

# APPLICATION

## FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) \_\_\_\_\_

TEST TIME \_\_\_\_\_

AP 55625

AGENCY REVIEW: \_\_\_\_\_

DATE 9-12-14

**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 ONE:

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

CHECK AS NEEDED:

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

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH 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) **Nancy Griffin**

DAYTIME PHONE \_\_\_\_\_ CELL \_\_\_\_\_ FAX \_\_\_\_\_

MAILING ADDRESS **P.O. Box 482** **Lisbon** **MD** **21765**

STREET CITY/TOWN STATE ZIP

APPLICANT **Heritage Land Development**

DAYTIME PHONE **410-489-7900** CELL **410-984-4851** FAX **410-489-9768**

MAILING ADDRESS **P.O. Box 482** **Lisbon** **MD** **21765**

STREET CITY/TOWN STATE ZIP

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

PROPERTY LOCATION

SUBDIVISION NAME **Sands** LOT NO. **Parcel 2**

PROPERTY ADDRESS **Bushy Park Rd** **Woodbine** **21797**

STREET TOWN/POST OFFICE

TAX MAP PAGE(S) **8** 22 PARCEL(S) **90** PROPOSED LOT SIZE **3.11**

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWAGE 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) 313-1771 FAX (410) 313-2648  
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

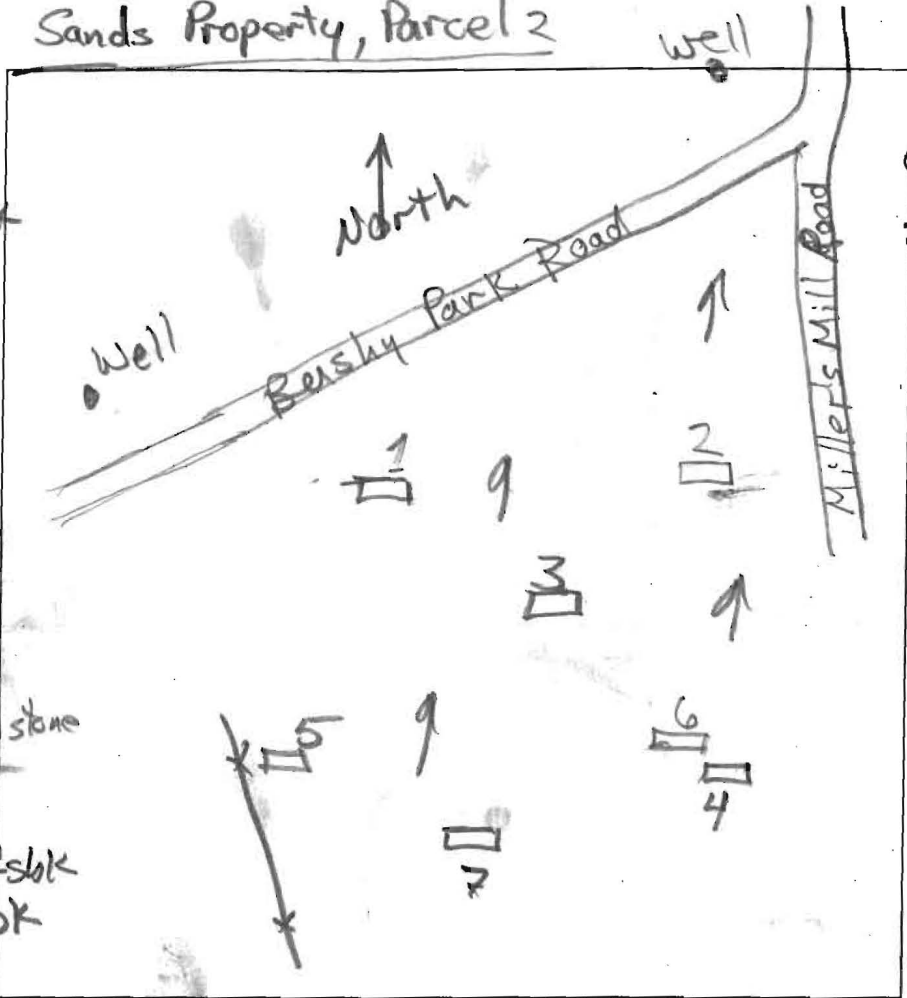
# Sands Property, Parcel 2

APV

③  
 0.5' dk brn L  
 2fg to 2fsbk  
 1.5' lt. brn L  
 2fsbk  
 2.3' brn-yellow  
 2msbk  
 3.5' yel-red  
 & yel-brn L  
 10m, clay skins  
 8' red & yellow  
 fsl, sm  
 10.7' red & yellow  
 VST/5 35% stone

①  
 0.5' dk brn L 3v fsbk  
 1.7' brn L, 2 fsbk  
 2.4' yel-red L  
 2fsbk, ss  
 5' red-yellow  
 stsl, 1msbk  
 7' red & yellow  
 fsl, sm  
 12.5' red & yellow  
 1s, sm

⑤  
 0.4' dk brn L  
 2fsbk  
 1.1' brn chl  
 1fsbk  
 2.6' yel-brn L  
 3fsbk  
 4.4' red & yellow  
 1fs, sm  
 10-15% cobbles  
 13.5'



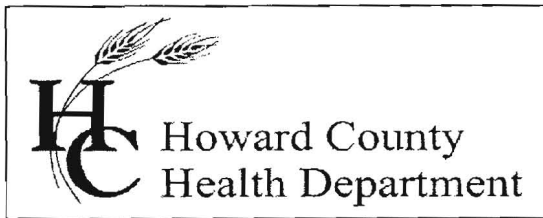
②  
 0.7' dk brn L  
 2fg to 1fsbk  
 2.5' brn L  
 2fsbk  
 3.5' yel-red L  
 2fsbk  
 5' red-yellow  
 fsl, 1fsbk  
 7.2' red & yellow  
 fsl, sm  
 11.2' red & pale yellow  
 1s, sm  
 12' pale yellow  
 st/5

④  
 0.5' dk brn L  
 2fg to 1fsbk  
 7.2' brn L, 3fsbk  
 yel-red L  
 1fsbk, ss  
 8' yellow & red  
 VST/5 40%  
 9' VST/5j > 50% rock

⑥  
 0.5' dk brn L  
 2fg to 2v fsbk  
 1.2' brn L, 2fsbk  
 2.4' yel-brn L  
 3fsbk  
 4.3' yel-red L  
 1fsbk, ss  
 14' red & yellow  
 fsl, sm

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
10/2/14	3	10.7'	Visual	3.5-6.5'	OK	1.2 gpd/ft <sup>2</sup>	P
10/2/14	4	4.5' 8'	10:42	11:21'			F
10/2/14	2	5.9' 12.5'	10:47	11:09	11:39'	30'	reshelf
10/2/14	6	5.5' 12.5'	11:38	11:41	11:45	4'	P
reshelf	2	6.5' 12.5'	11:43	11:46	11:55	9'	P
10/2/14	1	5.3' 12.5'	11:49	11:51	11:53	2'	P
10/2/14	5	5.5' 13.5'	12:08	12:10	12:14	4'	P
	⑦						

REMARKS \_\_\_\_\_  
 SANITARIAN R. Bricker BACKHOE Chuck Zapp OTHERS Tim Feaga  
 TEST HOLES USED IN SDA A. Oswald AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_  
 TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE SAW \_\_\_\_\_



## Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045  
Main: 410-313-1771 | Fax: 410-313-2648  
TDD 410-313-2323 | Toll Free 1-866-313-6300  
[www.hchealth.org](http://www.hchealth.org)  
Facebook: [www.facebook.com/hocohealth](https://www.facebook.com/hocohealth)  
Twitter: HowardCoHealthDep

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

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October 10, 2014

To: Heritage Land Development, Applicant  
c/o Chuck Zepp, [chuckzepp@mris.com](mailto:chuckzepp@mris.com)

RE: Percolation Test Report; Nancy Griffin, Sands Property, Parcel 2, perc test results

Percolation tests were conducted at the subject property, Sands Property Parcel 2 (Tax Map 8, Parcel 90) at the intersection of Bushy Park Road and Miller's Mill Road on October 2, 2014. Five test locations, '1' to '5', were staked in a cleared area in advance of the test date. Tests were conducted at accessible locations at, or near to, the respective stakes.

Four of the five staked test locations, 1, 2, 3, and 5, 'PASS', having soils that are satisfactory for wastewater treatment and disposal. Location 4 is a FAIL, having a very slow percolation rate. Two test locations, 6 and 7, were added, and both locations PASS. Location 6 defines a boundary of soils that PASS, and location 7 represents an area of satisfactory soils that may be included in a sewage disposal area (SDA).

Locations of percolation tests that 'PASS' are used to define the SDA proposed on the Percolation Certification Plan. The percolation test results and suitable area for wastewater discharge, and well locations, are certified by the Approving Authority's signature on the Percolation Certification Plan.

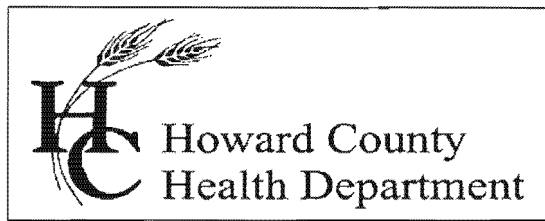
If you have any questions regarding this evaluation or requirements for a Percolation Certification Plan or BAT Site Plan, please contact me by email or by calling (410) 313-2691.

Respectfully,

Robert Bricker, CPSS, REHS/RS, L.E.H.S.  
Environmental Sanitarian II  
Well and Septic Program

Enclosures: 1 Perc Test Application and 2 Field Worksheets

Copy: file



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[www.hchealth.org](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)  
Twitter: HowardCoHealthDep

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

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October 21, 2014

To: Tony Fertitta, Fisher, Collins & Carter, Inc..  
tonyf@fcc-eng.com

From: Robert Bricker, REHS/R.S., L.E.H.S.  
Environmental Sanitarian II  
Well and Septic Program

RE: Sands Property, Par 2\_Bushy Park Road, perc cert comment

1. Adjust proposed sewage disposal area to avoid the condition of being upgrade of the well at 14806 Bushy Park Road. See attached graphic.
2. Add this Note :

THE WELL SHALL BE DRILLED PRIOR TO BUILDING PERMIT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO SUBMITTAL OF A BUILDING PERMIT. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT SIGNATURE OF THE BUILDING PERMIT.

3. Add this Note:

THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) HAS APPROVED A VARIANCE TO ALLOW THE SEWAGE DISPOSAL AREAS (SDA) ON THE SUBJECT PROPERTY (SANDS PROPERTY PAR. 2) TO BE UPGRADIENT OF WELL HO-95-0235 WHICH IS AT 14790 BUSHY PARK ROAD (SUN NURSERIES, INC.) THIS APPROVAL BY MDE IS GRANTED PURSUANT TO THE FOLLOWING CONDITIONS:

1. THE SEPTIC SYSTEM INSTALLED ON THE SUBJECT PROPERTY MUST INCLUDE A BEST AVAILABLE TECHNOLOGY (BAT) UNIT.
2. ALL SEPTIC SYSTEM DRIANFIELDS ON THE SUBJECT PROPERTY MUST BE DESIGNED FOR PRESSURE DISTRIBUTION OR EQUIVALENT.

A letter is needed from the owner, requesting that the Health Department recommend to the Maryland Department of the Environment that a variance be granted to allow the sewage disposal area on Sands Property Parcel 2 to be upgradient of the existing well at 14790 Bushy Park Road (Sun Nurseries, Inc.). Conditions for the Health Department's recommendation are described above as a required note (see #3).

