PLAN APPROVAL INFORMATION

RELATED INFORMATION	REQUIRED	NOT REQUIRED	COUNTY I.D. NUMBER	COMMENTS/SHEET NO.
1. RPA BOUNDARY LOCATION CERTIFICATION		X		
2. RPA DELINEATION		X		
3. CHESAPEAKE BAY ACT EXCEPTION		X		
4. FLOOD PLAIN STUDY		X		
5. DRAINAGE STUDY		X		
6. WATER QUALITY IMPACT ASSESSMENT		X		
7. SOILS REPORT	FULL ☐ LIMITED ☐	X		
8. REZONING/SPECIAL EXCEPTION/SPECIAL PERMIT APPROVAL		X		
9. B.Z.A. VARIANCE APPROVAL		X		
10. WETLANDS/WATERS OF THE U.S. PERMIT		X		
11. FEMA LETTER OF MAP REVISION		X		
12. VEGETATED ROOF NOTE		X		
13. OVERLAY DISTRICT INFORMATION		X		
14. TREE BANKING		X		
15. TREE FUND				
16. MODIFICATIONS/WAIVERS		X		
		X		

REQUIRED INFORMATION

DESCRIPTION OF PROPOSED WORK	THIS PLAN IS FOR CONSTRUCTION OF A NEW 2-STORY SINGLE FAMILY DWELLING, WITH ASSOCIATED DEVELOPMENT. PLEASE REFER TO PROJECT DESCRIPTION ON SHEET 3 FOR DETAILS.
TAX MAP NUMBER	075-4-02-0106
ZONING DISTRICT	RD
MINIMUM YARD REQUIREMENTS (SETBACKS)	FY: 45', SY: 10', RY: 25'
MINIMUM LOT AREA REQUIREMENT	36,000 SQ FT
MINIMUM LOT WIDTH REQUIREMENT	150' INTERIOR /175' CORNER
TOTAL LOT AREA (SQUARE FEET OR ACRE)	57,935 SQ FT
SERVED BY (INDICATE PUBLIC WATER OR INDIVIDUAL WELL)	ONSITE WELL
SERVED BY (INDICATE PUBLIC SEWER OR INDIVIDUAL WASTEWATER MANAGEMENT SYSTEM)	ONSITE SEPTIC
BUILDING HEIGHT CERTIFICATION (LTI 06-13)	PROVIDED ON SHEET NO. 3
E&S PRIORITY RATING FORM	PROVIDED ON SHEET NO. 6
RESPONSIBLE LAND DISTURBER	NAME: CERTIFICATE NO.: PHONE NO.: ADDRESS:
WATER QUALITY WAIVER INFO, IF APPLICABLE	PROVIDED ON SHEET NO.: N/A
TREE CONSERVATION PLAN	PROVIDED ON SHEET NO.: 4 & 5

SITE INSPECTION NOTES

1. NOTIFY SITE INSPECTIONS AT 703-324-1720 PRIOR TO BEGINNING ANY WORK ON THE PROJECT. FAILURE TO NOTIFY CAN RESULT IN THE ISSUANCE OF A VIOLATION AND A SUBSEQUENT FINE FOR COMPLIANCE INSPECTION.
2. NO EARTH DISTURBANCE OR CONSTRUCTION IS ALLOWED UNTIL THE BUILDING PERMIT FOR THE PROJECT IS ISSUED. EVIDENCE OF A BUILDING PERMIT MUST BE PROVIDED TO THE SITE INSPECTOR AT THE PRE-CONSTRUCTION MEETING.
3. NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER AT 1-800-552-7001 AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION, DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT.

LEGALITY OF LOT CERTIFICATION (LTI 02-10)

I HEREBY CERTIFY THAT ALL APPROPRIATE COUNTY APPROVALS WERE OBTAINED IN ACCORDANCE WITH THE PROCESS REQUIRED BY THE SUBDIVISION ORDINANCE IN EFFECT AT THE TIME OF THE CREATION OF LOT(S) 106. THE LOT WAS CREATED IN ITS CONFIGURATION PRIOR TO THE ENACTMENT OF THE FAIRFAX COUNTY ZONING ORDINANCE AS EVIDENCED BY DEED DATED MARCH 18, 1925, AND RECORDED IN LIBER M-9 AT PAGE 35 IN FAIRFAX COUNTY LAND RECORDS.

WETLANDS PERMITS CERTIFICATION

I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

SIGNATURE Bhandari 10/27/2015

OWNER/DEVELOPER BHANDARI PREM K, (NAME) AGENT (TITLE)

INFORMATION REGARDING ACTIVITIES IN THE RESOURCE PROTECTION AREA

ACTIVITY	YES/NO
CONSTRUCTION ACTIVITIES IN A RESOURCE PROTECTION AREA (IF YES, INDICATE TYPE BELOW)	NO
REDEVELOPMENT PRINCIPAL STRUCTURE	NO
REDEVELOPMENT ACCESSORY STRUCTURE	NO
PUBLIC ROADS	NO
PRIVATE ROADS	NO
DRIVEWAYS	NO
STORMWATER OUTFALL	NO
OTHER (INDICATE TYPE):	NO

TREE PRESERVATION

TREE PRESERVATION TARGET DEVIATIONS OR MODIFICATIONS ARE BEING REQUESTED. YES ☐ NO ☒

NOTICE OF VIOLATION

IS THIS PLAN SUBMITTED AS A RESULT OF NOTICE OF VIOLATION? YES ☐ NO ☒

IF "YES", COPY OF NOTICE OF VIOLATION PROVIDED ON SHEET NO.____

PRO RATA SHARE ASSESSMENT FORM

INFORMATION REQUIRED	NEW DEVELOPMENT	REDEVELOPMENT
FROM VRRM SPREADSHEET "SITE DATA" TAB: TOTAL SITE AREA (AC)	1.33	
TOTAL IMPERVIOUS COVER (AC)	0.215	
IMPERVIOUSNESS AREA INCREASE (AC)	0.105	
FROM VRRM SPREADSHEET "SUMMARY" TAB: ADJUSTED POST-DEVELOPMENT PHOSPHORUS LOAD (LB/YR)	N/A	
TOTAL RUNOFF VOLUME REDUCTION (CU FT)	N/A	

SWMO WATER QUALITY REQUIREMENT DETERMINATION

	SQUARE FEET
IMPERVIOUS AREA PROPOSED	
BUILDINGS	2,140 SQ FT
DRIVEWAYS	2,041 SQ FT
MISCELLANEOUS	393 SQ FT
TOTAL IMPERVIOUS ADDED	4,574 SQ FT
IMPERVIOUS AREA EXISTING (TO REMAIN)	4,792 SQ FT
TOTAL IMPERVIOUS AREA (PROPOSED AND EXISTING TO REMAIN)	9,366 SQ FT
TOTAL LOT AREA	57,935 SQ FT

% IMPERVIOUS EQUALS TOTAL IMPERVIOUS AREA DIVIDED BY LOT AREA MULTIPLIED BY 100
% IMPERVIOUS = 16.2 % NO BMP REQUIRED

BMP REQUIRED YES ☐ NO ☒

STORMWATER INFORMATION

HIGH DENSITY POLYETHYLENE (HDPE) USED ON THIS PROJECT YES ☐ NO ☒

THE PLAN MEETS: TIME LIMITS ON APPLICABILITY OF APPROVED DESIGN CRITERIA ☐

THE PLAN MEETS THE GRANDFATHERING CRITERIA ☐

VPDES REQUIRED YES ☐ NO ☒

VPDES PERMIT NO. (IF TIME LIMITS): ____

COUNTY STORMWATER PERMIT REQUIRED YES ☐ NO ☒

SWM FACILITIES DESIGNED USING: TECHNICAL CRITERIA 4 ☒ (NEW)
TECHNICAL CRITERIA 5 ☐ (OLD)

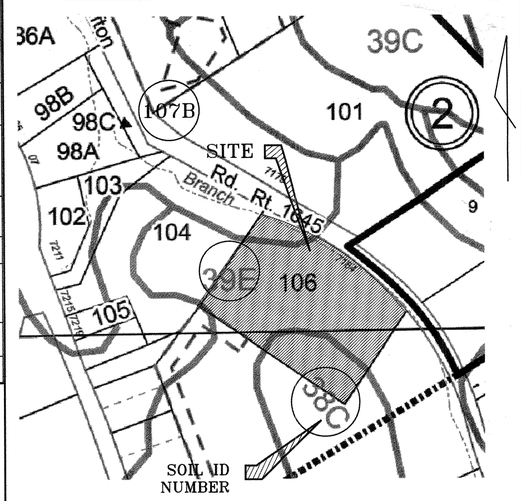
SWM FACILITIES (PROPOSED ONLY)

FACILITY ID NO.	FACILITY TYPE	PURPOSE	AREA TREATED (ACRES)	LATITUDE (DECIMAL DEGREE)	LONGITUDE (DECIMAL DEGREE)	WATERSHED	RECEIVING WATERS	MAINTENANCE AGREEMENT Y/N	VAHU6 CODE	LENGTH/ AREA OF FACILITY	UNIT (FT/ SF)	NO. OF BLDG. SERVED (FOR ROOFTOP DISCONNECT)

DISTURBED AREA (DA) WITHIN WATERSHED(S):
WATERSHED 1 POPES HEAD CREEK DA= 0.57 (ACRES)
WATERSHED 2 ____ DA= ____ (ACRES)
TOTAL DISTURBED AREA= 0.57 (ACRES)

SOILS MAP DATA

SCALE: 1":100'



SOIL ID NUMBERS	SOIL HYDRO GROUP	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
38	B	FAIRFAX LOAM	FAIR	GOOD	MEDIUM	I
39	B	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I
107	D	WHEATON-MEADOWVILLE COMPLEX	FAIR-W,B	MARGINAL-W,S	MEDIUM	IVB

REFER TO SOIL CERTIFICATION ON SHEET 3.

IS THE SITE LOCATED WITHIN NATURALLY OCCURRING ASBESTOS SOILS? YES ☐ NO ☒

AREAS THAT MAY CONTAIN NATURALLY OCCURRING ASBESTOS SOILS ARE LOCATED ON THE COUNTY ORANGE SOILS TAX MAP GRIDS ON THE COUNTY WEBSITE. SPECIAL PRECAUTIONS REGARDING THESE SOILS OR FILL ORIGINATING FROM THESE SOILS ARE REQUIRED BY THE OCCUPATIONAL SAFETY AND HEALTH REGULATIONS ENFORCED BY THE VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY AND SPECIAL GUIDANCE HAS BEEN ISSUED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

OWNER INFORMATION

(X) OWNER
( ) TRUSTEE

(X) A CORPORATION
( ) A PARTNERSHIP
( ) AN INDIVIDUAL

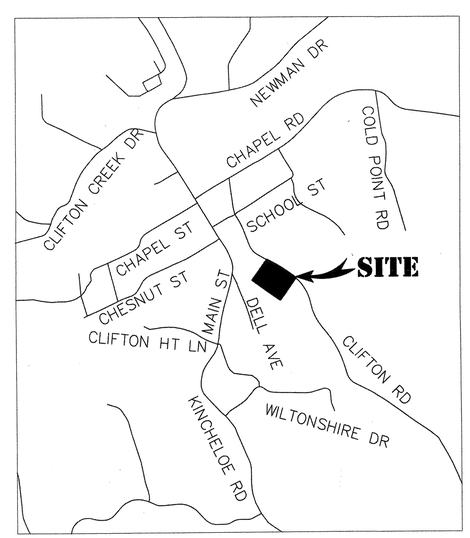
CLIFTON HOMES AND ACREAGE LLC,
NAME

PHONE

5010 GADSEN DRIVE FAIRFAX, VA 22032
ADDRESS EMAIL

VICINITY MAP

SCALE: 1":550'



APPROVED FOR INDIVIDUAL WASTEWATER SYSTEM AND/OR WATER WELL

DATE ____ BY ____
FAIRFAX COUNTY DEPARTMENT OF HEALTH

RESOURCE PROTECTION AREA

THE LIMITS OF CLEARING AND GRADING SHOWN NEAR AND/OR WITHIN THE LIMITS OF THE RESOURCE PROTECTION AREA (RPA) MUST BE STRICTLY OBSERVED AND ENFORCED. ANY ENCROACHMENT INTO, AND/OR DISTURBANCE OF, THE RPA NOT SHOWN ON THIS PLAN IS CONSIDERED A VIOLATION OF THE CHESAPEAKE BAY PRESERVATION ORDINANCE (CBPO) AND IS SUBJECT TO THE PENALTIES OF CBPO ARTICLE 9 (VIOLATIONS AND PENALTIES).

____ DATE: ____
(STORMWATER REVIEWER)

APPROVED FOR GRADING ONLY ON

___ LOT(S) NO. ____
___ PARCEL(S) NO. ____

THE FOLLOWING CERTIFICATIONS BASED ON A FIELD SURVEY ARE REQUIRED PRIOR TO RUP ISSUANCE (REVIEWER TO CHECK APPROPRIATE ITEMS):

___ A BUILDING HEIGHT CERTIFICATION
___ A SETBACK CERTIFICATION

APPROVED BY: ____ DATE: ____
PLAN REVIEWER

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE SANITARY SEWER.

