



**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: 4/30/2015

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 555845

INSTALLATION

APPROVAL DATE: 5/20/2015

**PERMIT**

A \_\_\_\_\_

**CONSTRUCTION**

PROPERTY ADDRESS: 13771 Frederick Road

SUBDIVISION: Renfro Property

LOT: 5

TAX ID: \_\_\_\_\_

CONTRACTOR: Hatfield Equipment

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

CONTRACTOR ADDRESS: PO BOX 519, Annapolis Junction 20701

PHONE: 301-490-4289

PROPERTY OWNER: Malina Renfro Lombardo

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

OWNER ADDRESS: 13765 Frederick Road

PHONE: 301-854-6782

BAT UNIT MODEL: Norweco TNTLP 500 GPD

PUMP SIZE: \_\_\_\_\_

PUMP TANK CAPACITY: \_\_\_\_\_

DISTRIBUTION SYSTEM: GRAVITY



LOW PRESSURE DOSED



NUMBER OF BEDROOMS: 6

|           |  |   |
|-----------|--|---|
| TRENCHES: | LINEAR FEET REQUIRED: <u>125 LF</u>  | INLET DEPTH: <u>4 FT</u>                    |
|           | TRENCH WIDTH: <u>3 FT</u>  | MAXIMUM BOTTOM DEPTH: <u>7 FT</u>           |
|           | MINIMUM SPACE BETWEEN TRENCHES: <u>10 FT</u>   | EFFECTIVE AREA BEGINNING DEPTH: <u>4 FT</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:    | Use 2 – 62.5 FT Long Trenches = 125 L.F.<br><i>2 x 63' Trenches</i>  |   |

ISSUED BY: Hank Oswald

ISSUE DATE: 4/30/2015

EXPIRATION DATE: 4/30/2016

**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 DOWNGRADIENT 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**

**NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.**

**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.**

NOT TO SCALE

See As-Built Drawing On  
Separate Sheet

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH 3' INLET 4' BOTTOM 7'

NUMBER OF TRENCHES 2

TOTAL LENGTH 126'

ABSORPTION AREA 378 + Sidewall

DISTRIBUTION BOX LEVEL Levelers

DISTRIBUTION BOX BAFFLE Yes

DISTRIBUTION BOX PORT Yes

SEPTIC TANK DATA

SEPTIC TANK I LEVEL Yes

MANUFACTURER Back River

CAPACITY 1000 GAL precast

SEAM LOC Top

TANK LID DEPTH 2.5' - 3.5' ?

BAFFLES Need Front ?

BAFFLE FILTER No

MANHOLE LOC Front + Rear

6" PORT LOC None

WATERTIGHT TEST No

SLOTTED No

DATE ON LID Dry

PUMP/SEPTIC TANK LEVEL Yes

MANUFACTURER Norweco / Back River

CAPACITY 1300 GAL

SEAM LOC Top

TANK LID DEPTH 2 - 3.5'

BAFFLES No

BAFFLE FILTER N/A

MANHOLE LOC Front, Middle + 2 Rear

6" PORT LOC None

WATERTIGHT TEST No

SLOTTED N/A

DATE ON LID Dry

PRE-CONSTRUCTION

5/4/2015 Put the dist. box near the top middle of the septic easement. Install two 63' trenches on contour towards the south. Install BAT tank at staked location. Keep plumbing away from house. (BB)

INSTALLATION:

5/12/2015 Tanks set. House connection made. Starting on top trench. (BB) 5/13/2015 Installation complete. O.K. to backfill. Need BAT certification from Norweco representative. (BB) 5/20/2015 Received BAT certification from Back River Pre-Cast. (BB)

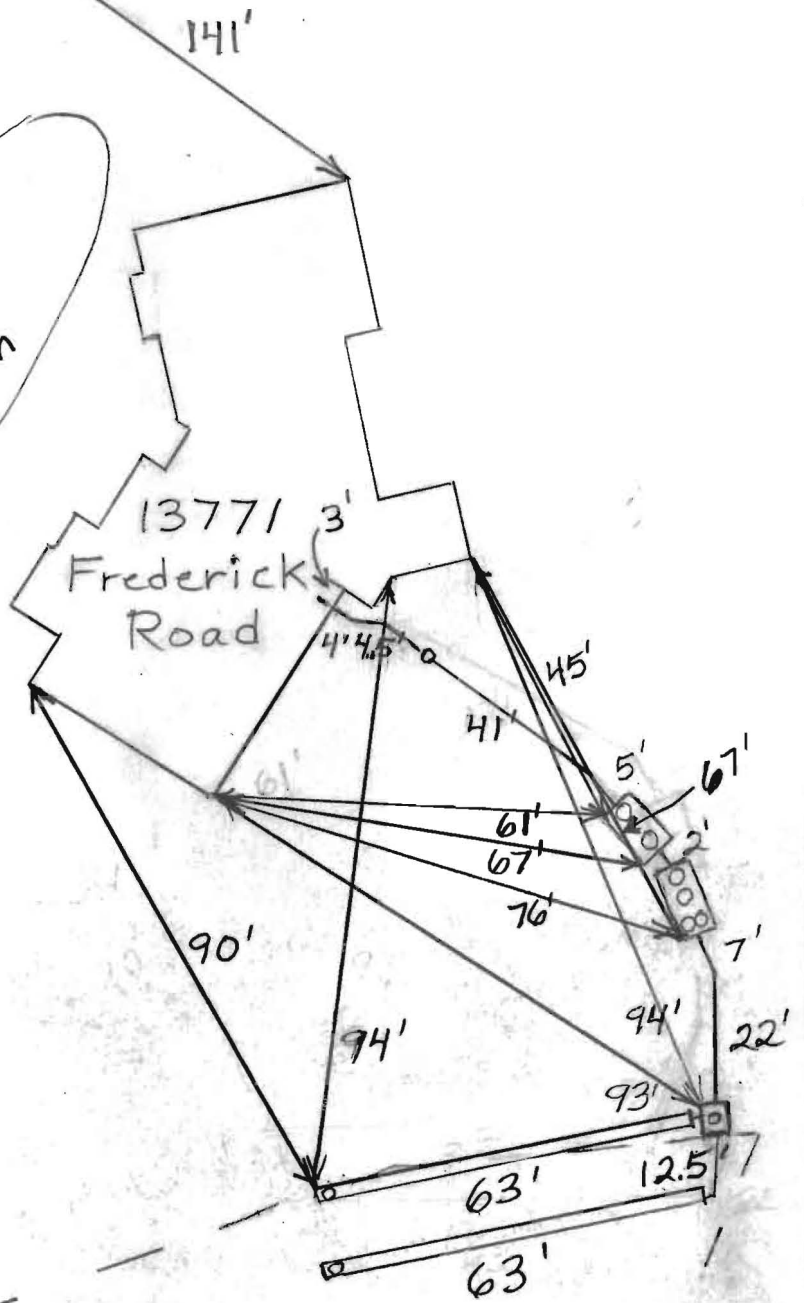
FINAL INSPECTOR

B. Baker

DATE OF APPROVAL

5/20/2015

HO-95-2483



LAYOUT \_\_\_\_\_ INSP 4 \_\_\_\_\_  
 INSP 2 \_\_\_\_\_ INSP 5 \_\_\_\_\_  
 INSP 3 \_\_\_\_\_ INSP 6 \_\_\_\_\_

ISSUE DATE: \_\_\_\_\_

# PERMIT

P \_\_\_\_\_

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

A \_\_\_\_\_

**Tax ID #**  
**ON-SITE SEWAGE DISPOSAL SYSTEM**  
**HOWARD COUNTY HEALTH DEPARTMENT**  
**BUREAU OF ENVIRONMENTAL HEALTH**

IS PERMITTED TO INSTALL  ALTER

ADDRESS: \_\_\_\_\_ PHONE NUMBER: \_\_\_\_\_

SUBDIVISION: Renfro Property LOT NUMBER: 5

ADDRESS: Route 144 PROPERTY OWNER: Harold and Marilyn Renfro

SEPTIC TANK CAPACITY (GALLONS): \_\_\_\_\_ OUTLET BAFFLE FILTER REQUIRED

PUMP CHAMBER CAPACITY (GALLONS): \_\_\_\_\_ COMPARTMENTED TANK REQUIRED

NUMBER OF BEDROOMS: TBD APPLICATION RATE: 0.8

SQUARE FOOTAGE OF HOUSE: \_\_\_\_\_

LINEAR FEET OF TRENCH REQUIRED: \_\_\_\_\_

|           |  |
|-----------|--|
| TRENCHES: | Trenches to be 2.0 feet wide. Inlet is at 4.0 feet below original grade with 4.0 feet of stone below the distribution pipe. Bottom maximum depth is 8.0 feet below original grade. Effective sidewall begins at 6.0 feet below original grade. Maintain at least 6.0 feet of spacing between trenches.   |
| LOCATION: | Set septic tank<br>. Set distribution box.<br>Install trenches on contour.   |
| NOTES:    | <b>Do not</b> order the septic tank until after layout inspection and Sanitarian approval. Stake easement corners. Call for layout inspection. Mark utilities. Gravel tickets must be available for Environmental Sanitarians. Stone must be approved by the Howard County Health Department. A written variance request is required for tanks deeper than 3 feet. A traffic bearing lid is required for tanks deeper than 4 feet. |

