

SAND MOUND PERC RESULTS 6/9/09		
TEST	ELEV.	RESULT
A	480.3	FAIL
B	480.1	SATISFACTORY
C	478.5	SATISFACTORY
D	478.9	FAIL
E	477.3	FAIL
F	476.7	SATISFACTORY (ALTERNATIVE SAND MIX)
G	478.5	SATISFACTORY
H	478.2	FAIL

SAND MOUND PERC RESULTS 6/24/09		
TEST	ELEV.	RESULT
J	475.3	SATISFACTORY
K	475.5	SATISFACTORY
N	482.2	SATISFACTORY
P	482.1	SATISFACTORY
Q	477.6	OBSERVATION SATISFACTORY

SITE NOTES:

- An advanced pre-treatment system, which utilizes best available technology to perform nitrogen reduction, must be installed on the septic system on the subject property due to insufficient soil resources to support three sand mound systems. A supplemental plan with all of the necessary details for installation of the system will be required prior to the release of the building permit and septic installation permit. In addition, an operation and maintenance contract agreement must be filed and recorded in the Howard County Land Records.
- The sand mound areas delineated and identified on this parcel must be protected by a barrier at all times during grading and construction activities. Thereafter, protective measures should be implemented to protect this area from erosion, rutting or compaction. Subsequent building permit applications may be denied should the sand mound area be evaluated and found unsatisfactory for the intended use. A supplemental plan with all of the necessary details for the release of the building permit.

SAND MOUND CALCULATIONS

- Design Requirement: Proposed dwelling with 4 bedrooms
- Design Flow: 4 bedrooms x 150 gpd = 600 gpd
- Absorption Bed size using alternate sand media: $\frac{\text{Design Flow}}{\text{Loading Rate}} = \text{Area of Bed}$

