



Howard County
Health Department

Bureau of Environmental Health
7178 Gateway Drive Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

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

RECEIPT DATE: 10-7-13

ONSITE SEWAGE DISPOSAL SYSTEM

P 545162

INSTALLATION

APPROVAL DATE: 11/8/2013

PERMIT CONSTRUCTION

A 525169

PROPERTY ADDRESS: 16409 Tinker Hill Road

SUBDIVISION: Chapel Meadows

LOT: 2

TAX ID: _____

CONTRACTOR: _____

EMAIL: _____

CONTRACTOR ADDRESS: _____

PHONE: _____

PROPERTY OWNER: Rachuba Home Builders

EMAIL: chris@rachuba.com

OWNER ADDRESS: 998A Marimech Court

PHONE: 410-781-3400

BAT UNIT MODEL: Hoot

BAT UNIT SIZE: 600 GPD BNR System

PUMP CHAMBER CAPACITY (GALLONS): _____

PUMP SIZE: _____

NUMBER OF BEDROOMS: 4

HOUSE SQ. FT. +3900

APPLICATION RATE: 1.2

DISTRIBUTION SYSTEM: GRAVITY FED ☒

LOW PRESSURE DOSED ☐

TRENCHES:	LINEAR FEET REQUIRED: <u>103.33</u>	INLET DEPTH: <u>3' 4"</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6' 5"</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>9</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</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:	Set BAT unit per layout inspection. Set distribution box per layout inspection. Install 130.33' of trench on contour. <u>45' + 56' Trenches</u>	

ISSUED BY: Dana Bernard

ISSUE DATE: 10-16-13

EXPIRATION DATE: 10-16-14

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

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

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE

See As-Built Drawing On
Separate Sheet

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH 3' INLET 4' BOTTOM 6.5'

NUMBER OF TRENCHES 2

TOTAL LENGTH 105'

ABSORPTION AREA 415+Sidewall

DISTRIBUTION BOX LEVEL Yes

DISTRIBUTION BOX BAFFLE Elbow

DISTRIBUTION BOX PORT Yes

SEPTIC TANK + Pump

SEPTIC TANK 1 LEVEL Yes

MANUFACTURER Mayer Bros.

CAPACITY BNR-600 GAL

SEAM LOC Top

TANK LID DEPTH 1'-1.5'

BAFFLES 1 Front

BAFFLE FILTER No

MANHOLE LOC Front+Rear

6" PORT LOC None

WATERTIGHT TEST No

SLOTTED N/A

DATE ON LID Dry

PUMP/SEPTIC TANK LEVEL N/A

MANUFACTURER

CAPACITY GAL

SEAM LOC

TANK LID DEPTH

BAFFLES

BAFFLE FILTER

MANHOLE LOC

6" PORT LOC

WATERTIGHT TEST

SLOTTED

DATE ON LID

PRE-CONSTRUCTION:

10/18/2013 Partial layout done. Easement not staked. O.K. to set tank near where shown on the B.P. plan. (BB)

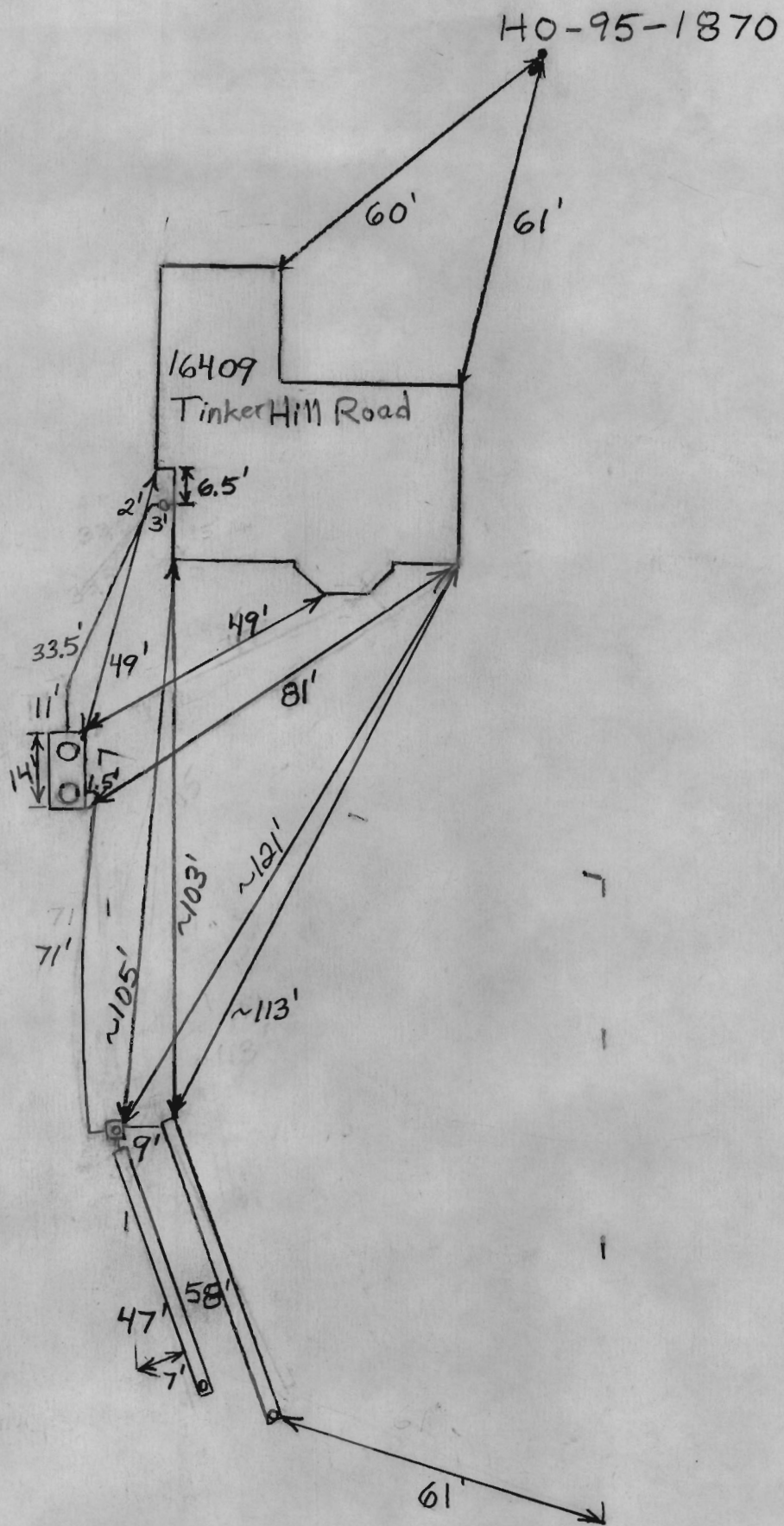
10/21/2013 Easement staked trenches laid out. Put the dist. box near the top center of the easement. Install an upper 45' trench and a lower 56' trench on contour across the top of the easement. (BB)

INSTALLATION: 10/22/2013 No work done (BB)

10/23/2013 Top trench done. (BB) 10/24/2013 Tank set. Mayer Bros. representative on site to oversee tank installation. Bottom trench done. (BB) 10/25/2013 Contractor making final connections to tank. Need verification that everything is working properly before final approval. (BB) 11/8/2013 Received certification from HOOI representative. (BB)

FINAL INSPECTOR B. Baker

DATE OF APPROVAL 11/8/2013



Transmittal

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

To: Dana Bernard Bureau of Env. Health, Well & Septic 8930 Stanford Blvd Columbia, Maryland 21046-4544	Attn: Fax: Phone:
---	-------------------------

From: Stephanie Tuite	CC:
------------------------------	-----

Re: BAT Site Plan - 16409 Tinker Hill Road	W.O.# 06026-6002
Date: 9/19/2013	Pages: Page(s) Including this cover

We are forwarding: ☒ Prints ☐ Copy of Letter ☐ Specifications ☐ Shop drawings ☒ Other
☐ Urgent ☐ For your use ☐ As requested ☐ For Review & Comment

Remarks:

Attached please find two copies of the BAT Site Plan for your review in conjunction with the Building Permit #B13003354.

Please call with any questions.

Stephanie Tuite, RLA, PE, LEED AP BD&C
Fisher, Collins & Carter, Inc.

CONFIDENTIALITY NOTICE

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



MAYER BROS., INC.

Precast Concrete Products
6264 Race Rd. Elkridge, MD 21075

Letter of Satisfaction Hoot System Installation

Address of Property: 16409 Tinker Hill Rd.
Woodbine, mo 21797

Date of Final Inspection: 11/8/13

Installer: Charles A. Klein & Sons Inc.

