8012 ELM PLACE

PROVIDENCE DISTRICT FAIRFAX COUNTY, VIRGINIA

GENERALIZED DEVELOPMENT PLAN

RZ 2009-PR-005

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5. BMP CALCULATIONS
6. EXISTING VEGETATION MAP
7. TREE PRESERVATION PLAN

VICINITY MAP

SCALE: 1" = 2000'

APPLICANT:

DR. ANTHONY CASOLARO
8012 ELM PLACE
DUNN LORING, VIRGINIA 22027

PREPARED BY:

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14020 THUNDERBOLT PLACE, SUITE 300
CHANTILLY, VA. 20151

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT PLAN~~
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 1 of 7

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COVER SHEET

8012 ELM PLACE

PROVIDENCE DISTRICT FAIRFAX COUNTY, VIRGINIA

RZ 2009-PR-005
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
NO. 000832
CERTIFIED LANDSCAPE ARCHITECT
4/8/10

PLAN STATUS	
4/17/09	
7/20/09	REVISIONS PER COMMENTS
8/5/09	REVISIONS PER COMMENTS
9/8/09	REVISIONS PER COMMENTS
9/16/09	REVISIONS PER COMMENTS
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2/05/10	REVISIONS PER COMMENTS
2/26/10	REVISIONS PER COMMENTS
3/18/10	REVISIONS PER COMMENTS
4/8/10	REVISIONS PER COMMENTS
DATE	DESCRIPTION

MT	KF	MT
DESIGN	DRAWN	CHKD

SCALE H: N.T.S V:

JOB No. 4668-01-002

DATE : MARCH 18, 2010

FILE No. 4668-D-ZP-001

SHEET 1 OF 7

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GENERAL NOTES:

1. THE PROPERTY DELINEATED ON THESE PLANS IS LOCATED ON FAIRFAX COUNTY TAX ASSESMENT MAP NUMBER 39-4 ((1)) 116. THE SITE IS CURRENTLY ZONED R-1, THE PROPOSED ZONING IS R-2.
2. BOUNDARY INFORMATION OBTAINED FROM CERTIFIED SURVEY BY SDE, INC.
3. TOPOGRAPHIC INFORMATION OBTAINED FROM FIELD RUN TOPOGRAPHIC SURVEY PREPARED BY SDE, INC.
4. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUSBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 116.4, 302.4 AND 358; HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA / DEPARTMENT OF WASTE MANAGEMENT VR 672-10-1 – VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATION; AND /OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40 CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED, AND /OR DISPOSED OF ON SITE.
5. THERE ARE NO ZONING OVERLAY DISTRICTS.
6. THERE ARE NO AFFORDABLE DWELLING UNITS (ADU) REQUIRED OR PROPOSED FOR THIS PROJECT
7. NO DENSITY REDUCTIONS ARE REQUIRED BY ZONING SECTION 2-308.
8. THERE ARE NO PROPOSED RECREATIONAL FACILITIES PROPOSED FOR THIS DEVELOPMENT.

SITE TABULATIONS:

SITE AREA:	57,879 SF / 1.329 ACRES
EXISTING ZONE:	R-1 RESIDENTIAL
PROPOSED ZONE:	R-2 RESIDENTIAL

BULK REGULATIONS (R-2 ZONE)

	REQUIRED	PROVIDED	
		LOT 1	LOT 2
NUMBER OF UNITS:		1 SFD DWELLING UNIT (EXIST)	1 SFD DWELLING UNIT
DENSITY:	2 DU/AC (MAX)	1.53 DU/AC	
MINIMUM LOT AREA:	15,000 SF	33,281 SF	24,598 SF
AVERAGE LOT AREA:	18,000 SF	28,940 SF	
MINIMUM LOT WIDTH:	INTERIOR LOT – 100'	102.57'	100'
	CORNER LOT – 125'	N/A	N/A
MAXIMUM BUILDING HEIGHT:	35'	35'	35'
SET BACKS:			
FRONT	35'	83' (EXIST)*	35'
SIDE	15'	15'	15'
REAR	25'	139' (EXIST)*	±160'
OPEN SPACE:	N/R	N/A	N/A
PARKING:	2 SPACES PER D/U	2 SPACES	2 SPACES
LOT SHAPE FACTOR :		19	26

* NOTE: SETBACKS INDICATED FOR LOT # 1 ARE DEMONSTRATED FOR THE PURPOSE OF LOCATING THE EXISTING STRUCTURE ON THE LOT.

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 4&5.

☑ 3. Provide:

	Facility Name/ Type & No. (e.g. dry pond A, infil. trench, underground vault, etc.)	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
LOT 1	INFIL TRENCH	.079 AC.	0 AC.	.365 AC.	700 S.F.	1746.67 C.F.	N/A
LOT 2	INFIL TRENCH	.079 AC.	0 AC.	.237 AC.	660 S.F.	1578.50 C.F.	N/A
	Totals						

☑ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 4&5.
Pond inlet and oulet pipe systems are shown on Sheet 4&5.

☑ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 4&5.
Type of maintenance access road surface noted on the plat is GRAVEL (asphalt, geoblock, gravel, etc.).

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

☑ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 4&5.

☑ 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 4.

☑ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 4&5.

☑ 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 2&3.

☑ 11. A submission waiver is requested for USE OF INFILTRATION TRENCH ON PRIVATE LOTS/PARTIAL DETENTION REQUIREMENTS.

☐ 12. Stormwater management is not required because N/A.

GENERALIZED DEVELOPMENT PLAN SUBMISSION CHECKLIST:

- TWENTY-THREE (23) COPIES OF A GENERALIZED DEVELOPMENT PLAN PROVIDED HEREIN WITH APPLICATION.
- ONE 8 W' X 11" REDUCTION OF THE PLAN PROVIDED HEREIN WITH APPLICATION.
- A GENERALIZED DEVELOPMENT PLAN, AT A SCALE OF NOT LESS THAN ONE INCH EQUALS ONE HUNDRED FEET (1"=100'), SHALL SHOW THE FOLLOWING:

A. SCALE AND NORTH ARROW, WITH NORTH, TO THE EXTENT FEASIBLE, ORIENTED TO THE TOP OF THE PLAN.

–SCALE AND NORTH ARROW HAVE BEEN PROVIDED ON PLAN. SEE SHEET 3-7.

B. EXCEPT FOR SINGLE FAMILY DETACHED DWELLINGS, THE APPROXIMATE LOCATION AND DIMENSIONS OF ALL PROPOSED STRUCTURES AND USES, TO INCLUDE THE MAXIMUM HEIGHT IN FEET OF ALL STRUCTURES AND PENTHOUSES, AND A GRAPHIC DEPICTION OF THE ANGLE OF BULK PLANE, IF APPLICABLE.

–PROPOSED STRUCTURE AND USE, INCLUDING MAXIMUM HEIGHT OF STRUCTURE HAS BEEN PROVIDED ON PLAN. SEE SHEETS 2 & 3.

C. THE PROPOSED TRAFFIC CIRCULATION PLAN INCLUDING MAJOR STREETS AND MAJOR PEDESTRIAN, BIKE AND/OR BRIDLE PATHS, AND THE LOCATION OF ALL TRAILS REQUIRED BY THE ADOPTED COMPREHENSIVE PLAN.

–PROPOSED DRIVEWAY LOCATION HAS BEEN PROVIDED ON PLAN. NO TRAILS ARE REQUIRED PER THE FAIRFAX COUNTY TRAILS PLAN. SEE SHEET 3.

D. ALL PROPOSED MAJOR OPEN SPACE AREAS AND THE APPROXIMATE LOCATION OF ALL PROPOSED COMMUNITY AND PUBLIC FACILITIES.

–THERE IS NO OPEN SPACE REQUIREMENT FOR SITE. THEREFORE NO MAJOR OPEN SPACE AREAS HAVE BEEN PROPOSED. THERE ARE NO PROPOSED COMMUNITY OR PUBLIC FACILITIES.

E. THE PROPOSED PLAN FOR ALL MAJOR SANITARY SEWER IMPROVEMENTS.

–N/A

F. APPROXIMATE LOCATION, ESTIMATED SIZE OF FOOTPRINT IN ACRES AND TYPE OF ALL PROPOSED STORMWATER MANAGEMENT FACILITIES, INCLUDING THE FULL EXTENT OF SIDE SLOPES, EMBANKMENTS, SPILLWAYS, DAMS, AND APPROXIMATE WATER SURFACE ELEVATION FOR DESIGN STORMS, IF APPLICABLE. IN ADDITION, A PRELIMINARY STORMWATER MANAGEMENT PLAN THAT INCLUDES INFORMATION ABOUT THE ADEQUACY OF DOWNSTREAM DRAINAGE, INCLUDING THE SUFFICIENCY OF CAPACITY OF ANY STORM DRAINAGE PIPES AND OTHER CONVEYANCES INTO WHICH STORMWATER RUNOFF WILL BE CONVEYED. WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY ON THE ENTIRE APPLICATION PROPERTY, IN ADDITION TO THE ABOVE, THE PRELIMINARY STORMWATER MANAGEMENT PLAN SHALL INCLUDE:

(1) A GRAPHIC DEPICTING INFORMATION AS DESCRIBED WITHIN DETAILED APPLICATION CHECKLIST.

(2) A PRELIMINARY STORMWATER MANAGEMENT NARRATIVE SETTING FORTH THE REQUIRED INFORMATION WITHIN THE DETAILED APPLICATION CHECKLIST.

–STORM WATER OUTFALL ANALYSIS AND BMP CALCULATIONS FOR PROPOSED INFILTRATION TRENCH HAVE BEEN PROVIDED. SEE SHEETS 4 & 5.

G. THE LOCATION OF ALL EXISTING UTILITY EASEMENTS HAVING A WIDTH OFTWENTY-FIVE (25) FEET OR MORE, AND ALL MAJOR UNDERGROUND UTILITY EASEMENTS REGARDLESS OF WIDTH.

–IN THE APPLICANT'S KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR GREATER. THERE IS A SANITARY SEWER LINE ALONG THE NORTHERN PROPERTY LINE WITHOUT RECORD OF AN EASEMENT.

H. A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED BY THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.

A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED HAS BEEN PROVIDED. SEE SHEET 2.