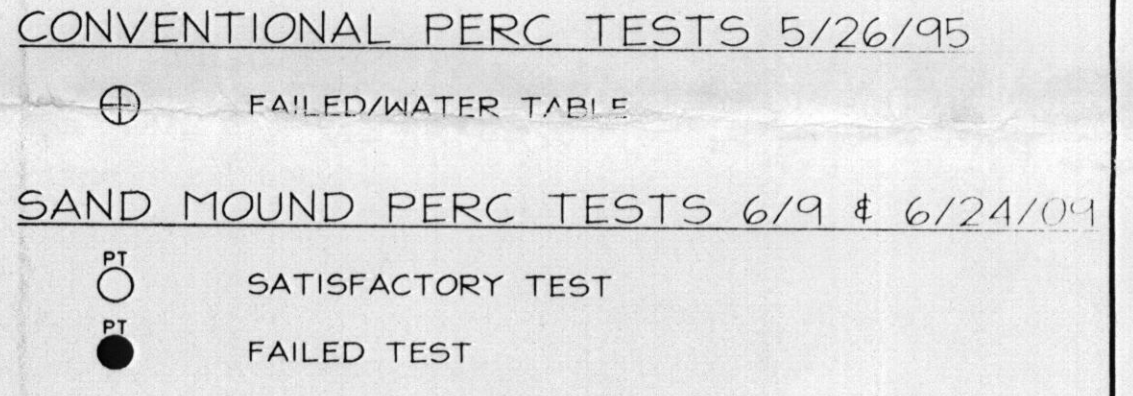
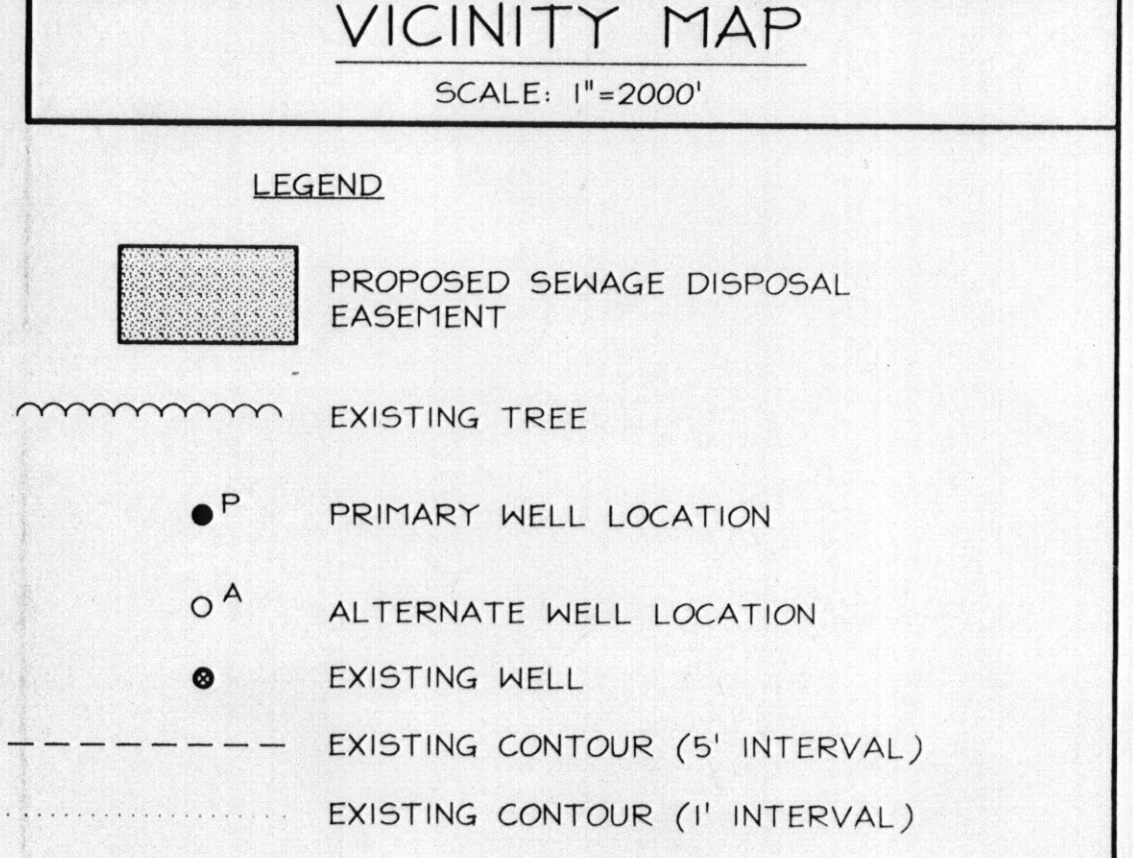
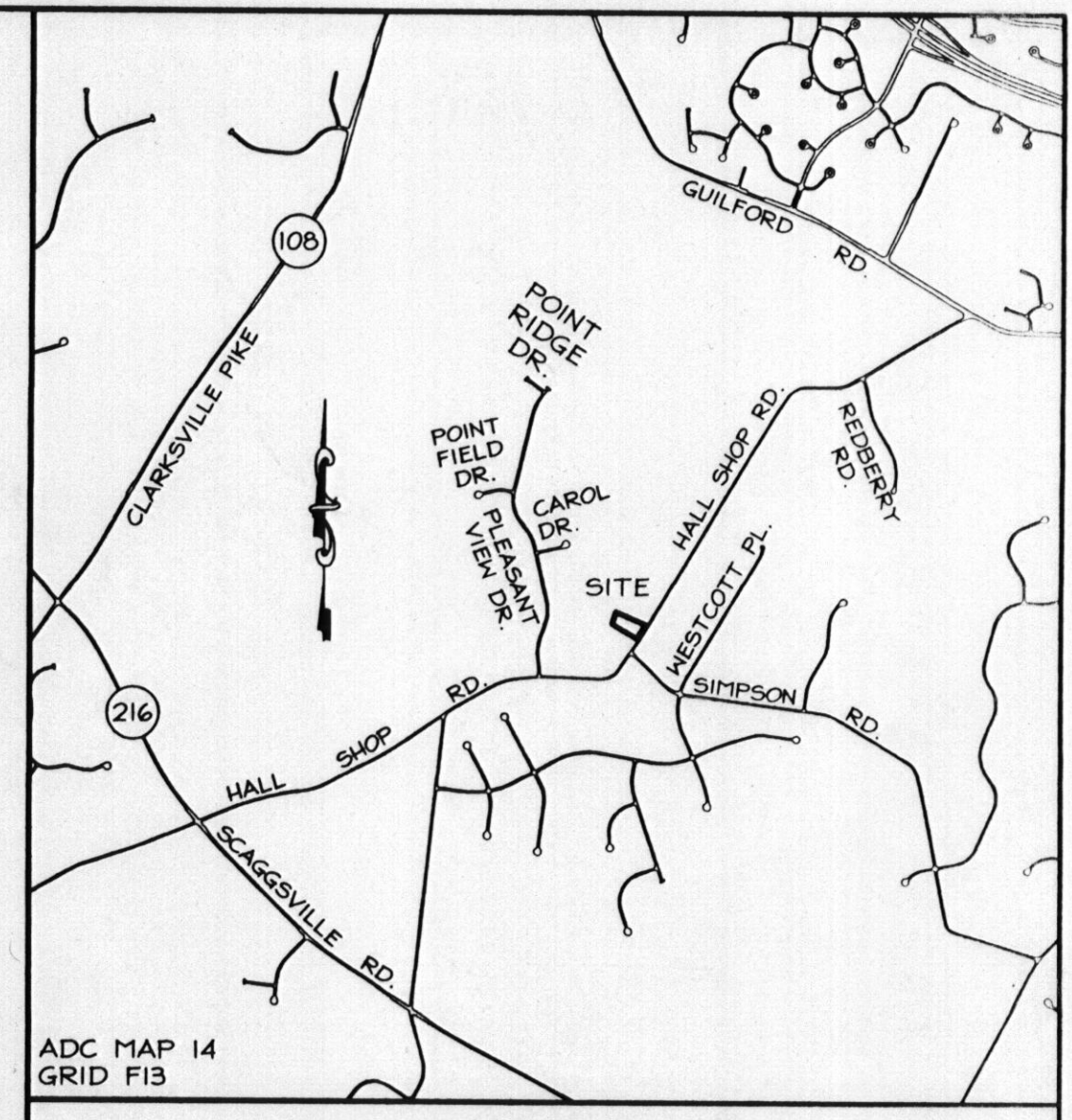
a. Loading Rate: 1.0 gpd/SF (Alternate sand media)

