

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

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 3/6/14 **ONSITE SEWAGE DISPOSAL SYSTEM** P 546265

INSTALLATION APPROVAL DATE: 6/30/14 **PERMIT** A \_\_\_\_\_  
*(KRM)*

**UPGRADE**

PROPERTY ADDRESS: 5434 Landing Road

SUBDIVISION: \_\_\_\_\_ LOT: \_\_\_\_\_ TAX ID: 01-172417

CONTRACTOR: Fogle's Septic Clean Inc. EMAIL: kurt@foglesinc.com

CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville, MD 21784 PHONE: 410-795-5670

PROPERTY OWNER: Yukari Manabe & James Campbell EMAIL: \_\_\_\_\_

OWNER ADDRESS: 5434 Landing Road, Elkridge, MD 21075 PHONE: \_\_\_\_\_

BAT UNIT MODEL: Hoot 600 BNR pump blaster 33EB05 BAT UNIT SIZE: \_\_\_\_\_

PUMP CHAMBER CAPACITY (GALLONS): 2000 PUMP SIZE: 0.5hp

NUMBER OF BEDROOMS: 6 HOUSE SQ. FT. 4,595 APPLICATION RATE: 1.2

DISTRIBUTION SYSTEM: GRAVITY FED  LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>136'</u>	INLET DEPTH: <u>3.5</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>7.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3.5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Set septic tank per plan. Install LPD system per plan. Install 4 x 34' trenches on contour per plan.	

ISSUED BY: Robert Bricker ISSUE DATE: 3/6/14 EXPIRATION DATE: 3/6/15

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADE FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.**

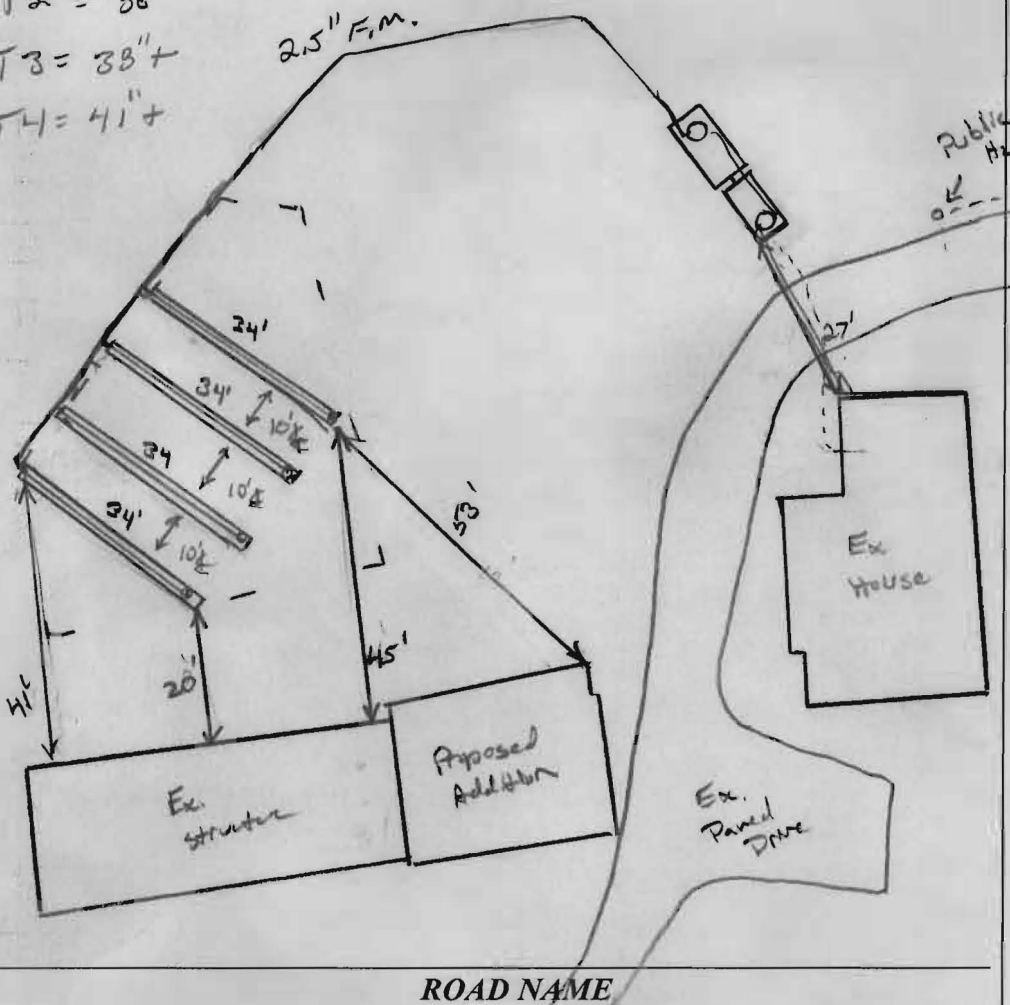
**PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.**

**CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE

6/23/14 Not enough H<sub>2</sub>O to test BAT Alarm.  
 Did perform test on system, set pump to run min 3mins.  
 T(1) = measured 28" on distal

T<sub>2</sub> = 36"  
 T<sub>3</sub> = 38"  
 T<sub>4</sub> = 41"



**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
2	3.5'	7.5'
NUMBER OF TRENCHES		4
TOTAL LENGTH		136'
ABSORPTION AREA		278'± SW
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		N/A

**SEPTIC TANK DATA**

SEPTIC TANK I LEVEL	Yes
MANUFACTURER	Major Bro's
CAPACITY	1600 GNR GAL
SEAM LOC	Top
TANK LID DEPTH	3'
BAFFLES	Yes
BAFFLE FILTER	-
MANHOLE LOC	Front
6" PORT LOC	None
WATERTIGHT TEST	-
SLOTTED	Yes
DATE ON LID	-

**PUMP/SEPTIC TANK LEVEL**

SEPTIC TANK LEVEL	Yes
MANUFACTURER	Major
CAPACITY	2000 GAL
SEAM LOC	Top
TANK LID DEPTH	3'
BAFFLES	-
BAFFLE FILTER	-
MANHOLE LOC	Rear
6" PORT LOC	-
WATERTIGHT TEST	-
SLOTTED	no
DATE ON LID	-

**PRE-CONSTRUCTION:**

3/25/14 Cold, wet conditions. Store very dirty. Told contractor to change out store must be clean of silt and clay debris. Notified on plan design calls for lpd. Not done clear on plan. Contractor was unaware of lpd. Walked site over, nothing staked. Need trenches F.M, main/dial, each BAT unit to be staked by licensed surveyor. Will confirm design with w/ Engineer. (KW) 4/22/14 Onsite w/ contractor. Trenches staked. F.M. not

INSTALLATION: Staked. BAT unit staked in area of large tree. Needs to be moved. Engineer contacted via phone while on site. OK to start trenches and laterals. Existing SHC not found. No elevations noted on plan. Tank may not make fall if moved uphill. More to follow. (KW) 4/24/14 Scum out location found but not dug up. Contractor to dig up tomorrow. Laterals pre-constructed w/ holes and spacing. Installed. No diffuser on site. Top 2 barrels dig and staked. OK to continue. Do not set tanks before Health Dept verifies sewer depth. (KW)

4/25/14 Trenches complete. F.M. stubbed up, not fully ran. No tanks set  
 6/5/14 BAT unit + Pump chamber set. F.M. installed up to pump. Need internal components (KW)

FINAL INSPECTOR K. Kull DATE OF APPROVAL 6/30/14  
 For BAT unit and SHC + electrical. (KW) 6/6/14 SHC made. Need start-up of BAT system and LPD system prior to approval (KW)



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
Main: 410-313-2640 | Fax: 410-313-2648  
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

**OPERATION AND MAINTENANCE AGREEMENT  
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM  
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 11 day of February, 2014, among Yukari Menche + James Corp., hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 5434 Landing Rd, in the 12 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber \_\_\_\_\_ Folio \_\_\_\_\_.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as

long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

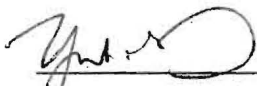
G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

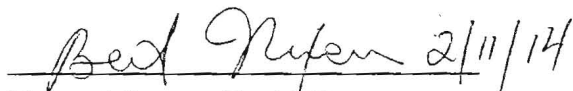
I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

 2/2/14  
Owner Date

 02 FEB 2014  
Owner Date

  
Howard County Health Department

**AGREEMENT AND EASEMENT FOR INSTALLATION  
OF BEST AVAILABLE TECHNOLOGY SYSTEMS  
WITH BAY RESTORATION FUNDS.**

THIS AGREEMENT is made this 11 day of February 2014, among Yukari Manabe + James Campbell hereinafter referred to as "Owner," the Howard County Health Department hereinafter collectively referred to as the "County," and the Department of the Environment, hereinafter referred to as the "Department."

WHEREAS, Owner owns a tract of land located on 5434 Landing Road, in the      Election District of Howard County, Maryland, and the deed to same is recorded among the Land Records of Howard County, Maryland, in Columbia and in Liber      Folio     .

