

Bureau of Environmental Health
 8930 Stanford Boulevard, Columbia, MD 21045
 Main: 410-313-2640 | Fax: 410-313-2648
 TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 6/2/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558739
 APPROVAL DATE: 8/25/16 **PERMIT: CONSTRUCTION** A _____
 PROPERTY ADDRESS: 11570 Chapel Estates Drive
 SUBDIVISION: Chapel Rise LOT: 5 TAX ID: 05-371171
 CONTRACTOR: _____ EMAIL: _____
 CONTRACTOR ADDRESS: _____ PHONE: _____

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Ali Sarraf & Fereshteh Kassari EMAIL: _____
 OWNER ADDRESS: 5910 Mystic Ocean Lane, Clarksville, MD 21029 PHONE: 484-432-4183

BAT UNIT MODEL: Norweco 600 PUMP SIZE: _____ PUMP TANK CAPACITY: _____

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 1/15/16 DATE RECORDED: 1/15/16

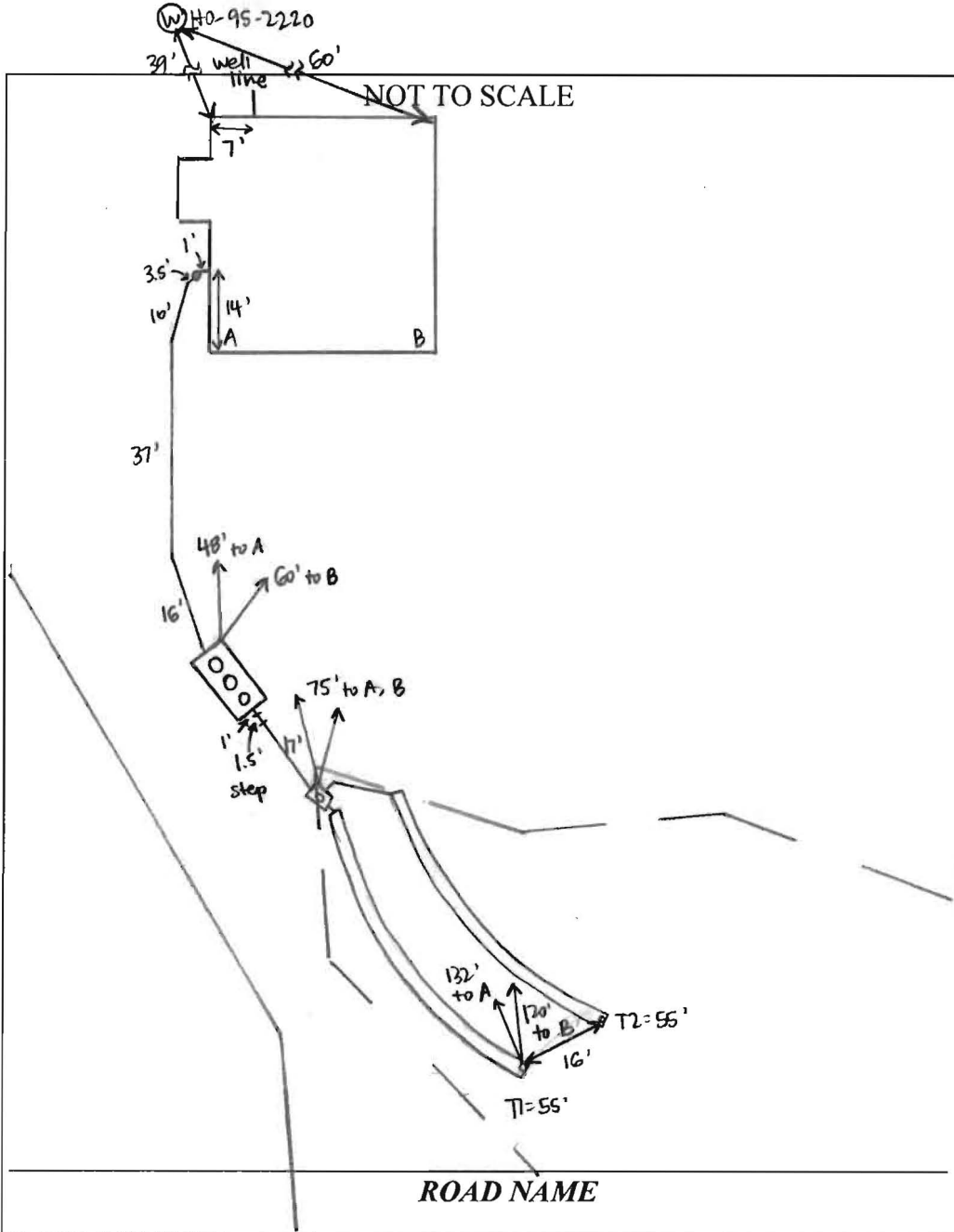
DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>104.4</u>	INLET DEPTH: <u>2</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2</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:	<u>Install 2x53' trenches</u>	

ISSUED BY: Jeff Williams ISSUE DATE: 6/2/16 EXPIRATION DATE: 6/2/17

- 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 REV:EW.
- 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.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	2'	5'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	110'	
ABSORPTION AREA	330' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BACKRIVER / MORA WECO
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	1-2.5'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	6-18-16? (hard to read stamp)
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:

8/9/16 Met Hatfield's on site for layout. Tank staked, some septic area stakes present. D-box and trenches also staked. Shot contour - upper trench staked accurately. Pulled 12' off upper trench to adjust lower trench. Hatfield's will build a berm above SDA to prevent water flow over area. (SC)

INSTALLATION:

8/18/16 House connection made, tank and D-box set. Hatfield's digging T1, first 20' dug w/o laser and they set it up when I requested they use it. Sewer line has 6" sleeve under future driveway. (SC) 8/19/16 Both trenches complete T1 open at ends and T2 left open. 1.5-2' to stone 3' wide. Levelled speed levelers in D-box. Need BAT Startup certification. (SC) 8/25/16 BAT startup certification received. (SC)

FINAL INSPECTOR Sarah Collins

DATE OF APPROVAL 8/25/16

Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

Letter of Certification


This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 11570 Chapel Rise, Clarksville, MD 21209 August 18, 2016 was installed according to the manufacture's specifications.

Installer: Jeff Reiter

Property Owner: Ali Sarraf

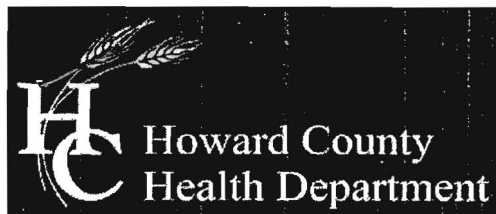
Permit #

THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



MATTHEW GECKLE

Vice-President



Bureau of Environmental Health

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Twitter: HowardCoHealthDep

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

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 15th day of JAN 2014, among Ali Sarraf & Fereshteh Kassari, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 11570 Chapel Rise, in the 5th Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 15300 Folio 071.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013. The pre-treatment device being installed is Norweco Singulair TNTLP-500 GPD

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time with prior notice for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the

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

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

=====
LR - Agreement Recording Fee
1x 20.00 20.00

Grantor/Grantee Name: Sarraf
Reference/Control #: 69

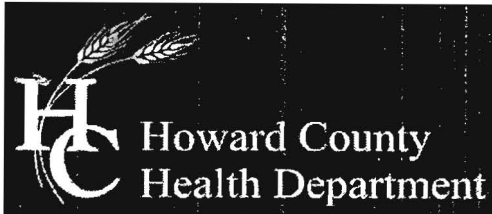
LR - Agreement Surcharge
1x 40.00 40.00

=====
SubTotal: 60.00
Total: 60.00

=====
REV-Check-BOA 60.00
Number : 4081

01/15/2016 11:40 CC13-SB
#5449267 /496/109
***** DUPLICATE #001 ***** *

01/15/2016 11:40 CC13-SB
~ Thank you for visiting us today ~



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C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.

D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.

E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as the

property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.


J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.


Howard County Health Department


Owner #1 Signature Date

Ali Sarraf
Owner #1 Print Name


Owner#2 Signature Date

Fereshteh Kassari
Owner #2 Print Name

Buyer #1 Signature Date

Buyer #1 Print Name

Buyer #2 Signature Date

Buyer #2 Print Name

Williams, Jeffrey

From: Williams, Jeffrey
Sent: Thursday, January 07, 2016 2:36 PM
To: Stephanie Tuite (Stephanie@fcc-eng.com); kevinm@ariumae.com
Subject: 11570 Chapel Rise
Attachments: O&M agreement_revision 7.7.15.pdf

The BAT plan and building permit have been approved for Chapel Rise lot 5. Be advised that an operation and maintenance agreement must be signed by the owner, buyer, Health Dept, and then recorded in land records prior to issuance of the Septic Permit. See attached agreement template.

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

CONFIDENTIALITY NOTICE

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Williams, Jeffrey

From: Williams, Jeffrey
Sent: Monday, January 04, 2016 3:52 PM
To: 'Stephanie Tuite'
Cc: 'kevinm@ariumae.com'
Subject: RE: 11570 Chapel Rise

According to the floor plans, there are 4 bedrooms on the 2nd floor and the rec room on the lower level would count as a bedroom if finished. We recommend revising the BAT plan to make the OSDS big enough to accommodate 5 bedrooms. If not, we will add a memo to the file stating that the rec room may not be finished without the OSDS being first upgraded. If the rec room is finished without the system being upgraded, Health may withhold approval of any future building permit until the system is upgraded. Thanks

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

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

From: Stephanie Tuite [<mailto:Stephanie@fcc-eng.com>]
Sent: Tuesday, December 29, 2015 2:47 PM
To: Williams, Jeffrey
Subject: 11570 Chapel Rise

Attached are the plans that were submitted with the permit.

Steph

Stephanie Tuite, RLA, PE, LEED AP BD&C
FISHER, COLLINS & CARTER, INC.



HOWARD COUNTY HEALTH DEPARTMENT

58739

DATE
6/2/16

05

Received From

Hatfield's Equipment

PHONE #

410-984-447

P.O. Box 519 Annapolis Junction MD 20701

For

Chapel Rise Lot 5-11570 (Chapel 13262)

CASH

CHECK

NO.