SHEET INDEX

1. COVER SHEET
2. SITE GRADING PLAN
2.1 SEPTIC DESIGN PLAN
3. E&S NARRATIVE AND BUILDING HEIGHT COMPUTATIONS
4. EVM & TREE CONSERVATION PLAN
5. TREE CONSERVATION NOTES AND DETAILS
6. E&S CONTROL NOTES AND DETAILS
7. OUTFALL ANALYSIS

NO EARTH DISTURBANCE OR CONSTRUCTION ALLOWED UNTIL PERMIT # 170760162 IS ISSUED

Before you start work you are required to notify the site inspector at 703-324-1720. Failure to notify can result in a violation and a charge per the compliance inspection

APPROVED
COUNTY OF FAIRFAX
LAND DEVELOPMENT SERVICES
ENVIRONMENTAL AND SITE REVIEW DIVISION
For E&S and STW only
BY ____
DATE 11/12/15

DESIGN ENGINEER / SURVEYOR
FIRM NAME: AMA ENGINEERS, LLC
ADDRESS: 3930 PENDER DRIVE, SUITE 310 FAIRFAX, VIRGINIA 22030
PHONE NO: 703-273-0300 FAX NO: 703-273-0303
PROJ. MANAGER: PREM BHANDARI EMAIL: amaengineers@yahoo.com

PROFESSIONAL SEAL
COMMONWEALTH OF VIRGINIA
PREM K. BHANDARI
NO. 042492
10/27/2015
PROFESSIONAL ENGINEER
DATE ____

PROFESSIONAL SEAL
COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042492
10/27/2015
PROFESSIONAL ENGINEER
DATE ____

INFILL GRADING PLAN COVERSHEET

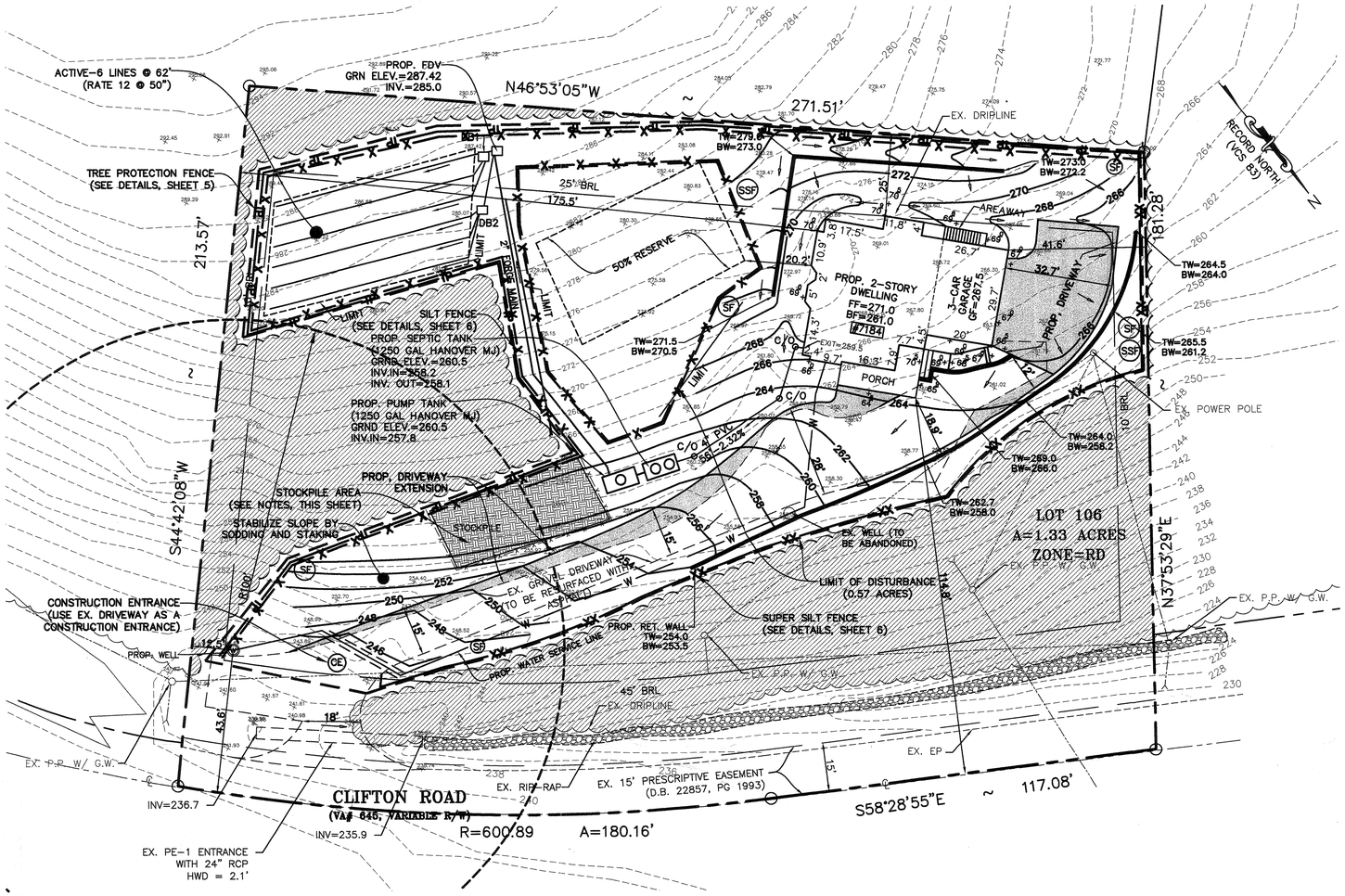
INFILL LOT GRADING PLAN
COVER SHEET
LOT 106
CLIFTON
7184 CLIFTON RD
DISTRICT: MASON
FAIRFAX COUNTY, VIRGINIA

COUNTY NUMBER
9646-INF-002-1

PLAN REVIEWER ____

SHEET 1 OF 7

REVISED: 7/15



GRADING PLAN (PHASE II)

SCALE: 1":20'

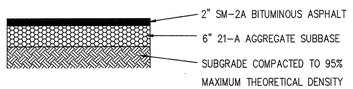
20 0 20 40

(IN FEET)
1 INCH=20 FT.

VIRGINIA UNIFORM CODING SYSTEM

for Erosion and Sediment Control Practices

NO.	TITLE	KEY	SYMBOL
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.02	WASH RACK	WR	
3.05	SILT FENCE	SF	—X—X—X—
PFM PLATE 7-11	SUPER SILT FENCE	SSF	—XX—
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.38	TREE PROTECTION FENCE	TP	—TP—
	LIMITS OF CLEARING AND GRADING		



TYPICAL DRIVEWAY PAVEMENT SECTION
N.T.S.

CBPO NOTES

THIS PLAN COMPLIES FULLY WITH AMENDMENT CHAPTER 118 (CHESAPEAKE BAY PRESERVATION ORDINANCE) OF THE CODE OF THE COUNTY OF FAIRFAX, EFFECTIVE NOV. 18. 2003.

EXISTING UTILITY NOTE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND AND OVERHEAD UTILITIES. IF, DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR ENCOUNTERS UTILITIES OTHER THAN THOSE INDICATED BY MISS UTILITIES AND MEMBER UTILITY COMPANIES, HE (SHE) SHALL IMMEDIATELY NOTIFY THE OWNER AND TAKE NECESSARY AND APPROPRIATE STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE. THE CONTRACTOR IS REQUIRED BY LAW TO NOTIFY MISS UTILITY @ 1-800-552-7001 AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK ON THIS PROJECT.

2. THE SITE CONTRACTOR /DEVELOPER MUST VERIFY THE LOCATIONS AND ELEVATIONS OF ALL PUBLIC AND PRIVATE UTILITIES AND STRUCTURES AFFECTING THE SITE PRIOR TO THE START OF THE CONSTRUCTIONS. ANY CONFLICT WITH THE PLAN MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTION. FAILURE TO VERIFY EXISTING UTILITIES MAY RESULT IN COSTLY DELAYS IN REMEDIAL MEASURES.

CONSTRUCTION SCHEDULE:

1.	PRE-CONSTRUCTION MEETING	1 DAY
2.	INSTALL CONSTRUCTION ENTRANCE, SILT FENCE PRIOR TO ANY DISTURBANCE	2 DAYS
3.	CLEAR, GRUB, STRIP TOPSOIL AND BEGIN GRADING	3 DAYS
4.	DEMOLISH EX. HOUSE AND REMOVE DEBRIS	7 DAY
5.	CONSTRUCTION OF HOUSE, UTILITIES, & DRIVEWAY	180 DAYS
6.	STABILIZE ALL DISTURBED AREAS UPON COMPLETION OF ALL CONSTRUCTION ACTIVITIES	5 DAYS
7.	COUNTY INSPECTION & APPROVAL OF STABILIZED SITE	2 DAYS
8.	REMOVE SEDIMENT CONTROL DEVICES WITH THE INSPECTOR APPROVAL.	1 DAY
	TOTAL:	201 DAYS

SEQUENCE OF CONSTRUCTION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCE AS SHOWN ON THE PLAN.
2. INSTALL SILT FENCE ALONG THE PERIMETER OF THE LIMITS OF CLEARING AND GRADING.
3. CLEAR AND GRUB SITE FOR INSTALLATION OF PERIMETER CONTROLS.
4. REMOVE DEBRIS FROM THE SITE.
5. COMPLETE NEW CONSTRUCTION AND FINAL GRADING.
6. STABILIZE ALL DISTURBED AREAS, NOT BUILT OVER OR PAVED, WITH TOPSOIL, MULCHING AND SEEDING.
7. ALL SEDIMENT AND EROSION CONTROLS ARE TO REMAIN IN PLACE UNTIL SITE IS STABILIZED AND CAN ONLY BE REMOVED AT DIRECTION OF THE COUNTY INSPECTOR.

STOCKPILE NOTES:

1. THE EXCESS DIRT SHALL BE TEMPORARILY STOCKPILED WITHIN THE LOCATION SHOWN ON THE PLAN, AND IT IS PROTECTED FROM E&S MEASURES.
2. THE GRADING/EXCAVATION CONTRACTOR FOR THE SUBJECT SITE IS REQUIRED TO NOTIFY, IN WRITING, THE ASSIGNED SITE INSPECTOR REGARDING ANY EXCESS MATERIAL PROPOSED TO BE HAULED OFFSITE PRIOR TO HAULING. THE NOTIFICATION MUST INDICATE THE QUANTITY OF MATERIAL TO BE MOVED OFFSITE, IDENTIFICATION OF THE RECEIVING SITE WHERE THE EXCESS WILL BE TAKEN, AND ALL INFORMATION NECESSARY TO SHOW THAT SUCH RECEIVING SITE HAS BEEN PROPERLY PERMITTED AND HAS E&S CONTROLS INSTALLED.
3. ALL EXCESS MATERIAL MUST BE HAULED OFFSITE PRIOR TO ANY GRADING ACTIVITY.

TAX MAP #	0754 02 0106
JOB NO.:	
SCALE:	1"=20'
DESIGN BY:	
DATE:	10/27/2015
DRAWN BY:	
SHEET:	2 OF 7
CHECKED BY:	

SITE GRADING PLAN

LOT 106
CLIFTON
7184 CLIFTON ROAD

MAGESTERIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA
PREM K. BHANDARI
Lic. No. 042402
10/27/2015
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

NO.	DATE	DESCRIPTION	BY

REVISION BLOCK

DESIGN LIMITATION

4 BEDROOMS
1-KITCHEN
1-LAUNDRY
GROSS FLOOR AREA LESS THAN 7,500 SF
RATE: 12 MPI @ 50" (ACTIVE)
AFTER GRADE CUT
ACTIVE: 6 LINES @ 62'
RESERVE: 50% RESERVE

GENERAL NOTES

1. STUDY PURPOSE: SEPTIC DRAINFIELD DESIGN FOR 4-BEDROOM DWELLING
2. TAX MAP # 75-4-((2))-0106
3. THIS PLAT IS SUBJECT TO RESTRICTIONS OF RECORD.
4. EXISTING 2 FT CONTOUR IS BASED ON FIELD RUN TOPOGRAPHIC PERFORMED BY AMA ENGINEERS.

DRAINFIELD NOTES:

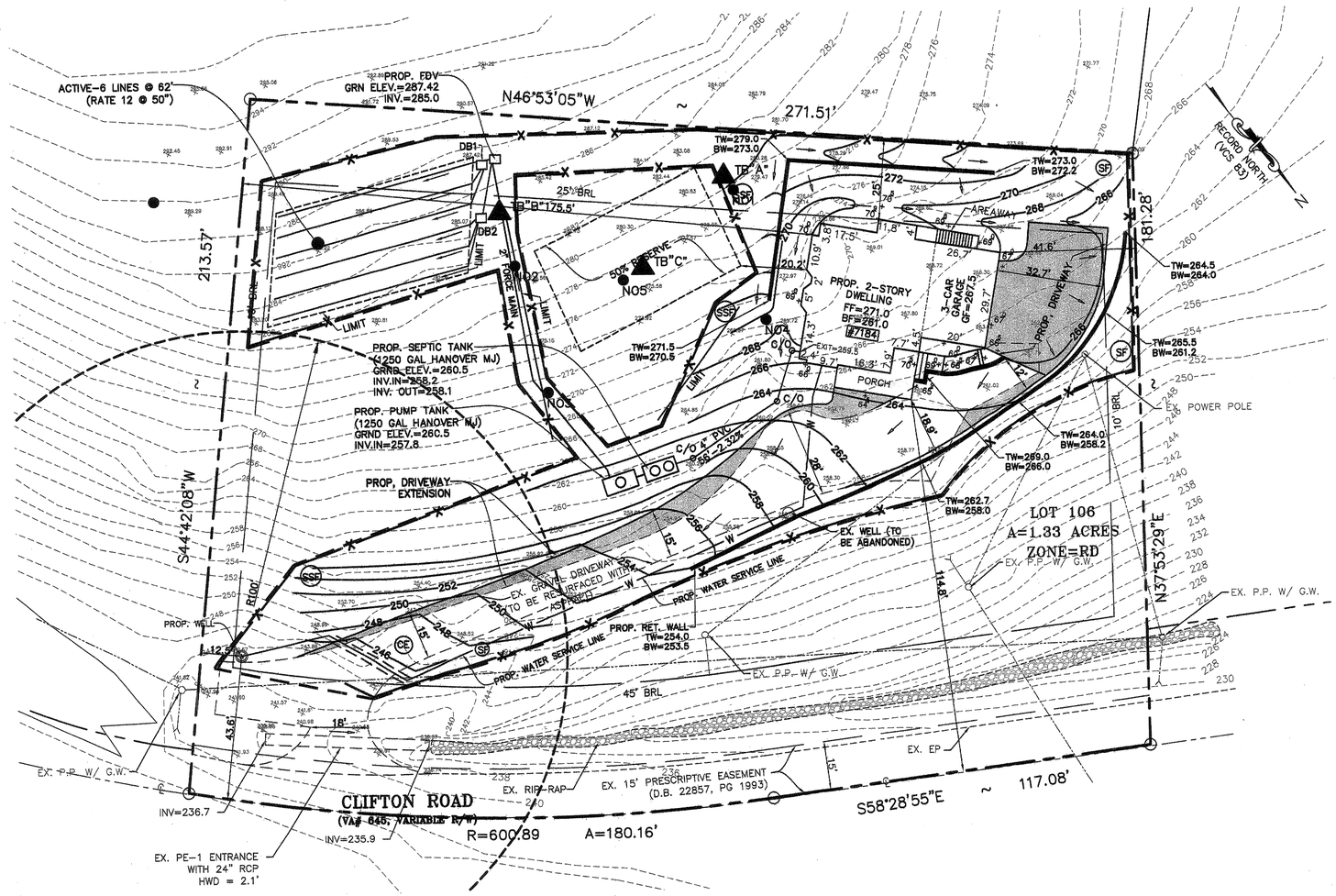
1. THE DRAINFIELD HAS BEEN DESIGNED WITH 50% RESERVE AREA AS APPROVED BY THE HEALTH DEPARTMENT.
2. SURFACE FLOW TO BE DIVERTED AWAY FROM THE LOT AND NO SURFACE WATER STAGNANT ON THE DRAINFIELD.
3. NO FILLING TO BE DONE DURING THE ACTIVE DRAINFIELD GRADING.
4. UNTREATED BUILDING PAPER OR OTHER SUITABLE MATERIAL SHALL BE PLACED AT THE INTERFACE OF THE GRAVEL AND SOIL TO PREVENT MITIGATION OF FINES TO THE BOTTOM OF THE TRENCH AND COVERED WITH TOPSOIL TO THE GROUND SURFACE.
5. THE ADSORPTION TRENCHES WILL BE BOX CUT TO THE LIMIT SHOWN ON THE PLANS, AND FINISH WITH A LEVELLED SURFACE.

