

C 1 51122		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.	
1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)		DATE WELL COMPLETED		Depth of Well		PERMIT NO. FROM "PERMIT TO DRILL WELL"	
ST/CO USE ONLY DATE Received MM DD YY 8 13		MM DD YY 07 25 17		500 26 (TO NEAREST FOOT)		H0 - 17 - 0142 28 29 30 31 32 33 34 35 36 37	
OWNER <u>Bordine</u>		DATE WELL COMPLETED		Depth of Well		PERMIT NO.	
WELL SITE ADDRESS <u>10155 High Ridge Road</u>		DATE WELL COMPLETED		Depth of Well		PERMIT NO.	
SUBDIVISION <u>0000</u>		DATE WELL COMPLETED		Depth of Well		PERMIT NO.	
SECTION <u>1</u>		DATE WELL COMPLETED		Depth of Well		PERMIT NO.	
LOT <u>1</u>		DATE WELL COMPLETED		Depth of Well		PERMIT NO.	
WELL LOG Not required for driven wells		GROUTING RECORD		C 3		PUMPING TEST	
STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING		WELL HAS BEEN GROUTED (Circle Appropriate Box)		YES NO Y N		HOURS PUMPED (nearest hour)	
DESCRIPTION (Use additional sheets if needed)		TYPE OF GROUTING MATERIAL (Circle one)		CEMENT CM BENTONITE CLAY BC		PUMPING RATE (gal. per min.)	
FEET FROM TO		NO. OF BAGS <u>38</u> NO. OF POUNDS <u>760</u>		GALLONS OF WATER <u>570</u>		METHOD USED TO MEASURE PUMPING RATE	
Top Soil 0 2		DEPTH OF GROUT SEAL (to nearest foot)		from 48 TOP 52 ft. to 54 BOTTOM 58 ft.		WATER LEVEL (distance from land surface)	
Brown Sandy silt 2 40		Casing types insert appropriate code below		Casing RECORD		BEFORE PUMPING	
Brown Sandy gravel 40 48		MAIN CASING TYPE <u>PL</u>		Nominal diameter top (main) casing (nearest inch) <u>6</u>		WHEN PUMPING	
Gray Sandy mica 48 500		Total depth of main casing (nearest foot) <u>56</u>		OTHER CASING (if used)		TYPE OF PUMP USED (for test)	
		EACH CASING		diameter inch depth (feet) from to		A air P piston T turbine	
		SCREEN RECORD		screen type or open hole		C centrifugal R rotary O other (describe below)	
		S ST B BR H HO		STEEL BRASS OPEN HOLE		J jet S submersible	
		P PL O OT		PLASTIC OTHER		PUMP INSTALLED	
		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 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100		DRILLER INSTALLED PUMP YES NO	
NUMBER OF UNSUCCESSFUL WELLS: <u>0</u>		WELL HYDROFRACTURED		yes no Y N		IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.	
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. <u>M 4 D 572</u>		TYPE OF PUMP INSTALLED	
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)		LIC. NO. <u>W 2 D 004</u>		SITE SUPERVISOR (sign of driller or journeyman responsible for sitework if different from permittee)		PLACE (A,C,J,P,R,S,T,O) IN BOX 29.	
						CAPACITY: GALLONS PER MINUTE (to nearest gallon)	
						PUMP HORSE POWER	
						PUMP COLUMN LENGTH (nearest ft.)	
						CASING HEIGHT (circle appropriate box and enter casing height)	
						LAND SURFACE	
						(nearest foot)	
						LATITUDE <u>39.118728</u>	
						LONGITUDE <u>76.866748</u>	
						(DEFAULT COORD. WGS 84)	
						Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info. may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or state law.	

