

**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: 12/9/16      **ONSITE SEWAGE DISPOSAL SYSTEM**      P 559870  
 APPROVAL DATE: 01/12/2017      **PERMIT: CONSTRUCTION**      A \_\_\_\_\_  
 PROPERTY ADDRESS: 12403 All-Daughter's Lane  
 SUBDIVISION: Orchard Estates      LOT: 1      TAX ID: 05-451051  
 CONTRACTOR: Hatfield's Equipment      EMAIL: ken@hatfieldsequipment.com  
 CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701      PHONE: 301-490-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:     MDE     MANUFACTURER:

PROPERTY OWNER: MB Brown Bridge Court      EMAIL: \_\_\_\_\_  
 OWNER ADDRESS: 1686 E. Gude Drive      PHONE: \_\_\_\_\_

BAT UNIT MODEL: Babylon 2000Gal      PUMP SIZE: \_\_\_\_\_      PUMP TANK CAPACITY: \_\_\_\_\_

OPERATION & MAINTENANCE AGREEMENT    DATE SIGNED: \_\_\_\_\_      DATE RECORDED: \_\_\_\_\_

DISTRIBUTION SYSTEM:     GRAVITY     PRESSURE DOSED    BEDROOMS: 4      APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>156</u>	INLET DEPTH: <u>3</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</u>

LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

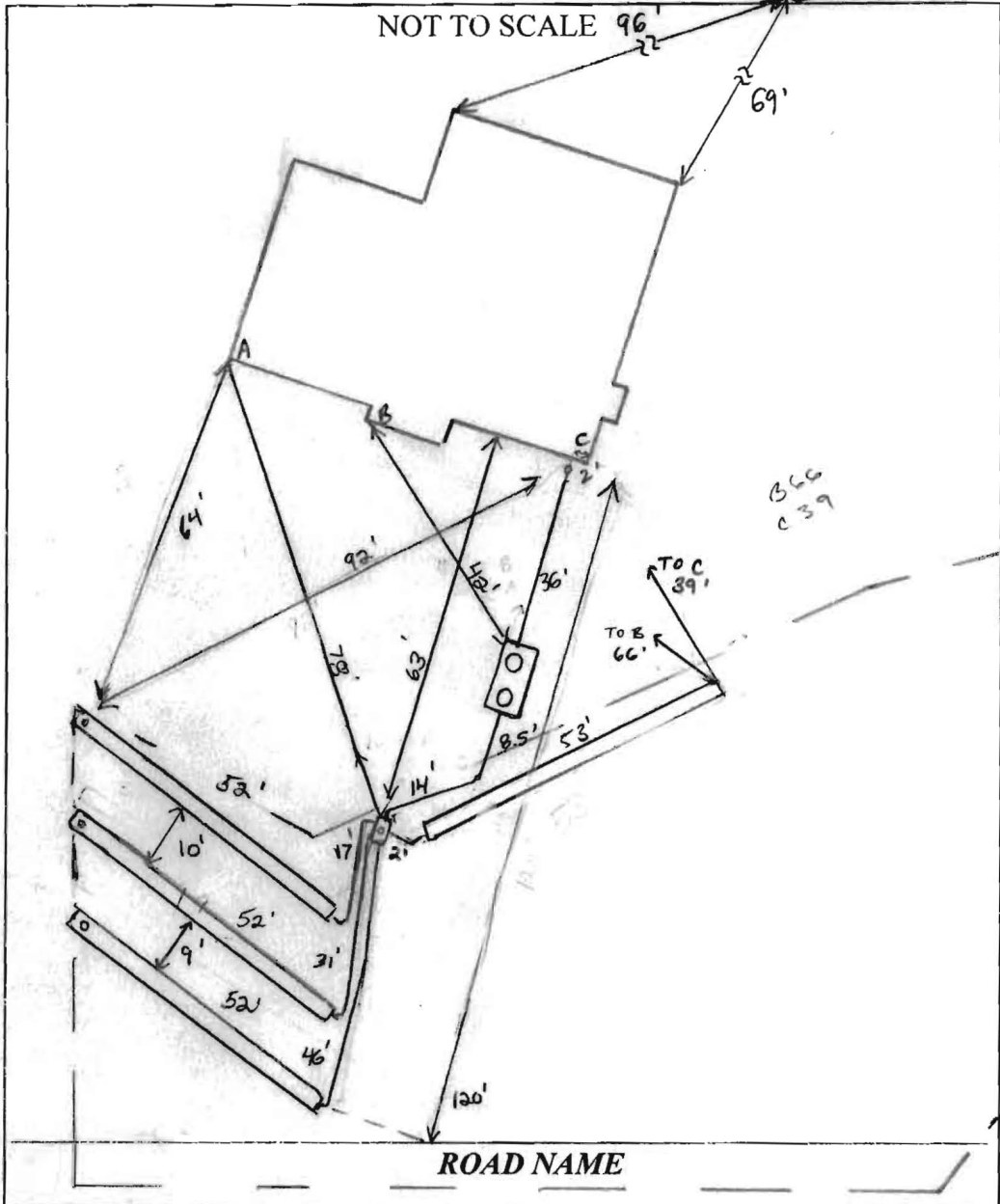
NOTES: *Due to limited soils per OH pros (see per note), Bottom area only was achieved on lowest trench. Additional trench to be installed west of Dbox along upper portion of SDA. Trench specs = 14.52', 3' wide, Inlet 8-8.5', Bottom 5-5.5'. (Knew)*

ISSUED BY: Dana Bernard      ISSUE DATE: 12/9/16      EXPIRATION DATE: 12/9/17

- 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.**

NOT TO SCALE 96'