STRUCTURAL AND CONSTRUCTION NOTES:

1. SEPTIC TANK: 1,250 GALLON CONCRETE SEPTIC TANK (HANOVER MEDIUM JOINT OR EQUIVALENT) WITH ZABEL FILTER. TANK MUST COMPLY WITH LOCAL AND STATE HEALTH DEPARTMENT REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROPER SEALING OF ALL JOINTS.
2. PUMP TANK: 1,250 GALLONS CONCRETE PUMP TANK (HANOVER MID JOINT OR EQUIVALENT). PUMP TANK MUST COMPLY WITH LOCAL & STATE HEALTH DEPARTMENT REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEALING TANK. PUMP TO BE ZOELLER N 161, 1/2 HP PUMPS OR EQUIVALENT. CONTROL PANEL TO BE AN AMERICAN CONTROL PANEL DEPRAB124-AJLP(C)R 1" CONDUIT, PROGRAMMABLE TIME, EVENT COUNTER AND ALARM. PUMP AND ALARM TO BE SEPARATE CIRCUITS.
3. SEWER HOUSE CONNECTION: 4" PVC PIPE, SCHEDULE 40, 56 FEET LONG AND INSTALLED AT THE SLOPE OF 2.32%.
4. DRAINFIELD:

(A) ACTIVE: INSTALL ABSORPTION TRENCHES WITH 6 DRAINLINES OF 62 LF EACH & 2' WIDE AT DEPTHS OF 50 INCHES. CONTRACTOR IS RESPONSIBLE FOR STABILIZATION (GRADING AND SEEDING) OF SITE UPON COMPLETION OF INSTALLATION TO PROMOTE DRAINAGE AWAY FROM THE SITE. NO TREES WILL REMAIN OR PROPOSED WITHIN 10' OF DRAINFIELD AREA.

(B) RESERVE: 50% RESERVE OF ACTIVE AREA AS INDICATED BY APPROVED LETTER ISSUED BY THE HEALTH DEPARTMENT.



SEPTIC DESIGN PLAN

APPROVED SUBJECT TO NOTATION SHOWN
FAIRFAX COUNTY HEALTH DEPARTMENT

This approval is for the Site/Grading Plan only. The Health Department will not approve the Building Permit Application until it can be determined that an adequate water source is available to serve the proposed project.

10/13/15
Date

Health Official

FAIRFAX COUNTY HEALTH DEPARTMENT
DIVISION OF ENVIRONMENTAL HEALTH

Approval of plat plan only. This is not a permit to install a water supply or a sewage disposal system. All existing or proposed underground utility lines and easements must be located a minimum of 10 feet from all subsurface disposal systems. No subsurface disposal systems may be in an underground utility easement. All water service lines must be located a minimum of 10 feet from all subsurface disposal systems.

10/13/15
Date

Health Official

TAX MAP # 0754 02 0106

JOB NO.:	SCALE: 1"=20'
DESIGN BY:	DATE: 3/27/2015
DRAWN BY:	SHEET: 2.1 OF 7
CHECKED BY:	

SEPTIC DRAINFIELD DESIGN

LOT 106
CLIFTON
7184 CLIFTON ROAD
MAGESTERIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

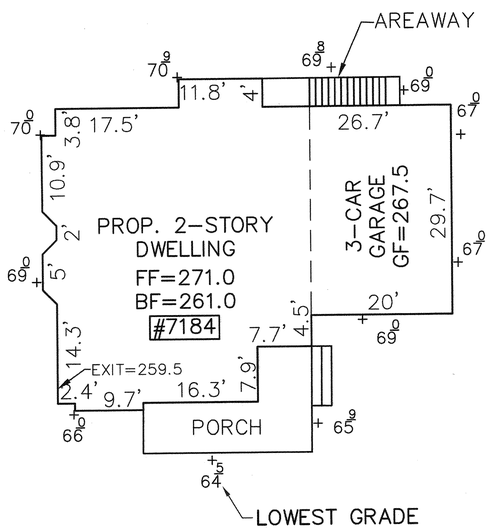
COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042482
3/27/2015
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

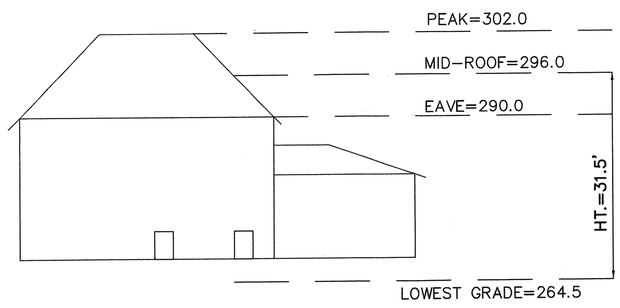
NO.	DATE	DESCRIPTION	BY

REVISION BLOCK

BUILDING HEIGHT COMPUTATIONS



PROP. AND EXISTING GRADES
(SCALE: 1":10')



FRONT ELEVATION
(SCALE: N.T.S.)

BUILDING HEIGHT COMPUTATIONS AS PER TOWN'S CODE SECTION 9-19.C.3

GENERAL NOTES

1. BOUNDARY INFORMATION IS TAKEN FROM THE AVAILABLE RECORDS. NO TITLE REPORT WAS FURNISHED.
2. THE LOCATIONS AND DEPTH OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE TAKEN FROM THE AVAILABLE RECORDS.
3. THE LOCATIONS AND DEPTHS OF ALL THE EXISTING UNDERGROUND UTILITIES ARE TO BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. INTERFERENCE OR DISRUPTION OF SAME WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE TOPOGRAPHY SURVEY IS CONDUCTED BY AMA ENGINEERS AND IS BASED ON NGVD 1929 DATUM.
5. SEE ARCHITECTURAL DRAWINGS FOR BUILDING DIMENSIONS.
6. NO PART OF THE LOT IS UNDER FLOODPLAIN AND COUNTY MAPPED RESOURCE PROTECTION AREA (RPA).
7. WATER SERVICE PROVIDED BY A ONSITE WELL.
8. SANITARY SEWER SERVICE PROVIDED BY ONSITE SEPTIC.
9. NO BURIED OR VISIBLE GRAVE YARD EXISTS ON THE SITE.
10. THE OWNER/CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF THE EXISTING BUILDING, AND PROPOSED ADDITION WITH REFERENCE TO THE PROPERTY LINE AND SETBACK REQUIREMENTS.
11. THE RETAINING WALL 3 FEET OR HIGHER NEED SEPARATE PERMIT.

IMPERVIOUS AREA COMPUTATION (SQ FT)

DESCRIPTION	TOTAL IMP. AREA PRE-DEV	TOTAL IMP. AREA POST-DEV
BUILDING	-	2,140
DRIVEWAY	4,792	6,833
PORCH	-	252
STEPS, WALK	-	141
TOTAL IMPERVIOUS AREA (SQ FT)	4,792	9,366
PERVIOUS AREA/GRASS-AREA (SQ FT)	53,143	48,569
TOTAL SITE AREA (SQ FT)	57,935	57,935

INCREASE IN IMPERVIOUSNESS = 4574 SQ FT OR 7.9% OF THE EXISTING IMP. AREA

TOTAL % OF IMPERVIOU AREA= (9366 x 100%) / 57935 = 16.2% <18% MAX ALLOWABLE BY CBPO NO BMP IS REQUIRED.

"C" FACTORS CALCULATION

A. PRE-DEVELOPMENT

= (4792 x 0.9 + 53143 x 0.25) / 57935 = 0.3

B. POST-DEVELOPMENT

= (9366 x 0.9 + 48569 x 0.25) / 57935 = 0.36

RUNOFF COMPUTATION (Q=CIA)

A. PRE-DEVELOPMENT

(5 MIN Tc) Q2 = (0.3 x 5.45 x 1.33) = 2.17 CFS
Q10 = (0.3 x 7.27 x 1.33) = 2.9 CFS

B. POST-DEVELOPMENT

(5 MIN Tc) Q2 = (0.36 x 5.45 x 1.33) = 2.61 CFS
Q10 = (0.36 x 7.27 x 1.33) = 3.48 CFS

C. CHANGE IN RUNOFF

Q10 = 3.48 - 2.9 = 0.58 CFS
Q2 = 2.61 - 2.17 = 0.43 CFS

EXISTING UTILITY NOTE

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND AND OVERHEAD UTILITIES. IF, DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR ENCOUNTERS UTILITIES OTHER THAN THOSE INDICATED BY MISS UTILITIES AND MEMBER UTILITY COMPANIES, HE (SHE) SHALL IMMEDIATELY NOTIFY THE OWNER AND TAKE NECESSARY AND APPROPRIATE STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE. THE CONTRACTOR IS REQUIRED BY LAW TO NOTIFY MISS UTILITY @ 1-800-552-7001 AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY WORK ON THIS PROJECT.

2. THE SITE CONTRACTOR /DEVELOPER MUST VERIFY THE LOCATIONS AND ELEVATIONS OF ALL PUBLIC AND PRIVATE UTILITIES AND STRUCTURES AFFECTING THE SITE PRIOR TO THE START OF THE CONSTRUCTIONS. ANY CONFLICT WITH THE PLAN MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR RESOLUTION. FAILURE TO VERIFY EXISTING UTILITIES MAY RESULT IN COSTLY DELAYS IN REMEDIAL MEASURES.

EROSION AND SEDIMENT CONTROL NARRATIVE :

1. PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A DEVELOPMENT OF A SINGLE FAMILY LOT 106. THE LOT IS CURRENTLY VACANT AND MOSTLY WOODED. THE DEVELOPMENT WORK CONSISTS OF CONSTRUCTION OF A NEW 2-STORY DWELLING WITH ASSOCIATED DEVELOPMENT.

THE LOT 59 CONSISTS OF ABOUT 1.33 ACRES OF TOTAL LAND AREA, AND IT IS LOCATED AT 7184 CLIFTON ROAD, FAIRFAX COUNTY IN VIRGINIA. THE LOT WILL HAVE TOTAL IMPERVIOUS AREA OF 9,562 SQ FT, OR 16.5% OF THE LOT AREA WHICH IS LESS THAN 18% OF THE LOT AREA. THE SITE WILL DISTURB ABOUT 0.57 ACRES OF TOTAL LAND TO COMPLETE THE PROJECT. THE PROJECT WILL BE COMPLETED WITHIN A YEAR FROM THE DATE OF THE CONSTRUCTION PERMIT ISSUANCE.

2. EXISTING SITE CONDITIONS

THE SITE IS CURRENTLY VACANT BUT CONSISTS OF AN EXISTING DRIVEWAY. THE LOT SLOPES MAINLY TO THE NORTH AND THE SLOPE RANGES FROM 15-40%. THE RUNOFF FROM THE LOT SHEET FLOWS ACROSS THE LOT TOWARDS THE DITCH LOCATED ON THE FRONT OF THE LOT. NO CONCENTRATED FLOW IS GENERATED BY THE SITE WITHIN THE DISTURBED AREA. THERE IS NO RPA ON THE LOT.

3. ADJACENT AREA

THE LOT IS AN INTERIOR LOT AND SURROUNDED BY SIMILAR SIZE SINGLE FAMILY LOTS. IT IS SURROUNDED BY SINGLE FAMILY LOT 104 FROM THE WEST, LOT 8 FROM THE SOUTH, AND EAST AND IT FRONTS TO CLIFTON ROAD ON THE NORTH.

4. OFFSITE AREAS

NO OFFSITE AREA WILL BE DISTURBED DURING CONSTRUCTION ACTIVITIES.

5. SOILS

THE SOIL FOUND ON THIS LOT IS FAIRFAX LOAM (SOIL ID 38), GLENELG SILD LOAM (SOIL ID 39), AND WHEATON-MEADOWVILLE COMPLEX (SOIL ID 107), THE EROSION POTENTION OF THE SOIL RANGES FROM MEDIUM TO HIGH. SILT FENCE AND SUPERSILT FENCE WILL BE INSTALLED ALONG THE LIMIT OF DISTURBANCE TO PREVENT THE TRANSPORT OF SEDIMENTS. PLEASE REFER TO SHEET 1 FOR SOIL MAP AND DATA.

6. CRITICAL AREAS

THE SITE DOES NOT APPEAR TO HAVE ANY SERIOUS EROSION PROBLEM. NO CRITICAL SLOPES EXISTS/PROPOSED ON THE SITE. NO RPA, FLOOD PLAIN OR OTHER ENVIRONMENTALLY SENSITIVE AREA EXIST ON THE SITE. THERE IS A DITCH RUNNING ALONG THE FRONT OF THE LOT.

7. EROSION AND SEDIMENT CONTROL MEASURES

ALL SILTATION CONTROL MEASURES WILL BE INSTALLED ALONG LOW LAND OF DISTURBED AREA AS SHOWN ON THE GRADING PLAN IN PHASE I STAGE OF THE PROJECT. OWNER WILL CALL THE TOWN INSPECTOR 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION TO SCHEDULE AN INSPECTION. REFER TO SHEET 6 FOR EROSION AND SEDIMENT CONTROL SEQUENCES, PHASE I AND II. THE SPECIFICATION OF THE SILT FENCE SHALL BE AS STATED ON SHEET 6. THE CONSTRUCTION ENTRANCE WILL BE INSTALLED. STREET SWEEPING WILL BE DONE TO REMOVE ALL THE SEDIMENTS TRANSPORTED BY THE CONSTRUCTION VEHICLES TO THE PUBLIC STREET AS FREQUENTLY AS REQUIRED. ALL THE EROSION AND SEDIMENT CONTROL MEASURES WILL BE MAINTAINED AND KEPT FUNCTIONAL AS DESCRIBED UNDER MAINTENANCE PROGRAM.

8. PERMANENT STABILIZATION

PERMANENT OR TEMPORARY SOIL STABILIZATION WILL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL NOT BE WORKED OUT FOR SEVEN OR MORE CALENDAR DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

9. STORMWATER RUNOFF CONSIDERATION

THIS PROJECT WILL RESULT IN INCREASE IN SURFACE RUNOFF AS A RESULT OF THE INCREASED IMPERVIOUS AREA. THE POST-DEVELOPMENT RUNOFF WILL INCREASE TO 3.48 CFS AND 2.61 CFS FROM THE 10-YEAR AND 2-YEAR STORM AS COMPARED TO THE PRE-DEVELOPMENT RUNOFF RATE OF 2.9 CFS AND 2.17 CFS, PLEASE REFER TO THE COMPUTATIONS ON THIS SHEET. THE OVERALL INCREASE IN RUNOFF WILL BE 0.58 CFS AND 0.43 CFS FROM THE 10-YEAR AND 2-YEAR STORMS. THE OUTFALL ANALYSIS HAS BEEN PERFORMED IN ITS EXISTING AND PROPOSED CONDITIONS AND SHOWS THAT AN ADEQUATE OUTFALL EXISTS FOR THE SITE. NO ADVERSE IMPACT WILL BE ANTICIPATED AS A RESULT OF THE INCREASED RUNOFF. THE TOTAL IMPERVIOUS AREA OF THE SITE IS LESS THAN 18%. NO BMP WILL BE REQUIRED FOR THE SITE.

10. CALCULATIONS

THE PRE- AND POST- DEVELOPMENT RUNOFF FOR 2-YR AND 10-YR STORMS, IMPERVIOUS AREA ACREAGE CALCULATIONS, "C" FACTOR CALCULATIONS ARE PROVIDED ON THIS SHEET. THE RATIONAL METHOD HAS BEEN USED TO ESTIMATE THE PEAK RUNOFF.

CLASS IVB SOIL CERTIFICATION

THE LOT DEPICTED ON THIS INFILL LOT GRADING PLAN CONTAINS CLASS IVB SOILS.

