48-1 ((5)) LOT 1 AND 4 AND ARE CURRENTLY ZONED R-2.
- THE PROPERTIES SHOWN HEREON ARE CURRENTLY IN THE NAME OF OAKCREST FARMS, LC BY DEED RECORDED IN DEED BOOK 23364 AT PAGE 88, AS TO PARCEL 65, OAKCREST FARMS, LC BY DEED RECORDED IN DEED BOOK 23490 AT PAGE 2140 AS TO LOT 1, PAUL L. BELLAMY, JR. AND LILLIAN M. BELLAMY, BY DEED RECORDED IN DEED BOOK 2870 AT PAGE 51, AS TO LOT 4, AND CHUN XI INTERNATIONAL LIMITED IN DEED BOOK 20723 AT PAGE 1168 AS TO PARCELS 67 & 68, ALL RECORDED AMONG THE LAND RECORDS OF FAIRFAX COUNTY VIRGINIA. THE APPLICANT IS SEKAS HOMES, LTD.
- THE PROPERTY LINES SHOWN HEREON ARE BASED ON A BOUNDARY SURVEY BY THIS FIRM PERFORMED ON AUGUST 19, 2013.
- TITLE REPORT FURNISHED BY STEWART TITLE GUARANTY COMPANY, FILE No. 13V-1249, EFFECTIVE DATE JULY 11, 2013, AS TO LOT 1 AND FILE No. 13V-1188, EFFECTIVE DATE MARCH 14, 2013 AS TO LOT 65A. INFORMATION REGARDING LOT 4 PROVIDED FROM HOMETOWN TITLE & ESCROW, LLC, OCTOBER 6, 2013.
- THE PROPERTY SHOWN HEREON LIES WITHIN A ZONE "X", AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS DELINEATED ON FLOOD INSURANCE RATE MAP No. 51059C0146E, WITH AN EFFECTIVE DATE OF SEPTEMBER 17, 2010.
- THIS TOPOGRAPHIC SURVEY ON THE PROPERTY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF KEVIN D. VAUGHN FROM AN ACTUAL GROUND SURVEY MADE UNDER HIS SUPERVISION; THE ORIGINAL DATA WAS OBTAINED ON AUGUST, 2013; AND THAT THIS PLAT MEETS MINIMUM ACCURACY STANDARDS UNLESS NOTED. THE VERTICAL DATUM IS BASED ON THE NGVD 1929. THE CONTOUR INTERVAL IS TWO (2) FOOT.
- THE PLAT OF THE PROPERTY SHOWN HEREON IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM OF 1983 AS COMPUTED FROM A FIELD SURVEY WHICH TIES THIS BOUNDARY TO THE TOPCON RTK NETWORK. THE COMBINED GRID AND ELEVATION FACTOR 0.99994521.
- UNLESS OTHERWISE NOTED ON THIS SURVEY, LOCATIONS AND CONNECTIONS OF STORM AND SANITARY SEWER FACILITIES SHOWN HEREON ARE BASED ON OBSERVED FIELD EVIDENCE. ASBUILT INFORMATION OF ACCESSIBLE STRUCTURES HAVE BEEN PROVIDED.
- WHILE REASONABLE CARE HAS BEEN TAKEN IN IDENTIFYING UNDERGROUND UTILITIES AND CONNECTIONS, THEY ARE APPROXIMATE BASED UPON OBSERVABLE ABOVE GROUND FIELD FACILITIES AND/OR SUBSURFACE UTILITY PAINT MARKINGS OR PIN FLAGS ONLY. THEREFORE, ACCURACY OF CONNECTIONS CANNOT BE GUARANTEED.
- UTILITY PLANS WERE NOT PROVIDED DURING THE PERFORMANCE OF THIS SURVEY. ADDITIONAL UTILITY FACILITIES AND/OR UNDERGROUND LINES MAY EXIST THAT WERE NOT EVIDENT OR IDENTIFIED. UTILITY PLANS NEED TO BE ACQUIRED AND COMPARED WITH THIS SURVEY PRIOR TO COMMENCING SITE DESIGN.
- ALL CONSTRUCTION SHALL CONFORM TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS OF FAIRFAX COUNTY AND VDOT EXCEPT AS REQUESTED HEREIN. THE APPLICANT RESERVES THE RIGHT TO APPLY FOR ANY FUTURE MODIFICATIONS OF PFM DESIGN CRITERIA AT THE TIME OF SUBDIVISION PREPARATION PROVIDED THE MODIFICATIONS ARE IN SUBSTANTIAL CONFORMANCE WITH THE GDP.
- EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION AS PER REQUIREMENTS OF THE STATE OF VIRGINIA AND THE CODE OF FAIRFAX COUNTY.
- LAND DESIGN CONSULTANTS, INC. IS NOT AWARE OF ANY UTILITY EASEMENTS WHICH EXIST ON THE SUBJECT PROPERTY WITH A WIDTH OF 25 FEET OR MORE.
- ALL UTILITIES INSTALLED AS PART OF THIS PROJECT SHALL BE PLACED UNDERGROUND. THE UTILITY LOCATIONS SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY AND ARE SUBJECT TO CHANGE WITH FINAL ENGINEERING. LIMITS OF CLEARING AND GRADING SHALL BE IN GENERAL CONFORMANCE WITH THOSE SHOWN HEREON.
- AIR QUALITY PERMITS SHALL BE OBTAINED, IF REQUIRED, AND PROVIDED PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION.
- THE SITE WILL BE SERVED BY PUBLIC WATER AND SANITARY SEWER.
- A RESOURCE PROTECTION AREA (RPA) IS NOT LOCATED ON THE SUBJECT PROPERTY. A RESOURCE MANAGEMENT AREA (RMA) IS LOCATED ON THE SUBJECT PROPERTY. THE COMPREHENSIVE PLAN RECOMMENDS DEVELOPMENT OF THE PROPERTY AS RESIDENTIAL AT A DENSITY OF 2-3 DWELLING UNITS PER ACRE. THE PROPOSED DENSITY OF 2.43 DU/ACRE MEETS THE INTENT OF THE COMPREHENSIVE PLAN. THE SITE DESIGN, DENSITY, ADJOINING USES AND PROPOSED PRESERVATION AND PLANTINGS WILL ENHANCE THIS PROPERTY AND WILL MEET THE APPLICABLE CRITERIA FOR STAFF REVIEW.
- IN ACCORDANCE WITH THE FAIRFAX COUNTY TRAILS PLAN, A TRAIL IS REQUIRED ALONG COURTHOUSE ROAD, ADJACENT TO THE SUBJECT PROPERTY, AND WILL BE PROVIDED AS SHOWN ON SHEET 2.
- LDC IS NOT AWARE OF ANY BURIAL SITES LOCATED ON THE SUBJECT PROPERTY.
- COURTHOUSE ROAD AND SUTTON ROAD ARE NOT SHOWN ON THE COUNTY'S TRANSPORTATION PLAN OR VDOT 6 YEAR PLAN TO BE WIDENED OR IMPROVED. COURTHOUSE ROAD AND SUTTON ROAD ARE SHOWN ON THE COMPREHENSIVE PLAN FOR ADDITIONAL DEDICATION. ADDITIONAL DEDICATION IS PROPOSED IN CONJUNCTION WITH THE COMPREHENSIVE PLAN.
- AN ENVIRONMENTAL QUALITY CORRIDOR (EQC) AS DEFINED IN THE ADOPTED COMPREHENSIVE PLAN DOES NOT EXIST ON THE SUBJECT PROPERTY. THE COMPONENTS OF A MAXIMUM DENSITY REDUCTION DO NOT EXIST ON SITE.
- LDC DOES NOT BELIEVE ANY HAZARDOUS OR TOXIC SUBSTANCES HAVE BEEN GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF OR HAVE BEEN OBSERVED ON THE SUBJECT PROPERTY.
- DEVELOPMENT OF THIS PROJECT SHALL COMMENCE AT SUCH TIME AS APPROPRIATE COUNTY APPROVALS HAVE BEEN OBTAINED AND SUBJECT TO THE DISCRETION OF OWNER/DEVELOPER.
- A GEOTECHNICAL REPORT SHALL BE SUBMITTED FOR REVIEW BY FAIRFAX COUNTY CONCURRENTLY WITH THE FINAL SUBDIVISION PLAN, IF REQUIRED.

TABULATIONS

SITE AREA = 174,659 # OR 4.12 ACRES
 EXISTING ZONING = R-1 AND R-2
 PROPOSED ZONING = R-3
 PROPOSED USE = SINGLE FAMILY DETACHED
 MAXIMUM BUILDING HEIGHT REQUIRED/PROVIDED. = 35 FEET
 MINIMUM DISTRICT SIZE REQUIRED = 2 ACRES
 AVERAGE LOT SIZE REQUIRED = ±11,500 #
 AVERAGE LOT SIZE PROVIDED = ±13,500 #
 MINIMUM LOT SIZE REQUIRED = ±10,500 #
 MINIMUM LOT SIZE PROVIDED = ±10,500 #
 MINIMUM LOT WIDTH REQUIRED = 80' (INTERIOR), 105' (CORNER)
 MINIMUM YARDS:
 REQUIRED: FRONT YARD: 30'
 SIDE YARD: 12'
 REAR YARD: 25'
 PROVIDED: FRONT YARD: 30'
 SIDE YARD: 12'
 REAR YARD: 25'
 OPEN SPACE REQUIRED: 0%
 OPEN SPACE PROVIDED: ±4% or ±8,300 #
 PARKING:
 REQUIRED (2 SPACES/UNIT FOR LOTS WITH FRONTAGE ON PUBLIC STREET) = 20 SPACES
 PROVIDED (4 SPACES/UNIT) = 40 SPACES (MIN. 18' DRIVENWAY WITH 2 SPACES IN DRIVENWAY & 2 SPACES IN GARAGE)
 DENSITY:
 PERMITTED = 3.00 DU/AC (11 LOTS)
 PROPOSED = 2.43 DU/AC (10 LOTS)



VICINITY MAP
SCALE: 1" = 500'

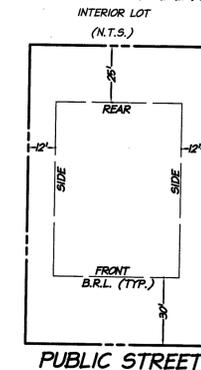


SOILS MAP
SCALE: 1" = 500'

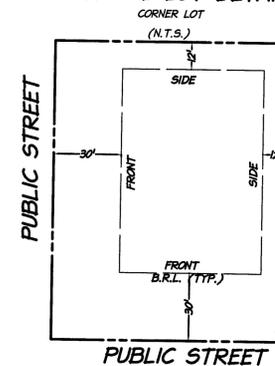
SOIL INFORMATION

SOIL #	SOIL NAME	PROBLEM CLASS	FOUNDATION SUPPORT	DRAINAGE	EROSION POTENTIAL
39	GLENELG SILT LOAM	I	MARGINAL	POOR	MEDIUM
105	WHEATON-GLENELG COMPLEX	IVB	GOOD	GOOD	HIGH

TYPICAL LOT DETAIL



TYPICAL LOT DETAIL



IN ACCORDANCE WITH SECTION 2-412 OF THE ZONING ORDINANCE, ANY OPEN DECK WITH NO PART OF ITS FLOOR HIGHER THAN 4' ABOVE FINISHED GROUND LEVEL MAY EXTEND INTO THE SIDE YARD 5' BUT NOT CLOSER THAN 5' TO ANY SIDE LOT LINE AND INTO THE REAR YARD 20' BUT NOT CLOSER THAN 5' TO ANY SIDE OR REAR LOT LINE.

IN ACCORDANCE WITH SECTION 2-412 OF THE ZONING ORDINANCE, ANY OPEN DECK WITH ANY PART OF ITS FLOOR HIGHER THAN 4' ABOVE FINISHED GROUND LEVEL MAY NOT EXTEND INTO A SIDE YARD AND MAY EXTEND 12' INTO A REAR YARD, BUT NOT CLOSER THAN 5' TO ANY REAR LOT LINE AND NOT CLOSER THAN A DISTANCE EQUAL TO THE MINIMUM REQUIRED SIDE YARD TO THE SIDE LOT LINE.

WAIVERS AND MODIFICATIONS

- THE APPLICANT RESPECTFULLY REQUESTS A WAIVER OF THE SIDEWALK REQUIREMENT ALONG COURTHOUSE ROAD AS NOTED IN SECTION 8-0102 OF THE PUBLIC FACILITIES MANUAL AND SECTION 101-2-2(2)(10) OF THE COUNTY CODE IN LIEU OF THE PROPOSED 6' ASPHALT WALKWAY TO BE PROVIDED ALONG COURTHOUSE ROAD. THIS ASPHALT WALKWAY PROVIDES AN ADEQUATE PEDESTRIAN ACCOMMODATION AND MEETS THE INTENT, WITHOUT PROVIDING A SECONDARY, PARALLEL SIDEWALK CONNECTION. THIS ASPHALT WALKWAY WILL BE MAINTAINED BY FAIRFAX COUNTY.
- THE APPLICANT RESPECTFULLY REQUESTS A WAIVER OF THE SIDEWALK REQUIREMENT ALONG SUTTON ROAD AS NOTED IN SECTION 8-0102 OF THE PUBLIC FACILITIES MANUAL AND SECTION 101-2-2(2)(10) OF THE COUNTY CODE DUE TO THE LACK OF ADJACENT CONNECTION AND USE BY ONLY ONE LOT, WHICH IS CURRENTLY AN EXISTING LOT. THE APPLICANT WILL ESCROW THE COST OF THIS SIDEWALK, AS NOTED IN THE PROFFERS, FOR FUTURE CONSTRUCTION BY OTHERS. THE APPLICANT WILL PROVIDE A 6' ASPHALT WALKWAY ALONG SUTTON ROAD IN THE INTERIM CONDITION AS SHOWN ON SHEET 2.
- THE APPLICANT RESPECTFULLY REQUESTS A WAIVER OF CURB AND GUTTER ALONG SUTTON ROAD AS NOTED IN SECTION 7-0103.1 OF THE PUBLIC FACILITIES MANUAL AND SECTION 101-2-2(2)(5) OF THE COUNTY CODE, DUE TO THE LACK OF ADJACENT IMPROVEMENTS. THE APPLICANT WILL ESCROW THE COST OF THE CURB AND GUTTER, AS NOTED IN THE PROFFERS, FOR FUTURE CONSTRUCTION BY OTHERS.
- IN ACCORDANCE WITH SECTION 6-0303.6 OF THE PFM AND LETTER TO INDUSTRY 14-05, THE APPLICANT IS RESPECTFULLY REQUESTING A MODIFICATION TO PERMIT THE USE OF UNDERGROUND SAN/BMP IN A RESIDENTIAL DISTRICT IN CONJUNCTION WITH THE USE OF A STACKABLE, MODULAR PLASTIC UNDERGROUND STORMWATER MANAGEMENT SYSTEM. A WAIVER WILL BE SUBMITTED CONCURRENTLY WITH THIS APPLICATION.

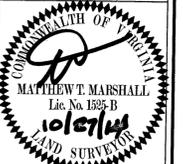
RESIDUE PARENT BEVERLY SUBDIVISION DENSITY

EXISTING BEVERLY CORNER SUBDIVISION (BEFORE REZONING)
 THE PARCELS LOCATED ON TAX MAP 48-1 ((5)) 1 AND 4 ARE CURRENTLY PART OF THE BEVERLY CORNER SUBDIVISION. THIS SUBDIVISION WAS CREATED IN DEED BOOK 2662, PAGE 399 (LOT 1) AND DEED BOOK 2825, PAGE 398 (LOT 4). PER THIS DEED, PLEASE NOTE THE FOLLOWING:
 TOTAL AREA SUBJECT TO SUBDIVISION AFTER RIGHT-OF-WAY DEDICATION: 2.48 ACRES
 NUMBER OF LOTS: 4
 DENSITY: 1.61 DU/ACRE
 PROPOSED BEVERLY CORNER SUBDIVISION (AFTER REZONING AND REMOVAL OF LOTS 1 AND 4 FROM SUBDIVISION = 1.39 ACRES)
 ACREAGE OF BEVERLY CORNER SUBDIVISION: 1.09 ACRES
 NUMBER OF LOTS: 2
DENSITY: 1.83 DU/ACRE, WHICH IS BELOW THE MAXIMUM OF 2 DU/ACRE

COVER SHEET
SUMMER HILL ESTATES
 PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

REV. NO.	DATE	DESCRIPTION	REVISION APPROVED BY:	DATE
1	02/22/14	REV. NOTES, REVISE TABLES & MODIFICATIONS		
2	02/26/14	ADD WAIVER, REVISE TABLES 26-27		
3	02/27/14	ADD CORNER LOT DETAIL, ADD NOTE 32, 33		
		NO CHANGES		

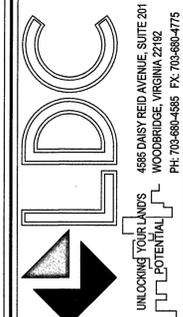
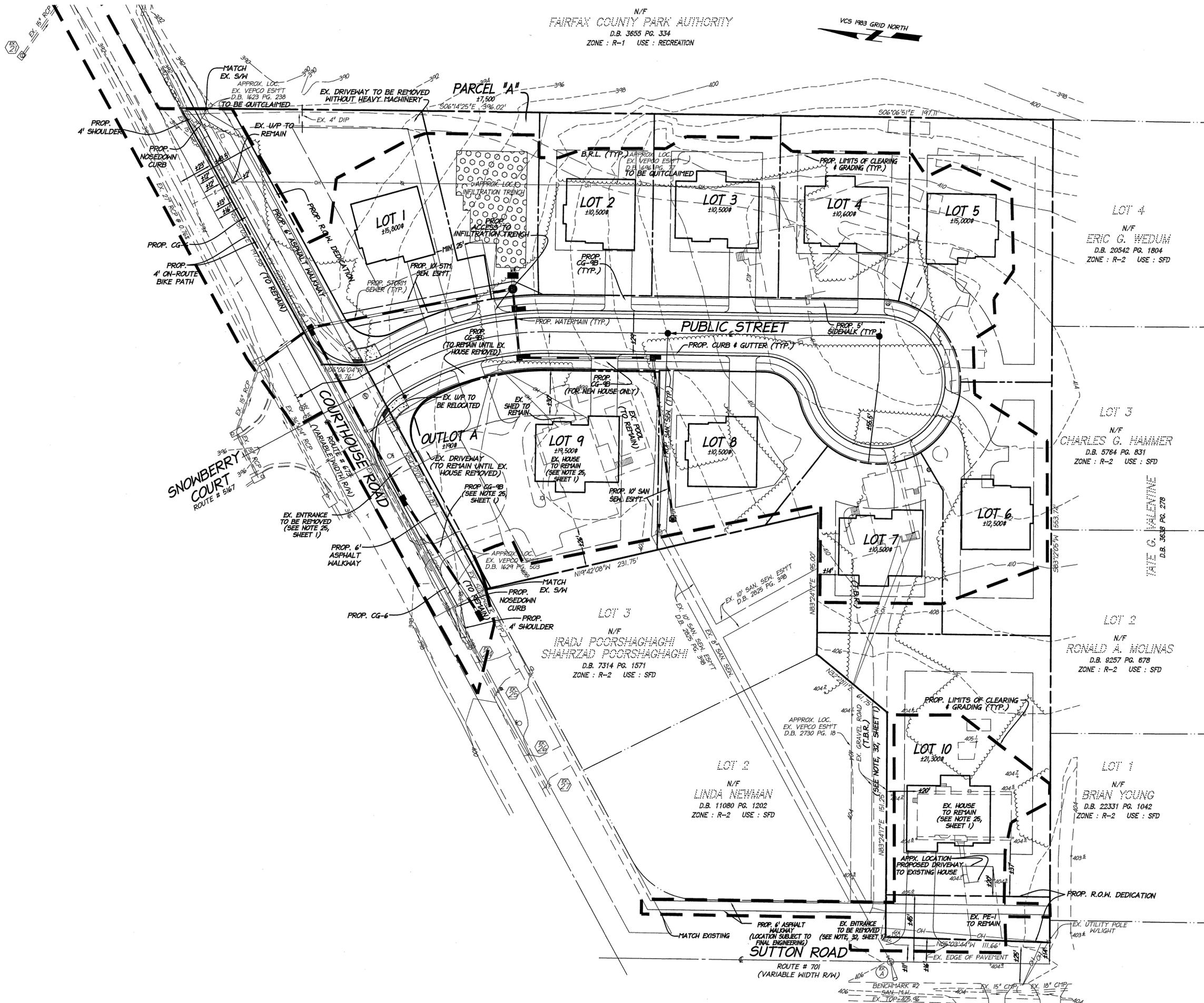
I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.



SCALE: N/A

SHEET 1 OF 7

DATE: MARCH, 2014
 DRAFT: KMA CHECK: MTTM
 FILE NUMBER: 13047-1-0 3.0B



GENERAL DEVELOPMENT PLAN

SUMMER HILL ESTATES

PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

NO.	DATE	DESCRIPTION	REVISION APPROVED BY:	ENGINEER
1	12/20/11	REVISE LAYOUT		
2	02/28/14	REVISE LOT 9 ACCESS AND ROAD DEED		
3	02/28/14	REVISE PRIVATE STREET DETAIL - REVISE LOC		
4	02/28/14	REVISE LOT LINES, HOUSE ON LOT 2		
5	02/28/14	REVISE STORRY ALIGNMENT		

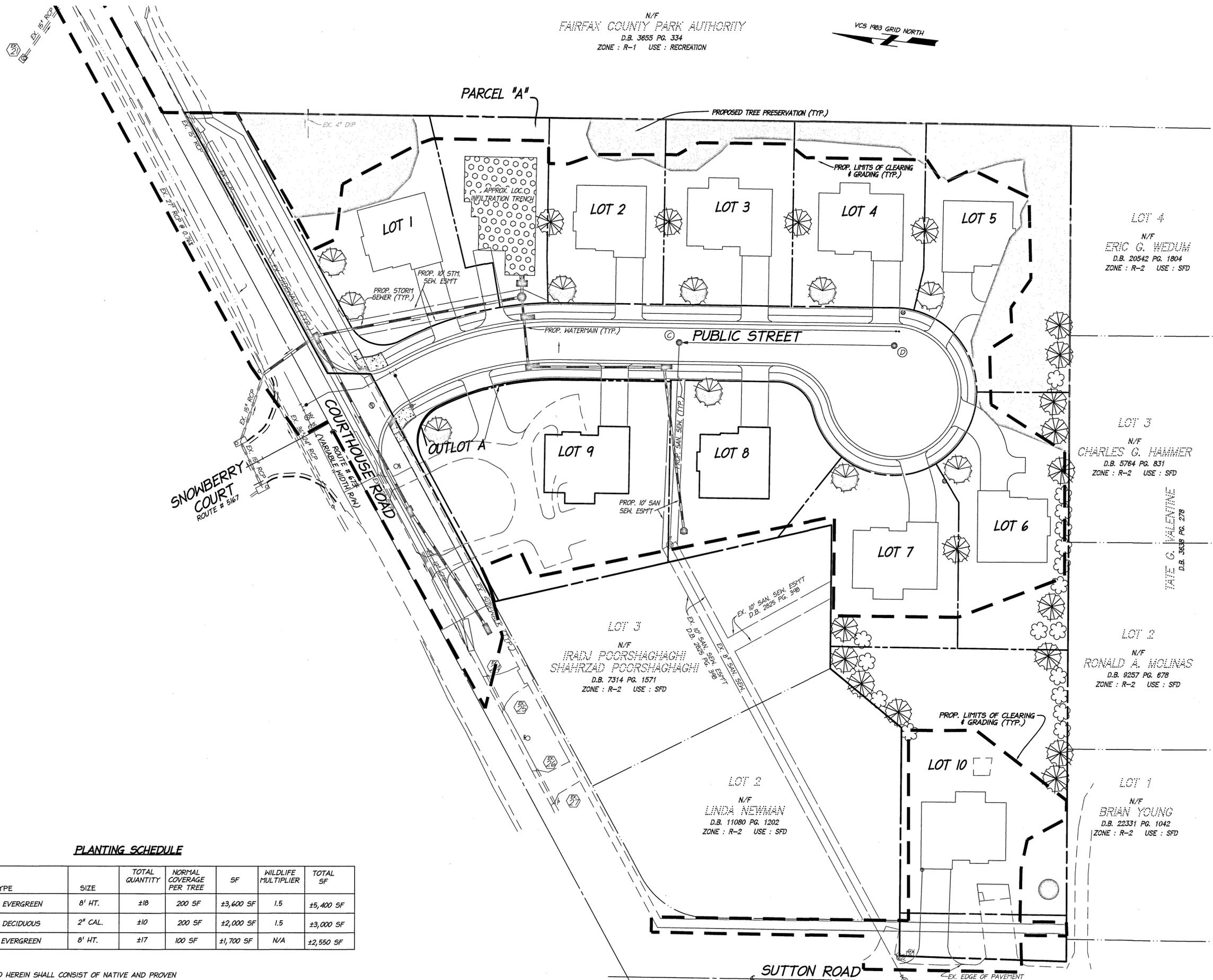
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SCALE: 1" = 30'

SHEET 2 OF 7

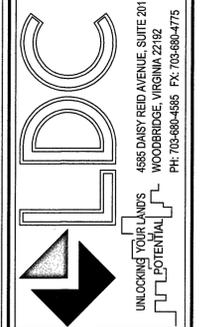
DATE: MARCH, 2014
 DRAFT: KMA
 CHECK: MTM
 FILE NUMBER: 13047-1-0 3.0B



PLANTING SCHEDULE

SYMBOL	TYPE	SIZE	TOTAL QUANTITY	NORMAL COVERAGE PER TREE	SF	WILDLIFE MULTIPLIER	TOTAL SF
	CAT. 4 EVERGREEN	8' HT.	±18	200 SF	±3,600 SF	1.5	±5,400 SF
	CAT. 4 DECIDUOUS	2" CAL.	±10	200 SF	±2,000 SF	1.5	±3,000 SF
	CAT. 2 EVERGREEN	8' HT.	±17	100 SF	±1,700 SF	N/A	±2,550 SF

THE LANDSCAPING DEPICTED HEREIN SHALL CONSIST OF NATIVE AND PROVEN DESIRABLE SPECIES WHICH QUALIFY FOR THE WILDLIFE MULTIPLIER. THE SPECIFIC TREE TYPES AND LOCATION SHALL BE DESIGNATED ON A LANDSCAPE PLAN SUBMITTED WITH THE SUBDIVISION PLAN. THE TREES SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE APPLICANT RESERVES THE RIGHT TO MODIFY THE SPECIES AND LOCATION FROM THAT PROVIDED HEREIN AT TIME OF FINAL SUBDIVISION PLAN AND SUBJECT TO APPROVAL BY UFM.



LANDSCAPE PLAN

SUMMER HILL ESTATES

PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

DATE	DESCRIPTION	REVISION APPROVED BY:	APPROVED DATE
12/11/14	KYA 1 NO CHANGES		
12/26/14	KYA 2 REVISE LANDSCAPING PLAN AND TABS		
10/22/14	KYA 3 REVISE LANDSCAPING PLAN AND TABS		

I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.

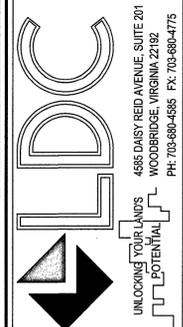
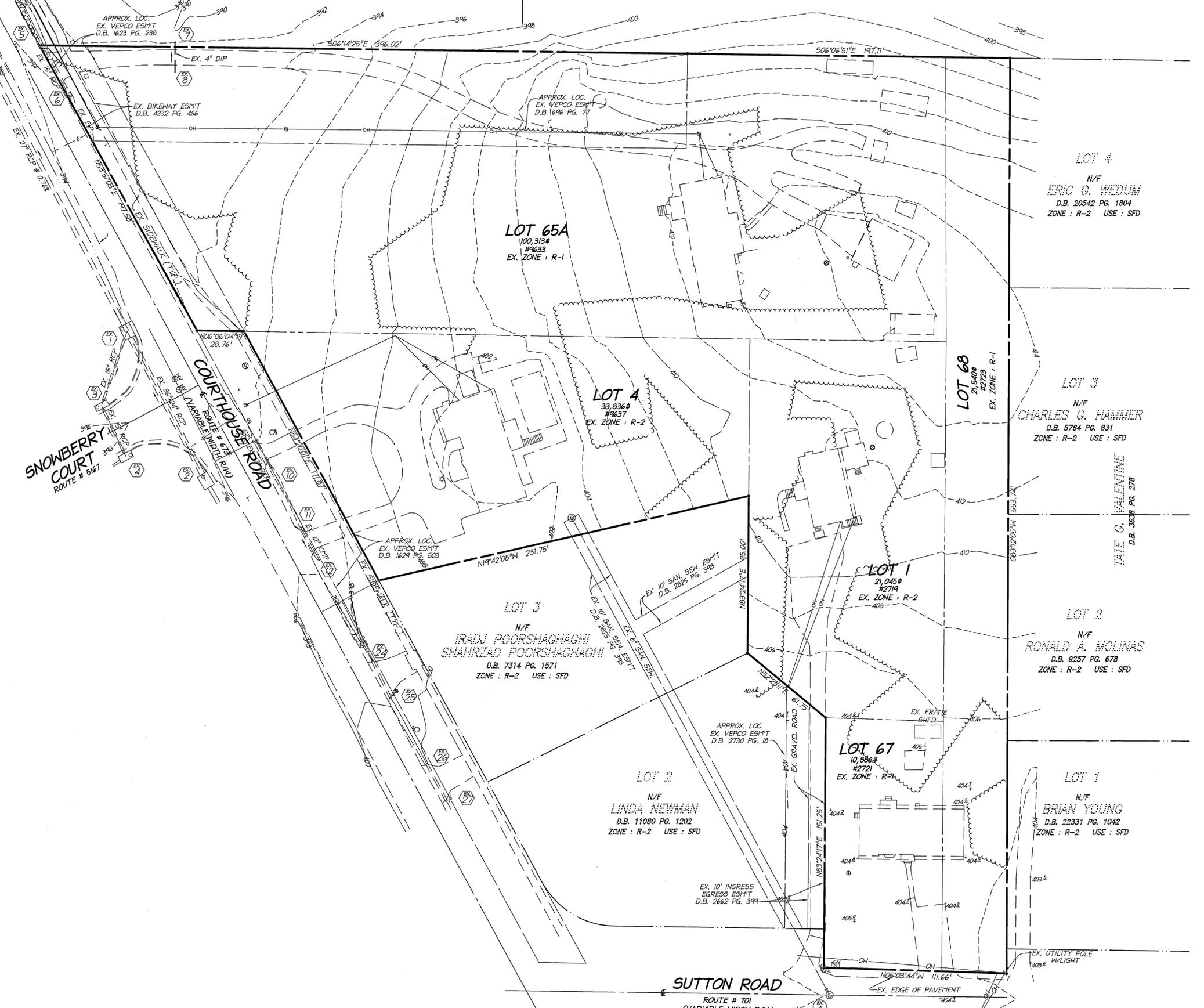


SCALE:
 1" = 30'

SHEET 3 OF 7

DATE: MARCH, 2014
 DRAFT: KMA CHECK: MTM
 FILE NUMBER: 13047-1-0 3.05

N/F
FAIRFAX COUNTY PARK AUTHORITY
 D.B. 3655 PG. 334
 ZONE : R-1 USE : RECREATION



4885 DARY REID AVENUE, SUITE 201
 WOODBRIDGE, VIRGINIA 22192
 PH: 703-680-4585 FX: 703-680-4775

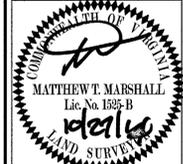
**EXISTING
 CONDITIONS PLAN**

**SUMMER HILL
 ESTATES**

PROVIDENCE DISTRICT
 FAIRFAX COUNTY, VIRGINIA

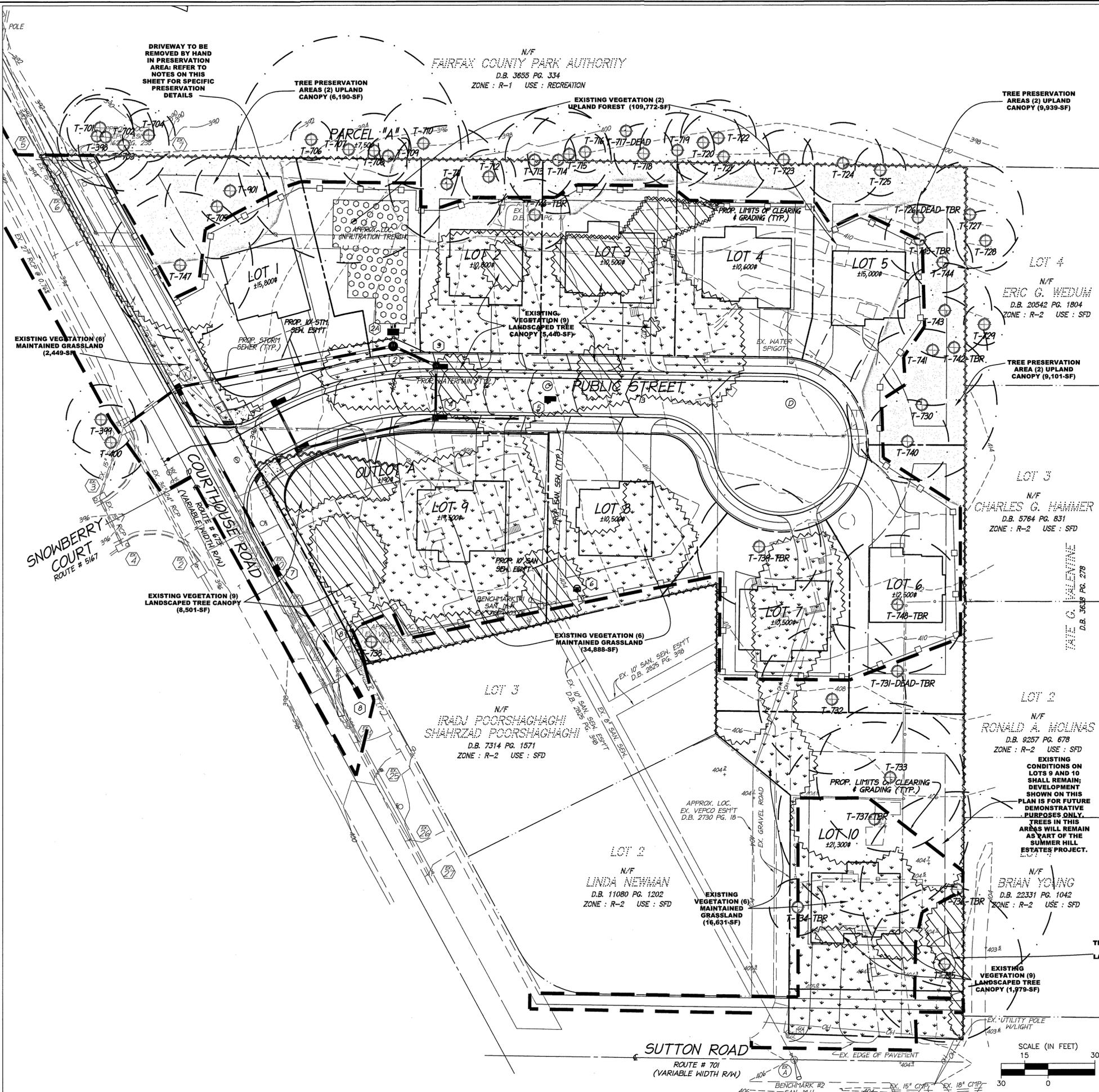
NO.	DATE	DESCRIPTION	REVISION APPROVED BY:	APPROVED DATE
1		ADD ADDITIONAL EASEMENTS		
2		NO CHANGES		
3		NO CHANGES		

I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.



