

C1 1137 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER A520415

ST/CO USE ONLY DATE Received MM DD YY 8 13

DATE WELL COMPLETED MM DD YY 9 28 2010 Depth of Well 22 240 26 (TO NEAREST FOOT) Kw OK

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-95-1998 28 29 30 31 32 33 34 35 36 37

OWNER Greenfield Homes Inc STREET OR RFD Parkville Dr - Access Dr TOWN Clarksville SUBDIVISION Willow Pond SECTION LOT 12

WELL LOG Not required for driven wells STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

GROUTING RECORD WELL HAS BEEN GROUTED (Y) (N) TYPE OF GROUTING MATERIAL (C) (M) (B) (C) NO. OF BAGS 14 NO. OF POUNDS 1316 GALLONS OF WATER 84 DEPTH OF GROUT SEAL (to nearest foot) from 0 48 TOP 52 ft. to 56 54 BOTTOM 58 ft.

CASING RECORD casing types insert appropriate code below (S) (T) (C) (O) (P) (L) (O) (T) MAIN CASING TYPE (S) Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 60

OTHER CASING (if used) diameter inch depth (feet) from to

SCREEN RECORD screen type or open hole (S) (T) (B) (R) (H) (O) (P) (L) (O) (T) DEPTH (nearest ft.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

C 3 PUMPING TEST 1 2 HOURS PUMPED (nearest hour) 3 8 9 PUMPING RATE (gal. per min.) 12 11 15 METHOD USED TO MEASURE PUMPING RATE Bucket WATER LEVEL (distance from land surface) BEFORE PUMPING 37 17 20 ft. WHEN PUMPING 80 22 25 ft. TYPE OF PUMP USED (for test) (A) air (P) piston (T) turbine (C) centrifugal (R) rotary (O) other (describe below) (J) jet (S) submersible

PUMP INSTALLED DRILLER INSTALLED PUMP YES (NO) IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS. TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35 PUMP HORSE POWER 37 41 PUMP COLUMN LENGTH (nearest ft.) 43 47 CASING HEIGHT (circle appropriate box and enter casing height) (+) above ( ) below LAND SURFACE (nearest foot) 2

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED (Y) (N)

CIRCLE APPROPRIATE LETTER A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED E ELECTRIC LOG OBTAINED P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. 1 MSD024 DRILLERS SIGNATURE Joseph E Mayne (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. 1 D

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68 68 MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q 70 72 74 75 76 TELESCOPE CASING LOG INDICATOR OTHER DATA

LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL) See attached locations

B 1 3400  
1 2 3 6

SEQUENCE NO.  
(MDE USE ONLY)

STATE OF MARYLAND  
APPLICATION FOR PERMIT TO DRILL WELL

534010 please type

STATE PERMIT NUMBER

HO-95-1998  
70 fill in this form completely 79

Date Received (APA)  
08 30 10  
8 MM DD YY 13

OWNER INFORMATION

Greenfield Homes Inc  
15 Last Name Owner First Name 34  
6656 Luster Drive  
36 Street or RFD 55  
Highland Md 20777  
57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL

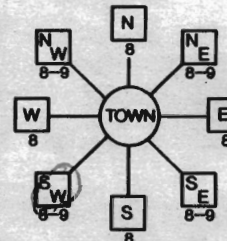
Howard  
8 COUNTY 21  
Willow Pond  
23 SUBDIVISION 42  
SECTION 44 46 LOT 12 48 50  
Clarksville  
52 NEAREST TOWN 71  
MILES FROM TOWN (enter 0 if in town) 1 MI  
73 76 77 78

DRILLER INFORMATION

Joseph L Mayne MS D 024  
76 Driller's Name License No. 81  
Joseph L Mayne Well Driller 9  
Firm Name  
5512 Ridge Rd Mt. Airy Md 21771  
Address  
Joseph L Mayne 8-24-2010  
Signature Date

B 4

1 2  
DIRECTION OF WELL FROM  
TOWN (CIRCLE BOX)



Prestwick Dr - Access Dr  
11 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD  
(CIRCLE APPROPRIATE BOX)  
540  
34 37  
DISTANCE FROM ROAD  
ENTER FT OR MI 38 39  
TAX MAP: 34 BLK: 17 PARCEL 382