I. EXISTING TOPOGRAPHY WITH A MAXIMUM CONTOUR INTERVAL OF TWO (2) FEET AND A STATEMENT INDICATING WHETHER IT IS AIR SURVEYOR FIELD RUN.

–TOPOGRAPHIC INFORMATION PROVIDED ON SHEETS 3-7 AS PREPARED BY A FIELD RUN SURVEY COMPLETED BY SDE, INC.

J. A DELINEATION OF THOSE GENERAL AREAS THAT HAVE SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION, AND A STATEMENT OF HOW SUCH WILL BE ACCOMPLISHED.

–IN THE APPLICANT'S OPINION, THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION.

K. A STATEMENT OR VISUAL PRESENTATION OF HOW ADJACENT AND NEIGHBORING PROPERTIES SHALL BE PROTECTED FROM ANY ADVERSE EFFECTS PROMPTED BY THE PROPOSED DEVELOPMENT, TO INCLUDE VEHICULAR ACCESS PLANS AND DIMENSIONS OF ALL PERIPHERAL YARDS THAT WILL BE PROVIDED.

–ALL REQUIRED PERIPHERAL YARDS FOR PROPOSED STRUCTURE HAVE BEEN PROVIDED IN ACCORDANCE WITH THE BULK REGULATIONS SET FORTH IN SECTION 3-207 OF THE FAIRFAX COUNTY ZONING ORDINANCE. SEE SHEETS 2 & 3.

L. A DELINEATION OF ALL EXISTING STRUCTURES, AND AN INDICATION OF THEIR DATE OF CONSTRUCTION IF KNOWN, AND WHETHER THEY WILL BE RETAINED OR DEMOLISHED.

–EXISTING DWELLING CONSTRUCTED CIRCA 1930 IS TO REMAIN AND EXISTING SHED IS TO BE RAZED. EXISTING SHED HAS NO CONCRETE SLAB AND MINIMAL FOUNDATION WORK. SEE SHEET 3.

M. A STATEMENT SETTING FORTH THE MAXIMUM GROSS FLOOR AREA AND FAR PROPOSED FOR ALL USES OTHER THAN RESIDENTIAL.

–N/A

N. A STATEMENT OR PRESENTATION SETTING FORTH THE MAXIMUM NUMBER OF DWELLING UNITS PROPOSED, AND THE DENSITY AND THE OPEN SPACE CALCULATIONS BASED ON THE PROVISIONS OF SECTIONS 2-308 (MAXIMUM DENSITY) AND 2-309 (OPEN SPACE) OF THE ZONING ORDINANCE.

–IN ACCORDANCE WITH THE ADOPTED COMPREHENSIVE PLAN, THE PROPOSED DEVELOPMENT WILL PROVIDE RESIDENTIAL DEVELOPMENT AT 2 DWELLING UNITS PER ACRE AND WILL CONFORM TO APPLICABLE ORDINANCES, REGULATIONS AND ADOPTION STANDARDS. A MAXIMUM OF 2 DWELLING UNITS HAVE BEEN PROPOSED WITH THIS PLAN. FOR A DENSITY OF 1.53 DU/AC. SEE SHEETS 2 & 3. THERE IS NO OPEN SPACE REQUIREMENTS FOR THE SITE.

O. A STATEMENT OF THOSE SPECIAL AMENITIES THAT ARE PROPOSED WITHIN THE DEVELOPMENT.

–THERE ARE NO SPECIAL AMENITIES THAT ARE PROPOSED WITH THIS PLAN.

P. A STATEMENT OF THE PUBLIC IMPROVEMENTS, BOTH ON AND OFF-SITE, THAT ARE PROPOSED FOR DEDICATION AND/OR CONSTRUCTION, AND AN ESTIMATE OF THE TIMING OF PROVIDING SUCH IMPROVEMENTS.

–STREET FRONTAGE DEDICATION IS PROPOSED WITH THIS DEVELOPMENT AS SHOWN ON SHEET 3. DEDICATION WILL OCCUR WITH APPROVAL OF SITE PLAN.

Q. A STATEMENT SETTING FORTH THE PROPOSED APPROXIMATE DEVELOPMENT SCHEDULE.

–DEVELOPMENT IS ANTICIPATED TO COMMENCE UPON APPROVAL OF SITE PLAN.

R. APPROXIMATE DELINEATION OF ANY FLOODPLAIN DESIGNATED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY, OR FAIRFAX COUNTY, THE APPROXIMATE DELINEATION OF ANY RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA, AND THE APPROXIMATE DELINEATION OF ANY ENVIRONMENTAL QUALITY CORRIDOR AS DEFINED IN THE ADOPTED COMPREHENSIVE PLAN, AND, IF APPLICABLE, THE DISTANCE OF ANY EXISTING AND PROPOSED STRUCTURES FROM THE FLOODPLAIN, RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA, OR ENVIRONMENTAL QUALITY CORRIDOR.

–IN ACCORDANCE WITH FEMA ISSUED FLOOD MAPS, THERE IS NO 100-YEAR FLOODPLAIN ON THE SITE. IN ACCORDANCE WITH FAIRFAX COUNTY GIS MAP #39-4, THERE ARE NO RESOURCE PROTECTION AREAS (RPA) OR ENVIRONMENTAL QUALITY CORRIDORS (EQC) ON THE SITE.

S. ANY PROPOSED IMPROVEMENTS TO THE PUBLIC RIGHT(S)-OF-WAY AND DELINEATION OF THE EXISTING CENTERLINE OF ALL STREETS ABUTTING THE PROPERTY, INCLUDING DIMENSIONS FROM THE EXISTING CENTERLINE TO THE EDGE OF THE PAVEMENT AND TO THE EDGE OF THE RIGHT-OF-WAY.

–THERE HAVE BEEN NO IMPROVEMENTS TO THE PUBLIC RIGHT-OF-WAY PROPOSED WITH THIS PLAN. THE EXISTING CENTERLINE OF THE STREET ABUTTING THE PROPERTY (ELM PLACE) HAS BEEN DELINEATED. DIMENSIONS HAVE BEEN SHOWN FROM THE EXISTING CENTERLINE TO THE PAVEMENT AND TO THE EDGE OF THE RIGHT-OF-WAY. SEE SHEET 3.

T. A PLAN SHOWING LIMITS OF CLEARING, PROPOSED LANDSCAPING AND SCREENING IN ACCORDANCE WITH ARTICLE 13 OF THE ZONING ORDINANCE, A DELINEATION OF EXISTING VEGETATION, TO INCLUDE EXISTING VEGETATION TO BE PRESERVED, AND WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY, AN EXISTING VEGETATION MAP.

–THE PROPOSED LIMITS OF CLEARING HAS BEEN PROVIDED. SEE SHEET 3. AN EXISTING VEGETATION MAP AND TREE PRESERVATION PLAN HAVE BEEN PROVIDED. SEE SHEETS 6 & 7 RESPECTIVELY.

U. APPROXIMATE DELINEATION OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL IF KNOWN, AND A STATEMENT INDICATING HOW THE PROPOSED DEVELOPMENT WILL IMPACT THE BURIAL SITE.

–TO THE BEST OR OUR KNOWLEDGE, THERE ARE NO KNOWN GRAVES, MARKERS, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL.

V. A STATEMENT WHICH CONFIRMS THE OWNERSHIP OF THE SUBJECT PROPERTY, AND THE NATURE OF THE APPLICANT'S INTEREST IN SAME.

–THE PROPERTY HEREON IS IN THE OWNERSHIP OF DR. ANTHONY CASOLARO IN DEED BOOK 19314 PAGE 670 AMONG THE LAND RECORDS OF FAIRFAX COUNTY.

REQUESTED MODIFICATION/WAIVERS:

1. WAIVER/MODIFICATION TO ALLOW INFILTRATION TRENCH FOR SWM DETENTION AND BMP PURPOSES ON INDIVIDUAL PRIVATE RESIDENTIAL LOTS.
2. PARTIAL WAIVER OF SWM DETENTION REQUIREMENTS.

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT~~ PLAN
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 2 of 7

ILLUSTRATIVE ELEVATION

N.T.S

PROPOSED HOUSE ELEVATION AND MATERIAL GRAPHICS PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY AND SUBJECT TO REVISION WITH FINAL ARCHITECTURAL DESIGN

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NOTES AND TABULATIONS
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FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

RZ 2009-PR-005
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MATTHEW J. TAUSCHER
NO. 000832
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SHEET 2 OF 7