SCALE:
 1" = 30'

SHEET 4 OF 7
 DATE: MARCH, 2014
 DRAFT: KMA CHECK: NITM
 FILE NUMBER: 13047-1-0 3.0B



LEGEND

- TREELINE
- EXISTING (2) UPLAND CANOPY (109,772-SF) LONGTERM SUCCESSIONAL FOREST
- EXISTING (9) LANDSCAPED CANOPY (15,920-SF)
- EXISTING VEGETATION (6) MAINTAINED GRASSLANDS (53,968-SF)
- TREE PRESERVATION AREA (2) UPLAND CANOPY (25,380-SF) LONGTERM SUCCESSIONAL FOREST
- CRITICAL ROOT ZONE (CRZ)
- TREE LOCATION
- ROOT PRUNING AND TREE PROTECTION FENCING

- *NOTES:**
1. SHARED TREES SHALL NOT BE REMOVED WITHOUT WRITTEN PERMISSION FROM AFFECTED ADJACENT PROPERTY OWNERS.
 2. THE EXISTING DRIVEWAY WITHIN AND ADJACENT TO THE TREE PRESERVATION AREA SHALL BE REMOVED BY HAND AND WITHOUT THE USE OF HEAVY MACHINERY. THE USE OF A JACKHAMMER OR SIMILAR PIECE OF EQUIPMENT TO BREAK UP THE PORTIONS OF THE DRIVEWAY SHALL BE USED. RESULTANT DEBRIS SHALL ALSO BE REMOVED BY HAND VIA WHEELBARROW OR SIMILAR. THE SUBSOIL SHALL NOT BE DISTURBED, AS PRACTICABLE, TO PRESERVE AND PROTECT THE EXISTING ROOTS OF THE PRESERVED TREES.
 3. REFER TO THE TREE PRESERVATION NARRATIVES SHEET (3 OF 4) FOR THE TREE TABLE.
 4. ALTRUNA MATS OR SIMILAR SHALL BE USED FOR CONSTRUCTION ACTIVITIES WITHIN THE VICINITY OF TREES 741 AND 743 TO PROTECT THE CRITICAL ROOT ZONE. THE CRZ FOR THESE TREES SHALL BE MULCHED UPON STABILIZATION.

ENVIRONMENTAL
 13996 Parkeast Circle, Suite 101
 Chantilly, VA 20151
 PH: 703-466-5123 WWW.TNTENVIRONMENTALINC.COM



**SUMMER HILL
 ESTATES**

**TREE PRESERVATION
 & PROTECTION PLAN**

REVISIONS:	
DATE	COMMENTS
8-22-14	REV BY LAD
9-26-14	REV BY AMS
10-24-14	REV BY AMS

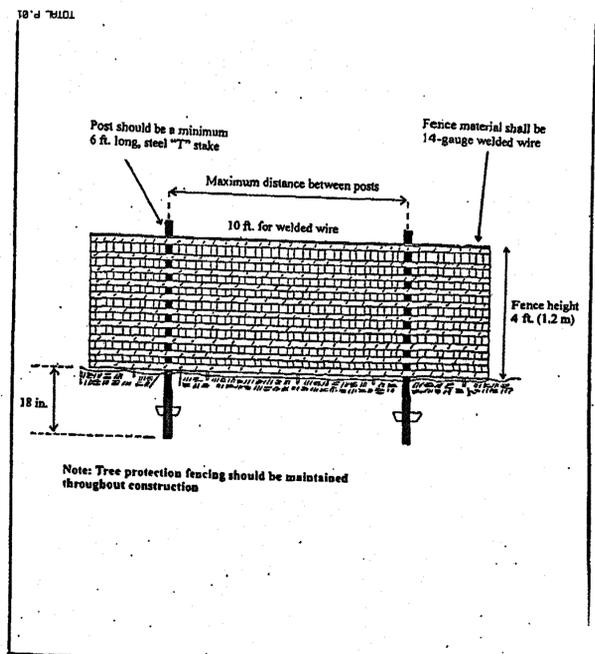
SHEET 5A
 OF 7

SCALE: 1" = 30'

PROJECT DATE:
 8/19/14

DRAFT: LAD
 CHECK: AMS
 FILE NUMBER:
 009

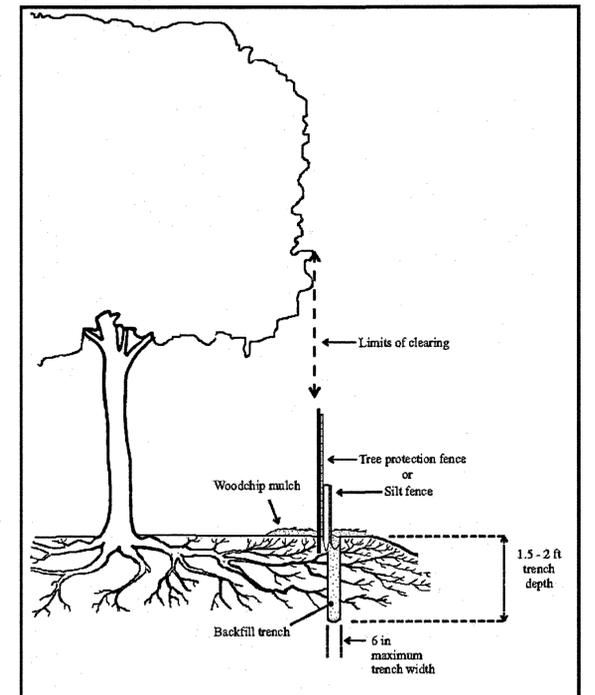
[Signature]
 Vinash M. Sareen
 Certified Arborist
 Certification # MA-41214



TREE PROTECTION FENCE INSTALLATION DETAIL

703 324 6539 16:04 D:\PES-5\FR0

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Ref. Sec. 12-0702.1	ROOT PRUNING	PLATE NO.	STD. NO.
Rev. 10-08		7-12	

Table 12.3 - Tree Preservation Target Calculations & Statement

A	Pre-development area (sf) of existing tree canopy (From Existing Vegetation Map) =	125,692.0
B	Percentage of gross site area covered by existing tree canopy =	68.3%
C	Percentage of 10-year tree canopy required for site per zoning =	25%
D	Percentage of the 10-year tree canopy requirement that should be met through preservation =	68.3%
E	Proposed percentage of canopy requirement that will be met through tree preservation =	109.4%
F	Has the Tree Preservation Target minimum been met?	YES
G	If no for line F, provide sheet number where deviation request is located	N/A
H	If step G requires a narrative it shall be prepared and attached	N/A

INVASIVE SPECIES CONTROL NARRATIVE:

1. ANY APPLICATION OF ENVIRONMENTALLY SENSITIVE APPROVED HERBICIDES SHALL BE APPLIED BY A VIRGINIA CERTIFIED APPLICATOR OR REGISTERED TECHNICIAN.

2. ENGLISH IVY: REMOVE FROM TREES BY CUTTING ALL VINES AT GROUND LEVEL. VINES SHOULD BE CUT AGAIN SEVERAL FEET UP THE TRUNK. PEEL THE CUT SECTION OF IVY OFF BUT CARE SHOULD BE TAKEN NOT TO STRIP THE BARK OFF THE TREE. PULL GROUND IVY BACK A FEW FEET FROM THE BASE OF THE TREE TO SLOW REGROWTH UP THE TREE TRUNK. REMOVE GROUND IVY BY HAND PULLING, CUTTING AND MULCHING OVER TOP, AND/OR APPLYING A SYSTEMIC HERBICIDE LIKE TRICLOPYR TO LEAVES OR FRESHLY CUT LARGE STEMS. RETREATMENT MAY BE NECESSARY FOR COMPLETE ERADICATION. THE ENGLISH IVY REMNANTS SHALL BE BAGGED AND REMOVED FROM THE PROJECT SITE.

3. ORNAMENTAL BITTERSWEET: VINES SHALL BE REMOVED BY HAND, INCLUDING THE ROOTS, WHERE POSSIBLE TO MINIMIZE DISTURBANCE. FOR VINES TOO LARGE TO PULL, CUT AT GROUND LEVEL OR GRUB. CUT VINE STEMS MAY ALSO BE TREATED WITH A SYSTEMIC HERBICIDE BY A CERTIFIED APPLICATOR. FOR LARGE INFESTATIONS, A FOLIAR APPLICATION OF A SYSTEMIC HERBICIDE SUCH AS GLYPHOSATE OR TRICLOPYR MAY BE APPLIED FROM LATE SUMMER TO FALL BY A CERTIFIED APPLICATOR.

5. TATARIAN HONEYSUCKLE: WHERE POSSIBLE, SEEDLINGS INCLUDING ROOT STRUCTURE SHOULD BE EXCAVATED AND REMOVED WITH SHOVEL. ALTERNATIVELY, BRANCHES AND MAIN STEM SHOULD BE CUT BACK TO ONE (1) INCH ABOVE SOIL SURFACE DURING MID TO LATE AUTUMN WHEN TEMPERATURES ARE ABOVE 60 DEGREES FAHRENHEIT. A SOLUTION OF AT LEAST 20% GLYPHOSATE HERBICIDE SHOULD BE APPLIED TO OPEN CUT FACE OF STUMP WITHIN TWO (2) TO THREE (3) MINUTES OF CUT. REFER TO HERBICIDE LABEL FOR APPLICATION INSTRUCTIONS. BRANCHES AND VEGETATION DEBRIS SHOULD BE REMOVED OFFSITE. REAPPLY HERBICIDE IN THE LATE FALL AND AGAIN IN WINTER AS NECESSARY.

6. INVASIVE SPECIES CONTROL SHALL BE CONDUCTED UNTIL THE PLANTS NOTED ABOVE ARE NO LONGER IN ABUNDANCE OR UNTIL BOND RELEASE, WHICHEVER IS LATER.

**TREE PROTECTION ZONE
KEEP OUT**

OFF LIMITS TO CONSTRUCTION EQUIPMENT,
MATERIALS, AND WORKERS

(COMPANY NAMES AND CONTACT NUMBERS)

PENALTY FOR VIOLATIONS STRICTLY ENFORCED

SPECIFICATIONS

- MINIMUM DIMENSION: 11 X 8 INCHES (H X W)
- BACKGROUND COLOR: RED OR YELLOW
- MINIMUM LETTER SIZE-LARGE = 0.40 INCHES
- SMALL = 0.26 INCHES
- SIGNS MADE OF WEATHERPROOF MATERIAL

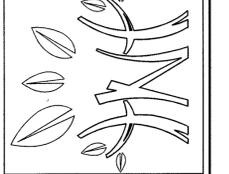
TREE PRESERVATION SIGN DETAIL

TREE PRESERVATION SIGN NOTE:

WEATHERPROOF TREE PRESERVATION AREA SIGNS SHALL BE POSTED ON TREE PROTECTION FENCING. PER FPM 12-0703.3, THE PERMITTEE SHALL POST AND MAINTAIN BILINGUAL SIGNS AT THE LIMITS OF CLEARING AT A MINIMUM OF 50 FOOT INTERVALS. SIGNS SHALL BE POSTED IN ENGLISH AND SPANISH.

Tree Number	Common Name	Size (inches DBH)	Critical Root Zone (feet)	Crown Spread (feet)	Condition	Remove	Notes	Tree Preservation Measures
400	White Pine	23.8	23.8	24.0	75%		Offsite, English Ivy, some dead limbs	
399	White Pine	22.2	22.2	26.0	75%		Offsite, English Ivy, some dead limbs	
398	Tulip Poplar	17.5	17.5	32.0	66%		Offsite, Vines, some dead limbs	
701	Tulip Poplar	21.0	21.0	30.0	50%		Offsite, Many large dead limbs	
702	Tulip Poplar	31.0	31.0	40.0	56%		Offsite, Small cavity at the base, some dead limbs	
703	Tulip Poplar	29.0	29.0	40.0	75%		Offsite, Vines, some dead limbs	
704	Boxelder	16.8	16.8	30.0	28%		Offsite, Rotting base, deadwood up the trunk, many small dead limbs	
705	Tulip Poplar	33.0	33.0	35.0	69%		Some girdling roots and dead limbs	Prune dead limbs, mulch critical root zone
901	Red Maple	22.1	22.1	32.0	69%		Mostly one-sided and some root damage	Prune branches, mulch critical root zone
706	Pignut Hickory	13.1	13.1	18.0	81%		Offsite, Vines, some dead limbs	
707	Northern Red Oak	72.0	72.0	60.0	69%		Offsite, Some swelling at the crotch, some dead limbs	
708	Tulip Poplar	23.7	23.7	20.0	72%		Offsite, Vines, some dead limbs	
709	Pignut Hickory	12.8	12.8	24.0	66%		Offsite, Vines, some dead limbs	
710	Southern Red Oak	28.8	28.8	45.0	63%		Offsite, Many dead limbs	
711	Tulip Poplar	37.0	37.0	50.0	60%		Several large dead limbs	Prune dead limbs, mulch critical root zone
712	Red Maple	17.2	17.2	40.0	72%		Leaning, one-sided some swelling at the base	Mulch critical root zone
713	Tulip Poplar	26.5	26.5	40.0	75%		Shared, Yard debris at the base and some dead limbs	
714	Tulip Poplar	34.0	34.0	40.0	44%		Shared, Deadwood up the trunk, yard debris and rot at the base	
715	Southern Red Oak	26.5	26.5	30.0	69%		Offsite, Vines, some dead limbs	
716	Loblolly Pine	13.0	13.0	30.0	56%		Offsite, Leaning, several dead limbs	
717	Dead	-	-	-	0%		Offsite, Dead	
718	White Oak	18.8	18.8	30.0	63%		Offsite, One-sided, vines, some dead limbs	
719	Southern Red Oak	23.8	23.8	35.0	75%		Offsite, Some dead limbs	
720	Tulip Poplar	24.7	24.7	40.0	44%		Offsite, Rotting and hollow base, vines and some dead limbs	
721	Northern Red Oak	29.7	29.7	35.0	66%		Offsite, Disease and rotting at the base, some dead limbs	
722	White Oak	24.1	24.1	30.0	56%		Offsite, Vines, some dead limbs, one-sided	
723	Pignut Hickory	18.7	18.7	40.0	75%		Offsite, Some wounds and insect damage	
724	White Oak	25.8	25.8	45.0	69%		Shared, some wounds and dead limbs and slightly leaning	Prune dead limbs, mulch critical root zone
725	Red Maple	16.2	16.2	25.0	75%		Some dead limbs	Prune dead limbs, mulch critical root zone
726	Dead	-	-	-	0%	x	Dead	Remove (dead)
727	Tulip Poplar	34	34.0	45.0	72%		Shared tree, Some vines and dead limbs	Remove vines, prune dead limbs, mulch critical root zone
728	Black Cherry	19.1	19.1	15.0	75%		Offsite, some dead limbs	
729	White Pine	13.1	13.1	12.0	63%		Offsite, many dead limbs	
730	Tulip Poplar	48	48.0	30.0	75%		Some insect damage and dead limbs and vines	Prune dead limbs, remove vines
731	Dead	-	-	-	0%	x	Dead	Remove (dead)
732	Black Cherry	47.3	47.3	25.0	56%		Multi-trunk, disease at crotch, small dead limbs	Prune dead limbs, mulch critical root zone, supplement with nutrient injections as needed
733	Tulip Poplar	47	47.0	35.0	50%		Rubble at the base, English Ivy and vines, insect damage and many dead limbs	Prune dead limbs, remove vines and rubble, mulch critical root zone, supplement with nutrient injections as needed
734	Bradford Pear	18.1	18.1	8.0	31%	x	Deadwood and rot, many dead limbs	REMOVE
735	Crepe Myrtle	49.4	49.4	14.0	63%		Some dead limbs	Prune dead limbs, remove Ivy
736	Mulberry	62	62.0	30.0	31%	x	Leaking wounds, English Ivy and many dead limbs	Prune dead limbs, remove Ivy REMOVE
737	Black Cherry	61.6	61.6	40.0	50%	x	Cavity up trunk, portions hollow and many dead limbs	Prune dead limbs REMOVE
738	Blue Spruce	12.3	0.0	4.0	31%		English Ivy, many dead limbs	Prune dead limbs and remove Ivy
739	Eastern Redcedar	39.5	39.5	10.0	75%	x	Some small dead limbs	Remove (inside limits of clearing)
740	Pignut Hickory	26.4	26.4	25.0	75%		English Ivy and dead limbs	Prune dead limbs, remove vines
741	Tulip Poplar	35	35.0	35.0	66%		Some swelling at the base, some dead limbs and vines	
742	Southern Red Oak	35	35.0	30.0	59%	x	Several dead limbs and vines	Remove (inside limits of clearing)
743	Tulip Poplar	30	30.0	40.0	72%		Some wounds and vines and dead limbs	
744	Pignut Hickory	19.2	19.2	20.0	69%		Vines and some dead limbs	
745	Tulip Poplar	22.4	22.4	25.0	69%	x	Vines and some dead limbs	Remove (inside limits of clearing)
746	Red Maple	22.6	22.6	20.0	44%	x	Shallow damaged roots and many dead limbs	Remove (inside limits of clearing)
747	Tulip Poplar	46.4	46.4	35	59%		Shallow, girdled roots, many large dead limbs	Prune dead limbs, mulch critical root zone
748	White Oak	44	44.0	40	59%	x	Large dead limbs, English Ivy at base	REMOVE

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**SUMMER HILL
ESTATES**

**TREE PRESERVATION
NARRATIVES**

REVISIONS:

DATE	COMMENTS
9-22-14	REV BY LAD
9-26-14	REV BY AMS
10-24-14	REV BY AMS

SHEET 5B OF 7

SCALE: NTS

PROJECT DATE: 8/19/14

DRAFT: LAD CHECK: AMS

FILE NUMBER: 009

Vinash M. Sarees
Vinash M. Sarees
Certified Arborist
Certification # MA-4727A

ARBORIST MONITORING SCHEDULE

1. A PROJECT ARBORIST SHALL BE RETAINED BY THE APPLICANT.
2. THE PROJECT ARBORIST SHALL SCHEDULE AND MEET WITH AN UFMD, DPWES REPRESENTATIVE FOR A WALK-THROUGH MEETING. PRIOR TO THIS MEETING, THE LIMITS OF CLEARING AND GRADING SHALL BE MARKED WITH CONTINUOUS FLAGGING.
3. THE PROJECT ARBORIST SHALL BE PRESENT TO MONITOR ALL CONSTRUCTION AND DEMOLITION WORK AND TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMANCE WITH ALL TREE PRESERVATION PROFFERS AND UFMD APPROVALS.
4. TREE PROTECTION FENCING SHALL BE INSTALLED UNDER THE SUPERVISION OF THE PROJECT ARBORIST.
5. ROOT PRUNING SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE PROJECT ARBORIST.
6. THE APPLICANT OR PROJECT ARBORIST SHALL NOTIFY UFMD WHEN ALL TREE PRESERVATION FENCE INSTALLATION AND ROOT PRUNING HAVE BEEN COMPLETED.
7. MONITORING EVENTS BY THE PROJECT ARBORIST SHALL OCCUR WEEKLY DURING PHASE I OF CONSTRUCTION AND MONTHLY THEREAFTER.

SPECIFIC TREE PRESERVATION ACTIVITIES & ARBORIST MONITORING

1. THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST ("PROJECT ARBORIST") SHALL BE RETAINED. A WALK-THROUGH MEETING WITH THE ARBORIST SHALL BE CONDUCTED AFTER THE LIMITS OF CLEARING AND GRADING HAVE BEEN MARKED WITH A CONTINUOUS LINE OF FLAGGING.
2. DURING THE WALK-THROUGH MEETING, THE PROJECT ARBORIST SHALL WALK THE LIMITS OF CLEARING AND GRADING WITH AN UFMD, DPWES, REPRESENTATIVE TO DETERMINE WHERE ADJUSTMENTS TO THE CLEARING LIMITS CAN BE MADE TO INCREASE THE AREA OF TREE PRESERVATION AND/OR TO INCREASE THE SURVIVABILITY OF TREES AT THE EDGE OF THE LIMITS, AND SUCH ADJUSTMENTS SHALL BE IMPLEMENTED.
3. TREES THAT ARE DEAD OR DYING MAY BE REMOVED AS PART OF THE CLEARING OPERATION.
4. ANY TREE DESIGNATED TO BE REMOVED WITHIN THE TREE PRESERVATION AREAS SHALL BE DONE SO WITH A CHAIN SAW AND SUCH REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT AVOIDS DAMAGE TO SURROUNDING TREES AND ASSOCIATED UNDERSTORY VEGETATION.
5. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE USING A STUMP-GRINDING MACHINE IN A MANNER THAT CAUSES AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES AND ASSOCIATED UNDERSTORY VEGETATION AND SOIL CONDITIONS.
6. LIMITS OF CLEARING AND GRADING SHALL BE STRICTLY CONFORMED TO AS SHOWN ON THE RZ/FDP, SUBJECT TO ALLOWANCES SPECIFIED IN THE PROFFERED CONDITIONS AND FOR THE INSTALLATION OF UTILITIES AND/OR TRAILS AS DETERMINED BY THE DIRECTOR OF DPWES, AS DESCRIBED HEREIN. IF IT IS DETERMINED NECESSARY TO INSTALL UTILITIES AND/OR TRAILS IN AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE RZ/FDP, THEY SHALL BE LOCATED IN THE LEAST DISRUPTIVE MANNER NECESSARY AS DETERMINED BY THE UFMD/DPWES. A REPLANTING PLAN SHALL BE DEVELOPED AND IMPLEMENTED, SUBJECT TO APPROVAL BY THE UFMD, DPWES, FOR ANY AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING THAT MUST BE DISTURBED FOR SUCH TRAILS AND UTILITIES.
7. TREE PROTECTION FENCING SHALL BE INSTALLED AFTER THE WALK-THROUGH MEETING PRIOR TO ANY CLEARING AND GRADING ACTIVITIES, INCLUDING DEMOLITION OF ANY STRUCTURES. INSTALLATION OF TREE PROTECTION FENCING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE PROJECT ARBORIST, AND DONE SO IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED.
8. ALL TREES SHOWN TO BE PRESERVED ON THE TREE PRESERVATION PLAN SHALL BE PROTECTED BY TREE PROTECTION FENCING. TREE PROTECTION FENCING IN THE FORM OF FOUR (4) FOOT HIGH, FOURTEEN (14) GAUGE WELDED WIRE ATTACHED TO SIX (6) FOOT STEEL POSTS DRIVEN EIGHTEEN (18) INCHES INTO THE GROUND AND PLACED NO FURTHER THAN TEN (10) FEET APART OR, SUPER SILT FENCE TO THE EXTENT THAT REQUIRED TRENCHING FOR SUPER SILT FENCE DOES NOT SEVER OR WOUND COMPRESSION ROOTS.
9. ROOT PRUNING SHALL BE DONE AS NEEDED TO COMPLY WITH THE TREE PRESERVATION REQUIREMENTS OF THE PROFFER CONDITIONS. ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18 INCHES. ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING OR DEMOLITION OF STRUCTURES. ROOT PRUNING SHALL BE CONDUCTED UNDER THE SUPERVISION OF THE PROJECT ARBORIST. A UFMD, DPWES REPRESENTATIVE SHALL BE INFORMED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.
10. DEMOLITION ACTIVITIES WITHIN AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING SHALL BE DONE BY HAND WITHOUT HEAVY EQUIPMENT AND CONDUCTED IN A MANNER THAT DOES NOT IMPACT INDIVIDUAL TREES OR GROUP OF TREES THAT ARE TO BE PRESERVED AS REVIEWED AND APPROVED BY THE UFMD, DPWES.
11. SITE MONITORING: DURING ANY CLEARING OR TREE/VEGETATION/STRUCTURE REMOVAL ON THE APPLICANT PROPERTY, A REPRESENTATIVE OF THE APPLICANT SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY THE UFMD. THE APPLICANT SHALL RETAIN THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST TO MONITOR ALL CONSTRUCTION AND DEMOLITION WORK AND TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMANCE WITH ALL THE TREE PRESERVATION PROFFERS, AND UFMD APPROVALS. THE MONITORING SCHEDULE IS INCLUDED ON THIS SHEET.

Table 12.10 - 10-Year Tree Canopy Calculation Worksheet

Step	Totals
A. Tree Preservation Target & Statement	
A1	Tree Preservation Target calculations and statement
B. Tree Canopy Requirement	
B1	Gross Site Area = 179,659.0
B2	Subtract area dedicated to parks, road frontage = 9,663.0
B3	Subtract area of exemptions (wetlands/stream and drainfields) = 0.0
B4	Adjusted gross site area = 169,996.0
B5	Identify site's zoning and/or use = R-4
B6	Percentage of 10-year canopy required = 25%
B7	Area of 10-year canopy required = 42,499
B8	Modification of 10-year Tree Canopy Requirement Requested? No
B9	If B8 is yes, list plan sheet where modification is located N/A
C. Tree Preservation	
C1	Tree Preservation Target Area = 29,007.3
C2	Total canopy area meeting standards of § 12-0400 = 25,380.0
C3	C2 x 1.25 = 31,725.0
C4	Total canopy area provided by unique or valuable forest/woodland communities = 0.0
C5	C4 x 1.5 = 0.0
C6	Total of canopy area provide by Heritage, Memorial, Specimen, or Street Trees = 0.0
C7	C6 x 1.5 to 3.0 = 0.0
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains = 0.0
C9	C8 x 1.0 = 0.0
C10	Total of C3, C5, C7, and C9 = 31,725
D. Tree Planting	
D1	Minimum area of canopy to be met through tree planting = 10,774.0
D2	Minimum area of canopy planted for air quality benefits = 0.0
D3	D2 x 1.5 = 0.0
D4	Minimum area of canopy planted for energy conservation = 0.0
D5	D4 x 1.5 = 0.0
D6	Minimum area of canopy planted for water quality benefits = 0.0
D7	D6 x 1.25 = 0.0
D8	Minimum area of canopy planted for wildlife benefits = 7,300.0
D9	D8 x 1.5 = 10,950.0
D10	Minimum area of canopy provided by native trees = 0.0
D11	D10 x 1.5 = 0.0
D12	Minimum area of canopy provided by improved cultivars and varieties = 0.0
D13	D12 x 1.5 = 0.0
D14	Area of canopy provided through tree seedlings = 0.0
D15	Area of canopy provided through native shrubs or woody seed mix = 0.0
D16	Percentage of 14 represented by D15 (must be less than 33%) = 0.0%
D17	Minimum total of canopy area provided through tree planting = 10,950
D18	Is an offsite planting relief requested? No
D19	Tree Bank or Tree Fund? No
D20	Canopy area requested to be provided through offsite banking or tree fund? No
D21	Amount to be deposited into the Tree Preservation and Planting Fund = \$0.0
E. Total of 10-year Tree Canopy Provided	
E1	Total of canopy area provided through tree preservation = 31,725
E2	Minimum total of canopy area provided through tree planting = 10,950
E3	Total of canopy area provided through offsite mechanism = 0
E4	Total of 10-year Tree Canopy Provided = 42,675

APPRAISALS

Tree Number	Common Name	Size (in DBH)	Critical Root Zone (feet)	Condition	Site	Contribution	Placement	Total	Species Rating	Rep. Tree Size (in)	Rep. Tree Cost	Install Cost	Installed Tree Cost (total)	Unit Tree Cost	ATA (Appraised Trunk Area)	Appraised trunk increase	Basic Tree Cost	Appraised Value	Rounded Appraised Value
705	Tulip Poplar	33.0	33.0	69%	80%	80%	80%	80%	70%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	835.1	811.3	\$35,491.74	\$13,714.01	\$13,714.00
712	Red Maple	17.2	17.2	72%	80%	80%	80%	80%	75%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	232.2	208.5	\$9,870.59	\$4,264.09	\$4,264.00
901	Red Maple	22.1	22.1	69%	80%	80%	80%	80%	75%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	383.4	359.7	\$16,295.20	\$7,039.53	\$7,040.00
724	White Oak	25.8	25.8	69%	80%	80%	80%	80%	85%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	522.5	498.8	\$22,208.04	\$11,326.10	\$11,326.00
725	Red Maple	16.2	16.2	75%	80%	80%	80%	80%	75%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	206	182.3	\$8,756.28	\$3,782.71	\$3,783.00
730	Tulip Poplar	48.0	48.0	75%	80%	80%	80%	80%	70%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	1467.6	1443.8	\$62,371.93	\$26,196.21	\$26,196.00
732	Black Cherry	47.3	47.3	56%	80%	80%	80%	80%	65%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	1441.4	1417.6	\$61,260.03	\$22,935.76	\$22,936.00
733	Tulip Poplar	47.0	47.0	50%	80%	80%	80%	80%	70%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	1430.1	1406.3	\$60,559.24	\$17,018.19	\$17,018.00
735	Crepe Myrtle	49.4	49.4	63%	80%	80%	80%	80%	75%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	1518.9	1495.1	\$64,553.85	\$24,207.69	\$24,208.00
740	Pignut Hickory	26.4	26.4	75%	80%	80%	80%	80%	75%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	547.1	523.4	\$23,252.95	\$10,463.83	\$10,464.00
741	Tulip Poplar	35.0	35.0	66%	80%	80%	80%	80%	70%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	928.1	904.4	\$39,445.94	\$14,496.38	\$14,496.00
743	Tulip Poplar	30.0	30.0	72%	80%	80%	80%	80%	70%	5.5	\$404.00	\$606.00	\$1,010.00	\$42.50	706.5	682.8	\$30,026.88	\$12,085.82	\$12,086.00
TOTAL BOND SUBTOTAL																		\$167,531.00	

TREE CONDITION ANALYSIS

TNT Environmental, Inc. (TNT) conducted a site reconnaissance to evaluate the wooded habitat on the project site in August 2014. The undeveloped portions of the site are comprised primarily of Upland Hardwoods (i.e. Tulip Poplar, Hickory). The species of trees assessed near the limits of clearing are listed in the Tree Table on the Existing Vegetation Map.

Based on our site reconnaissance, invasive and/or noxious species (Ornamental Bittersweet) were observed throughout the project site. Invasive species located within the areas to be preserved should be removed by hand wherever practicable to minimize site disturbance. The trees onsite are in fair condition, except where otherwise noted on the EVM (i.e.: Poor or Dead). Onsite trees within 150-foot of the proposed limits of clearing meet the standards for structural integrity and health identified in § 12-0403.2A and 12-0403.2B and are identified on the Existing Vegetation Map. At the time of inspection there were poor and dead trees located within 150-feet of the proposed limits of clearing, which are identified on the Existing Vegetation Map.

In accordance with § 12-0507.E2(1), trees designated for preservation shall be protected during construction.

TREE PRESERVATION NARRATIVE

§ 12-0509.3B: Dead or potentially hazardous trees shall be removed upon their discovery if they are located within 100-feet of the proposed limits of clearing. Dead trees not within this area shall be left in place to serve as wildlife habitat. Dead or potentially hazardous trees will be removed by hand (i.e.: chainsaw) wherever practical and will be conducted in a manner that incurs the least amount of damage to surrounding trees and vegetation proposed for preservation. Felled trees shall be left in place and brush should be removed by hand. No heavy equipment shall be used within tree preservation areas.

§ 12-0509.3C: Based on the current condition of the existing wooded areas, no adverse human health risks are anticipated provided that trees which pose a hazard to human health and safety are properly removed from areas where they could pose such a risk.

§ 12-0509.3D: Invasive and/or noxious species (Ornamental Bittersweet) were observed throughout the project site. Invasive species located within the areas to be preserved should be removed by hand wherever practicable to minimize site disturbance. See the Invasive Species Narrative on this sheet for species-specific control measures.

§ 12-0509.3E: The Applicant is not requesting official Specimen Tree designation for any of the large trees located onsite and is not using a multiplier for tree canopy calculations.

§ 12-0509.3F: Non-impacted Specimen trees located on and off-site shall be protected throughout all phases of construction by utilizing tree protection fencing as required by §12-0507.2E(1).

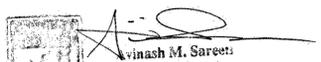
§ 12-0509.3G: Prior to land disturbing activities, root pruning with a vibratory plow, trencher or other device approved by the Director shall be conducted along the limits of clearing adjacent to tree preservation areas. Root pruning shall be conducted along the proposed limits of clearing and grading adjacent to the wooded habitat to be preserved and along property boundaries where the CRZ of off-site trees will be impacted. Locations of root pruning and tree protection fencing are shown on the Tree Preservation & Protection Plan.

§ 12-0509.3H: No trees will be transplanted as part of the proposed construction activities.

§ 12-0509.3I: Tree protection fencing and signage shall be placed subsequent to the staking of the limits of clearing in the field prior to construction in accordance with current Fairfax County ordinances. 14-gauge welded wire fence shall be used as devices to protect trees and forested areas. The protective device shall be placed within the disturbed area at the limits of clearing and erected at a minimum height of 4 feet, except for super silt fence where height may be 3.5 feet. The fencing material shall be mounted on 6-foot tall steel poses driven 1.5 feet into the ground and placed a maximum of 10 feet apart.

§ 12-0509.3J: No work shall occur within the areas to be protected. Onsite trees within the limits of clearing and grading will be removed. No trees outside this area shall be removed unless indicated on the plan. Trees in preservation areas indicated on the plan to be removed shall be removed by hand. Dead or hazardous trees within this area may be limbed or topped, rather than removing the entire tree and left as snags.

§ 12-0509.3K: Proffer conditions have been addressed in this tree preservation plan.


Avinash M. Sareet
Certified Arborist
Certification # MA-4127A

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SUMMER HILL
ESTATES
FAIRFAX COUNTY

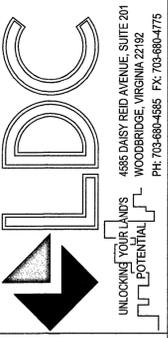
TREE PRESERVATION
SCHEDULE & APPRAISALS

DATE	REVISIONS	COMMENTS
9-22-14	REV BY LAD	
9-26-14	REV BY AMS	
10-24-14	REV BY AMS	

SHEET 5C OF 7
SCALE: NTS
PROJECT DATE: 8/6/14
DRAFT: LAD CHECK: AMS
FILE NUMBER: 009



FOR ILLUSTRATIVE PURPOSES ONLY!



ELEVATIONS

SUMMER HILL
ESTATES

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE	DESIGN NO.	DESCRIPTION	REVISION APPROVED BY:	APPROVED DATE
8/11/14	KMA 1	NO CHANGES		
9/26/14	KMA 2	NO CHANGES		
10/24/14	KMA 3	NO CHANGES		

I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.