B 2 WELL INFORMATION

APPROX. PUMPING RATE 4  
(GAL. PER MIN.) 8 12  
AVERAGE DAILY QUANTITY NEEDED 500  
(GAL. PER DAY) 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
- FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- INDUSTRIAL, COMMERCIAL, DEWATERING
- PUBLIC WATER SUPPLY WELL
- TEST, OBSERVATION, MONITORING
- GEO-THERMAL

NOT TO BE FILLED IN BY DRILLER  
HEALTH DEPARTMENT APPROVAL

Howard (13) A520415  
COUNTY NAME COUNTY NO.  
STATE SIGNATURE INSERT S → 41  
DATE ISSUED 9/13/2010  
43 MM DD YY 48 CO SIGNATURE BRUNN BAKER 9/13/2011 EXP. DATE  
NORTH GRID 496 000 EAST GRID 813 000  
50 55 57 63

APPROXIMATE DEPTH OF WELL 400 FEET  
24 28

APPROXIMATE DIAMETER OF WELL 6 INCH  
NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN  
30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)  
37 CABLE REVERSE-ROTary DRIVE-POINT  
other

REPLACEMENT OR DEEPEMED WELLS  
(CIRCLE APPROPRIATE BOX)

- THIS WELL WILL NOT REPLACE AN EXISTING WELL
  - THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
  - THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
  - THIS WELL WILL DEEPEMED AN EXISTING WELL
- PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52

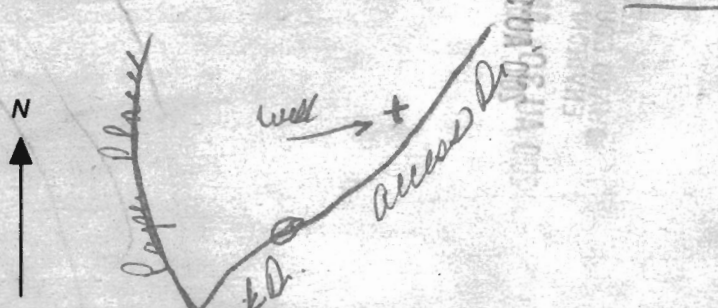
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER  
1. well  
2.  
3.

WRITE THE BOX NUMBER FROM THE MAP HERE  
E 813  
N 496

9/28/10  
Radium Sample Collected BB

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER G  
PERMIT No. HO-95-1998  
70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS  
NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED  
Need to collect Radium Sample During Yield Test

**HOWARD COUNTY HEALTH DEPARTMENT  
BUREAU OF ENVIRONMENTAL HEALTH  
WATER AND SEWERAGE PROGRAM  
TEL: (410)313-2640 FAX: (410)313-2648**

Information Form for the Installation of the Well Pump, Pitless Adapter, and Supply Piping

**NOTE: The installer is responsible for requesting an inspection prior to 9 am on the day of the desired inspection. No work is to be covered until approved by the Health Department. All installations must comply with the National Standard Plumbing Code (NSPC, as amended locally) and COMAR 26.04.04 (MD Well Construction Regulations). Submission of a complete form is required prior to Use and Occupancy approval.**

Company Name: Gartland Plumbing Telephone #: 410-825-5303  
Address: 1620 W. Old Liberty Rd  
Sykesville, MD 21284

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer

License # and name of individual responsible for the field installation:

Name (Print): Joe Gartland License# 6352

\*A licensed individual must perform the actual installation. Apprentices must be under the direct supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification.

Name of Property Owner: Greenfield Homes Inc Telephone #: 410-365-3902  
Subdivision: Willow Pond Lot #: 12 Well Tag #: HO-95-1998  
Site Address: 6505 Prestwick Dr  
Clarksville, MD 21029

Submersible Pump Data

Make: Goulds  
Model #: 76507  
Pump Capacity 10 GPM  
Well Yield: 12 GPM

Pitless Adapter

Make: WSC  
Model#: P-100-55  
Depth: 48 (36" min)  
NSF approved:

Well Cap and Electric Conduit

Two piece watertight cap:   
Screened, vented well cap:   
Cap secured to casing:   
Conduit min 18" B.G.:   
Conduit secured to well cap:

Depth of well encountered at time of pump installation: 240 (feet)

If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4

Torque arrestors or Cable guards are required - Must circle one

Safety rope, if used, attached to inside of well casing with eye bolt Yes

Piping to house

Type: Poly  
PSI: 160/160 (psi min)  
Depth of supply line:  (36" min)

