

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

Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 4/10/17 ONSITE SEWAGE DISPOSAL SYSTEM

P 560601

APPROVAL DATE: 5/5/17 PERMIT: CONSTRUCTION

A

PROPERTY ADDRESS: 12159 Fulton Estates Drive

SUBDIVISION: Fulton Manor Valley

LOT: 9

TAX ID:

05-597699

CONTRACTOR: Legacy Septic + Excavation

EMAIL:

CONTRACTOR ADDRESS: 1538 Manchester Rd, Westminster, MD 21157

PHONE: 410-840-8766

PROPERTY OWNER: Collie LLC

EMAIL: cwimmer@douglashomesinc.com

OWNER ADDRESS: 5300 Dorsey Hall Drive, Ellicott City, MD 21042

PHONE: 410-660-9305

SEPTIC TANK SIZE (GALLONS): 1500

TANK MANUFACTURER: Mayer Bros., Inc.

PUMP MODEL: WEO3M

PUMP SIZE

1/3 hp

PUMP TANK CAPACITY: 1500

DISTRIBUTION SYSTEM: GRAVITY

PRESSURE DOSED

BEDROOMS: 5

APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: 156 115'	INLET DEPTH: 2.5
	TRENCH WIDTH: 2' 3'	MAXIMUM BOTTOM DEPTH: 5
	MINIMUM SPACE BETWEEN TRENCHES: 10	EFFECTIVE AREA BEGINNING DEPTH: 2.5
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Install 2x 58' trenches.	

ISSUED BY: Robert Freemon

ISSUE DATE:

EXPIRATION DATE:

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 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

ELECTRICAL PERMIT ISSUED E 16007139

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

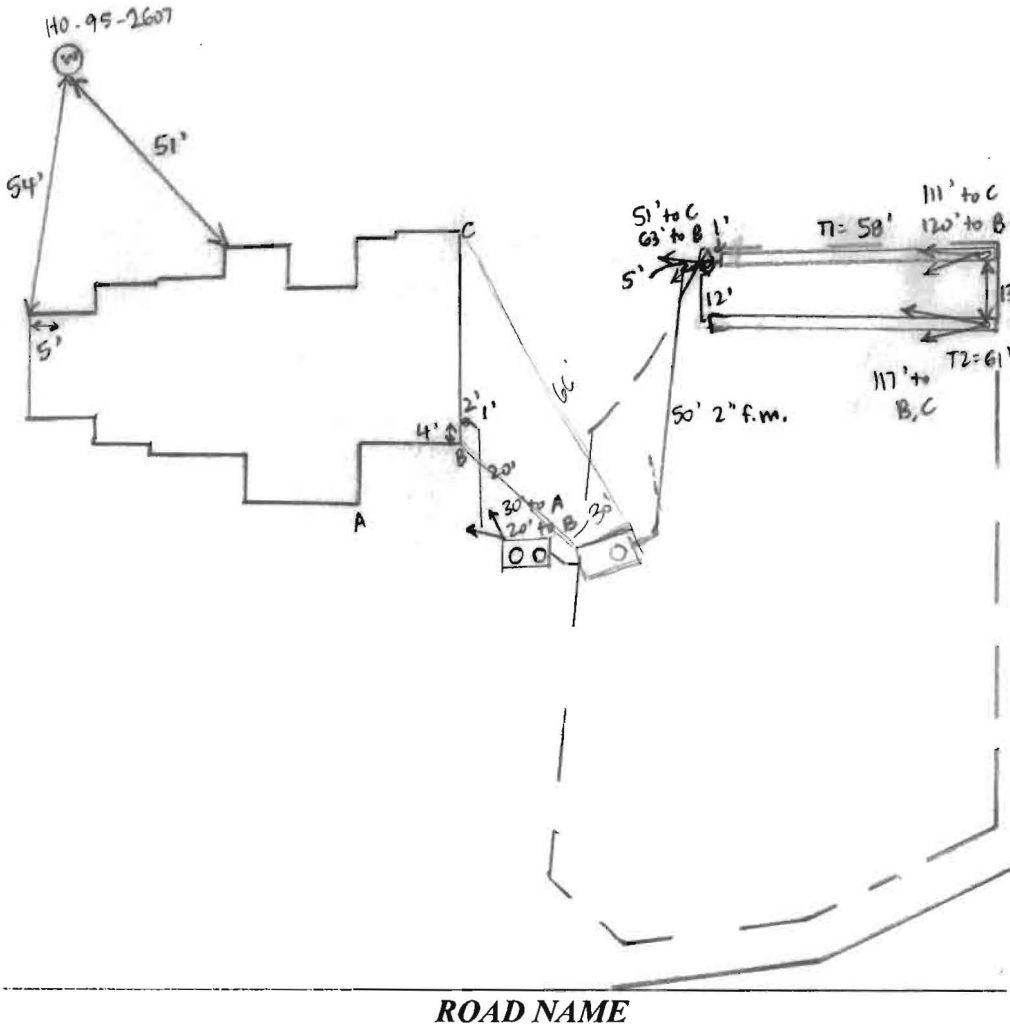
NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

1" = 40'



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	2.5'	5'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	119'	
ABSORPTION AREA	357' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	1-2'
BAFFLES	
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	

PUMP/SEPTIC TANK LEVEL	
PUMP/SEPTIC TANK LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	1500 GAL
SEAM LOC	Top
TANK LID DEPTH	2'
BAFFLES	Front
BAFFLE FILTER	N/A
MANHOLE LOC	Rear
6" PORT LOC	none
WATERTIGHT TEST	
SLOTTED	no
DATE ON LID	5-6-16

PRE-CONSTRUCTION:

5/1/17 Met George from Legacy on site for layout. SDA stakes present, measured 20' off house to get a tank location. Laid out 2x58' 3' trenches - did not check contour b/c laser's batteries were dead. Shoot contour prior to trench install. (SC) 5/2/17 Shot contour of trenches. Okay to install trenches. (SC)

INSTALLATION:

5/1/17 House connection made. (SC) 5/2/17 Septic tank set. Pump tank hole dug but tank is on backorder. (SC) 5/2/17 Legacy finishing T2. 3' wide 2' to stone. Using laser to check depths. (SC) 5/3/17 T1 finished + left opens 3' wide + 2' to stone. D-box connected to trenches + 2" force main run from proposed pump tank location to D-box. No pump tank yet. (SC) 5/8/17 Pump tank set. 2" F.M. installed, setting 1/2 HP Goulds (WE0311M) w/ separate float & rse. 05/13/17 Pump alarm on one breaker (2G). Tested it w/ Charlie (Doug last Alarm still sounds when breaker flipped (charlie @ breaker). Pump checked, flows is great @ D Box. (P)

FINAL INSPECTOR

DATE OF APPROVAL 05/15/2017

Oswald, Hank

From: Oswald, Hank
Sent: Thursday, July 14, 2016 9:14 AM
To: 'Charlie Wimmer'
Subject: RE: 12159 Fulton Estates ct

Hi Charlie:

Thanks for the update. The BAT Plan is designed for 5 bedrooms. The basement floor plan is now showing two additional windows plus an additional full bathroom which makes the side room a bedroom. Please send revised floor plans to D.I.L.P. Include an extra copy for Health Department. In addition, the BAT Plan will need to be re-sized for at least 6 bedrooms.

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

Respectfully,

Hank

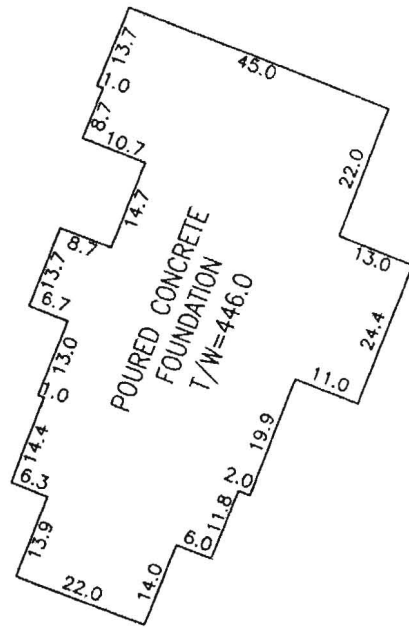
-----Original Message-----

From: Charlie Wimmer [<mailto:wimm3@aol.com>]
Sent: Tuesday, July 12, 2016 2:29 PM
To: Oswald, Hank
Subject: 12159 Fulton Estates ct

Hank this is a revised drawing of what they want now there is a 4' opening and a five foot opening they understand the Bedroom Definition It is a Crafting room

THIS WALL CHECK DRAWING CONTAINS A HORIZONTAL TOLERANCE IN ACCURACY OF 0.1' AND A VERTICAL TOLERANCE IN ACCURACY OF 0.2'

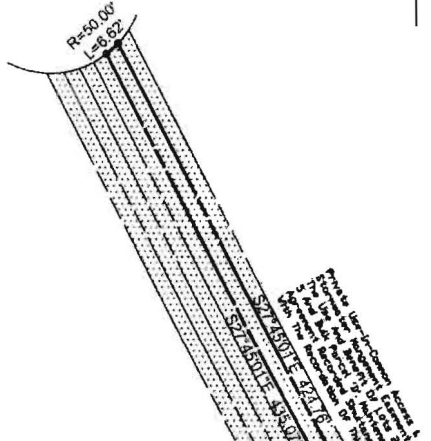
Wall Check
OK
RAE 4/10/17



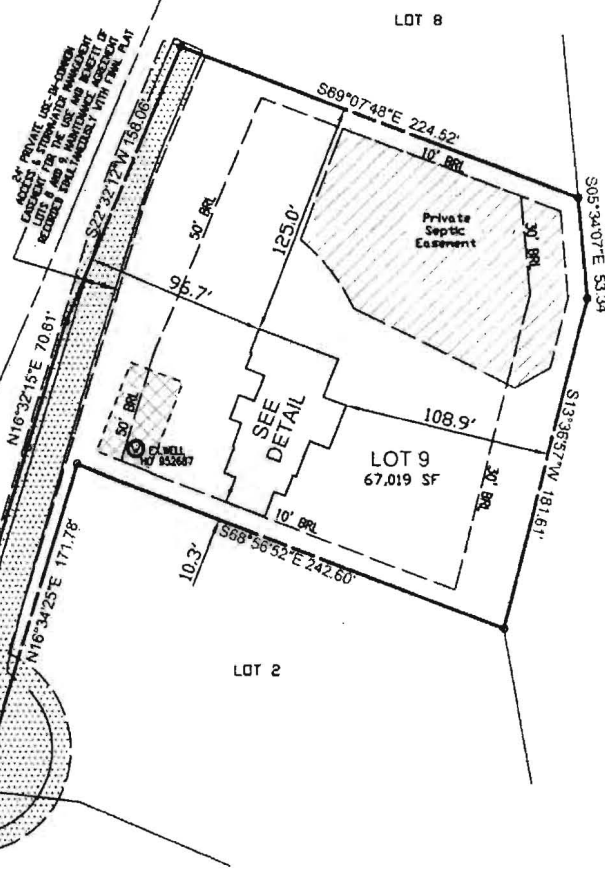
DETAIL

SCALE: 1"=30'

FULTON ESTATES COURT
50' RIGHT-OF-WAY



NOTICE: This drawing is a wall check drawing and is not to be used for any other purpose. It is the responsibility of the user to verify the accuracy of the information shown on this drawing. The user is advised to consult the original survey and plat for a complete understanding of the property boundaries and easements.



I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE IMPROVEMENTS ARE LOCATED AS SHOWN AND THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN.

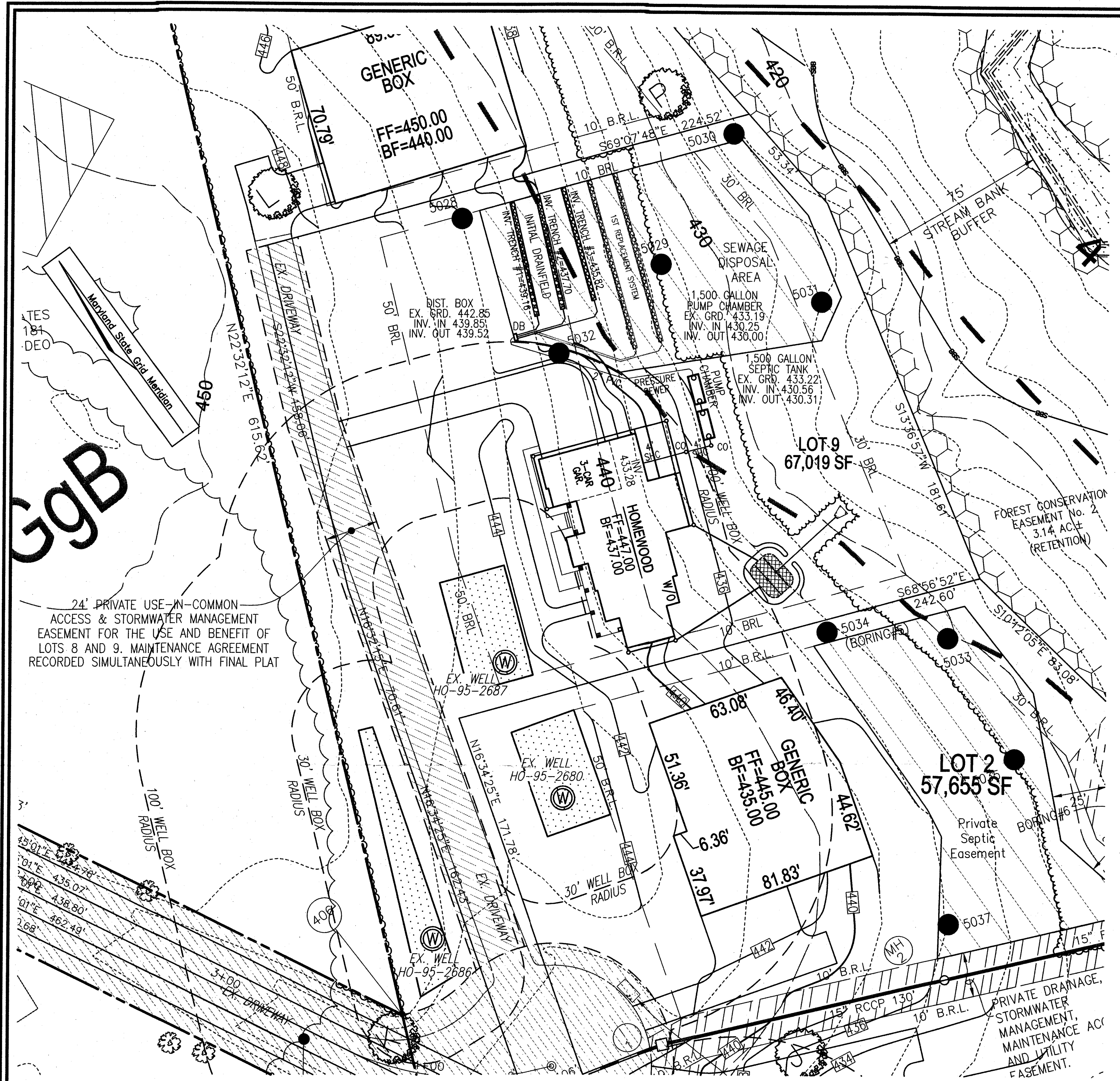
Thomas M. Hoffman Jr. 8-17-16
THOMAS M. HOFFMAN JR., PROPERTY LINE SURVEYOR #267 DATE

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. 267, EXPIRATION DATE JULY 28, 2018.