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	8"	5'
NUMBER OF TRENCHES		4
TOTAL LENGTH		209
ABSORPTION AREA		627 sq ft
DISTRIBUTION BOX LEVEL		Leveler's
DISTRIBUTION BOX BAFFLE		Yes
DISTRIBUTION BOX PORT		Yes

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	2000 GAL
SEAM LOC	TOP
TANK LID DEPTH	6" - 1'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	11-1-16

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:

12/23/16 On site with Hatfield's for layout. All tank and SDA stakes present. Shot contour and laid out 3x53' trenches. (SC) 1/9/17 Met Hatfield's on site. Shot contour and laid out 1x52' trench on contour. Set 5' bottom depth at end of trench - start will be 4-5' deeper b/c of fill near D-box. (SC) 1/10/17 Reshot contour, laid out 1x52' trench on upper part of SDA - area is flat, keep trench in upper vs. lower SDA. (SC)

INSTALLATION:

12/27/16 House connection made. Tank + D-box installed. Hatfield's digging T3, 3' wide, 2.5' to stone. Using laser to check depths. Soil has high wage clay to 5'. (SC)  
 12/27/16 T3 complete + left open at ends, Hatfield's digging T2. Soil looks better, good soil starting around 3'. On site while Hatfield's finished T2. Layout + install 1x53' trench to E of existing trenches to make up for clay to 5' on T3. (SC)  
 12/28/16 Upper trench completed. Soil ok @ 3.5'. Will need another trench contour shot by contractor for possible trench location. OK to cover all work. Di 500 leveled. (KIP) (SC) 01/12/17 Measured radial trench. Inspect speed level. (P)

FINAL INSPECTOR JOSEPH CAATHUS DATE OF APPROVAL 01/12/2017

## Wolf, Kevin

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**From:** Wolf, Kevin  
**Sent:** Tuesday, January 03, 2017 4:46 PM  
**To:** 'Marc Quint'; Ralph Mobley (rmobley@mitchellbest.com)  
**Cc:** Cabahug, Joseph; Collins, Sarah  
**Subject:** RE: Orchard Estates Lot 1

Mark,

I was out there for the final trench install on 12/28. During the inspection, I noticed the soils we encountered on the lowest trench was a dense clayey soil in the upper 4.5'. The middle and upper trench showed improvement in the upper soil horizons at 3.5' to 5' which started to reflect the 2004 percolation tests. Given the trench spec's that was installed currently, this only gives us bottom area only on the lower trench and aprx. 2' of useable sidewall (effective reduction of linear feet) of trench. We need to make up at least 45' of trench (or another 52' trench to keep equal length trenches) keeping same spec's as installed (i.e. 3'wide, inlet 3 – 3.5', bottom 5-5.5'). We should be able to come off the distribution box and run 1x52' trench running west along the upper part of the SDA. Let me know if you have questions on this.

Kevin

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**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Tuesday, January 03, 2017 2:17 PM  
**To:** Wolf, Kevin  
**Cc:** Mike Smith; Ralph Mobley; Daniel Ellis  
**Subject:** Orchard Estates Lot 1

Kevin:

Just following up on a voicemail I left you on this lot. We understand from our septic contractor that when they installed the septic trenches on lot 1 the inspector (that may have ever been you but I'm not sure) thought there was too much clay in the trench and wanted to add 1 more trench to the system. We would like to get more detail as to what changes need to be made so I can have our Engineer Mike Tran at GLW work it through.

Thanks, Marc Quint  
Mitchell and Best (443) 691-4201  
[MQuint@mitchellbest.com](mailto:MQuint@mitchellbest.com)

Sent from my Verizon, Samsung Galaxy smartphone

## Bernard, Dana

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**From:** Bernard, Dana  
**Sent:** Monday, October 03, 2016 2:44 PM  
**To:** Marc Quint (mquint@mitchellbest.com)  
**Subject:** 12403 All Daughters Lane - B16003661

Marc, Per our conversation today in our office:

I have reviewed the floor plans in support of Building Permit B16003661 for a new home at 12403 All Daughters Lane. As you know this property has bedroom limitations of 4 bedrooms. There is a rough-in for a full bathroom in the unfinished basement and 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. However, you can add the following note to the proposed floor plans and to the BAT plan: *As this lot is limited with a **four** bedroom limitation, any future building permit for converting all or a portion of the basement into finished living space may be denied by the Health Department if the total number of proposed bedrooms in the dwelling exceeds **four**.* This note must be added and new floor plans and must be submitted to DILP. If you have any additional questions don't hesitate to send me an e-mail.

Thanks  
Dana Bernard

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**From:** Bernard, Dana  
**Sent:** Friday, September 30, 2016 11:13 AM  
**To:** 'Marc Quint'  
**Subject:** RE: 12403 All Daughters Lane - B16003661

Marc,

You must provide me with floor plans that show the exact number of bedrooms. Your plan clearly shows 5 bedrooms with and in-law suite. Your BAT plan only has calculation for 4 bedroom house. These plans must be submitted to DPZ so we can have them on record. The number of Bedrooms in the floor plans and the BAT plans must match. If you have any questions don't hesitate to shoot me an email.

Dana

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**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Friday, September 30, 2016 11:02 AM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane - B16003661

Hi Dana:

Just checking in to make sure there are not any other issues for this permit.

Thanks, Marc

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**From:** Marc Quint  
**Sent:** Tuesday, September 27, 2016 8:45 AM  
**To:** 'Bernard, Dana' <[dbernard@howardcountymd.gov](mailto:dbernard@howardcountymd.gov)>  
**Subject:** RE: 12403 All Daughters Lane - B16003661

No. There is no in-law suite, and we are not 4 building the optional attic bedroom. We can only do the 4 main bedrooms on this lot.