House Connection

PVC sleeved to undisturbed soil at wall penetration:   
Approximate length of sleeve: 30'  
Sleeve caulked and sealed properly:

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation

2-14-13  
date

For Health Department Use Only - Not to be completed by Installer

Date Insp. Requested: \_\_\_\_\_ Date Insp. Approved: \_\_\_\_\_

- Inspection Data: Pitless adapter and water supply line at least 36" below grade \_\_\_\_\_
- Two piece cap installed and attached to casing securely \_\_\_\_\_
- Elec. conduit extends at least 18" below grade/attached to cap properly \_\_\_\_\_
- Safety rope installed inside of well casing \_\_\_\_\_
- Correct well tag attached properly and casing 8" above finished grade \_\_\_\_\_
- Water supply line sleeved adequately at house connection \_\_\_\_\_
- Adequate grout observed below pitless adapter \_\_\_\_\_

HOWARD COUNTY HEALTH DEPARTMENT  
 BUREAU OF ENVIRONMENTAL HEALTH  
 WELL & SEPTIC PROGRAM  
 TEL: (410)313-1771 FAX: (410)313-2648

Information Form for the Installation of the Well Pump, Pitless Adapter, and Supply Piping

**NOTE: The installer is responsible for requesting an inspection prior to 9 am on the day of the desired inspection. No work is to be covered until approved by the Health Department. All installations must comply with the National Standard Plumbing Code (NSPC, as amended locally) and COMAR 26.04.04 (MD Well Construction Regulations). Submission of a complete form is required prior to Use and Occupancy approval.**

Company Name: \_\_\_\_\_ Telephone #: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_

(Must circle one) Licensed Plumber      Licensed Well Driller      Licensed Well Pump Installer  
 License # and name of individual responsible for the field installation:

Name (Print): \_\_\_\_\_ License# \_\_\_\_\_

**\*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.**

Name of Property Owner: Greenfield Homes Telephone #: \_\_\_\_\_  
 Subdivision: Willow Pond Lot #: 12 Well Tag #: HO - 95 - 1998  
 Site Address: 6505 Proctor Dr.

**Submersible Pump Data**

Make: \_\_\_\_\_  
 Model #: \_\_\_\_\_  
 Pump Capacity \_\_\_\_\_ GPM  
 Well Yield: \_\_\_\_\_ GPM

**Pitless Adapter**

Make: \_\_\_\_\_  
 Model#: \_\_\_\_\_  
 Depth: \_\_\_\_\_ (36" min)  
 NSF/WSC approved: \_\_\_\_\_

**Well Cap and Electric Conduit**

Two piece watertight cap: \_\_\_\_\_  
 Screened, vented well cap: \_\_\_\_\_  
 Cap secured to casing: \_\_\_\_\_  
 Conduit min 18" B.G.: \_\_\_\_\_

Depth of well encountered at time of pump installation: \_\_\_\_\_ (feet) Conduit secured to well cap: \_\_\_\_\_

If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4

Torque arrestors, Cable guards, or other acceptable method used- Must circle one

Safety rope, if used, attached to brass rope adapter or other acceptable method inside of well casing \_\_\_\_\_

**Piping to house**

Type: \_\_\_\_\_  
 PSI: \_\_\_\_\_ (160 psi min)  
 Depth of supply line: \_\_\_\_\_ (36" min)

**House Connection**

PVC sleeve to undisturbed soil at wall penetration: \_\_\_\_\_  
 Length of sleeve(5' minimum from foundation): \_\_\_\_\_  
 Sleeve sealed properly: \_\_\_\_\_

**The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.**

Signature of company representative responsible for installation \_\_\_\_\_ date \_\_\_\_\_

**For Health Department Use Only - Not to be completed by Installer**

Date Insp. Requested: \_\_\_\_\_ Date Insp. Approved: 2/5/13 Inspector: KW  
 Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade   
 Two piece cap installed and attached to casing securely   
 Elec. conduit extends at least 18" below grade/attached to cap properly   
 Safety rope not outside of well cap/casing   
 Correct well tag attached properly and casing 8" above finished grade   
 Water supply line sleeved adequately at house connection   
 Adequate grout observed below pitless adapter

