



Howard County  
Health Department

# 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](https://www.facebook.com/hocohealth)

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

RECEIPT DATE: 4/10/17

## ONSITE SEWAGE DISPOSAL SYSTEM

P 560602

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

## PERMIT: CONSTRUCTION

A \_\_\_\_\_

PROPERTY ADDRESS: 1751 Underwood Road

SUBDIVISION: Streaker Property

LOT: Par 2

TAX ID: 03-309347

CONTRACTOR: Freedom Septic

EMAIL: kristin@freedomseptic.com

CONTRACTOR ADDRESS: 2809 Liberty Road, Sykesville, MD 21784

PHONE: 410-795-2947

PROPERTY OWNER: Paul DiMarco

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

OWNER ADDRESS: 1751 Underwood Road, West Friendship, MD 21794

PHONE: 443-668-0100

SEPTIC TANK SIZE (GALLONS): \_\_\_\_\_

TANK MANUFACTURER: \_\_\_\_\_

PUMP MODEL: \_\_\_\_\_

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

PUMP TANK CAPACITY: 2000GAL

DISTRIBUTION SYSTEM: ☒ GRAVITY

☐ PRESSURE DOSED

BEDROOMS: 5

APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <del>156</del> <u>113</u> (3x40's keep away from sunbath)	INLET DEPTH: <u>3</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Changes could possibly occur due to the 1% fall request in proposal. * New sewer-out loc revised. see plan in file.	

ISSUED BY: Dana Bernard

ISSUE DATE: 4/10/17

EXPIRATION DATE: 4/10/18

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

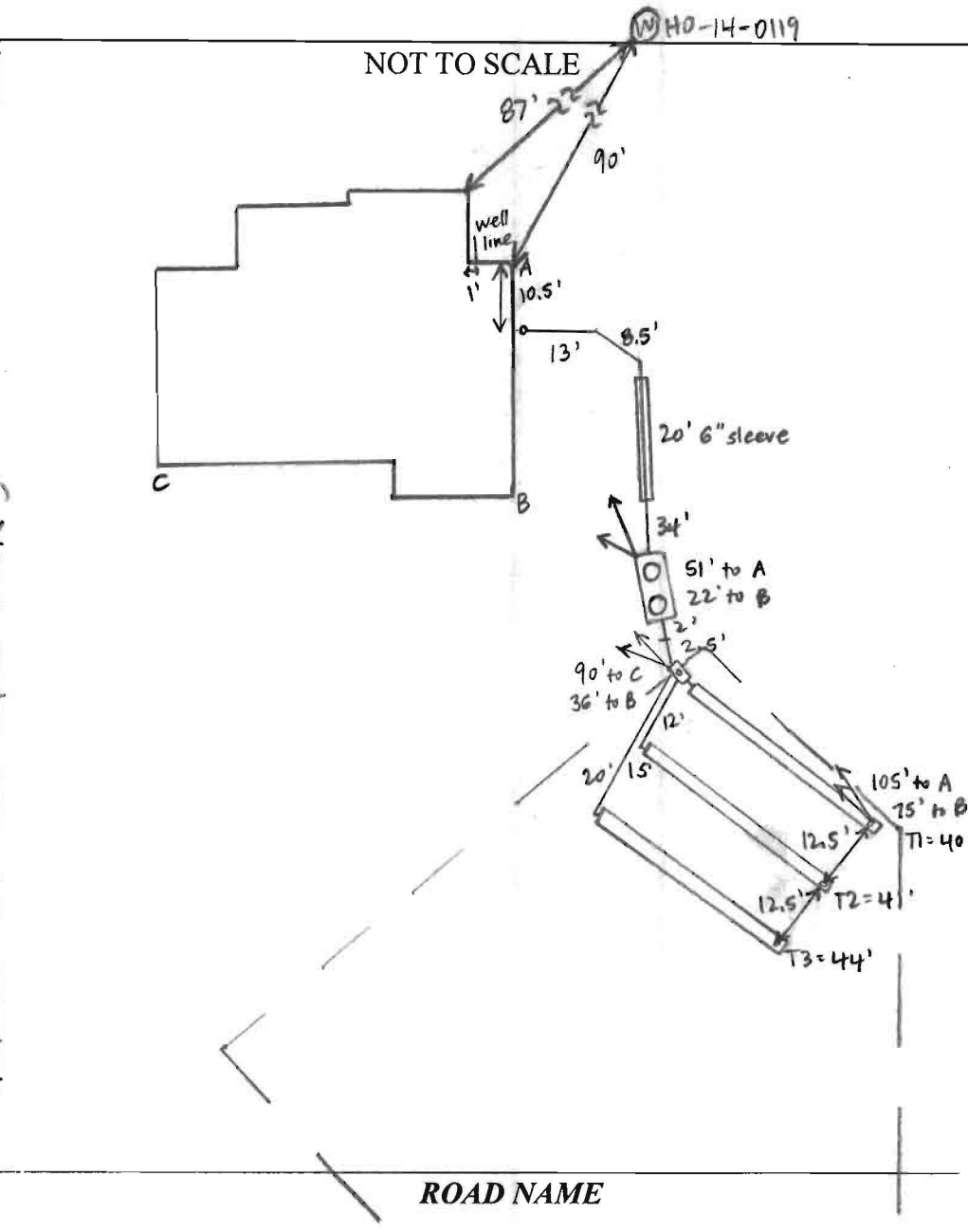
☒ ELECTRICAL PERMIT ISSUED E ML

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.



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	3'	8'
NUMBER OF TRENCHES		3
TOTAL LENGTH		125'
ABSORPTION AREA		375' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	2000 GAL
SEAM LOC	TOP
TANK LID DEPTH	0.5-2.5'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	4-18-17
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:  
 5/5/17 Met Freedom on site for layout. All SDA stakes present, no tank stake. Fill in upper part of SDA, ~2'. Builder came to site - he will remove fill in SDA + uncover sewer line at house. Check fall to tank and verify ±3' tank cover once fill is removed + line uncovered. (S)  
 5/15/17 SHC exposed, elevations shot in field. Sewer coming out under footer under porch, header dropped 2 1/2' will not make fall to 0' inlet man + in trench. will need to hang sewer or put in pump tank w/

INSTALLATION: revised plan. 5/19/17 Met contractor and builder on site. Sewer location revised. Plan revision rec'd from engineer. Hung sewer proposed on right side of garage. Plenty of fall. Install 3x40' trenches per plan. Keep trenches square w/ upper SDA line to keep from proposed switch (S)  
 5/26/17 System installed line from house to tank has 20' 6" sleeve under driveway. Need house connection. Levelled speed levelers in D-box. T3 left open for inspection. T1 + T2 covered. 1.5-2' stone in T3 (has more stone than T1 + T2, according to Freedom). (S)  
 Need caps on observation pipes. (S)



## Bernard, Dana

---

**From:** Bernard, Dana  
**Sent:** Friday, January 06, 2017 10:18 AM  
**To:** 'Chris Ogle'  
**Subject:** RE: 1751 Underwood Road

Good Morning Chris,

Due to the ruff in located in the basement county and state code considers this a potential for a fifth bedroom if the basement is finished. Your building permit states 4 and it must be changed to five. Your septic plans must be changed to five also.

Thanks  
Dana

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Wednesday, January 04, 2017 3:07 PM  
**To:** Bernard, Dana  
**Cc:** [hkodan@carusohomes.com](mailto:hkodan@carusohomes.com)  
**Subject:** FW: 1751 Underwood Road

Dana,  
See attached plans. Let me know if you have any questions.  
Chris

---

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Thursday, December 15, 2016 5:07 PM  
**To:** [ROLIFF@CARUSOHOMES.COM](mailto:ROLIFF@CARUSOHOMES.COM)  
**Cc:** Chris Ogle ([cogle@bei-civilengineering.com](mailto:cogle@bei-civilengineering.com))  
**Subject:** 1751 Underwood Road

Good Afternoon Mr. Oliff,

I have received your request to replace the BAT Tank with a two compartment tank and it will be honored. However, we will need floor plans for the 4 bedroom house you are proposing. In order for me to move forward with your building permit I will need floor plans to complete the final review.

Thank you & Have a\*""

,.,.,,\*""),.,,\*""  
(.,.,(.,.,\* 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)

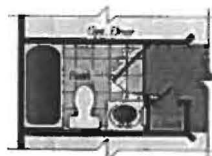
# First Floor

1751 Underwood Rd

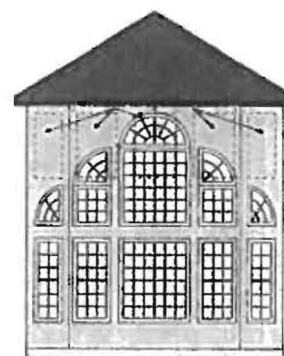
**CARUSO**  
Homes



Opt. Morning Room



Opt. Full Bath



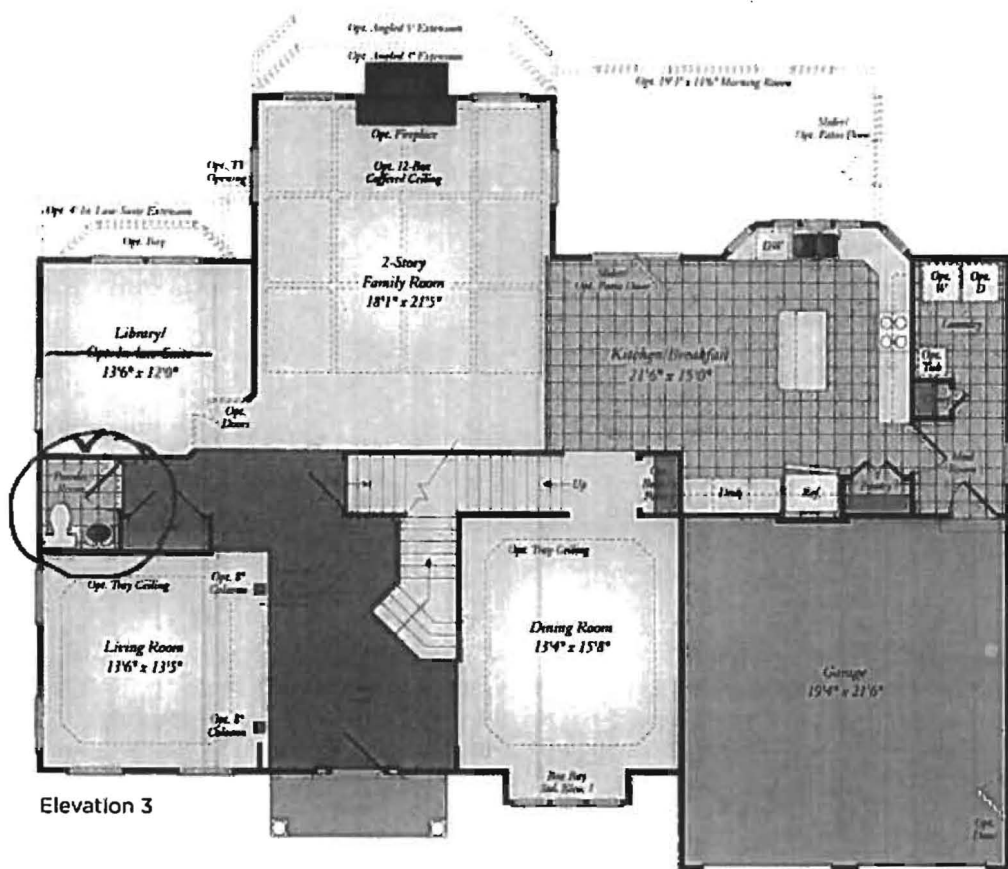
Opt. 5' Family Room Extension



Opt. Deluxe Family Room Window Package



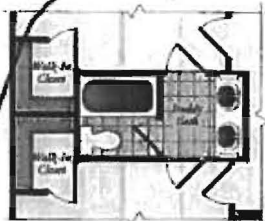
Opt. Conservatory



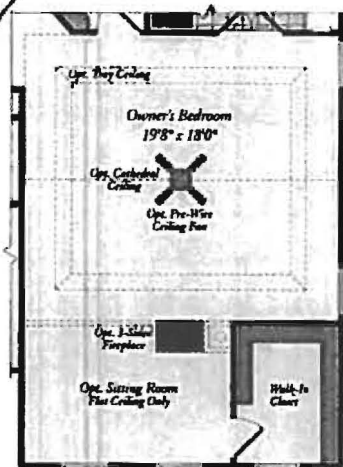
Elevation 3

# Second Floor

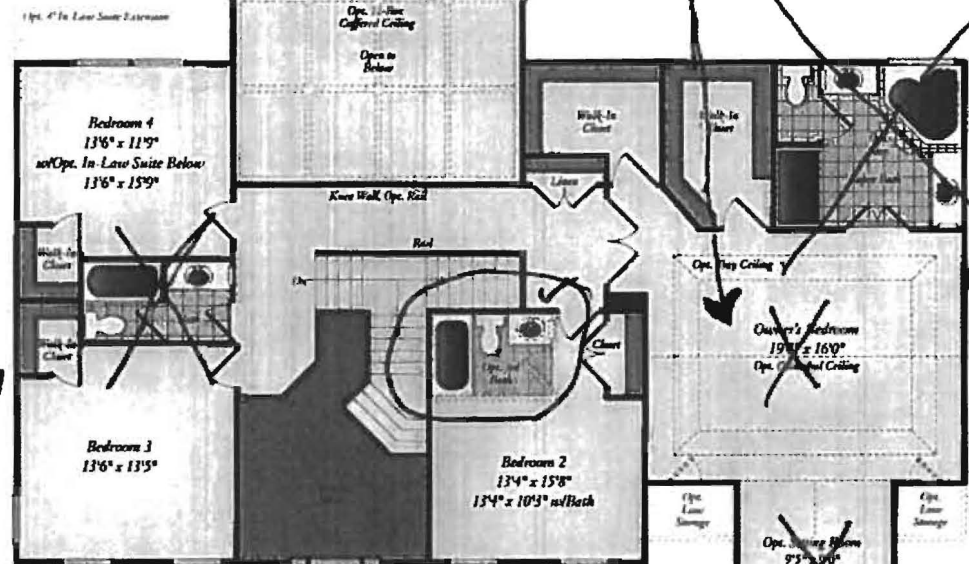
1751 Underwood Rd.