We are an Equal Opportunity Employer

DISPATCH / SALES  
301-953-8973  
410-792-3753

**SAVAGE STONE, LLC**  
SAVAGE, MARYLAND

BILLING INQUIRIES  
301-953-7650  
410-792-7234

INSPECTOR'S COPY

Mailing Address: P.O. Box 850, Laurel, Maryland 20725

TICKET #01148890

STATION 55

DATE 12/27/16 TIME 10:38:28

CUSTOMER KENHAT  
HATFIELDS EQUIPMENT  
PO BOX 519  
ANNAPOLIS, MD 20701

JOB ORCEST : ORCHARD ESTATES  
P.O. # PROJECT #: JEFF 410-984-0047  
32W 29S 216W L-BROWN BRIDGE RD  
NEXT LEFT TO ENTER  
ORCHARD ESTATES  
12403 ALL DAUGHTERS LANE

TRUCK 988A LICENSE  
DRIVER: DKS TRUCKING-DEREK

0 AXLES

				Loads	Tons
GROSS	SCALE B	68100 lb	DAILY	3	66.24
TARE	IN (STORED)	23420 lb	TOTAL	3	66.24
NET		44680 lb	TIME IN 10:38:28		TIME OUT 10:38:28
NET		22.34 t			

MAT'L 0029 : WASHED #2 STONE  
HAUL ZONE HC03

WEIGHMASTER \_\_\_\_\_

Gail Harrison

RECEIVED BY \_\_\_\_\_

SAFETY FIRST! HAVE A GREAT DAY! PLEASE CHECK YOUR TICKET!

Thanks Dana! Marc

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Monday, September 26, 2016 5:40 PM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** RE: 12403 All Daughters Lane - B16003661

What about the in-law suite

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**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Monday, September 26, 2016 4:40 PM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane - B16003661

Dana:

Thanks for reviewing it today. We are building this house with the 4 bedrooms upstairs. I guess you were thinking a bedroom in the basement makes 5. Should I have crossed that out on the plans, or provided something different?

Thanks, Marc

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**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Monday, September 26, 2016 4:29 PM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** RE: 12403 All Daughters Lane - B16003661

Good Afternoon Mr. Quint,

I have reviewed you're your Bat Plan and the amount of bedrooms you have on your floor plans do not match the number of bedrooms you have calculated in your BAT plan. Please adjust your calculations in your BAT.

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**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Monday, September 26, 2016 2:50 PM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane - B16003661

Good afternoon Dana:

Have you had a chance to look at the BAT plan etc. for this Lot?

Thanks for your help, Marc

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Thursday, September 22, 2016 4:52 PM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** RE: 12403 All Daughters Lane

Still under review, We have a 10 business day grace period. Hopefully, I will have it completed on Monday.  
Dana

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**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Thursday, September 22, 2016 10:25 AM

**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane

Good morning Dana:

I wanted to follow up on this review. Thanks for whatever you can do, so that we can get our permit.

Marc

**From:** Marc Quint  
**Sent:** Tuesday, September 20, 2016 2:56 PM  
**To:** 'Bernard, Dana' <[dbernard@howardcountymd.gov](mailto:dbernard@howardcountymd.gov)>  
**Subject:** RE: 12403 All Daughters Lane

Hi Dana:

Just want to make sure you have everything now to complete this review.

Thanks, Marc

**From:** Marc Quint  
**Sent:** Monday, September 19, 2016 2:30 PM  
**To:** Bernard, Dana <[dbernard@howardcountymd.gov](mailto:dbernard@howardcountymd.gov)>  
**Subject:** Re: 12403 All Daughters Lane

Floor plans are at your office.

Thanks, Marc

*Sent from my Verizon Wireless 4G LTE DROID*

"Bernard, Dana" <[dbernard@howardcountymd.gov](mailto:dbernard@howardcountymd.gov)> wrote:

Ok Thanks

**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Friday, September 16, 2016 2:46 PM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane

Dana:

Couldn't get them there today. I'll get them there Monday.

Thanks, Marc

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Friday, September 16, 2016 11:26 AM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** RE: 12403 All Daughters Lane

Thank You.

---

**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Friday, September 16, 2016 11:19 AM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane

Sure. I'll bring them by later today.

Thanks, Marc

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Friday, September 16, 2016 11:17 AM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** RE: 12403 All Daughters Lane

Marc, Could you send in printed floor plans. Our system is not set up to review a pdf. Please send them large enough to be reviewed. Preferable as large as your Bat plan

Thanks  
Dana

---

**From:** Marc Quint [<mailto:mquint@mitchellbest.com>]  
**Sent:** Friday, September 16, 2016 10:59 AM  
**To:** Bernard, Dana  
**Subject:** RE: 12403 All Daughters Lane

Hi Dana:

Our Engineer should have gotten you the BAT plans. See the attached floor plans. Let me know if you need anything else.

Thanks, Marc

## Marc Quint

Mitchell & Best Homes  
1686 East Gude Drive  
Rockville, MD 20850

O: 301.762.9511 ext. 318

C: 443.691.4201

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*Mitchell & Best*

The Name of Quality for Over 40 Years

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Tuesday, September 06, 2016 3:01 PM  
**To:** Marc Quint <[mquint@mitchellbest.com](mailto:mquint@mitchellbest.com)>  
**Subject:** 12403 All Daughters Lane

Good Afternoon,

Mr. Quint, I have attached a letter containing information needed to process your building permit. If you have any questions don't hesitate to give me a call.

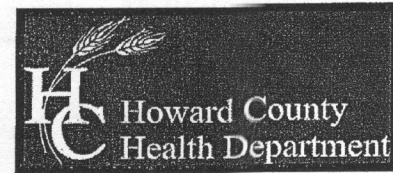
Thank you & Have a\*~)

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(.,. (.,.\* Wonderful Day !