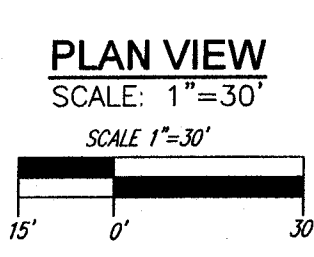
SCALE 1"= 100'	DATE 8/16/2016
DRAWN BY B.D.A.	CHECKED BY T.M.H.
PLAT NUMBER 23139-23141	JOB NUMBER 14-24.00

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS - SURVEYORS - PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MARYLAND 21043
TEL:410-461-7666 FAX:410-461-8961

WALL CHECK DRAWING
12159 FULTON ESTATES COURT
LOT 9
FULTON MANOR VALLEY
PLAT NO. 23141
FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



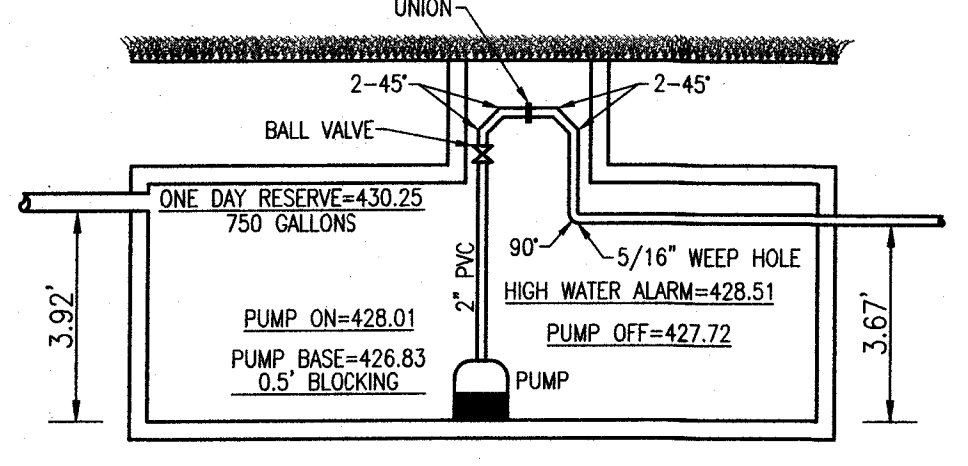
WELL LOCATION CERTIFICATION:
 THE EXISTING WELL SHOWN ON THIS PLAN (TAG HO-95-2687) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN



GENERAL 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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
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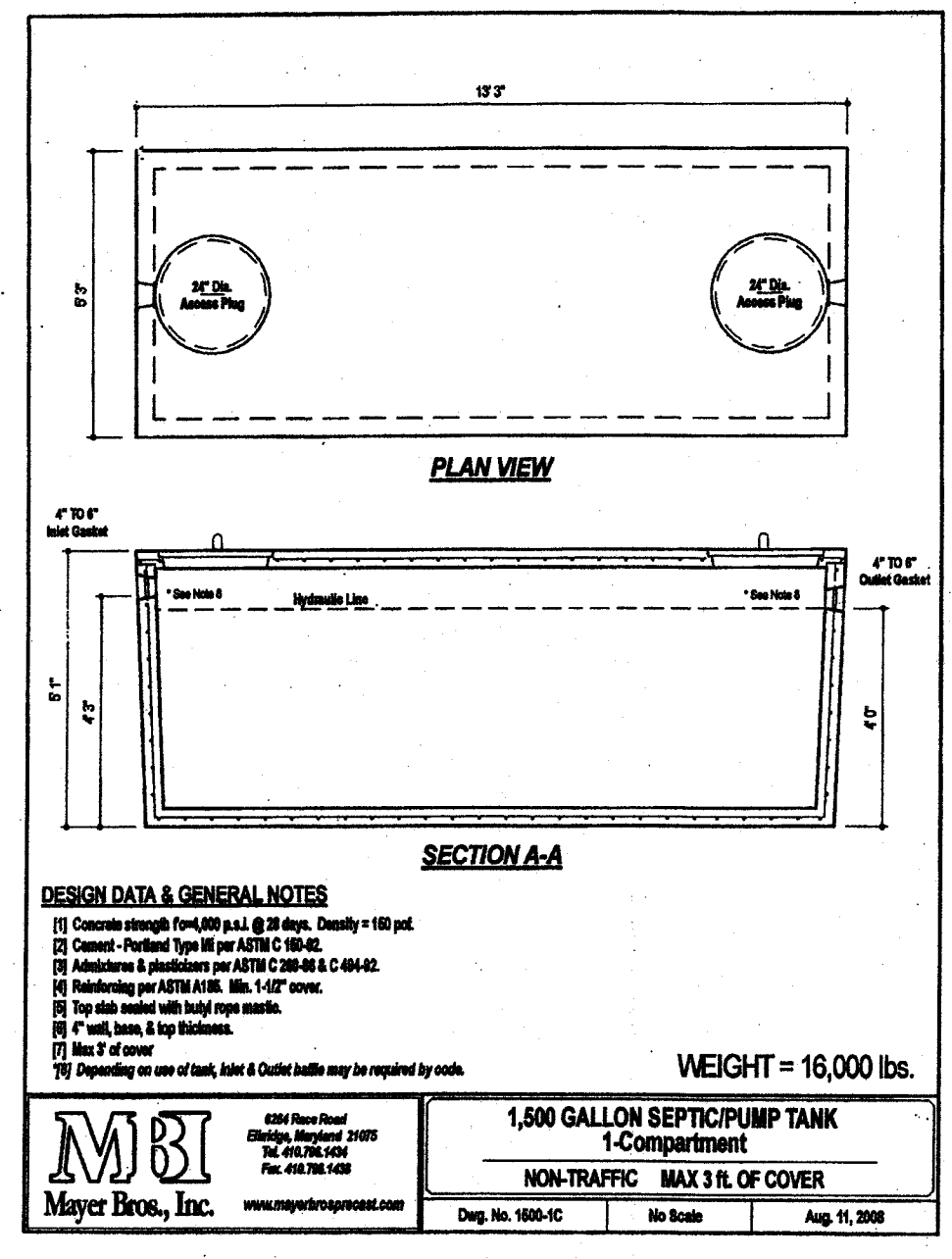
OUTSIDE TO OUTSIDE DIM: 13.25' x 5.25'
 INSIDE TO INSIDE DIM: 12.58' x 4.58'
 INSIDE CROSS SECTION AREA: 57.62'²



NO. BEDROOMS = 5
 DESIGN FLOW = 5(150 GPD) = 750 GPD
 DOSE: 1/8 DESIGN FLOW = 125 GPD
 125 GALLONS/7.48 FT³/GAL = 16.71 FT³
 16.71 FT³/57.62 SF = 0.29"
 ONE DAY RESERVE: 750 GALLONS/7.48 FT³/GAL = 100.27 FT³
 100.27 FT³/57.62 = 1.74 FT

TOTAL LENGTH: 144.30 LF
 FRICTION LOSS (40 GPM): (0.63)(144.30)/100 = 3.78'
 STATIC: 439.85-427.72 (PUMP OFF) = 12.13'
 TDH: 12.13+3.78 = 15.91'
 PUMP SIZING: (40 gpm)(15.91)(1.00)/(3,960)(0.4) = 0.4 HP MINIMUM
 USE GOULDS WEIGHT VEC03AM

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.



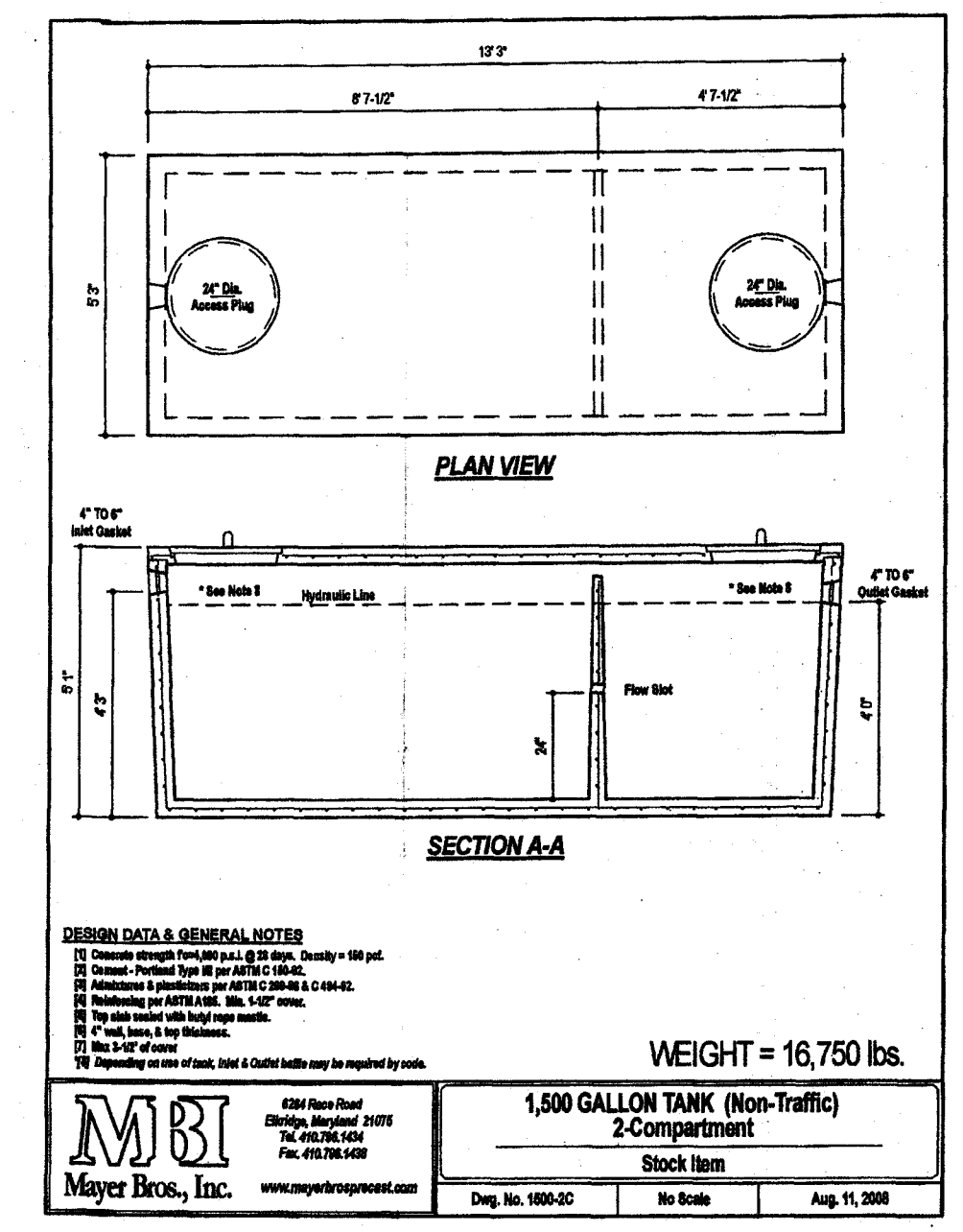
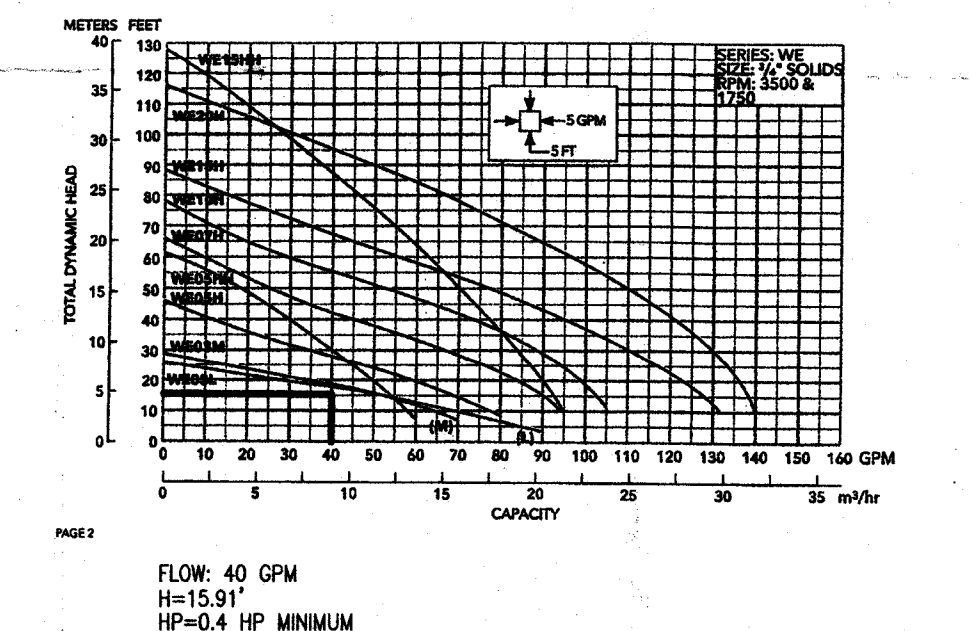
Wastewater

APPLICATIONS:
 Specifically designed for the following uses:
 • Homes, Farms, Trailer Courts, Resorts, Schools, Hospitals, Industry, Etc.