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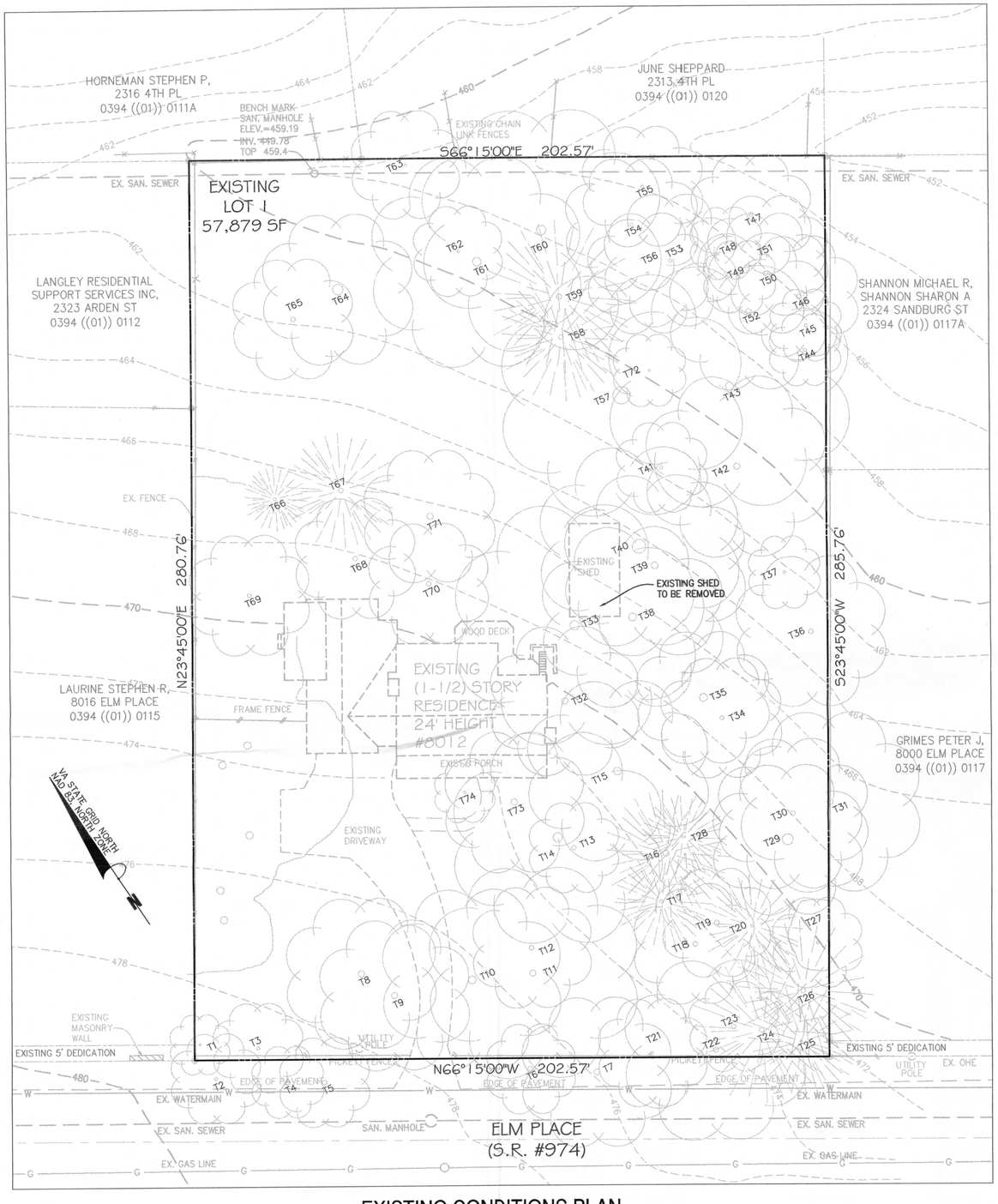
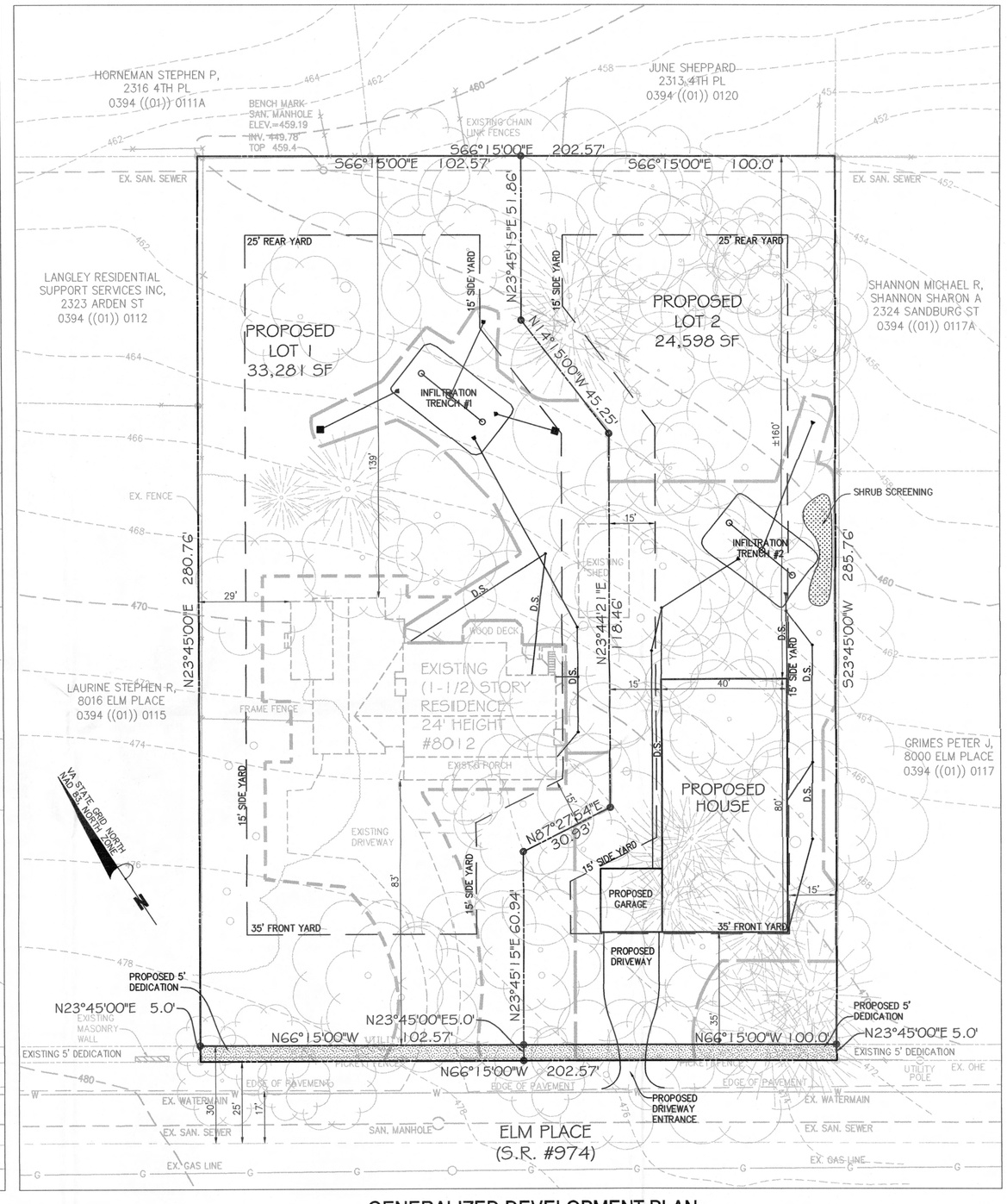


EXISTING CONDITIONS PLAN



GENERALIZED DEVELOPMENT PLAN

LEGEND

330	EXISTING 10' CONTOUR		APPROXIMATE LIMIT OF DISTURBANCE		EXISTING UTILITY POLE
330	EXISTING 2' CONTOUR		ADDITIONAL LIMIT OF DISTURBANCE (LOT 1)		PROPOSED SPOT
330	PROPOSED CONTOUR	G	EXISTING GAS LINE		TEST PIT LOCATION
	EDGE OF PAVEMENT	W	EXISTING WATER LINE	D.S.	PROPOSED DOWN SPOUT
			EXISTING SANITARY SEWER LINE		
X	EXISTING FENCE LINE		EXISTING TREE/TREE LINE		PROPOSED YARD INLET

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SEE PROFFERS DATED 5/17/2010
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Sheet 3 of 7

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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MT DESIGN	KF DRAWN	MT CHKD
SCALE	H: 1"=20' V:	
JOB No.	4668-01-002	
DATE :	MARCH 18, 2010	
FILE No.	4668-D-ZP-001	

SHEET 3 OF 7

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OUTFALL NARRATIVE

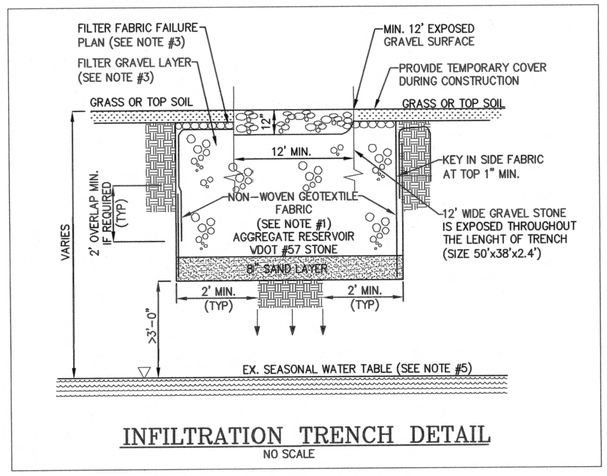
THE SITE DRAINS ONTO A NATURAL SWAIL AT THE NORTH OF THE SITE.

BEFORE DEVELOPEMENT THE NEW LOT 2 SHEETS FROM ELM PLACE TO THE NORTHERN BOUNDRY OF THE SITE ONTO THE NATURAL SWAIL WHICH CONVEYS FLOW THROUGH A 1/2 ACRE LOT OWNED BY MR DUNLOP ONTO A DRAINAGE SYSTEM THAT PASSES UNDER SANDBURG STREET THROUGH TO THE RETENTION POND OF THE SHREVE HILL SUBDIVISION. THE FLOW CONTINUES ALONG MORGAN LANE TO CULBERT ACROSS IDYLWOOD RD PROCEEDING TOWARD THE NORHTER EDGE OF THE W&OD TRAIL TOWARD THE BELTWAY IN A CLOSED CONDUIT CONVEYENCE SYSTEM.

AFTER DEVELOPMENT OF THE SITE, SOME ON SITE FLOW MAY BE ROUTED THROUGH A INFILTRATION TRENCH FOR RETENTION AND TREATMENT. THE REMAINING DEMINISHED FLOWS OF THE SITE WILL CONTINUE TO SHEET FLOW ACROSS THE SITE TO THE EXISTING NATURAL SWAIL. AFTER DETENTION THE TRENCH WILL DISCHARGE AT A DIMINISHED RATE NOT TO EXCEED 1.68 CFS DURING A TEN YEAR STORM THROUGH A 6" DRAINAGE PIPE TO A POINT ABOVE THE NATURAL SWAIL LOW POINT.