Dana Bernard, R.E.H.S/L.E.H.S.  
Environmental Specialist II  
Bureau of Environmental Health  
Well and Septic Program  
Phone (410) 313-2775  
E-mail: [DBernard@howardcountymd.gov](mailto:DBernard@howardcountymd.gov)





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Twitter: @HowardCHealthDep

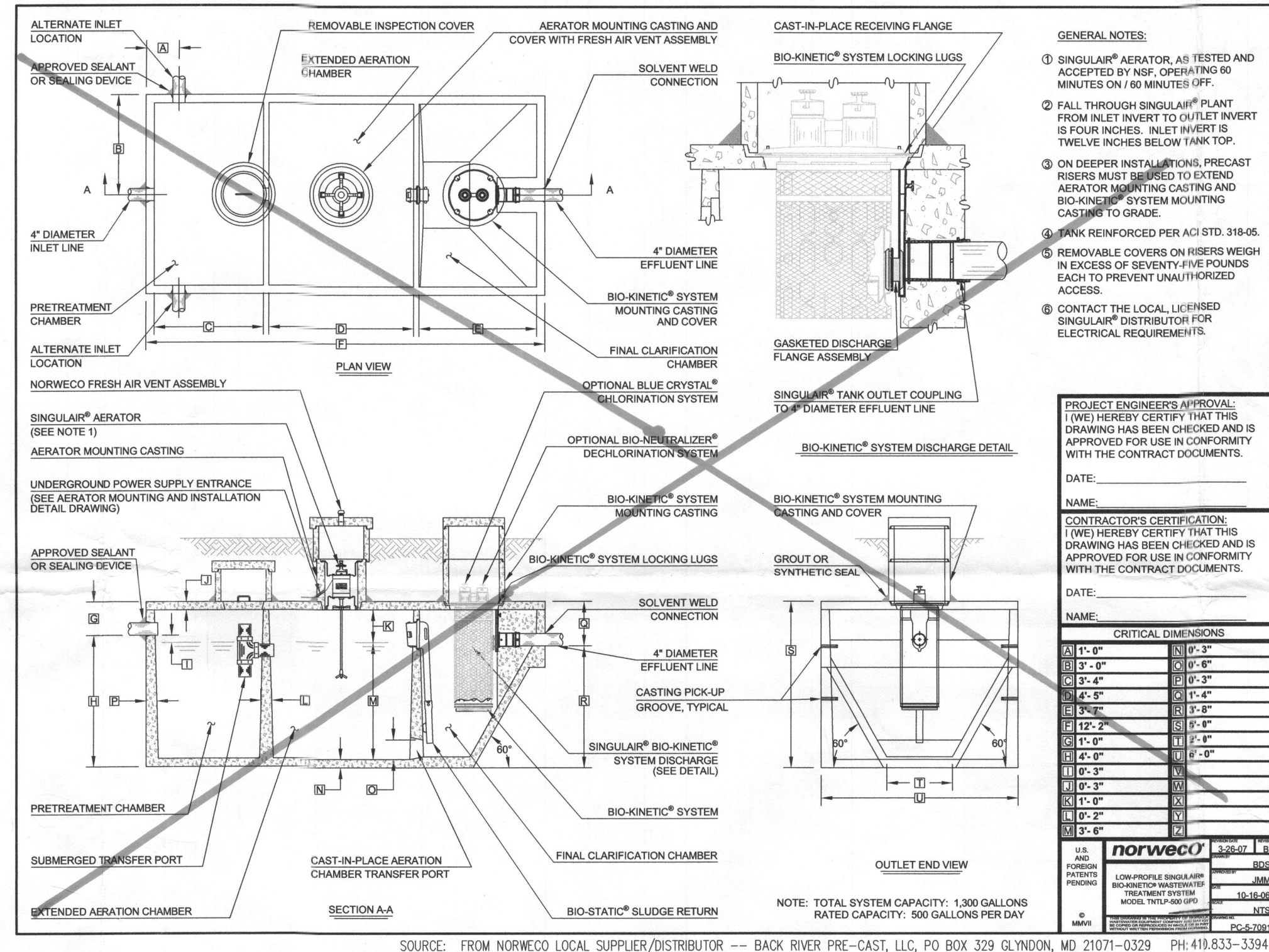
SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: Orchard Estates Lot: 1  
Subdivision: 4 bedroom limitation  
Initial System: Application rate: 0.8 Effective area beginning depth: 3 Bottom maximum depth: 5  
1st Replacement: Application rate: 0.8 Effective area beginning depth: 3 Bottom maximum depth: 5  
2nd Replacement: Application rate: 0.8 Effective area beginning depth: 3 Bottom maximum depth: 5

Design Flow = 150 gallons per day per bedroom  
Design flow = application rate = square footage of drainfield required  
Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width  
Sidewall reduction credit formula:  
 $W + 2 \times D = \text{Percent of length of standard trench where W=trench width and D=depth between effective area beginning depth and trench bottom.}$   
Standard design requirements:  
• All trenches must be equal length unless low pressure dosed  
• All trenches must be on contour  
• Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is  $2D + W$  up to a maximum spacing of 18'.  
• Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)  
• Maximum trench length is 100'  
• Maximum pipe depth is 4'

Additional requirements:  
1st system - run trenches between holes 3 + 5 and stack down the hill don't run into middle of area post hole 3  
2nd system - run 2 30' trenches day cation between holes 1+2

Approved: [Signature] Date: 12/01/15



- 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 TANK TOP.
  - ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE.
  - IF REINFORCED PER A.C.I. STD. 318-85.
  - 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 (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

