

Bureau of Environmental Health
 8930 Stanford Blvd. Columbia, MD 21045
 (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: 6/23/2014 **ONSITE SEWAGE DISPOSAL SYSTEM** P 545058

INSTALLATION APPROVAL DATE: 8/13/2014 **PERMIT** A _____
CONSTRUCTION

PROPERTY ADDRESS: 8035 Hunterbrooke Drive

SUBDIVISION: Hunterbrooke LOT: 2 TAX ID 05-594010

CONTRACTOR: Oakhill Construction EMAIL: _____

CONTRACTOR ADDRESS: 16910 Oakhill Road, Silver Spring, MD 20905 PHONE: 301-421-4155

PROPERTY OWNER: John and Kaliopi Polizos EMAIL: _____

OWNER ADDRESS: 2400 Raywood Terrace, Silver Spring, MD 20905 PHONE: _____

SEPTIC TANK SIZE (GALLONS): 2000

PUMP CHAMBER CAPACITY (GALLONS): _____ PUMP SIZE: _____

NUMBER OF BEDROOMS: 4 HOUSE SQ. FT. >3900 APPLICATION RATE: 0.8

DISTRIBUTION SYSTEM: GRAVITY FED LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>155'</u>	INLET DEPTH: <u>3'</u>
	TRENCH WIDTH: <u>3'</u>	MAXIMUM BOTTOM DEPTH: <u>5'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>9'</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3'</u>
LOCATION:	PER APPROVED SITE PLAN, SEWAGE DISPOSAL AREA MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:		

ISSUED BY: Dana Bernard ISSUE DATE: 6/23/2014 EXPIRATION DATE: 6/23/2015

- 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 DOWNGRAIENT 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 2' BOTTOM 5'
NUMBER OF TRENCHES 3
TOTAL LENGTH 150'
ABSORPTION AREA 474 + Sidewall
DISTRIBUTION BOX LEVEL Yes
DISTRIBUTION BOX BAFFLE Yes
DISTRIBUTION BOX PORT Yes

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL Yes
MANUFACTURER Master Bros
CAPACITY N/A GAL
SEAM LOC Top
TANK LID DEPTH 25'-3'
BAFFLES 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:

6/23/2014 Set tanks as shown on plan. Install three 52' trenches on contour in highest part of easement. (BB)