WHEREAS, the Bay Restoration Fund (BRF) may provide a grant for the cost attributable to upgrading an onsite sewage disposal system to the Best Available Technology (BAT) for the removal of nitrogen.

WHEREAS, the BRF may also provide a grant for the cost difference between a traditional onsite sewage disposal system and a system that utilizes the BAT for the removal of nitrogen.

WHEREAS, Owner understands that participation in the Bay Restoration Fund is voluntary.

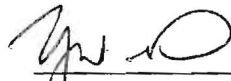
NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the Department and the County the right to enter upon the property at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data requested and needed by the Department to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that a MDE certified and manufacturer-approved installer will install the BAT system.
- C. Owner acknowledges and agrees the manufacturer or manufacturer's authorized service provider will provide for Operation and Maintenance of the BAT for a period of 5 years as a condition of sale of the BAT. After the initial 5 year period an Operation and Maintenance contract with a certified service provider must be maintained in perpetuity by the property owner.
- D. Owner acknowledges and agrees that the manufacturer appointed Operation and Maintenance provider will have access to the BAT system at all times.
- E. Owner acknowledges and agrees that the manufacturer or manufacturer's authorized service provider will have access to sample the effluent of the BAT system. Owner acknowledges and agrees that the proposed installation of a BAT system funded by the BRF is voluntary. Owner agrees that there shall be no liability on the part of the County or Department to Owner if this BAT system fails, and that the County and the Department do not warrant or guarantee that the BAT system will adequately or properly function.
- F. Owner acknowledges and agrees that neither the County nor the Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- G. The Owner will devote such care and effort to the maintenance of the BAT system so that any malfunction is not the result of poor maintenance, faulty operation, or neglect.

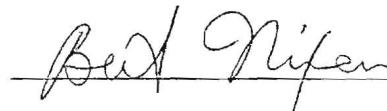
- H. The Canaan Valley Institute agrees to grant up to \$\_\_\_\_\_ toward the cost of installation of the BAT system, and financial responsibility is limited to this amount. Operating costs will be at the Owners expense.
- I. The Owner acknowledges that the BRF grant can only be used for that portion of the OSDS attributable to (BAT) for the removal of nitrogen.
- J. Owner acknowledges in the event the total project cost is greater than \$25,000 the proposal will have to be approved by the Maryland State Board of Public Works.
- K. The Owner agrees to contact both the Water Management Administration, On-Site Systems Division of the Wastewater Permits Program and the County at least forty-eight (48) hours prior to system installation, so that the Department has the opportunity to be present at the time of installation or thereafter for inspection.
- L. The Owner must install BAT system according to the manufacturer recommended plans and specifications approved by the Department.
- M. The Owner agrees and acknowledges that if installation deviates substantially from the approved plans or changes such that performance of the system is compromised or reduced, BRF funding will not be provided.
- N. This agreement shall run with the land and binds the Owner, his heirs, successors, assigns. Owner further agrees that he shall inform in writing any purchaser or lessee of the property that the system may require maintenance or other attention. The Owner agrees to record this agreement in the land records of Howard County.
- O. This agreement shall not be construed to limit any authority of the Department to protect the public health, safety or comfort or to issue any other orders to take any other action that is now or may hereafter be within its authority.
- P. This agreement may be voided at the discretion of the Department if the system construction is not completed within six (6) months of the effective date of this agreement.
- Q. This agreement contains the entire agreement and understanding between the County and the Owner and the Department. There are no additional terms other than as contained in this agreement. This agreement may not be modified except in writing signed by each of the parties or by their authorized representatives.
- R. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

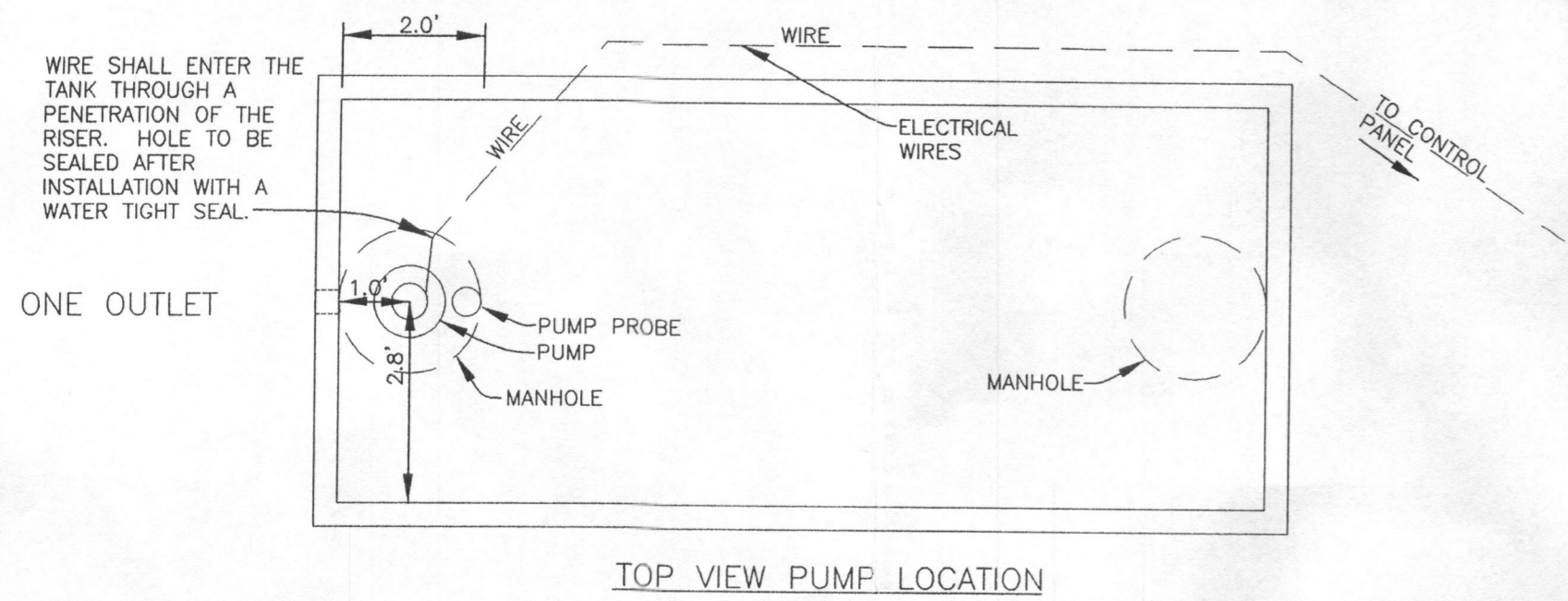
IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