SCALE:
N/A

SHEET 6
OF 7
DATE: MARCH, 2014
DRAFT: KMA CHECK: MTTM
FILE NUMBER:
13047-1-0 3.0B

OUTFALL NARRATIVE

THE SUBJECT PROPERTY IS LOCATED WITHIN THE ACCOTINK CREEK WATERSHED. THE SUBJECT PROPERTY MAINTAINS THREE STORM DRAINAGE OUTFALLS. THERE ARE NO EXISTING FLOODPLAIN OR RPA AREAS ON THE SUBJECT PROPERTY. AS A RESULT OF THE DEVELOPMENT OF THE SUBJECT PROPERTY AN INCREASE IN RUNOFF WILL BE EXPERIENCED. AN R-TANK INFILTRATION TRENCH (STACKABLE, MODULAR PLASTIC UNDERGROUND STORMWATER MANAGEMENT SYSTEM) IS PROPOSED TO MEET DETENTION REQUIREMENTS FOR THE SUBJECT PROPERTY. THE LAYOUT OF THE SITE HAS BEEN DESIGNED TO MINIMIZE THE IMPACTS TO DOWNSTREAM PROPERTIES. THE INTENT SHALL BE TO MAINTAIN THE EXISTING DRAINAGE PATTERNS AND TO NOT HAVE A NEGATIVE IMPACT ON ADJACENT PROPERTIES. NO DOWNSTREAM WATER IMPOUNDMENTS ARE WITHIN THE INFLUENCE AREA OF THE PROPOSED PROJECT AND NO BATHYMETRIC NOTIFICATIONS OR SURVEYS ARE REQUIRED.

OUTFALL #1
DISCHARGE LEAVES THE SUBJECT PROPERTY AS CONCENTRATED FLOW THROUGH THE PROPOSED STORM SEWER SYSTEM THAT CONNECTS TO THE EXISTING STORM SEWER SYSTEM WITHIN COURTHOUSE ROAD.

THE CONCENTRATED FLOW THROUGH THE PROPOSED STORM SEWER SYSTEM THAT CONNECTS TO THE EXISTING STORM SEWER SYSTEM WITHIN COURTHOUSE ROAD WILL ONLY RECEIVE MINIMAL DISCHARGE FOR STORMS LESS THAN OR EQUAL TO THE 10 YEAR STORM AS THE R-TANK INFILTRATION TRENCH HAS BEEN DESIGNED TO DETAIN THE 10 YEAR 24 HOUR RUNOFF VOLUME. THE DISCHARGE TO THE EXISTING STORM SEWER SYSTEM IS CONVEYED ±200' DOWNSTREAM WHERE IT CROSSES BACK UNDER COURTHOUSE ROAD AND INTO AN EXISTING DRAINAGE SWALE ON PARCEL 74 OWNED BY THE FAIRFAX COUNTY PARK AUTHORITY. THE EXISTING DRAINAGE SWALE THEN DISCHARGES ±800' WHERE IT IS JOINED BY ANOTHER DRAINAGE SWALE WHICH CONTAINS THE DISCHARGE FROM OUTFALL #2. THE EXISTING DRAINAGE SWALE THEN DISCHARGES THROUGH THE PARK PROPERTY AND THEN THROUGH "THE TOWNS OF MOOREFIELD" AND THEN UNDER VIRGINIA CENTER BOULEVARD AND INTO EXISTING WET POND #WPO020. THE TOTAL DRAINAGE AREA TO THIS EXISTING WET POND IS ±646 ACRES WHICH IS GREATER THAN 100 TIMES THE SITE AREA.

OUTFALL #2
DISCHARGE LEAVES THE SUBJECT PROPERTY VIA SHEET FLOW TOWARDS PARCEL 74 OWNED BY THE FAIRFAX COUNTY PARK AUTHORITY.

THE SHEET FLOW DISCHARGES TOWARD PARCEL 74 AND IS THEN COLLECTED WITHIN AN EXISTING DRAINAGE SWALE AND CONVEYED ±800' DOWNSTREAM TO ANOTHER EXISTING DRAINAGE SWALE WHICH CONTAINS THE DISCHARGE FROM OUTFALLS #1 & #3. THE EXISTING DRAINAGE SWALE THEN DISCHARGES THROUGH THE PARK PROPERTY AND THEN THROUGH "THE TOWNS OF MOOREFIELD" AND THEN UNDER VIRGINIA CENTER BOULEVARD AND INTO EXISTING WET POND #WPO020. THE TOTAL DRAINAGE AREA TO THIS EXISTING WET POND IS ±646 ACRES WHICH IS GREATER THAN 100 TIMES THE SITE AREA.

OUTFALL #3
DISCHARGE LEAVES THE SUBJECT PROPERTY VIA SHEET FLOW TOWARDS THE SUTTON ROAD RIGHT-OF-WAY.

THE SHEET FLOW DISCHARGES TOWARD THE SUTTON ROAD RIGHT-OF-WAY AND IS THEN COLLECTED WITHIN A ROADSIDE DITCH ALONG SUTTON ROAD AND THEN WITHIN A ROADSIDE DITCH ALONG COURTHOUSE ROAD WHERE IT IS COLLECTED WITHIN THE PROPOSED STORM SEWER SYSTEM AT OUTFALL #1 (SEE OUTFALL #1 ABOVE FOR CONTINUATION).

STORMWATER MANAGEMENT QUALITY AND QUANTITY REQUIREMENTS FOR THE SITE ARE PROVIDED BY THE PROPOSED R-TANK INFILTRATION TRENCH (SEE "STORMWATER MANAGEMENT INFORMATION" ON THIS SHEET FOR INFILTRATION TRENCH INFORMATION). CROSS-SECTIONS AND STORM SEWER COMPUTATIONS WILL BE PROVIDED FOR THE CONVEYANCE CHANNELS TO PARCEL 74 TO DEMONSTRATE THAT A DEFINED CHANNEL EXISTS THROUGH THE EXTENT OF REVIEW FOR THE SUBJECT PROPERTY AS REQUIRED TO MEET ADEQUATE OUTFALL REQUIREMENTS ASSOCIATED WITH FAIRFAX COUNTY CODE SECTIONS 124-4-4(b)(4) & (6)a AND SECTIONS 124-4-4(c)(4) & (6)a.

THE OUTFALLS CONVEY 3.90 ACRES OF DRAINAGE FROM THE DEVELOPMENT AREA OF THE SUBJECT PROPERTY IN THE PRE AND POST DEVELOPED CONDITION (0.22 ACRES OF SITE AREA WILL BE DEDICATED AS FRONTAGE ALONG COURTHOUSE ROAD & SUTTON ROAD). AS A RESULT OF THE PROPOSED INFILTRATION TRENCH, DETENTION OF THE ONE, TWO AND TEN YEAR STORM EVENT WILL BE PROVIDED. REQUIREMENTS FOR CHANNEL & FLOOD PROTECTION WILL BE MET AS OUTLINED IN FAIRFAX COUNTY CODE SECTION 124-4-4(b)(3)a & (c)(4) FOR OUTFALL #1. STORAGE OF THE 10-YEAR STORM VOLUME WILL BE PROVIDED IN THE PROPOSED INFILTRATION TRENCH AND THE DISCHARGE FROM THE SITE SHALL BE REDUCED BY THE REQUIRED PROPORTIONAL IMPROVEMENT AMOUNT OUTLINED IN CODE SECTION 124-4-4(b)(3)a. DEFINED CHANNEL OUTFALL REQUIREMENTS FOR OUTFALL #1 WILL BE DEMONSTRATED BY CROSS-SECTIONS AND STORM SEWER COMPUTATIONS FROM THE OUTFALL OF THE SITE TO THE POINT WHERE THE TOTAL DRAINAGE AREA IS GREATER THAN 100 TIMES THE SITE DEVELOPMENT AREA. THE EXTENT OF REVIEW FOR THIS OUTFALL IS EXISTING WET POND #WPO020 WHICH HAS A TOTAL DRAINAGE AREA OF ±646 ACRES WHICH IS GREATER THAN 100 TIMES THE SITE AREA AS OUTLINED IN FAIRFAX COUNTY CODE SECTIONS 124-4-4(b)(4) & (6)a AND SECTIONS 124-4-4(c)(4) & (6)a. A DEFINED CHANNEL EXISTS FROM THE DISCHARGE POINT FROM THE SUBJECT PROPERTY THROUGH THE EXTENT OF REVIEW. SINCE STORAGE OF THE 10-YEAR STORM VOLUME IS PROVIDED, AND A PROPORTIONAL IMPROVEMENT OF THE DISCHARGE FROM THE SITE IS PROVIDED, AND A DEFINED CHANNEL EXISTS THROUGH THE EXTENT OF REVIEW FOR THE SITE, ADEQUATE OUTFALL REQUIREMENTS HAVE BEEN MET FOR THE OUTFALL. AT THE POINT WHERE THE EXISTING DRAINAGE SWALE JOINS WITH THE EXISTING WET POND #WPO020, THE TOTAL DRAINAGE AREA IS ±646 ACRES WHICH IS GREATER THAN 100 TIMES THE DEVELOPMENT SITE AREA OF 3.90 ACRES MAKING THIS THE LIMIT OF THE STUDY AREA FOR THE SITE. THE EXISTING DRAINAGE SWALE WAS INVESTIGATED AND FOUND TO HAVE A DEFINED BED AND BANKS CHANNEL. ADEQUATE OUTFALL REQUIREMENTS FOR THIS OUTFALL HAVE BEEN MET IN ACCORDANCE WITH SECTION 124-4-4 OF THE FAIRFAX COUNTY CODE.

THE EXTENT OF REVIEW FOR OUTFALLS #2 & #3 IS THE LIMITS OF CLEARING AND GRADING AS SHEET FLOW OUTFALLS PER PFM SECTION 6-0202.6A & FAIRFAX COUNTY CODE SECTION 124-4-4(d).

IT IS OUR PROFESSIONAL OPINION THAT ALL OUTFALLS ARE ADEQUATE IN ACCORDANCE WITH THE PFM.

STORMWATER MANAGEMENT CHECKLIST

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

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

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

- 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').
- 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 2.
- 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)
I.T. #1 <small>(e.g. dry pond, R-Tank, trench, underground vault, etc.)</small>	1.62 AC	0.00 AC	1.62 AC	15,067 SF	118,726 CF	
Totals						

- 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 2 & 7.
Pond inlet and outlet pipe systems are shown on Sheet NA.
- 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 2.
Type of maintenance access road surface noted on the plat is ASPHALT (asphalt, geotext, gravel, etc.).
- 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 2.
- 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 7.
- 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 7.
- 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 7.
- 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, & 3.
- 11. A submission waiver is requested for R-TANK I.T. (STACKABLE, MODULAR PLASTIC UNDERGROUND SWM SYSTEM)
- 12. Stormwater management is not required because NA.

STORMWATER MANAGEMENT INFORMATION

TYPE OF FACILITY = R-TANK INFILTRATION TRENCH (STACKABLE, MODULAR PLASTIC UNDERGROUND STORMWATER MANAGEMENT SYSTEM)
FACILITY MAINTENANCE = PRIVATE/HOMEOWNERS ASSOCIATION

INFILTRATION TRENCH #1
APPROXIMATE REQUIRED 10-YEAR VOLUME = 18,644 C.F.
APPROXIMATE PROPOSED VOLUME = 18,726 C.F.
APPROXIMATE SURFACE AREA = 5,067 S.F.
APPROXIMATE FINISHED GRADE = 399.0
APPROXIMATE GRADE INFILTRATION TRENCH BOTTOM = 388.0

PRE-DEVELOPMENT SUBJECT PROPERTY

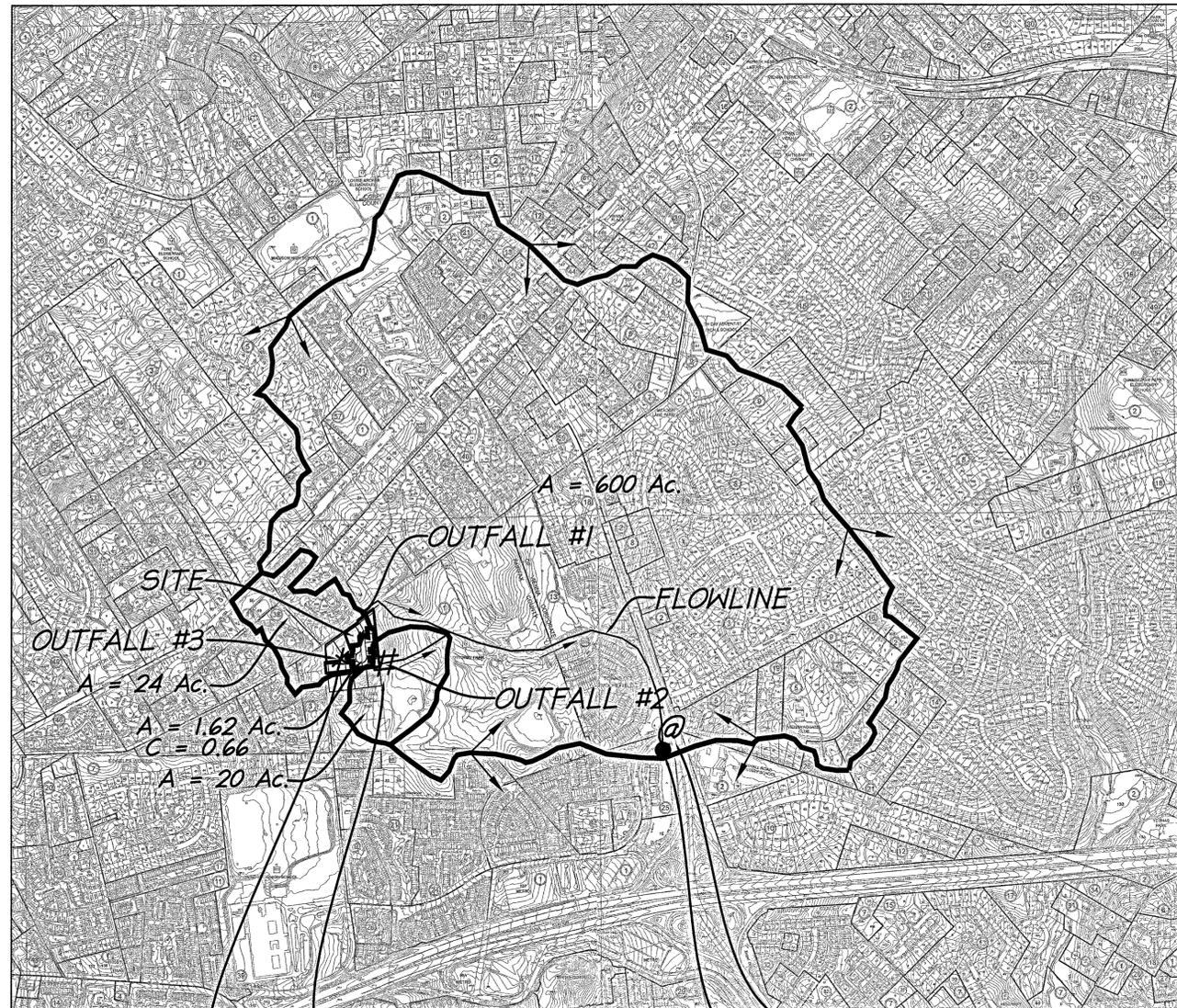
$Q_2 = 7.55$ CFS (SEE SWM SHEETS 7-7B)
 $Q_{10} = 16.39$ CFS (SEE SWM SHEETS 7-7B)

POST-DEVELOPMENT SUBJECT PROPERTY

$Q_2 = 4.18$ CFS AFTER ATTENUATION (SEE SWM SHEETS 7-7B)
 $Q_{10} = 9.22$ CFS AFTER ATTENUATION (SEE SWM SHEETS 7-7B)

DRAINAGE DIVIDE DIVERSION STATEMENT:

THE PROJECT IS LOCATED WITHIN THE ACCOTINK CREEK WATERSHED. MINOR CHANGES IN THE NATURAL DRAINAGE DIVIDES ARE PROPOSED AS A PART OF THIS PROJECT. THE CHANGES ARE INTENDED TO ASSIST IN COLLECTING STORMWATER DISCHARGE IN ORDER TO MEET DETENTION, BMP & ADEQUATE OUTFALL REQUIREMENTS AS OUTLINED IN THE PFM. DETENTION RELEASE RATE COMPUTATIONS SHALL BE PROVIDED ON THE SUBDIVISION PLAN THAT DEMONSTRATE THAT THE POST DEVELOPED FLOW FROM THE PROPERTY IS LESS THAN THE PREDEVELOPED AND NO ADVERSE IMPACTS WILL BE EXPERIENCED BY ANY DOWNSTREAM PROPERTIES. NO CHANGES ARE PROPOSED TO ANY MAJOR DRAINAGE SHED DIVIDES. THESE MINOR DIVERSIONS WITHIN AN INDIVIDUAL MAJOR WATERSHED AREA ARE ALLOWED PER PFM SECTION 6-0202.2A (SEE THE OUTFALL ANALYSIS ON THIS SHEET).



DRAINAGE AREA MAP
SCALE: 1" = 800'

- #** = EXTENT OF REVIEW FOR SHEET FLOW OUTFALL #2 SEE THIS SHEET FOR "OUTFALL NARRATIVE"
- @** = EXTENT OF REVIEW/100 TIMES SITE AREA FOR OUTFALL #1 SEE THIS SHEET FOR "OUTFALL NARRATIVE"
- *** = EXTENT OF REVIEW FOR SHEET FLOW OUTFALL #3 SEE THIS SHEET FOR "OUTFALL NARRATIVE"
- ⊙** = LIMIT OF STUDY FOR OUTFALLS #1, #2 & #3 (100 TIMES SITE AREA) SEE THIS SHEET FOR "OUTFALL NARRATIVE"

STORMWATER MANAGEMENT NARRATIVE

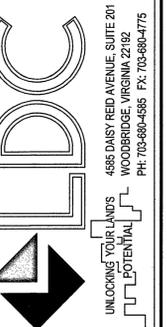
THE STORMWATER MANAGEMENT REQUIREMENTS FOR THE SUBJECT PROPERTY SHALL BE SATISFIED VIA THE CONSTRUCTION OF AN R-TANK INFILTRATION TRENCH. THIS FACILITY SHALL BE DESIGNED IN ACCORDANCE WITH THE PUBLIC FACILITIES MANUAL (PFM).

THE R-TANK INFILTRATION TRENCH HAS BEEN DESIGNED FOR THE 10 YEAR 24 HOUR RUNOFF VOLUME IN ORDER TO PROVIDE DETENTION FOR THE 1, 2 & 10 YEAR STORM EVENTS AND TO MEET WATER QUALITY/BMP REQUIREMENTS. THE SITE CURRENTLY HAS SEVERAL EXISTING BUILDINGS, PAVED SURFACES, AND SOME TREES. CURRENTLY, APPROXIMATELY 16.39 CFS OF RUNOFF IS LEAVING THE SUBJECT PROPERTY UNCONTROLLED AND UNTREATED DURING THE 10 YEAR STORM EVENT. WITH THE PROPOSED ATTENUATION, THE POST DEVELOPMENT RUNOFF WILL BE REDUCED SUBSTANTIALLY. THEREFORE, THERE WILL BE A REDUCTION IN RUNOFF LEAVING THE PROPERTY AS A RESULT OF THE PROPOSAL. THE R-TANK INFILTRATION TRENCH HAS BEEN SIZED TO PROVIDE WATER QUALITY AND QUANTITY CONTROL FOR THE SUBJECT PROPERTY AND TO MEET CHANNEL & FLOOD PROTECTION REQUIREMENTS AS OUTLINED IN FAIRFAX COUNTY CODE SECTION 124-4-4(b)(3)a & (c)(4) (SEE OUTFALL NARRATIVE, THIS SHEET).

A SWM MODIFICATION IS REQUESTED AS A PART OF THIS APPLICATION TO ALLOW FOR THE USE OF AN R-TANK INFILTRATION SYSTEM (STACKABLE, MODULAR PLASTIC UNDERGROUND STORMWATER MANAGEMENT SYSTEM) PER PFM SECTION 6-0303.6 AND LETTER TO INDUSTRY 14-05. SEE SHEET 1 FOR WAIVER DESCRIPTION.

SOIL TESTING HAS BEEN COMPLETED IN THE VICINITY OF THE PROPOSED R-TANK INFILTRATION TRENCH TO DEMONSTRATE THAT THE GROUNDWATER LEVELS AND INFILTRATION RATES ARE WITHIN THE ACCEPTABLE LIMITS FOR THE PROPOSED R-TANK INFILTRATION TRENCH DESIGN. THIS TESTING COMPLIED WITH THE REQUIREMENTS OF THE PFM. THIS TESTING INFORMATION SHALL BE INCORPORATED INTO THE FINAL CONSTRUCTION PLANS. ALL MAINTENANCE SHALL BE CONDUCTED IN ACCORDANCE WITH CHAPTER 3, STANDARD 3.10 OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK.

THIS FACILITY SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION AND THE MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS. THE PROPOSED FACILITY SHALL BE A MINIMUM OF 20' FROM ANY PROPOSED BUILDINGS AS OUTLINE IN LETTER TO INDUSTRY #07-04.



STORMWATER
MANAGEMENT
INFORMATION

SUMMER HILL
ESTATES

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE	DESCRIPTION	REVISION	BY	APPROVED DATE
02/24/14	REVISE SHEET OUTFALL AND NARRATIVES	1	MA	
02/24/14	REVISE SHEET OUTFALL AND NARRATIVES	2	MA	
02/24/14	REVISE SHEET OUTFALL AND NARRATIVES	3	MA	

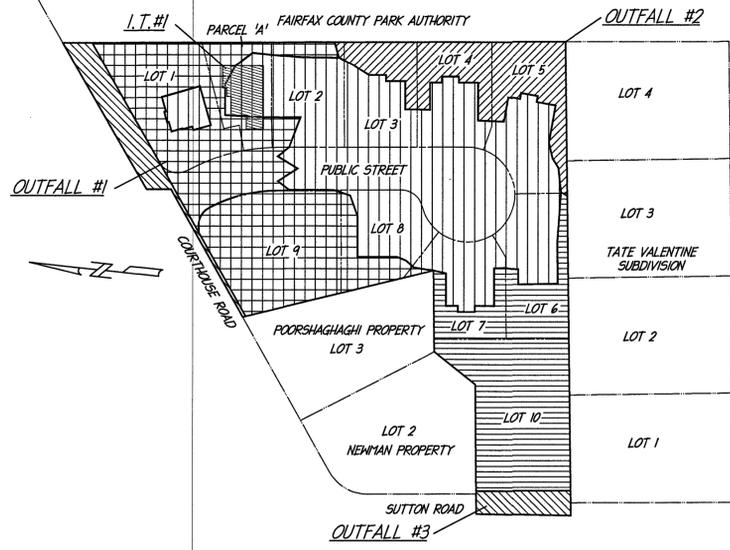
I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.



SCALE:
AS NOTED

SHEET 7
OF 7

DATE: MARCH, 2014
DRAFT: KMA CHECK: KMA
FILE NUMBER: 19047-1-0-3B
RZ 2014-PR



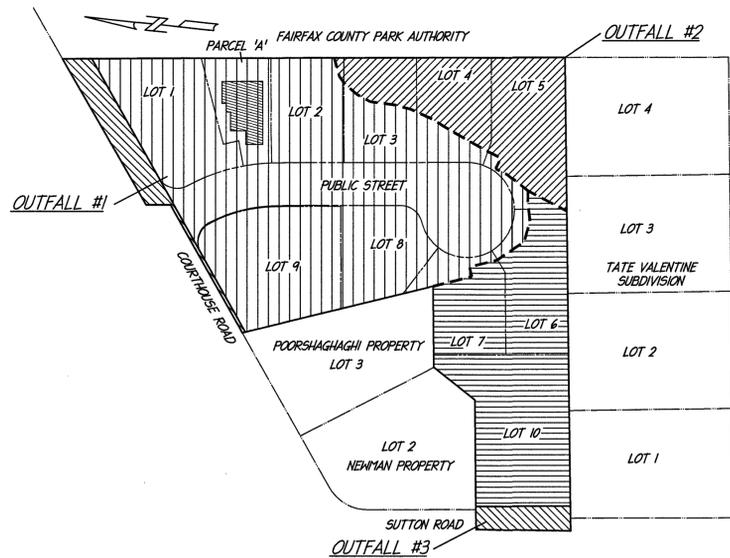
WATER QUALITY/BMP & POST DEVELOPED AREAS

WATERSHED INFORMATION		BMP MAP HATCH	
SUBAREA DESIGNATION AND DESCRIPTION	RCN	ACRES	
D.A. "A" - DEVELOPED W/ CONTROLS (I.T.#1 TO OUTFALL #1)	90	1.62	[Hatch]
D.A. "B" - DEVELOPED W/OUT CONTROLS (OUTFALL #1)	82	1.17	[Hatch]
D.A. "C" - DEVELOPED W/OUT CONTROLS (OUTFALL #2)	76	0.39	[Hatch]
D.A. "D" - DEVELOPED W/OUT CONTROLS (OUTFALL #3)	82	0.72	[Hatch]
FRONTAGE DEDICATION EXCLUDED FROM DEVELOPMENT AREA	-	0.22	[Hatch]

BMP & POST DEVELOPED AREA MAP 1"=100'

AREA DESCRIPTION	ACRES	RCN	MAP HATCH
PREDEVELOPED SITE AREA TO OUTFALL #1	2.42	82	[Hatch]
PREDEVELOPED SITE AREA TO OUTFALL #2	0.59	80	[Hatch]
PREDEVELOPED SITE AREA TO OUTFALL #3	0.84	83	[Hatch]
FRONTAGE DEDICATION EXCLUDED FROM DEVELOPMENT AREA	0.22	-	[Hatch]

PREDEVELOPED DRAINAGE AREA MAP 1"=100'



SOILS MAP

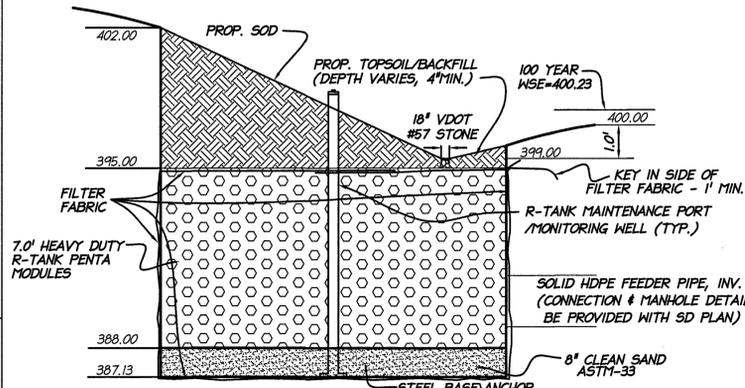
SCALE: 1" = 500'

SOIL INFORMATION						
SOIL #	SOIL NAME	PROBLEM CLASS	FOUNDATION SUPPORT	DRAINAGE	EROSION POTENTIAL	HYDROLOGIC SOIL GROUP
39	GLENELG SILT LOAM	I	GOOD	GOOD	HIGH	B
105	WHEATON-GLENELG	IVB	GOOD	GOOD	HIGH	D

10 YEAR RUNOFF VOLUME COMPUTATION FOR IT#1

PER CHAPTER 5 - VIRGINIA SWM HANDBOOK VOLUME II
 1. 10 YEAR RAINFALL DEPTH (P) FOR FAIRFAX COUNTY = 5.2 IN
 2. SOILS DRAINING TO IT#1 ARE HYDROLOGIC SOIL GROUPS "B" & "D"
 (GLENELG - "B", WHEATON-GLENELG - "D"; SEE THIS SHEET FOR SOILS MAP)
 3. ADJUSTED RCN FOR DRAINAGE AREA TO IT#1 = 84 PER VRRM SPREADSHEET
 4. TOTAL CONTROLLED DRAINAGE AREA TO IT#1 = 1.62 ACRES
 5. $S = (1000/RCN) - 10 = (1000/84) - 10 = 1.90$
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((5.2 - 2(1.90))^2)/(5.2 + .8(1.90)) = 3.45$ IN
 7. $RUNOFF VOLUME = AREA * RUNOFF Q = 1.62 AC * (3.45 IN(1 FT/12 IN)) = 0.466 AC-FT = 20,311 CF$

VOLUME IS MORE THAN VOLUME (3,808 CF) REQUIRED FOR INFILTRATION TRENCH WATER QUALITY TREATMENT (SEE VRRM SPREADSHEET); THEREFORE, STORAGE WILL BE PROVIDED FOR THE WATER QUALITY TREATMENT VOLUME.



CROSS SECTION A-A SEE PLATE #1-6 FOR I.T. #1 FILTER FABRIC NOTES & DETAIL

INFILTRATION TRENCH DESIGN CALCULATIONS OUTLOT A (I.T.-1)

TOTAL DRAINAGE AREA TO I.T. #1 = 1.62 AC
 ADJUSTED RCN VALUES BASED ON VRRM SPREADSHEET:
 1-YR RCN = 82, 2-YR RCN = 83, 10-YR RCN = 84
 INFILTRATION RATE = 3.9 IN/HR BASED ON FIELD RATE TEST
 DESIGN RATE = 0.5(3.9 IN/HR) = 1.95 IN/HR PER THE GEOTECHNICAL ENGINEER
 (FINAL GEOTECHNICAL TESTING INFORMATION TO BE PROVIDED WITH SD PLAN)
 TRENCH AREA = 3,026 SF
 RUNOFF VOLUME OUT BASED UPON INFILTRATION = $F_d = 0.5(F)$ WHERE $F = 3.9$ IN/HR (0.325 FT/HR);
 THUS, $0.5(0.325) = 0.1625$ FT/HR
 MAX. DEPTH TO DRAIN IN 48 HOURS = $(F_d) * 48$ HR / VOID RATIO = $(0.1625 * 48) / 0.95 = 8.2$ FT
 FINALLY, THE TOTAL VOLUME OUT IN 2 HOURS = $(0.1625 FT/HR)(2 HR)(3,026 SF)$
 THEREFORE $(0.1625)(6,052) = 983$ CF
 TIME FOR INFILTRATION FACILITY TO EMPTY, RUNOFF OUT BASED ON INFILTRATION RATE = 0.1625 FT/HR (SEE ABOVE)
 DEPTH OF FACILITY = 7.0'; TIME TO EMPTY, T = DEPTH / VOID RATIO / RATE OF DISCHARGE
 $T = (7.0 FT * 0.95) / (0.1625 FT/HR) = 41$ HOURS < MAX 48 HOURS FOR WOV AND 72 HOURS FOR ENTIRE VOLUME

1-YEAR COMPUTATIONS

1-YEAR ON-SITE CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=82
 1-YEAR TOTAL CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=82
 $P = 2.7$ IN FOR 1-YEAR, 24 HOUR STORM
 $S = (1000/RCN) - 10 = (1000/82) - 10 = 2.20$
 $RUNOFF Q = ((P-25)^2)/(P + .85) = ((2.7 - 2(2.20))^2)/(2.7 + .8(2.20)) = 1.15$ IN
 1-YEAR RUNOFF VOLUME = $AREA * RUNOFF Q = 1.62 AC * (1.15 IN(1 FT/12 IN)) = 0.155 AC-FT = 6,746 CF$
 AN INFILTRATION TRENCH DESIGNED FOR THE 1-YEAR RUNOFF VOLUME PROVIDES DETENTION FOR THE 1 YEAR STORM.
 1-YEAR STORAGE VOLUME REQUIRED = $6,746 - 983 = 5,763$ CF
 STORAGE DEPTH = 7.0' (ELEVATION AT TRENCH BOTTOM = 388.00)
 STORAGE VOLUME PROVIDED = $3,026 SF(7.0') = 21,182 CF(0.95 VOID)** = 20,123 CF PROVIDED > 5,763 CF REQ.$
 ** HEAVY DUTY R-TANK INFILTRATION SYSTEM - VOID RATIO = 95% **

2-YEAR COMPUTATIONS

2-YEAR ON-SITE CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=83
 2-YEAR TOTAL CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=83
 $P = 3.2$ IN FOR 2-YEAR, 24 HOUR STORM
 $S = (1000/RCN) - 10 = (1000/83) - 10 = 2.05$
 $RUNOFF Q = ((P-25)^2)/(P + .85) = ((3.2 - 2(2.05))^2)/(3.2 + .8(2.05)) = 1.61$ IN
 2-YEAR RUNOFF VOLUME = $AREA * RUNOFF Q = 1.62 AC * (1.61 IN(1 FT/12 IN)) = 0.217 AC-FT = 9,463 CF$
 AN INFILTRATION TRENCH DESIGNED FOR THE 2-YEAR RUNOFF VOLUME PROVIDES DETENTION FOR THE 2 YEAR STORM.
 2-YEAR STORAGE VOLUME REQUIRED = $9,463 - 983 = 8,480$ CF
 STORAGE DEPTH = 7.0' (ELEVATION AT TRENCH BOTTOM = 388.00)
 STORAGE VOLUME PROVIDED = $3,026 SF(7.0') = 21,182 CF(0.95 VOID)** = 20,123 CF PROVIDED > 8,480 CF REQ.$
 ** HEAVY DUTY R-TANK INFILTRATION SYSTEM - VOID RATIO = 95% **

10-YEAR COMPUTATIONS

10-YEAR ON-SITE CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=84
 10-YEAR TOTAL CONTROLLED DRAINAGE AREA TO I.T. #1 = 1.62 AC, ADJUSTED RCN=84
 $P = 5.2$ IN FOR 10-YEAR, 24 HOUR STORM
 $S = (1000/RCN) - 10 = (1000/84) - 10 = 1.90$
 $RUNOFF Q = ((P-25)^2)/(P + .85) = ((5.2 - 2(1.90))^2)/(5.2 + .8(1.90)) = 3.45$ IN
 10-YEAR RUNOFF VOLUME = $AREA * RUNOFF Q = 1.62 AC * (3.45 IN(1 FT/12 IN)) = 0.466 AC-FT = 20,311 CF$
 AN INFILTRATION TRENCH DESIGNED FOR THE 10-YEAR RUNOFF VOLUME PROVIDES DETENTION FOR THE 10 YEAR STORM.
 10-YEAR STORAGE VOLUME REQUIRED = $20,311 - 983 = 19,328$ CF
 STORAGE DEPTH = 7.0' (ELEVATION AT TRENCH BOTTOM = 388.00)
 STORAGE VOLUME PROVIDED = $3,026 SF(7.0') = 21,182 CF(0.95 VOID)** = 20,123 CF PROVIDED > 19,328 CF REQ.$
 ** HEAVY DUTY R-TANK INFILTRATION SYSTEM - VOID RATIO = 95% **

SUMMARY

TOTAL CONTROLLED AREA DURING THE 1-YEAR STORM = 1.62 AC, RCN=82
 TOTAL CONTROLLED AREA DURING THE 2-YEAR STORM = 1.62 AC, RCN=83
 TOTAL CONTROLLED AREA DURING THE 10-YEAR STORM = 1.62 AC, RCN=84
 SEE DETENTION RELEASE RATE AND CHANNEL & FLOOD PROTECTION COMPUTATIONS ON THIS SHEET