1. PROBLEM CLASS III AND CLASS IVA SOILS HAVE NOT BEEN MAPPED ON THE PROPERTY.
2. THE PROJECT DOES NOT REQUIRE SHEETING AND SHORING, RETAINING WALLS OVER 6 FEET HIGH, PILE FOUNDATIONS, GEOPIERS, MAT FOUNDATION OR GROUND MODIFICATION SUCH AS DYNAMIC COMPACTION, STONE COLUMNS, VIBRA COMPACTION, CHEMICAL STABILIZATION, ETC.
3. GEOTECHNICAL REPORTS ARE NOT REQUIRED UNDER ANY OTHER COUNTY REGULATION OR BUILDING CODE.
4. THE MAXIMUM DEPTH OF EXISTING DISTURBED LAND ON THE PROPERTY IS LESS THAN 5 FEET.
5. FOOTINGS AND FLOOR SLABS WILL BE SUPPORTED ON COMPETENT NATURAL SOILS.
6. THE EXISTING SLOPES ON THE PROPERTY ARE NOT STEEPER THAN 3:1 (HORIZONTAL: VERTICAL) OR THE EXISTING SLOPES ARE STEEPER THAN 3:1 (HORIZONTAL: VERTICAL) AND THE COUNTY GEOTECHNICAL REVIEW ENGINEER HAS BEEN CONTACTED. EVALUATION OF THE SLOPES MAY BE REQUIRED DEPENDING ON THE PROPOSED HOUSE LOCATION.
7. THE STRUCTURE IS LOCATED AT LEAST 15 FEET FROM THE TOP OF ANY 3:1 (HORIZONTAL: VERTICAL) OR STEEPER SLOPE AND THE INFLUENCE ZONE OF HOUSE FOOTINGS DOES NOT INTERCEPT WITH ANY SLOPE. THE INFLUENCE ZONE OF A FOOTING IS DEFINED AS THE AREA BENEATH A 45-DEGREE LINE EXTENDING OUTWARD AND DOWNWARD FROM FOOTING EXTERIOR EDGE.
8. THE FOUNDATION DRAIN DETAILS ARE INCLUDED ON THE PLANS.

I HEREBY CERTIFY THAT:
EACH OF THE ABOVE REQUIREMENTS HAS BEEN MET AND THAT ALL FIELD REVIEWS NECESSARY TO EVALUATE THESE REQUIREMENTS HAVE BEEN PERFORMED.
SIGNATURE:

Bhandari

DATE: 10/27/2015

NAME: PREM K BHANDARI

VA LICENSE #: 042492

TAX MAP # 0754 02 0106

JOB NO.: | SCALE: AS NOTED

DESIGN BY: | DATE: 10/27/2015

DRAWN BY: | SHEET: 3 OF 7

CHECKED BY:

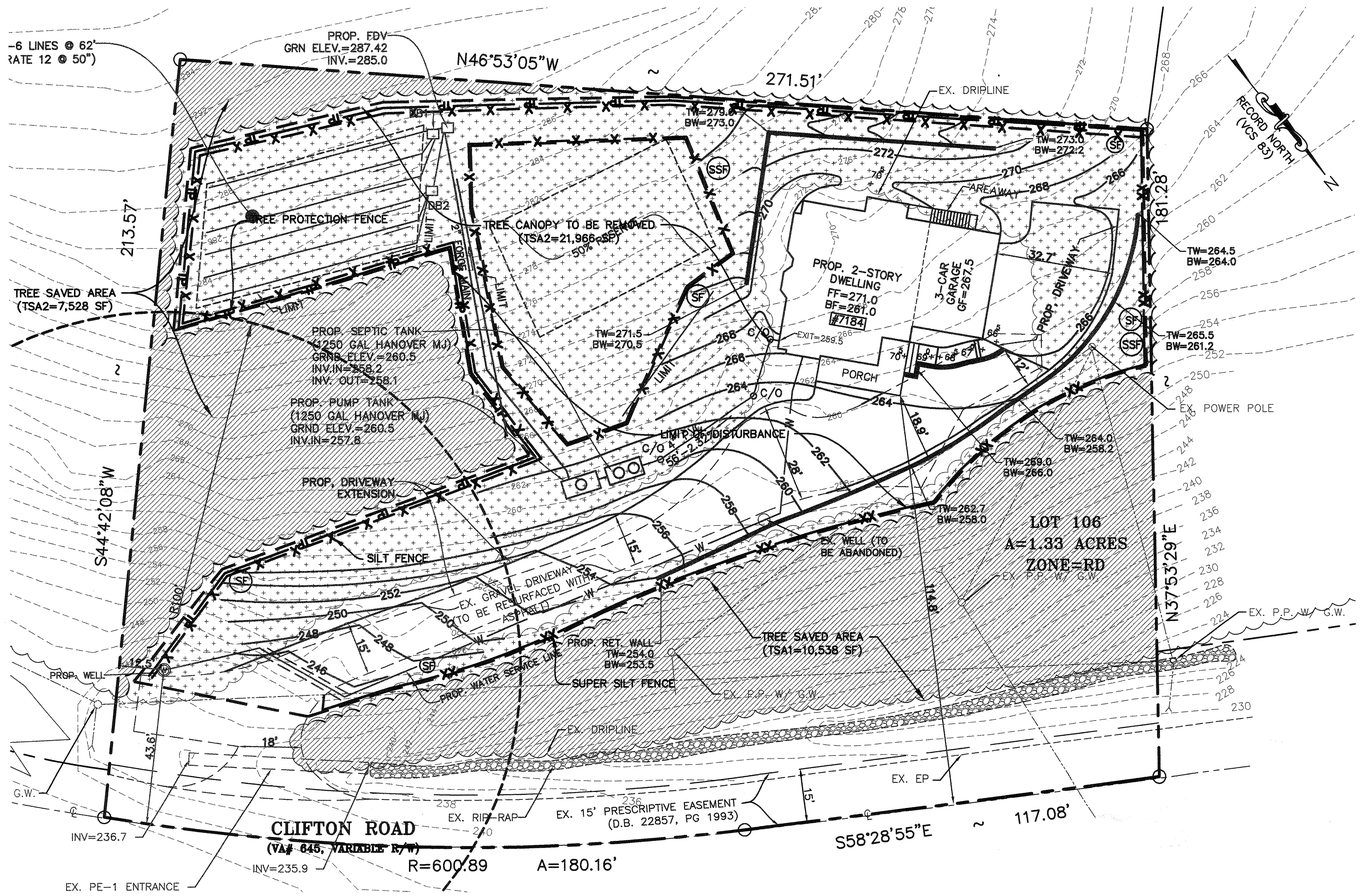
GENERAL NOTES & BLD HEIGHT COMPUTATIONS
LOT 106
CLIFTON
7184 CLIFTON ROAD
MAGESTRIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042492
10/27/2016
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

NO.	DATE	DESCRIPTION	BY

REVISION BLOCK



EVM & TREE PRESERVATION PLAN
SCALE: 1"=20'

EXISTING VEGETATION MAP (EVM) SUMMARY

COVER TYPE	PRIMARY SPECIES	SUCCESSIONAL STAGE	CONDITION	ACERAGE	COMMENTS
UPLAND FOREST	DOMINATED BY RED MAPLE, TULIP POPLAR, AMERICAN BEECH, SOME HOLLY	EARLY SUCCESION TO CLIMAX	FAIR – GOOD	18,066 SQ FT OR 0.42 ACRES	THESE SPECIES ARE IN GOOD CONDITION AND SIZE VARIES FROM 6–36 INCHES. ALL THESE TREES TO BE PRESERVED
MISCELLANEOUS	DOMINATED BY RED MAPLE, TULIP POPLAR, AMERICAN BEECH, SOME HOLLY	EARLY SUCCESION TO CLIMAX	FAIR – GOOD	21,966 SQ FT OR 0.50 ACRES	THESE SPECIES ARE IN GOOD CONDITION AND SIZE VARIES FROM 6–36 INCHES. THESE TREES CANNOT SURVIVE THE CONSTRUCTION AND WILL BE REMOVED
MISCELLANEOUS	N/A	N/A	N/A	17,903 SQ FT OR 0.41 ACRES	GRASS AREA, GRAVEL, OPEN SPACE, ETC.

TOTAL AREA=1.72 AC

LEGENDS

- TP — TREE PROTECTION
- X — SILT FENCE
- XX — SUPER SILT FENCE
- LIMIT OF DISTURBANCE

TREE PRESERVATION NARRATIVE

THE SITE PLAN CONSISTS OF THE DEMOLITION OF CONSTRUCTION OF A NEW 2–STORY SINGLE FAMILY DWELLING ON LOT 106. THE LOT IS CURRENTLY VACANT AND IS MOSTLY WOODED. THE LOT CONTAINS ABOUT 1.33 ACRES OF LAND AREA, AND IS ZONED RD.

THE LOT IS MOSTLY WOODED WITH HARDWOOD SPECIES OF TULIP POPLAR, AMERICAN BEECH, RED MAPLE, AND SOME HOLLY. THE DRIPLINE FROM BOTH ONSITE AND OFFSITE TREE AREA ARE SHOWN ON THE PLAN. THE SIZE OF TREES (DBH) RANGES FROM 6 INCHES TO 36 INCHES, AND THEIR CONDITIONS IS FAIR TO GOOD. THE OFFSITE TREES WILL REMAIN/PRESERVED BY THIS DEVELOPMENT, PLEASE REFER TO THE EVM AND TREE CONSERVATION PLANS FOR MORE DETAILS.

THE LOT CONTAINS ABOUT 40,032 SQ FT (69.1% OF THE LOT AREA) OF TOTAL TREE CANOPY AREA FROM THE ON–SITE AND OFFSITE TREES. THE PERCENTAGE OF 10–YEAR TREE CANOPY REQUIRED FOR THE SITE IS 30%. THE PERCENTAGE OF 10–YEAR CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION IS 30%. DURING THE CONSTRUCTION, ABOUT 18,066 SQ FT OF CANOPY AREA WILL BE PRESERVED. THE PROPOSED PERCENTAGE OF CANOPY REQUIREMENTS THAT WILL BE MET THROUGH TREE PRESERVATION IS 100% WHICH IS MORE THAN THE REQUIRED OF 30%. THE 10–YR TREE COVER REQUIREMENTS FOR THE SITE IS MET BY CONSERVATION OF EXISTING TREES . A TOTAL OF 22,583 SQ FT (AFTER THE MULTIPLICATION FACTOR FOR EXISTING TREE CREDIT) OF 10–YEAR TREE CANOPY WILL BE PROVIDED BY THIS TREE CONSERVATION PLAN, WHICH WILL MEET THE MINIMUM REQUIREMENT OF 17,381 SQ FT FOR THE STUDY LOT, PLEASE REFER TO THE COMPUTATIONS ON THIS SHEET.

TREE PROTECTION FENCE/SUPER SILT FENCE SHALL BE PROVIDED AS SHOWN ON THE PLANS ALONG THE LIMIT OF CLEARING. CONSTRUCTION VEHICLE SHALL NOT ENCROACH BEYOND THE LIMIT OF DISTURBANCE AND THE DEBRIS RESULTING FROM THE DEMOLITION WORK SHALL BE PILED WITHIN THE LOD AS SHOWN ON THE PLANS. NO TRENCHING OR STOCKING OF THE CONSTRUCTION MATERIAL OR EQUIPMENT IS ALLOWED WITHIN THE ROOT ZONE OF THE TREES TO BE PRESERVED.

TABLE 12.10 10-YEAR TREE CANOPY CALCULATION WORKSHEET

A. TREE PRESERVATION TARGET AND STATEMENT		
A1	PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY (FROM EXISTING VEGETATION MAP)=	40032 SF
A2	PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY=	69.1%
A3	PERCENTAGE OF 10-YEAR TREE CANOPY REQUIRED FOR SITE (SEE TABLE 12.4)=	30%
A4	PERCENTAGE OF THE 10-YEAR TREE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION=	30.0%
A5	PROPOSED PERCENTAGE OF CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION=	100.0%
A6	HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET?	YES
A7	IF NO FOR A6, THEN SHEET NUMBER WHERE DEVIATION REQUEST IS LOCATED	N/A
A8	IF STEP G REQUIRES A NARRATIVE, IT SHALL BE PREPARED IN ACCORDANCE WITH § 12-0507.4	N/A
B. TREE CANOPY REQUIREMENT		**TOTAL**
B1	GROSS SITE AREA=	57935 SF
B2	SUBTRACT TO PARKS, ROAD FRONTAGE AND OTHERS=	0 SF
B3	SUBTRACT AREA OF EXEMPTIONS=	0 SF
B4	ADJUSTED GROSS SITE AREA 9B1-B2)=	57935 SF
B5	SITE ZONE/USE=	R-1
B6	PERCENT OF 10-YEAR TREE CANOPY REQUIREMENT=	30%
B7	AREA OF 10-YEAR TREE CANOPY REQUIRED (B4xB5)=	**17381 SF**
B8	MODIFICATION OF 10-YEAR TREE CANOPY REQUIREMENT REQUESTED?	NO
B9	IF B8 IS YES, THEN LIST PLAN SHEET WHERE MODIFICATION REQUEST IS LOCATED=	N/A
C. TREE PRESERVATION		
C1	TREE PRESERVATION TARGET AREA=	12010 SF
C2	TOTAL CANOPY AREA MEETING STANDARDS OF § 12-0400=	18066 SF
C3	C2x1.25=	22583 SF
C4	TOTAL CANOPY AREA PROVIDED BY UNIQUE OR VALUABLE FOREST OR WOODLAND COMMUNITIES=	0 SF
C5	C4x1.5=	0 SF
C6	TOTAL OF CANOPY AREA PROVIDED BY "HERITAGE", "MEMORIAL", "SPECIMEN" OR "STREET" TREES=	0 SF
C7	C6x1.25 OR 1.50=	0 SF
C8	CANOPY OF TREES WITHIN THE RESOURCE PROTECTION AREAS AND 100-YEAR FLOODPLAINS=	0 SF
C9	C8x1.0=	0 SF
C10	TOTAL OF C3, C5, C7 AND C9=	22583 SF
D. TREE PLANTING		
D1	AREA OF CANOPY TO BE MET THROUGH TREE PLANTING (B7-C10)=	0 SF
D2	AREA OF CANOPY PLANTED FOR AIR QUALITY BENEFITS=	0 SF
D3	(D2x1.5)=	0 SF
D4	AREA OF TREE PLANTED FOR ENERGY CONSERVATION=	0 SF
D5	(D4x1.5)=	0 SF
D6	AREA OF TREE PLANTED FOR WATER QUALITY BENEFITS=	0 SF
D7	(D6x1.25)=	0 SF
D8	AREA OF CANOPY PLANTED FOR WILDLIFE BENEFITS=	0 SF
D9	(D8x1.5)=	0 SF
D10	AREA OF CANOPY PROVIDED BY NATIVE TREES=	0 SF
D11	(D10x1.5)=	0 SF
D12	AREA OF CANOPY PROVIDED BY IMPROVED CULTIVARS AND VARIETIES=	0 SF
D13	(D12x1.25)=	0 SF
D14	AREA OF CANOPY PROVIDED THROUGH TREE SEEDLINGS=	0 SF
D15	(D14x1.0)=	0 SF
D16	PERCENTAGE OF D14 REPRESENTED BY D15= (MUST NOT EXCEED 33% OF D14)	0 SF
D17	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PLANTING=	0 SF
D18	IS AN OFFSITE PLANTING RELIEF REQUESTED?	NO
D19	TREE BANK OR TREE FUND? § 12-0511=	NO
D20	CANOPY AREA REQUESTED TO BE PROVIDED THROUGH OFFSITE BANKING OR TREE FUND=	0 SF
D21	AMOUNT TO BE DEPOSITED INTO THE TREE PRESERVATION AND PLANTING FUND=	0 SF
E. TOTAL OF 10-YEAR TREE CANOPY PROVIDED		
E1	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PRESERVATION=	22583 SF
E2	TOTAL OF CANOPY AREA PROVIDED THROUGH TREE PLANTING=	0 SF
E3	TOTAL OF CANOPY AREA PROVIDED THROUGH OFFSITE MECHANISM (D19)=	0 SF
E4	TOTAL OF 10-YEAR TREE CANOPY PROVIDED=	**22583 SF**

TOTAL TREE CANOPY AREA PROVIDED=22,583 SF>17,381 SF (REQUIRED), [OK]

I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12–0501) & THE TREE CONSERVATION PLAN (PFM 12–0502) SUBMITTAL REQUIREMENTS; NO DEVIATIONS OR MODIFICATIONS TO THESE REQUIREMENTS ARE BEING REQUESTED

THIS PLAN AND COMPUTAIONS HAVE BEEN PREPARED/REVIEWED BY ISA CERTIFIED ARBORIST.

