



**Bureau of Environmental Health**  
 8930 Stanford Boulevard, 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](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 12/27/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 5-59887

APPROVAL DATE: 12/29/16 **PERMIT: CONSTRUCTION** A \_\_\_\_\_

PROPERTY ADDRESS: 2510 Duvall Rd. Woodbine, MD 21797

SUBDIVISION: n/a LOT: 2 TAX ID: 04-598153

CONTRACTOR: Level Land Inc, EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: PO Box 100 Lisbon, MD 21765 PHONE: 410-489-5200

PROPERTY OWNER: Justin & Amy Brendel EMAIL: \_\_\_\_\_

OWNER ADDRESS: 2451 Mullinix Mill Mt. Airy, MD 21771 PHONE: 443-677-0627

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: Babylon

PUMP MODEL: n/a PUMP SIZE n/a PUMP TANK CAPACITY: n/a

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>130.3</u>	INLET DEPTH: <u>2</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>11</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2</u>
LOCATION:	<b>PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.</b>	
NOTES:		

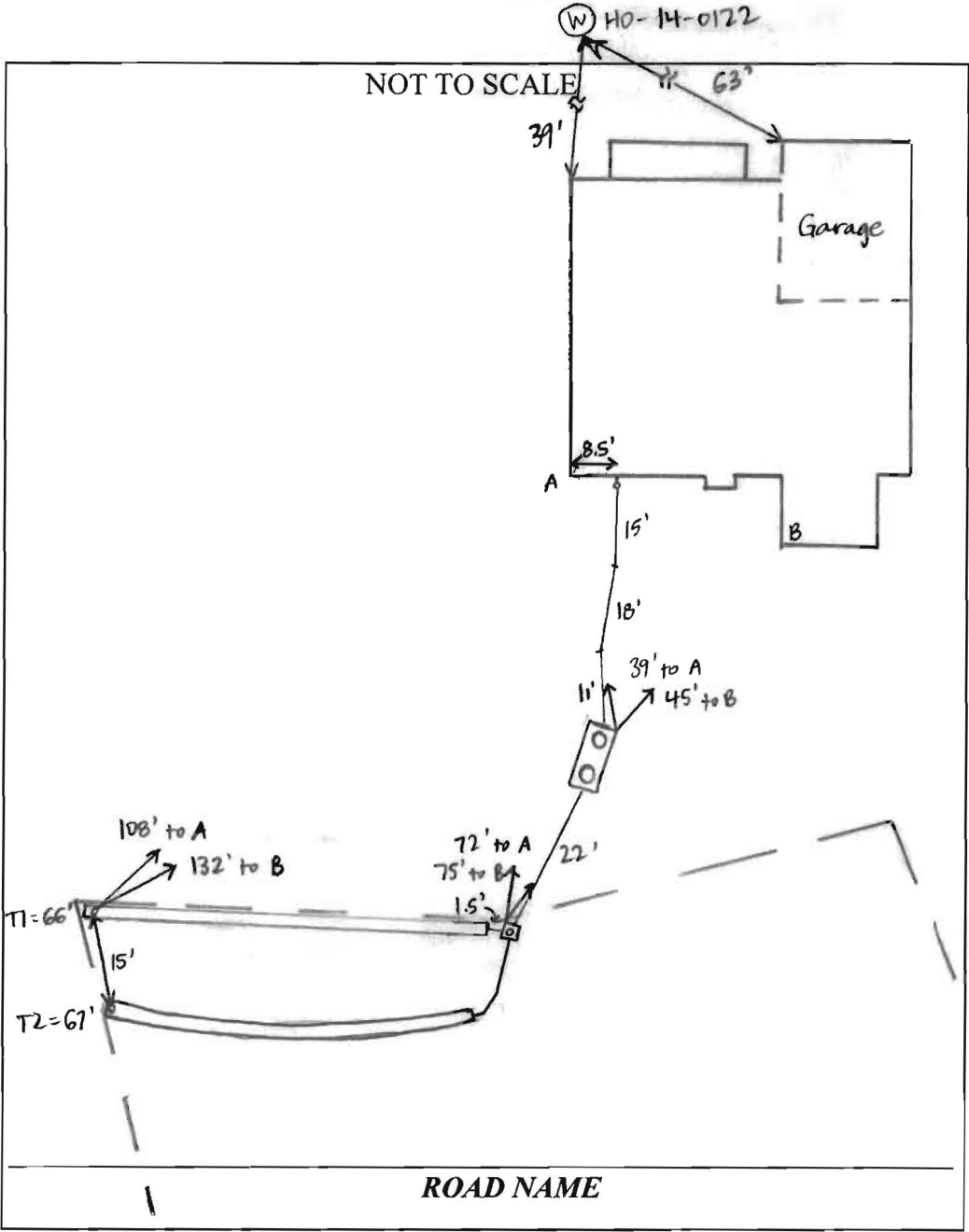
ISSUED BY: Robert Freemon ISSUE DATE: 12/27/2016 EXPIRATION DATE: 12/27/2017