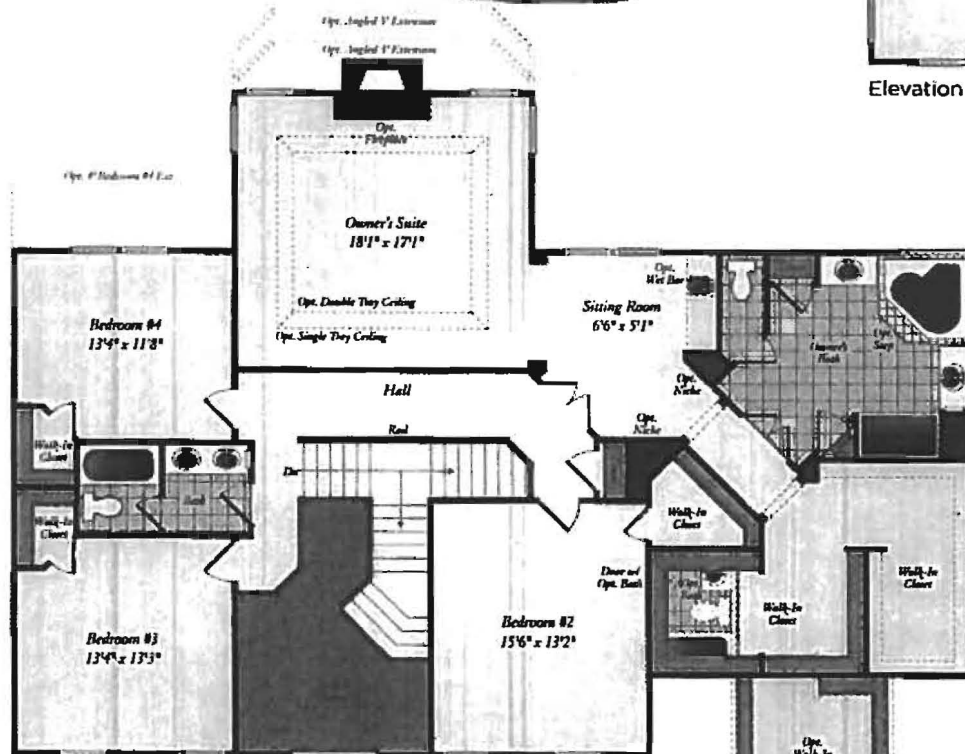
Opt. Buddy Bath  
Standard w/3rd Bath



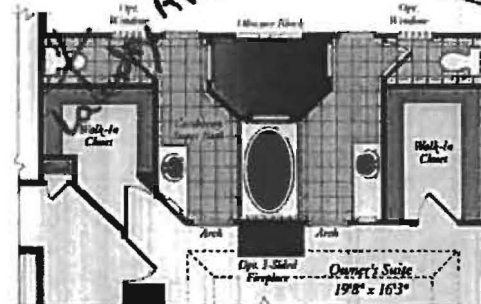
Opt. Owner's Bedroom  
with 2-Car Garage



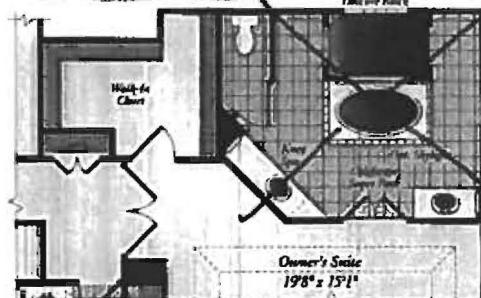
Elevation 11



Alternate Second Floor

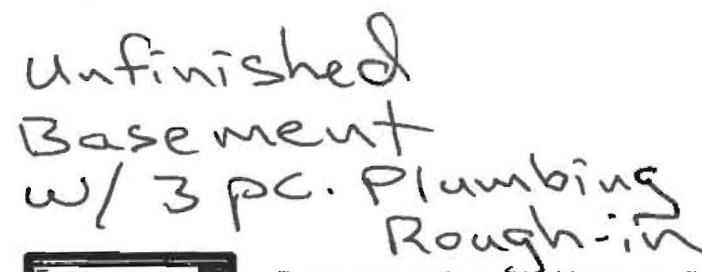


Opt. Caribbean Super Bath



Opt. California Super Bath

1751 Underwood Rd.



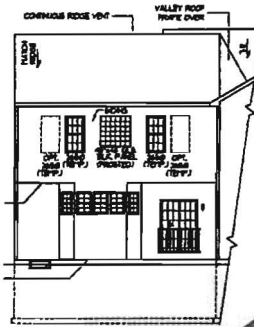
# THE Kingsport



To see more options or build your own floor plan  
**Visit our Floor Plan Designer**  
<http://contradovip.com/caruso/kingsport/>

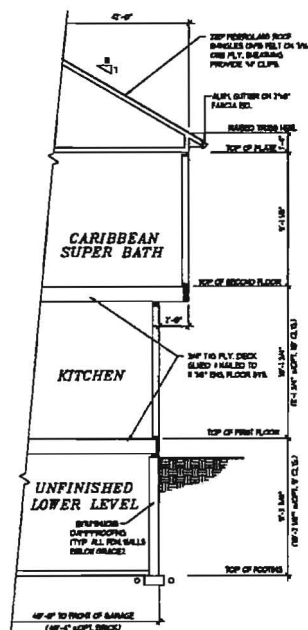
**RIGHT SIDE ELEVATION**

SCALE: 1/4" = 1/2" = 1'-0"



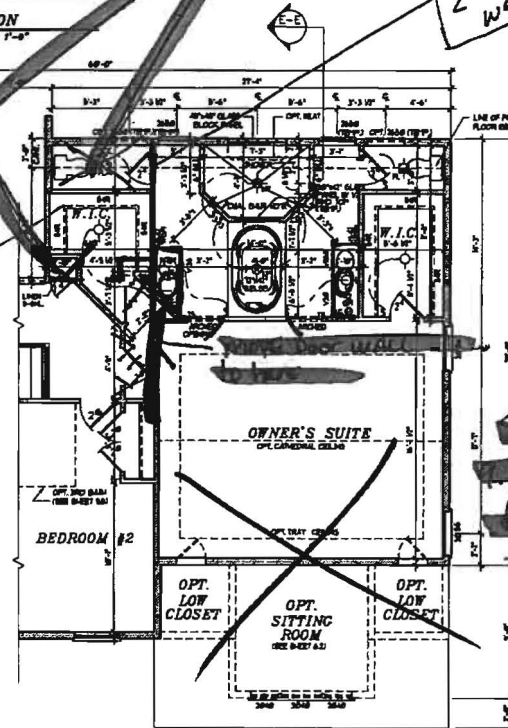
### REAR ELEVATION

SCALE: 1/16" = 1'-0" = 1'-0"



PARTIAL SECTION "E-E"

SCALE: 1/8" = 1/4" = 1'-0"



**OPT. CARIBBEAN SUPER BATH**

w/ STD. SECOND FLOOR ONLY

**PARTIAL PLAN**

SCALE:  $1/8" = 1/4" = 1'-0"$

THIS OPTION NOT AVAILABLE w/OPTIONAL 2ND BATH

### Actual Field Dimensions

Min. Value

Delete 1212  
 Delete Linen closet  
 Delete toilet rm.

Add 2' door to kitchen  
 See page 6.1 for  
 2nd Fl. - temporary design

Credit for  
24 Door from  
water closet

See page  
6.1





































See page

711301A

2005

Space

## ELECTRICAL SYMBOLS

-  SPEAKER OUTLET
-  DIMMER OUTLET
-  LIGHT OUTLET
-  LIGHT OUTLET
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PROVIDE SMOKE DETECTORS AS REQUIRED BY LOCAL CODE, WIRING TO A NEAREST CIRCUIT (WITH BATTERY BACKUP) AND INTER-CONNECTED FOR SIMULTANEOUS ACTIVATION.

THESE DRAWINGS ARE SCHEMATIC ONLY. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL ELECTRICAL SYSTEMS. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, THE LOCAL POWER COMPANY AND ALL APPLICABLE CODES. PERMITS AND APPROPRIATE ARE SELECTED BY THE BUILDER AND SHALL BE APPROVED.

### Professional Certification

I certify that these documents were prepared or approved by me, and that I am a duly Licensed Architect under the laws of the State of Maryland.

5921

House number 5821

expiration date 04-03-2018

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1000 14th Street, Suite 21043  
Baltimore City, MD 21043  
www.archcol.com  
Tel: (410) 495-7500 Fax: (410) 495-0903  
In any form or manner.

OPT. CARIBBEAN SUPER BATH DETAILS

Caruso Homes  
Kingsport

Model 1/2"-1/4" PLSZ C403P202 Jern. GENERAL RESURF

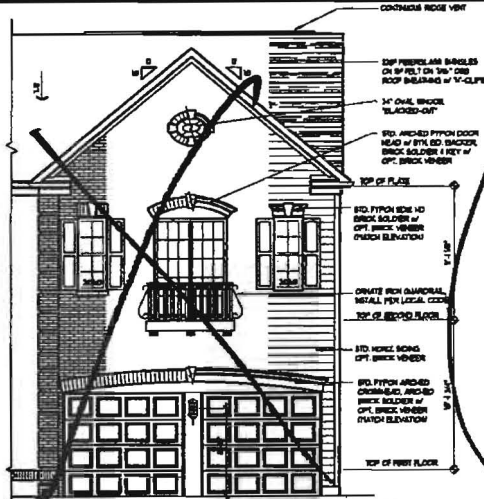
periods	QUESTIONS	ANSWERS
01-28-01	QUESTIONS	ANSWERS
03-15-02	QUESTIONS	ANSWERS
03-22-02	QUESTIONS	ANSWERS

9.10

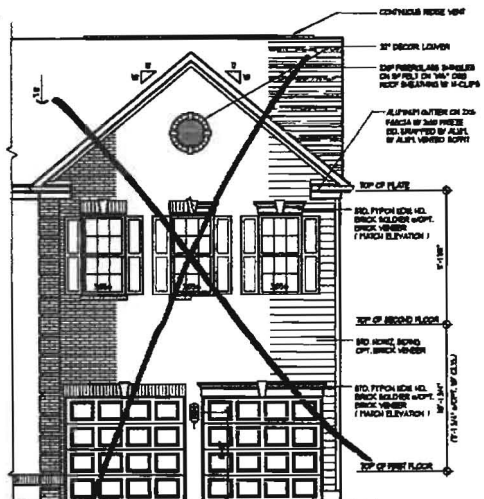
Pretype plate drawings are also available.



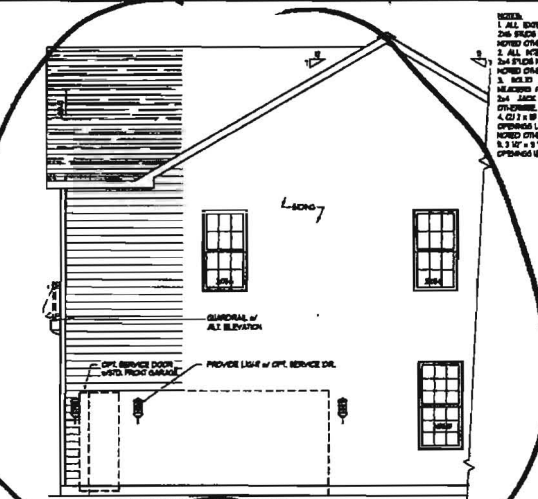
PSD 12/16/16



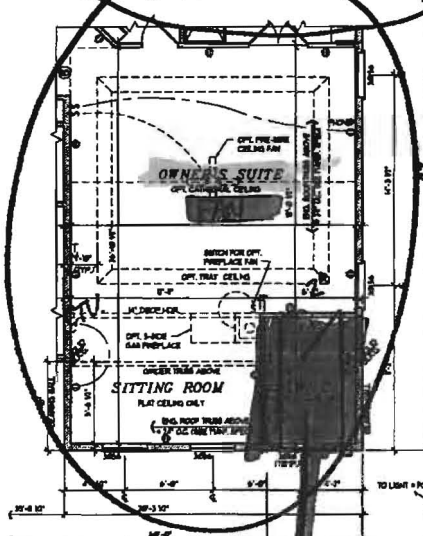
**ALT. FRONT ELEVATION**  
SCALE: 1/8" = 1'-0" = 1'-0"



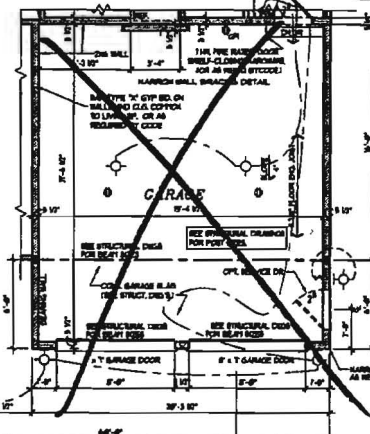
**FRONT ELEVATION**  
SCALE: 1/8" = 1'-0" = 1'-0"



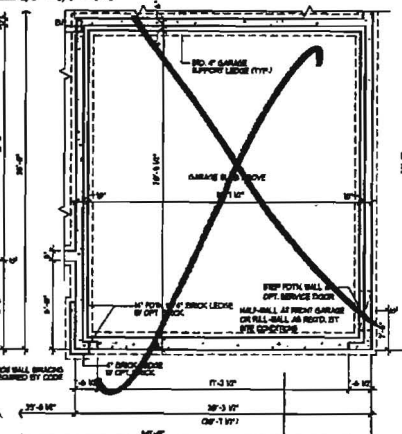
**RIGHT SIDE ELEVATION**  
SCALE: 1/8" = 1'-0" = 1'-0"



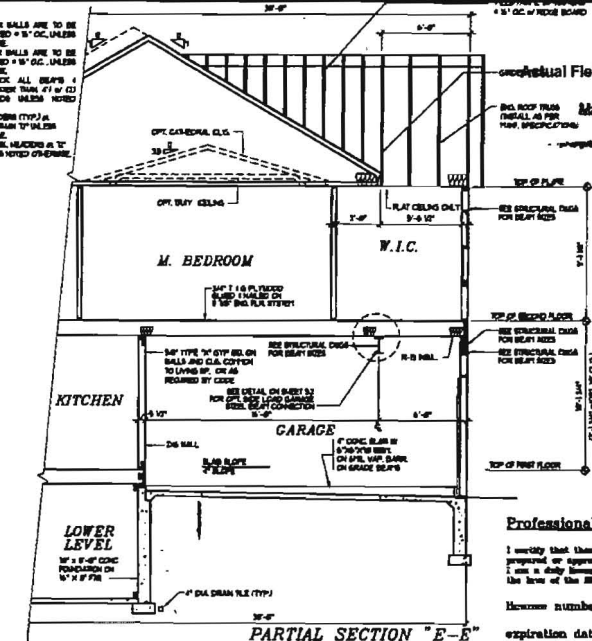
**SECOND FLOOR PLAN**  
SCALE: 1/8" = 1'-0" = 1'-0"  
SHOWN BY STANDARD ELEVATION  
CHECK SHEET 9.11 FOR PLAN  
SHOWING ALT. ELEVATION



**FIRST FLOOR PLAN**  
SCALE: 1/8" = 1'-0" = 1'-0"



**FOUNDATION PLAN**  
SCALE: 1/8" = 1'-0" = 1'-0"



**PARTIAL SECTION "E-E"**  
SCALE: 1/8" = 1'-0" = 1'-0"

**OPT. OWNER'S SUITE EXTENSION DETAILS**  
1/ STD. TWO CAR GARAGE  
SCALE: 1/8" = 1'-0" = 1'-0"

**Professional Certification**  
I certify that these documents were prepared or approved by me, and that I am a duly licensed Architect under the laws of the State of Maryland.  
License number: 5921  
expiration date: 04-03-2018

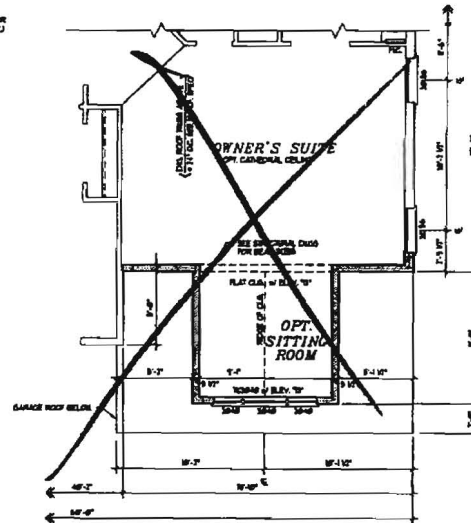
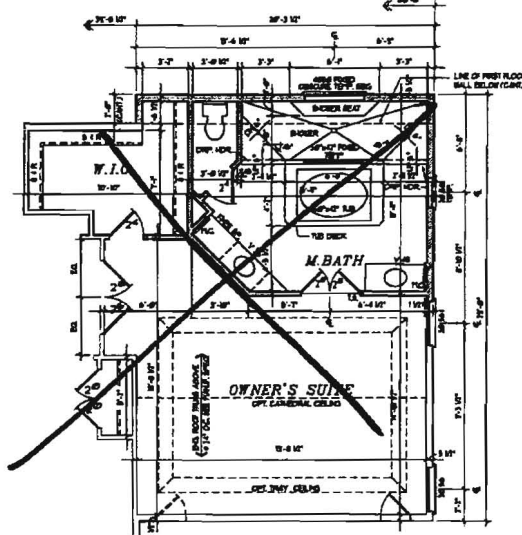
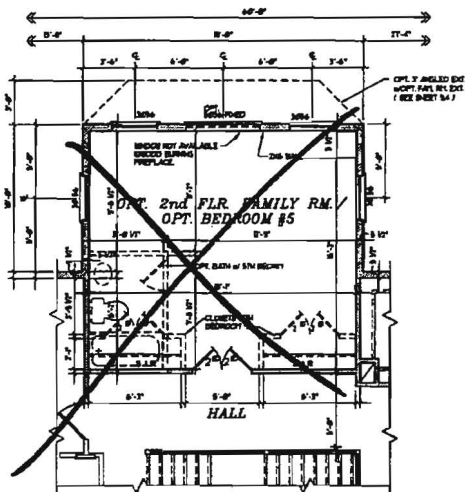
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**CARUSO HOMES**  
KINGSFORD