PLANS APPROVED: Heidi Scott DATE: \_\_\_\_\_

- NOTE: PERMIT VOID AFTER 2 YEARS
- NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE 100 FEET FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

**NEITHER THE HOWARD COUNTY COUNCIL OR 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 FOR INSPECTION OF SEPTIC SYSTEM**

NOT TO SCALE

**TRENCH/DRAINFIELD DATA**

WIDTH                  INLET                  BOTTOM

NUMBER OF TRENCHES \_\_\_\_\_

TOTAL LENGTH \_\_\_\_\_

ABSORPTION AREA \_\_\_\_\_

DISTRIBUTION BOX LEVEL \_\_\_\_\_

DISTRIBUTION BOX BAFFLE \_\_\_\_\_

DISTRIBUTION BOX PORT \_\_\_\_\_

**SEPTIC TANK DATA**

**SEPTIC TANK 1 LEVEL** \_\_\_\_\_

MANUFACTURER \_\_\_\_\_

CAPACITY \_\_\_\_\_ GAL

SEAM LOC \_\_\_\_\_

TANK LID DEPTH \_\_\_\_\_

BAFFLES \_\_\_\_\_

BAFFLE FILTER \_\_\_\_\_

MANHOLE LOC \_\_\_\_\_

6" PORT LOC \_\_\_\_\_

WATERTIGHT TEST \_\_\_\_\_

SLOTTED \_\_\_\_\_

DATE ON LID \_\_\_\_\_

**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 \_\_\_\_\_

**ROAD NAME**

PRE-CONSTRUCTION:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INSTALLATION:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FINAL INSPECTOR \_\_\_\_\_, DATE OF APPROVAL \_\_\_\_\_

# Howard County Health Department

Bureau of Environmental Health, Ellicott City, Maryland 410-313-2640

**SEWAGE DISPOSAL PERMIT NO. A-\_\_\_\_\_ P-\_\_\_\_\_**

PERMITTEE \_\_\_\_\_

LOCATION

Route 114 Becker Property Lot 5  
Harold and Marilyn Becker

Do Not Cover Work Until Health Department Approval Appears On This Card

**POST THIS CARD WHERE IT CAN BE SEEN FROM ROAD**

STOP ALL CONSTRUCTION ON SEWAGE DISPOSAL SYSTEM AND CONTACT HEALTH DEPARTMENT BEFORE CONTINUING

WORK IS SATISFACTORY, CONTINUE

Inspector \_\_\_\_\_

Date \_\_\_\_\_

Inspector \_\_\_\_\_

Date \_\_\_\_\_

FINAL INSPECTION MADE, COVER ALL WORK

Inspector \_\_\_\_\_

Date \_\_\_\_\_

13771 Frederick Rd

Clerk of the Circuit Court for 21794  
Howard County  
Land Records/Licensing

The Thomas Dorsey Building  
3250 Bendix Road  
Columbia, MD 21045  
410-313-5850

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LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: Lombardo  
Reference/Control #: 136

LR - Agreement Surcharge  
1x 40.00 40.00

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SubTotal: 60.00  
Total: 60.00

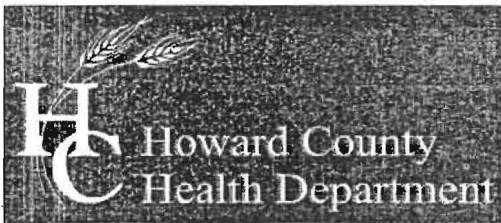
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REV-Check-BOA 60.00  
Number : 1198

09/15/2014 14:42  
#3291991 /396/109

CC13-TR

~ 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 15 day of September, among Malina Renfro Lombardo & David A. Lombardo, 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 13771 Route 144, West Friendship, MD. 21794-9703, in the 3rd 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 15543 Folio 238.

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



# Transmittal

Via:  Fax  Mail  Messenger  E-Mail  To Be Picked Up  
 Fax (original to follow via U.S. Mail)

|   |   |
|---|---|
| To: <b>Bureau of Environmental Health</b><br><b>8930 Stanford Blvd.</b><br><b>Columbia, Maryland 21046-4544</b> | Attn: <b>Robert Bricker</b><br>Fax:<br>Phone: <b>410-313-2640</b> |
|---|---|

|                           |     |
|---------------------------|-----|
| From: <b>Dave Harward</b> | CC: |
|---------------------------|-----|

|                            |   |
|----------------------------|---|
| Re: <b>Renfro, Lot 5</b>   | W.O.# <b>11046-3002</b>                             |
| Date: <b>Jan. 26, 2015</b> | Pages: <b>0</b> <b>Page(s) Including this cover</b> |

|   |
|---|
| We are forwarding: <input checked="" type="checkbox"/> Prints <input type="checkbox"/> Copy of Letter <input type="checkbox"/> Specifications <input type="checkbox"/> Shop drawings <input type="checkbox"/> Other<br><input type="checkbox"/> Urgent <input type="checkbox"/> For your use <input type="checkbox"/> As requested <input checked="" type="checkbox"/> For Review & Comment |
|---|

Remarks:

**Robert: Here are three revised BAT Plans, showing the septic tank. We have re-profiled the new sewer lines, etc.**

**If you have any questions, please email or call me.**

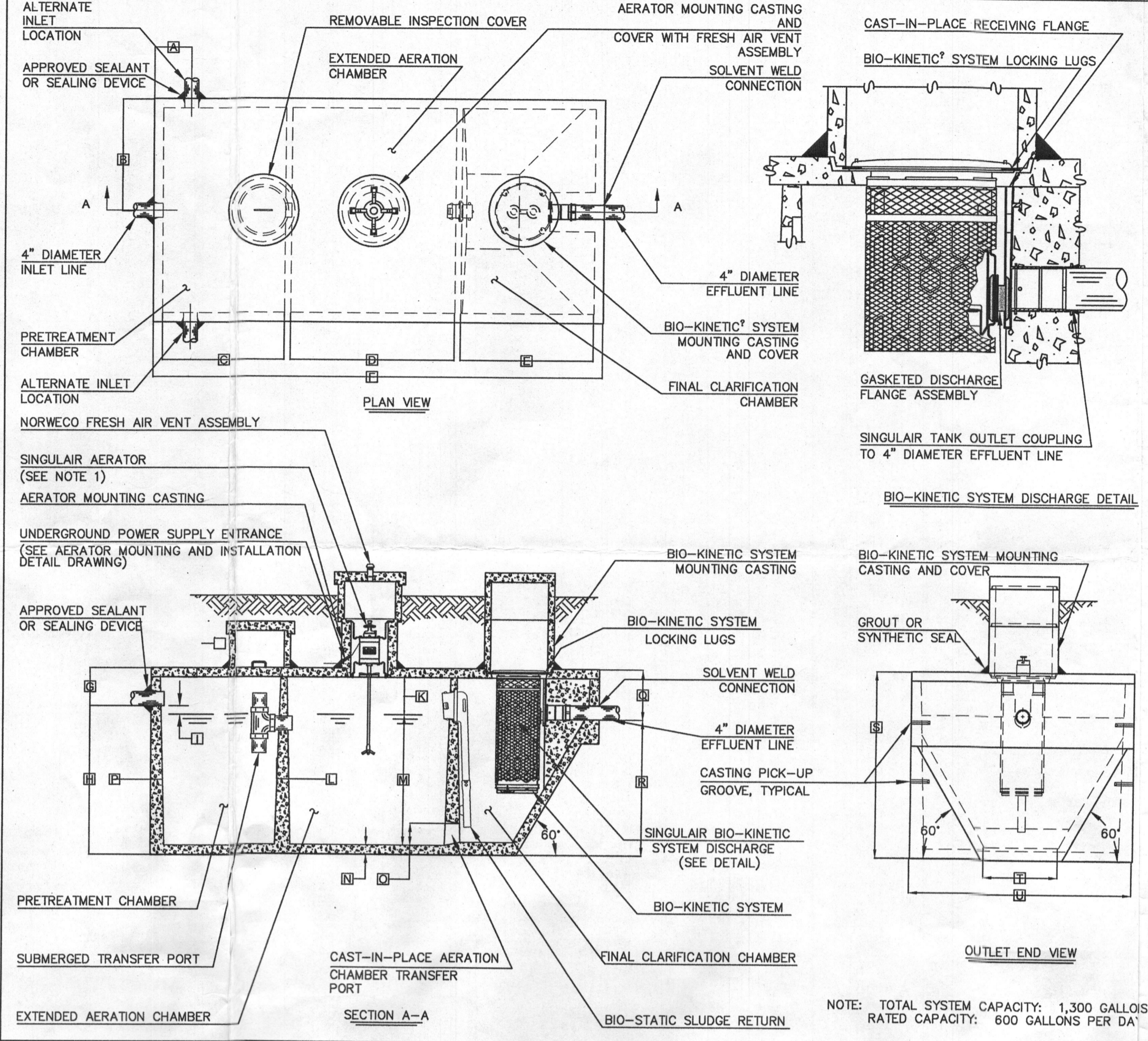
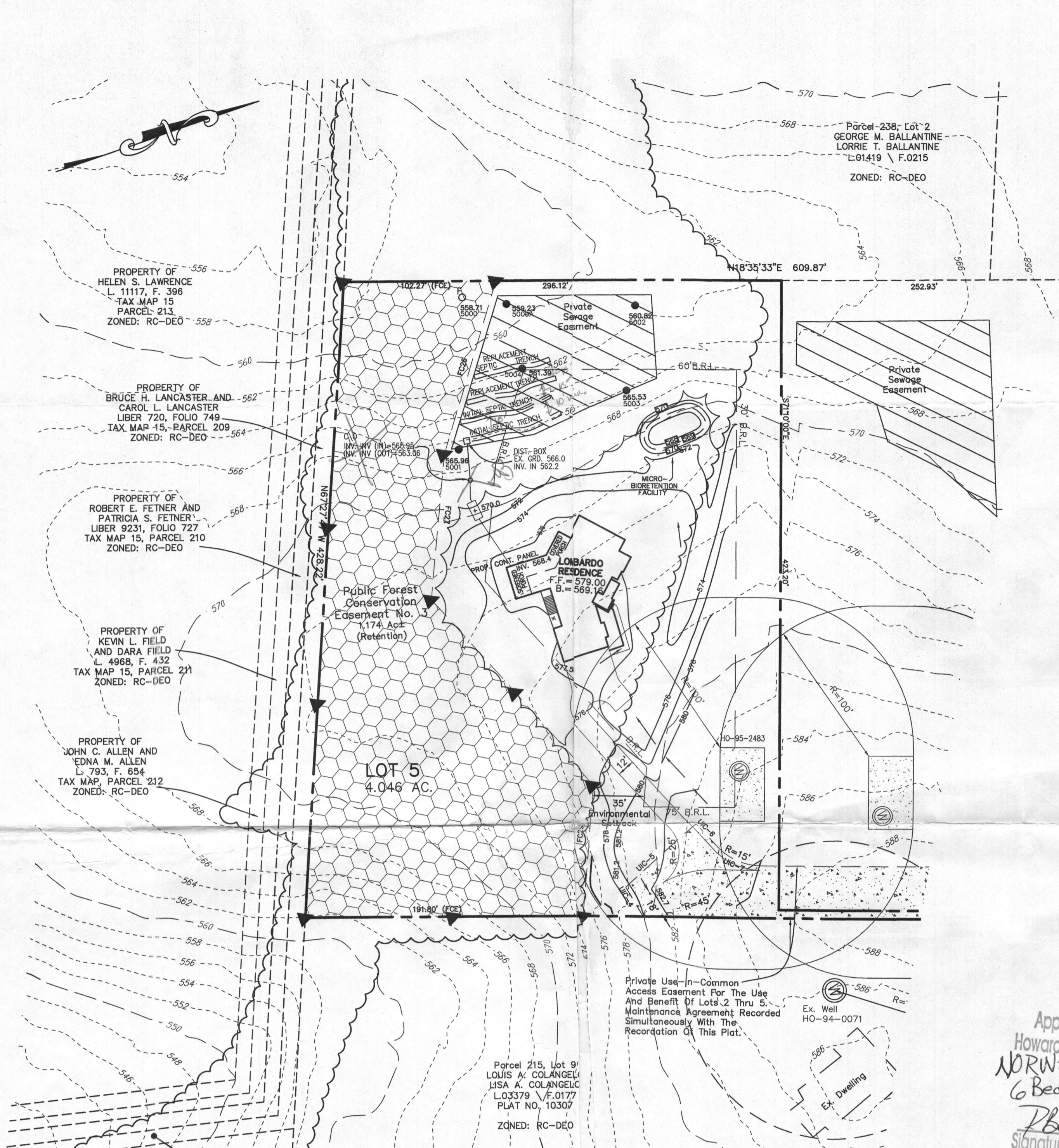
**Thank You,**

**Dave Harward**  
**Fisher, Collins, & Carter, Inc.**  
**410-461-2855**

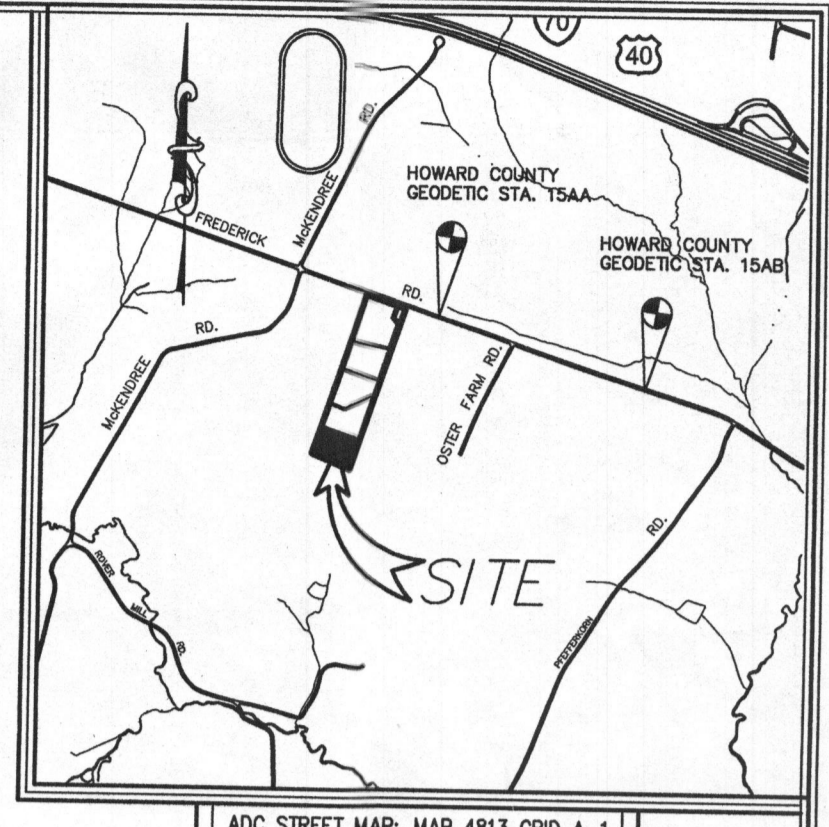
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## CONFIDENTIALITY NOTICE

This transmission contains confidential information which may be legally privileged, and is intended only for the use of the individual named above. If you are not the intended recipient, you are hereby notified that any distribution (except to the intended recipient), copying, or disclosure of this transmission is strictly prohibited.



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



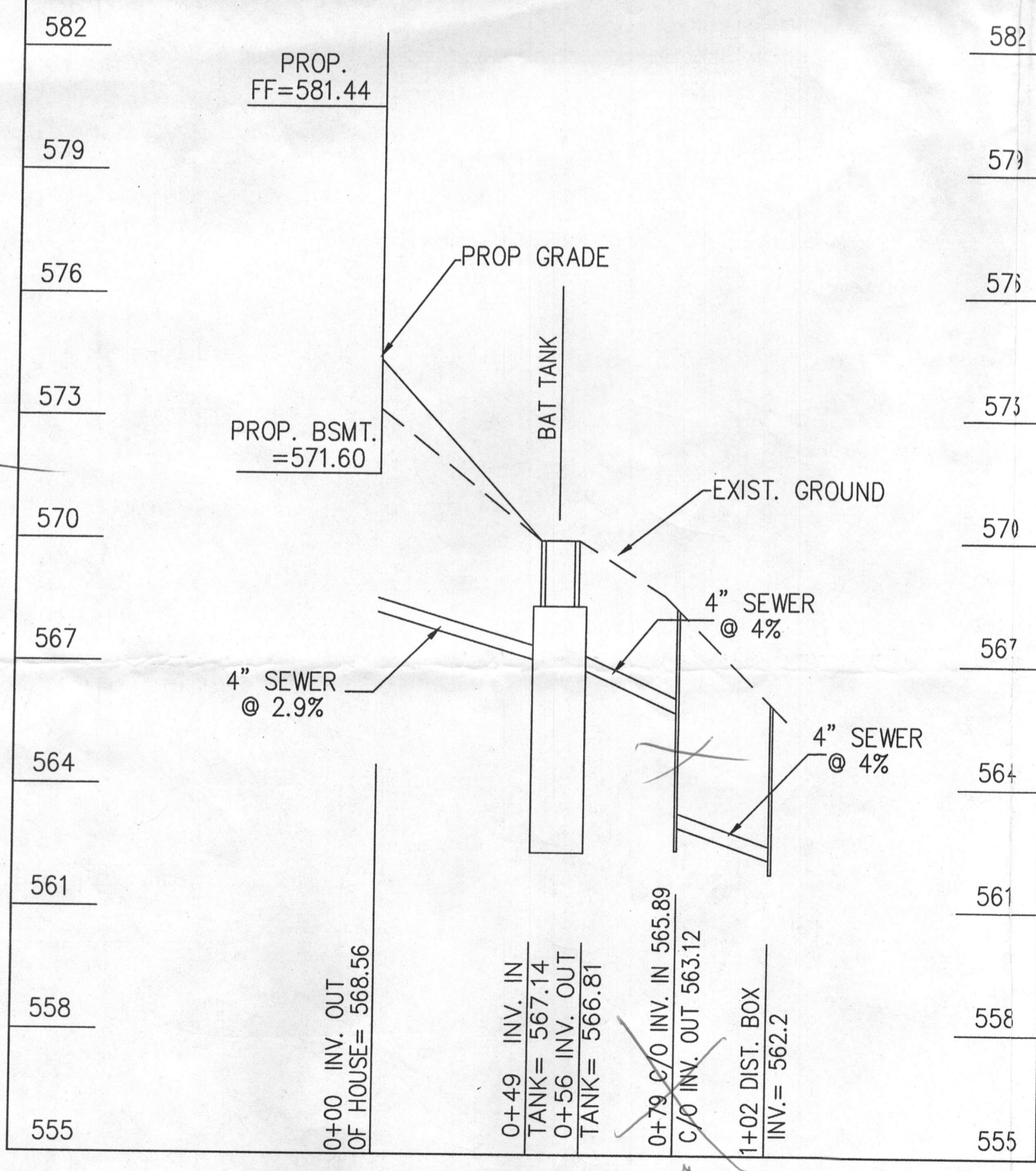
VICINITY MAP  
SCALE: 1" = 200'