SWM/BMP NARRATIVE:
TWO INFILTRATION TRENCHES HAVE BEEN DESIGNED FOR STORMWATER MANAGEMENT/BMP STORM WATER QUANTATY AND QUALITY MANAGEMENT PER FAIRFAX COUNTY REQUIREMENTS AS SHOWN ON THE PLANS

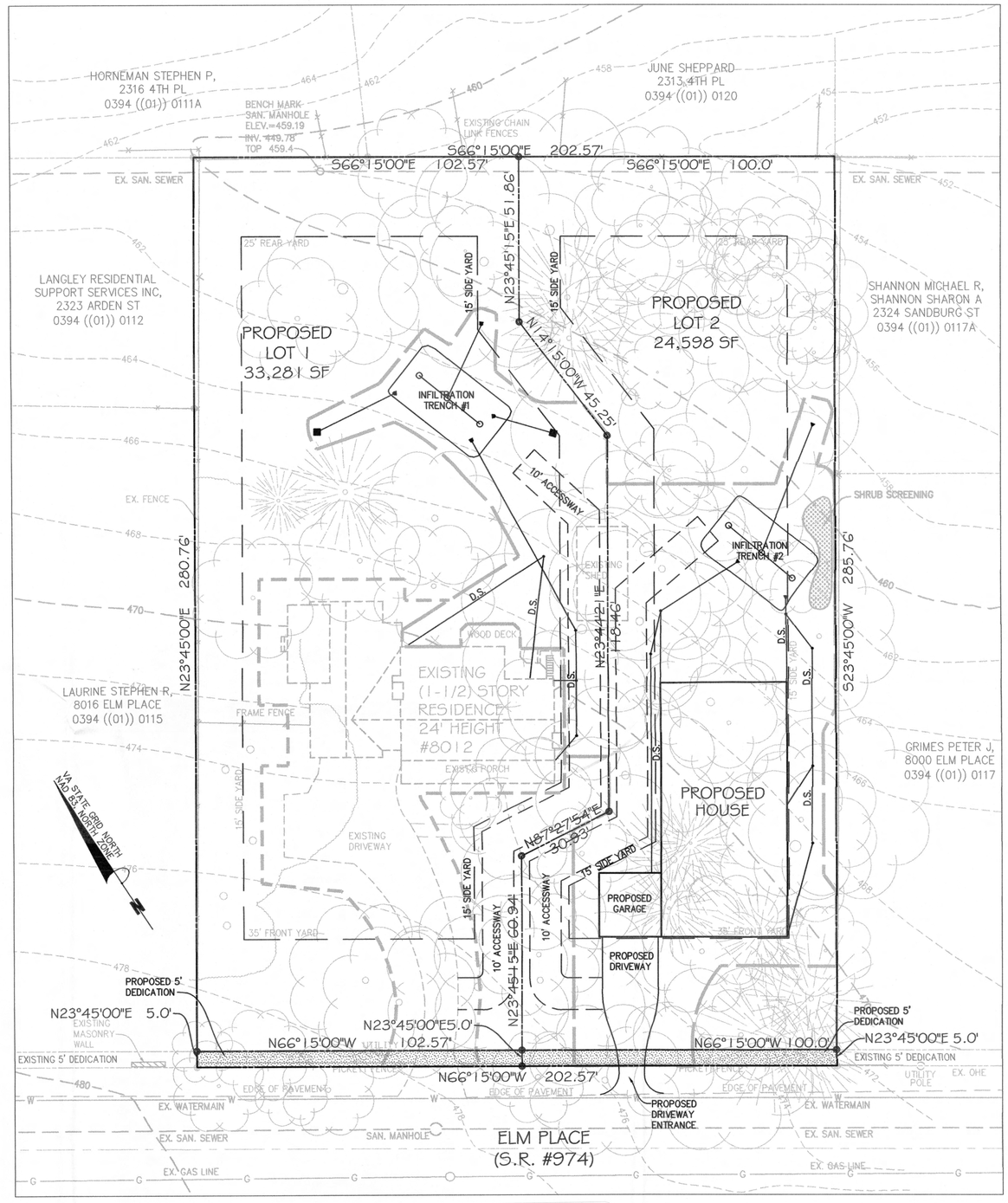
NOTE:
FOR THE DESIGN OF THE SWM /BMP (INFILTRATION TRENCH) AND ASSUMED RATE OF 0.56 IN/HR HAS BEEN USED. THIS DESIGN IS SUBJECT TO CHANGE WITH CONSTRUCTION DRAWINGS AND ACTUAL FIELD TEST OF THE INFILTRATION PERC TEST.



INFILTRATION TRENCH DETAIL

NO SCALE

NOTE:
1. USE NON-WOVEN GEOTEXTILE FABRIC WITH AOS OF 70-100 US SIEVE OR 0.2MM – 0.15MM AS DETERMINED BY ASTM D4751 AND A TRAPEZOIDAL TEAR STRENGTH OF 45 lb OR 0.2 KN AS DETERMINED BY ASTM D4533.
2. AN 8 IN. DEEP BOTTOM SAND LAYER (VDOT FINE AGGREGATE, GRADING A OR B) IS REQ'D.
3. FOR AN AGGREGATE SURFACE TRENCH, FILTER FABRIC SHALL SURROUND ALL OF THE AGGREGATE FILL MATERIAL EXCEPT THE TOP ONE FOOT. A SEPARATE PIECE OF FABRIC SHALL BE USED FOR THE TOP LAYER TO ACT AS A FAILURE PLANE. THIS TOP PIECE CAN THEN BE REPLACED AND REPLACED UPON CLOGGING.
4. GEOTEXTILE FABRIC SHALL NOT BE EXPOSED TO DIRECT SUNLIGHT FOR MORE THAN 24 HOURS PRIOR TO INSTALLATION.
5. DEPTH OF SEASONAL WATER TABLE (IF ANY) SHALL BE DETERMINED AT TIME OF FINAL ENGINEERING DESIGN.



INFILTRATION TRENCH DESIGN - LOT 1

TOTAL RAINFALL ACCUMULATION = 2 INCH (INFILTRATION DESIGN III, PFM PLATE 6-3)

DURATION OF STORM = 2-YR AND 2-HR STORM
(PFM, FAIRFAX COUNTY VA. 2003 6-1303.4A)

IMPERVIOUS AREA TO BE TREATED = 4,858 SF

INFILTRATION RATE AS ASSUMED PER FAIRFAX COUNTY SOILS MAP = 0.52 IN / HR

INFILTRATION RATE (PER VIRGINIA STORMWATER MANAGEMENT HANDBOOK: 3.1010 B-3) = 0.26 IN / HR

VOLUME IN = 4,858 x 2 / 12 x 0.9 = 728.70 CF

NUMBER OF TRENCHES PROVIDED = 1 NOS

THE TRENCH RECEIVES = 728.70 CF, USE 729 CF

TRENCH DIMENSION PROVIDED:

LENGTH = 35 FEET
WIDTH = 20 FEET

SURFACE AREA OF TRENCH = 20 x 35 = 700 SF

VOLUME OUT = 0.26 IN / HR x 2 (HR) x 1 IN / 12 x 700 SF = 30.33 CF

STORAGE VOLUME REQUIRED = 729 – 30.33 = 698.67 CF

USING #57 STONE @ 40% VOID, VOLUME OF TRENCH = 698.67 / 0.40 = 1,746.67 CF

DEPTH OF TRENCH = (1,764.75 / (20 x 35)) = 2.49 FT

USE 1 TRENCHE(S) OF EACH SIZE (35'L x 20'W x 2.5'D)

STORAGE VOLUME PROVIDED = 1750 CF

RATE OF DISCHARGE: Q(out) = 0.26 IN / HR x 1 IN / 12 x 700 SF = 15.17 CF / HR

INFILTRATION TIME REQUIRED = 698.67 / 15.17 = 46.06 HRS = < 48 HRS, OK

INFILTRATION TRENCH DESIGN - LOT 2

TOTAL RAINFALL ACCUMULATION = 2 INCH (INFILTRATION DESIGN III, PFM PLATE 6-3)

DURATION OF STORM = 2-YR AND 2-HR STORM
(PFM, FAIRFAX COUNTY VA. 2003 6-1303.4A)

IMPERVIOUS AREA TO BE TREATED = 4,595 SF

INFILTRATION RATE AS ASSUMED PER FAIRFAX COUNTY SOILS MAP = 0.52 IN / HR

INFILTRATION RATE (PER VIRGINIA STORMWATER MANAGEMENT HANDBOOK: 3.1010 B-3) = 0.26 IN / HR

VOLUME IN = 4,595 x 2 / 12 x 0.9 = 689.25 CF

NUMBER OF TRENCHES PROVIDED = 1 NOS

THE TRENCH RECEIVES = 689.25 CF, USE 690 CF

TRENCH DIMENSION PROVIDED:

LENGTH = 33 FEET
WIDTH = 20 FEET

SURFACE AREA OF TRENCH = 33 x 20 = 660 SF

VOLUME OUT = 0.26 IN / HR x 2 (HR) x 1 IN / 12 x 660 SF = 28.60 CF

STORAGE VOLUME REQUIRED = 690 – 28.60 = 631.40 CF

USING #57 STONE @ 40% VOID, VOLUME OF TRENCH = 631.40 / 0.40 = 1,578.50 CF

DEPTH OF TRENCH = (1,578.50 / (20 x 33)) = 2.39 FT

USE 1 TRENCHE(S) OF EACH SIZE (33'L x 20'W x 2.4'D)

STORAGE VOLUME PROVIDED = 1584 CF

RATE OF DISCHARGE: Q(out) = 0.26 IN / HR x 1 IN / 12 x 660 SF = 14.30 CF / HR

INFILTRATION TIME REQUIRED = 631.40 / 14.30 = 44.15 HRS = < 48 HRS, OK

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT~~ PLAN
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 4 of 7

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

Bowman CONSULTING

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14020 Thunderbolt Place
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Chantilly, Virginia 20151

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INFILTRATION TRENCH DESIGN LOT 1 AND LOT 2

8012 ELM PLACE

FAIRFAX COUNTY, VIRGINIA

PROVIDENCE DISTRICT

RZ 2009-PR-005
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
NO. 000832
4/8/10
CERTIFIED LANDSCAPE ARCHITECT

PLAN STATUS

DATE	DESCRIPTION
4/17/09	
7/20/09	REVISIONS PER COMMENTS
8/5/09	REVISIONS PER COMMENTS
9/8/09	REVISIONS PER COMMENTS
9/16/09	REVISIONS PER COMMENTS
9/18/09	REVISIONS PER COMMENTS
10/29/09	REVISIONS PER COMMENTS
2/05/10	REVISIONS PER COMMENTS
2/26/10	REVISIONS PER COMMENTS
3/18/10	REVISIONS PER COMMENTS
4/8/10	REVISIONS PER COMMENTS

MT	KF	MT
DESIGN	DRAWN	CHKD

SCALE H: 1"=20' V:

JOB No. 4668-01-002

DATE : MARCH 18, 2010

FILE No. 4668-D-ZP-001

SHEET 4 OF 7

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BMP Facility Design Calculations

Plan Name: ELM PLACE LOT 1
Plan Number:

Date: OCTOBER 16, 2009
Engineer: MAHESH ADHIKARI

I. **Water Quality Narrative**

WATER QUALITY REQUIREMENT FOR THIS LOT IS PROVIDED THROUGH A INFILTRATION TRENCH (DESIGN III FOR-2YR 2HR STORM IS UTILIZED) WITH EFFICIENCY RATING OF 70%. THIS WILL PROVIDE PHOSPHORUS REMOVAL EFFICIENCY OF GREATER THEN 40% REQUIRED BY ORDINANCE.