3577

Three hundred seventy six ^{00/100} Dollars

\$


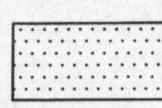
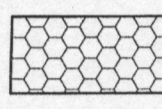
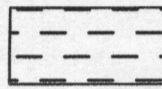

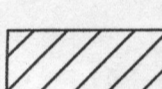
390.00

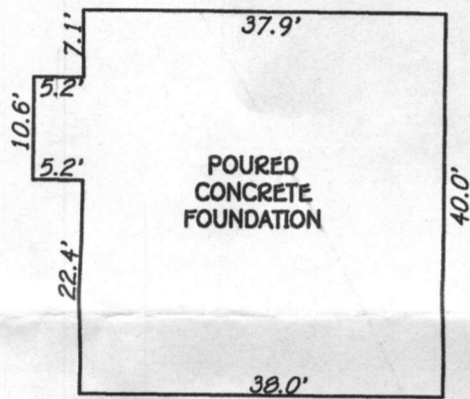
Received By

[Handwritten Signature]

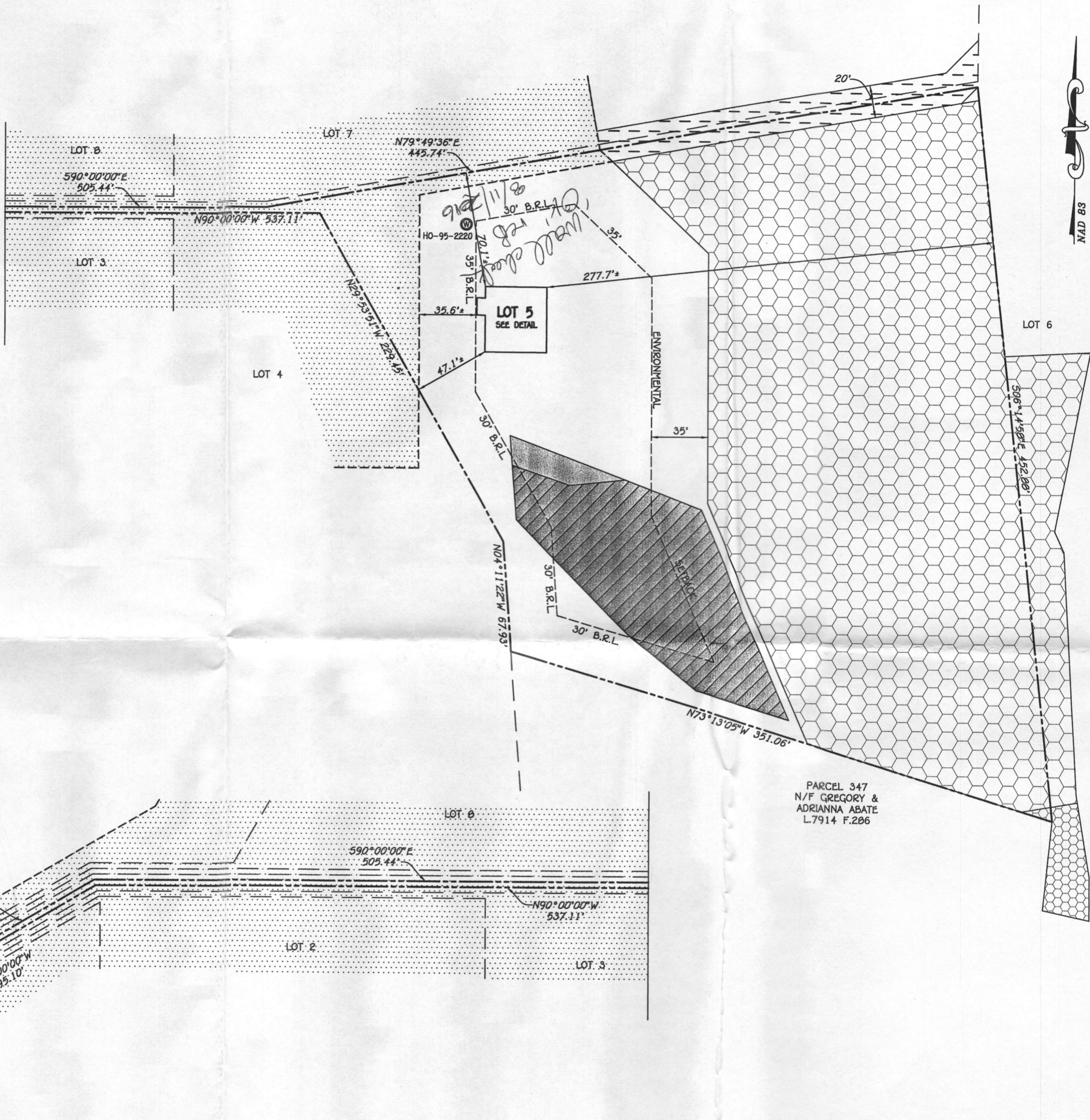
GENERAL NOTES:

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C0135-D EFFECTIVE NOV. 6, 2013.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1' (+)
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-2220 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2016.
- 7) BUILDING PERMIT #(B-15005234)

-  Part of Public Forest Conservation Easement 4
-  Private SWM, Drainage, Entrance Sign, Maintenance, Use-In-Common Driveway Access & Utility Easement
-  Non-Credited Public Forest Conservation Area
-  20' Private Pathway Easement For The Use and Benefit Of Lot 6
-  Private Sewage Easement As Per Record Plat
-  Private Sewage Easement As Per BAT Plan



Chapel Estates Drive
 Existing Public County Road
 Existing 50' R.W. 21.40
 Plat No. 2200 Thru 2203
 Plat No. 2204 Thru 2209
 Plat No. 2210 Thru 2215
 Plat No. 2216 Thru 2223



PARCEL 347
 N/F GREGORY &
 ADRIANNA ABATE
 L.7914 F.206

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELIJAH CITY, MARYLAND 21042
 (410) 461 - 2895

#11570 CHAPEL ESTATES DRIVE
 TOP OF FOUNDATION ELEVATION = 405.2'

Mark J. Hibel
 PROPERTY LINE SURVEYOR
 REG. #339
 4/29/16
 DATE



HOUSE LOCATION DRAWING




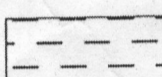

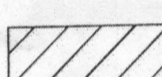
FOUNDATION LOCATION: 4/15/16
 FINAL LOCATION: _____
 BOUNDARY SURVEY: _____
 SCALE: 1"=50'
 DATE: 4/29/16
 DRAWN BY: CAD
 CHECKED BY: MLR
 PROJECT No.: 12060-6001

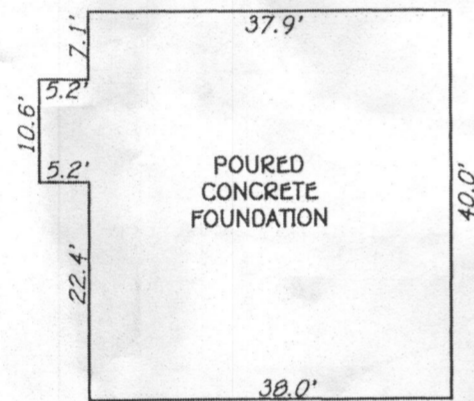
LOT 5
 CHAPEL RISE
 LOTS 1 THRU 9
 PLAT NOS. 22020 THRU 22023
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND



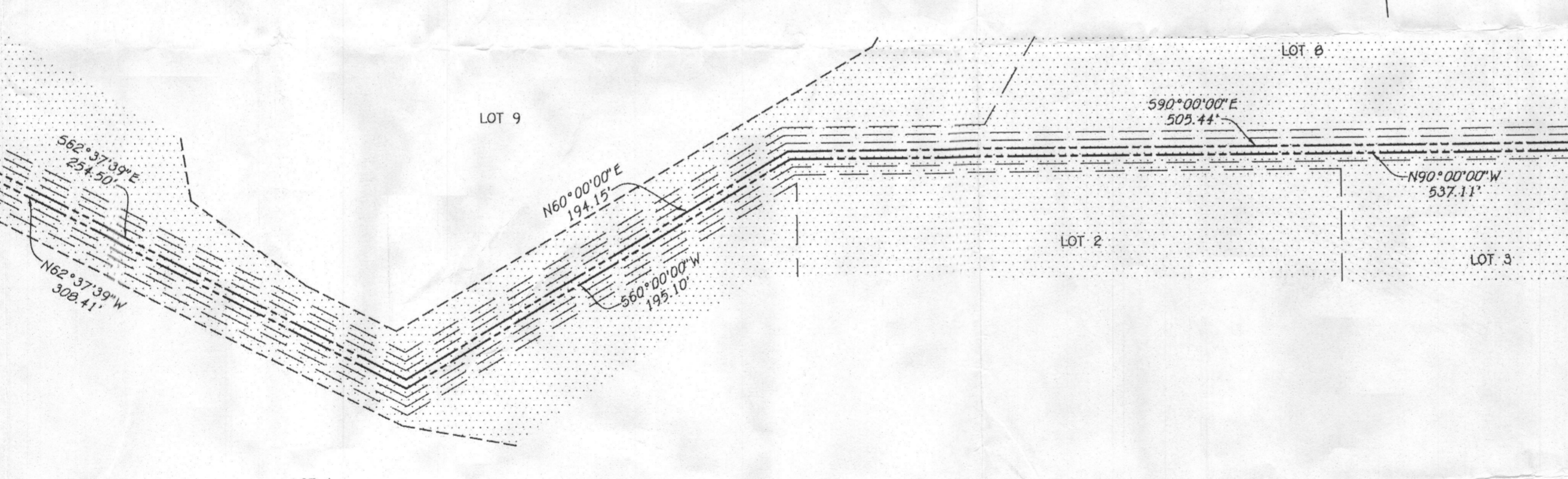
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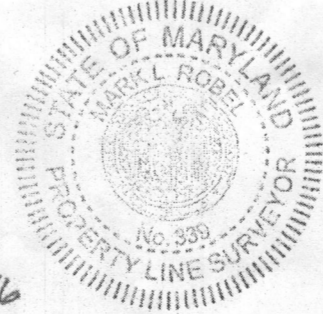
-  Part Of Public Forest Conservation Easement 4
-  Private SWM, Drainage, Entrance Sign, Maintenance, Use-In-Common Driveway Access & Utility Easement
-  Non-Credited Public Forest Conservation Area
-  20' Private Pathway Easement For The Use and Benefit Of Lot 6
-  Private Sewage Easement As Per Record Plat
-  Private Sewage Easement As Per BAT Plan