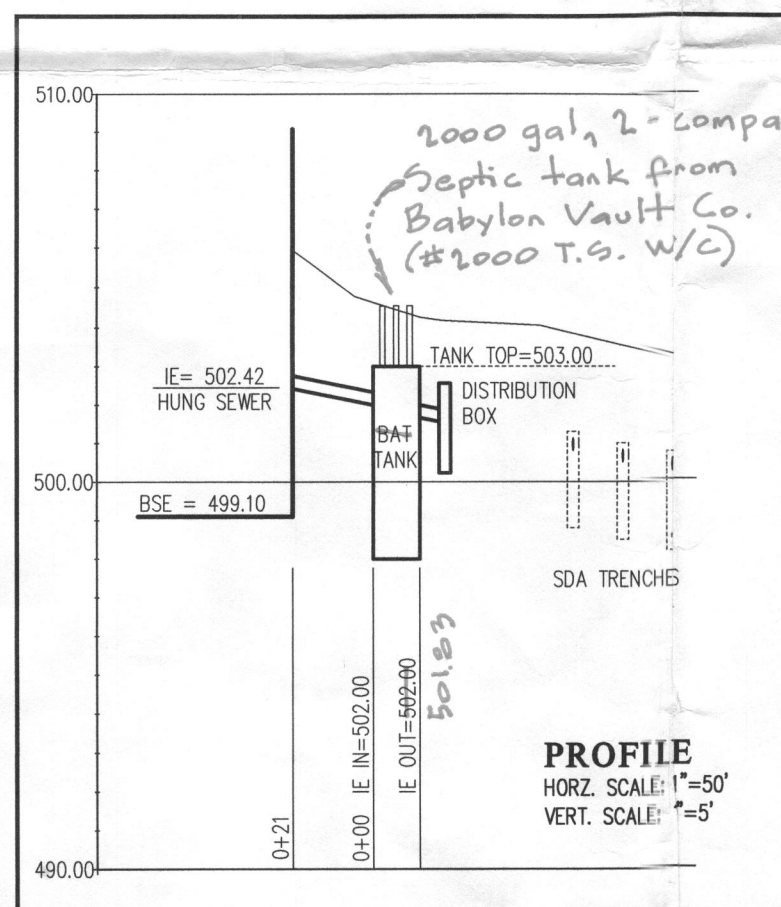
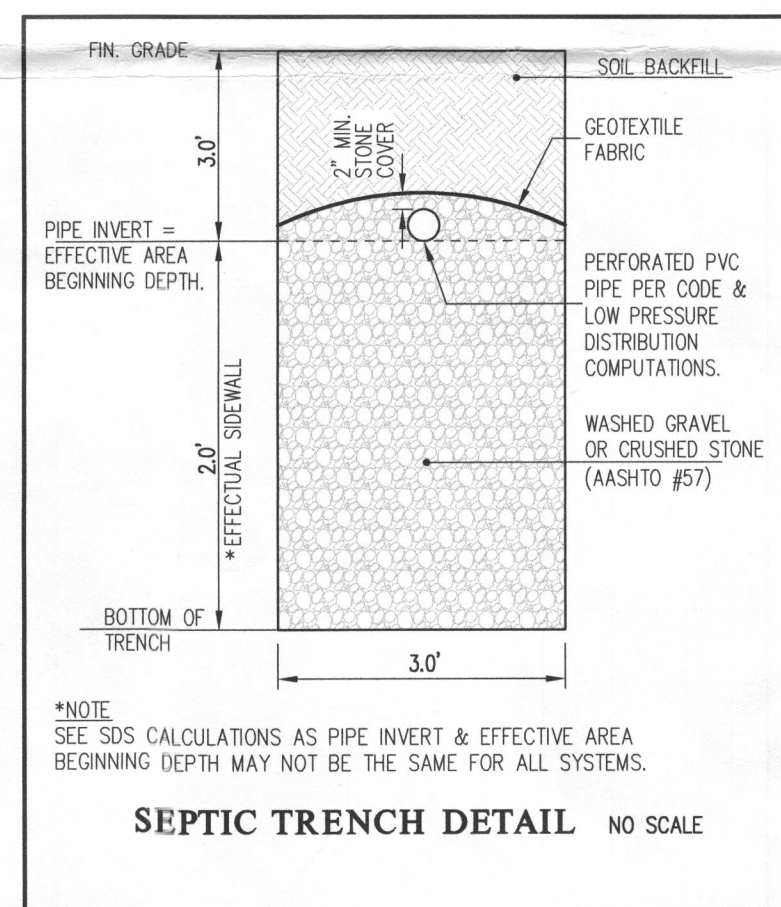
1" x 1"	2" x 2"
2" x 2"	3" x 3"
3" x 3"	4" x 4"
4" x 4"	5" x 5"
5" x 5"	6" x 6"
6" x 6"	7" x 7"
7" x 7"	8" x 8"
8" x 8"	9" x 9"
9" x 9"	10" x 10"
10" x 10"	11" x 11"
11" x 11"	12" x 12"
12" x 12"	13" x 13"
13" x 13"	14" x 14"
14" x 14"	15" x 15"
15" x 15"	16" x 16"
16" x 16"	17" x 17"
17" x 17"	18" x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