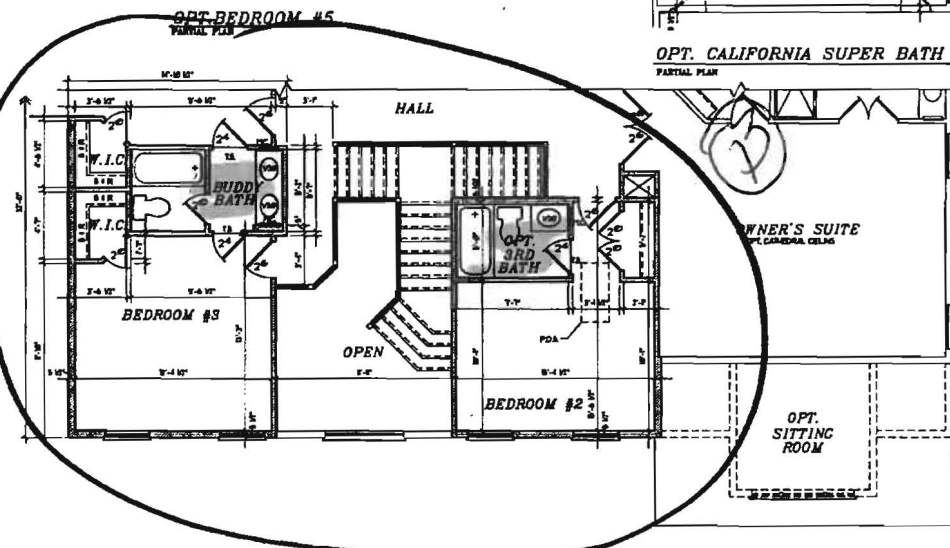
**SHEET 9.11**

**9.11**

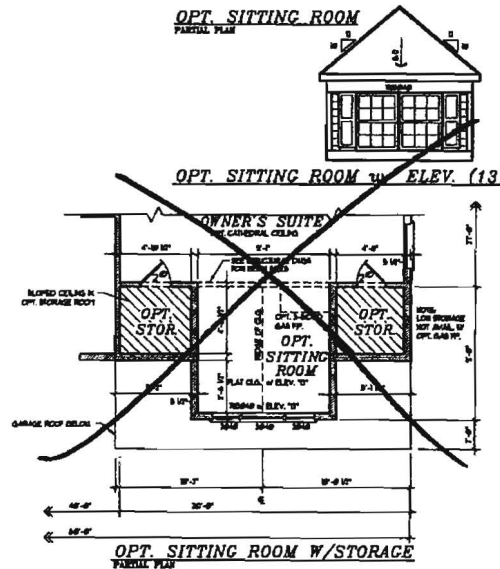
PSD 12/16/16



Actual Field Dimensions  
May Vary



OPT. 3rd BATH PLAN W/BUDDY BATH  
PARTIAL PLAN  
(SHOWN 1/2" OPT. STAIR 1/2" C/O. @ 1ST FLR.)



OPT. SITTING ROOM W/STORAGE  
PARTIAL PLAN

STANDARD SECOND FLOOR PLAN OPTIONS  
SCALE: 1/8" = 1'-0"

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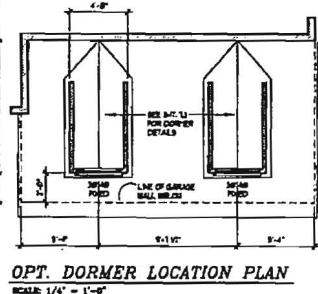
STANDARD SECOND FLOOR PLAN OPTIONS  
SCALE: 1/8" = 1'-0" PLAN CARRIES OVER  
CARUSO HOMES  
KINGSFORD

GENERAL REVISIONS  
REVISIONS  
DATE  
BY

SHEET #  
9.8



~~CAN't bear bath~~  
~~page 9.10~~



OPT. DORMER LOCATION PLAN  
SCALE: 1/4" = 1'-0"

license number 5921  
expiration date 04-03-2018

residents	
PS-24-14	GENERAL MEDLINE REVISIONS - AP

**SHEET #**

**6.1**

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OPT. LIBRARY BAY

Figure 1 is a schematic diagram of a building's floor plan. It shows a rectangular building with a bathroom (BATH) and a bedroom (BED). The bathroom is located on the left side of the building, and the bedroom is on the right. The diagram includes dimensions for the rooms and the overall building footprint. The bathroom is labeled 'BATH' and the bedroom is labeled 'BED'. The diagram also shows a 'CUT ROOM' and a 'BATH' area. The dimensions are given in feet and inches.

[illegible]

**ELEVATION**  
**● OFF. BUTLER'S PANTRY**  
 FINISH: 1/2" - 1'-9"

2nd Floor Laundry Rm.

~~4/10/85~~ w  
~~4/10/85~~ T-ashtaga

Fireplace Stone to stop @ pictures  
windon Above

NO PRESS OVER SHOT  
PLEASE TO DIFFER POUNTRY

Actual Field Data  
May Vary

GRS Cookbook

Very hard to  
enter now

**FIRST FLOOR PLAN**  
**SCALE 1/8" = 1'-0"**

**Professional Certification**  
 I certify that these documents were  
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 I am a duly licensed Architect under  
 the laws of the State of Maryland.  
 License number 5821  
 expiration date 04-03-2018

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**FIRST FLOOR PLAN**

**content**

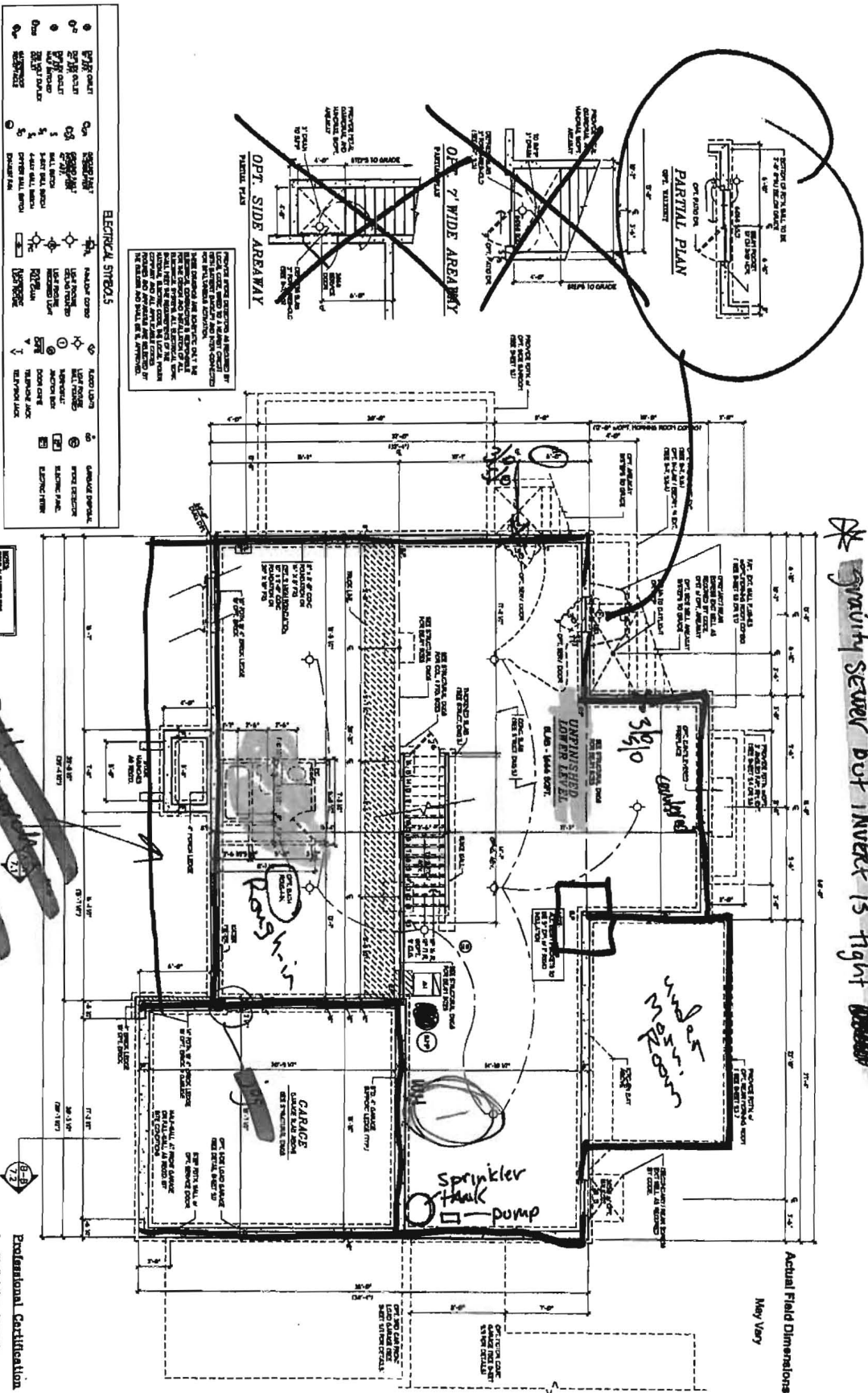
**CARUSO HOMES**  
**KINGSPORT**

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[www.archcol.com](http://www.archcol.com)  
Tel: (410) 485-7500 Fax: (410) 486-0903



PSD 12/16/16

\* Gravity sewer but invert is tight around



**ELECTRICAL SYMBOLS**

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

**FOUNDATION PLAN**  
 SCALE: 1/8" = 1'-0"  
 SHEET 1  
 4.1

**Professional Certification**  
 I certify that I am a duly Licensed Professional Engineer in the State of Maryland.  
 License number: 69821  
 expiration date: 04-03-2018

**REVISIONS**

NO.	DATE	DESCRIPTION
01-12-16	01-12-16	REVISE PORCH TO T WIDE
02-12-16	02-12-16	REVISE STRUCTURAL NOTES - CCG
03-12-16	03-12-16	REV. GARAGE DOOR LOCATION - CCG
04-12-16	04-12-16	REV. PLAN REVIEW COMMENTS

**FOUNDATION PLAN**  
 SCALE: 1/8" = 1'-0"  
 SHEET 1  
 4.1

**Architectural Collaborative, Inc.**  
 8320 Main Street, Suite 2, Ellicott City, MD 21040  
 www.archcoll.com  
 Tel: (410) 465-7500 Fax: (410) 465-0903

**Paul S Di Marco**  
3844 Quarry Avenue  
Baltimore, MD 21211

---

November 23, 2016

Dana Bernard  
Howard County Health Department  
Well and Septic Program  
8930 Stanford Blvd.  
Columbia, MD 21046

Re: *Streaker Property*  
*Tax Map: 9 & 15, Parcel: p/o 328*  
*BAT System Replacement*

Ms. Bernard:

*The purpose of this letter is to request replacing the approved BAT tank for the referenced property with a 2,000 gallon two compartment septic tank. Along with the request is a revised 'Onsite Sewerage Disposal System Design Plan' for your review and approval.*

*Should you have any additional questions or concerns please do not hesitate to contact me or Chris Ogle of Benchmark Engineering.*

Sincerely,

  
Paul DiMarco  
Property Owner  
443-668-0100



## Bernard, Dana

---

**From:** Bernard, Dana  
**Sent:** Tuesday, May 09, 2017 8:36 AM  
**To:** 'Chris Ogle'  
**Subject:** RE: Streaker Property BAT Plan

Chris,

I'm giving you heads up about the Streaker property. Our inspector visited the site and said that we might require a revised plan because the system might require a pump. They are still trying to figure out the septic installation in the field. If a change is necessary I will let you know.

Thanks  
Dana

---

**From:** Chris Ogle [mailto:cogle@bei-civilengineering.com]  
**Sent:** Thursday, October 13, 2016 8:38 AM  
**To:** Bernard, Dana  
**Subject:** RE: Streaker Property BAT Plan

As requested.

---

**From:** Bernard, Dana [mailto:dbernard@howardcountymd.gov]  
**Sent:** Tuesday, October 04, 2016 2:37 PM  
**To:** 'Chris Ogle'  
**Subject:** RE: Streaker Property BAT Plan

Chris,

I reviewed your BAT plan and I wanted to warn you that the system might have to be changed to a ejector pump system in the field because of the 1% fall proposed on your plan. Also, can you send me floor plans for the proposed house. Once the floor plans are received we can sign off when your building permit comes through.

Thanks  
Dana

---

**From:** Chris Ogle [mailto:cogle@bei-civilengineering.com]  
**Sent:** Thursday, September 15, 2016 5:02 PM  
**To:** Williams, Jeffrey  
**Cc:** Bernard, Dana  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
I just dropped off revised plans for your review. Let me know if you have any additional comments.  
Thanks for the help.  
Chris

---

**From:** Williams, Jeffrey [mailto:jewilliams@howardcountymd.gov]  
**Sent:** Tuesday, August 30, 2016 2:40 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

I reviewed the plan. I didn't see a set of specs for the property in the file. I'm wondering if you got any from Dana? From my look at the perc test results, the specs should be a 0.8 loading rate with sidewall credit from 3-8' (see

attached spec sheet for all three systems). This gets you a total trench length only a few feet longer than what you have, but you'd have to switch to a pumped system to get an invert at 3'. If you kept it at 4' and gave up a foot of sidewall, you'd need another trench to get the total length needed. Also, you don't need to show specs for system #3 if it's obvious that a 3<sup>rd</sup> system can fit, such as with this case. If it's a tight squeeze, we look to see the 3<sup>rd</sup> system.

Also, if you end up keeping it as a gravity system, please note that it is very possible that conditions in the field will require it to change to a pumped system, which will necessitate a revised BAT plan. At 1% fall all the way down the line, any small change in elevation of the line leaving the foundation or a change in ground elevation conditions could prevent fall from being achieved.

Jeff

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Tuesday, August 30, 2016 7:24 AM  
**To:** Williams, Jeffrey  
**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
Checking to see if you had a chance to review the plans or if you have any questions.  
Thanks  
Chris

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Wednesday, August 17, 2016 9:27 AM  
**To:** 'Williams, Jeffrey'  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
I dropped off 2 plans yesterday afternoon. Any questions let me know.  
Thanks  
Chris

---

**From:** Williams, Jeffrey [<mailto:jewilliams@howardcountymd.gov>]  
**Sent:** Monday, August 15, 2016 3:36 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

Send in two paper copies to my attention and I'll have someone else review them. Thanks  
Jeff

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Thursday, August 11, 2016 9:40 AM  
**To:** Williams, Jeffrey  
**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com); Bernard, Dana  
**Subject:** FW: Streaker Property BAT Plan

Jeff,  
I forwarded this to Dana but understand she will be out of the office until the end of the month. Is there a way to have this reviewed prior to her return?  
Thanks  
Chris

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Thursday, August 11, 2016 9:34 AM  
**To:** 'Bernard, Dana'

**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)

**Subject:** RE: Streaker Property BAT Plan

Dana,

I revised the grading within 25' of the septic to a slope of 4.5:1 or 22%. I also move the trenches up so that they were closer to the distribution box. Let me know if this works for you and I'll send up the plan for approval. Any questions let me know.

Thanks

Chris

---

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]

**Sent:** Wednesday, August 10, 2016 10:44 PM

**To:** Chris Ogle

**Subject:** RE: Streaker Property BAT Plan

Chris,

Your plan looks fine. However, the grading near the driveway and in the back of the house must remain 25 feet from the septic area including the tank. And the distribution box is normally at the end of the trench or closer to it. Please revise and resubmit.

Thanks

Dana

---

**From:** Chris Ogle [[cogle@bei-civilengineering.com](mailto:cogle@bei-civilengineering.com)]

**Sent:** Tuesday, August 09, 2016 1:17 PM

**To:** Bernard, Dana

**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)

**Subject:** Streaker Property BAT Plan

Dana,

We submitted a BAT Plan for review in the middle of July. Just checking to see if you have any questions or need additional information on the referenced property.

Thanks

Chris

**J. CHRIS OGLE**

Benchmark Engineering, Inc.