II. **Watershed Information**

TOTAL SITE AREA=34,428 S.F. OR 0.790 AC
Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)
BUILDING AREA (CONTROLLED)	0.90	0.080
DRIVEWAY (CONTROLLED)	0.90	0.024
WALKWAY (CONTROLLED)	0.90	0.008
PERVIOUS AREA (CONTROLLED)	0.35	0.275
DRIVEWAY (UNCONTROLLED)	0.90	0.008
PERVIOUS AREA (UNCONTROLLED)	0.35	0.395

NOTE: Rational formula "C" factors are taken from the general zoning values listed in Appendix 4-1 or 4-2 depending on the location of the BMP facility (Fairfax County Public Facilities Manual Chart A6-19 or Prince William County Design and Construction Standards Manual, Exhibit 1).

Appendix 4-4a
Calculations Worksheet

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

(A) Area of the site (a) 0.79 acres

(B) Subarea Designation (1)	"C" (2)		Acres (3)		Product (4)
BUILDING AREA (CONTROLLED)	0.90	X	0.080	=	0.072
DRIVEWAY (CONTROLLED)	0.90	X	0.024	=	0.022
WALKWAY (CONTROLLED)	0.90	X	0.008	=	0.007
PERVIOUS AREA (CONTROLLED)	0.35	X	0.275	=	0.096
DRIVEWAY (UNCONTROLLED)	0.90	X	0.008	=	0.007
PERVIOUS AREA (UNCONTROLLED)	0.35	X	0.395	=	0.138

(b) Total = 0.342
(C) Weighted average "C" factor (b) / (a) = (c) 0.43

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)		Area Ratio (4)		"C" Factor Ratio (5)		Product (6)
A1	INF.TRENCH	70%	X	0.101	X	2.093	=	14.798
A2	INF.TRENCH	70%	X	0.030	X	2.093	=	4.395
A3	INF.TRENCH	70%	X	0.010	X	2.093	=	1.465
A4	INF.TRENCH	70%	X	0.348	X	0.814	=	19.829

(a) Total = 40.487 %

Appendix 4-4c
Calculations Worksheet

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (a) 40.00%

- Water Supply Overlay District (Occoquan Watershed) = 50% (Fairfax County and Prince William County)
- Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)
- Chesapeake Bay Preservation Area (Redevelopment) = [1-0.9 x ("I"pre / "I"post)] x 100 = __%

(B) If Line 3(a) 40.487 ≥ Line 4(a) 40.00 then Phosphorus removal requirement is satisfied.

BMP Facility Design Calculations

Plan Name: ELM PLACE LOT 2
Plan Number:

Date: OCTOBER 16, 2009
Engineer: MAHESH ADHIKARI

I. **Water Quality Narrative**

WATER QUALITY REQUIREMENT FOR THIS LOT IS PROVIDED THROUGH A INFILTRATION TRENCH (DESIGN III FOR-2YR 2HR STORM IS UTILIZED) WITH EFFICIENCY RATING OF 70%. THIS WILL PROVIDE PHOSPHORUS REMOVAL EFFICIENCY OF GREATER THEN 40% REQUIRED BY ORDINANCE.

II. **Watershed Information**

TOTAL SITE AREA=23,451 S.F.
Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)
BUILDING AREA (CONTROLLED)	0.90	0.083
DRIVEWAY (CONTROLLED)	0.90	0.023
PERVIOUS AREA (CONTROLLED)	0.35	0.135
PERVIOUS AREA (UNCONTROLLED)	0.35	0.297

NOTE: Rational formula "C" factors are taken from the general zoning values listed in Appendix 4-1 or 4-2 depending on the location of the BMP facility (Fairfax County Public Facilities Manual Chart A6-19 or Prince William County Design and Construction Standards Manual, Exhibit 1).

Appendix 4-4a
Calculations Worksheet

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

(A) Area of the site (a) 0.538 acres

(B) Subarea Designation (1)	"C" (2)		Acres (3)		Product (4)
BUILDING AREA (CONTROLLED)	0.90	X	0.083	=	0.075
DRIVEWAY (CONTROLLED)	0.90	X	0.023	=	0.021
PERVIOUS AREA (CONTROLLED)	0.35	X	0.135	=	0.047
PERVIOUS AREA (UNCONTROLLED)	0.35	X	0.297	=	0.104

(b) Total = 0.247
(C) Weighted average "C" factor (b) / (a) = (c) 0.46

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)		Area Ratio (4)		"C" Factor Ratio (5)		Product (6)
A1	INF.TRENCH	70%	X	0.154	X	1.957	=	21.906
A2	INF.TRENCH	70%	X	0.043	X	1.957	=	5.891
A3	INF.TRENCH	70%	X	0.251	X	0.761	=	13.371

(a) Total = 41.168 %

Appendix 4-4c
Calculations Worksheet

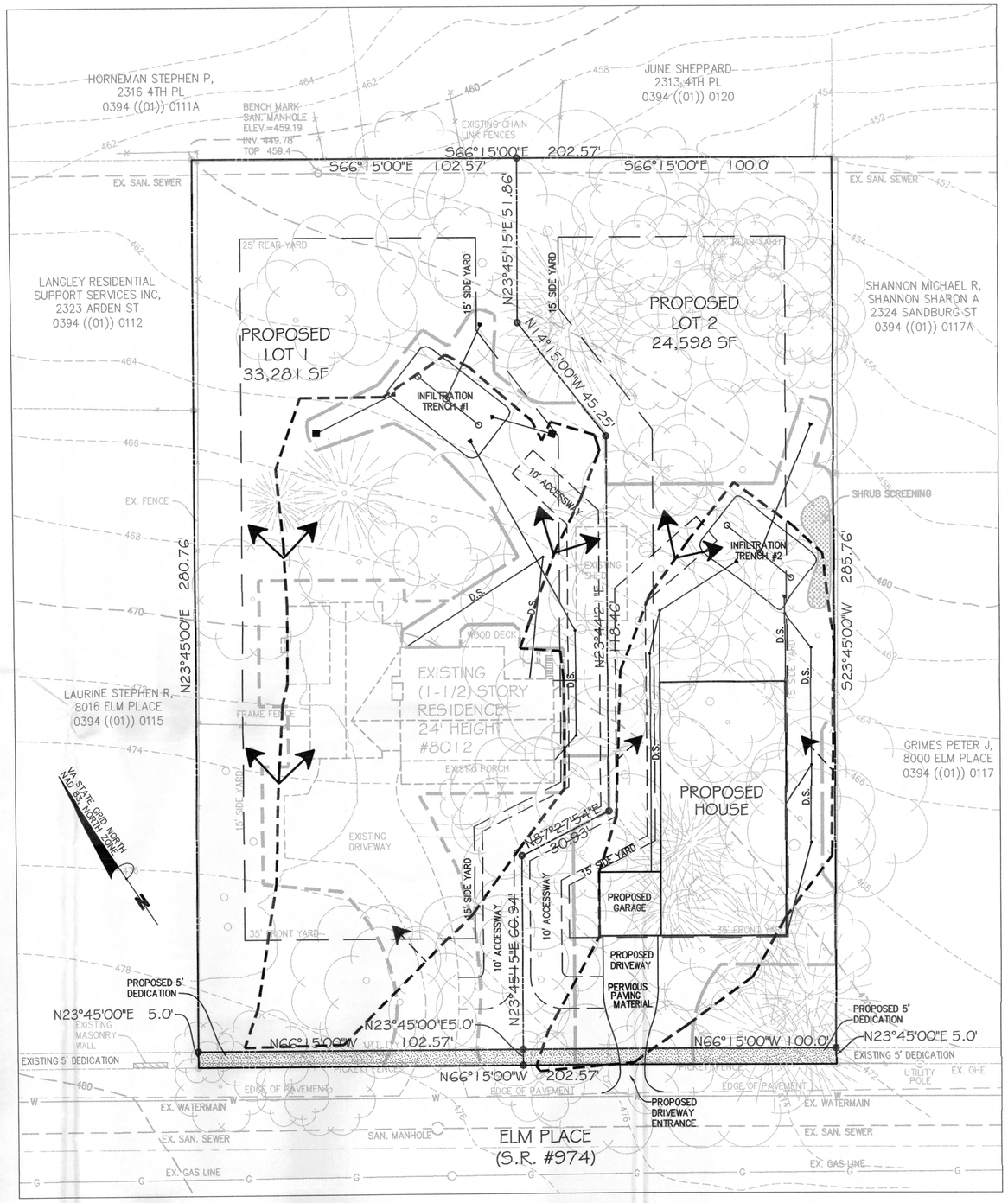
Northern Virginia BMP Handbook 11/6/92

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (a) 40.00%

- Water Supply Overlay District (Occoquan Watershed) = 50% (Fairfax County and Prince William County)
- Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)
- Chesapeake Bay Preservation Area (Redevelopment) = [1-0.9 x ("I"pre / "I"post)] x 100 = __%

(B) If Line 3(a) 41.168 ≥ Line 4(a) 40.000 then Phosphorus removal requirement is satisfied.