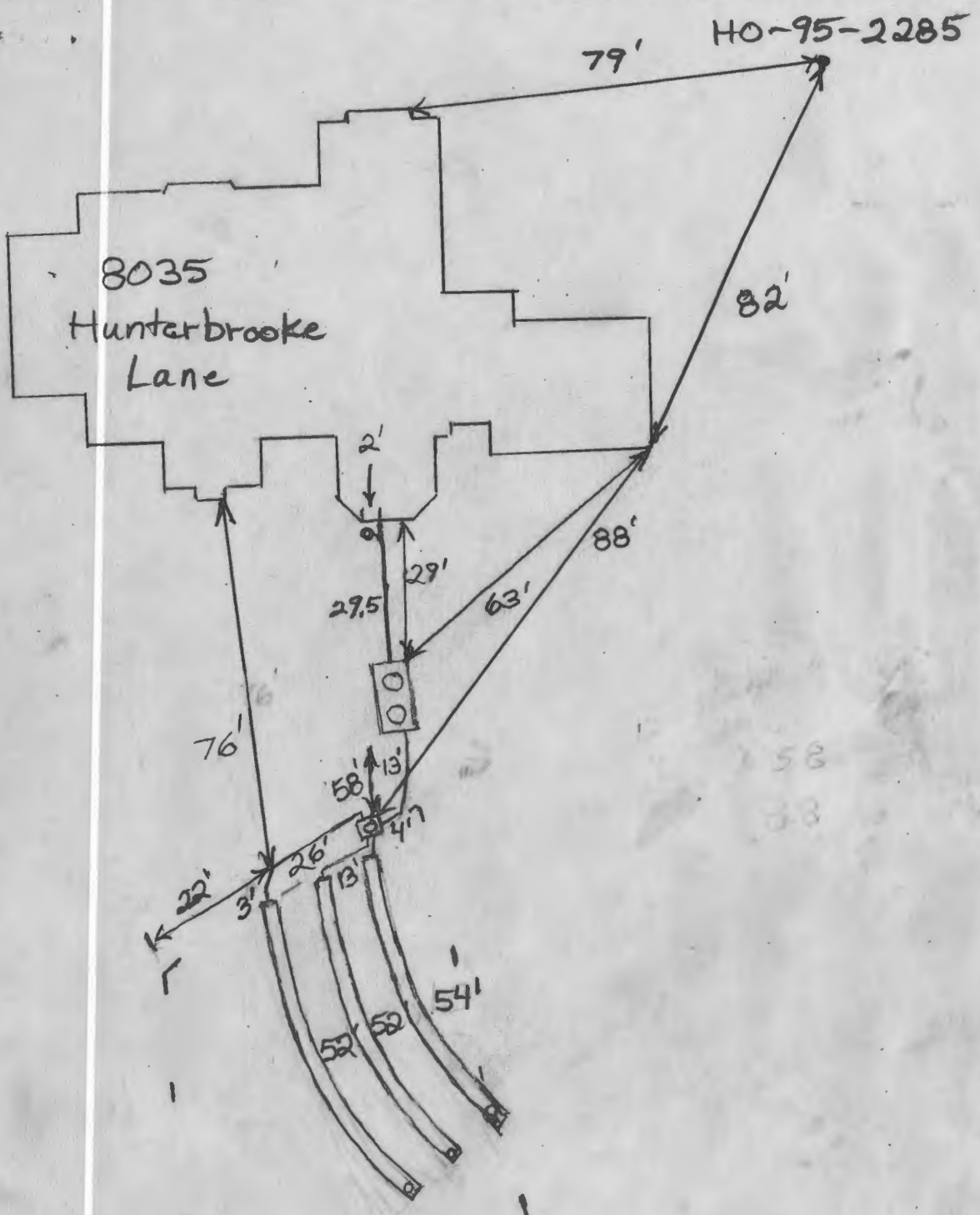
INSTALLATION: 6/23/2014 Tanks set. (BB) 6/24/2014 Top trench done. House connection made. (BB)

6/26/2014 System finished. Need BAT certification from Hoot representative. (BB)

8/13/2014 Received certification for Hoot. (BB)

FINAL INSPECTOR B. Baker

DATE OF APPROVAL 8/13/2014





MAYER BROS., INC.
Precast Concrete Products
 6264 Race Rd. Elkridge, MD 21075

Letter of Satisfaction
Hoot System Installation

Address of Property: 8035 Hunterbrook Ln.
Fulton, MD. 20759

Date of Final Inspection: 6/30/2014

Installer: Oak Hill Construction

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. Michael Dayer

Name of Inspector
 Mayer Bros., Inc.

FAXED
 JUN 30 2014
 BY: _____

PH: 410-796-1434
 FX: 410-796-1438

WBE
NPCA Certified Plant

mayerbro@connect.net
 www.mayerbrosprecast.com

Grass Interceptors, Grass Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors, Beach Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, Farm Entry Basement Entries, Scapwell Window Wells, Custom Precast Products



HOWARD COUNTY HEALTH DEPARTMENT

45058

P5

CODES

DATE

5/30/13

CASH

CHECK

NO.

101

Received From

For

John & Keliopi Pol. 205

Septic Permit / \$35 Hunterbrook et.