Hoot Technician/Inspector: Mike Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

H. Michel Sample
Name of Inspector
Mayer Bros., Inc.

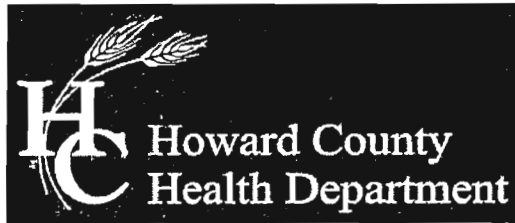
PH: 410-796-1434

FX: 410-796-1438

WBE
NPCA Certified Plant

mayerbro@connext.net
www.mayerbrosprecast.com

Grease Interceptors, Grease Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors,
Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, PermEntry Basement Entries,
Scapewell Window Wells, Custom Precast Products



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

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

THIS AGREEMENT is made this 6th day of September, among Harvey B. Weeks III & Amanda Weeks, 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 16409 Tinker Hill Road, Woodbine, Maryland 21797, in the 4th 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 14629 Folio 230.

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

NOW, THEREFORE, the parties hereto agree as follows:

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

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.

Harvey Weeks III 9/6/13
Owner Date
HARVEY WEEKS III

Amanda Weeks 9/6/2013
Owner Date
AMANDA WEEKS

Bea Rifon 9/17/13
Howard County Health Department

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: Weeks
Reference/Control #: 148

LR - Agreement Surcharge		
	1x 40.00	40.00

LR - Additional Recording Fee - linked		
	1x 0.00	0.00

SubTotal:		60.00
Total:		60.00

REV-Check-BOA		60.00
Number : 3020		

09/19/2013	09:36	CC13-DS
#2022364 /494/109		

***** DUPLICATE #001 *****

09/19/2013	09:38	CC13-DS
Thank you for visiting us today		

THE RACHUBA GROUP

CHRISTOPHER L. RACHUBA

Member

cell: 443.277.3137

e-mail: chris@rachuba.com

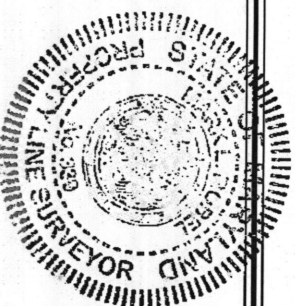
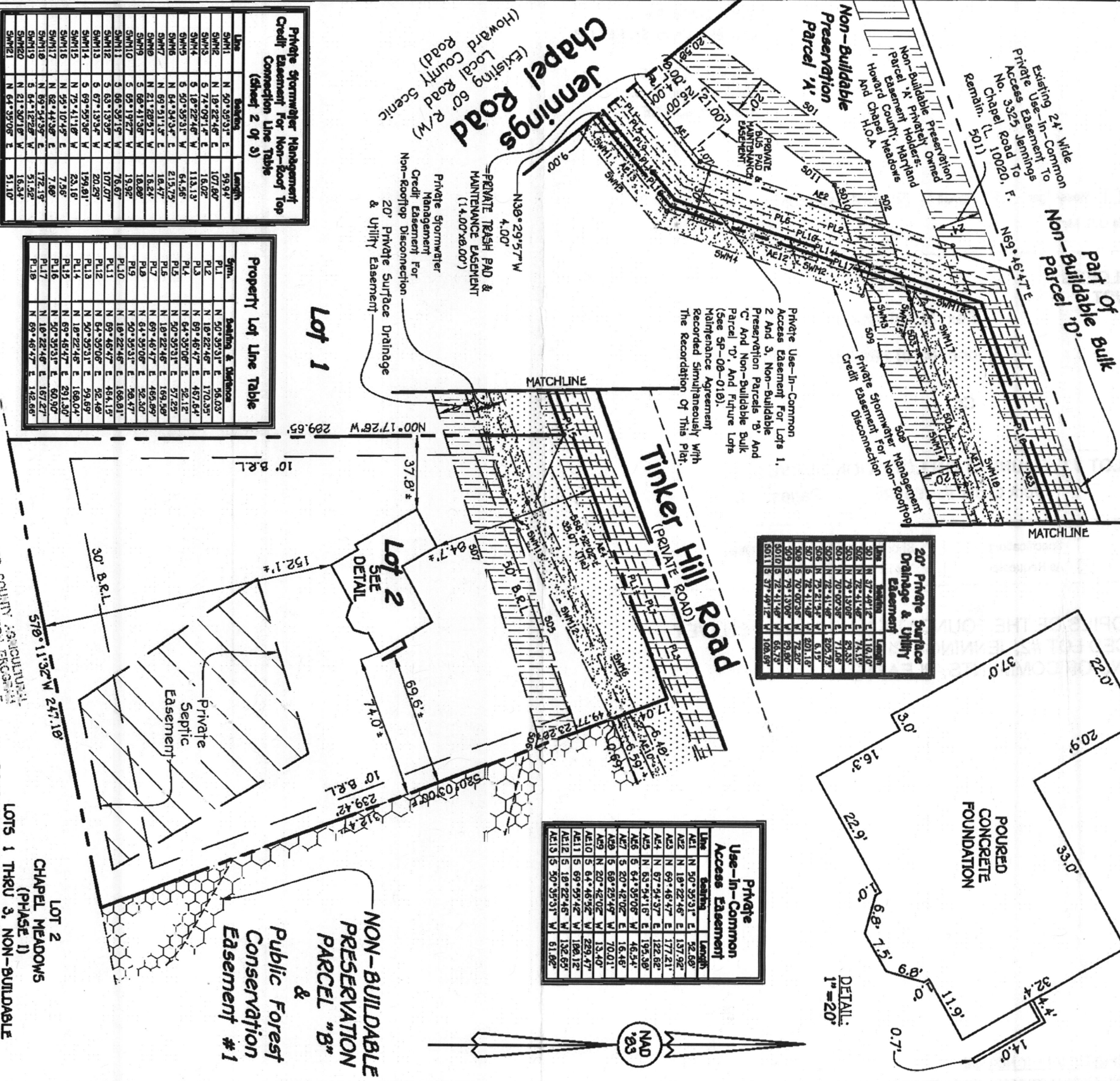
946-A Marimich Court . Eldersburg, MD 21784

Phone: 410.781.3400 . Fax: 410.781.3475

www.rachuba.com

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 C ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 2400440013-B, EFFECTIVE DEC. 4, 1986.
- 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-92-1869 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 10/04/2014.
- 7) BUILDING PERMIT NUMBER: B-12003915



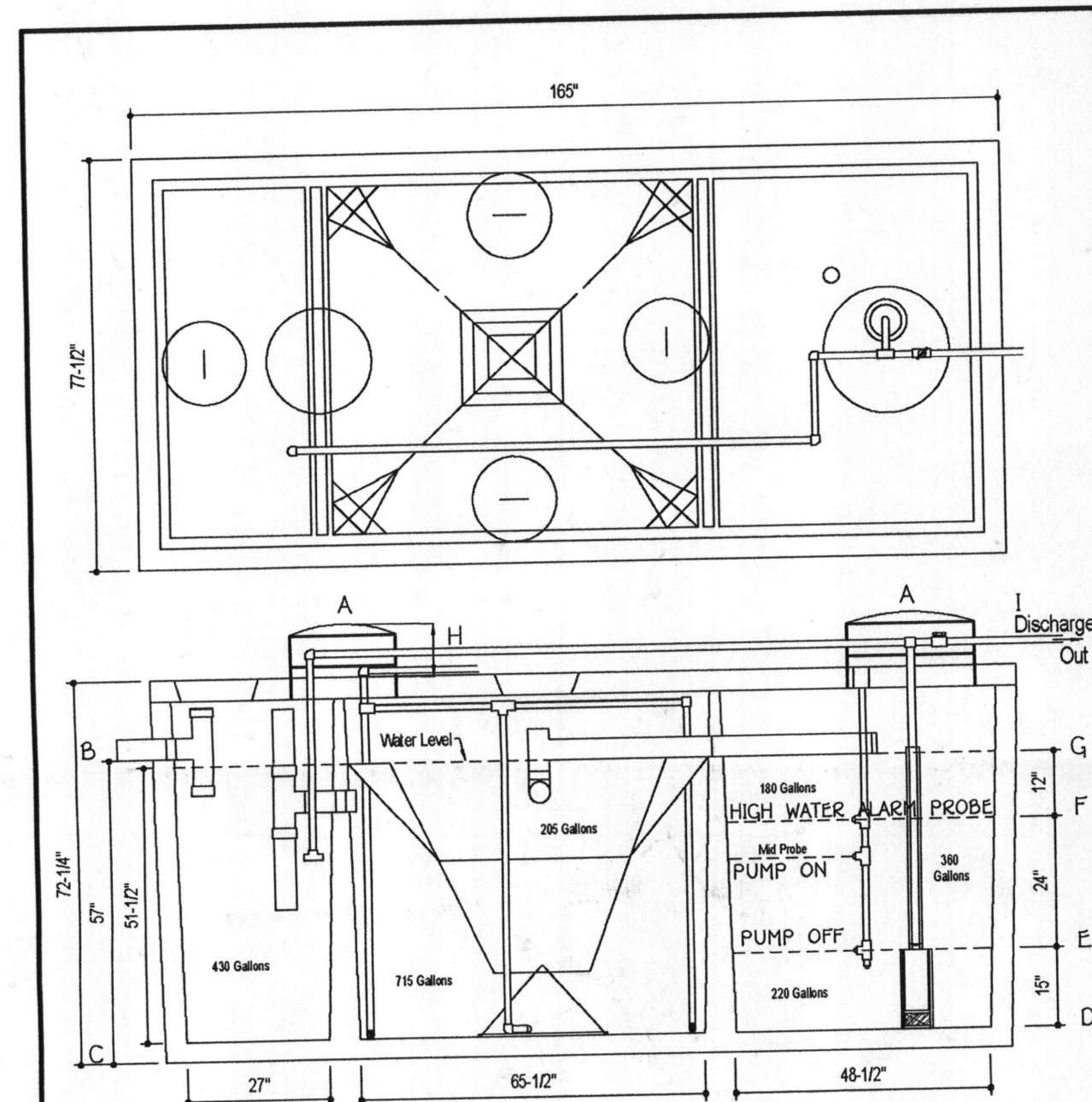
HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 1/30/13
FINAL LOCATION:
BOUNDARY SURVEY:

SCALE: 1"=60'
DATE: 1/31/13
DRAWN BY: JMB
CHECKED BY: MRE
PROJECT No.: 06026-6002

FISHER, COLLINS & CARTER, INC.
CML ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461 - 2995

Lot 2 Chapel Meadows
16409 Tinker Hill Road



SEPTIC SYSTEM ELEVATIONS
 A= 558.30
 B= 554.43 (INV. INTO TANK)
 C= 549.68
 D= 550.01
 E= 551.26
 F= 553.26
 G= 554.25
 H= 2.30' (7" MIN.)
 I= 556.77 (INV. OUT OF TANK)
 FFE = 561.50
 BSE = 552.30
 INV. OUT OF HOUSE = 555.93
 INV. INTO DISTRIBUTION BOX = 555.70

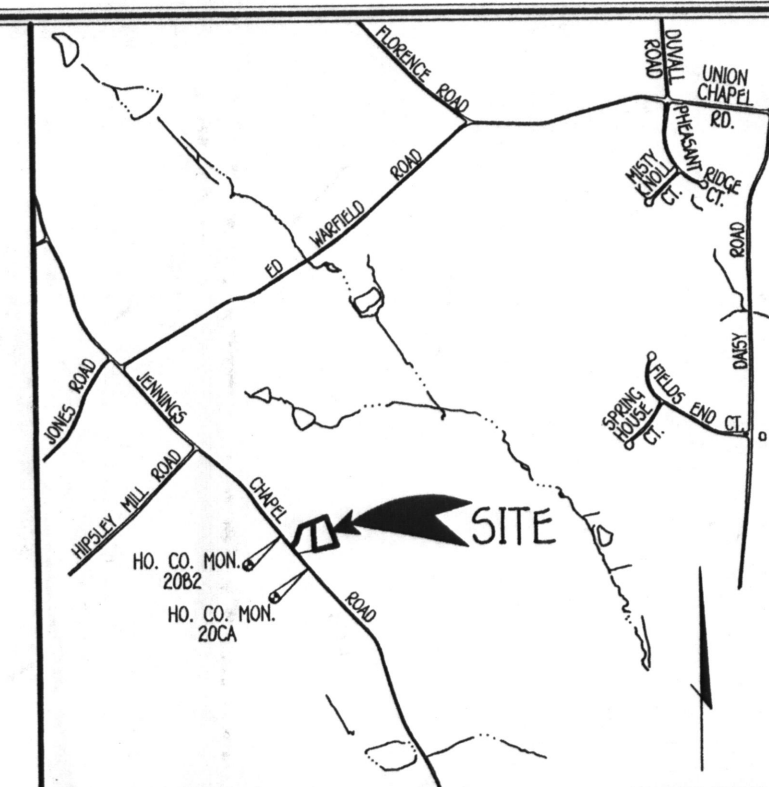
SEPTIC SYSTEM DESIGN
 4 BEDROOM HOUSE
 TRENCH LENGTH = 105 FEET (103 FEET REQUIRED)
 TRENCH WIDTH = 3 FEET
 TRENCH INVERT = 4 FEET BELOW GRADE
 TRENCH T1 INVERT = 555.40
 TRENCH T2 INVERT = 554.20
 TRENCH DEPTH = 6 FEET
 NOTE: TRENCHES (RT3 & RT4) ARE REPLACEMENT TRENCHES

- BAT NOTES**
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISION SITE PLAN MAY BE REQUIRED.
 - THE HIGHER CORNER OVER THE BAT FOR THE MANUFACTURER'S SPECIFICATION IS 3 FEET. IF CORNER EXCEEDS 3 FEET, THEN A TRAFFIC BEARING TANK IS REQUIRED.
 - THE BUNKER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON 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 HEALTH DEPARTMENT OF THE ENVIRONMENT (HDE) IN A MANNER ACCEPTABLE TO HDE. 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 DISSENT HAS BEEN COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, LIBRE 19531, FOLD 448.
 - 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.
 - AT HIGH WATER ALARM PROBE, PUMP WILL HAVE CONTINUOUS OPERATION UNTIL LEVEL GOES BEYOND PROBE.
 - IF WATER LEVEL RISES ABOVE THE ALARM PROBE, AN AUDIBLE AND VISUAL ALARM WILL SOUND. SEE MANUFACTURER SPECS FOR ADDITIONAL INFORMATION.
 - ALARM TO BE WIRED TO A CIRCUIT SEPARATE FROM THE PUMP CIRCUIT.

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X 562.50	SPOT ELEVATION
	PERIMETER LANDSCAPE TREES PER F-10-036

SOILS LEGEND		
SOIL	NAME	CLASS
ChC2	Chester silt loam, 0 to 15 percent slopes, moderately eroded	B
G/C2	Glenn loam, 0 to 15 percent slopes, moderately eroded	B

NOTES:
 • Hydric soils and/or contains hydric inclusions
 • May contain hydric inclusions
 † Generally only within 100-year floodplain areas



VICINITY MAP
 SCALE: 1" = 2000'
 ADC MAP NO. 4811, GRID G6

- GENERAL NOTES**
- SUBJECT PROPERTY ZONED: RC-DEO
 - TOTAL AREA OF PROPERTY: 59,775 SQ.FT.
 - SEPTIC EASEMENT SUBJECT TO HOWARD COUNTY HEALTH DEPARTMENT REVIEW.
 - LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
 - CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
 - TOPOGRAPHY SHOWN IS FROM HARFORD AERIAL DATED AUGUST, 2006 AND SUPPLEMENTED WITH FIELD RUN TOPO BY FISHER, COLLINS & CARTER, INC.
 - NO WETLANDS CURRENTLY EXIST ON THE PROPERTY.
 - STORMWATER MANAGEMENT IS PROVIDED UNDER F-10-036.
 - WATER QUALITY VOLUME (WQV) AND GROUNDWATER RECHARGE VOLUME (REV) STORMWATER MANAGEMENT REQUIREMENTS ARE PROPOSED AND WILL BE MET IN ACCORDANCE WITH THE 2000 STORMWATER MANAGEMENT DESIGN MANUAL BY APPLYING THE CRITERIA FOUND IN CHAPTER 3, SECTION 3.4, "STORMWATER FILTERING SYSTEMS" AND CHAPTER 5, SECTION 5.3, "DISCONNECTION OF NON ROOFTOP RUNOFF CREDIT". THE SITE IS EXEMPT FROM PROVIDING CHANNEL PROTECTION VOLUME (CPV) REQUIREMENTS BECAUSE THE (CPV) DISCHARGE RATE FROM THE VARIOUS STUDY POINTS DOES NOT EXCEED 2.0 CFS.

NOTE
 THE EXISTING WELL SHOWN ON THIS PLAN, TAG NO. HO 95-1870 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.

DESIGN DATA & GENERAL NOTES

- Concrete strength F_{cm} 4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & additives per ASTM C 494 & C 494-92.
- Reinforcing per ASTM A618, Min. 14" cover.

Mayer Brothers, Inc.
 600 GPD BNR SYSTEM
 H-600 BNR
 with 750 GALLON PUMP CHAMBER

Dwg. No. Hoot Form #1 No Scale March 19, 2009

ITT **GOULDS PUMPS** Wastewater

ITT

APPLICATIONS

Specifically designed for the following uses:

- Effluent systems
- Homes
- Farms
- Heavy duty pump
- Water transfer
- Dewatering

SPECIFICATIONS

- Solids handling capability: 1/4" maximum.
- Capacities: up to 60 GPM.
- Total heads: up to 31 feet.
- Discharge size: 1 1/2" NPT.
- Mechanical seal: carbon rotary/ceramic-stationary, BUNA-N elastomers.
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.