Bhandari — PREM K BHANDARI
10/27/2015 — DATE
MA–5015A — CERTIFICATE NUMBER)

TAX MAP # 0754 02 0106

JOB NO.:	SCALE: 1"=20'
DESIGN BY:	DATE: 10/27/2015
DRAWN BY:	SHEET: 4 OF 7
CHECKED BY:	

TREE PRESERVATION PLAN

LOT 106
CLIFTON
7184 CLIFTON ROAD
MAGESTRIAL DISTRICT, SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA — PREM K BHANDARI Lic. No. 042482 — 10/27/2015 — PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

NO.	DATE	DESCRIPTION	BY	BY

REVISION BLOCK

TREE CONSERVATION PLAN NOTES & SPECIFICATIONS

PRE-CONSTRUCTION

1. PRIOR TO THE PRECONSTRUCTION MEETING, ALL ACTIVITIES PRESCRIBED ON AN APPROVED TREE CONSERVATION PLAN THAT ARE TO OCCUR PRIOR TO CONSTRUCTION SHALL BE COMPLETED.

2. WHEN AREAS SHOWN ON THE APPROVED PLANS TO BE PRESERVED DO NOT CONTAIN ANY SIGNIFICANT VEGETATION, IT SHALL BE THE RESPONSIBILITY OF THE PERMITTEE TO OBTAIN APPROVAL FROM THE DIRECTOR FOR AN EXEMPTION FROM PRESERVATION AND PROTECTION REQUIREMENTS PRIOR TO CLEARING THE AREA.

3. TREES LOCATED OUTSIDE OF THE LIMITS OF CLEARING AND WITHIN AREAS DESIGNATED TO BE PRESERVED THAT HAVE BEEN PRE-IDENTIFIED ON APPROVED TREE PRESERVATION PLANS AS "DEAD", "POOR CONDITION" OR "POTENTIAL HAZARD" AS PROVIDED IN § 12-0506 SHALL BE EVALUATED BY URBAN FOREST MANAGEMENT DIVISION STAFF (OR ALTERNATIVE STAFF AS DETERMINED BY THE DIRECTOR) DURING THE PRECONSTRUCTION WALK-THROUGH FOR REMOVAL DURING THE DEVELOPMENT SITE'S INITIAL LAND CLEARING OPERATIONS. IF, DURING THE PRECONSTRUCTION WALK-THROUGH, OR DURING ANY OTHER INSPECTION OF THE SITE, THE DIRECTOR IDENTIFIES ADDITIONAL TREES THAT HAVE BECOME HAZARDOUS OR A MAINTENANCE NUISANCE DUE TO THE INTRODUCTION OF A TARGET SUCH AS A STRUCTURE, OPEN SPACE FREQUENTED BY PEOPLE, OR OTHER IMPROVEMENT, REMOVAL OF THESE TREES SHALL BE REQUIRED.

4. TREES SHALL BE REMOVED BY HAND WITH A CHAIN SAW AND THE STUMP SHALL BE LEFT IN PLACE UNLESS IT IS DEEMED A HAZARD OR A MAINTENANCE NUISANCE. THE REMOVAL OF THE TRUNK OR BRANCHES OF THE FELLED TREE(S) IS NOT REQUIRED WITHIN WOODED AREAS, UNLESS SPECIFICALLY REQUIRED BY THE DIRECTOR.

5. IF DEMOLITION OF EXISTING SITE FEATURES (HOUSES, STRUCTURES, ETC.) IS TO OCCUR NEXT TO TREES TO BE PRESERVED, TREE PROTECTION SHALL BE INSTALLED BEFORE A DEMOLITION PERMIT CAN BE ISSUED.

LAND CLEARING OPERATIONS

1. 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.

2. TREES BEING REMOVED SHALL NOT BE FELLED, PUSHED OR PULLED INTO TREE PRESERVATION AREAS. EQUIPMENT OPERATORS SHALL NOT CLEAN ANY PART OF THEIR EQUIPMENT BY SLAMMING IT AGAINST THE TRUNKS OF TREES TO BE RETAINED.

3. TREES ON THE EDGE OF THE LIMITS OF CLEARING SHALL BE CUT DOWN BY HAND WITH A CHAINSAW. REMAINING STUMPS SHALL EITHER BE LEFT IN PLACE OR GROUND DOWN WITH A STUMP GRINDER.

4. TREES APPROVED TO BE REMOVED BY URBAN FOREST MANAGEMENT DIVISION STAFF DURING PRE-CONSTRUCTION WALK-THROUGH AS PROVIDED BY § 12-0701.3 AND § 12-0701.4 SHALL BE REMOVED IN CONJUNCTION WITH THE DEVELOPMENT SITE'S INITIAL LAND CLEARING OPERATION.

5. THE PERMITTEE MAY PRESERVE INDIVIDUAL TREES OR GROUPS OF TREES OVER AND ABOVE THAT REQUIRED BY THE APPROVED PLAN. HOWEVER, ANY ADDITIONAL TREE PRESERVATION AREA(S) SHALL BE PROTECTED FROM CONSTRUCTION ACTIVITY IN ACCORDANCE WITH THE METHODS ALLOWED IN § 12-0703.

6. THE REMOVAL OF ANY INDIVIDUAL TREES OR TREE PRESERVATION AREAS DESIGNATED FOR PRESERVATION ON THE TREE PRESERVATION PLAN AND NARRATIVE MUST BE PRE-APPROVED BY THE DIRECTOR BY MEANS OF A REVISION TO THE APPROVED TREE CONSERVATION PLAN.

TREE AND FORESTED AREA PROTECTION

TREE PROTECTION DEVICE

1. THE PERMITTEE SHALL PROTECT THE ABOVE AND BELOW-GROUND PORTIONS OF ALL VEGETATION SHOWN ON THE APPROVED PLAN TO BE PRESERVED WITHIN AND CONTIGUOUS TO THE SITE.

2. PROTECTIVE DEVICES SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRADING WITH HEAVY EQUIPMENT.

3. THE DEVICE(S) USED SHALL BE INSTALLED IN CONFORMANCE WITH THE APPROVED TREE PRESERVATION PLAN AND NARRATIVE AND ALL CONSTRUCTION PERSONNEL SHALL BE INSTRUCTED TO HONOR THESE DEVICES.

4. THE PROTECTION DEVICES DESCRIBED SHALL BE INSTALLED AND MAINTAINED ON SITES.

5. ORANGE PLASTIC FENCE, WELDED WIRE FENCE, CHAIN LINK FENCE, SILT FENCE OR SUPER SILT FENCE MAY 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 (1.2 METERS), EXCEPT FOR SUPER SILT FENCE WHERE HEIGHT MAY BE 3.5 FEET (1.1 METERS). THE FENCING MATERIAL SHALL BE MOUNTED ON 6-FOOT (1.8-METER) TALL STEEL POSTS DRIVEN 1.5 FEET (0.5 METERS) INTO THE GROUND AND PLACED A MAXIMUM OF 6 FEET (1.8 METERS) APART, EXCEPT FOR WELDED WIRE FENCE AND CHAIN LINK FENCE WHERE STEEL POSTS MAY BE PLACED A MAXIMUM OF 10 FEET (3.0 METERS) APART (SEE PLATE 6-12(6M-12)).

6. FILTER FABRIC FENCE OR SILT FENCE. THIS FENCING MAY BE USED FOR TREE PROTECTION WHEN PLACED AT THE LIMITS OF GRADING AND CONSTRUCTED AS SPECIFIED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE DIRECTOR MAY ALSO REQUIRE THE PLACEMENT OF ONE OF THE TREE PROTECTIVE DEVICES LISTED IN § 12-0703.1B IF THE FILTER FABRIC FENCE IS NOT DEEMED ADEQUATE TO PROTECT THE TREES SHOWN ON THE APPROVED PLAN TO BE PRESERVED.

7. THE PERMITTEE SHALL POST AND MAINTAIN BILINGUAL SIGNS AT THE LIMITS OF CLEARING AT A MINIMUM OF 50-FOOT (15.2-METER) INTERVALS THAT CLEARLY STATES THAT TREES AND FORESTED AREAS MUST BE PROTECTED AND LEFT UNDISTURBED. SIGNS SHALL REMAIN POSTED THROUGHOUT ALL PHASES OF CONSTRUCTION; SHALL BE ATTACHED TO THE TREE PROTECTION FENCING; AND, SHALL BE NAILED OR IN ANY MANNER ATTACHED TO THE TREES OR VEGETATION TO BE PRESERVED.

TREATMENT OF TREES AND FORESTED AREAS DURING CONSTRUCTION

1. TREES AND FORESTED AREAS SHALL BE PROTECTED AND MANAGED DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF THIS SECTION AND ANY SITE-SPECIFIC GUIDANCE PROVIDED WITHIN THE APPROVED TREE PRESERVATION PLAN AND NARRATIVE.

2. TREES AND FORESTED AREAS SHALL BE PROTECTED AND MANAGED DURING ALL PHASES OF CONSTRUCTION TO RETAIN THEIR PRE-DEVELOP LEVEL OF BIOLOGICAL FUNCTION, HEALTH AND STRUCTURAL CONDITION.

3. THE PERMITTEE SHALL ACTIVELY MONITOR THE CONSTRUCTION SITE TO ENSURE THAT INAPPROPRIATE ACTIVITIES SUCH AS THE STORAGE OF CONSTRUCTION MATERIALS, DUMPING OF CONSTRUCTION DEBRIS, AND TRAFFIC BY CONSTRUCTION EQUIPMENT AND PERSONNEL DO NOT OCCUR WITHIN AREAS SHOWN PRESERVED OUTSIDE OF THE LIMITS OF CLEARING.

4. TREE PROTECTION DEVICES SHALL BE MAINTAINED UNTIL ALL WORK IN THE VICINITY HAS BEEN COMPLETED AND SHALL NOT BE REMOVED OR RELOCATED WITHOUT THE CONSENT OF THE DIRECTOR.

5. IF THE DIRECTOR DEEMS THAT THE PROTECTIVE DEVICES ARE INSUFFICIENT, INSTALLATION OF ADDITIONAL PROTECTIVE DEVICES MAY BE REQUIRED.

6. HEAVY EQUIPMENT, VEHICULAR TRAFFIC, STOCKPILING OF MATERIALS OR DEPOSITION OF SEDIMENT SHALL NOT BE PERMITTED WITHIN TREE PRESERVATION AREAS.

7. NO TOXIC MATERIALS SHALL BE STORED WITHIN 100 FEET (30.5 METERS) OF VEGETATION TO BE RETAINED.

8. NO PROTECTIVE DEVICES, SIGNS, UTILITY BOXES OR OTHER OBJECTS SHALL BE NAILED OR AFFIXED TO TREES TO BE PRESERVED.

9. IN THE EVENT THAT THE DIRECTOR DETERMINES THAT A TREE OR PORTION THEREOF IS DEAD, DECLINING, HAZARDOUS, OR A PROPERTY MAINTENANCE BURDEN DUE TO CONSTRUCTION OR ENVIRONMENTAL CHANGES RESULTING FROM CONSTRUCTION; OR, IS HAZARDOUS TO LIFE OR PROPERTY BECAUSE OF CONDITIONS NOT RELATED TO CONSTRUCTION, THE DIRECTOR SHALL REQUIRE THE PERMITTEE TO REMOVE THE TREE OR PORTION THEREOF.

10. THE MAIN TRUNKS OF DEAD TREES MAY BE ALLOWED TO REMAIN ON SITES WHERE THE DIRECTOR DETERMINES THAT A "TRUNK SNAG" MAY PROVIDE HABITAT OR OTHER WILDLIFE BENEFITS AND HAVE LITTLE OR NO POTENTIAL TO CAUSE PERSONAL INJURY OR PROPERTY DAMAGE, OR TO OBSTRUCT STREAMS OR OTHER DRAINAGE.

TREATMENT OF TREES AND FORESTED AREAS DURING CONSTRUCTION CNTD...

11. WHEN EXCAVATING, TRENCHING, OR TUNNELING, ALL TREE ROOTS GREATER THAN 1 INCH (2.5 CENTIMETERS) IN DIAMETER THAT ARE EXPOSED AND/OR DAMAGED SHALL BE TRIMMED CLEANLY, AND COVERED WITH ORGANIC MULCH, TOPSOIL, OR OTHER SUITABLE MATERIAL TO PREVENT THE EXPOSED ROOTS FROM DRYING OUT.ANY DAMAGE INFLICTED TO THE ABOVE OR BELOW-GROUND PORTIONS OF THE TREES SHOWN TO BE PRESERVED SHALL BE REPAIRED IMMEDIATELY. ALL DAMAGED BRANCHES IN THE CROWN SHALL BE REPAIRED.

12. ANY PORTION OF A TREE PRESERVATION AREA THAT IS DISTURBED WITHOUT PRIOR APPROVAL OF THE DIRECTOR SHALL BE MULCHED IMMEDIATELY WITH A MINIMUM OF 4-INCHES (10.2 CENTIMETERS) OF WOOD CHIPS OR OTHER SUITABLE MATERIAL AS APPROVED BY THE DIRECTOR. TRENCHING SHALL BE DONE ONLY WITHIN THE AREAS SHOWN TO BE DISTURBED ON THE APPROVED PLAN.

13. TREES OR PRESERVATION AREAS THAT ARE DAMAGED BY TRENCHING OR TUNNELING SHALL BE MULCHED WITH WOOD CHIPS MULCH OR OTHER SUITABLE MATERIAL IMMEDIATELY AFTER THE WORK IS COMPLETED. MULCH SHALL BE PLACED 4-INCHES (10.2 CENTIMETERS) DEEP AND COVER THE ENTIRE AREA OF DISTURBANCE TO MITIGATE THE IMPACTS OF DISTURBANCE.

14. AT ARE PLANTED SHALL BE OF THE SPECIES AND SIZE SPECIFIED ON THE APPROVED PLANS. ALL TREE AND SHRUB SIZES SHALL MEET THE STANDARDS SPECIFIED IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD FOR NURSERY STOCK, (ANSI Z60.1).