Three hundred ninety-six $\times 100$ = Dollars

\$ 396.00

Received By

A King

8035 Hunter brooke Ln
Fulton MD 20759

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

The Robert Borse Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

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

Grantor/Warantee Name: polizo
Reference/Control #: 112

LR - Agreement Surcharge
1x 40.00 40.00

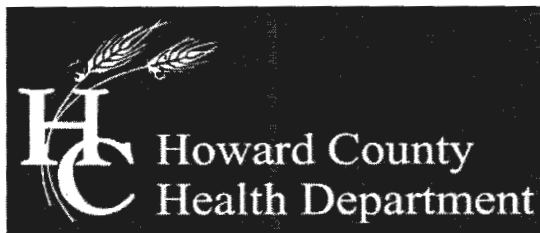
=====
SubTotal: 60.00
Total: 60.00

=====
REV-Check-BOA 60.00
Number : 1921

06/04/2014 13:23
#2871116 /494/109

CC13-NN

Thank you for visiting us today~



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 30th day of May, among KALIOPI and JOHN POLIZOS, 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 8035 HUNTERBROOKE LANE (Tax Map 46, Parcel 105), 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 14450 Folio 00279.

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



Bureau of Environmental Health
2930 Stanford Boulevard, Columbia, MD 21045
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TDD: 410-313-3283 T. Toll Free: 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hchealth
Twitter: @HowardCoHealthDep

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

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 8035 Hunterbrooke Lane

Subdivision: Hunterbrooke Lot: 2

Initial system: Application rate: 0.8 Effective area beginning depth: 3 Bottom maximum depth: 5

1st Replacement: Application rate: 0.8 Effective area beginning depth: 3 Bottom maximum depth: 5

2nd Replacement: Application rate: Effective area beginning depth: Bottom maximum depth:

Design flow = 150 gallons per day per bedroom

Design flow + application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage + trench width

Sidewall reduction credit formula:

$W + 2 \times 100 =$ Percent of length of standard trench where W = trench width and D = depth between effective area beginning depth and trench bottom.

Standard design requirements:

- All trenches must be equal length unless low pressure dosed
- All trenches must be on contour
- Minimum trench spacing: 6' for 2' wide trenches, 9' for 3' wide trenches. Additional spacing may be needed for deep trenches using formula: $2D + W$
- Maximum trench length is 100'
- Maximum pipe depth is 4'

Additional requirements:

Please place all trenches on contour. Show the initial system and the first replacement. Trenches should be shown to have equal length.

SEWAGE DISPOSAL SYSTEM CALCULATIONS

ADDRESS: 8035 HUNTERBROOKE LANE

SUBDIVISION: HUNTERBROOKE LOT: 2

DATE: 5/28/2014

INITIAL SYSTEM: Application Rate: 0.8 Effective area beginning depth: 3 Bottom max. depth: 5

1st Replacement: Application Rate: 0.8 Effective area beginning depth: 3 Bottom max. depth: 5

2nd Replacement: Application Rate: Effective area beginning depth: Bottom max. depth:

System Design: INITIAL SYSTEM

Design Flow = 150 gallons per day per bedroom Number of Bedrooms: 5

Design flow + application rate = square footage of drainfield required

$750 \div 0.8 = 937.5$ square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage + trench width

Sidewall reduction credit formula:

$\frac{W + 2}{W + 1 + 2D} \times 100 =$ Percentage of length of standard trench where W = trench width and D = depth between effective area beginning depth and trench bottom

Trench: W = 3 feet D = 2 feet

Sidewall reduction: $\frac{3 + 2}{3 + 1 + 2 \times 2} \times 100 = 62.50\%$

Linear length of trench required = $937.5 \times 0.6250 \div 3 = 195$ Feet

Max. Initial available length: 45 feet

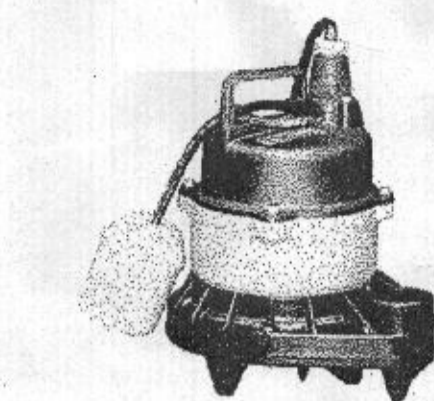
Use 5 trenches at 40 feet Total trench length = 200 feet