B 1 <div style="font-size: 24pt; font-weight: bold; text-align: center;">46497</div>	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type	STATE PERMIT NUMBER <div style="font-size: 24pt; font-weight: bold;">40-17-0142</div>
Date Received (APA) <div style="font-size: 24pt; font-weight: bold;">05 24 17</div>		B 3 LOCATION OF WELL	
OWNER INFORMATION 8 MM DD YY 13 <div style="font-size: 24pt; font-weight: bold;">Bortnick</div>		8 COUNTY <div style="font-size: 24pt; font-weight: bold;">Howard</div>	
15 Last Name Owner First Name 34 <div style="font-size: 24pt; font-weight: bold;">Christine</div>		23 SUBDIVISION <div style="font-size: 24pt; font-weight: bold;">0000</div>	
36 Street or RFD 55 <div style="font-size: 24pt; font-weight: bold;">10155 High Ridge Road</div>		SECTION <div style="font-size: 24pt; font-weight: bold;">44</div> LOT <div style="font-size: 24pt; font-weight: bold;">48</div>	
57 Town 70 State 72 Zip 76 <div style="font-size: 24pt; font-weight: bold;">Laurel MD 20723</div>		52 NEAREST TOWN <div style="font-size: 24pt; font-weight: bold;">Laurel</div>	
B 2 WELL INFORMATION		B 4 SOURCES OF DRILLING WATER	
Driller's Name <div style="font-size: 24pt; font-weight: bold;">Samuel Connelly</div> License No. <div style="font-size: 24pt; font-weight: bold;">MWD 572</div>		11 STREET ADDRESS <div style="font-size: 24pt; font-weight: bold;">10155 High Ridge Rd.</div>	
Firm Name <div style="font-size: 24pt; font-weight: bold;">Connelly + Associates, Inc.</div>		ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)	
Address <div style="font-size: 24pt; font-weight: bold;">1513 Tiled Dr. Frederick, MD 21704</div>		NORTH <input checked="" type="checkbox"/> WEST <input type="checkbox"/> EAST <input type="checkbox"/> SOUTH	
Signature <div style="font-size: 24pt; font-weight: bold;">Samuel A. Connelly</div> Date <div style="font-size: 24pt; font-weight: bold;">5/23/17</div>		34 DISTANCE FROM ROAD <div style="font-size: 24pt; font-weight: bold;">33</div>	
APPROX. PUMPING RATE (GAL. PER MIN.) 8 12		ENTER FT OR MI <div style="font-size: 24pt; font-weight: bold;">FT</div>	
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20		TAX MAP: <div style="font-size: 24pt; font-weight: bold;">0047</div> BLK: <div style="font-size: 24pt; font-weight: bold;">0019</div> PARCEL <div style="font-size: 24pt; font-weight: bold;">0568</div>	
USE FOR WATER (CIRCLE APPROPRIATE BOX)		NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL	
<input type="checkbox"/> DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION <input type="checkbox"/> FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION) <input type="checkbox"/> INDUSTRIAL, COMMERCIAL, DEWATERING <input type="checkbox"/> PUBLIC WATER SUPPLY WELL <input type="checkbox"/> TEST, OBSERVATION, MONITORING <input type="checkbox"/> OPEN LOOP GEOTHERMAL <input checked="" type="checkbox"/> CLOSED LOOP GEOTHERMAL		COUNTY NAME <div style="font-size: 24pt; font-weight: bold;">Howard</div> COUNTY NO. <div style="font-size: 24pt; font-weight: bold;">XIII</div> STATE SIGNATURE <div style="font-size: 24pt; font-weight: bold;">[Signature]</div> INSERT S <div style="font-size: 24pt; font-weight: bold;">41</div> DATE ISSUED <div style="font-size: 24pt; font-weight: bold;">07/14/17</div> CO SIGNATURE <div style="font-size: 24pt; font-weight: bold;">[Signature]</div> EXP. DATE <div style="font-size: 24pt; font-weight: bold;">07/14/18</div>	
APPROXIMATE DEPTH OF WELL <div style="font-size: 24pt; font-weight: bold;">500</div> FEET		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	
APPROXIMATE DIAMETER OF WELL <div style="font-size: 24pt; font-weight: bold;">6</div> INCH		7/24/17 <div style="font-size: 24pt; font-weight: bold;">[Signature]</div> -380' drilling -call on for grant tomorrow	
METHOD OF DRILLING (circle one)		7/25/17 <div style="font-size: 24pt; font-weight: bold;">[Signature]</div> -grant -15 gal 160/50116 bag -batch 30/100116 -p.p.e. 10/10/17 -to N grant -used alternate here	
BORED (or Augered) JETTED Jetted & DRIVEN 30 AIR-ROTARY AIR-PERCUSION ROTARY (Hydraulic Rotary) 37 CABLE REVERSE-ROTARY DRIVE-POINT other		10155 TO Foundation PROPERTY LINE	
REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)		Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.	
<input checked="" type="checkbox"/> THIS WELL WILL NOT REPLACE AN EXISTING WELL <input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED <input type="checkbox"/> THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS <input type="checkbox"/> THIS WELL WILL DEEPEN AN EXISTING WELL		PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41	
Not to be filled in by driller (MDE OR COUNTY USE ONLY)			
APPROX. PERMIT NUMBER <div style="font-size: 24pt; font-weight: bold;">G</div>			
PERMIT No. <div style="font-size: 24pt; font-weight: bold;">40-17-0142</div>			
SPECIAL CONDITIONS			

NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED.