Enclosure: 1

Copy: Chuck Zepp, Applicant

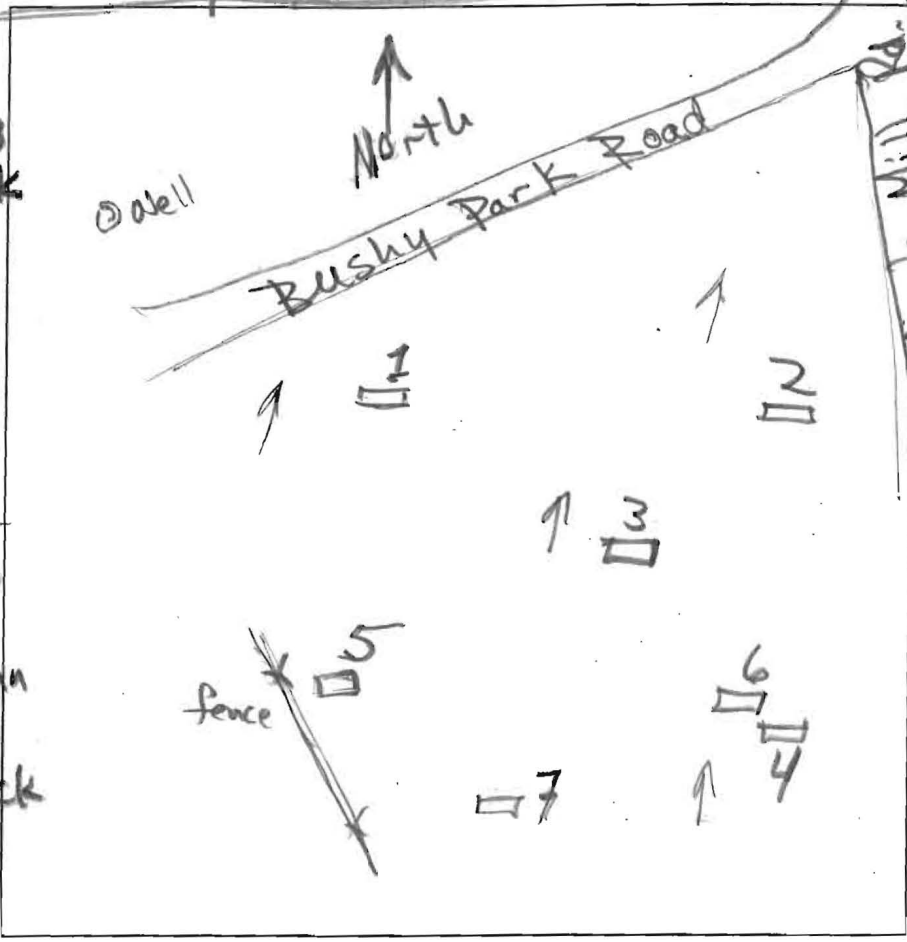
Sandy Property Parcel 2

well

A/P

7

- 0.1' dk brn L 2fg
- 0.7' brn L 2esbk
- 1.5' yel-brn L 2msbk
- 2.5' yel-red L 2fsbk
- 4.4' red-yel fs l Øm, dense
- red & yellow fs Øm
- bouldery column 7' to 11'
- west side free of rock
- 13.5'



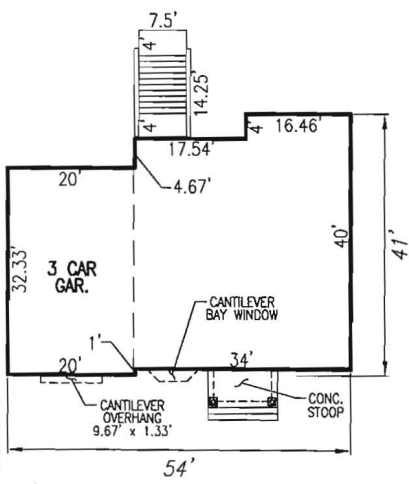
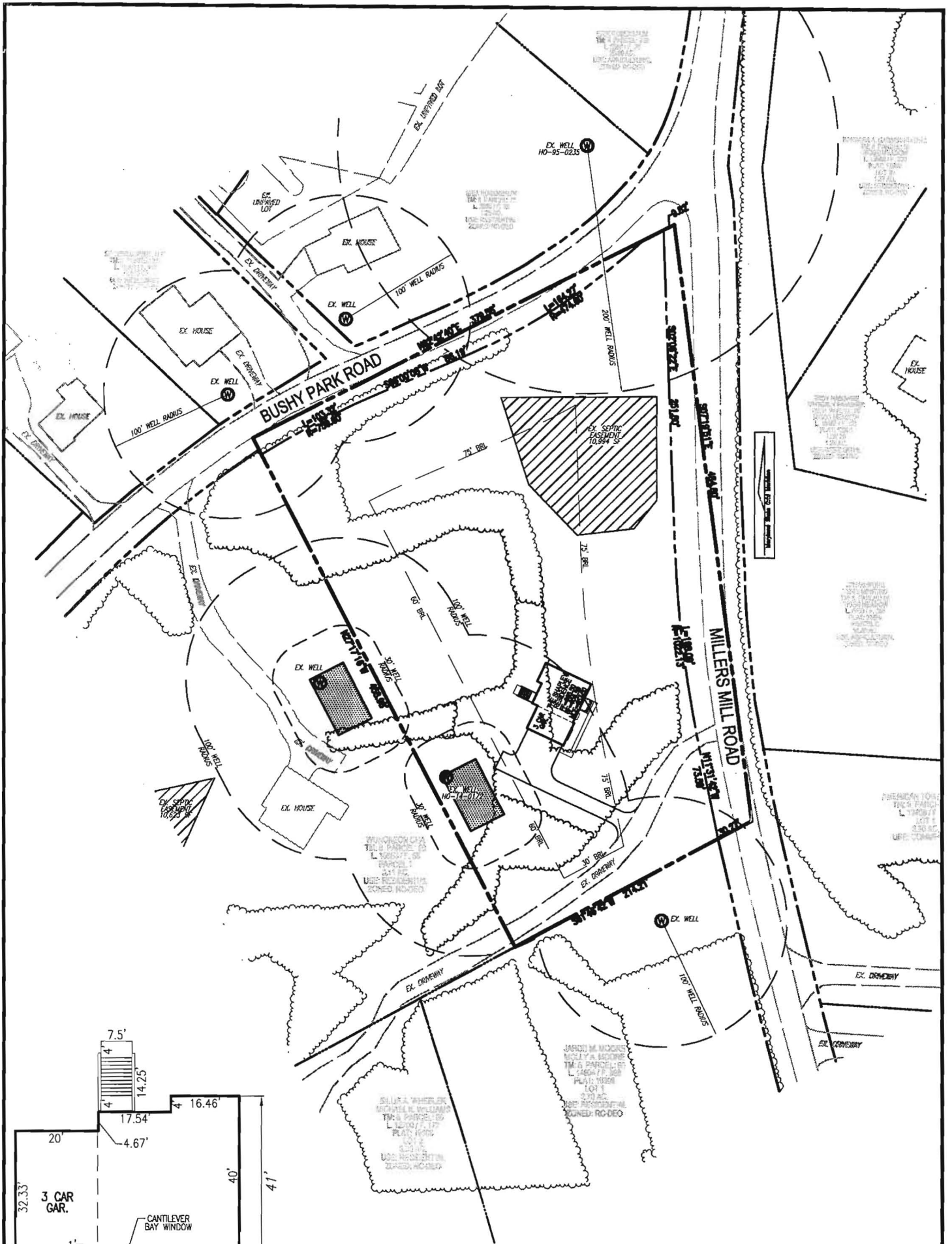
DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2ND INCH	P/F/H
10/2/14	7	13.5'	Visual		4.4' to 8'	1.2 gpd/ft <sup>2</sup>	P

REMARKS \_\_\_\_\_

SANITARIAN R. Bricker BACKHOE Chuck Zapp OTHERS Tim Feaga

TEST HOLES USED IN SDA Hoswald AVG. PERC TIME \_\_\_\_\_ SQ. FT/BR \_\_\_\_\_

TRENCH WIDTH \_\_\_\_\_ INLET DEPTH \_\_\_\_\_ MAX. BOT DEPTH \_\_\_\_\_ EFFECTIVE S/W \_\_\_\_\_



**THE SHAPLEY RESIDENCE**  
 W/ SIDING VENEER  
 SCALE: 1"=30'

**SITE PLAN**  
 SCALE: 1"=100'

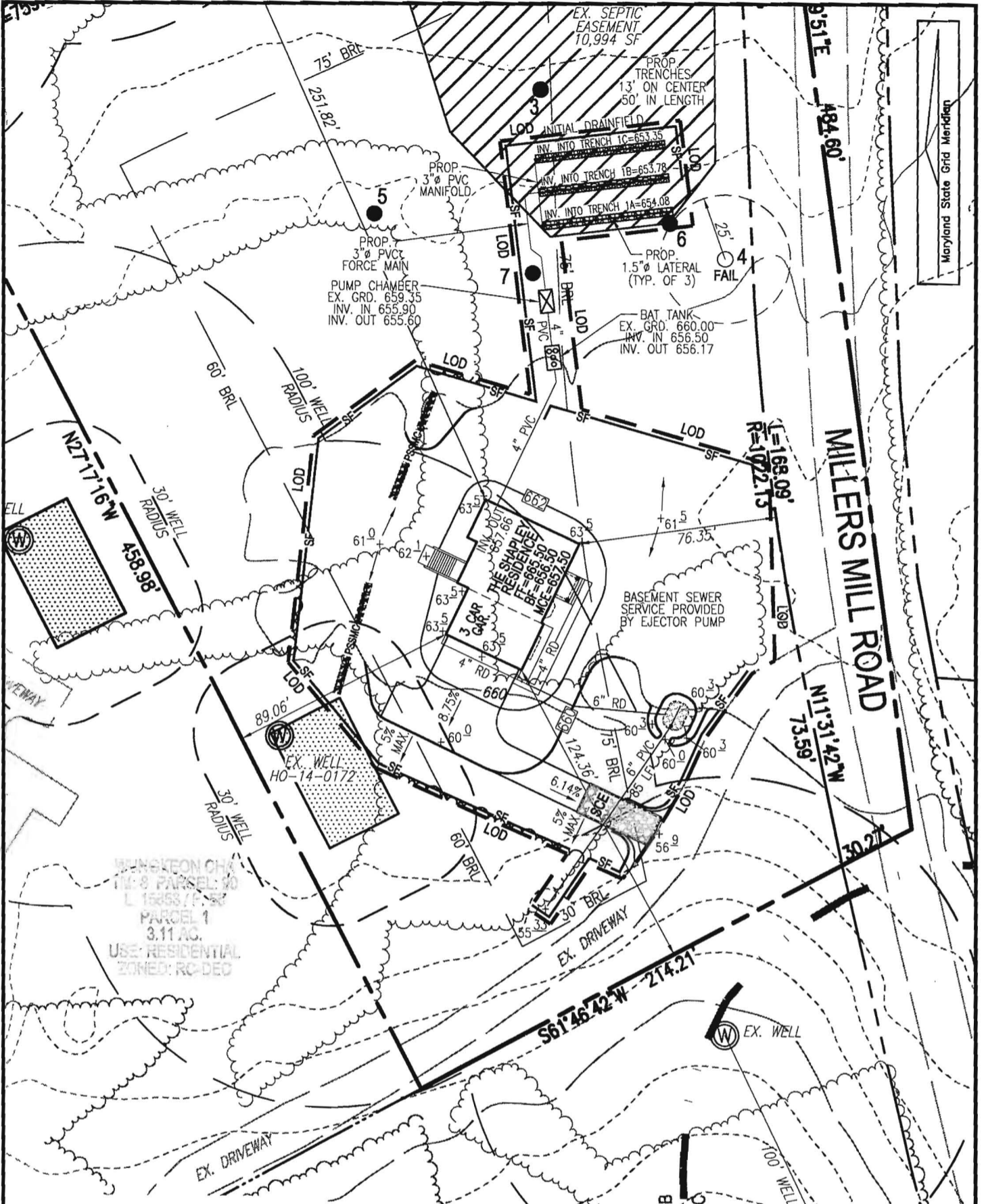
SCALE: AS SHOWN  
 DRAWN BY: JMR  
 CHECKED BY: RHV  
 DATE: MARCH 2015  
 PROJECT #: 14-63  
 SHEET#: 1 OF 4

**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**  
 TAX MAP 08 PARCEL 90  
 BLOCK 22  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**ADDRESS**  
 BUSHY PARK ROAD  
 WOODBINE, MD 21797

**OWNER**  
 TRINITY HOMES  
 3675 PARK AVENUE  
 SUITE 301  
 ELLICOTT CITY, MD 21043  
 (410) 480-0023

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666 FAX: 410.461.8961



WINGKON CH  
 TM-8 PARCEL 90  
 L 15853/P-2  
 PARCEL 1  
 3.11 AC.  
 USE: RESIDENTIAL  
 ZONED: RC-DED

THE EXISTING WELL SHOWN ON PARCEL 2 TAG NO. 14-0172 HAS BEEN FIELD LOCATED BY ROBERT H. VOGEL ENGINEERING, INC., AND IS ACCURATELY SHOWN.