b. Minimum Bed Area: $\frac{600 \text{ gpd}}{1.0 \text{ gpd/SF}} = 600 \text{ SF}$ (Total Area)

c. Minimum Bed Dimensions: **Total Area** 600SF
 Max. Width = Min. Length or 10 FT = 60 FT

- Use 10' wide (Max. Width) x 60' long Sand Bed
- Upslope Sand Fill Depth: 12" minimum or 1'
- Downslope Sand Fill Depth (7% slope): 20.4" or 1.7'
- Cap + Topsoil Fill @ Bed Center: 18" or 1.5'
- Cap + Topsoil Fill @ Bed Edge: 12" or 1'
- Total Bed Depth: 10" or 0.83'
- Sideslope Setback: 132.6" or 11.1'
- Upslope Setback (0.83 Corr. factor for 7% slope): 84.7" or 7.1'
- Downslope Setback (1.27 Corr. factor for 7% slope): 161.5" or 13.5'
- Total Mound Width: 366.2" or 30.5' use 30'
- Total Mound Length: 685.2" or 82.1' use 82'
- Use Mound Size of 30' x 82'
- Check Basal Area: 1200 SF required

a) Area provided:
 Bed Width + Downslope Setback x Bed Length = Basal Area
 10' + 13.5' x 60' = 1410 SF > 1200 required



NOTES:

- Existing Zoning: RR per 2-2-04 Comprehensive Zoning Plan
- Deed Reference: Liber 3262, Folio 20
- Total Area of Lot: 1.28 Ac. ±
- The lot shown herein complies with the minimum lot area and ownership width as required by the Maryland Department of the Environment.
- All existing wells and septic systems within 100 feet of the lot which may affect this proposal have been shown.
- The topography shown is field run by LDE, INC. in 6/15/2009
- Any changes to the Private Sewage Easement shall require a Revised Percolation Certification Plat.
- The well for this lot shall be drilled prior to approval of the building permit.
- The limitations of soil properties are such that a house with no more than four (4) bedrooms could be supported by the described easements.
- SOIL BOUNDARIES.** Entire property is Gladstone Loam 3 - 8% slopes (GbB) USDA Soil Survey Howard County, Maryland.