*\* Not called in  
 Done during  
 Spoke with*

NON  
PRESER  
HOMER  
OWNED  
EASER

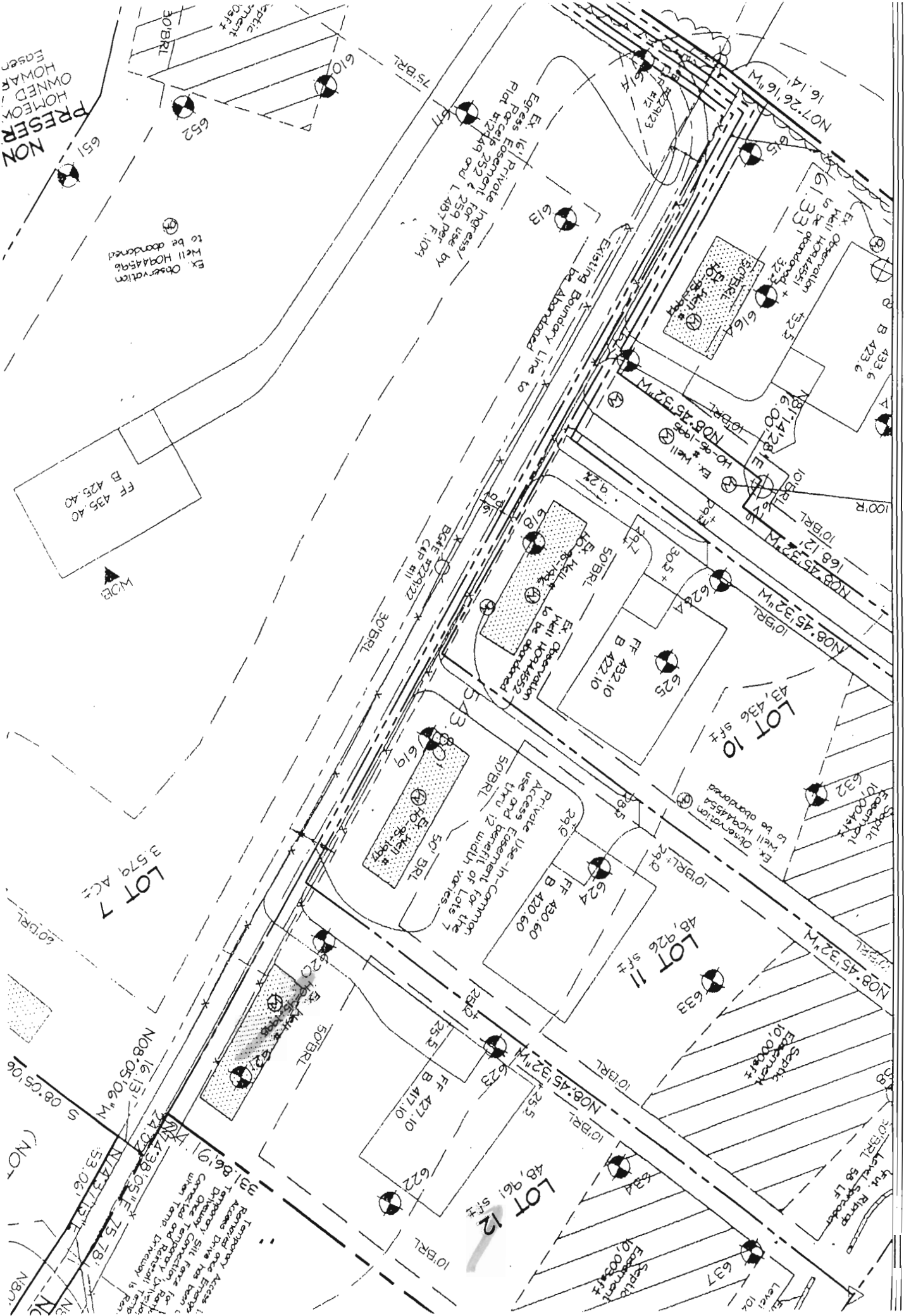
Ex. Observation  
Well HOQ44596  
to be abandoned

Ex. 16 Private Ingress/  
Egress Easement for use by  
Plat #12, 19 and L 487 F. 109