15. TREE SUBSTITUTIONS WITHIN THE TREE CATEGORIES LISTED IN TABLE 12.19 ARE GENERALLY ACCEPTED UNLESS OTHERWISE SPECIFIED BY PROFFERED CONDITIONS, DEVELOPMENT CONDITIONS, SPECIAL EXCEPTIONS, SPECIAL PERMITS, OR VARIANCES AND SHALL BE IN CONFORMANCE WITH THE FOLLOWING:

    -THE USE OF SUBSTITUTIONS SHALL NOT RESULT IN EXCEEDING THE GENUS AND SPECIES DIVERSITY LIMITS SPECIFIED IN § 12-0514.1L.

    -A LETTER SIGNED BY THE PERMITTEE SHALL BE PROVIDED TO THE DIRECTOR ACKNOWLEDGING ANY PROPOSED SUBSTITUTIONS TO TREES OR SHRUBS SHOWN ON THE APPROVED TREE CONSERVATION PLAN.

16. TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE APPROVED AND SHALL BE HEALTHY AND VIGOROUS.

17. PLANTS SHALL BE FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN-SCALD, INJURIES, ABRASIONS, DISEASES, INSECT PESTS, AND ALL FORMS OF INFESTATIONS

18. PLANTS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK, (ANSI Z60.1).

19. BALLED AND BURLAPPED TREES AND SHRUBS SHALL BE DUG USING STANDARD SIZES WITH FIRM, NATURAL BALLS OF EARTH AND SECURELY WRAPPED IN ACCORDANCE WITH THE LATEST EDITION OF AMERICAN STANDARD FOR NURSERY STOCK.

DELIVERY AND TEMPORARY STORAGE

1. PLANTS SHALL BE PROTECTED DURING DELIVERY TO PREVENT DESICCATION OF LEAVES. TREES AND SHRUBS SHOULD BE PLANTED ON DAY OF DELIVERY. IF THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT UNPLANTED PLANTS BY KEEPING THEM IN SHADE, WATERED AND PROTECTED WITH SOIL, MULCH OR OTHER ACCEPTABLE MATERIAL.

2. TREES AND SHRUBS SHALL NOT REMAIN UNPLANTED FOR MORE THAN TWO WEEKS. ALL TREES AND SHRUBS SHALL BE PLANTED AS SPECIFIED IN THE LATEST EDITION OF THE "TREE AND SHRUB PLANTING GUIDELINES" PREPARED BY THE VIRGINIA COOPERATIVE EXTENSION, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY.

3. IF PLANTING IN AREAS THAT HAVE BEEN PREVIOUSLY COMPACTED, THE SOIL SHALL BE PROPERLY PREPARED (TILLED AND AMENDED AS NEEDED BASED ON SOIL SAMPLES) TO A DEPTH OF 1 FOOT (0.3 METERS), PRIOR TO INSTALLATION OF LANDSCAPE MATERIAL.

4. SOIL WITHIN INDIVIDUAL PLANTING HOLES SHALL NOT BE AMENDED. THE STAKING AND GUYING OF TREES IS NOT REQUIRED EXCEPT WHERE THE DIRECTOR DETERMINES THAT SITE CONDITIONS WARRANT THEIR USE.

5. MULCHING. ALL TREES AND SHRUBS SHALL BE MULCHED AFTER PLANTING, TO A MINIMUM DEPTH OF 2 INCHES (5.1 CENTIMETERS), BUT NO MORE THAN 3 INCHES (7.6 CENTIMETERS), WITH AN APPROPRIATE MULCH MATERIAL SUCH AS PINE BARK, PINE NEEDLES, WOOD CHIPS OR SHREDDED BARK.

PLANTING OF TRANSPLANTED TREES AND SHRUBS

1. TREES TO BE TRANSPLANTED SHALL BE FULL AND HEALTHY WITHOUT ANY SIGNIFICANT DEFECTS AND SHOULD BE ABLE TO OVERCOME ROOT DISTURBANCE.

2. TIMING RELOCATING DECIDUOUS TREES IS BEST CARRIED OUT IN LATE FALL OR EARLY SPRING.

3. RELOCATING EVERGREEN TREES IS BEST CARRIED OUT IN THE EARLY SPRING.

4. TREATMENT BEFORE, DURING AND AFTER TRANSPLANTATION:
    - -TREES TO BE TRANSPLANTED SHALL BE PRUNED TO CLEAN DEAD, BROKEN, AND DISEASED LIMBS
    - -WATERED HEAVILY BEFORE LIFTING
    - -IMMEDIATELY AFTER PLANTING, THE TREE SHALL BE WELL WATERED AND TOP DRESSED WITH 2-3 INCHES OF MULCH
    - -A MONITORING AND MAINTENANCE SCHEDULE SHALL BE SPECIFIED IN THE TREE TRANSPLANTING PLAN.

PLANTING OF SEEDLINGS, SHRUBS AND WOODY SEED MIX.

1. DENSITY. SEEDLINGS AND SHRUBS SHALL BE PLANTED AT A DENSITY OF APPROXIMATELY 400 SEEDLINGS PER ACRE (10 SEEDLINGS PER 100 SQUARE METERS) UNLESS OTHERWISE SPECIFIED.

2. SIZE AND AGE. SEEDLINGS SHALL BE AT LEAST THREE YEARS OLD AND 12 INCHES IN HEIGHT. ANY AGE CONFIGURATION IN TERMS OF INITIAL SEEDBED AGE – TO – TRANSPLANT BED AGE SUCH AS 3-0, 2-1, 1-2, ETC. IS PERMISSIBLE SO LONG AS THE TOTAL AGE IS 3 YEARS.

3. QUALITY. PLANTING STOCK SHALL BE HEALTHY AND FREE FROM INSECT AND DISEASE PESTS AND HAVE A SINGLE LEADER. THE ROOT SYSTEM IS TO BE WELL DEVELOPED, FIBROUS, AND KEPT MOIST UNTIL PLANTED.

4. TIME OF PLANTING. SEEDLINGS SHALL BE PLANTED BETWEEN THE DATES OF MARCH 1 AND MAY 15, AND NOVEMBER 15 AND DECEMBER 15 UNLESS OTHERWISE APPROVED BY THE DIRECTOR.

5. PLANTING MULCH BEDS MUST BE KEPT FREE OF ANY GRASS, WEEDS, VINES AND ANY OTHER PLANT OR CONDITION THAT MIGHT HINDER THE ESTABLISHMENT OF THE TREE CANOPY.

6. PRE-PLANTING TREATMENT. SEEDLINGS SHALL BE KEPT MOIST, FRESH, AND PROTECTED FROM WIND AND SUN TO PREVENT STRESS BEFORE PLANTING.

7. PLANTING METHOD. SEEDLINGS SHALL BE PLANTED AT APPROXIMATELY THE SAME DEPTH AS GROWING IN THE NURSERY, I.E., THE ROOT COLLAR SHOULD BE AT GROUND LEVEL. SEEDLINGS SHALL BE PLANTED ERECT. SEEDLING ROOTS SHALL BE SPREAD CAREFULLY IN A NATURAL POSITION IN THE PLANTING HOLE. SEEDLINGS SHALL BE SECURELY PLANTED WITH THE SOIL FIRMLY PACKED AROUND THE ROOTS.

8. WATERING. SEEDLINGS SHALL BE WATERED THE DAY THEY ARE PLANTED AND THEREAFTER AS NECESSARY TO INSURE THAT THE MINIMUM VIABILITY PERCENTAGES ARE MET.

9. SHRUBS PLANTED TO SUPPLEMENT TREE SEEDLINGS FOR TREE CANOPY CREDITS AS PROVIDED IN 12-0509.4D SHALL PLANTED AT THE SAME DENSITY AS SEEDLINGS (400 PLANTS PER ACRE AND SHALL BE PLANTED IN 5-18 INCH (12.7-45.7 CENTIMETERS) SPREAD OR LARGER SIZE OR IN SIZES THE SPECIES NORMALLY OBTAINS WHEN DISTRIBUTED AS 3 GALLON (11.4 LITER) CONTAINER STOCK. SHRUBS SHALL BE PLANTED IN ACCORDANCE WITH THE LATEST EDITION OF THE "TREE AND SHRUB PLANTING GUIDELINES" PREPARED BY VIRGINIA COOPERATIVE EXTENSION, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY.

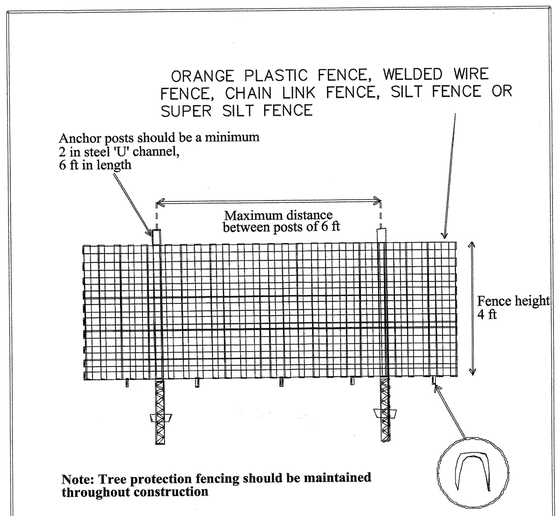
END OF CONSTRUCTION

1. INSPECTION. THE DEVELOPER SHALL REQUEST AN INSPECTION WHEN CONSTRUCTION IS COMPLETED TO ENSURE THAT ALL WORK IS IN ACCORDANCE WITH THE APPROVED PLANS.

2. REPAIR: ALL TREES THAT HAVE BEEN DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY SHALL BE REPAIRED AS SPECIFIED IN § 12-0706.4.

3. TREE REMOVAL: IN THE EVENT THAT THE DIRECTOR DETERMINES THAT A TREE OR PORTION THEREOF IS DEAD, DECLINING, HAZARDOUS, OR A PROPERTY MAINTENANCE BURDEN DUE TO CONSTRUCTION OR ENVIRONMENTAL CHANGES RESULTING FROM CONSTRUCTION; OR, IS A HAZARDOUS TO LIFE OR PROPERTY BECAUSE OF CONDITIONS NOT RELATED TO CONSTRUCTION, THE DIRECTOR SHALL REQUIRE THE PERMITTEE TO REMOVE THE TREE OR PORTION THEREOF . THE PERMITTEE SHALL TAKE SUCH ACTION AS NECESSARY TO ELIMINATE THE TREE OR PORTION THEREOF CAREFULLY. THE PERMITTEE SHALL NOTIFY THE DIRECTOR OF ANY ACTIONS TAKEN OR PROPOSED TO BE TAKEN UNDER THIS SECTION.

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Note: Tree protection fencing should be maintained throughout construction

Adapted from:, Prince George County, Maryland *Woodland Conservation Manual*

Reference: Section 12-0603.2C	TREE PROTECTION FENCE INSTALLATION	PLATE NO	STD NO
		6-12	

THIS PLAN AND COMPUTAIONS HAVE BEEN PREPARED/REVIEWED BY ISA CERTIFIED ARBORIST.

Bhandari 10/27/2015 MA-5015A

PREM K BHANDARI DATE CERTIFICATE NUMBER)

NO.	DATE	DESCRIPTION	BY

REVISION BLOCK

TAX MAP # 0754 02 0106

JOB NO.: SCALE: AS SHOWN

DESIGN BY: DATE: 10/27/2015

DRAWN BY: SHEET: 5 OF 7

CHECKED BY:

TREE CONSERVATION NOTES & DETAILS
LOT 106
CLIFTON
7184 CLIFTON ROAD
MAGESTRIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042482
10/27/2015
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

PHASE I EROSION AND SEDIMENT CONTROL PROGRAM:

1. USE EXISTING DRIVEWAY AS A CONSTRUCTION ENTRANCE
2. INSTALL SILT FENCE AND SUPERSILT FENCE ALONG THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLAN.
3. CLEAR AND ROUGH GRADE THE REMAINDER OF THE SITE.
4. PERFORM STABILIZATION SUCH AS TEMPORARY SEEDING AND MULCHING FOR ALL AFFECTED AREAS .

PHASE II EROSION AND SEDIMENT CONTROL PROGRAM

NOTE: THE FOLLOWING ITEMS ARE PART OF THE PHASE I & II EROSION AND SEDIMENT CONTROL PROGRAM, BUT ARE NOT TO BE CONSTRUED AS BEING SEQUENTIAL IN NATURE BUT ONLY A LISTING OF ITEMS TO BE PROVIDED.

1. STABILIZE THOSE AREAS THAT WILL BE DENUDED FOR MORE THAN 7 CALENDAR DAYS, EMPLOYING APPROPRIATE VEGETATIVE MEASURES, IN ACCORDANCE WITH THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK, CURRENT EDITION.

2. INSTALL UTILITIES AND BRING THE PROPOSED PIPESTEM DRIVEWAY TO FINAL GRADE. STABILIZE WITH BASE STONE WITHIN FIVE (5) DAYS OF ESTABLISHING FINAL GRADE.

3. UPON COMPLETION OF CONSTRUCTION OPERATIONS AND AFTER ALL DISTURBED AREAS HAVE BEEN ADEQUATELY STABILIZED, THE REMAINING MECHANICAL SEDIMENT CONTROLS (DIVERSION DIKES, SEDIMENT TRAPS, SILT FENCES, ETC.) WILL BE REMOVED AND THE AREAS OCCUPIED THEREBY WILL BE PERMANENTLY STABILIZED WITH VEGETATION. REMOVAL OF CONTROLS MUST BE APPROVED BY THE COUNTY INSPECTOR.

GENERAL LAND CONSERVATION NOTES

1. NO DISTURBED AREA, WHICH IS NOT ACTIVELY BEING WORKED, SHALL REMAIN DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR.

2. ALL E&S CONTROL MEASURES APPROVED WITH THE PHASE 1 E&S CONTROL PLAN SHALL BE PLACED AS THE FIRST STEP IN GRADING.

3. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES SHALL BE COMPACTED, SEEDED AND MULCHED WITHIN 7 DAYS AFTER BACKFILL.

4. ALL SOIL STOCKPILES, IF ANY, SHALL BE SEEDED AND MULCHED WITHIN 7 DAYS AFTER GRADING.

5. DURING CONSTRUCTION, ALL STORM SEWER INLETS SHALL BE PROTECTED BY SEDIMENT TRAPS, MAINTAINED AND MODIFIED DURING CONSTRUCTION PROGRESS AS REQUIRED.

6. ANY DISTURBED AREA NOT COVERED BY PFM ARTICLE 11-0406.1 AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1, OR DISTURBED AFTER THE DATE SHALL BE MULCHED IMMEDIATELY WITH HAY OR STRAW MULCH AT THE RATE OF 2 TONS/ACRE (4,483 KG/HA) AND OVER-SEEDED BY APRIL 15.

