

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: 6/3/2015 **ONSITE SEWAGE DISPOSAL SYSTEM** P 556472
 APPROVAL DATE: 8/26/15 **PERMIT:** **CONSTRUCTION** A 526240
 PROPERTY ADDRESS: 12386 Howard Lodge Road
 SUBDIVISION: Nelson Property LOT: 2B/2C TAX ID: 03301125
 CONTRACTOR: Fogle's Septic Clean EMAIL: kurt@foglesinc.com
 CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville Road, MD 21784 PHONE: 410-795-5670

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER: **NORWECO**

PROPERTY OWNER: Gregory & Elizabeth Ann Nelson EMAIL: _____
 OWNER ADDRESS: 12490 Howard Lodge Drive PHONE: _____

BAT UNIT MODEL: Norweco TNT LP500 PUMP SIZE: 1/2HP PUMP TANK CAPACITY: 1500g

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 6/22/2015 DATE RECORDED: 6/23/2015

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 1.2' 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>120' 125'</u>	INLET DEPTH: <u>2</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>12' 10'</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3</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:	Fill must not extend into area of proposed BAT tank and Pump tank location. Install 2x60' trenches on contour as instructed by Env. Health Specialist at time of layout inspection.	

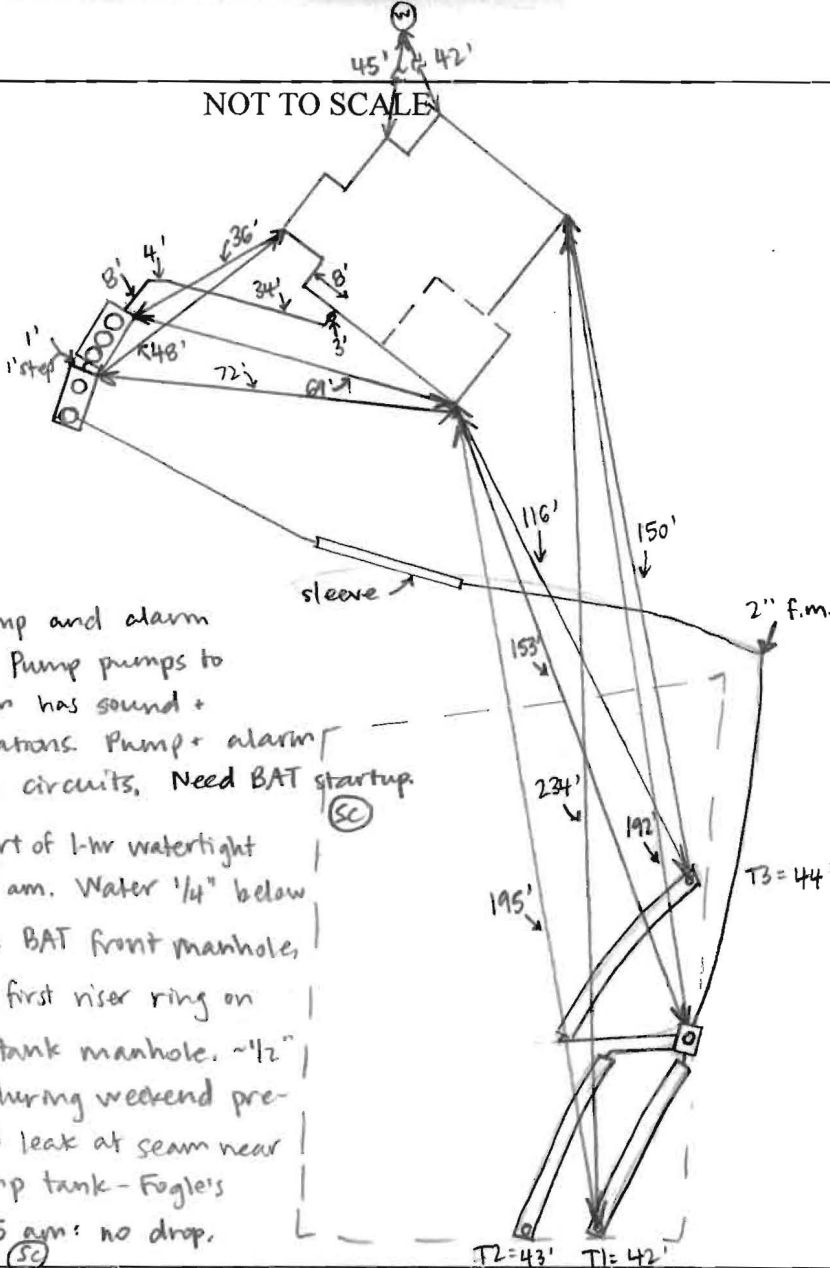
ISSUED BY: K. Wolf ISSUE DATE: 8/7/15 EXPIRATION DATE: 8/7/16

- 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
 ELECTRICAL PERMIT ISSUED E 15000839
- 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

4x150
 0.8
 2.4x5' 250' x .5 = 125'
 0.82 = 3 ÷ 3.75 = 125'

**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



8/25/15 Pump and alarm with Fogle's. Pump pumps to D-box, alarm has sound + light notifications. Pump + alarm on separate circuits. Need BAT startup.