OVERLAND RELIEF

FOR FULLY CLOGGED TRENCH SYSTEM
 RATIONAL FORMULA: $Q = C I A$
 $C = 5$ min, $I = 9.84$ in/hr., $A = 1.62$ Acres, $C = 0.66$, $Cf = 1.25$
 $Q_{100} = (1.25)(0.66)(9.84)(1.62) = 13.15$ CFS
 WEIR EQUATION: $Q = C L H^{3/2}$
 13.15 CFS = $(3)(40')H^{3/2}$ $H = 0.23'$ (400.23)
 100 YEAR PONDING DEPTH = 0.23', 100 YEAR WSE = 400.23

DETENTION RELEASE RATES - OUTFALL #1:

PREDEVELOPMENT SITE CONDITIONS - OUTFALL #1:
 EXISTING ON-SITE AREA DRAINING TO OUTFALL #1
 *SEE PREDEVELOPMENT DRAINAGE AREA MAP (THIS SHEET)**
 AREA= 2.42 AC, $T_c = 0.18$ HR, RCN= 76
 1 YEAR STORM (27% REDUCTION REQUIRED, SEE COMP. THIS SHEET)
 $RCN = 76$, $T_c = 0.18$ HR, $A = 2.42$ AC (FROM TR-55 RESULTS)
 $Q = 2.37$ CFS + $0.73 = 1.73$ CFS
 2 YEAR STORM (25% REDUCTION REQUIRED, SEE COMP. THIS SHEET)
 $RCN = 76$, $T_c = 0.18$ HR, $A = 2.42$ AC (FROM TR-55 RESULTS)
 $Q = 3.40$ CFS + $0.75 = 2.55$ CFS
 10 YEAR STORM (18% REDUCTION REQUIRED, SEE COMP. THIS SHEET)
 $RCN = 76$, $T_c = 0.18$ HR, $A = 2.42$ AC (FROM TR-55 RESULTS)
 $Q = 8.39$ CFS + $0.82 = 6.88$ CFS

DETENTION RELEASE RATES - OUTFALL #2:

PREDEVELOPMENT SITE CONDITIONS - OUTFALL #2:
 EXISTING ON-SITE AREA DRAINING TO OUTFALL #2
 *SEE PREDEVELOPMENT MAP, THIS SHEET**
 AREA= 0.59 ACRES, $T_c = 0.16$ HR, RCN= 80
 2 YEAR STORM
 $RCN = 80$, $T_c = 0.16$ HR, $A = 0.59$ AC (FROM TR-55 RESULTS)
 $Q = 1.09$ CFS
 10 YEAR STORM
 $RCN = 80$, $T_c = 0.16$ HR, $A = 0.59$ AC (FROM TR-55 RESULTS)
 $Q = 2.46$ CFS

POST DEVELOPMENT SITE CONDITIONS - OUTFALL #2:

ON-SITE AREA DRAINING OFF UNCONTROLLED TO OUTFALL #2
 RUNOFF DISCHARGES IN A NON-CONCENTRATED SHEET FLOW MANNER
 *SEE BMP & POST DEVELOPMENT MAP, THIS SHEET**
 UNCONTROLLED AREA = 0.39 AC, RCN= 76, $T_c = 0.17$
 2 YEAR STORM
 $RCN = 76$, $T_c = 0.17$ HR, $A = 0.39$ AC (FROM TR-55 RESULTS)
 $Q = 0.56$ CFS < PREDEVELOPED = 1.09 CFS
 10 YEAR STORM
 $RCN = 76$, $T_c = 0.17$ HR, $A = 0.39$ AC (FROM TR-55 RESULTS)
 $Q = 1.38$ CFS < PREDEVELOPED = 2.46 CFS

1, 2 & 10 YR. RUNOFF VOLUME COMP. (EX. FORESTED CONDITION)

PER CHAPTER 5 - VIRGINIA SWM HANDBOOK VOLUME II
 1. RAINFALL DEPTH (P) FOR FAIRFAX COUNTY = 2.7 IN (1 YR), 3.2 IN (2 YR), 5.2 IN (10 YR)
 2. SOILS DRAINING TO OUTFALL ARE HYDROLOGIC SOIL GROUP "B" & "D"
 (GLENELG - "B", WHEATON-GLENELG - "D"; SEE THIS SHEET FOR SOILS MAP)
 3. WEIGHTED RCN FOR GOOD FORESTED CONDITION FOR SOIL GROUPS "B" & "D" = 76
 (0.22 AC SOIL GROUP "B" RCN=55, 3.68 AC SOIL GROUP "D" RCN=77)
 4. TOTAL DEVELOPMENT AREA OF SITE = 3.90 ACRES
 5. $S = (1000/RCN) - 10 = (1000/76) - 10 = 3.20$
 1 YEAR:
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((2.7 - 2(3.20))^2)/(2.7 + .8(3.20)) = 0.81$ IN
 7. $RUNOFF VOLUME = V_f = AREA * RUNOFF Q = 3.90 AC * (0.81 IN(1 FT/12 IN)) = 0.262$ AC-FT
 2 YEAR:
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((3.2 - 2(3.20))^2)/(3.2 + .8(3.20)) = 1.14$ IN
 7. $RUNOFF VOLUME = V_f = AREA * RUNOFF Q = 3.90 AC * (1.14 IN(1 FT/12 IN)) = 0.370$ AC-FT
 10 YEAR:
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((5.2 - 2(3.20))^2)/(5.2 + .8(3.20)) = 2.68$ IN
 7. $RUNOFF VOLUME = V_f = AREA * RUNOFF Q = 3.90 AC * (2.68 IN(1 FT/12 IN)) = 0.871$ AC-FT

1, 2 & 10 YR. RUNOFF VOLUME COMP. (DEVELOPED)

PER CHAPTER 5 - VIRGINIA SWM HANDBOOK VOLUME II
 1. RAINFALL DEPTH (P) FOR FAIRFAX COUNTY = 2.7 IN (1 YR), 3.2 IN (2 YR), 5.2 IN (10 YR)
 2. SOILS DRAINING TO OUTFALL ARE HYDROLOGIC SOIL GROUP "B" & "D"
 (GLENELG - "B", WHEATON-GLENELG - "D"; SEE THIS SHEET FOR SOILS MAP)
 3. ADJUSTED RCN FOR SITE FOR SOIL GROUPS "B" & "D" = 81.4
 (SEE VRRM SPREADSHEET)
 4. TOTAL DEVELOPMENT AREA OF SITE = 3.90 ACRES
 5. $S = (1000/RCN) - 10 = (1000/81.4) - 10 = 2.29$
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((2.7 - 2(2.29))^2)/(2.7 + .8(2.29)) = 1.11$ IN
 7. $RUNOFF VOLUME = V_d = AREA * RUNOFF Q = 3.90 AC * (1.11 IN(1 FT/12 IN)) = 0.361$ AC-FT
 2 YEAR:
 3. ADJUSTED RCN FOR SITE FOR SOIL GROUPS "B" & "D" = 81.8
 (SEE VRRM SPREADSHEET)
 4. TOTAL DEVELOPMENT AREA OF SITE = 3.90 ACRES
 5. $S = (1000/RCN) - 10 = (1000/81.8) - 10 = 2.22$
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((3.2 - 2(2.22))^2)/(3.2 + .8(2.22)) = 1.52$ IN
 7. $RUNOFF VOLUME = V_d = AREA * RUNOFF Q = 3.90 AC * (1.52 IN(1 FT/12 IN)) = 0.495$ AC-FT
 10 YEAR:
 3. ADJUSTED RCN FOR SITE FOR SOIL GROUPS "B" & "D" = 82.2
 (SEE VRRM SPREADSHEET)
 4. TOTAL DEVELOPMENT AREA OF SITE = 3.90 ACRES
 5. $S = (1000/RCN) - 10 = (1000/82.2) - 10 = 2.17$
 6. $RUNOFF Q = ((P-25)^2)/(P + .85) = ((5.2 - 2(2.17))^2)/(5.2 + .8(2.17)) = 3.28$ IN
 7. $RUNOFF VOLUME = V_d = AREA * RUNOFF Q = 3.90 AC * (3.28 IN(1 FT/12 IN)) = 1.065$ AC-FT

REDUCTION REQUIRED FOR CHANNEL & FLOOD PROTECTION PER CODE SECTION 124-4-4(b)(3)a & (c)(4):

$R_i = (1 - (V_f/V_d)) * 100$

1 YEAR:
 $R_i = (1 - (0.262/0.361)) * 100 = 27%$

2 YEAR:
 $R_i = (1 - (0.370/0.495)) * 100 = 25%$

10 YEAR:
 $R_i = (1 - (0.871/1.065)) * 100 = 18%$

SEE DETENTION RELEASE RATES - OUTFALL #1 COMPUTATIONS ON THIS SHEET FOR REDUCTION.

POST DEVELOPMENT SITE CONDITIONS - OUTFALL #1:

ON-SITE AREA DRAINING OFF UNCONTROLLED TO OUTFALL #1
 INFILTRATION TRENCH #1 (1.62 AC ON-SITE) PROVIDES DETENTION FOR
 THE 1, 2 & 10 YEAR STORM EVENTS FOR THE CONTROLLED AREA.
 TOTAL POST DRAINAGE ON-SITE AREA = 2.79 AC
 *SEE POST DEVELOPMENT DRAINAGE AREA MAP (THIS SHEET)**
 UNCONTROLLED AREA = 1.17 AC, RCN= 82, $T_c = 0.18$ MIN.
 1 YEAR STORM
 $RCN = 82$, $T_c = 0.84$ HR, $A = 1.17$ AC (FROM TR-55 RESULTS)
 $Q = 1.68$ CFS < REDUCED PREDEVELOPED = 1.73 CFS
 *CHANNEL & FLOOD PROTECTION REDUCTION PROVIDED PER CODE SECTION 124-4-4(b)(3)a & (c)(4)**

2 YEAR STORM
 $RCN = 82$, $T_c = 0.84$ HR, $A = 1.17$ AC (FROM TR-55 RESULTS)
 $Q = 2.23$ CFS < REDUCED PREDEVELOPED = 2.55 CFS
 *CHANNEL & FLOOD PROTECTION REDUCTION PROVIDED PER CODE SECTION 124-4-4(b)(3)a & (c)(4)**
 10 YEAR STORM
 $RCN = 82$, $T_c = 0.84$ HR, $A = 1.17$ AC (FROM TR-55 RESULTS)
 $Q = 4.96$ CFS < REDUCED PREDEVELOPED = 6.88 CFS
 *CHANNEL & FLOOD PROTECTION REDUCTION PROVIDED PER CODE SECTION 124-4-4(b)(3)a & (c)(4)**

DETENTION RELEASE RATES - OUTFALL #3:

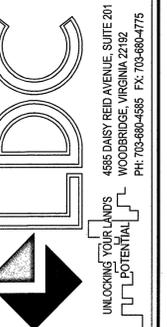
PREDEVELOPMENT SITE CONDITIONS - OUTFALL #3:
 EXISTING ON-SITE AREA DRAINING TO OUTFALL #3
 *SEE PREDEVELOPMENT MAP, THIS SHEET**
 AREA= 0.89 ACRES, $T_c = 0.21$ HR, RCN= 83
 2 YEAR STORM
 $RCN = 83$, $T_c = 0.21$ HR, $A = 0.89$ AC (FROM TR-55 RESULTS)
 $Q = 1.72$ CFS
 10 YEAR STORM
 $RCN = 83$, $T_c = 0.21$ HR, $A = 0.89$ AC (FROM TR-55 RESULTS)
 $Q = 3.67$ CFS

POST DEVELOPMENT SITE CONDITIONS - OUTFALL #3:

ON-SITE AREA DRAINING OFF UNCONTROLLED TO OUTFALL #3
 RUNOFF DISCHARGES IN A NON-CONCENTRATED SHEET FLOW MANNER
 *SEE BMP & POST DEVELOPMENT MAP, THIS SHEET**
 UNCONTROLLED AREA = 0.72 AC, RCN= 82, $T_c = 0.21$
 2 YEAR STORM
 $RCN = 82$, $T_c = 0.21$ HR, $A = 0.72$ AC (FROM TR-55 RESULTS)
 $Q = 1.33$ CFS < PREDEVELOPED = 1.72 CFS
 10 YEAR STORM
 $RCN = 82$, $T_c = 0.21$ HR, $A = 0.72$ AC (FROM TR-55 RESULTS)
 $Q = 2.88$ CFS < PREDEVELOPED = 3.67 CFS

FOR INFORMATIONAL PURPOSES ONLY!

THE INFORMATION PROVIDED ON THIS SHEET IS FOR INFORMATION PURPOSES ONLY. THE FINAL DESIGN OF THE STORMWATER MANAGEMENT/BEST MANAGEMENT PRACTICES FACILITY WILL OCCUR AT TIME OF FINAL SUBDIVISION PLAN. THE INFORMATION SHOWN HEREON IS APPROXIMATE. THE APPLICANT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THIS INFORMATION AND THE DESIGN WITHOUT THE NEED FOR A PROFFER CONDITION AMENDMENT OR PROFFER INTERPRETATION, PROVIDED IT IS IN ACCORDANCE WITH THE PUBLIC FACILITIES MANUAL.



STORMWATER MANAGEMENT INFORMATION

SUMMER HILL ESTATES

NO.	DATE	DESCRIPTION	REVISION APPROVED BY:
1		NEW SHEET	
2		REVISE DETAILS FOR R-TANK	
3		NO CHANGES	

I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.

MATTHEW T. MARSHALL
 Lic. No. 195-B
 Ideal
 LAND SURVEYOR

SCALE: AS NOTED

SHEET 7A OF 7

DATE: MARCH, 2014
 DRAFT: KMA
 CHECK: NITM
 FILE NUMBER: 13047-1-0-3B
 RZ 2014-PR-

Project Name: Summer Hill
Date: July 31, 2014

data input cells
calculation cells
constant values

Post-ReDevelopment Project & Land Cover Information Total Disturbed Acreage 3.70

Annual Rainfall (inches)	43	
Target Rainfall Event (inches)	1.00	
Phosphorus EMC (mg/L)	0.26	Nitrogen EMC (mg/L) 1.86
Target Phosphorus Target Load (lb/acre/yr)	0.41	
P _i	0.90	

Pre-ReDevelopment Land Cover (acres)				
A soils	B Soils	C Soils	D Soils	Totals
0.00	0.00	0.00	0.00	0.00
0.00	0.18	0.00	3.16	3.34
0.00	0.04	0.00	0.52	0.56
				Total
				3.90

Post-ReDevelopment Land Cover (acres)				
A soils	B Soils	C Soils	D Soils	Totals
0.00	0.00	0.00	0.00	0.00
0.00	0.22	0.00	2.39	2.61
0.00	0.00	0.00	1.29	1.29
				Total
				3.90

Area Check Okay Okay Okay Okay

Rv Coefficients			
A soils	B Soils	C Soils	D Soils
0.02	0.03	0.04	0.05
0.15	0.20	0.22	0.25
0.95	0.95	0.95	0.95

Land Cover Summary Pre-ReDevelopment		Land Cover Summary Post-ReDevelopment	
Listed	Adjusted ¹		
Forest/Open Space Cover (acres)	0.00	0.00	0.00
Composite Rv(forest)	0.00	0.00	0.00
% Forest	0%	0%	0%
Managed Turf Cover (acres)	3.34	2.57	2.81
Composite Rv(turf)	0.23	0.23	0.25
% Managed Turf	88%	82%	82%
Impervious Cover (acres)	0.56	0.56	0.56
Rv(imperious)	0.95	0.95	0.95
% Impervious	14%	16%	16%
Total Site Area (acres)	3.90	3.13	3.17
Site Rv	0.35	0.37	0.37
Pre-Development Treatment Volume (acre-ft)	0.1132	0.0971	0.0978
Pre-Development Treatment Volume (cubic feet)	4.930	4.231	4.260
Pre-Development Load (TP) (lb/yr)	3.10	2.68	2.68

¹Adjusted Land Cover Summary reflects the pre redevelopment land cover minus the previous land cover (forest/open space or managed turf) acreage proposed for new impervious cover. The adjusted total acreage is consistent with the Post ReDevelopment acreage (minus the acreage of new impervious cover). The load reduction requirement for the new impervious cover to meet the new development load limit is computed in Column 1.

Maximum % Reduction Required Below Pre-ReDevelopment Load	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	0.55
Total Load Reduction Required (lb/yr)	1.78
Pre-Development Load (TN) (lb/yr)	22.18
Post-Development Load (TN) (lb/yr)	29.87

Land Cover Summary Post-ReDevelopment New Impervious	
New Impervious Cover (acres)	0.73
Rv(imperious)	0.95
% Impervious	95%
Total New Dev. Site Area (acres)	0.73
New Dev. Site Rv	0.90
Post-Development Treatment Volume (acre-ft)	0.0548
Post-Development Treatment Volume (cubic feet)	2.387
Post-Development Load (TP) (lb/yr)	1.50

TP Load Reduction Required for New Impervious Area (lb/yr)	1.20
--	------

Drainage Area A

Drainage Area A Land Cover (acres)					
A soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.70	0.70	0.25
0.00	0.00	0.00	0.92	0.92	0.95
				Total	1.62

Post Development Treatment Volume (cf) 3808

Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area A

Credit	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)
7.a. Infiltration #1 (Spec #8)	Impervious acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00
	turf acres draining to infiltration	50% runoff volume reduction	0.50	0.00	0	0	0	25	0.00	0.00	0.00	0.00
7.b. Infiltration #2 (Spec #8)	Impervious acres draining to infiltration	90% runoff volume reduction	0.90	0.92	0	2655	317	25	0.00	1.98	1.84	0.15
	turf acres draining to infiltration	90% runoff volume reduction	0.90	0.70	0	572	64	25	0.00	0.40	0.37	0.03
				TOTAL IMPERVIOUS COVER TREATED (ac)	0.92							
				TOTAL TURF AREA TREATED (ac)	0.70							

AREA CHECK OK

TOTAL PHOSPHOROUS REMOVAL REQUIRED ON SITE (lb/yr) 1.75
TOTAL RUNOFF REDUCTION IN D.A. A (cf) 3,427
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 2.21

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

Virginia Runoff Reduction Method ReDevelopment Worksheet - v2.8 - June 2014

Update Summary Sheet

Site Data Summary

Total Rainfall = 43 inches

Print

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	0.22	0.00	2.39	2.61	66.92
Impervious (acres)	0.00	0.00	0.00	1.29	1.29	33.08
					3.90	100.00

Site Rv	0.47
Post Development Treatment Volume (ft ³)	6646
Post Development TP Load (lb/yr)	4.18
Post Development TN Load (lb/yr)	29.87
Total TP Load Reduction Required (lb/yr)	1.75

Total Runoff Volume Reduction (ft ³)	3427
Total TP Load Reduction Achieved (lb/yr)	2
Total TN Load Reduction Achieved (lb/yr)	15.61
Adjusted Post Development TP Load (lb/yr)	1.97
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)	0.70	0.86	0.39	0.66	0.00	2.61
Impervious (acres)	0.92	0.31	0.00	0.06	0.00	1.29
					3.90	

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)	2.21	0.00	0.00	0.00	0.00	2.21
TN Load Red. (lb/yr)	15.61	0.00	0.00	0.00	0.00	15.61

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	0.00	0.00	0.70	0.70	43.21
Impervious (acres)	0.00	0.00	0.00	0.92	0.92	56.79
					1.62	

BMP Selections

Practice	Credit Area (acres)	Downstream Practice
7.b. Infiltration #2 (Spec #8)	Impervious: 0.92 Turf: 0.7 (Pervious):	

Total Impervious Cover Treated (acres)	0.92
Total Turf Area Treated (acres)	0.70
Total TP Load Reduction Achieved in D.A. A (lb/yr)	2.21
Total TN Load Reduction Achieved in D.A. A (lb/yr)	15.61

Site Results

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
IMPERVIOUS COVER	0.92	0.31	0.00	0.06	0.00	OK
IMPERVIOUS COVER TREATED	0.92	0.00	0.00	0.00	0.00	OK
TURF AREA	0.70	0.86	0.39	0.66	0.00	OK
TURF AREA TREATED	0.70	0.00	0.00	0.00	0.00	OK
AREA CHECK	OK	OK	OK	OK	OK	OK

Phosphorus

TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED (LB/YEAR)	1.75
RUNOFF REDUCTION (cf)	3427
PHOSPHOROUS LOAD REDUCTION ACHIEVED (LB/YR)	2.21
ADJUSTED POST-DEVELOPMENT PHOSPHOROUS LOAD (TP) (lb/yr)	1.97
REMAINING PHOSPHOROUS LOAD REDUCTION (LB/YR) NEEDED	CONGRATULATIONS! YOU EXCEEDED THE TARGET REDUCTION BY 0.5 LB/YEAR!!

Channel and Flood Protection

	Weighted CN	1-year storm Adjusted CN	2-year storm Adjusted CN	10-year storm Adjusted CN
D.A. A CN	90	82	83	84
D.A. B CN	82	82	82	82
D.A. C CN	76	76	76	76
D.A. D CN	82	82	82	82
D.A. E CN	0	#N/A	#N/A	#N/A

Target Rainfall Event (in)	1-year storm	2-year storm	10-year storm
	2.70	3.20	5.20

Drainage Area A	
Drainage Area (acres)	1.62
Runoff Reduction Volume (cf)	3,427

Drainage Area B	
Drainage Area (acres)	1.17
Runoff Reduction Volume (cf)	0

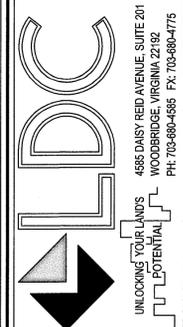
Drainage Area C	
Drainage Area (acres)	0.38
Runoff Reduction Volume (cf)	0

Drainage Area D	
Drainage Area (acres)	0.72
Runoff Reduction Volume (cf)	0

Drainage Area E	
Drainage Area (acres)	0.00
Runoff Reduction Volume (cf)	0

Based on the use of Runoff Reduction practices in the selected drainage areas, the spreadsheet calculates an adjusted Rv_{developed} and adjusted Curve Number.

		A soils	B Soils	C Soils	D Soils	
Drainage Area A	Forest/Open Space - undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77	
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.70	
	CN	39	61	74	80	
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.92	
	CN	98	98	98	98	
					Weighted CN	90
					s	1.11
Rv _{developed} (in) with no Runoff Reduction		1-year storm	2-year storm	10-year storm		
Rv _{developed} (in) with Runoff Reduction		1.71	2.17	4.07		
Adjusted CN		82	83	84		



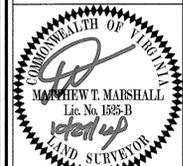
VRRM SPREADSHEET

SUMMER HILL ESTATES

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE	DESCRIPTION	REVIEW BY	APPROVED DATE
12/11/14	NEW SHEET		
02/24/14	NO CHANGES		
02/24/14	NO CHANGES		

I HEREBY CERTIFY THAT OTHER THAN THE REVISIONS SHOWN HEREON, NO OTHER CHANGES HAVE BEEN MADE.



SCALE:
AS NOTED

SHEET 7B OF 7

DATE: MARCH, 2014
DRAFT: KMA CHECK: NITM
FILE NUMBER: 13047-1-0-35
RZ 2014-PR-

FOR INFORMATIONAL PURPOSES ONLY!

THE INFORMATION PROVIDED ON THIS SHEET IS FOR INFORMATION PURPOSES ONLY. THE FINAL DESIGN OF THE STORMWATER MANAGEMENT/BEST MANAGEMENT PRACTICES FACILITY WILL OCCUR AT TIME OF FINAL SUBDIVISION PLAN. THE INFORMATION SHOWN HEREON IS APPROXIMATE. THE APPLICANT RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THIS INFORMATION AND THE DESIGN WITHOUT THE NEED FOR A PROFFER CONDITION AMENDMENT OR PROFFER INTERPRETATION, PROVIDED IT IS IN ACCORDANCE WITH THE PUBLIC FACILITIES MANUAL.

SEE SHEET 7A FOR DRAINAGE AREA MAPS & SWM COMPUTATIONS

**A GLOSSARY OF TERMS FREQUENTLY
USED IN STAFF REPORTS WILL BE
FOUND AT THE BACK OF THIS REPORT**

DESCRIPTION OF THE APPLICATION

The applicant, Sekas Homes, Ltd., requests approval of a rezoning of approximately 4.12 acres from the R-1 and R-2 Districts to the R-3 District to permit the development of ten single family detached dwellings at a density of 2.43 dwelling units per acre (du/ac). The proposed lots range in size from 10,500 square feet (SF) to 21,300 SF with an average lot size of 13,500 SF. A proposed cul-de-sac and sidewalk will provide vehicular and pedestrian access to the proposed residences. The dwellings are largely oriented around the proposed cul-de-sac. However, one lot, Lot 10, is oriented towards Sutton Road. Additionally, Lot 1 is proposed to remain as is, with primary access from Courthouse Road until redeveloped at some point in the future and accessed from the proposed new public street. An outlot, Parcel A, would contain the proposed stormwater management facility.

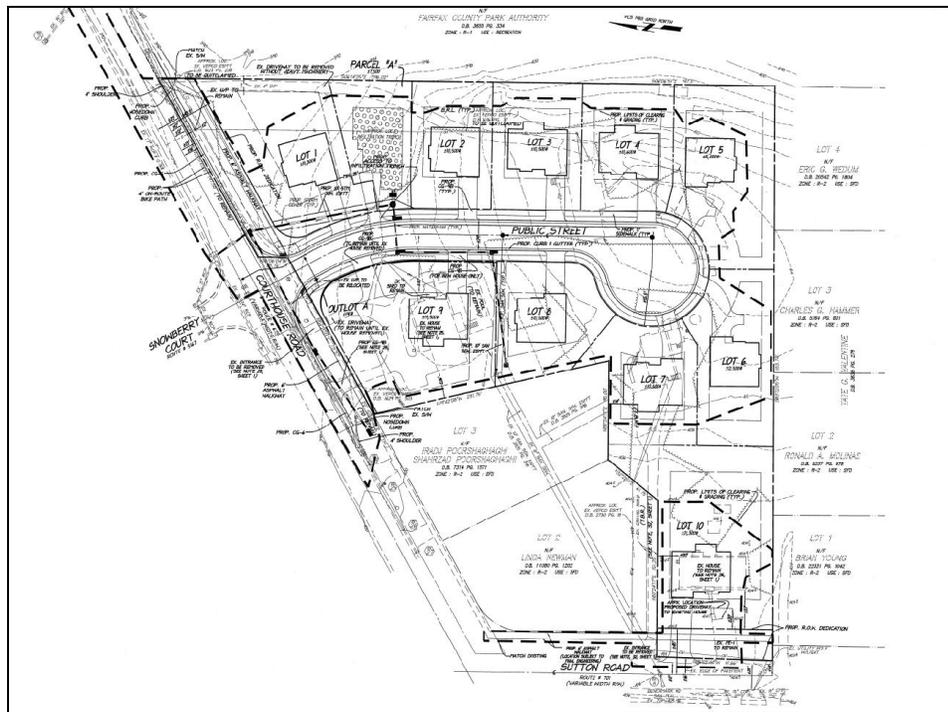


Figure 1 Proposed Site Layout

The application requests waivers or modifications to the sidewalk requirement along Courthouse Road and Sutton Road in favor of a six-foot wide asphalt walkway and a waiver of curb and gutter along Sutton Road. The Generalized Development Plan (GDP) also indicates that the applicant is seeking a waiver to allow underground detention in a residential area. This waiver has not been acted upon at the time of the publication of the staff report, although it has been submitted and is under review by the Department of Public Works and Environmental Services (DPWES). This waiver must be concurrently considered by the Board of Supervisors (BOS) with this application, and

staff expects the review to be complete by that time. The requested facility has been considered favorably in previous applications by this applicant, most recently RZ/FDP 2013-HM-016 (Iris Hills) and staff is therefore comfortable with this application being considered at this time.

LOCATION AND CHARACTER

The subject property is located near the northeast corner of Courthouse and Sutton Roads adjacent to Nottoway Park near the Town of Vienna. The property currently contains several existing houses, accessory features and driveways. All the features and structures will be removed immediately except for the single-family detached dwellings on Lots 9 and 10 which will be redeveloped and phased in over time, should the owners wish to redevelop. Ultimately, all the features and existing structures would be removed. The site is relatively flat with some existing vegetation and tree canopy; however, the site has somewhat been cleared with its current development. There are no Resource Protection Areas (RPAs), floodplains, or Environmental Quality Corridors (EQCs) on the property.



Figure 2 Aerial Photograph

SURROUNDING AREA DESCRIPTION			
Direction	Use	Zoning	Comprehensive Plan
North	Single Family Residential	R-3	Residential, 2-3 du/ac
South	Single Family Residential	R-2	Residential, 2-3 du/ac
East	Nottoway Park	R-1	Public Park
West	Single Family Residential	R-1	Residential, 2-3 du/ac

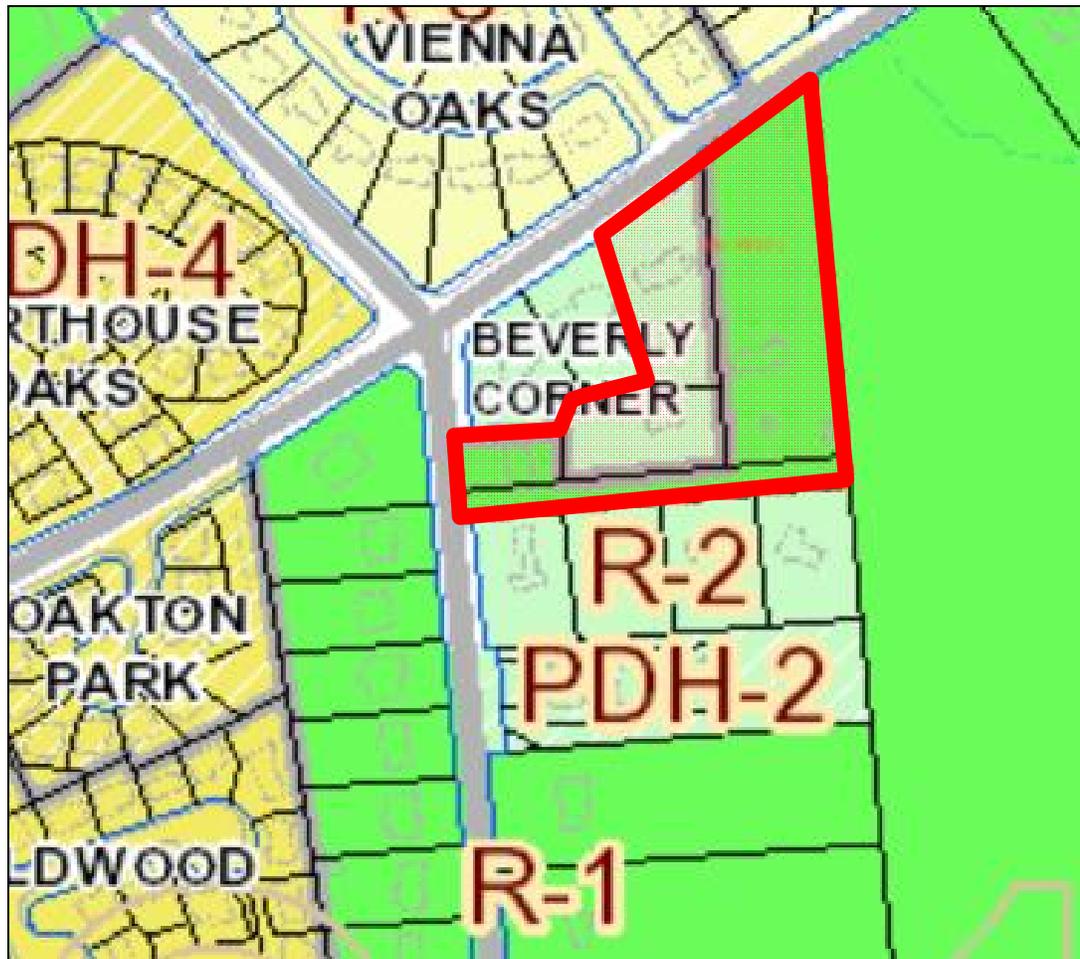


Figure 3 Zoning Map

BACKGROUND

According to the Department of Tax Administration’s Real Estate Assessment records, the existing structures on the property were constructed over time from the late 1940’s to the 1960s. The existing home on proposed Lot 9 was built in 1991.

DESCRIPTION OF THE GENERALIZED DEVELOPMENT PLAN (GDP)

- Title of GDP:** Summer Hill Estates
- Prepared by:** LDC
- Original and Revision Dates:** March 2014 as revised through October 27, 2014
- GDP Description:** The GDP consists of twelve total sheets.

Sheet	Description
1	Title, site information, notes, lot typicals, tabulations, waiver and modification requests, vicinity map, soils map

2	Site layout, street detail
3	Landscape Plan
4	Existing Conditions Plan
5	Existing Vegetation Map
5A	Tree Protection and Preservation Plan
5B	Tree Preservation Narratives
5C	Tree Preservation Schedules and Appraisals
6	Elevations
7	Stormwater Management Information
7A	Stormwater Management Information
7B	VRRM Spreadsheet

The following features are depicted on the proposed GDP:

Proposed Layout

The GDP depicts the development of ten single family detached dwellings on the 4.12 acre parcel at a density of 2.43 du/ac. Most of the proposed lots are oriented around a new street and cul-de-sac, although Lot 10 is oriented towards Sutton Road. The parcels range in size from 10,500 SF to 21,300 SF. Sheet 1 of the GDP provides a lot typical that shows a minimum front yard setback of 30 feet, a minimum side yard setback of 12 feet, and a rear yard setback of 25 feet. These setbacks comply with the requirements of the R-3 District. As discussed above, the development is proposed in phases, with Lots 1-7 expected to occur as soon as the market allows. New homes on Lots 8 -10 would occur if and when those property owners so choose.

Parcel A is located between Lots 1 and 2 and will be developed with the proposed stormwater facility to fulfill stormwater management (SWM) and Best Management Practices (BMP) for the development.

