



**Howard County
Health Department**

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

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

RECEIPT DATE: 1/8/19 **ONSITE SEWAGE DISPOSAL SYSTEM** P 564712

APPROVAL DATE: 02/10/2019 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 6517 Heather Glen Way

SUBDIVISION: Willow Pond LOT: 9 TAX ID: 05-593282

CONTRACTOR: Hatfield's Equipment EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 419 Annapolis Junction, MD 21701 PHONE: 301-490-4289

PROPERTY OWNER: Greenfield Homes, Inc. EMAIL: _____

OWNER ADDRESS: 1818 Liberty Road, Eldersburg, MD 21784 PHONE: 410-365-3702

SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: Mayer Bros

PUMP MODEL: Goulds WE03 PUMP SIZE: 0.3HP PUMP TANK CAPACITY: 2000

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 1.2

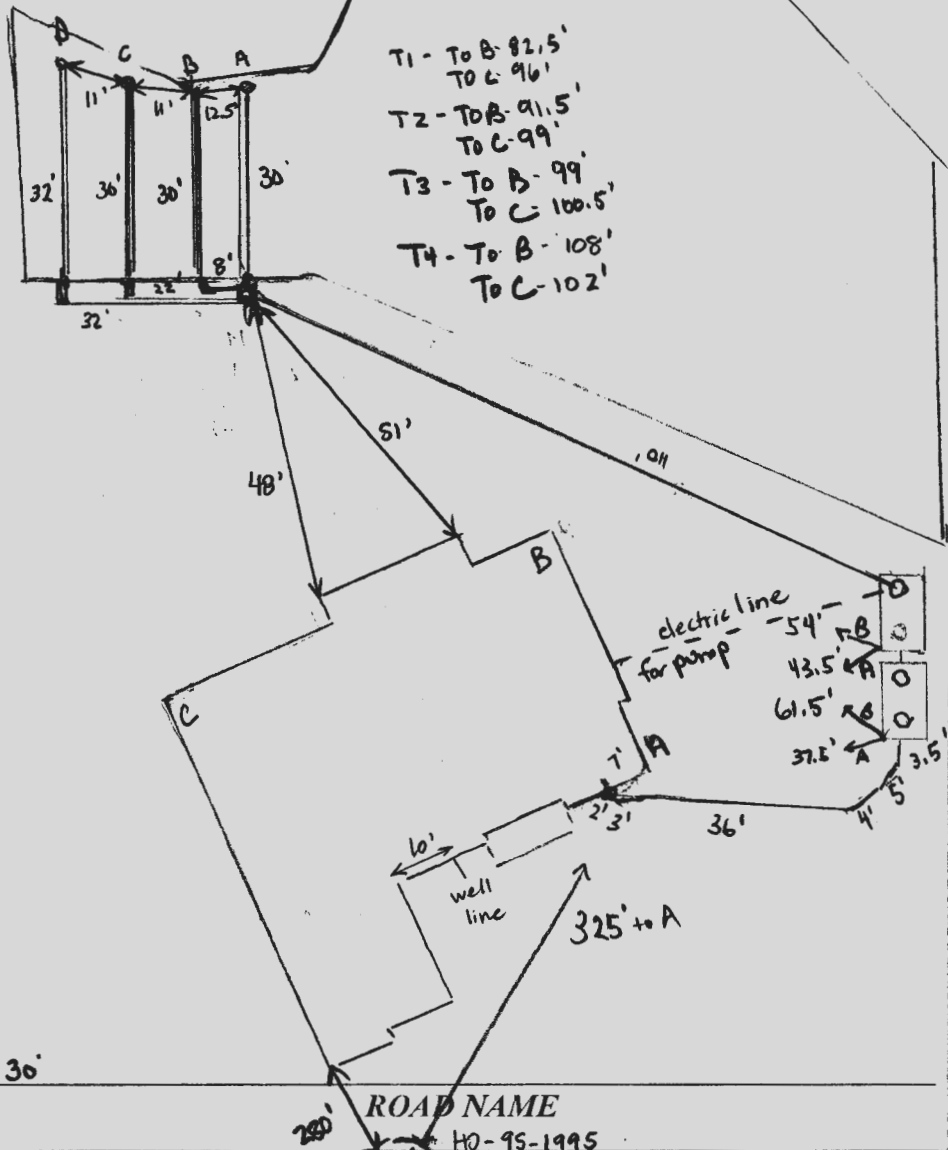
TRENCHES:	LINEAR FEET REQUIRED: <u>116</u>	INLET DEPTH: <u>3</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>12</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	System must Pass a Pump and Alarm Test before attending Environmental Sanitarian grants Approval on this permit.	

ISSUED BY: Robert Bricker ISSUE DATE: 1/8/19 EXPIRATION DATE: 1/8/20

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
 ELECTRICAL PERMIT ISSUED E 19000893
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.
CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

NOT TO SCALE



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	3'	8'
NUMBER OF TRENCHES	4	
TOTAL LENGTH	122'	
APPROXIMATION AREA	122' + Sidewall	
DISTRIBUTION BOX LEVEL	yes	
DISTRIBUTION BOX BAFFLE	yes	
DISTRIBUTION BOX PORT	yes	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	yes
MANUFACTURER	Babylou
CAPACITY	2000 GAL
LOC	top
MANHOLE DEPTH	2.5' to 3'
BAFFLES	6" front / 4" back
BAFFLE FILTER	-
MANHOLE LOC	front / back
BAFFLE LOC	front / back
WATER TIGHT TEST	-
INSULATED	yes
DATE ON LID	1/18/19
PUMP SEPTIC TANK LEVEL	yes
MANUFACTURER	Babylou
CAPACITY	2000 GAL
LOC	back
MANHOLE DEPTH	2.5' to 3'
BAFFLES	no
BAFFLE FILTER	-
MANHOLE LOC	front / back
BAFFLE LOC	back
WATER TIGHT TEST	-
INSULATED	no
DATE ON LID	1/12/19

PRE-CONSTRUCTION:

3/6/19 onsite w/ contractor. SDA stakes ok. Tank location stakes approved. Shut elevations on tanks. Adjusted slightly for contractor. OK to proceed per approved OCS plan. Tanks to be set first. (KWD)

INSTALLATION:

3/8/19 - site visit contractor onsite, SAC made, line to tanks installed and 80' of 2" force main up to trenches, septic tank 6" baffle front, 4" baffle on back, slotted, tanks level, manhole loc on pump tank on the back end, no stone to site yet ok to backfill & continue. (ER)

3/11/19 - site visit contractor onsite trenches installed, pump installed w/ electric to the house, pump sitting on concrete block (the old septic tank lid), geotextile fabric in place and stone looks good, trench observation pipes installed, dbx level w/ baffle. ok to backfill. pump's alarm required for final approval. (ER)

09/10/2019 ALARM FUNCTIONS. PUMP FUNCTIONS. BREAKERS ON BOX OUTSIDE BY PUMP TANK (ER)

FINAL INSPECTOR

Joseph [Signature]

DATE OF APPROVAL

09/10/2019

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

**AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN
ON-SITE TREATMENT SYSTEM**

This agreement is entered into by and between the Howard County Health Department ("the Health Department") and GREENFIELD HOMES INC. ("the Owner").

WHEREAS, the Owner owns a tract of land at street address 6517 LEATHER GLEN WAY, CLARKSVILLE, MD 21029 and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 34, Block # 17, Parcel # 444, Deed Reference # _____ and Tax Account # 05-593282 ("the Property").

WHEREAS, the Property lacks an available public drinking water source and is required to have and individual well as the source of drinking water for the residence of the property.

WHEREAS, the Owner has installed a residential drinking well under well permit HO-95-1995 that has been tested by the Health Department (or a private laboratory certified to perform testing) for radionuclide particles. The results of the tests have shown that the gross alpha particle content and/or the gross beta particle content and/or the combined radium 226/228 levels exceeds the standards of 15 picocuries per liter (pCi/L), 4 millirems per year (mrem/yr) and/or 5pCi/L respectively.

WHEREAS, The Maryland Department of the Environment (MDE) has promulgated rules and regulations under which a Certificate of Potability may be issued and has delegated the authority to issue such Certificate to the Health Department.

WHEREAS, MDE regulations permit the Health Department to issue as a special condition, a permanent deviation to the Certificate of Potability for individual wells where treatment has been installed to meet the maximum contaminate levels (MCL's) for radionuclides.

WHEREAS, MDE has determined that radium can be effectively removed from the drinking water by the use of treatment devices (e.g., ion exchange or reverse osmosis).

WHEREAS, the Owner is requesting that the Health Department issue a Certificate of Potability contingent upon installation and maintenance of a water treatment device to reduce radionuclides.


WHEREAS, neither the Owner nor the Health Department has knowledge of an alternative safe source of water for the Property.

NOW THEREFORE, the parties have agreed to the following terms and conditions:

1. The Owner will record this Agreement among the Land Records of Howard County, Maryland and provide confirmation to the Health Dept.
2. The Owner agrees to install and maintain a water treatment device, which effectively reduces the gross alpha, gross beta and radium levels to below their respective MCL. The Health Department shall verify that the treatment device is operating effectively and the Owner agrees to allow access to the Health Department to collect a follow-up sample(s).

3. The Health Department shall issue a Certificate of Potability for the well once follow-up sampling shows acceptable gross alpha, gross beta (short and long term) and radium 226 / 228 levels.
4. The Owner agrees that there shall be no liability on part of the Health Department for any immediate or long term impacts to health or property, under any circumstance or including, but not limited to, treatment device failure, improper maintenance or installation, or defect. The Health Department does not warranty or guarantee that the device will adequately or properly function and the Owner agrees to implement and pay for any necessary changes or corrections.
5. The Owner acknowledges and agrees that neither the Health Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system or treatment device.
6. This Agreement shall not be construed to limit any authority of the Health Department to protect the public health, safety or enjoyment of property or to issue any other orders to take any other action, which is now or may hereafter be within its authority.
7. This agreement contains the entire agreement and understanding between the Health Department 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 their authorized representatives.
8. The Agreement shall run with the land and binds the Owner, his heirs, successors, and assigns. The owner agrees to provide a copy of this agreement to any purchaser or lessee of the property.
9. The laws of the State of Maryland govern the provisions of all transactions.

The parties have signed this Agreement on the dates set forth below.

 _____ Owner	7-29-20 _____ Date	_____ Buyer	_____ Date
BARBARA FEINSTEIN CIREFIELD HOMES INC			
_____ Owner	_____ Date	_____ Buyer	_____ Date

 Howard County Health Department Date

Cabahug, Joseph

From: Cabahug, Joseph
Sent: Wednesday, September 11, 2019 8:15 AM
To: 'Ken@hatfieldsequipment.com'; 'Rick Minor'
Cc: Wolf, Kevin; Rappaport, Ryan; Thomas, Susan; Martin, Sharhonda
Subject: 6517 Heather Glen Way

Hello,

The installation of the septic system requires an electrical Permit. According to county records, there is no electrical permit for the septic system at 6517 Heather Glen Way. A pump and alarm inspection was completed yesterday 9/10/2019. The permit will not be finalized without the electrical permit.