8/24/15 Start of 1-hr watertight test at 9:05 am. Water 1/4" below top of lid on BAT front manhole, 5 3/4" below first riser ring on front pump tank manhole. ~1/2" total drop during weekend pre-soak. Small leak at seam near front of pump tank - Fogle's sealed. 10:05 am: no drop. passed test. (SC)

1" = 40'

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	2'	5'
NUMBER OF TRENCHES		3
TOTAL LENGTH		129'
ABSORPTION AREA		387' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		NO
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA

SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON/NORWECO
CAPACITY	1300 GAL
SEAM LOC	TOP
TANK LID DEPTH	2-2.5'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	YES - PASSED
SLOTTED	NO
DATE ON LID	

PUMP/SEPTIC TANK LEVEL

SEPTIC TANK LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	1.5-2'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT - REAR
6" PORT LOC	NONE
WATERTIGHT TEST	YES - PASSED
SLOTTED	NO
DATE ON LID	7-19-15
PUMP:	Gould's WEOSIH

PRE-CONSTRUCTION:

8/6/15 No evidence of fill around proposed tank area. Nothing staked to this point. Proposed tanks loc on plan. Looks suitable. (KMM) 1/2 hp
 8/10/15 Met Fogle's on site for layout. All SDA stakes present except for NE corner - measured off others to mark. Laid out 3 x 42' trenches in upper portion of SDA. Tanks not staked. Well is closer to house than shown on BAT plan (42' vs. 63'). Viking must submit a new BAT plan and stake tanks before tanks can be installed.

INSTALLATION: Okay to proceed with trench installation. (SC)

8/11/15 Trenches complete and left open. 3" wide, 2' to stone. D-box installed and connected to trenches. 2" force main installed to area of future tanks. Sleeve over force main in rocky area. Dan from Viking on site gave Fogle's the okay to set tanks w/o stakes once revised BAT plan is approved. (SC)

8/17/15 Site inspection to confirm tanks are staked. Both BAT and pump tank are staked according to revised BAT plan. (SC) 8/20/15 Septic tank installed + house connection made.

1' fill over septic tank. (SC) 8/21/15 Pump tank installed. Water filled for 24+- hr pre-soak, 3/16" below top of lid on BAT front manhole, 5 1/4" below front riser ring on pump tank.

FINAL INSPECTOR K. Wall DATE OF APPROVAL 8/26/15

Measured water at 1 pm. (SC)

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 Singlair TNT 600 GPD Septic Tank installed at 12386 Howard Lodge Dr. Sykesville, MD 21784 on August 20, 2015 was installed according to the manufacture's specifications.

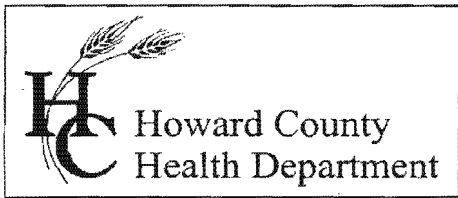
Installer: Jake Sizemore

Property Owner: Gregory Nelson

Permit #



MATTHEW GECKLE
Vice-President



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 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: _____ **ONSITE SEWAGE DISPOSAL SYSTEM** P _____

APPROVAL DATE: _____ **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 12386 Howard Ledge Dr

SUBDIVISION: Nelson Property LOT: 2B/2C TAX ID: _____

CONTRACTOR: _____ EMAIL: _____

CONTRACTOR ADDRESS: _____ PHONE: _____

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Gregory & Elizabeth Nelson EMAIL: _____

OWNER ADDRESS: 12490 Howard Ledge Dr. PHONE: _____

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

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: _____ DATE RECORDED: _____

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: _____ APPLICATION RATE: _____

TRENCHES:	LINEAR FEET REQUIRED: _____	INLET DEPTH: _____
	TRENCH WIDTH: _____	MAXIMUM BOTTOM DEPTH: _____
	MINIMUM SPACE BETWEEN TRENCHES: _____	EFFECTIVE AREA BEGINNING DEPTH: _____
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:		