7. AT THE COMPLETION OF ANY PROJECT CONSTRUCTION AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL BE STABILIZED.

SODDING (WHERE DESIGNATED ON THE PLANS OR AT THE OPTION OF THE DEVELOPER)

SODDING SHALL BE PERFORMED IN ACCORDANCE WITH VESCH SPECIFICATION 3.33.
1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.
2. SOIL TESTS SHOULD BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. SOIL TEST MAY BE CONDUCTED BY THE STATE LABORATORY AT VPI & SU OR A REPUTABLE COMMERCIAL LABORATORY. INFORMATION ON STATE SOIL TESTS IS AVAILABLE FROM COUNTY OR CITY AGRICULTURE EXTENSION AGENTS.
3. PRIOR TO LAYING SOD, THE SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS, LARGE ROOTS, BRANCHES, STONES, AND CLODS IN EXCESS OF 1" IN LENGTH OR DIAMETER. SOD SHALL NOT BE APPLIED TO GRAVEL OR OTHER NON-SOIL SURFACES.
4. ANY IRREGULARITIES IN THE SOIL SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE FILLED OR LEVELED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
5. AREA TO BE TOP SOILED AND TOPSOIL USED SHALL FULFILL THE REQUIREMENTS OF TOP SOILING, VESCH SPEC. 3.30. NO SOD SHALL BE SPREAD ON SOIL THAT HAS BEEN TREATED WITH SOIL STERILANTS OR ANY OTHER TOXIC HERBICIDES UNTIL ENOUGH TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.
6. SOD SHALL NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER AND SHOULD BE INSTALLED WITHIN 36 HOURS AFTER DELIVERY.
7. SOD SHOULD NOT BE LAID ON FROZEN SOIL SURFACES AND SHALL BE INSTALLED PER PLATE 3.33-1 OF VESCH.
8. QUALITY OF SOD SHALL BE STATE CERTIFIED TO ENSURE GENETIC PURITY AND HIGH QUALITY.

PERMANENT SEEDING

PERMANENT SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH VESCH SPECIFICATION 3.32.
1. PERMANENT VEGETATION COVER MUST MEET THE REQUIREMENTS OF MINIMUM STANDARDS #3 (MS-3).
2. PLANT SELECTION SHALL BE BASED UPON TABLES 3.32 A&B DEPENDING ON CLIMATE, TOPOGRAPHY, SOILS, AND SITE CONDITIONS.
3. THE PLANTING SOIL MUST HAVE ENOUGH FINE GRAINED SOIL, SUFFICIENT PORE SPACE, SUFFICIENT DEPTH AND BE FREE FROM TOXIC OR EXCESSIVE QUANTITIES OF ROOTS AND SHALL BE APPLIED IN ACCORDANCE WITH VESCH STD 3.30.

STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND MAINTAIN THE PROJECT SITE AS TO MINIMIZE THE CREATION AND DISPERSION OF DUST. DUST CONTROL SHALL BE USED THROUGHOUT THE WORK AT THE SITE.

2. THE CONTRACTOR MUST PROVIDE CLEAN WATER, FREE FROM SALT, OIL AND OTHER DELETERIOUS MATERIAL TO BE USED FOR ON-SITE DUST CONTROL.

3. THE CONTRACTOR SHALL SUPPLY WATER SPRAYING EQUIPMENT CAPABLE OF ACCESSING ALL WORK AREAS.

4.THE CONTRACTOR SHALL IMPLEMENT STRICT DUST CONTROL MEASURES DURING ACTIVE CONSTRUCTION PERIODS ON-SITE. THESE CONTROL MEASURES WILL GENERALLY CONSIST OF WATER APPLICATIONS THAT SHALL BE APPLIED A MINIMUM OF ONCE PER DAY DURING DRY WEATHER OR MORE OFTEN AS REQUIRED TO PREVENT DUST EMISSIONS.

5. FOR WATER APPLICATION TO UNDISTURBED SOIL SURFACES, THE CONTRACTOR SHALL;

A. APPLY WATER WITH EQUIPMENT CONSISTING OF TANK, SPRAY BAR, PUMP WITH DISCHARGE PRESSURE GAUGE.
B. ARRANGE SPRAY BAR HEIGHT, NOZZLE SPACING AND SPRAY PATTERN TO PROVIDE COMPLETE COVERAGE OF GROUND WITH WATER.

C. DISPERSE WATER THROUGH NOZZLES ON SPRAY BAR AT 20 PSI (137.8 K Pa) MINIMUM. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.

6. FOR WATER APPLICATION TO SOIL SURFACES DURING DEMOLITION AND/OR EXCAVATION, THE CONTRACTOR SHALL;

A. APPLY WATER WITH EQUIPMENT CONSISTING OF A TANK, PUMP WITH DISCHARGE GAUGE , HOSES AND MIST NOZZLES.

B. LOCATE TANK AND SPRAYING EQUIPMENT SO THAT THE ENTIRE EXCAVATION AREA CAN BE MISTED WITHOUT INTERFERING WITH DEMOLITION AND/OR EXCAVATION EQUIPMENT OR OPERATIONS. KEEP AREAS DAMP WITHOUT CREATING NUISANCE CONDITIONS SUCH AS PONDING.

C. APPLY WATER SPRAY IN A MANNER TO PREVENT MOVEMENT OF SPRAY BEYOND THE SITE BOUNDARIES.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR-625-02-00 EROSION AND SEDIMENT CONTROL AND COUNTY REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP OF CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE OWNER SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY FAIRFAX COUNTY.

ES-6: THE OWNER IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY FAIRFAX COUNTY.

ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: IF REQUIRED, DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-10: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS.

ES-11: DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.

ES-12: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.

ES-13: CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. ADDITIONAL SLOPE STABILIZATION MEASURES SHOULD BE PROVIDED TO PREVENT EXCESSIVE EROSION ON SLOPES.

ES-14: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

ES-15: ADEQUATE DRAINAGE PROTECTION SHALL BE MADE WHENEVER WATER SEEPS FROM A SLOPE FACE.

ES-16: ALL STORM SEWER INLETS (IF ANY) THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED.

ES-17: ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS TO WORKING WITHIN OR CROSSING A WATERCOURSE SHALL BE MET.

ES-18: ALL UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH VESCH CHAPTER 8, PAGE 22.
A. NO MORE THAN 500 FEET OF TRENCH MAY BE OPEN AT ONE TIME.
B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

ES-19: PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE AREA, WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PUBLIC OR PAVED ROADS.

ES-20: ALL TEMPORARY EROSION/SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION WITH THE PERMISSION OF THE INSPECTOR.

SILT FENCE

SILT FENCE SHALL COMPLY WITH VESCH CHAPTER 3 PAGES 21-22.

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER, OR ETHYLENE YARN AND SHALL BE CERTIFIED BY MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS NOTED IN TABLE 3.05-B OF THE VESCH.

2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF SIX MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.

3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2" WHEN OAK IS USED AND 4" WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM LENGTH OF 5'.

4. IF STEEL POSTS (STANDARD "U" AND "T" SECTION) ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 5'.

5. WIRE FENCE REINFORCEMENT FOR SILT FENCE USING STANDARD STRENGTH FILTER CLOTH SHALL BE A MINIMUM OF 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6".

6. THE HEIGHT OF A SILT FENCE SHALL BE A MINIMUM OF 16" ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34" ABOVE GROUND ELEVATION.
NOTE: SILT FENCE SHOULD BE USED FOR DRAINAGE AREAS THAT ARE NO LARGER THAN 0.25 ACRES PER 100' OF SILT FENCE LENGTH. THE MAXIMUM SLOPE LENGTH BEHIND THE BARRIER IS 100'. THE MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1. SILT FENCE IS BEST USED WHEN THE SLOPE ABOVE THE FENCE, EITHER CUT OR FILL, IS NOT STEEPER THAN 3:1.

MAINTENANCE PROGRAM

1. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED DAILY AND AFTER EACH SIGNIFICANT RAINFALL BY THE SITE SUPERINTENDENT FOR STRUCTURAL DAMAGE, EROSION, OR ANY OTHER UNDESIRABLE CONDITIONS. ANY DAMAGED STRUCTURES ARE TO BE REPAIRED IMMEDIATELY (PRIOR TO THE END OF THE WORKING DAY) INCLUDING RESEEDING AND MULCHING OR RESODDING IF NECESSARY.

2. TEMPORARILY AND PERMANENTLY SEEDED AREAS DAMAGED BY RAINFALL ARE TO BE RESEEDED AND MULCHED WITHIN TWO (2) DAYS AND WHENEVER GROUND COVER HAS NOT BEEN ADEQUATELY ESTABLISHED TO PREVENT EROSION.

3. ADDITIONAL SLOPE STABILIZATION MEASURES MUST BE PROVIDED FOR SLOPES WHICH ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR UNTIL THE PROBLEM IS CORRECTED.

4. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN THE DEPTH IS EQUAL TO ONE-HALF (1/2) THE HEIGHT OF THE FENCE. SILT FENCES AND SUPER SILT FENCES WILL BE CHECKED REGULARLY AND DAMAGED FENCES WILL BE REPAIRED OR REPLACED IMMEDIATELY.

5. THE MATERIAL REMOVED FROM THE EROSION AND SEDIMENT CONTROL STRUCTURES MAY BE DISPOSED OF BY SPREADING THE MATERIAL ON-SITE OR BY HAULING IT AWAY, IF NOT SUITABLE FOR PLACEMENT AS TOPSOIL.

6. NO AREA SHALL BE LEFT DENUDED FOR A PERIOD LONGER THAN SEVEN (7) DAYS EXCEPT FOR THAT PORTION OF THE SITE IN WHICH WORK WILL BE CONTINUOUS BEYOND SEVEN (7) DAYS. IN THE EVENT SUCH MAXIMUM PERIOD IS EXCEEDED AND ANY SUCH AREAS REMAIN EXPOSED WITHOUT COVER, THE COUNTY WILL (IN THE EVENT THE DEVELOPER OR BUILDER DOES NOT) INSTALL THE NECESSARY TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION MEASURES TO ACHIEVE ADEQUATE EROSION AND SEDIMENT CONTROL.

7. NO SEDIMENT CONTROL STRUCTURES SHALL BE REMOVED WITHOUT APPROVAL OF THE FAIRFAX COUNTY SITE INSPECTOR

FAIRFAX COUNTY PRIORITY RATING FORM FOR E & S CONTROL

PROJECT NAME: 7184 CLIFTON ROAD **PROJECT NUMBER: 2015-**
TAX MAP: # 75-4-02-0106 EVALUATOR:---------- **DATE: 10/27/2015**

A. Percentage of Denuded Area to Total Site Area

		Rating
a. > 60%	[X]	5
b. 31 to 60%	[ ]	3
c. 10 to 30%	[ ]	1

If the denuded area is greater than 10 acres, the project is initially rated a high priority.

B. Watercourse Crossing

		Rating
a. Yes	[ ]	*
b. No	[X]	0

* If yes the project is initially rated a high priority.

C. Distance of Denuded Area to Downstream Adjacent Property.

		Rating
a. < 50 -feet	[ ]	5
b. 50 to 150-feet	[ ]	3
c. > 150-feet	[X]	0

D. Distance of Any Protion of the Denuded Area to Natural Watercourse

		Rating
a. < 50 -feet	[ ]	5
b. 50 to 150-feet	[ ]	3
c. > 150-feet	[X]	0

E. Minimum Vegetative Buffer (Trees, Shrubs, Grasses and other Plants)

		Rating
a. < 50 -feet	[X]	0
b. 50 to 150-feet	[ ]	-3
c. > 150-feet	[ ]	-5

* Vegetation in Resource Protection Area are not to be included as vegetative buffers for this application.

F. Distance Between the site Outfall and any Downstream, Wet Pond, Wetland, Parkland or other Land Deemed Environmentally Sensitive by the Director.

		Rating
a. < 2,500 feet	[X]	5
b. 2,500 to 5,000-feet	[ ]	3
c. > 5,000- feet	[ ]	0

G.Critical slopes Within 50-feet of Adjacent Property.

* Are there any slopes of 0 to 7% greater than or equal to 300- feet in length ; or ,
* Are there any slopes of 7 to 15% greater than or equal to 150- feet in length ; or,
* Are there any slopes greater than 15% and greater than or equal to 75- feet in length

		Rating
If Yes to any of the above	[ ]	5
Not applicable if critical slope is > 50-feet from adjacent property.	[X]	0

H. Soil Erodibility (Based on Physiographic Setting)

Physiographic Providence		**Rating**
a. Triassic Basin	[ ]	5
b. Piedmont Upland	[X]	3
c. Coastal Plain	[ ]	1

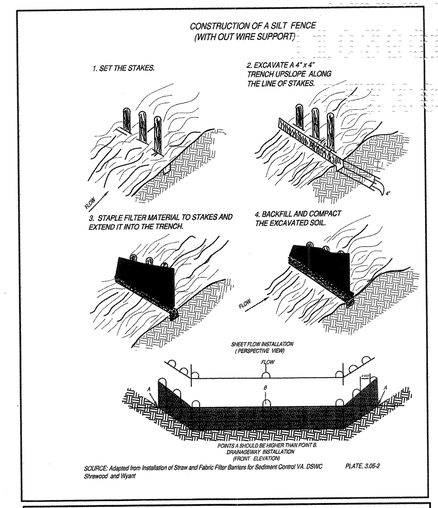
TOTAL/OVERALL RATING: 13

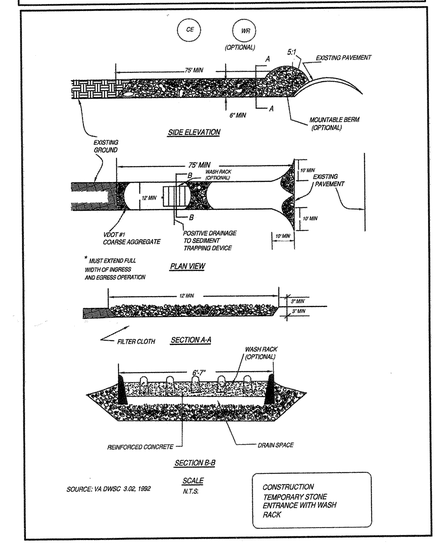
OVERALL RATING PRIORITY (Mark with an "X")

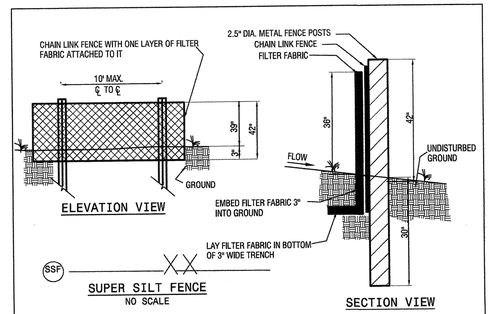
If >22	High	
If >14 and <or =to 22	Medium	
If < or = to 14	Low	X

PROJECT PRIORITY LEVEL: LOW

** Reserve for Fairfax County use**
APPROVED BY :
DATE:
Plan Reviewer







FENCING

CHAIN LINK FENCE SHALL BE 39" ABOVE GRADE WITH 3" EMBEDDED FOR A TOTAL FAVRIC WIDTH OF 42". THE POST SHALL BE 42" ABOVE GRADE WITH 30" PLACED BELOW GRADE (WITHOUT CONCRETE) FOR A TOTAL LENGTH OF 72".

NOTES

1. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.

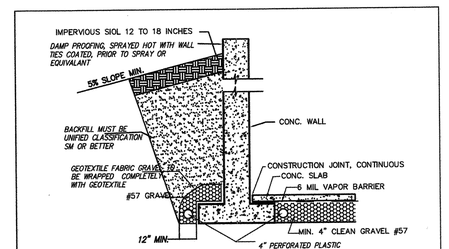
2. FILTER FABRIC SHALL BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED HORIZONTALLY 24" AT THE TOP AND MIDSECTION.

3. PHYSICAL PROPERTIES OF THE FILTER FABRIC SHALL CONFORM TO THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

4. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6".

5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN SEDIMENT BUILDUP REACHES 50% OF THE HEIGHT OF THE SUPER SILT FENCE.