Thank you,

Joseph C. Cabahug - LEHS
Environmental Health Specialist
Howard County Health Department - Well & Septic Program
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, MD 21045
(o) 410-313-2643
(f) 410-313-2648

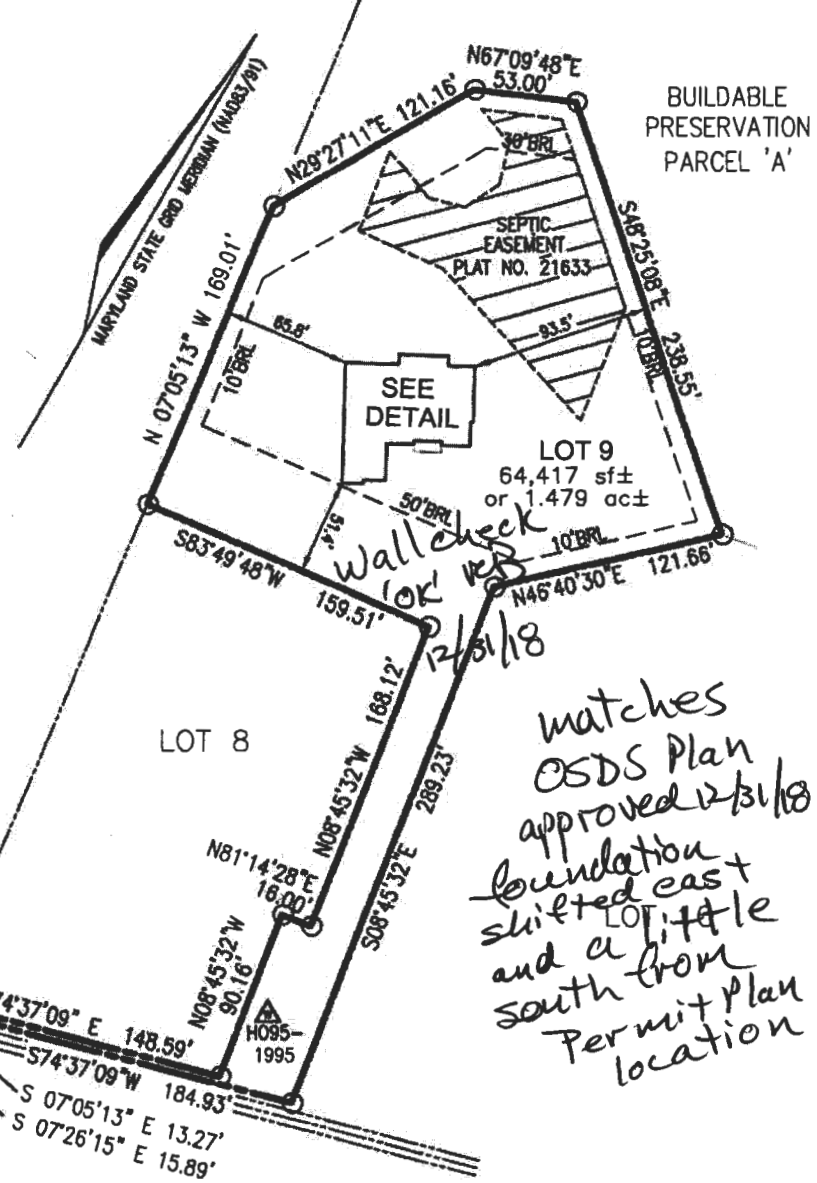
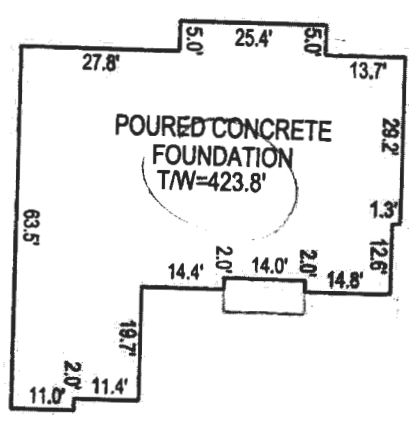


jcabahug@howardcountymd.gov

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420.5'



NON-BUILDABLE - PRESERVATION PARCEL 'D'

THIS WALL CHECK DRAWING CONTAINS A HORIZONTAL TOLERANCE IN ACCURACY OF 0.1' AND A VERTICAL TOLERANCE IN ACCURACY OF 0.2'

PROFESSIONAL CERTIFICATION; I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21391, EXPIRATION DATE JUNE 4, 2019.

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE IMPROVEMENTS ARE LOCATED AS SHOWN AND THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN.



Edward J. Glawe 2018
EDWARD J. GLAWE, DECEMBER 11, DATE
PROFESSIONAL LAND SURVEYOR #21391

S 71°33'49" W 4.00'
PRESTWICK DRIVE
55' RIGHT-OF-WAY

SCALE 1" = 100'	DATE 12/10/2018	VOGEL ENGINEERING + TIMMONS GROUP ENGINEERS - SURVEYORS - PLANNERS 3300 NORTH RIDGE ROAD, SUITE 110 ELLCOTT CITY, MARYLAND 21043 TEL: 410-461-7666 FAX: 410-461-8961	WALL CHECK DRAWING 6517 HEATHER GLEN WAY LOT 9 WILLOW POND PLAT 21632 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DRAWN BY B.D.A.	CHECKED BY T.M.H.		
PLAT NUMBER 21628-21634	JOB NUMBER 14-33.00		



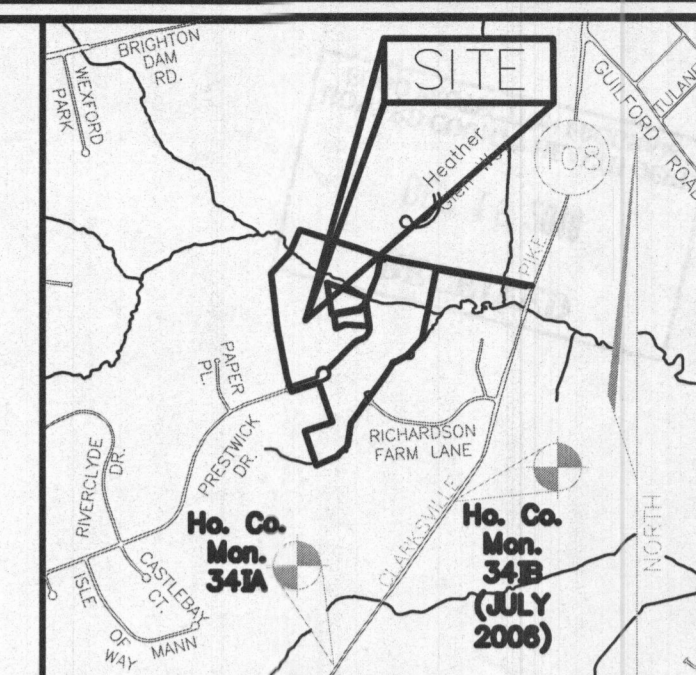


- GENERAL NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
 3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
 5. THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM A FIELD RUN TOPOGRAPHICAL SURVEY, WITH 2-FOOT CONTOUR INTERVALS, PREPARED BY FSH ASSOCIATES, DATED OCTOBER 2008. SUPPLEMENTAL TOPOGRAPHY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 05, 2015 AND JANUARY 05, 2018.
 6. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 7. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWNGRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
 8. THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.

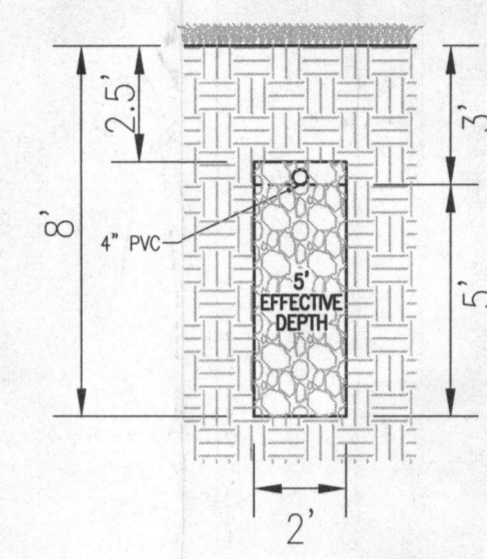
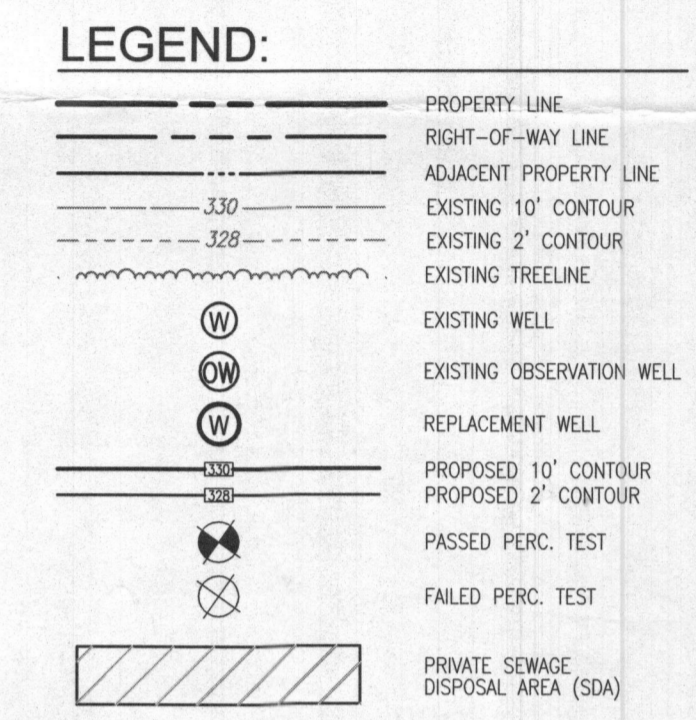
SYSTEM CALCULATIONS:

INITIAL SYSTEM:
 6 BEDROOMS AT 900gpd / 1.2 ABSORPTION RATE = 750 SQ. FT.
 750 SQ. FT. / 2 (TRENCH WIDTH) x .31 (SIDEWALL REDUCTION) = 116 LINEAR FEET
 116 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
 (4 TRENCHES OF 29 FEET IN LENGTH)

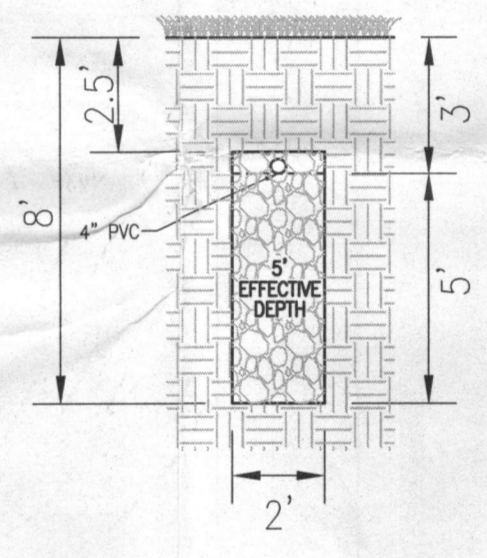
FIRST & SECOND REPLACEMENT SYSTEMS:
 6 BEDROOMS AT 900gpd / 1.2 ABSORPTION RATE = 750 SQ. FT.
 750 SQ. FT. / 2 (TRENCH WIDTH) x .31 (SIDEWALL REDUCTION) = 116 LINEAR FEET
 116 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
 (2 TRENCHES OF 58 FEET IN LENGTH)
 116 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE SECOND REPLACEMENT SYSTEM.
 (2 TRENCHES OF 58 FEET IN LENGTH)



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP: PAGE 31 GRID C3



INITIAL SYSTEM TRENCH DETAIL
 NOT TO SCALE



1ST & 2ND REPLACEMENT TRENCH DETAIL
 NOT TO SCALE

INITIAL SYSTEM TRENCH INFO.

TRENCH	LENGTH	INVERT	BOTTOM	EXISTING GROUND
1	29'	415.47	410.47	418.47
2	29'	418.88	411.88	418.88
3	29'	417.16	412.16	420.16
4	29'	415.93	410.93	418.93

Approved Septic System Plan
 Howard County Health Department
 Septic System approved for 6-bed room SFD
 2000-gal Septic Tank w/2000-gal Pump tank
 and Goulds 0.3Hp pump or equiv.