GROUTING 7/25/17 (2)

TREMIE LENGTH: 500' TREMIE DIAMETER: 1 1/4" PRODUCT USED (B) C BAG WEIGHT: 50 lbs

MAKE UP WATER pH: DNI THERMALLY ENHANCED: (D) N TYPE/WEIGHT OF ADDITIVE: No additive used

GALLONS OF WATER USED PER BAG: 15 gal/bag MUD WEIGHT AT START: DNI

1 batch = 2 bags / 30 gal water
MUD WEIGHT AT END: DNI NUMBER OF BAGS USED: 38 bags

NOTES: TG Lite thermal grout 1.4e • 2 Pallets on site • 7/25/17 (2) called manufacturer

NSF/ANSI 60 Facility 1 USA

Manufactured by: Black Hills Bentonite Lot #: BHM08152016 C

[278088 B-106-075-J 7-16] Lot #: unknown

4-200' 4277 Anti-Skid 11 45 - pipe seized. 180' left to grout

WELL DEVELOPMENT/YIELD/REWORKING Grout 10' from well head. used
Second grout hose on final 10' (2)

METHODS USED: S SB J OP C DURATION: FINAL STATIC & YIELD:

HYDROFRACTURED: Y N SINGLE OR ZONE PACKER: S Z DEPTH OF PACKER SETS:

TOTAL GALLONS OF WATER USED: ESTIMATED YIELD OF FLOW BACK:

DEVELOPMENT NOTES:

UPPER TERMINAL/PUMP INSTALLATION

GROUT PRESENT IN ANNULAR SPACE: Y N PUMP IDENTIFICATION:

DROP PIPE DESCRIPTION: DEPTH/LOCATION OF CHECK VALVES:

PITLESS, CONDUIT PIPE & WATER SERVICE LINE DEPTH: SAFETY ROPE: Y N

ELECTRICAL CABLE DESCRIPTION: PROPER CAP & STICK UP: Y N

STATIC WATER LEVEL: PUMP SET DEPTH: TAG ON WELL: Y N

GENERAL NOTES

10155 Highridge

STATE OF MARYLAND WELL INSPECTION SHEET

DATE: 07/20/2017

COUNTY: Howard

WELL TAG #: 40-17-0142

ONSITE START TIME: 10:30

END OF INSPECTION TIME: 10:35

LATITUDE/LONGITUDE:

COPY OF PERMIT ONSITE: ☒ N

WELL DRILLING PERSONNEL:

Jerry

GOVERNMENT PERSONNEL:

CABATHUG

OTHERS:

CONSTRUCTION

LOCATION CONSISTENT WITH PLAN: Y N

CHLORINE PRESENT IN MAKE UP WATER: Y N

BIT/STABILIZER SIZE: 10

PENETRATION RATE:

7/20/2017 @

Set up drilling rig +
Contractors left for the
day

NOTES:

7/21/2017 @

Roller cone bit

HDPE SPEC

1 1/4" Silver line Geo-Stripe

PE-4710 445574C DR-11 PR. 200 PSI @ 73°F

ASTM D-3035 NSF®-Geo

NC 06/15/17 10:23 Made in USA

10:55

CASING/SCREEN

LENGTH/SIZE/ASTM# OF CASING SET:

LENGTH/SIZE/ASTM# OF LINER:

SCREEN LENGTH/SLOT SIZE/ASTM#:

DEPTH SET:

NOTES:

7/21/2017 @

PVC Silver line well casing

1C-2 Impact class (300 ft. Lb @ 32°F)