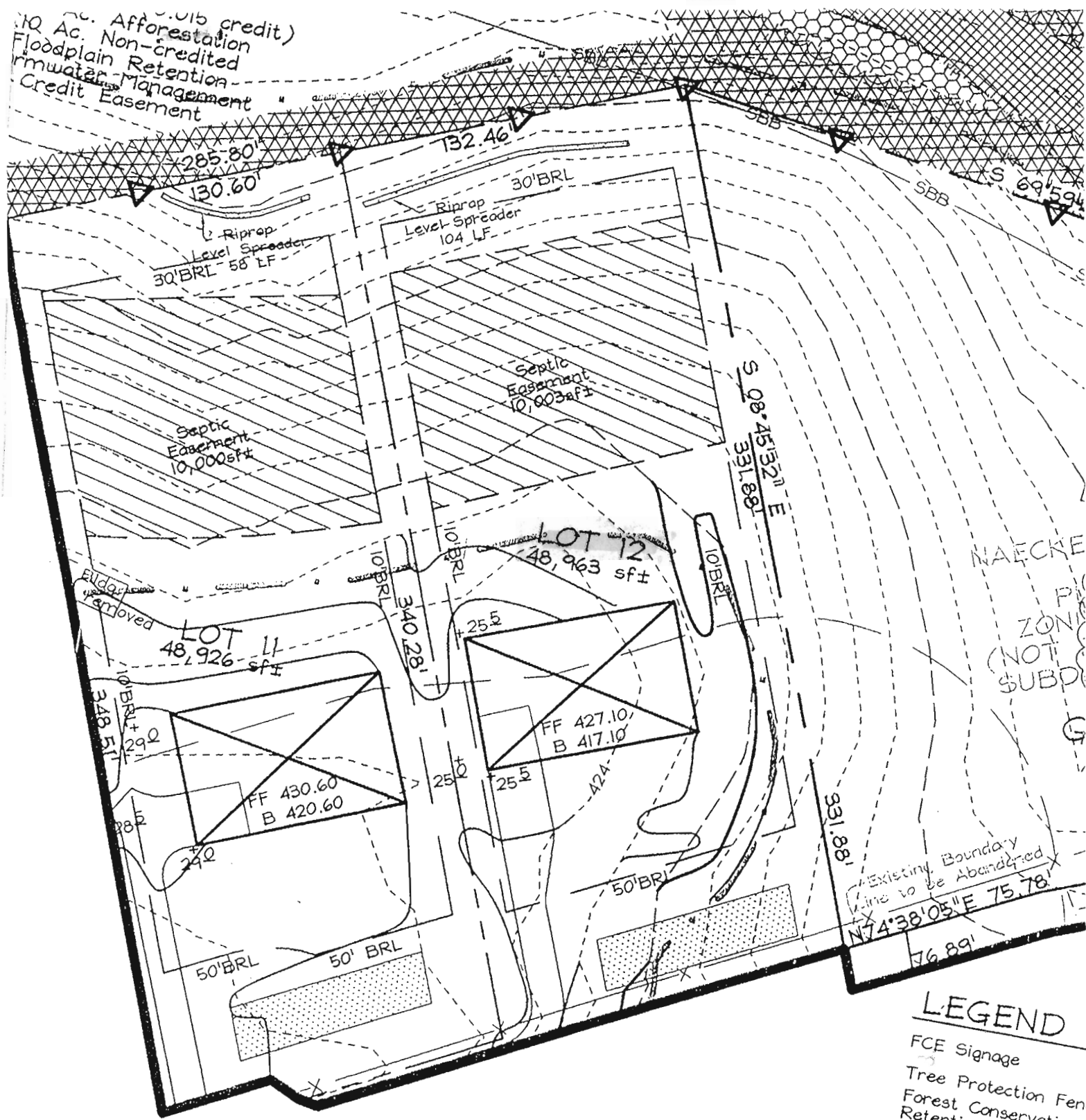
Existing Boundary Line to  
be Abandoned

Private Use-In-Common  
Access Easement for the  
use and benefit of Lots 7  
 thru 12 with varies.

Temporary Access  
to  
Temporary Drive and Easement  
Created and Reserved for  
Use by the Property Owners  
When the Temporary Access  
is no longer needed.



10.015 credit)  
 10 Ac. Non-credited  
 Floodplain Retention  
 Stormwater Management  
 Credit Easement



NAECKE  
 ZONING  
 (NOT  
 SUBD)

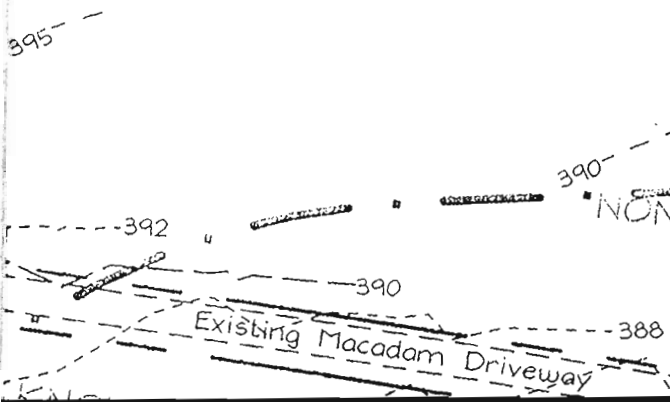
**LEGEND**

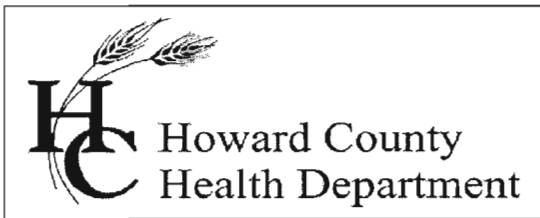
- FCE Signage
- Tree Protection Fence
- Forest Conservation Retention Area
- Forest Conservation Non-Credited Floodplain Retention Area
- Forest Conservation Easement Afforestation Area

\* See Sheet 8 or

9/13/2010  
 Location as Per  
 Plat. **(BB)**

THE PRESERVE AT CLARKSVILLE  
 NON-BUILDABLE PRESERVATION PARCEL 'F'  
 PLAT 319218  
 ZONING RR-DEO  
 S 79°54'31" E





Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
Main: 410-313-6300 | Fax: 410-313-6303  
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

**INTERIM CERTIFICATE OF POTABILITY**  
**PERMANENT DEVIATION FOR RADIUM**  
Expiration Date – March 1, 2014

October 1, 2013

Homeowner  
6505 Prestwick Drive  
Clarksville, Maryland 21029

**RE: Willow Pond, Lot #12**  
**6505 Prestwick Drive**  
**Building Permit: BB12003482**  
**Well Permit: HO-95-1998**

Dear Homeowner:

This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **2/5/13**. Final approval of the well line connection to the dwelling was granted on **2/5/13**. The well construction was completed on **9/28/10**. Water samples were collected on **9/27/13**.

The water sample results indicate that the water samples submitted for testing were free of coliform and fecal coliform bacteria at the time of sampling and are bacteriologically safe for drinking.

Gross Alpha and Beta samples were also collected on **9/28/10**. Results showed a Gross Alpha level of **35.9 ± 4.7 pCi/L** and Gross Beta level of **42.0 ± 3.2 pCi/L**. **This exceeds the maximum contaminant level (MCL) of 15 pCi/L and/or 50 pCi/L, respectively.**

After installation of a radionuclide removal device(kitchen tap reverse osmosis system), post-treatment water samples were collected on **9/16/13** and indicated a Gross Alpha level of **0.5 ± 0.4 pCi/L**, a Gross Beta level of **1.4 ± 0.9 pCi/L**, and a Radium 226/228 level of **0.3 ± 0.2 pCi/L**.

This Department will grant a **permanent deviation** to the Interim Certificate of Potability on condition that the radionuclide removal system effectively maintains a Gross Alpha level of less than **15 pCi/L**, a Gross Beta level of less than **50 pCi/L**, and a Radium 226/228 level of less than **5 pCi/L**.

**Furthermore, it will be necessary for you to comply with the following conditions:**

1. The system must be properly operated and maintained continuously in accordance with the service contract for the life of the residence.

2. It is recommended that a Maryland certified water laboratory certified for radionuclide analysis perform a yearly radionuclide analysis.
3. If you decide to sell or rent your home in the future, you must make any potential buyer/tenant aware of this permanent deviation. **A person who fails to make this disclosure is subject to the penalties set out in COMAR 26.04.04.12F Enforcement and Environment Article 9-1311, Annotated Code of Maryland.**

This certifies that the initial sampling requirements of COMAR 26.04.04 "Well Regulations" have been met for the water supply system installed under well permit HO-95-1998. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will be issued. **Failure to submit an additional sample and obtain a Final Certificate of Potability will result in a Notice of Violation and is punishable as a misdemeanor under the Annotated Code of Maryland, Environment Article, 9-1311, subject to a fine of up to \$500 or imprisonment not to exceed three months.**

Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water quality laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:  
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

Approving Authority,



Dana Bernard, REHS/RS  
Environmental Sanitarian  
Well & Septic Program

cc: Howard County Dept. of Inspections, Licenses, and Permits  
Community Hygiene Program  
File



**TRACE LABORATORIES, INC**  
 5 North Park Drive  
 Hunt Valley, MD 21030 USA  
 Telephone: 410/584-9099 / Fax: 410/584-9117  
 Website: www.tracelabs.com / Email: info@tracelabs.com

Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 6656 Luster Drive  
 Highland, Maryland 20777

**S/O Number:** 90619

**Report Date:** September 30, 2013

**Property Sampled:** 6505 Prestwick Drive, 21029  
**Sample Location:** Pressure Tank Tap  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B12003482  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard      **Subdivision:** Willow Pond      **Lot #:** 12

**Date/Time Collected in Field:** September 27, 2013 @ 10:45 am  
**Date/Time Received in Lab:** September 27, 2013 @ 12:26 pm

**Well Tag #:** HO-95-1998  
**Well Condition:** 2-Piece Cap, Satisfactory

*OK  
 10-1-13  
 JH*

**Water Treatment/Conditioning:** N/A

PARAMETER	METHOD	MCL/*SMCL	RESULT	PASS/FAIL
Total Coliform	SM 9223B	Absent	Absent	Pass
<i>E. coli</i>	SM 9223B	Absent	Absent	Pass
Nitrate	SM 4500D	10 mg/L as N	<1.0 mg/L as N	Pass
Turbidity	EPA 180.1	10 NTU	3.8 NTU	Pass
pH	EPA 150.1	*6.5-8.5 Units	6.6 Units	***
Sand		Absent	Absent	Pass

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

*Katherine C. Higgs*  
 \_\_\_\_\_  
 Katherine C. Higgs  
 Manager – Drinking Water Testing

MCL: Maximum Contamination Level, an enforceable level established by the EPA  
 \*SMCL: Secondary Maximum Contamination Level, a level recommended by the EPA  
 \*\*\*A non-enforceable parameter that may cause cosmetic effects or aesthetic effects (such as taste, color or odor) in drinking water.



**TRACE LABORATORIES, INC**  
 5 North Park Drive  
 Hunt Valley, MD 21030 USA  
 Telephone: 410/584-9099 / Fax: 410/584-9117  
 Website: www.tracelabs.com / Email: info@tracelabs.com

Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 6656 Luster Drive  
 Highland, Maryland 20777

**S/O Number:** 90463

**Report Date:** September 27, 2013

**Property Sampled:** 6505 Prestwick Drive, 21029  
**Sample Location:** Kitchen R/O Tap  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B12003482  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard      **Subdivision:** Willow Pond      **Lot #:** 12

**Date/Time Collected in Field:** September 16, 2013 @ 10:02 am  
**Date/Time Received in Lab:** September 16, 2013 @ 11:53 am

**Well Tag #:** HO-95-1998  
**Well Condition:** 2-Piece Cap, Satisfactory

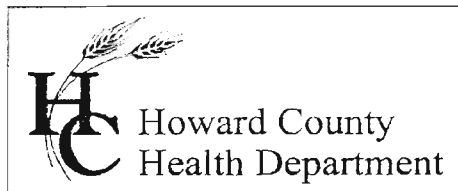
**Water Treatment/Conditioning:** Softener, Reverse Osmosis (R/O)

PARAMETER	METHOD	MCL* (pCi/L)	RESULT (pCi/L)	COMMENT
Gross Alpha, Short-Term	EPA 900.0	15	<0.7 ± 0.5	Acceptable [+]
Gross Beta, Short-Term	EPA 900.0	50	<1.6 ± 1.0	Acceptable [+]
Gross Alpha, Long-Term	EPA 900.0	15	0.5 ± 0.4	Acceptable [+]
Gross Beta, Long-Term	EPA 900.0	50	1.4 ± 0.9	Acceptable [+]
Radium 226	EPA 903.1	5 pCi/L Combined	0.3 ± 0.2	Acceptable
Radium 228	EPA Ra-05		<0.8 ± 0.4	Acceptable

[+] NOTE: The primary sources of gross alpha activity in water are Radium-224, Radium-226, and/or Uranium. Gross alpha levels between 5 and 15 pCi/L are considered moderate, and levels greater than 15 pCi/L are considered high. When levels are moderate or high, treatment or further testing is recommended and in certain cases may be required by the health department. Gross beta activity in water is primarily from Radium-228.