- 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 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  
 ELECTRICAL PERMIT ISSUED E \_\_\_\_\_
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**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.**

W HO-14-0122

NOT TO SCALE



**TRENCH/DRAINFIELD DATA**

WIDTH	INLET	BOTTOM
3'	2'	6'
NUMBER OF TRENCHES		2
TOTAL LENGTH		133'
ABSORPTION AREA		399' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

**SEPTIC TANK DATA**

SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TDP
TANK LID DEPTH	1.5-2'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	11-29-16

**PUMP/SEPTIC TANK LEVEL**

MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

**PRE-CONSTRUCTION:**

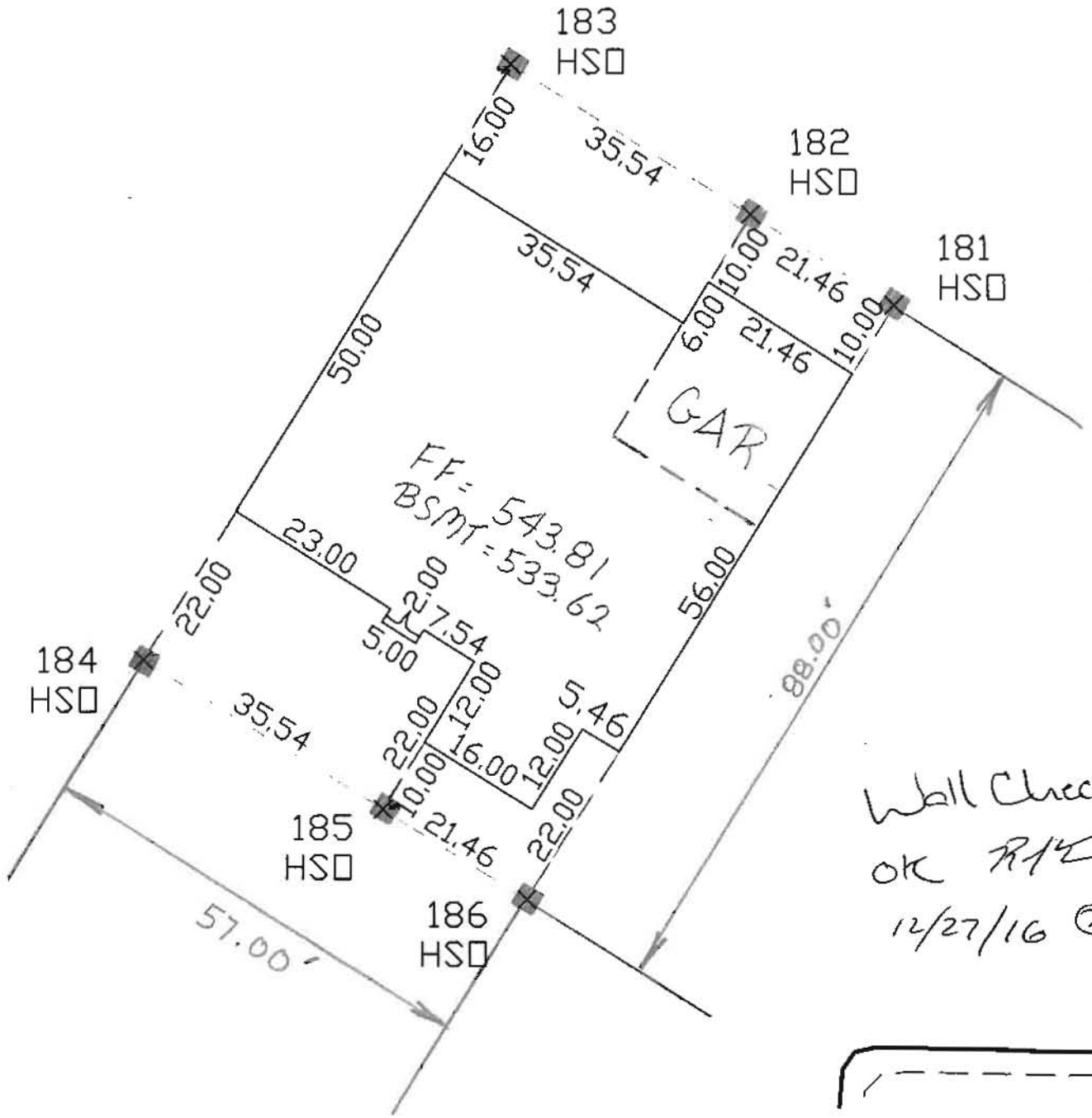
12/28/16 Met Level Land on site for layout. Tank + SDA stakes present. Trenches also staked - checked elevations of stakes and adjusted to keep on contour. Okay to dig with stakes as bottom edge to stay off big tree. (SC)