ITT

Wastewater

Goulds Pumps
EP04 & EP05 Series Model 3871
Submersible Effluent Pumps



GOULDS PUMPS

Goulds Pumps is a brand of ITT Residential and Commercial Water.

www.gouldspumps.com

Engineered for life



ITT

GOULDS PUMPS
Wastewater

APPLICATIONS

Specifically designed for the following uses:

- Effluent systems
- Homes
- Farms
- Heavy duty pump
- Water transfer
- De-watering

SPECIFICATIONS

- Solid 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/epoxy-stationary, BUNA-N elements.
- Temperature: 100°F GPM (3) condenser, 140°F GPM (3) atomizer.
- Features: 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 overlock with automatic reset.
- EP05 Single phase: 0.5 HP, 115 V or 230V, 60 Hz, 1550 RPM, built in overlock with automatic reset.
- Power cord: 10 foot standard length, 16/3 S/THW with three ground grounding plug. Optional 20 foot length, 16/3 S/THW with three ground grounding plug (standard on EP05).
- Fully submersible in high grade turbine oil for lubrication and efficient heat transfer.

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

AGENCY LISTING



Tested to UL 778 and CSA 22.2 108 Standards by Underwriters Laboratories Association File #8838549

Goulds Pumps is ISO 9001 Registered.

MODEL INFORMATION

Order No.	HP	Volts	Phase	Flow Rate (GPM)	Head (ft)	Discharge Size (in)	Material	Minimum Depth (ft)	Maximum Depth (ft)	Maximum Shipping Weight (lbs)
EP0411	1/4	115	1	10	10'	1/2"	Cast Iron	15'	15'	20/8.1
EP041A	1/4	115	3	10	10'	1/2"	Cast Iron	15'	15'	21/8.5
EP041F	1/4	115	1	10	10'	1/2"	Cast Iron	15'	15'	20/8.1
EP041AC	1/4	115	3	10	10'	1/2"	Cast Iron	15'	15'	21/8.5
EP041Z	1/4	115	3	10	10'	1/2"	Cast Iron	15'	15'	20/8.1
EP041J	1/4	115	1	10	10'	1/2"	Cast Iron	15'	15'	20/8.1
EP051F	1/2	115	1	20	10'	1/2"	Cast Iron	15'	15'	22/10.0
EP051AC	1/2	115	3	20	10'	1/2"	Cast Iron	15'	15'	23/10.6A
EP051JF	1/2	115	1	20	10'	1/2"	Cast Iron	15'	15'	22/10.0



ITT

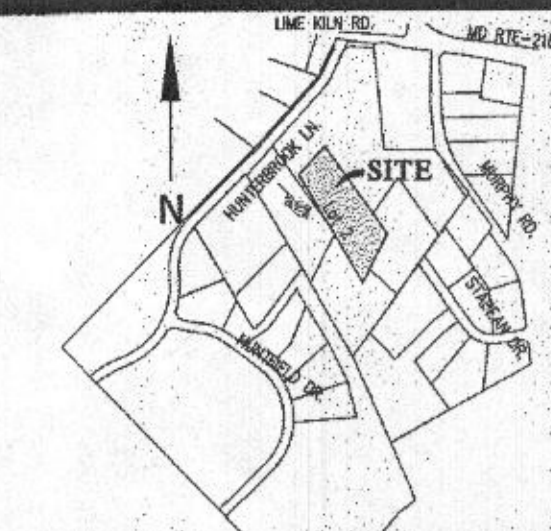
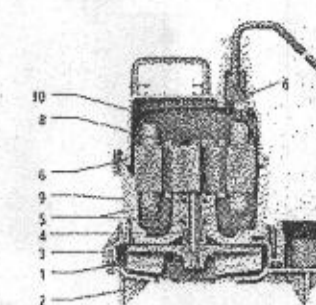
GOULDS PUMPS
Wastewater

PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute	EP04	EP05
5	53	55	55
10	46	46	46
15	38	38	38
20	31	31	31
25	24	24	24
30	17	17	17

COMPONENTS

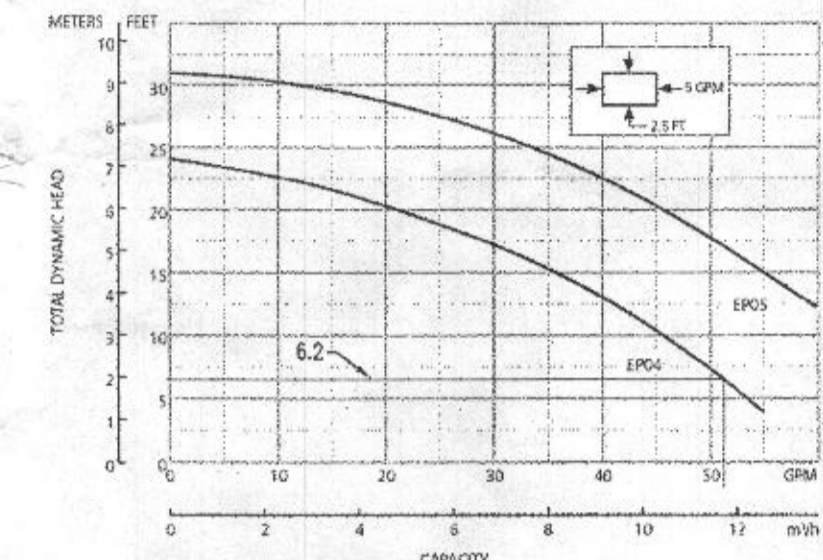
Item No.	Description
1	Impeller
2	Base
3	Pump Casing
4	Mechanical Seal
5	Ball Bearings
6	O-Rings
7	Power Cord
8	Drifted Motor
9	Motor Housing
10	Stator Assembly
11	Motor Cover