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT.

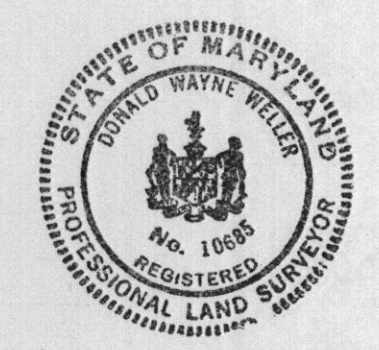
Approved: For Private Water and Private Sewerage
 Howard County Health Department

Signature 11/30/2009
 Howard County Health Officer KS Date

PERC CERTIFICATION

I certify that the information shown hereon is based on field work performed by me or under my direct supervision, and is correct, to the best of my knowledge and belief.

Signature 11/16/09
 D. Wayne Weller, Professional Land Surveyor Date
 MD Reg. NO. 10685



NO.	DATE	REVISIONS
1	10/29/09	Revised per Health Department comments
2	11/16/09	Revised per Health Department comments

LDE Inc.
 Engineers, Surveyors, Planners
 9250 Ramsey Road, Suite 106 Columbia, Maryland - 21045
 (410)715-1070 - (301)596-3424 - FAX (410)715-9540

DESIGNED: BDB
 DRAWN: LDE
 CHECKED: BDB
 DATE: 10/2009

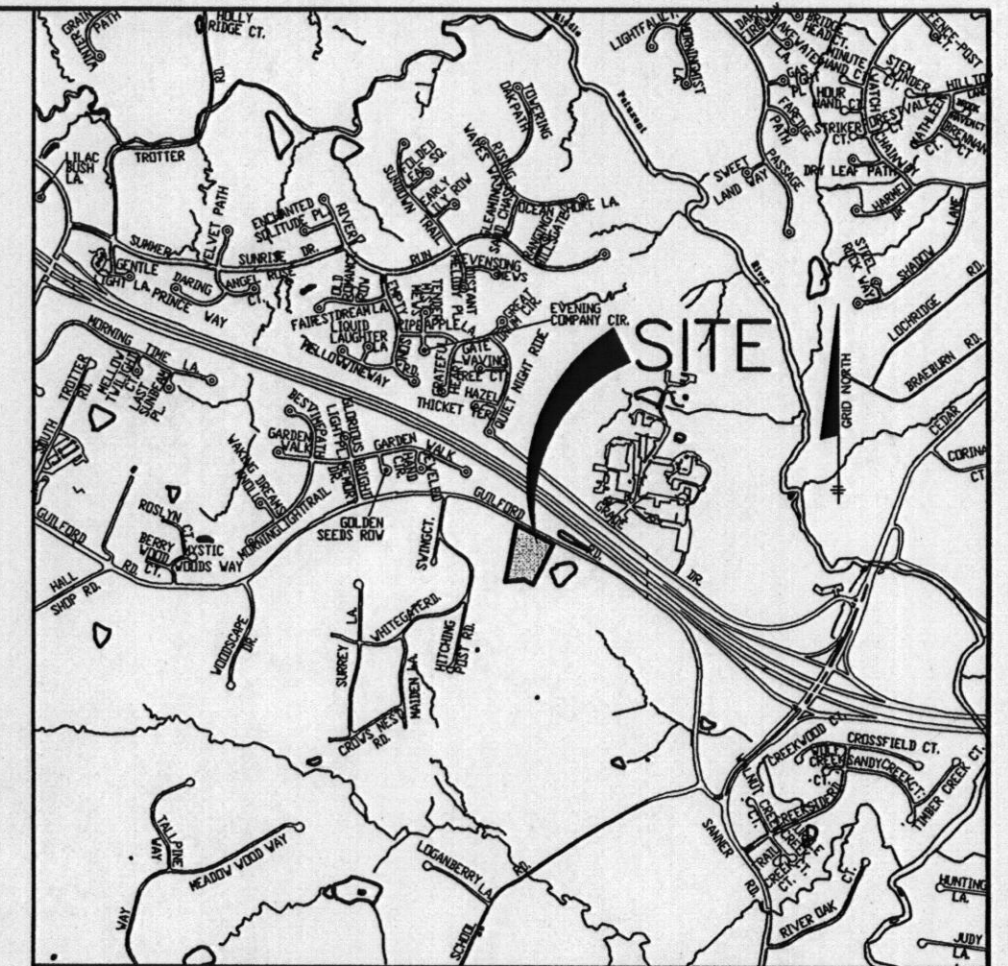
SCALE: 1" = 50'
 DRAWING: 1 OF 1
 JOB NO.: 09-200.02.1
 FILE NO.:

PERCOLATION CERTIFICATION PLAN
 A#530987

PROPERTY OF
 GEORGE E. & KATHRYN A. HALL

TAX MAP 41 GRID 1 PARCEL 133
 5th ELECTION DISTRICT HOWARD COUNTY, MD

OWNER: George E. & Kathryn A. Hall
 587 Yorkshire Lane
 Riva, MD 21140
 410-269-5588



ADC MAP 14 GRID K11
VICINITY MAP
SCALE: 1" = 2000'

GENERAL NOTES

- 1.) THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- 2.) THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 S.F. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- 3.) NEW SEPTIC TRENCHES WILL BE NECESSARY OF THIS FOUR BEDROOM HOUSE, UNLESS THE HEALTH DEPARTMENT DETERMINES THAT THE EXISTING TRENCHES ARE USEABLE. THE OWNER HAS APPLIED THE BAY RESTORATION FUND FOR THE INSTALLATION OF A HOOT ADVANCED PRETREATMENT SYSTEM.
- 4.) TOPOGRAPHY SHOWN IS BASED ON HOWARD COUNTY GIS AND VERIFIED BY DIETZ SURVEYING, INC., ON A PLAN DATED (04/15/09).
- 5.) THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED. WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWER DISPOSAL AREAS HAVE BEEN SHOWN.
- 6.) THE PURPOSE FOR THIS REVISED PERCOLATION CERTIFICATION PLAN IS TO SHOW TWO REPLACEMENT WELL SITES, REPLACE THE EXISTING SEPTIC TANK, RECONFIGURE THE SEPTIC RESERVE AREA AND SHOW THE PROXIMITY OF THE PROPOSED DWELLING TO THE EXISTING WELL AND SEPTIC.
- 7.) THE EXISTING WELL (HO-81-2087) SHOWN ON THIS PLAN HAS BEEN LOCATED BY DIETZ SURVEYING, INC. NO WELLS OBVIOUS ON ADJACENT LOTS EXCEPT AS NOTED.
- 8.) ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION TESTING PLAN.

LEGEND

- S42°04'00"W
200.00' LIMIT OF SUBMISSION
- PROPOSED SEPTIC AREA
- EXISTING SEPTIC AREA
- SOILS DELINEATION
- EXISTING WELL
- FUTURE WELL REPLACEMENT LOCATION
- TEST HOLE

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF KNOWLEDGE AND BELIEF.

John Carney 11/19/09
JOHN CARNEY FOR BENCHMARK ENGINEERING INC.
PLAN PREPARER

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM
HOWARD COUNTY HEALTH DEPARTMENT

Rafaela B. Bzilewson 12/22/09
HOWARD COUNTY HEALTH OFFICER HS DATE 12/22/09

PLAN VIEW
SCALE: 1" = 50'

NO.	DATE	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-8100 FAX: 410-465-6644 www.bei-civilengineering.com		
OWNER:		PROJECT:
MARYLOU AND CHARLES COLE 7290 GUILFORD RD CLARKSVILLE, MARYLAND 21029		JOHN W. PHILLIPS PROPERTY PARCEL B
LOCATION:		TITLE:
TAX MAP 35, GRID 21, PARCEL 144 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		PERCOLATION CERTIFICATION PLAN
DESIGN:	DRAFT:	DATE:
JC	EDD	SEPTEMBER 28, 2009 NOVEMBER 19, 2009
SCALE:	PROJECT NO.	DRAWING
AS SHOWN	2278	1 OF 1