INSTALLATION: 12/28/16 Level Land adding stone + pipe to T1. 3' wide, 2' inlet. Using laser to check depths. (SC) 12/29/16 T2 installed + left open at ends. Tank hole dug. T2: 1.5' to stone, 3' wide. (SC) 12/29/16 Tank installed + house connection made. D-box installed. Line bedded with #57 stone. Levelled speed levelers in D-box. (SC)

FINAL INSPECTOR Sarah Collins DATE OF APPROVAL 12/29/16



# 2510 DUVALL ROAD  
 HOUSE STAKEOUT  
 FCC # 13007-6002  
 SCALE: 1" = 20' ~ DATE: 9-27-16  
 SHEET 2 of 3



Wall Check  
 OK R/E  
 12/27/16 (2)



## Oswald, Hank

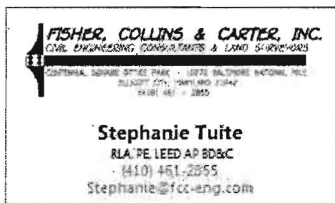
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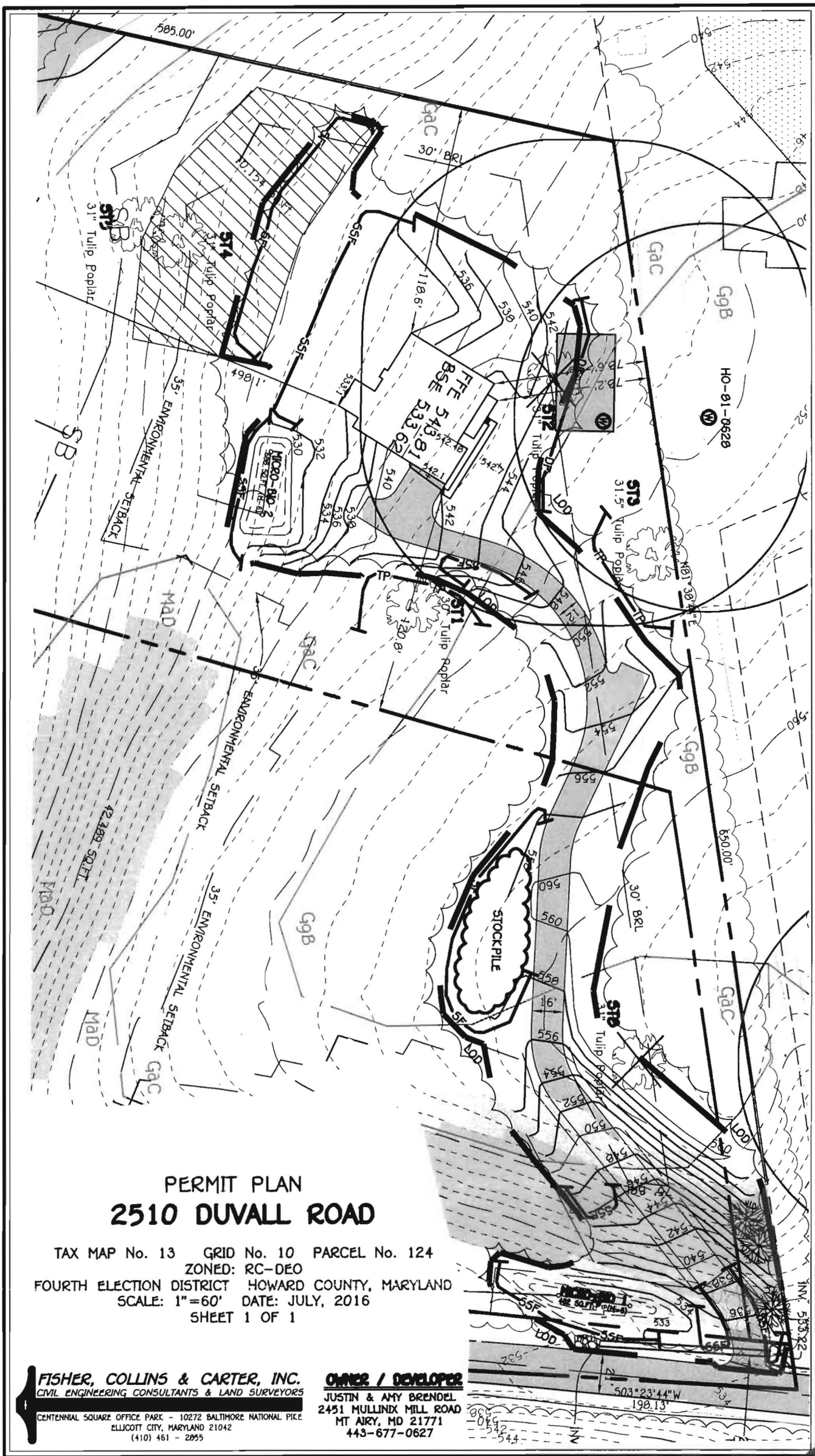
**From:** Stephanie Tuite <Stephanie@fcc-eng.com>  
**Sent:** Monday, September 26, 2016 10:23 AM  
**To:** Oswald, Hank  
**Subject:** B16003391 - 2510 Duvall Road  
**Attachments:** Stephanie Tuite.vcf