**BAT NOTES**

- 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.
- THE MAXIMUM COVER OVER THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET. IF COVER EXCEEDS 3 FEET, THEN A TRAFFIC BEARING TANK IS REQUIRED.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- 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. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK. SEWAGE FLOWS TO THE TANK BY GRAVITY AND WATER EXITING THE TANK TO THE SEPTIC AREA WILL FLOW BY GRAVITY.
- IF THERE IS EXCESSIVE RESISTANCE TO THE AERATOR MOTOR, AN ALARM WILL BE VISIBLE AND AUDIBLE. SEE MANUFACTURER SPECS FOR ADDITIONAL INFORMATION.
- THE EXISTING WELL, TAG NO. HO-95-1696, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

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

**BAT SYSTEM DETAIL**  
NOT TO SCALE



**SEPTIC SYSTEM PROFILE**  
SCALE: HORIZ. 1" = 30'  
VERT. 1" = 3'

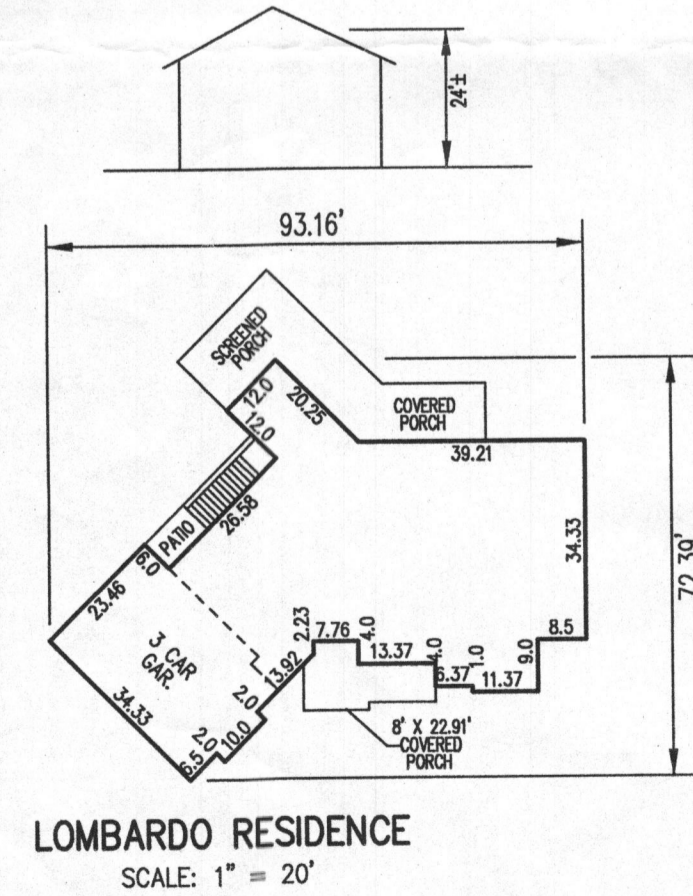
**SEWAGE DISPOSAL SYSTEM DATA (PERMITSORS BEDROOMS)**

- PROP. INVERT AT FOUNDATION WALL: 506.7
- NORWECO INTLP-500 GPD (MAX. NO. BRMS=6)  
EX. GRADE OVER TANK: 570.0  
PROP. GRADE: 566.0  
INVERT IN: 567.14  
INVERT OUT: 566.81
  - DISTRIBUTION BOX:  
EX. GRADE: 566.0  
PROP. GRADE: 566.0  
INVERT IN: 562.2
  - TRENCH DESIGN:  
(6 BDRM X 150 GPD/BDRM = 900 GPD)  
900 / 1.2 APP. RATE = 750 SF  
USE 3' WIDE TRENCH AND 9" MIN. SPACIG BETEN TRENCH EDGES.  
750 SF / 3' WIDTH = 250 L.F. X 0.50 X 125 L. MIN. TRENCH  
USE 2- 62.5' LONG TRENCHES = 125 L.F.

**TRENCH DATA:**

- TRENCH 1:  
EX. GROUND ABOVE = 566.0  
INV. IN = 562.0  
BOTTOM TRENCH = 559.0 ✓
- TRENCH 2:  
EX. GROUND ABOVE = 564.4  
INV. IN = 560.4  
BOTTOM TRENCH = 557.4 ✓

Approved Septic System Plan  
Howard County Health Department  
NORWECO INTLP 500 GPD  
6 Bedrooms, Gravity Flow  
D. Bickel  
Signature  
10/7/2014  
Date  
B14003234  
13771 Frederick Road.



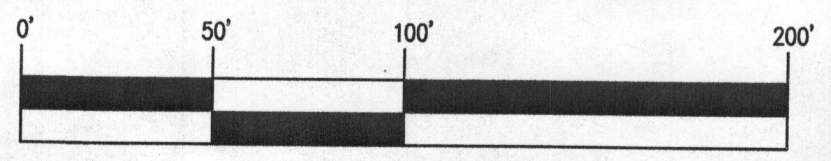
**LOMBARDO RESIDENCE**  
SCALE: 1" = 20'

**WELL CERTIFICATION:**

THE EXISTING WELL, TAG NO. HO-95-2483, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

**OWNE/DEVELOPER**

MAURENRO LOMBARDO  
137 FREDERICK ROAD  
WEST FRIENDSHIP, MARYLAND 21794  
-854-6782



SCALE: 1" = 50'

**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. 12043, EXPIRATION DATE: 7/16/16.  
Paul W. Kriebel  
PAUL W. KRIEBEL  
DATE: 09/30/14