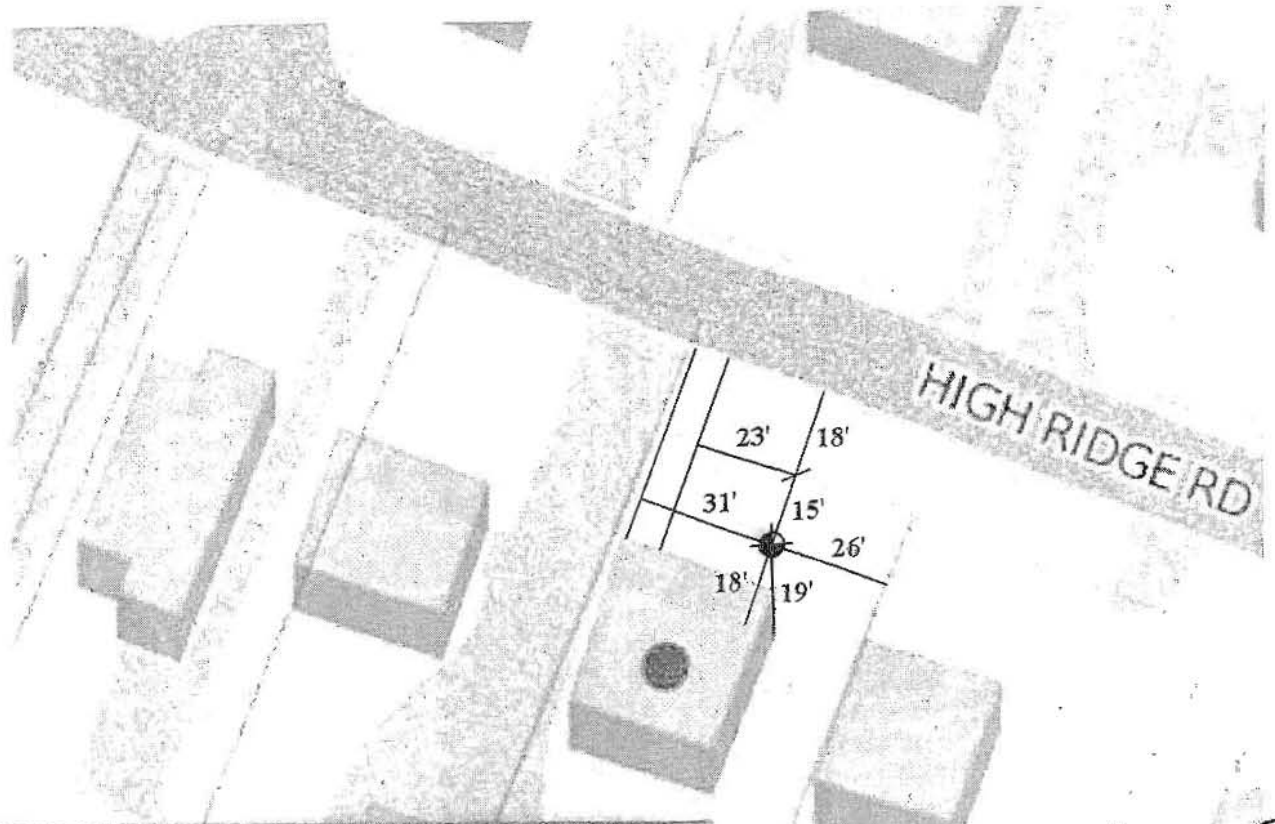
ASTM F-480 NSF®-WC SL-M 15 NC

12/13/15 12:19 MADE IN USA

7/25/2017 @

casing to be
removed

P:\Geothermal\2017 Projects\Earth River\121695 - 10155 High Ridge Road\Proposed Geothermal Well Location Plan - 10155 High Ridge Road.dwg



DO NOT REMOVE THIS TAG
DEPARTMENT OF THE ENVIRONMENT
WELL PERMIT NUMBER

H0-17-0142

INFORMATION GIVE NUMBER AND WRITE
1800 WASHINGTON BLVD
BALTIMORE MARYLAND 21230

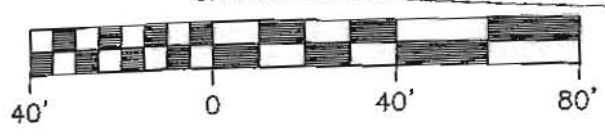
Approved 07/13/2017
Staked By Connelley Geothermal
H0-17-0142

L E G E N D

- PROPOSED GEOTHERMAL WELL LOCATION
- APPROXIMATE WATER HOUSE CONNECTION
- APPROXIMATE SEWER HOUSE CONNECTION

Note: Measurements were recorded from front porch slab. The proposed well location is approximately 25 feet from foundation wall.

GRAPHICAL SCALE



Connelly Geothermal
Partnering with Mother Earth

260 Interstate Court (301) 696-8820
Frederick, Maryland 21704 (301) 696-0327 fax

BORDINE RESIDENCE
10155 HIGH RIDGE ROAD, LAUREL, MARYLAND

PROPOSED GEOTHERMAL WELL
LOCATION PLAN

Scale:
AS SHOWN

Fig.
1

Date:
MAY 2017

Drawn By:
J.A.