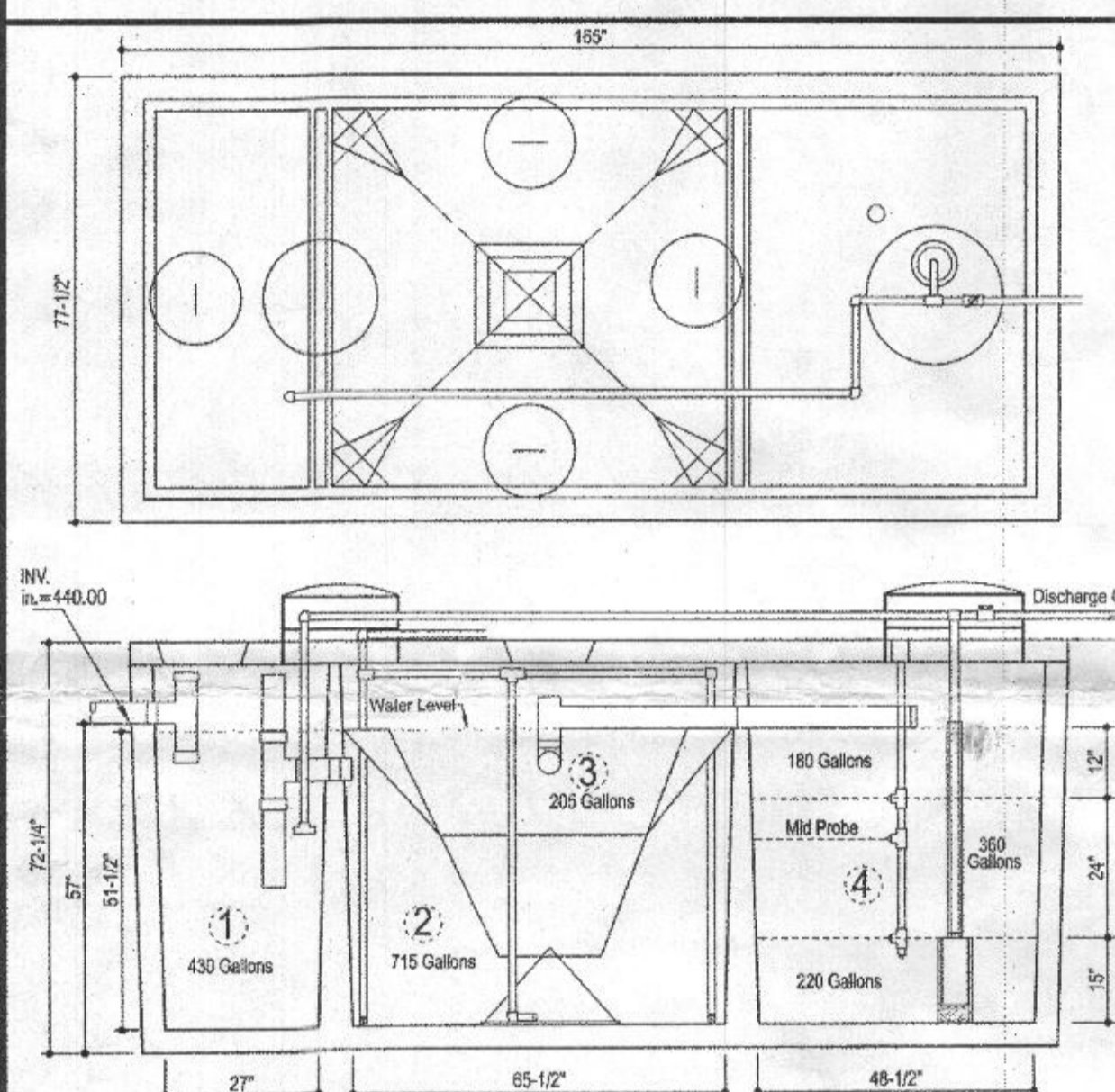
VICINITY MAP
SCALE: 1" = 1000'

LEGEND

- 600' EXISTING CONTOUR
- 600' PROPOSED CONTOUR
- FFE TO W BSE FIRST FLOOR ELEVATION TOP OF FOUNDATION WALL
- BSE BASEMENT SLAB ELEVATION
- FCE FOREST CONSERVATION EASEMENT
- FCA FOREST CONSERVATION AREA
- SEPTIC EASEMENT