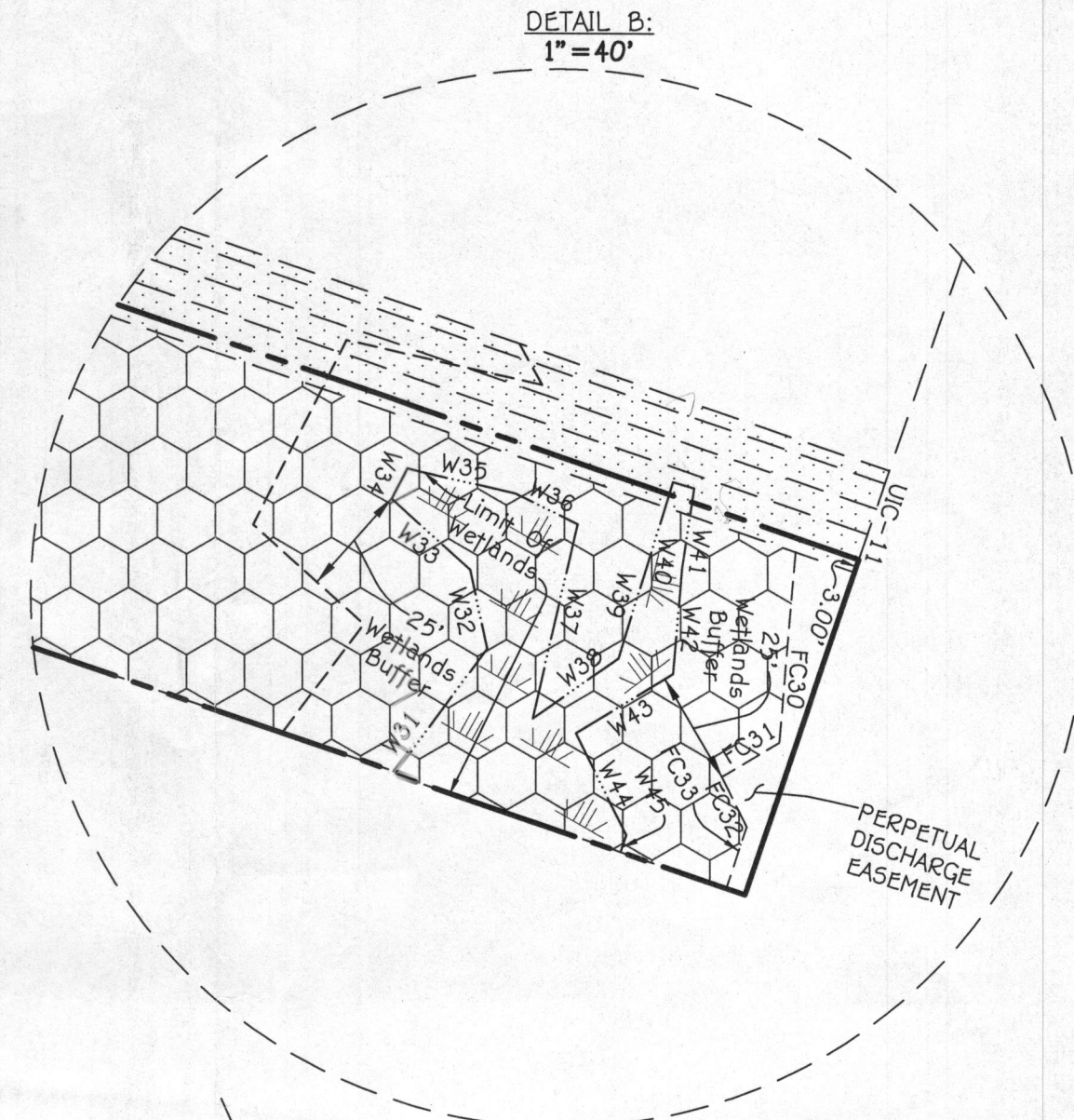
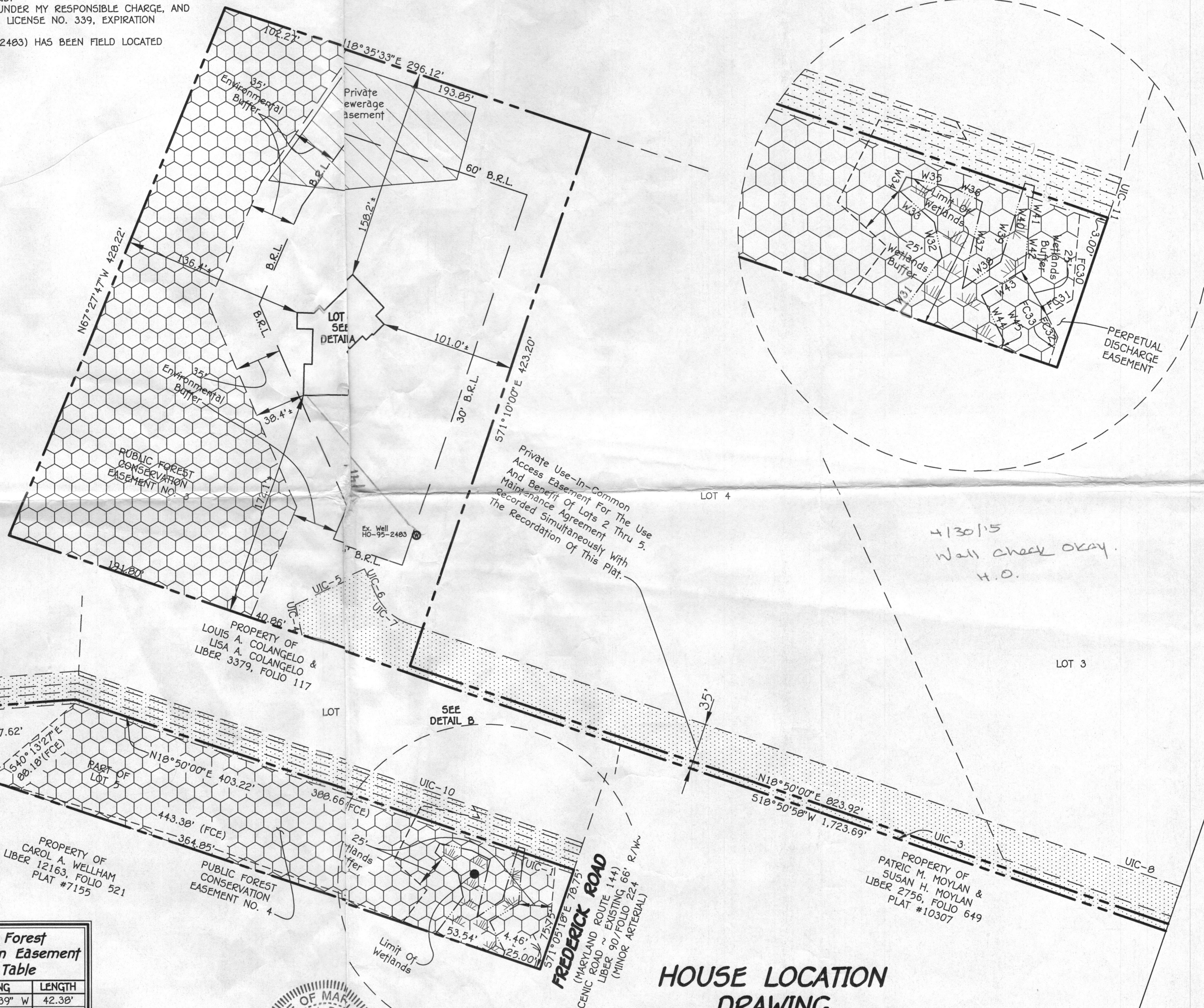
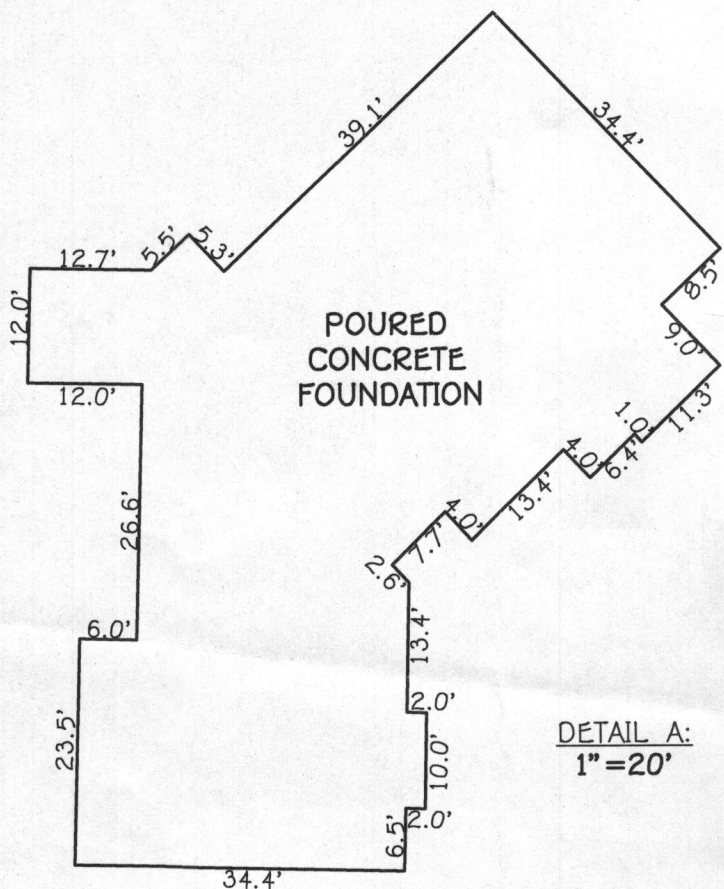
Approved REB 10/7/2014  
Superseded 2/13/15

**BAT INSTALLATION SITE PLAN**  
**RENFRO PROPERTY**  
LOT 5  
13771 FREDERICK ROAD WEST  
FRIENDSHIP, MD 21794-9703

TAX MAP NO. 15 GRID NO. 1 PARCEL NO. 178  
THIRD ELECTION DISTRICT HOWARD COUNTY,  
MARYLAND ZONED: RC-DEO  
SCALE: AS SHOWN  
DATE: AUGUST 11, 2014 SHEET 1 OF 1

**GENERAL NOTES:**

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INSOFAR AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C0065D EFFECTIVE NOV. 6, 2013.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1.0'.
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2016.
- 7) THE EXISTING WELL SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-2403) HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 8) BUILDING PERMIT #B-14003234.



