



APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ A/P _____

AGENCY REVIEW: _____ DATE _____

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

- CONSTRUCT NEW SEPTIC SYSTEM(S)
- REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

- NEW STRUCTURE(S)
- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH UNKNOWN PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) STANLEY B. MILLER FAMILY TRUST

DAYTIME PHONE 410-489-7392 CELL _____ FAX _____

MAILING ADDRESS 16217 FREDERICK RD WOODBINE MD 21797
STREET CITY/TOWN STATE ZIP

APPLICANT NEIL MULLOY - MULLOY BUILDERS LLC

DAYTIME PHONE 410-984-4643 CELL SAME FAX NEILMULLOYBUILDERS.COM

MAILING ADDRESS 1600 Woods Mill Rd WOODBINE MD 21797
STREET CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER **BUILDER** BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME LOT 1 STANLEY MILLER PROPERTY LOT NO. 1

PROPERTY ADDRESS BEHIND 16229 FREDERICK RD WOODBINE MD 21797
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) 7 GRID _____ PARCEL(S) 467 PROPOSED LOT SIZE 5.22 AC

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT. _____
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
7178 COLUMBIA GATEWAY DRIVE COLUMBIA, MARYLAND 21046 (410) 313-2640 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

A/P

#252

Red Brown
yellow
Sh
4.5'

Red Brown
yellow
Sh
5-10%
R4

↓

#253

Red Brown
yellow
Sh
3'

Red Brown
yellow
Sh
10-20%
R4

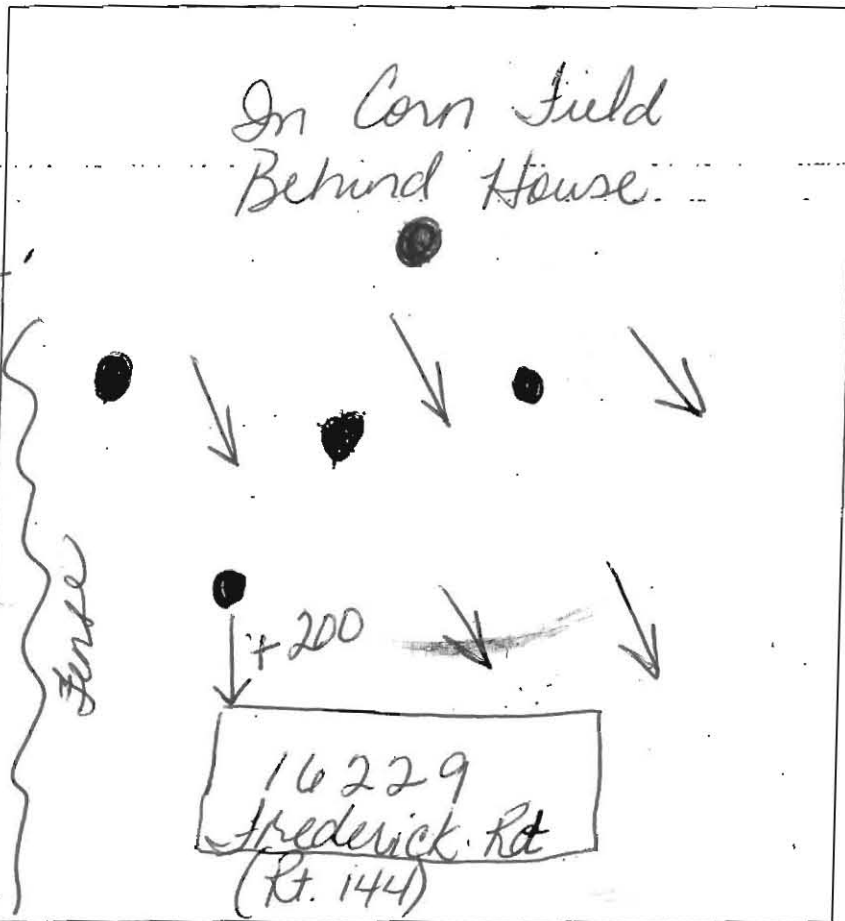
↓

#249

Red Brown
yellow
Sh
3'

Red Brown
yellow
Sh
10-20%
R4

↓



#250

Red Brown
yellow
Sh
3'

Red Brown
yellow
Sh
many
mud
5-10%
R4
13'

#251

Red Brown
yellow
Sh
pockets
of shale
35'

Red Brown
yellow
Sh
5-10%
Shale
13'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/FH
11-18-15	252	5/12	10:01	10:06	10:16	10min	P
11-18-15	253	4/10	10:06	10:10	10:17	7min	P
11-18-15	249	4/12	10:21	10:24	10:27	3min	P
11-18-15	250	4.5/13	10:22	10:26	10:30	4min	P
11-18-15	251	4/13	10:28	10:42	10:58	10min	P

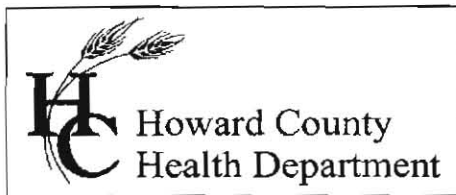
REMARKS

SANITARIAN Dana Burnett BACKHOE Justin OTHERS _____

TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____

TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

13'



Bureau of Environmental Health
8930 Stanford Blvd. Columbia, MD 210425
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
Website: www.hchealth.org

Maura J. Rossman, M.D., Health Officer

Date: November 24, 2015

To: NTT Associates, Inc.
C/o Mr. James C. Hudgins
Via E-Mail: carl@nttsurveyors.com
16205 Old Frederick Road
Mount Airy, Maryland 21771

RE: **Percolation Testing Report**
16229 Frederick Road
Woodbine, Maryland 21797
Tax Map 07, Parcel 467

Mr. Hudgins,


Percolation testing was conducted on the referenced property on November 18, 2015. The purpose for conducting these percolation tests was for an anticipated establishment of a sewage disposal area for 1 lot. Five holes were tested to support the proposed area.

A total of five (5) test holes evaluated and five (5) were found to be satisfactory with moderate percolation rates. Acceptable ranges for recommended inlet and trench bottom depth, and usable sidewall are indicated, and may be confirmed at the time of installation. Field data collected is shown on the Percolation Test Worksheet enclosed with this letter.

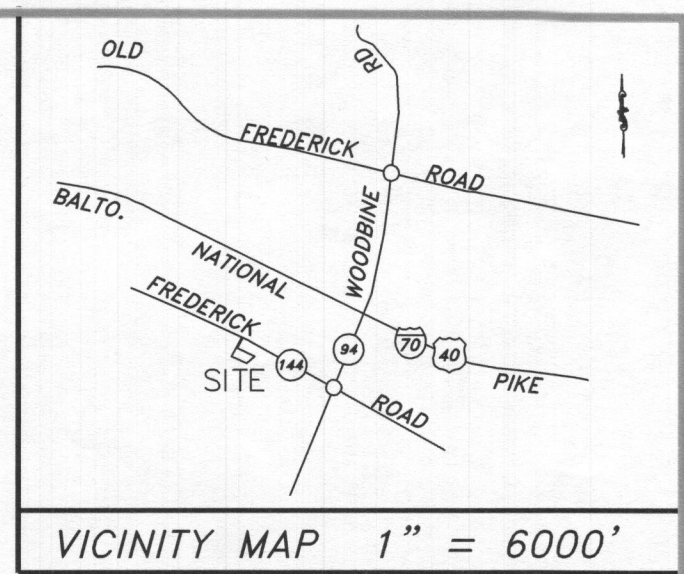
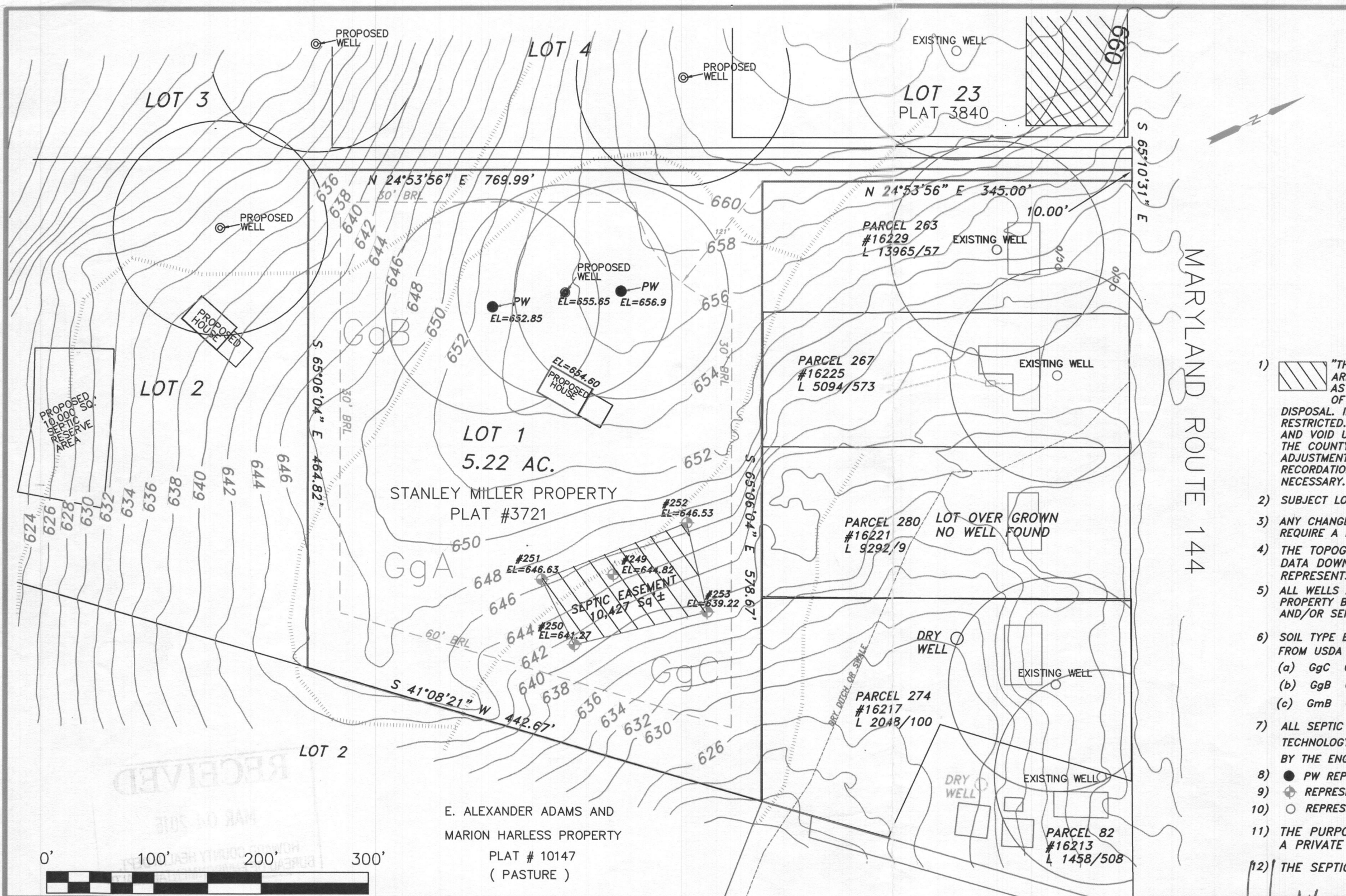
All percolation tests conducted were standard tests, measuring rate of fall for a pre-wet period followed by measurement and recordation of the time required for the water level to drop 1 inch. Areas that may be included in a septic reserve are represented by test locations having satisfactory soil conditions. The area of the septic reserve must be at least 10,000 square feet, though Howard County Code [3.805.A.2.X] requires that the area be large enough to accommodate an initial drain field and two repair drain fields for the planned residence.