BUILDING OF PARCEL 2 FLOOR AREAS:  
 BASEMENT FLOOR AREA: 1230  
 FIRST FLOOR AREA: 1290  
 SECOND FLOOR AREA: 1530  
 BEDROOMS: 5

NOTE: STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY ONE RAIN GARDEN (M-7), ROOFTOP DISCONNECT (N-1), AND NON-ROOFTOP DISCONNECT (N-2).

BUILDING PERMIT NO. \_\_\_\_\_

JAROD M. MOORE  
 MOLLY A. MOORE  
 TM-8 PARCEL 90  
**SEDCON PLAN**  
 SCALE: 1"=50'

SCALE: AS SHOWN  
 DRAWN BY: JMR  
 CHECKED BY: RHV  
 DATE: MARCH 2015  
 PROJECT #: 14-63  
 SHEET#: 2 OF 4

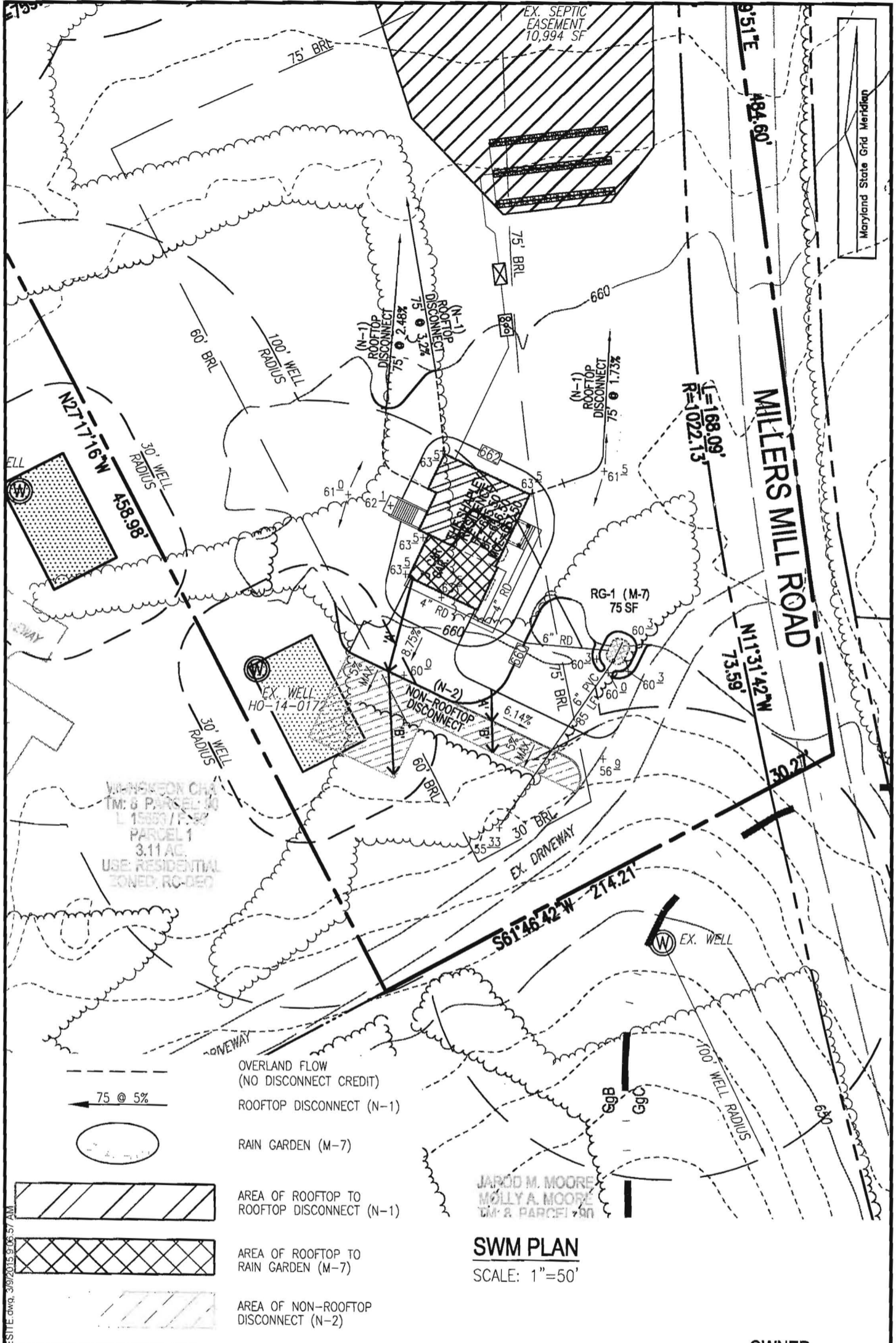
**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**

TAX MAP 08 PARCEL 90  
 BLOCK 22  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**ADDRESS**  
 BUSHY PARK ROAD  
 WOODBINE, MD 21797

**OWNER**  
 TRINITY HOMES  
 3675 PARK AVENUE  
 SUITE 301  
 ELLICOTT CITY, MD 21043  
 (410) 480-0023

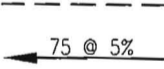
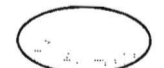

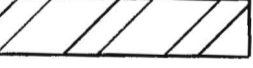
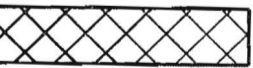

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961



Maryland State Grid Meridian

WILKINSON CHA  
 TM: 8 PARCEL: 40  
 L 15883 / P 1587  
 PARCEL 1  
 3.11 AC.  
 USE: RESIDENTIAL  
 ZONED: RC-DEQ

JAROD M. MOORE  
 MOLLY A. MOORE  
 TM: 8 PARCEL: 90

-  OVERLAND FLOW (NO DISCONNECT CREDIT)
-  ROOFTOP DISCONNECT (N-1)
-  RAIN GARDEN (M-7)
-  AREA OF ROOFTOP TO ROOFTOP DISCONNECT (N-1)
-  AREA OF ROOFTOP TO RAIN GARDEN (M-7)
-  AREA OF NON-ROOFTOP DISCONNECT (N-2)

**SWM PLAN**  
 SCALE: 1"=50'

SCALE: AS SHOWN  
 DRAWN BY: JMR  
 CHECKED BY: RHV  
 DATE: MARCH 2015  
 PROJECT #: 14-63  
 SHEET#: 3 OF 4

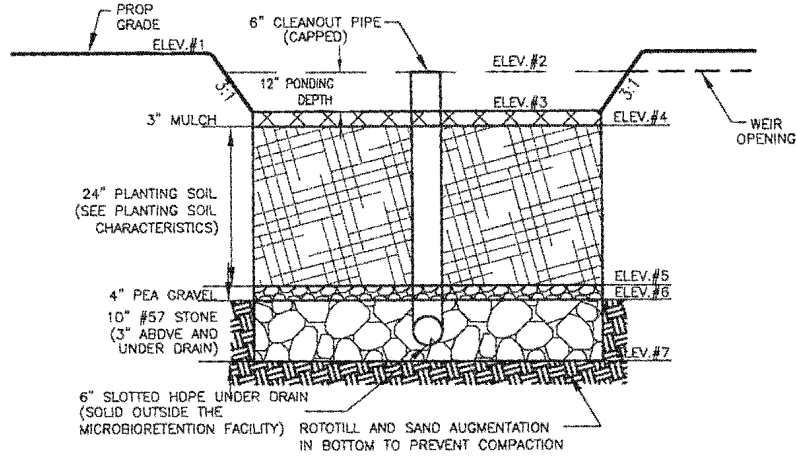
**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**  
 TAX MAP 08 PARCEL 90  
 BLOCK 22  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**ADDRESS**  
 BUSHY PARK ROAD  
 WOODBINE, MD 21797

**OWNER**  
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K:\Projects\14-63\STATE\GRiffin\DWG\SITE.dwg, 3/9/2015 9:06:57 AM



**DETAIL - MICRO-BIORETENTION (M-7)**

NOT TO SCALE

**NOTES**

1. THE SIDES OF THE MBR'S ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC SHALL NOT BE INSTALLED BETWEEN THE MBR LAYERS OR AT THE BOTTOM OF THE MICRO-BIORETENTION AS IT WILL CAUSE THE MBR TO FAIL.
2. THE PERFORATED UNDERDRAIN PIPE OF THE MBR SHOULD BE WRAPPED WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.

RAIN GARDEN (M-7) ELEVATIONS									
FACILITY #	1	2	3	4	5	6	7	6" INV.	6" INV. OUTFALL
RG-1	660.30	660.00	659.00	658.75	656.75	656.42	655.59	655.76	655.33

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2" to 4" deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/2-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; $f'_c = 3500$ psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) <i>not</i> using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8/89; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gneissstone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

**OPERATION AND MAINTENANCE SCHEDULE FOR LANSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), AND ENHANCED FILTERS (M-9)**

1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**ENVIRONMENTAL SITE DESIGN**

PROVIDE  $P_e = 1.0$ " FOR ALL IMPERVIOUS AREAS.  
 AREA OF PROPOSED HOUSE: 1,880 SF  
 AREA OF PROPOSED DRIVEWAY: 2,720 SF

1. ROOFTOP DISCONNECT CREDIT (N-1): 940 SF
  - A. 75' @ 1.73%
  - B. 75' @ 3.2%
  - C. 75' @ 2.48%
2. RAIN GARDEN (M-7):  
 $ESD_v = (1.0)(940)(0.95)/12 = 75$  SF
3. NON-ROOFTOP DISCONNECT CREDIT (N-2): 2,720 SF
  - A. IMPERVIOUS RATIO  $B/A = 40'/40' = 1:1$   $P_e = 1.0$ "  
 SLOPE OF DISCONNECT:  $660 - 658.4/40 = 4.0\%$
  - B. IMPERVIOUS RATIO  $B/A = 13'/13' = 1:1$   $P_e = 1.0$ "  
 SLOPE OF DISCONNECT:  $658.7 - 658.3/13 = 3.1\%$

**OWNER**

TRINITY HOMES  
 3675 PARK AVENUE  
 SUITE 301  
 ELLICOTT CITY, MD 21043  
 (410) 480-0023

SCALE: AS SHOWN  
 DRAWN BY: JMR  
 CHECKED BY: RHV  
 DATE: MARCH 2015  
 PROJECT #: 14-63  
 SHEET#: 4 OF 4

**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**

TAX MAP 08 PARCEL 90  
 BLOCK 22  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