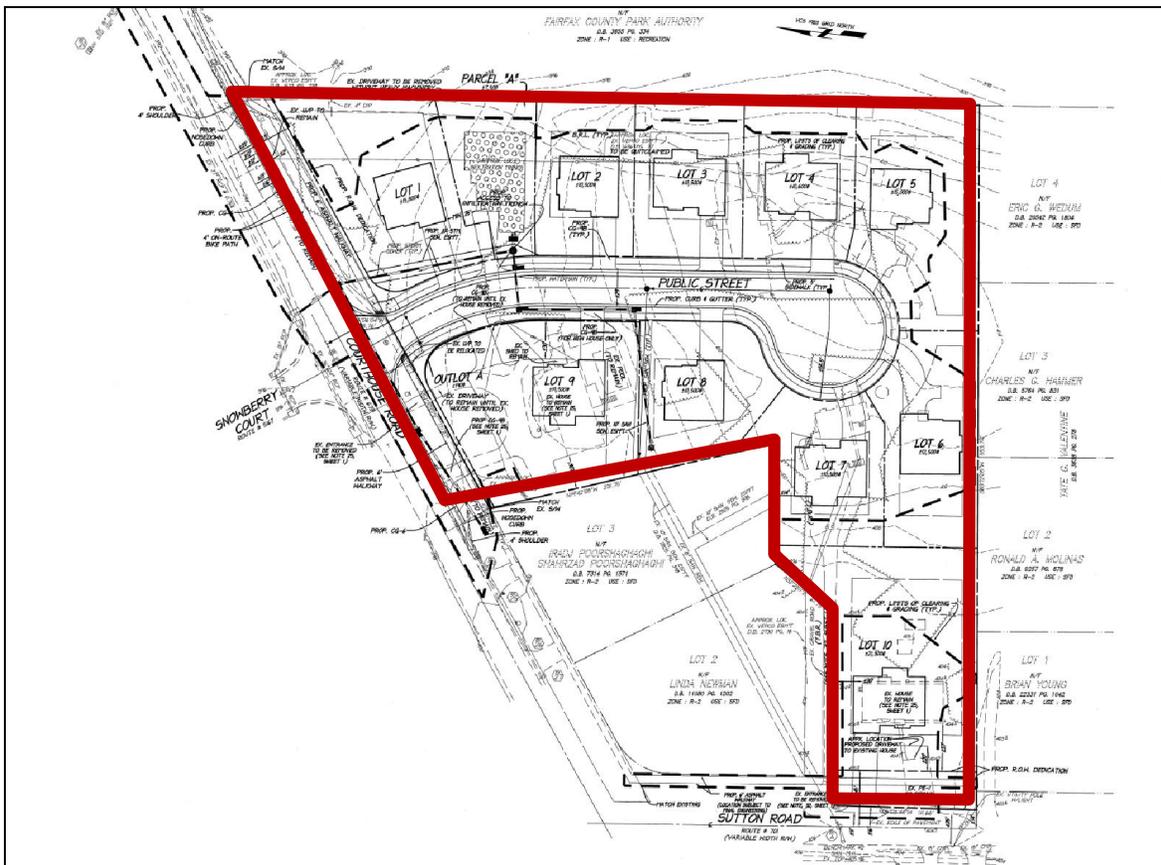


Figure 4 GDP with parcel layout

Vehicular and Pedestrian Access

The new public street and Sutton Road will be used to access the proposed lots. The new public street will be located opposite Snowberry Court. Driveways are proposed at the front of the homes. Sidewalks are shown on both sides of the new street and along the cul-de-sac. A six-foot wide asphalt walkway is proposed along Courthouse Road which would tie in to the existing sidewalk along that road. In addition, another 6 foot wide asphalt walkway is proposed along Sutton Road. This walkway would run across the frontage of Lot 10 and extend offsite to the corner of Courthouse Road to tie in to that existing sidewalk.

Parking

Each lot will contain sufficient area for a minimum of two parking spaces in the driveway and two spaces within an attached garage for a total of four parking spaces per residence. The draft proffers indicate that the driveway for each unit shall be a minimum of 20 feet in length and 18 feet in width to prevent vehicles overhanging onto the sidewalk. Further, the proposed proffers include language that would prohibit the use of any garage that precludes the parking of vehicles within the garage.

Stormwater Management

The application proposes to meet stormwater management (SWM) and Best Management Practices (BMP) through the use of an infiltration trench with underground storage, located on Parcel A.

The application will provide storage for the one-year storm volume and peak flow reduction for the 2-year and 10-year storms. As stated in the outfall narrative on the GDP, there are three outfalls from this property, with Outfall #1 leaving the subject site through a proposed storm sewer system that connects to the existing storm sewer within Courthouse Road. Outfall #2 leaves the property via sheet flow towards Nottoway Park. Outfall #3 leaves the property via sheet flow toward Sutton Road and is collected within a roadside ditch at Sutton to a roadside ditch at Courthouse and into the proposed storm sewer system discussed for Outfall #1. The GDP states that outfalls are adequate in accordance with the PFM. The proffers state that the stormwater facility shall be designed to meet the adequate outfall requirements as outlined in the PFM.

The stormwater facility will be privately maintained by the future homeowners' association (HOA). An easement would be provided from the new public street for vehicular access to the facility in accordance with the PFM.

Architecture and Design

Sheet 6 of the GDP displays conceptual elevation views of the proposed single family detached dwellings. The draft proffers state that the design and architecture of the proposed units shall be in substantial conformance with these illustrative elevations, or of comparable quality. The proposed proffers also state that the exterior facades of the homes will be covered with masonry from finished grade to the first floor on all four sides and may include cultured stone, stone, or brick. In addition, the homes will incorporate green building features and will attain the ENERGY STAR® for Homes qualification. In accordance with Zoning Ordinance requirements, all units will be no more than 35 feet in height.

ANALYSIS

Comprehensive Plan

On page 87 of the Fairfax County Comprehensive Plan, 2013 Edition, Vienna Planning District, as amended through April 29, 2014, in the V5 Nutley Community Planning Sector, it states:

“The parcels bounded by Sutton Road, Courthouse Road, Nottoway Park, and Land Unit F of the Vienna Transit Station Area are planned for residential use at 2-3 dwelling units per acre. As an option, development for residential use at 4-5 dwelling units per acre may be appropriate if the parcels are fully consolidated and there is a single access point to Sutton Road.”

The Comprehensive Plan map calls for a density of 2-3 du/ac on the subject property and surrounding properties. The use and density of the proposed development, therefore, are in conformance with the Comprehensive Plan.

Residential Development Criteria (Appendix 15)

Fairfax County expects new residential development to enhance the community by fitting into the fabric of the neighborhood, respecting the environment, addressing transportation impacts, addressing impacts on public facilities, being responsive to the County's historic heritage, contributing to the provision of affordable housing, and being responsive to the unique site specific considerations of the property. To that end, the Comprehensive Plan requires that the Residential Development Criteria be used to evaluate zoning requests for new residential development:

Site Design (Development Criterion #1)

All rezoning applications for residential development should be characterized by high quality site design. Rezoning proposals for residential development, regardless of the proposed density, will be evaluated based upon the following principles, although not all of the principles may be applicable for all developments.

- *Consolidation*

While the Comprehensive Plan suggests a higher density could be available with full consolidation, the Plan does not mandate all the lots in the adjacent area be consolidated. As it is, the application represents a consolidation of five parcels surrounded on the east by Nottoway Park, to the south by an existing residential subdivision zoned R-2 and bounded by Courthouse and Sutton Roads to the west and north. Ideally, the entire corner could have consolidated, specifically with Parcels 2 and 3, for a coordinated plan. However, those parcels are currently developed with relatively new single family detached residences. The application was able to consolidate Parcel 67 that would otherwise be a nonconforming lot which could not be brought into conformance unless it was made a part of a new subdivision. As the applicant is not requesting the greater density associated with full consolidation, staff finds the application has met the consolidation recommendations.

- *Layout*

The proposed layout includes ten lots that range in size from 10,500 SF to 21,300 SF, with an average lot size of 13,500 SF. The lot typical shown on Sheet 1 of the GDP depicts a minimum front yard setback of 30 feet, a side yard setback of 12 feet, and a rear yard setback of 25 feet. These setbacks meet the R-3 District requirements and provide for usable yard areas within the individual lots that may accommodate the future construction of decks in accordance with Section 2-412 of the Zoning Ordinance. In addition, the proposed dwelling units are appropriately oriented toward the cul-de-sac and Sutton Road.

- *Open Space, Landscaping, and Amenities*

The R-2 District does not have an open space requirement for conventional subdivisions. However, the application includes open space in association with the proposed stormwater facility. In addition, the GDP depicts tree preservation around the perimeter of the property as well as supplemental plantings around the proposed dwellings and cul-de-sac.

Based on the features described above, the application satisfies Criterion #1.

Neighborhood Context (Development Criterion #2)

All rezoning applications for residential development, regardless of the proposed density, should be designed to fit into the community within which the development is to be located. Developments should fit into the fabric of their adjacent neighborhoods, as evidenced by an evaluation of:

- *Transitions to abutting and adjacent uses;*

The application property is a group of parcels that is surrounded by residential subdivisions containing single family detached dwellings and associated outlots. Therefore, the proposed use is compatible with the adjacent uses.

The residential development to the south [Tax Map Parcels 48-1 ((1)) Parcels 69 (A-D)] is zoned R-2. The residential development to the west [Tax Map Parcels 48-1 ((3)) 1-9] is also zoned R-2. Across Courthouse Road, the residential developments (Vienna Oaks and Vienna Grove) are zoned R-3 and PDH-3. There are also parcels zoned PDH-4 and R-4 in the vicinity. The density of the applicant's proposed development is 2.43 du/ac. This density falls in the middle of the density range of the adjacent developments. Staff finds that the proposed density serves as a transition between the higher and lower densities in the area and, as such, finds that the density compatible with the adjacent residential developments. Staff also finds that the proposed density is within the Comprehensive Plan's recommended density range for this parcel.

- *Lot sizes, particularly along the periphery;*

The proposed lot sizes are comparable in size to the lots in the adjacent neighborhoods, including those lots along the periphery of the proposed development. Generally, the parcels to the south and west are larger than the subject properties, while parcels to the north across Courthouse Road are smaller. The excerpt of the tax map below shows the comparisons. According to the tax assessor's office, the parcels to the south and west are in the 24,000 SF range, while the parcels in Vienna Oaks are typically in the 15,000 SF range.

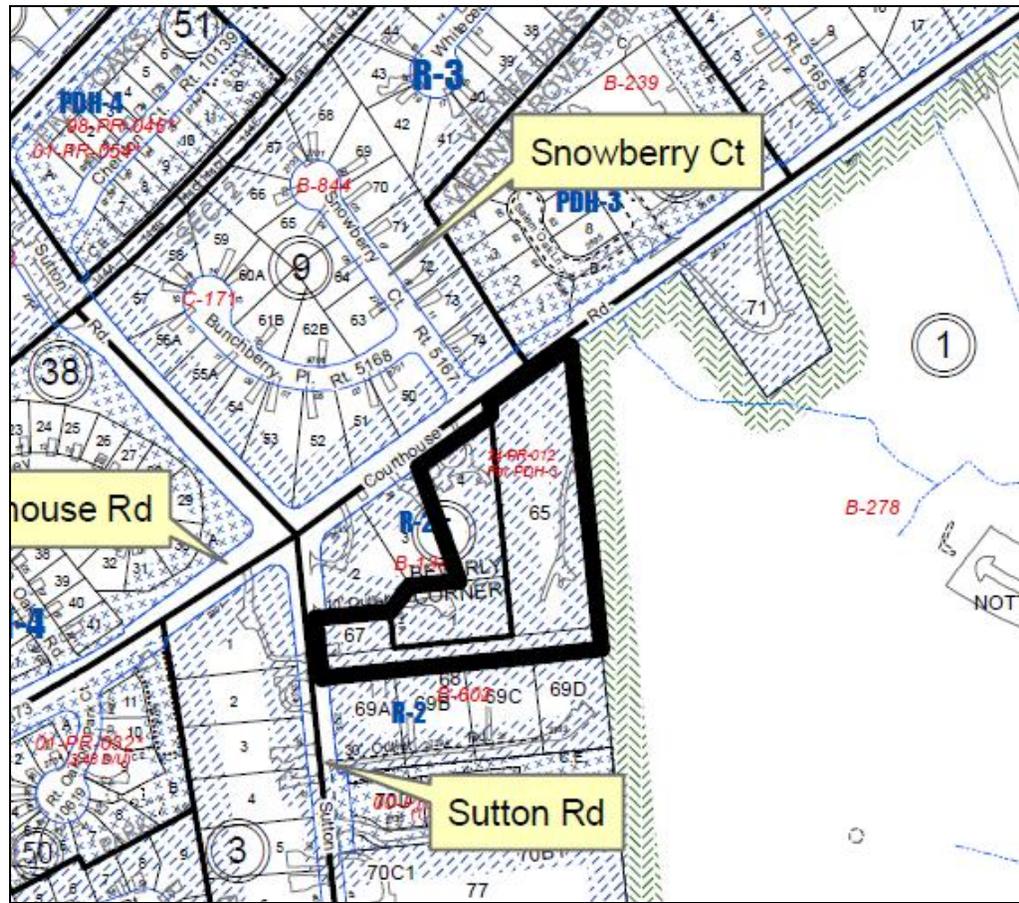


Figure 5 Tax Map

- *Bulk/mass of the proposed dwelling units;*

The applicant intends to construct dwellings that contain a footprint between 2,200 SF and 2,400 SF and this appears to be roughly consistent with the neighboring homes.

- *Setbacks (front, side, and rear);*

As discussed in Criterion #1, the lot typical shown on the GDP indicates a minimum front yard setback of 30 feet, a side yard setback of 12 feet, and a rear yard setback of 25 feet. These setbacks meet the R-3 District's requirements.

- *Orientation of the proposed dwelling units to adjacent streets and homes;*

In the original application, the requested zoning district for this property was PDH-3. While that district allowed for a private (and therefore narrower) road, staff did not believe that the design presented could meet P District Standards. The orientation of the proposed parcels was irregular, with some homes facing the new street, some homes facing the backs of others with side yards adjacent to nearby rear yards. The design also provided poor fire access and the fire marshal found the site unacceptable for accommodating a turnaround for fire vehicles. The previous proposal is shown here.



Figure 6 PDH-4 District Layout

With the change to a conventional zoning district, the proposed dwellings are, for the most part, oriented appropriately around the cul-de-sac with new street that terminates on the subject property. As a result, the proposed dwellings are also logically oriented in terms of their relationship to existing homes. The one home which continues to face Sutton Road has been included in the application because it was created illegally and is currently nonconforming. Only through inclusion in this development proposal could this lot be made conforming. While this parcel is somewhat disconnected from the rest of Summer Hill Estates, it is compatible with the other homes on that corner and logically continues the pattern across Sutton Road.

- *Architectural elevations and materials;*

Sheet 6 of the GDP provides illustrative elevations of the proposed dwellings.



Figure 7 Conceptual Renderings

The draft proffers state that the design and architecture of the proposed units shall be in substantial conformance with these illustrative elevations, or of comparable quality. The exterior facades of the dwellings will be covered with masonry from the finished grade to the first floor on all four sides, and masonry and/or cementitious siding will be installed from the first floor to the roof line. The proposed dwellings would be limited to a maximum height of 35 feet. This architecture is generally consistent with the existing residences in the neighboring subdivisions.

- *Pedestrian, bicycle and vehicular connections to off-site trails, roadways, transit facilities and land uses;*

The proposed public street provides an adequate vehicular connection to the subject property. This new public street is proposed to have sidewalks on both sides. In addition, the applicant is providing a six-foot wide asphalt walkway along the property frontages on both Courthouse and Sutton Roads. The applicant has agreed to provide this walkway offsite along Sutton Road as well, along the frontage of existing Parcel 2. The applicant is also proposing to escrow the costs of future sidewalk along their frontage along Sutton Road. Finally, the applicant has also proposed to escrow the costs of curb and gutter along Sutton Road. Given the foregoing, staff finds this application meets this criterion.

- *Existing topography and vegetative cover and proposed changes to them as a result of clearing and grading*

The existing topography of the site is predominantly flat, sloping from a high mark of 414 feet near the new cul-de-sac and about 395 feet at Courthouse Road and 405 feet near Sutton Road. Much of the existing forest canopy is along the boundaries of the property, especially along the shared property

boundary with Nottoway Park. The applicant is proposing tree preservation areas at the property boundary with the park and with adjacent parcels to the south. By adjusting the limits of clearing and grading on the site and using a slightly smaller footprint for the homes proposed adjacent to Nottoway Park, the applicant has provided sufficient tree preservation to meet the Tree Preservation Ordinance. In addition, the applicant has provided enhanced landscaping for the homes in this subdivision.

Environment (Development Criterion #3)

All rezoning applications for residential development should respect the environment. Rezoning proposals for residential development, regardless of the proposed density, should be consistent with the policies and objectives of the environmental element of the Policy Plan, and will also be evaluated on the following principles, where applicable.

a) Preservation

The Policy Plan states that developments should conserve natural environmental resources such as floodplains, stream valleys, woodlands, and wetlands. The subject property does not contain any floodplains, stream valleys, wetlands, Environmental Quality Corridors (EQCs) or Resource Protection Areas (RPAs).

The applicant's impact to existing vegetation is further discussed in Development Criterion #4 below.

b) Slopes and Soils

As previously discussed, the site gradually slopes downward from the center of the site to the existing roads. The majority of the site contains a soil type that is rated as "good" for foundation support and drainage¹. While a portion of the site contains a soil type that is rated as "poor" for foundation support and drainage, this is a small area of the site. The applicant completed infiltration testing near the vicinity of the infiltration trench and has stated that the results indicate an average infiltration rate that is greater than the minimum requirements. Staff finds that the proposed development takes the existing topographic conditions and soil characteristics into consideration.

c) Water Quality

As previously discussed, the applicant proposes to manage the impacts of stormwater runoff through the installation of an infiltration trench with underground detention on Parcel A. According to the submitted GDP, the infiltration trench will provide water quality treatment per the Public Facilities Manual (PFM) and applicable Stormwater Ordinance (See Sheet 7B of the GDP). The quality treatment will also be reviewed again once the subdivision plat is submitted.

d) *Drainage*

During review of this application, a key topic has been the treatment of the volume and velocity of stormwater leaving the site. While the site is somewhat developed in its existing condition, the proposed development will generate a higher levels of drainage outfall than currently experienced.

The following graphics show current and post development treatment:

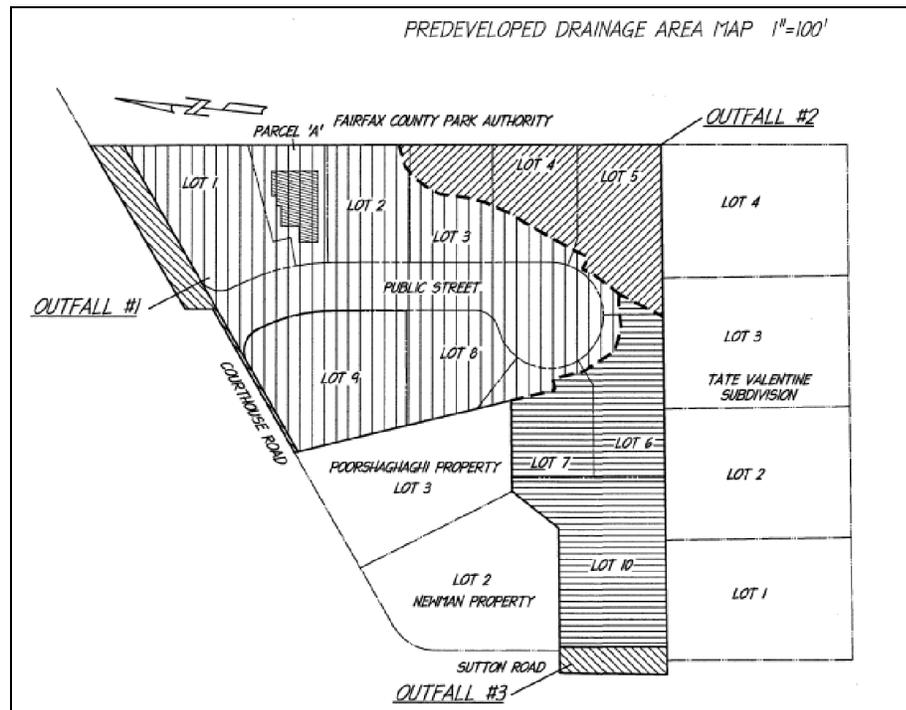


Figure 8 Predeveloped Drainage Area

Much of the site, 2.42 acres, currently flows into Outfall #1 on Courthouse Road, and less than an acre each goes into Outfalls #2 and #3 which go either to Nottoway Park or into a ditch into Sutton Road.

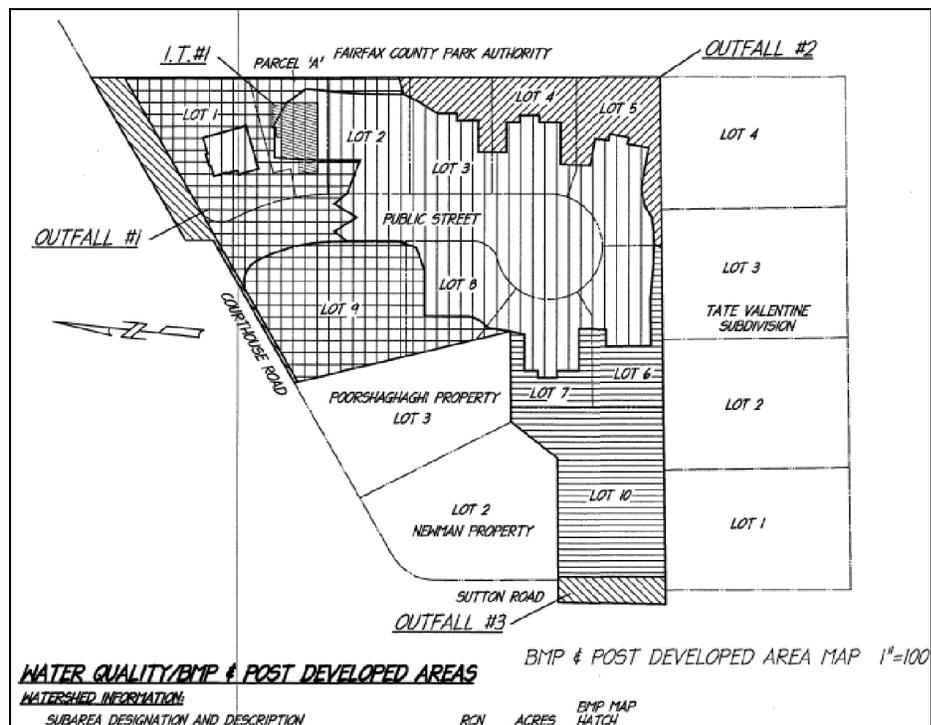


Figure 9 Post Development Drainage Area

In the post developed circumstance, outfall still is provided to the same three outfalls; however, its velocity and volume is treated in the infiltration trench prior to reaching the outfalls. Detention for the two- and ten-year storm event and storage for the one-year storm volume will be provided. These outfalls have been reviewed by the Department of Public Works and Environmental Services (DPWES) and are adequate in accordance with the PFM. The proffers also commit that the stormwater facility shall be designed to meet the adequate outfall as outlined in the PFM. The current design does eliminate the current impervious area which sheet flows into Nottoway Park.

e) *Noise*

The property is not within close proximity to a source of transportation generated noise. Therefore, the proposed dwelling units are unlikely to experience adverse impacts as a result of transportation-generated noise.

f) *Lighting*

Streetlights proposed with this application must be in conformance with lighting and transportation standards.

g) *Energy*

The applicant's proposal seeks a density at the high end of the Comprehensive Plan's recommended density range for this parcel (2 – 3 du/ac). On page 20 of the Environment Section of the Policy Plan, as amended through July 27, 2010, it states, "Ensure that zoning proposals for residential development will qualify for the ENERGY STAR Qualified Homes designation, where such zoning proposals seek development at the high end of the Plan density range and where broader commitments to green building practices are not being applied." Therefore, staff requested that the applicant commit to this ENERGY STAR[®] Qualified Homes designation. The applicant's draft proffers commit to this request.

Based on the features described above, Criterion #3 has been met.

Tree Preservation and Tree Cover Requirements (Development Criterion #4)

All rezoning applications for residential development, regardless of the proposed density, should be designed to take advantage of the existing quality tree cover. If quality tree cover exists on site as determined by the County, it is highly desirable that developments meet most or all of their tree cover requirement by preserving and, where feasible and appropriate, transplanting existing trees. Tree cover in excess of ordinance requirements is highly desirable. Proposed utilities, including stormwater management and outfall facilities and sanitary sewer lines, should be located to avoid conflicts with tree preservation and planting areas. Air quality-sensitive tree preservation and planting efforts (see Objective 1, Policy c in the Environment section of the Policy Plan) are also encouraged.

The subject property currently contains approximately 125,692 SF of existing tree canopy, as shown on the GDP. According to the Tree Condition Analysis, the undeveloped portions of the site are comprised primarily of Upland hardwoods in mostly fair condition.

The GDP indicates that a total of 42,299 SF of canopy must be provided to meet the tree cover requirement and that 31,725 SF will be provided through tree preservation. The applicant has met the tree cover and preservation requirements and staff finds that this application does satisfy Criterion #4.

Transportation (Development Criterion #5)

All rezoning applications for residential development should implement measures to address planned transportation improvements. Applicants should offset their impacts to the transportation network. Accepted techniques should be utilized for analysis of the development's impact on the network. Residential development considered under these criteria will range widely in density and, therefore, will result in differing impacts to the transportation network. Some criteria will have universal applicability while others will apply only under specific circumstances. Regardless of the proposed density, applications will be evaluated based upon the following principles, although not all of the principles may be applicable.

a) Transportation Improvements

A proposed public street onto the subject property will provide access to the dwellings. As such, safe and adequate access to the road network will be provided for each residence. Staff finds that the traffic generated by ten proposed residences would have a minimal impact on the surrounding transportation network.

b) Transit/Transportation Management

The applicant is not proposing to provide bus shelters, shuttle service, or other transportation management commitments. Due to the minimal impact that ten residences will likely have on the nearby transportation network, staff did not identify a need for such transportation management measures.

c) Interconnection of the Street Network

As previously described, the applicant intends to add a new public street with cul-de-sac on the property. Given that the other neighborhoods are already developed with single family detached residences on cul-de-sacs which are not readily accessible for connection due to the location of private residential lots and Nottoway Park, the continuation of the street to other adjacent developments would not be practical. The applicant has submitted a request to the Virginia Department of Transportation (VDOT) for an exception of the multiple connections requirement contained in VDOT's Secondary Street Acceptance Requirements (SSAR). FCDOT has expressed support for this waiver.

d) Streets

The applicant has proposed a new residential street and will install curb and gutter along Courthouse Road. The applicant has further requested a waiver of construction of the curb and gutter along Sutton Road. However, the applicant has proposed to provide the escrow for that future construction by others.

e) Non-motorized Facilities

The applicant proposes to add sidewalks to both sides of the new public street and to provide an asphalt trail along Courthouse Road (to tie into an existing sidewalk) and along Sutton Road from the subject property offsite to Courthouse Road. In addition, the proposed driveways will be a minimum length of 18 feet, which will accommodate passenger vehicles without blocking the sidewalk.

f) Alternative Street Designs

This application does not propose any alternative street designs.

Based on the features described above, the application satisfies Criterion #5.

Public Facilities (Development Criterion #6)

All rezoning applications for residential development are expected to offset their public facility impact and to first address public facility needs in the vicinity of the proposed development. Impact offset may be accomplished through the dedication of land suitable for the construction of an identified public facility need, the construction of public facilities, the contribution of specified in-kind goods, services or cash earmarked for those uses, and/or monetary contributions to be used toward funding capital improvement projects. Selection of the appropriate offset mechanism should maximize the public benefit of the contribution.

The Fairfax County Public Schools' Office of Facilities Planning Services (Appendix 11) determined that the proposal is anticipated to yield approximately four new students over the two students who would be anticipated if the parcel were to be developed by-right. Based on the approved proffer formula guidelines, staff determined that a proffer contribution of \$10,825 is appropriate in order to address capital improvements for the receiving schools. The applicant's proffers commit to these recommendations and offer \$43,300 to the Board of Supervisors for capital improvements to the public schools in the High School pyramids that encompass the area at the time of building permit approval.

Similarly, the Fairfax County Park Authority (FCPA) noted that the Policy Plan within the Comprehensive Plan describes the "need to mitigate adverse impacts to park and recreation facilities caused by growth and development," and offers ways in which those impacts can be offset. One of these mitigation measures includes a contribution to the Park Authority to allow for recreational facility development as the population increases. To offset the additional impact caused by the proposed development, the applicant's draft proffers propose a \$21,432 contribution to the Board of Supervisors for use by the FCPA. This contribution is consistent with the amount recommended by the FCPA and would allow for recreational facility development at one or more park sites located within the service area of the subject property.

The proposed development would not adversely impact sanitary sewer capacity and would be serviced by the Fairfax County Fire and Rescue Department Station #434, Oakton. The proposed development can also be connected to Fairfax Water. The applicant intends to extend public water onto the site via Drewlaine Drive. Finally, the proposal meets the guidelines expressed by the Office of the Fire Marshal.

Given the features discussed above, the application meets Criterion #6.

Affordable Housing (Development Criterion #7)

Ensuring an adequate supply of housing for low and moderate income families, those with special accessibility requirements, and those with other special needs is a goal of

the County. Part 8 of Article 2 of the Zoning Ordinance requires the provision of Affordable Dwelling Units (ADUs) in certain circumstances. Criterion #7 is applicable to all rezoning applications and/or portions thereof that are not required to provide any Affordable Dwelling Units, regardless of the planned density range for the site.

The Zoning Ordinance does not require the applicant to provide Affordable Dwelling Units (ADUs) because only ten dwellings are proposed; however, the Comprehensive Plan recommends a contribution to the County's Housing Trust Fund in rezoning applications that propose new residential dwellings. The application satisfies this Comprehensive Plan guideline by proffering to contribute 0.5% of the projected sales price for all of the units approved on the property to the Fairfax County Housing Trust Fund.

With this commitment, the application satisfies Criterion #7.

Heritage Resources (Development Criterion #8)

Heritage resources are those sites or structures, including their landscape settings that exemplify the cultural, architectural, economic, social, political, or historic heritage of the County or its communities. Such sites or structures have been 1) listed on, or determined eligible for listing on, the National Register of Historic Places or the Virginia Landmarks Register; 2) determined to be a contributing structure within a district so listed or eligible for listing; 3) located within and considered as a contributing structure within a Fairfax County Historic Overlay District; or 4) listed on, or having a reasonable potential as determined by the County, for meeting the criteria for listing on, the Fairfax County Inventories of Historic or Archaeological Sites.

The applicant provided the Fairfax County Park Authority's Cultural Resource Management and Protection (CRMP) Section with a Phase 1 Archeological Report for the subject property, as requested by the FCPA. After reviewing this report, staff from CRMP did not request any further review. Criterion #8, therefore, has been adequately addressed.

ZONING ORDINANCE PROVISIONS

The requested rezoning of the subject parcels from the R-1 and R-2 District to the R-3 District must comply with the applicable regulations of the Zoning Ordinance. The chart below compares the proposed development to the R-3 District's requirements. There are no transitional screening or barrier requirements associated with this application.

Bulk Standards R-3		
Standard	Required	Provided
Minimum Lot area	10,500 SF	10,500 SF
Average Lot Area	11,500 SF	13,500 SF
Minimum Lot Width (corner)	105 feet	105 feet
Minimum Lot Width (interior)	80 feet	80 feet

Bulk Standards R-3		
Standard	Required	Provided
Maximum Building Height	35 feet	35 feet
Front	30 feet	30 feet
Side	12 feet	12 feet
Rear	25 feet	25 feet
Maximum Density	3 dwelling units per acre (10 units)	2.43 DU/AC
Open Space	n/a	22%
Parking Spaces	2 spaces per dwelling	4 per dwelling

Waivers and Modifications

Sidewalk Requirement along Courthouse Road

Per Section 101-2(2)(10) of the County Code and Section 8-0102 of the PFM, the applicant would be required to provide a sidewalk along Courthouse Road. However, the Countywide Trails Map also shows a minor paved trail along Courthouse Road. Since parallel trails would be redundant and difficult to maintain, the applicant and staff have agreed that a six-foot wide asphalt walkway to be maintained by the county would be appropriate and easier to maintain in this context. Therefore, as the walkway will tie in with the existing sidewalk, staff supports the waiver of sidewalk requirement.

Sidewalk Requirement along Sutton Road.

Again, the applicant is required to provide a sidewalk along Sutton Road per the County Code and PFM. However, given the lack of connections in the vicinity, the applicant has proposed installing a six-foot wide asphalt walkway as an interim condition along the application parcel and extending this walkway offsite to connect to the sidewalk along Courthouse Road. The applicant will also escrow funds for future construction of a sidewalk along their frontage by others. Given the escrow, the offsite improvements and the addition of the walkway, staff finds that this modification of the sidewalk in favor of the walkway is appropriate and provides adequate pedestrian connectivity in the area.

Construction of Curb and Gutter along Sutton Road

Section 7-0103.1 of the Public Facilities Manual and 101-2-2(2)(5) of the County Code require curb and gutter improvements along Sutton Road. The applicant has proffered to escrow the costs of these for their future construction. Staff would prefer that the applicant construct these improvements at this time; however, the escrow does allow for the future construction and there are no adjacent improvements to complete the streetscape. The applicant is providing the requested right-of-way along Sutton Road.

CONCLUSIONS AND RECOMMENDATIONS

Staff Conclusions

The applicant requests approval of a rezoning from the R-1 and R-2 District to the R-3 District to permit the construction of ten single family detached dwellings at a density of 2.43 dwelling units per acre (du/ac). Staff finds that the applicant's proposed residential development is compatible and consistent with the existing residential development in the surrounding area and concludes that the application satisfies the Residential Development Criteria. Furthermore, staff finds that the application is in harmony with the Comprehensive Plan and conforms to all applicable Zoning Ordinance provisions.

Recommendation

Staff recommends approval of RZ 2014-PR-012, subject to the execution of proffers consistent with the draft proffers contained in Appendix 1.

Staff recommends approval of a waiver of the sidewalk along Courthouse Road in favor of the six- foot wide asphalt trail shown on the GDP.

Staff recommends approval of a waiver of the sidewalk along Sutton Road in favor of the six- foot wide asphalt trail shown on the GDP.

Staff recommends waiver of construction of the curb and gutter along Sutton Road in favor of the escrow provided by the applicant.

The applicant has requested a waiver to permit underground detention in a residential area. The waiver has been advertised with this application, but a determination has not yet been made at the time of the publication of this staff report.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The approval of this application does not interfere with, abrogate or annul any easements, covenants, or other agreements between parties, as they may apply to the property subject to this application.

It should be further noted that the content of this report reflects the analysis and recommendations of staff; it does not reflect the position of the Board of Supervisors.

APPENDICES

1. Draft proffers dated September 26, 2014
2. Rezoning Affidavit
3. Statement of Justification
4. DPZ – Environment and Development Review Analysis
5. DPWES – Urban Forest Management Division Analysis
6. DPWES – Site Development and Inspections Division Analysis

7. DPWES – Wastewater Planning & Monitoring Division Analysis
8. FCDOT Analysis
9. VDOT Analysis
10. Fairfax County Park Authority Analysis
11. Fairfax County Public Schools – Office of Facilities Planning Analysis
12. Fairfax County Water Authority Analysis
13. Fairfax County Health Department Analysis
14. Fairfax County Fire and Rescue Department Analysis
15. Residential Development Criteria
16. Glossary of Terms

PROFFERS

Sekas Homes, Ltd. **Summer Hill Estates**

RZ 2014-PR-012

October 29, 2014

Pursuant to Section 15.2-2303(A) of the 1950 Code of Virginia, as amended, the Applicant, for himself and his successors or assigns (herein collectively referred to as the ("Applicant")) in this rezoning application filed on property identified on the Fairfax County Tax Map 48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1, 4 hereinafter referred to as the "Application Property", agrees to the following proffers, provided that the Fairfax County Board of Supervisors (hereinafter referred to as the "Board") approves the rezoning of the Application Property from the R-1/R-2 zoning district to the R-3 district.