DATE: 2 Feb 2014

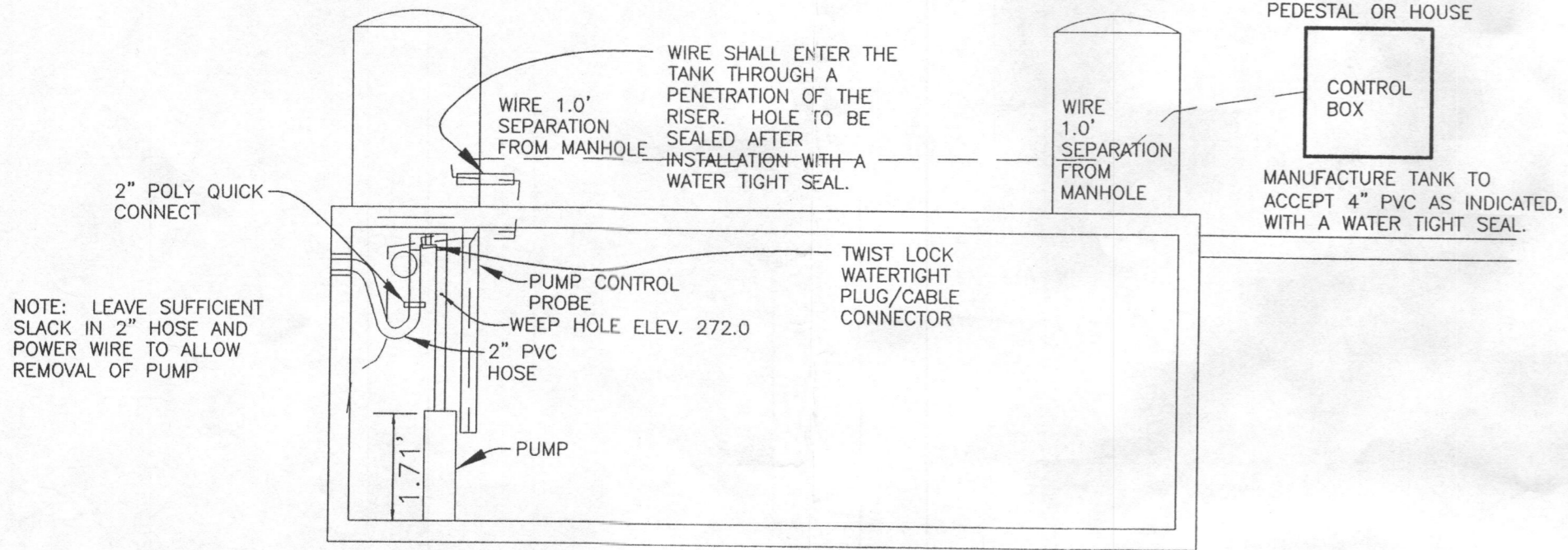
  
 \_\_\_\_\_  
 Owner

DATE: 2/11/2014

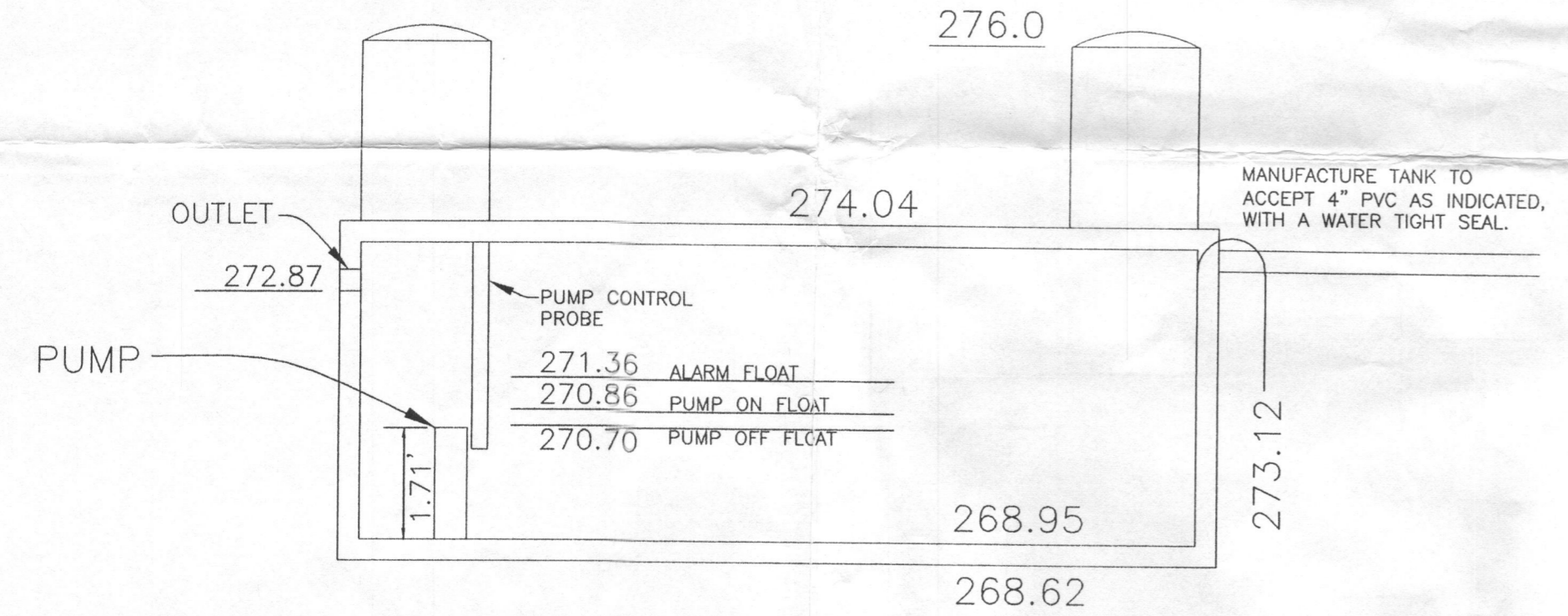
  
 \_\_\_\_\_  
 Howard County Health Department



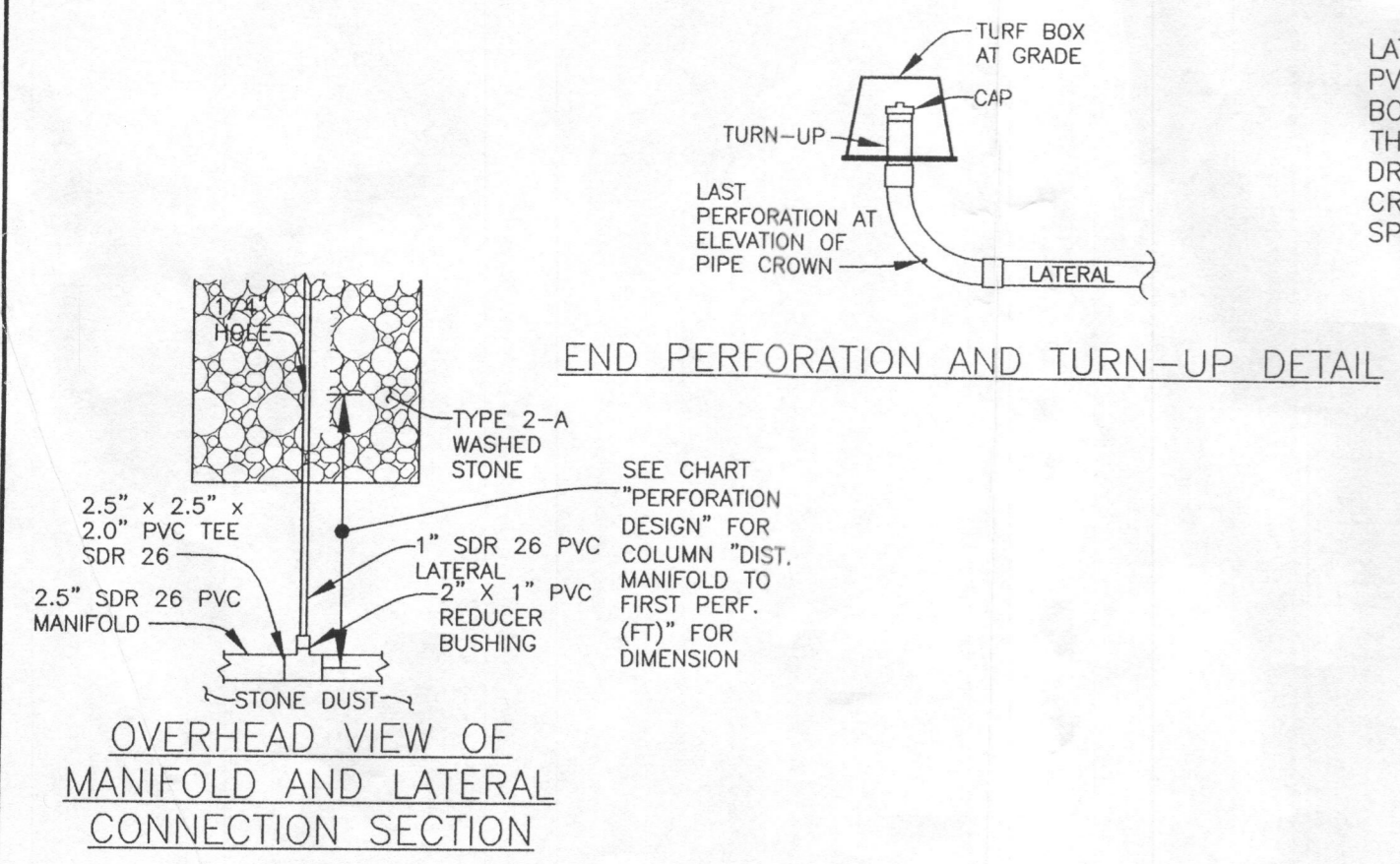
TOP VIEW PUMP LOCATION



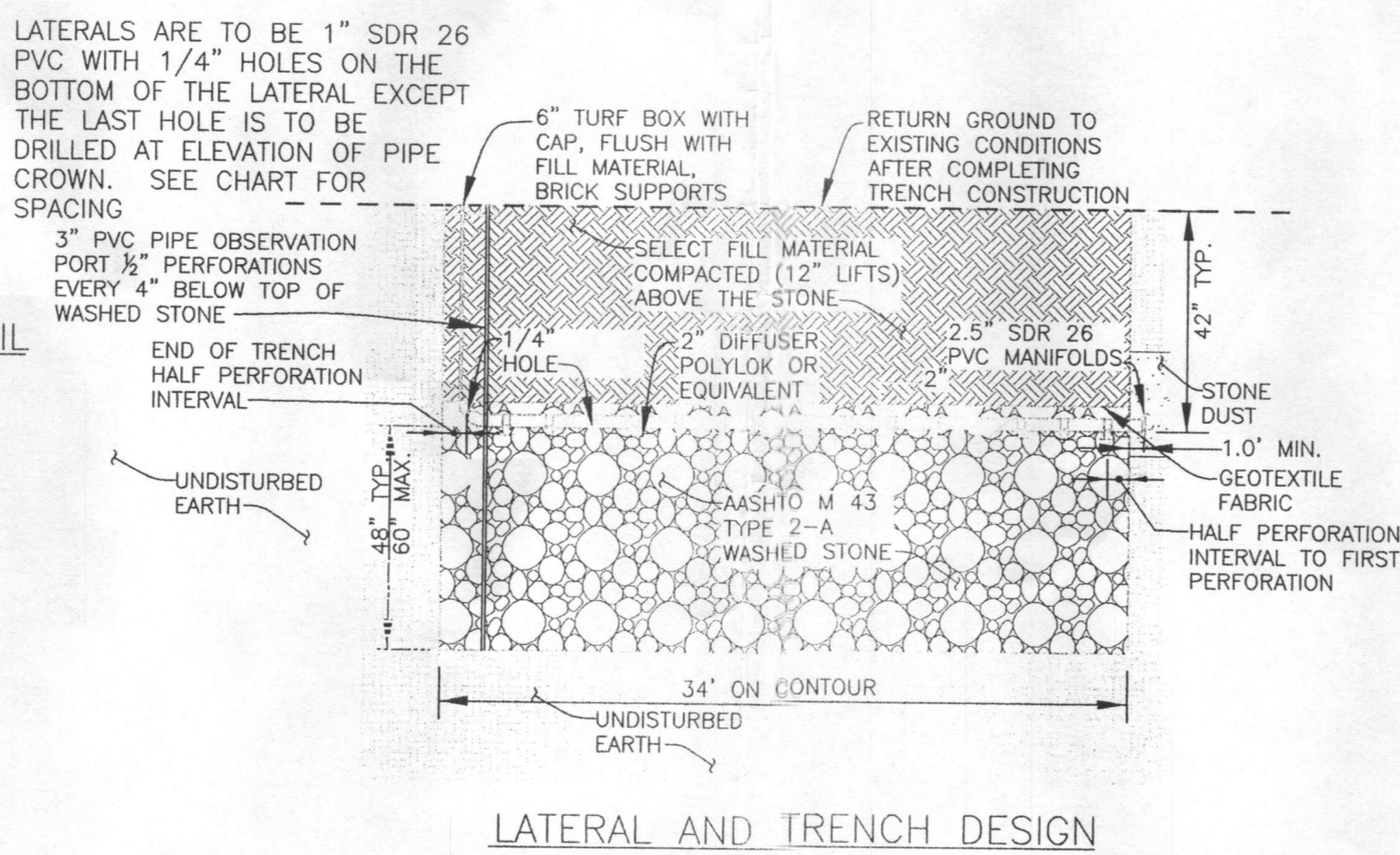