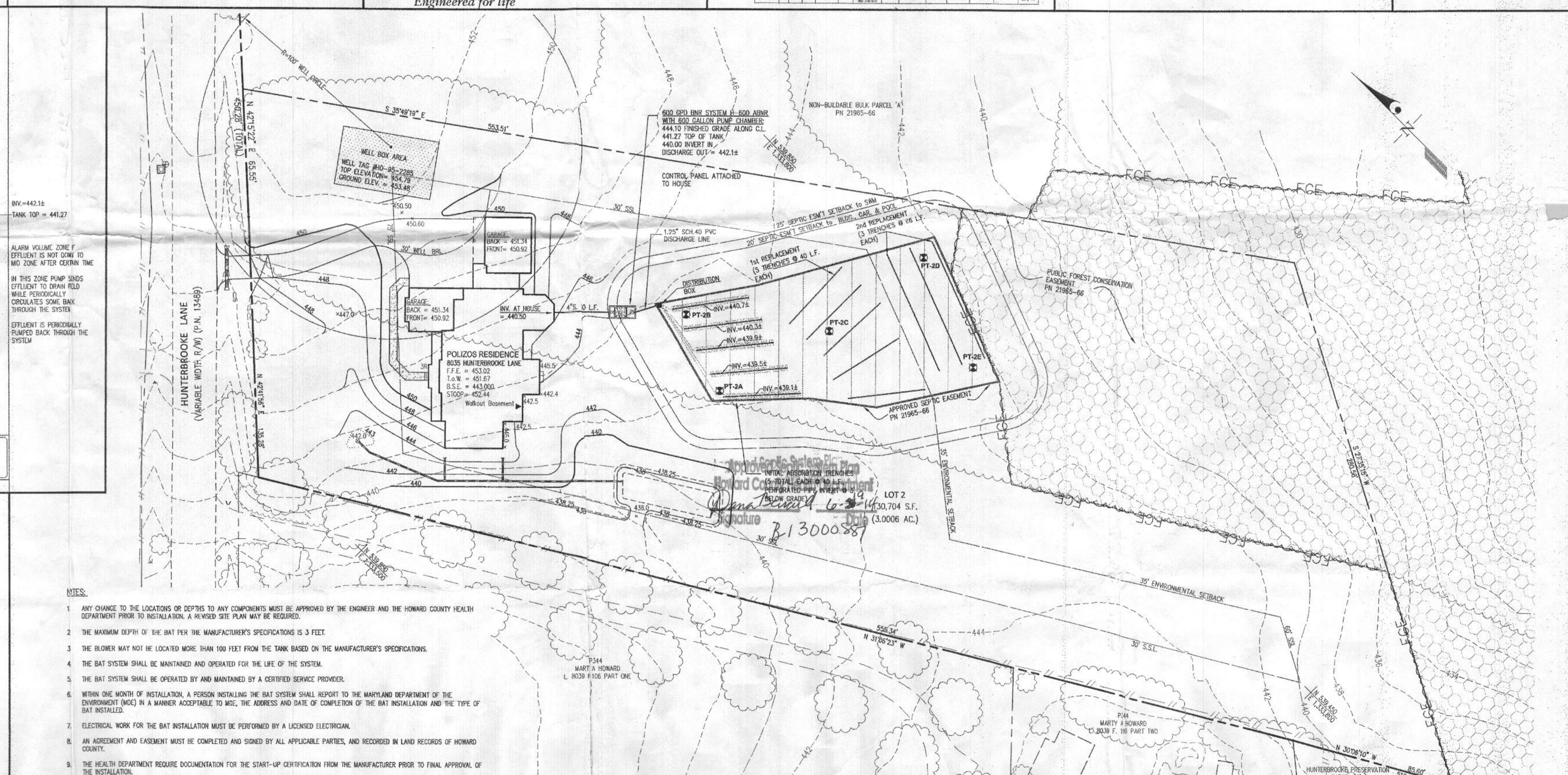
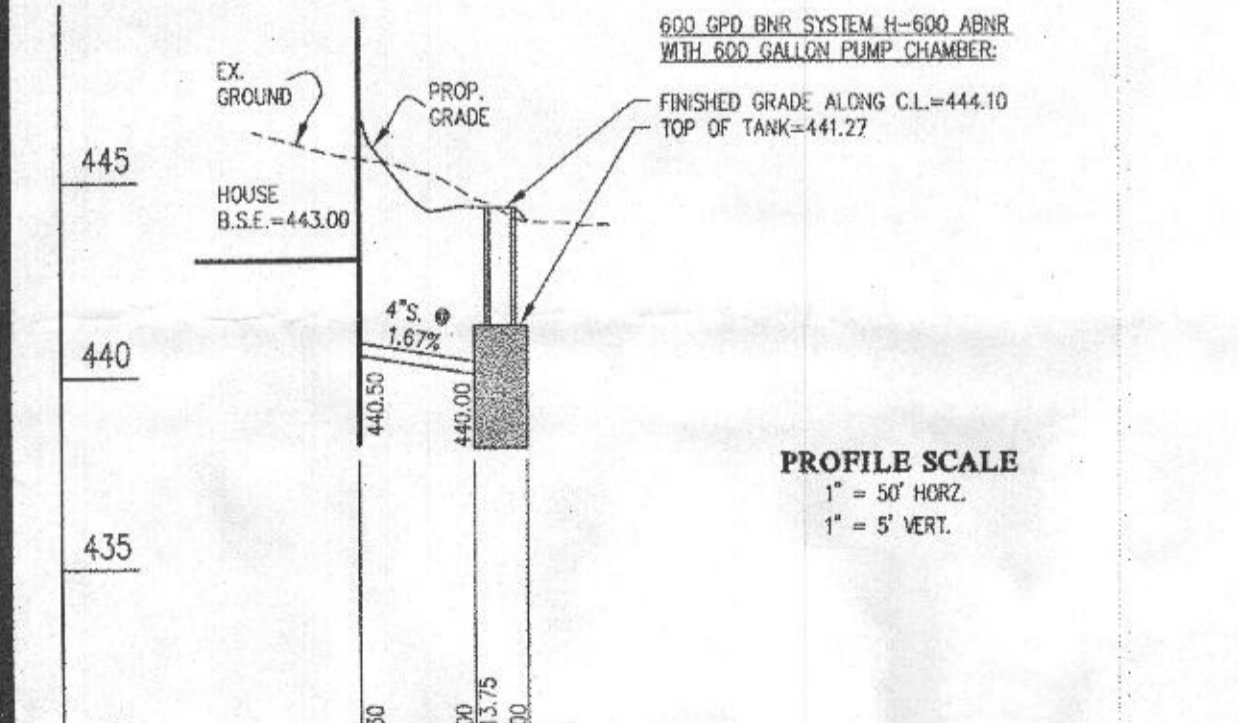
GRAPHIC SCALE
1" = 30'