The next step in this process is to submit a Percolation Certification Plan to confirm the design of the septic reserve area. If you have any questions regarding this evaluation or requirements for the Percolation Certification Plan, please contact me at the above address or by telephone at (410) 313-2775.

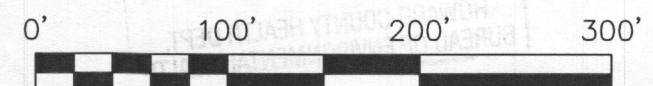
Respectfully,


Dana Bernard, REHS/RS
Environmental Specialist II
Well and Septic Program

Enclosures (2)
Cc: File



- GENERAL NOTES:**
- 1) THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE DISPOSAL EASEMENT RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
 - 2) SUBJECT LOT WAS CREATED IN 1977.
 - 3) ANY CHANGES TO A PRIVATE SEWAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 - 4) THE TOPOGRAPHY OF THIS PLAT IS TAKEN FROM HOWARD COUNTY DATA DOWNLOAD WEB SITE, AND IS VERIFIED TO ACCURATELY REPRESENTS THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
 - 5) ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN-GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
 - 6) SOIL TYPE BOUNDARY LINE SCALED FROM MAP OBTAINED FROM USDA WEB SITE:
 (a) GgC GLENELG LOAM 8 to 15%
 (b) GgB GLENELG LOAM 3 to 8%
 (c) GmB GLENVILLE SILT LOAM 3 to 8%
 - 7) ALL SEPTIC SYSTEMS MUST USE THE "BEST AVAILABLE TECHNOLOGY", AND WILL BE DESIGNED AND VERIFIED BY THE ENGINEER.
 - 8) ● PW REPRESENTS PROPOSED ALTERNATIVE WELL SITES.
 - 9) ⊕ REPRESENTS PASSED PERC HOLE.
 - 10) ○ REPRESENTS EXISTING WELL.
 - 11) THE PURPOSE OF THIS PLAN IS TO ESTABLISH A PRIVATE SEWAGE DISPOSAL AREA EASEMENT.
 - 12) THE SEPTIC FOR PARCELS 82 & 267 COPIED FROM PLANS OF OTHERS. 16235 Frederick Rd



HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND
PRIVATE SEWERAGE SYSTEMS.

Bryan M. Rossman 3/2/16
HEALTH OFFICER, HOWARD COUNTY HEALTH. DEPT. DATE

OWNER

Stanley B. Miller Family Trust
16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

PARCEL 86
#16211
L 11316/575

EXISTING WELL
HO-73-2695

REVISED: 3/1/2016 TO SHOW SEPTIC ON PARCELS 82 & 86

This is to certify that I either personally prepared or was in responsible charge over the preparation of this drawing and the surveying work reflected in it, all set forth in Regulation .12 of Chapter 09.13.06 of the Code of Maryland Annotated Regulations.

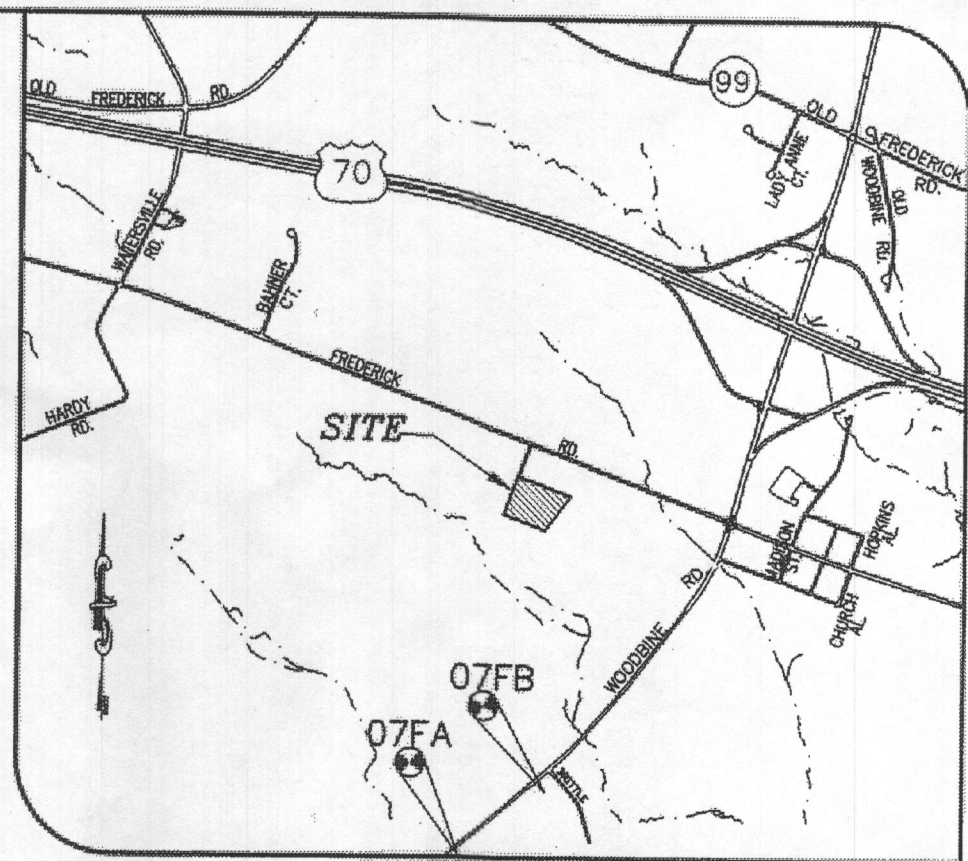
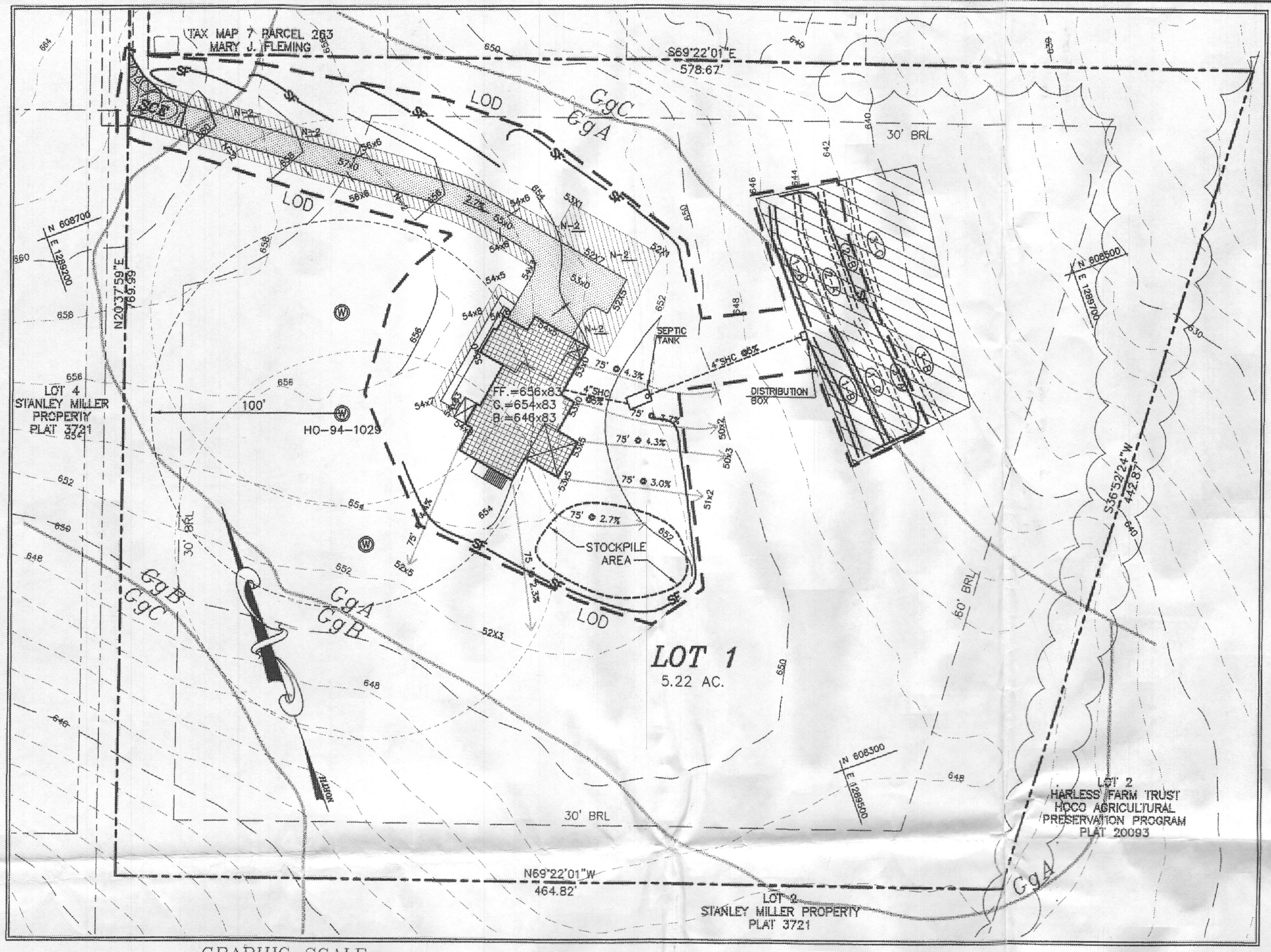
STATE OF MARYLAND
JAMES C. HUGGINS
REGISTERED SURVEYOR
No. 96