PUMP BLOCK, WIRING AND HOSE SECTION



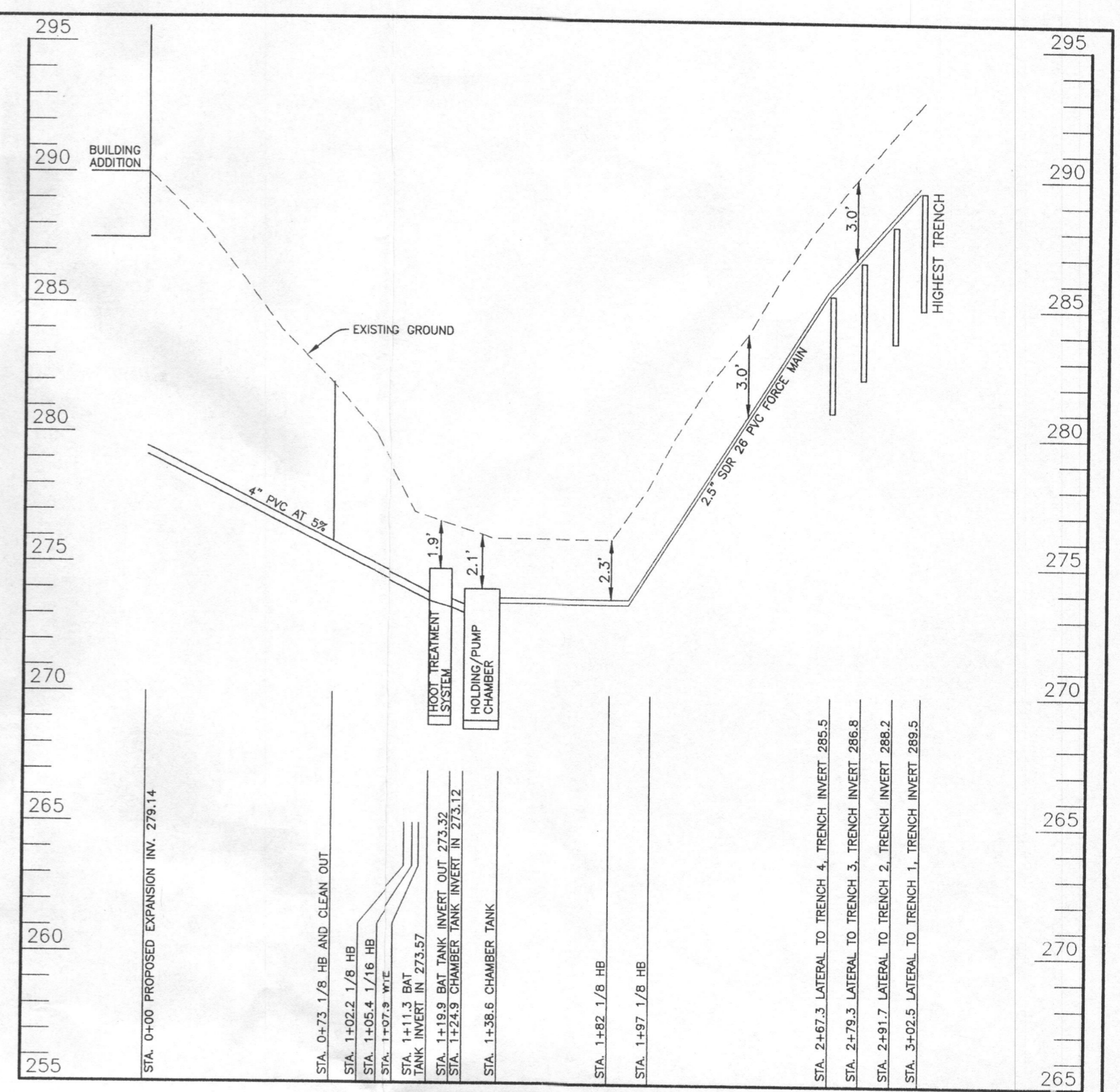
PROBE DETAIL



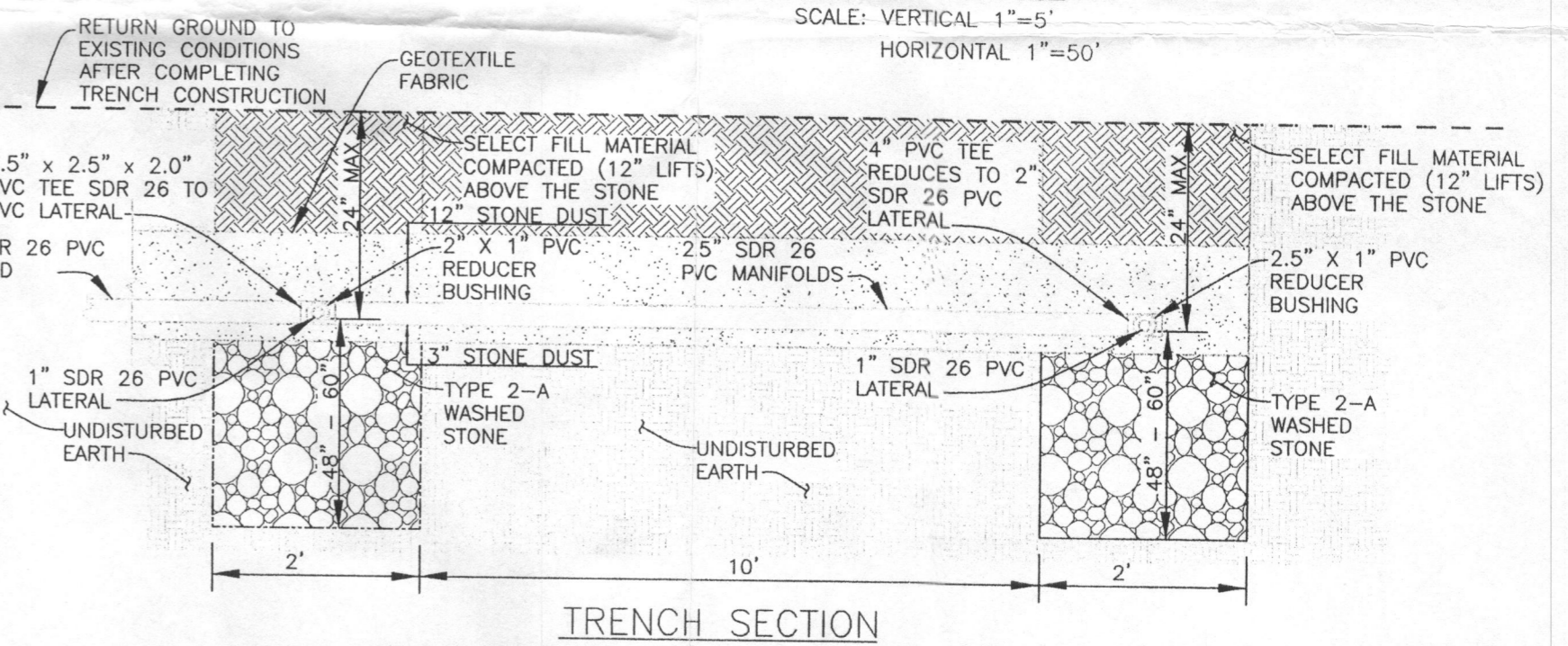
END PERFORATION AND TURN-UP DETAIL



Approved Septic System Plan  
 Howard County Health Department  
 5434 Landing Road  
 BAT site Plan, Sheet 3 of 3  
 R. Bueker  
 Signature  
 10/20/13  
 Date