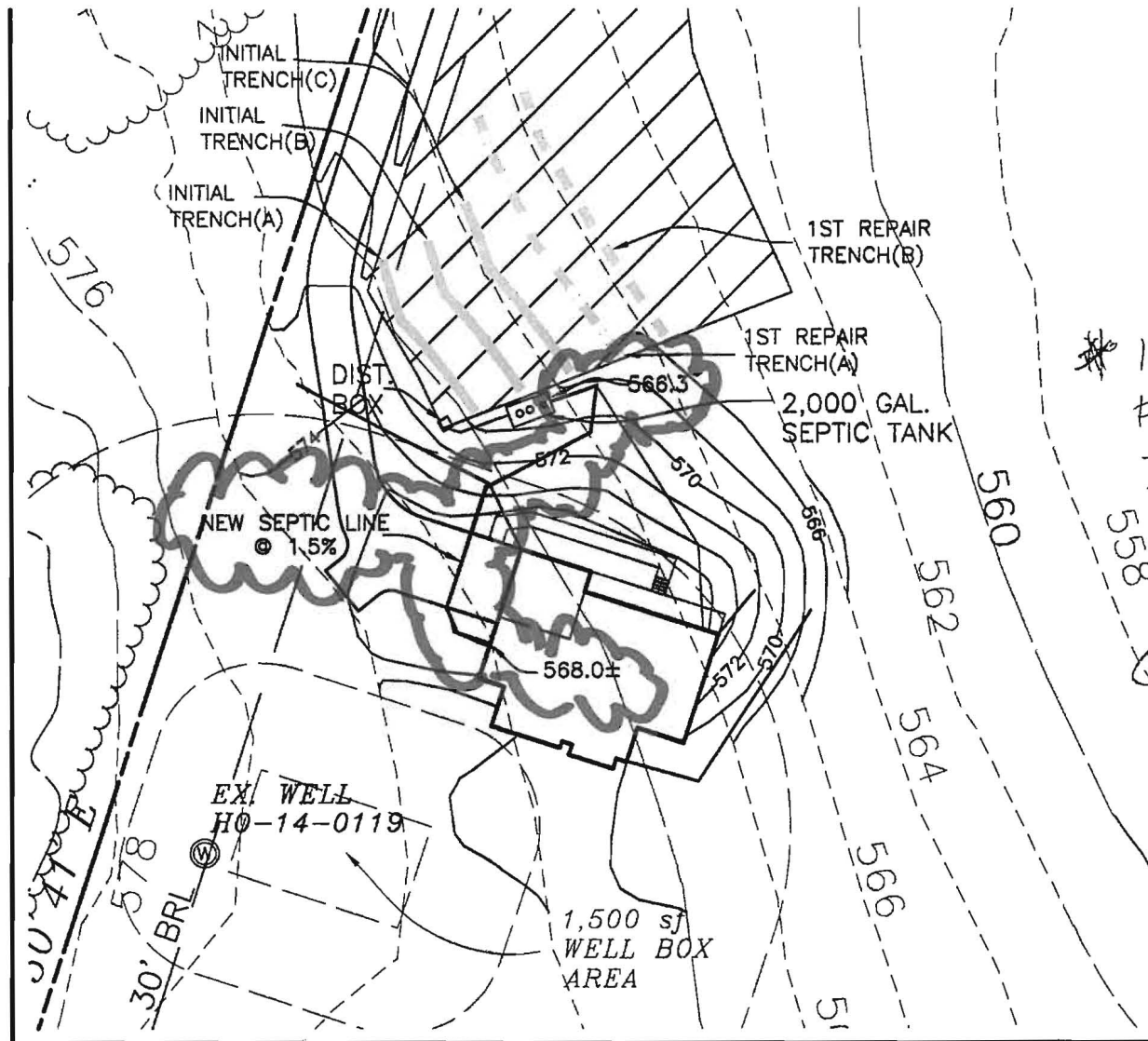
8480 Baltimore National Pike, Suite 315

Ellicott City, MD 21043

410-465-6105 ext. 1151

410-465-6644 FAX



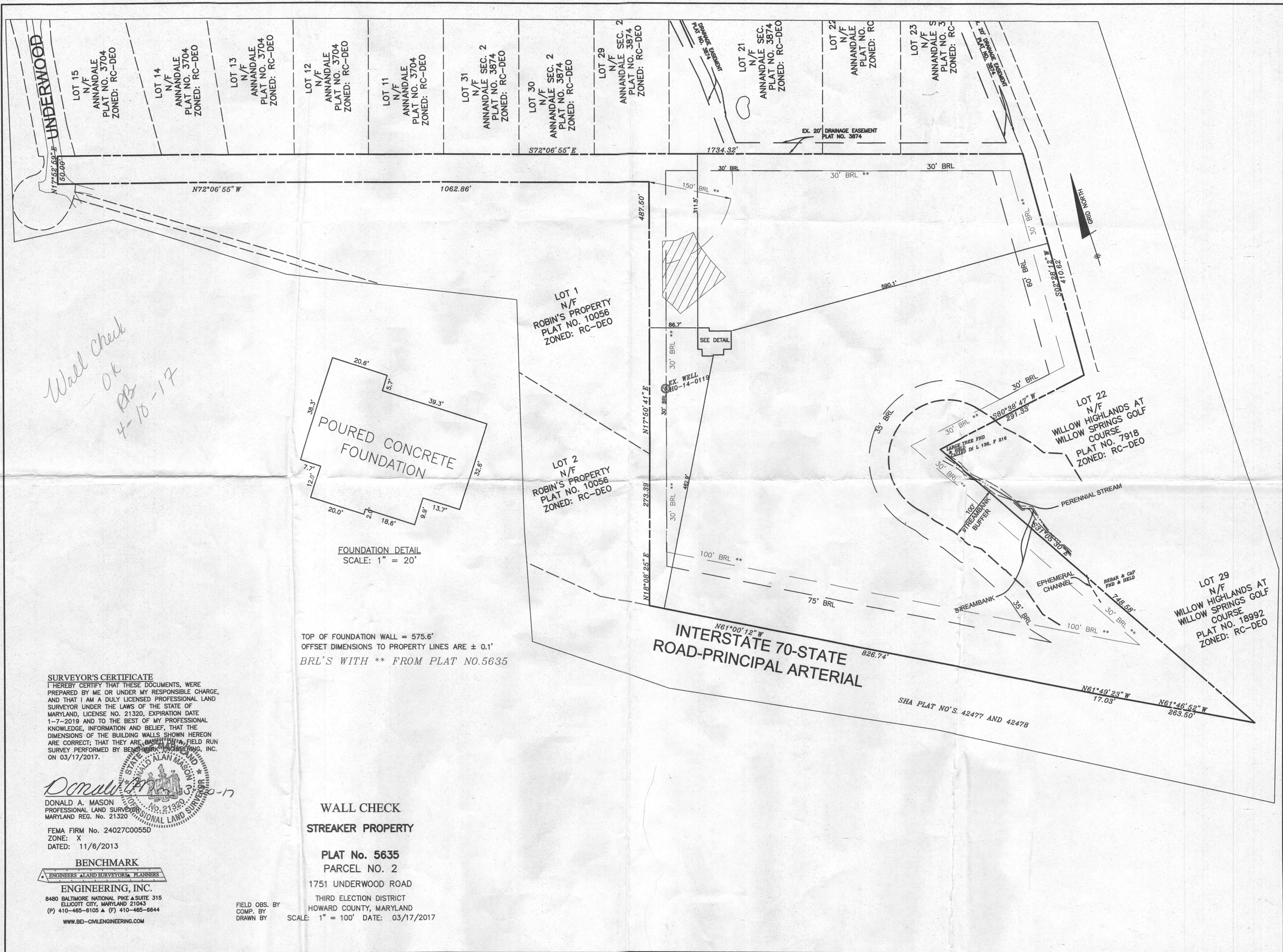


\* 115UF @ 1.5%  
FROM HOUSE TO  
TANK.

PLAN

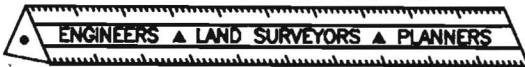
SCALE: 1" = 50'







# BENCHMARK



## ENGINEERING, INC.

8480 Baltimore National Pike • Suite 315 • Ellicott City, Maryland 21043  
410-465-6105 410-465-6644 (Fax)

## LETTER OF TRANSMITTAL

DATE <u>2/9/17</u>	PROJECT No. <u>2001</u>
ATTENTION <u>DANA BERNARD</u>	
RE: <u>SEWERAGE PROPERTY</u>	
<u>SEPTIC PLAN</u>	

TO: HOWARD COUNTY HEALTH  
DEPARTMENT

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via \_\_\_\_\_ the following items

☐ Photocopies ☒ Prints ☐ Originals ☐ Samples

☐ Specifications ☐ Invoices ☐ Change Order ☐ Other \_\_\_\_\_

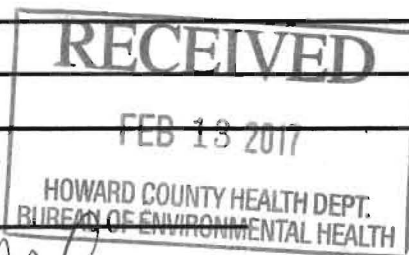
COPIES of	No. of SHEETS	DESCRIPTION
<u>3</u>	<u>1</u>	<u>RAISED SEPTIC PLAN</u>

THESE ARE TRANSMITTED as checked below

☐ For Comment ☒ For your use ☐ For Approval

☐ For Review ☒ As requested ☐ Other \_\_\_\_\_

REMARKS: ADDED 2000 GAL 2 COMPARTMENT TANK  
DETAIL.



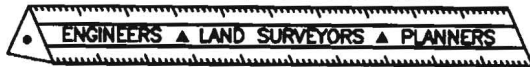
COPY TO: \_\_\_\_\_

RECEIVED BY: [Signature]

SIGNED: J. Chris Ogilvie

If enclosures are not as noted, kindly notify us at once.

# BENCHMARK



## ENGINEERING, INC.

8480 Baltimore National Pike • Suite 315 • Ellicott City, Maryland 21043  
410-465-6105 410-465-6644 (Fax)

## LETTER OF TRANSMITTAL

DATE	11/30/16	PROJECT No.	2001
ATTENTION	DANA BERNARD		
RE:	STRECKER PROPERTY REVISED SEPTIC PLAN		

TO: HOWARD COUNTY HEALTH  
DEPARTMENT

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items

☐ Photocopies ☒ Prints ☐ Originals ☐ Samples  
☐ Specifications ☐ Invoices ☐ Change Order ☐ Other \_\_\_\_\_

COPIES of	No. of SHEETS	DESCRIPTION
3	1	REVISED SEPTIC PLAN
1		BAT REMOVAL REQUEST LETTER

THESE ARE TRANSMITTED as checked below

☐ For Comment ☒ For your use ☐ For Approval  
☐ For Review ☐ As requested ☐ Other \_\_\_\_\_

REMARKS: DANA,  
WE WOULD LIKE TO REPLACE THE BAT  
TANK WITH A 3000 GAL SEPTIC TANK, 2  
COMPARTMENTS. PLEASE LET ME KNOW IF YOU  
HAVE ANY QUESTIONS.

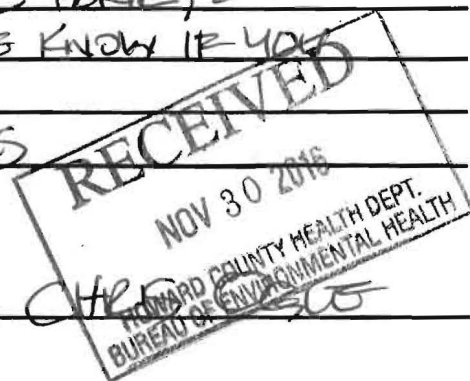
THANKS

COPY TO: \_\_\_\_\_

RECEIVED BY: [Signature]

If enclosures are not as noted, kindly notify us at once.

SIGNED: J. CHES



# BENCHMARK



ENGINEERING, INC.

8480 Baltimore National Pike • Suite 315 • Ellicott City, Maryland 21043  
410-465-6105 410-465-6644 (Fax)

## LETTER OF TRANSMITTAL

DATE	7/14/16	PROJECT No.	21061
ATTENTION	DANA BORNARD		
RE:	STREAKER PROPERTY BAT PLAN		

TO: HOWARD COUNTY HEALTH  
DEPARTMENT

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via \_\_\_\_\_ the following items

- ☐ Photocopies ☒ Prints ☐ Originals ☐ Samples  
☐ Specifications ☐ Invoices ☐ Change Order ☐ Other \_\_\_\_\_

COPIES of	No. of SHEETS	DESCRIPTION
4	1	BAT PLAN
1	1	ORIGINAL WELL CORT PLAN

THESE ARE TRANSMITTED as checked below

- ☐ For Comment ☒ For your use ☐ For Approval  
☐ For Review ☐ As requested ☐ Other \_\_\_\_\_



REMARKS: DANA,  
ONLY ONE HOUSE IS PROPOSED ON  
THIS PROPERTY AT THIS TIME. WE UTILIZED  
THE APPROVED SEPTIC AREA FOR LOT 1 AND  
THE EXISTING WELL.

COPY TO: \_\_\_\_\_

RECEIVED BY: Marion Curry

SIGNED: J. CHRIS OGLE

If enclosures are not as noted, kindly notify us at once.



# BENCHMARK



ENGINEERING, INC.

8480 Baltimore National Pike • Suite 315 • Ellicott City, Maryland 21043  
410-465-6105 410-465-6644 (Fax)

## LETTER OF TRANSMITTAL

DATE	8/10/10	PROJECT No.	20001
ATTENTION	JEFF WILLIAMS		
RE:	STREAKER PROPERTY		
	BAT PLAN		

TO: HOWARD COUNTY HEALTH  
DEPARTMENT

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items

☐ Photocopies ☒ Prints ☐ Originals ☐ Samples

☐ Specifications ☐ Invoices ☐ Change Order ☐ Other \_\_\_\_\_

COPIES of	No. of SHEETS	DESCRIPTION
2	1	REVISION BAT PLAN

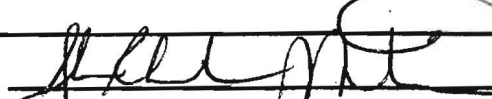
THESE ARE TRANSMITTED as checked below

☐ For Comment ☒ For your use ☐ For Approval

☐ For Review ☒ As requested ☐ Other \_\_\_\_\_

REMARKS: JEFF,  
THANKS FOR THE REVIEW.  
C

COPY TO: \_\_\_\_\_

RECEIVED BY: 

If enclosures are not as noted, kindly notify us at once.

SIGNED: J. CHRIS OSIE

# BENCHMARK



## ENGINEERING, INC.

8480 Baltimore National Pike • Suite 315 • Ellicott City, Maryland 21043  
410-465-6105 410-465-6644 (Fax)

### LETTER OF TRANSMITTAL

TO: HOWARD COUNTY HEALTH  
DEPARTMENT

DATE	9/15/16	PROJECT No.	20061
ATTENTION	JEFF WILLIAMS		
RE:	GREATER PROPERTY BAT PLAN		

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items

☐ Photocopies ☒ Prints ☐ Originals ☐ Samples  
☐ Specifications ☐ Invoices ☐ Change Order ☐ Other \_\_\_\_\_

COPIES of	No. of SHEETS	DESCRIPTION
3	1	REVISED BAT PLAN

THESE ARE TRANSMITTED as checked below

☐ For Comment ☒ For your use ☐ For Approval  
☐ For Review ☒ As requested ☐ Other \_\_\_\_\_

REMARKS: JEFF,  
REVISED TRENCHES PER UPDATED  
TRENCH WORKSHEET.

COPY TO: \_\_\_\_\_

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

SIGNED: J. CHRIS. OGAT

If enclosures are not as noted, kindly notify us at once.

## Chris Ogle

---

**From:** Williams, Jeffrey <jewilliams@howardcountymd.gov>  
**Sent:** Tuesday, August 30, 2016 2:40 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan  
**Attachments:** 20160830144449326.pdf

I reviewed the plan. I didn't see a set of specs for the property in the file. I'm wondering if you got any from Dana? From my look at the perc test results, the specs should be a 0.8 loading rate with sidewall credit from 3-8' (see attached spec sheet for all three systems). This gets you a total trench length only a few feet longer than what you have, but you'd have to switch to a pumped system to get an invert at 3'. If you kept it at 4' and gave up a foot of sidewall, you'd need another trench to get the total length needed. Also, you don't need to show specs for system #3 if it's obvious that a 3<sup>rd</sup> system can fit, such as with this case. If it's a tight squeeze, we look to see the 3<sup>rd</sup> system.

Also, if you end up keeping it as a gravity system, please note that it is very possible that conditions in the field will require it to change to a pumped system, which will necessitate a revised BAT plan. At 1% fall all the way down the line, any small change in elevation of the line leaving the foundation or a change in ground elevation conditions could prevent fall from being achieved.