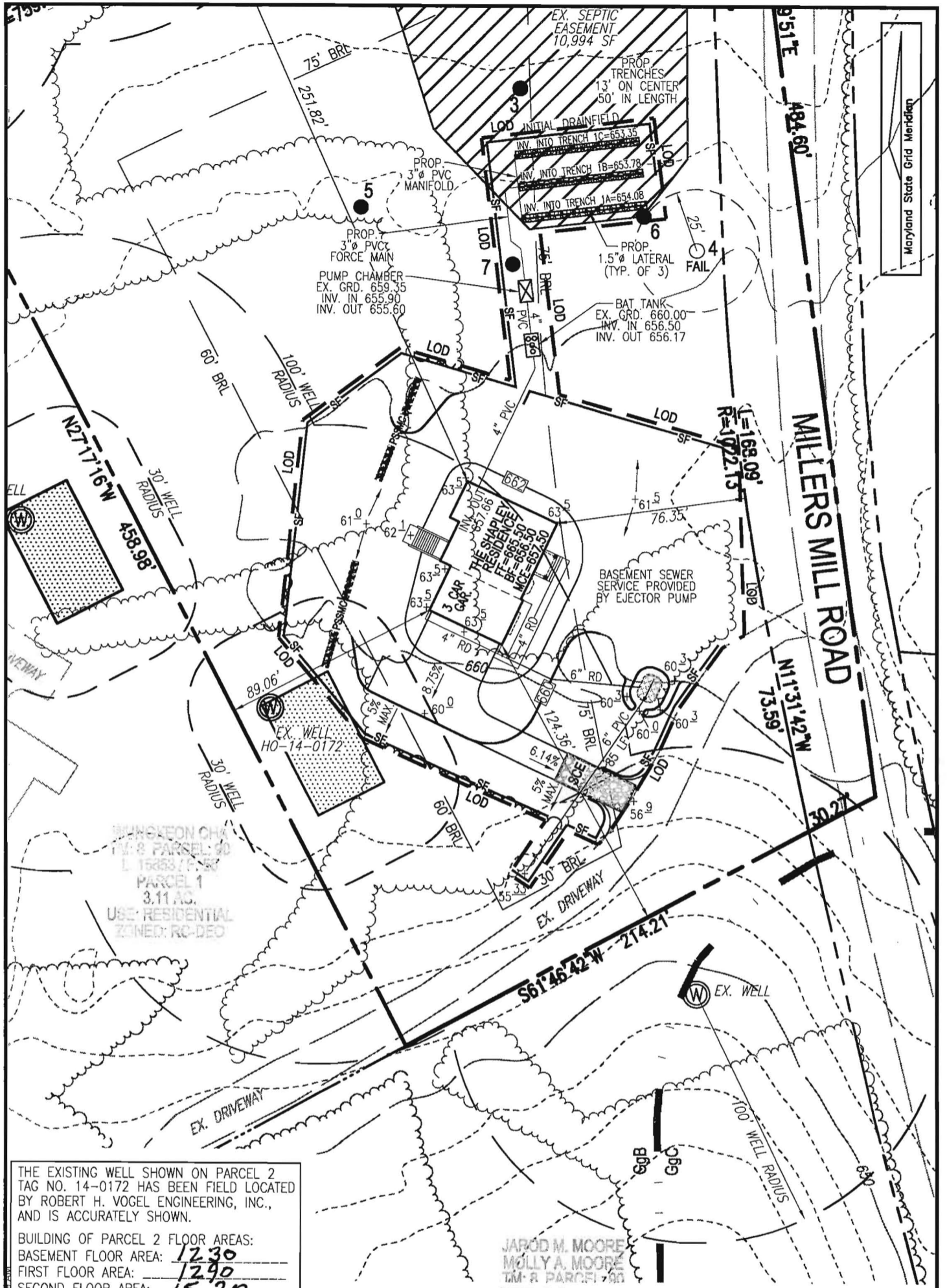
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BUSHY PARK ROAD  
 WOODBINE, MD 21797



**ROBERT H. VOGEL**  
**ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 8407 MAIN STREET  
 ELLICOTT CITY, MD 21043  
 TEL: 410.461.7666  
 FAX: 410.461.8961





THE EXISTING WELL SHOWN ON PARCEL 2 TAG NO. 14-0172 HAS BEEN FIELD LOCATED BY ROBERT H. VOGEL ENGINEERING, INC., AND IS ACCURATELY SHOWN.

BUILDING OF PARCEL 2 FLOOR AREAS:  
 BASEMENT FLOOR AREA: 1230  
 FIRST FLOOR AREA: 1290  
 SECOND FLOOR AREA: 1530  
 BEDROOMS: 5

NOTE: STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY ONE RAIN GARDEN (M-7), ROOFTOP DISCONNECT (N-1), AND NON-ROOFTOP DISCONNECT (N-2).

BUILDING PERMIT NO. \_\_\_\_\_

JAROD M. MOORE  
 MOLLY A. MOORE  
 T.M. & P. PARCELS 90  
**SEDCON PLAN**  
 SCALE: 1"=50'

SCALE: AS SHOWN  
 DRAWN BY: JMR  
 CHECKED BY: RHV  
 DATE: MARCH 2015  
 PROJECT #: 14-63  
 SHEET#: 2 OF 4

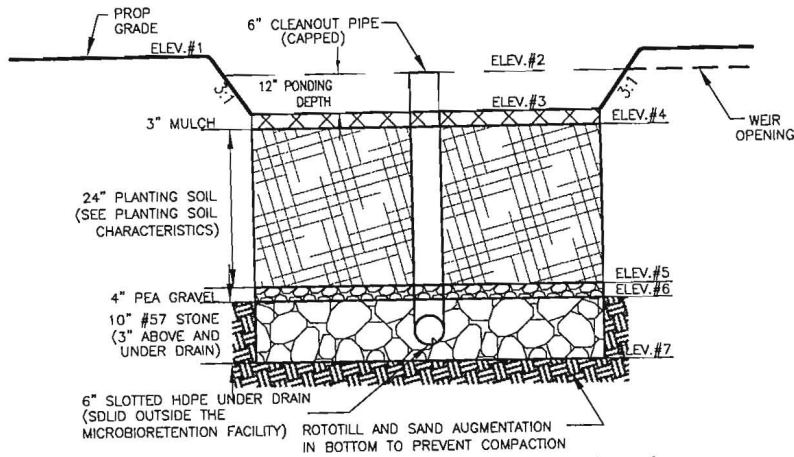
**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**

TAX MAP 08 PARCEL 90  
 BLOCK 22  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**ADDRESS**  
 BUSHY PARK ROAD  
 WOODBINE, MD 21797

**OWNER**  
 TRINITY HOMES  
 3675 PARK AVENUE  
 SUITE 301  
 ELLICOTT CITY, MD 21043  
 (410) 480-0023

**ROBERT H. VOGEL ENGINEERING, INC.**  
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 TEL: 410.461.7666 FAX: 410.461.8961



**DETAIL - MICRO-BIORETENTION (M-7)**

NOT TO SCALE

**NOTES**

1. THE SIDES OF THE MBR'S ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC SHALL NOT BE INSTALLED BETWEEN THE MBR LAYERS OR AT THE BOTTOM OF THE MICRO-BIORETENTION AS IT WILL CAUSE THE MBR TO FAIL.
2. THE PERFORATED UNDERDRAIN PIPE OF THE MBR SHOULD BE WRAPPED WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED HARDWARE CLOTH.

RAIN GARDEN (M-7) ELEVATIONS									
FACILITY #	1	2	3	4	5	6	7	6" INV.	6" INV. OUTFALL
RG-1	660.30	660.00	659.00	658.75	656.75	656.42	655.59	655.76	655.33

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2" to 4" deep]	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; $f_c = 3500$ psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

**OPERATION AND MAINTENANCE SCHEDULE FOR  
LANSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6),  
RAIN GARDENS (M-7), BIORETENTION SWALE (M-8),  
AND ENHANCED FILTERS (M-9)**

1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**ENVIRONMENTAL SITE DESIGN**

PROVIDE  $P_e = 1.0"$  FOR ALL IMPERVIOUS AREAS.  
AREA OF PROPOSED HOUSE: 1,880 SF  
AREA OF PROPOSED DRIVEWAY: 2,720 SF

1. ROOFTOP DISCONNECT CREDIT (N-1): 940 SF
  - A. 75' @ 1.73%
  - B. 75' @ 3.2%
  - C. 75' @ 2.48%
2. RAIN GARDEN (M-7):  
 $ESD_v = (1.0')(940)(0.95)/12 = 75$  SF
3. NON-ROOFTOP DISCONNECT CREDIT (N-2): 2,720 SF
  - A. IMPERVIOUS RATIO  $B/A = 40'/40' = 1:1$   $P_e = 1.0"$   
SLOPE OF DISCONNECT:  $660 - 658.4/40 = 4.0\%$
  - B. IMPERVIOUS RATIO  $B/A = 13'/13' = 1:1$   $P_e = 1.0"$   
SLOPE OF DISCONNECT:  $658.7 - 658.3/13 = 3.1\%$

**OWNER**

TRINITY HOMES  
3675 PARK AVENUE  
SUITE 301  
ELLCOTT CITY, MD 21043  
(410) 480-0023

SCALE: AS SHOWN  
DRAWN BY: JMR  
CHECKED BY: RHV  
DATE: MARCH 2015  
PROJECT #: 14-63  
SHEET #: 4 OF 4

**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**

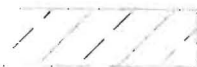
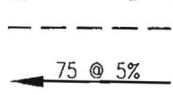
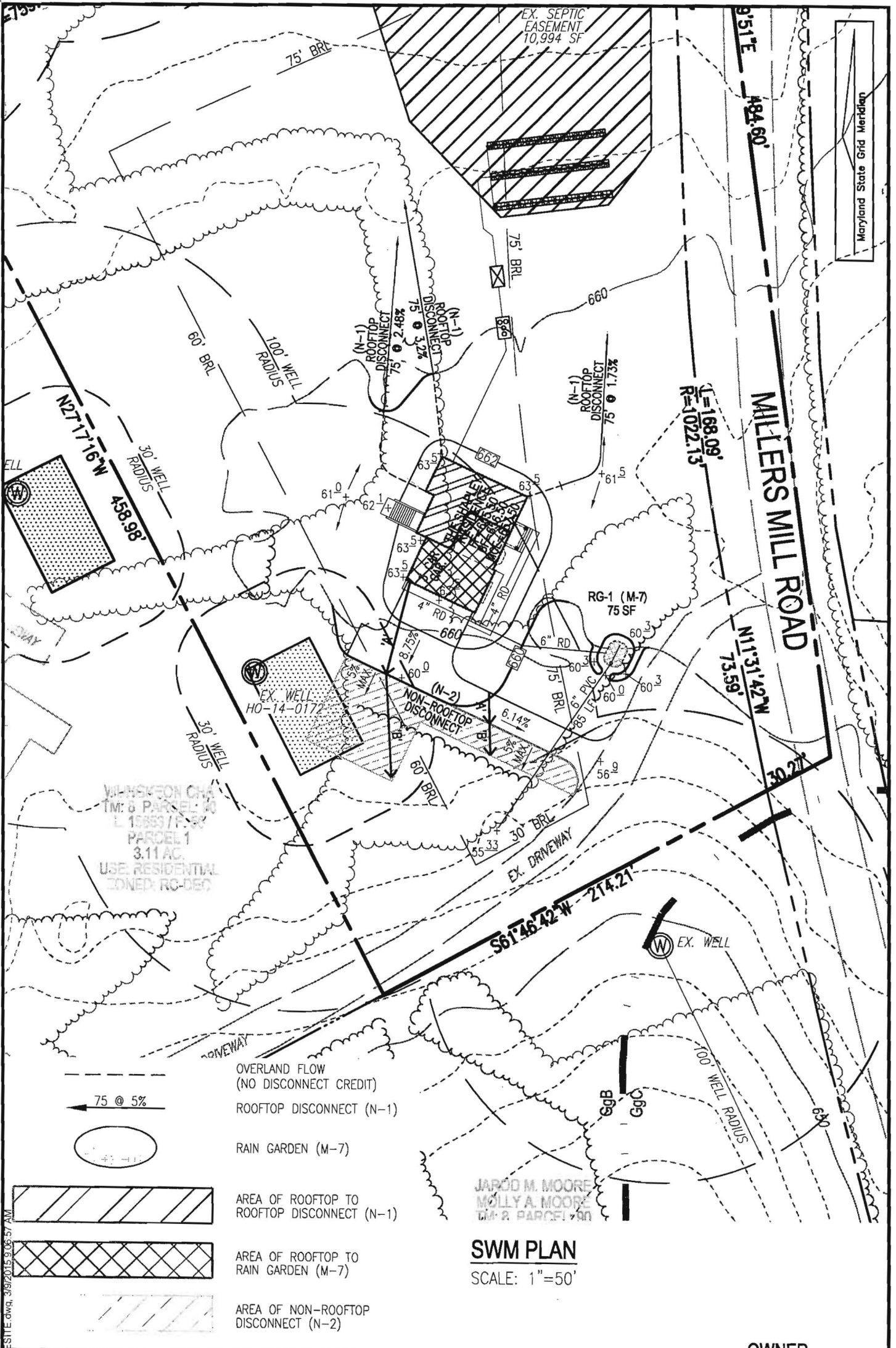
TAX MAP 08 PARCEL 90  
BLOCK 22  
4TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**ADDRESS**