SEWER PROFILE



TRENCH SECTION

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 315  
 ELLICOTT CITY, MARYLAND 21075  
 PHONE: 410-465-6105 • FAX: 410-465-6644  
 BEI@BEI-CIVLENGINEERING.COM

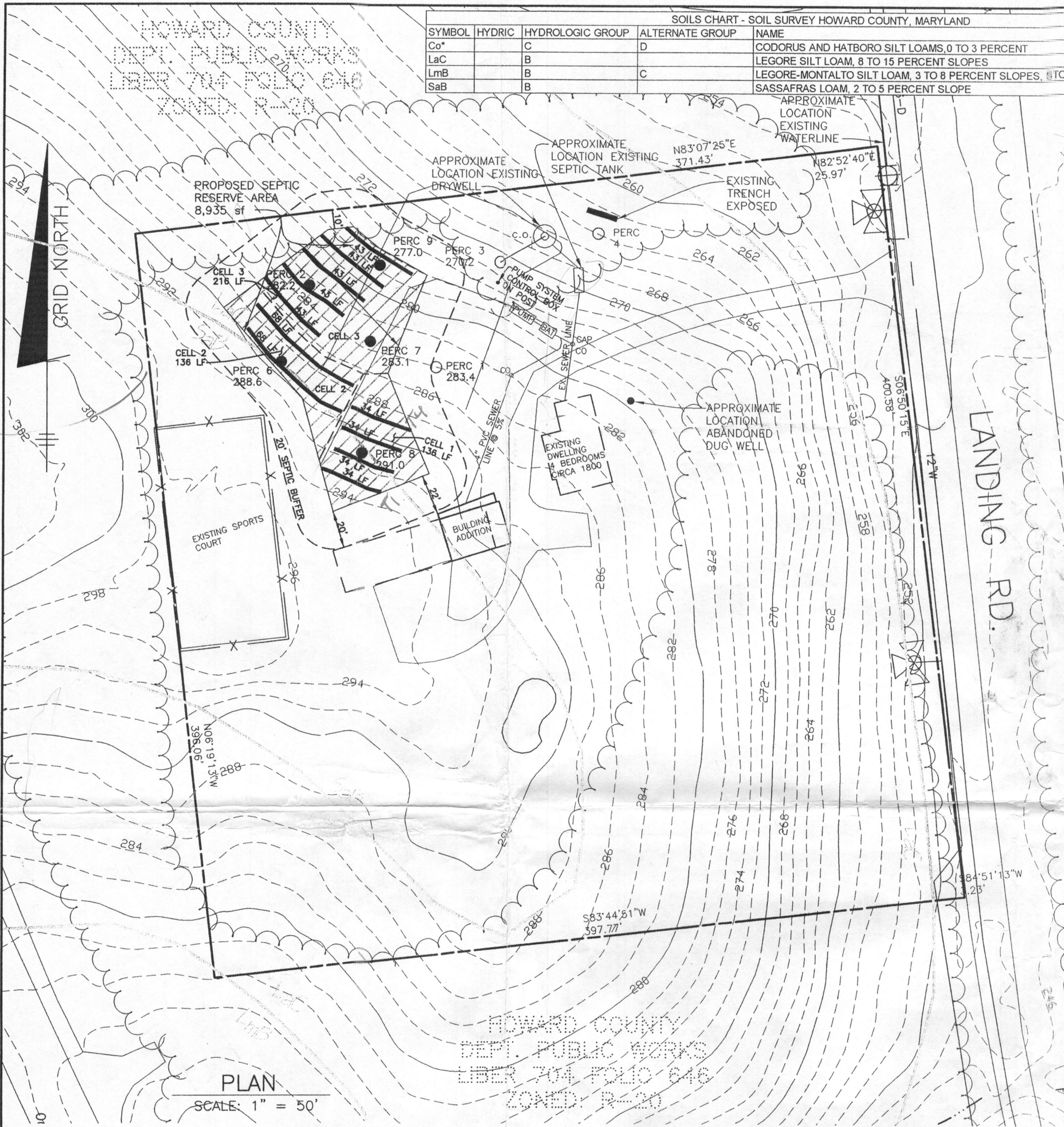
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 102299, Expiration Date: 6-30-2015.

CHRISTOPHER ALAN MALCOLM  
 REGISTERED PROFESSIONAL ENGINEER  
 10/24/13

OWNER/BUILDER:		PROJECT:	
JAMES CAMPBELL YUKARI MANABE 6195 LAWYERS HILL ELKRIDGE, MARYLAND 21075 410-858-7855		5434 LANDING ROAD A545043	
LOCATION:		5434 LANDING ROAD ELKRIDGE, MD 21075 TAX MAP No. 31 - BLOCK No. 23 - PARCEL No. 236 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	
TITLE:		SITE PLAN FOR BAT INSTALLATION	
HOUSE TYPE:		CUSTOM REMODEL	
DATE:	OCTOBER, 2013	PROJECT NO.	2564
DESIGN:	JMC	DRAFT:	JMC
SCALE:	NA	DRAWING	3 OF 3



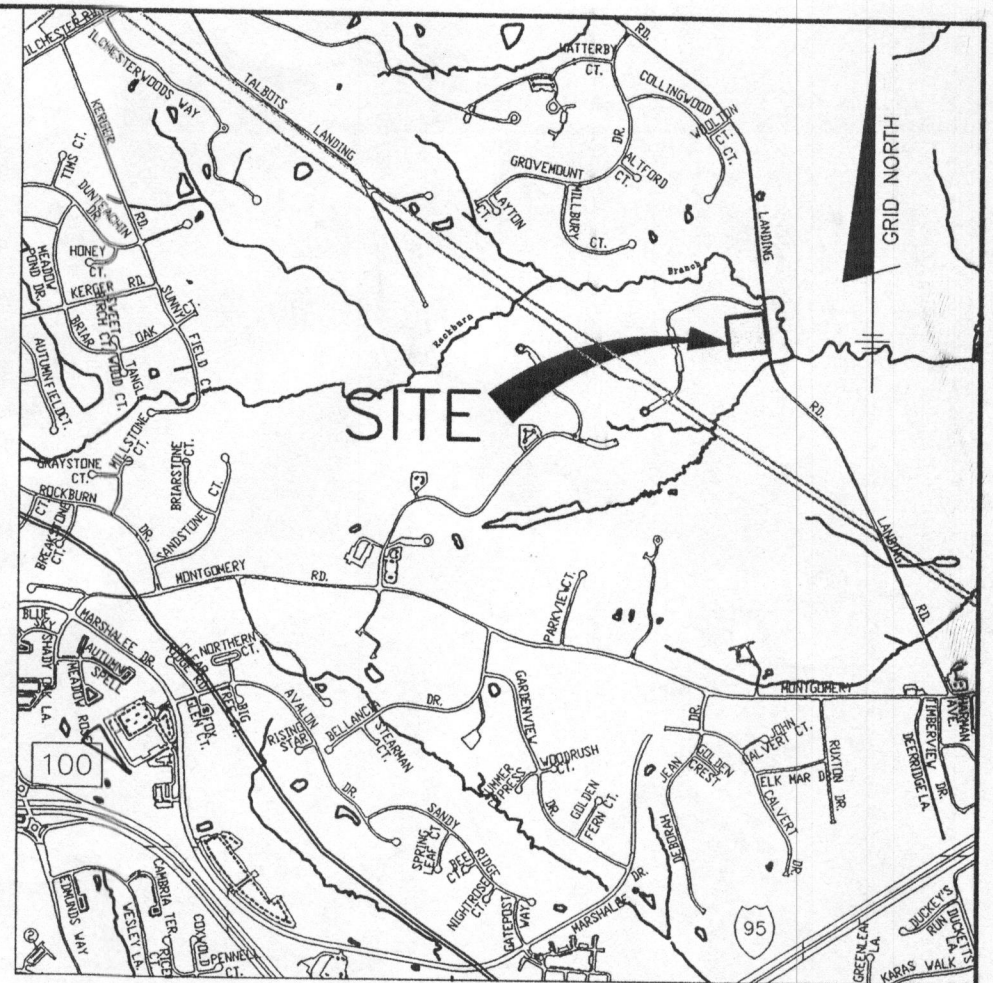
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME
Co*	C	D		CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT
LaC	B			LEGORE SILT LOAM, 8 TO 15 PERCENT SLOPES
LmB	B	C		LEGORE-MONTALTO SILT LOAM, 3 TO 8 PERCENT SLOPES, 1/4 TONY
SaB	B			SASSAFRAS LOAM, 2 TO 5 PERCENT SLOPE



PLAN  
SCALE: 1" = 50'