1. Development Plan

- a) Subject to the provisions of Section 18-204 of the Fairfax County Zoning Ordinance ("the Ordinance"), development of the Application Property identified on the Fairfax County Tax Map 48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1, 4 shall be in substantial conformance with the General Development Plan ("GDP") entitled "Summer Hill Estates" containing twelve sheets and prepared by Land Design Consultants, Inc., dated October 27, 2014.
- b) Pursuant to Paragraph 2 of Section 18-204 of the Zoning Ordinance, minor modifications from the GDP may be permitted as determined by the Zoning Administrator. These modifications may include the locations of utilities and landscaping, minor adjustment of property lines, and the general location, type and size of dwellings and access on the proposed lots, provided that the minimum building setbacks outlined on the GDP are honored, and the limits of clearing and grading are adhered to.

2. Homeowners Association

Prior to record plat approval, the Applicant shall establish a homeowners association for the proposed development for the purpose of, among other things, establishing the necessary residential covenants governing the design and operation of the approved development. Prior to entering into a contract of sale, prospective purchasers shall be notified in writing by the Applicant of the HOA and residential covenants and proffers. The initial deeds of conveyance shall expressly contain these disclosures.

3. Transportation

- a) Density credit shall be reserved as may be permitted by the provisions of Paragraph 4 of Section 2-308 of the Ordinance for all eligible dedications described herein.
- b) Garages and Driveways. Any conversion of garages or use of garages that precludes the parking of vehicles within the garage is prohibited. This covenant shall be recorded among the land records of Fairfax County prior to the sale of lots and shall run to the benefit of the HOA and to the Board of Supervisors. Prior to recordation, the covenant shall be approved by the Fairfax County Attorney's office. The HOA documents shall expressly state this use restriction. The driveway provided for each unit shall be a minimum of twenty (20) feet in length and eighteen (18) feet in width to permit the parking of two (2) vehicles without overhanging onto the sidewalk, if provided. Garages shall be designed to accommodate two (2) vehicles.

- c) The existing western entrance to Courthouse Road, which serves the existing dwelling on proposed Lot 9, shall remain until such time the existing dwelling is removed and a new house constructed. The existing eastern entrance to Courthouse Road, which serves the existing dwelling on proposed Lot 9, will be removed in conjunction with this application and new access provided to the proposed Public Street; however the existing driveway outside the right-of-way will remain until such time as a new house is constructed on this lot. Any new dwelling on proposed Lot 9 will be accessed solely from the proposed Public Street. The Applicant shall extend curb, gutter and sidewalk across these existing entrances onto Courthouse Road as they are removed in accordance with this proffer.
- d) The Applicant will remove the existing gravel entrance and driveway serving Tax Map 48-1 ((5)) 1 and construct a new driveway for proposed Lot 10, as shown on Sheet 2, prior to issuance of the first Residential Use Permit (RUP). Any dwelling on Lot 10 will be accessed via a driveway onto Sutton Road.
- e) As a condition of subdivision plan approval or upon demand by Fairfax County or the Virginia Department of Transportation ("VDOT"), whichever occurs first, the Applicant shall dedicate and convey, without encumbrances and in fee simple, to the Board of Supervisors, right-of-way along Courthouse Road (Rt. 673) such that the half-section, as measured from the centerline, shall equal 43.5 feet. Additionally, the Applicant shall dedicate and convey, without encumbrances and in fee simple, to the Board of Supervisors, right-of-way along and Sutton Road (Rt. 701) such that the half-section, as measured from the centerline, shall equal 45.0 feet. The ROW dedication shall be provided as generally shown on the GDP, subject to the approval of VDOT and the Fairfax County Department of Public Works and Environmental Services ("DPWES") and Fairfax County Department of Transportation ("FCDOT").
- f) At the time of subdivision plan approval, the Applicant shall dedicate and convey an internal public street, without encumbrances and in fee simple, to the Board of Supervisors, as generally shown on the GDP. The Applicant shall construct this public street with a 50-foot wide ROW, a minimum pavement radius in the cul de sac of 45', curb and gutter, 5-foot wide sidewalks, and buffer strips, in accordance with VDOT public street standards. This public street is subject to review and approval of VDOT and DPWES.
- g) Prior to issuance of the first RUP, the Applicant shall provide a 6-foot wide asphalt walkway along the subject property's Courthouse Road frontage and along Sutton Road, as generally shown on the GDP. The trail shall be located within the Courthouse Road and Sutton Road right-of-way and shall be subject to approval by VDOT and FCDOT.
- h) Prior to issuance of the first RUP, the Applicant shall provide additional asphalt along the subject property's Courthouse Road, as generally shown on the GDP, to accommodate an on road bicycle lane. The on road bicycle lane shall be located within the Courthouse Road right-of-way and shall be subject to approval by VDOT and FCDOT.
- i) At time of issuance of the first building permit, the Applicant will provide to Fairfax County an escrow of \$10,383.22 for the cost of the construction of a 5' sidewalk, curb and gutter and pavement along the property's Sutton Road frontage, by others.

4. Natural Landscaping

- a) The first submission of the subdivision plan and all subsequent plan submissions shall include a landscape plan and specifications, for review and approval by the Urban Forest Management Division (UFMD). The landscape plan and specifications shall incorporate techniques designed to reduce maintenance requirements; and contribute to a cleaner and healthier environment with improve air quality, water quality, stormwater management, and

resource conservation capabilities that can be provided by trees and other desirable vegetation:

- Reduce turf areas to minimize mowing operations and the resulting air pollution. Turf shall cover no more than 75% of the pervious area of each lot. Mulched planting beds incorporating groups of trees and other plants shall be used to provide a root zone environment more favorable to trees and shrubs.
- Plant trees in areas to contribute to energy conservation for the dwelling on each lot where possible, as depicted in Plate 4-12 of the Public Facilities Manual (PFM).
- Provide a diverse selection of native and non-invasive plants to reduce the need for supplemental watering, and the use of chemical fertilizers, herbicides, and chemical control of insects and diseases.
- Landscaping implemented with the subdivision plan may be made up of groups of non-invasive trees including larger, overstory type trees (category III and IV, as listed in PFM Table 12.17) together with smaller understory type trees (Category II). In this application, it is acceptable for the 10-year projected canopies of overstory trees to overlap the canopies of understory trees, as may occur in a multi-layered wooded environment.
- Inspection of mulch beds for conformance with the approved subdivision plan shall be conducted by the Fairfax County Site Inspector and/or Urban Forest Management Division at the time that the Residential Use Permit is issued for each dwelling. After mulch areas have been accepted, they shall become the responsibility of the homeowner who shall not be precluded from managing or planting these areas according to their preference.
- The Applicant shall reserve the right to modify the location and species of trees at time of final subdivision plan subject to final engineering and approval by Urban Forest Management Division.

5. Tree Preservation

Tree Preservation: The applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent subdivision plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on and off-site trees, living or dead with trunks 12 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet to either side of the limits of clearing and grading. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the RZ and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.

The Applicant shall include the Approved Landscaping Plan from the Subdivision Plan, including a detail for each lot that clearly identifies trees to be preserved, any Maintenance Responsibilities for the proposed vegetation (to be prepared by a Certified Arborist) and information regarding the County's Tree Conservation Ordinance to all prospective homeowners. This shall be provided to all prospective homeowners in a disclosure memorandum prior to entering into a contract of sale,

included in the Homeowner's Association documents, and included as a covenant in the deed of subdivision.

Tree Appraisal. The Applicant shall retain a professional arborist with experience in plant appraisal, to determine the replacement value of all trees 12 inches in diameter or greater located on the Application Property that are shown to be saved on the Tree Preservation Plan. These trees and their value shall be identified on the Tree Preservation Plan at the time of the first submission of the respective subdivision plan(s). The replacement value shall take into consideration the age, size and condition of these trees and shall be determined by the so-called "Trunk Formula Method" contained in the latest edition of the Guide for Plan Appraisal published by the International Society of Arboriculture, subject to review and approval by UFMD.

At the time of the respective subdivision plan approvals, the Applicant shall post a cash bond or a letter of credit payable to the County of Fairfax to ensure preservation and/or replacement of the trees for which a tree value has been determined in accordance with the paragraph above (the "Bonded Trees") that die or are dying due to unauthorized construction activities. The letter of credit or cash deposit shall be equal to 50% of the replacement value of the Bonded Trees, not to exceed \$50,000, regardless of that amount shown on the Subdivision Plan. In the event this letter of credit or cash bond is depleted prior to bond release, the Applicant will replace this with another letter of credit or cash deposit equal to 50% of the replacement value of the Bonded Trees, not to exceed \$50,000, regardless of that amount shown on the Subdivision Plan. At any time prior to final bond release for the improvements on the Application Property constructed adjacent to the respective tree save areas, should any Bonded Trees die, be removed or are determined to be dying by UFMD due to unauthorized construction activities, the Applicant shall replace such trees at its expense. The replacement trees shall be of equivalent size, species and/or canopy cover as approved by UFMD. In addition to this replacement obligation, the Applicant shall also make a payment equal to the value of any Bonded Tree that is dead or dying or improperly removed due to unauthorized construction activity. This payment shall be determined based on the Trunk Formula Method and paid to a fund established by the County for furtherance of tree preservation objectives. Upon release of the bond for the improvements on the Application Property constructed adjacent to the respective tree save areas, any amount remaining in the tree bonds required by this proffer shall be returned/released to the Applicant.

Tree Preservation Walk-Through. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant's certified arborist or landscape architect shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated 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 adjacent trees and associated understory vegetation and soil conditions.

Limits of Clearing and Grading. The Applicant shall conform strictly to the limits of clearing and grading as shown on the RZ, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the RZ, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.

Tree Preservation Fencing: All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" proffer below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. 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 to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure 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 the UFMD, DPWES.

Root Pruning. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
- Root pruning shall take place prior to any clearing and grading, or demolition of structures.
- Root pruning shall be conducted with the supervision of a certified arborist.
- An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete.

Demolition of Existing Structures. The demolition of all existing features and structures within areas protected by the limits of clearing and grading areas shown on the RZ shall be done by hand without heavy equipment and conducted in a manner that does not impact individual trees and/or groups of trees that are to be preserved as reviewed and approved by the UFMD, DPWES.

Site Monitoring. During any clearing or tree/vegetation/structure removal on the Applicant Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as proffered and as approved by the UFMD. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation proffers, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD, DPWES.

6. Storm Water Management

- a) If approved by SDID, Stormwater Management and Best Management Practices (BMP's) shall be accomplished through the provision of a Gravel Aggregate Infiltration Trench, stackable modular plastic underground stormwater management system and/or chambers as generally shown on Sheets 2 and 7-7B of the GDP and in accordance with the requirements

of the Fairfax County Public Facilities Manual (PFM) or any approved modifications and/or waivers. Maintenance access will be provided as shown on the GDP. The size and location of the facilities may be subject to final modifications based on final engineering provided it is in substantial conformance with the GDP. The stormwater facility shall be designed to meet the adequate outfall requirements as outlined in the PFM.

- b) The homeowners of the lots within the Application Property shall be responsible for implementing the maintenance contract and funding mechanism to provide maintenance for the proposed stormwater facilities. The maintenance responsibilities and funding mechanisms for the lots within the Application Property will be outlined in the Homeowner's Association documents as well as in a disclosure memorandum for any contract for sale
- c) Prior to bond release, the Applicant shall contribute \$5,000 to the Homeowner's Association for the subject property for use in maintaining the proposed stormwater facility.
- d) After establishing the HOA pursuant to these proffers, the Applicant shall provide the HOA with written materials describing proper maintenance of the stormwater facilities in accordance with the PFM and County guidelines.

7. Contributions

- a) At the time of issuance of the first Building Permit, the Applicant shall contribute \$21,432 to the Fairfax County Park Authority for use by the Fairfax County Park Authority for its use in establishing and maintaining parks and recreational facilities in the Providence District of Fairfax County.
- b) At the time of issuance of the first Building Permit, Applicant shall contribute \$43,300 to the Board of Supervisors for capital improvements to the public schools that encompass this area at the time of Building Permit approval. Said contribution shall be deposited with SDID for transfer to Fairfax County Public Schools. Following approval of this Application and prior to the Applicant's payment of the amounts set forth in this Proffer, if Fairfax County should increase the ratio of students per high rise multifamily unit or the amount of the contribution per student, the Applicant shall increase the amount of the contribution for that phase of development to reflect the then current ratio and/or contribution. If the County should decrease the ratio or contribution amount, the Applicant shall provide the greater of the two amounts. Prior to beginning construction of the proposed development, the Applicant shall notify the Fairfax County Public Schools of the intended construction and anticipated completion date.

Following approval of this Application and prior to the Applicant's payment of the amount(s) set forth in Proffer 7b, if Fairfax County should increase the ratio of students per unit or the amount of contribution per student, the Applicant shall increase the amount of the contribution for that phase of development to reflect the then-current ratio and/or contribution. If the County should decrease the ratio or contribution amount, the Applicant shall provide the greater of the two amounts.

- c) Prior to the issuance of the first Building Permit, the Applicant shall contribute to the Fairfax County Housing Trust Fund a sum equal to one-half of one percent (0.5%) of the value of all new units constructed on the property (8 units). The percentage shall be based on the aggregate sales price of all of the units subject to the contribution, as if all of those units were sold at the time of the issuance of the first building permit, and is estimated through comparable sales of similar type units. The projected sales price shall be as determined by the Department of Housing and Community Development (HCD) in consultation with the Applicant to assist the County in its goal to provide affordable dwellings.

8. Escalation in Contribution Amounts

For all proffers specifying contribution amounts or budgets for operational expenses, the contribution and/or budget amount shall escalate on a yearly basis from the base year of 2013 and change effective each January 1 thereafter, based on changes in the Consumer Price Index for all urban consumers (not seasonally adjusted) ("CPI-U"), both as permitted by Virginia State Code Section 15.2-2303.3.

9. Architecture

The design and architecture of the approved units shall be in substantial conformance with the illustrative elevations contained in the GDP, or of comparable quality. The Applicant reserves the right to use an alternative product than what is shown on the illustrative elevations provided it is consistent with the illustrative elevations. The exterior facades of the new homes constructed on the site shall be covered with masonry (cultured stone, stone or brick) from finished grade to first floor on all four sides. Masonry and/or cementitious siding (e.g., HardiPlank by James Hardie Building Products), or a combination thereof shall be applied from the first floor to the roof line. The Applicant shall not place any AC/HVAC units in the northern side yard of proposed Lots 1 and 9, which are visible from Courthouse Road. This restriction on Lot 9 shall only apply to any new dwelling. All units shall be limited to a maximum of thirty-five (35) feet in height as measured in the Fairfax County Zoning Ordinance.

10. Green Building

Any new dwelling unit constructed shall provide certification in accordance with the National Green Building Standard (NGBS) using the ENERGY STAR® (version 3.0) Qualified Homes path for energy performance, as demonstrated through documentation submitted to the Environment and Development review Branch of the DPZ and from a home energy rater certified through the Home Innovation Research Labs that demonstrates that each dwelling unit has attained the certification prior to the issuance of the Residential Use Permit ("RUP") for each dwelling;

11. Lighting and Signs

- a) All exterior lighting shall be in conformance with Part 9 of Article 14 of the Zoning Ordinance.
- b) No temporary signs (including "Popsicle" style paper or cardboard signs) which are prohibited by Article 12 of the Zoning Ordinance, and no signs which are prohibited by Chapter 7 of Title 33.1 or Chapter 8 of Title 46.2 of the Code of Virginia shall be placed on or off-site by the Applicant or at the Applicant's direction to assist in the initial marketing and sale of homes on the Property. Furthermore, the Applicant shall direct its agents and employees involved in marketing and/or home sales for the Property to adhere to this Proffer.

13. Universal Design

At the time of initial purchase, the following Universal Design options shall be offered to each purchaser at no additional cost: step-less entry from the garage to house or into the front door, main doors on 1st floor level 36" wide, lever door handles instead of knobs, light switches 44"-48" high, thermostats a maximum of 48" high, and/or electrical outlets a minimum of 18" high.

At the time of initial purchase, additional Universal Design options shall be offered to each purchaser at the purchaser's sole cost. These additional options may include, but not be limited

to, first floor bedroom and 1st floor bathroom, clear space under the kitchen counters, curb less shower (or shower with a curb of less than 4.5" high), five foot turning radius near 1st floor bathroom commode, grab bars in 1st floor bathroom that are ADA compliant, 1st floor bathroom console sink in lieu of cabinet style vanity.

14. Other

- a) During development of the subject site, the telephone number of the site superintendent that shall be present on-site during construction shall be provided to the Providence District Supervisor's Office.
- b) Outdoor construction activity shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday and 8:00 a.m. and 5:00 p.m. on Saturdays. No outdoor construction activities shall be permitted on Sundays or on federal holidays. The site superintendent shall notify all employees and subcontractors of these hours of operation and shall ensure that the hours of operation are respected by all employees and subcontractors. Construction hours shall be posted on-site in both English and Spanish. This proffer applies to the original construction only and not to future additions and renovations by homeowners.
- c) The extension into the minimum required side and rear yards for open and roofed decks (to include but not limited to pergolas and hanging plant fixtures) shall be permitted in accordance with Section 2-412 of the Fairfax County Zoning Ordinance. Decks with lattice below or above the deck floor may extend into the minimum required side and rear yards as an open or roofed deck in accordance with Section 2-412 of the Zoning Ordinance. Restrictions placed on the location of open and roofed decks per Section 2-412 of the Zoning Ordinance shall be disclosed to all prospective homeowners as a disclosure memorandum prior to entering into a contract of sale, included in the Homeowner's Association documents, and included as a covenant in the deed of subdivision. In accordance with the Zoning Ordinance, any sunrooms or enclosed porches may not encroach into the minimum required setbacks as shown on Sheet 2 of the GDP. This shall be disclosed to all prospective homeowners as a disclosure memorandum prior to entering into a contract of sale, including in the Homeowner's Association documents and included as a covenant in the deed of subdivision.

Signatures:

Sekas Homes, Ltd., Applicant, Tax Map 48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1, 4

By: _____

John P. Sekas, President

Oakcrest Farms, L.C, Title Owner of Tax Map Tax Map 48-1 ((1)) 65

By: _____

John P. Sekas, Manager

Chun Xi International, Ltd., Title Owner of Tax Map Tax Map 48-1 ((1)) 67

By: _____

Chun Xi International, Ltd., Title Owner of Tax Map Tax Map 48-1 ((1)) 68

By: _____

Oakcrest Farms, L.C, Title Owner of Tax Map Tax Map 48-1 ((5)) 1

By: _____

John P. Sekas, Manager

Paul L. Bellamy, Title Owner of Tax Map Tax Map 48-1 ((5)) 4

By: _____

Paul L. Bellamy

Lillian M. Bellamy, Title Owner of Tax Map Tax Map 48-1 ((5)) 4

By: _____

Lillian M. Bellamy



County of Fairfax, Virginia

MEMORANDUM

Office of the County Attorney
Suite 549, 12000 Government Center Parkway
Fairfax, Virginia 22035-0064
Phone: (703) 324-2421; Fax: (703) 324-2665
www.fairfaxcounty.gov

DATE: August 29, 2014

TO: Suzanne Wright, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Jo Ellen Groves, Paralegal *JEG*
Office of the County Attorney

SUBJECT: Affidavit
Application No.: RZ/FDP 2014-PR-012
Applicant: Sekas Homes, Ltd.
PC Hearing Date: 11/19/14
BOS Hearing Date: Not yet scheduled

REF.: 125605

Attached is an affidavit which has been approved by the Office of the County Attorney for the referenced case. Please include this affidavit dated 8/28/14, which bears my initials and is numbered 125605, when you prepare the staff report.

Thank you for your cooperation.

Attachment

cc: (w/attach) Jonathan Buono, Planning Technician I (Sent via e-mail)
Zoning Evaluation Division
Department of Planning and Zoning

REZONING AFFIDAVIT

DATE: 8/28/14
(enter date affidavit is notarized)

I, Kelly M. Atkinson, 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

125605

in Application No.(s): RZ 2014-PR-012
(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)
✓ Sekas Homes, Ltd.	407-L Church Street, N.E., Vienna, VA 22180	Applicant/Contract Purchaser/Agent for Title Owners
✓ John P. Sekas	407-L Church Street, N.E., Vienna, VA 22180	Agent for Applicant/Contract Purchaser/Title Owners
✓ Land Design Consultants, Inc.	4585 Daisy Reid Avenue, Suite 201 Woodbridge, VA 22192	Agent for Applicant/Title Owners
✓ Matthew T. Marshall, L.S.	4585 Daisy Reid Avenue, Suite 201 Woodbridge, VA 22192	Agent for Applicant/Title Owners
✓ Joshua C. Marshall, P.E.	4585 Daisy Reid Avenue, Suite 201 Woodbridge, VA 22192	Agent for Applicant/Title Owners
✓ Kelly M. Atkinson, AICP	4585 Daisy Reid Avenue, Suite 201 Woodbridge, VA 22192	Agent for Applicant/Title Owners

(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 Attachment to Par. 1(a)

DATE: 8/28/14
 (enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
 (enter County-assigned application number (s))

(NOTE: All relationships to the application are to 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)
\ Oakcrest Farms, L.C. John P. Sekas	407-L Church Street, N.E. Vienna, VA 22180	Title Owner of Tax Map 48-1 ((1)) 65 Agent for Title Owner
\ Oakcrest Farms, L.C. John P. Sekas	407-L Church Street, N.E. Vienna, VA 22180	Title Owner of Tax Map 48-1 ((5)) 1 Agent for Title Owner
\ Paul L. Bellamy, Jr. and Lillian M. Bellamy	9637 Courthouse Road Vienna, VA 22180	Title Owner of Tax Map 48-1 ((5)) 4
\ Chun Xi International, Ltd. \ Hang Wang \ Hong Chen	112 Pleasant Street, N.W. Vienna, VA 22180	Title Owner of Tax Map 48-1 ((1)) 67 and Title Owner of Tax Map 48-1 ((1)) 68 Agent for Title Owner Agent for Title Owner

(check if applicable)

There are more relationships to be listed and Par. 1(a) is continued further on a "Rezoning Attachment to Par. 1(a)" form.

REZONING AFFIDAVIT

DATE: 8/28/14 (enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012 (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)

Land Design Consultants, Inc.
4585 Daisy Reid Avenue, Suite 201
Woodbridge, VA 22192

DESCRIPTION OF CORPORATION: (check one statement)

- [x] 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)

Matthew T. Marshall
Joshua C. Marshall

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

Matthew T. Marshall, President
Joshua C. Marshall, Vice President

(check if applicable) [x] 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 Attachment to Par. 1(b)

DATE: 8/28/14
(enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
(enter County-assigned application number (s))

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

Sekas Homes, Ltd.
407-L Church Street, N.E.
Vienna, VA 22180

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)

John P. Sekas

=====

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

John P. Sekas, President
Bryan L. Deege, Vice President
Sandra A. Booze, Secretary

=====

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

Oakcrest Farms, L.C.
407-L Church Street, N.E.
Vienna, VA 22180

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)

Opportunity Developers, Ltd.

=====

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

John P. Sekas, Manager
Bryan L. Deege, Manager

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

Rezoning Attachment to Par. 1(b)

DATE: 8/28/14
(enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
(enter County-assigned application number (s))

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

Opportunity Developers, Ltd.
407-L Church Street, N.E.
Vienna, VA 22180

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)

John P. Sekas

=====

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

John P. Sekas, President

=====

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

Chun Xi International, Ltd.
112 Pleasant Street, N.W.
Vienna, VA 22180

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)

Hang Wang

=====

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

Hang Wang, President

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

REZONING AFFIDAVIT

DATE: 8/20/14
(enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
(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)
None

(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: 8/28/11
(enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
(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: 8/28/14
(enter date affidavit is notarized)

125605

for Application No. (s): RZ 2014-PR-012
(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.)
None

(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)

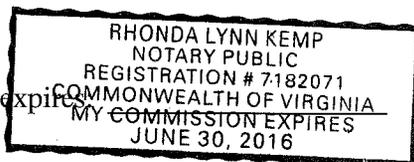
[] Applicant

[X] Applicant's Authorized Agent

Kelly M. Atkinson, AICP

(type or print first name, middle initial, last name, and title of signee)

Subscribed and sworn to before me this 28 day of August 2014, in the State/Comm. of Virginia, County/City of Prince William.



Rhonda A. Beck
Notary Public

My commission expires

I was commissioned a notary public as Rhonda Lynn Kemp



March 20, 2014
August 11, 2014 (Revised)
September 26, 2014 (Revised)

Mrs. Barbara Berlin
Department of Planning and Zoning
Fairfax County
12055 Government Center Parkway, Suite 801
Fairfax, VA 22035

Re: Statement of Justification
Summer Hill Estates
Fairfax County Tax Map #48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1 & 4
Currently Zoned R-1 and R-2, Approximately 4.12 Acres
LDC Project #13047-1-0

Dear Mrs. Berlin,

Sekas Homes, Ltd. ("Applicant") and Land Design Consultants, Inc. (LDC) are pleased to present this rezoning application. The subject property, located on Tax Map 48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1 & 4, is situated within the Providence District and is currently zoned R-1 and R-2. The total area of the property is 4.12 acres per a boundary survey completed by LDC. This property is known as Summer Hill Estates.

The subject property currently contains existing houses, accessory features and driveways. All existing structures will be removed on the application property except for the features on lot 4 and lot 67, which will remain. The existing septic field on lot 65 will be removed in conjunction with the demolition of the existing features on this lot.

Upon review of the Comprehensive Plan, LDC notes that there is specific text for the area. Per the Vienna Planning District, Nutley Community Planning Sector (V-5):

"The parcels bounded by Sutton Road, Courthouse Road, Nottoway Park, and Land Unit F of the Vienna Transit Station Area are planned for residential use at 2-3 dwelling units per acre. As an option, development for residential use at 4-5 dwelling units per acre may be appropriate if the parcels are fully consolidated and there is a single access point to Sutton Road."

As full consolidation is not proposed, the planned density is 2-3 dwelling units per acre. Therefore, the proposed rezoning to the R-3 district is in conformance with the Comprehensive Plan. To the north is the existing Vienna Oaks, Sec. 2 Subdivision, which is zoned R-3 and the previous Vienna Moose Lodge Property, which was recently rezoned to PDH-3 (RZ 11-PR-018). To the east is Nottoway Park, which is zoned R-1. To the west is the B.F. Weaver's Subdivision, which is zoned R-1. To the south are parcels accessed from Sutton Road and zoned R-2. All of these subdivisions contain existing single-family detached houses.

The Applicant has filed the enclosed proposal showing the development of the property with ten single-family detached houses and onsite stormwater management/best management practices (SWM/BMP)

Mrs. Barbara Berlin, Branch Chief
Department of Planning and Zoning
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facilities at an overall density of 2.43 dwelling units per acre under the R-3 zoning district. LDC notes that the existing houses on proposed lots 9 and 10 will remain at this time.

In creating this community, the Applicant is working to create a development that is compatible with the adjacent communities.

A brief review of the Residential Design Criteria and Planned Development Standards would include:

1. High quality site design

While the Residential Development Criteria does not expect rezoning applications for new developments to exactly match surrounding developments, they must enhance the community and be compatible with the existing neighborhood.

As stated, the property is planned for development at a density of 2-3 dwelling units per acre. The property is bordered by Courthouse Road and Nottoway Park on two sides. To the south and west are existing residential neighborhoods with houses. Based on discussions with adjoining neighbors, the Applicant has consolidated as many lots as feasible at this time. The proposed density of 2.43 dwelling units per acre is in the middle of the plan range for the option without full consolidation. At this time, LDC does not believe the proposed application will preclude any adjacent properties from also pursuing re-development of their property.

The site layout includes eight single-family detached homes that will be accessed by a proposed public street. The existing house on lot 9 will continue to be accessed from Courthouse Road until such time as this house is demolished and replaced with a new dwelling with access from the proposed public street. The existing house on lot 10 will continue to be accessed via Sutton Road. The lots range in size from approximately 10,500 square feet to 21,300 square feet. The average lot size is approximately 13,500 square feet. The GDP shows a lot typical detail for the lots and reflects front setback of 30', side yard setbacks of 12' and rear setback of 25' for any new dwellings. These setbacks provide for usable rear yards, which will accommodate future decks in accordance with Section 2-412 of the Zoning Ordinance. The proposed density of 2.43 dwelling units per acre is in accordance with the Comprehensive Plan.

The Applicant has attempted to integrate the proposed houses into the fabric of the existing neighborhoods. The Applicant has sited all of the new houses around the proposed street and the rear of the houses to the rears of adjacent houses, where applicable. The proposed houses have been sited close to the front building restriction line in order to provide usable rear yards and tree preservation along the periphery. In addition to the preservation, the Applicant will provide landscaping around the houses and provide additional street trees.

A discussion of proposed utilities is provided in detail below.

The Applicant reviewed a number of options for the development of this property. Originally, the Applicant reviewed options for the development of lot 65 utilizing a density of 3 du/acre. Upon further review of the surrounding property, the Applicant contacted adjacent property owners to determine the feasibility of acquiring additional lots for consolidation. The proposed application

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Department of Planning and Zoning
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will provide for a more cohesive development via additional consolidation and will allow the proposed access to line up with Snowberry Court. This additional consolidation includes lot 68, which is zoned R-1 and only 40' wide, as well as lot 67, which is an illegally created lot, as noted below.

LDC and the Applicant also reviewed options for development which excluded lot 67 and a portion of lot 68, which are both currently owned by Chun Xi International. In conjunction with the Applicant's agreement to purchase a portion of lot 68, behind Parcel 1 and 65, Chun Xi International requested the Applicant consolidate the remaining portion of lot 68 not included in the rezoning with lot 67 to create one lot rather than two. LDC submitted a Consolidation and Resubdivision Plat to Fairfax County (25756-RP-001-1), which was returned with comments. The primary issue being that lot 67 was illegally created and never met zoning requirements and could not be subdivided and consolidated with lot 68. The only means by which to rectify this illegally created lot is to include it with a new subdivision meeting current requirements. As such, the decision was made to include all of lot 67 and 68 in this application, which is primarily proposed lot 10. As part of the Applicant's contract with Chun Xi International, the orientation and boundary of proposed lot 10 is dictated by this contract and will rectify an outstanding illegal subdivision.

Finally, LDC notes this application was originally filed as a rezoning to the PDH-3 planned district with ten lots. A cluster or planned development allows greater opportunity to provide for smaller lot sizes, open space and preservation of existing tree canopy on an Outlot. However upon further review by Staff, they believe the application as submitted did not meet the standards of a planned district as it does not contain any environmental features such as floodplain, resource protection area or steep slopes worthy of preservation and the layout did not provide for innovative and creative design. As such, the Applicant revised the layout in accordance with a conventional R-3 zone and has also provided a public street, which was an additional request of Staff.

2. Integration and compatibility with the Neighborhood Context

The subject property currently contains existing houses, accessory features and driveways. All existing structures will be removed on the application property except for the features on existing lot 4 and 67, which will remain. The property is surrounded by single-family detached homes and Nottoway Park. Therefore, the proposed single-family detached homes are compatible with the adjacent uses.

To the north is the existing Vienna Oaks, Sec. 2 Subdivision, which is zoned R-3 and has an approved density of 2.8 du/acre and the previous Vienna Moose Lodge Property, which was recently rezoned to PDH-3 (RZ 11-PR-018) and has an approved density of 2.6 du/acre. To the east is Nottoway Park, which is zoned R-1. To the west is the B.F. Weaver's Subdivision, which is zoned R-1 and has an approved density of 1.6 du/acre. The Beverly Corner Subdivision, which is R-2, had an original approved density of 1.4 du/acre, prior to the removal of lots 1 and 4. The proposed subdivision will have a density of 2.43 dwelling units per acre. Please see the chart below, which summarizes the average, minimum, and maximum lot area for the proposed development and adjacent subdivisions.

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	Zoning Designation	Average Lot Area (SF)	Minimum Lot Area (SF)	Maximum Lot Area (SF)
Summer Hill Estates	R-3	13,500	10,500	21,300
Vienna Moose Lodge	PDH-3	9,892	7,202	13,995
Vienna Oaks, Sec. 2	R-3	12,522	10,500	18,425
Beverly Corner*	R-2	23,897	22,986	24,809
B.F. Weaver's	R-1	24,331	21,958	35,908

*Excludes Lots 1 and 4

The houses proposed within this development will have a footprint of approximately 2,200-2,400 SF. LDC has also shown a proposed house on lots 9 and 10 in the event these lots re-develop in the future. A typical lot detail has been provided on Sheet 1 of the GDP. Specifically, the proposed lots will contain a 30' front setback, 12' side setback and 25' rear setbacks, which is consistent with the R-3 requirements. Please note that Outlot A is included adjacent to lot 9 to avoid designating this lot a corner lot due to the existing features to be preserved. However this house still meets the required 30' front yard setback from outlot A.

Elevations of the proposed houses are included with the GDP and the Applicant will proffer to building materials. The houses will contain masonry facades from the finished grade to the first floor on all four sides and masonry and/or cementitious siding from the first floor to the roof line. These houses are similar to the houses constructed by Sekas Homes in a variety of communities in the Vienna area and similar in size to those in adjacent communities. Please note that the Applicant will not use vinyl siding on the houses.

3. Enhance, preserve or contribute towards the preservation of natural environmental resources on site and/or reduce adverse off-site environmental impacts.

The Comprehensive Plan notes that new development should conserve environmental resources such as Resource Protection Area's (RPA), floodplains, stream valleys and existing preservation. While the subject property does not have an RPA or floodplain, it does have an existing, mature tree canopy along the periphery of the site. The proposed layout will allow for the preservation of a vegetated buffer adjacent to existing subdivisions and park.

The existing topography on site is such that the site is sloping from a ridge on the rear of the property to the north, west and southeast. LDC has completed preliminary engineering, which has established proposed grades on the property. This information has been used to finalize the limits of clearing and grading and the proposed layout allows for the preservation of the existing vegetation.

The soils on site consist of the Glenelg Silt Loam (39) and Wheaton-Glenelg Complex (105), which are "marginal" and "good" for foundation support and "poor" and "good" for drainage,

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respectively, according to the "Fairfax County Description and Interpretative Guide to Soils". The Applicant has retained a Geotechnical Engineer to complete infiltration and groundwater testing in the vicinity of the proposed Stormwater Management and Best Management Practices facility and has stated that the average infiltration rate is greater than the minimum requirements. This information was used to size the proposed facility in accordance with County requirements. Please note the Applicant and LDC reviewed opportunities to alternate the location of lot 1 and Parcel A, which contains the infiltration trench. However based on the results of our infiltration testing in the vicinity of lot 1, the soils in this location contain a high groundwater table at approximately five feet, which would not provide the minimum separation for an infiltration or bio-retention facility. As such, the infiltration trench is located in an area with suitable soils and lot 1 has been placed adjacent to Courthouse Road.