BUSHY PARK ROAD  
WOODBINE, MD 21797



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- OVERLAND FLOW  
(NO DISCONNECT CREDIT)
- ROOFTOP DISCONNECT (N-1)
- RAIN GARDEN (M-7)
- AREA OF ROOFTOP TO  
ROOFTOP DISCONNECT (N-1)
- AREA OF ROOFTOP TO  
RAIN GARDEN (M-7)
- AREA OF NON-ROOFTOP  
DISCONNECT (N-2)

**SWM PLAN**  
SCALE: 1"=50'

K:\Projects\14-031\GRIFIN SITE.dwg, 3/9/2015 9:06:57 AM

SCALE: AS SHOWN  
DRAWN BY: JMR  
CHECKED BY: RHV  
DATE: MARCH 2015  
PROJECT #: 14-63  
SHEET #: 3 OF 4

**PLOT PLAN**  
**GRIFFIN PROPERTY**  
**PARCEL 2**  
  
TAX MAP 08 PARCEL 90  
BLOCK 22  
4TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

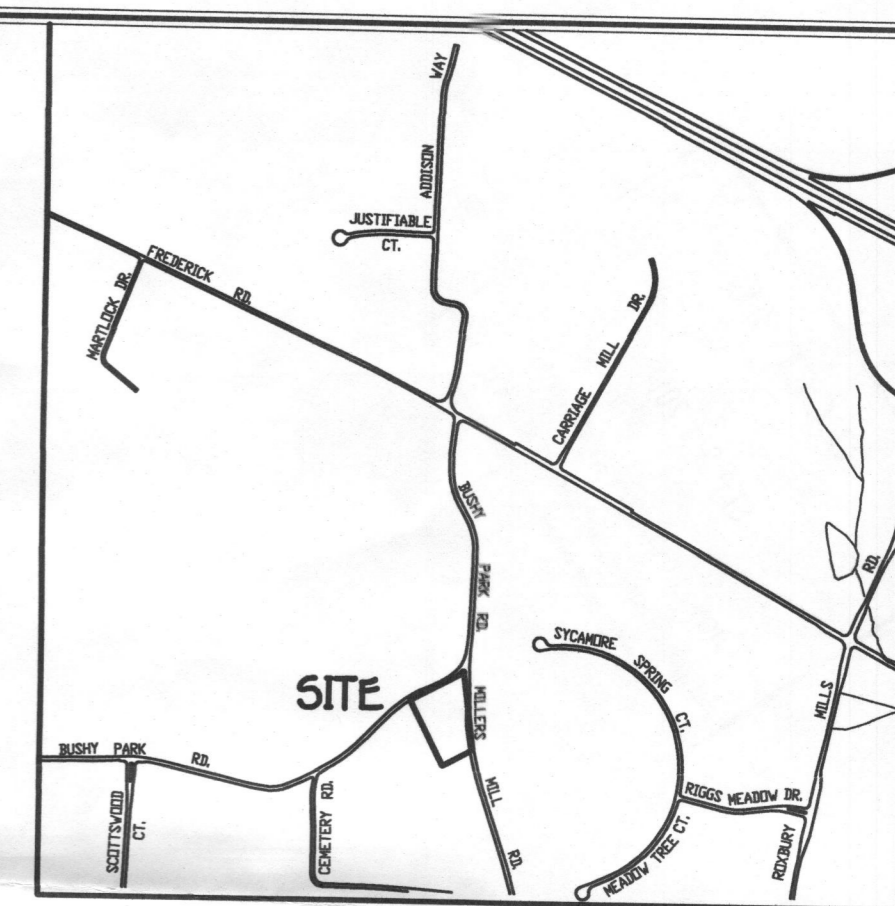
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**LEGEND**

- EXISTING 2' CONTOURS
- - - EXISTING 10' CONTOURS
- EXISTING TREE LINE
- GLB2  
MLC2 SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- ⊠ DENOTES PROPOSED HOUSE
- ⊠ DENOTES 1500 Sq.Ft. WELL ZONE
- DENOTES PROPOSED PERC



**VICINITY MAP**  
SCALE : 1" = 1200'



**GENERAL NOTES:**

1. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET 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 SEWERAGE IS AVAILABLE. THESE EASEMENTS 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 SEWERAGE EASEMENT SHALL NOT BE NECESSARY.
2. ADJUSTMENTS TO SEPTIC EASEMENT AREA IS NOT PERMITTED WITHOUT ADDITIONAL TESTING.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
4. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPERTY HAVE BEEN SHOWN FROM ALL REASONABLE EFFORTS.
5. ALL HOUSE SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
6. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY Q15 TOPOGRAPHY AT 2' CONTOUR INTERVAL.
7. BOUNDARY OUTLINE BASED ON AVAILABLE DEED OF RECORD WITHOUT THE BENEFIT OF A FIELD SURVEY AT THIS TIME.
8. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
9. DEED REFERENCE LIBER 13048 FOLIO 87.

**SOILS LEGEND**

SOIL	NAME	CLASS
GgB	Glennelg loam, 3 to 8 percent slopes	B
GgC	Glennelg loam, 8 to 15 percent slopes	B

**NOTES:**

- Hydric soils and/or contains hydric inclusions
- May contain hydric inclusions
- † Generally only within 100-year floodplain areas

**PERC CERTIFICATION PLAN**  
**NANCY GRIFFIN**

TAX MAP #8  
4TH ELECTION DISTRICT  
SCALE: 1"=50'

PARCEL: 90 PAR 2  
HOWARD COUNTY, MARYLAND  
DATE: SEPTEMBER 24, 2014

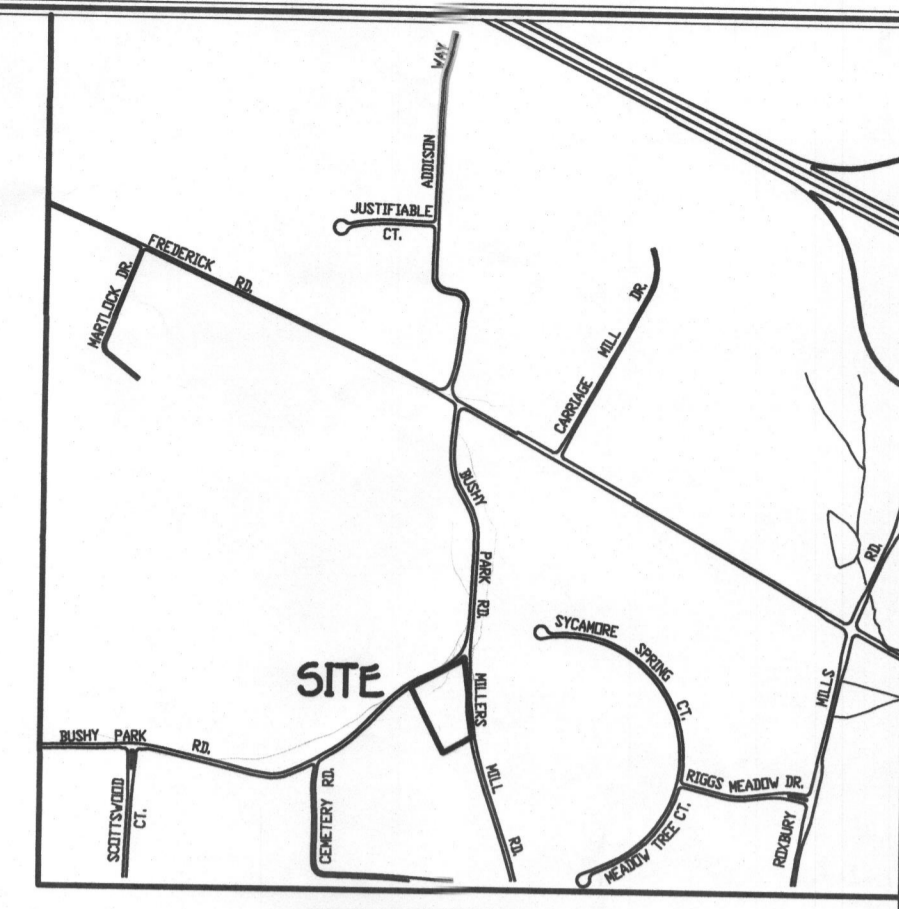
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**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - SUITE 200 BALTIMORE MARYLAND  
ELICOTT CITY, MARYLAND 21114  
(410) 461-2895

**OWNER**  
NANCY GRIFFIN  
38 SPYCE MILL COURT  
RANDALLSTOWN MD 21133

**LEGEND**

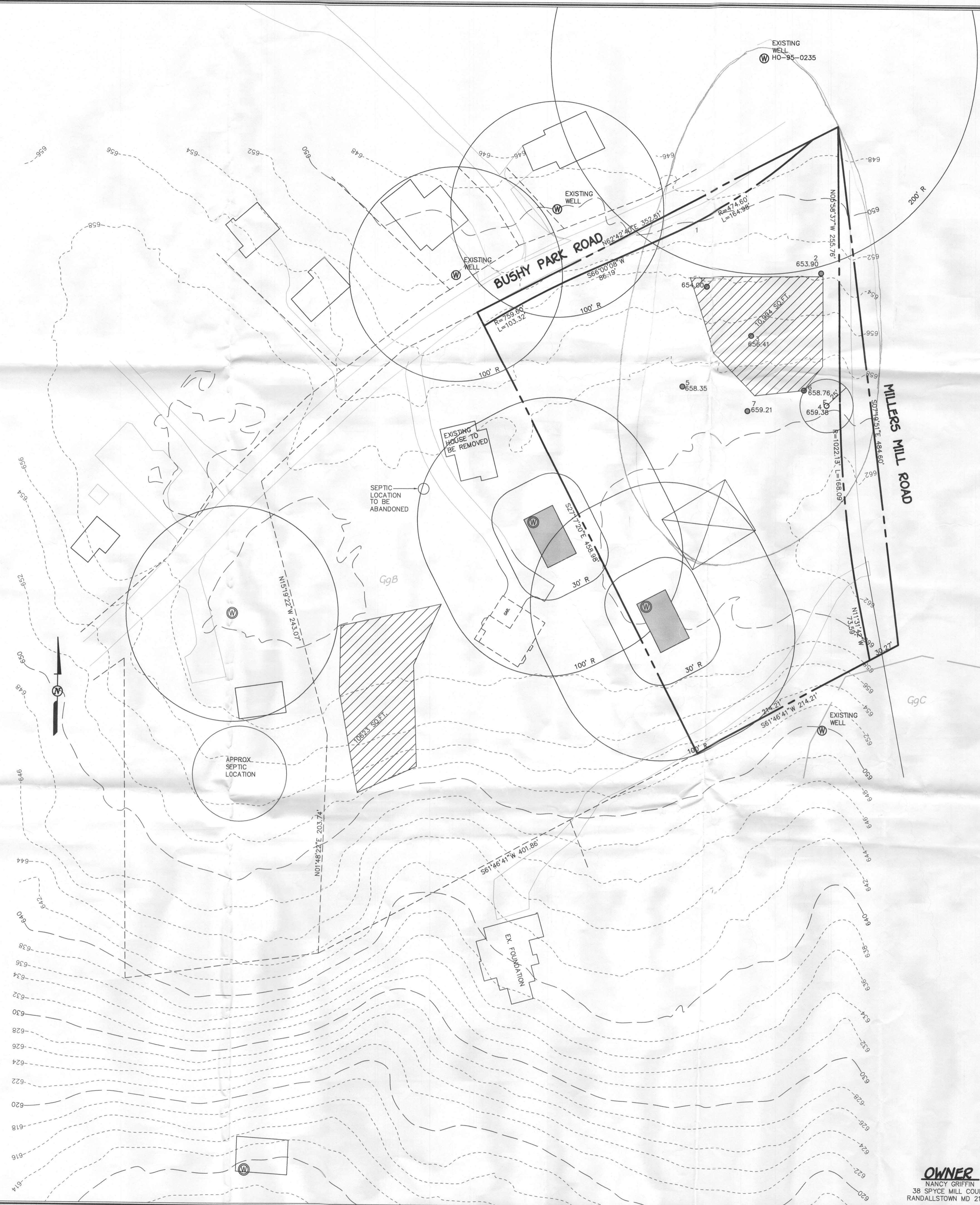
- EXISTING 2' CONTOURS
- - - EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- DENOTES PROPOSED HOUSE
- DENOTES 1500 Sq.Ft. WELL ZONE