HOWARD COUNTY  
DEPT. PUBLIC WORKS  
LIBER 704 FOLIO 646  
ZONED R-20

Design Calculations	Design Input	Capacity requirements	Drainfield Requirements	Tanks and Capacities	Distribution system	Static Hydraulic Profile	Perforation Design	Dosing volume, flow rates and Pressures	Tank and Float Design	Pump Requirements	Pump Selection
Max. Daily Flow: 900 gpd Average Daily Flow: 450 gpd Maximum Daily Flow: 0.63 gpm Average Daily Flow: 0.31 gpm	number of lots: 1 bedrooms per lot: 6 use rate per bedroom: 150 gpd	Application Rate: 1.2 gpd/sq ft Trench width: 2 ft trench gravel depth: 4 ft number of trenches: 4 trench spacing center-center: 12 ft	Standard Trench Length: 375 ft Deep Trench Conversion Factor: 36.36 % Deep Trench Length for MDF: 136.35 ft total trench length for 100% capacity: 136.35 ft individual trench length: 34 ft Approx. Lateral Length: 30.00 ft	minimum req. area: 1536.2 sf req. capacity (1125+(0.75*MDF)): 1800 gal. design settling capacity NA: gal. min. pump tank capacity (ADF): 536 gal.	number of cells: 1 trenches first system: 4 lateral length per pump: 136 ft ID 1.0" SDR 26 PVC: 1.195 inches Max. Manifold length: 160 ft ID 2.5" SDR 26 PVC: 2.855 inches	Ground Elev. At BAT tank: 276.40 ft Tank #1 invert in: 273.57 ft Cover: 1.60 ft Tank #1 top: 274.80 ft Fall in tanks: 0.25 ft Fall between tanks: 0.20 ft Ground Elev. at pump tank: 276.00 ft Pump Tank invert in: 273.12 ft inv. into pump tank to top: 0.92 ft Pump Tank top: 274.04 ft Pump Block Height: 0.00 ft Height of Intake: 0.79 ft Highest lateral: 289.50 ft	Size of Perforation: 1/4 inches Design Separation: 6.00 ft Use Perforations: 6 Perforations per field: 24	lateral flow rate per pump: 30.63 gpm Friction (C) for PVC: 150 Miscellaneous Losses: 0 ft Estimated Run Time: 3.00 Min. Cells in simultaneous use: 1 Pump tank Volume: 45.32 Gal/in	Ground over Tank = 276.00 ft Top of Tank = 274.04 ft Invert of Tank = 268.95 ft Support and Pump = 0.79 ft Water End and Motor = 1.71 ft per Mayer Brothers Precast	Performance = 30.63 gpm Head of Water = 28.13 feet of head	Blaster filtered effluent pump 1/2 horse power 230 Volts Single Phase

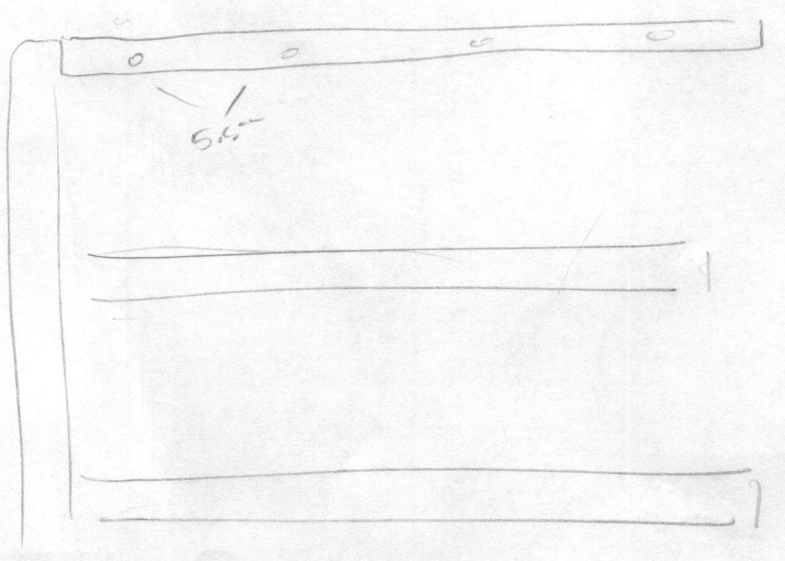


VICINITY MAP  
SCALE: 1" = 2000'  
BUILDING PERMIT PLAN GENERAL NOTES

- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWER DISPOSAL IMPROVEMENTS OF ANY NATURE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWER SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE REQUIRED.
- EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
- TOPOGRAPHY SHOWN IS BASED ON HOWARD COUNTY GIS AND IS FIELD VERIFIED BY BENCHMARK ENGINEERING, INC., IN JUNE, 2013.
- THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
- THE PURPOSE FOR THIS PERCOLATION TEST PLAN IS TO CREATE A SEWAGE DISPOSAL EASEMENT IN SUPPORT OF A BUILDING PERMIT APPLICATION.
- THE EXISTING WELLS, HO-73-0809 AND HO-73-3795 SHOWN ON THIS PLAN WERE NOT FOUND DURING A FIELD INSPECTION. THEY APPEAR TO BE PROPERLY ABANDONED. WATER SERVICE IS TO BE PROVIDED BY A WHC TO CONTRACT NO. 14-3799-D.
- ANY CHANGES TO A PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THE HEALTH DEPARTMENT REQUIRES THE EXISTING SEPTIC SYSTEM TO BE REPLACED PRIOR TO BUILDING PERMIT APPROVAL. THE REPLACEMENT WILL CONSIST OF A BAT UNIT, PUMP TANK AND REPLACEMENT TRENCHES WITHIN THE APPROVED AREA ON THE PERCOLATION CERTIFICATION PLAN.
- LOW-PRESSURE DISTRIBUTION SYSTEMS ARE REQUIRED FOR DRAINFIELDS IN THE SEWAGE DISPOSAL AREA REPRESENTED ON THIS PLAN.
- THE WOOD PILE WITHIN THE LIMITS OF THE NEW SEPTIC RESERVE AREA MUST BE RELOCATED OUTSIDE OF THE NEW SEPTIC RESERVE AREA.
- THIS PROPERTY IS SERVED BY PUBLIC WATER SUPPLY.

Center Feed?  
End Feed?  
Discharge for 1/4" hole  
= 1.20 gpm  
2 1/2" F.M.  
2 1/2" manifold  
1" Diameter laterals

1/4" hole Diameter  
2 1/2" F.M.  
2 1/2" Manifold.  
1" Diameter laterals  
No lateral detail  
Engineer notified 3/26/14  
(CW)



**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
**ENGINEERING, INC.**

8480 BALTIMORE NATIONAL PIKE • SUITE 315  
ELLCOTT CITY, MARYLAND 21043  
PHONE: 410-485-6105 • FAX: 410-465-6644  
BE@BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22390, Expiration Date: 6-30-2015.

10/29/13  
Date

OWNER/BUILDER:	PROJECT:
JAMES CAMPBELL YUKARI MAIABE 6195 LAWYERS HILL ELKRIDGE, MARYLAND 21075 410-858-7855	<b>5434 LANDING ROAD A545043</b>
LOCATION:	TITLE:
5434 LANDING ROAD ELKRIDGE, MD 21075 TAX MAP No. 31 - BLOCK No. 23 - PARCEL No. 236 FIRST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	<b>SITE PLAN FOR BAT INSTALLATION</b>
HOUSE TYPE:	DATE:
<b>CUSTOM REMODEL</b>	OCTOBER, 2013
DESIGN: JMC	DRAFT: JMC
SCALE: 1" = 50'	PROJECT NO. 2564 DRAWING 1 OF 3



# MAYER BROS., INC.

Precast Concrete Products  
6264 Race Rd. Elkridge, MD 21075

## Letter of Satisfaction Hoot System Installation

Address of Property: 5434 Landing Rd.  
Elkridge, MD. 21075

Date of Final Inspection: 6/27/2014

Installer: Fogleis

Hoot Technician/Inspector: mike Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

Name of Inspector  
Mayer Bros., Inc.

PH: 410-796-1434  
FX: 410-796-1438

**WBE**  
**NPCA Certified Plant**

mayerbro@coanext.net  
www.mayerbrosprecast.com

Grease Interceptors, Grease Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors, Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, PermEntry Basement Entries, Scapewal Window Walls, Custom Precast Products

**AGREEMENT AND EASEMENT FOR INSTALLATION  
OF BEST AVAILABLE TECHNOLOGY SYSTEMS  
WITH BAY RESTORATION FUNDS.**

**000200**

THIS AGREEMENT is made this 11 day of February 2014, among Yukari Marche + James Campbell hereinafter referred to as "Owner," the Howard County Health Department hereinafter collectively referred to as the "County," and the Department of the Environment, hereinafter referred to as the "Department."

WHEREAS, Owner owns a tract of land located on 5434 Landing Road, in the        Election District of Howard County, Maryland, and the deed to same is recorded among the Land Records of Howard County, Maryland, in Columbia and in Liber        Folio       .

WHEREAS, the Bay Restoration Fund (BRF) may provide a grant for the cost attributable to upgrading an onsite sewage disposal system to the Best Available Technology (BAT) for the removal of nitrogen.

WHEREAS, the BRF may also provide a grant for the cost difference between a traditional onsite sewage disposal system and a system that utilizes the BAT for the removal of nitrogen.