DRAINAGE DIVIDE PLAN
1"=20'

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT PLAN~~
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 5 of 7

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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BMP CALCULATIONS
8012 ELM PLACE
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

RZ 2009-PR-005
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
NO. 000832
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2/26/10	REVISIONS PER COMMENTS
3/18/10	REVISIONS PER COMMENTS
4/8/10	REVISIONS PER COMMENTS

MT DESIGN	KF DRAWN	MT CHKD
SCALE	H: 1"=20' V:	
JOB No.	4668-01-002	
DATE :	MARCH 18, 2010	
FILE No.	4668-D-ZP-001	
SHEET	5 OF 7	

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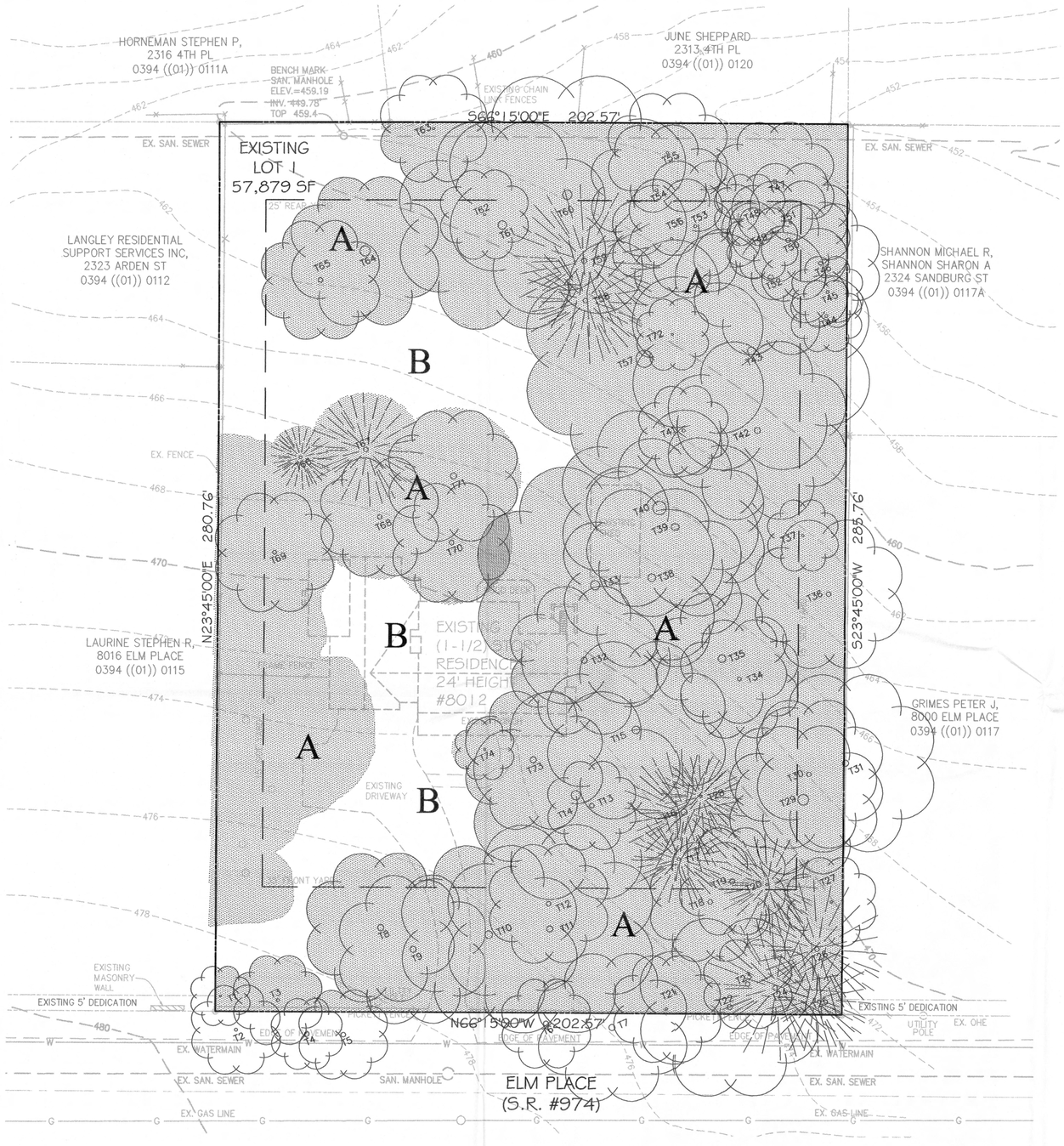

TREE INVENTORY

8102 Elm Place, Fairfax, VA
Date of site visit: January 7, 2010
Certified Arborist: Gregg D. Eberly MA-4616A

* Denotes offsite tree

Tree #	Botanic Name	Common Name	Caliper (DBH) (inches)	Species Rating (0-100%)	Condition Rating (0-100%)	Preserve/ Remove
1	Prunus serotina	Black Cherry	8	0.55	0.68	Preserve
*2	Gleditsia triacanthos	Honey Locust	12	0.55	0.4	Preserve
3	Quercus rubra	Red Oak	12	0.7	0.72	Preserve
*4	Gleditsia triacanthos	Honey Locust	18	0.55	0.64	Preserve
*5	Gleditsia triacanthos	Honey Locust	18	0.55	0.48	Preserve
*6	Quercus alba	White Oak	20	0.8	0.2	Preserve
*7	Quercus prinus	Chestnut Oak	24	0.75	0.72	Preserve
8	Quercus rubra	Red Oak	24	0.7	0.76	Preserve
9	Quercus alba	White Oak	24	0.8	0.72	Preserve
10	Quercus alba	White Oak	30	0.8	0.6	Preserve
11	Quercus prinus	Chestnut Oak	24	0.75	0.76	Preserve
12	Quercus alba	White Oak	18	0.8	0.76	Preserve
13	Quercus rubra	Red Oak	18	0.7	DEAD	**Remove**
14	Quercus alba	White Oak	36	0.8	0.6	Preserve
15	Quercus alba	White Oak	30	0.8	0.4	**Remove**
16	Pinus strobus	White Pine	24	0.55	0.8	**Remove**
17	Pinus strobus	White Pine	12	0.55	0.8	**Remove**
18	Quercus prinus	Chestnut Oak	18	0.75	0.76	**Remove**
19	Quercus prinus	Chestnut Oak	20	0.75	0.76	**Remove**
20	Pinus strobus	White Pine	10	0.55	0.8	**Remove**
21	Acer rubrum	Red Maple	10	0.7	0.6	Preserve
22	Quercus prinus	Chestnut Oak	20	0.75	0.72	Preserve
23	Quercus alba	White Oak	18	0.8	0.72	Preserve
24	Pinus strobus	White Pine	18	0.55	0.76	Preserve
25	Quercus rubra	Red Oak	8	0.7	0.6	Preserve
26	Pinus strobus	White Pine	18	0.55	0.8	Preserve
27	Nyssa sylvatica	Black Gum	10	0.8	0.72	**Remove**
28	Quercus rubra	Red Oak	10	0.7	0.76	**Remove**
29	Quercus prinus	Chestnut Oak	42	0.75	0.28	**Remove**
30	Quercus prinus	Chestnut Oak	18	0.75	0.76	**Remove**
*31	Quercus prinus	Chestnut Oak	24	0.75	0.76	Preserve
32	Carya glabra	Pignut Hickory	24	0.75	0.76	**Remove**
33	Quercus prinus	Chestnut Oak	36	0.75	0.76	**Remove**
34	Quercus alba	White Oak	15	0.8	0.76	**Remove**
35	Quercus prinus	Chestnut Oak	30	0.75	0.76	**Remove**
36	Quercus alba	White Oak	18	0.8	0.76	**Remove**
37	Quercus prinus	Chestnut Oak	10	0.75	0.68	**Remove**
38	Quercus alba	White Oak	30	0.8	0.76	**Remove**
39	Quercus alba	White Oak	26	0.8	0.72	**Remove**
40	Quercus alba	White Oak	52	0.8	0.76	Preserve
41	Carya glabra	Pignut Hickory	12	0.75	0.72	Preserve
42	Quercus alba	White Oak	24	0.8	0.64	**Remove**
43	Quercus prinus	Chestnut Oak	30	0.75	0.72	Preserve
44	Carya glabra	Pignut Hickory	12	0.75	0.76	Preserve
45	Carya glabra	Pignut Hickory	12	0.75	0.72	Preserve
46	Quercus alba	White Oak	15	0.8	0.72	Preserve
47	Carya glabra	Pignut Hickory	15	0.75	0.76	Preserve
48	Quercus prinus	Chestnut Oak	8	0.75	0.72	Preserve
49	Carya glabra	Pignut Hickory	8	0.75	0.72	Preserve
50	Carya glabra	Pignut Hickory	18	0.75	0.68	Preserve
51	Quercus prinus	Chestnut Oak	12	0.75	0.72	Preserve
52	Quercus alba	White Oak	21	0.8	0.72	Preserve
53	Quercus prinus	Chestnut Oak	12	0.75	0.6	Preserve
54	Quercus alba	White Oak	12	0.8	0.72	Preserve
55	Acer rubrum	Red Maple	10	0.7	0.72	Preserve
56	Quercus prinus	Chestnut Oak	10	0.75	0.72	Preserve
57	Quercus alba	White Oak	66	0.8	0.76	Preserve
58	Pinus strobus	White Pine	18	0.55	0.8	Preserve
59	Pinus strobus	White Pine	20	0.55	0.8	Preserve
60	Quercus rubra	Red Oak	36	0.7	0.76	Preserve
61	Quercus alba	White Oak	33	0.8	0.76	Preserve
62	Prunus serotina	Black Cherry	10	0.55	0.6	Preserve
63	Fagus grandifolia	American Beech	10	0.8	0.8	Preserve
64	Prunus serotina	Black Cherry	40	0.55	0.68	Preserve
65	Morus alba	White Mulberry	18	0.45	0.4	Preserve
66	Thuja occidentalis	Eastern Arborvitae	12	0.6	0.72	Preserve
67	Picea abies	Norway Spruce	18	0.7	0.72	Preserve
68	Acer rubrum	Red Maple	18	0.7	0.76	Preserve
69	Morus alba	White Mulberry	15	0.45	0.48	Preserve
70	Prunus serotina	Black Cherry	18	0.55	0.8	Preserve
71	Prunus serotina	Black Cherry	24	0.55	0.76	Preserve
72	Carya glabra	Pignut Hickory	8	0.75	0.76	Preserve
73	Quercus rubra	Red Oak	24	0.7	0.6	Preserve
74	Carya glabra	Pignut Hickory	10	0.75	0.76	Preserve

Note:
1. Condition and Species Rating are based on formula provided by the Guide for Plant Appraisal published by the ISA.
2. All trees indicated are to be cleared from the site due to construction impacts.
3. All trees with a minimum 8" D.B.H. were inventoried and evaluated.
4. Tree 73 & 74 have been generally located in field and were not part of tree survey.
5. Neither the Project Arborist or Bowman Consulting condone the implementing of any suggested tree preservation or removal techniques without the agreement/permission of the adjacent property owner or HOA, given the laws of border line and boundary line trees.