**VICINITY MAP**  
SCALE : 1" = 1200'

**GENERAL NOTES:**

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6. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL.
7. BOUNDARY OUTLINE BASED ON AVAILABLE DEED OF RECORD WITHOUT THE BENEFIT OF A FIELD SURVEY AT THIS TIME.
8. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
9. DEED REFERENCE LIBER 13048 FOLIO 87.
10. THE WELL SHALL BE DRILLED PRIOR TO BUILDING PERMIT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO SUBMITTAL OF A BUILDING PERMIT. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT SIGNATURE OF THE BUILDING PERMIT.
11. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) HAS APPROVED A VARIANCE TO ALLOW THE SEWAGE DISPOSAL AREAS (SDA) ON THE SUBJECT PROPERTY (SANDS PROPERTY PAR. 2) TO BE UPGRADIENT OF WELL HO-95-0235 WHICH IS AT 14790 BUSHY PARK ROAD (SUN NURSERIES, INC.) THIS APPROVAL BY MDE IS GRANTED PURSUANT TO THE FOLLOWING CONDITIONS:
  1. THE SEPTIC SYSTEM INSTALLED ON THE SUBJECT PROPERTY MUST INCLUDE A BEST AVAILABLE TECHNOLOGY (BAT) UNIT.
  2. ALL SEPTIC SYSTEM DRIFTFIELDS ON THE SUBJECT PROPERTY MUST BE DESIGNED FOR PRESSURE DISTRIBUTION OR EQUIVALENT.



**PERC CERTIFICATION**  
I certify that the locations shown herein are based on field locations done under my direct supervision and are correct to the best of my professional knowledge and belief.  
Signature of Professional Land Surveyor: Terrell A. Fisher, Professional Land Surveyor No. 10892 Expires 12/13/13 Date: 10/31/14

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,  
HOWARD COUNTY HEALTH DEPARTMENT.  
Signature for Monica Rossman, COUNTY HEALTH OFFICER Date: 11/13/2014

**SOILS LEGEND**

SOIL	NAME	CLASS
GgB	Glennig loam, 3 to 8 percent slopes	B
GgC	Glennig loam, 8 to 15 percent slopes	B

- NOTES:**
- \* Hydric soils and/or contains hydric inclusions
  - \*\* May contain hydric inclusions
  - † Generally only within 100-year floodplain areas

**PERC CERTIFICATION PLAN**  
**NANCY GRIFFIN**

TAX MAP #B PARCEL: 90 PAR 2  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1"=50' DATE: OCTOBER 31, 2014

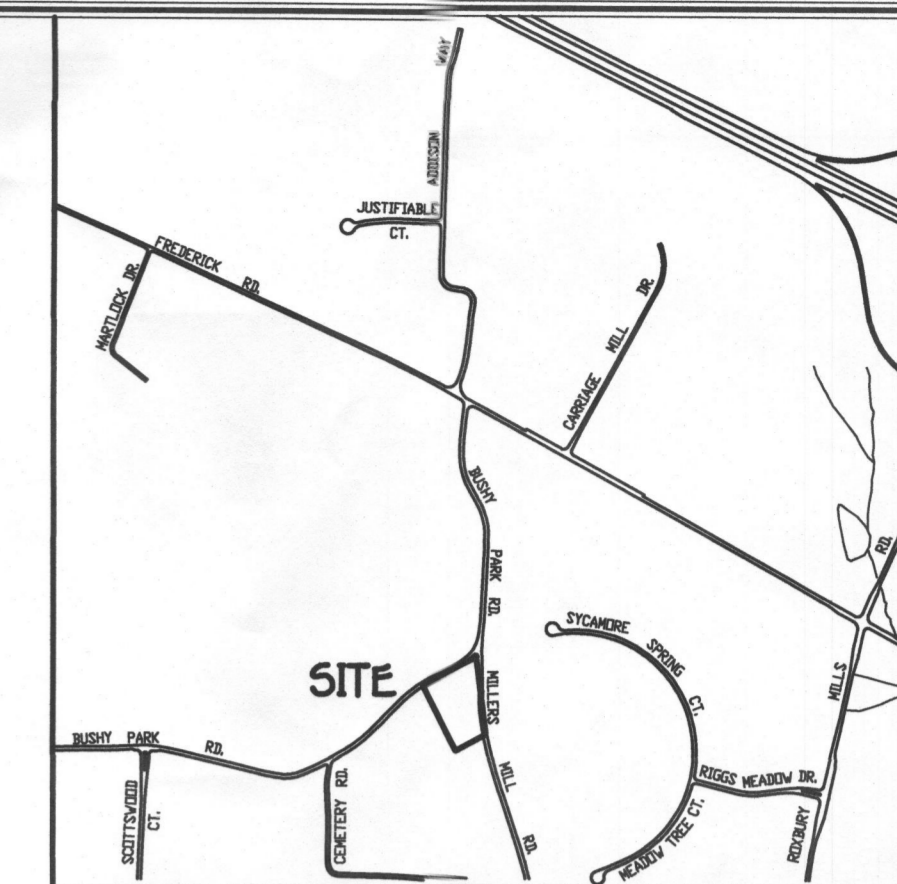
**OWNER**  
NANCY GRIFFIN  
38 SPYCE MILL COURT  
RANDALLSTOWN MD 21133

K:\Drawings\3\30312 McKendree Road Petta\30312 CJ Sands.dwg, 10/31/2014 7:41:16 AM, 1:50

**FISHER, COLLINS & CARTER, INC.**  
CIVIL, ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2225

**LEGEND**

- EXISTING 2' CONTOURS
- - - EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- DENOTES PROPOSED HOUSE
- DENOTES 1500 Sq.Ft. WELL ZONE



**VICINITY MAP**  
SCALE : 1" = 1200'

**GENERAL NOTES:**

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4. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPERTY HAVE BEEN SHOWN FROM ALL REASONABLE EFFORTS.
5. ALL HOUSE SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
6. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL.
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8. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
9. DEED REFERENCE LIBER 13048 FOLIO 87.
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**PERC CERTIFICATION**

I certify that the locations shown hereon are correct or field locations done under my direct supervision and are correct to the best of my professional knowledge and belief.

Signature of Professional Land Surveyor: *Terrill A. Fisher* Date: *11/13/14*

Terrill A. Fisher, Professional Land Surveyor No. 10892 Expires 12/13/13

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,  
HOWARD COUNTY HEALTH DEPARTMENT.

Signature of *Maureen Roman* DATE: *11/19/2014*

COUNTY HEALTH OFFICER

**SOILS LEGEND**

SOIL	NAME	CLASS
GgB	Glenncl loam, 3 to 8 percent slopes	B
GgC	Glenncl loam, 8 to 15 percent slopes	B

- NOTES:**
- \* Hydric soils and/or contains hydric inclusions
  - \*\* May contain hydric inclusions
  - † Generally only within 100-year floodplain areas

**PERC CERTIFICATION PLAN**  
**NANCY GRIFFIN**

TAX MAP #0  
4TH ELECTION DISTRICT  
SCALE: 1"=50'

PARCEL: 90 PAR 2  
HOWARD COUNTY, MARYLAND  
DATE: OCTOBER 31, 2014

**OWNER**  
NANCY GRIFFIN  
38 SPYCE MILL COURT  
RANDALLSTOWN MD 21133

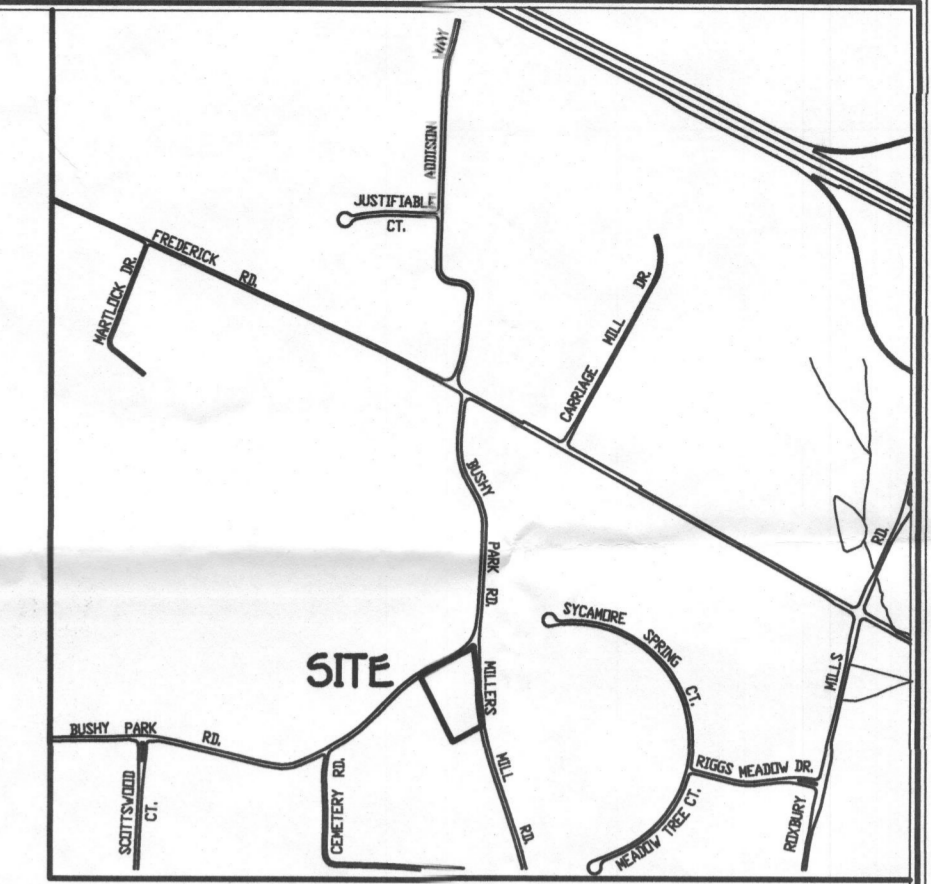
**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE OFFICE PARK - 10270 BALTIMORE NATIONAL Pk.  
ELLCOTT CITY, MARYLAND 21042  
(410) 461 - 2899

K:\Drawings\3\30312 McKeandree Road Pettit\30312 CI Smds2.dwg, 10/31/2014 7:41:16 AM, 1:50

PC 554625

**LEGEND**

- EXISTING 2' CONTOURS
- - - EXISTING 10' CONTOURS
- EXISTING TREE LINE
- CLB? MLD? SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- ⊠ DENOTES PROPOSED HOUSE
- ⊠ DENOTES 1500 Sq.Ft. WELL ZONE



**VICINITY MAP**  
SCALE : 1" = 1200'

**GENERAL NOTES:**

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9. DEED REFERENCE LIBER 13048 FOLIO 87.

**PERC CERTIFICATION**

I certify that the locations shown on this plan are field locations done under my direct supervision and are correct to the best of my professional knowledge and belief.