WHEREAS, Owner understands that participation in the Bay Restoration Fund is voluntary.

NOW, THEREFORE, the parties hereto agree as follows:

- W to*
- A. Owner hereby grants to the Department and the County the right to enter upon the property at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data requested and needed by the Department to develop accurate and thorough test results.
  - B. Owner acknowledges and agrees that a MDE certified and manufacturer-approved installer will install the BAT system.
  - C. Owner acknowledges and agrees the manufacturer or manufacturer's authorized service provider will provide for Operation and Maintenance of the BAT for a period of 5 years as a condition of sale of the BAT. After the initial 5 year period an Operation and Maintenance contract with a certified service provider must be maintained in perpetuity by the property owner.
  - D. Owner acknowledges and agrees that the manufacturer appointed Operation and Maintenance provider will have access to the BAT system at all times.
  - E. Owner acknowledges and agrees that the manufacturer or manufacturer's authorized service provider will have access to sample the effluent of the BAT system. Owner acknowledges and agrees that the proposed installation of a BAT system funded by the BRF is voluntary. Owner agrees that there shall be no liability on the part of the County or Department to Owner if this BAT system fails, and that the County and the Department do not warrant or guarantee that the BAT system will adequately or properly function.
  - F. Owner acknowledges and agrees that neither the County nor the Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
  - G. The Owner will devote such care and effort to the maintenance of the BAT system so that any malfunction is not the result of poor maintenance, faulty operation, or neglect.



Clerk of the Circuit Court for  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: monable  
Reference/Control #: 200

LR - Agreement Surcharge  
1x 40.00 40.00

SubTotal: 60.00  
Total: 60.00

REV-Check-BQA  
Number : 522 60.00

02/20/2014 14:52  
#2487913 /494/109

CC13-NN

Thank you for visiting us today~



Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
Main: 410-313-2640 | Fax: 410-313-2648  
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

**OPERATION AND MAINTENANCE AGREEMENT  
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM  
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 11 day of February, 2014, among Yukari Mochizuki & James Conroy, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 5434 Landing Rd, in the 12 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber \_\_\_\_\_ Folio \_\_\_\_\_.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as


- H. The Canaan Valley Institute agrees to grant up to \$\_\_\_\_\_ toward the cost of installation of the BAT system, and financial responsibility is limited to this amount. Operating costs will be at the Owners expense.
- I. The Owner acknowledges that the BRF grant can only be used for that portion of the OSDS attributable to (BAT) for the removal of nitrogen.
- J. Owner acknowledges in the event the total project cost is greater than \$25,000 the proposal will have to be approved by the Maryland State Board of Public Works.
- K. The Owner agrees to contact both the Water Management Administration, On-Site Systems Division of the Wastewater Permits Program and the County at least forty-eight (48) hours prior to system installation, so that the Department has the opportunity to be present at the time of installation or thereafter for inspection.
- L. The Owner must install BAT system according to the manufacturer recommended plans and specifications approved by the Department.
- M. The Owner agrees and acknowledges that if installation deviates substantially from the approved plans or changes such that performance of the system is compromised or reduced, BRF funding will not be provided.
- N. This agreement shall run with the land and binds the Owner, his heirs, successors, assigns. Owner further agrees that he shall inform in writing any purchaser or lessee of the property that the system may require maintenance or other attention. The Owner agrees to record this agreement in the land records of Howard County.
- O. This agreement shall not be construed to limit any authority of the Department to protect the public health, safety or comfort or to issue any other orders to take any other action that is now or may hereafter be within its authority.
- P. This agreement may be voided at the discretion of the Department if the system construction is not completed within six (6) months of the effective date of this agreement.
- Q. This agreement contains the entire agreement and understanding between the County and the Owner and the Department. There are no additional terms other than as contained in this agreement. This agreement may not be modified except in writing signed by each of the parties or by their authorized representatives.
- R. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

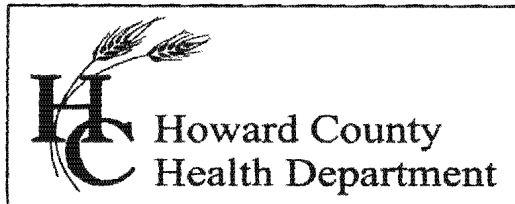
IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

DATE: 2 Feb 2014

  
 \_\_\_\_\_  
 Owner

DATE: 2/11/2014

  
 \_\_\_\_\_  
 Howard County Health Department



**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](http://www.hchealth.org)  
Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)  
Twitter: HowardCoHealthDep

**Maura J. Rossman, M.D., Health Officer**

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October 11, 2013

To: John Carney, Benchmark Engineering, Inc.  
[jcarney@bei-civilengineering.com](mailto:jcarney@bei-civilengineering.com)

From: Robert Bricker, REHS/RS  
Environmental Health Specialist, Well and Septic Program

RE: BAT Site Plan comments; 5434 Landing Road

The BAT Site Plan needs to be edited; the following issues are notable:

1. The set of Notes required in content of the BAT Site Plan are missing.
2. As the plan must be edited include the following among the edits:
  - a. a graphic illustration of the sewerage system Hydraulic Profile.
  - b. the summary of 'Pump Requirements'.
  - c. The 'Pump Selection'.

You may contact me at 410-313-2691, or by email, if you have questions about these requirements.

Copy: file



Howard County  
Health Department

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

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 8/19/13

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 545123

INSTALLATION  
APPROVAL DATE: \_\_\_\_\_

**PERMIT  
UPGRADE**

A \_\_\_\_\_

PROPERTY ADDRESS: 5434 Landing Road

SUBDIVISION: \_\_\_\_\_

LOT: \_\_\_\_\_

TAX ID: 01-172417

CONTRACTOR: Hatfield's Equipment

EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction MD 20701

PHONE: 301-490-4289

PROPERTY OWNER: Yukari Manabe & James Campbell

EMAIL: \_\_\_\_\_

OWNER ADDRESS: 5434 Landing Road, Ellicott, MD 21175

PHONE: \_\_\_\_\_

BAT UNIT MODEL: Norweco Singulair TNT-1000 GPD

BAT UNIT SIZE: 2300

PUMP CHAMBER CAPACITY (GALLONS): 2000

PUMP SIZE: 0.5hp

NUMBER OF BEDROOMS: 6

HOUSE SQ. FT. 4,595

APPLICATION RATE: 1.2

DISTRIBUTION SYSTEM: GRAVITY FED

LOW PRESSURE DOSE

TRENCHES	LINEAR FEET REQUIRED: <u>136'</u>	INLET DEPTH: <u>3.5</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>7.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>1.5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Existing dry well and septic tank must be pumped and properly abandoned prior to approval of installation permit. See BAT site plan for installation details.	

ISSUED BY: Robert Bricker

ISSUE DATE: 9/10/2013

EXPIRATION DATE: 9/10/2014

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWN GRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

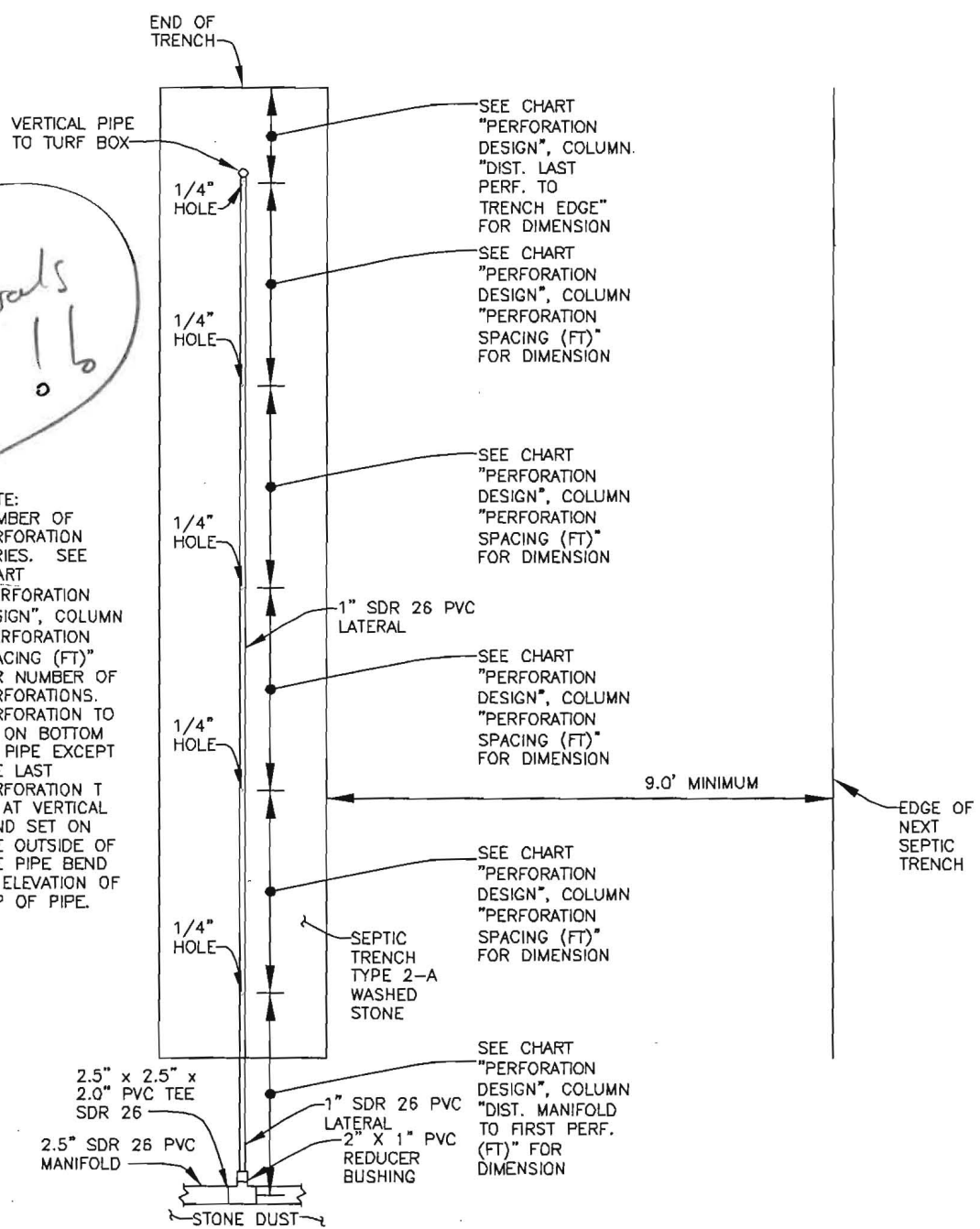
CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