ISSUED BY: _____ ISSUE DATE: _____ EXPIRATION DATE: _____

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 CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

8.5.15

Informed Kevin
of Fogles that
we need need
(2) copies of the
rev. BAT Plan

Awaiting
revised
BAT Plans

12380 Howard Lodge Dr.

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: SHANNON
Reference/Control #: 39

LR - Agreement Surcharge
1x 40.00 40.00

=====
SubTotal: 60.00
Total: 60.00

=====
REV-Check-BOA 60.00
Number : 11637

06/23/2015 09:07 CC13-ES
#4432412 /1247/109
***** DUPLICATE #001 *****

06/23/2015 09:09 CC13-ES
Thank you for visiting us today

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

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5650

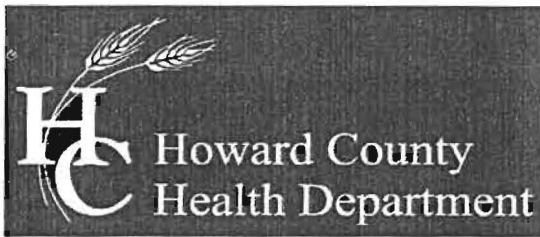
=====
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1x 40.00 40.00
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SubTotal: 60.00
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REV-Check-BOA 60.00
Number : 11637

06/23/2015 09:07 CC13-ES
#4432412 /1247/109
***** DUPLICATE #001 *****

06/23/2015 09:09 CC13-ES
Thank you for visiting us today

12386 Howard Lodge Drive
Seaford, MS 21784



Bureau of Environmental Health

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TDD 410-313-2323 | Toll Free 1-866-313-6300

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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 18 day of June 2015, among Christopher L Shannon
and Jessica Marie Shannon, 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
12386 Howard Lodge Dr Sikeville, MD 21789, in the 03 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 5836 Folio 601.

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 Singnair TNT 500

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.

Michael J. Cavin 6/22/15
Howard County Health Department

Annul How 6-18-15
Owner #1 Signature Date

Christopher L Shannon
Owner #1 Print Name

Annul How 6-18-15
Owner #2 Signature Date

Jess'ca Marie Shannon
Owner #2 Print Name

Buyer #1 Signature Date

Buyer #2 Signature Date

Buyer #1 Print Name

Buyer #2 Print Name

GRANT OF PERPETUAL SEPTIC RESERVE EASEMENT

107

THIS INSTRUMENT, executed this 1ST day of February, 2008, by GREGORY SCOTT NELSON and ELIZABETH ANN NELSON, husband and wife, ("Owners"), of Howard County, Maryland, bears witness to an easement this day entered into by the parties providing for a grant of an easement by Owners under the terms and conditions and for the considerations set forth hereafter.

1. Gregory Scott Nelson and Elizabeth Ann Nelson are the owners in fee simple absolute of the property described in a Deed dated August 16, 1985 as Lot 2-C and Lot 2-B, and recorded among the Land Records of Howard County, Maryland, in Liber 1382, folio 280, the improvements thereon being known as 12490 Howard Lodge Drive;
2. The Owners hereto now agree that a certain septic area benefiting Lot 2-B is situate and encroaching on the property known as Lot 2-C, as more fully described in "Description of Perpetual Septic Reserve Easement Lot 2-C, The Nelson Property," attached hereto as Exhibit "A" dated January 10, 2008, prepared by CLSI; and
3. The Owners hereto further agree that the septic area described in Exhibit "A" attached hereto shall be for the sole benefit of Lot 2-B, and Lot 2-C shall forfeit the right to use the aforesaid septic area for it's own benefit; and
4. For and in consideration of One Dollar and other good and valuable considerations Owners do grant, convey and demise an easement appurtenant to and running with the said land for the right of encroachment upon the property described as Lot 2-C of the Owners for the septic reserve area for the benefit of Lot 2-B; and
5. The Owners of Lot 2-B, their heirs, personal representatives, successors and assigns, shall have the right to come upon the land of the Owner(s) of Lot 2-C and go over, under and across the aforementioned easement, together with the right of access, ingress and egress, to the septic reserve area described in paragraph 3 above and to make necessary opens and excavations for the