Motor:

- EP04 Single phase: 0.4 HP, 115 or 230 V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- EP05 Single phase: 0.5 HP, 115 V or 230V, 60 Hz, 1550 RPM, built in overload with automatic reset.
- Power cord: 10 foot standard length, 16/3 STW with three prong grounding plug. Optional 20 foot length, 16/3 STW with three prong grounding plug (standard on EP05).
- Fully submerged in high grade turbine oil for lubrication and efficient heat transfer.

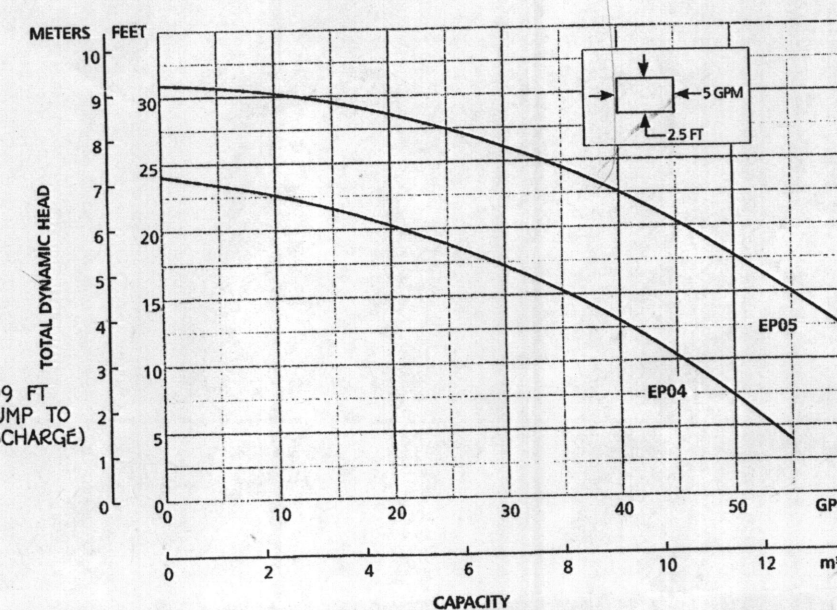
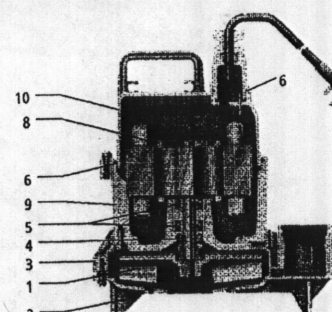
Available for automatic and manual operation. Automatic models include Mechanical Float Switch assembled and preset at the factory.

PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute EP04	EP05
5	53	-
10	45	62
15	38	55
20	31	46
25	25	33
30	-	11

COMPONENTS

Item No.	Description
1	Impeller
2	Base
3	Pump Casing
4	Mechanical Seal
5	Ball Bearings
6	O-Rings
7	Power Cord
8	Oil Filled Motor
9	Motor Housing/ Starter Assembly
10	Motor Cover



MODEL INFORMATION

Order No.	HP	Volts	Amperes	Minimum Circuit Breaker	Phase	Float Switch Style	Cord Length	Discharge Connection	Minimum On Level	Minimum Off Level	Minimum Basin Diameter	Maximum Solids Size	Shipping Weight (lbs.)
EP0411						Plug / No Switch	10'	1 1/2"	Manual	Manual	15"		20/9.1
EP0411A						Piggyback / Wide-Angle	10'	1 1/2"	Manual	Manual	15"		21/9.5
EP0411F						Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		20/9.1
EP0411AC						Piggyback / Wide-Angle	20'	1 1/2"	Manual	Manual	15"		21/9.5
EP0411AC						Plug / No Switch	10'	1 1/2"	Manual	Manual	15"	1/4"	20/9.1
EP0412						Plug / No Switch	10'	1 1/2"	Manual	Manual	15"		20/9.1
EP0412F						Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		22/10
EP0511F						Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		23/10.4
EP0511AC						Piggyback / Wide-Angle	20'	1 1/2"	Manual	Manual	15"		23/10.4
EP0512F						Plug / No Switch	20'	1 1/2"	Manual	Manual	15"		22/10

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. 38886, EXPIRATION DATE: 01/12/2014.

Signature of Professional Engineer DATE 10/7/13



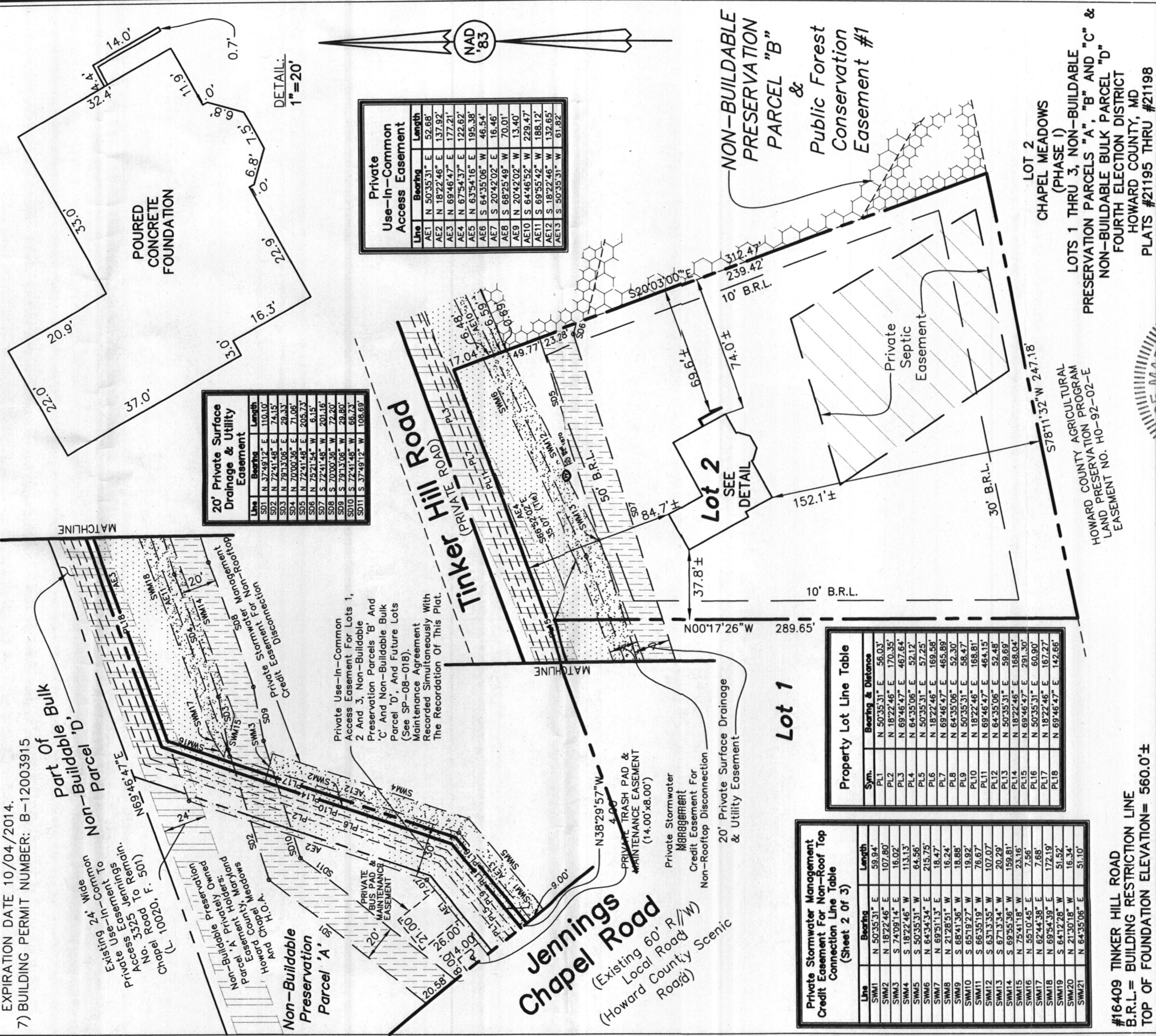
SITE PLAN
 FOR BAT SYSTEM INSTALLATION
 CHAPEL MEADOWS
 PHASE 1, LOT 7
 16409 TINKER HILL ROAD
 ZONED RR-DEO

TAX MAP NO'S: 13 & 20 GRID NO'S: 4.5 & 23 PARCEL NO'S: 322 & 357
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: OCTOBER, 2013

SHEET 1 OF 1

GENERAL NOTES:

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE C ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 2400440013-B, EFFECTIVE DEC. 4, 1986.
- 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-95-1870 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 10/04/2014.
- 7) BUILDING PERMIT NUMBER: B-12003915



HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 1/30/13
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=60'
DATE: 1/31/13
DRAWN BY: JMP
CHECKED BY: MLR
PROJECT No.: 08026-6002



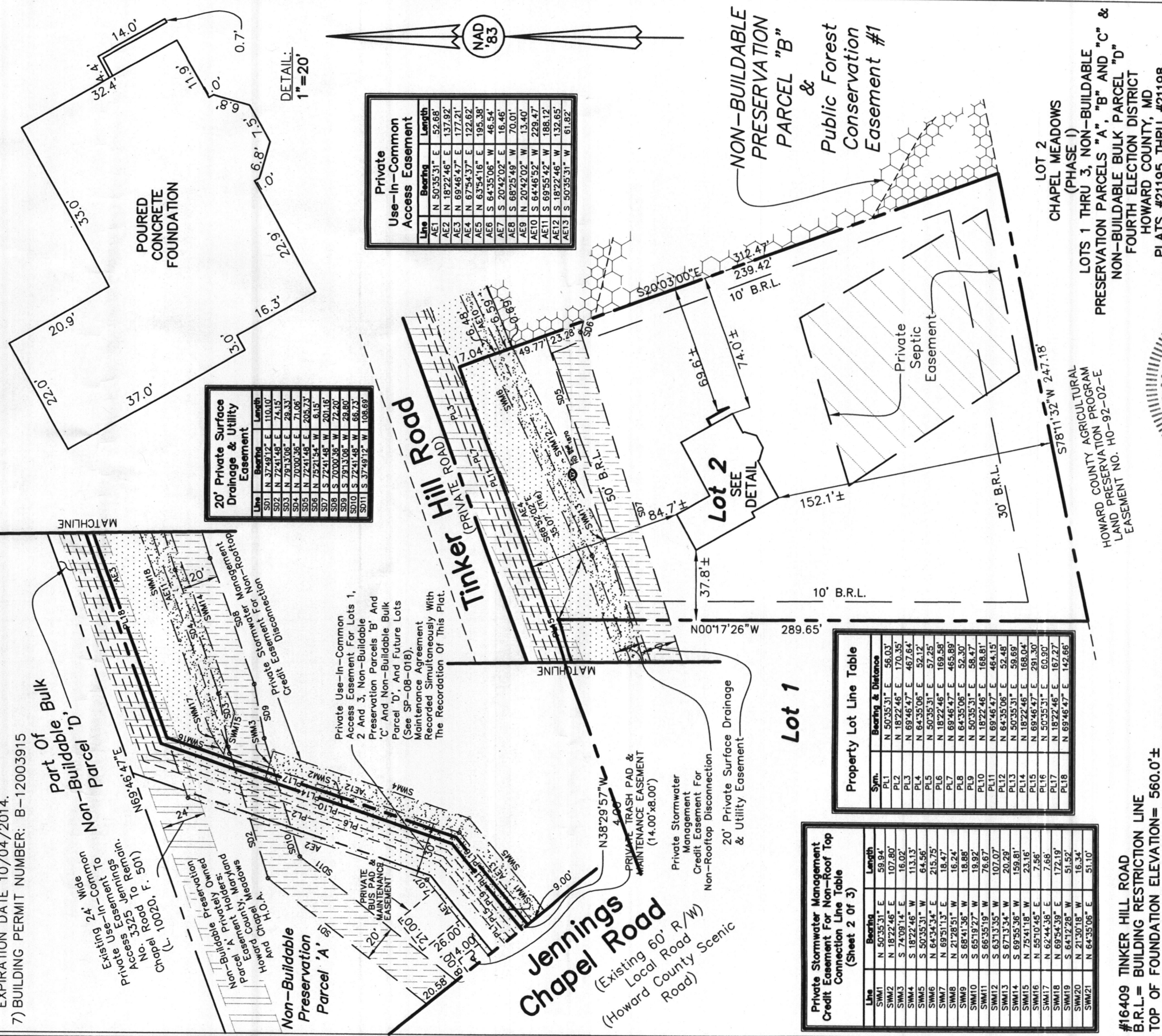
Mark L. Robel
PROFESSIONAL LAND SURVEYOR
REG. # 339
DATE: 1/31/13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#16409 TINKER HILL ROAD
B.R.L. = BUILDING RESTRICTION LINE
TOP OF FOUNDATION ELEVATION = 560.0'±

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 C ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 2400440013-B EFFECTIVE DEC. 4, 1986.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1' ($\pm$)
- 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-95-1870 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 10/04/2014.
- 7) BUILDING PERMIT NUMBER: B-12003915



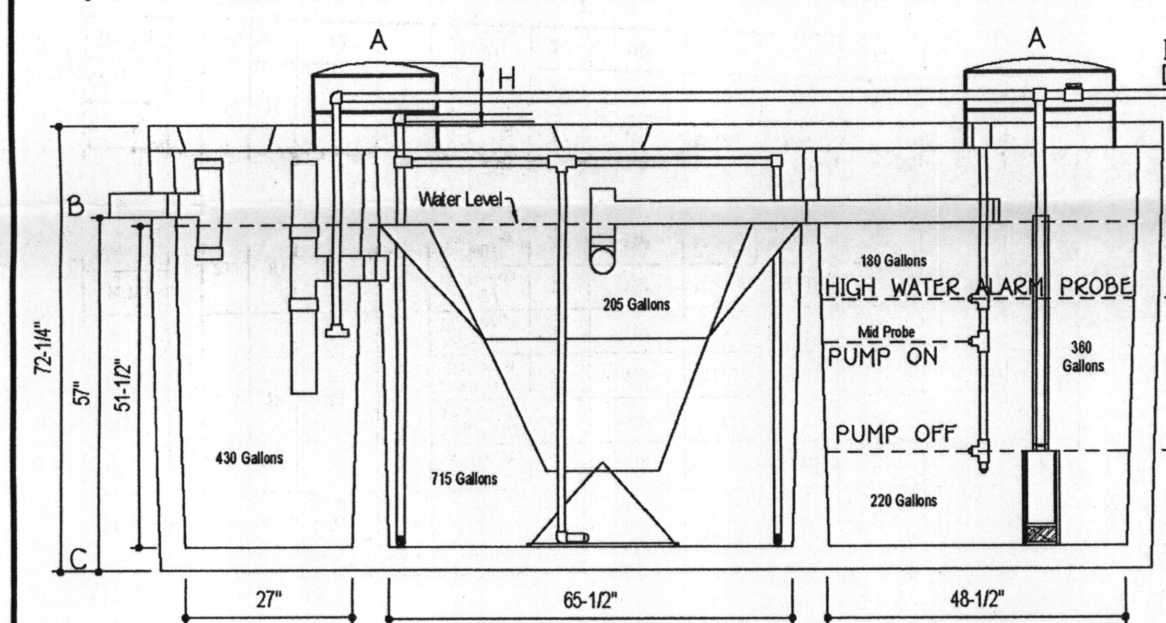
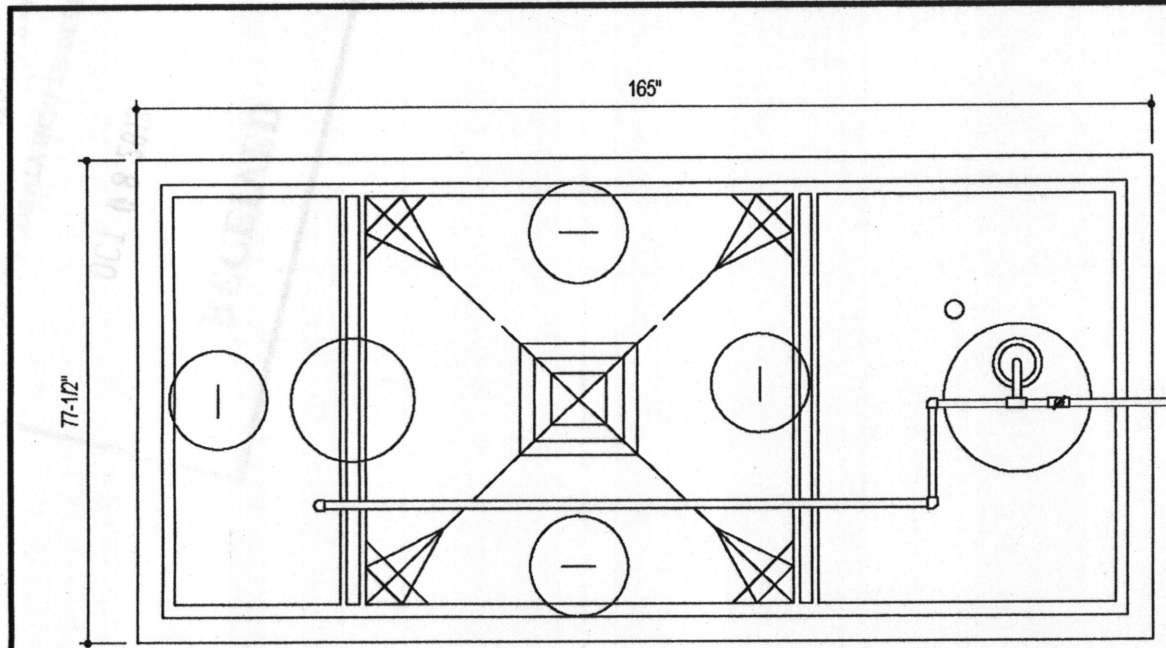
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK — 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 — 2855