Chapel Estates Drive
 Existing Public County Road
 Existing Right of Way 90' E/W
 (Plat No. 9822 & Plat Nos. 12088 Thru 12089)
 (Plat No. 9822 & Plat Nos. 12088 Thru 12089)
 N37°23'33"E 3.12'



PARCEL 347
 N/F GREGORY &
 ADRIANNA ABATE
 L.7914 F.286



Mark L. Kotel
 PROPERTY LINE SURVEYOR
 REG. #339
 DATE 4/29/16

HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 4/15/16
 FINAL LOCATION: _____
 BOUNDARY SURVEY: _____
 SCALE: 1"=50'
 DATE: 4/29/16
 DRAWN BY: GAD
 CHECKED BY: MLR
 PROJECT No.: 12080-6001

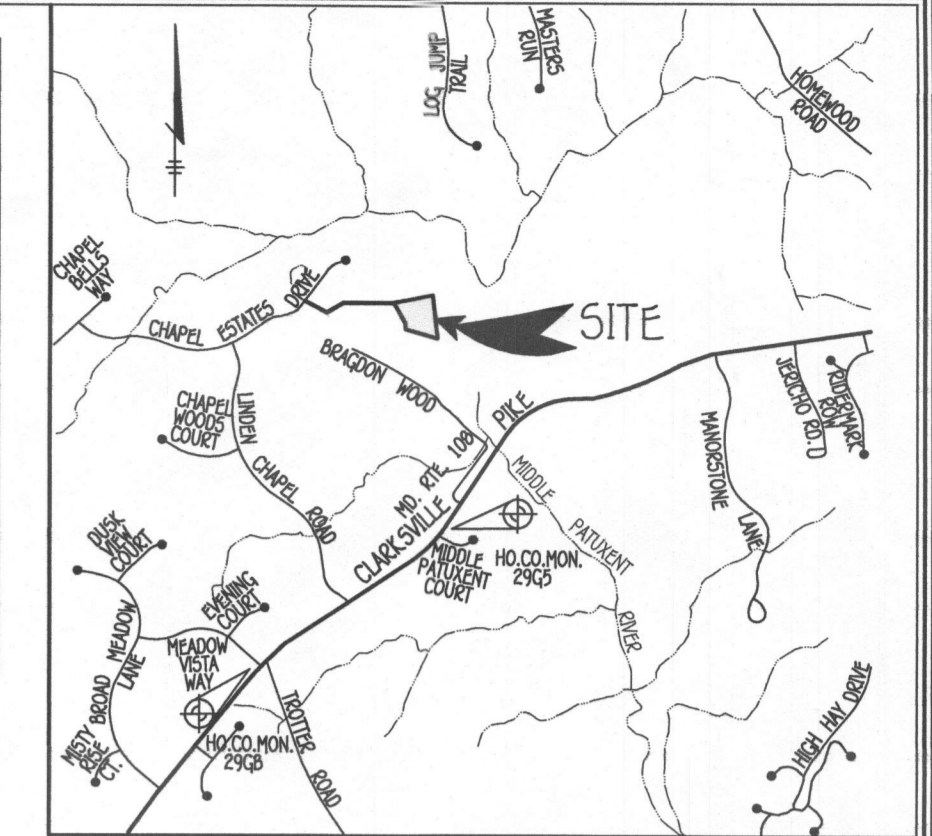
LOT 5
 CHAPEL RISE
 LOTS 1 THRU 9
 PLAT NOS. 22020 THRU 22023
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
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 ELLICOTT CITY, MARYLAND 21042
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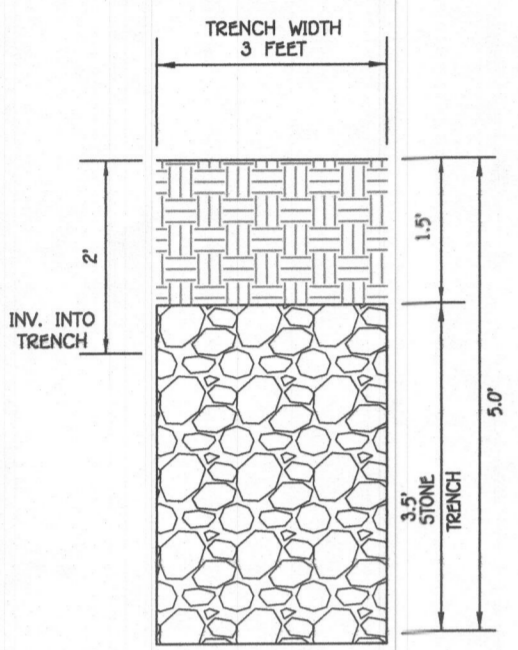
#11570 CHAPEL ESTATES DRIVE
 TOP OF FOUNDATION ELEVATION = 405.2'

TRENCH DESIGN											
TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	INVERT INTO TRENCH	DEPTH TO STONE FROM GROUND	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH AT	EFFECTIVE DEPTH (D)	TOTAL TRENCH DEPTH	WIDTH OF TRENCHES (W)	TRENCH SPACING
1A	386.8	387.3	386.8	1.5'	3.5'	383.8	2'	3.0'	5.0'	3.0'	10'
1B	387.3	385.8	385.3	1.5'	3.5'	382.3	2'	3.0'	5.0'	3.0'	10'

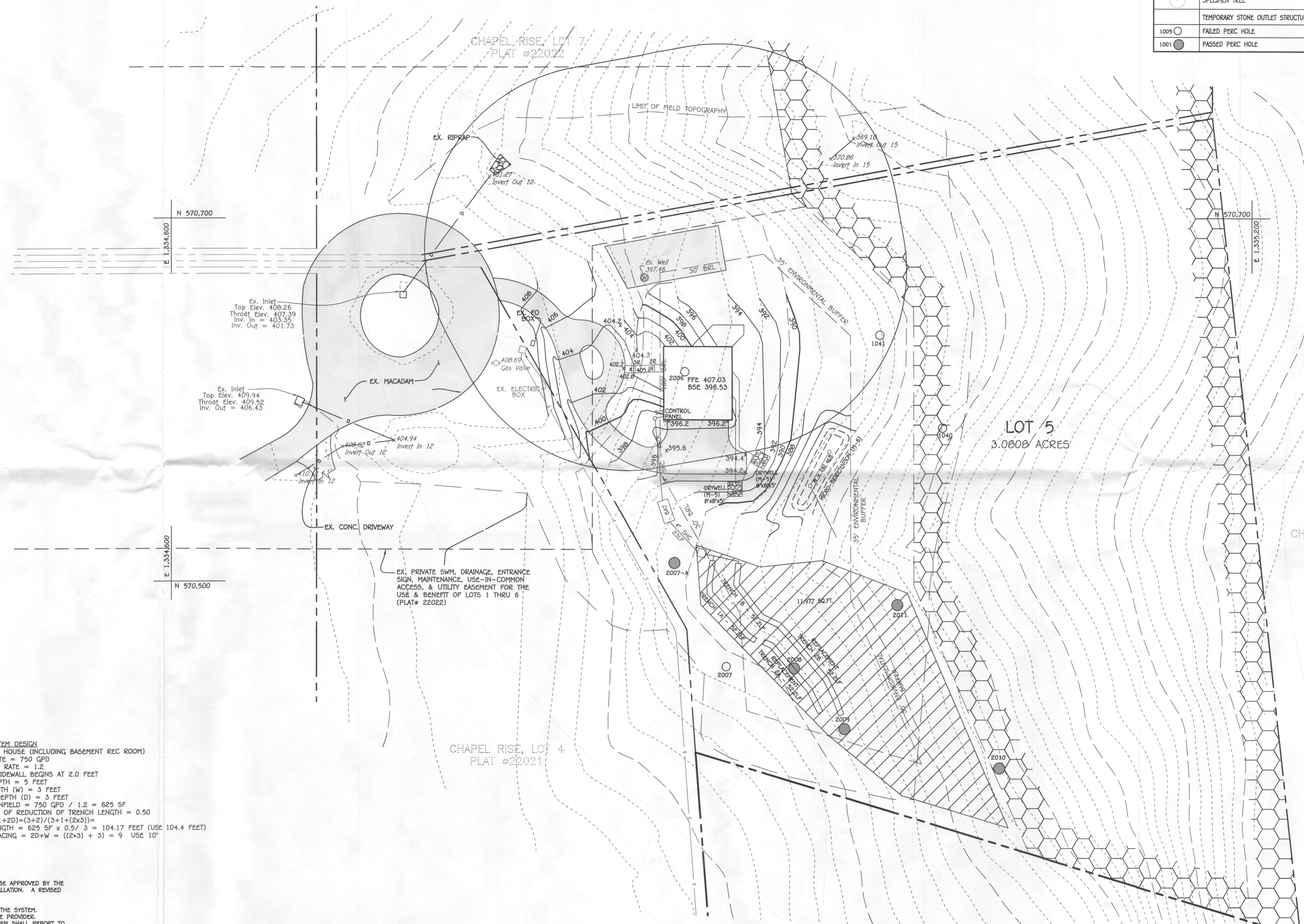
LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
362.5	SPOT ELEVATION
-DF-DF-	DIVERSION FENCE
-SF-SF-	SUPER SILT FENCE
-SF-	SILT FENCE
---	EROSION CONTROL MATTING
LOD	LIMITS OF DISTURBANCE
○	SPECIMEN TREE
○	TEMPORARY STONE OUTLET STRUCTURES
1005 ○	FAILED PERC HOLE
1001 ○	PASSED PERC HOLE



VICINITY MAP
SCALE: 1" = 2000'
HO. CO. MD. ADC MAP 4934, GRID C3



TRENCH DETAIL
SCALE: 1"=2"



PLAN VIEW
SCALE: 1"=30'