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

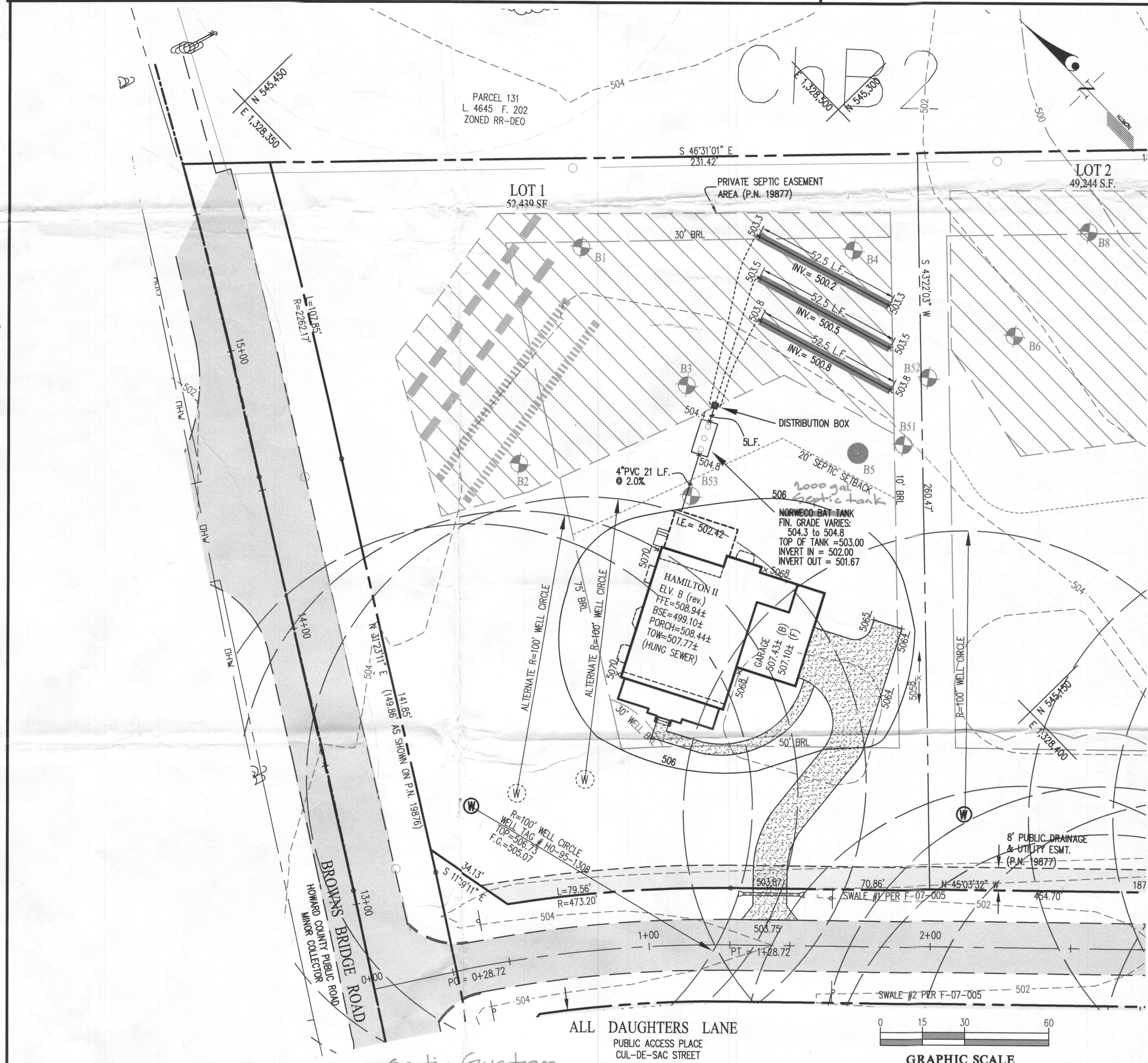
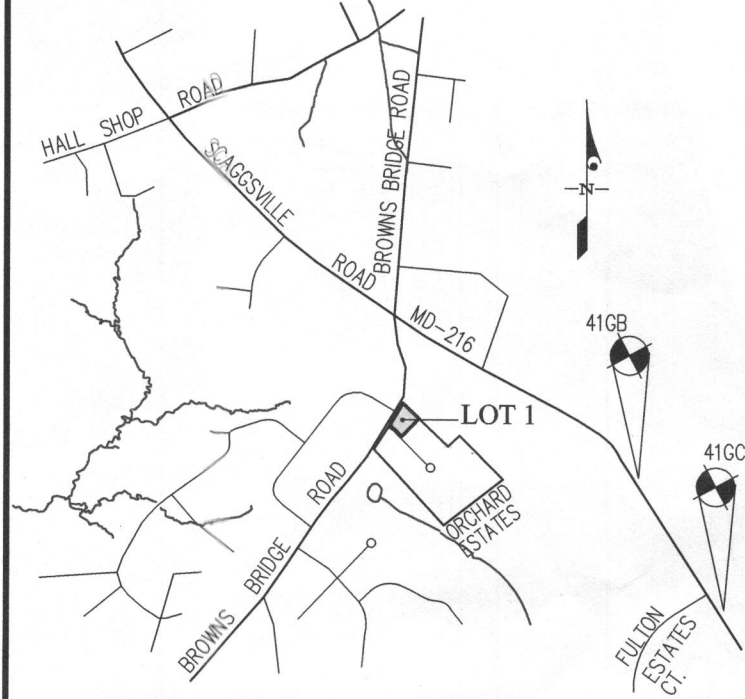
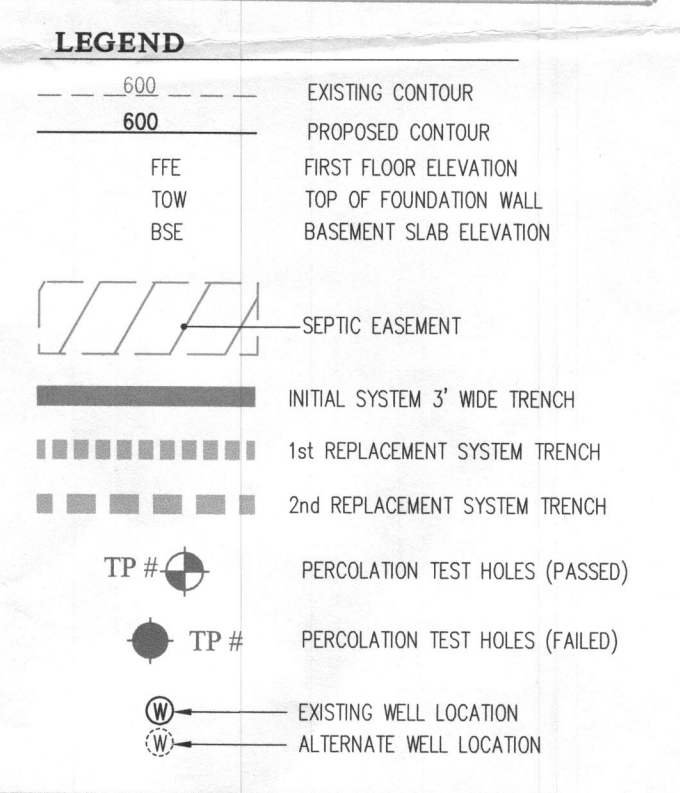
SDA TRENCH SIZE CALCULATIONS