FOUNDATION LOCATION: 1/30/13
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=60'
DATE: 1/31/13
DRAWN BY: JMP
CHECKED BY: MLR
PROJECT No.: 06026-6002

Mark L. Wahl
PROFESSIONAL LAND SURVEYOR
REG. # 339
DATE 1/31/13



DESIGN DATA & GENERAL NOTES

(1) Concrete strength F-4,000 p.s.i. @ 28 days. Density = 150 pcf.
 (2) Cement - Portland Type III per ASTM C 150-82.
 (3) Admixtures & additives per ASTM C 260-02 & C 484-02.
 (4) Reinforcing per ASTM A108. Min. 1-1/2" cover.

Mayer Brothers, Inc.
 2385 River Road
 Ellicott City, Maryland 21075
 Tel. 410.796.1404
 Fax 410.796.1408
 www.mayerbrothers.com

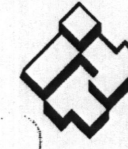
**600 GPD BNR SYSTEM
 H-600 BNR
 with 750 GALLON PUMP CHAMBER**

Dwg. No. Hoot Form #1 No Scale March 19, 2009



ITT

GOULDS PUMPS
Wastewater



ITT

GOULDS PUMPS
Wastewater

- APPLICATIONS**
- Specifically designed for the following uses:
- Effluent systems
 - Homes
 - Farms
 - Heavy duty pump
 - Water transfer
 - Dewatering
- SPECIFICATIONS**
- Solids handling capability: 1/2" maximum.
 - Capacities: up to 60 GPM.
 - Total heads: up to 31 feet.
 - Discharge size: 1 1/2" NPT.
 - Mechanical seal: carbon-rotary/ceramic-stationary.
 - BUNA-N elastomers.
 - Temperature: 104° F (40° C) continuous, 140° F (60° C) intermittent.
 - Fasteners: 300 series stainless steel.
 - Capable of running dry without damage to components.

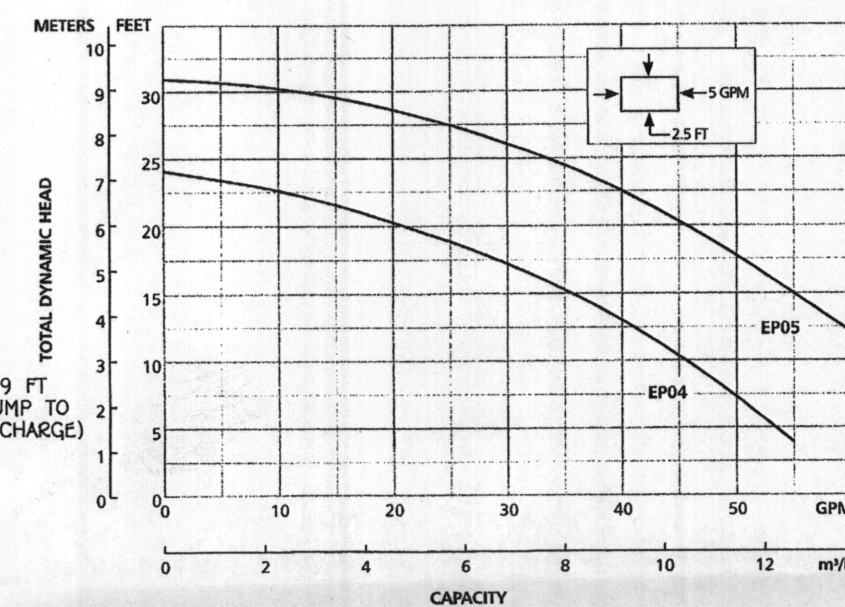
- MODEL INFORMATION**
- | Order No. | HP | Volts | Amperes | Phase | Float Switch Style | Cost Length | Discharge Connection | Minimum On Level | Minimum Off Level | Minimum Basin Diameter | Maximum Solids Size | Shipping Weight (lbs.) |
|-----------|-------|-------|---------|-------|------------------------|-------------|----------------------|------------------|-------------------|------------------------|---------------------|------------------------|
| EP0411 | 1/2 | 115 | 12 | 20 | Plug / No Switch | 10' | 1 1/2" | Manual | Manual | 15" | 1/2" | 20/9.1 |
| EP0411A | 1/2 | 115 | 12 | 20 | Piggyback / Wide Angle | 10' | 1 1/2" | Manual | Manual | 15" | 1/2" | 21/9.5 |
| EP0411F | 1/2 | 115 | 12 | 20 | Plug / No Switch | 20' | 1 1/2" | Manual | Manual | 15" | 1/2" | 20/9.1 |
| EP0411C | 1/2 | 115 | 12 | 20 | Piggyback / Wide Angle | 20' | 1 1/2" | Manual | Manual | 15" | 1/2" | 21/9.5 |
| EP0412 | 3/4 | 230 | 6 | 10 | Plug / No Switch | 10' | 1 1/2" | Manual | Manual | 15" | 1/2" | 20/9.1 |
| EP0412F | 3/4 | 230 | 6 | 10 | Piggyback / Wide Angle | 10' | 1 1/2" | Manual | Manual | 15" | 1/2" | 20/9.1 |
| EP0511F | 1 | 115 | 13 | 20 | Plug / No Switch | 20' | 1 1/2" | Manual | Manual | 15" | 1/2" | 22/10 |
| EP0511AC | 1 | 115 | 13 | 20 | Piggyback / Wide Angle | 20' | 1 1/2" | Manual | Manual | 15" | 1/2" | 23/10.4 |
| EP0512F | 1 1/2 | 230 | 6.5 | 10 | Plug / No Switch | 20' | 1 1/2" | Manual | Manual | 15" | 1/2" | 22/10 |

PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute	EP04	EP05
5	53	62	55
10	46	55	48
15	36	45	38
20	27	36	29
25	21	28	23
30	16	21	18

COMPONENTS

Item No.	Description
1	Impeller
2	Belt
3	Pump Casing
4	Mechanical Seal
5	Ball Bearings
6	O-Rings
7	Power Cord
8	Oil Filled Motor
9	Motor Housing/ Motor Assembly
10	Motor Cover