Signature of Professional Land Surveyor: *Terrell A. Fisher* Date: 10/13/14

Terrell A. Fisher, Professional Land Surveyor No. 10892 Expires 12/13/13

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,  
HOWARD COUNTY HEALTH DEPARTMENT.

COUNTY HEALTH OFFICER \_\_\_\_\_ DATE \_\_\_\_\_

**SOILS LEGEND**

SOIL	NAME	CLASS
GgB	Glenelg loam, 3 to 8 percent slopes	B
GgC	Glenelg loam, 8 to 15 percent slopes	B

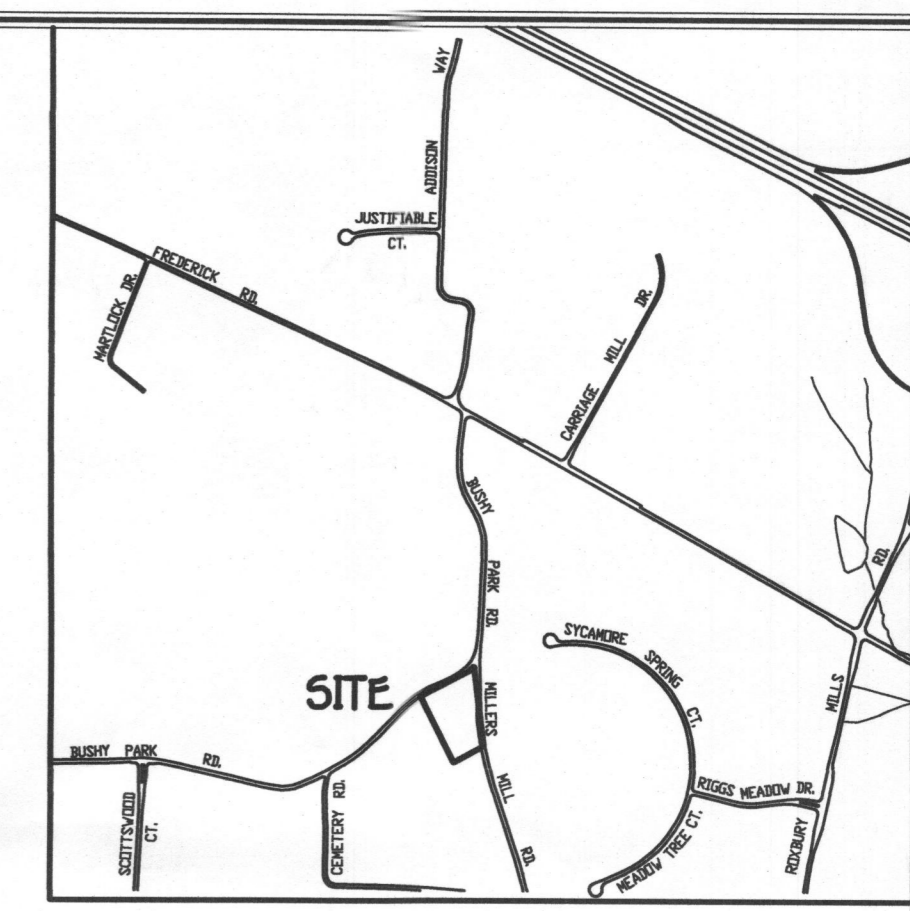
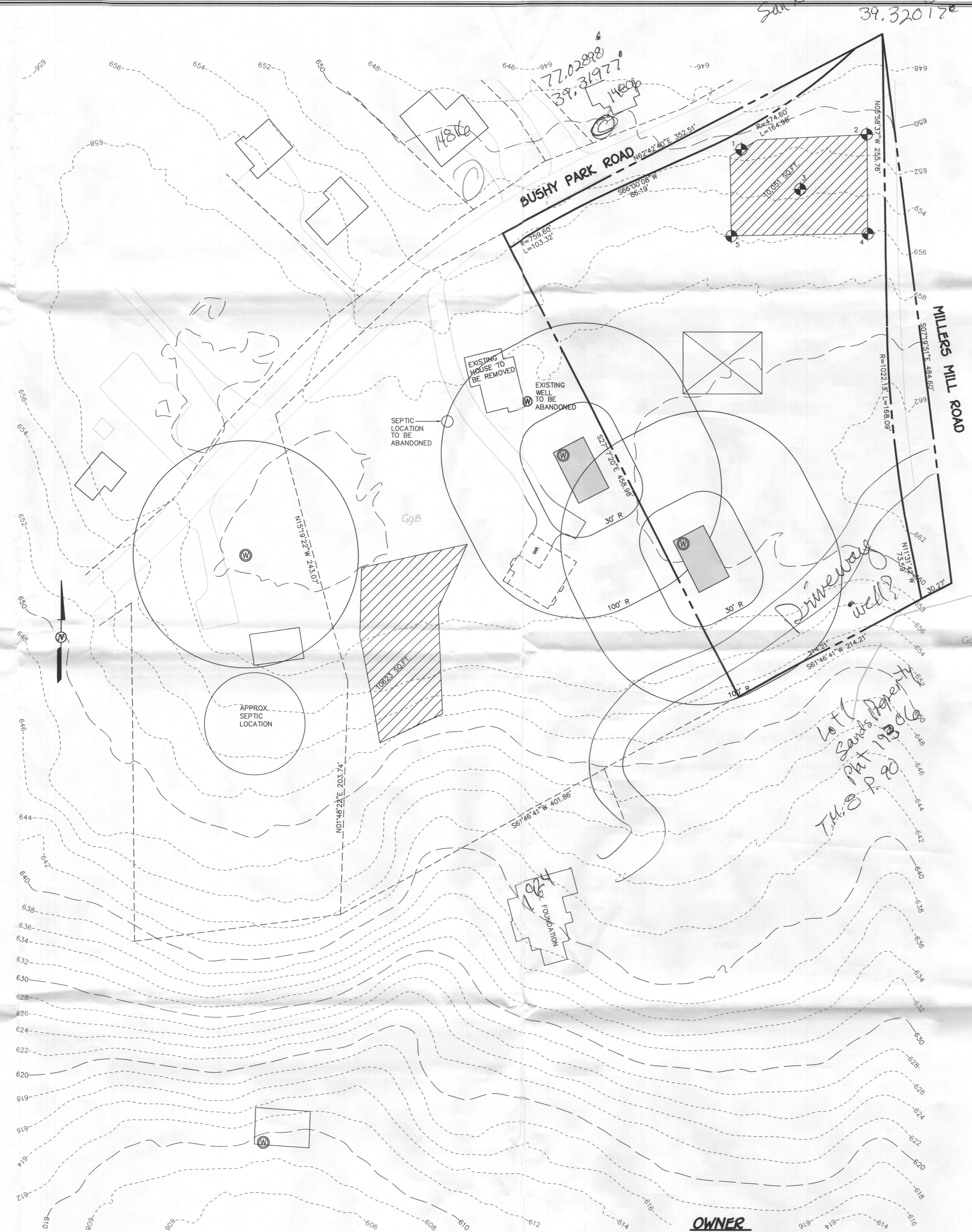
- NOTES:**
- \* Hydric soils and/or contains hydric inclusions
  - \*\* May contain hydric inclusions
  - † Generally only within 100-year floodplain areas

**PERC CERTIFICATION PLAN**  
**NANCY GRIFFIN**

TAX MAP #8 PARCEL: 90 PAR 2  
4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: 1" = 50' DATE: SEPTEMBER 24, 2014

**LEGEND**

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- ⊠ DENOTES PROPOSED HOUSE
- DENOTES 1500 Sq.Ft. WELL ZONE
- DENOTES PROPOSED PERC



**GENERAL NOTES:**

1. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET 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 SEWERAGE IS AVAILABLE. THESE EASEMENTS 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 SEWERAGE EASEMENT SHALL NOT BE NECESSARY.
2. ADJUSTMENTS TO SEPTIC EASEMENT AREA IS NOT PERMITTED WITHOUT ADDITIONAL TESTING.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
4. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPERTY HAVE BEEN SHOWN FROM ALL REASONABLE EFFORTS.
5. ALL HOUSE SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
6. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL.
7. BOUNDARY OUTLINE BASED ON AVAILABLE DEED OF RECORD WITHOUT THE BENEFIT OF A FIELD SURVEY AT THIS TIME.
8. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
9. DEED REFERENCE LIBER 13048 FOLIO 87.

SOILS LEGEND		
SOIL	NAME	CLASS
GgB	Glenelg loam, 3 to 8 percent slopes	B
GgC	Glenelg loam, 8 to 15 percent slopes	B

- NOTES:**
- \* Hydric soils and/or contains hydric inclusions
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  - † Generally only within 100-year floodplain areas

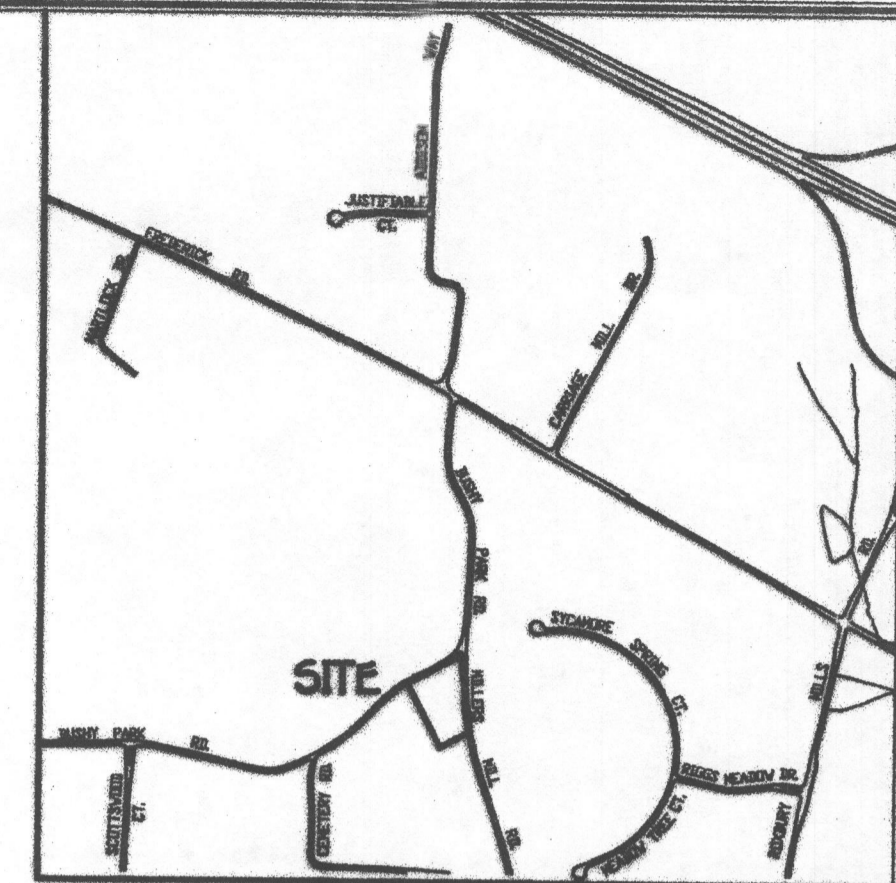
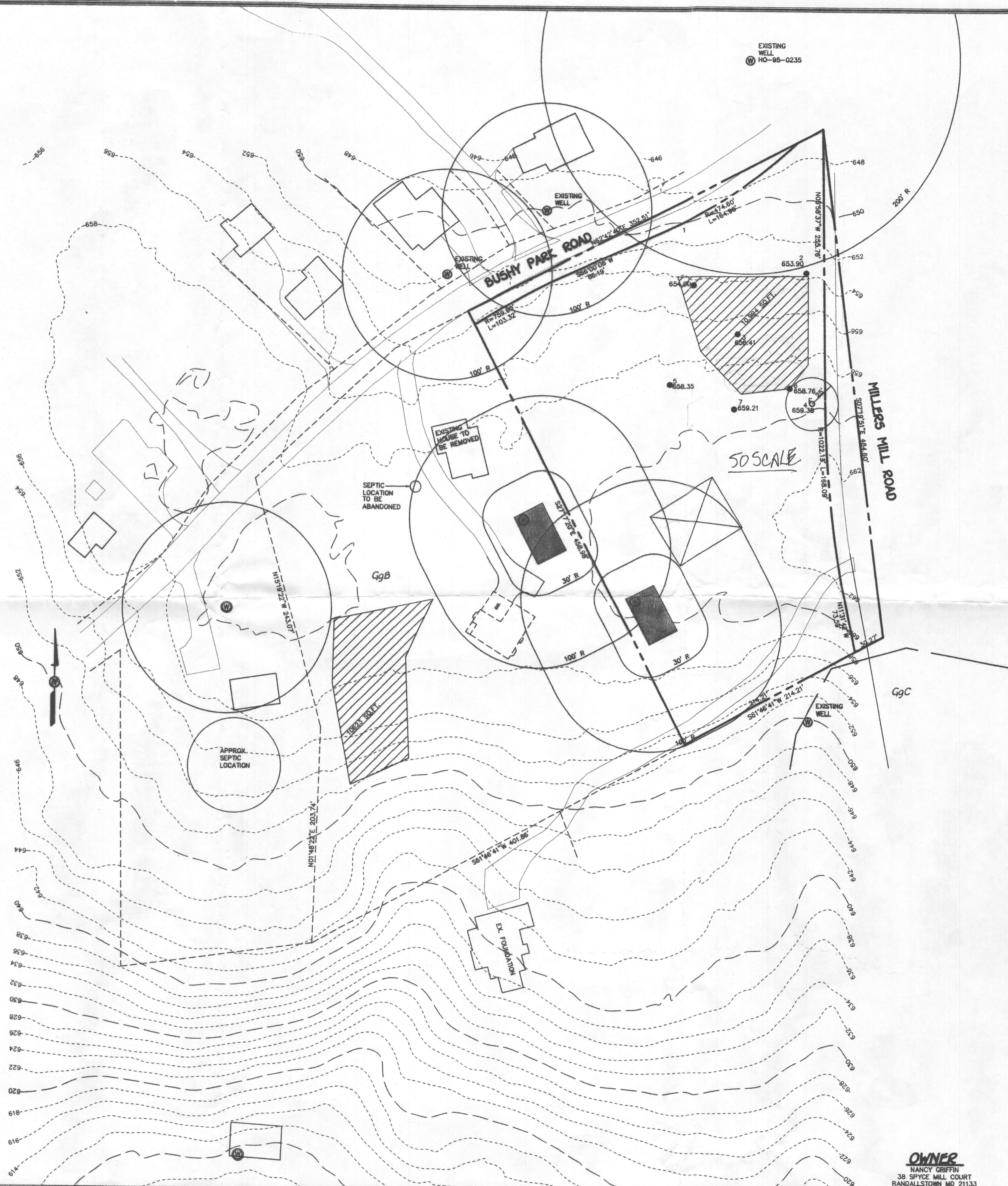
**PERC CERTIFICATION PLAN  
NANCY GRIFFIN**