LEGEND

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EDGE OF PAVEMENT
- APPROXIMATE LIMIT OF DISTURBANCE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING FENCE LINE
- EXISTING TREE/TREE LINE
- EXISTING UTILITY POLE

COVER TYPE		PRIMARY SPECIES	UNDERSTORY SPECIES	SUCCESSION STAGE	CONDITION	AREA
A	UPLAND FOREST	QUERCUS PRINUS QUERCUS ALBA	SUBURBAN LAWN AND LANDSCAPE IN NATIVE FOREST: SIGNIFICANT DECLINE IN INDIVIDUAL TREES APPARENT	SUB-CLIMAX	POOR TO GOOD	1.11 ACRES
B	DEVELOPED	N/A	LAWN AND LANDSCAPE, HOUSE AND HARDSCAPE	N/A	FAIR TO GOOD	

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT PLAN~~
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 6 of 7

VA STATE GRID NORTH
NAD 83, NORTH ZONE

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

Bowman CONSULTING

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EXISTING VEGETATION MAP
8012 ELM PLACE
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

RZ 2009-PR-005
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. FAUSCHER
NO. 000832
4/8/10
CERTIFIED LANDSCAPE ARCHITECT

PLAN STATUS	
4/17/09	
7/20/09	REVISIONS PER COMMENTS
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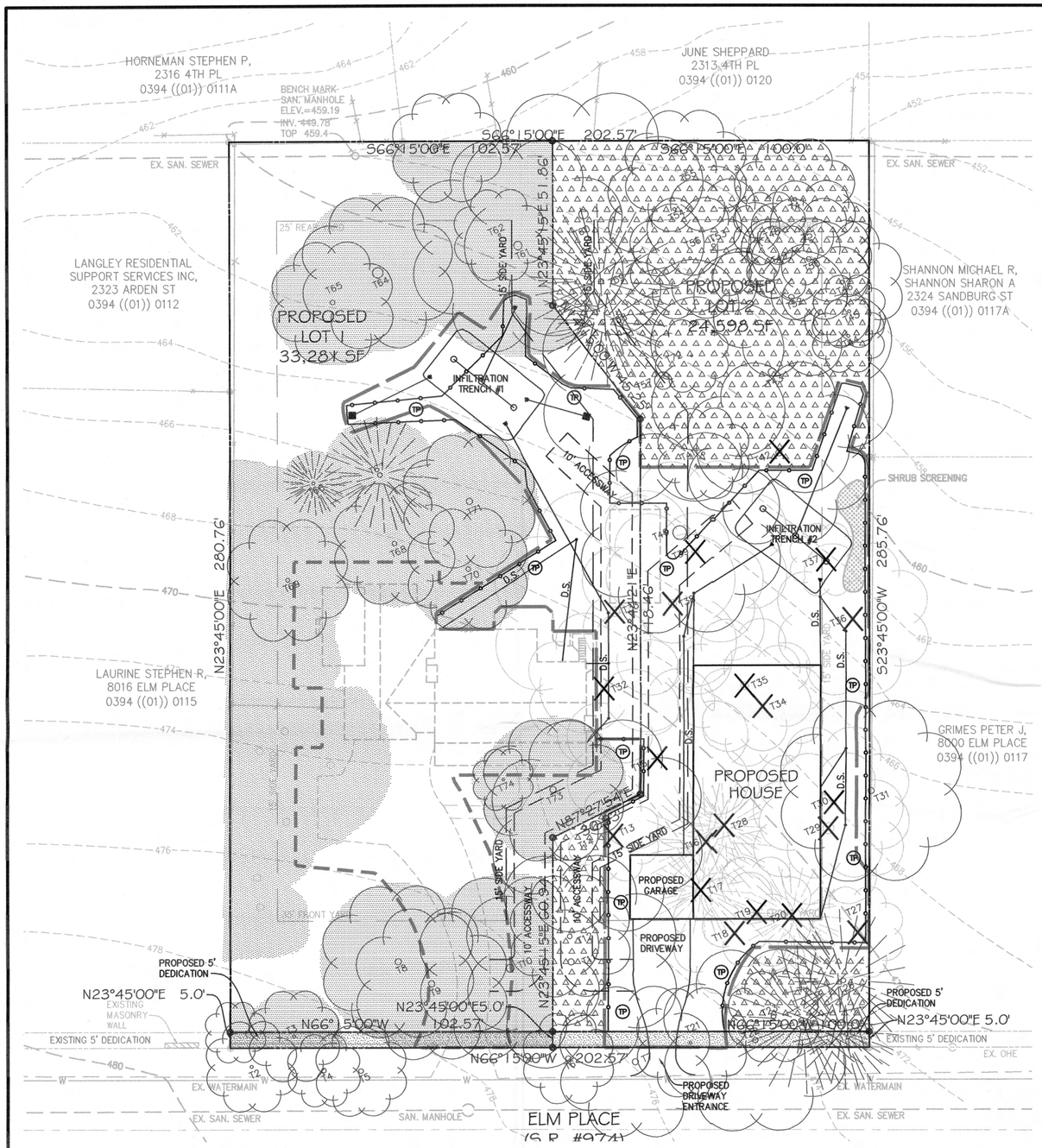
9/8/09	REVISIONS PER COMMENTS
9/16/09	REVISIONS PER COMMENTS
9/18/09	REVISIONS PER COMMENTS
10/29/09	REVISIONS PER COMMENTS
2/05/10	REVISIONS PER COMMENTS
2/26/10	REVISIONS PER COMMENTS
3/18/10	REVISIONS PER COMMENTS
4/8/10	REVISIONS PER COMMENTS
DATE	DESCRIPTION

MT	KF	MT
DESIGN	DRAWN	CHKD

SCALE H: 1" = 20' V:
JOB No. 4668-01-002
DATE : MARCH 18, 2010
FILE No. 4668-D-ZP-001
SHEET 6 OF 7



LEGEND

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EDGE OF PAVEMENT
- APPROXIMATE LIMIT OF DISTURBANCE
- ADDITIONAL LIMIT OF DISTURBANCE (LOT 1)
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING FENCE LINE
- EXISTING TREE/TREE LINE
- LOT 1 TREE SAVE CANOPY CREDIT AREA
- LOT 2 TREE SAVE CANOPY CREDIT AREA
- PROPOSED ROOT PRUNING
- PROPOSED TREE PROTECTION FENCE
- EXISTING TREES TO BE PRESERVED
- EXISTING TREES TO BE REMOVED

VA STATE GRID NORTH
NAD 83, NORTH ZONE

LOT 1 TREE PRESERVATION CALCULATIONS

Table 12.3 Tree Preservation Target Calculations and Statement (SEE NOTE BELOW)		
A	Pre-development area of existing tree canopy (from Existing Vegetation Map) =	23,776 S.F.
B	Percentage of gross site area covered by existing tree canopy =	71% (23,776/33,281)
C	Percentage of 10-year canopy required for site (see Table 12.4) =	30% (9,985 S.F.)
D	Percentage of the 10-year tree canopy requirement that should be met throught tree preservation =	71% (7,090 S.F.)
E	Proposed percentage of canopy requirement that will be met through tree preservation =	100% (19,806 S.F.)
F	Has the Tree Preservation Target minimum been met?	YES
G	If No for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in 12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is located.	N/A
H	If step G requires a narrative, it shall be prepared in accordance with 12-0507.4	N/A
I	Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.12	OK

Table 12.12 : 10-year Tree Canopy Calculation Worksheet (SEE NOTE BELOW)			
Step		Totals	Reference
A. Tree Preservation Target and Statement			
A1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations	OK	See § 12-0507.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	33,281 S.F.	§ 12-0510.1A
B2	Subtract area dedicated to parks, road frontage, and	513 S.F.	§ 12-0510.1B
B3	Subtract area of exemptions =	0	§ 12-0510.1C(1) through § 12-0510.1C(6)
B4	Adjusted gross site area (B1 – B2) =	32,768 S.F.	
B5	Identify site's zoning and/or use	R-2	
B6	Percentage of 10-year tree canopy required =	30%	§ 12-509.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 x B5) =	9,830 S.F.	
B8	Modification of 10-year Tree Canopy Requirements Requested	NO	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	N/A	Sheet number
C. Tree Preservation			
C1	Tree Preservation Target Area =	7,090 S.F.	
C2	Total canopy area meeting standards of § 12-0200 =	19,806 S.F.	
C3	C2 x 1.25 =	24,758 S.F.	§ 12-0509.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0509.3B(1)
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0509.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	0	§ 12-0509.3C(1)
C10	Total of C3, C5, C7 and C9 = If area of C10 is less	24,758 S.F.	If area of C10 is less than B7 remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0	
D2	Area of canopy Planted for air quality benefits =	0	
D3	x 1.5 =	0	§ 12-0509.4B(1)
D4	Area of canopy planted for energy conservation =	0	
D5	x 1.5 =	0	§ 12-0509.4B(2)
D6	Area of canopy planted for water quality benefits =	0	
D7	D7 x 1.25 =	0	§ 12-0509.4B(3)
D8	Area of canopy planted for wildlife benefits =	0	
D9	D9 x 1.5 =	0	§ 12-0509.4B(4)
D10	Area of canopy provide by native trees =	0	
D11	D11 x 1.5 =	0	§ 12-0509.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0	
D13	D13 X 1.25=	0	§ 12-0509.4B(6)
D14	Area of canopy provided through tree seedlings = x1.0=	0	§ 12-0509.4D(1)
D15	Area of canopy provided through native shrubs or woody seed mix = x1.0=	0	§ 12-0509.4D(1)(a)
D16	Percentage of D14 represented by D15 =	0	Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	0	
D18	Is an offsite planting relief requested?	N/A	Yes or No
D19	D10 Tree Bank or Tree Fund?	N/A	§ 12-0511
D20	Canopy area requested to be provided through offsite banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	24,758 S.F.	
E2	Total of canopy area provided through tree planting (D17) =	0	
E3	Total of canopy area provided through offsite mechanism (D19) =	0	
E4	Total of 10-year Tree Canopy Provided = Total of E1 through E3.	24,758 S.F.	Total of E1 through E3. Area should meet or exceed area in B6