**Limit Of Wetlands Line Table**

| LINE | BEARING       | LENGTH |
|------|---------------|--------|
| W31  | N 52°56'31" W | 34.61' |
| W32  | S 77°44'35" W | 10.04' |
| W33  | S 41°49'40" W | 23.32' |
| W34  | N 63°16'35" W | 7.72'  |
| W35  | N 12°35'44" E | 24.61' |
| W36  | N 26°08'05" E | 15.59' |
| W37  | S 76°51'12" E | 44.23' |
| W38  | N 34°25'22" W | 23.22' |
| W39  | N 72°44'02" W | 41.25' |
| W40  | N 16°57'27" E | 4.90'  |
| W41  | S 01°38'57" E | 10.30' |
| W42  | S 05°03'30" E | 23.31' |
| W43  | S 30°39'30" E | 25.26' |
| W44  | N 63°45'12" E | 25.29' |
| W45  | S 71°36'28" E | 4.02'  |

**Private Use-In-Common Access Driveway Easement Line Table**

| LINE   | BEARING       | LENGTH   |
|--------|---------------|----------|
| UIC-1  | S 10°50'00" W | 402.61'  |
| UIC-2  | S 04°01'55" E | 194.54'  |
| UIC-3  | S 10°50'58" W | 909.27'  |
| UIC-4  | S 77°39'20" W | 23.00'   |
| UIC-5  | N 23°50'39" W | 64.12'   |
| UIC-6  | N 66°06'21" E | 20.00'   |
| UIC-7  | R=42.00'      | L=34.60' |
| UIC-8  | N 10°50'58" E | 050.07'  |
| UIC-9  | N 04°01'55" W | 151.59'  |
| UIC-10 | N 10°50'00" W | 407.50'  |
| UIC-11 | S 71°05'10" E | 24.00'   |

**Public Forest Conservation Easement Line Table**

| LINE | BEARING       | LENGTH |
|------|---------------|--------|
| FC30 | N 05°05'39" W | 42.30' |
| FC31 | N 30°39'30" W | 14.96' |
| FC32 | S 63°45'12" W | 12.41' |
| FC33 | N 71°36'28" W | 14.40' |

#31771 FREDERICK ROAD  
 B.R.L. = BUILDING RESTRICTION LINE  
 FIRST FLOOR ELEVATION = 379.2'±

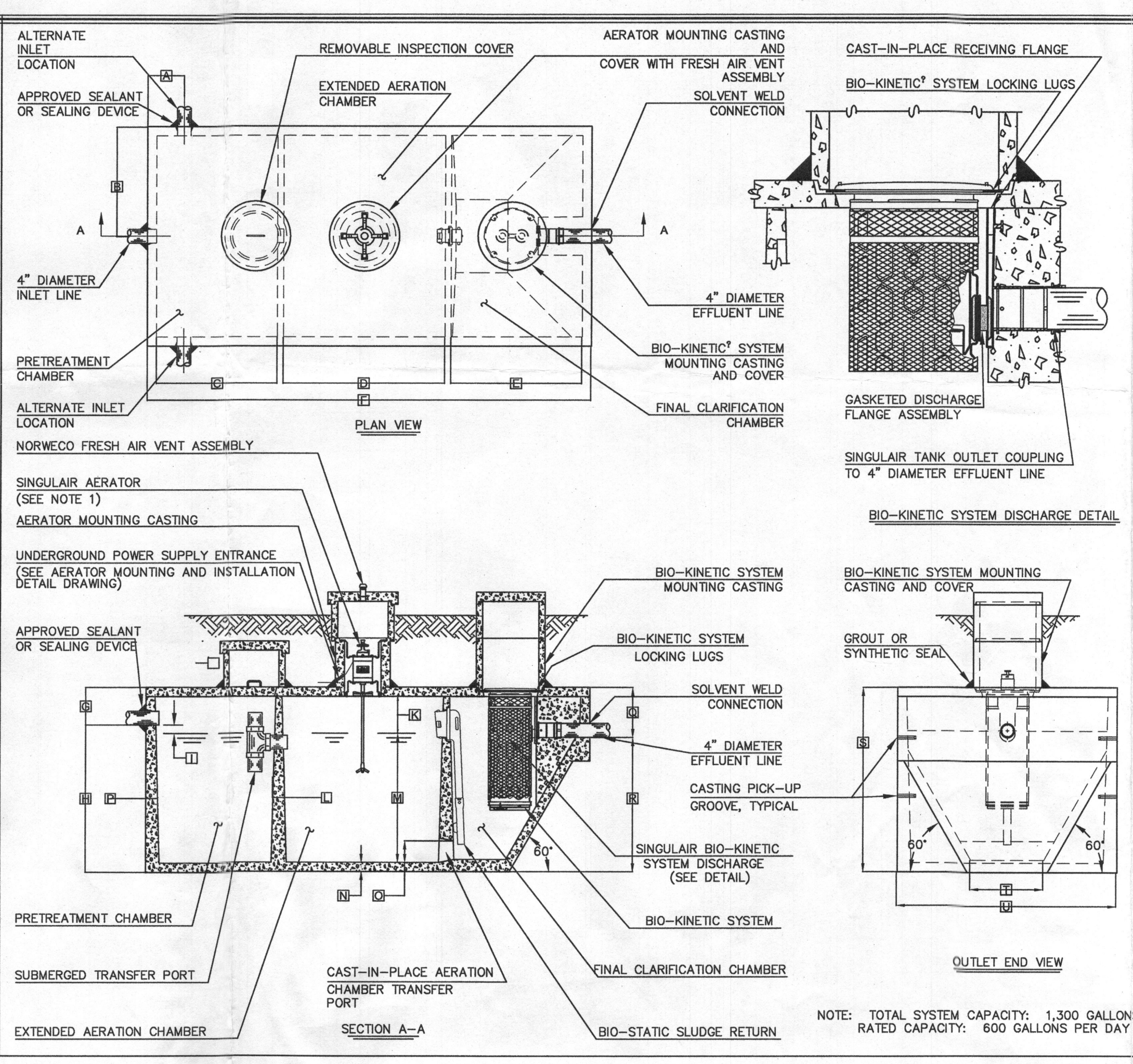
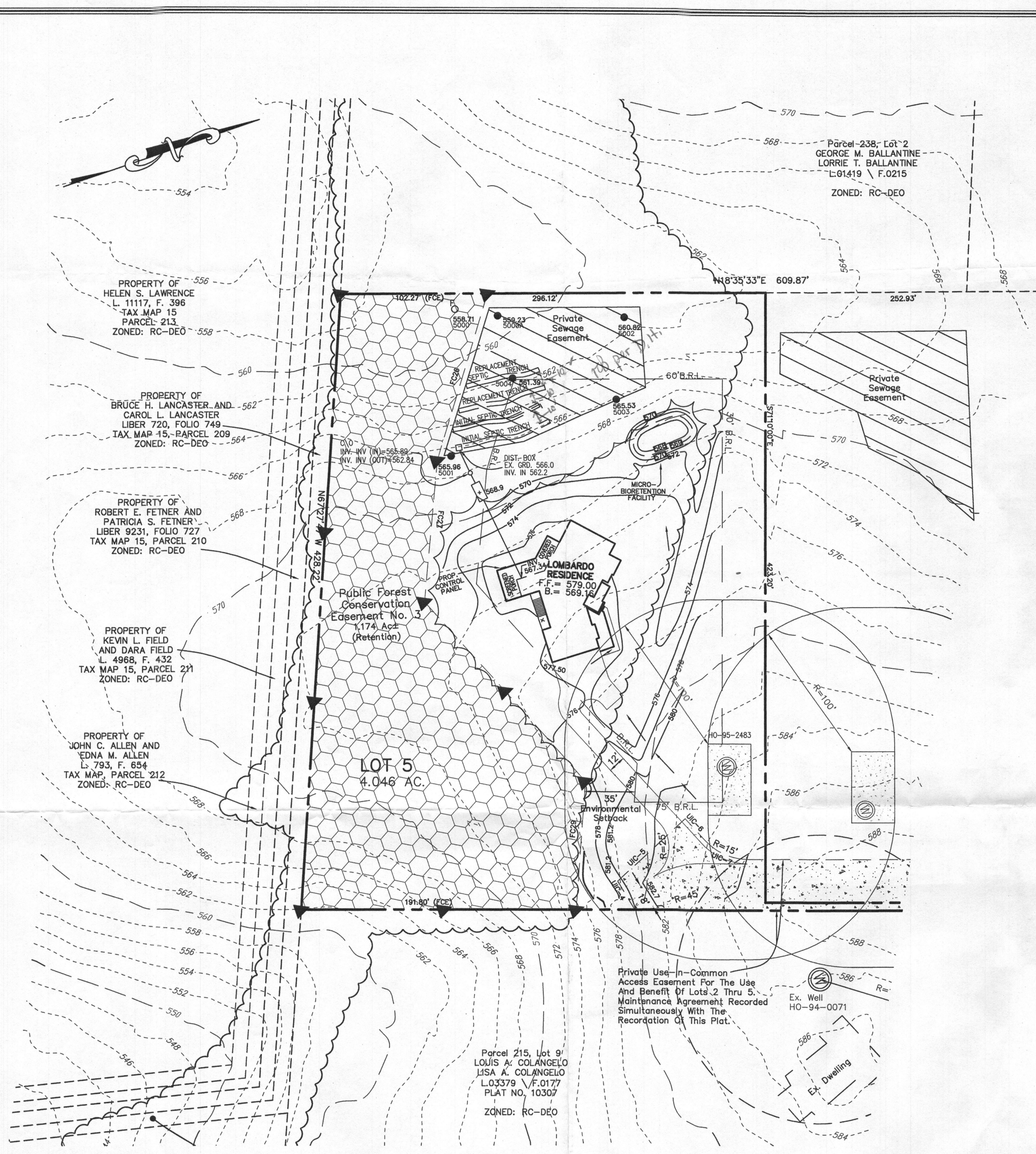


Mark L. Roloff 4/23/15  
 PROPERTY LINE SURVEYOR DATE  
 RL #339

**HOUSE LOCATION DRAWING**

FOUNDATION LOCATION: 1/20/15  
 FINAL LOCATION: \_\_\_\_\_  
 BOUNDARY SURVEY: \_\_\_\_\_  
 SCALE: 1"=60'  
 DATE: 4/23/15  
 DRAWN BY: GAD  
 CHECKED BY: MLR  
 PROJECT No.: 11046-3001

LOT 5  
 RENFRO PROPERTY  
 BUILDABLE LOTS 1 THRU 5,  
 PLAT NOS. 22465 THRU 22466  
 THIRD ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND



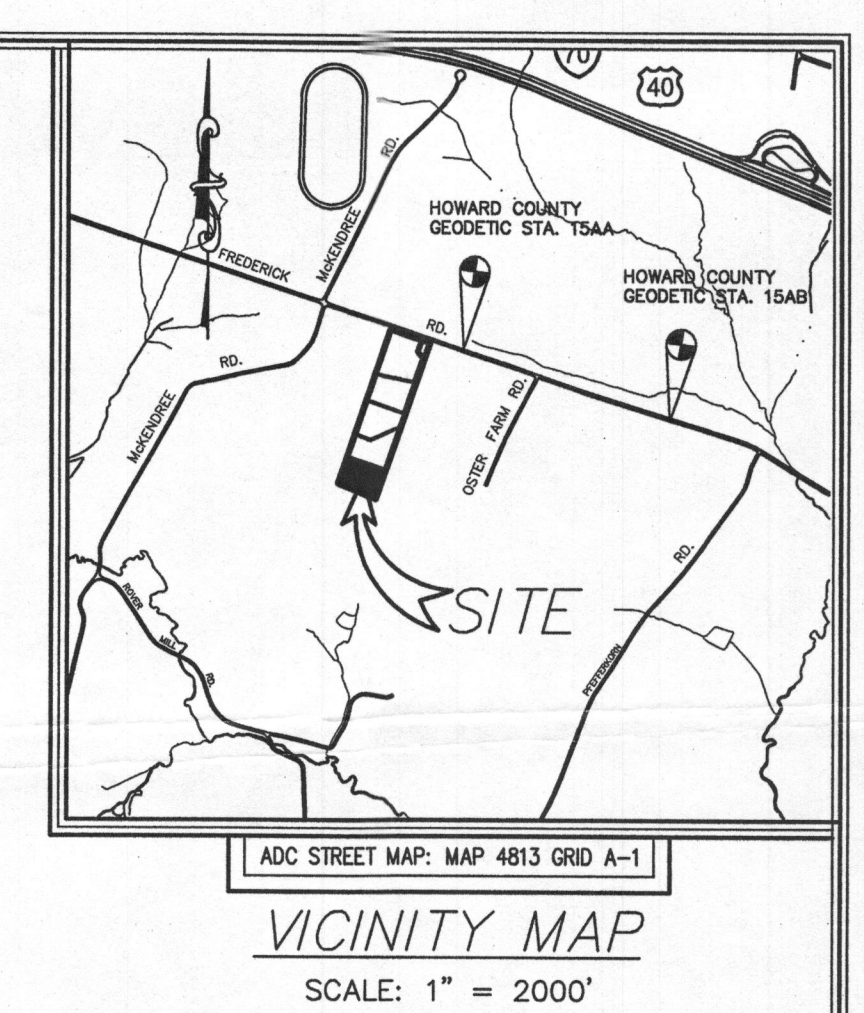
**GENERAL NOTES:**

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

**CRITICAL DIMENSIONS**

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

**NOTE:** TOTAL SYSTEM CAPACITY: 1,300 GALLONS  
RATED CAPACITY: 600 GALLONS PER DAY



**BAT NOTES**

- 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.
- THE MAXIMUM COVER OVER THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET. IF COVER EXCEEDS 3 FEET, THEN A TRAFFIC BEARING TANK IS REQUIRED.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- 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. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK. SEWAGE FLOWS TO THE TANK BY GRAVITY AND WATER EXITING THE TANK TO THE SEPTIC AREA WILL FLOW BY GRAVITY.
- IF THERE IS EXCESSIVE RESISTANCE TO THE AERATOR MOTOR, AN ALARM WILL BE VISIBLE AND AUDIBLE. SEE MANUFACTURER SPECS FOR ADDITIONAL INFORMATION.
- THE EXISTING WELL, TAG NO. HO-95-1696, HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

**SEWAGE DISPOSAL SYSTEM DATA (PERMIT FOR 6 BEDROOMS)**

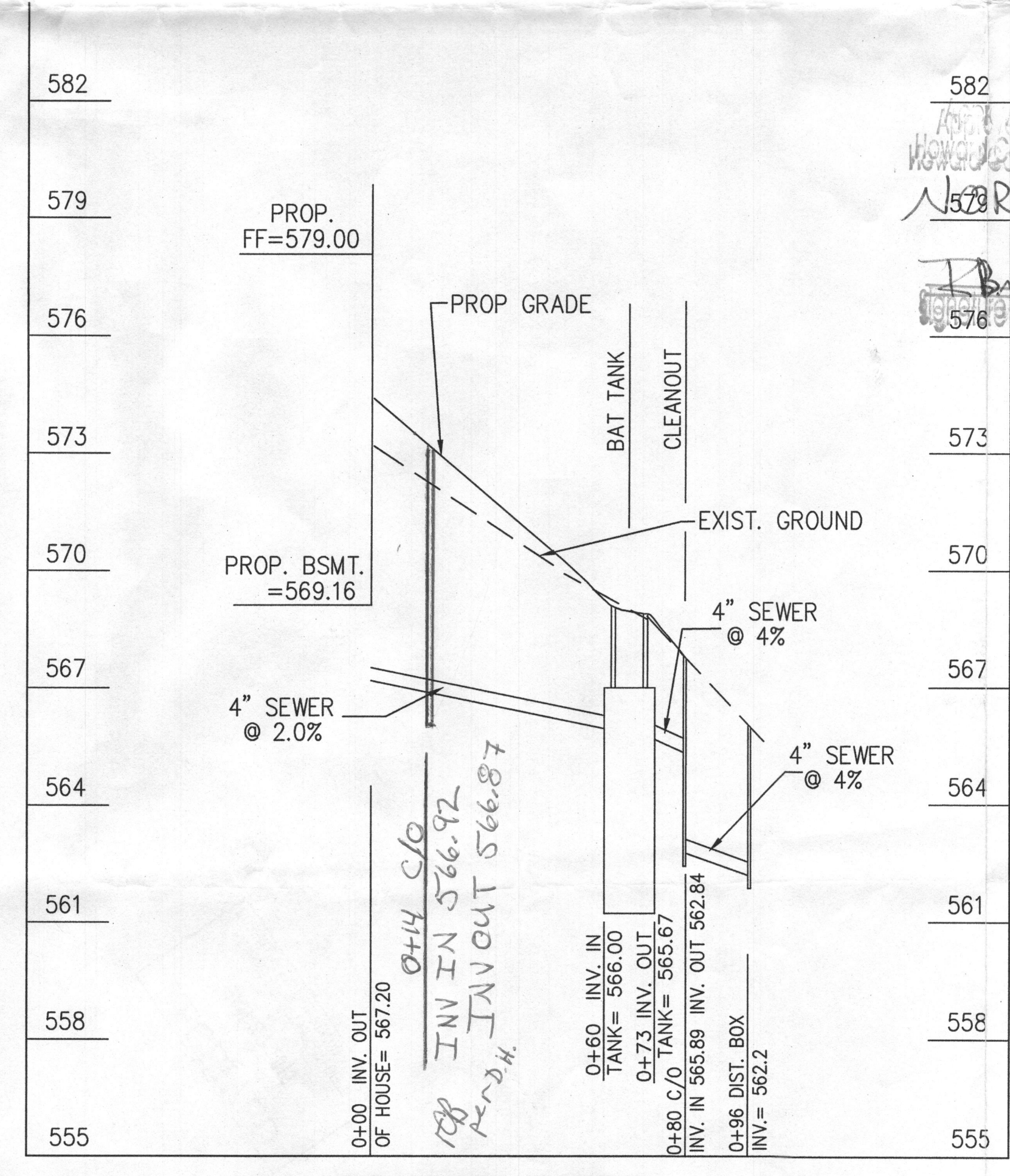
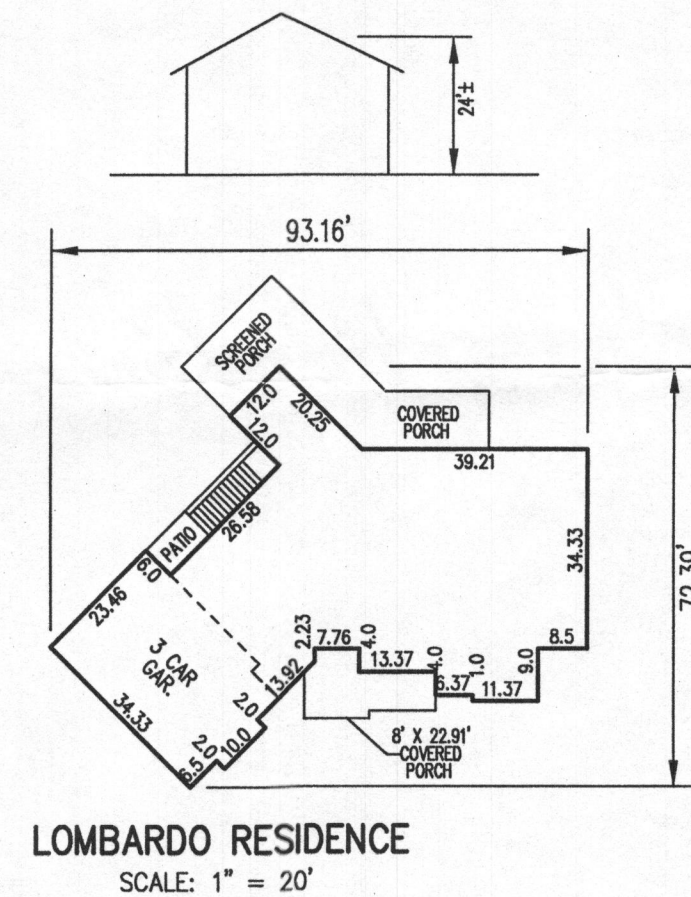
PROP. INVERT AT FOUNDATION WALL: 506.67