LEGEND

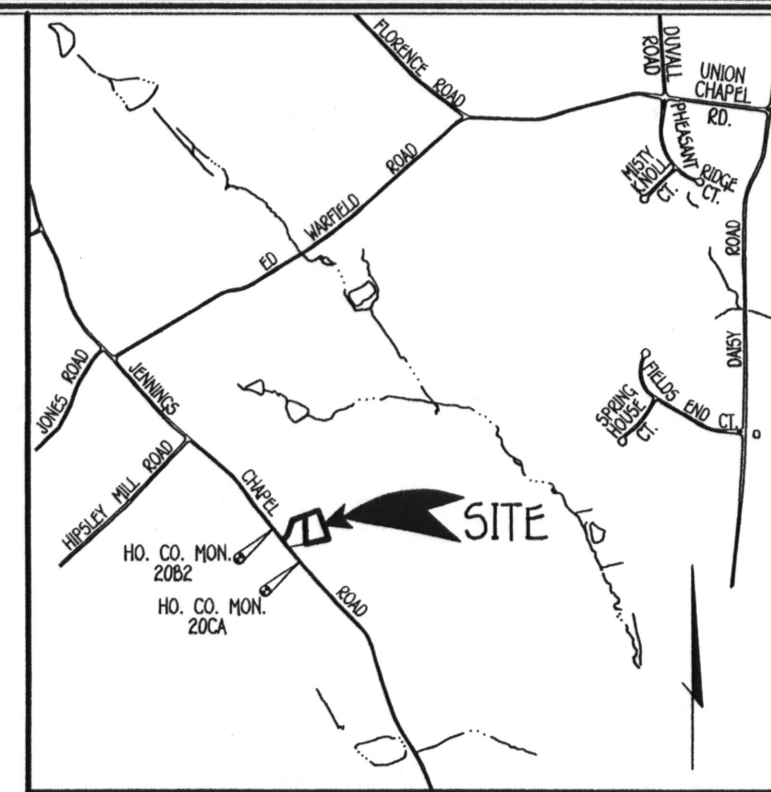
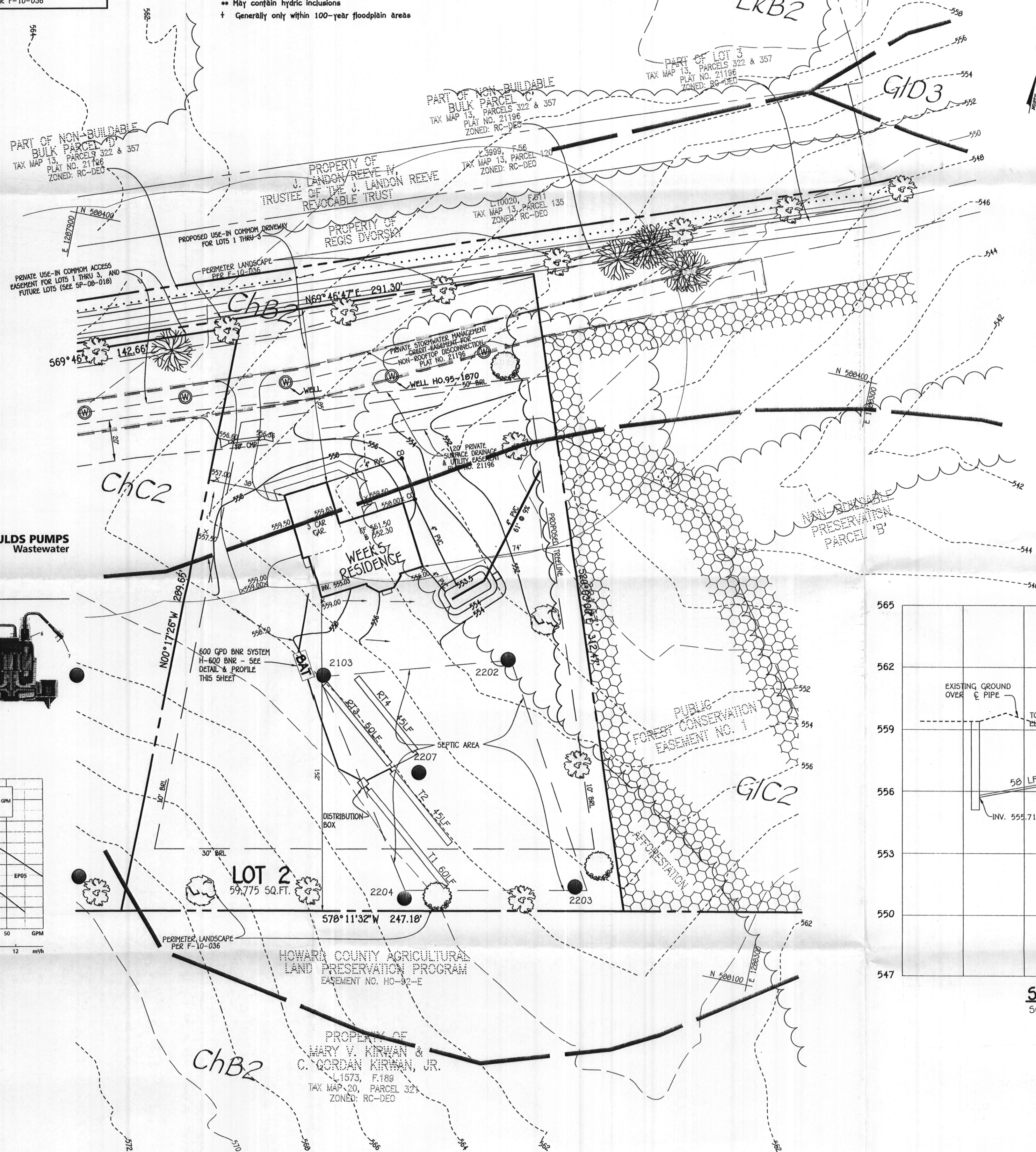
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
X 562.50	SPOT ELEVATION
○	PERIMETER LANDSCAPE TREES PER F-10-036

SOILS LEGEND

SOIL	NAME	CLASS
ChC2	Chester silt loam, 0 to 15 percent slopes, moderately eroded	B
G/C2	Glenelg loam, 0 to 15 percent slopes, moderately eroded	B

NOTES:

- Hydric soils and/or contains hydric inclusions
- May contain hydric inclusions
- Generally only within 100-year floodplain areas

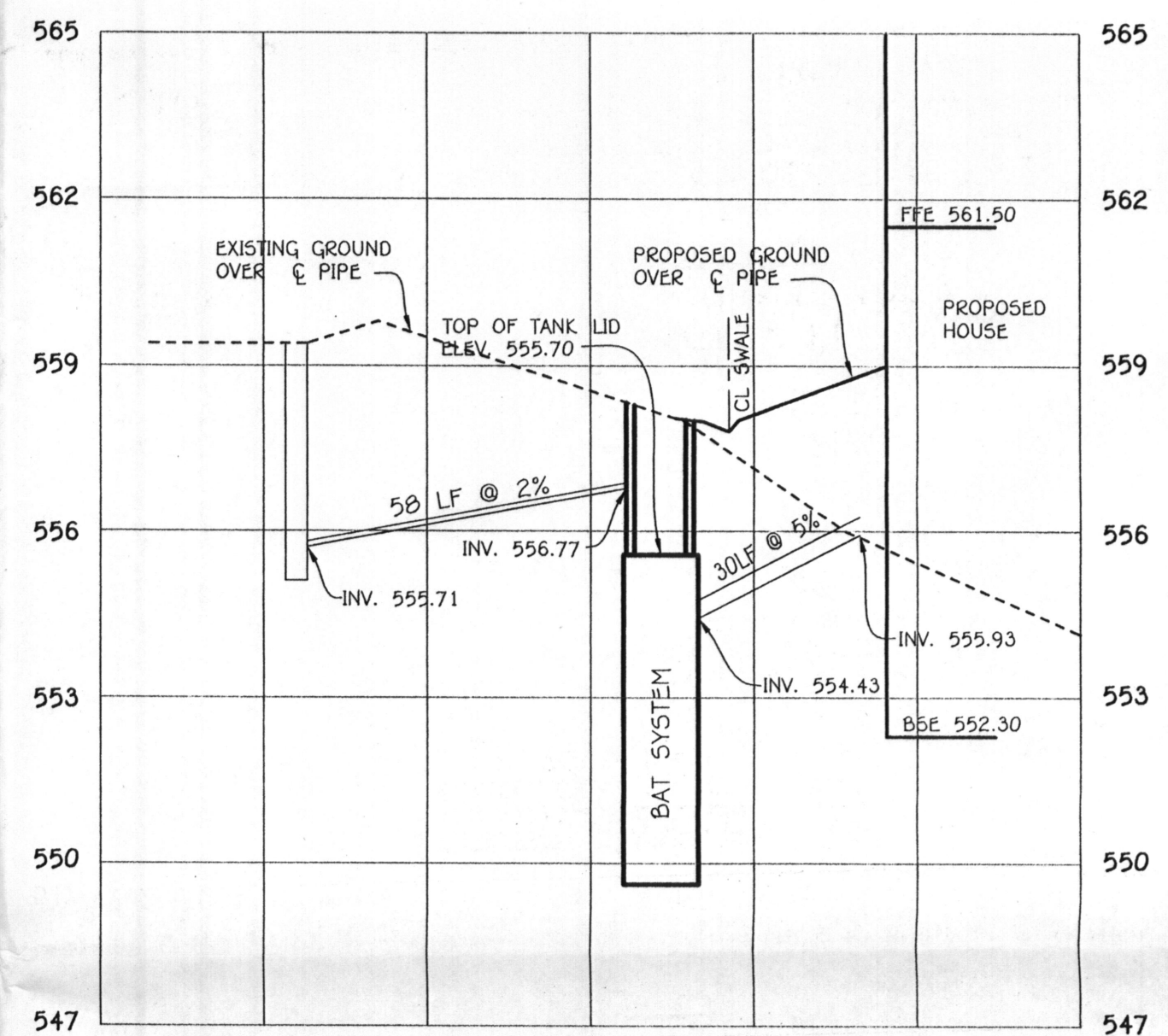


VICINITY MAP
 SCALE: 1" = 2000'
 ADC MAP NO. 4011, GRID G6

- GENERAL NOTES**
- SUBJECT PROPERTY ZONED: RC-DEO
 - TOTAL AREA OF PROPERTY: 59,775 SQ.FT.
 - SEPTIC EASEMENT SUBJECT TO HOWARD COUNTY HEALTH DEPARTMENT REVIEW.
 - LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
 - CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
 - TOPOGRAPHY SHOWN IS FROM HARFORD AERIAL DATED AUGUST, 2006 AND SUPPLEMENTED WITH FIELD RUN TOPO BY FISHER, COLLINS & CARTER, INC.
 - NO WETLANDS CURRENTLY EXIST ON THE PROPERTY.
 - STORMWATER MANAGEMENT IS PROVIDED UNDER F-10-036.
 - WATER QUALITY VOLUME (WQV) AND GROUNDWATER RECHARGE VOLUME (REV) STORMWATER MANAGEMENT REQUIREMENTS ARE PROPOSED AND WILL BE MET IN ACCORDANCE WITH THE 2000 STORMWATER MANAGEMENT DESIGN MANUAL BY APPLYING THE CRITERIA FOUND IN CHAPTER 3, SECTION 3.4, "STORMWATER FILTERING SYSTEMS" AND CHAPTER 5, SECTION 5.3, "DISCONNECTION OF NON ROOFTOP RUNOFF CREDIT". THE SITE IS EXEMPT FROM PROVIDING CHANNEL PROTECTION VOLUME (CPV) REQUIREMENTS BECAUSE THE (CPV) DISCHARGE RATE FROM THE VARIOUS STUDY POINTS DOES NOT EXCEED 2.0 CFS.