TAX MAP #8  
4TH ELECTION DISTRICT  
SCALE: 1"=50'

PARCEL: 90 PAR 2  
HOWARD COUNTY, MARYLAND  
DATE: SEPTEMBER 11, 2014

**LEGEND**

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- - - EXISTING TREE LINE
- CLD2  
MLC2 SOIL LINES AND TYPES
- DENOTES EXISTING WELL
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- DENOTES PROPOSED HOUSE
- DENOTES 1500 Sq.Ft. WELL ZONE



VICINITY MAP  
SCALE: 1" = 1200'

**GENERAL NOTES:**

1. THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET 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 SEWERAGE IS AVAILABLE. THESE EASEMENTS 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 SEWERAGE EASEMENT SHALL NOT BE NECESSARY.
2. ADJUSTMENTS TO SEPTIC EASEMENT AREA IS NOT PERMITTED WITHOUT ADDITIONAL TESTING.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
4. EXISTING WELLS AND/OR SEWERAGE EASEMENTS WITHIN 100 FEET OF THE PROPERTY HAVE BEEN SHOWN FROM ALL REASONABLE EFFORTS.
5. ALL HOUSE SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
6. TOPOGRAPHY SHOWN IS FROM HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL.
7. BOUNDARY OUTLINE BASED ON AVAILABLE DEED OF RECORD WITHOUT THE THE BENEFIT OF A FIELD SURVEY AT THIS TIME.
8. ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
9. DEED REFERENCE LIBER 13048 FOLIO 87.
10. THE WELL SHALL BE DRILLED PRIOR TO BUILDING PERMIT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO SUBMITTAL OF A BUILDING PERMIT. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT SIGNATURE OF THE BUILDING PERMIT.
11. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) HAS APPROVED A VARIANCE TO ALLOW THE SEWER DISPOSAL AREAS (SDA) ON THE SUBJECT PROPERTY (SANDS PROPERTY PAR. 2) TO BE UPGRADIENT OF WELL HO-95-0235 WHICH IS AT 14790 BUSHY PARK ROAD (SUN NURSERIES, INC.) THIS APPROVAL BY MDE IS GRANTED PURSUANT TO THE FOLLOWING CONDITIONS:
  1. THE SEPTIC SYSTEM INSTALLED ON THE SUBJECT PROPERTY MUST INCLUDE A BEST AVAILABLE TECHNOLOGY (BAT) UNIT.
  2. ALL SEPTIC SYSTEM DRAINFIELDS ON THE SUBJECT PROPERTY MUST BE DESIGNED FOR PRESSURE DISTRIBUTION OR EQUIVALENT.

**PERC CERTIFICATION**  
I certify that the locations shown on this plan are field locations done under my direct supervision and are correct to the best of my personal knowledge and belief.  
*Terrill A. Fisher*  
Signature of Professional Land Surveyor  
Terrill A. Fisher, Professional Land Surveyor, No. 1022 Expires 12/12/13  
Date: 10/31/14

**APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,**  
HOWARD COUNTY HEALTH DEPARTMENT.  
*Beth Ann for Maria Rossman*  
COUNTY HEALTH OFFICER  
DATE: 11/19/2014

**SOILS LEGEND**

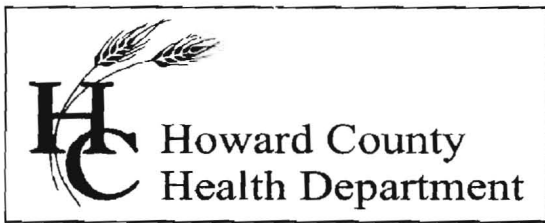
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- NOTES:**
- \* Hydric soils and/or contains hydric inclusions
  - \*\* May contain hydric inclusions
  - † Generally only within 100-year floodplain areas

**PERC CERTIFICATION PLAN  
NANCY GRIFFIN**

TAX MAP #8  
4TH ELECTION DISTRICT  
SCALE: 1"=50'  
PARCEL: 90 PAR 2  
HOWARD COUNTY, MARYLAND  
DATE: OCTOBER 31, 2014

**OWNER**  
NANCY GRIFFIN  
38 SPYCE MILL COURT  
RANDALLSTOWN MD 21133



## Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045  
Main: 410-313-1774 | Fax: 410-313-2648  
TDD 410-313-2323 | Toll Free 1-866-313-6300  
[www.hchealth.org](http://www.hchealth.org)  
Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)  
Twitter: HowardCoHealthDep

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

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September 23, 2014

To: Chuck Zepp, Applicant  
[chuckzepp@mrisc.com](mailto:chuckzepp@mrisc.com)

From: Robert Bricker, REHS/R.S., L.E.H.S.  
Environmental Sanitarian II, Well and Septic Program

RE: Nancy Griffin; Sands Property, Parcel 2 (Tax Map 8, Parcel 90), perc proposal

The following comments relate to the perc plan submitted September 12. A date for percolation tests may be considered when the issues related to the well locations are resolved.

1. The existing wells at the following locations must be field-located and shown on the perc test plan:
  - a. 14816 Bushy Park Road
  - b. 14806 Bushy Park Road
  - c. 14790 Bushy Park Road (Sun Nurseries, near telephone circuit box)
  - d. Sands Property, Lot 1 (Plat #19306); near Miller's Mill Road, between Miller's Mill Road and the property identified as 1924 Miller's Mill Road
2. The proposed sewage disposal area very likely needs to be shifted uphill from the current proposed location.
3. As it effects proposed development on the subject property, the driveway to 1924 Miller's Mill Road must be illustrated accurately on the perc test plan.

RB  
Copy: file

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Thursday, April 16, 2015 12:56 PM  
**To:** Rob Vogel (rvogel@vogeleng.com)  
**Subject:** Griffin Property - Parcel 2

Hi Rob:

Jeff and I co-reviewed the revised plan and we came across a couple more items in need of revisions.

**Chart:** The discharge per hole for 1B & 1C are not accurate based on the Distal Head #'s for each Lateral. ✓

**Lateral Discharge Rate (LDR):** If these were true 1A=16.3, 1B=17.4 and 1C=17.2, then the LDR = 50.9 Total system discharge rate, not lateral discharge rate. ✓

**Minimum Dose:** If the LDR is 50.9 then the volume per 100 feet in the lateral is 10.6 not 7.8. Additionally, the minimum dose should be 1/6th the design flow because its greater than the minimum dose of 102.6 (not 81.6) gallons min. dose. Therefore, the minimum dose should be 125 gallons. Please show those calculations on the plan ✓

**BAT System Profile:** The profile reflects a force main length of 44 ft. but the calculation shows 40 ft.

**High Water Alarm and Pump On/Off Elevations:** Change as necessary based on the new dose

Should you have any questions, please don't hesitate to ask.

Thanks,

Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Bureau of Environmental Health  
Well & Septic Program  
410.313.1786

## Oswald, Hank

---

**From:** Oswald, Hank  
**Sent:** Tuesday, March 24, 2015 8:54 AM  
**To:** Rob Vogel (rvogel@vogeleng.com)  
**Subject:** Bushy Park Road, Parcel 2

Hi Rob:

The Bat Plan for the Griffin Property has been reviewed. Please address the following comments to this plan.

### 1.)Chart:

Show a chart with the following details for each lateral:

- Trench Length ✓
- Lateral Lengths ✓
- Hole Diameter ✓
- Hole Separation ✓
- # of holes ✓
- Discharge/Hole ✓
- Discharge/Lateral ✓
- Distal Head ✓
- Combine Trench Detail with chart (Please note: max invert depth is 4 feet so please make this change.) ✓

### 2.)Lateral Detail:

Show Pipe Turning up at the end (last 5.5 marker) with last hole at elbow. X

Show trench and proper spacing between lateral and end of trench. ✓

Revise statement to read, Turns Up See Detail not See Sand Mounds ✓

### 3.)BAT System Unit:

Use a Norweco 500 instead of a 750 ✓

Lateral Discharge Rates don't match. If you redesign all laterals to be on the same contour then Lateral Discharge Rate calculations wouldn't have to be changed. (It's just a suggestion.)

### 4.)Static Head:

Highest Point in piping network is 655.6 ✓

### 5.)Note:

Add note that wells were field located. ?

Should you have any questions ,please don't hesitate to ask.

Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Bureau of Environmental Health  
Well & Septic Program  
410.313.1786

1/6 design done

44' FM -

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS

Hank Oswald, L.E.H.S  
Howard County Health Department  
Bureau of Environmental Health, Well and Septic Program  
8930 Stanford Boulevard  
Columbia, Maryland 21045

Re: Bushy Park Road (Millers Mill) Lot 2  
BAT Commets

Dear Mr. Oswald,

The following is a point by point response to your 3/24, 2015 email

1. The requested chart has been added to the plan.
2. The lateral detail has been revised as requested.
3. The BAT unit has been revised to the 500 gpd model. The lateral discharges do not match due to the slight change in lateral elevation and number of holes.
4. The static head has been revised accordingly.
5. The well location note has been added.

Should you have any additional questions please do not hesitate to contact this office.

Sincerely,  
**ROBERT H. VOGEL ENGINEERING, INC.**



Robert H. Vogel, P.E.