Orchard Estates:	Lot-1		
<b>System Input Information</b>	Initial System	Replacem't System No.1	Replacem't System No.2
Application Rate	0.8	0.8	0.8
Effective area beginning depth	3.0	3.0	3.0
Effective area maximum bottom depth	5.0	5.0	5.0
Number of Bedrooms	4	4	4
Design flow at 150 gal./day/bedroom	600	600	600
<b>Absorption Trench Calculations</b>			
Drainfield area required (Design flow/application rate)	750 s.f.	750 s.f.	750 s.f.
Effluent pipe depth to invert (cannot exceed 4'. If < 2', then field run top at 1-ft interval is required).	3.0	3.0	3.0
Effective sidewall depth "D" = depth between the effective beginning depth or pipe depth (which ever is deeper) and maximum trench bottom.	2.0	2.0	2.0
Trench Width "W" (2 or 3 feet)	3.0	3.0	3.0
Sidewall Reduction Percent = (W+2)/(W+1+2D)	62.50%	62.50%	62.50%
Linear feet of trench required = (drainfield area x sidewall reduction)/W	156.3	156.3	156.3
<b>Trench Layout Information</b>			
Approximate length available on contour & not exceeding 100-ft	55	79	79
Number of trenches to use	3	2	2
Min. length (linear feet)	52.1	78.2	78.2
Total (linear feet)	156.3	156.4	156.4
Minium Trench Spacing:	10.0	10.0	10.0

For trenches with no sidewall credit the spacing is 6' for a 2' wide trench and 9' for a 3' wide trench (measured edge to edge). All trenches utilizing sidewall reduction credit must be spaced a min. of 10' for effective sidewall not over 3.5'. If > 3.5', then spacing formula is  $2D + W$  up to a maximum of 18'.



- 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 SPECIFICATIONS IS 3 FEET.
  - THE BLOWER MAY NOT BE LOCATED MORE THAN 1/4 FEET FROM THE TANK BASE ON THE MANUFACTURER'S SPECIFICATIONS.
  - THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
  - THE BAT SYSTEM 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 HEALTH DEPARTMENT OF THE ENVIRONMENT IN A MANNER ACCEPTABLE TO WDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT.
  - ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
  - ALL 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.



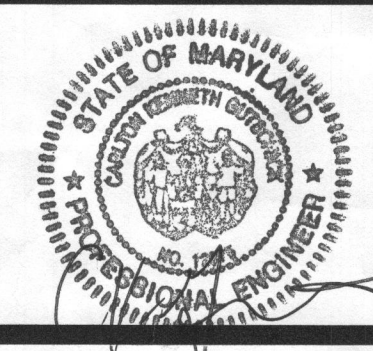
Approved Septic System Plan  
Howard County Health Department  
[Signature]  
Date: 10-18-16

GLWGUTSCHICK LITTLE & WEBER, P.A.  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
5909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
BURTONSVILLE, MARYLAND 20866  
TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
10-9-16	Change from BAT to conventional septic system	GLW	

PREPARED FOR:  
MB ORCHARD ESTATES, LLC  
1686 E. GUDE DRIVE  
ROCKVILLE, MARYLAND 20850  
PH: 301-762-9511  
ATTN: MARC QUINT

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE PLANS 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. 12295.  
EXPIRATION DATE: MAY 26, 2016  
9/8/16

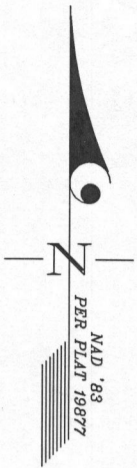



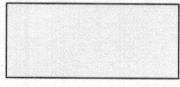
SITE PLAN FOR BAT INSTALLATION  
ORCHARD ESTATES  
LOT 1 (12403 All Daughters Lane)  
PLAT No. 19876-19877  
ELECTION DISTRICT No. 5  
HOWARD COUNTY, MARYLAND