NOTE

THE EXISTING WELL SHOWN ON THIS PLAN, TAG NO. HO 95-1870 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.



SEPTIC PROFILE
 SCALE: HOR. : 1" = 30'
 VER. : 1" = 3'

BUILDER/DEVELOPER
 RACHUBA HOME BUILDERS
 946-A HARMONIC COURT
 ELDERSBURG, MARYLAND 21784
 410-781-3400

**SITE PLAN
 FOR BAT SYSTEM INSTALLATION
 CHAPEL MEADOWS
 PHASE 1, LOT 7
 16409 TINKER HILL ROAD
 ZONED RR-DEO**

TAX MAP NO'S: 13 & 20 GRID NO'S: 4.5 & 23 PARCEL NO'S: 322 & 357
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: OCTOBER, 2013

PROFESSIONAL CERTIFICATION

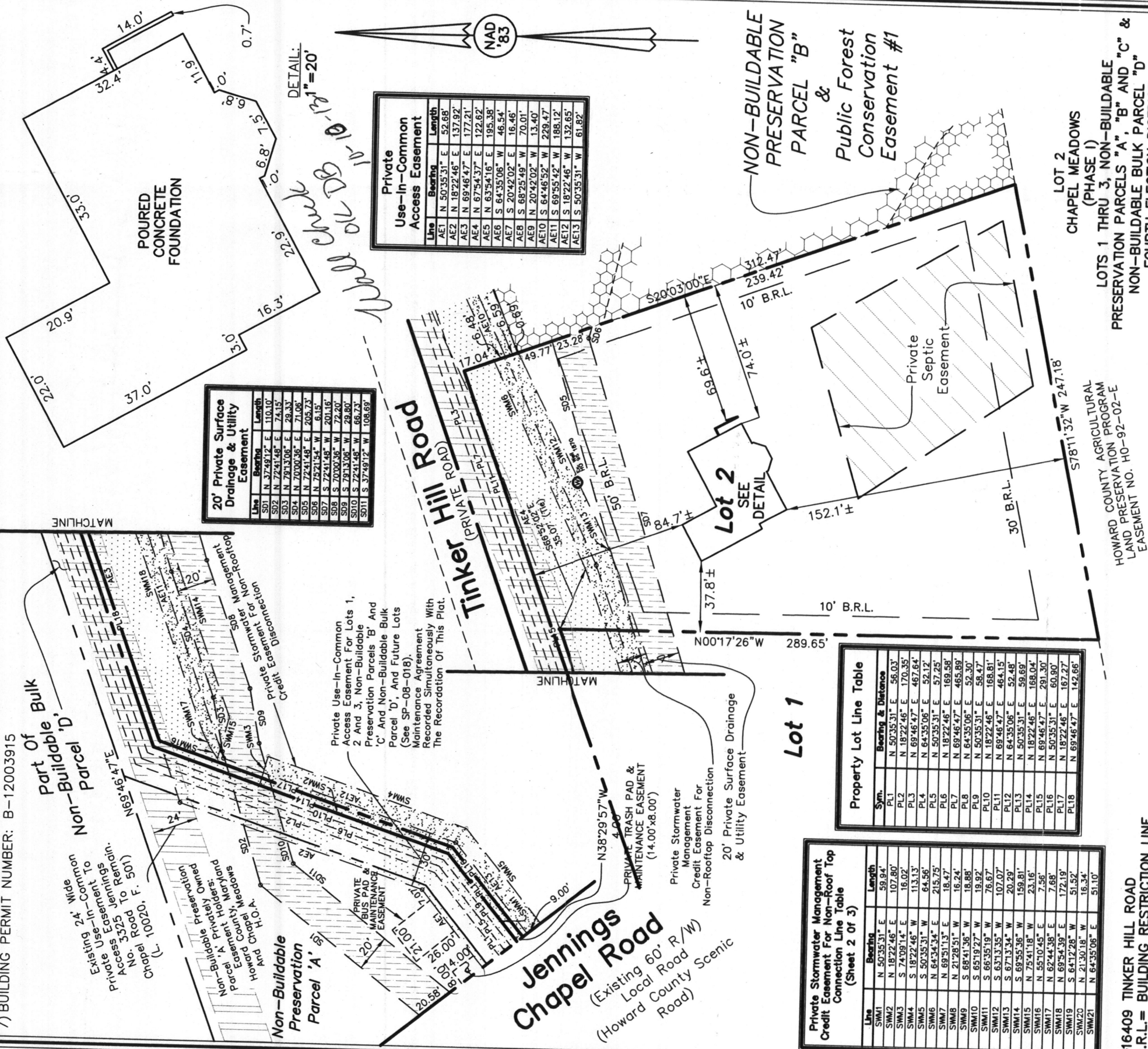
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 38366, EXPIRATION DATE: 01/12/2014.

Anthony J. Lutz 10/7/13
 Signature of Professional Engineer DATE



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 C ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 2400440013-B, EFFECTIVE DEC. 4, 1986.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1' ($\pm$)
- 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-95-1870 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 10/04/2014.
- 7) BUILDING PERMIT NUMBER: B-12003915



HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 1/30/13
FINAL LOCATION:
BOUNDARY SURVEY:

SCALE: 1"=60'
DATE: 1/31/13
DRAWN BY: JMP
CHECKED BY: MLR
PROJECT No.: 06026-6002



Mark L. Robel
PROFESSIONAL LAND SURVEYOR
REG. # 339
DATE: 1/31/13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461 - 2855

#16409 TINKER HILL ROAD
B.R.L. = BUILDING RESTRICTION LINE
TOP OF FOUNDATION ELEVATION = 560.0'±

Private Stormwater Management
Credit Easement For Non-Roof Top
Connection Line Table
(Sheet 2 of 3)

Line	Bearing	Length
SWM1	N 50°35'31" E	59.94'
SWM2	N 18°22'46" E	107.80'
SWM3	S 74°09'14" E	16.02'
SWM4	S 18°22'46" W	113.13'
SWM5	S 50°35'31" E	64.56'
SWM6	N 64°35'06" E	215.75'
SWM7	N 69°31'13" E	18.47'
SWM8	N 21°28'51" W	16.24'
SWM9	S 69°41'36" W	18.88'
SWM10	S 65°19'27" W	19.92'
SWM11	S 63°13'35" W	76.67'
SWM12	S 67°13'34" W	20.29'
SWM13	S 69°55'36" W	159.81'
SWM14	N 75°41'18" W	23.16'
SWM15	N 55°10'45" E	7.56'
SWM16	N 62°44'38" E	7.88'
SWM17	N 69°54'39" E	172.19'
SWM18	S 64°12'28" W	51.92'
SWM19	N 21°30'18" W	16.34'
SWM20	N 64°35'06" E	51.10'
SWM21	N 64°35'06" E	51.10'

Property Lot Line Table

Sym.	Bearing & Distance
PL1	N 50°35'31" E 56.03'
PL2	N 18°22'46" E 170.35'
PL3	N 69°46'47" E 467.64'
PL4	N 64°35'06" E 52.12'
PL5	N 50°35'31" E 57.25'
PL6	N 18°22'46" E 169.58'
PL7	N 69°46'47" E 465.89'
PL8	N 64°35'06" E 52.30'
PL9	N 50°35'31" E 58.47'
PL10	N 18°22'46" E 168.81'
PL11	N 69°46'47" E 464.15'
PL12	N 64°35'06" E 52.48'
PL13	N 50°35'31" E 59.69'
PL14	N 18°22'46" E 168.04'
PL15	N 69°46'47" E 291.30'
PL16	N 50°35'31" E 60.90'
PL17	N 18°22'46" E 167.27'
PL18	N 69°46'47" E 142.66'