

C1 20701

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

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

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER King, William last name first name TOWN West Friendship MD

WELL LOG Not required for driven wells

GRROUTING RECORD yes no WELL HAS BEEN GROUTED

C 3 PUMPING TEST

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

TYPE OF GROUTING MATERIAL (Circle one) CEMENT BENTONITE CLAY

HOURS PUMPED (nearest hour)

Table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Rows include Top Soil, Brn Red Sand, Brn Sand, Sandstone, Hard Brown Rock, Weathered Rock, Med Gray Rock, Med Hard Gray Rock, Gray Black Rock.

NO. OF BAGS 28 NO. OF POUNDS 1400 GALLONS OF WATER 700 DEPTH OF GROUT SEAL

PUMPING RATE (gal. per min.) METHOD USED TO MEASURE PUMPING RATE

CASING RECORD casing types insert appropriate code below

WATER LEVEL (distance from land surface) BEFORE PUMPING WHEN PUMPING

MAIN CASING TYPE Nominal diameter top (main) casing Total depth of main casing

TYPE OF PUMP USED (for test) A air P piston T turbine C centrifugal R rotary O other J jet S submersible

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

PUMP INSTALLED DRILLER INSTALLED PUMP YES NO

NUMBER OF UNSUCCESSFUL WELLS: WELL HYDROFRACTURED

SCREEN RECORD screen type or open hole insert appropriate code below

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. CAPACITY: GALLONS PER MINUTE

CIRCLE APPROPRIATE LETTER A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

DEPTH (nearest ft.)

PUMP HORSE POWER PUMP COLUMN LENGTH CASING HEIGHT

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04

SLOT SIZE 1 2 3 DIAMETER OF SCREEN

LATITUDE 39.296124 #1 LONGITUDE 76.949382

DRILLERS LIC. NO. M D 553 DRILLERS SIGNATURE LIC. NO. W D 097

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68 MDE USE ONLY

NOTES: ?

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

TELESCOPE CASING LOG INDICATOR OTHER DATA

B 1 11286 SEQUENCE NO. (MDE USE ONLY) STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type STATE PERMIT NUMBER Ho-95-2630
 1 2 3 6 70 79 fill in this form completely 79

OWNER INFORMATION
 Date Received (APA) 12-04-13
 8 MM DD YY 13
 15 Last Name King Owner William First Name 34
 36 2638 Wellworth Way Street or RFD 55
 57 West Friendship MD 21794 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL
 Howard COUNTY 21
 Friendship Manor SUBDIVISION 42
 SECTION 44 46 LOT 18 48 50
 West Friendship NEAREST TOWN 52 71

DRILLER INFORMATION
 C John Hess MWD 553
 Driller's Name 76 License No. 81
 Allied Environmental Services Firm Name
 P.O. Box 129 Annapolis Junction MD 20701 Address
 C John Hess 11-18-13 Signature Date

B 4 SOURCES OF DRILLING WATER
 1. Public 2638 Wellworth Way STREET ADDRESS 11 30
 2. 3.
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
 NORTH N
 WEST W EAST E
 SOUTH S
 34 37 DISTANCE FROM ROAD
 ENTER FT OR MI 38 39
 TAX MAP: 0015 BLK: 0017 PARCEL 0235

B 2 WELL INFORMATION
 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12
 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20

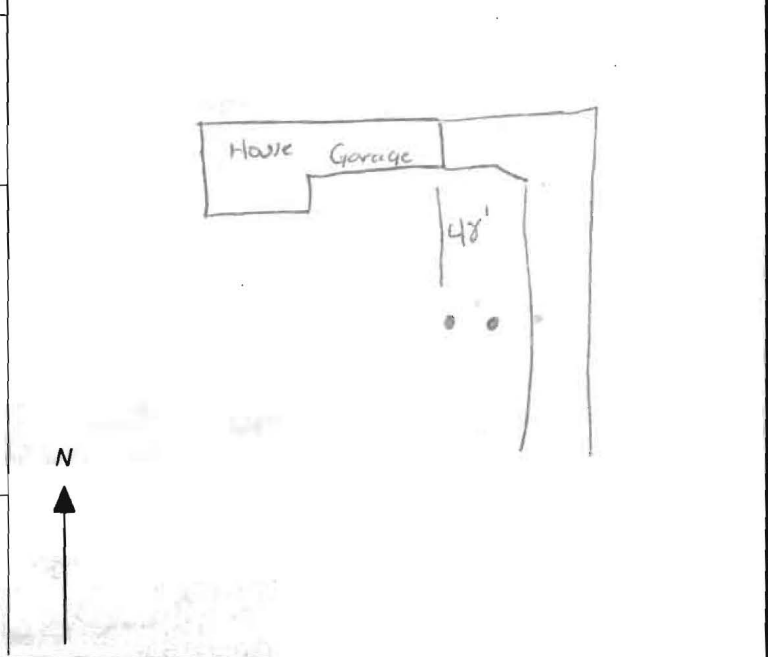
USE FOR WATER (CIRCLE APPROPRIATE BOX)
 DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
 FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
 INDUSTRIAL, COMMERCIAL, DEWATERING
 PUBLIC WATER SUPPLY WELL
 TEST, OBSERVATION, MONITORING
 OPEN LOOP GEOTHERMAL
 CLOSED LOOP GEOTHERMAL 20070

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL
 Howard COUNTY NAME COUNTY NO.
 STATE SIGNATURE INSERT S → 41
 DATE ISSUED 1/13/14 1/13/15
 43 MM DD YY 48 CD SIGNATURE EXP/DATE

APPROXIMATE DEPTH OF WELL 400 FEET
 24 28
 APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST INCH

PROPOSED LOCATION OF WELL ON LOT
 SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL

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



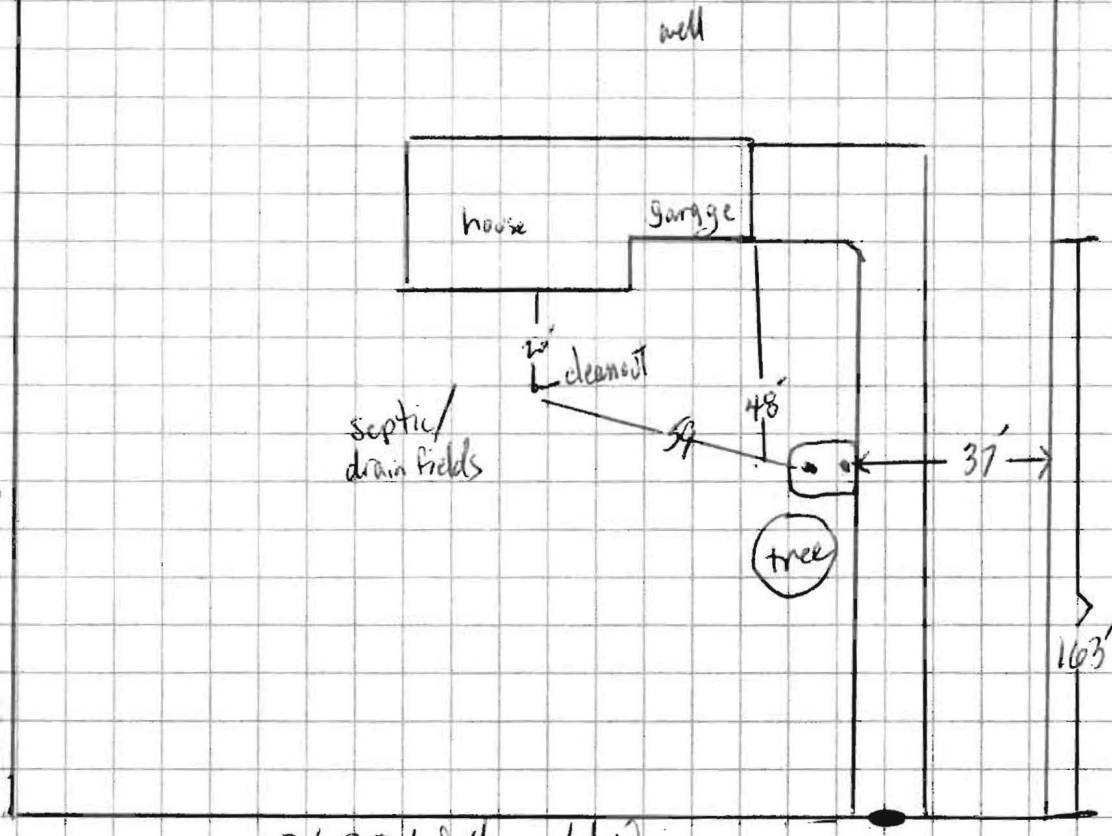
REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)
 THIS WELL WILL NOT REPLACE AN EXISTING WELL
 THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
 THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
 THIS WELL WILL 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. Ho-95-2630
 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS
 NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED. 9000 Inspection must be called in



SITE PLAN



2638 Wellcreek Wy
West Friendship

Scale = 40' = 1"

Sediment Control Protocol: silt fence

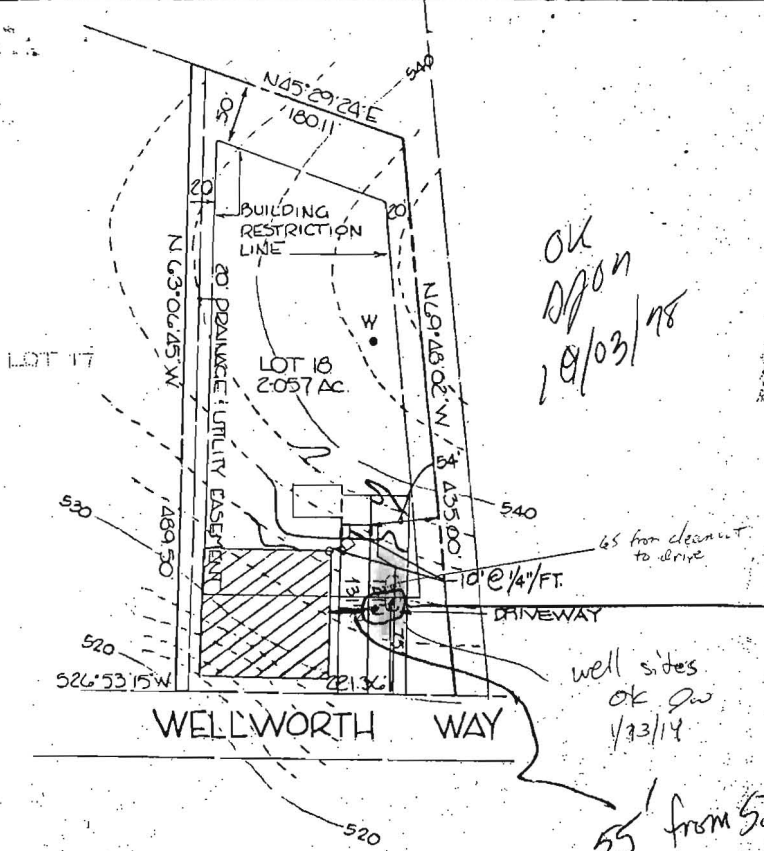
Distance From House: 48
 From Septic: 59
 From Sewer: n/a
 From Property Line: 35
 From Street: 115

Trees Nearby: no issue
 Utility Issues: need marked
 Mats Needed: to leave asphalt drive
 Access For H/U: under sidewalk
 Neighboring Tags: _____

Comments: tarp to prevent staining of drive

Person Completing Form: Goizwood

K&E BALTIMORE 18113 ALABAMA RD 171 MC1118



OK
DPO
10/03/78

45' from cleanout to drive

well sides
OK
1/23/74

55' from STA WB

OK
1/25/74

HOUSE:
F.F. ELEV. 538.0
BSMT. ELEV. 529.5
INV. OUT 533.2

DRYWELL:
EX. GRADE 534.5
PROP. GRADE 534.5
INV. IN 532.5

SEPTIC TANK:
EX. GRADE 535.0
PROP. GRADE 536.0
INV. IN 533.0
INV. OUT 532.7

WELL:
EX. GRADE 542.5
PROP. GRADE 542.5

NOTE: Topography shown hereon is based on Howard County Aerial Topography Maps. Contractor is to set grades in the field.

TITLE			
GRADING STUDY			
PROJECT			
FRIENDSHIP MANOR - SECTION 2 - LOT 18			
LOCATION			
THIRD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND			
DATE:	DESIGN BY:	DRAWN BY:	CHECKED BY:
AUGUST, 1978	WHN	DHH	WHN
SCALE:	JOB NO.:	DRAWING NO.:	
1" = 100'	78205	1 of 1	

boender associates

engineers
surveyors
planners

BALTIMORE 301-486-7777 • SALISBURY 301-749-1288



Bureau of Environmental Health

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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

TO: All Interested Parties

FROM: Jeff Williams
Program Supervisor
Well and Septic Program

RE: **Acceptable Well Site Plans for Geothermal Wells**

DATE: December 18, 2013

Effective immediately, well permit site plans for geothermal systems must be a copy of an 8 ½" by 11", 1" to 30' to 1" = 100' scaled drawing depicting the following information:

- Topography at 2 foot intervals
- Locations of all wells and onsite sewage disposal system components on the property and on neighboring properties if they are within 100 feet of the proposed geothermal location.
- Locations of the approved Sewage Disposal Area for the property and all neighboring properties if the area is within 100 feet of the proposed geothermal location.
- Locations of all stormwater management devices on the property and on neighboring properties if they are within 100 feet of the proposed geothermal location.
- Locations of all structures and relevant landscape features such as swales, streams, lakes.

Some of the information regarding existing sewage disposal areas and system components may be available in the property file on record at the Howard County Health Department. A request for a copy of that file may be made by submitting a public information request form to the Health Department. A copy of that form is available on our website in the Environmental Health, Well & Septic section.

Be advised that a well site must be professionally staked and is subject to review by the Health Department prior to issuance of the well construction permit.

All closed-loop geothermal well permit applications must be accompanied by a cross section diagram of the well showing the proposed grouting method with grout extending from the bottom of the hole to the top of the casing as well as the proposed grout mixture.

Two copies of this well site plan and the attached paperwork must be submitted for each proposed lot.

Williams, Jeffrey

From: Williams, Jeffrey
Sent: Wednesday, January 08, 2014 2:37 PM
To: 'wguizzardi@alliedwells.com'
Subject: well permits
Attachments: Well site plan memo_geothermal.pdf

Hi Bill. I am resending the memo I sent you on 12/18 regarding the well permit on Wellworth way. The same issues apply to the other permits we just received for Carriage Mill, Heathcliff, and Hopkins Way. None of the site plans meet our requirements as described in the attached memo. The permits will be placed on hold until we receive site plans that meet our requirements. Thanks.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov

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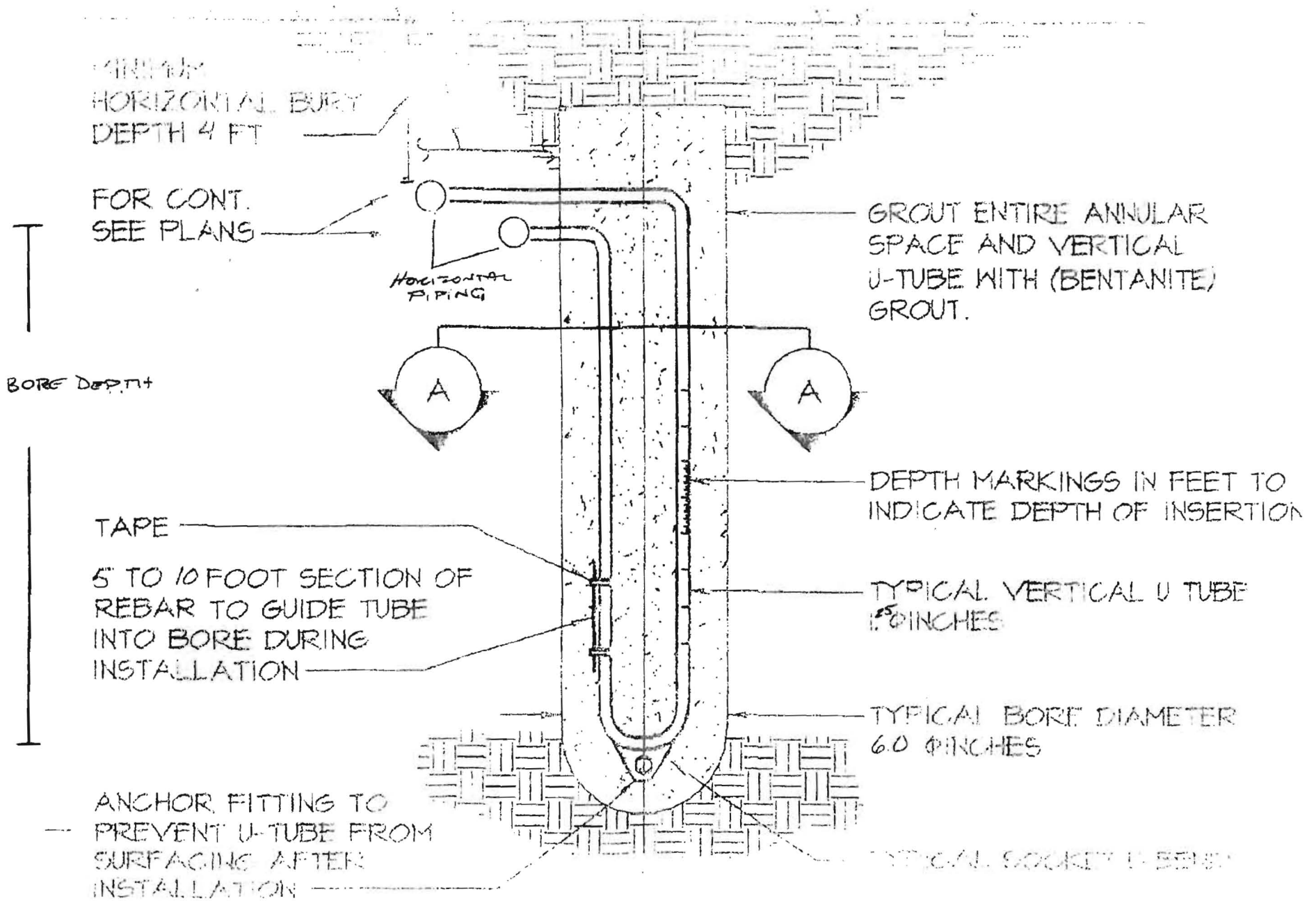
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HOWARD COUNTY GROUTING PROCEDURE

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.)



Williams, Jeffrey

From: Williams, Jeffrey
Sent: Wednesday, December 18, 2013 10:17 AM
To: 'wguizzardi@alliedwells.com'
Subject: 2638 Wellsworth Way
Attachments: Well site plan memo_geothermal.pdf; PIA Request Form.pdf

I have attached our requirements for well site plans as well as our PIA request form. The site plan accompanying the well permit for 2638 Wells worth Way does not contain the information we need for review. The permit will be on hold pending a revised site plan showing all relevant information as stated in the memo. Specifically, we need to see the sewage disposal area, topography, and locations of septic components. We also need a cross section diagram showing the proposed grouting method and grout mixture to be used.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov

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