DESIGN DATA & GENERAL NOTES
1) Concrete strength: 4000 psi, 4" min. density = 150 pcf.
2) Cement - Portland Type III per ASTM C 150-92.
3) Admixtures & plasticizers per ASTM C 200-85 & C 494-92.
4) Reinforcing per ASTM A 108, Min. 1/4" cover.

Mayer Brothers, Inc. 6264 Race Road, Elbridge, Maryland 21075
Tel: 410.738.1434 Fax: 410.738.1438 www.mayerbrothers.com

600 GPD BNR SYSTEM H-600 ABNR with 750 GALLON PUMP CHAMBER
Dwg. No. Hoot Form #1 No Scale March 19, 2009



- NOTES:
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 - THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATIONS IS 3 FEET.
 - THE BLOWER MAY NOT BE LOCATED MORE THAN 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 SYSTEM SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 - WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE 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 REQUIRE DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

APPROVED: FOR PRIVATE WELL AND SHARED SEPTIC
HOWARD COUNTY HEALTH DEPARTMENT

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3000 NATIONAL DRIVE - SUITE 250 - BURTNSVILLE OFFICE PARK
BURTNSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

OWNER:
KALJOPI AND JOHN POLIZOS
P.O. BOX 4727
SILVER SPRING, MD 20914
PHONE: (301) 404-1127

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12875
EXPIRATION DATE: MAY 28, 2016
Signature: [Signature] 5/30/14

Site Plan for BAT Installation
SCALE: 1" = 30'
ZONING: RR-DEO
G. L. W. FILE NO.: 13-005
DATE: MAY 2104
TAX MAP - GRID: 46-2
SHEET: 1 OF 1

ST. PAUL'S LUTHERAN CHURCH PROPERTY
LOT 2 (8035 Hunterbrooke Lane)
PLAT No. 21965-21966

CLARKSVILLE ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND