

C1 19793 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

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

ST/CO USE ONLY DATE Received MM DD YY DATE WELL COMPLETED MM DD YY

Depth of Well 22 360 26 10/5/2015 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" Ho-95-2420

OWNER Steensen LAURA last name first name WELL SITE ADDRESS 8448 Main Street TOWN Ellicott City SUBDIVISION SECTION LOT

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 (Circle Appropriate Box) YES Y NO N TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 20 NO. OF POUNDS 1000 GALLONS OF WATER 500 DEPTH OF GROUT SEAL (to nearest foot) from 0 TOP 52 ft. to 360 BOTTOM 58 ft.

CASING RECORD casing types insert appropriate code below MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot)

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

SCREEN RECORD screen type or open hole (insert appropriate code below) ST BR HO PL OT

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED YES Y NO 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.

DRILLERS LIC. NO. MWD 355 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. AWD 924 SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

DEPTH (nearest ft.) 1 2 3 4 5 6 7 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) from to

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

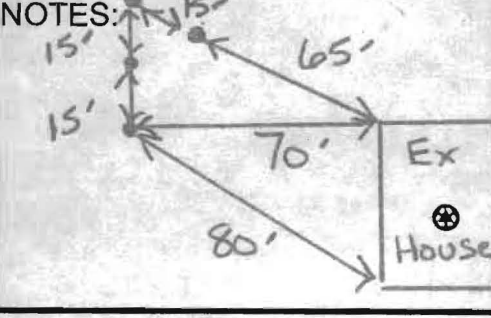
MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q 70 72 74 75 76

TELESCOPE CASING LOG INDICATOR OTHER DATA

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 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) LAND SURFACE (nearest foot)

LATITUDE 39.26965 LONGITUDE 76.80195 (DEFAULT COORD. WGS 84)



C1 19792  
 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 02 DD 26 YY 15  
 DATE WELL COMPLETED MM 12 DD 20 YY 15  
 Depth of Well 22 480 26 10/15/2015 0.15 (TO NEAREST FOOT)  
 PERMIT NO. FROM "PERMIT TO DRILL WELL" Ho-95-2420

OWNER Steensen LAURA  
 WELL SITE ADDRESS 8448 Man Street TOWN Elkott City  
 SUBDIVISION SECTION LOT

**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	
Soil	0	7	
Shale	7	21	
Schist	21	480	

**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 30 NO. OF POUNDS 45 46 300  
 GALLONS OF WATER 750  
 DEPTH OF GROUT SEAL (to nearest foot)  
 from 48 0 TOP 52 ft. to 480 54 BOTTOM 58 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  
 EACH CASING

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

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

**C 3** **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  
 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

NUMBER OF UNSUCCESSFUL WELLS: 0  
 WELL HYDROFRACTURED yes no  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. MWD355  
 DRILLERS SIGNATURE  
 LIC. NO. AWD924  
 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  
 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

LATITUDE 39.26924  
 LONGITUDE 76.80170  
 (DEFAULT COORD. WGS 84)  
 NOTES:  
 Ex Barn  
 45' 15'

B 1 18612

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

40-95-2420 fill in this form completely

538077 please type

Date Received (APA)

01 28 12

OWNER INFORMATION

Steensen LAURA 8448 Main Street Ellicott City MD 21043

B 3

LOCATION OF WELL

HOWARD 8 COUNTY 21 23 SUBDIVISION 42 SECTION 44 46 LOT 48 50 ELlicott City 52 NEAREST TOWN 71

DRILLER INFORMATION

Michael Barlow MW D355 Barlow Well Drilling 522 Underwood Lane 21014 9/21/12

B 4

SOURCES OF DRILLING WATER

1. Well

8448 Main Street 11 STREET ADDRESS 30 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) 34 200 37 DISTANCE FROM ROAD ENTER FT OR MI 38 39 TAX MAP: 251 BLK: 0 PARCEL 157

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)

D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION) I INDUSTRIAL, COMMERCIAL, DEWATERING P PUBLIC WATER SUPPLY WELL T TEST, OBSERVATION, MONITORING O OPEN LOOP GEOTHERMAL 1 bore x 480 4 bores x 360 C CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard 13 Public COUNTY NAME COUNTY NO. STATE SIGNATURE INSERT S DATE ISSUED 10/12/2012 Brian Baker 10/12/2013 CO SIGNATURE EXP. DATE

APPROXIMATE DEPTH OF WELL 360 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

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

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

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

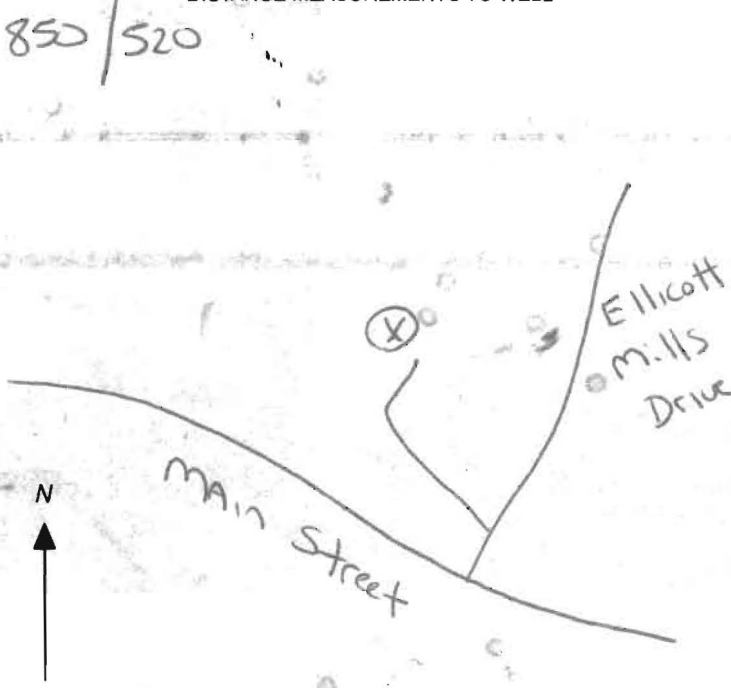
Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROP. PERMIT NUMBER G PERMIT No. 40-95-2420

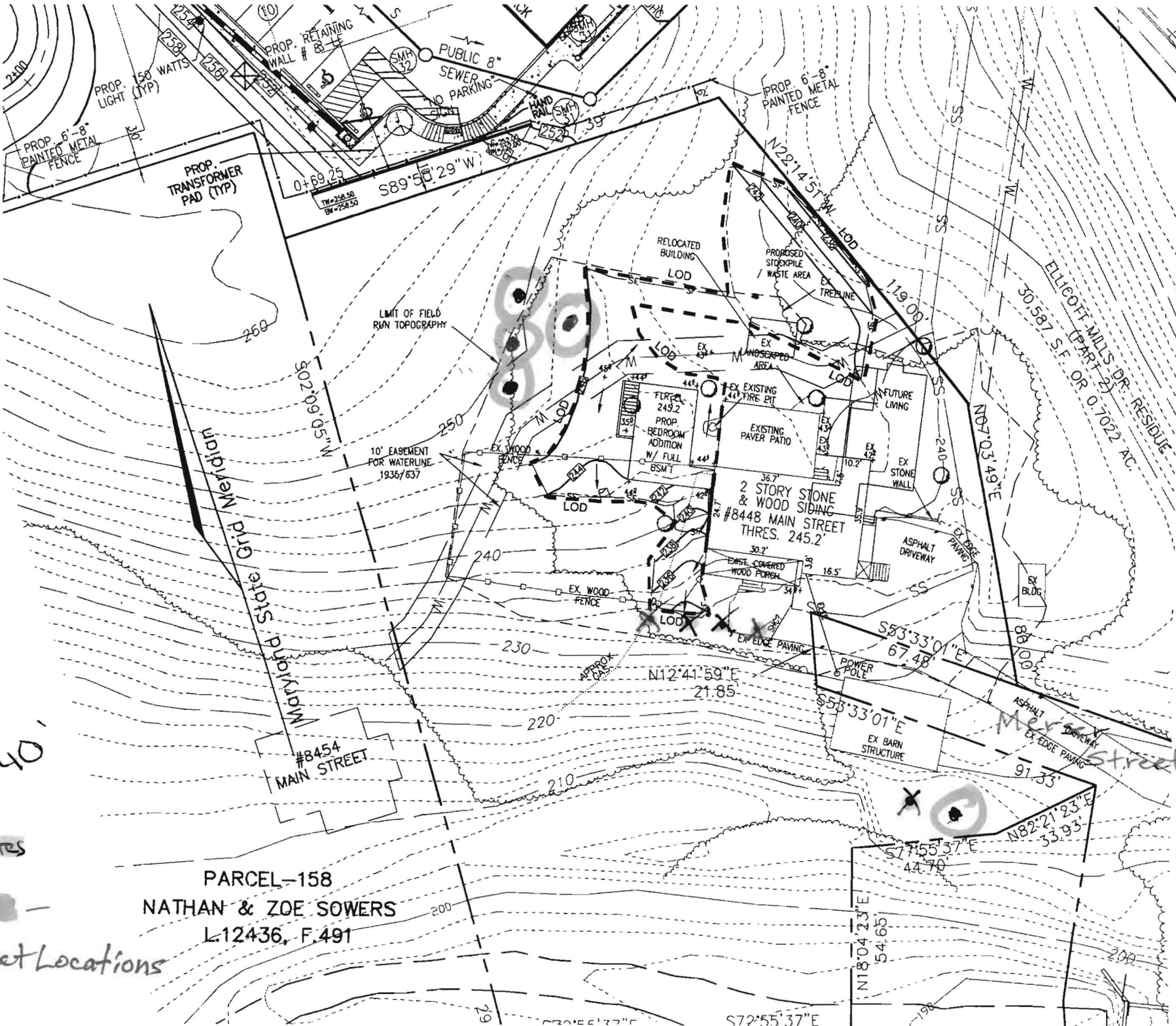
SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

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







1" = 40'

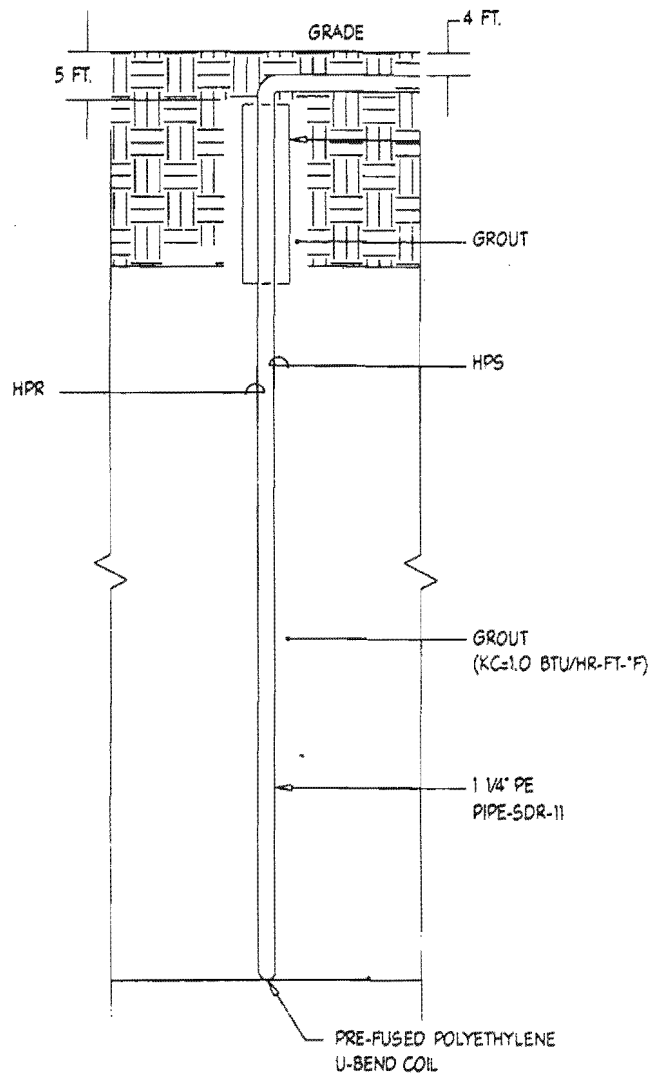
Geo Bore

Geo

Correct Locations

PARCEL-158  
 NATHAN & ZOE SOWERS  
 L-12436, F-491

Mex Street



4 TYPICAL BORE HOLE DETAIL  
 M1.00 NOT TO SCALE

**MICHAEL BARLOW WELL DRILLING  
522 UNDERWOOD LANE  
BEL AIR, MD 21014  
410-838-6910**

Howard County Health Department  
7178 Columbia Gateway Drive  
Columbia, MD 21046  
Fax: 410-313-2648

September 9, 2012

Re: 8448 Main Street, Ellicott City, Columbia

Dear Department of Environment:

Please note unless otherwise specified all geothermal bores installed by our company will be installed as follows:

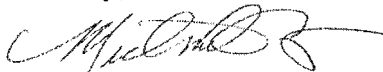
Grout: Bentonite Grout 20% solids minimum  
Manufacture(s): Baroid or Wyo-Ben  
Will be grouted from the bottom to the top with grout material

Piping: Polyethylene SDR 11 160 PSI as recommended per IGSHPA  
Manufacture: EnDot or Charter Plastics or equal, Size 1" or 1 1/4"  
IGSHPA Certification Number 12687

Also attached is a cross section diagram of the bore hole.

We would appreciate your help in getting this permit released as soon as possible so that we can expedite this project. If you have any questions, please do not hesitate to contact me.

Sincerely,



Michael Barlow



# HOWARD COUNTY HEALTH DEPARTMENT

38077

DATE  
9/28/12

W5

Received From

Michael Bedow Will Kilday PHONE # (410) 88-6910

For

Will Permit - 8448 Main Street

CASH

CHECK

NO.

12099

One hundred fifty  $\frac{77}{100}$  Dollars

\$

16000

Received By

J King