

**C1** 34422 SEQUENCE NO. (MDE USE ONLY)  
 1 2 3 6  
 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

**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

ST/CO USE ONLY DATE Received MM DD 06 22 YY 15 DATE WELL COMPLETED MM DD 5-18-15 Depth of Well 22 350 26 (TO NEAREST FOOT) PERMIT NO. FROM "PERMIT TO DRILL WELL" OK 8/7/15 SC HO-15-0074

OWNER McDonald Elizabeth - Robert WELL SITE ADDRESS last name 2150 Duffell Rd first name TOWN Woodbine MD SUBDIVISION Mullinix SECTION LOT 4

**WELL LOG**  
 Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
clean fill	0	3	
Brn Sand/Clay	3	27	
Brn Weathered Rock	27	53	
Brn Rock	53	110	
Gray Rock	110	350	

**GROUTING RECORD** yes no  
 WELL HAS BEEN GROUTED (Circle Appropriate Box) **Y** **N**  
 TYPE OF GROUTING MATERIAL (Circle one) CEMENT **CM** BENTONITE CLAY **BC**  
 NO. OF BAGS 45 46 36 NO. OF POUNDS 45 46 1700  
 GALLONS OF WATER 400  
 DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 350 ft.  
 (enter 0 if from surface)

**CASING RECORD**  
 casing types insert appropriate code below  
**ST** STEEL **CO** CONCRETE  
**PL** PLASTIC **OT** OTHER  
 MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot)  
 60 61 63 64 66 70

**OTHER CASING (if used)**  
 diameter inch depth (feet) from to  
 E A C H C A S I N G

**SCREEN RECORD**  
 screen type or open hole insert appropriate code below  
**ST** STEEL **BR** BRASS **HO** OPEN HOLE  
**PL** PLASTIC **OT** OTHER

NUMBER OF UNSUCCESSFUL WELLS: \_\_\_\_\_  
 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. M WD 553  
 DRILLERS SIGNATURE  
 LIC. NO. D 144

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

**C2** DEPTH (nearest ft.)  
 1 2  
 E A C H S C R E E N  
 8 9 11 15 17 21  
 23 24 26 30 32 36  
 38 39 41 45 47 51  
 SLOT SIZE 1 2 3  
 DIAMETER OF SCREEN (NEAREST INCH)  
 56 60  
 from to

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

**C3** **PUMPING TEST**  
 HOURS PUMPED (nearest hour) 8 9  
 PUMPING RATE (gal. per min.) 11 15  
 METHOD USED TO MEASURE PUMPING RATE  
 WATER LEVEL (distance from land surface)  
 BEFORE PUMPING 17 20 ft.  
 WHEN PUMPING 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 (CIRCLE) (YES OR NO) 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. 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 } LAND SURFACE (nearest foot)  
 - below } 49 50 51

LATITUDE 39.31301  
 LONGITUDE 77.09011  
 (DEFAULT COORD. WGS 84)

NOTES:  
 (+) x y  
 front

B 1 36086  
 1 2 3 6  
 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND  
 APPLICATION FOR PERMIT TO DRILL WELL  
 please type

STATE PERMIT NUMBER  
40-15-0074  
 70 79  
 fill in this form completely

Date Received (APA)  
 8 MM DD YY 13  
McDonald Elizabeth + Robert  
 15 Last Name Owner First Name 34  
16525 A E Mullinix Road  
 36 Street or RFD 55  
Woodbine MD 21797  
 57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL  
Howard  
 8 COUNTY 21  
Mullinix  
 23 SUBDIVISION 42  
 SECTION 4 LOT 4  
 44 46 48 50  
Woodbine  
 52 NEAREST TOWN 71

DRILLER INFORMATION  
C. John Hess MWD SS3  
 76 License No. 81  
Allied Environmental Services  
 Firm Name  
PO Box 12 Annapolis Junction MD 20701  
 Address  
C. John Hess 04/10/15  
 Signature Date

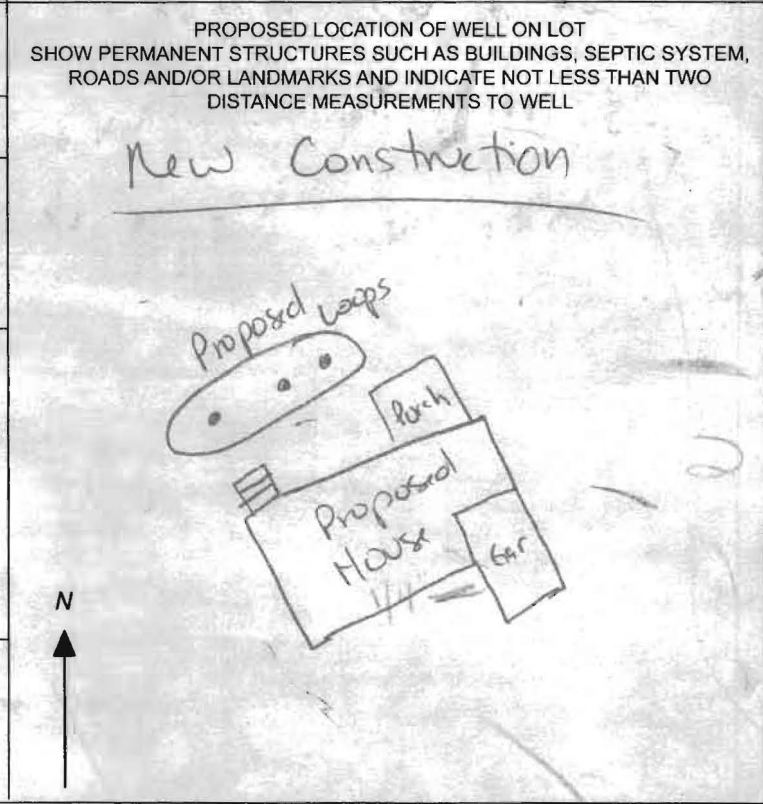
B 4 SOURCES OF DRILLING WATER  
 1. Public  
 2.  
 3.  
2150 Duvall Road  
 11 STREET ADDRESS 30  
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)  
 NORTH N  
 WEST W EAST E  
 SOUTH S  
 34 275 37  
 DISTANCE FROM ROAD FT  
 ENTER FT OR MI 38 39  
 TAX MAP: 0007 BLK: 0022 PARCEL: 0428

B 2 WELL INFORMATION  
 1 2  
 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12  
 AVERAGE DAILY QUANTITY NEEDED (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  
 OPEN LOOP GEOTHERMAL  
 CLOSED LOOP GEOTHERMAL 3 loops

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL  
Howard (13) A537366  
 COUNTY NAME COUNTY NO.  
 STATE SIGNATURE INSERT S → 41  
 DATE ISSUED 4/30/2015  
 43 MM DD YY 48 CO SIGNATURE Brian Baker EXP. DATE 4/30/2016

APPROXIMATE DEPTH OF WELL 350 FEET  
 24 28  
 APPROXIMATE DIAMETER OF WELL 6 INCH  
 NEAREST

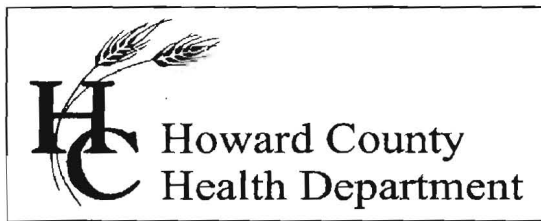


METHOD OF DRILLING (circle one)  
 BORED (or Augered) JETTED Jetted & DRIVEN  
 30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)  
 37 CABLE REVerse-ROTary DRive-POINT  
 other

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 DEEPEM AN EXISTING WELL  
 PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 \_\_\_\_\_ 52

Not to be filled in by driller (MDE OR COUNTY USE ONLY)  
 APPROP. PERMIT NUMBER \_\_\_\_\_ G \_\_\_\_\_  
 PERMIT No. 40-15-0074  
 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS  
 NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED



**Bureau of Environmental Health**

8930 Stanford Blvd., Columbia, MD 21045

Main: 410-313-2640 | 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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**INTERIM CERTIFICATE OF POTABILITY**

**Expiration Date – June 23, 2016**

**December 23, 2015**

Homeowner  
2150 Duvall Road  
Woodbine, MD 21797

**RE:** Mullinix Farms, Lot 4  
2150 Duvall Road  
**Building Permit: B15000587**  
**Well Permit: HO-15-0074**

Dear Homeowner:

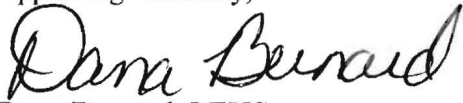
This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **12/3/2015**. Final approval of the well line connection to the dwelling was granted on **7/14/2015**. The well construction was completed on **5/18/2015**. Water samples were collected on **12/16/2015**.

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. 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-15-0074**. 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 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,

A handwritten signature in black ink that reads "Dana Bernard". The signature is written in a cursive style with a large, prominent initial "D".

Dana Bernard, LEHS  
Groundwater Management Section  
Well & Septic Program

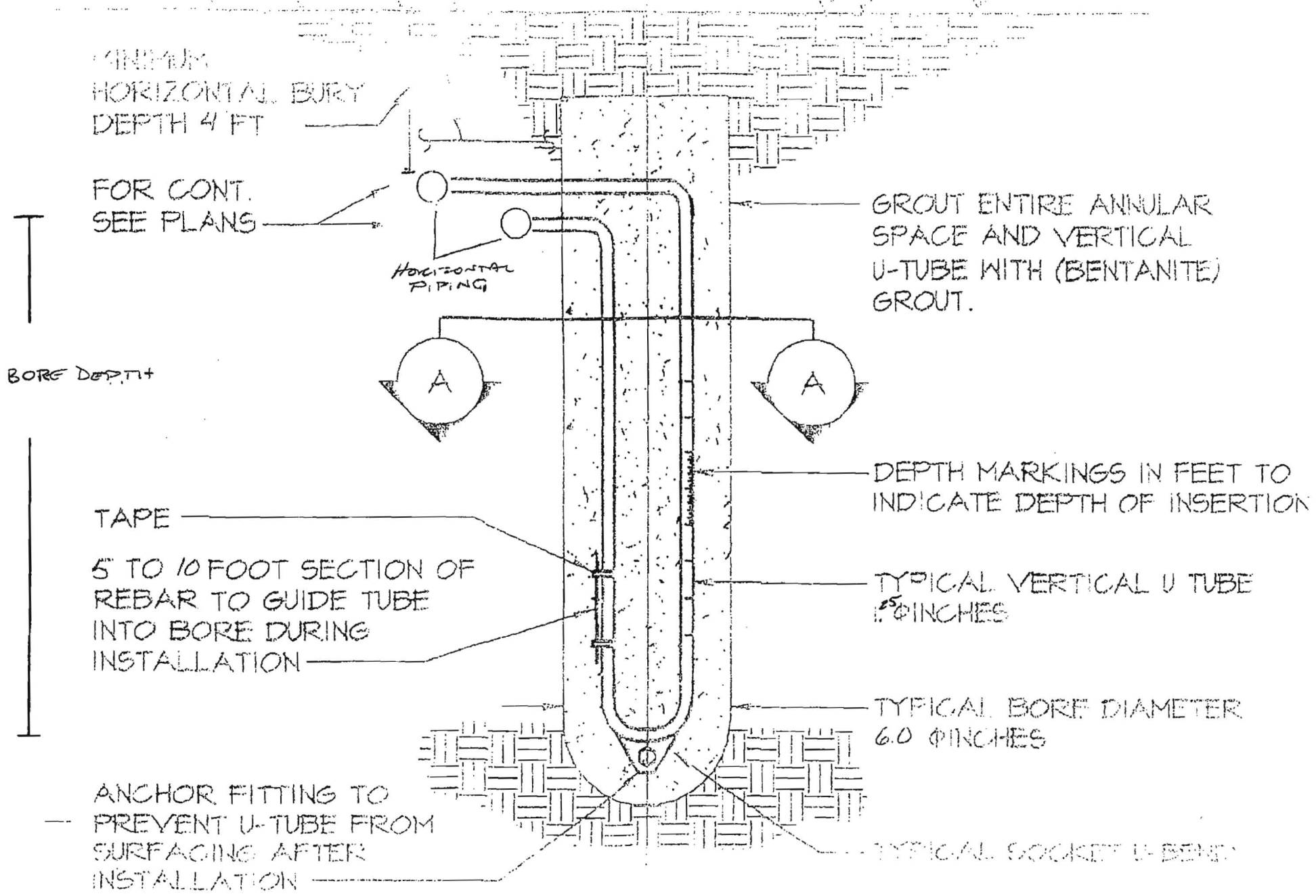
cc: Howard County Dept. of Inspections, Licenses, and Permits  
Community Hygiene Program  
File

## HOWARD COUNTY GROUTING PROCEDURE

Boreholes will be grouted from the bottom to the top via a tremie pipe and positive displacement pump. Bentonite grout, known as Quik-Grout will be used according to the manufacturer's specifications to achieve a consistency of at least 20% solids (24 gallons potable water/50 lb. sack of grout) and a permeability no more than  $2.5 \text{ E}(-08) \text{ cm/sec}$ . Grouting will be completed immediately after installing the geothermal loop and no later than twenty-four (24) hours after installing the geothermal loop. Open boreholes/annular space will be protected as necessary to prevent the entry of surface water or pollutants.

GRADE

EACH BORE HOLE (TYP.)



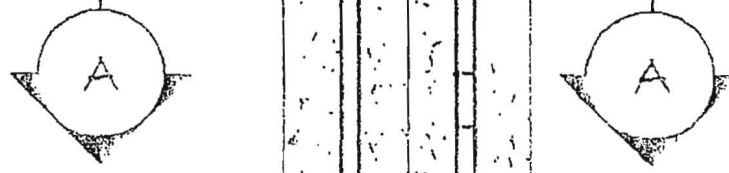
MINIMUM  
HORIZONTAL BURY  
DEPTH 4 FT

FOR CONT.  
SEE PLANS

HORIZONTAL  
PIPING

GROUT ENTIRE ANNULAR  
SPACE AND VERTICAL  
U-TUBE WITH (BENTONITE)  
GROUT.

BORE DEPTH



DEPTH MARKINGS IN FEET TO  
INDICATE DEPTH OF INSERTION

TAPE  
5 TO 10 FOOT SECTION OF  
REBAR TO GUIDE TUBE  
INTO BORE DURING  
INSTALLATION

TYPICAL VERTICAL U TUBE  
1.25 INCHES

TYPICAL BORE DIAMETER  
6.0 INCHES

ANCHOR FITTING TO  
PREVENT U-TUBE FROM  
SURFACING AFTER  
INSTALLATION

TYPICAL SOCKET U-BEND

N23°29'31"E 105.02'

GgA


2077

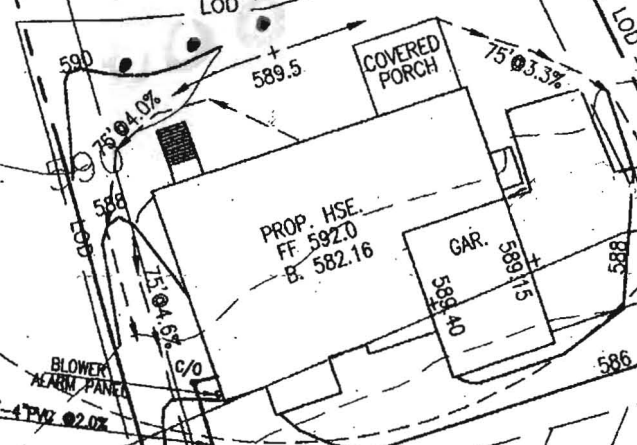
069

EX. WELL  
H095-2865

30' B.R.L.

LOT 4  
1.00 Ac.±

4/29/2015  
Proposed  
Geothermal  
Borehole  
Locations  
O.K.  
MaB 



BLOWER  
ALARM PANEL

2000 GAL  
BAT TANK W/  
ECOPOD-N E60N

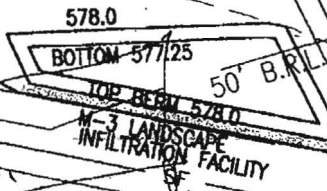
15'-4"PVC @2.0%

DIST. BOX

INITIAL SYSTEM  
2 @ 57'

1" REPLACEMENT  
2 @ 57'

PROPOSED PRIVATE  
40' WIDE INGRESS & EGRESS  
ESMT. FOR LOTS 4-6



A=60.57'  
R=454.94'

EX. O/H UTILITY

LAND DEDICATED TO  
COUNTY, MARYLAND  
PURPOSE OF A PUBLI  
602 SQ. FT. OR MORE

WELL