J. Carl Huggins PLS #96
Expiration Date: 3/11/16

PERCOLATION CERTIFICATION PLAN
LOT 1 STANLEY MILLER PROPERTY
PLAT BOOK 27 PAGE 22 & PLAT 3721
TAX MAP 7, PARCEL 467
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

NTT Associates, Inc.
16205 Old Frederick Rd.
Mt. Airy, Maryland 21771
Phone: (410) 442-2031
Fax: (410) 442-1315
www.nttsurveyors.com

Scale: 1" = 100'
Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER

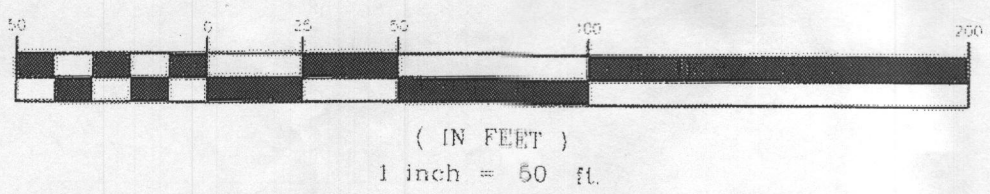


VICINITY MAP
SCALE: 1" = 2000'
ADC MAP 24 GRID F6

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:**
TAX MAP : 7
PARCEL : 467
LOT: 1
DEED REFERENCE: LIBER 17669 FOLIO 506
ELECTION DISTRICT : FOURTH
ZONING : RC-DEO
AREA : 5.22 AC±
- 2' TOPOGRAPHY FOR THE DEVELOPED AREAS IS BASED ON FIELD RUN SURVEY PERFORMED BY MILDENBERG, BOENDER & ASSOC., INC. ON OR ABOUT DECEMBER 2016.
- PRIVATE WELL AND SEPTIC WILL BE UTILIZED.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
- ANY CHANGES TO THE LOCATION OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS THREE (3) FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- THE WELL TAG # HO-94-1029 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- ANY WELLS OR SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELL AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- COORDINATES BASED ON MAD '83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS
NO. 07FA & 07FB.
STA. No. 07FA N 604,392.1872, E 1,288,044.1839, ELEV. 592.73
STA. No. 07FB N 605,463.3849, E 1,289,326.1063, ELEV. 588.316
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND AND DEVELOPMENT REGULATIONS (COUNCIL BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
- NO WETLANDS OR STREAMS EXIST ON SITE.
- NO FOREST EXISTS ON SITE.
- THERE ARE NO EXISTING STRUCTURES ON SITE.
- NO AREAS OF STEEP SLOPES 25% OR GREATER ARE LOCATED WITHIN THE PROPOSED AREA OF DISTURBANCE.
- THE SUBJECT PROPERTY IS CONDITIONALLY EXEMPT FROM THE FOREST CONSERVATION PROGRAM BECAUSE IT IS A SINGLE LOT THAT IS CLEARING LESS THAN 20,000 SQUARE FEET OF FORESTED AREAS. THE FILING OF A DECLARATION OF INTENT IS REQUIRED.

GRAPHIC SCALE



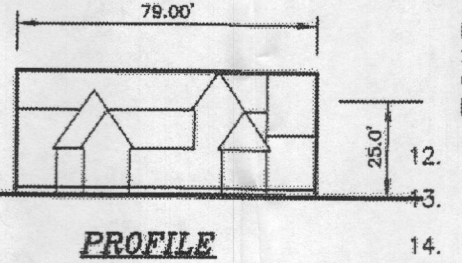
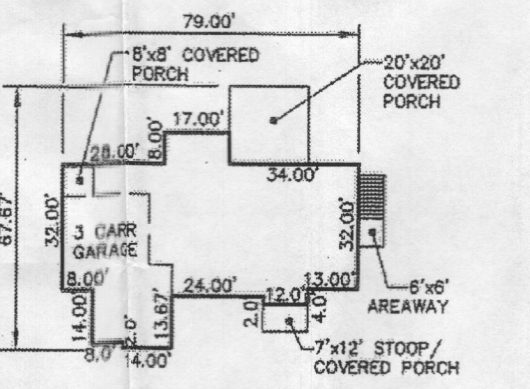
SWM CALCULATIONS

ESD REQUIRED
BUILDABLE LOT AREA = 5.14 AC (223,868 SF).
HOUSE AREA = 3,500 SF
DRIVEWAY AREA = 4,600 SF
WALK AREA = 350 SF
TOTAL IMPERVIOUS AREA = 8,450 SF
IMPERVIOUS RATIO = 3.8%
SOIL TYPE: B (100%)
REQUIRED $P_e = 1.0'$ [TABLE 5.3]

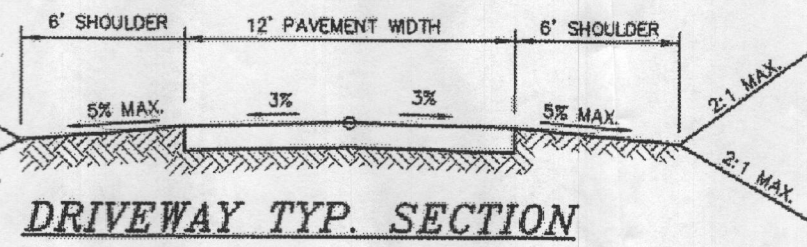
ESD PROVIDED
DRIVEWAY:
NON-ROOFTOP DISCONNECTIONS AT 1:1 RATIO OF CONTRIBUTING IMPERVIOUS LENGTH TO DISCONNECTION LENGTH AND PERVIOUS LENGTH RATIO TO DISCONNECTION LENGTH OF MORE THAN 0.5:1, (N-1) OF THE MDE DESIGN MANUAL
 P_e TREATED = 1" [TABLE 5.7]

HOUSE:
SEVEN (7) ROOFTOP DISCONNECTIONS AT A MINIMUM OF 75' EACH WITH AN AVERAGE SLOPE OF LESS THAN 5% AND CONTRIBUTION AREA OF LESS THAN 500 S.F. FOR EACH DISCONNECTION, (N-1) OF THE MDE DESIGN MANUAL
 P_e TREATED = 1" [TABLE 5.6]

BY PROVIDING THE ROOFTOP DISCONNECTIONS (N-1) AND NON-ROOFTOP DISCONNECTIONS (N-2), THE ENTIRE TARGET RUNOFF HAS BEEN TREATED VIA NON-STRUCTURAL PRACTICES.



WEIGL RESIDENCE
1" = 50'



DRIVEWAY TYP. SECTION

SOILS LEGEND (WITHIN LOD)

SYMBOL	NAME / DESCRIPTION	SOIL GROUP	MAP NUMBER	K _w	K _f
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	16	0.37	0.28
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	16	0.37	0.28
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	16	0.37	0.28

SEWER SYSTEM ELEVATIONS

DESCRIPTION	ELEVATION
BASEMENT ELEVATION	646.83
INVERT OUT OF THE HOUSE	648.75
INVERT INTO SEPTIC TANK	646.65
INVERT OUT OF SEPTIC TANK	646.40
FINISHED GRADE AT SEPTIC TANK	650.89
TOP OF THE TANK	647.48
INVERT INTO DISTRIBUTION BOX	641.80
FINISHED GRADE AT DISTRIBUTION BOX	645.80

LEGEND

- 558 PROPOSED CONTOURS
- 880 PROPOSED SPOT ELEVATION
- 65x06 AREA OF N-2, NON-ROOFTOP DISCONNECTION
- IMPERVIOUS AREA TREATED BY N-2, NON-ROOFTOP DISCONNECTION
- IMPERVIOUS AREA TREATED BY ROOFTOP DISCONNECTIONS
- LOD LIMIT OF DISTURBANCE (LOD)
- SF SILT FENCE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- 75% MAX. ROOFTOP DISCONNECTION (N-1)

DEVELOPER

ZANDER HOMES
10829 FALLS ROAD
PACOWA, MD. 21092
(410) 280-2800



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 17942, EXP. DATE 9/03/18.

R. JACOB HIKMAT, P.E.
DATE: 8/31/17

DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO PERFORM ON-SITE INSPECTION.

[Signature] 8/31/17
SIGNATURE OF DEVELOPER
ALEX TRAKHTMAN
PRINTED NAME OF DEVELOPER

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.

[Signature] 8/31/17
SIGNATURE OF ENGINEER
R. JACOB HIKMAT, P.E.
PRINTED NAME OF ENGINEER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 8/31/17
HOWARD SOIL CONSERVATION DISTRICT
DATE

project	17-006	date	AUG. 2017
illustration	MMM	engineering	MMM
scale	1" = 50'	approval	MMM
no.		revisions	

STANLEY MILLER PROPERTY
16235 FREDERICK ROAD
TAX MAP 07, PARCEL 467, LOT 1
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
GRADING PLAN (PLOT PLAN)

MILDENBERG, BOENDER & ASSOC., INC.
Engineers
Planners
Surveyors
7360-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Fax

(B-4-2) STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

DEFINITION
THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

A. SOIL PREPARATION

1. **TEMPORARY STABILIZATION**
a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENEED, IT MUST BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SILT OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER MEANS.

2. **PERMANENT STABILIZATION**
a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
i. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
ii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOWGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
iii. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
iv. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
b. APPLICATION OF AMENDMENTS OF TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF SOIL TESTS.
e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAISE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 1:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

(B-4-3) STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

A. SEEDING

1. **SPECIFICATIONS**
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO A PRE-TESTING PROCEDURE IN A LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE 8.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
b. MIXTURES MUST BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAW.
c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANTS AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND INOCULANTS MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL. UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. **APPLICATION**
a. **DRY SEEDING:** THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
i. INCORPORATE SEED INTO THE SOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDBED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
b. **HYDROSEEDING:** APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P (PHOSPHOROUS), 200 POUNDS PER ACRE; K₂O (POTASSIUM), 200 POUNDS PER ACRE.
ii. USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE) MAY BE APPLIED BY HYDROSEEDING. NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

(B-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED SOIL.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 8 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. **GENERAL USE**
a. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED IN THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DINES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, SECTION 342-CRITICAL AREA PLANTING.
c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FROM FERTILIZED (40-0-0) AT 3 1/2 POUNDS PER 1000 S.F. (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. **TURFGRASS MIXTURES**
a. AREAS WHERE TURFGRASS MAY BE DESIRE INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
b. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RARE ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL MIXTURE: FOR USE IN DROUGHT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 65 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 PERCENT PER 1000 S.F. ONE OR MORE CULTIVARS MAY BE BLENDED.
iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATES: 1 1/2 TO 3 POUNDS PER 1000 S.F.

3. **IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURE**
WESTERN MD. MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B,6A)
CENTRAL MD. MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD. EASTERN SHORE. MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 7A, 7B)

4. **TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONE AND DEBRIS MOVING OF GRADE. IN DRY WEATHER, THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOISTURE WILL BE NO DIFFICULTY.**

5. **IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.**

(B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION
TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION.

PURPOSE
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES
EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

A. SEED MIXTURES

1. **GENERAL USE**
a. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED IN THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DINES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, SECTION 342-CRITICAL AREA PLANTING.
c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FROM FERTILIZED (40-0-0) AT 3 1/2 POUNDS PER 1000 S.F. (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

2. **TURFGRASS MIXTURES**
a. AREAS WHERE TURFGRASS MAY BE DESIRE INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
b. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY.
i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RARE ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
iii. TALL FESCUE/KENTUCKY BLUEGRASS: FULL MIXTURE: FOR USE IN DROUGHT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 65 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 PERCENT PER 1000 S.F. ONE OR MORE CULTIVARS MAY BE BLENDED.
iv. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATES: 1 1/2 TO 3 POUNDS PER 1000 S.F.

3. **IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURE**
WESTERN MD. MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B,6A)
CENTRAL MD. MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
SOUTHERN MD. EASTERN SHORE. MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 7A, 7B)

4. **TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES. LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONE AND DEBRIS MOVING OF GRADE. IN DRY WEATHER, THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOISTURE WILL BE NO DIFFICULTY.**

5. **IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.**

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
e. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

4. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF GROUNDSTONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF NOXIOUS PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
b. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

5. TOPSOIL APPLICATION
a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY ANNEALING IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS. THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER TOPSOILING.
c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A REGISTERED PRIVATE COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 80 TO 100 PERCENT WILL PASS THROUGH A #200 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)
a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT BE HEAVILY INFESTED WITH INSECTS OR EXCESSIVELY DUSTY. NOTE: USE ONLY STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
ii. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
iii. MULCHING MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND RETENTION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION
a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A DEPTH OF 2 TO 4 INCHES. AREAS OF PROPER SEEDBED. REMOVE STONE AND DEBRIS MOVING OF GRADE. IN DRY WEATHER, THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOISTURE WILL BE NO DIFFICULTY.
c. WOOD CELLULOSE FIBER MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING
a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
i. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS.
ii. ANCHORING PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL. THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
iii. WOOD CELLULOSE FIBER MULCH MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER MULCH AT A NET DRY WEIGHT OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
iv. SYNTHETIC BINDERS SUCH AS ACRYLIC OLR (AOR-TACK), DCA-70, PETROSEAL, TERRA TAX II, TERRA TACK, AND OTHER APPROVED EQUIPMENT MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS.
v. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

4. LIGHTWEIGHT PLASTIC MULCHING
a. LIGHTWEIGHT PLASTIC MULCHING MAY BE APPLIED TO THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

(B-4-6) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

DEFINITION
A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

PURPOSE
TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES
STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

CRITERIA

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE PROSIL AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. SEEDING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
4. GLESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
5. ACCESS WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH OBE, TEMPORARY FENCE, PROPER SEEDBED, REMOVE STONE AND DEBRIS MOVING OF GRADE. IN DRY WEATHER, THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOISTURE WILL BE NO DIFFICULTY.
6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
7. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-4 INCORPORATING STABILIZATION AND STANDARD B-4-4-4 TEMPORARY STABILIZATION.
8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST COVERED WITH IMPERMEABLE LINING.

MAINTENANCE
THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES. EROSION MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

STANDARD STABILIZATION NOTE
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND
B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) PRIOR TO THE START OF ANY CONSTRUCTION. (400-313-1185)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THEREOF.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4), AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION OF PERIMETER SLOPES MUST BE COMPLETED WITHIN THE PERIOD SPECIFIED. SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF VEGETATION.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
a. TOTAL AREA OF SITE: 8.20 ACRES
b. AREA DISTURBED: 1.03 ACRES
c. AREA TO BE ROOFED OR PAVED: 0.33 ACRES
d. AREA TO BE VEGETATIVELY STABILIZED: 0.33 ACRES
e. TOTAL CUT: 200 CU. YDS.
f. TOTAL FILL: 700 CU. YDS.
- OFFSHORE/BORROW AREA LOCATION:
a. ANY OFFSHORE BORROW PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
b. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY.
c. NEXT DAY AFTER EACH RAIN EVENT, THE CONTRACTOR SHALL REPORT A COPY OF THE SEDIMENT CONTROL INSPECTION REPORT TO THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID) PRIOR TO THE START OF ANY CONSTRUCTION. (400-313-1185)
-INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
-NAME AND TITLE OF INSPECTOR
-WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
-BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
-EVIDENCE OF SEDIMENT DISCHARGES
-IDENTIFICATION OF PLANTING MATERIALS
-IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
-IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
-COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
-PHOTOGRAPHS
-MONITORING/SAMPLING
-MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
-OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
- DISTURBANCES SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAYMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
- TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
- ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON THE-CONTOUR, AND BE UNDERGATED AT 25" MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2" IN ELEVATION. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
USE I AND IP MARCH 1 - JUNE 15
USE III AND IIP OCTOBER 1 - APRIL 30
USE IV MARCH 1 - MAY 31
- A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

DEVELOPER
ZANDER HOMES
10829 FALLS ROAD
LUTHERVILLE, MD. 21092
443-421-2800

DEVELOPER'S CERTIFICATE
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO PERIODIC ON-SITE INSPECTION.

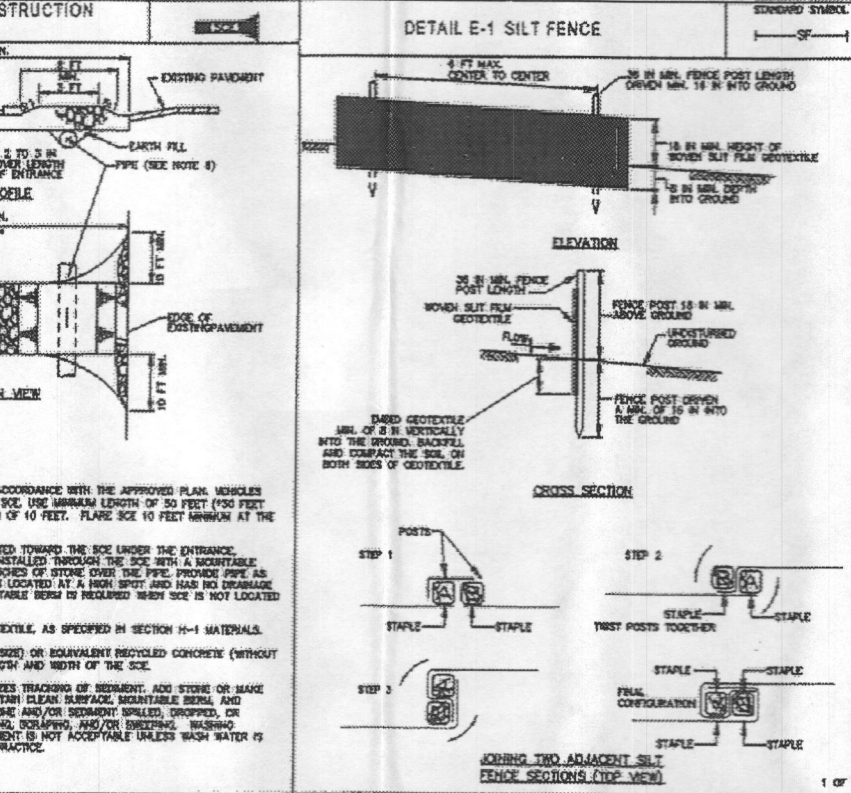
8/31/17
SIGNATURE OF DEVELOPER
PRINTED NAME OF DEVELOPER

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.

8/30/17
SIGNATURE OF ENGINEER
DATE
R JACOB HIKMAT, P.E.
PRINTED NAME OF ENGINEER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

8/31/17
SIGNATURE OF HOWARD SOIL CONSERVATION DISTRICT
DATE



- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT. (1 DAY)
 - INSTALL SILT FENCE AS SHOWN ON PLAN. (1 DAY)
 - CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN. (1 DAY)
 - CONSTRUCT HOUSES (90-180 DAYS)
 - CONSTRUCT SEPTIC SYSTEM. (7 DAYS)
 - COMPLETE FINE GRADING OF SITE TO GRADES INDICATED (2 DAYS)
 - SEED AND MULCH ALL REMAINING DISTURBED AREAS. (1 DAY PER)
 - WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED, AND WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS (1 DAY).

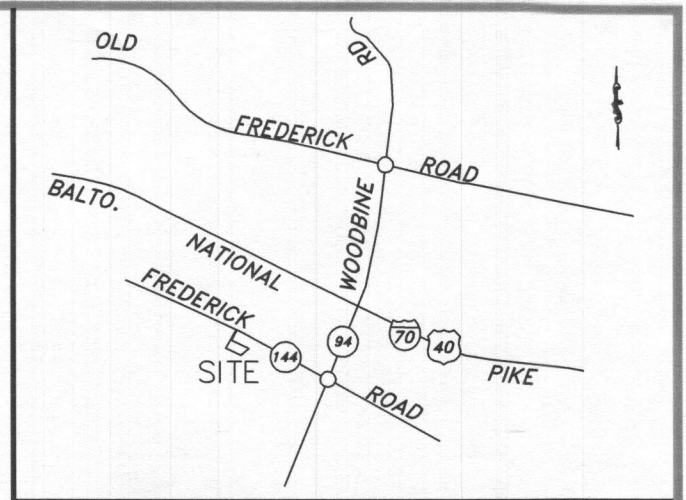
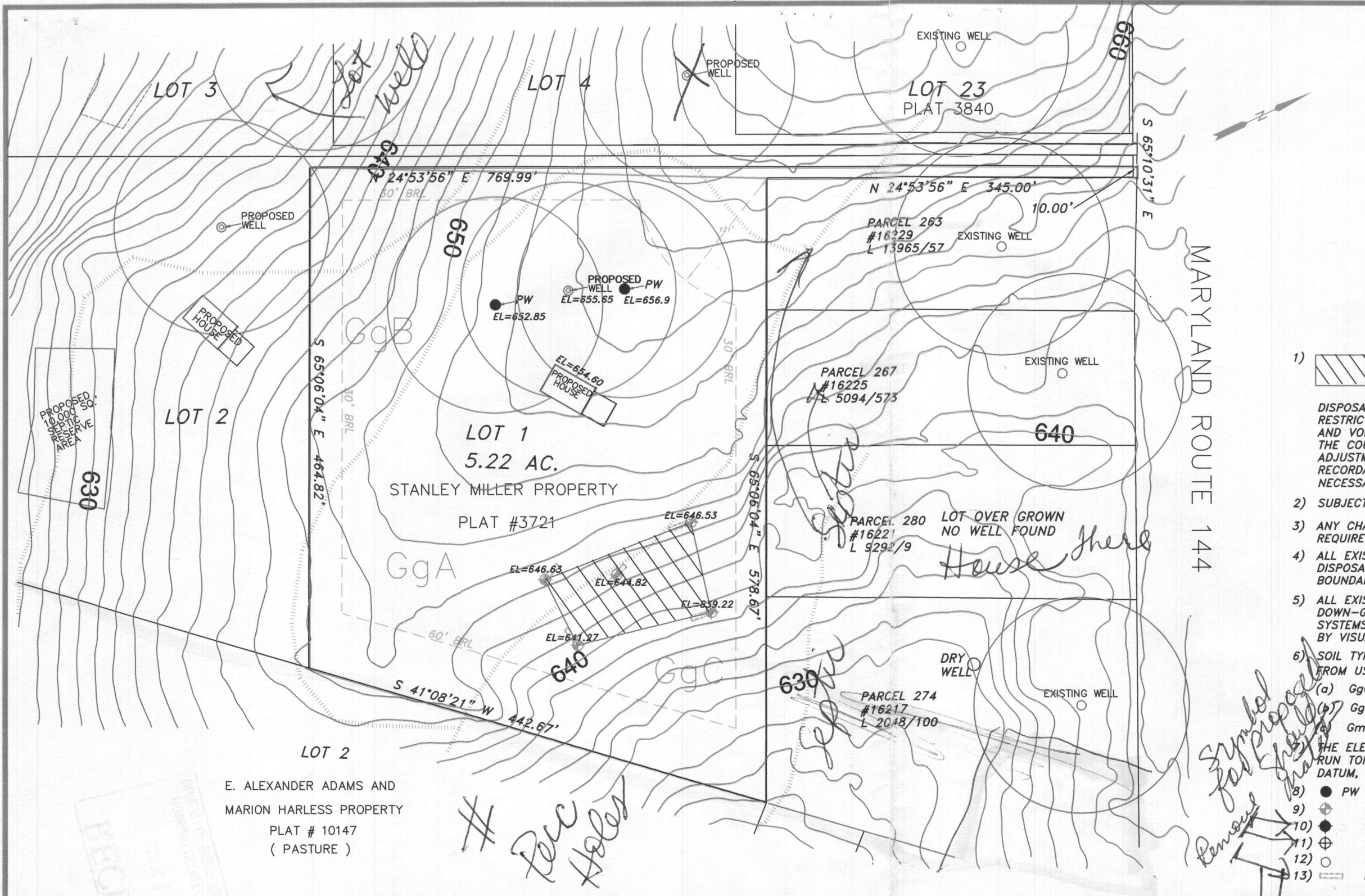
PERMANENT SEEDING SUMMARY
(10-20-20)

NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE			LIME RATE
					N	P ₂ O ₅	K ₂ O	
1	TALL FESCUE	100	MARCH 15 - MAY 15 AUG 1 - OCT 15	1/4" - 1/2"	48 LBS. PER ACRE (1 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	2 TONS / ACRE (90 LBS / 1000 SF)

MIXTURES 1, 6, 7, 8, AND 10 FROM TABLE B.3 OF THE 2011 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, MAY BE USED.

TEMPORARY SEEDING FOR SITE STABILIZATION

PLANT SPECIES	SEEDING RATE LB/AC	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATED BY PLANT HARDNESS ZONE			
			5B AND 6A	6B	7A AND 7B	
COOL SEASON GRASSES						
ANNUAL Ryegrass (Lolium perenne)	40	1.0	MAR 15 TO MAY 31 AUG 1 TO SEP 30	MAR 1 TO MAY 15 AUG 1 TO OCT 15	FEB 15 TO APR 30 AUG 15 TO NOV 30	
PERENNIAL Ryegrass (Lolium perenne)	96	2				



VICINITY MAP 1" = 6000'

GENERAL NOTES:

- 1) "THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQUARE FEET IN AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE DISPOSAL EASEMENT RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY."
- 2) SUBJECT LOT WAS CREATED IN 1977.
- 3) ANY CHANGES TO A PRIVATE SEWAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- 4) ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS WITHIN 100' OF THE PROPERTY BOUNDARIES LOCATED BY VISUAL INSPECTION ONLY.
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- 8) ● PW REPRESENTS PROPOSED ALTERNATIVE WELL SITES.
- 9) ⊕ REPRESENTS PASSED PERC HOLE.
- 10) ⊕ REPRESENTS PASSED NON-CONVENTIONAL PERC HOLE.
- 11) ⊕ REPRESENTS FAILED PERC HOLE.
- 12) ○ REPRESENTS EXISTING WELL.
- 13) ○ REPRESENTS TEST PIT OUTLINE.

Symbol for proposed well sites should be removed

HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

HEALTH OFFICER, HOWARD COUNTY HEALTH. DEPT. DATE

OWNER

Stanley B. Miller Family Trust
16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

THE PURPOSE OF THIS PLAN IS TO ESTABLISH A PRIVATE SEWAGE DISPOSAL AREA EASEMENT.

This is to certify that I either personally prepared or was in responsible charge over the preparation of this drawing and the surveying work reflected in it, all set forth in Regulation .12 of Chapter 09.13.06 of the Code of Maryland Annotated Regulations.

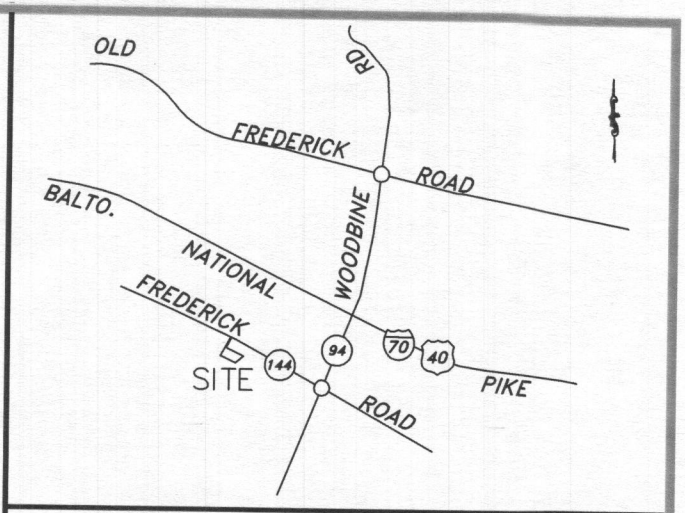
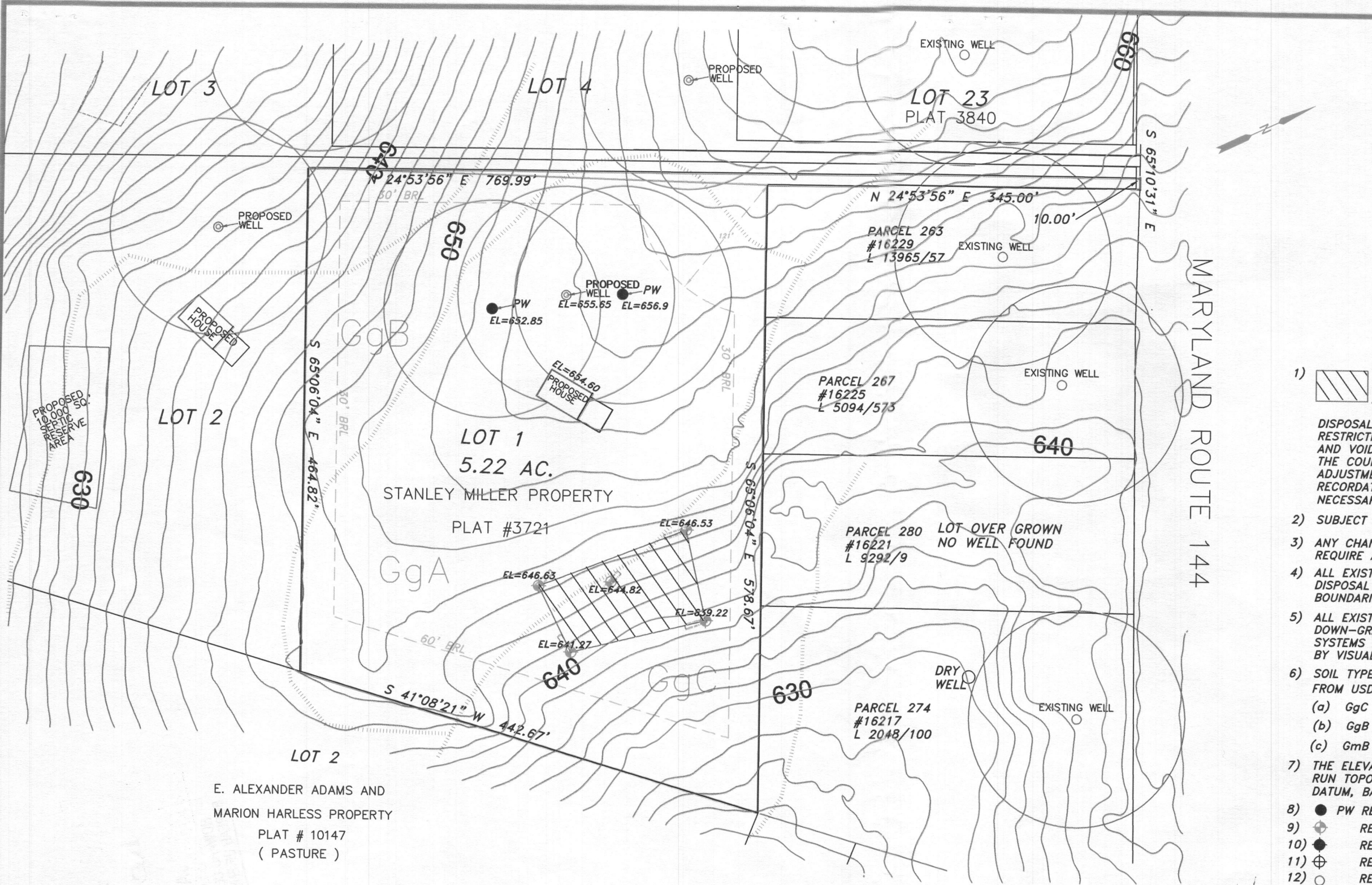
Carl Hudgins PLS #96
Expiration Date: 3/11/16

PERCOLATION CERTIFICATION PLAN

LOT 1 STANLEY MILLER PROPERTY
PLAT BOOK 27 PAGE 22 & PLAT 3721
TAX MAP 7, PARCEL 467
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

NTT Associates, Inc.
16205 Old Frederick Rd.
Mt. Airy, Maryland 21771
Phone: (410) 442-2031
Fax: (410) 442-1315
www.nttsurveyors.com

Scale: 1" = 100'
Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER



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LOT 2
E. ALEXANDER ADAMS AND
MARION HARLESS PROPERTY
PLAT # 10147
(PASTURE)

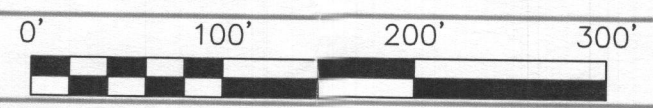
HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND
PRIVATE SEWERAGE SYSTEMS.

OWNER

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16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

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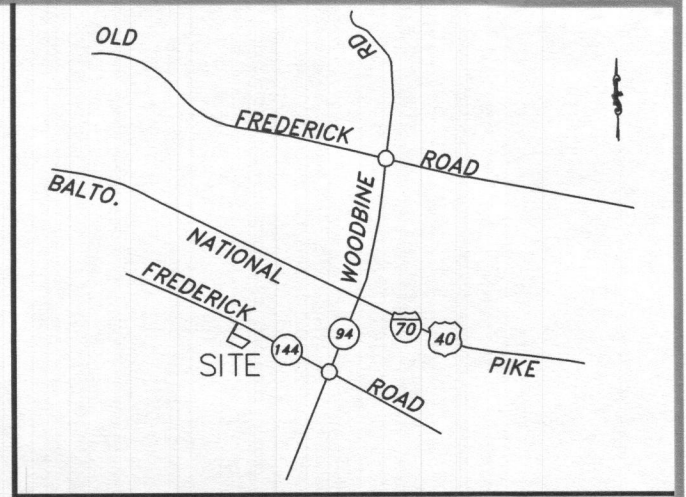
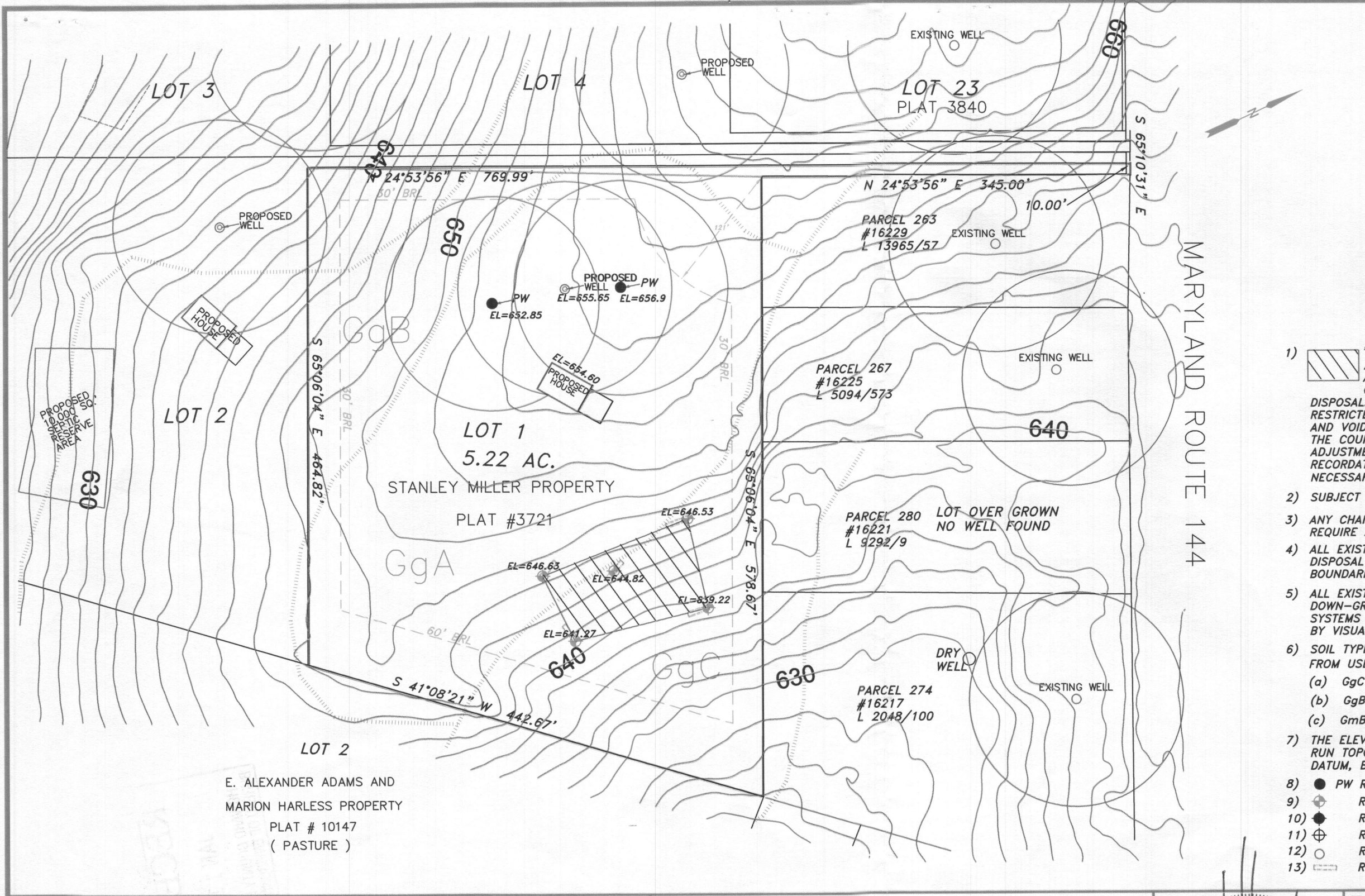
J. Carl Hudgins PLS #96
Expiration Date: 3/11/16

PERCOLATION CERTIFICATION PLAN
LOT 1 STANLEY MILLER PROPERTY
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Scale: 1" = 100'
Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER

HEALTH OFFICER, HOWARD COUNTY HEALTH. DEPT. DATE



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HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

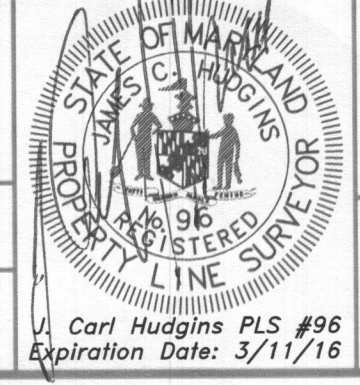
HEALTH OFFICER, HOWARD COUNTY HEALTH. DEPT. DATE

OWNER

Stanley B. Miller Family Trust
16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

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PERCOLATION CERTIFICATION PLAN

LOT 1 STANLEY MILLER PROPERTY
PLAT BOOK 27 PAGE 22 & PLAT 3721
TAX MAP 7, PARCEL 467
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

NTT Associates, Inc.
16205 Old Frederick Rd.
Mt. Airy, Maryland 21771
Phone: (410) 442-2031
Fax: (410) 442-1315
www.nttsurveyors.com

Scale: 1" = 100'
Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER

Date: January 6 2016
To: Dana Bernard
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, MD 21045

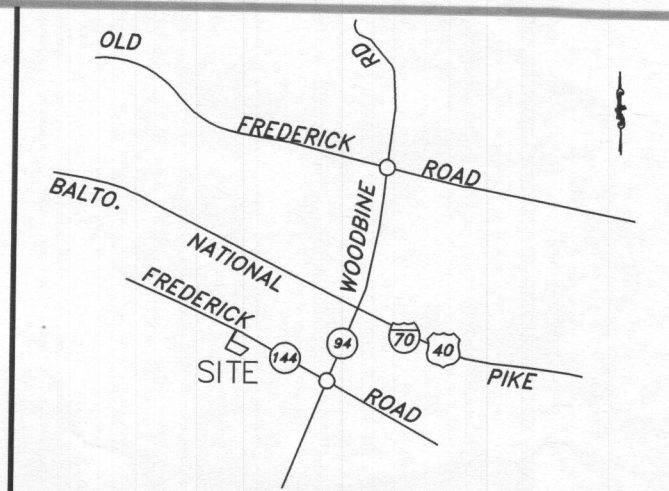
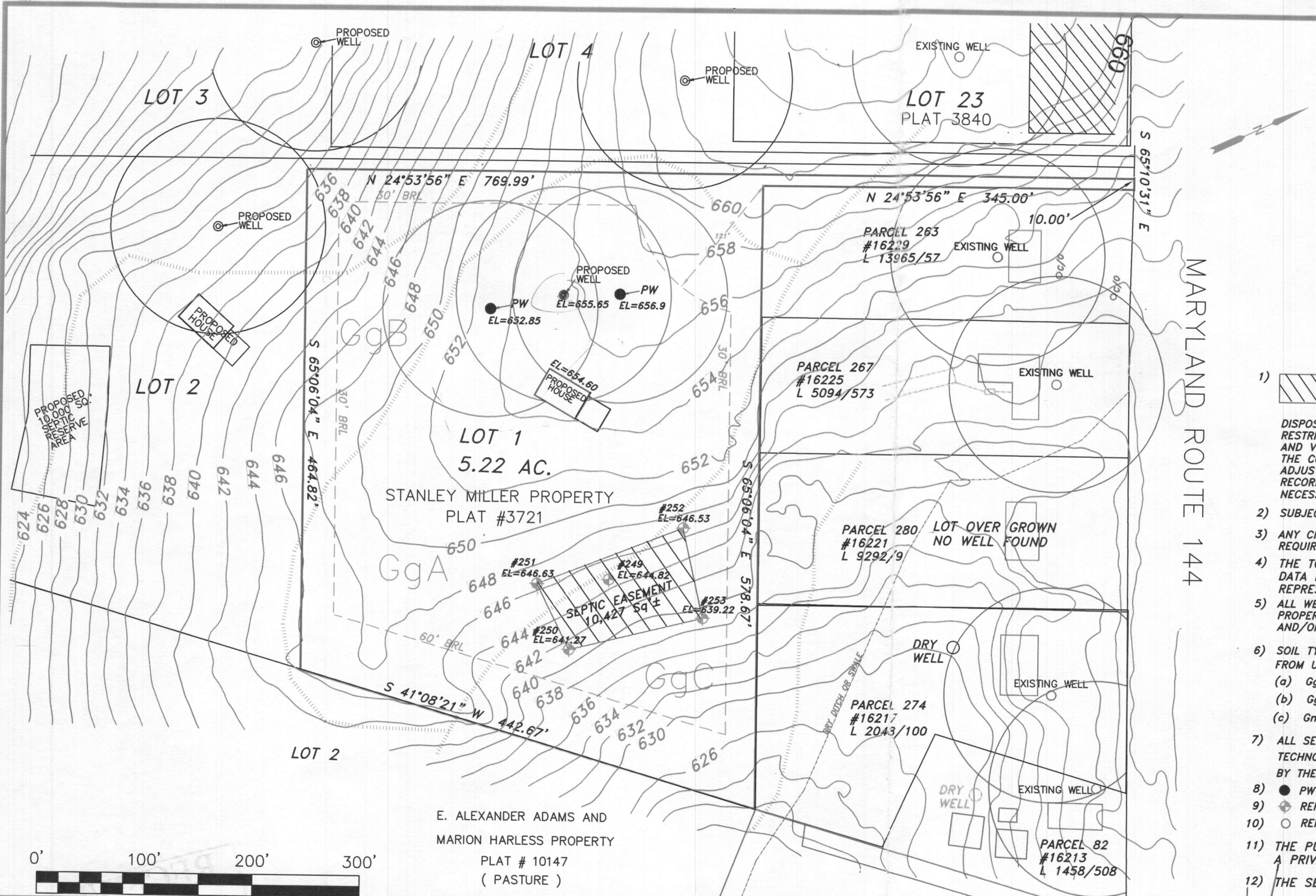
RE: Percolation Certification Plan
16229 Frederick Road
Woodbine, Maryland 21797
Lot 1 Stanley Miller Property
Tax Map 7, Parcel 467

Dana,

Please find enclosed four copies of the Percolation Certification Plan for the above referenced property.
Respectfully,

Carl Hudgins

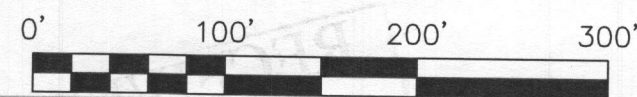
PS you may have this filed under the name "Miller Family Trust" or "Michael Deskin"



VICINITY MAP 1" = 6000'

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- 2) SUBJECT LOT WAS CREATED IN 1977.
- 3) ANY CHANGES TO A PRIVATE SEWAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- 4) THE TOPOGRAPHY OF THIS PLAT IS TAKEN FROM HOWARD COUNTY DATA DOWNLOAD WEB SITE, AND IS VERIFIED TO ACCURATELY REPRESENTS THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
- 5) ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN-GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- 6) SOIL TYPE BOUNDARY LINE SCALED FROM MAP OBTAINED FROM USDA WEB SITE:
 (a) GgC GLENELG LOAM 8 to 15%
 (b) GgB GLENELG LOAM 3 to 8%
 (c) GmB GLENVILLE SILT LOAM 3 to 8%
- 7) ALL SEPTIC SYSTEMS MUST USE THE "BEST AVAILABLE TECHNOLOGY", AND WILL BE DESIGNED AND VERIFIED BY THE ENGINEER.
- 8) ● PW REPRESENTS PROPOSED ALTERNATIVE WELL SITES.
- 9) ⊕ REPRESENTS PASSED PERC HOLE.
- 10) ○ REPRESENTS EXISTING WELL.
- 11) THE PURPOSE OF THIS PLAN IS TO ESTABLISH A PRIVATE SEWAGE DISPOSAL AREA EASEMENT.
- 12) THE SEPTIC FOR PARCELS 82 & 267 COPIED FROM PLANS OF OTHERS.



HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.