R. Binkley Signature
 12/31/18 Date
 B18003067

OWNER/BUILDER
 GREENFIELD HOMES, INC.
 1818 LIBERTY ROAD
 ELDERSBURG, MD 21784
 (410) 365-3702

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

WILLOW POND - LOT 9
 6517 HEATHER GLEN WAY
 CLARKSVILLE, MD 21029

5TH ELECTION DISTRICT
 TAX MAP: 34 PARCEL: 444
 DPZ REF'S: F-10-106, F-09-13, F-06-170, F-89-112, F-87-174, F-79-115, SP-09-03, SP-07-011, VP-87-103, WP-09-62, PLAT 7288

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

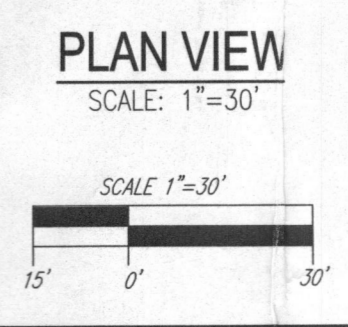
DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: NOVEMBER 2018
 SCALE: AS SHOWN
 W.O. NO.: 14-33

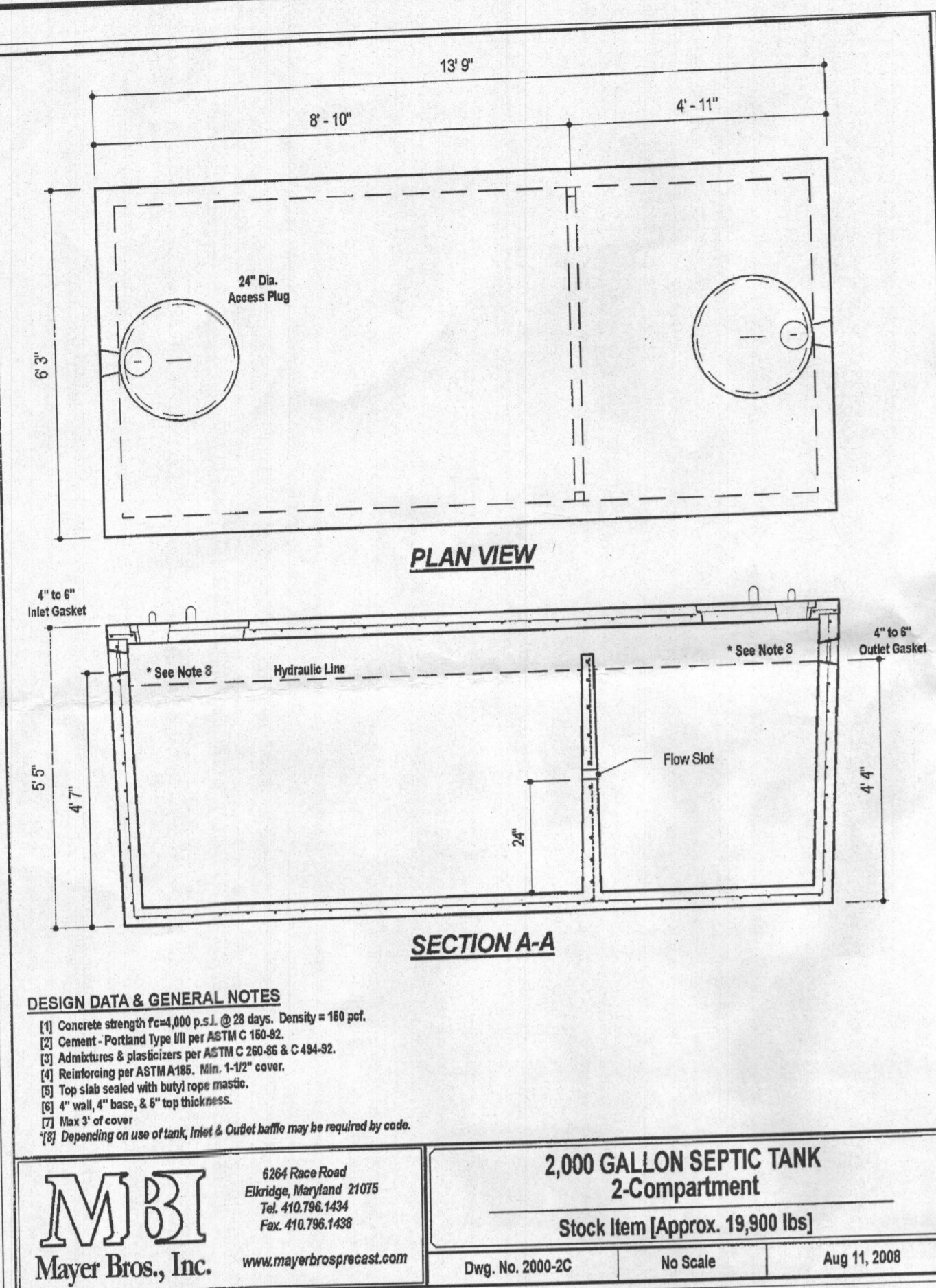
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 08-27-2020.

1 SHEET OF 2

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.

WELL LOCATION CERTIFICATION:
 THE EXISTING WELL SHOWN ON THIS PLAN (TAG #HO-95-1995) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN



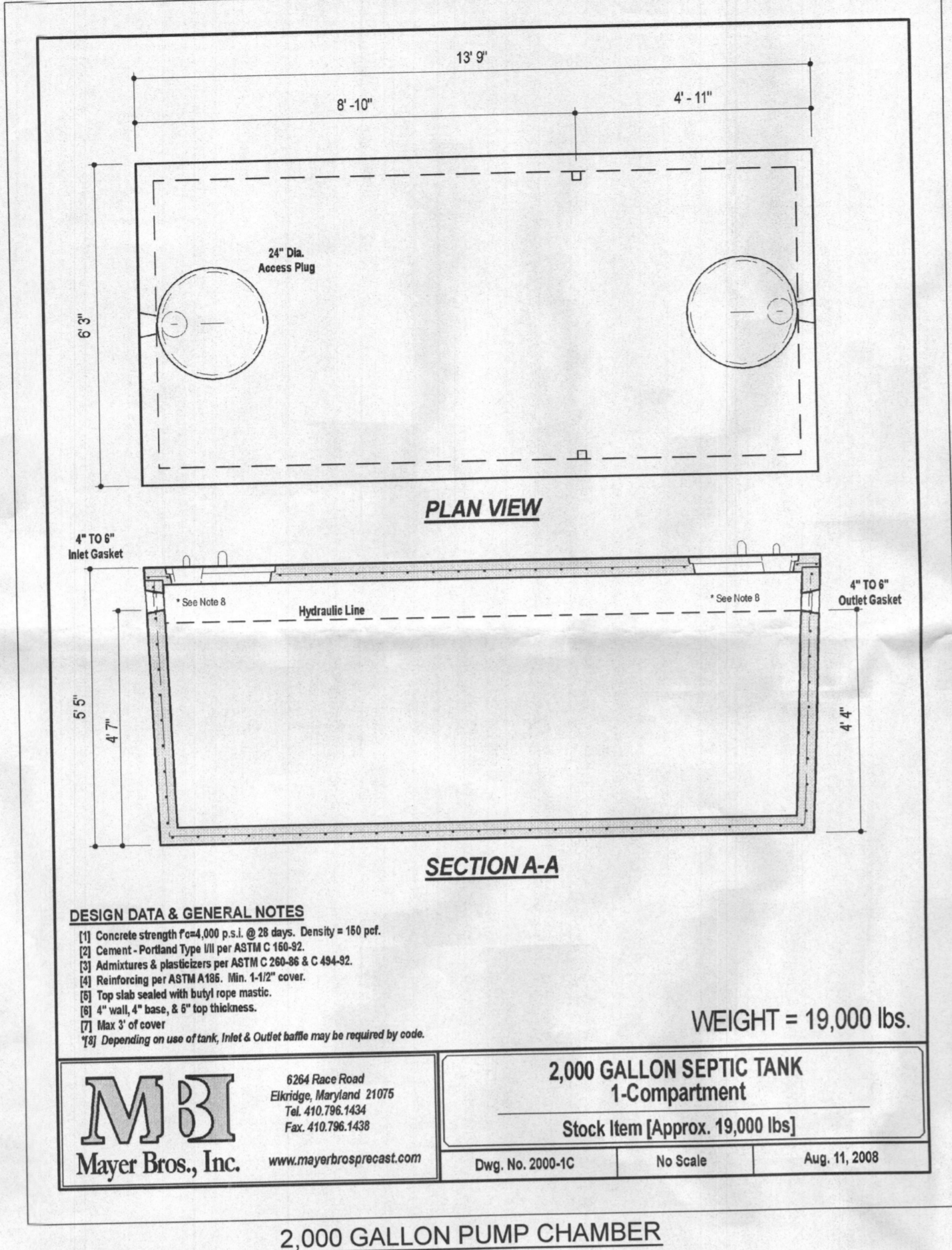


DESIGN DATA & GENERAL NOTES

- Concrete strength F=4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-92.
- Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
- Reinforcing per ASTM A305. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, 4" base, & 8" top thickness.
- Max 7' of cover.
- Depending on use of tank, inlet & outlet baffles may be required by code.

Mayer Bros., Inc.
 6364 Race Road
 Eldersburg, Maryland 21075
 Tel. 410.796.1434
 Fax. 410.796.1438
 www.maybroscorpcast.com

2,000 GALLON SEPTIC TANK
2-Compartment
 Stock Item [Approx. 19,900 lbs]
 Dwg. No. 2000-2C No Scale Aug 11, 2008



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 Fax. 410.796.1438
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2,000 GALLON SEPTIC TANK
1-Compartment
 Stock Item [Approx. 19,900 lbs]
 Dwg. No. 2000-1C No Scale Aug 11, 2008

2,000 GALLON PUMP CHAMBER

Goulds Water Technology

Wastewater

APPLICATIONS
 Specifically designed for the following uses:
 • Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: 3/4" maximum
- Discharge size: 2" NPT
- Capacities: up to 140 GPM
- Total heads: up to 128 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

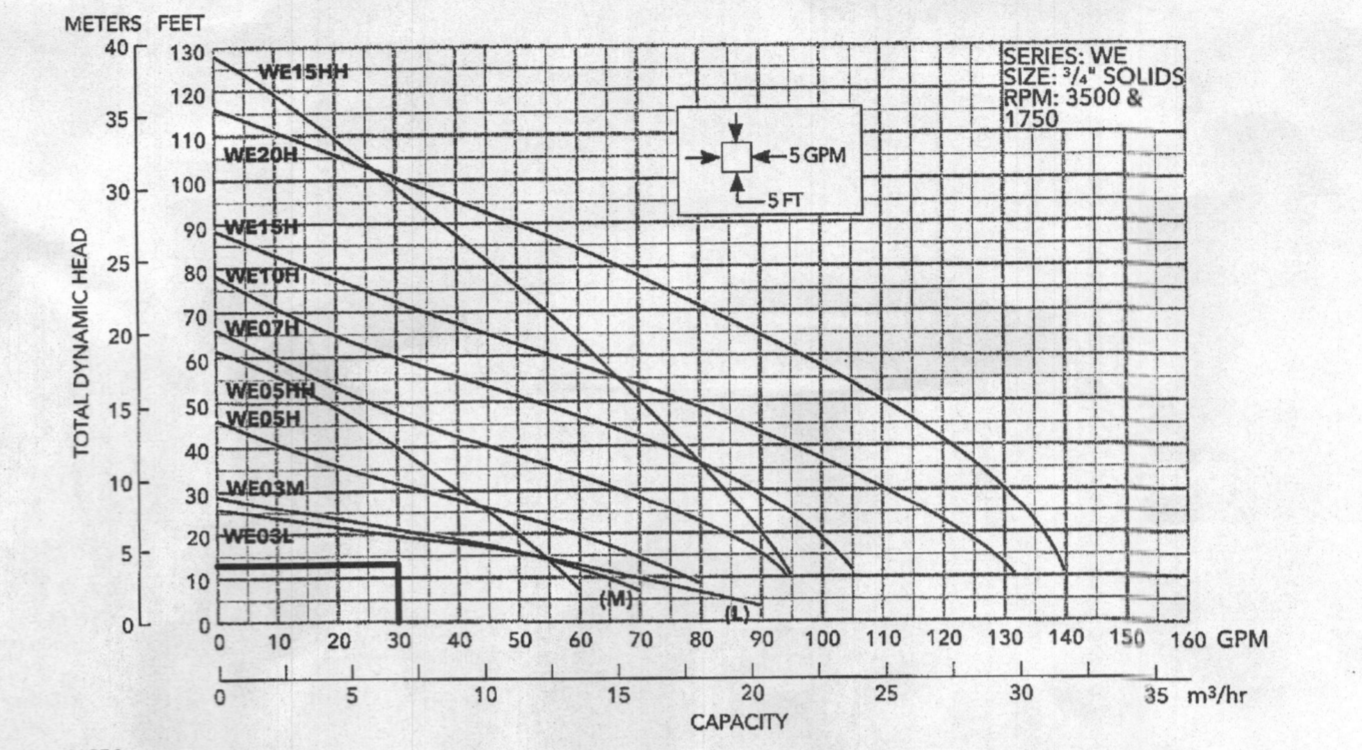
- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2 - 1 1/2 HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