Stormwater Management and Best Management Practices (SWM/BMP) will be met via an onsite facility, which will be privately maintained. Specifically, the Applicant is proposing an infiltration trench as shown on Parcel A. This location will capture the runoff generated from the site and provide for detention and treatment. The facility has been designed in accordance with field infiltration rates and groundwater levels determined by the Geotechnical Engineer and will substantially reduce the volume and velocity of runoff currently leaving the site uncontrolled and untreated by directing this runoff into the ground. Specifically, this trench is designed for the 10 year 2 hour storm and will provide detention for the 1, 2 and 10 year storm events. This will contribute to an approximately 46% reduction in existing uncontrolled runoff and meet BMP requirements in accordance with County requirements. This is an improvement over the existing condition as the existing lots currently maintain no controls and sheetflow to the adjacent lots. Further, the Applicant will provide downspouts on the houses to convey runoff from the proposed houses directly to the underground storm sewer and to the SWM/BMP for detention and treatment. As this relates to Nottoway Park, this will eliminate the current impervious area which sheetflows uncontrolled to the Park. In the post development condition, the Applicant will be improving this situation as no proposed impervious area will sheetflow to the Park. The proposed facility is a Low Impact Development (LID) technique and will provide a water quality benefit.

Lighting will be provided on site at the proposed entrance, as required by the Public Facilities Manual, in conjunction with the Subdivision Plan.

Finally, Sekas Homes is one of three Vienna Builders recognized by the Town of Vienna as a Green Builder. As part of their commitment to reducing energy costs, all Sekas Homes are constructed with a foil faced roof, foam insulation and Andersen windows. All of the proposed homes constructed on the property shall meet the guidelines of the National Green Building Standard (NGBS) using the ENERGY STAR® (version 3.0) Qualified Homes, as determined by submission of documentation to the County from a home energy rater. Further, the Applicant will be providing landscaping on each lot. This additional landscaping provided in conjunction with the proposed tree preservation will provide natural measures for controlling the ambient temperature in this community.

4. Tree Preservation and Tree Cover Requirements

The Comprehensive Plan encourages applications for rezoning to take advantage of existing quality tree cover and meet most if not all of the required tree cover via preservation.

Mrs. Barbara Berlin, Branch Chief
Department of Planning and Zoning
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Summer Hill Estates
Fairfax County Tax Map #48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1 & 4
Currently Zoned R-1 and R-2, Approximately 4.12 Acres
LDC Project #13047-1-0

March 14, 2014

August 11, 2014 (Revised)

September 26, 2014 (Revised)

Page 6 of 8

The Applicant has retained a certified arborist to complete an Existing Vegetation Map. Per this plan, approximately 70% of the subject property is covered with existing tree canopy. Upon development, 25% of the subject property shall be required as tree cover. At this time, the Applicant is proposing areas of tree preservation to count towards the tree cover requirement and is meeting the target tree preservation requirement. Preservation of existing vegetation will minimize noise and light pollution from the proposed development, maintain an existing canopy that provides for energy conservation, buffering and a habitat for wildlife. Additional plantings are also proposed as shown on Sheet 3 to meet the remaining portion of the tree cover requirement not met via preservation. Portions of this vegetation will also provide for energy conservation in light of their location on the lots.

As with every rezoning application, the Applicant has committed to standard Tree Preservation proffers.

5. Contribute to development of specific transportation improvements.

Courthouse Road and Sutton Road are not shown on the Countywide Transportation Plan to be improved. However, they are shown on the Comprehensive Plan to accommodate two lanes. Courthouse Road and Sutton Road currently exist with two lanes. The Applicant will provide additional dedication on Courthouse Road so the property is 43.5' from centerline and additional dedication on Sutton Road so the property is 45' from centerline.

As stated, the Applicant is proposing to access the subject property via construction of a new public street. This road will be designed as a VDOT maintained public road with a 50' right-of-way and sidewalk and curb and gutter on both sides. The proposed sidewalk will connect to the proposed 6' asphalt walkway along Courthouse Road. A waiver of the sidewalk requirement along Courthouse Road is requested in conjunction with this application in lieu of the proposed walkway. The Applicant will provide curb and gutter along Courthouse Road frontage, as shown. The proposed new houses will access this new road extension. This road will terminate in a permanent cul-de-sac, as it is unable to be extended since there is an adjacent existing, developed community. A Secondary Street Acceptance Requirement (SSAR) waiver has been submitted concurrently with this request in order to waive the multiple connections requirement.

The Applicant is also requesting a waiver of the sidewalk requirement, curb and gutter and pavement along Sutton Road due to the lack of adjacent pedestrian connection and the minimal use as it will serve one lot, which exists today. An escrow will be provided for this future construction, by others. However the Applicant will provide an interim 6' asphalt walkway, as shown, to facilitate pedestrian access in the interim condition.

In regards to parking, this will be accommodated in the proposed driveways and garages. Please note that a covenant will be recorded with the deed of subdivision, which prohibits the proposed garages from being converted to living space. In addition, each driveway will be a minimum length of 18' to accommodate parking without blocking the road.

Due to the small size of this proposed residential development, this site does not lend itself to any Transit or Transportation Demand Management Programs.

Mrs. Barbara Berlin, Branch Chief
Department of Planning and Zoning
Re: Statement of Justification
Summer Hill Estates
Fairfax County Tax Map #48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1 & 4
Currently Zoned R-1 and R-2, Approximately 4.12 Acres
LDC Project #13047-1-0

March 14, 2014

August 11, 2014 (Revised)

September 26, 2014 (Revised)

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6. Provision of public facilities to alleviate impact of the proposed development on the community.

According to Fairfax County maps, sanitary sewer is located on existing Lot 4 in an existing easement. Sanitary sewer will be extended to the proposed houses via an extension of this main. The proposed houses will be served by individual connections from the proposed sanitary sewer main.

According to Fairfax County maps, public water is located within Courthouse Road. As part of this development, the Applicant will be extending public water into the site via the proposed public street. The proposed houses will be served by individual connections from the proposed water main.

In regards to the public schools and parks, the Applicant will proffer the necessary monetary contributions. Due to the small number of lots proposed and proximity to Nottoway Park, we do not anticipate any significant increased demand on schools, parks, fire, rescue or police services as a result of this development.

Finally, the addition of ten homes on 4.12 acres lends itself towards the development of all homes at the same time. The developer believes that the phasing of such a small development is not appropriate and the developer will work with Staff and the adjacent property owners to minimize any disturbance caused by the development. Please note the Applicant has completed many projects within Fairfax County over the past twenty-seven years and is not in default of any Bonded Requirements or Projects.

7. Contribute towards the County's low and moderate-income housing goals.

Due to the proposed development of only eight new homes, the application is not subject to the ADU provisions requiring on site construction for ADU's. The Applicant will proffer a sum equal to one-half of one percent (0.5%) of the value of all of the new units approved on the property to the Fairfax County Housing Trust Fund.

8. Preserve, protect and/or restore items or significance to the County's heritage.

The subject property is not specifically shown in the Comprehensive Plan as having a potential for historic resources and has been previously disturbed. Further, the site is not located in a Historic Overlay District nor is the existing dwelling located on the National Register of Historic Places or the Virginia Landmarks Register. However the Applicant has retained TNT Environmental to prepare a Phase 1 Archaeological Study, which will be provided to Fairfax County upon completion.

Mrs. Barbara Berlin, Branch Chief
Department of Planning and Zoning
Re: Statement of Justification
Summer Hill Estates
Fairfax County Tax Map #48-1 ((1)) 65, 67, 68 and 48-1 ((5)) 1 & 4
Currently Zoned R-1 and R-2, Approximately 4.12 Acres
LDC Project #13047-1-0

March 14, 2014

August 11, 2014 (Revised)

September 26, 2014 (Revised)

Page 8 of 8

In your review of this application, I believe that you will find it meets the spirit and criteria of the County's Comprehensive Plan, the character of the surrounding neighborhoods and is a positive compliment to the existing community.

Very truly yours,

Land Design Consultants, Inc.

Kelly M. Atkinson, AICP
Senior Project Manager

Enclosures

cc: John Sekas, Sekas Homes, Ltd.
Matt Marshall, L.S., President, LDC, Inc.



County of Fairfax, Virginia

MEMORANDUM

DATE: October 20, 2014

TO: Barbara Berlin, Director
Zoning Evaluation Division, DPZ

FROM: Pamela G. Nee, Chief *PGN*
Environment and Development Review Branch, DPZ

SUBJECT: ENVIRONMENTAL ASSESSMENT for: RZ/FDP 2014-PR-012
Summer Hill Estates

This memorandum, prepared by John R. Bell, includes citations from the Comprehensive Plan that provide guidance for the evaluation of the above referenced special exception plat as revised through August 11, 2014. Possible solutions to remedy identified environmental impacts are suggested. Other solutions may be acceptable, provided that they achieve the desired degree of mitigation and are also compatible with Plan policies.

COMPREHENSIVE PLAN CITATIONS:

The Comprehensive Plan is the basis for the evaluation of this application. The assessment of the proposal for conformity with the environmental recommendations of the Comprehensive Plan is guided by the following citations from the Plan:

In the Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition, Environment section as amended through July 1, 2014, on page 7 through 9, the Plan states:

“Objective 2: Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County. . . .

Policy k. For new development and redevelopment, apply better site design and low impact development techniques such as those described below, and pursue commitments to reduce stormwater runoff volumes and peak flows, to increase groundwater recharge, and to increase preservation of undisturbed areas. In order to minimize the impacts that new development and redevelopment projects may have on the County’s streams, some or all of the following practices should be considered where not in conflict with land use compatibility objectives:

Department of Planning and Zoning
Planning Division
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5509
Phone 703-324-1380
Fax 703-324-3056
www.fairfaxcounty.gov/dpz/



- Minimize the amount of impervious surface created. . . .
- Encourage the use of innovative BMPs and infiltration techniques of stormwater management where site conditions are appropriate, if consistent with County requirements.
- Apply nonstructural best management practices and bioengineering practices where site conditions are appropriate, if consistent with County requirements. . . .
- Maximize the use of infiltration landscaping within streetscapes consistent with County and State requirements. . . .

Development proposals should implement best management practices to reduce runoff pollution and other impacts. Preferred practices include: those which recharge groundwater when such recharge will not degrade groundwater quality; those which preserve as much undisturbed open space as possible; and, those which contribute to ecological diversity by the creation of wetlands or other habitat enhancing BMPs, consistent with State guidelines and regulations. . . .

Programs to improve water quality in the Potomac River/Estuary, and Chesapeake Bay will continue to have significant impacts on planning and development in Fairfax County. There is abundant evidence that water quality and the marine environment in the Bay are deteriorating, and that this deterioration is the result of land use activities throughout the watershed.”

Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through July 1, 2014, on pages 19-21, the Plan states:

Objective 13: Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.

Policy a. In consideration of other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices may include, but are not limited to:

- Environmentally-sensitive siting and construction of development;
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the *Policy Plan*);
- Optimization of energy performance of structures/energy-efficient design;

- Use of renewable energy resources;
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products;
- Application of best practices for water conservation, such as water efficient landscaping and innovative wastewater technologies, that can serve to reduce the use of potable water and/or reduce stormwater runoff volumes;
- Reuse of existing building materials for redevelopment projects;
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris;
- Use of recycled and rapidly renewable building materials;
- Use of building materials and products that originate from nearby sources;
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-emitting adhesives, sealants, paints/coatings, carpeting and other building materials;
- Reuse, preservation and conservation of existing buildings, including historic structures;
- Retrofitting of other green building practices within existing structures to be preserved, conserved and reused;
- Energy and water usage data collection and performance monitoring;
- Solid waste and recycling management practices; and
- Natural lighting for occupants.

Encourage commitments to implementation of green building practices through certification under established green building rating systems for individual buildings (e.g., the U.S. Green Building Council's Leadership in Energy and Environmental Design for New Construction [LEED-NC[®]] or the U.S. Green Building Council's Leadership in Energy and Environmental Design for Core and Shell [LEED-CS[®]] program or other equivalent programs with third party certification). An equivalent program is one that is independent, third-party verified, and has regional or national recognition or

one that otherwise includes multiple green building concepts and overall levels of green building performance that are at least similar in scope to the applicable LEED rating system. Encourage commitments to the attainment of the ENERGY STAR® rating where available. Encourage certification of new homes through an established residential green building rating system that incorporates multiple green building concepts and has a level of energy performance that is comparable to or exceeds ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs. . . .

- Policy c. Ensure that zoning proposals for residential development that are not otherwise addressed in Policy b above will incorporate green building practices sufficient to attain certification under an established residential green building rating system that incorporates multiple green building concepts and that includes an ENERGY STAR Qualified Homes designation or a comparable level of energy performance. Where such zoning proposals seek development at or above the mid-point of the Plan density range, ensure that county expectations regarding the incorporation of green building practices are exceeded in two or more of the following measurable categories: energy efficiency; water conservation; reusable and recycled building materials; pedestrian orientation and alternative transportation strategies; healthier indoor air quality; open space and habitat conservation and restoration; and greenhouse gas emission reduction. As intensity or density increases, the expectations for achievement in the area of green building practices would commensurately increase.”

ENVIRONMENTAL ANALYSIS:

This section characterizes the environmental concerns raised by an evaluation of this site and the proposed land use. Solutions are suggested to remedy the concerns that have been identified by staff. There may be other acceptable solutions.

Green Building

The Comprehensive Plan recommends green building certification for all proposed new residential development under a zoning proposal. The subject property consists of 4.12 acres and is proposed to be developed under the PDH-3 at a density of 2.43 dwelling units per acre. A number of green building development options are available for such residential developments, such as, LEED-Homes, EarthCraft and National Green Building Standard (NGBS) with the Energy Star path for energy performance. The applicant has provided a

commitment to develop the property based on the NGBS with the Energy Star path. This option meets the recommendations of the Comprehensive Plan for green building development. Staff feels that the proposed measures satisfy staff's recommendations on this issue.

Water Quality

The subject property is currently developed with two single-family homes. The applicant proposes to address water quantity and quality controls with a single infiltration area to serve the proposed development. Any final determination regarding standards for stormwater management will be made by the Department of Public Works and Environmental Services (DPWES).

PGN:JRB



County of Fairfax, Virginia

MEMORANDUM

DATE: October 28, 2014

TO: Suzanne Wright, Staff Coordinator
Zoning Evaluation Division, DPZ

FROM: Todd Nelson, Urban Forester II
Forest Conservation Branch, DPWES

SUBJECT: Summer Hill Estates Lots 65-68; RZ/FDP 2014-PR-012

RE: Request for assistance dated October 28, 2014

This review is based upon the General/Final Development Plan (RZ/FDP) 2014-PR-012 stamped "Received, Department of Planning and Zoning, October 27, 2014."

Urban Forest Management Division (UFMD) comments and recommendations on the previously submitted RZ/FDP (see memo dated October 15, 2014) appear to be adequately addressed. There are no additional UFMD comments or recommendations based on tree and landscape related issues on this application.

Please contact me at 703-324-1770 should you have any questions.

TLN/
UFMDID #: 192363

cc: DPZ File

Department of Public Works and Environmental Services
Urban Forest Management Division
12055 Government Center Parkway, Suite 518
Fairfax, Virginia 22035-5503
Phone 703-324-1770, TTY: 711, Fax: 703-653-9550
www.fairfaxcounty.gov/dpwes





County of Fairfax, Virginia

MEMORANDUM

DATE: October 15, 2014

TO: Suzanne Wright, Staff Coordinator
Zoning Evaluation Division, DPZ

FROM: Todd Nelson, Urban Forester II
Forest Conservation Branch, DPWES

SUBJECT: Summer Hill Estates Lots 65-68; RZ/FDP 2014-PR-012

RE: Request for assistance dated October 1, 2014

This review is based upon the Conceptual/Final Development Plan RZ/FDP 2014-PR-012 stamped "Received, Department of Planning and Zoning, October 1, 2014."

General Comment: Urban Forest Management Division (UFMD) comments and recommendations on the previously submitted RZ/FDP were provided to DPZ in the memos dated June 20, 2014, and August 19, 2014. Several comments and recommendations contained in the memos were not adequately addressed and are similar to several of the following comments and recommendations. Additional comments and recommendations are provided to address the tree preservation target requirements, tree preservation, 10-year tree canopy calculations, and landscaping.

- 1. Comment:** The 8,946 sq. ft. of canopy credit claimed for the proposed tree save area located along the eastern side of proposed lots 2 through 4 is unclear. Canopy credit can be claimed for self-supporting woody vegetation exceeding 5 feet in height provided it meets the standards for health, condition, and sustainability (PFM 12-0510.3A). This area contains significant amounts of bush honeysuckle, which is invasive and cannot be claimed as canopy credit, and there are only a few understory trees that meet the criteria.

Recommendation: The canopy credit claimed for the proposed tree save area located along the eastern sides of proposed lots 2 through 4 should be revised showing only the canopy credit claimed for the trees that meet the criteria specified in PFM 12-0510.3A. The Tree Preservation Target and Statement and 10-year Tree Canopy Calculations should be adjusted accordingly.

- 2. Comment:** The 18,842 sq. ft. claimed as the total of canopy area provided by Heritage, Memorial, Specimen, or Street trees is unclear as there does not appear to be any dedicated Heritage, Memorial, Specimen, or Street trees located on the Application property. It is

Department of Public Works and Environmental Services
Urban Forest Management Division

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www.fairfaxcounty.gov/dpwes



unclear if the Applicant intends to request the Board to designate trees as Heritage, Memorial, Specimen, or Street trees as a request has not been submitted with the Application. In addition, the submission of arboricultural treatments and a tree management plan, the establishment of a conservation easement or other actions that are necessary to ensure long-term preservation of the trees have not been provided (PFM 12-0510.3B(2)(a)).

Recommendation: The total of canopy area provided by Heritage, Memorial, Specimen, or Street trees should be removed from the 10-year Tree Canopy Calculations and the Tree Preservation Target and Statement should be revised accordingly.

- 3. Comment:** The proposed limits of clearing and grading located to the south of proposed lot 5 will provide minimal protection to tree #741 and tree #743. Individual trees that will have 40% or more of the critical root zone disturbed by construction are not generally recommended for preservation. In addition, it does not appear the proposed use of alturna mats adjacent to these trees will significantly reduce the impacts to these trees.

Recommendation: The proposed limits of clearing and grading located to the south of proposed lot 5 should be moved to the north to provide a tree save area large enough to ensure the preservation of trees 741 and 743. If the proposed limits of clearing and grading cannot be adjusted, remove the canopy credit claimed for these trees and adjust the Tree Preservation Target and Statement and 10-year Tree Canopy Calculations accordingly.

- 4. Comment:** The “Tree Preservation Measures” for trees #741 and #743, as specified in the tree inventory table on sheet 7, do not match the information provided in the “removal” column of the inventory table.

Recommendation: The information provided in the “Tree Preservation Measures” column of the tree inventory should be revised to accurately reflect the information specified in the “removal” column.

- 5. Comment:** The 6,570 sq. ft. identified as the minimum total of canopy area provided through tree planting, as indicated in lines D17 and E2 of the 10-year Tree Canopy Calculations on sheet 7, is inconsistent with the total sq. ft. identified on the Plant Schedule on sheet 3.

Recommendation: The minimum total of canopy area provided through tree planting of the 10-year Tree Canopy Calculations should be revised to match the total square footage specified in the Plant Schedule.

- 6. Comment:** There appears to be an opportunity to provide additional landscaping throughout the development.

Recommendation: In order to facilitate the creation of a convenient, attractive and harmonious community; to conserve natural resources including adequate air and water; to ameliorate potential storm water drainage problems; to reduce the level of carbon dioxide

Summer Hill Estates Lots 65-68
RZ/FDP 2014-PR-012
October 15, 2014
Page 3 of 3

and return pure oxygen to the atmosphere; to prevent soil erosion; and to provide additional shade, additional landscaping should be provided throughout the development.

Please contact me at 703-324-1770 should you have any questions.

TLN/
UFMDID #: 192363



County of Fairfax, Virginia

MEMORANDUM

DATE: May 28, 2014

TO: Suzanne Lin
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Sharad Regmi, P.E.
Engineering Analysis and Planning Branch

SUBJECT: Sanitary Sewer Analysis Report

REF: **Application No. RZ/FDP 2014 PR 012 (Sekas Homes, Ltd.)**
Tax Map No. 048-1-((01))-0065, 0067, 0068; 048-1-((05))-0001 & 0004

The following information is submitted in response to your request for a sanitary sewer analysis for above referenced application:

1. The application property is located in Accotink Creek (M-2) watershed. It would be sewer into the Noman M. Cole Pollution Control Plant (NMCPCP).
2. Based upon current and committed flow, there is excess capacity in the NMCPCP. For purposes of this report, committed flow shall be deemed that for which fees have been paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for development of this site.
3. An existing 8 inch line located on the property is adequate for the proposed use at this time.
4. The following table indicates the condition of all related sewer facilities and the total effect of this application.

<u>Sewer Network</u>	<u>Existing Use +Application</u>		<u>Existing Use + Application +Previous Applications</u>		<u>Existing Use + Application + Comp Plan</u>	
	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>
Collector	X		X		X	
Submain	X		X		X	
Main/Trunk	X		X		X	

5. **Other pertinent comments:**





County of Fairfax, Virginia

MEMORANDUM

DATE: May 28, 2014

TO: Suzanne Lin
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Sharad Regmi, P.E.
Engineering Analysis and Planning Branch

SUBJECT: Sanitary Sewer Analysis Report

REF: **Application No. RZ/FDP 2014 PR 012 (Sekas Homes, Ltd.)**
Tax Map No. 048-1-((01))-0065, 0067, 0068; 048-1-((05))-0001 & 0004

The following information is submitted in response to your request for a sanitary sewer analysis for above referenced application:

- The application property is located in Accotink Creek (M-2) watershed. It would be sewer into the Noman M. Cole Pollution Control Plant (NMCPCP).
- Based upon current and committed flow, there is excess capacity in the NMCPCP. For purposes of this report, committed flow shall be deemed that for which fees have been paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for development of this site.
- An existing 8 inch line located on the property is adequate for the proposed use at this time.
- The following table indicates the condition of all related sewer facilities and the total effect of this application.

<u>Sewer Network</u>	<u>Existing Use +Application</u>		<u>Existing Use + Application +Previous Applications</u>		<u>Existing Use + Application + Comp Plan</u>	
	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>	<u>Adeq.</u>	<u>Inadeq</u>
Collector	X		X		X	
Submain	X		X		X	
Main/Trunk	X		X		X	

- Other pertinent comments:**





County of Fairfax, Virginia

MEMORANDUM

DATE: August 26, 2014

TO: Suzanne L. Wright, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Mohan Bastakoti, Senior Engineer 
South Branch, Site Development and Inspections Division
Department of Public Works and Environmental Services

SUBJECT: 25756-ZONA-001-1; Zoning Application No: RZ-2014-PR-012; Summer Hill Estates

The subject revised application has been reviewed and the following stormwater management comments are offered at this time:

Chesapeake Bay Preservation Ordinance (CBPO)

There is no Resource Protection Area (RPA) on this site.

Floodplains

There are no regulated floodplains on the property/site.

Downstream Drainage Complaints

There are no downstream drainage complaints on file.

Water Quality

The maximum contributing drainage area to an infiltration facility is limited to less than 2 acres and as close to 100% impervious as possible per VA DEQ stormwater design specification no. 8. Please address.

Stormwater Management/Detention

Applicant has proposed Stormtech MC-3500 Chambers to meet detention requirements of Chapter 124-4-4. The chambers have storage volume of 18, 726 cubic feet. Detail designs and computations will be reviewed during the final design/subdivision plan review.



Site Outfall

A preliminary Outfall Narrative has been included, and the engineer has provided a professional opinion that the development meets the criteria for an Adequate Outfall.

The calculation and design details associated with the required outfall discharge restrictions will be reviewed with the adequate outfall analysis and stormwater detention design at the final design/subdivision plan stage.

Miscellaneous

The stormwater management plan to be prepared at final design, and submitted to the County for review and ultimate VSMP permit approval, must address all of the items listed in SWMO 124-2-7.B.

The latest BMP specifications provided on the Virginia Stormwater BMP Clearinghouse website must be used for final design. The design engineer is also referred to LTI 14-13 with regard to selection of the appropriate BMP specifications.

Please contact me at 703-324-1739, if you have any questions or require additional information.

cc: Don Demetrius, Chief, Watershed Projects Evaluation Branch, SPD, DPWES
Fred Rose, Chief, Watershed Planning & Assessment Branch, SPD, DPWES
Durga Kharel, Chief, Central Branch, SDID, DPWES
Hani Fawaz, Senior Engineer III, Central Branch, SDID, DPWES
Zoning Application File



County of Fairfax, Virginia

MEMORANDUM

DATE: October 17, 2014

TO: Barbara Berlin, Director
Zoning Evaluation Division, Department of Planning & Zoning

FROM: Michael A. Davis, Interim Chief *EAI FOR MAD*
Site Analysis Section, Department of Transportation

FILE: RZ/FDP 2014-PR-012

SUBJECT: RZ/FDP 2014-PR-012 Sekas Homes, Ltd. Summer Hill Estates
2719, 2721, 2723 Sutton Road and 9637, 9633 Courthouse Road
Tax Map: 048-1 ((1)) 65, 67, 68 and 048-1 ((5)) 1, 4

This Department has reviewed the subject application and Conceptual/Final Development Plan CDP/FDP dated March 2014 and revised through September 26, 2014, and offers the following comments:

- The Applicant submitted a Secondary Streets Acceptance Requirements (SSAR) Waiver of the Multiple Connections in Multiple Directions requirement. FCDOT reviewed the September 26, 2014, revised CDP/FDP and acknowledges that the subject site is an infill site. No other future street connections or ROW is available to connect to the proposed internal street. Therefore, FCDOT is agreeable to this waiver request.
- Although the redevelopment of Lot 10 on Sutton Road is not proposed to occur at this time, the applicant should provide across this frontage, pavement for an on-road bike lane, and curb and gutter, to meet VDOT standards.
- The applicant should remove the existing eastern driveway from Lot 9 and extend the Courthouse Road right-of-way improvements over the area of this driveway.

MAD/RP

Fairfax County Department of Transportation
4050 Legato Road, Suite 400
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Phone: (703) 877-5600 TTY: 711
Fax: (703) 877-5723
www.fairfaxcounty.gov/fcdot





COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

4975 Alliance Drive
Fairfax, VA 22030

CHARLES A. KILPATRICK, P.E.
COMMISSIONER

September 26, 2014

To: Ms. Barbara Berlin
Director, Zoning Evaluation Division

From: Kevin Nelson
Virginia Department of Transportation – Land Development Section

Subject: RZ/FPD 2014-PR-012 Sekas Homes, (Summer Hill Estates)
Tax Map # 48-1((01))0065, 67, 68

All submittals subsequent to the first submittal shall provide a response letter to the previous VDOT comments. Submittals without comment response letters are considered incomplete and will be returned without review.

I have reviewed the above plan submitted on September 24, 2014, and received on September 24, 2014. The following comments are offered:

1. *A 5' sidewalk and curb and gutter should be extended across the site frontage on Courthouse Road. The proposed 6' trail across part of the frontage is not eligible for VDOT maintenance.*
2. *A 52' minimum typical section should be provided along Courthouse Road, consistent with the widths provided in other locations for this roadway.*
3. *The proposed drainage outfall can not cross Courthouse Road and break the drainage divides. The downstream roadway crossing does not have the capacity for the additional runoff.*
5. *The widths across the typical section of Courthouse Road should be indicated. The width should also be indicated where there is curb and gutter on the opposite side of the street.*

If you have any questions, please call me.

cc: Ms. Angela Rodeheaver

fairfaxrezoning2014-PR-012rz2SekasHomesLtdSummerHillEst9-26-14BB



FAIRFAX COUNTY PARK AUTHORITY



M E M O R A N D U M

TO: Barbara Berlin, AICP, Director
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Sandy Stallman, AICP, Manager
Park Planning Branch, PDD 

DATE: June 17, 2014

SUBJECT: RZ-FDP 2014-PR-012, Summer Hill Estates
Tax Map Numbers: 48-1((1)) 65,67,68; 48-1((5)) 1, 4

BACKGROUND

The Park Authority staff has reviewed the proposed Development Plan dated March 20, 2014, for the above referenced application. The Development Plan shows 10 single family detached dwelling units on parcels to be zoned from R-1 and R-2 to the PDH-3 district. Based on the average single family detached household size of 2.99 in the Vienna Planning District, the development could add 24 new residents to the Providence District (10 new – 2 existing = $8 \times 2.99 = 24$).

COMPREHENSIVE PLAN GUIDANCE

The County Comprehensive Plan includes both general and specific guidance regarding parks and resources. The Policy Plan describes the need to mitigate adverse impacts to park and recreation facilities caused by growth and development; it also offers a variety of ways to offset those impacts, including contributions, land dedication, development of facilities, and others (Parks and Recreation, Objective 6, p.8). Resource protection is addressed in multiple objectives focusing on protection, preservation, and sustainability of resources (Parks and Recreation Objectives 2 and 5, p.5-7).

Recommendations in the Area II Plan for both the Vienna Transit Station Area and the Vienna Planning District include identifying, preserving and promoting awareness of heritage resources. Guidance in doing so promotes research, surveying and community involvement. Relevant guidance can be found within the District-Wide Recommendations for Heritage Resources (see Area II, Vienna Planning District Overview, District-Wide Recommendations, Heritage Resources, p. 8-13) and also within the District-Wide Parks and Recreation recommendations (ibid, p. 17). Planning Sector recommendations specifically state, "Any development or ground disturbance in this sector, both on private and public land, should be preceded by heritage resource studies, and alternatives should be explored for the avoidance, preservation or recovery

of significant heritage resources that are found. “ (Area II, Vienna Planning District, V-5 Nutley Community Planning Sector, Heritage Resources, p. 87).

Finally, text from the Vienna District chapter of the Great Parks, Great Communities Park Comprehensive Plan echoes recommendations in the Countywide Comprehensive Plan.

ANALYSIS AND RECOMMENDATIONS

Park Needs:

Using adopted service level standards Park Authority staff has identified a need for all types of parkland and recreational facilities in this area. Existing nearby Parks (Nottoway Park, East Blake Lane, and Moorefield) meet only a portion of the demand for parkland generated by residential development in the Vienna Planning District. In addition to parkland, the recreational facilities in greatest need in the planning district include rectangle fields, youth baseball fields, basketball courts, playgrounds, neighborhood skate parks and trails.

Recreational Impact of Residential Development:

The Fairfax County Zoning Ordinance requires provision of open space and recreational features within Planned Development Districts (see Zoning Ordinance Sections 6-110 and 16-404). The minimum expenditure for park and recreational facilities within these districts is set at \$1,700 per non-ADU residential for outdoor recreational facilities to serve the development population. Whenever possible, the facilities should be located within the residential development site. With 10 non-ADUs proposed, the Ordinance-required amount to be spent onsite is \$17,000. Any portion of this amount not spent onsite should be conveyed to the Park Authority for recreational facility construction at one or more park sites in the service area of the development.

The \$1,700 per unit funds required by Ordinance offset only a portion of the impact to provide recreational facilities for the new residents generated by this development. Typically, a large portion if not all of the Ordinance-required funds are used for recreational amenities onsite. As a result, the Park Authority is not compensated for the increased demands caused by residential development for other recreational facilities that the Park Authority must provide.

With the Countywide Comprehensive Policy Plan as a guide (Appendix 9, #6 of the Land Use section, as well as Objective 6, Policy a, b and c of the Parks and Recreation section), the Park Authority requests a fair share contribution of \$893 per new resident with any residential rezoning application to offset impacts to park and recreation service levels. This allows the Park Authority to build additional facilities needed as the population increases. To offset the additional impact caused by the proposed development, the applicant should contribute \$21,432 to the Park Authority for recreational facility development at one or more park sites located within the service area of the subject property.

Natural Resources Impact:

The Park Authority owns and operates Nottoway Park adjacent to the applicant's property. As such, staff recommends all landscaping to be installed should be of non-invasive species to protect the environmental health of the adjacent parkland. Species should also ideally be native to this region of Virginia to provide the greatest habitat benefit for wildlife. Tree cover on the subject property will be reduced from 75% in its current condition to 25% in the post-developed

condition. A selection of native tree species for the subdivision, particularly hard mast-producing species such as oak, would further reduce the environmental impact of construction. A list of invasive plant species for the state of Virginia can be found at the Virginia Department of Conservation & Recreation Division of Natural Heritage website at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf. A list of native plant species in the Coastal Plain Region which is where Fairfax County is located can be found at the Virginia Department of Conservation & Recreation Division of Natural Heritage website at http://www.dcr.virginia.gov/natural_heritage/documents/cp_nat_plants.pdf.

Staff notes that the stormwater and outfall narrative does not adequately address the contributing drainage areas to the three outfalls or the proposed infiltration trench. The Park Authority requests a detailed outfall location(s) map with the contributing drainage areas shown and hydrological calculations for each proposed outfall. Staff has the following questions:

- What acreage of the post-developed property flows to the infiltration trench and to Outfall #1?
- How many acres will drain as sheet flow to Outfall #2 onto Park Authority Property?
- How many acres will drain as sheet flow to Outfall #3 to the Chun Property?

All three outfalls from this subdivision will ultimately affect Nottoway Park. The Park Authority requests three to five cross-sections, as a minimum, at each critical location to verify the outfall adequacy, and an engineer's statement regarding the adequacy of outfall. Additionally the Park Authority requests a description of each outfall channel and the permissible velocity. If the outfall channels are deemed not adequate, the Park Authority seeks proposed channel protection measures with design details shown and supported by calculations. To reduce peak flow rates in the channels and protect downstream parkland, an extended detention for the 1-year storm event (in addition to 10-year storm detention) could be added to the infiltration trench design.

Cultural Resources Impact:

The parcels were subjected to cultural resources review. The parcel has moderate to high potential to contain Native American archaeological or historical archaeological sites. The Park Authority recommends a Phase I archaeological survey. If significant sites are found, Phase II archaeological testing is recommended in order to determine if sites are eligible for inclusion on the National Register of Historic Places. If sites are found eligible, avoidance or Phase III archaeological data recovery is recommended.

At the completion of any cultural resource studies, The Park Authority requests that the applicant provide one copy of the archaeology report as well as field notes, photographs, and artifacts to the Park Authority's Resource Management Division (Attention: Liz Crowell) within 30 days of completion of the study.

Trails:

The development plan shows an existing minor paved trail along Courthouse Road that connects to the trail system in Nottoway Park. The applicant has requested a waiver of the trail requirement along Courthouse Road in lieu of the existing sidewalk provided. The minor paved

trail will serve the development by providing access to Nottoway Park. The existing trail meets the county criteria for a minor paved trail.

SUMMARY OF RECOMMENDATIONS

This section summarizes the recommendations included in the preceding analysis section. Following is a table summarizing recreation contribution amounts consistent with the Zoning Ordinance and Comprehensive Plan guidance:

Proposed Uses	P-District Onsite Expenditure	Requested Park Proffer Amount	Total
Single-family detached units	\$17,000	\$21,432	\$32,432
Total	\$17,000	\$21,432	\$32,432

In addition, the Park Authority recommends the following:

- Conduct a Phase I archaeological study and any needed follow up studies
- Provide onsite stormwater management (do not request a waiver)
- Provide three to five cross-sections at each critical outfall location to verify the outfall adequacy and an engineer's statement regarding the adequacy of outfall
- Add extended detention for the 1-year storm event to the infiltration trench design
- All landscaping installed should be of non-invasive species, preferably native species

Please note the Park Authority would like to review and comment on proffers and/or development conditions related to park and recreation issues. We request that draft and final proffers and/or development conditions be submitted to the assigned reviewer noted below for review and comment prior to completion of the staff report and prior to final Board of Supervisors approval.