Hank,

Dropped revised BAT plan off to you/Jeff last week, I believe Thursday. Just wanted to let you know since you were out last week. Justin Brendel called and talked to Jeff to see if permit could be released. Not sure if he has the plans or not.

Steph





**PERMIT PLAN  
2510 DUVALL ROAD**

TAX MAP No. 13 GRID No. 10 PARCEL No. 124  
 ZONED: RC-DEO  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: 1"=60' DATE: JULY, 2016  
 SHEET 1 OF 1

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461 - 2855

**OWNER / DEVELOPER**  
 JUSTIN & AMY BRENDEL  
 2451 MULLINX MILL ROAD  
 MT AIRY, MD 21771  
 443-677-0627

Wall Check OK R12  
 12/27/16 (3)

**SHEET 3 of 3**

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Monday, September 12, 2016 2:12 PM  
**To:** Stephanie Tuite (Stephanie@fcc-eng.com)  
**Subject:** BAT Plan\_2510 Duvall Road  
**Attachments:** BP Response Letter\_BAT Plan Changes\_B16003391.pdf

Hi Stephanie:

Attached, please find my letter with comments pertaining to the BAT plan for 2510 Duvall Road.

Please note: The BAT plan is sized for 5 bedrooms and floor plans show 5 finished bedrooms and an unfinished basement with potential for at least one more.

Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

Hank Oswald, L.E.H.S.  
Howard County Health Department  
Bureau of Environmental Health  
Well & Septic Program  
8930 Stanford Boulevard  
Columbia, MD 21045  
410.313.1786 (Office)  
410.313.2648 (Fax)

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Tuesday, September 27, 2016 2:08 PM  
**To:** 'Stephanie Tuite'  
**Subject:** RE: B16003391 - 2510 Duvall Road

Hi Stephanie:

The BAT plan still doesn't show the first replacement system and the well tag number is incorrect.

Thanks,

Hank

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**From:** Stephanie Tuite [<mailto:Stephanie@fcc-eng.com>]  
**Sent:** Monday, September 26, 2016 10:23 AM  
**To:** Oswald, Hank  
**Subject:** B16003391 - 2510 Duvall Road

Hank,

Dropped revised BAT plan off to you/Jeff last week, I believe Thursday. Just wanted to let you know since you were out last week. Justin Brendel called and talked to Jeff to see if permit could be released. Not sure if he has the plans or not.