Checked By:
E.S.

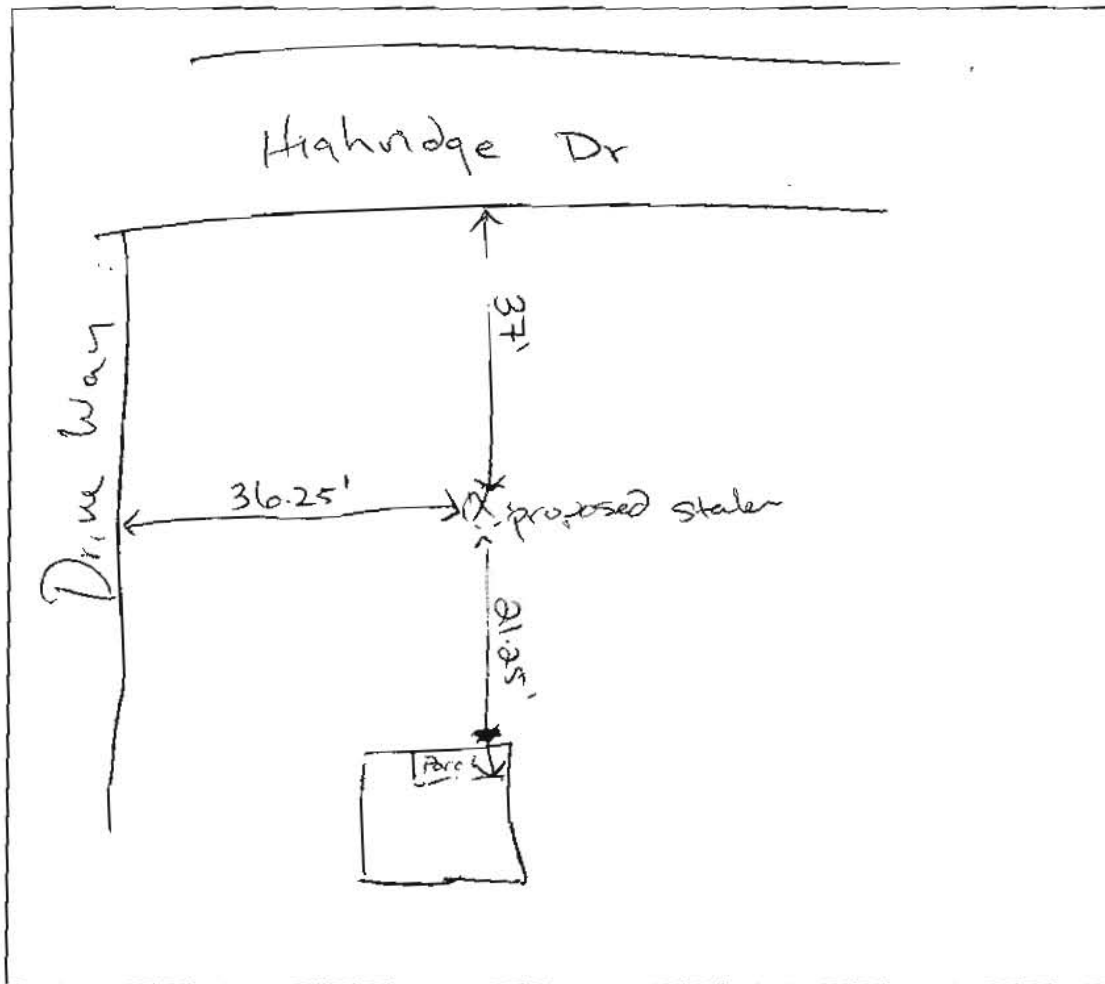
Project No.:
121695

JULY 2017

SITE INSPECTION SHEET

OWNER: BORDINE PHONE #: _____
ADDRESS: 10155 HIGH RIDGE CONTRACTOR: CONNELLY
LAUREL MD 20723 WELL TAG #: H0-17-0142
SUBDIVISION: Zack LOT: 1 COUNTY #: 13
PROPOSAL: GEOTHERMAL - CLOSED LOOP

LOCATION DIAGRAM



COMMENTS: 06/01/2017 Measurements meet setback to foundation
+ road. Must Reinspect for Sewage fireman setback (u)

DATE: _____ INSPECTOR: _____

July 12, 2017

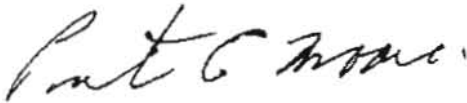
P & M Plumbing and Contracting

8371 Baltimore Annapolis Blvd
Suite C
Pasadena, MD 21122
MHIC # 51482
410 544-5333
info@povesheatingandair.com

To whom it may concern,

After inspection, we see that the main sewer line leaving the residence of Kevin Perkins of 10155 High Ridge Road, Laurel, MD 20723 has cast iron pipe with lead sealed joints. At this time it is water tight and is in good repair. The cast iron pipe is not the original construction and appears it has been replaced prior to current homeowner purchase.