LOT 2 TREE PRESERVATION CALCULATIONS

Table 12.3 Tree Preservation Target Calculations and Statement (SEE NOTE BELOW)		
A	Pre-development area of existing tree canopy (from Existing Vegetation Map) =	24,598 S.F.
B	Percentage of gross site area covered by existing tree canopy =	100%
C	Percentage of 10-year canopy required for site (see Table 12.4) =	30% (7,380 S.F.)
D	Percentage of the 10-year tree canopy requirement that should be met throught tree preservation =	100% (7,380 S.F.)
E	Proposed percentage of canopy requirement that will be met through tree preservation =	100% (11,198 S.F.)
F	Has the Tree Preservation Target minimum been met?	YES
G	If No for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in 12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is located.	N/A
H	If step G requires a narrative, it shall be prepared in accordance with 12-0507.4	N/A
I	Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.12	OK

Table 12.12 : 10-year Tree Canopy Calculation Worksheet (SEE NOTE BELOW)			
Step		Totals	Reference
A. Tree Preservation Target and Statement			
A1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations	OK	See § 12-0507.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	24,598 S.F.	§ 12-0510.1A
B2	Subtract area dedicated to parks, road frontage, and	500 S.F.	§ 12-0510.1B
B3	Subtract area of exemptions =	0	§ 12-0510.1C(1) through § 12-0510.1C(6)
B4	Adjusted gross site area (B1 – B2) =	24,098 S.F.	
B5	Identify site's zoning and/or use	R-2	
B6	Percentage of 10-year tree canopy required =	30%	§ 12-509.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 x B5) =	7,230 S.F.	
B8	Modification of 10-year Tree Canopy Requirements Requested	NO	Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located	N/A	Sheet number
C. Tree Preservation			
C1	Tree Preservation Target Area =	7,380 S.F.	
C2	Total canopy area meeting standards of § 12-0200 =	11,198 S.F.	
C3	C2 x 1.25 =	13,998 S.F.	§ 12-0509.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0	
C5	C4 x 1.5 =	0	§ 12-0509.3B(1)
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0509.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0	
C9	C8 x 1.0 =	0	§ 12-0509.3C(1)
C10	Total of C3, C5, C7 and C9 = If area of C10 is less	13,998 S.F.	If area of C10 is less than B7 remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	0	
D2	Area of canopy Planted for air quality benefits =	0	
D3	x 1.5 =	0	§ 12-0509.4B(1)
D4	Area of canopy planted for energy conservation =	0	
D5	x 1.5 =	0	§ 12-0509.4B(2)
D6	Area of canopy planted for water quality benefits =	0	
D7	D7 x 1.25 =	0	§ 12-0509.4B(3)
D8	Area of canopy planted for wildlife benefits =	0	
D9	D9 x 1.5 =	0	§ 12-0509.4B(4)
D10	Area of canopy provide by native trees =	0	
D11	D11 x 1.5 =	0	§ 12-0509.4B(5)
D12	Area of canopy provided by improved cultivars and varieties =	0	
D13	D13 X 1.25=	0	§ 12-0509.4B(6)
D14	Area of canopy provided through tree seedlings = x1.0=	0	§ 12-0509.4D(1)
D15	Area of canopy provided through native shrubs or woody seed mix = x1.0=	0	§ 12-0509.4D(1)(a)
D16	Percentage of D14 represented by D15 =	0	Must not exceed 33% of D14
D17	Total of canopy area provided through tree planting =	0	
D18	Is an offsite planting relief requested?	N/A	Yes or No
D19	D10 Tree Bank or Tree Fund?	N/A	§ 12-0511
D20	Canopy area requested to be provided through offsite banking or tree fund	N/A	
D21	Amount to be deposited into the Tree Preservation and Planting Fund	N/A	
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	13,998 S.F.	
E2	Total of canopy area provided through tree planting (D17) =	0	
E3	Total of canopy area provided through offsite mechanism (D19) =	0	
E4	Total of 10-year Tree Canopy Provided = Total of E1 through E3.	13,998 S.F.	Total of E1 through E3. Area should meet or exceed area in B6

NOTE:
FINAL TREE SAVE CANOPY CREDIT AREAS, TREE PRESERVATION METHODS (INCLUDING TREE PROTECTION FENCE, ROOT PRUNING, ETC.), TREE PRESERVATION TARGET CALCULATIONS AND 10-YEAR TREE CANOPY CREDIT CALCULATIONS ARE SUBJECT TO CHANGE PENDING FINAL ENGINEERING.

GENERAL TREE PRESERVATION NOTES:

1. PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL INDIVIDUAL TREES AND GROUPS OF TREES SHOWN TO BE PRESERVED ON THE TREE PRESERVATION PLAN SHALL BE PROTECTED BY FENCING A MINIMUM OF FOUR FEET IN HEIGHT, PLACED AT THE LIMITS OF CLEARING AND GRADING, OR AS DETERMINED BY FAIRFAX COUNTY URBAN FORESTRY DIVISION REPRESENTATIVES DURING THE PRE-CONSTRUCTION MEETING.

2. THE TREE PROTECTION FENCING SHALL BE MADE CLEARLY VISIBLE TO ALL CONSTRUCTION PERSONNEL WITH SIGNS POSTED EVERY 25 FEET ON THE FENCE STATING IN ENGLISH AND SPANISH THAT IT IS A TREE PRESERVATION AREA AND NO ENTRY IS PERMITTED. THE FENCING SHALL BE INSTALLED PRIOR TO ANY WORK BEING CONDUCTED ON THE SITE, INCLUDING THE DEMOLITION OF ANY EXISTING STRUCTURES OR FENCES. DISTURBANCE ON ADJACENT SITES SHALL BE MINIMIZED.

3. ALL CONSTRUCTION MOBILIZATION/ACTIVITY, MATERIALS STORAGE, AND MOTORIZED EQUIPMENT SHALL BE PROHIBITED BEYOND THE LIMITS OF CLEARING AND GRADING SHOWN ON THE SITE PLAN AND THE TREE PRESERVATION PLAN UNLESS PREVIOUSLY APPROVED BY FAIRFAX COUNTY URBAN FORESTRY DIVISION.

4. CLEARING OPERATIONS: TREES TO BE REMOVED SHALL BE FELLED IN SUCH A MANNER AS TO PRESERVE THE TREES THAT ARE TO REMAIN. TREES DIRECTLY ADJACENT TO BUT WITHIN THE LIMITS OF CLEARING AND GRADING SHALL BE FELLED BY HAND, WITH A CHAIN SAW, AND THE STUMPS SHALL REMAIN IN PLACE OR SHALL BE GROUND OUT.

5. OFF-SITE AND JOINTLY OWNED TREES SHOULD RECEIVE SPECIAL ATTENTION; IF POSSIBLE, DISCUSS THE PROJECT WITH OWNERS OF SUCH TREES BEFORE STARTING WORK IF THEIR TREES ARE AFFECTED BY CONSTRUCTION. MAKE ALL REASONABLE EFFORTS TO PRESERVE OFF SITE AND JOINTLY OWNED TREES.

6. TREE CARE PROCEDURES SHALL MEET OR EXCEED AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD PRACTICES FOR TREES, SHRUBS, AND OTHER WOODY PLANT MAINTENANCE ANSI A300.

7. ALL OF THE REQUIREMENTS OF THE PUBLIC FACILITIES MANUAL SHALL BE MET.

8. BUILDINGS, CONCRETE PADS, AND CONCRETE OR ASPHALT PATHS AND DRIVEWAYS OR ROADWAYS, DEBRIS AND JUNK WITHIN OR ADJACENT TO TREE PRESERVATION AREAS SHALL BE REMOVED IN SUCH A WAY THAT TREES TO BE PRESERVED ARE NOT DAMAGED. EQUIPMENT SHALL AT ALL TIMES REMAIN ON CONCRETE OR WOOD-CHIP PADDED SURFACES RATHER THAN POSITIONING ON SOIL OR VEGETATION. BUILDINGS NEAR TREES TO BE SAVED SHALL BE PULLED OVER, AWAY FROM TREES, USING CABLES, RATHER THAN PUSHED OVER WITH EQUIPMENT. CONCRETE AND DEBRIS WITHIN TREE PRESERVATION AREAS SHALL BE PULLED UP AND LOADED ONTO EQUIPMENT WITHOUT THE EQUIPMENT LEAVING THE CONCRETE OR WOOD-CHIP PADDED SURFACES.

9. INFORMATION IN THESE PLAN NOTES, TREE INVENTORY, AND ALL PLANS RELATED TO TREES REFER ONLY TO TREES ON THE DEVELOPMENT SITE; NO OTHER TREES WERE EXAMINED.

Application No RZ 2009-PR-005 Staff KGS

APPROVED ~~DEVELOPMENT~~ PLAN
(DP) ~~(GDP)~~ (CDP) (FDP)
SEE PROFFERS DATED 5/17/2010
Date of (BOS) (PC) 6/8/2010

Sheet 7 of 7

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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TREE PRESERVATION PLAN
8012 ELM PLACE
FAIRFAX COUNTY, VIRGINIA
PROVIDENCE DISTRICT

RZ 2009-PR-005
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
NO. 000832
7/9/10
CERTIFIED LANDSCAPE ARCHITECT

PLAN STATUS	
4/17/09	
7/20/09	REVISIONS PER COMMENTS
8/5/09	REVISIONS PER COMMENTS
9/8/09	REVISIONS PER COMMENTS
9/16/09	REVISIONS PER COMMENTS
9/18/09	REVISIONS PER COMMENTS
10/29/09	REVISIONS PER COMMENTS
2/05/10	REVISIONS PER COMMENTS
2/26/10	REVISIONS PER COMMENTS
3/18/10	REVISIONS PER COMMENTS
4/8/10	REVISIONS PER COMMENTS
DATE	DESCRIPTION

MT	KF	MT
DESIGN	DRAWN	CHKD

SCALE H: 1" = 20' V:
JOB No. 4668-01-002
DATE : MARCH 18, 2010
FILE No. 4668-D-ZP-001
SHEET 7 OF 7

P:\4668 - 8012 Elm Place\4668-01-002 (PLN)\Planning\Engineering\4668-001-002-TPP.dwg, 4/7/2010 6:57:57 PM, kf

Cad file name : P:\4668 – 8012 Elm Place\4668-01-002 (PLN)\Planning\Engineering\4668-001-002-TPP.dwg