Steph





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Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

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

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September 12, 2016

Fisher, Collins and Carter  
Centennial Square Office Park  
10272 Baltimore National Pike  
Ellicott City, MD 21042

*Sent via email to: [Stephanie@fcc-eng.com](mailto:Stephanie@fcc-eng.com)*

**RE: B14003051  
BAT Plan  
14401 Howard Road, Lot 1**

Stephanie Tuite:

This letter is in response to the BAT Plan submitted for 2510 Duvall Road. Upon review of the plan, a couple of items need to be added or changed on the plan. Please revise the plan to include the following:

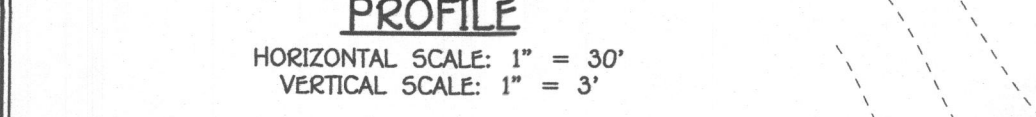
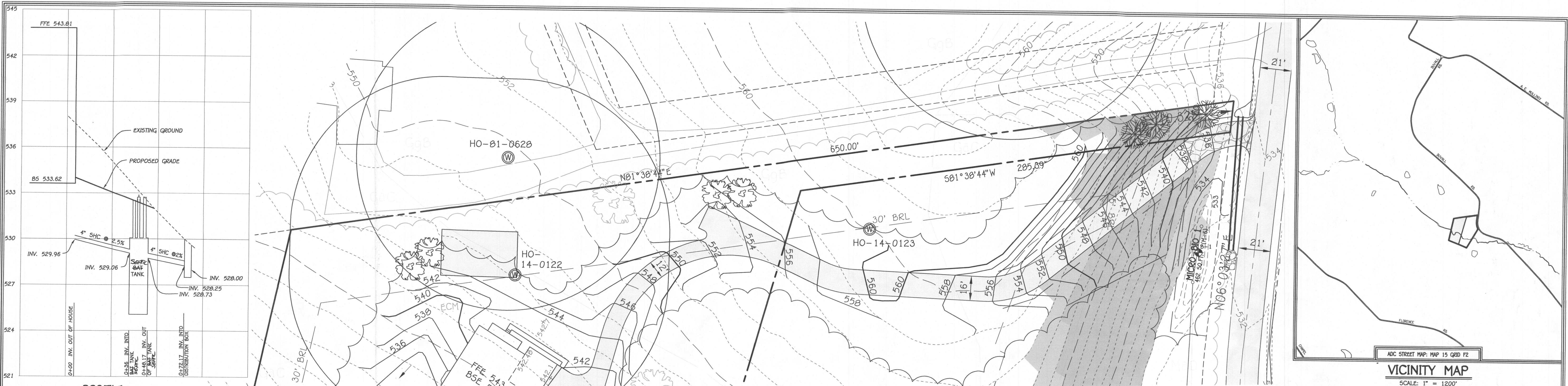
- 1.) Show 1<sup>st</sup> replacement system on plan
- 2.) Remove extra well radius from plan
- 3.) Add well # HO-14-0123 to plan along with a note stating the well (HO-14-0123) has been field located.

Should you have any questions, please don't hesitate to ask.