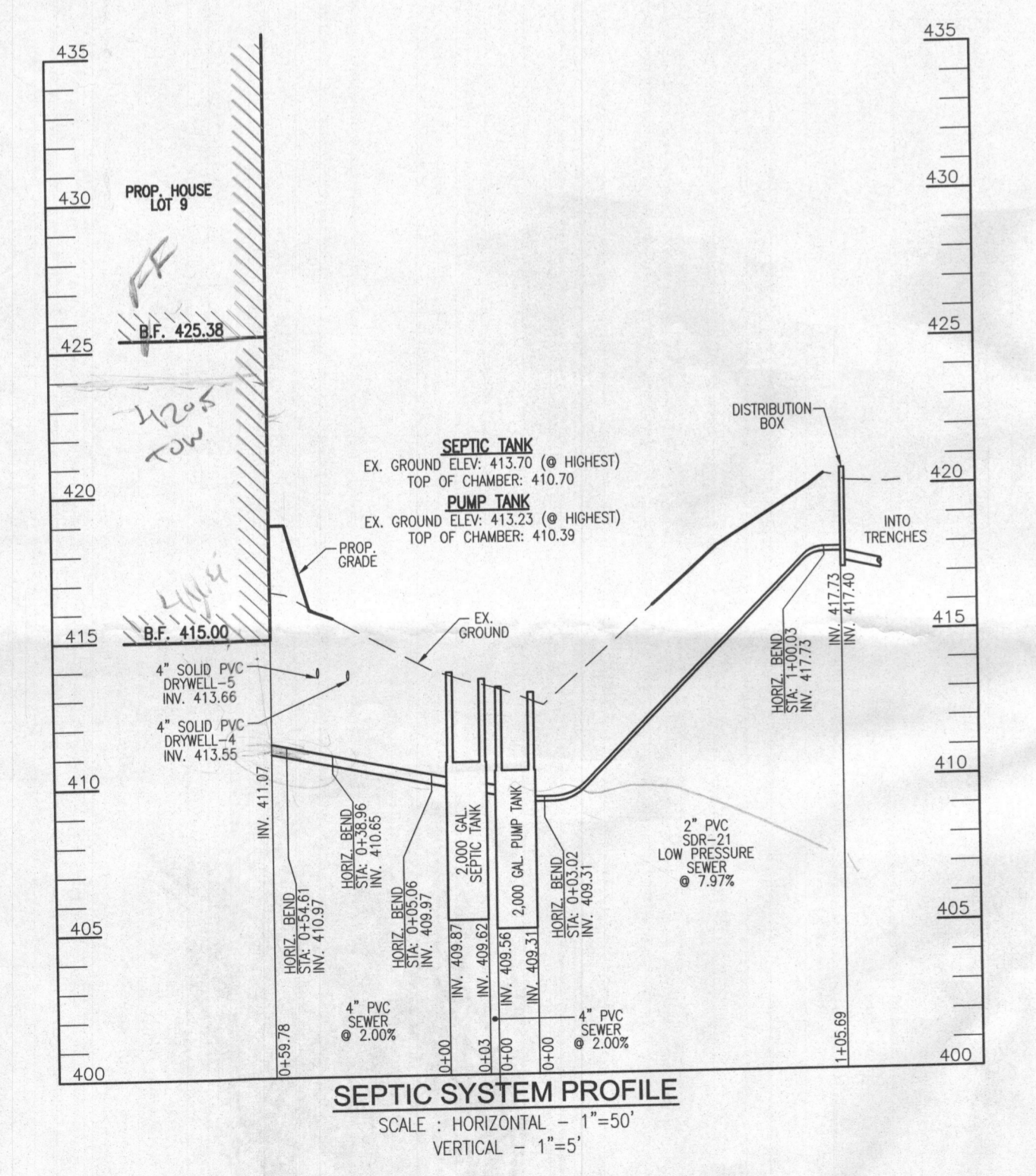
- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

AGENCY LISTINGS

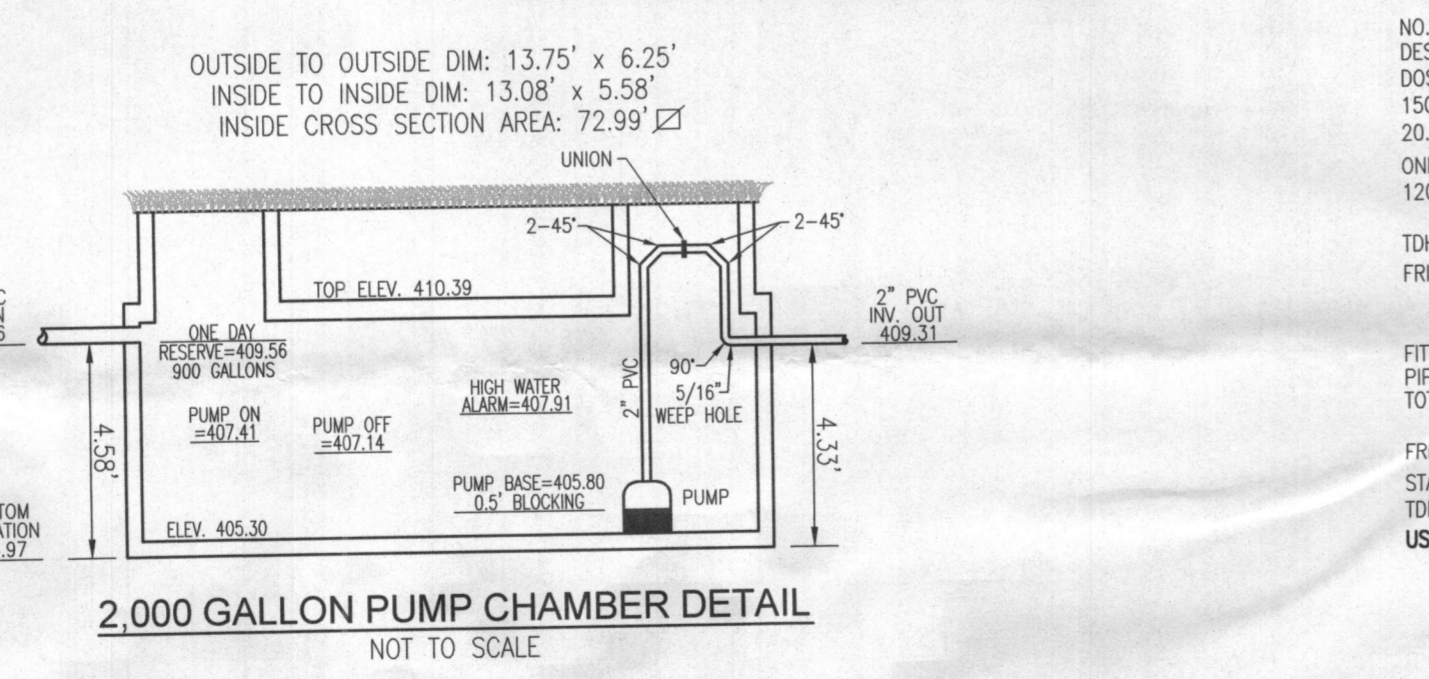
Tested to UL 778 and CSA 22.2 108 Standards
 By Canadian Standards Association File #LR38549



FLOW: 30 GPM
 H=13.1'
 USE GOULDS WE03 (OR EQUIVALENT)



SEPTIC SYSTEM PROFILE
 SCALE: HORIZONTAL = 1"=50'
 VERTICAL = 1"=5'



2,000 GALLON PUMP CHAMBER DETAIL
 NOT TO SCALE

NO. BEDRMS = 6
 DESIGN FV = 6(150 GPD) = 900 GPD
 DOSE: 1/DESIGN FLOW = 150 GPD
 150 GALLONS/7.48 FT³/GAL. = 20.05 FT³
 20.05 FT³/2.99 SF = 6.72'
 ONE DAY SERVE: 900 GALLONS/7.48 FT³/GAL. = 120.32 FT³
 120.32 FT³/2.99 SF = 40.24'

TDH (FRIC + STATIC)
 FRICTION TINGS: UNION: 2
 45° ELBOW (H+V): 8x6 = 48
 90° ELBOW: 7x1 = 7
 FITTING LENGTH: 57.0 LF
 PIPE LEN: 106.7 LF
 TOTAL LEH: 162.7 LF

FRICTION SS (30 GPM): (1.54)(162.7)/100 = 2.51'
 STATIC: 473-407.14 (PUMP OFF) = 10.59'
 TDH: 10.3251 = 13.1'
 USE GOUS WE03 (OR EQUIVALENT)

Approved Septic System Plan
 Howard County Health Department
 2000 gal Septic Tank w/ 2000 gal Pump Tank
 & 3 Hp Goulds 3/4" Pump or equiv.
 for 6-bedroom SFD
 Buehler Signature 12/31/18 Date
 B18003067

OWNER/BUILDER
 GREENFIELD HOMES, INC.
 1818 LIBERTY ROAD
 ELDERSBURG, MD 21784
 (410) 365-3702

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN
WILLOW POND - LOT 9
 6517 HEATHER GLEN WAY
 CLARKSVILLE, MD 21029

5TH ELECTION DISTRICT
 TAX MAP: 34 PARCEL: 444
 DPZ REF'S: F-10-106, F-9-13, F-96-170, F-89-112, F-87-174,
 F-79-115, SP-09-03, SP-07-011, VP-87-103, WP-09-62, PLAT 7288

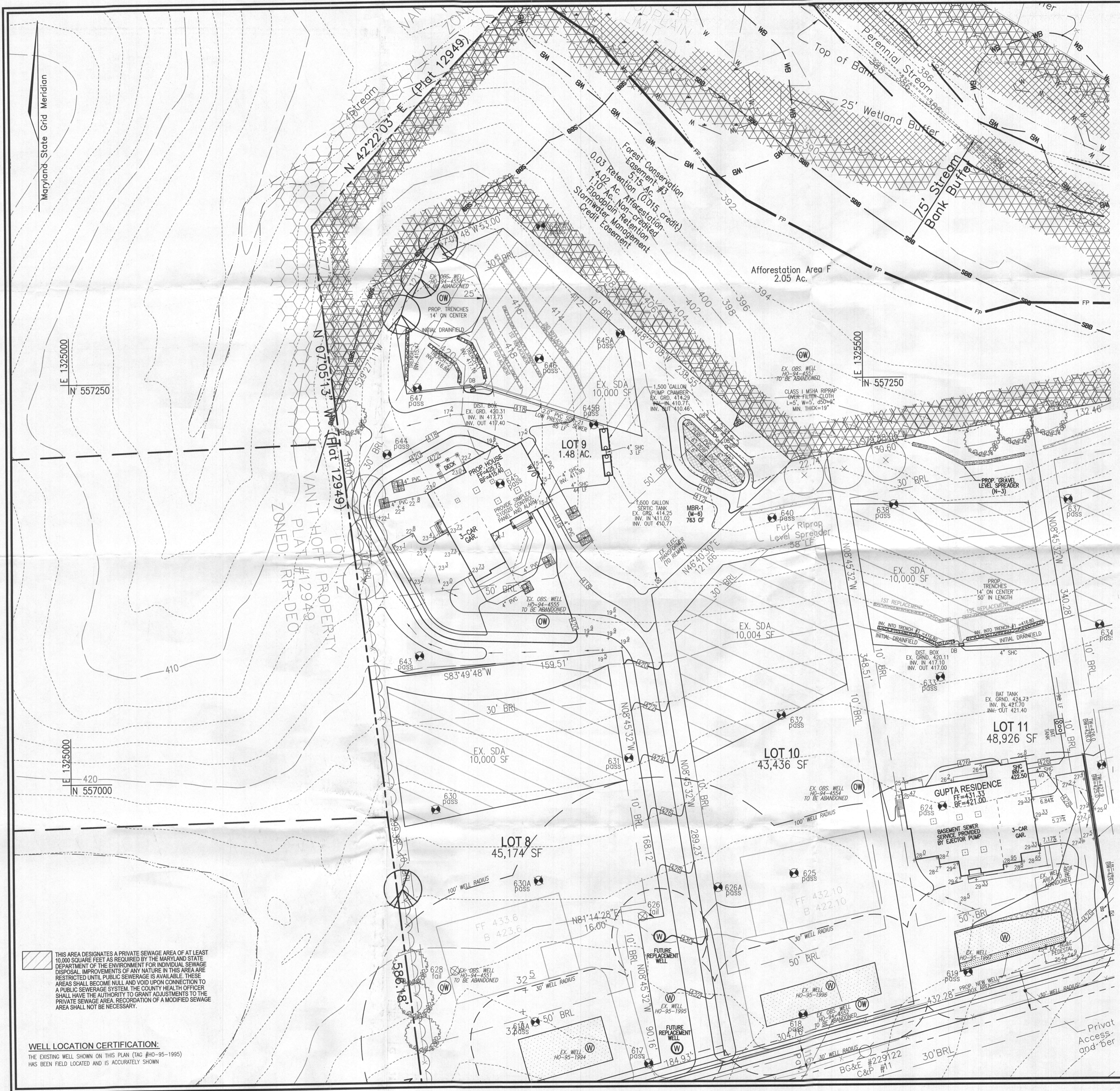
BLOCK: 17
 ZONED: RR-DED
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

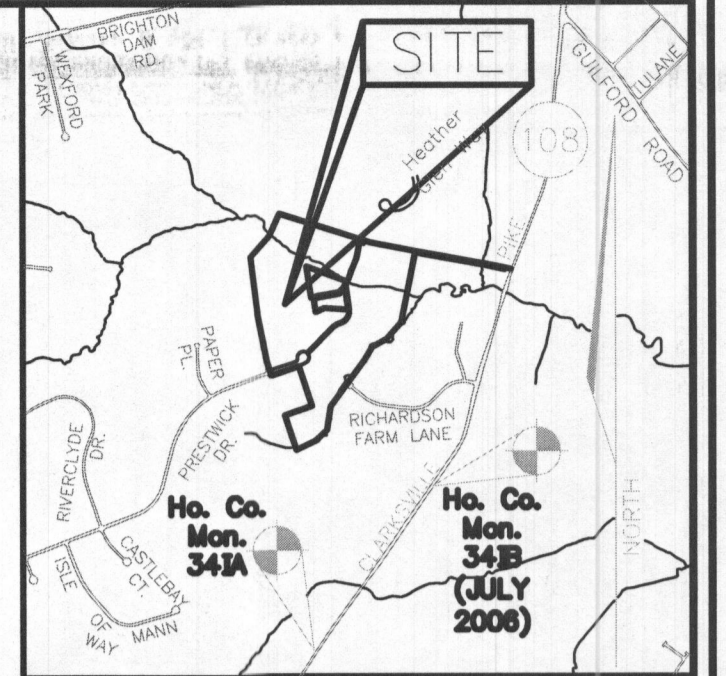
PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS
 WERE PREPARED OR APPROVED BY ME, AND
 THAT I AM A FULLY LICENSED PROFESSIONAL
 ENGINEER UNDER THE LAWS OF THE STATE
 OF MARYLAND, LICENSE NO. 16193
 EXPIRATION DATE: 09-27-2020

DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: NOVEMBER 2018
 SCALE: AS SHOWN
 W.O. NO.: 14-33

2 SHEET OF 2



- GENERAL NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
 3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
 5. THE EXISTING TOPOGRAPHY SHOWN HEREON IS TAKEN FROM A FIELD RUN TOPOGRAPHICAL SURVEY, WITH 2-FOOT CONTOUR INTERVALS, PREPARED BY FSP ASSOCIATES, DATED OCTOBER 2008. SUPPLEMENTAL TOPOGRAPHY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 05, 2015 AND JANUARY 05, 2018.
 6. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 7. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWNGRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN USING ALL REASONABLE EFFORTS.
 8. THE LOT SHOWN HEREON COMPLES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.

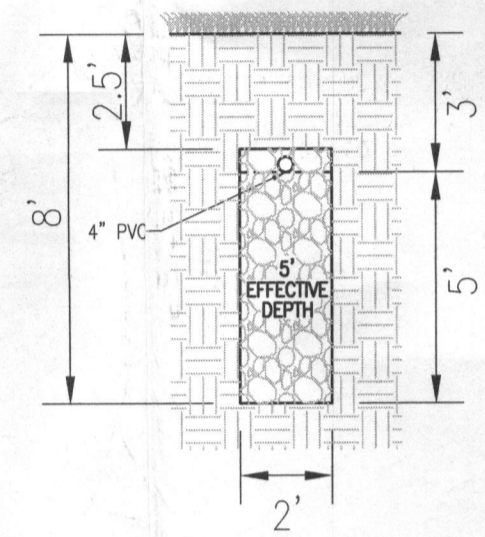


SYSTEM CALCULATIONS:

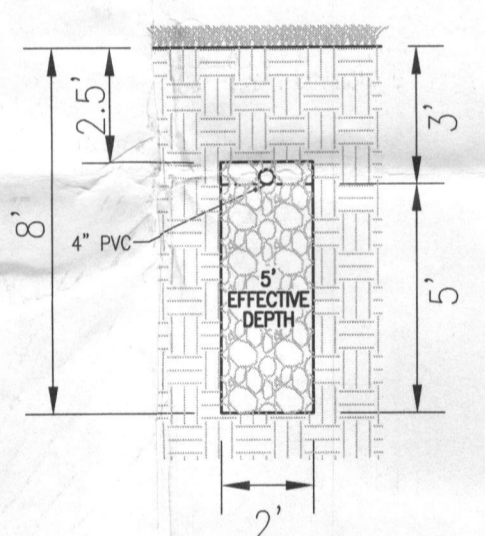
INITIAL SYSTEM:
 5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
 625 SQ. FT. / 2 (TRENCH WIDTH) x 31 (SIDEWALL REDUCTION) = 97 LINEAR FEET
 99 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE INITIAL SYSTEM.
 (3 TRENCHES OF 33 FEET IN LENGTH)

FIRST & SECOND REPLACEMENT SYSTEMS:
 5 BEDROOMS AT 750gpd / 1.2 ABSORPTION RATE = 625 SQ. FT.
 625 SQ. FT. / 2 (TRENCH WIDTH) x 31 (SIDEWALL REDUCTION) = 97 LINEAR FEET
 100 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE FIRST REPLACEMENT SYSTEM.
 (2 TRENCHES OF 50 FEET IN LENGTH)
 100 TOTAL LINEAR FEET OF TRENCH ARE PROVIDED WITH THE SECOND REPLACEMENT SYSTEM.
 (1 TRENCH OF 100 FEET IN LENGTH)

- LEGEND:**
- PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - ADJACENT PROPERTY LINE
 - EXISTING 10' CONTOUR
 - EXISTING 2' CONTOUR
 - EXISTING TREELINE
 - EXISTING WELL
 - EXISTING OBSERVATION WELL
 - REPLACEMENT WELL
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
 - PASSED PERC. TEST
 - FAILED PERC. TEST
 - PRIVATE SEWAGE DISPOSAL AREA (SDA)



INITIAL SYSTEM TRENCH DETAIL
NOT TO SCALE



1ST & 2ND REPLACEMENT TRENCH DETAIL
NOT TO SCALE

INITIAL SYSTEM TRENCH INFO.

TRENCH	TRENCH LENGTH	INTO BOTTOM OF EXISTING TRENCH	EXISTING TRENCH	EXISTING GROUND
1	33'	417.16	412.16	430.16
2	33'	416.88	411.88	419.88
3	33'	415.47	410.47	418.47

Approved Septic System Plan
 Howard County Health Department
 1500-gallon septic tank & 1500-gal pump tank
 w/ Goulds 03 hp pump or equivalent
 Gravity distribution
 Signature: [Signature] Date: 12/31/18

OWNER/BUILDER
 GREENFIELD HOMES, INC.
 1818 LIBERTY ROAD
 ELDERSBURG, MD 21784
 (410) 365-3702

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

WILLOW POND - LOT 9
 6517 HEATHER GLEN WAY
 CLARKSVILLE, MD 21029

5TH ELECTION DISTRICT
 TAX MAP: 34 PARCEL: 444
 DPZ REF'S: F-10-106, F-09-13, F-06-170, F-09-112, F-07-174,
 F-79-115, SP-09-03, SP-07-011, W-07-103, W-06-02, PLAT 7288

BLOCK: 17
 ZONE: RR-DEO
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7556
 FAX: 410.461.8561

PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE 09-27-2018.

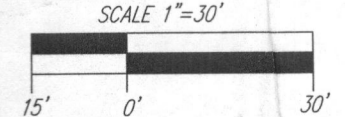
DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: JULY 2018
 SCALE: AS SHOWN
 W.O. NO.: 14-33

1 SHEET OF 2

THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.

WELL LOCATION CERTIFICATION:
 THE EXISTING WELL SHOWN ON THIS PLAN (TAG #HO-95-1995) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN

PLAN VIEW
SCALE: 1"=30'



Wastewater

APPLICATIONS

Specifically designed for the following uses:
 • Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: 3/4" maximum
- Discharge size: 2" NPT
- Capacities: up to 140 GPM
- Total heads: up to 128 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2 - 1 1/2 HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

- SJTOW or STOW severe duty oil and water resistant power cords.
- 1/2 - 1 HP models have NEMA three prong grounding plugs.
- 1 1/2 HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

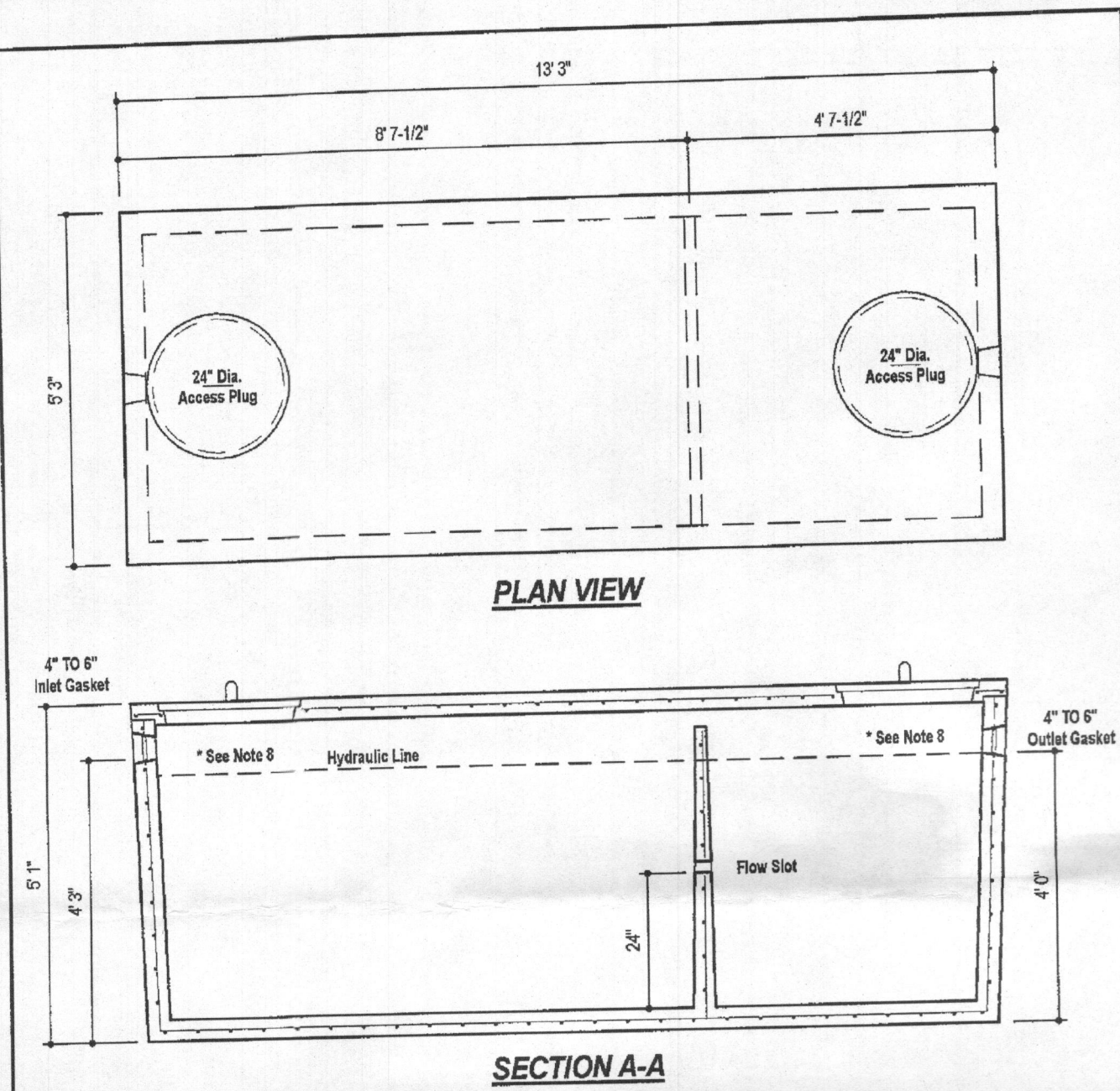
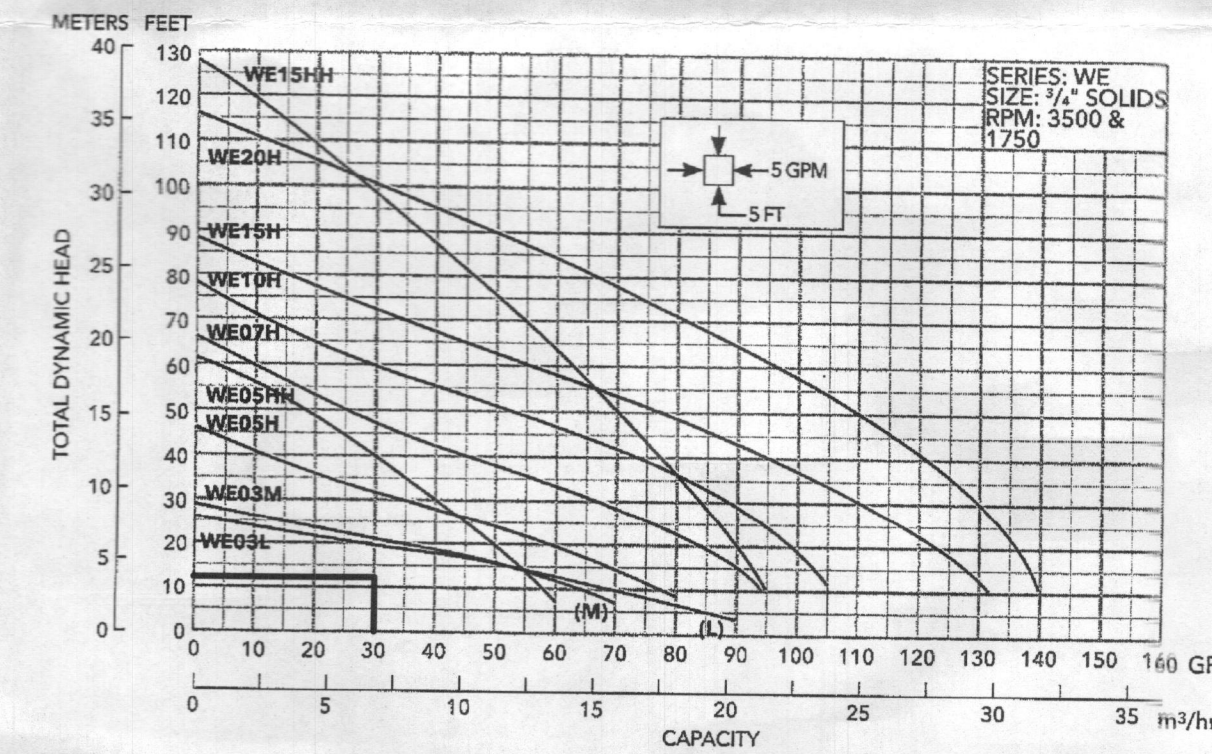
- Bearings: Upper and lower heavy duty ball bearing construction.

- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil leakage when fully submerged.

- O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2:108 Standards
 By Canadian Standards Association File #1835549

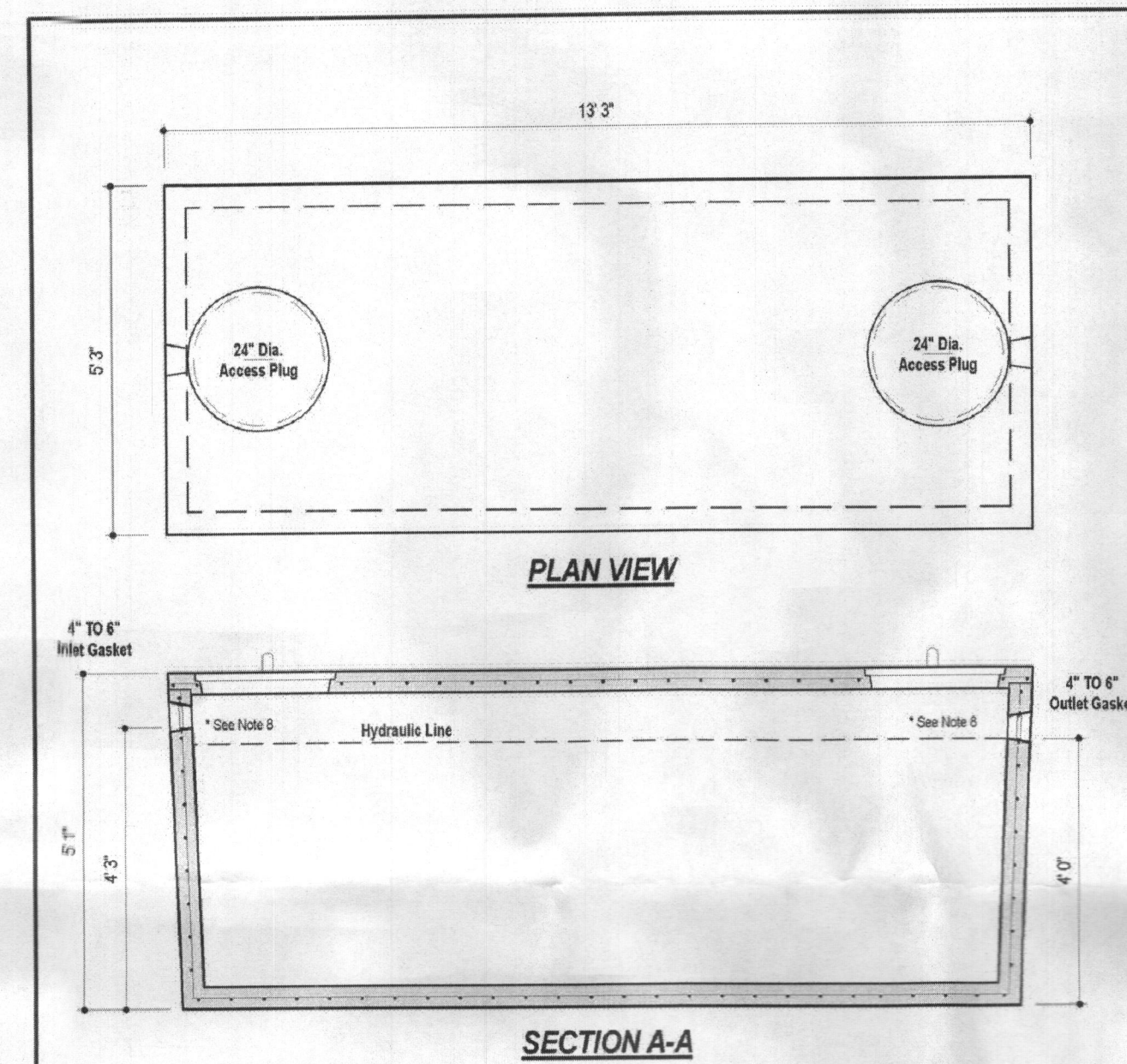


DESIGN DATA & GENERAL NOTES

- Concrete strength Fc=4,000 p.s.i. @ 28 days. Density = 150 pcf.
- Cement - Portland Type III per ASTM C 150-82.
- Admixtures & plasticizers per ASTM C 290-86 & C 454-82.
- Reinforcing per ASTM A185. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, inlet & outlet baffles may be required by code.

WEIGHT = 16,750 lbs.

<p>Mayer Bros, Inc. 6364 Ryan Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com</p>	1,500 GALLON TANK (Non-Traffic) 2-Compartment Stock Item	
	Dwg. No. 1500-2C	Aug. 11, 2008

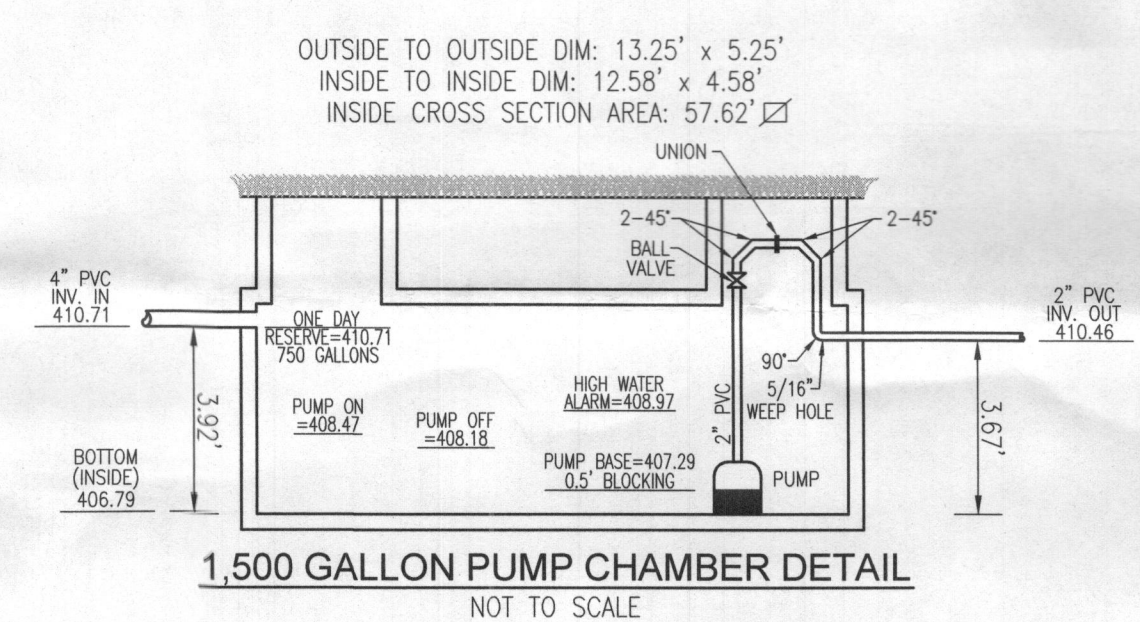
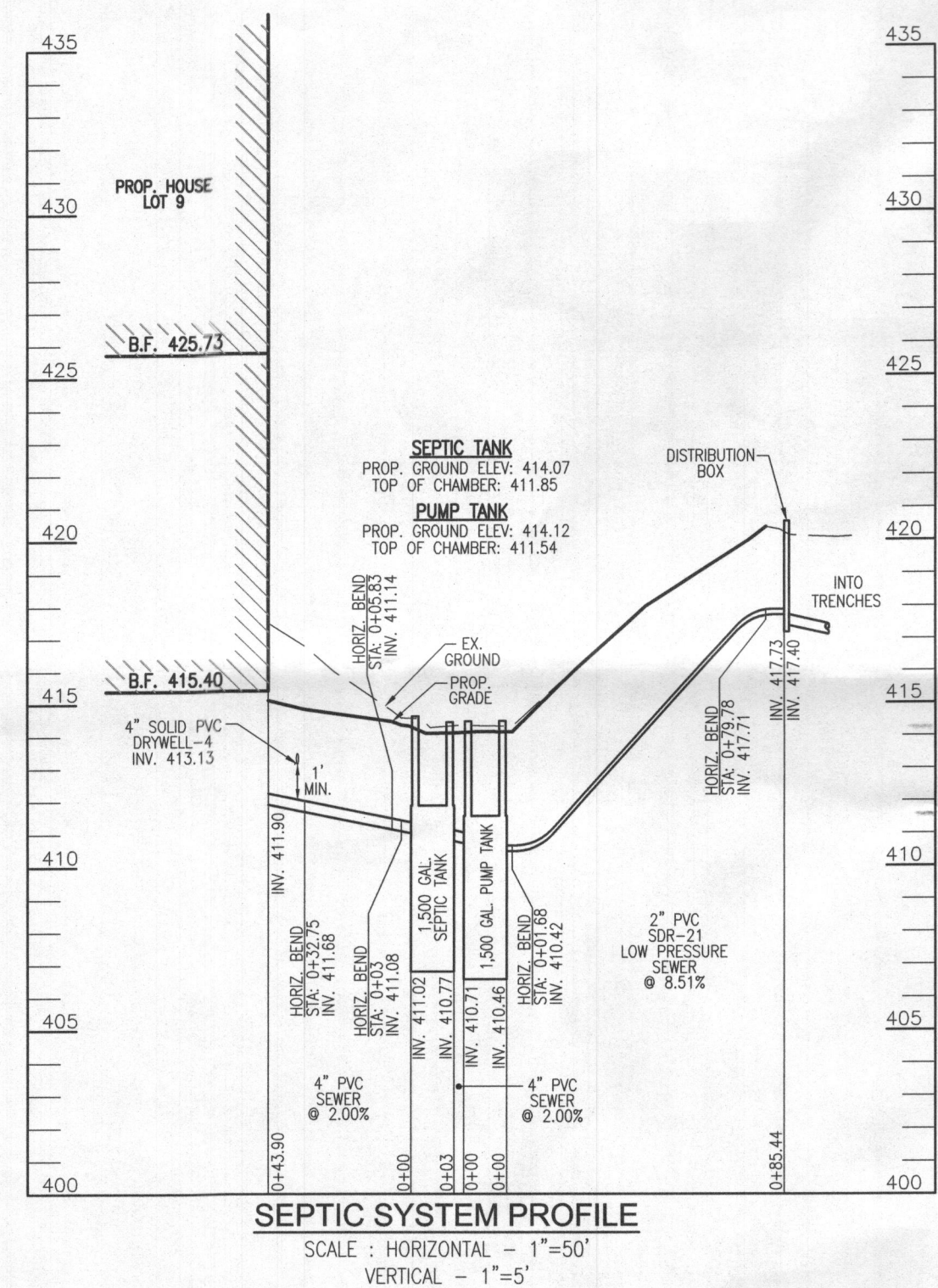


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- Admixtures & plasticizers per ASTM C 290-86 & C 454-82.
- Reinforcing per ASTM A185. Min. 1-1/2" cover.
- Top slab sealed with butyl rope mastic.
- 4" wall, base, & top thickness.
- Max 3" of cover.
- Depending on use of tank, inlet & outlet baffles may be required by code.

WEIGHT = 16,000 lbs.

<p>Mayer Bros, Inc. 6364 Ryan Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com</p>	1,500 GALLON SEPTIC/PUMP TANK 1-Compartment NON-TRAFFIC MAX 3 ft. OF COVER	
	Dwg. No. 1500-1C	Aug. 11, 2008



NO. BEDS = 5
 DESIGN FLOW = 5 (150 GPD) = 750 GPD
 DOSE: 1.50 IN FLOW = 125 GPD
 125 GAL/48 FT³/GAL = 16.71 FT³
 16.71 FT³ SF = 0.29'
 ONE DAY/VE: 750 GALLONS/7.48 FT³/GAL = 100.27 FT³
 100.27 F.62 = 1.74 FT

TDH (FR + STATIC)
 FRICTION: UNION: 2
 VALVE: 1.3
 45° ELBOW (H+V): 8x6 = 48
 90° ELBOW: 7x1 = 7

FITTING: NPT: 58.3 LF
 PIPE: LESS: 4 LF
 TOTAL: 1143.7 LF

FRICTION: (30 GPM): (1.54)(143.70)/100 = 2.21'
 STATIC: 408.18 (PUMP OFF) = 9.55'
 TDH: 91 = 11.76'
 HP = c/rE GOOLDS WE03 OR EQUIVALENT

Approved Septic System Plan
 Howard County Health Department
 1500-gal Septic Tank & 1500-gal Pump Tank
 w/Goolds 0.3 hp Pump or Equivalent
 Growing Distribution
 Signature: [Signature] Date: 12/31/18

OWNER/BUILDER
 GREENFIELD HOMES, INC.
 1818 LIBERTY ROAD
 ELDERSBURG, MD 21784
 (410) 365-3702

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN

WILLOW POND - LOT 9
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5TH ELECTION DISTRICT
 TAX MAP: 34 PARCEL: 444
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BLOCK: 17
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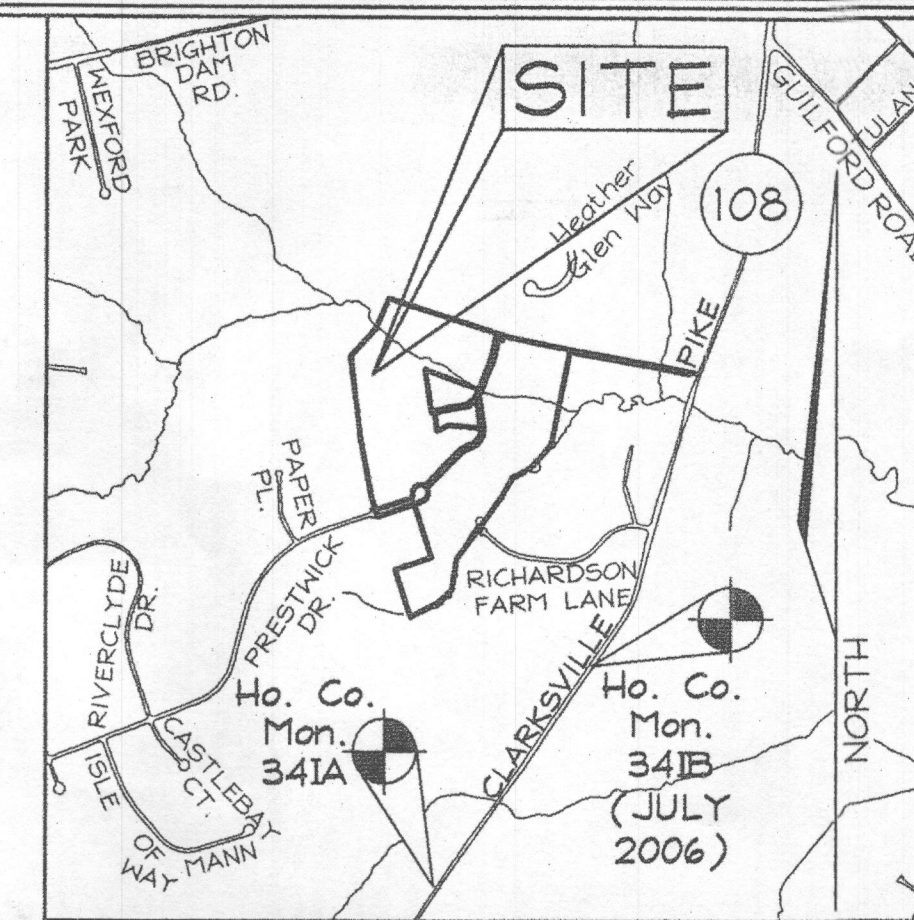
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELIGOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

	DESIGN BY: RHV	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. 16193, EXPIRATION DATE: 09-27-2018.
	DRAWN BY: JMR	
	CHECKED BY: RHV	
	DATE: JULY 2018	
	SCALE: AS SHOWN	
W.O. NO.: 14-33	2 SHEET OF 2	

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
GbB	Gladstone loam, 3 to 8 percent slopes	B
GbC	Gladstone loam, 8 to 15 percent slopes	B

GEODETIC CONTROL STATIONS

Coordinates shown hereon are based on NAD '83, Maryland Coordinate System as projected by Howard County. Geodetic Control Stations no. 341A and no. 341B. \odot Denotes approximate location (see vicinity map).
 Sta. 341A N 553,271.914 E 1,325,839.75 Elev. 471.88 (NAVD 88)
 Sta. 341B N 554,473.544 E 1,327,076.76



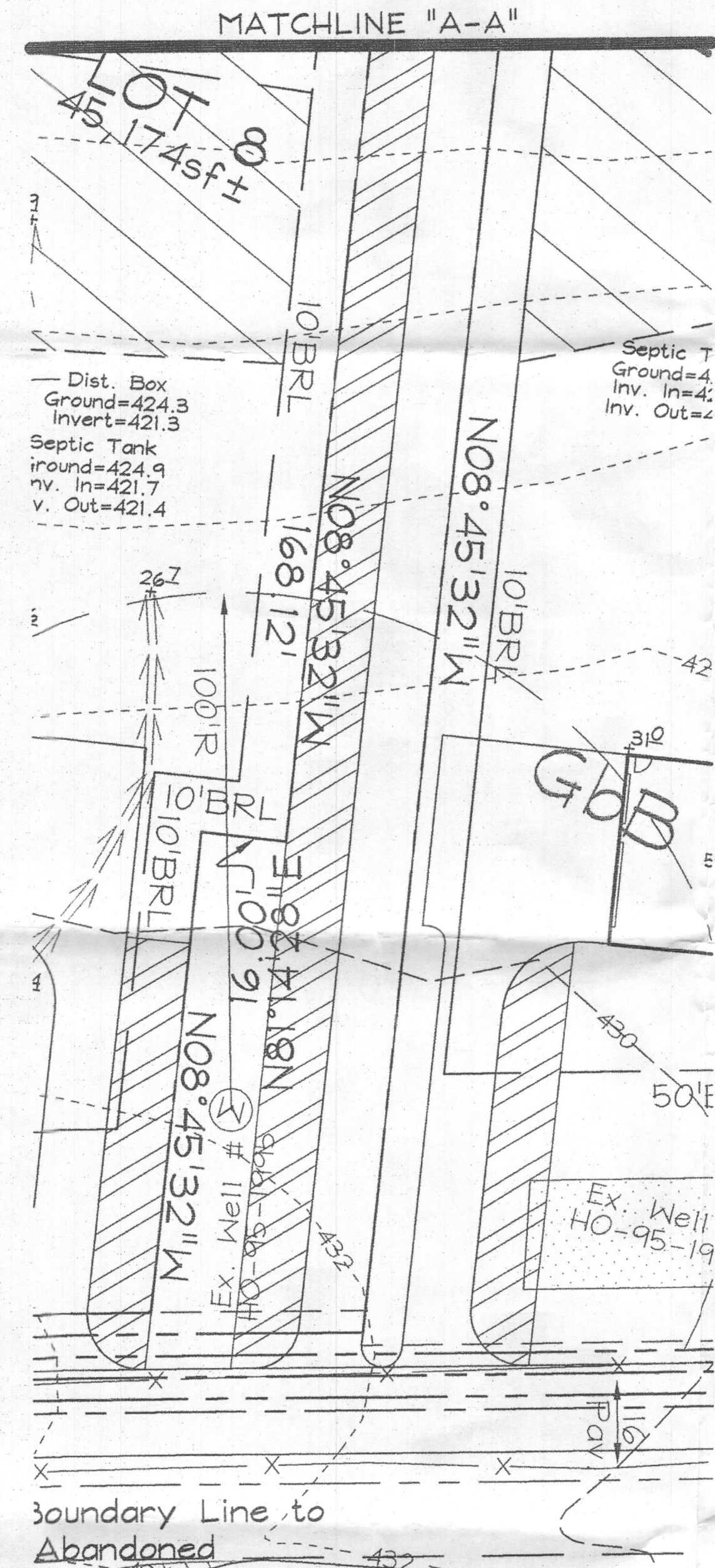
VICINITY MAP
SCALE: 1" = 2000'

LEGEND

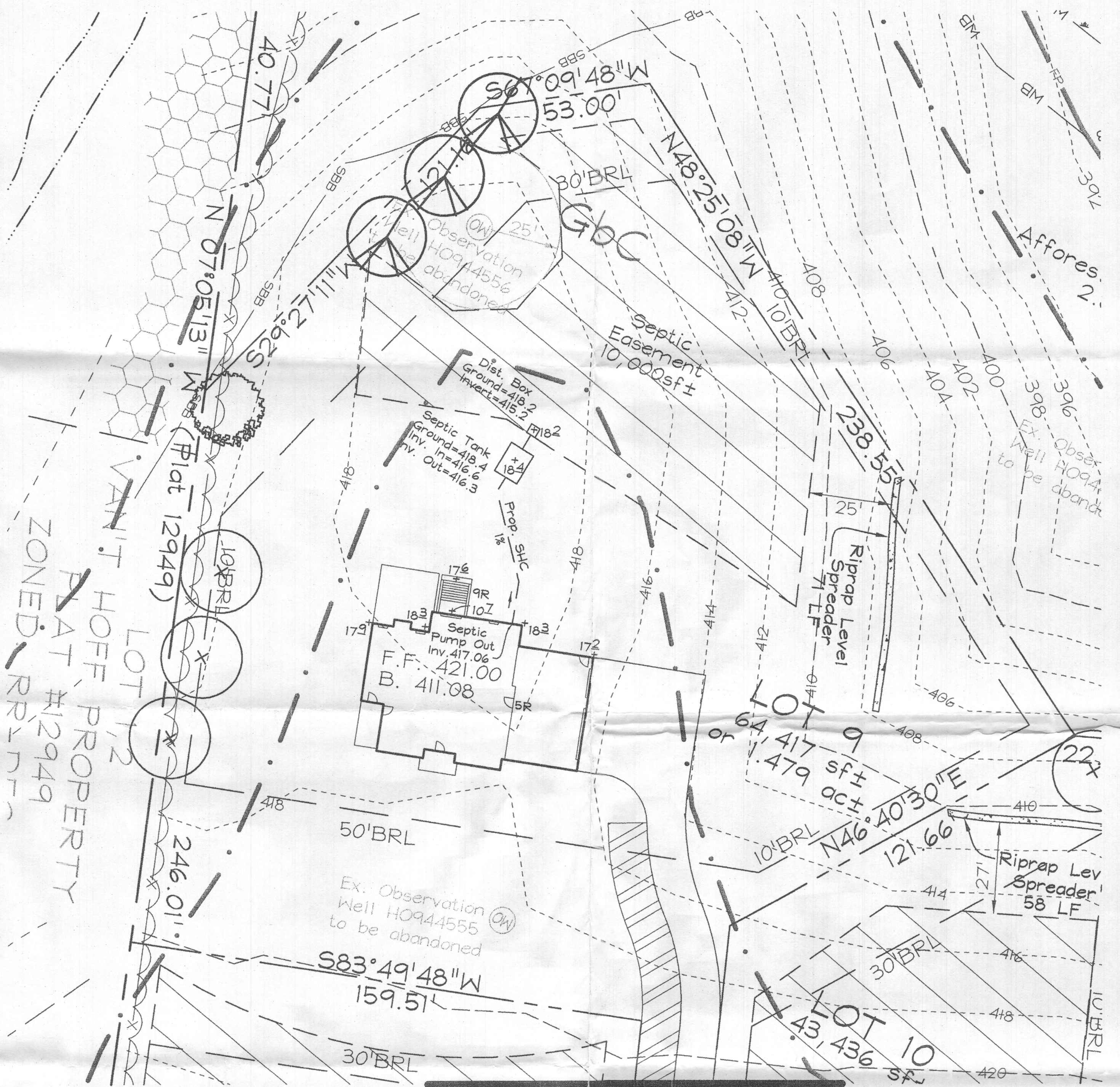
Existing Contour	-----382
Proposed Contour	-----82
Spot Elevation	+82.53
Direction of Flow	----->
Super Silt Fence	SSF
Silt Fence	SF
Limit of Disturbance	LOD
Soil Boundary	WOB
Walk Out Basement	WOB
SWM Disconnect Area	[Hatched Box]

GENERAL NOTES

- This property is zoned "RR-DEO" per the 02/02/04 Comprehensive Zoning Plan and the Comp Lite Zoning Regulations Amendments effective 07/28/06.
- Total area of property = 1.479 Ac±
- Private well water and private septic will serve this lot.
- Topography based on a Field Run Topographic Survey prepared by FSH Associates October 2006.
- SWM for house is provided by sheet flow to buffer with a level spreader.

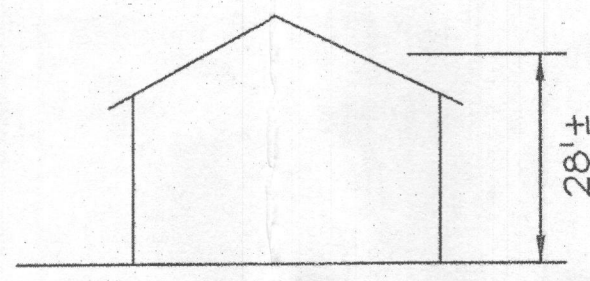


PIPESTEM PLAN
SCALE: 1" = 30'

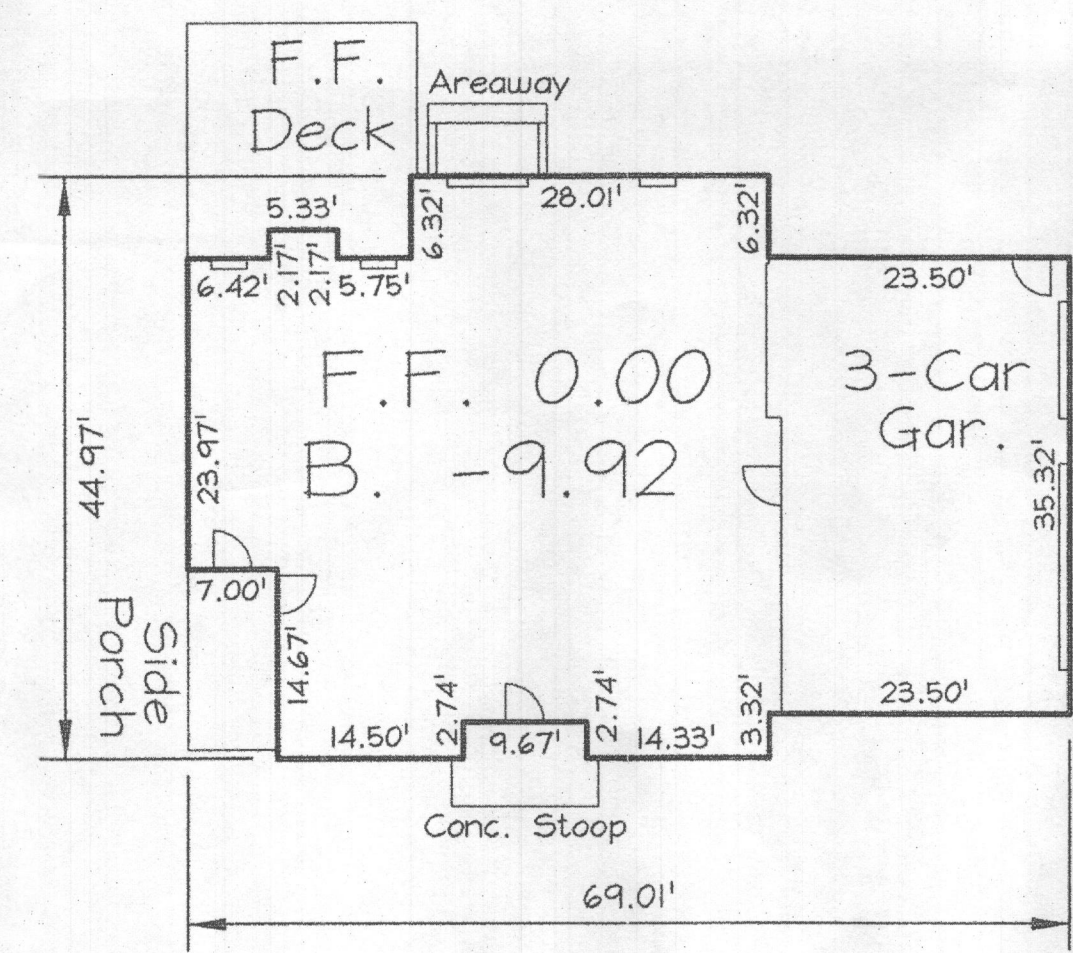


PLOT PLAN
SCALE: 1" = 30'

Basement will NOT sewer by gravity.



SCHEMATIC ELEVATION
NOT TO SCALE



HOUSE PLAN
SCALE: 1" = 20'

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. #22418, Expiration Date: 07/29/2013.

OWNER/
DEVELOPER
GREENFIELD HOMES, Inc.
6656 Luster Drive
Highland, Maryland 20777
410.781.6782

SEPTIC PERMIT PLAN		Rev 0
WILLOW POND		
LOT 9 - 6517 PRESTWICK DR. Plat #21630		
TAX MAP 34 GRID 17 5TH ELECTION DISTRICT	PARCEL 382 HOWARD COUNTY, MARYLAND	
FSH Associates Engineers Planners Surveyors 6339 Howard Lane, Elkridge, MD 21075 Tel: 410-567-5200 Fax: 410-796-1562 Email: info@fshert.com		DESIGN BY: CRH2 DRAWN BY: CRH2 CHECKED BY: ZYF SCALE: 1" = 30' DATE: Dec. 11, 2012 W.O. No.: 3199 SHEET No.: 1 OF 1

NOT installed before 1/13