B. W. [Signature] for Monica Rossman 3/22/16
HEALTH OFFICER, HOWARD COUNTY HEALTH. DEPT. DATE

OWNER

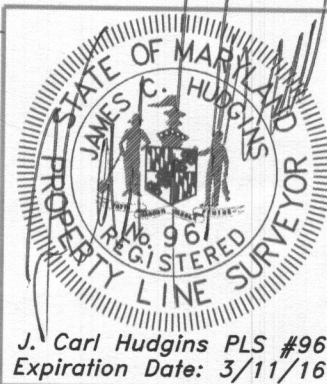
Stanley B. Miller Family Trust
16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

PARCEL 86
#16211
L 11316/575

EXISTING WELL
HO-73-2695

REVISED: 3/1/2016 TO SHOW SEPTIC ON PARCELS 82 & 86

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PERCOLATION CERTIFICATION PLAN

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Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 16235 Frederick Road

Subdivision: Stanley Miller Property Lot: 1

#251 & #252 Initial system: Application rate: 0.8 Effective area beginning depth: 4.5 Bottom maximum depth: 8
#249 1st Replacement: Application rate: 1.2 Effective area beginning depth: 3.5 Bottom maximum depth: 8
2nd Replacement: Application rate: 0.8 Effective area beginning depth: 3.5 Bottom maximum depth: 6
(Lower SDA) #250 & #253

Design Flow = 150 gallons per day per bedroom

Design flow ÷ application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

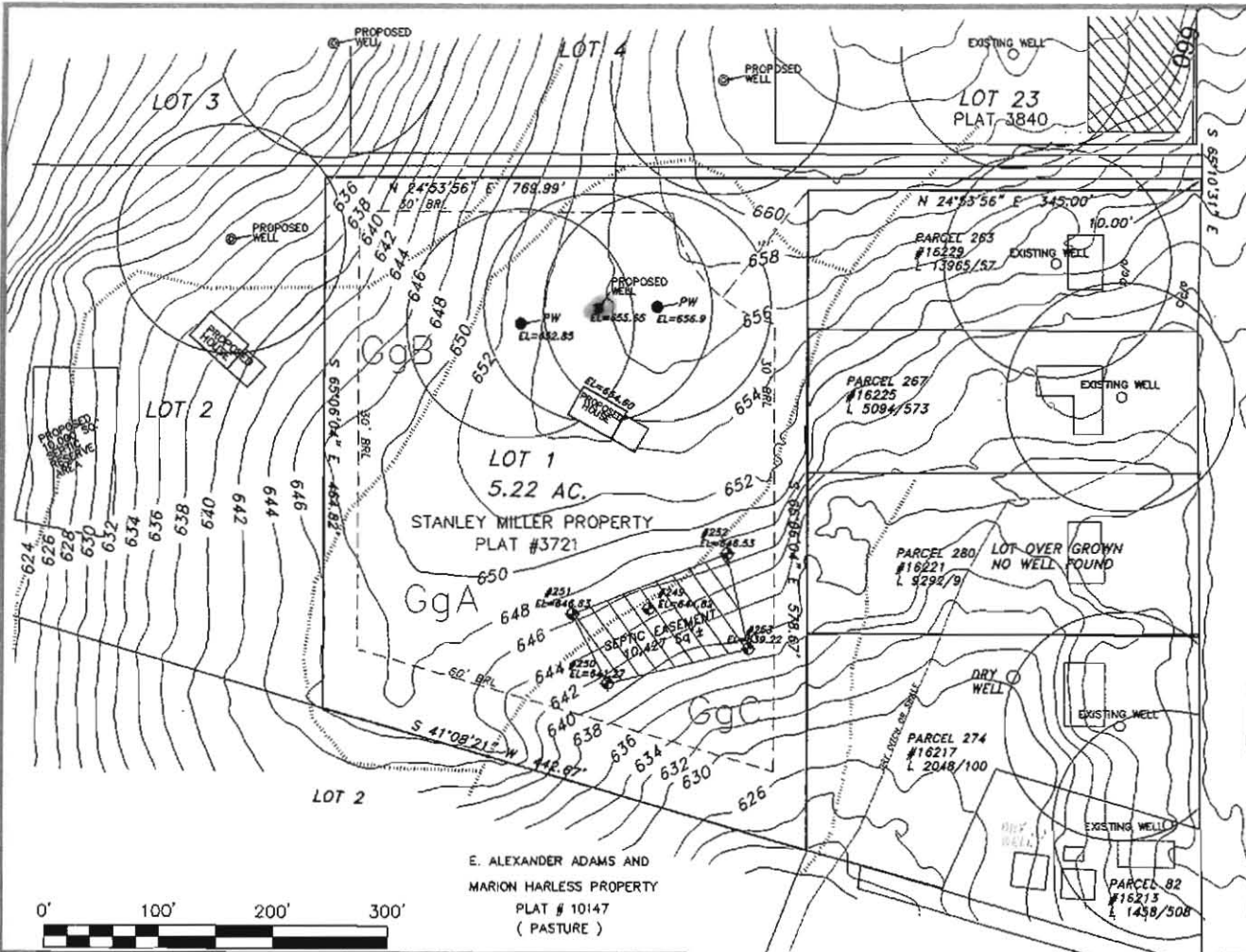
(W + 2) / (W + 1 + 2D) x 100 = Percent of length of standard trench where W=trench width and D= depth between effective area beginning depth and trench bottom.

Standard design requirements:

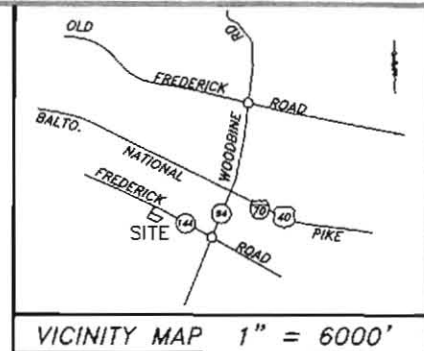
- Trenches must be located to provide room for 3 systems in the disposal area
All trenches must be equal length unless low pressure dosed
All trenches must be on contour
Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D +W up to a maximum spacing of 18'.
Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
Maximum trench length is 100'
Maximum pipe depth is 4'

Additional requirements:

Approved: RBrieker Date: 8/3/2017



MARYLAND ROUTE 144



- GENERAL NOTES:**
- THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE DISPOSAL EASEMENT RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
 - SUBJECT LOT WAS CREATED IN 1977.
 - ANY CHANGES TO A PRIVATE SEWAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 - THE TOPOGRAPHY OF THIS PLAT IS TAKEN FROM HOWARD COUNTY DATA DOWNLOAD WEB SITE, AND IS VERIFIED TO ACCURATELY REPRESENTS THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
 - ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN-GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
 - SOIL TYPE BOUNDARY LINE SCALED FROM MAP OBTAINED FROM USDA WEB SITE:
 - (a) GgC OLENELO LOAM 8 to 13X
 - (b) GgB OLENELO LOAM 3 to 8X
 - (c) GmB OLENVILLE SILT LOAM 3 to 8X
 - ALL SEPTIC SYSTEMS MUST USE THE "BEST AVAILABLE TECHNOLOGY", AND WILL BE DESIGNED AND VERIFIED BY THE ENGINEER.
 - PW REPRESENTS PROPOSED ALTERNATIVE WELL SITES.
 - ⊕ REPRESENTS PASSED PERC HOLE.
 - REPRESENTS EXISTING WELL.
 - THE PURPOSE OF THIS PLAN IS TO ESTABLISH A PRIVATE SEWAGE DISPOSAL AREA EASEMENT.
 - THE SEPTIC FOR PARCELS 82 & 267 COPIED FROM PLANS OF OTHERS.



E. ALEXANDER ADAMS AND
MARION HARLESS PROPERTY
PLAT # 10147
(PASTURE)

HOWARD COUNTY, MARYLAND
HEALTH DEPARTMENT

APPROVED FOR PRIVATE WATER AND
PRIVATE SEWERAGE SYSTEMS.

OWNER

Stanley B. Miller Family Trust
16217 Frederick Road
Woodbine, Maryland 21797
Phone: 410-489-7392

PARCEL 88
#16211
L 11316/575



REVISED: 3/1/2016 TO SHOW SEPTIC ON PARCELS 82 & 86
This is to certify that I either personally prepared or was in responsible charge over the preparation of this drawing and the surveying work reflected in it, all set forth in Regulation .12 of Chapter 09.13.06 of the Code of Maryland Annotated Regulations.



PERCOLATION CERTIFICATION PLAN
LOT 1 STANLEY MILLER PROPERTY
PLAT BOOK 27 PAGE 22 & PLAT 3721
TAX MAP 7, PARCEL 467
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

NTT Associates, Inc.
16205 Old Frederick Rd.
Mt. Airy, Maryland 21771
Phone: (410) 442-2031
Fax: (410) 442-1315
www.nttsurveyors.com

Scale: 1" = 100'
Date: 12/18/15
Field By: JCH
Drawn By: JCH/SCK
File No.: STANLEYMILLER

For Anna Rossman 3/2/16
HEALTH OFFICER, HOWARD COUNTY HEALTH DEPT. DATE



NTT Associates, Inc.

16205 Old Frederick Road Mt. Airy, Maryland 21771 410-442-2031 410-442-1315 Fax

TO: Dana Bernard, REHS/RS
Well and Septic Program

March 1, 2016

From: James C. Hudgins
NTT Associates, Inc.

Re: Lot #1 Stanley Miller Property
Percolation Certification Plan

In response to your comments at our meeting on February 29, 2016 I made the changes to the plan per your comments, and retyped the required notes so that they are worded the same as they are printed in the Health Department Instructions.

I think you will agree that note 4 answers the question about the topography, and it is verified by my sealing and signing the plan.

I showed the septic systems on Parcels 267, and 82, as they were shown on the plans you gave me. I hope this meets your needs for the Percolation Certification Plan for Lot 1.

Yours Truly

Carl Hudgins