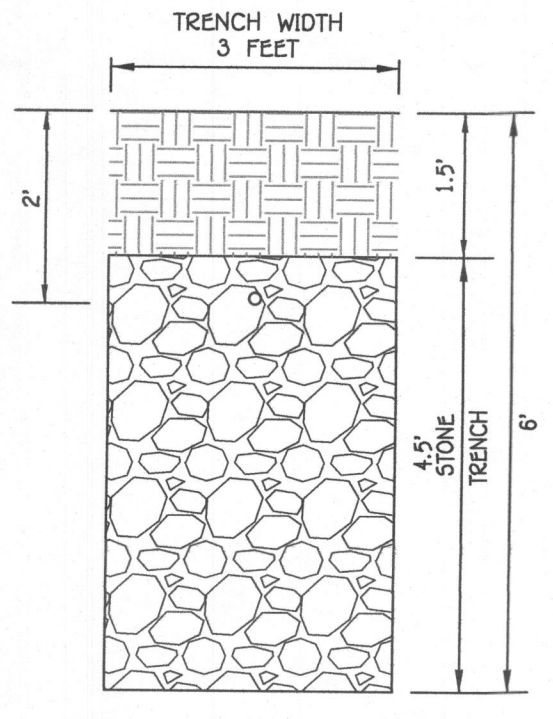
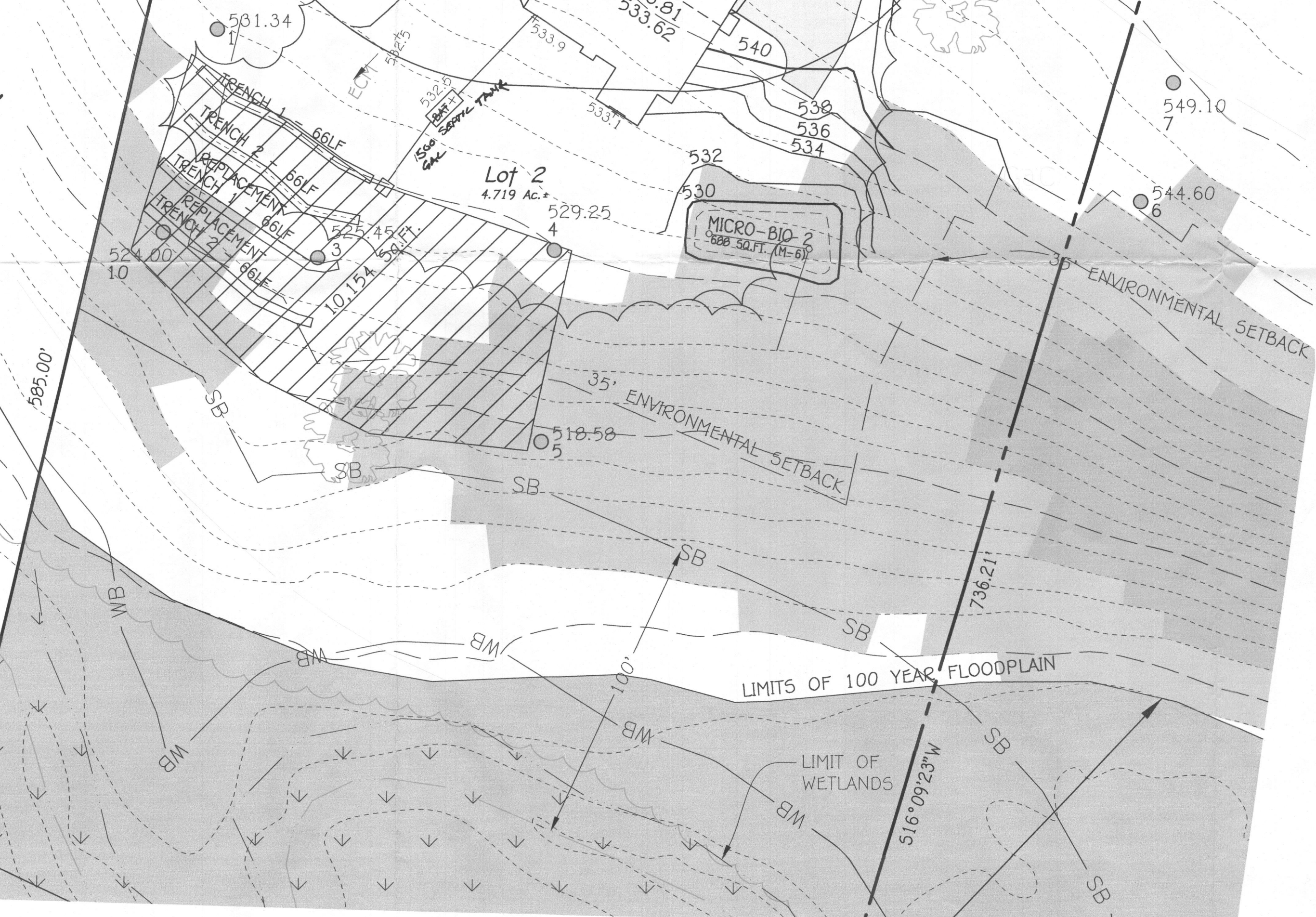
Respectfully,

*Hank Oswald*

Hank Oswald, L.E.H.S  
Bureau of Environmental Health  
Well & Septic Program



- BAT NOTES**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
  2. THE MAXIMUM COVER OVER THE BAT SHALL BE 3 FEET.
  3. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
  4. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
  5. WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
  6. ANY ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
  7. AN AGREEMENT AND SIGNMENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
  8. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
  9. SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.