SEPTIC SYSTEM ELEVATIONS
 FFE = 407.03
 BSE = 396.53
 INV. OUT OF HOUSE = 392.50
 PROP GROUND AT CLEANOUT = 397.2
 INVERT INTO CLEANOUT = 392.25
 INVERT OUT OF CLEANOUT = 391.30
 EX GROUND AT BAT TANK = 392.50
 TOP OF BAT TANK = 390.00
 COVER OVER BAT TANK = 2.5 FT
 INVERT INTO BAT TANK = 389.00
 INVERT OUT OF BAT TANK = 386.67
 EX GROUND AT DISTRIBUTION BOX = 389.5
 INV. INTO DISTRIBUTION BOX = 387.52
 INV. OUT OF DISTRIBUTION BOX = 387.02

SEPTIC SYSTEM DESIGN
 5 BEDROOM HOUSE (INCLUDING BASEMENT REC ROOM)
 LOADING RATE = 750 GPD
 APPLICATION RATE = 1.2
 EFFECTIVE SIDEWALL BEGINS AT 2.0 FEET
 TRENCH DEPTH = 5 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 3 FEET
 SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = 0.50
 $(W+2)/(W+1+2D) = (3+2)/(3+1+2(3)) =$
 TRENCH LENGTH = 625 SF x 0.5 / 3 = 104.17 FEET (USE 104.4 FEET)
 TRENCH SPACING = $2D+W = ((2 \times 3) + 3) = 9$ USE 10'

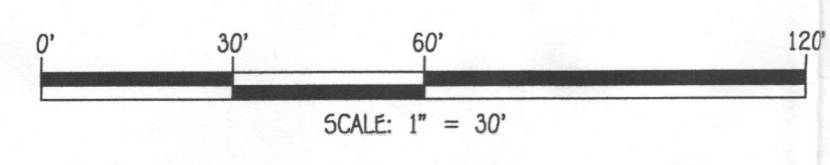
- BAT NOTES**
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PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2018.

Signature of Professional Engineer: *Ali Sarraf*
 DATE: 1/5/16



OWNER
 ALI SARRAF & FERESHTEH KASSARI
 11836 LINDEN CHAPEL ROAD
 CLARESVILLE, MD 21029
 404-432-4183



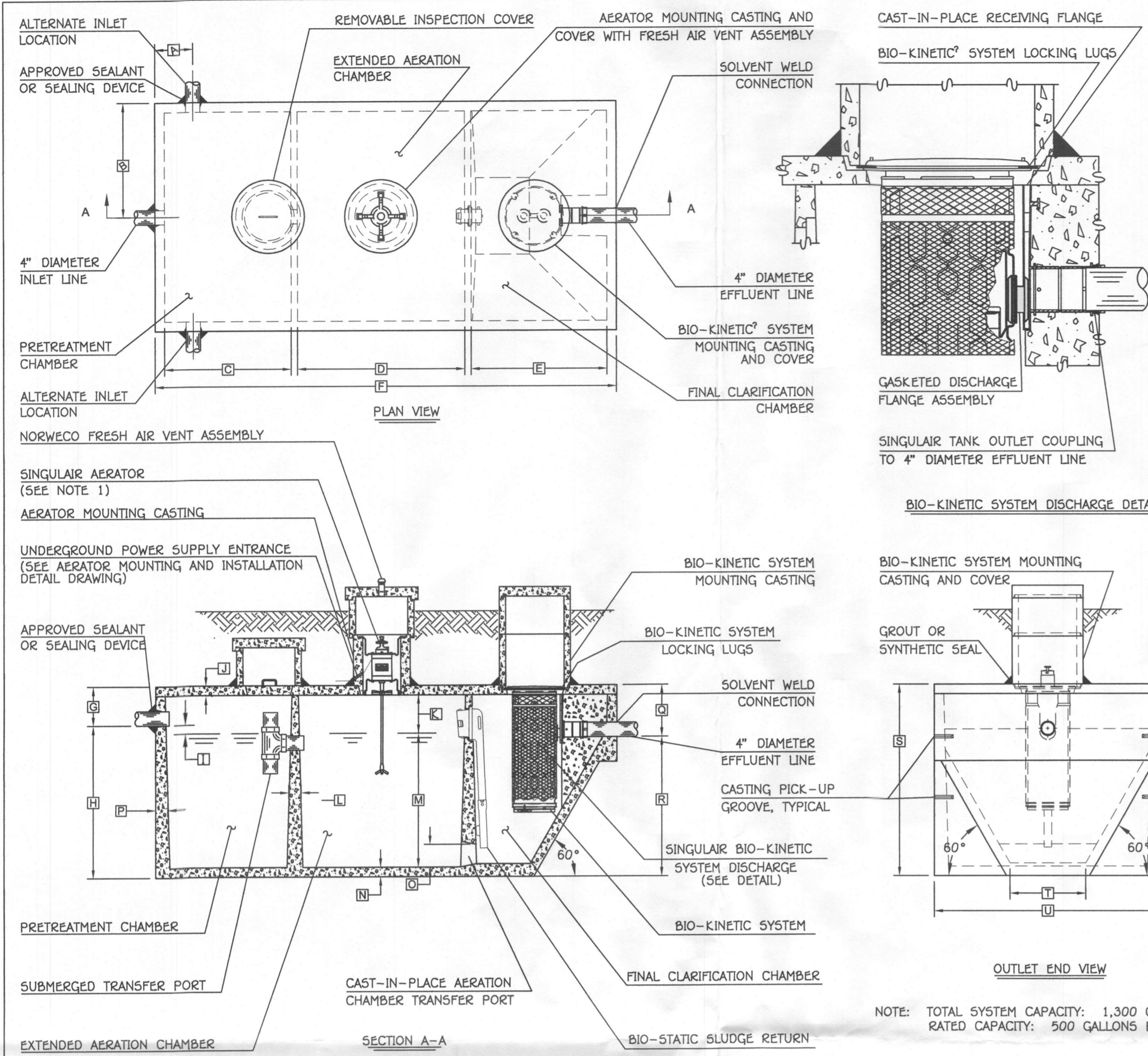
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLETTT CITY, MARYLAND 21042
 (410) 461-2895

CHAPEL RISE, LOT 6
 PLAT #22022

Approved Septic System Plan
 Howard County Health Department
 Signature: *[Signature]* / 1/7/16
 Date

BAT SITE PLAN
CHAPEL RISE
 LOT 5

ZONED RC-DEO PLAT NO. 22022
 TAX MAP NO.: 29 GRID NO'S.: 8 & 14
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JANUARY, 2016
 SHEET 1 OF 2



- GENERAL NOTES:**
- 1) SINGULAR AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
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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: _____

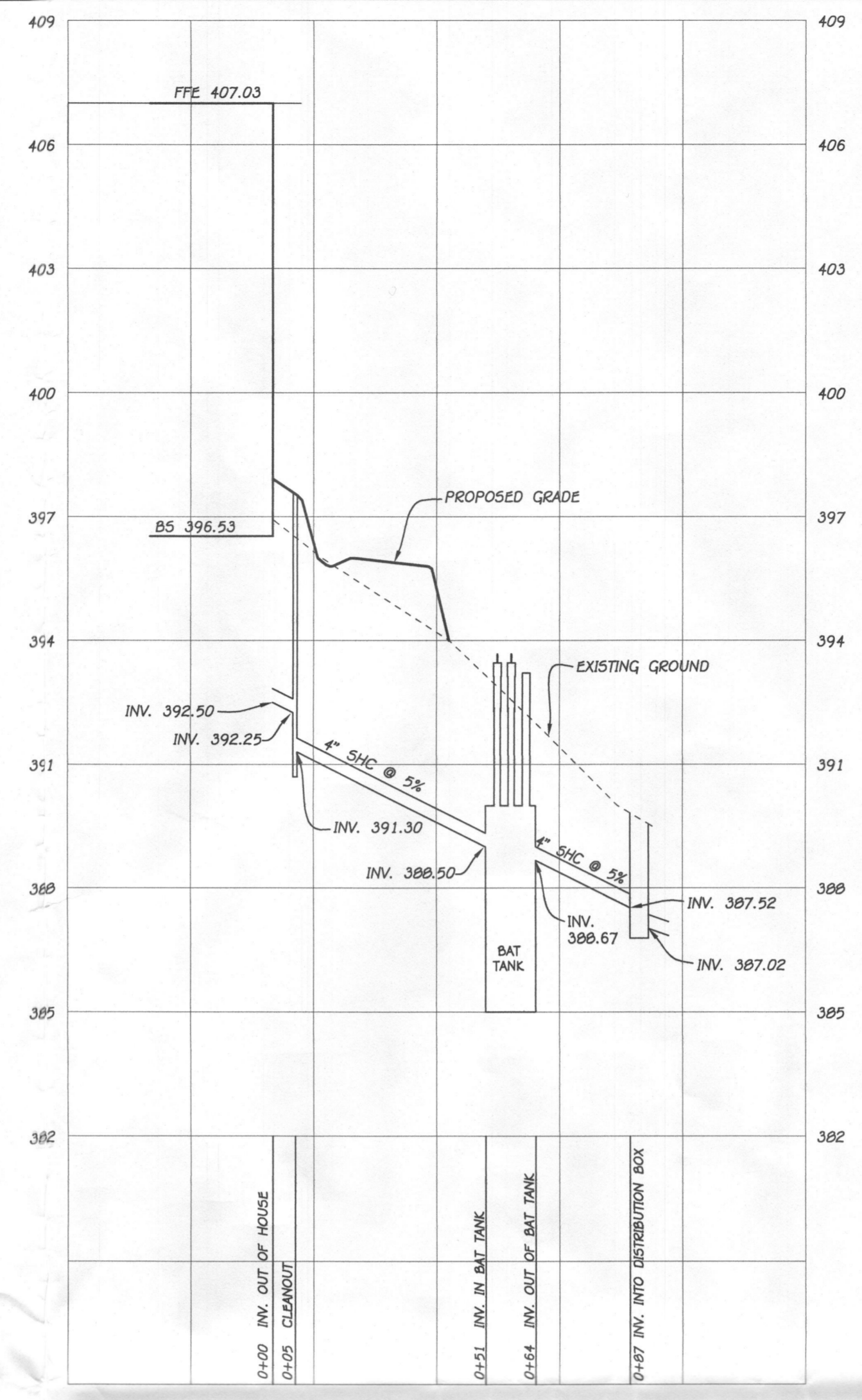
CONTRACTOR'S CERTIFICATION:
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CRITICAL DIMENSIONS

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	

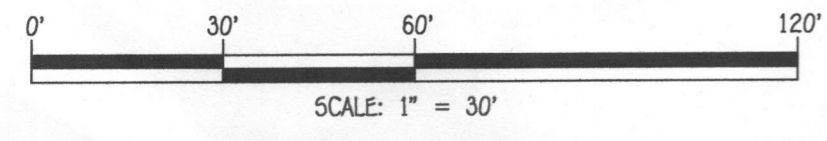
U.S. AND FOREIGN PATENTS PENDING
norweco 3-26-07 B
 LOW-PROFILE SINGULAR® BIO-KINETIC WASTEWATER TREATMENT SYSTEM MODEL THTLP-500 GPD
 © MMVII
 PC-5-7091

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



BAT PROFILE
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
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OWNER
 ALI SARGAF & FERESHTEH KAGSARI
 11836 LINDEN CHAPEL ROAD
 CLARKSVILLE, MD 21029
 484-432-4183

PROFESSIONAL CERTIFICATION
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Aryston Zinta 1/5/16
 Signature Of Professional Engineer DATE



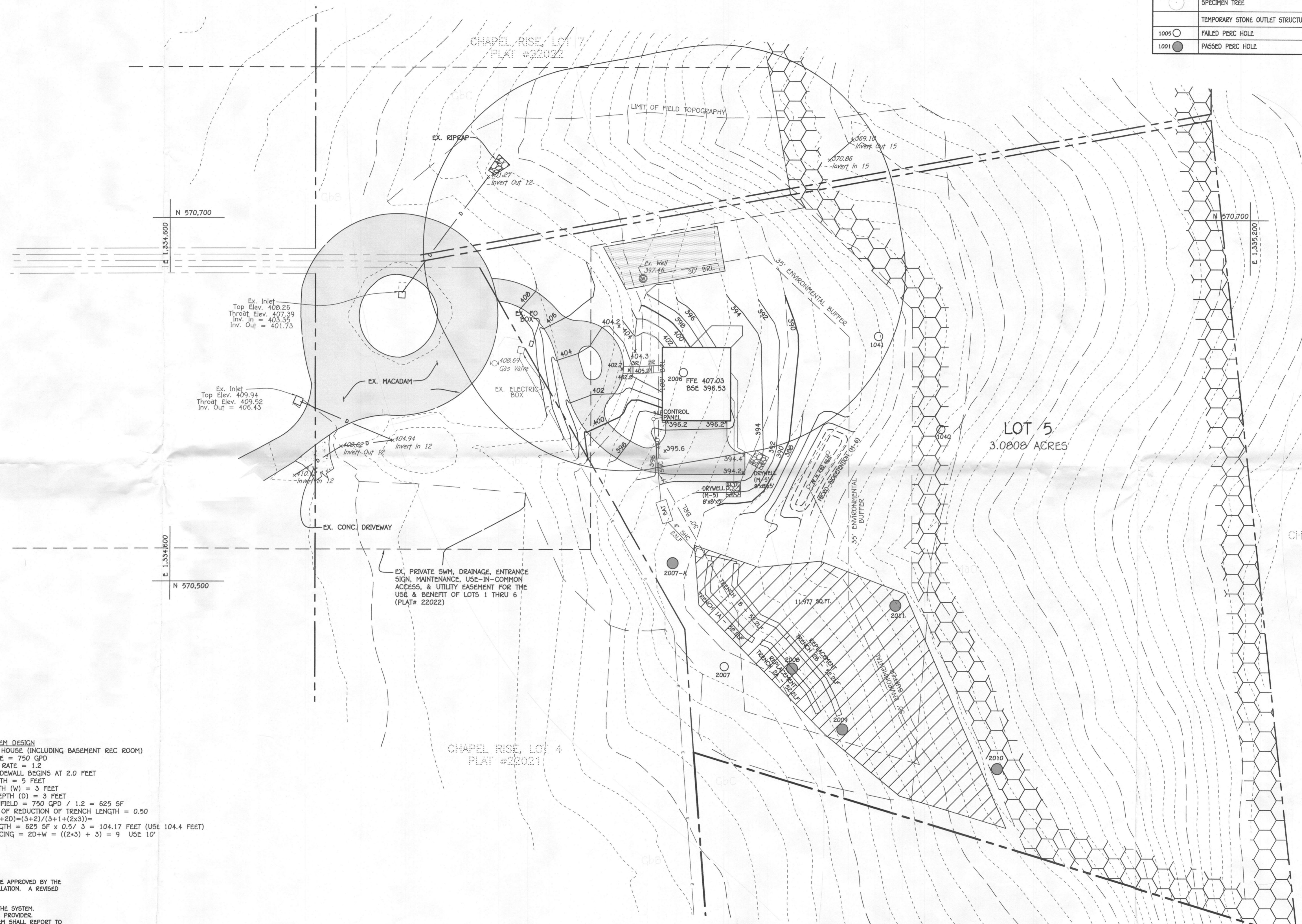
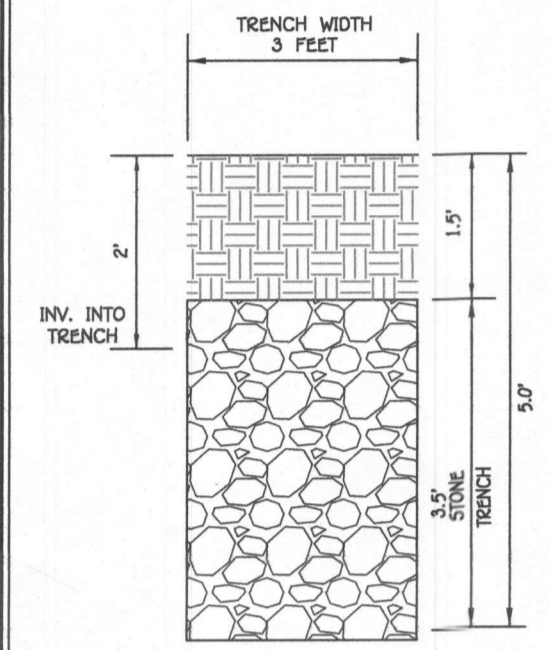
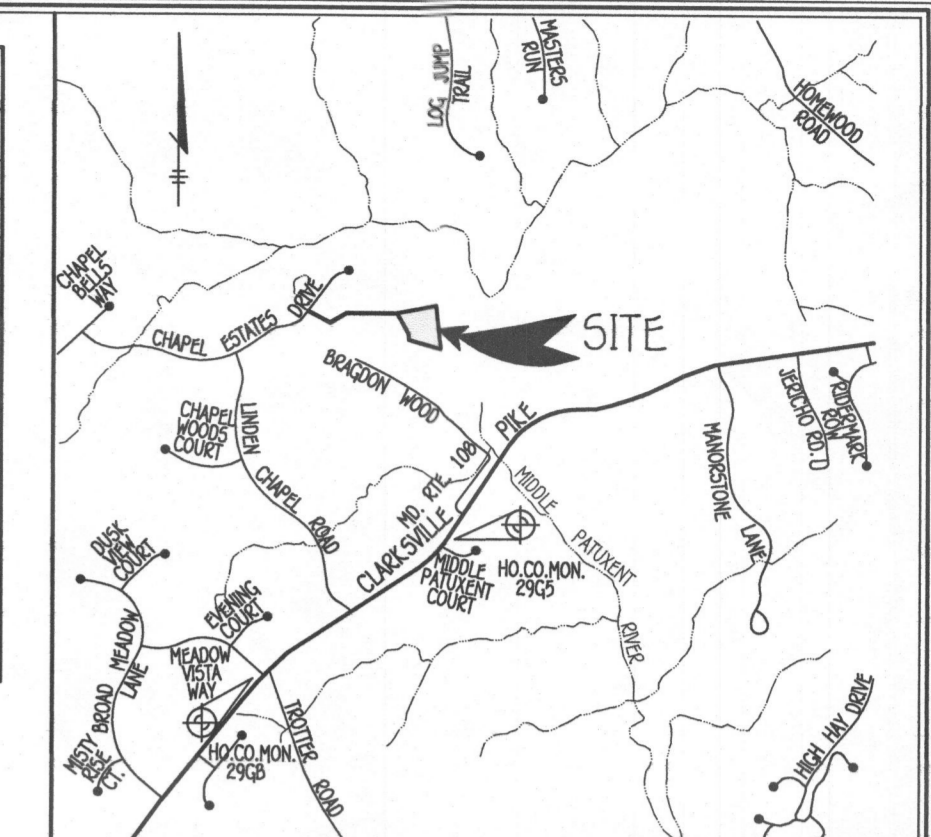
Approved Septic System Plan
 Howard County Health Department
[Signature] 1/7/16
 Signature Date

BAT SITE PLAN
CHAPEL RISE
 LOT 5
 ZONED RC-DEO PLAT NO. 22022
 TAX MAP NO.: 29 GRID NO'S.: 0 & 14
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JANUARY, 2016
 SHEET 2 OF 2

1:2012\12060.dwg\12060 Lot 5 Bat Plan.dwg, 1/5/2016 9:40:38 AM, 11

TRENCH DESIGN											
TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	INVERT INTO TRENCH	DEPTH TO STONE FROM GROUND	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH AT	EFFECTIVE DEPTH (D)	TOTAL TRENCH DEPTH	WIDTH OF TRENCHES (W)	TRENCH SPACING
1A	396.8	397.3	396.6	1.5'	3.5'	393.8	2'	3.0'	5.0'	3.0'	10'
1B	397.3	395.8	395.3	1.5'	3.5'	392.3	2'	3.0'	5.0'	3.0'	10'

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
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-DF-DF-	DIVERSION FENCE
-SSF-SSF-	SUPER SILT FENCE
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---	EROSION CONTROL MATTING
LOD	LIMITS OF DISTURBANCE
○	SPECIMEN TREE
○	TEMPORARY STONE OUTLET STRUCTURES
1009 ○	FAILED PERC HOLE
1001 ○	PASSED PERC HOLE



SEPTIC SYSTEM ELEVATIONS
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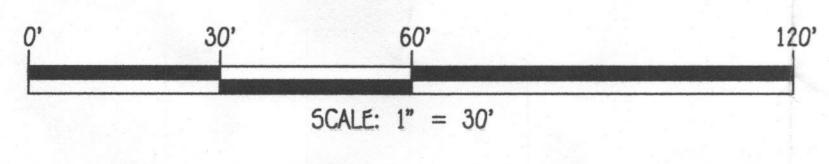
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 TRENCH WIDTH (W) = 3 FEET
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 SF OF DRAINFIELD = 750 GPD / 1.2 = 625 SF
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = 0.50
 $(W+2)/(W+1+2D) = (3+2)/(3+1+2(3)) = 0.50$
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- BAT NOTES**
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PROFESSIONAL CERTIFICATION
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 Signature: *Stephanie J. Jeter* 1/5/16
 DATE



OWNER
 ALI SAGRAF & FERESHTEH KASSARI
 11836 LINDEN CHAPEL ROAD
 CLARKSVILLE, MD 21029
 404-432-4183

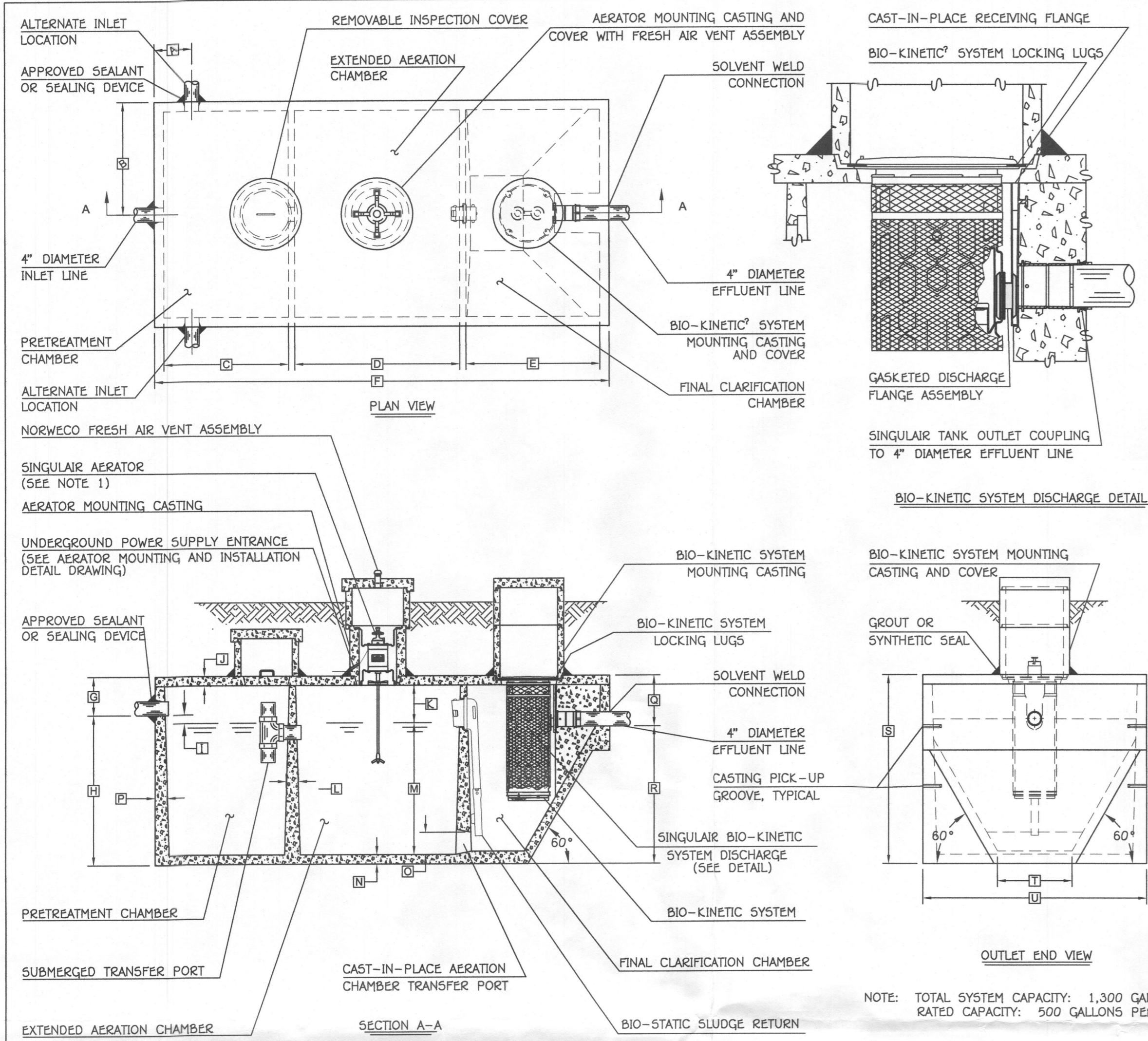


FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-3999

CHAPEL RISE, LOT 6
 PLAT #22022

Approved Septic System Plan
 Howard County Health Department
 Signature: *[Signature]* 1/7/16 Date

BAT SITE PLAN
CHAPEL RISE
 LOT 5
 ZONED RC-DEO PLAT NO. 22022
 TAX MAP NO.: 29 GRID NO'S.: 8 & 14
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JANUARY, 2016
 SHEET 1 OF 2



- GENERAL NOTES:**
- 1) SINGULAR AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
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DATE: _____
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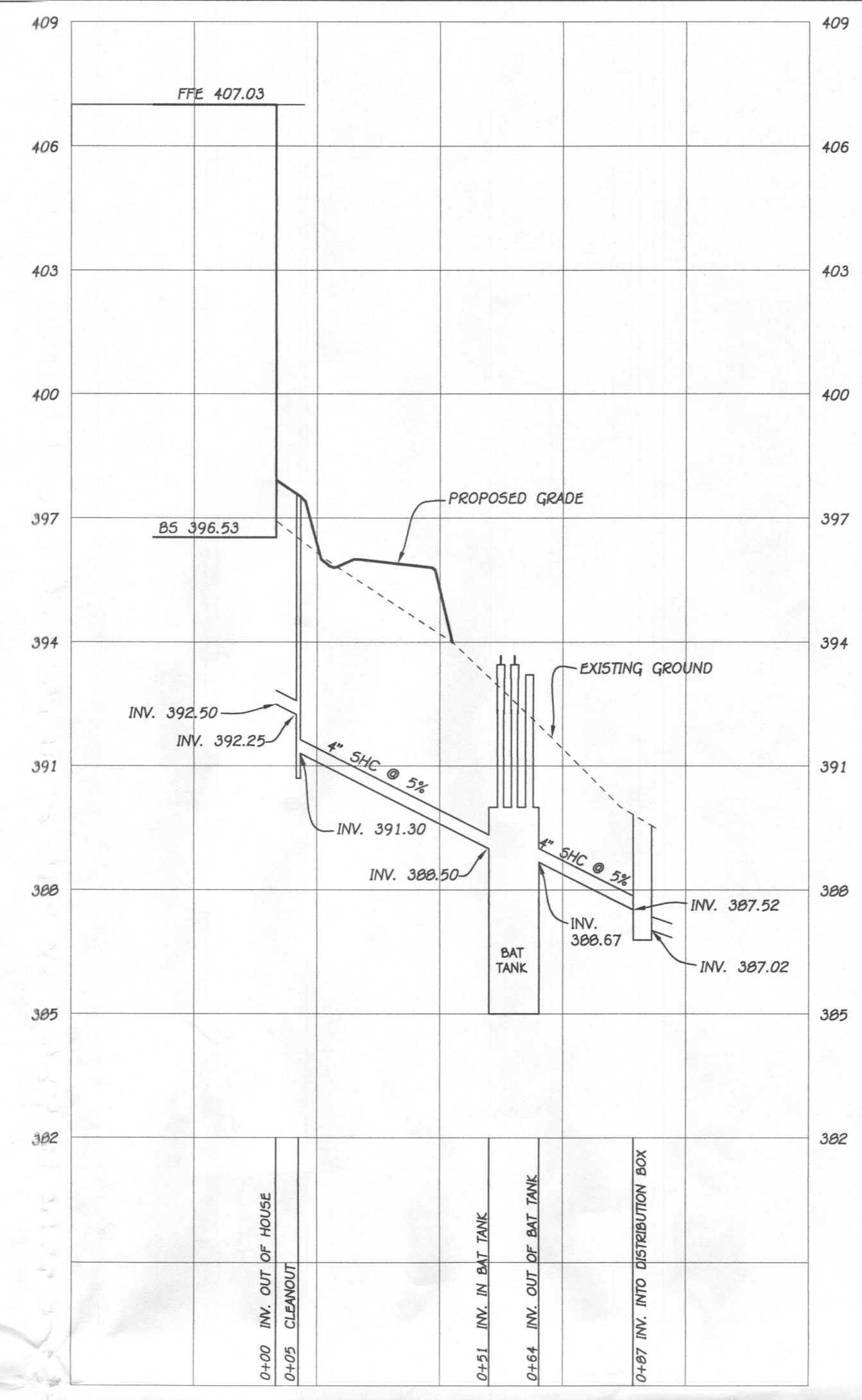
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DATE: _____
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CRITICAL DIMENSIONS

A	1'-0"	N	0'-3"
B	3'-0"	O	0'-0"
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	

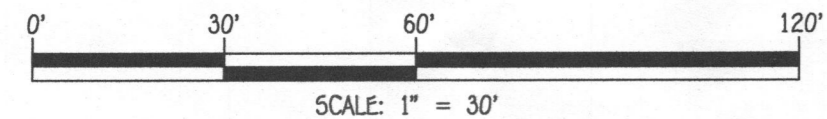
norweco 3-25-07 S
 LOW-PROFILE SINGULAR? BIO-KINETIC WASTEWATER TREATMENT SYSTEM MODEL TNLTP-500 GPD 10-18-08 NTS
 PC-5-7061



BAT PROFILE
 HORIZONTAL SCALE : 1" = 30'
 VERTICAL SCALE : 1" = 3'

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

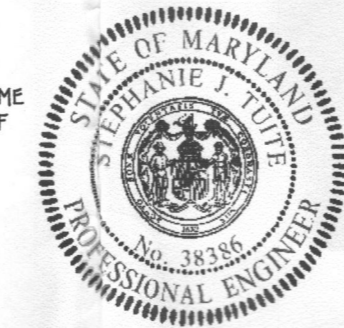
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PIKE
 ELIZABT CITY, MARYLAND 21042
 (410) 461-2899



OWNER
 ALI SARBAF & FERESHTEH KASSARI
 11836 LINDEN CHAPEL ROAD
 CLARKSVILLE, MD 21029
 484-432-4183

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Stephanie Jente 1/5/16
 Signature of Professional Engineer DATE

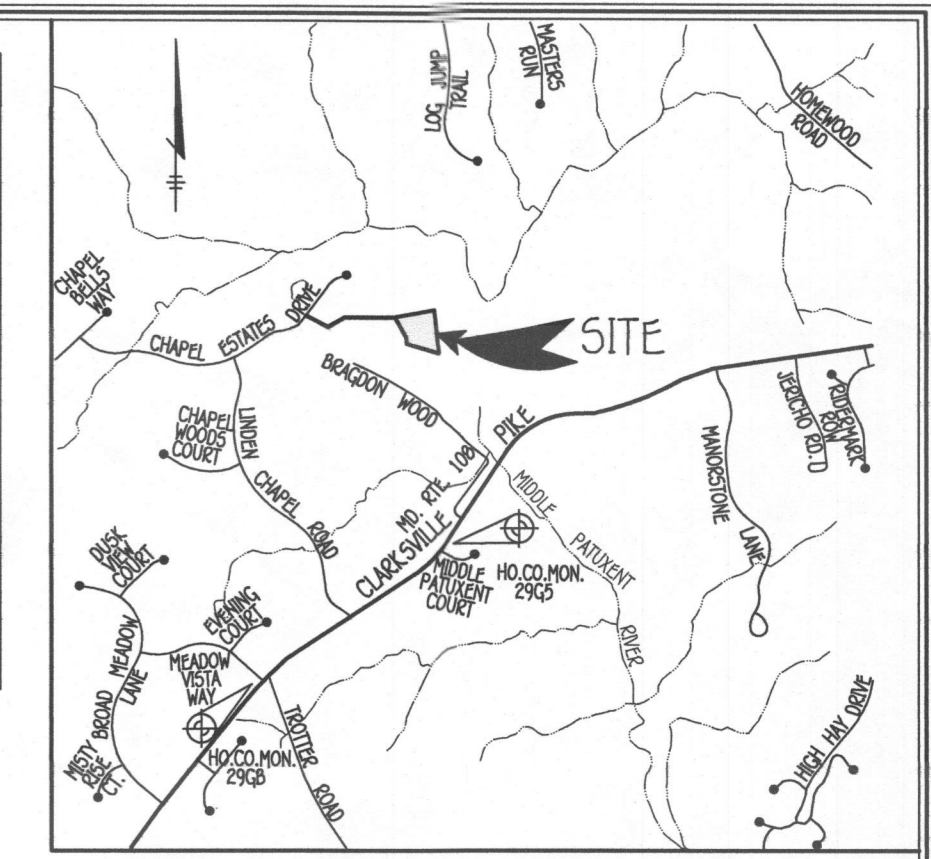


Approved Septic System Plan
 Howard County Health Department
[Signature] 1/7/16
 Date

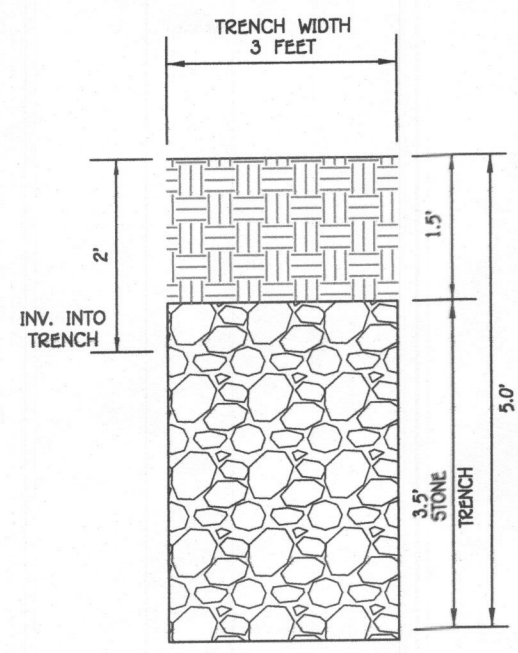
BAT SITE PLAN
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 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
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 SHEET 2 OF 2

TRENCH DESIGN											
TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	INVERT INTO TRENCH	DEPTH TO STONE FROM TRENCH	DEPTH OF STONE (FT)	BOTTOM OF TRENCH ELEV.	EFFECTIVE DEPTH AT	EFFECTIVE DEPTH (D)	TOTAL TRENCH DEPTH	WIDTH OF TRENCHES (W)	TRENCH SPACING
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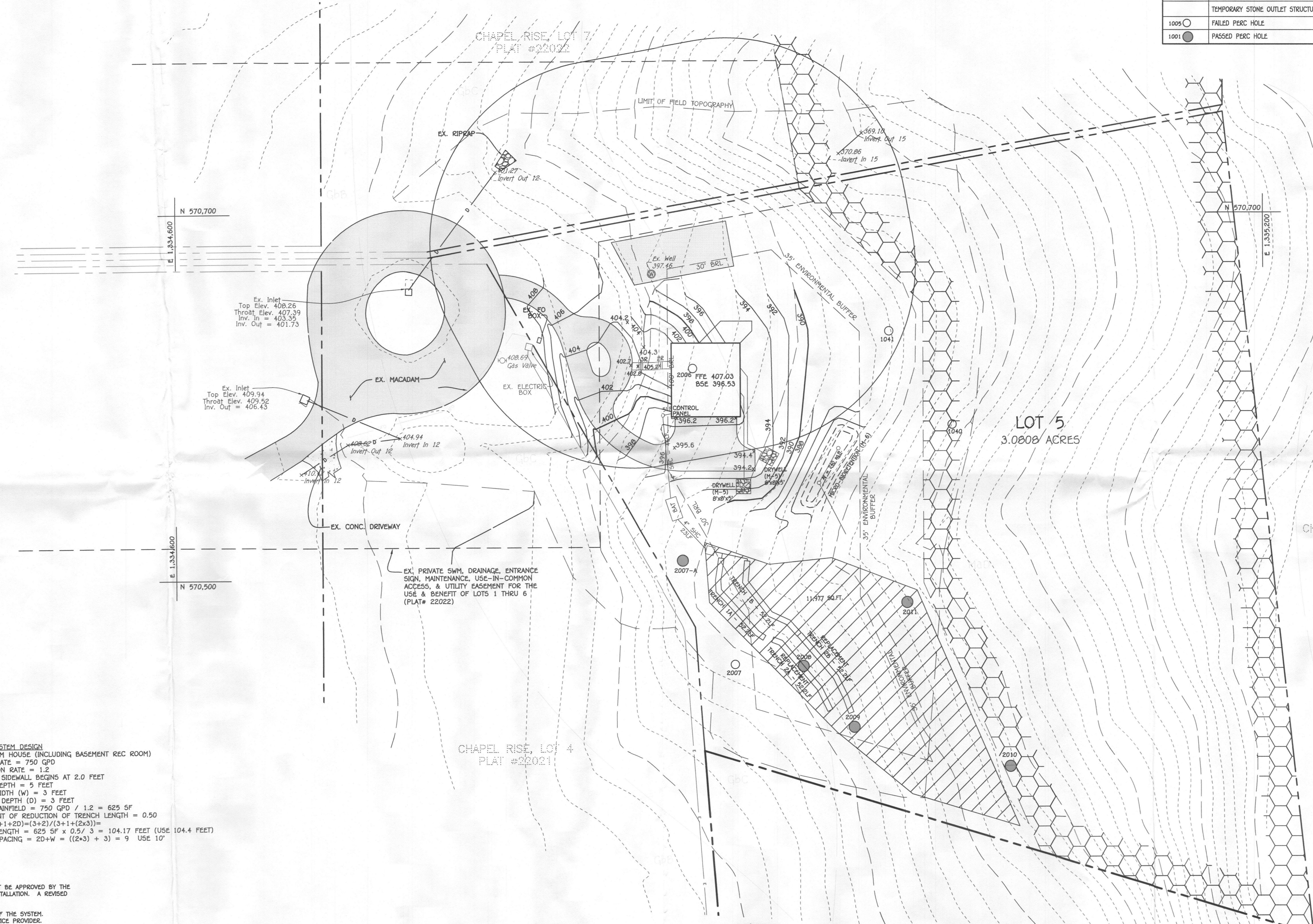
LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - - -	PROPOSED CONTOUR 2' INTERVAL
X362.5	SPOT ELEVATION
-DF--DF-	DIVERSION FENCE
-SSF--SSF-	SUPER SILT FENCE
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---	LIMITS OF DISTURBANCE
○	SPECIMEN TREE
○	TEMPORARY STONE OUTLET STRUCTURES
○	FAILED PERC HOLE
○	PASSED PERC HOLE



VICINITY MAP
SCALE: 1" = 2000'
HO. CO. MD. ADC MAP 4934, GRID C3



TRENCH DETAIL
SCALE: 1/4" = 1'

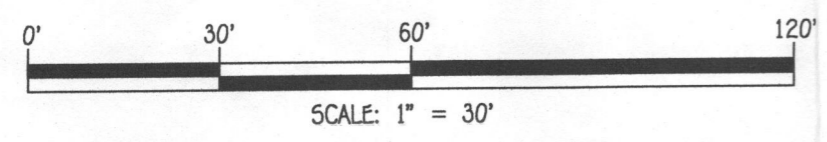


SEPTIC SYSTEM ELEVATIONS
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SEPTIC SYSTEM DESIGN
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 TRENCH DEPTH = 5 FEET
 TRENCH WIDTH (W) = 3 FEET
 EFFECTIVE DEPTH (D) = 3 FEET
 5' OF DRAINFIELD = 750 GPD / 1.2 = 625 5F
 COEFFICIENT OF REDUCTION OF TRENCH LENGTH = 0.50
 (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3))
 TRENCH LENGTH = 625 5F x 0.5 / 3 = 104.17 FEET (USE 104.4 FEET)
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 - THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
 - SURFACE RUNOFF SHALL BE DIRECTED AROUND THE BAT TANK.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21117
 (410) 461-8895



OWNER
 ALI SARBAF & FERESHTEH KASSARI
 11836 LINDEN CHAPEL ROAD
 CLARKSVILLE, MD 21029
 484-432-4163

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2018.
 Signature: *Stephanie Jantz* 1/5/16
 DATE

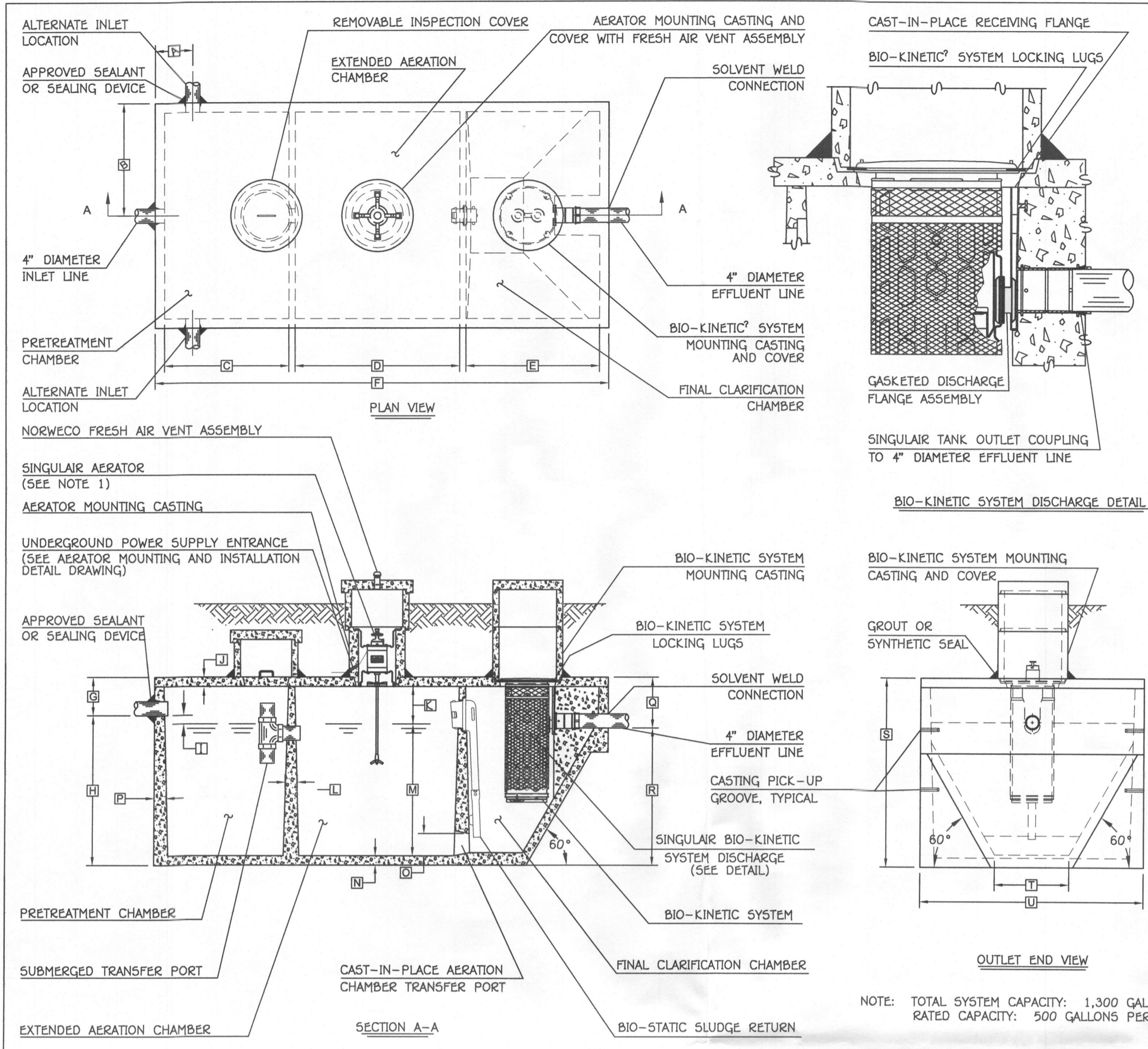


PLAN VIEW
SCALE: 1" = 30'

CHAPEL RISE, LOT 6
PLAT #22022

Approved Septic System Plan
 Howard County Health Department
 Signature: *[Signature]* 1/16
 Date: *[Date]*

BAT SITE PLAN
CHAPEL RISE
 LOT 5
 ZONED RC-DEO PLAT NO. 22022
 TAX MAP NO.: 29 GRID NO'S.: 8 & 14
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: JANUARY, 2016
 SHEET 1 OF 2



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.

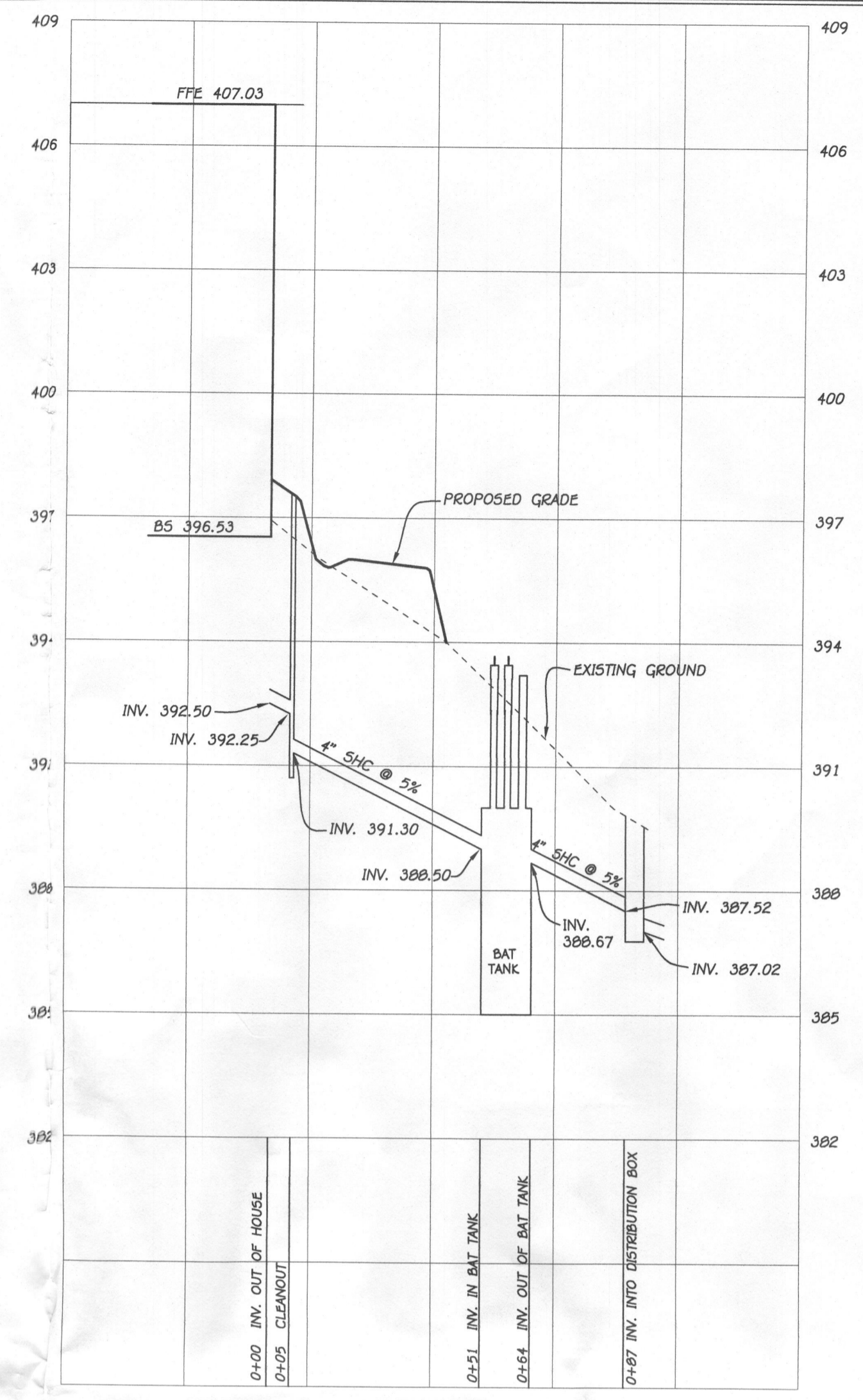
PROJECT ENGINEER'S APPROVAL:
 I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

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

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	

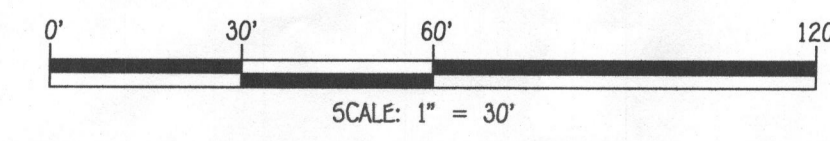
U.S. AND FOREIGN PATENTS PENDING
norweco 3-26-07
 LOW-PROFILE SINGULAR® BIO-KINETIC WASTEWATER TREATMENT SYSTEM MODEL TITL-500 GPD
 © MMVII
 PC-S-7091



BAT PROFILE
 HORIZONTAL SCALE : 1"=30'
 VERTICAL SCALE : 1"=3'

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

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2895



OWNER
 ALI SARRAF & FERESHTEH KASSARI
 11836 LINDEN CHAPEL ROAD
 CLARKSVILLE, MD 21029
 484-432-4183

PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2018.
 Signature of Professional Engineer: *Stephen J. ...* DATE: 1/5/16



Approved Septic System Plan
 Howard County Health Department
 Signature: *[Signature]* Date: 1/7/16

BAT SITE PLAN
CHAPEL RISE
 LOT 5
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 SHEET 2 OF 2