Jeff

---

**From:** Chris Ogle [mailto:cogle@bei-civilengineering.com]  
**Sent:** Tuesday, August 30, 2016 7:24 AM  
**To:** Williams, Jeffrey  
**Cc:** psdimarco@gmail.com  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
Checking to see if you had a chance to review the plans or if you have any questions.  
Thanks  
Chris

---

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**Sent:** Wednesday, August 17, 2016 9:27 AM  
**To:** 'Williams, Jeffrey'  
**Subject:** RE: Streaker Property BAT Plan

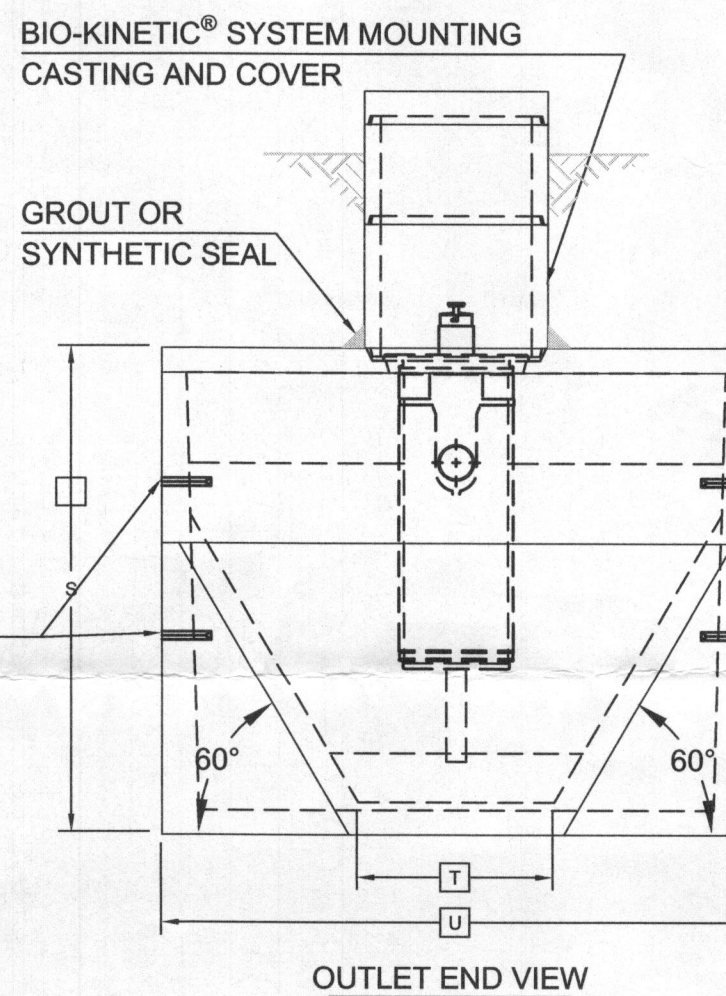
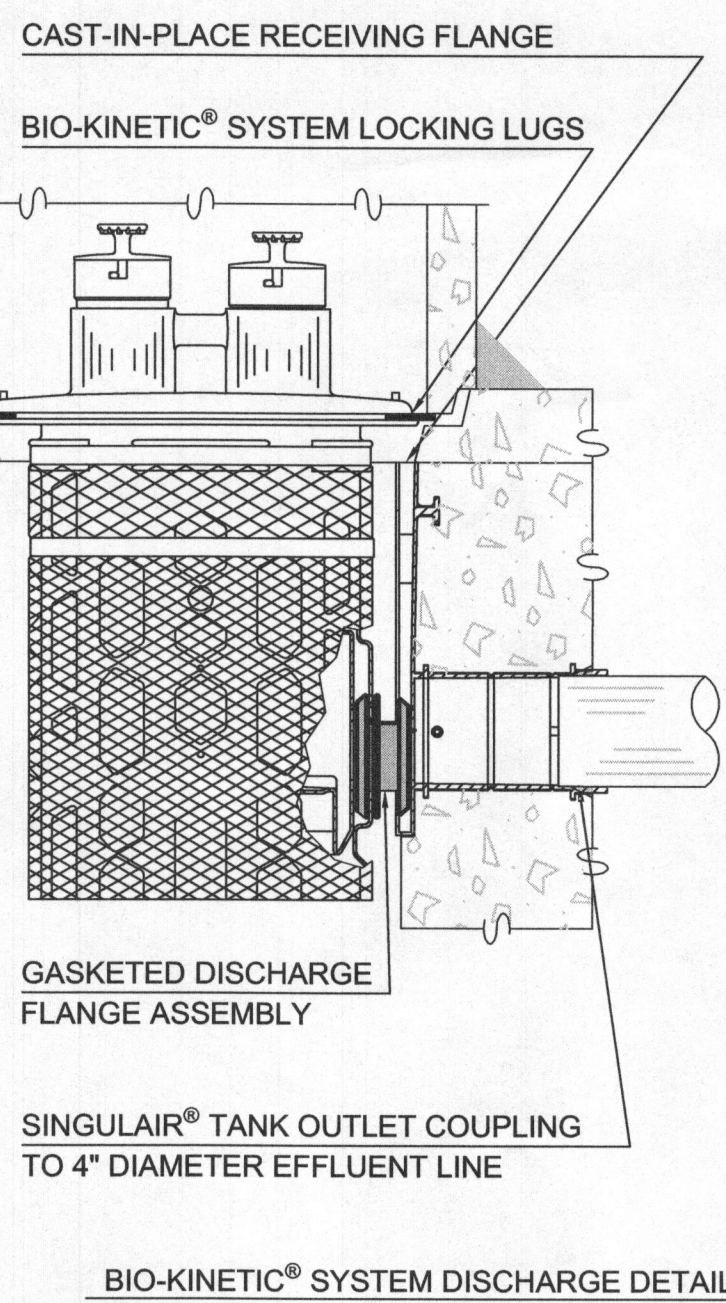
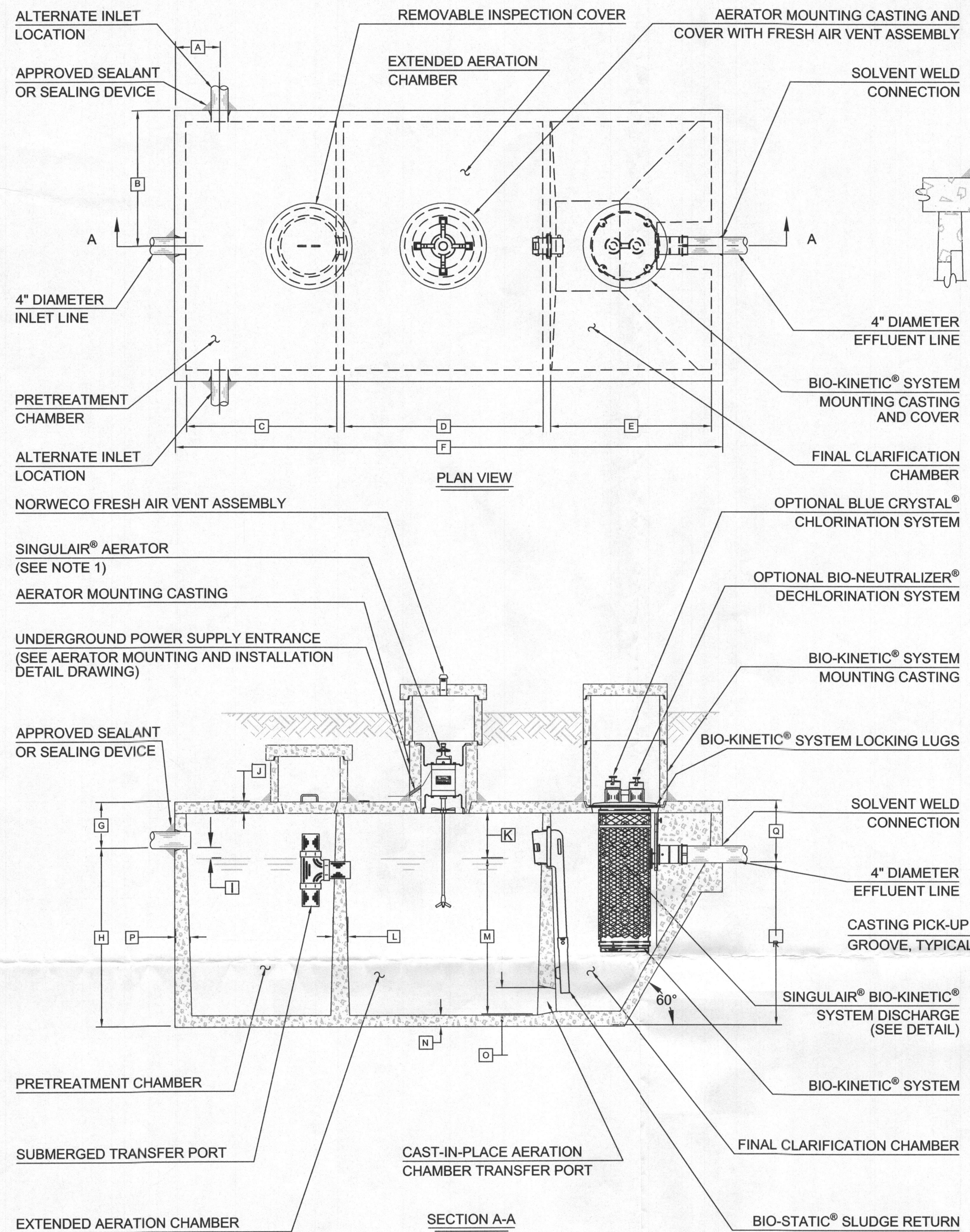
Jeff,  
I dropped off 2 plans yesterday afternoon. Any questions let me know.  
Thanks  
Chris

---

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**Sent:** Monday, August 15, 2016 3:36 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

Send in two paper copies to my attention and I'll have someone else review them. Thanks  
Jeff





NOTE: TOTAL SYSTEM CAPACITY: 1,300 GALLONS  
 RATED CAPACITY: 600 GALLONS PER DAY  
 PER MANUFACTURER.  
 ABLE TO SERVE UP TO 5 (5) BEDROOMS.

SEE MANUFACTURER SPECIFICATIONS FOR  
 DETAILS. WWW.NORWECO.COM

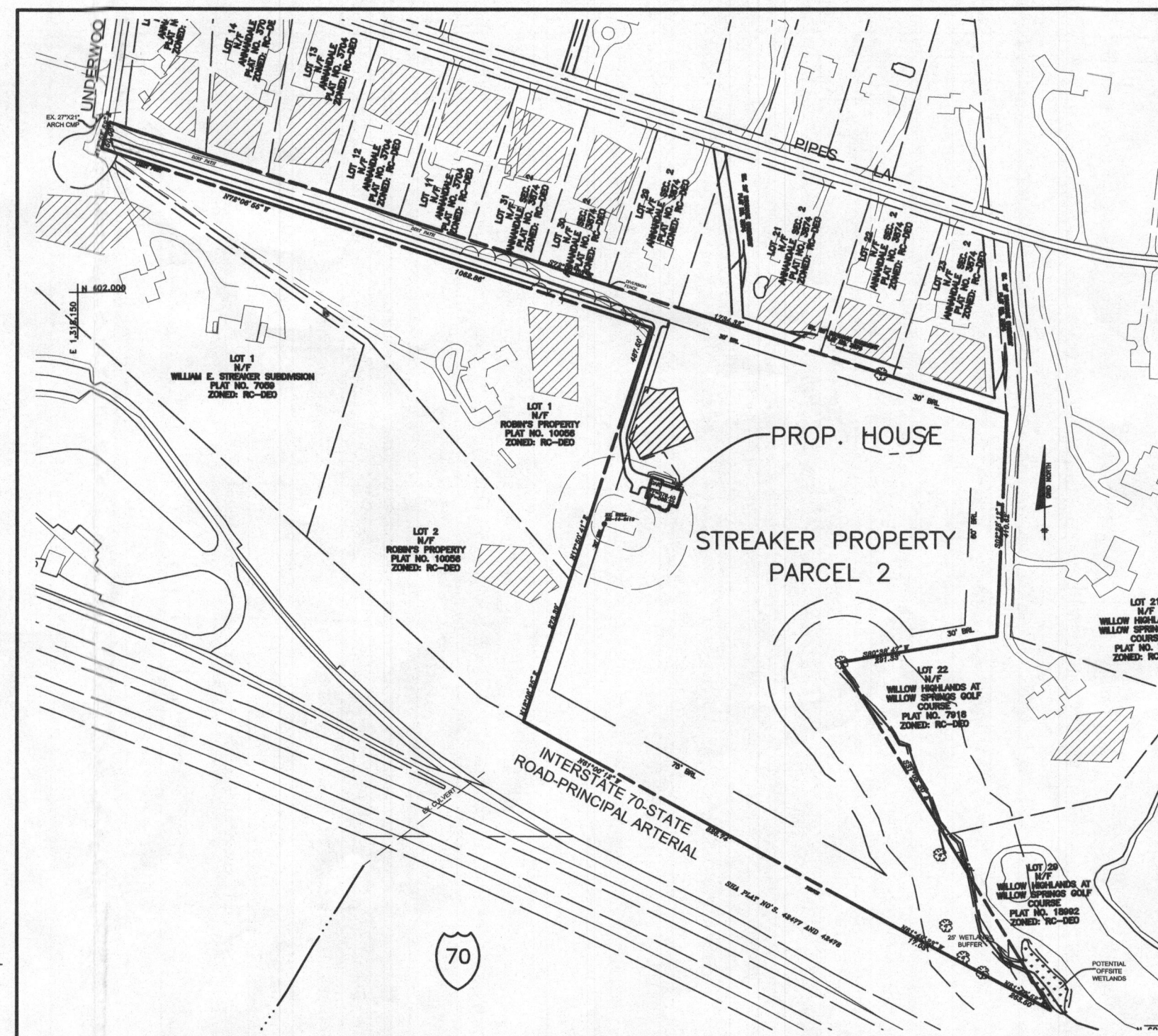
CRITICAL DIMENSIONS			
A	1'-0"	N	0'-3"
B	3'-0"	O	0'-6"
C	3'-4"	P	0'-3"
D	4'-5"	Q	1'-4"
E	3'-7"	R	3'-8"
F	12'-2"	S	5'-0"
G	1'-0"	T	2'-0"
H	4'-0"	U	6'-0"
I	0'-3"	V	
J	0'-3"	W	
K	1'-0"	X	
L	0'-2"	Y	
M	3'-6"	Z	

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT

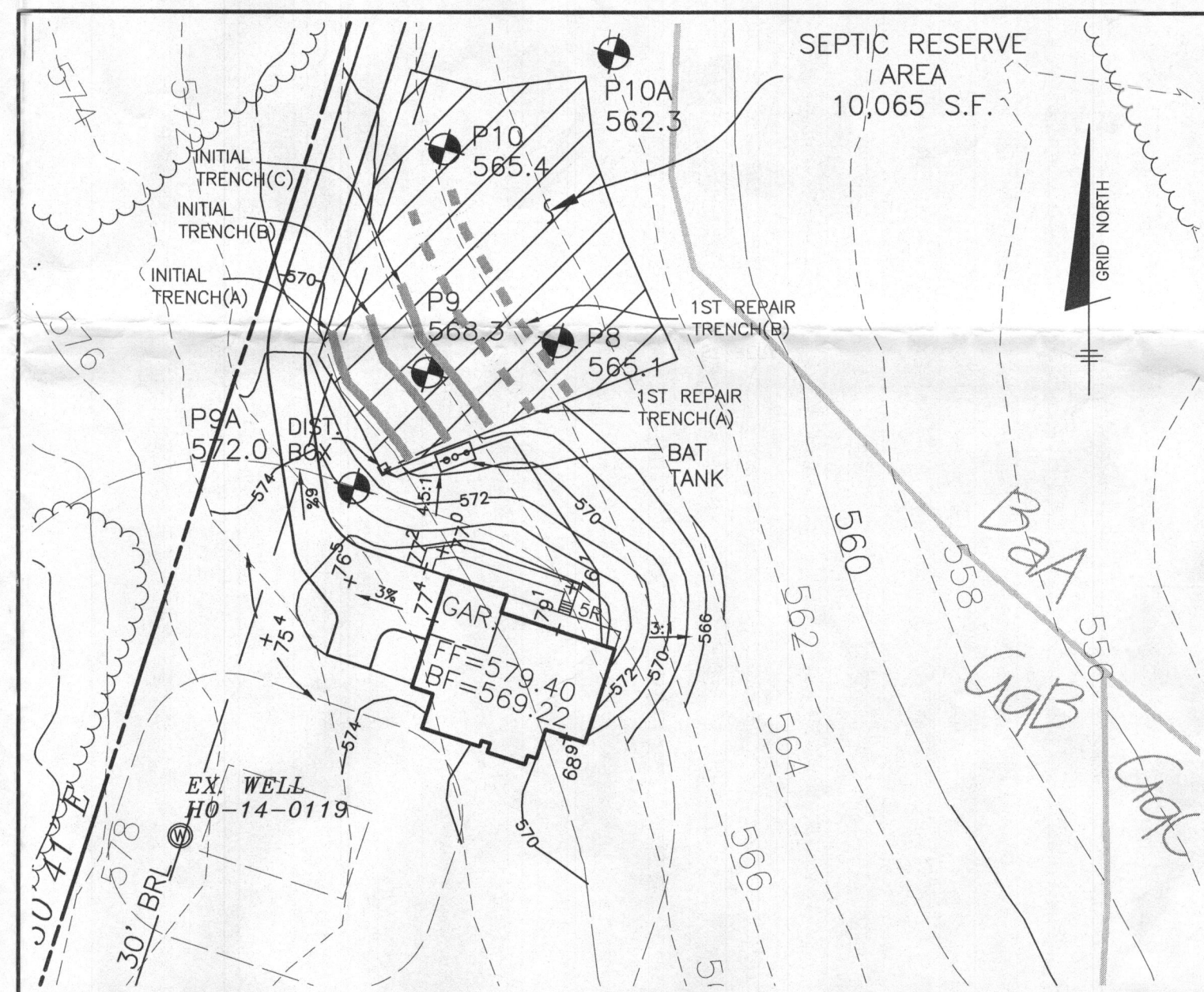
HOWARD COUNTY HEALTH OFFICER DATE

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS  
 BASED ON FIELD WORK PERFORMED BY ME OR UNDER  
 MY DIRECT SUPERVISION, AND IS CORRECT, TO THE  
 BEST OF MY KNOWLEDGE AND BELIEF.

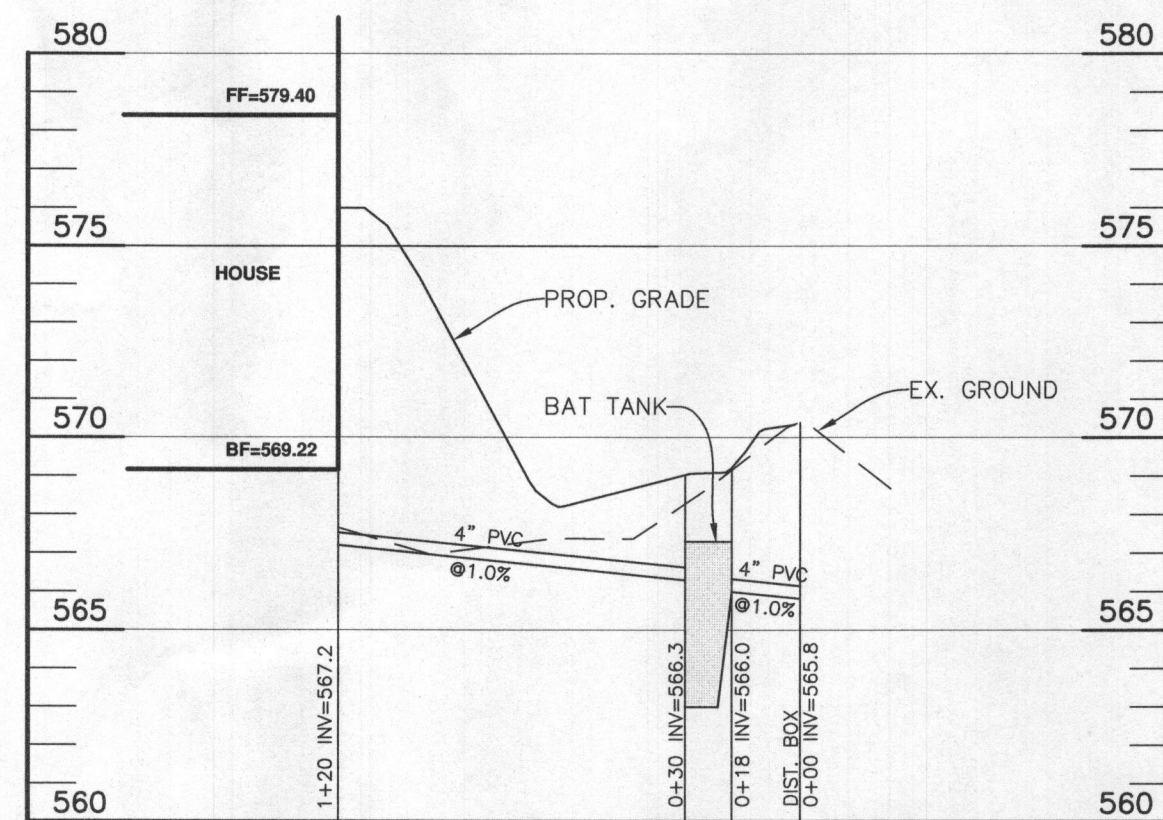
J. CHRIS OGLE



LOCATION PLAN  
 SCALE: 1" = 250'



PLAN  
 SCALE: 1" = 50'

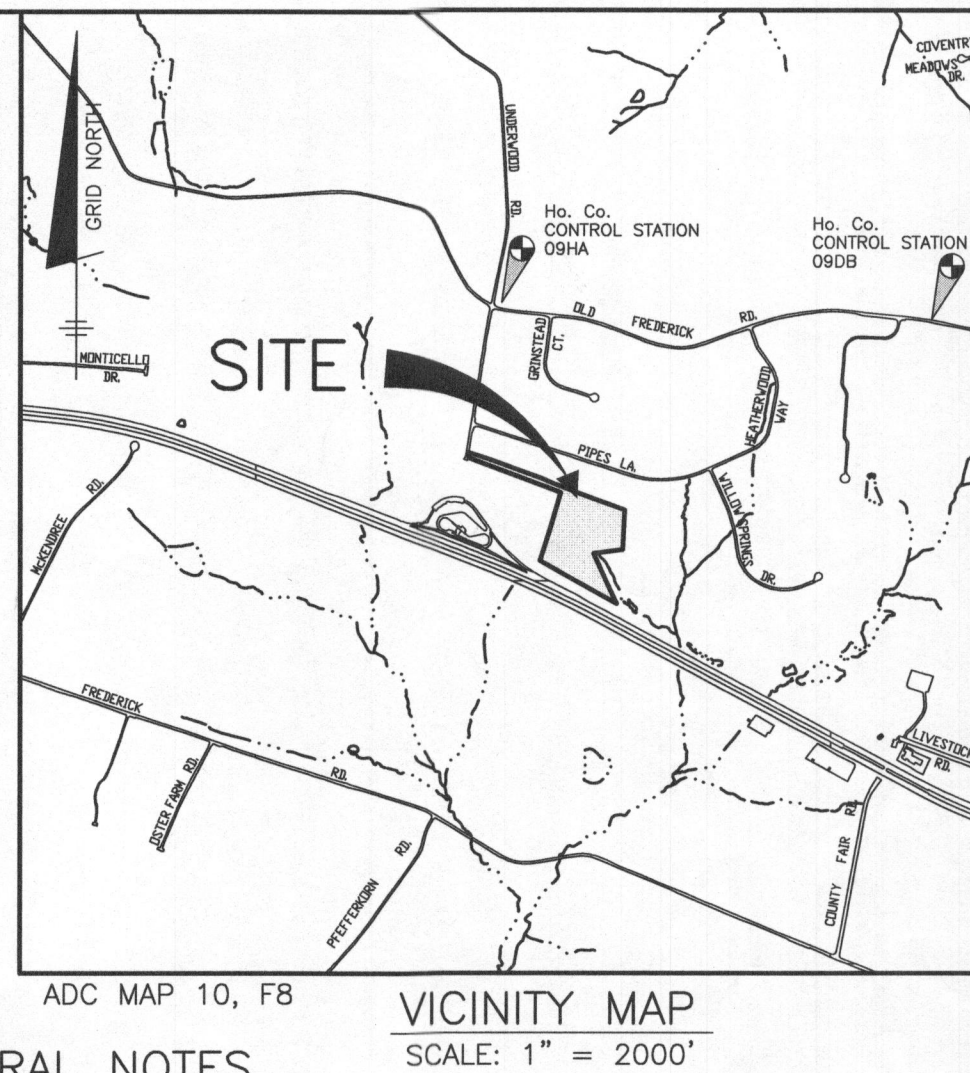


PROFILE  
 SCALE: HORI. 1" = 50'  
 VERT. 1" = 5'

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND PAGE 4			
SYMBOL	HYDRIC	HYDROLOGIC GROUP	NAME
BaA	YES	D	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES
GaB	B	0.20	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
GgC	B	0.20	GLENELG LOAM, 8 TO 15 PERCENT SLOPES

BENCH MARKS	
HO. CO. #09HA (NAD '83)	ELEV. 604.471
STANDARD DISC ON CONCRETE MONUMENT	
UNDERWOOD ROAD 0.1 MILES NORTH OF RTE. 99	
N 604263.527	E 1318531.061
HO. CO. #09DB (NAD '83)	ELEV. 609.215
STANDARD DISC ON CONCRETE MONUMENT	
RTE. 144 0.4 MILES OF UNDERWOOD ROAD	
(BY #13555)	
N 605072.385	E 1316990.416

trench specs we  
 a 0.5 sidewall credit,  
 but we 4-8' add  
 sidewall, which is a 0.42  
 credit. They could go  
 with shorter trenches if  
 they want. Let them know  
 we see it they want to switch from  
 BAT in your GP comments



GENERAL NOTES

- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF A MINIMUM OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT 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 SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
- THE EXISTING WELL SHOWN ON THIS PLAN HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC. JULY 2016 AND IS ACCURATELY SHOWN.
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ANY CHANGES TO THE PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THE PROPERTY'S BOUNDARIES EXCEPT THAT WHICH IS SHOWN.
- EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
- TOPOGRAPHY SHOWN ON THE LOTS IS PER FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC., IN JUNE 2016.
- ANY CHANGE TO THE LOCATION 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 MANUFACTURE'S SPECIFICATIONS IS AS SHOWN.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED 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 THE COMPLETION OF THE BAT INSTALLATION AND 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.

INITIAL SYSTEM			
Number of Bedrooms	5		
Application Rate	0.8	gpd/sf	
Effective Area Beginning Depth	3	ft	
Bottom Max Depth	8	ft	
Design Flow	750	gpd	
Drainage Field square footage	937.5	sf	
Sidewall reduction credit	0.5		
Trench width	3		
Effective Area Depth	3		
Linear Length of trench Required	156	lf	

1ST REPAIR SYSTEM			
Number of Bedrooms	5		
Application Rate	0.8	gpd/sf	
Effective Area Beginning Depth	3	ft	
Bottom Max Depth	8	ft	
Design Flow	750	gpd	
Drainage Field square footage	937.5	sf	
Sidewall reduction credit	0.5		
Trench width	3		
Effective Area Depth	3		
Linear Length of trench Required	156	lf	

#### TRENCH INFORMATION

INITIAL TRENCH LENGTH(A): 50'  
 GROUND ELEVATION: 569.8  
 INVERT ELEVATION: 565.8  
 MAX. ELEVATION: 561.8  
 INITIAL TRENCH LENGTH(B): 50'  
 GROUND ELEVATION: 568.7  
 INVERT ELEVATION: 564.7  
 MAX. ELEVATION: 560.7  
 INITIAL TRENCH LENGTH(C): 56'  
 GROUND ELEVATION: 567.7  
 INVERT ELEVATION: 563.7  
 MAX. ELEVATION: 559.7  
 1ST REPAIR TRENCH LENGTH(A): 78'  
 GROUND ELEVATION: 566.8  
 INVERT ELEVATION: 562.8  
 MAX. ELEVATION: 558.8  
 1ST REPAIR TRENCH LENGTH(B): 78'  
 GROUND ELEVATION: 565.7  
 INVERT ELEVATION: 561.7  
 MAX. ELEVATION: 557.7

#### LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- SEPTIC AREA
- PASSED SEPTIC TEST LOCATION
- EX. WELL
- SOILS DELINEATION

#### Required BAT Site Plan 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 shall be per the manufacturer's specification.
- The blower may not be located further from the tank than the manufacturer's specifications.
- 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.

#### 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.

THE DETAILS SHOWN HEREON ARE BASED ON TYPICAL  
 MANUFACTURES DRAWINGS PROVIDED BY NORWECO,  
 ACTUAL MANUFACTURER MAY DIFFER. CONTRACTOR TO  
 VERIFY THAT ALL DIMENSION ARE IN COMPLIANCE WITH THE  
 HEALTH DEPARTMENT REQUIREMENTS.

BAT TECHNOLOGY SHALL BE IN COMPLIANCE WITH THE CURRENT LIST APPROVED BY MDE ON THE FOLLOWING  
 WEB SITE: [http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrt/osds/brf\\_bat\\_process.aspx](http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrt/osds/brf_bat_process.aspx)

Approved Septic System Plan  
 Howard County Health Department  
 Date: 9/29/16  
 Signature: [Signature]  
 Engineer was warned that the system could possibly be changed in the field to a pump system because of the 1 1/2' fall proposed.

NO.	DATE	REVISION

**BENCHMARK**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-6105 (F) 410-465-6644  
 WWW.BEI-CIVILENGINEERING.COM

OWNER:

PAUL S. DI MARCO  
 3844 QUARRY AVE.  
 BALTIMORE, MD 21211  
 443-668-0100

**STREAKER PROPERTY  
 PARCEL 2**

TAX MAP 9 AND 15, GRID 21, PARCEL 328  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

**BAT SITE PLAN AND INSTALLATION DETAILS**

DATE: SEPT. 2016 BEI PROJECT NO. 2661

SCALE: AS SHOWN SHEET 1 OF 1

DESIGN: JCO DRAFT: JCO








## Bernard, Dana

---

**From:** Bernard, Dana   
**Sent:** Thursday, December 15, 2016 5:07 PM  
**To:** ROLIFF@CARUSOHOMES.COM  
**Cc:** Chris Ogle (cogle@bei-civilengineering.com)  
**Subject:** 1751 Underwood Road

Good Afternoon Mr. Oliff,

I have received your request to replace the BAT Tank with a two compartment tank and it will be honored. However, we will need floor plans for the 4 bedroom house you are proposing. In order for me to move forward with your building permit I will need floor plans to complete the final review.

Thank you & Have a\*")

,,.,,\*") ,,\*")

(,.,\* 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)



## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Tuesday, August 30, 2016 2:40 PM  
**To:** 'Chris Ogle'  
**Subject:** RE: Streaker Property BAT Plan  
**Attachments:** 20160830144449326.pdf

I reviewed the plan. I didn't see a set of specs for the property in the file. I'm wondering if you got any from Dana? From my look at the perc test results, the specs should be a 0.8 loading rate with sidewall credit from 3-8' (see attached spec sheet for all three systems). This gets you a total trench length only a few feet longer than what you have, but you'd have to switch to a pumped system to get an invert at 3'. If you kept it at 4' and gave up a foot of sidewall, you'd need another trench to get the total length needed. Also, you don't need to show specs for system #3 if it's obvious that a 3<sup>rd</sup> system can fit, such as with this case. If it's a tight squeeze, we look to see the 3<sup>rd</sup> system.

Also, if you end up keeping it as a gravity system, please note that it is very possible that conditions in the field will require it to change to a pumped system, which will necessitate a revised BAT plan. At 1% fall all the way down the line, any small change in elevation of the line leaving the foundation or a change in ground elevation conditions could prevent fall from being achieved.

Jeff

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Tuesday, August 30, 2016 7:24 AM  
**To:** Williams, Jeffrey  
**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
Checking to see if you had a chance to review the plans or if you have any questions.  
Thanks  
Chris

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Wednesday, August 17, 2016 9:27 AM  
**To:** 'Williams, Jeffrey'  
**Subject:** RE: Streaker Property BAT Plan

Jeff,  
I dropped off 2 plans yesterday afternoon. Any questions let me know.  
Thanks  
Chris

---

**From:** Williams, Jeffrey [<mailto:jewilliams@howardcountymd.gov>]  
**Sent:** Monday, August 15, 2016 3:36 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

Send in two paper copies to my attention and I'll have someone else review them. Thanks  
Jeff

---

**From:** Chris Ogle [mailto:cogle@bei-civilengineering.com]  
**Sent:** Thursday, August 11, 2016 9:40 AM  
**To:** Williams, Jeffrey  
**Cc:** psdimarco@gmail.com; Bernard, Dana  
**Subject:** FW: Streaker Property BAT Plan

Jeff,  
I forwarded this to Dana but understand she will be out of the office until the end of the month. Is there a way to have this reviewed prior to her return?  
Thanks  
Chris

---

**From:** Chris Ogle [mailto:cogle@bei-civilengineering.com]  
**Sent:** Thursday, August 11, 2016 9:34 AM  
**To:** 'Bernard, Dana'  
**Cc:** psdimarco@gmail.com  
**Subject:** RE: Streaker Property BAT Plan

Dana,  
I revised the grading within 25' of the septic to a slope of 4.5:1 or 22%. I also move the trenches up so that they were closer to the distribution box. Let me know if this works for you and I'll send up the plan for approval. Any questions let me know.  
Thanks  
Chris

---

**From:** Bernard, Dana [mailto:dbernard@howardcountymd.gov]  
**Sent:** Wednesday, August 10, 2016 10:44 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

Chris,  
  
Your plan looks fine. However, the grading near the driveway and in the back of the house must remain 25 feet from the septic area including the tank. And the distribution box is normally at the end of the trench or closer to it. Please revise and resubmit.  
  
Thanks  
Dana

---

**From:** Chris Ogle [cogle@bei-civilengineering.com]  
**Sent:** Tuesday, August 09, 2016 1:17 PM  
**To:** Bernard, Dana  
**Cc:** psdimarco@gmail.com  
**Subject:** Streaker Property BAT Plan

Dana,  
We submitted a BAT Plan for review in the middle of July. Just checking to see if you have any questions or need additional information on the referenced property.  
Thanks  
Chris

**J. CHRIS OGLE**  
Benchmark Engineering, Inc.

8480 Baltimore National Pike, Suite 315  
Ellicott City, MD 21043  
410-465-6105 ext. 1151  
410-465-6644 FAX

## Chris Ogle

---

**From:** Chris Ogle <cogle@bei-civilengineering.com>  
**Sent:** Thursday, August 11, 2016 9:40 AM  
**To:** jewilliams@howardcountymd.gov  
**Cc:** psdimarco@gmail.com; dbernard@howardcountymd.gov  
**Subject:** FW: Streaker Property BAT Plan  
**Attachments:** Revised BAT Plan8.11.16.pdf

Jeff,  
I forwarded this to Dana but understand she will be out of the office until the end of the month. Is there a way to have this reviewed prior to her return?  
Thanks  
Chris

---

**From:** Chris Ogle [<mailto:cogle@bei-civilengineering.com>]  
**Sent:** Thursday, August 11, 2016 9:34 AM  
**To:** 'Bernard, Dana'  
**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)  
**Subject:** RE: Streaker Property BAT Plan

Dana,  
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Thanks  
Chris

---

**From:** Bernard, Dana [<mailto:dbernard@howardcountymd.gov>]  
**Sent:** Wednesday, August 10, 2016 10:44 PM  
**To:** Chris Ogle  
**Subject:** RE: Streaker Property BAT Plan

Chris,  
  
Your plan looks fine. However, the grading near the driveway and in the back of the house must remain 25 feet from the septic area including the tank. And the distribution box is normally at the end of the trench or closer to it. Please revise and resubmit.

Thanks  
Dana

---

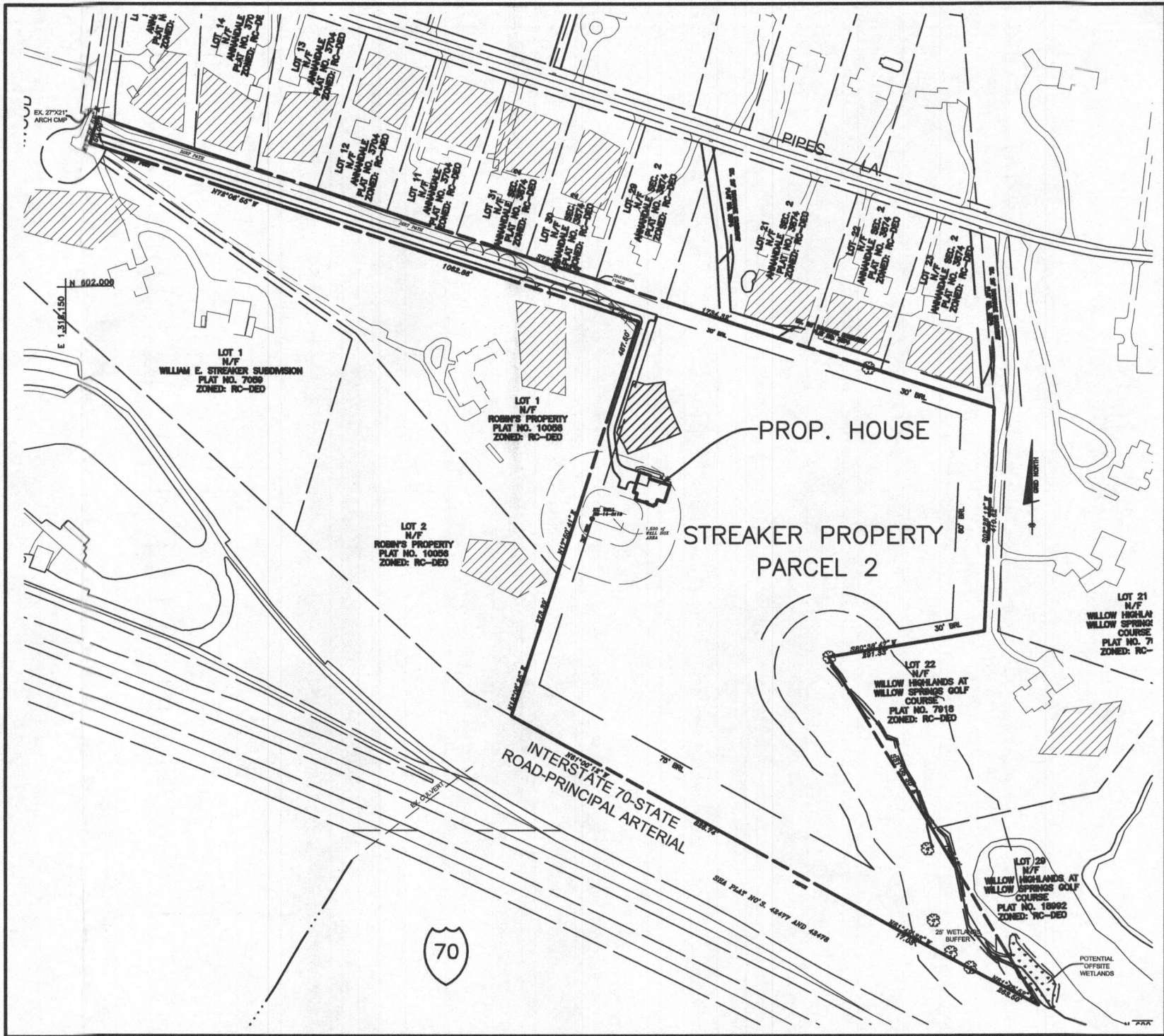
**From:** Chris Ogle [[cogle@bei-civilengineering.com](mailto:cogle@bei-civilengineering.com)]  
**Sent:** Tuesday, August 09, 2016 1:17 PM  
**To:** Bernard, Dana  
**Cc:** [psdimarco@gmail.com](mailto:psdimarco@gmail.com)  
**Subject:** Streaker Property BAT Plan

Dana,  
We submitted a BAT Plan for review in the middle of July. Just checking to see if you have any questions or need additional information on the referenced property.  
Thanks

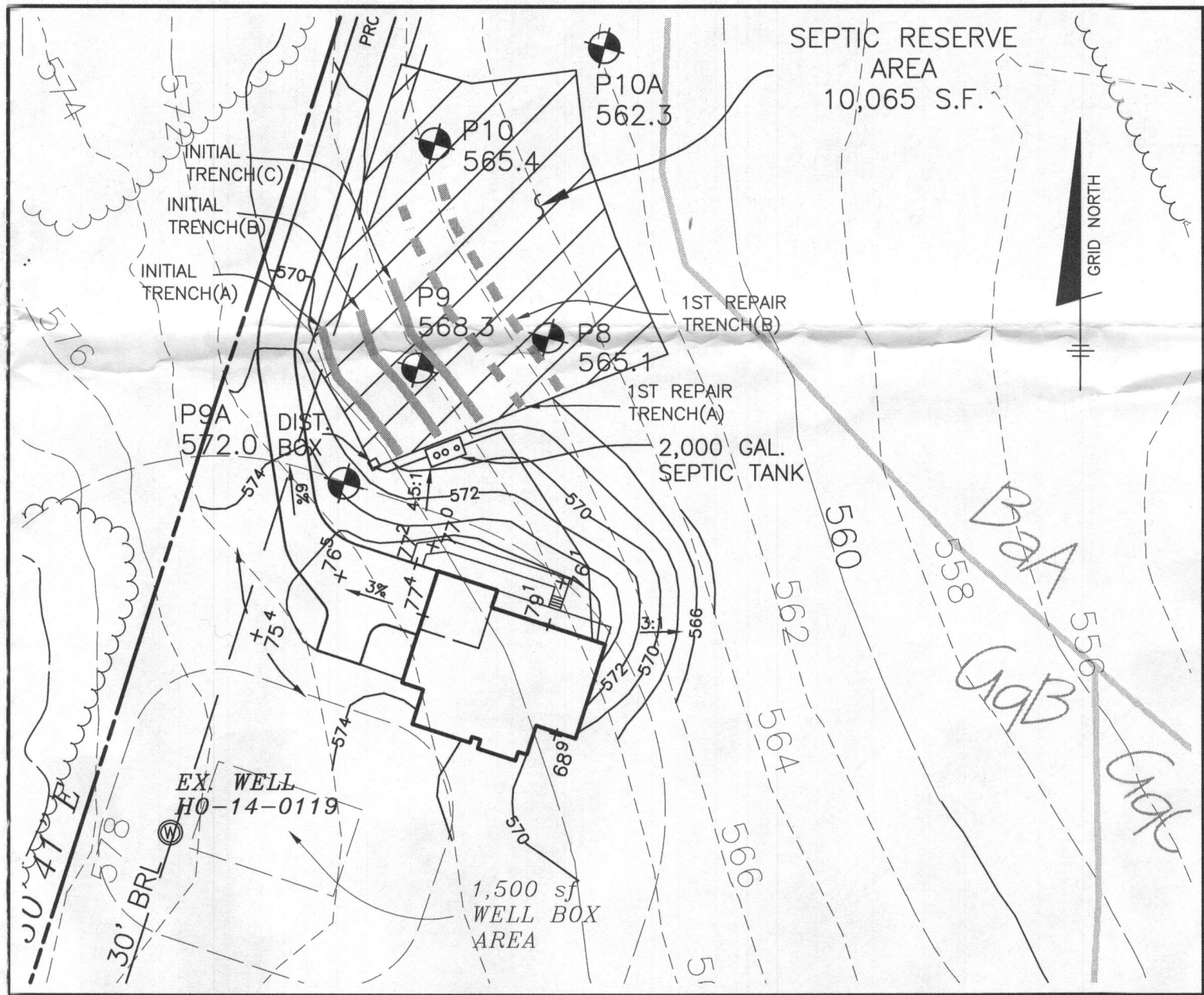




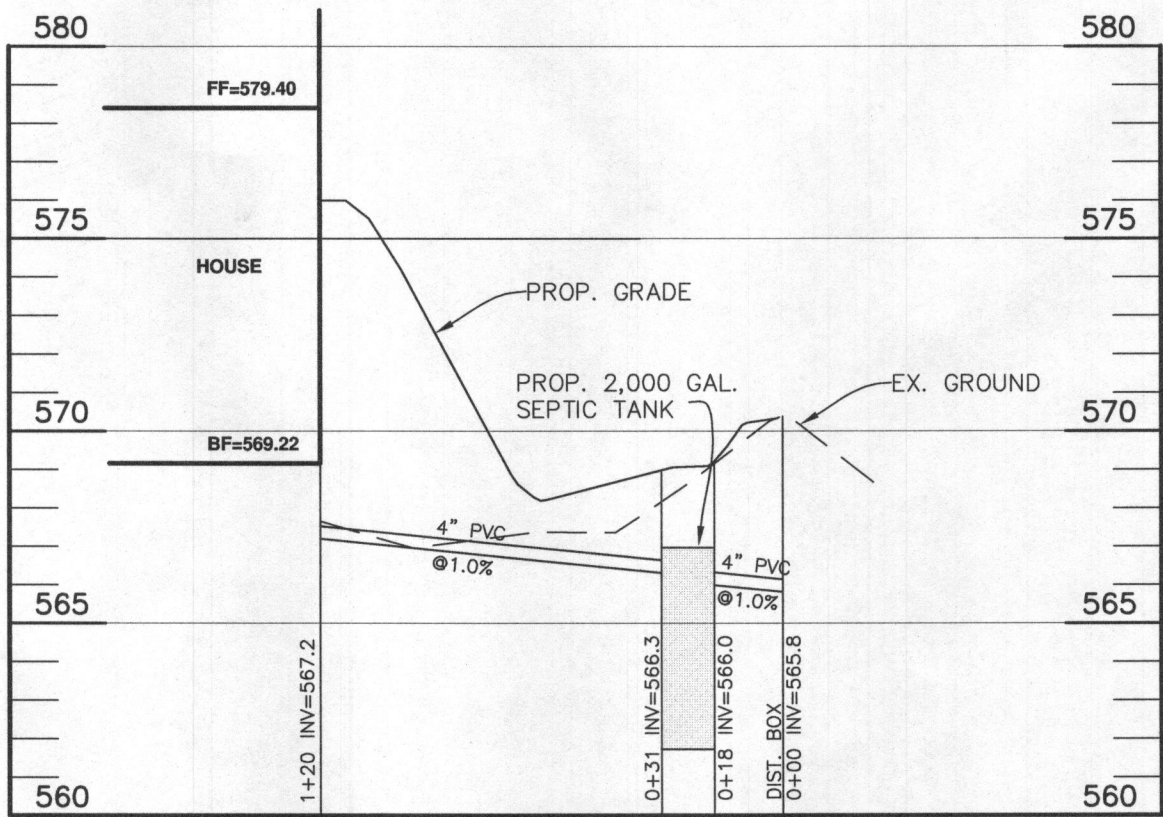




LOCATION PLAN  
SCALE: 1" = 250'



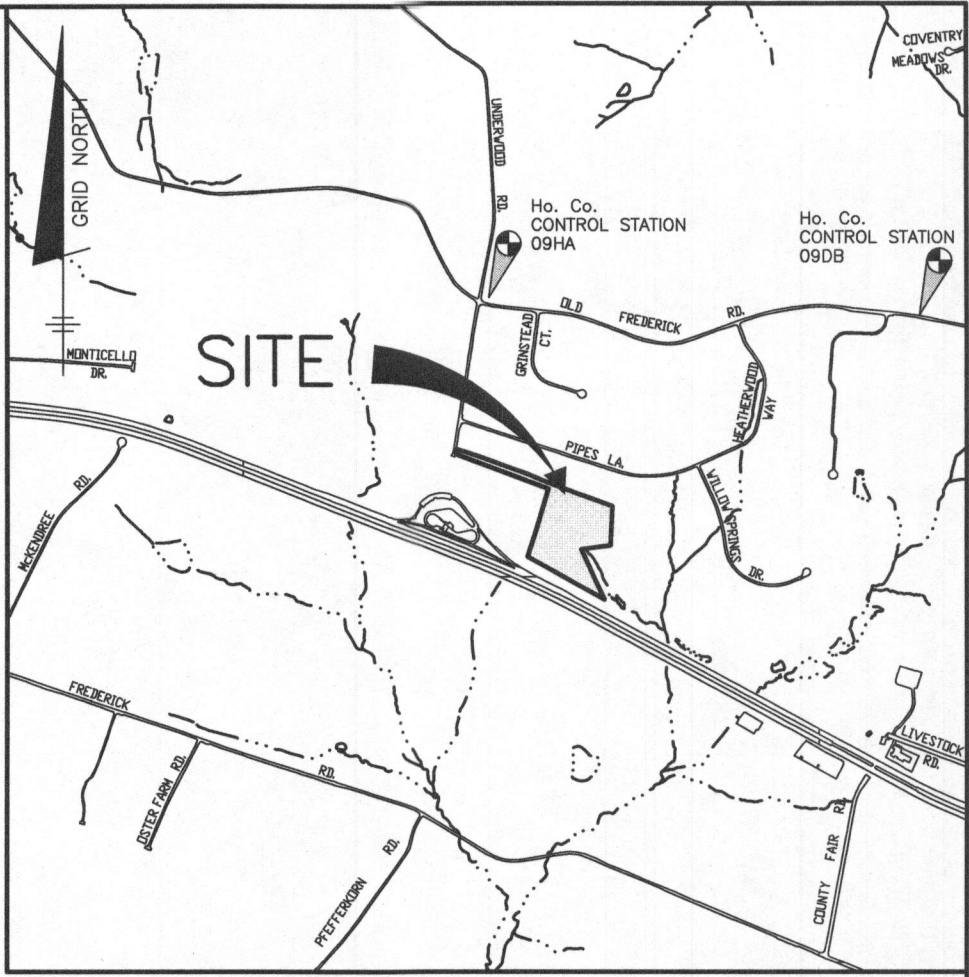
PLAN  
SCALE: 1" = 50'



PROFILE  
SCALE: HORI. 1" = 50'  
VERT. 1" = 5'

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND PAGE 4				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	Kw	NAME
BaA*	YES	D	0.32	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES
GgB	B	0.20		GLENELG LOAM, 3 TO 8 PERCENT SLOPES
GgC	B	0.20		GLENELG LOAM, 8 TO 15 PERCENT SLOPES

BENCH MARKS	
HO. CO. #09HA (NAD '83)	ELEV. 604.471
STANDARD DISC ON CONCRETE MONUMENT UNDERWOOD ROAD 0.1 MILES NORTH OF RTE. 99 N 604263.527 E 1318531.061	
HO. CO. #09DB (NAD '83)	ELEV. 609.215
STANDARD DISC ON CONCRETE MONUMENT RTE. 144 0.4 MILES OF UNDERWOOD ROAD (BY #13555) N 605072.385 E 1316990.416	



ADC MAP 10, F8  
VICINITY MAP  
SCALE: 1" = 2000'

#### GENERAL NOTES

- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF A MINIMUM OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT 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 SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT SHALL NOT BE NECESSARY.
- THE EXISTING WELL (TAG # HO-14-0119) SHOWN ON THIS PLAN HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC. JULY 2016 AND IS ACCURATELY SHOWN.
- THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ANY CHANGES TO THE PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- TALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELL AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
- TOPOGRAPHY SHOWN ON THE LOTS IS PER FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC., IN JUNE 2016.
- ANY CHANGE TO THE LOCATION 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 EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.

#### TRENCH INFORMATION

INITIAL TRENCH LENGTH(A): 50'  
GROUND ELEVATION: 569.8  
INVERT ELEVATION: 565.8  
MAX. ELEVATION: 561.8

INITIAL TRENCH LENGTH(B): 50'  
GROUND ELEVATION: 568.7  
INVERT ELEVATION: 564.7  
MAX. ELEVATION: 560.7

INITIAL TRENCH LENGTH(C): 56'  
GROUND ELEVATION: 567.7  
INVERT ELEVATION: 563.7  
MAX. ELEVATION: 559.7

1ST REPAIR TRENCH LENGTH(A): 78'  
GROUND ELEVATION: 566.8  
INVERT ELEVATION: 562.8  
MAX. ELEVATION: 558.8

1ST REPAIR TRENCH LENGTH(B): 78'  
GROUND ELEVATION: 565.7  
INVERT ELEVATION: 561.7  
MAX. ELEVATION: 557.7

#### LEGEND

- EXISTING CONTOURS
- EXISTING TREELINE
- SEPTIC AREA
- PASSED SEPTIC TEST LOCATION
- EX. WELL
- SOILS DELINEATION

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER DATE

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS  
BASED ON FIELD WORK PERFORMED BY ME OR UNDER  
MY DIRECT SUPERVISION, AND IS CORRECT, TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

J. CHRIS OGLE

NO.	DATE	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-8105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM		
OWNER:  PAUL S. DI MARCO 3844 QUARRY AVE. BALTIMORE, MD 21211 443-668-0100		THE PURPOSE OF THIS PLAN IS TO REMOVE THE BAT SYSTEM AND REPLACE IT WITH A SEPTIC TANK.
STREAKER PROPERTY PARCEL 2		
TAX MAP 9 AND 15, GRID 21, PARCEL 328 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
ONSITE SEWERAGE DISPOSAL SYSTEM DESIGN PLAN		
DATE:	NOV. 2016	BEI PROJECT NO. 2661
SCALE:	AS SHOWN	SHEET 1 OF 1
DESIGN:	JCO	DRAFT:

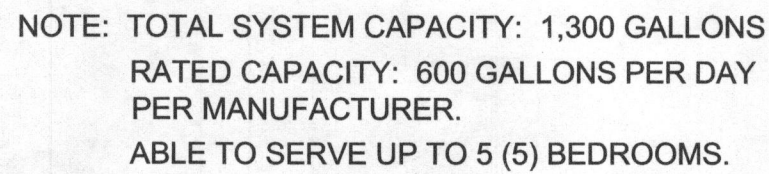




1. Any change to the locations or depths to any components must be approved by the engineer and the Howard County Health Department prior to installation. A revised site plan may be required.
2. The maximum depth of the BAT shall be per the manufacturer's specification.
3. The blower may not be located further from the tank than the manufacturer's specifications.
4. The BAT system shall be maintained and operated for the life of the system.
5. The BAT shall be operated by and maintained by a certified service provider.
6. 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.
7. Electrical work for the BAT installation must be performed by a licensed electrician.
8. An agreement and Easement must be completed and signed by all applicable parties, and recorded in Land Records of Howard County.
9. The Health Department requires documentation for the start-up certification from the manufacturer prior to final approval of the installation.

GENERAL NOTES:

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



SEE MANUFACTURES SPECIFICATIONS FOR  
DETAILS. [WWW.NORWECO.COM](http://WWW.NORWECO.COM)

CRITICAL DIMENSIONS			
A 1'-0"	B 3'-0"	N 0'-3"	O 0'-6"
C 3'-4"	D 4'-5"	P 0'-3"	Q 1'-4"
E 3'-7"	F 12'-2"	R 3'-8"	S 5'-0"
G 1'-0"	H 4'-0"	T 2'-0"	U 6'-0"
I 0'-3"	J 0'-3"	V	W
K 1'-0"	L 0'-6"	X	Y
M 3'-6"		Z	
<p>U.S. AND FOREIGN PATENTS PENDING</p> <p>© MMVI</p>		<p><b><i>norweco</i></b><sup>®</sup></p> <p>LOW-PROFILE SINGULAR<sup>®</sup> BIO-KINETIC<sup>®</sup> WASTEWATER TREATMENT SYSTEM MODEL NTLP-600 GPD</p> <p>PHOTOGRAPH 3-26-07 DRAWN BY BDS</p> <p>APPROVED BY JMM</p> <p>SCALE 10-16-06</p> <p>DRAWING NO. NTS</p> <p>PC-5-7091</p>	

APPROVED FOR PRIVATE WATER AND SEWERAGE SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT

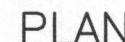
HOWARD COUNTY HEALTH OFFICER \_\_\_\_\_ DATE \_\_\_\_\_

I CERTIFY THAT THE INFORMATION SHOWN HEREON IS  
BASED ON FIELD WORK PERFORMED BY ME OR UNDER  
MY DIRECT SUPERVISION, AND IS CORRECT, TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

**J. CHRIS OGLE**



SCALE: 1" = 250'



SCALE: 1" = 50'



INV. AT HOUSE	567.2
BASEMENT ELEVATION	569.22
GRD. AT INV. AT HOUSE	576.0
INV. IN BAT	566.3
INV. OUT BAT	566.0
TOP OF BAT	567.3
GROUND OVER BAT	569.0
INV. IN DIST. BOX	565.8
INV. OUT DIST. BOX	565.5
GROUND AT BOX	570.3

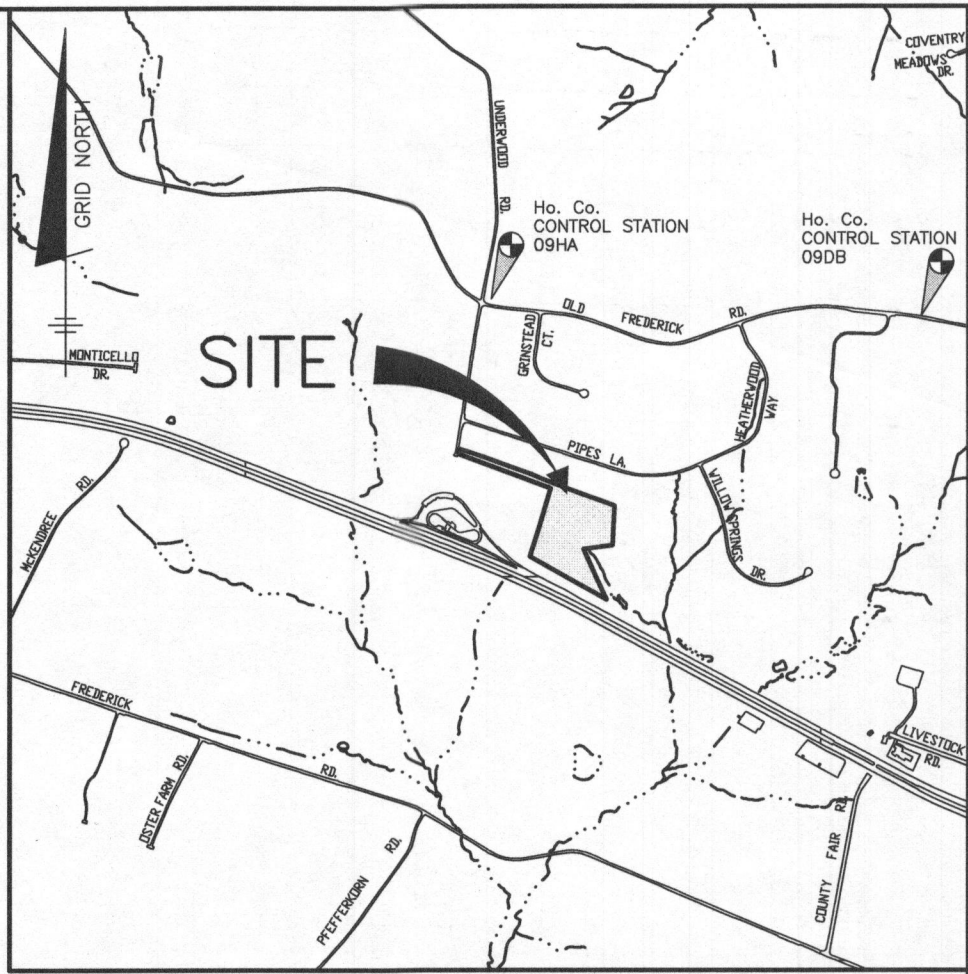
## PROFIL

SCALE: HORI. 1" = 50'

VERT. 1" =

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND PAGE 4				
SYMBOL	HYDRIC	HYDROLOGIC GROUP	Kw	NAME
BaA*	YES	D	0.32	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES
GgB		B	0.20	GLENELG LOAM, 3 TO 8 PERCENT SLOPES
GgC		B	0.20	GLENELG LOAM, 8 TO 15 PERCENT SLOPES

BENCH MARKS	
HO. CO. #09HA (NAD '83)	ELEV. 604.471
STANDARD DISC ON CONCRETE MONUMENT UNDERWOOD ROAD 0.1 MILES NORTH OF RTE. 99	
N 604263.527	E 1318531.061
HO. CO. #09DB (NAD '83)	ELEV. 609.215
STANDARD DISC ON CONCRETE MONUMENT RTE. 144 0.4 MILES OF UNDERWOOD ROAD (BY #13555)	
N 605072.385	E 1316990.416



ADC MAP 10, F8

VICINITY MAP

SCALE: 1" = 2000'

## GENERAL NOTES

- THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF A MINIMUM OF 10,000 SQUARE FEET AS REQUIRED BY THE STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA IS RESTRICTED UNTIL PUBLIC SEWER IS AVAILABLE. THIS EASEMENT 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 SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE EASEMENT PLAT MAY BE REQUIRED BY THE HEALTH DEPARTMENT.
2. THE EXISTING WELL SHOWN ON THIS PLAN HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC. IN AND IS ACCURATELY SHOWN.
3. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
4. ANY CHANGES TO THE PRIVATE SEWERAGE EASEMENT SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
5. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THE PROPERTY'S BOUNDARIES EXCEPT THAT THIS IS SHOWN.
6. EXACT LENGTH OF SEPTIC TRENCHES IS TO BE DETERMINED BY THE HEALTH DEPARTMENT AT THE TIME OF TRENCH LAYOUT AND INSPECTION.
7. TOPOGRAPHY SHOWN ON THE LOTS IS PER FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC., IN JUNE 2016.
8. ANY CHANGE TO THE LOCATION 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.
9. THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATIONS IS AS SHOWN.
10. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
11. THE BAT SHALL BE OPERATED AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
12. 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 THE COMPLETION OF THE BAT INSTALLATION AND TYPE OF BAT INSTALLED.
13. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
14. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
15. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

### TRENCH INFORMATION

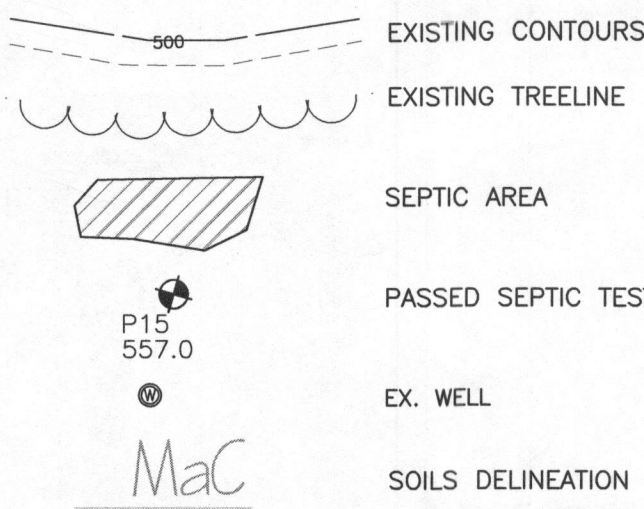
INITIAL TRENCH LENGTH(A): 55'  
GROUND ELEVATION: 569.5  
INVERT ELEVATION: 565.5  
MAX. ELEVATION: 562.5

INITIAL TRENCH LENGTH(B): 49'  
GROUND ELEVATION: 568.5  
INVERT ELEVATION: 564.5  
MAX. ELEVATION: 561.5

1ST REPAIR TRENCH LENGTH(A): 52'  
GROUND ELEVATION: 567.5  
INVERT ELEVATION: 561.5  
MAX. ELEVATION: 559.5

1ST REPAIR TRENCH LENGTH(B): 52'  
GROUND ELEVATION: 566.5  
INVERT ELEVATION: 560.5  
MAX. ELEVATION: 558.5

### LEGEND

[illegible]

**BENCHMARK**  
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS  
**ENGINEERING, INC.**  
BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND  
(P) 410-465-6105 (F) 410-465-6644  
[WWW.BEI-CIVILENGINEERING.COM](http://WWW.BEI-CIVILENGINEERING.COM)

OWNER:

PAUL S. DI MARCO  
3844 QUARRY AVE.  
BALTIMORE, MD 21211  
443-668-0100

**STREAKER PROPERTY  
PARCEL 2**

TAX MAP 9 AND 15, GRID 21, PARCEL 328  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

## BAT SITE PLAN AND INSTALLATION DETAILS

		DATE: JULY 2016	BEI PROJECT NO. 266
DESIGN: JCO	DRAFT: JCO	SCALE: AS SHOWN	SHEET 1 OF

THE DETAILS SHOWN HEREON ARE BASED ON TYPICAL MANUFACTURES DRAWINGS PROVIDED BY NORWECO, ACTUAL MANUFACTURER MAY DIFFER. CONTRACTOR TO VERIFY THAT ALL DIMENSION ARE IN COMPLIANCE WITH THE HEALTH DEPARTMENT REQUIREMENTS.

BAT TECHNOLOGY SHALL BE IN COMPLIANCE WITH THE CURRENT LIST APPROVED BY MDE ON THE FOLLOWING  
WEB SITE: [http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrf/osds/brf\\_bat\\_process.aspx](http://www.mde.state.md.us/programs/Water/BayRestorationFund/OnsiteDisposalSystems/Pages/water/cbwrf/osds/brf_bat_process.aspx)