**SEWAGE DISPOSAL SYSTEM DATA**  
 5 BEDROOMS  
 LOADING RATE = 5 BEDROOMS X 150 GPD/BEDROOM = 750 GPD  
 APPLICATION RATE = 0.8  
 INITIAL EFFECTIVE SIDEWALL BEGINS AT 2 FEET  
 TRENCH DEPTH = 6 FEET  
 TRENCH WIDTH (W) = 3 FEET  
 EFFECTIVE DEPTH (D) = 4 FEET  
 SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF  
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x4)) = 0.417  
 TRENCH LENGTH = 937.5 SF x 0.417 / 3 = 130.3 FEET (USE 132 FEET)  
 TRENCH SPACING = 2D+W = (2x4) + 3 = 11 USE 11'

**SEPTIC SYSTEM ELEVATIONS**  
 FFE = 543.81  
 BSE = 533.62  
 INV. OUT OF HOUSE = 530.00  
 EX. GROUND AT BAT = 533.0  
 PROP. GROUND AT BAT = 532.5  
 TOP OF BAT = 529.06  
 COVER OVER BAT = 2.44  
 INV. INTO BAT = 529.06  
 INV. OUT OF BAT = 528.73  
 EX. GROUND AT DISTRIBUTION BOX = 530.0  
 INV. INTO DISTRIBUTION BOX = 528.25  
 INV. OUT OF DISTRIBUTION BOX = 528.00

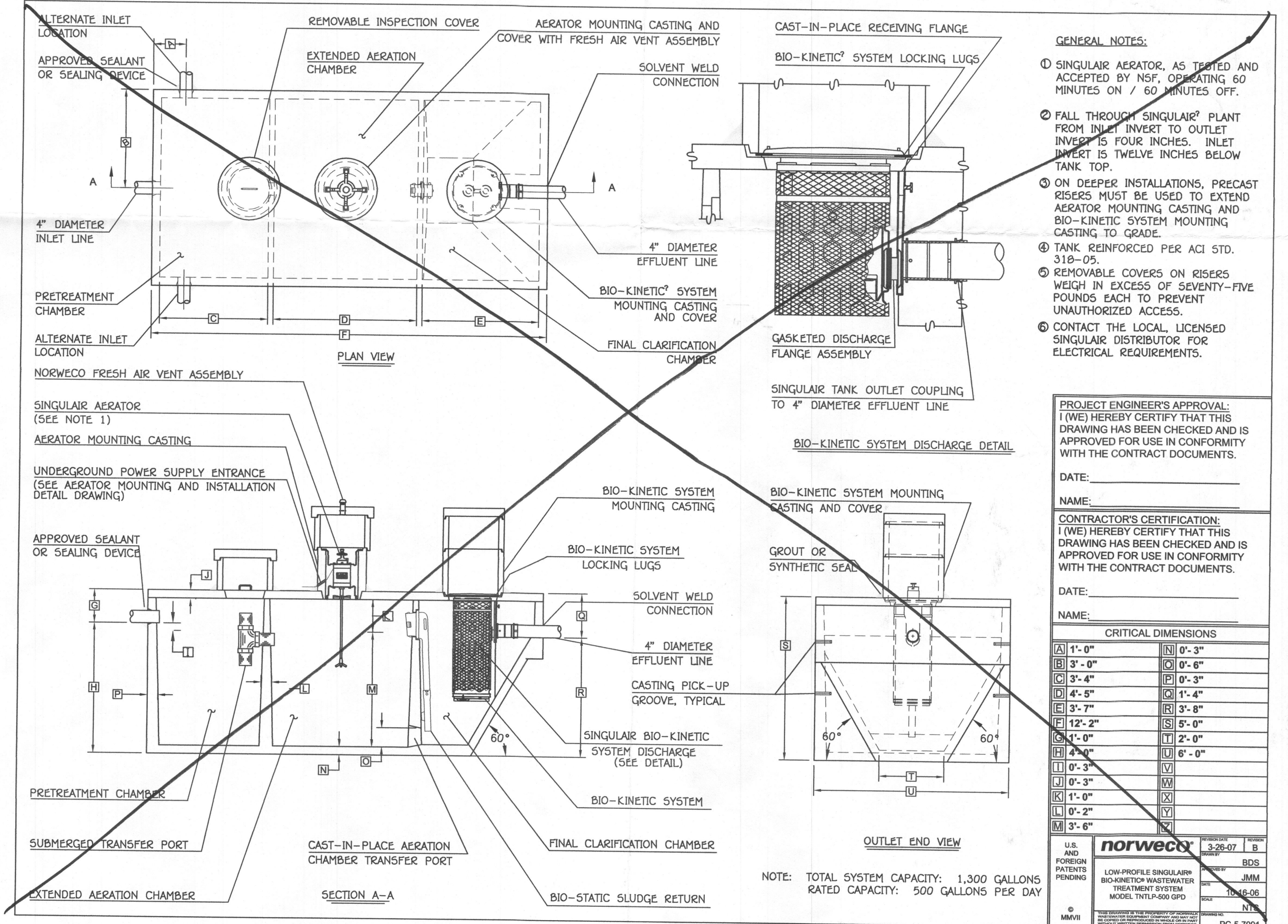
**PLAN VIEW**  
 SCALE: 1" = 30'