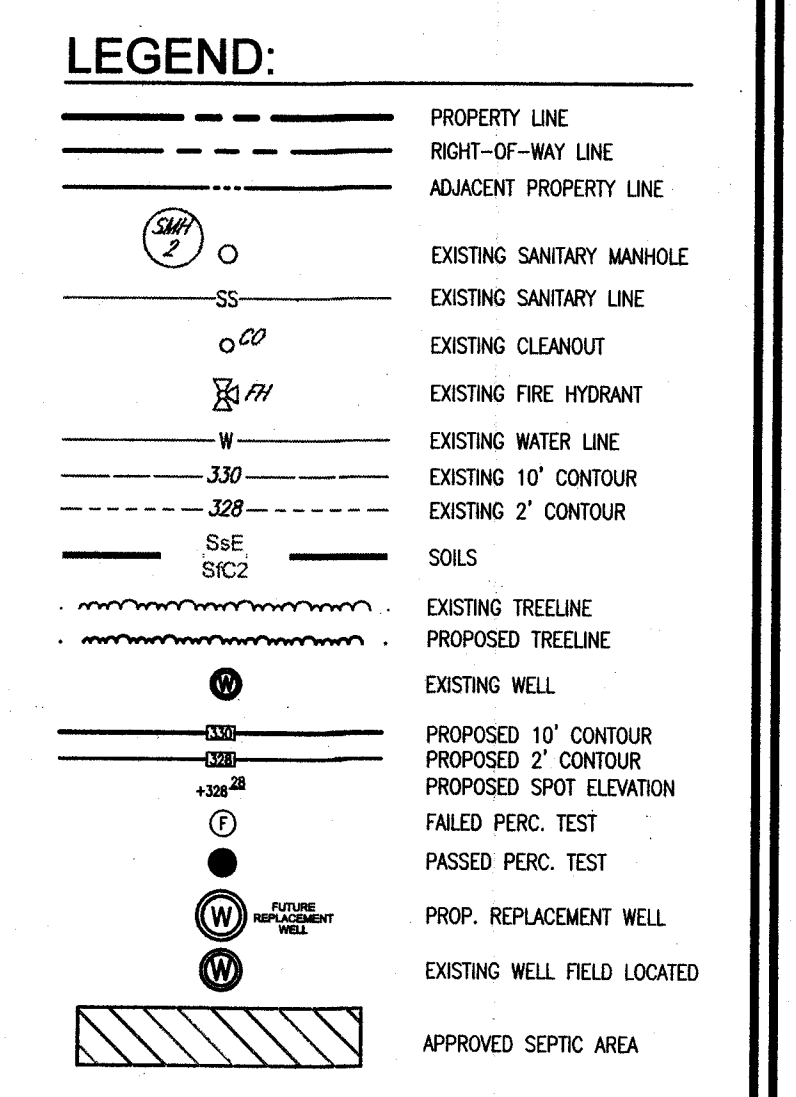
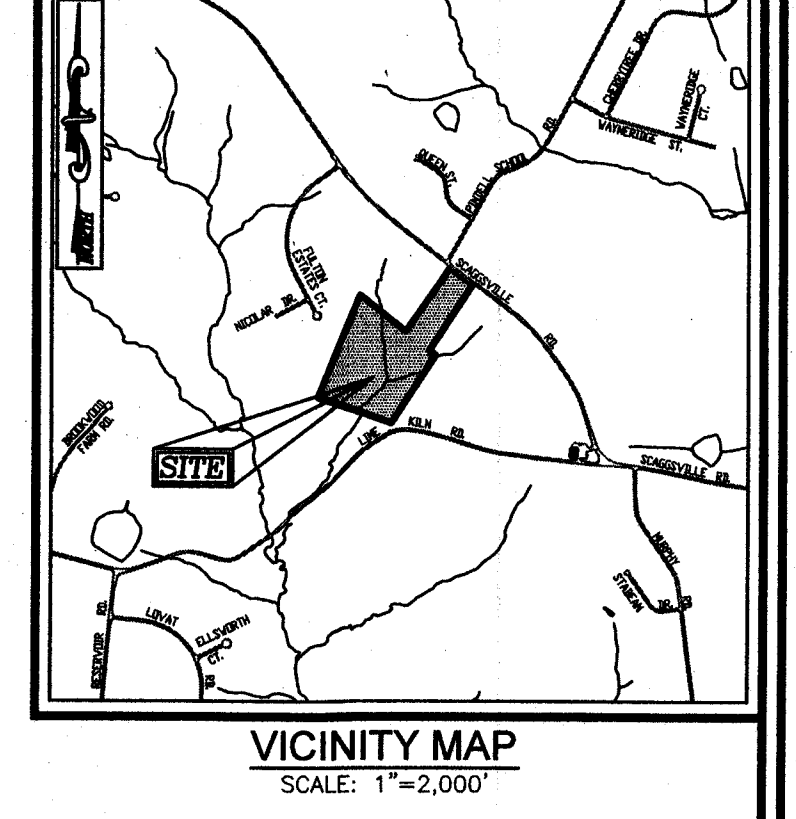
SPECIFICATIONS:
 Pump
 • Solid handling capabilities: N° maximum
 • Discharge size: 2" NPT
 • Capacities: up to 140 GPM
 • Total head: up to 128 feet TDH
 • Temperature:
 104°F (40°C) continuous, 140°F (60°C) intermittent.
 • See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

NOTES:
 • Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
 • Class B insulation on 18" HP models.
 • Class F insulation on 2 HP models.
 • Single phase (60 Hz)
 • Capacitor start motors for maximum starting torque.
 • Built-in overload with automatic reset.

AGENCY LISTINGS:
 based on 778 and CMA 32.2 1/2 inch models.
 By Canadian Standards Association (CSA) C 22.2-100

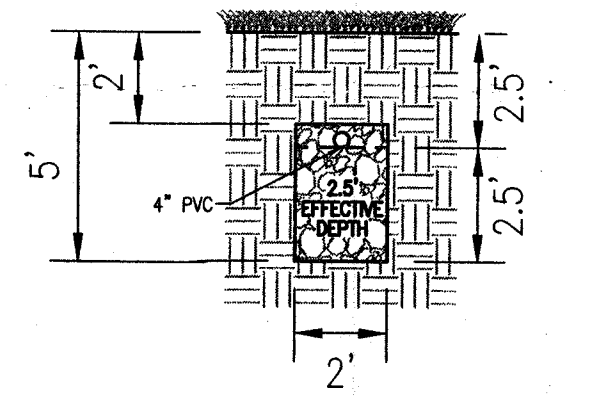


Approved Septic System Plan
 Howard County Health Department
 Signature: [Signature] Date: 3/3/17



TRENCH INFO.

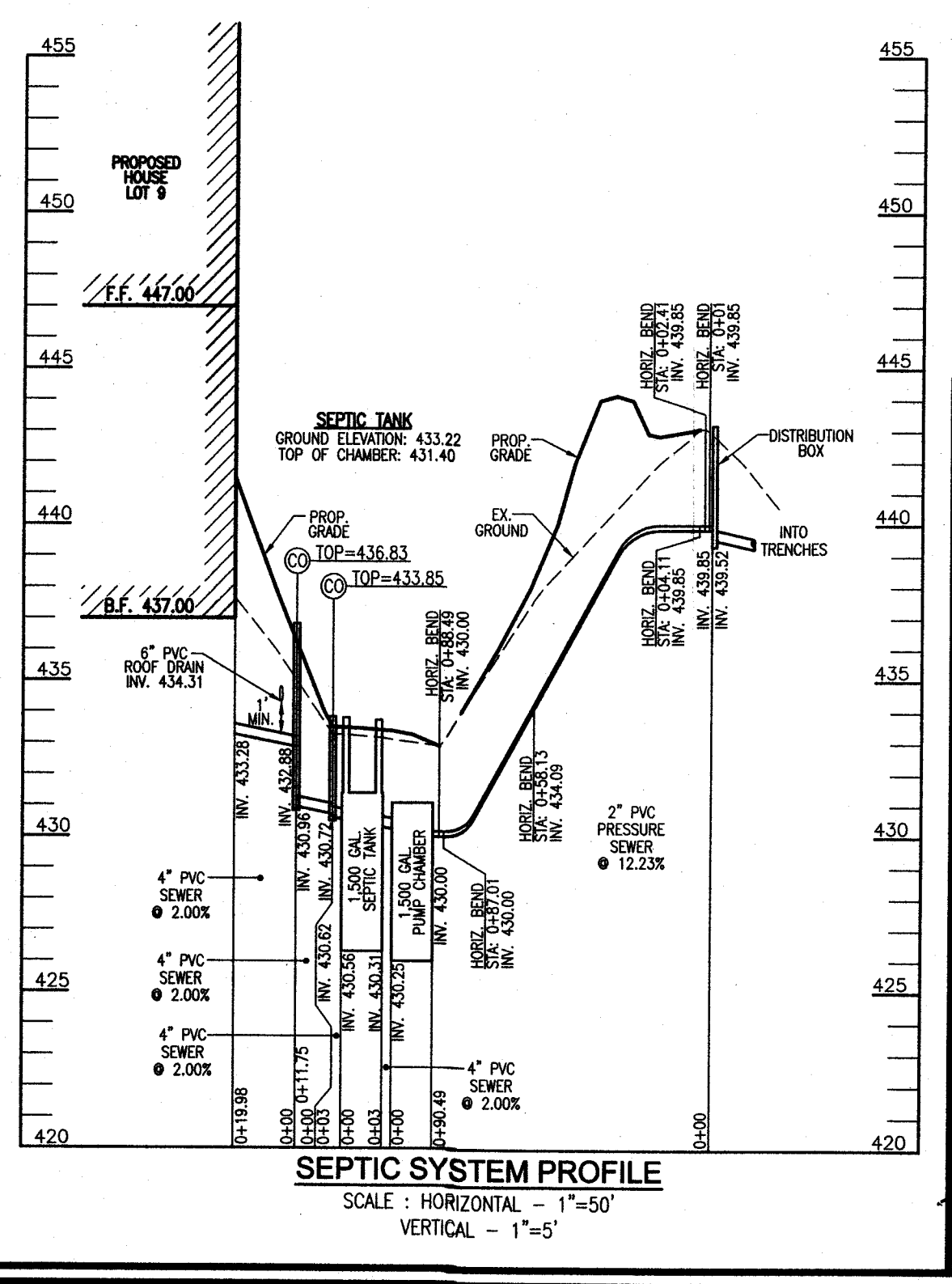
TRENCH	TRENCH LENGTH	TRENCH DEPTH	EXISTING GROUND
1	52'	439.16'	441.66'
2	52'	437.70'	440.20'
3	52'	435.62'	438.32'



SYSTEM CALCULATIONS:
INITIAL SYSTEM AND FIRST REPLACEMENT SYSTEM:
 5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
 625 SQ. FT. / 2 (TRENCH WIDTH) x 50 (SIDEWALL REDUCTION) = 156 LINEAR FEET
 156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
 (3 TRENCHES OF 52 FEET IN LENGTH)
 156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
 (2 TRENCHES OF 78 FEET IN LENGTH)

OWNER:
 COLLIE, LLC.
 5300 DORSEY HALL DR., SUITE 102
 ELLICOTT CITY, MARYLAND 21042
 ATTN: MR. DONALD R. REIMNER, JR.
 443-367-0422

BUILDER:
 DOUGLAS HOMES, INC.
 5034 DORSEY HALL DR., SUITE 102
 ELLICOTT CITY, MARYLAND 21042
 410-984-4234



ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

FULTON MANOR VALLEY - LOT 9
 12159 FULTON ESTATES COURT
 FULTON, MD 20759

BUILDING PERMIT # _____

TAX MAP: 41 GRD: 19
 5TH ELECTION DISTRICT

PARCELS: 78 & 456
 ZONED: RS-100
 HOWARD COUNTY, MARYLAND

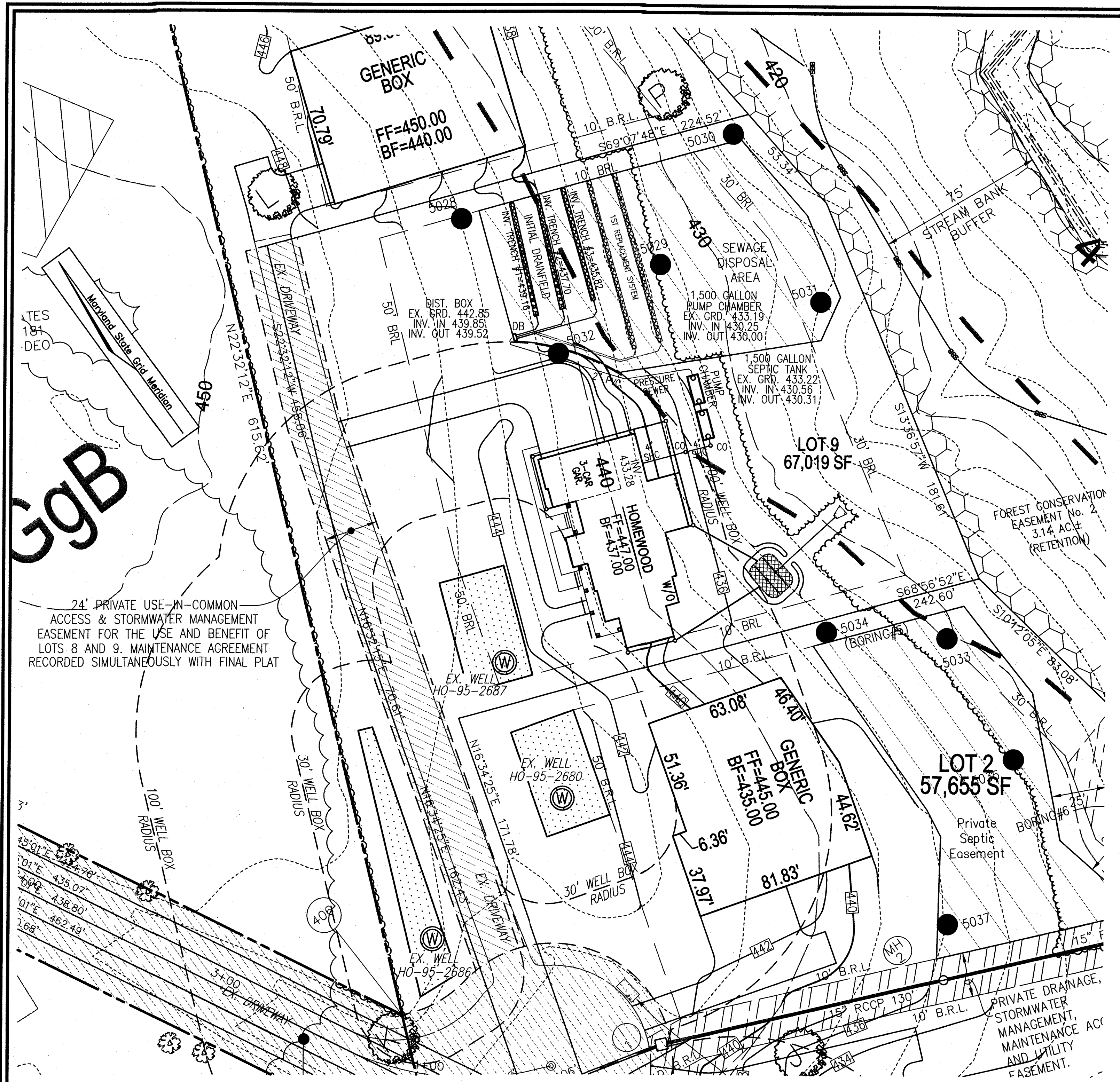
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410-461-7666
 FAX: 410-461-8961

DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: FEBRUARY 2017
 SCALE: AS SHOWN
 W.O. NO.: 14-24

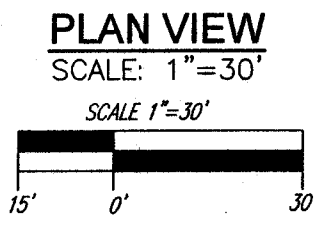
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18183 EXPIRATION DATE 08-30-2018

1 SHEET OF 1

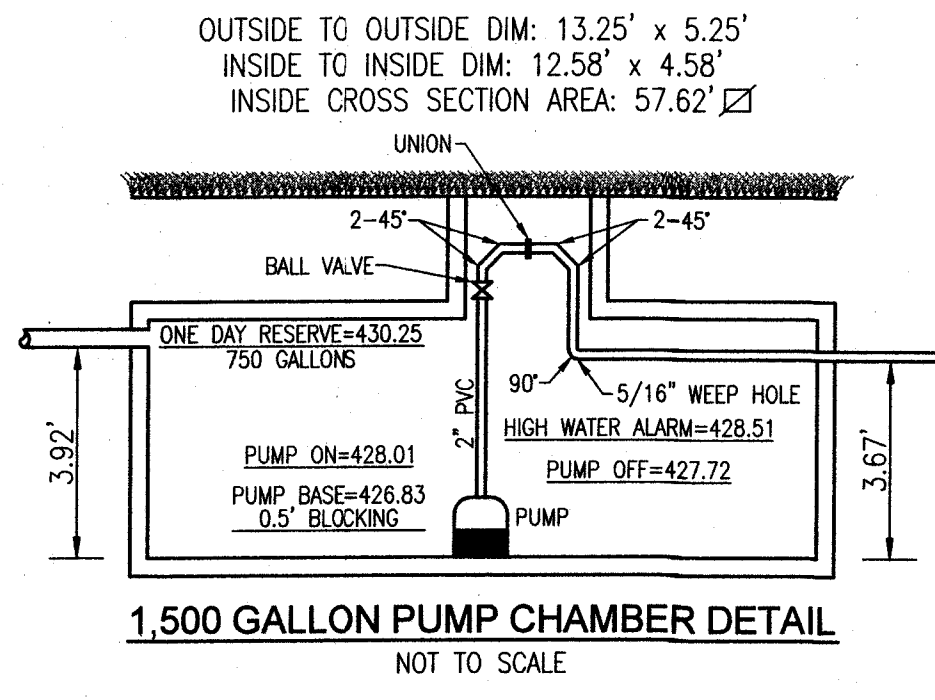
K:\Projects\14-24\Engineering\PLANS\LOT 9.dwg, 2/20/17 5:20:20 PM



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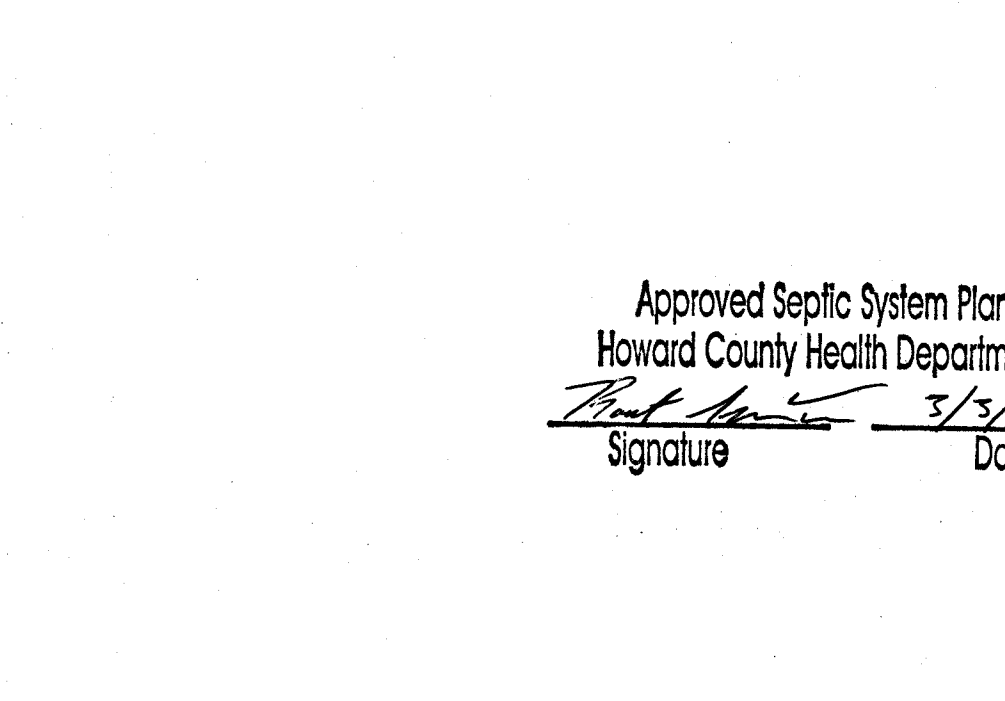
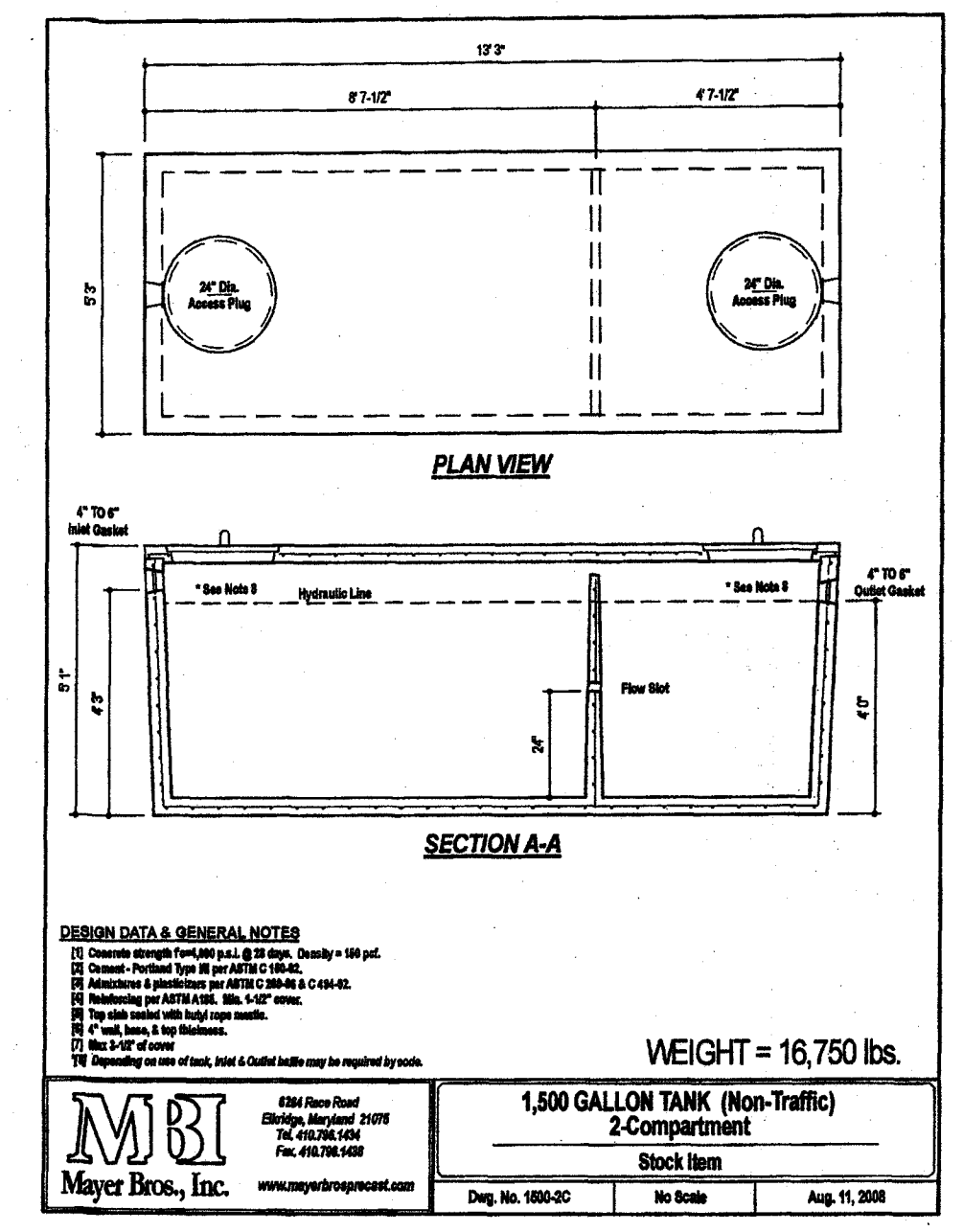
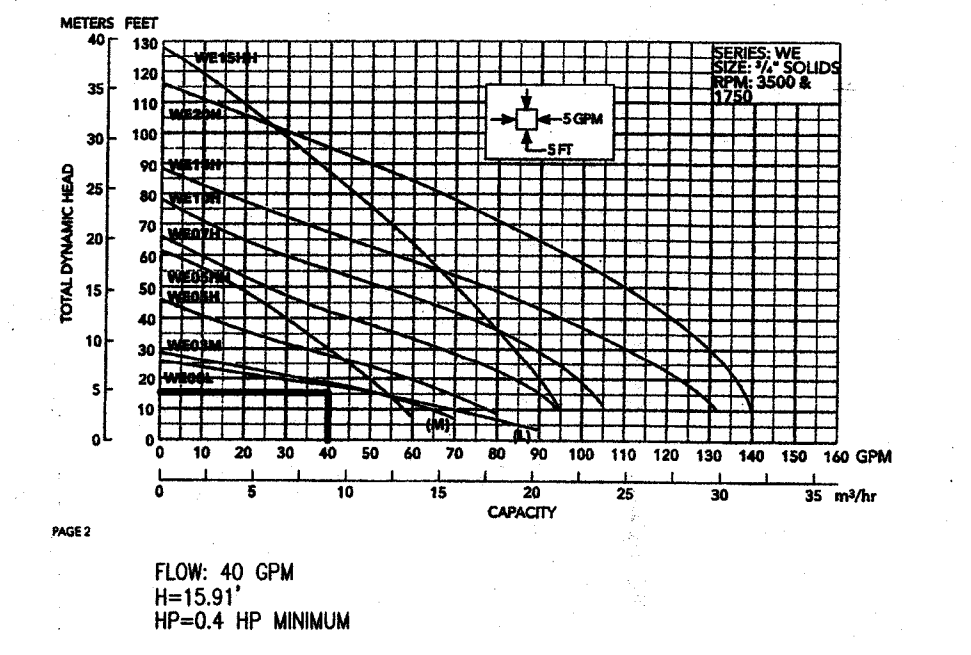
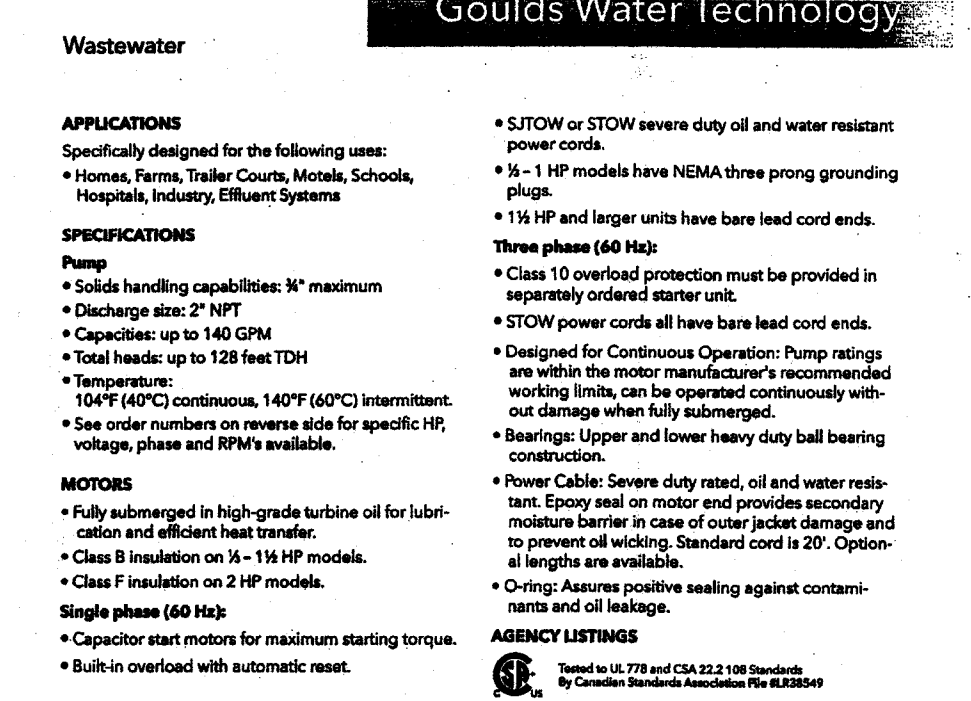
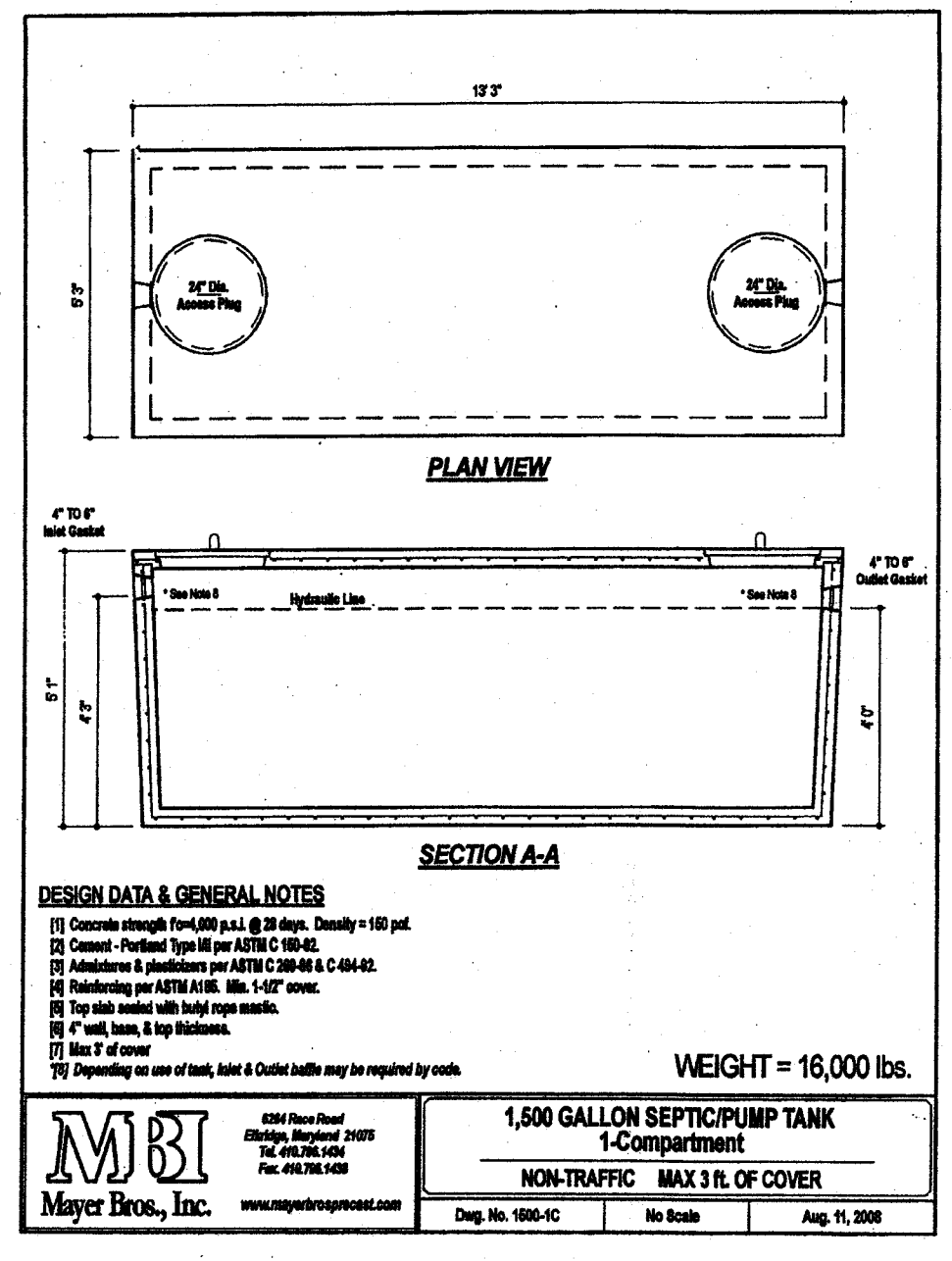
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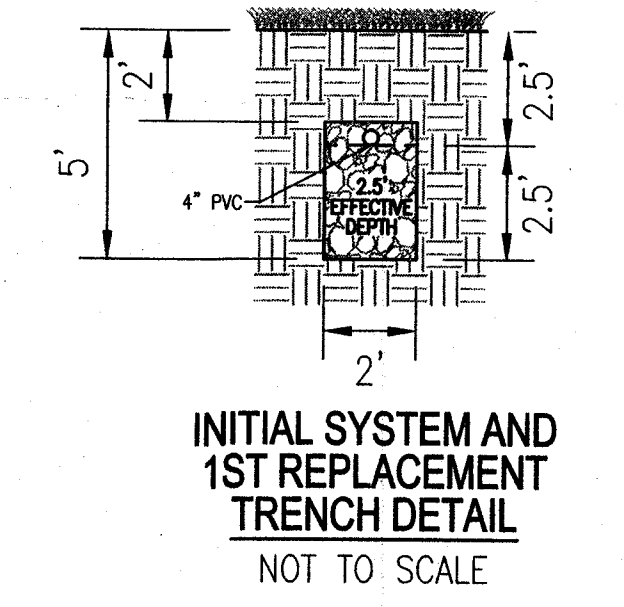
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- LEGEND:**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - ADJACENT PROPERTY LINE
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - EXISTING 10' CONTOUR
 - EXISTING 2' CONTOUR
 - SOILS
 - EXISTING TRENCHLINE
 - PROPOSED TRENCHLINE
 - EXISTING WELL
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
 - PROPOSED SPOT ELEVATION
 - FAILED PERC. TEST
 - PASSED PERC. TEST
 - PROP. REPLACEMENT WELL
 - EXISTING WELL FIELD LOCATED
 - APPROVED SEPTIC AREA



TRENCH INFO.

TRENCH	TRENCH LENGTH	TRENCH WIDTH	EXISTING GROUND
1	52'	439.16	436.66
2	52'	437.70	435.20
3	52'	435.82	433.32

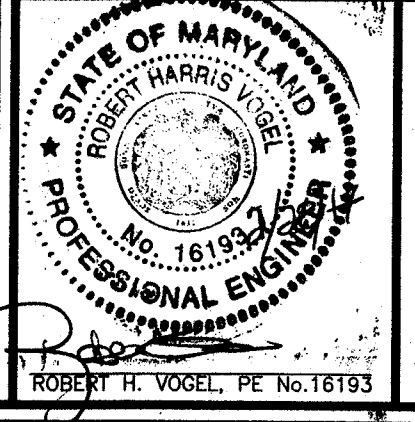
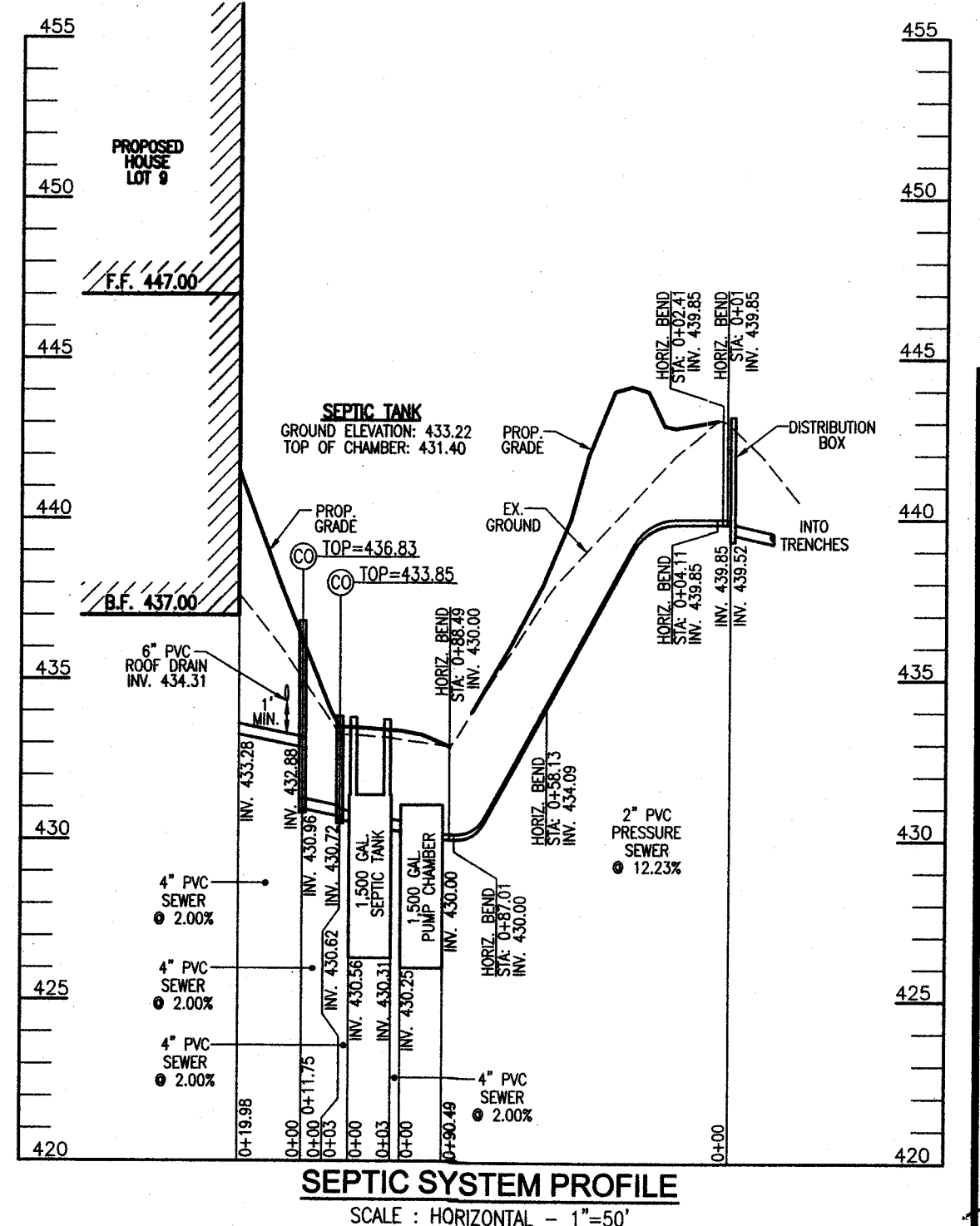
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ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN
FULTON MANOR VALLEY - LOT 9
12159 FULTON ESTATES COURT
FULTON, MD 20759

BUILDING PERMIT # _____



ROBERT H. VOGEL, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.2666
 FAX: 410.461.2669

DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: FEBRUARY 2017
 SCALE: AS SHOWN
 W.O. NO.: 14-24

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRES: 08-27-2018

1 SHEET OF 1

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS

LETTER OF TRANSMITTAL

Date: February 28, 2017
To: Howard County Health Department
Attn: Mr. Robert Freeman
cc:
Subject: Fulton Manor Valley – Lot 9

Project Number: 14-24.00

ATTACHED:

# Copies	Description
3	Onsite Sewage Disposal System Design Plan

Remarks:



Transmitted by: _____

Received by: _____



8407 Main Street
Ellicott City, Maryland 21043
Tel 410.461.7666 • Fax 410.461.8961

Freemon, Robert

From: Jeremiah Reynolds <jreynolds@vogeleng.com>
Sent: Thursday, March 02, 2017 5:16 PM
To: Freemon, Robert; 'Rob Vogel'
Subject: RE: 12159 Fulton Estates

Robert,

Could you revise the plan to specify the WE03M please? Let us know if that will be a problem.

Thanks,

Jeremiah Reynolds
Cad Drafter
Robert H. Vogel Engineering, Inc.
8407 Main Street
Ellicott City, MD 21043
Phone: 410-461-7666
Fax: 410-461-8961
Email: jreynolds@vogeleng.com
www.vogeleng.com

From: Freemon, Robert [<mailto:rfeemon@howardcountymd.gov>]
Sent: Thursday, March 02, 2017 11:43 AM
To: 'Rob Vogel'
Cc: Jeremiah Reynolds
Subject: 12159 Fulton Estates

Rob,

I received the new plan with the revised pump chart however the pump chosen (WEO5H) was not corrected. Pump WEO3L or WE03M would be more appropriate. You can either send new revised copies, redline line it yourself at the Health Dept. or I can redline it for you to the pump of your choosing. Let me know what you want to do.

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfeemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

Freemon, Robert

From: Freemon, Robert
Sent: Tuesday, February 28, 2017 11:59 AM
To: 'Rob Vogel'
Subject: RE: 12159 Fulton Estates Court

Hey Rob,

I received the OSDS plan for 12159 Fulton Estates and noticed an error that needs to be corrected. On the pump curve 15 meters of total head is selected instead of the 15 feet as calculated which is making the pump stronger than it needs to be. You can either send me revised plans or if you wish to come to our office and redline the plan that would be fine as well. Let me know if you have any questions and what you decide. Thanks.

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

From: Freemon, Robert
Sent: Friday, December 30, 2016 1:17 PM
To: 'Rob Vogel'
Subject: 12159 Fulton Estates Court

Here are my comments for Fulton Estates Lot 9. (see attachment)

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS

LETTER OF TRANSMITTAL

Date: February 21, 2017
To: Howard County Health Department
Attn:
cc:
Subject: Fulton Manor Valley *LOT 9*
Project Number:

ATTACHED:

# Copies	Description
● 3	Onsite sewage disposal system design plan

Remarks:

Megan

Transmitted by:

Received by:

Oswald, Hank

From: Oswald, Hank
Sent: Monday, February 06, 2017 9:13 AM
To: Rob Vogel (rvogel@vogeleng.com)
Subject: 12159 Fulton Estate Drive
Attachments: 12159 Fulton Estates Drive_Memo 12.30.16.pdf

Hi Rob:

Good morning. I received a building permit for an in-ground propane tank for 12159 Fulton Estates Drive but I cannot process w/o an approved OSDS (septic) plan. Would you have someone revise the septic plan per my coworkers comments (see attached memo dated 12/30/17) and send it in as soon as you can.

Thanks in advance,

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)



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

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

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

MEMORANDUM

TO: Robert H. Vogel
Engineering, INC.
8407 Main Street
Ellicott City, MD 20759

FROM: Robert Freemon *RF*
Well & Septic Program

RE: 12159 Fulton Estates Court
Fulton, MD 20759
"OSDS Plan"

DATE: 12/30/16

I have reviewed the OSDS for Fulton Manor Valley- Lot 9 and here are my comments.

- Pump tank design calculations must be shown on the plan along with the pump model chosen.
- The cross section of the pump tank is not acceptable. Fitting details used in the pump tank calculations need to be shown in the cross section along with a weep hole for effluent back flow.
- The pump curve chart is unacceptable. Chart details such as model numbers need to be legible.

- Received by Rob Vogel

- End of January ²⁰¹⁷ spoke with Rob over phone and was told new plans would be sent. 2/2/2017 still have not received plans.

Freemon, Robert

From: Rob Vogel <rvogel@vogeleng.com>
Sent: Friday, December 30, 2016 3:23 PM
To: Freemon, Robert
Subject: RE: 12159 Fulton Estates Court

Thanks.

Robert H. Vogel, P.E., M.ASCE

Robert H. Vogel Engineering, Inc.
8407 Main Street
Ellicott City, Maryland 21043
Phone: 410-461-7666
FAX: 410-461-8961
www.vogeleng.com

From: Freemon, Robert [<mailto:rfreemon@howardcountymd.gov>]
Sent: Friday, December 30, 2016 1:17 PM
To: Rob Vogel
Subject: 12159 Fulton Estates Court

Here are my comments for Fulton Estates Lot 9. (see attachment)

Robert Freemon
Howard County Health Department
8930 Stanford Blvd. Columbia, MD 21045
Well and Septic Program
Bureau of Environmental Health
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov
<https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic>

Oswald, Hank

From: Oswald, Hank
Sent: Tuesday, June 28, 2016 1:58 PM
To: 'Charles Wimmer'
Subject: RE: 12159 Fulton Estates Court _Floor Plans and BAT Plan
Attachments: Basement bedroom memo_12159 Fulton Estates Court.pdf

Hi Charles:

Per our telephone conversation today regarding the unfinished portion of the basement, please see attached potential basement bedroom memo. Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

From: Charles Wimmer [<mailto:cwimmer@douglashomesinc.com>]
Sent: Tuesday, June 28, 2016 8:30 AM
To: Oswald, Hank
Subject: Re: 12159 Fulton Estates Court _Floor Plans and BAT Plan

Hank any word on this ? 12159 Fulton Estates Court in Fulton

Thanks,
Charles Wimmer
Douglas Homes
410-660-9305

On Fri, Apr 22, 2016 at 12:06 PM, Oswald, Hank <hoswald@howardcountymd.gov> wrote:

Hi Charles:

This office is in receipt of a building permit for SFD located at 12159 Fulton Estates Court in Fulton. Please forward a copy of the BAT Plan and floor plans to this office at your earliest convenience.

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)



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

Facebook: www.facebook.com/hocohealth

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

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

MEMORANDUM

TO: **Charles Wimmer**
Douglas Homes

FROM: **Hank Oswald**
Well & Septic Program

RE: **12159 Fulton Estates Court**
Potential Basement Bedroom

DATE:

I have reviewed the floor plans in support of Building Permit **B16001562** for a new home at 12159 Fulton Estates Court and noted that there is a rough-in for a full bathroom in the unfinished basement. Please note that this makes it very likely for one or more rooms to be considered bedrooms upon conversion of the basement to finished living space.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

- (1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned are of a dwelling unit or accessory structure that:
 - (i) Is 90 square feet or greater in size;
 - (ii) May be used as a private sleeping area; and
 - (iii) Has at least one window and one interior door.
- (2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and
 - (i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;
 - (ii) A minimum 4 foot-wide opening, without doors, into another room;
 - (iii) A half wall (4 foot maximum height) between the room and another room; or
 - (iv) The room is a first floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.

The Health Department strongly recommends sizing the onsite sewage disposal system at least one bedroom larger than the existing 5 bedroom design to accommodate a future finished basement. If you choose to only size for the existing design, any future building permit for a finished basement may be placed on hold until the system is upgraded to accommodate the proposed number of bedrooms. This memo will be retained in the Health Department file for future reference.

Williams, Jeffrey

From: Williams, Jeffrey
Sent: Tuesday, June 28, 2016 3:10 PM
To: 'ladyvee2@comcast.net'
Subject: 12159 Fulton Estates Ct

I reviewed our file and coincidentally we signed off on the permit and the sewage design plan today. We made comments back in April that we needed floor plans and a sewage design plan. We got finalization on the floor plans just today. There was a discrepancy on the basement area and potential bedrooms. We also needed revisions to the sewage design plan that were not finalized until yesterday.

Please note that the current floorplan is for 5 bedrooms, but there is the potential for an additional bedroom in the unfinished portion of the basement. The builder chose not to size the system for 6 bedrooms, therefore any future building permit to finish the basement may require an upgrade to the system or a revision to the floorplans to keep the bedroom count at 5 or less at that time. Let me know if there are any questions.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov

CONFIDENTIALITY NOTICE

This message and the accompanying documents are intended only for the use of the individual or entity to which they are addressed and may contain information that is privileged, confidential, or exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, you are hereby notified that you are strictly prohibited from reading, disseminating, distributing, or copying this communication. If you have received this email in error, please notify the sender immediately and destroy the original transmission.

Oswald, Hank

From: Charles Wimmer <cwimmer@douglashomesinc.com>
Sent: Monday, June 13, 2016 4:43 PM
To: Oswald, Hank
Subject: Re: FW: Plans

See below

Thanks,
Charles Wimmer
Douglas Homes
410-660-9305

On Mon, Jun 13, 2016 at 4:16 PM, Oswald, Hank <hoswald@howardcountymd.gov> wrote:

Charles:

I don't think you responded to this email. When you have a minute, please respond to the questions below.

Thanks,

Hank

From: Oswald, Hank
Sent: Wednesday, April 27, 2016 9:01 AM
To: 'Charles Wimmer'
Subject: RE: Plans

Charles:

Lot 7 - FP called "The Ashdale" shows 4 bedrooms with an optional 5th bedroom on the 2nd floor. Does 5th room on the 2nd floor exist? 1st floor shows an optional full bathroom. Does the full bathroom exist on the 1st floor? Is the basement finished and is there a window in the optional "Den"?

*Yes there is a fifth Bedroom, Half bath on 1st floor ,and there is no window in the den

Lot 9 – FP called “The Homewood” shows 4 bedrooms on the 2nd floor, 1 bedroom on the 1st floor and potentially one bedroom in the basement.

Correct with the exception of Bedroom in the basement

Hank

From: Charles Wimmer [<mailto:cwimmer@douglashomesinc.com>]

Sent: Tuesday, April 26, 2016 3:33 PM

To: Oswald, Hank

Subject: Plans

Hank I dropped off the House plans this afternoon let me know what you think

Thanks,

Charles Wimmer

Douglas Homes

[410-660-9305](tel:410-660-9305)

Oswald, Hank

From: Oswald, Hank
Sent: Wednesday, April 27, 2016 9:01 AM
To: 'Charles Wimmer'
Subject: RE: Plans

Charles:

Lot 7 - FP called "The Ashdale" shows 4 bedrooms with an optional 5th bedroom on the 2nd floor. Does 5th room on the 2nd floor exist? 1st floor shows an optional full bathroom. Does the full bathroom exist on the 1st floor? Is the basement finished and is there a window in the optional "Den"?

Lot 9 – FP called "The Homewood" shows 4 bedrooms on the 2nd floor, 1 bedroom on the 1st floor and potentially one bedroom in the basement.

Hank

From: Charles Wimmer [<mailto:cwimmer@douglashomesinc.com>]
Sent: Tuesday, April 26, 2016 3:33 PM
To: Oswald, Hank
Subject: Plans

Hank I dropped off the House plans this afternoon let me know what you think

Thanks,
Charles Wimmer
Douglas Homes
410-660-9305

Oswald, Hank

From: Oswald, Hank
Sent: Friday, April 22, 2016 12:06 PM
To: CWIMMER@DOUGLASHOMESINC.COM
Subject: 12159 Fulton Estates Court _Floor Plans and BAT Plan

Hi Charles:

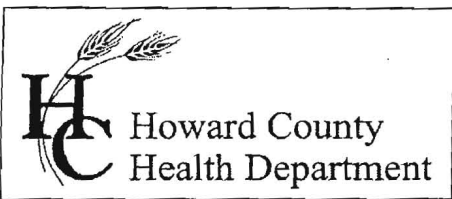
This office is in receipt of a building permit for SFD located at 12159 Fulton Estates Court in Fulton. Please forward a copy of the BAT Plan and floor plans to this office at your earliest convenience.

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)



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 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: _____ **ONSITE SEWAGE DISPOSAL SYSTEM** P _____

APPROVAL DATE: _____ **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 12159 Fulton Estates Ct

SUBDIVISION: Fulton Manor LOT: 9 TAX ID: _____

CONTRACTOR: _____ EMAIL: _____

CONTRACTOR ADDRESS: _____ PHONE: _____

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Collie LLC EMAIL: _____

OWNER ADDRESS: 5300 Dorsey Hall Dr. PHONE: 443-367-0422

BAT UNIT MODEL: TNTP 500 PUMP SIZE: 1/2 HP PUMP TANK CAPACITY: 750 gal

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: _____ DATE RECORDED: _____

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>156'</u>	INLET DEPTH: <u>2.5'</u>
	TRENCH WIDTH: <u>2'</u>	MAXIMUM BOTTOM DEPTH: <u>5'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10'</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2.5</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:		

ISSUED BY: Hary Oswala ISSUE DATE: _____ EXPIRATION DATE: _____

- 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
 ELECTRICAL PERMIT ISSUED E _____
- 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.**

Switch from
BAT to
Regular Septic
Tank

FUTURE MAJOR VALVES / LOT #9

MARCH 2016

$TDH = H_{HEAD} + H_{STATIC}$

• FRICTION

				90
+ 45°	5	1-1/4"	5 (4) =	20
+ 90°	1	1-1/4"	1 (7)	7
				117' EQUIVALENT

$3.98/100 (117) = 4.65'$

• STATIC $439.85 - 426.04 = 13.81$

$TDH = 18.47'$

FOR 50 GPM USE 1/2 HP PUMP

PUMP

Oswald, Hank

From: Jeremiah Reynolds <jreynolds@vogeleng.com>
Sent: Monday, June 27, 2016 3:19 PM
To: Oswald, Hank
Cc: Charles Wimmer; Rob Vogel
Subject: Fulton Manor Valley Lot 9 TDH Computations
Attachments: LOT 9 TDH COMPS.pdf

Hank,

Attached are the computations that you asked for concerning the Fulton Manor Valley lot 9 BAT plan. I am pretty sure the pump specs were shown on the plan under the detail. They are however pretty small. They are also on the attached sheet. Let me know if you need anything else.

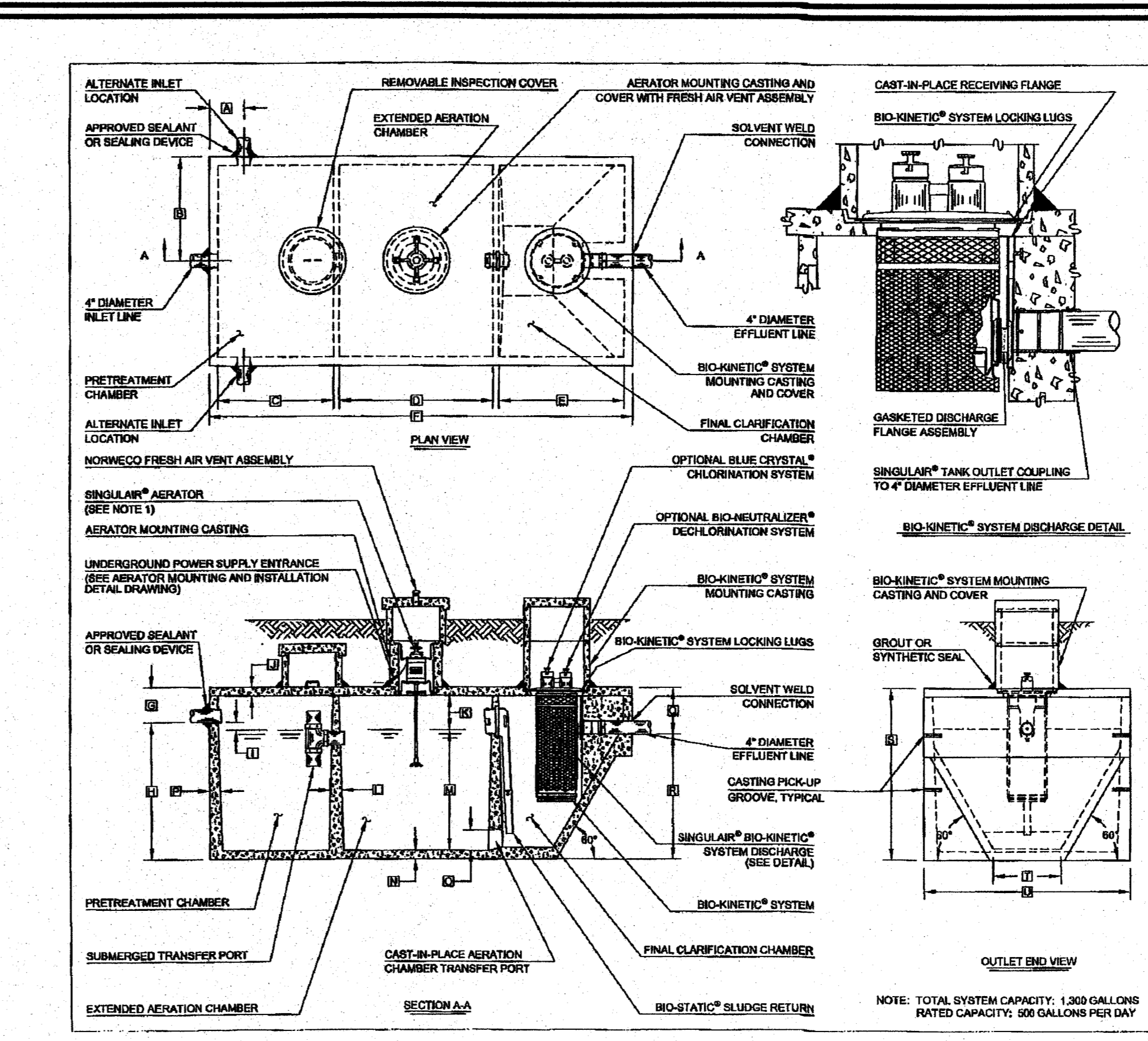
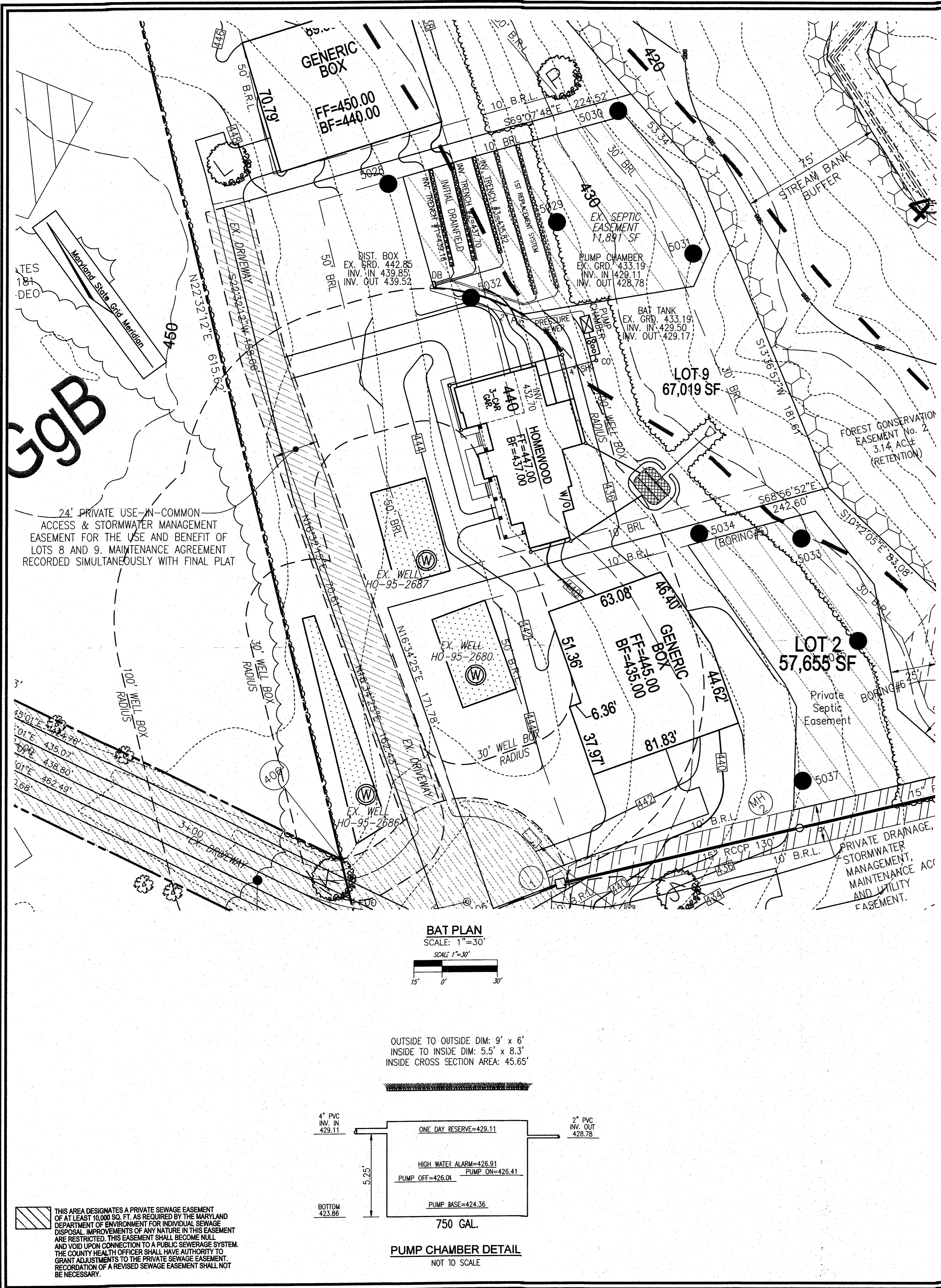
Thanks,

Jeremiah Reynolds
Cad Drafter



Email: jreynolds@vogeleng.com

www.vogeleng.com



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 THREE INCHES BELOW FINISH TOP.
- ON DISPERA INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTINGS 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.

PROJECT ENGINEER'S APPROVAL:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

CONTRACTOR'S CERTIFICATION:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

CRITICAL DIMENSIONS

1	1'-0"	1'-0"
2	2'-0"	2'-0"
3	3'-0"	3'-0"
4	4'-0"	4'-0"
5	5'-0"	5'-0"
6	6'-0"	6'-0"
7	7'-0"	7'-0"
8	8'-0"	8'-0"
9	9'-0"	9'-0"
10	10'-0"	10'-0"
11	11'-0"	11'-0"
12	12'-0"	12'-0"
13	13'-0"	13'-0"
14	14'-0"	14'-0"
15	15'-0"	15'-0"
16	16'-0"	16'-0"
17	17'-0"	17'-0"
18	18'-0"	18'-0"
19	19'-0"	19'-0"
20	20'-0"	20'-0"

VICINITY MAP
SCALE: 1"=2,000'

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- SOILS
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WELL
- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED SPOT ELEVATION
- FAILED PERC. TEST
- PASSED PERC. TEST
- PROP. REPLACEMENT WELL
- EXISTING WELL FIELD LOCATED
- APPROVED SEPTIC AREA

GENERAL NOTES:

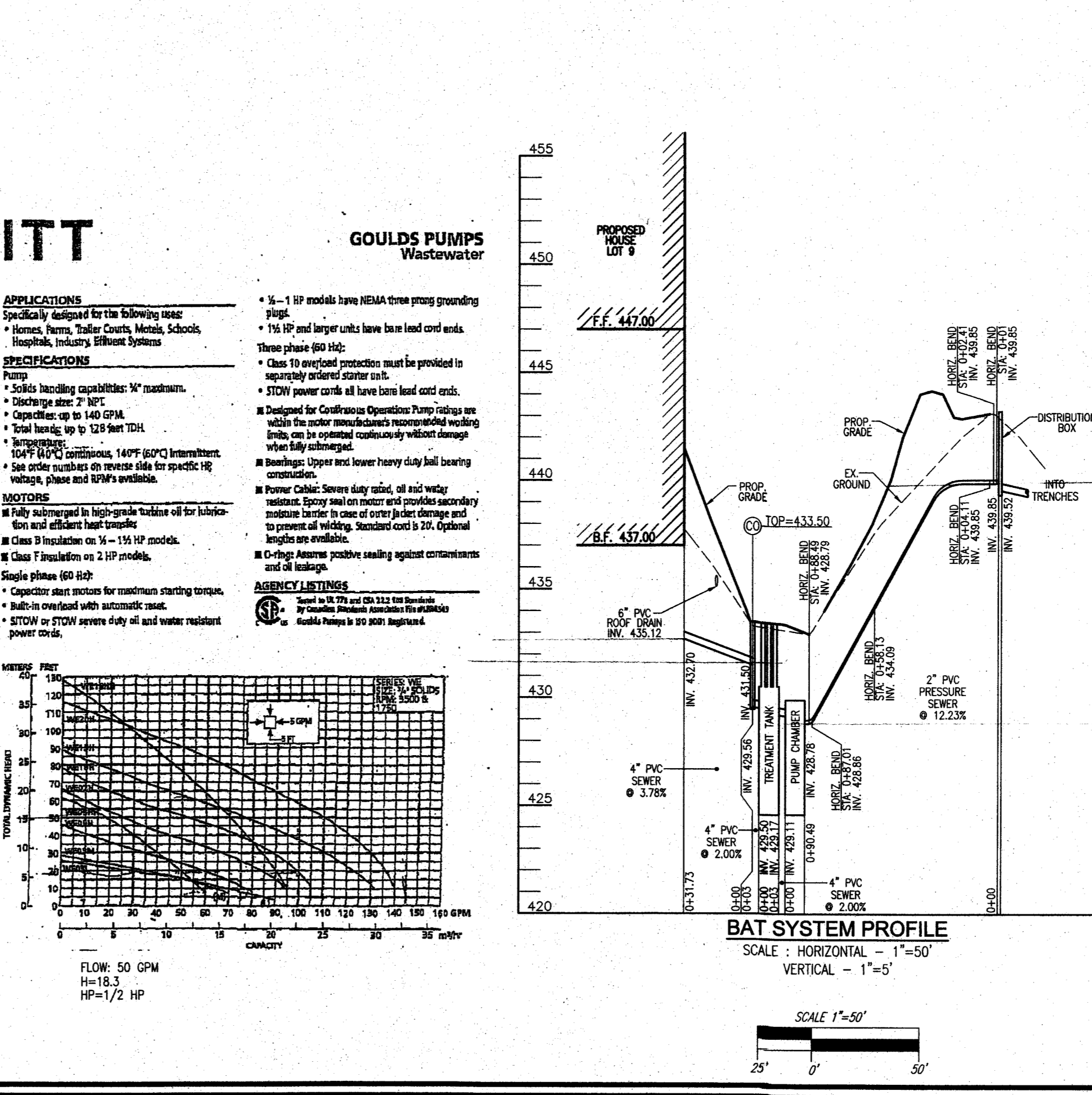
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET.
- NO BLOWER IS REQUIRED. THE NORWECO WASTEWATER TREATMENT SYSTEM HAS AN AERATOR MOUNTED IN THE TANK.
- 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 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.

Approved Septic System Plan
Howard County Health Department
Hank Oswald 6/23/16
Signature Date

TRENCH INFO.

TRENCH LENGTH	TRENCH WIDTH	EXISTING GROUND	EXISTING TRENCH
1	52"	436.16	436.66
2	52"	437.70	435.20
3	52"	435.82	433.32

INITIAL SYSTEM AND 1ST REPLACEMENT TRENCH DETAIL
NOT TO SCALE



SYSTEM CALCULATIONS:

INITIAL SYSTEM AND FIRST REPLACEMENT SYSTEM:
5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
625 SQ. FT. / 2 (TRENCH WIDTH) x 50 (SIDENALL REDUCTION) = 156 LINEAR FEET
156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
(3 TRENCHES OF 52 FEET IN LENGTH)

FIRST REPLACEMENT SYSTEM:
156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
(2 TRENCHES OF 78 FEET IN LENGTH)

OWNER
COLLIE, LLC.
5300 DORSEY HALL DR., SUITE 102
ELLCOTT CITY, MARYLAND 21042
ATTN: MR. DONALD R. REUBER, JR.
443-367-0422

BUILDER
DOUGLAS HOMES, INC.
5034 DORSEY HALL DR., SUITE 102
ELLCOTT CITY, MARYLAND 21042
410-984-4234

SITE PLAN FOR BAT INSTALLATION

FULTON MANOR VALLEY - LOT 9
12159 FULTON ESTATES COURT
FULTON, MD 20759

BUILDING PERMIT #

TAX MAP: 41 GRID: 19
5TH ELECTION DISTRICT

PARCELS: 78 & 456
ZONED: RES-20
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.451.7666
FAX: 410.451.1961

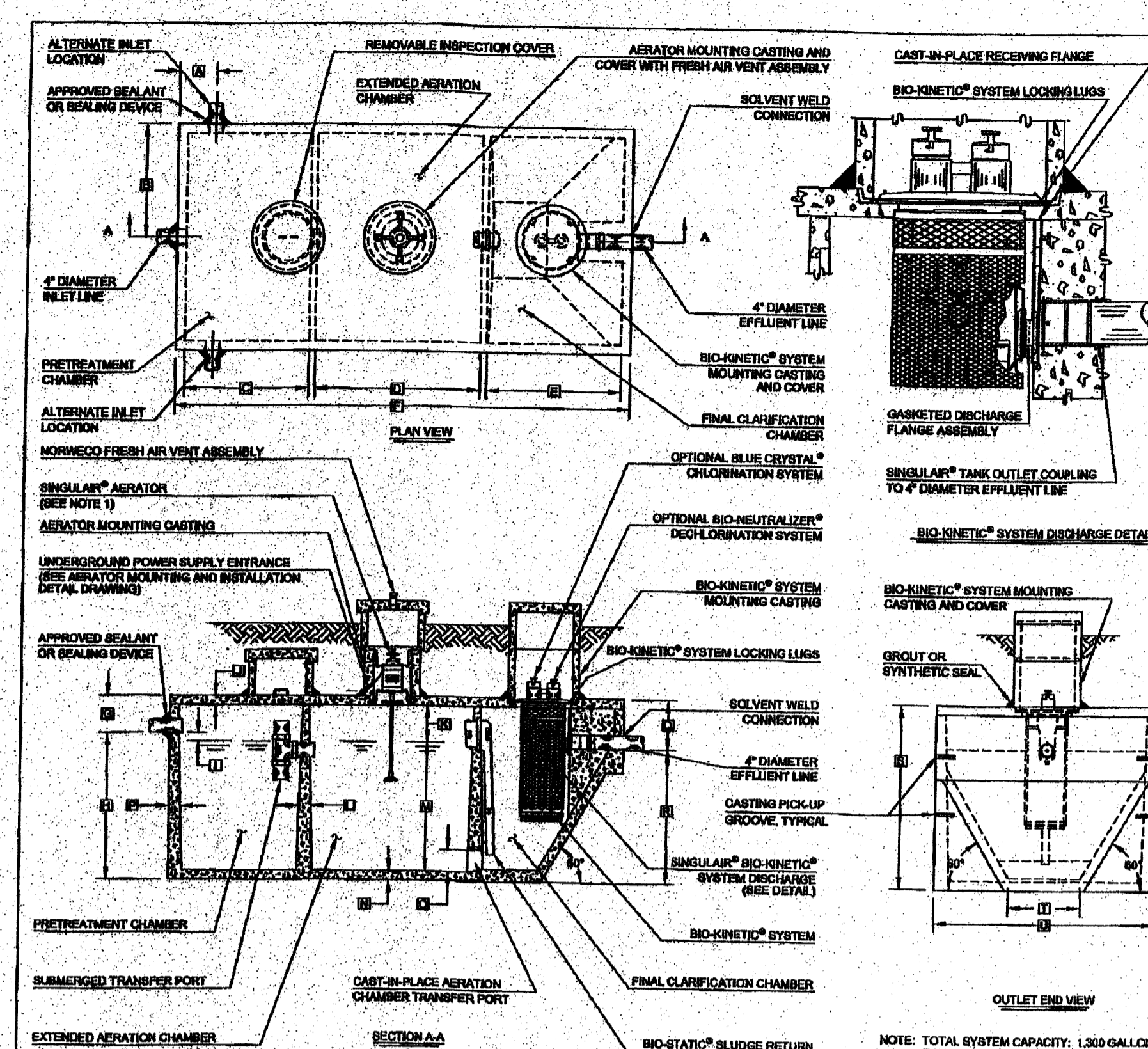
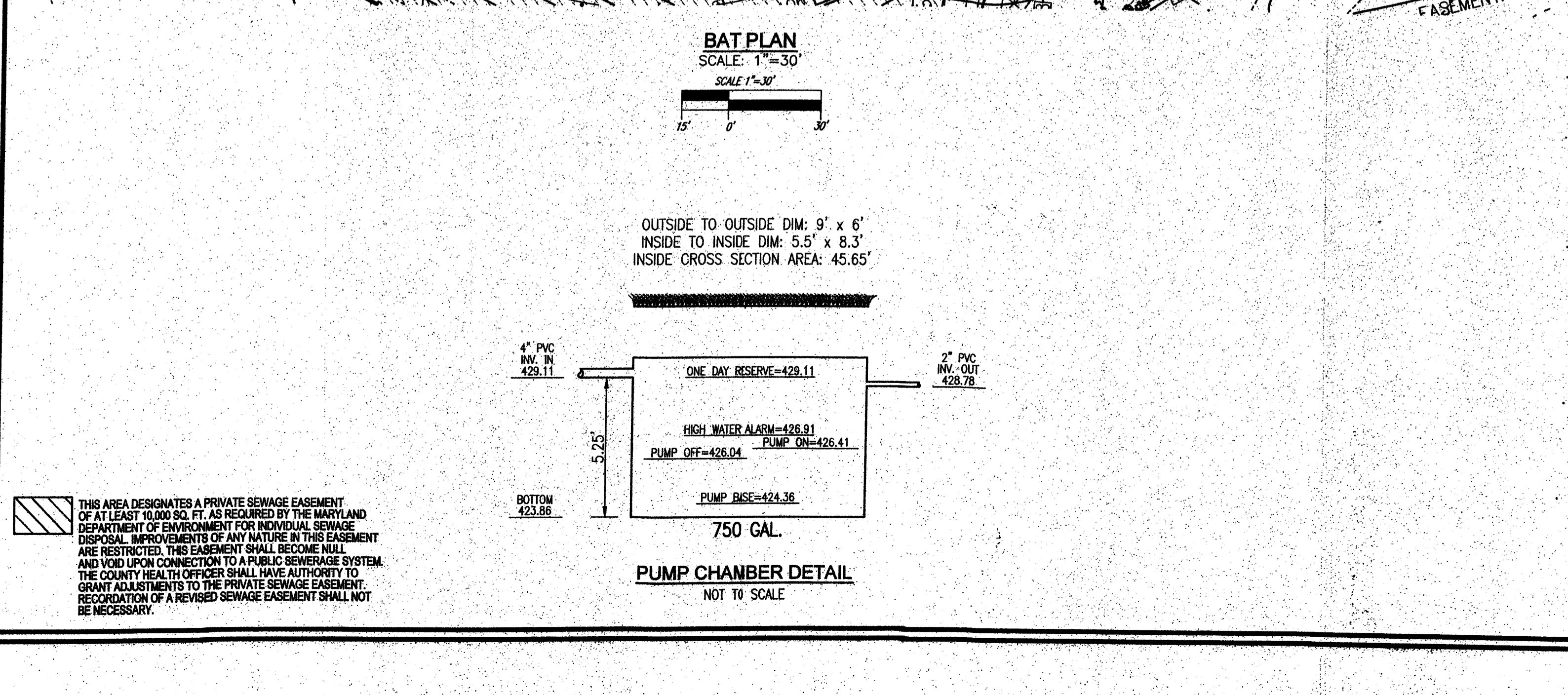
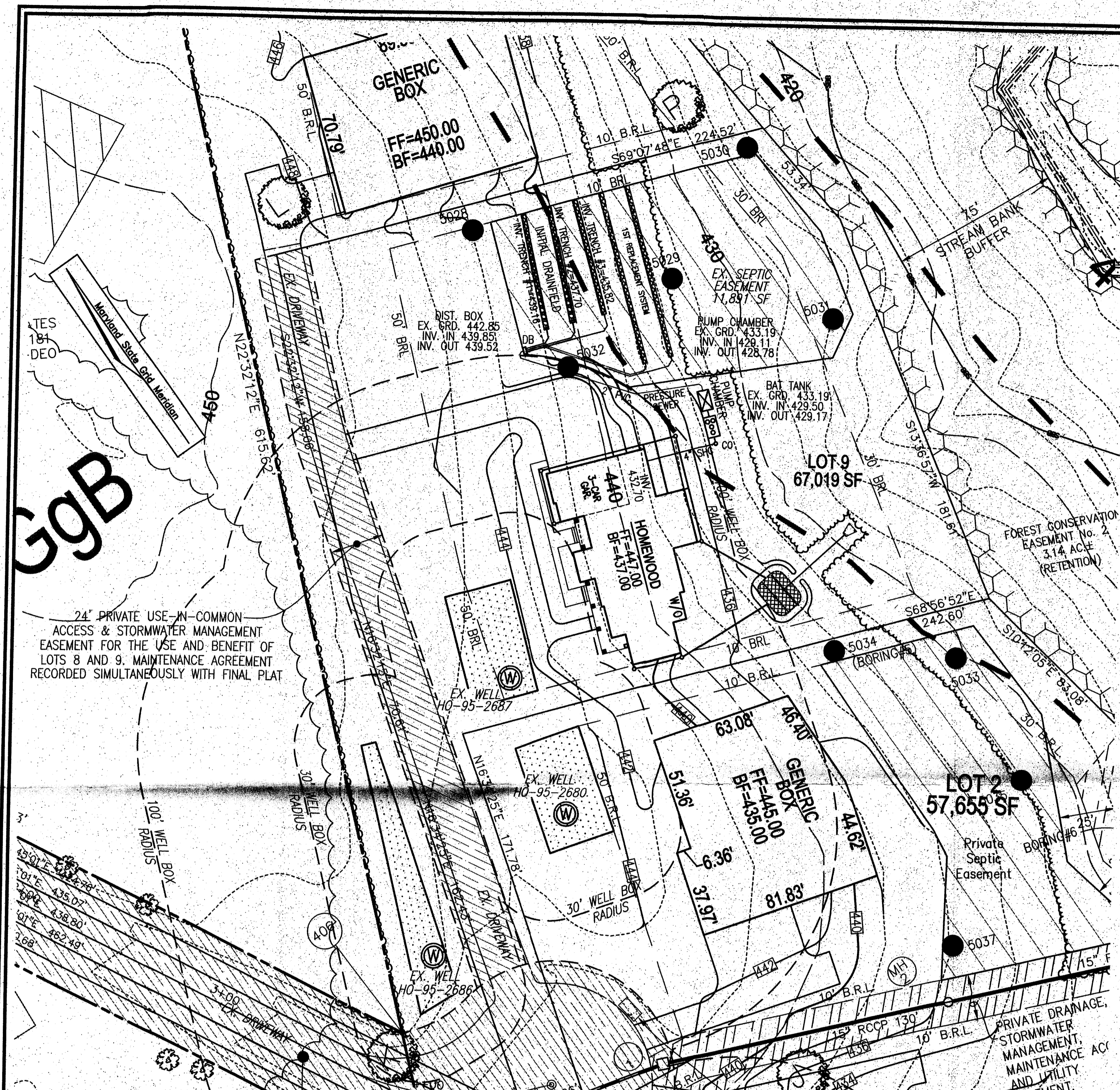
PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: MARCH 2016.
SCALE: AS SHOWN
W.O. NO.: 14-24

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16163, EXPIRATION DATE: 08-27-2016.

1 SHEET OF 1

6/14/16



GENERAL NOTES:

- SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY HCP, OPERATING 80 MINUTES ON / 40 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 FRESH AIR PER ACI STD. 318-88.
- REMOVABLE COVER ON PRESSURE RISER IN EXCESS OF SEVENTY-FIVE FEET EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.
DATE: _____

CONTRACTOR'S CERTIFICATION:
I HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.
DATE: _____

CRITICAL DIMENSIONS:

DESCRIPTION	MIN.	TYP.	MAX.
1. 1/2" DIA. TYPICAL	1.500	1.500	1.500
2. 1/2" DIA. TYPICAL	1.500	1.500	1.500
3. 1/2" DIA. TYPICAL	1.500	1.500	1.500
4. 1/2" DIA. TYPICAL	1.500	1.500	1.500
5. 1/2" DIA. TYPICAL	1.500	1.500	1.500
6. 1/2" DIA. TYPICAL	1.500	1.500	1.500
7. 1/2" DIA. TYPICAL	1.500	1.500	1.500
8. 1/2" DIA. TYPICAL	1.500	1.500	1.500
9. 1/2" DIA. TYPICAL	1.500	1.500	1.500
10. 1/2" DIA. TYPICAL	1.500	1.500	1.500
11. 1/2" DIA. TYPICAL	1.500	1.500	1.500
12. 1/2" DIA. TYPICAL	1.500	1.500	1.500
13. 1/2" DIA. TYPICAL	1.500	1.500	1.500
14. 1/2" DIA. TYPICAL	1.500	1.500	1.500
15. 1/2" DIA. TYPICAL	1.500	1.500	1.500
16. 1/2" DIA. TYPICAL	1.500	1.500	1.500
17. 1/2" DIA. TYPICAL	1.500	1.500	1.500
18. 1/2" DIA. TYPICAL	1.500	1.500	1.500
19. 1/2" DIA. TYPICAL	1.500	1.500	1.500
20. 1/2" DIA. TYPICAL	1.500	1.500	1.500
21. 1/2" DIA. TYPICAL	1.500	1.500	1.500
22. 1/2" DIA. TYPICAL	1.500	1.500	1.500
23. 1/2" DIA. TYPICAL	1.500	1.500	1.500
24. 1/2" DIA. TYPICAL	1.500	1.500	1.500
25. 1/2" DIA. TYPICAL	1.500	1.500	1.500
26. 1/2" DIA. TYPICAL	1.500	1.500	1.500
27. 1/2" DIA. TYPICAL	1.500	1.500	1.500
28. 1/2" DIA. TYPICAL	1.500	1.500	1.500
29. 1/2" DIA. TYPICAL	1.500	1.500	1.500
30. 1/2" DIA. TYPICAL	1.500	1.500	1.500
31. 1/2" DIA. TYPICAL	1.500	1.500	1.500
32. 1/2" DIA. TYPICAL	1.500	1.500	1.500
33. 1/2" DIA. TYPICAL	1.500	1.500	1.500
34. 1/2" DIA. TYPICAL	1.500	1.500	1.500
35. 1/2" DIA. TYPICAL	1.500	1.500	1.500
36. 1/2" DIA. TYPICAL	1.500	1.500	1.500
37. 1/2" DIA. TYPICAL	1.500	1.500	1.500
38. 1/2" DIA. TYPICAL	1.500	1.500	1.500
39. 1/2" DIA. TYPICAL	1.500	1.500	1.500
40. 1/2" DIA. TYPICAL	1.500	1.500	1.500
41. 1/2" DIA. TYPICAL	1.500	1.500	1.500
42. 1/2" DIA. TYPICAL	1.500	1.500	1.500
43. 1/2" DIA. TYPICAL	1.500	1.500	1.500
44. 1/2" DIA. TYPICAL	1.500	1.500	1.500
45. 1/2" DIA. TYPICAL	1.500	1.500	1.500
46. 1/2" DIA. TYPICAL	1.500	1.500	1.500
47. 1/2" DIA. TYPICAL	1.500	1.500	1.500
48. 1/2" DIA. TYPICAL	1.500	1.500	1.500
49. 1/2" DIA. TYPICAL	1.500	1.500	1.500
50. 1/2" DIA. TYPICAL	1.500	1.500	1.500
51. 1/2" DIA. TYPICAL	1.500	1.500	1.500
52. 1/2" DIA. TYPICAL	1.500	1.500	1.500
53. 1/2" DIA. TYPICAL	1.500	1.500	1.500
54. 1/2" DIA. TYPICAL	1.500	1.500	1.500
55. 1/2" DIA. TYPICAL	1.500	1.500	1.500
56. 1/2" DIA. TYPICAL	1.500	1.500	1.500
57. 1/2" DIA. TYPICAL	1.500	1.500	1.500
58. 1/2" DIA. TYPICAL	1.500	1.500	1.500
59. 1/2" DIA. TYPICAL	1.500	1.500	1.500
60. 1/2" DIA. TYPICAL	1.500	1.500	1.500
61. 1/2" DIA. TYPICAL	1.500	1.500	1.500
62. 1/2" DIA. TYPICAL	1.500	1.500	1.500
63. 1/2" DIA. TYPICAL	1.500	1.500	1.500
64. 1/2" DIA. TYPICAL	1.500	1.500	1.500
65. 1/2" DIA. TYPICAL	1.500	1.500	1.500
66. 1/2" DIA. TYPICAL	1.500	1.500	1.500
67. 1/2" DIA. TYPICAL	1.500	1.500	1.500
68. 1/2" DIA. TYPICAL	1.500	1.500	1.500
69. 1/2" DIA. TYPICAL	1.500	1.500	1.500
70. 1/2" DIA. TYPICAL	1.500	1.500	1.500
71. 1/2" DIA. TYPICAL	1.500	1.500	1.500
72. 1/2" DIA. TYPICAL	1.500	1.500	1.500
73. 1/2" DIA. TYPICAL	1.500	1.500	1.500
74. 1/2" DIA. TYPICAL	1.500	1.500	1.500
75. 1/2" DIA. TYPICAL	1.500	1.500	1.500
76. 1/2" DIA. TYPICAL	1.500	1.500	1.500
77. 1/2" DIA. TYPICAL	1.500	1.500	1.500
78. 1/2" DIA. TYPICAL	1.500	1.500	1.500
79. 1/2" DIA. TYPICAL	1.500	1.500	1.500
80. 1/2" DIA. TYPICAL	1.500	1.500	1.500
81. 1/2" DIA. TYPICAL	1.500	1.500	1.500
82. 1/2" DIA. TYPICAL	1.500	1.500	1.500
83. 1/2" DIA. TYPICAL	1.500	1.500	1.500
84. 1/2" DIA. TYPICAL	1.500	1.500	1.500
85. 1/2" DIA. TYPICAL	1.500	1.500	1.500
86. 1/2" DIA. TYPICAL	1.500	1.500	1.500
87. 1/2" DIA. TYPICAL	1.500	1.500	1.500
88. 1/2" DIA. TYPICAL	1.500	1.500	1.500
89. 1/2" DIA. TYPICAL	1.500	1.500	1.500
90. 1/2" DIA. TYPICAL	1.500	1.500	1.500
91. 1/2" DIA. TYPICAL	1.500	1.500	1.500
92. 1/2" DIA. TYPICAL	1.500	1.500	1.500
93. 1/2" DIA. TYPICAL	1.500	1.500	1.500
94. 1/2" DIA. TYPICAL	1.500	1.500	1.500
95. 1/2" DIA. TYPICAL	1.500	1.500	1.500
96. 1/2" DIA. TYPICAL	1.500	1.500	1.500
97. 1/2" DIA. TYPICAL	1.500	1.500	1.500
98. 1/2" DIA. TYPICAL	1.500	1.500	1.500
99. 1/2" DIA. TYPICAL	1.500	1.500	1.500
100. 1/2" DIA. TYPICAL	1.500	1.500	1.500

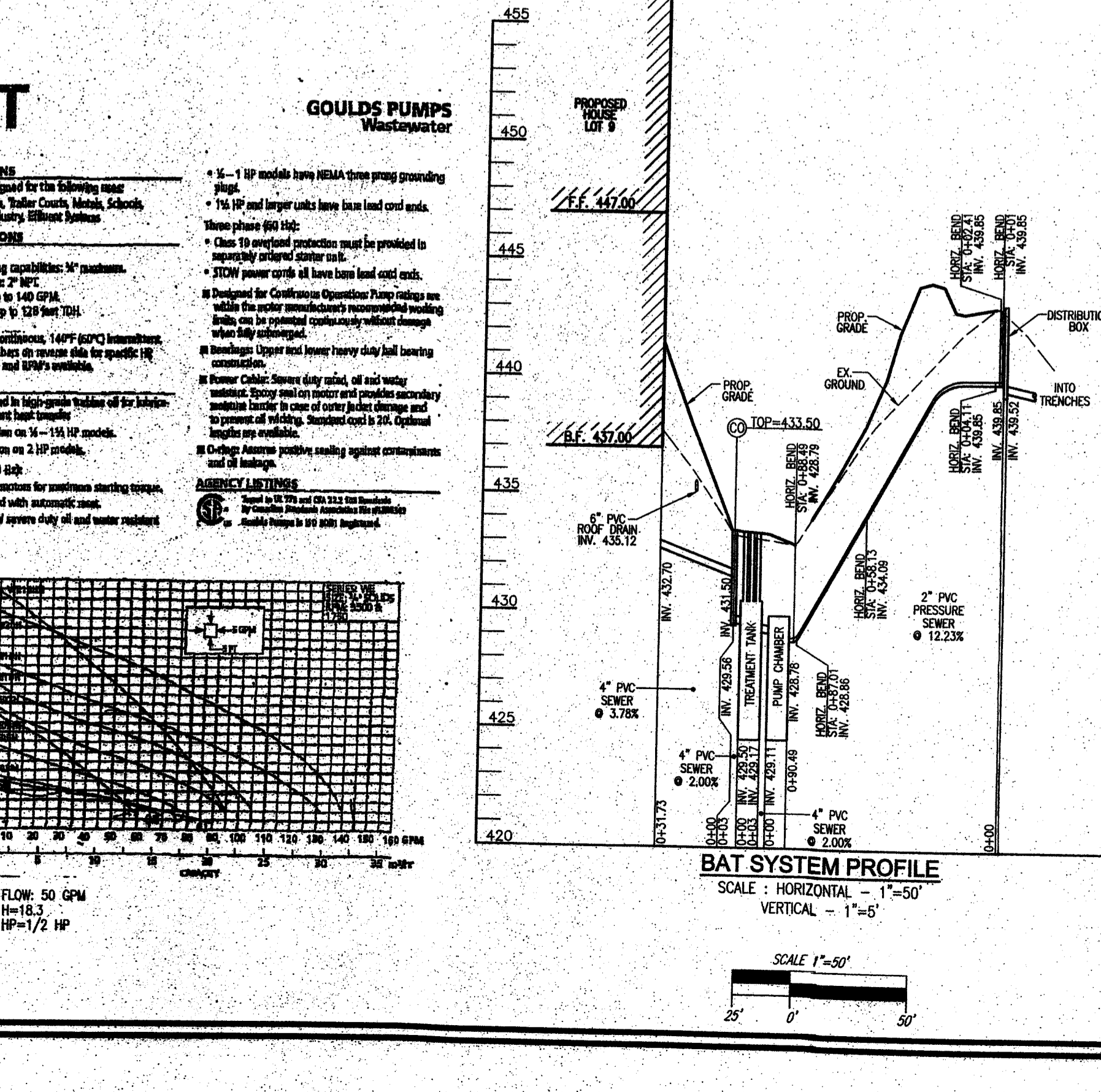
TRENCH INFO:

TRENCH	LENGTH	INT. BOTTOM OF TRENCH	EXISTING GROUND
1	52'	439.18	438.85
2	52'	437.70	435.20
3	52'	435.82	433.32

INITIAL SYSTEM AND 1ST REPLACEMENT TRENCH DETAIL
NOT TO SCALE

GENERAL 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 DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET.
- NO SLOWER IS REQUIRED. THE HORNECO WASTEWATER TREATMENT SYSTEM HAS AN AERATOR MOUNTED IN THE TANK.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A LICENSED SERVICE FRANCHISE.
- UPON THE COMPLETION 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 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.



Approved Septic System Plan
Howard County Health Department
Mark O'Connell
Signature Date

SYSTEM CALCULATIONS:
INITIAL SYSTEM AND FIRST REPLACEMENT SYSTEM:
5 BEDROOMS AT 750 GPD / 1/2 ABSORPTION RATE = 625 SQ. FT.
625 SQ. FT. / 2 (TRENCH WIDTH x 50 (SIDEWALL REDUCTION)) = 156 LINEAR FEET
156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
(3 TRENCHES OF 52 FEET IN LENGTH)
156 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
(2 TRENCHES OF 78 FEET IN LENGTH)

OWNER:
COLLE, LLC.
5300 DORSEY HALL DR., SUITE 102
ELICOTT CITY, MARYLAND 21042
ATTN: MR. DONALD R. REUMER, JR.
443-367-0422

BUILDER:
DOUGLAS HOMES, INC.
5034 DORSEY HALL DR., SUITE 102
ELICOTT CITY, MARYLAND 21042
410-984-4234

SITE PLAN FOR BAT INSTALLATION
FULTON MANOR VALLEY - LOT 9
12159 FULTON ESTATES COURT
FULTON, MD 20759

BUILDING PERMIT #

TAX MAP: 41 GRID: 19
5TH ELECTION DISTRICT

PARCELS: 78 & 456
ZONED: RR-DEO
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. MY LICENSE NUMBER IS 1187183. EXPIRATION DATE: 06-23-2018.

DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: MARCH 2016
SCALE: AS SHOWN
W.O. NO.: 14-24

1 SHEET OF 1