*Handwritten notes:*  
 Stone selected  
 BAT unit  
 water tight  
 RBB  
 10/11/2013



*Need Full laterals Detail !!*

NOTE:  
 NUMBER OF PERFORATION VARIES. SEE CHART "PERFORATION DESIGN", COLUMN "PERFORATION SPACING (FT)" FOR NUMBER OF PERFORATIONS. PERFORATION TO BE ON BOTTOM OF PIPE EXCEPT THE LAST PERFORATION T BE AT VERTICAL BEND SET ON THE OUTSIDE OF THE PIPE BEND AT ELEVATION OF TOP OF PIPE.

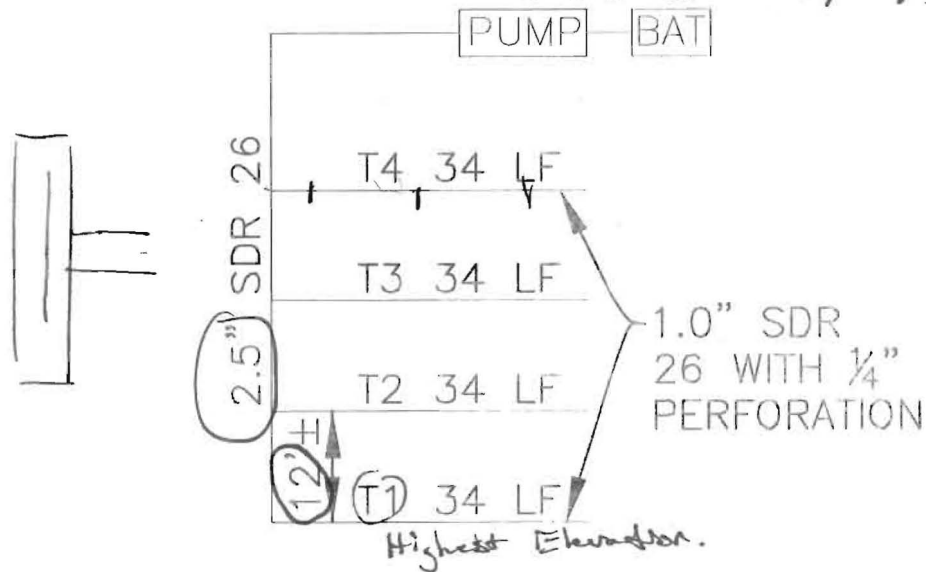


PERFORATION SPACING AND LATERAL LENGTH DIAGRAM

- 1/4" Hole Diameter
- 2.5" F.M.
- 2.5" Manifold
- 1" Diameter laterals

Discharge 1/4" holes = 1.28 gpm

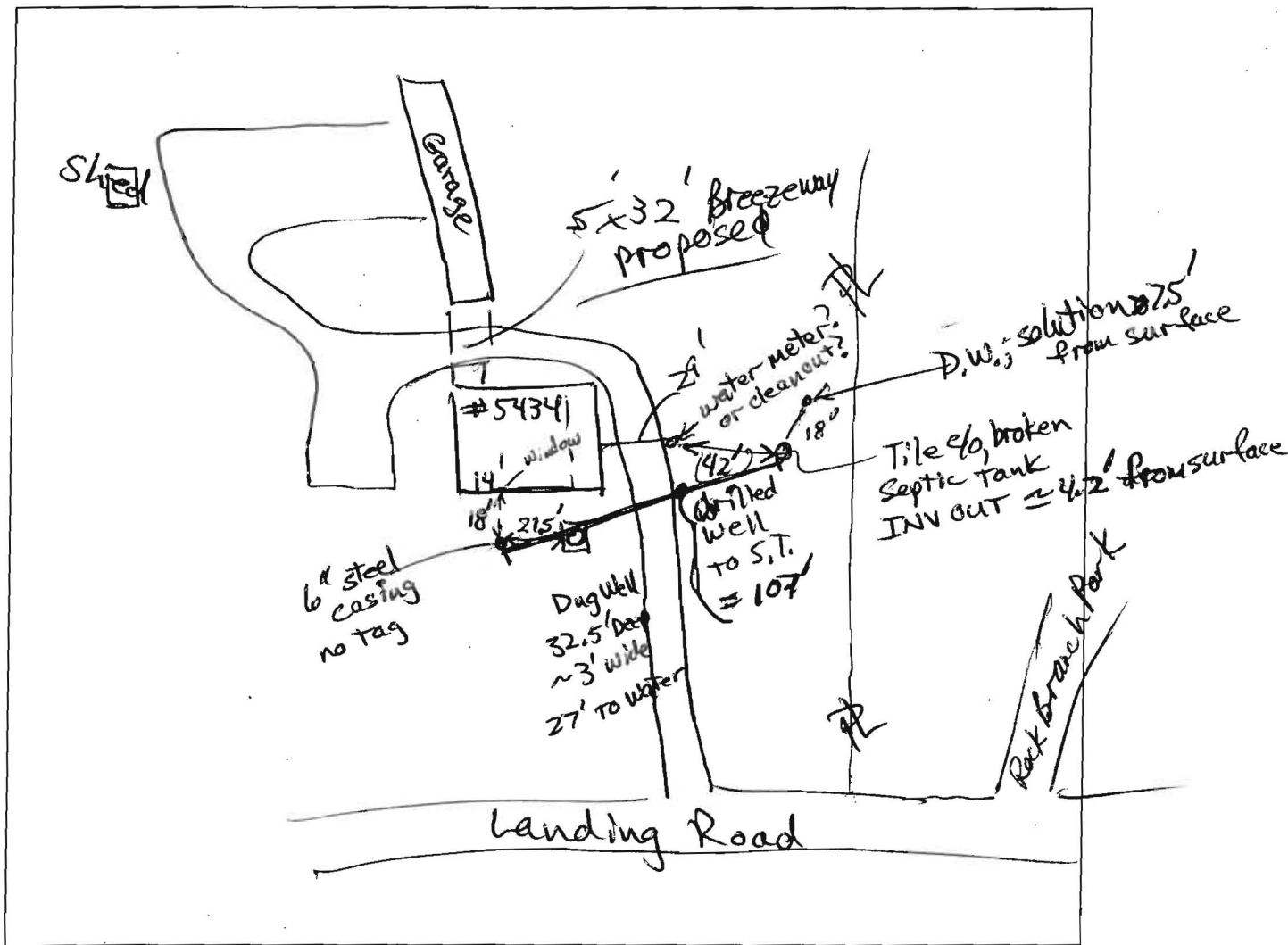
lateral T1 = 6 holes, Spacing = 5.67', length = 32.47'  
 T2 = 5 holes, Spacing = 6.80', length = 33.2'  
 T3 = 4 holes, Spacing = 8.50', length = 30.85'  
 T4 = 4 holes, Spacing = 8.50', length = 30.45'



SITE INSPECTION SHEET

OWNER: James Campbell, Yukari Manabe 6195 Lawyers Hill Road PHONE #: \_\_\_\_\_  
ADDRESS: 5434 Landing Road CONTRACTOR: Cromwell Builders, Inc  
WELL TAG #: \_\_\_\_\_  
SUBDIVISION: \_\_\_\_\_ LOT: \_\_\_\_\_ COUNTY #: \_\_\_\_\_  
PROPOSAL: Breeze way Proposed ; Site inspection  
conducted late p.m 12/22/11

LOCATION DIAGRAM



COMMENTS: lot is greater than 3 acres.  
1/3, 'Utilities' states that residence is served by  
public water. Dug well is likely under influence  
of surface waters and is to be sealed  
DATE: 1/3/2012 INSPECTOR: Robert Bricker