FCPA Reviewer: Andrea Dorlester/Laura Featherstone
DPZ Coordinator: Suzanne Lin

Copy: Cindy Walsh, Director, Resource Management Division
Liz Crowell, Manager, Cultural Resource Management & Protection Section
Elizabeth Cronauer, Trail Coordinator, Project Management Branch
Suzanne Lin, Zoning Coordinator, DPZ
Chron File
File Copy



**FAIRFAX COUNTY
PUBLIC SCHOOLS**

Department of Facilities and Transportation Services
Office of Facilities Planning Services
8115 Gatehouse Road, Suite 3200
Falls Church, Virginia 22042

June 12, 2014

TO: Barbara Berlin, Director
Zoning Evaluation Division
Fairfax County Department of Planning & Zoning

FROM: Ajay Rawat, Coordinator 
Office of Facilities Planning Services

SUBJECT: RZ/FDP 2014-PR-012, Sekas Homes LTD

ACREAGE: 4.12 acres

TAX MAP: 48-1 ((1)) 65, 67, 68; ((5)) 1, 4

PROPOSAL:

The application requests to rezone the site from R-1/R-2 to PDH-3 district. The proposal would permit a maximum of 10 single family detached homes. The site currently contains four single family detached homes, of which two would be retained along with 8 new homes being constructed. Under the current R-1/R-2 zoning, the site could be developed with up to five single family detached houses.

ANALYSIS:

School Capacities

The site straddles the boundary between the Madison and Oakton High School pyramids. The schools serving this area are Marshall Road and Mosby Woods Elementary, Thoreau and Jackson Middle, and Madison and Oakton High schools. The chart below shows the existing school capacity, enrollment, and projected enrollment.

School	Capacity 2013 / 2018	Enrollment (9/30/13)	Projected Enrollment 2014-15	Capacity Balance 2014-15	Projected Enrollment 2018-19	Capacity Balance 2018-19
Marshall Road ES	586 / 900	683	680	220	743	157
Mosby Woods ES	923 / 923	964	1,045	-122	1,069	-146
Thoreau MS	816 / 1,350	843	884	-68	950	400
Jackson MS	1,146 / 1,146	1,257	1,367	-221	1,582	-436
Madison HS	2,059 / 2,059	1,984	2,101	-42	2,338	-279
Oakton HS	2,096 / 2,096	2,198	2,220	-124	2,380	-284

Capacities based on 2015-2019 Capital Improvement Program (December 2013)
Project Enrollments based on 2013-14 to 2018-19 6-Year Projections (April 2013)

The school capacity chart above shows a snapshot in time for student enrollments and school capacity balances. Student enrollment projections are done on a six year timeframe, currently through school year 2018-19 and are updated annually. At this time, if development occurs within the next five years, Marshall Road and Thoreau are projected to have surplus capacity; Mosby Woods, Jackson, Madison and Oakton are projected to have capacity deficits. Beyond the six year projection horizon, enrollment projections are not available.

Capital Improvement Program Projects

The 2015-19 Capital Improvement Program (CIP) includes funded capacity enhancements to be completed at Marshall Road in FY 2015, funded renovation and capacity enhancements to be completed at Thoreau in FY 2017, and an unfunded renovation and capacity enhancements to be completed at Oakton within the 10-year CIP cycle.

Development Impact

Based on the number of residential units proposed, the chart below shows the number of anticipated students by school level based on the current countywide student yield ratio.

Existing (Potential By-right)

School level	Single Family Detached ratio	Potential # of units	Estimated Student yield
Elementary	.273	5	1
Middle	.086	5	0
High	.177	5	1

2 total

2012 Countywide student yield ratios (September 2013)

Proposed

School level	Single Family Detached ratio	Proposed # of units	Estimated Student yield
Elementary	.273	10	3
Middle	.086	10	1
High	.177	10	2

6 total

2012 Countywide student yield ratios (September 2013)

RECOMMENDATIONS:

Proffer Contribution

A net of 4 new students is anticipated (2 Elementary, 1 Middle, and 1 High). Based on the approved Residential Development Criteria, a proffer contribution of \$43,300 (4 x \$10,825) is recommended to offset the impact that new student growth will have on surrounding schools. It is recommended that the proffer contribution funds be directed as follows:

...to be utilized for capital improvements to Fairfax County public schools to address impacts on the school division resulting from [the applicant's development].

It is also recommended proffer payment occur at the time of site plan or first building permit approval. A proffer contribution at the time of occupancy is not recommended since this does not allow the school system adequate time to use the proffer contribution to offset the impact of new students.

In addition, an "escalation" proffer is recommended. The suggested per student proffer contribution is updated on an annual basis to reflect current market conditions. The amount has decreased over the last several years because of the down turn in the economy and lower construction costs for FCPS. As a result, an escalation proffer would allow for payment of the school proffer based on either the current suggested per student proffer contribution at the time of zoning approval or the per student proffer contribution in effect at the time of development, whichever is greater. This would better offset the impact that new student yields will have on surrounding schools at the time of development. For your reference, below is an example of an escalation proffer that was included as part of an approved proffer contribution to FCPS.

Adjustment to Contribution Amounts. Following approval of this Application and prior to the Applicant's payment of the amount(s) set forth in this Proffer, if Fairfax County should increase the ratio of students per unit or the amount of contribution per student, the Applicant shall increase the amount of the contribution for that phase of development to reflect the then-current ratio and/or contribution. If the County should decrease the ratio or contribution amount, the Applicant shall provide the greater of the two amounts.

Proffer Notification

It is also recommended that the developer proffer notification be provided to FCPS when development is likely to occur or when a site plan has been filed with the County. This will allow the school system adequate time to plan for anticipated student growth to ensure classroom availability.

AR/gjb

Attachment: Locator Map

cc: Patty Reed, School Board Member, Providence District
Pat Hynes, School Board Member, Hunter Mill District
Sandy Evans, School Board Member, Mason District
Kathy Smith, School Board Member, Sully District
Ilryong Moon, Chairman, School Board Member, At-Large
Ryan McElveen, School Board Member, At-Large
Ted Velkoff, School Board Member, At-Large
Jeffrey Platenberg, Assistant Superintendent, Facilities and Transportation Services
Jim Kacur, Cluster II, Assistant Superintendent
Fabio Zuluaga, Cluster VIII, Assistant Superintendent
Kevin Sneed, Director, Design and Construction Services
Mark Merrell, Principal, Madison High School
John Banbury, Principal, Oakton High School
Greg Hood, Principal, Thoreau Middle School
Timothy Arrington, Interim Principal, Jackson Middle School
Jennifer Heiges, Principal, Marshall Road Elementary School
Mahri Aste, Principal, Mosby Woods Elementary School

Final Development Plan

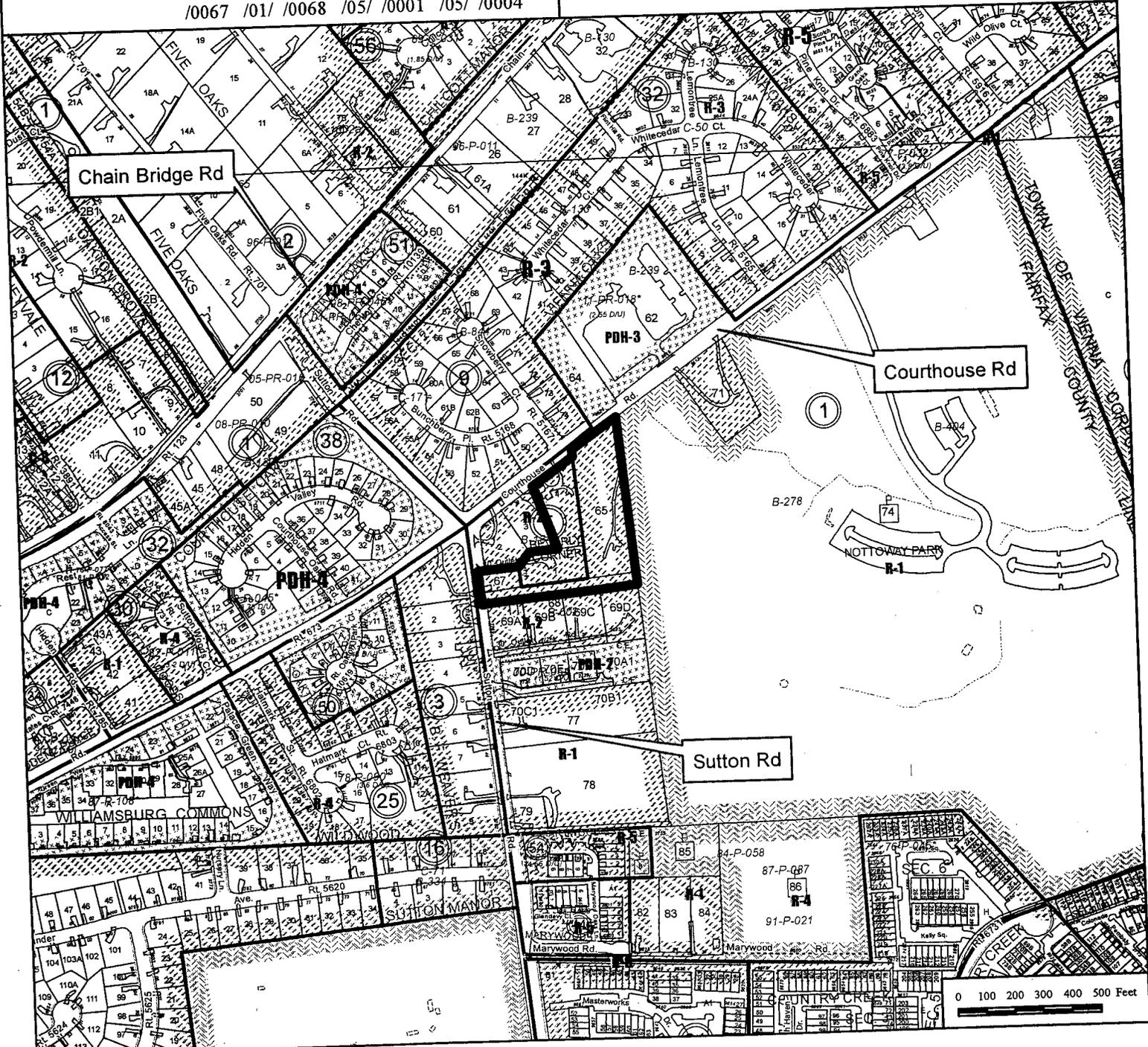
FDP 2014-PR-012

Rezoning Application

RZ 2014-PR-012

Applicant: SEKAS HOMES, LTD.
Accepted: 05/21/2014
Proposed: RESIDENTIAL
Area: 4.12 AC OF LAND; DISTRICT - PROVIDENCE
Located: SOUTHEAST QUADRANT OF THE INTERSECTION OF COURTHOUSE ROAD AND SUTTON ROAD
Zoning: PDH- 3
Map Ref Num: 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004

Applicant: SEKAS HOMES, LTD.
Accepted: 05/21/2014
Proposed: RESIDENTIAL
Area: 4.12 AC OF LAND; DISTRICT - PROVIDENCE
Located: SOUTHEAST QUADRANT OF THE INTERSECTION OF COURTHOUSE ROAD AND SUTTON ROAD
Zoning: FROM R- 2 TO PDH- 3, FROM R- 1 TO PDH- 3
Map Ref Num: 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004 048-1- /01/ /0065 /01/ /0067 /01/ /0068 /05/ /0001 /05/ /0004





County of Fairfax, Virginia

DATE: May 28, 2014

TO: Suzanne Lin, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Kevin R. Wastler, EH Supervisor *KRW*
Technical Review and Information Resources Section
Fairfax County Health Department

SUBJECT: Zoning Plan Analysis

REFERENCE: Application No. RZ/FDP 2014-PR-012 (Sekas Homes, Ltd.)

After reviewing the application, we have only one comment to be considered. Health Department records indicate that the existing house on 9633 Courthouse Road (Lot 68) to be demolished is/was served by an onsite sewage disposal system as well as a private well water supply. There are no records on file that the well and septic system were ever properly abandoned. The existing houses on 2721 Sutton Road (Lots 67-68), 2719 Sutton Road (Lot 1) and 9637 Courthouse Road (Lot 4) all were served by a private well and have not been abandoned according to Health Department records. **The septic tank and wells will have to be properly abandoned prior to approval of the demolition permit being released by the Health Department.**

Fairfax County Health Department
Division of Environmental Health
Technical Review and Information Resources
10777 Main Street, Suite 102, Fairfax, VA 22030
Phone: 703-246-2510 TTY: 711 Fax: 703-278-8156
www.fairfaxcounty.gov/hd



Fairfax Water

FAIRFAX COUNTY WATER AUTHORITY
8560 Arlington Boulevard, Fairfax, Virginia 22031
www.fairfaxwater.org

**PLANNING & ENGINEERING
DIVISION**

Jamie Bain Hedges, P.E.
Director
(703) 289-6325
Fax (703) 289-6382

May 28, 2014

Ms. Barbara Berlin, Director
Zoning Evaluation Division
Fairfax County Department of Planning and Zoning
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5505

Re: RZ 2014-PR-012
FDP 2014-PR-012
Summer Hill Estates
Tax Map: 48-1

Dear Ms. Berlin:

The following information is submitted in response to your request for a water service analysis for the above application:

1. The property can be served by Fairfax Water.
2. Adequate domestic water service is available at the site from an existing 12-inch water main located in Sutton Road and existing 8-inch located in Courthouse Road. See the enclosed water system map.
3. Depending upon the configuration of any proposed on-site water mains, additional water main extensions may be necessary to satisfy fire flow requirements and accommodate water quality concerns.

If you have any questions regarding this information please contact Ross Stilling, P.E., Chief, Site Plan Review at (703) 289-6385.

Sincerely,



Traci K. Goldberg, P.E.
Manager, Planning

Enclosure



County of Fairfax, Virginia

MEMORANDUM

DATE: May 23, 2014

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

FROM: Eric Fisher, GIS Coordinator
Information Technology Section
Fire and Rescue Department

SUBJECT: Fire and Rescue Department Preliminary Analysis of Rezoning/Final
Development Plan Application RZ/FDP 2014-PR-012

The following information is submitted in response to your request for a preliminary Fire and Rescue Department analysis for the subject:

1. The application property is serviced by the Fairfax County Fire and Rescue Department Station #434, Oakton
2. After construction programmed ___ (n/a)___ this property will be serviced by the fire station _____ (n/a)_____



APPENDIX 9

RESIDENTIAL DEVELOPMENT CRITERIA

Fairfax County expects new residential development to enhance the community by: fitting into the fabric of the neighborhood, respecting the environment, addressing transportation impacts, addressing impacts on other public facilities, being responsive to our historic heritage, contributing to the provision of affordable housing and, being responsive to the unique site specific considerations of the property. To that end, the following criteria are to be used in evaluating zoning requests for new residential development. The resolution of issues identified during the evaluation of a specific development proposal is critical if the proposal is to receive favorable consideration.

Where the Plan recommends a possible increase in density above the existing zoning of the property, achievement of the requested density will be based, in substantial part, on whether development related issues are satisfactorily addressed as determined by application of these development criteria. Most, if not all, of the criteria will be applicable in every application; however, due to the differing nature of specific development proposals and their impacts, the development criteria need not be equally weighted. If there are extraordinary circumstances, a single criterion or several criteria may be overriding in evaluating the merits of a particular proposal. Use of these criteria as an evaluation tool is not intended to be limiting in regard to review of the application with respect to other guidance found in the Plan or other aspects that the applicant incorporates into the development proposal. Applicants are encouraged to submit the best possible development proposals. In applying the Residential Development Criteria to specific projects and in determining whether a criterion has been satisfied, factors such as the following may be considered:

- the size of the project
- site specific issues that affect the applicant's ability to address in a meaningful way relevant development issues
- whether the proposal is advancing the guidance found in the area plans or other planning and policy goals (e.g. revitalization).

When there has been an identified need or problem, credit toward satisfying the criteria will be awarded based upon whether proposed commitments by the applicant will significantly advance problem resolution. In all cases, the responsibility for demonstrating satisfaction of the criteria rests with the applicant.

1. Site Design:

All rezoning applications for residential development should be characterized by high quality site design. Rezoning proposals for residential development, regardless of the proposed density, will be evaluated based upon the following principles, although not all of the principles may be applicable for all developments.

- a) *Consolidation*: Developments should provide parcel consolidation in conformance with any site specific text and applicable policy recommendations of the Comprehensive Plan. Should the Plan text not specifically address consolidation, the nature and extent of any proposed parcel consolidation should further the integration of the development with adjacent parcels. In any event, the proposed consolidation should not preclude nearby properties from developing as recommended by the Plan.

b) *Layout*: The layout should:

- provide logical, functional and appropriate relationships among the various parts (e. g. dwelling units, yards, streets, open space, stormwater management facilities, existing vegetation, noise mitigation measures, sidewalks and fences);
- provide dwelling units that are oriented appropriately to adjacent streets and homes;
- include usable yard areas within the individual lots that accommodate the future construction of decks, sunrooms, porches, and/or accessory structures in the layout of the lots, and that provide space for landscaping to thrive and for maintenance activities;
- provide logical and appropriate relationships among the proposed lots including the relationships of yards, the orientation of the dwelling units, and the use of pipestem lots;
- provide convenient access to transit facilities;
- Identify all existing utilities and make every effort to identify all proposed utilities and stormwater management outfall areas; encourage utility collocation where feasible.

c) *Open Space*: Developments should provide usable, accessible, and well-integrated open space. This principle is applicable to all projects where open space is required by the Zoning Ordinance and should be considered, where appropriate, in other circumstances.

d) *Landscaping*: Developments should provide appropriate landscaping: for example, in parking lots, in open space areas, along streets, in and around stormwater management facilities, and on individual lots.

e) *Amenities*: Developments should provide amenities such as benches, gazebos, recreational amenities, play areas for children, walls and fences, special paving treatments, street furniture, and lighting.

2. Neighborhood Context:

All rezoning applications for residential development, regardless of the proposed density, should be designed to fit into the community within which the development is to be located. Developments should fit into the fabric of their adjacent neighborhoods, as evidenced by an evaluation of:

- transitions to abutting and adjacent uses;
- lot sizes, particularly along the periphery;
- bulk/mass of the proposed dwelling units;
- setbacks (front, side and rear);
- orientation of the proposed dwelling units to adjacent streets and homes;
- architectural elevations and materials;
- pedestrian, bicycle and vehicular connections to off-site trails, roadways, transit facilities and land uses;
- existing topography and vegetative cover and proposed changes to them as a result of clearing and grading.

It is not expected that developments will be identical to their neighbors, but that the development fit into the fabric of the community. In evaluating this criterion, the individual circumstances of the property will be considered: such as, the nature of existing and planned development surrounding and/or adjacent to the property; whether the property provides a transition between different uses or densities; whether access to an infill development is through an existing neighborhood; or, whether the property is within an area that is planned for redevelopment.

3. Environment:

All rezoning applications for residential development should respect the environment. Rezoning proposals for residential development, regardless of the proposed density, should be consistent with the policies and objectives of the environmental element of the Policy Plan, and will also be evaluated on the following principles, where applicable.

- a) *Preservation:* Developments should conserve natural environmental resources by protecting, enhancing, and/or restoring the habitat value and pollution reduction potential of floodplains, stream valleys, EQCs, RPAs, woodlands, wetlands and other environmentally sensitive areas.
- b) *Slopes and Soils:* The design of developments should take existing topographic conditions and soil characteristics into consideration.
- c) *Water Quality:* Developments should minimize off-site impacts on water quality by commitments to state of the art best management practices for stormwater management and better site design and low impact development (LID) techniques.
- d) *Drainage:* The volume and velocity of stormwater runoff from new development should be managed in order to avoid impacts on downstream properties. Where drainage is a particular concern, the applicant should demonstrate that off-site drainage impacts will be mitigated and that stormwater management facilities are designed and sized appropriately. Adequate drainage outfall should be verified, and the location of drainage outfall (onsite or offsite) should be shown on development plans.
- e) *Noise:* Developments should protect future and current residents and others from the adverse impacts of transportation generated noise.
- f) *Lighting:* Developments should commit to exterior lighting fixtures that minimize neighborhood glare and impacts to the night sky.
- g) *Energy:* Developments should use site design techniques such as solar orientation and landscaping to achieve energy savings, and should be designed to encourage and facilitate walking and bicycling. Energy efficiency measures should be incorporated into building design and construction.

4. Tree Preservation and Tree Cover Requirements:

All rezoning applications for residential development, regardless of the proposed density, should be designed to take advantage of the existing quality tree cover. If quality tree cover exists on site as determined by the county, it is highly desirable that developments meet most or all of their tree cover requirement by preserving and, where feasible and appropriate, transplanting existing trees. Tree cover in excess of ordinance requirements is highly desirable. Proposed utilities, including stormwater management and outfall facilities and

sanitary sewer lines, should be located to avoid conflicts with tree preservation and planting areas. Air quality-sensitive tree preservation and planting efforts (see Objective 1, Policy c in the Environment section of this document) are also encouraged.

5. Transportation:

All rezoning applications for residential development should implement measures to address planned transportation improvements. Applicants should offset their impacts to the transportation network. Accepted techniques should be utilized for analysis of the development's impact on the network. Residential development considered under these criteria will range widely in density and, therefore, will result in differing impacts to the transportation network. Some criteria will have universal applicability while others will apply only under specific circumstances. Regardless of the proposed density, applications will be evaluated based upon the following principles, although not all of the principles may be applicable.

- a) *Transportation Improvements:* Residential development should provide safe and adequate access to the road network, maintain the ability of local streets to safely accommodate traffic, and offset the impact of additional traffic through commitments to the following:
 - Capacity enhancements to nearby arterial and collector streets;
 - Street design features that improve safety and mobility for non-motorized forms of transportation;
 - Signals and other traffic control measures;
 - Development phasing to coincide with identified transportation improvements;
 - Right-of-way dedication;
 - Construction of other improvements beyond ordinance requirements;
 - Monetary contributions for improvements in the vicinity of the development.

- b) *Transit/Transportation Management:* Mass transit usage and other transportation measures to reduce vehicular trips should be encouraged by:
 - Provision of bus shelters;
 - Implementation and/or participation in a shuttle bus service;
 - Participation in programs designed to reduce vehicular trips;
 - Incorporation of transit facilities within the development and integration of transit with adjacent areas;
 - Provision of trails and facilities that increase safety and mobility for non-motorized travel.

- c) *Interconnection of the Street Network:* Vehicular connections between neighborhoods should be provided, as follows:
 - Local streets within the development should be connected with adjacent local streets to improve neighborhood circulation;
 - When appropriate, existing stub streets should be connected to adjoining parcels. If street connections are dedicated but not constructed with development, they should be identified with signage that indicates the street is to be extended;
 - Streets should be designed and constructed to accommodate safe and convenient usage by buses and non-motorized forms of transportation;
 - Traffic calming measures should be implemented where needed to discourage cut-through traffic, increase safety and reduce vehicular speed;

- The number and length of long, single-ended roadways should be minimized;
 - Sufficient access for public safety vehicles should be ensured.
- d) *Streets*: Public streets are preferred. If private streets are proposed in single-family detached developments, the applicant shall demonstrate the benefits for such streets. Applicants should make appropriate design and construction commitments for all private streets so as to minimize maintenance costs which may accrue to future property owners. Furthermore, convenience and safety issues such as parking on private streets should be considered during the review process.
- e) *Non-motorized Facilities*: Non-motorized facilities, such as those listed below, should be provided:
- Connections to transit facilities;
 - Connections between adjoining neighborhoods;
 - Connections to existing non-motorized facilities;
 - Connections to off-site retail/commercial uses, public/community facilities, and natural and recreational areas;
 - An internal non-motorized facility network with pedestrian and natural amenities, particularly those included in the Comprehensive Plan;
 - Offsite non-motorized facilities, particularly those included in the Comprehensive Plan;
 - Driveways to residences should be of adequate length to accommodate passenger vehicles without blocking walkways;
 - Construction of non-motorized facilities on both sides of the street is preferred. If construction on a single side of the street is proposed, the applicant shall demonstrate the public benefit of a limited facility.
- f) *Alternative Street Designs*: Under specific design conditions for individual sites or where existing features such as trees, topography, etc. are important elements, modifications to the public street standards may be considered.

6. Public Facilities:

Residential development impacts public facility systems (i.e., schools, parks, libraries, police, fire and rescue, stormwater management and other publicly owned community facilities). These impacts will be identified and evaluated during the development review process. For schools, a methodology approved by the Board of Supervisors, after input and recommendation by the School Board, will be used as a guideline for determining the impact of additional students generated by the new development.

Given the variety of public facility needs throughout the county, on a case-by-case basis, public facility needs will be evaluated so that local concerns may be addressed.

All rezoning applications for residential development are expected to offset their public facility impact and to first address public facility needs in the vicinity of the proposed development. Impact offset may be accomplished through the dedication of land suitable for the construction of an identified public facility need, the construction of public facilities, the contribution of specified in-kind goods, services or cash earmarked for those uses, and/or monetary contributions to be used toward funding capital improvement projects. Selection of the appropriate offset mechanism should maximize the public benefit of the contribution.

Furthermore, phasing of development may be required to ensure mitigation of impacts.

7. Affordable Housing:

Ensuring an adequate supply of housing for low and moderate income families, those with special accessibility requirements, and those with other special needs is a goal of the county.

Part 8 of Article 2 of the Zoning Ordinance requires the provision of Affordable Dwelling Units (ADUs) in certain circumstances. Criterion #7 is applicable to all rezoning applications and/or portions thereof that are not required to provide any Affordable Dwelling Units, regardless of the planned density range for the site.

- a) *Dedication of Units or Land:* If the applicant elects to fulfill this criterion by providing affordable units that are not otherwise required by the ADU Ordinance: a maximum density of 20% above the upper limit of the Plan range could be achieved if 12.5% of the total number of single-family detached and attached units are provided pursuant to the Affordable Dwelling Unit Program; and, a maximum density of 10% or 20% above the upper limit of the Plan range could be achieved if 6.25% or 12.5%, respectively of the total number of multifamily units are provided to the Affordable Dwelling Unit Program. As an alternative, land, adequate and ready to be developed for an equal number of units may be provided to the Fairfax County Redevelopment and Housing Authority or to such other entity as may be approved by the Board.
- b) *Housing Trust Fund Contributions:* Satisfaction of this criterion may also be achieved by a contribution to the Housing Trust Fund or, as may be approved by the Board, a monetary and/or in-kind contribution to another entity whose mission is to provide affordable housing in Fairfax County, equal to 0.5% of the value of all of the units approved on the property except those that result in the provision of ADUs. This contribution shall be payable prior to the issuance of the first building permit. For for-sale projects, the percentage set forth above is based upon the aggregate sales price of all of the units subject to the contribution, as if all of those units were sold at the time of the issuance of the first building permit, and is estimated through comparable sales of similar type units. For rental projects, the amount of the contribution is based upon the total development cost of the portion of the project subject to the contribution for all elements necessary to bring the project to market, including land, financing, soft costs and construction. The sales price or development cost will be determined by the Department of Housing and Community Development, in consultation with the Applicant and the Department of Public Works and Environmental Services. If this criterion is fulfilled by a contribution as set forth in this paragraph, the density bonus permitted in a) above does not apply.

8. Heritage Resources:

Heritage resources are those sites or structures, including their landscape settings, that exemplify the cultural, architectural, economic, social, political, or historic heritage of the county or its communities. Some of these sites and structures have been 1) listed in, or determined eligible for listing in, the National Register of Historic Places or the Virginia Landmarks Register; 2) determined to be a contributing structure or site within a district so listed or eligible for listing; 3) located within and considered as a contributing structure within a Fairfax County Historic Overlay District; or 4) listed in, or having a reasonable potential as determined by the county, for meeting the criteria for listing in, the Fairfax County Inventory of Historic Sites.

In reviewing rezoning applications for properties on which known or potential heritage resources are located, some or all of the following shall apply:

- a) Protect heritage resources from deterioration or destruction until they can be documented, evaluated, and/or preserved;
- b) Conduct archaeological, architectural, and/or historical research to determine the presence, extent, and significance of heritage resources;
- c) Submit proposals for archaeological work to the county for review and approval and, unless otherwise agreed, conduct such work in accordance with state standards;
- d) Preserve and rehabilitate heritage resources for continued or adaptive use where feasible;
- e) Submit proposals to change the exterior appearance of, relocate, or demolish historic structures to the Fairfax County Architectural Review Board for review and approval;
- f) Document heritage resources to be demolished or relocated;
- g) Design new structures and site improvements, including clearing and grading, to enhance rather than harm heritage resources;
- h) Establish easements that will assure continued preservation of heritage resources with an appropriate entity such as the county's Open Space and Historic Preservation Easement Program; and
- i) Provide a Fairfax County Historical Marker or Virginia Historical Highway Marker on or near the site of a heritage resource, if recommended and approved by the Fairfax County History Commission.

ROLE OF DENSITY RANGES IN AREA PLANS

Density ranges for property planned for residential development, expressed generally in terms of dwelling units per acre, are recommended in the Area Plans and are shown on the Comprehensive Plan Map. Where the Plan text and map differ, the text governs. In defining the density range:

- the "base level" of the range is defined as the lowest density recommended in the Plan range, i.e., 5 dwelling units per acre in the 5-8 dwelling unit per acre range;
- the "high end" of the range is defined as the base level plus 60% of the density range in a particular Plan category, which in the residential density range of 5-8 dwelling units per acre would be considered as 6.8 dwelling units per acre and above; and,
- the upper limit is defined as the maximum density called for in any Plan range, which, in the 5-8 dwelling unit per acre range would be 8 dwelling units per acre.
- In instances where a range is not specified in the Plan, for example where the Plan calls for residential density up to 30 dwelling units per acre, the density cited in the Plan shall be construed to equate to the upper limit of the Plan range, and the base level shall be the upper limit of the next lower Plan range, in this instance, 20 dwelling units per acre.

**NONRESIDENTIAL
DEVELOPMENT CRITERIA**

While the Comprehensive Plan has no direct equivalent to the residential density range in areas planned for nonresidential or mixed uses, each rezoning application for such uses will be evaluated using pertinent development criteria, as found in the **Residential Development Criteria**, as a basis for such evaluation.

For commercial, industrial and mixed-use projects, fulfillment of Criterion #7 is based upon the provision of a number of units in appropriate residential projects, or land, or a contribution to the Housing Trust Fund sufficient for a number of units, determined in accordance with a formula established by the Board of Supervisors in consultation with the Fairfax County Redevelopment and Housing Authority.

GLOSSARY

This Glossary is provided to assist the public in understanding the staff evaluation and analysis of development proposals. It should not be construed as representing legal definitions. Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan or Public Facilities Manual for additional information.

ABANDONMENT: Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

ACCESSORY DWELLING UNIT (OR APARTMENT): A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT: Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

AGRICULTURAL AND FORESTAL DISTRICTS: A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

BARRIER: A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

BEST MANAGEMENT PRACTICES (BMPs): Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

BUFFER: Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

CHESAPEAKE BAY PRESERVATION ORDINANCE: Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

CLUSTER DEVELOPMENT: Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

COUNTY 2232 REVIEW PROCESS: A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

dBA: The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

DENSITY: Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

DENSITY BONUS: An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

DEVELOPMENT CONDITIONS: Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

DEVELOPMENT PLAN: A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is a submission requirement for rezoning to the PRC District. A **GENERALIZED DEVELOPMENT PLAN (GDP)** is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A **CONCEPTUAL DEVELOPMENT PLAN (CDP)** is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A **FINAL DEVELOPMENT PLAN (FDP)** is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

EASEMENT: A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

ENVIRONMENTAL QUALITY CORRIDORS (EQCs): An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

ERODIBLE SOILS: Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

FLOODPLAIN: Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

FLOOR AREA RATIO (FAR): An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

FUNCTIONAL CLASSIFICATION: A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

GEOTECHNICAL REVIEW: An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

HYDROCARBON RUNOFF: Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

IMPERVIOUS SURFACE: Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

INFILL: Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

INTENSITY: The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

Ldn: Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

LEVEL OF SERVICE (LOS): An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

MARINE CLAY SOILS: Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

OPEN SPACE: That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may function as a buffer between land uses or for scenic, environmental, or recreational purposes.

OPEN SPACE EASEMENT: An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

P DISTRICT: A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

PROFFER: A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

PUBLIC FACILITIES MANUAL (PFM): A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

RESOURCE MANAGEMENT AREA (RMA): That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

RESOURCE PROTECTION AREA (RPA): That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

SITE PLAN: A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP): Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

STORMWATER MANAGEMENT: Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

SUBDIVISION PLAT: The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

TRANSPORTATION DEMAND MANAGEMENT (TDM): Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS: This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggered work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

URBAN DESIGN: An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

VACATION: Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

VARIANCE: An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

WETLANDS: Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

TIDAL WETLANDS: Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

Abbreviations Commonly Used in Staff Reports

A&F	Agricultural & Forestal District	PDH	Planned Development Housing
ADU	Affordable Dwelling Unit	PFM	Public Facilities Manual
ARB	Architectural Review Board	PRC	Planned Residential Community
BMP	Best Management Practices	RC	Residential-Conservation
BOS	Board of Supervisors	RE	Residential Estate
BZA	Board of Zoning Appeals	RMA	Resource Management Area
COG	Council of Governments	RPA	Resource Protection Area
CBC	Community Business Center	RUP	Residential Use Permit
CDP	Conceptual Development Plan	RZ	Rezoning
CRD	Commercial Revitalization District	SE	Special Exception
DOT	Department of Transportation	SEA	Special Exception Amendment
DP	Development Plan	SP	Special Permit
DPWES	Department of Public Works and Environmental Services	TDM	Transportation Demand Management
DPZ	Department of Planning and Zoning	TMA	Transportation Management Association
DU/AC	Dwelling Units Per Acre	TSA	Transit Station Area
EQC	Environmental Quality Corridor	TSM	Transportation System Management
FAR	Floor Area Ratio	UP & DD	Utilities Planning and Design Division, DPWES
FDP	Final Development Plan	VC	Variance
GDP	Generalized Development Plan	VDOT	Virginia Dept. of Transportation
GFA	Gross Floor Area	VPD	Vehicles Per Day
HC	Highway Corridor Overlay District	VPH	Vehicles per Hour
HCD	Housing and Community Development	WMATA	Washington Metropolitan Area Transit Authority
LOS	Level of Service	WS	Water Supply Protection Overlay District
Non-RUP	Non-Residential Use Permit	ZAD	Zoning Administration Division, DPZ
OSDS	Office of Site Development Services, DPWES	ZED	Zoning Evaluation Division, DPZ
PCA	Proffered Condition Amendment	ZPRB	Zoning Permit Review Branch
PD	Planning Division		
PDC	Planned Development Commercial		