Sincerely,

A handwritten signature in cursive script, appearing to read "Preston Moore".

Preston Moore
President



PLUMBING • DRAINS • WATER HEATERS

1552 Ridgely Street
Baltimore, MD 21230
Phone: 410-247-9970

10440 Furnace Rd., Ste. 106
Lorton, VA 22079
Phone: 703-870-2500

550 Forest Glen Road
Silver Spring, MD 20901
Phone: 301-222-1500

Fax: 410-247-9290
www.lentheplumber.com

INVOICE #	517588
DATE	6-15-17
REFERRING TECH	Pd. Camera

JOB NAME	Kevin Perkins		
JOB ADDRESS	10155 High Ridge Rd		
CITY	Land	STATE	MD
HOME PHONE	240-708-1421	CELL PHONE	20723 (Howard)

BILLING NAME (IF DIFFERENT FROM JOB NAME)			
BILLING ADDRESS (IF DIFFERENT FROM JOB ADDRESS)			
CITY	STATE	ZIP	
HOME PHONE	CELL PHONE		

JOB SPECIFICATIONS

Len The Plumber will obtain the required plumbing permits and contract Miss Utility to locate and mark the utilities.

Excavate to expose the sewer and:

☐ REPAIR up to approximately _____ ft in length _____ ft. in depth of existing (outside/inside) sewer line with sch. 40 PVC.

Provide _____ cleanout(s) and have local jurisdiction inspect as required.

Backfill trench to mounded machine grade utilizing plastic ground cover for spoil pile.

Warranty on repaired pipe only, 5 years.

\$ _____

☒ REPLACE up to approximately 40 ft. in length, 9 ft. in depth of existing sewer line with sch. 40 PVC from house connection to municipal connection. Inside approximately _____ ft. in length, _____ ft. in depth.

Provide _____ cleanout(s) and have local jurisdiction inspect as required.

Backfill trench to mounded machine grade utilizing plastic ground cover for spoil pile.

Lifetime Warranty on replaced pipe only, 10 year transferrable.

\$ 5940.

☐ TRENCHLESS PIPE-BURSTING OPTION +\$ 2,000.00

+\$ _____

☐ WATER SERVICE ADD ON +\$ 1,500.00

+\$ _____

☐ MISC ADD ON +\$ _____

+\$ _____

Camera Sewer line and Locate within 2 feet

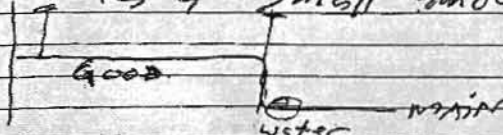
\$300.

Pipe: 4" cast iron in good repair. No visible
deformation of joints. At municipal connection

is a small amount of standing water.

Bal. Replacement

TOTAL \$ 5640



DEPOSIT \$ _____

BALANCE DUE UPON COMPLETION \$ _____

Financing Available

I, the undersigned, have read, agreed to, received a copy of this contract, and have authorized this work to be completed.
I have also read the **TERMS AND CONDITIONS** on the back of this contract.

Client Signature CAMERA

Print Client Name Christine Bordline

Employee Signature [Signature]

Print Employee Name Scelottanz

I, the undersigned, acknowledge that the work above has been completed to my **UTMOST SATISFACTION**.

Client's Signature _____

Employee Signature _____

- PAYMENT
- ☐ CASH
 - ☐ CHECK
 - ☐ CREDIT CARD
 - ☐ BILL
 - ☐ FINANCE

DRIVER LICENSE # _____

STATE _____

DATE OF BIRTH _____

CREDIT CARD # _____

CREDIT CARD EXPIRATION DATE _____

AUTHORIZING MANAGER _____



HOWARD COUNTY HEALTH DEPARTMENT

60643

DATE
5/21/17

WS

Received
From

Josh April

PHONE #

301 306-7270

For

Well Permit/10155
High Ridge Rd.

☐ CASH

☐ CHECK

NO.

One hundred sixty Dollars

\$

160/60

Received By

AKP