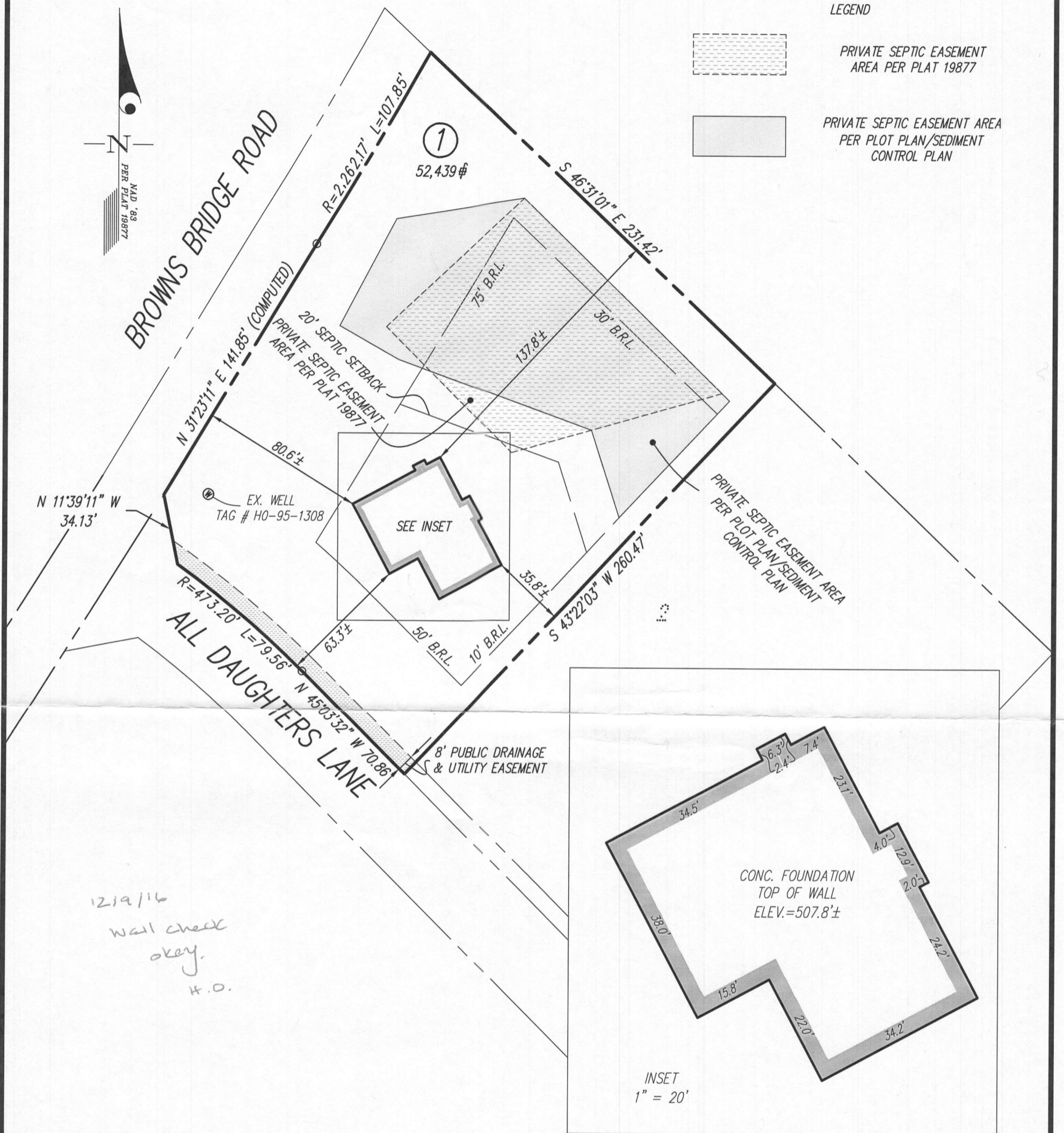
SCALE	ZONING	G. L. W. FILE No.
1" = 30'	RR-DEO	15112
DATE	TAX MAP - GRID	SHEET
SEPT. 2016	40 - 18	1 OF 1

THE PROPERTY SHOWN HEREON LIES WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, MAP NUMBER 24027C0140D, EFFECTIVE DATE NOVEMBER 6, 2013.

BUILDING SETBACKS (B.R.L.'s) SHOWN HEREON PER PLOT PLAN/SEDIMENT CONTROL PLAN  
 P.U.E.=PUBLIC UTILITY EASEMENT  
 SETBACK DISTANCES SHOWN HEREON ARE TO THE OUTERMOST FACE OF THE FOUNDATION WALLS AND HAVE AN ACCURACY OF ± 0.1' FOOT.



LEGEND  
 PRIVATE SEPTIC EASEMENT AREA PER PLAT 19877  
 PRIVATE SEPTIC EASEMENT AREA PER PLOT PLAN/SEDIMENT CONTROL PLAN



12/19/16  
 wall check  
 okay.  
 H.O.

WALLCHECK  
 (SPECIAL PURPOSE SURVEY)

ORCHARD ESTATES

LOT 1

12403 ALL DAUGHTERS LANE

HOWARD COUNTY, MARYLAND

DATE OF LATEST FIELD WORK: 12-1-2016 G.L.W. FILE No. 15112  
 REFERENCE: PLAT BOOK: N/A PLAT No. 19877 SCALE: 1"=50'

GLWGUTSCHICK LITTLE & WEBER, P.A.  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
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 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DES.

DRN. AR

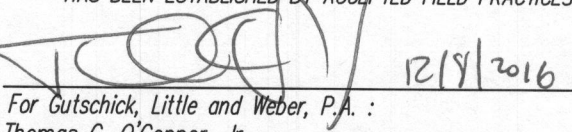
CHK.

PREPARED FOR:  
 MB ORCHARD ESTATES, LLC  
 1686 E. GUDE DRIVE  
 ROCKVILLE, MARYLAND 20850

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY TO:  
 "MB ORCHARD ESTATES, LLC"

THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE POSITION OF THE ABOVE REFERENCED BUILDING FOUNDATION HAS BEEN ESTABLISHED BY ACCEPTED FIELD PRACTICES.

 12/19/2016  
 For Gutschick, Little and Weber, P.A. :  
 Thomas C. O'Connor, Jr.,  
 Professional Land Surveyor, No. 10954 (EXP. DATE: 07/03/2018)

THIS WALLCHECK IS VALID ONLY WITH AN ORIGINAL SIGNATURE AND EMBOSSED SEAL OF THE ABOVE SURVEYOR.