**NOTE**  
 THE EXISTING WELL SHOWN ON THIS PLAN, TAG NO. HO-14-0122 & HO-14-0123 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.  
 IT IS UNDERSTOOD THAT SHOULD THE HOUSE BE INCREASED TO MORE THAN 5 BEDROOMS THAT A LARGER BAT TANK WILL BE REQUIRED.

**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. 38386, EXPIRATION DATE: 01/12/2018.  
 Signature of Professional Engineer: *Stephanie J. ...* DATE: 9/28/16

**TRENCH DESIGN**

TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH TO STONE FROM GROUND	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH STARTS AT	EFFECTIVE DEPTH (D)	WIDTH OF TRENCHES (W)	TRENCH SPACING
1	530.0	528.5	528.0	1.5'	4.5'	524.0	2.0'	4.0'	3.0'	11'
2	528.0	526.5	526.0	1.5'	4.5'	522.0	2.0'	4.0'	3.0'	11'



- GENERAL NOTES:**
1. SINGULAR AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
  2. FALL THROUGH SINGULAR PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
  3. ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC SYSTEM MOUNTING CASTING TO GRADE.
  4. TANK REINFORCED PER ACI STD. 318-05.
  5. REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
  6. CONTACT THE LOCAL, LICENSED SINGULAR DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

**PROJECT ENGINEER'S APPROVAL:**  
 I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.  
 DATE: \_\_\_\_\_  
 NAME: \_\_\_\_\_

**CONTRACTOR'S CERTIFICATION:**  
 I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.  
 DATE: \_\_\_\_\_  
 NAME: \_\_\_\_\_

**CRITICAL DIMENSIONS**

LETTER	DESCRIPTION	VALUE
A	1'-0"	N 0'-3"
B	3'-0"	O 0'-6"
C	3'-4"	P 0'-3"
D	4'-5"	Q 1'-4"
E	3'-7"	R 3'-8"
F	12'-2"	S 5'-0"
G	1'-0"	T 2'-0"
H	2'-0"	U 6'-0"
I	0'-3"	V 0'-3"
J	0'-3"	W 0'-3"
K	1'-0"	X 1'-0"
L	0'-2"	Y 0'-2"
M	3'-0"	Z 3'-0"

**NOTE:** TOTAL SYSTEM CAPACITY: 1,300 GALLONS  
 RATED CAPACITY: 500 GALLONS PER DAY

U.S. AND FOREIGN PATENTS PENDING  
 LOW PROFILE SINGULAR BIO-KINETIC WASTEWATER TREATMENT SYSTEM  
 MODEL TNP1-500 GPD  
 © MWH  
 PC-5-7091

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PARK  
 ELICOTT CITY, MARYLAND 21116  
 (410) 461-2895

**OWNER / DEVELOPER**  
 THOMAS AND BARBARA LASHMORE  
 825 IRON RAIL COURT  
 WOODBINE, MD, 21797  
 410-960-3967

Approved Septic System Plan  
 Howard County Health Department  
 Hans Oswald 9/28/16  
 Signature Date

**SEPTIC DESIGN**  
**BAT SITE PLAN**  
 2510 DUVALL ROAD  
 ZONED RC-DEO  
 TAX MAP No. 13 GRID No. 10 PARCEL No. 124  
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: SEPTEMBER 2016  
 SHEET 1 OF 1