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

*Katherine C. Higgs*  
 Katherine C. Higgs  
 Manager - Drinking Water Testing



Bureau of Environmental Health  
7178 Gateway Drive Columbia, MD 21046  
(410) 313-2640 Fax (410) 313-2648  
TDD (410) 313-2323 Toll Free 1-866-313-6300  
website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

November 17, 2010

Greenfield Homes, Inc.  
6656 Luster Drive  
Highland, Maryland 20777

RE: Willow Pond Lot 12  
Prestwick Drive  
Well Tag: HO - 95 - 1998

To Whom It May Concern:

A sample was collected during a yield test on September 28, 2010 and submitted to the Department of Health & Mental Hygiene Laboratories to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this screening revealed a **Gross Alpha** of  $35.9 \pm 4.7$  picocuries/liter (pCi/L); while the **Gross Beta** level was  $42.0 \pm 3.2$  pCi/L. The **Gross Alpha** result was above its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L (roughly equivalent to the **annual dose rate** of 4 millirems/year).

At the time of testing and with respect to these parameters, the future well water supply **does not** appear safe for all uses. Additional testing **for these parameters, plus Radium 226 and Radium 228** will be required to secure the future Use & Occupancy. Given the elevated finding for **Gross Alpha** and higher than typical finding for **Gross Beta**, installation of a water softener system and / or a reverse osmosis system will likely be necessary. If you elect to install treatment upfront, **only a post short and long term Gross Alpha and Beta, plus a post Radium 226 / 228** will be needed to properly evaluate the effectiveness of the installed treatment. Given that it typically takes up to one month to perform and receive back the **Radium** analyses, plan accordingly. Also note, this is in addition to other standard testing parameters (bacteria, nitrate, turbidity and sand) that will still be required to help secure Use & Occupancy.

A copy of the test results is enclosed for your information. Please call this office at 410-313-1773 if you have any further questions or to discuss additional testing requirements.

Sincerely,

Bert Nixon, Director  
Bureau of Environmental Health

Enclosure

cc: Barry Glotfelty, MDE Water Mgmt.  
✓ Well & Septic property file

Send Report To:

Howard County Health Department  
Bureau of Environmental Health  
7178 Columbia Gateway Drive  
Columbia, Maryland 21046

State of Maryland  
DHMH - Laboratories Administration  
Division of Environmental Chemistry  
**RADIATION LABORATORY**  
201 W. Preston Street, Baltimore, Maryland 21201  
John M. DeBoy, Dr. P. H., Director

E000465 828

**LABORATORY ANALYSIS REQUEST**

Sample Bottle No. A: H0125/1998 No. B: — Field Blank Bottle No. 1: N/A No B: N/A

Plant/Site Name: Willow Pond - Lot 12 County: Howard

Sample Source: Well Location: H0-95-1998  
(Postmark Dr.) (well no, lab sink, sample tap, etc.)

County:   Plant No.

CHECK (one per box)

Drinking Water   
Landfill   
Stream   
Other

Community   
Non-community   
Private   
Other

Source (raw water)   
Distribution (treated)   
MCL

Emergency   
Routine   
Recheck   
Special

Collector: Michael Johnson (M 59883) Telephone No.: \_\_\_\_\_

Date Collected: 9/28/10 Time Collected: 10:32 a.m. \_\_\_\_\_ p.m.

Nitric Acid Preserved: Yes  No  Iced: Yes  No

Submitters Code:  Federal Project:  Field Data: N/A N/A  
pH Chlorine

Remarks: Reported 10/12/10 d 10.5 ± 2.5 p 31.5 ± 3.0

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Analyzed	Date Reported
✓	Gross Alpha	4000	0465	35.9 ± 4.7	10/04/10	10/05/10
✓	Gross Beta	4100	0465	42.0 ± 3.2	11	"
	Radon-222 Bottle A	4004				
	Radon-222 Bottle B	4004				
	Field Blank #A	4004				
	Field Blank #B	4004				
	Tritium					
	Ra - 226	4020				
	Ra - 228	4030				
	Total Uranium	4006				

Date Received: 09/28/10

Supervisor: [Signature]

•Tel. No.: (410) 767 - 5537 •Fax No: (410) 333- 5373