SUPER SILT FENCE
(NO SCALE)



TYPICAL FOUNDATION DRAIN DETAIL

FOUNDATION WALL DESIGN SHALL BE BUILT IN ACCORDANCE WITH THE BUILDING CODE.

NOTE:

SPECIFIC INDIVIDUAL DESIGN REQUIRED IN SOIL WITH SEVERE GROUND WATER CONDITIONS AND CRETAGEOUS DELTAIC SILTS AND CLAYS (MARINE CLAYS).
OBJECTIVE: TO REDUCE THE RISK OF WET BASEMENTS AND RELIEVE PRESSURE FROM SUBSURFACE WATER FROM THE FOUNDATION.

METHOD OF DISCHARGE: DISCHARGE FOR FOUNDATION DRAINS WILL BE TO DAYLIGHT BY GRAVITY. WHERE THE FOUNDATION DRAIN IS CONNECTED TO A STORM SEWER STRUCTURE THE HYDRAULIC GRADIENT FOR THE *100 YEAR STORM MUST BE BELOW THE LOWEST FLOOR ELEVATION AT THE POINT OF CONNECTION TO PRECLUDE BASEMENT FLOODING FROM THE STORM SEWER SYSTEM. DISCHARGE BY MECHANICAL MEANS IS ACCEPTABLE ONLY WHEN GRAVITY DISCHARGE IS NOT POSSIBLE.

HOUSE GRADING PLANS SHALL SHOW THE FOUNDATION DRAINS AND LOCATION FOF THE FOUNDATION DRAIN DISCHARGE.

ROOFDRAINS MUST DISCHARGE BEYOND LIMITS OF EXCAVATION FOR FOUNDATION WALLS.

(* SHOULD NOT FLOOD STRUCTURE 100 YAER STORM).

NO.	DATE	DESCRIPTION	BY
		REVISION BLOCK	BY

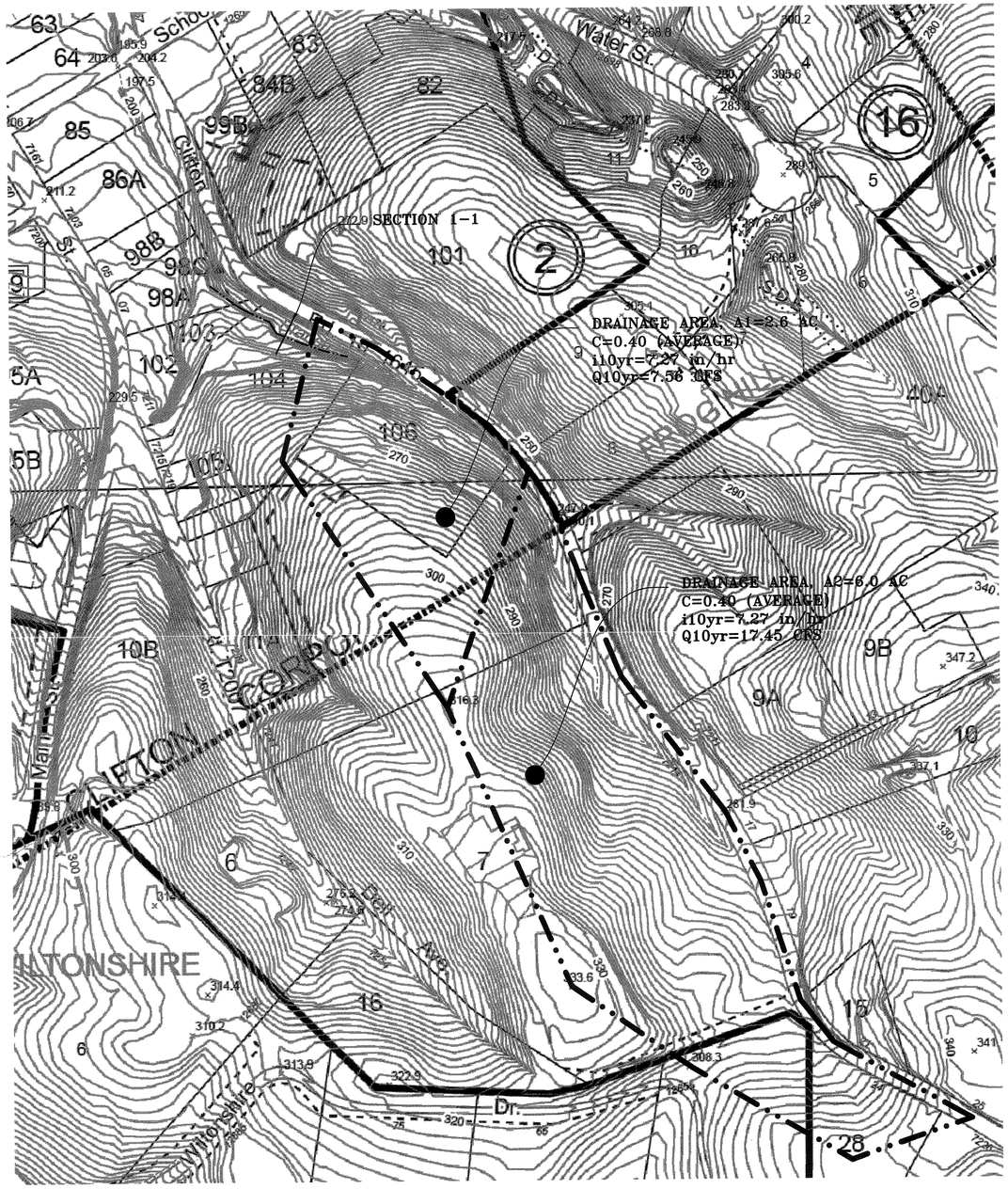
TAX MAP # 0754 02 0106
JOB NO.: SCALE: AS NOTED
DESIGN BY: DATE: 10/27/2015
DRAWN BY: SHEET: 6 OF 7
CHECKED BY:

E&S CONTROL NOTES AND DETAILS

LOT 106
CLIFTON ROAD
7184 CLIFTON ROAD
MAGESTRIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042482
10/27/2015
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com



DRAINAGE MAP
SCALE: 1":100'

OUTFALL NARRATIVE

THE STUDY SITE PLAN CONSISTS OF CONSTRUCTION OF SINGLE FAMILY DWELLING ON LOT 106. THE LOT IS CURRENTLY VACANT AND IS MOSTLY WOODED. THE LOT CONTAINS ABOUT AREA OF 1.33 ACRES OF TOTAL LAND AREA. THE PROJECT SITE LIES IN THE POPES HEAD CREEK WATERSHED. THE SITE HAS MAINLY ONE DRAINAGE AREA, A1. THE ENTIRE DISTURBED AREA SHEET FLOWS NORTH TOWARDS THE FRONT OF THE LOT AND OUTFALLS TO THE DITCH AS SHOWN ON THE DRAINAGE MAP. SHEET FLOW FROM THE PROPOSED DEVELOPMENT LEAVES THE SITE IN NON-EROSIVE CONDITION.

THE DRAINAGE AREA, A1 CONSISTS OF 2.6 ACRES OF TOTAL LAND AREA AND CONTRIBUTES ABOUT 7.56 CFS OF RUNOFF FROM THE 10-YEAR STORM. THE RUNOFF FROM THE SITE SHEET FLOWS AND OUTFALLS TO THE DITCH LOCATED ON THE FRONT YARD OF THE LOT. THE RUNOFF IS CARRIED BY THE DITCH FURTHER DOWNSTREAM ACCUMULATING MORE RUNOFF FROM OFFSITE AREAS AND ULTIMATELY OUTFALLS TO THE FLOOD PLAIN LIMIT OF POPES HEAD CREEK (NOT SHOWN ON THE DRAINAGE MAP). MORE RUNOFF IS CONTRIBUTED FROM UPSTREAM DRAINAGE AREA. CONTRIBUTING DRAINAGE AREA "A2" CONSISTS OF 6.0 ACRES OF TOTAL AREA AND CONTRIBUTES ABOUT 17.45 CFS OF RUNOFF FROM THE 10-YEAR STORM EVENT.

A STUDY SECTION 1-1 IS TAKEN AT THE DITCH AS SHOWN ON THE DRAINAGE MAP AND ANALYZED FOR ADEQUACY. THE DETAILED HYDRAULIC ANALYSIS HAS BEEN PERFORMED AND SHOWN ON THIS SHEET. THE STUDY SHOWS THAT THE RUNOFF IS CONTAINED WITHIN THE BED AND BANKS OF THE DITCH AND FLOWS WITH A NON EROSIVE VELOCITY. THEREFORE, IT IS THE OPINION OF THE SUBMITTING ENGINEER THAT REQUIREMENTS FOR THE ADEQUACY OF THE DOWNSTREAM DRAINAGE SYSTEM HAVE BEEN MET; AND IT IS OUR PROFESSIONAL OPINION THAT NO ADJACENT OR DOWNSTREAM PROPERTIES WILL SUFFER ADVERSE IMPACTS DUE TO THIS PROPOSED DEVELOPMENT ACTIVITY.

AFTER THE COMPLETION OF THE PROJECT, A INCREASE IN SURFACE RUNOFF OF 0.58 CFS AND 0.43 CFS FROM THE 10-YEAR AND 2-YEAR STORMS, WILL OCCUR ON THE POST-DEVELOPMENT STAGE. THE RUNOFF WILL BE DISPERSED AS A SHEET FLOW ACROSS THE LOT. THE EXISTING DRAINAGE SYSTEM WILL BE ADEQUATE TO HANDLE THIS INCREMENT OF RUNOFF, AND AN ADEQUATE OUTFALL WILL EXIST ON THE POST-DEVELOPMENT CONDITIONS. IT IS THE SUBMITTING ENGINEER'S OPINION THAT AN ADEQUATE OUTFALL EXISTS FOR THE SITE AND NO FLOODING OR ADVERSE EFFECT WILL BE ANTICIPATED AT THE DOWNSTREAM OF THE OUTFALLS OF THE SITE.

DURING THE CONSTRUCTION PHASE, SILT FENCE AND SUPERSILT FENCE WILL BE INSTALLED AS A SEDIMENT AND EROSION CONTROL MEASURES ALONG THE LOW AREA OF THE DISTURBANCE. THE TOTAL DISTURBED AREA WILL BE 0.57 AC. THE RUNOFF FROM THE DISTURBED AREA WILL BE (0.6x0.57 ACx7.27 =) 2.49 CFS FROM THE 10-YEAR STORM. ALL THE DISTURBED AREA WILL SHEET FLOW AND FILTER FILTER THROUGH THE SUPER SILT FENCE. NO GRUBBING OR TEMPORARY GRADING WILL BE CONDUCTED TO CREATE CONCENTRATED FLOW DURING THE CONSTRUCTION ACTIVITIES. THEREFORE, IT IS OUR UNDERSTANDING THAT AN ADEQUATE OUTFALL EXISTS DURING THE CONSTRUCTION PERIOD OF THE PROJECT AND NO ADVERSE IMPACT WILL OCCUR TO THE NEIGHBOR LOTS

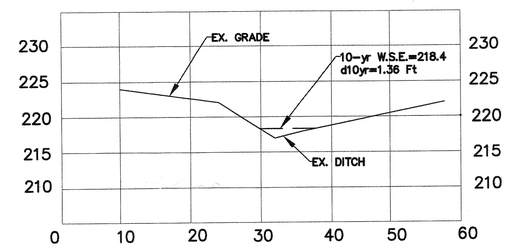
Q=CIA (@ SECTION 1-1)

RUNOFF COMPUTATIONS (Q=CIA)

DRAINAGE AREA, (A1)=8.6 AC.
Time of concentration=5 min (ASSUMED Tc)
Intensity of rainfall, I10yr=7.27 in/hr
Intensity of rainfall, I2yr=5.45 in/hr

Coefficient of Runoff, C=0.40
Peak Runoff, Q10yr=CxIxA
= 0.40x7.27x8.6
= 25.0 cfs
Q2yr=0.40x5.45x8.6
=18.75 CFS

Channel shape: Natural ditch
Average ditch slope,s=4.0%
n=0.050
Computed Output (Flow master)
Flow depth (10-yr), d=1.36 ft<2.5 ft [OK]
Velocity, V2yr=4.1 FPS<5.0 FPS Natural Ditch [OK]



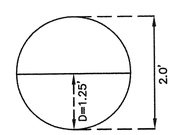
(SECTION 1-1)

SCALE:
HOR. :1"=10'
VERT: 1"=10"

DRIVEWAY CULVERT COMPUTATIONS

CULVERT SIZE = 24 INCHES
CULVERT LENGTH = 50 FT
INV. IN = 236.7
INV. OUT = 235.9
SLOPE = 1.6%
CULVERT CAPACITY = 28.67 CFS
VELOCITY = 9.1 FPS

AREA DRIANING TO DRIVEWAY CULVERT = 6.2 ACRES
(SEE DRAINAGE MAP ON THIS SHEET)
I10 = 7.27 IN/HR
C = 0.40
Q10 = 0.40 X 7.27 X 6.2
=18.02 CFS
WATER DEPTH = 1.25 FT



DRIVEWAY CULVERT (24" RCP)
SCALE: N.T.S.

RIP-RAP IS PROVIDED ALONG THE DITCH. NO ADDITIONAL OUTFALL PROTECTION REQUIRED.

TAX MAP # 0754 02 0106	
JOB NO.:	SCALE: AS NOTED
DESIGN BY:	DATE: 10/27/2015
DRAWN BY:	SHEET: 7 OF 7
CHECKED BY:	

OUTFALLS ANALYSIS
LOT 106
CLIFTON
7184 CLIFTON ROAD
MAGESTRIAL DISTRICT: SPRINGFIELD TOWN OF CLIFTON, VIRGINIA

COMMONWEALTH OF VIRGINIA
PREM K BHANDARI
Lic. No. 042492
10/27/2015
PROFESSIONAL ENGINEER

AMA ENGINEERS, LLC
3930 PENDER DRIVE, SUITE 310
FAIRFAX, VA-22030
TEL: 703-655-2151
amaengineers@yahoo.com

NO.	DATE	DESCRIPTION	BY

REVISION BLOCK

Fairfax County, Virginia

Land Disturbance Permit

Permit Number: 26335

Job Address:

Issued Date: 05/17/2017

Expiration Date: 05/16/2022

Tax Map ID: 0754 02 0106

Tenant Name CLIFTON LOT 106

Owner:

CLIFTON VISTA LLC
7184 Clifton Rd
Clifton, Va 20124

Responsible Party:

PREM BHANDARI
10875 Main St S.213
Fairfax, Va 22030
(703)591-7170

Permit Valid Time Frame

From: 05/17/2017 **To:** 05/16/2022

Permit Time Extended

To: **By:**

Bond Amount: $3,000.00 **Site Plan No.:** 9646-inf-002-1

Information Verification

Has permission, according to approved plans, applications and restrictions of record to:

Install All Necessary Improvements Per Approved Grading Plan

- This permit does not constitute approval to construct any structure requiring a Building Permit pursuant to the Virginia Uniform Statewide Building Code. A separate Building Permit is required.
- A copy of this permit must be posted at the construction site for the duration of the permit.
- This permit does not constitute approval from your homeowners' association and its related covenants.
- This permit holder is responsible to contact the county when stages of construction are reached that require inspections.
- To schedule inspections call our Inspection office at **703-324-1720, TTY 711** during business hours.
- For questions regarding this permit call the Site and Addressing Center at **703-222-0801, TTY 711**.