- NORWECO TNTLP-500 GPD (MAX. NO. BDRMS.=6)  
EX. GRADE OVER TANK: 568.9  
PROP. GRADE OVER TANK: 568.9  
INVERT IN: 565.00  
INVERT OUT: 565.67  
TOP OF TANK ELEV.: 567.00
- DISTRIBUTION BOX:  
EX. GRADE: 566.0  
PROP. GRADE: 566.0  
INVERT IN: 562.2
- TRENCH DESIGN:  
(6 BDRM X 150 GPD/BDRM= 900 GPD)  
900 / 1.2 APP. RATE = 750 SF  
USE 3' WIDE TRENCH AND 8' MIN. SPACING BETWEEN TRENCH EDGES.  
750 SF / 3' WIDTH = 250' L.F. X 0.50 = 125 L.F. MIN. TRENCH  
USE 2- 62.5' LONG TRENCHES = 125 L.F.

**TRENCH DATA:**

TRENCH 1:  
EX. GROUND ABOVE = 566.0  
INV. IN = 562.0  
BOTTOM TRENCH = 559.0

TRENCH 2:  
EX. GROUND ABOVE = 564.4  
INV. IN = 560.4  
BOTTOM TRENCH = 557.4

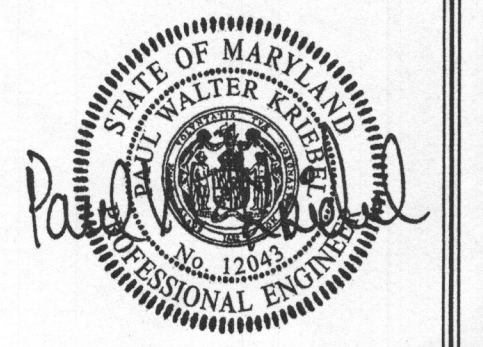


Approved Septic System Plan  
Howard County Health Department  
NORWECO TNTLP-500 GPD  
w/Gravity Flow to Drainfield  
D. Bricker 2/3/2015  
Date

**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. 12043, EXPIRATION DATE: 7/16/16.

Paul W. Kriebel 01/26/15  
DATE

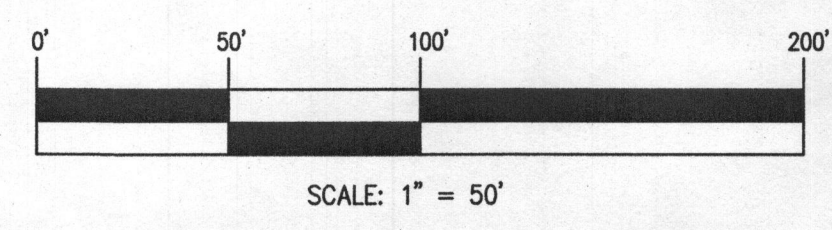


**BAT INSTALLATION SITE PLAN**

**RENFRO PROPERTY**

LOT 5  
13771 FREDERICK ROAD WEST  
FRIENDSHIP, MD 21794-9703

TAX MAP NO.: 15 GRID NO.: 1 PARCEL NO.: 178  
THIRD ELECTION DISTRICT HOWARD COUNTY,  
MARYLAND ZONED: RC-DEO  
SCALE: AS SHOWN  
DATE: JANUARY 20, 2014 SHEET 1 OF 1





Bureau of Environmental Health **000136**  
 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](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](https://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 15 day of September, among Malina Renfro Lombardo & David A. Lombardo, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

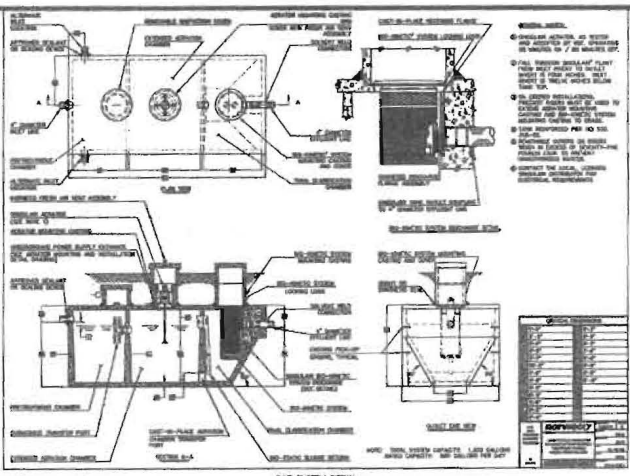
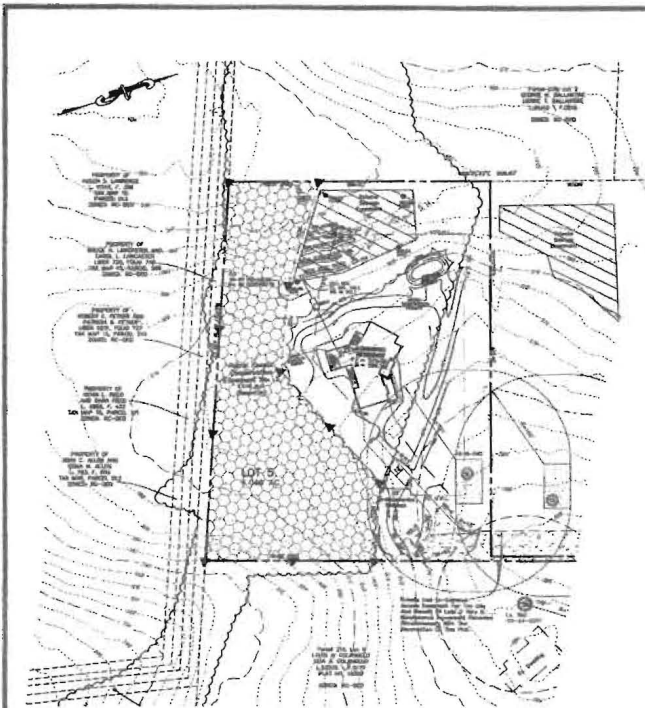
WHEREAS, Owner is the owner or contract owner of a parcel of land located at 13771 Route 144, West Friendship, MD, 21794-9703, in the 3rd Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 15543 Folio 238.

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





- BAT NOTES**
1. SEE NOTES ON SEPTIC SYSTEM PLAN FOR GENERAL NOTES AND SPECIFICATIONS.
  2. ALL SEWER LINES SHALL BE 4" DIA. PVC SCHEDULE 40 WITH 2" DIA. MANHOLES.
  3. ALL SEWER LINES SHALL BE INSTALLED AT A MINIMUM 18" BELOW FINISHED GRADE.
  4. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM SLOPE OF 1/8" PER FOOT.
  5. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
  6. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
  7. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
  8. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
  9. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.
  10. ALL SEWER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18" BELOW FINISHED GRADE.



**SEWER SYSTEM NOTES**

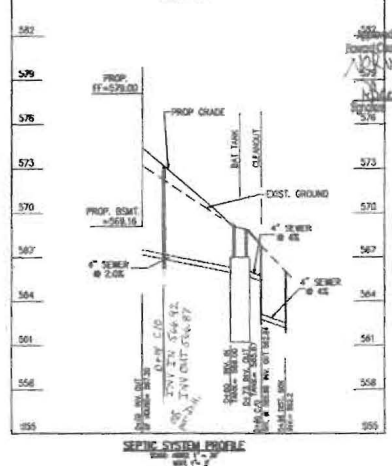
PROPOSED SEWER SYSTEM SHALL BE INSTALLED AT A MINIMUM 18" BELOW FINISHED GRADE.

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**PROFESSIONAL CERTIFICATION**

Professional Engineer



**BAT INSTALLATION SITE PLAN**

RENPRO PROPERTY

LOT 5

13771 FREDERICK ROAD WEST

FRIENDSHIP, MD 21794-9703

DATE: APRIL 23, 2014 SHEET 4 OF 4