20
20



LIBER 11074 FOLIO 074

439 East Main Street
Westminster, MD 21157-5539

410-848-1790
FAX (410) 848-1791

January 10, 2008

Description of Perpetual Septic Reserve Easement
Lot 2-C, The Nelson Property

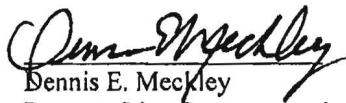
Description of a perpetual easement for a septic reserve area across the land of Gregory S. and Elizabeth Ann Nelson, known as lot 2-C located 545 feet north of Howard Lodge Road near Sykesville in the 3rd Election District of Howard County, Maryland and being more particularly described as follows:

Beginning for the same at an iron pin found at the beginning of the 5th or North 60 degrees 05 minutes 57 seconds West, 318.08 foot line of a conveyance by Carlotta Pizzuto unto Donald J. Weisensel by Deed dated February 18, 1975, and recorded among The Land Records of Howard County, Maryland in Liber 712 Folio 034; thence with a portion of said line;

1. North 75 degrees 24 minutes 39 seconds West, 110.00 feet to a point, thence leaving said line and running through lot 2-C;
2. North 18 degrees 23 minutes 22 seconds East, 179.11 feet to a point intersecting the 7th or South 57 degrees 18 minutes 22 seconds East, 620.70 foot line of the aforementioned conveyance, thence running with and binding on a portion of said line;
3. South 72 degrees 37 minutes 04 seconds East, 110.00 feet to a point, thence crossing an ingress and egress easement and running with and binding on a portion of the 4th or South 33 degrees 46 minutes 31 seconds West, 163.74 foot line of aforementioned conveyance;
4. South 18 degrees 27 minutes 49 seconds West, 173.74 feet to the place of beginning.

Being an easement over a portion of land described in a deed from Donald J. Weisensel unto Gregory Scott Nelson and Elizabeth Ann Nelson also known as lot 2-C, dated August 16, 1985 and recorded among The Land Records of Howard County, Maryland in Liber 1382, folio 280. The purpose of this perpetual easement is to allow access to a septic reserve area on Lot 2-C from other lands of Nelson and their assigns known as lot 2-B also recorded in said Deed liber 1382, folio 280.

A licensed surveyor either prepared this metes and bounds description or was in responsible charge over its preparation and the survey work reflected in it.


Dennis E. Meckley

Property Line Surveyor registration No. 10844

1/10/08
Date

I:\Wfiles\JOB\2006\2006166\Descriptions\Perpetual Septic Reserve Easement Lot 2-C-011008.doc



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8445 Progress Drive, Suite BB, Frederick, MD 21701
(301) 662-1799 • (301) 662-8004 FAX

HOWARD COUNTY CIRCUIT COURT (Land Records) MDR 11074, p. 0074, MSA_CE53_11065. Date available 02/11/2008. Printed 09/11/2014.

purposes of examining, installing, repairing and maintaining said septic reserve area, PROVIDED HOWEVER, that all openings or excavations shall be properly refilled and the property left in good and safe condition, all at the sole expense of the Owner(s) of Lot 2-B. It is also understood that while the Owner(s) of 2-B shall, after any excavation, restore the property to its prior condition, any trees, shrubs or similar obstructions shall not be placed in such a location as to hinder or obstruct the installation, operation or maintenance of said septic reserve area. This grant of easement shall run with land for so long as the septic reserve area described in paragraph 3 above is in use by Lot 2-B.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals this day and year first above written.

[Signature]

WITNESS

[Signature]

WITNESS

[Signature]

GREGORY SCOTT NELSON

[Signature]

ELIZABETH ANN NELSON

STATE OF MARYLAND, TO WIT;

I Hereby Certify, That on this 1st day of February, 2008, before me, the subscriber, a Notary Public of the state and county aforesaid did personally appeared GREGORY SCOTT NELSON and ELIZABETH ANN NELSON, personally known to me, or proven to be the persons whose names are subscribed to the within Instrument and in my presence acknowledged that they executed the foregoing Grant of Easement for the purposes therein contained.

WITNESS MY HAND AND NOTARIAL SEAL.

[Signature]
NOTARY PUBLIC

My Commission Expires: 11/06/2011

I certify that this instrument was prepared under the supervision of an attorney admitted to practice before the Court of Appeals of Maryland.


EDWIN E. TILLMAN

HOWARD COUNTY CIRCUIT COURT (Land Records) MDR 11074, p. 0076, MSA_CE53_11065. Date available 02/11/2008. Printed 09/11/2014.

Associates Title Services, Inc.
239 East Main Street
Westminster, MD 21157

IMP FD SURE \$	20.00
RECORDING FEE	20.00
TOTAL	40.00
Res# H003	Acct # 59083
MDR KMC	Blk # 40
Feb 07, 2008	01:39 PM

Oswald, Hank

From: Cary Cumberland <cary@vikingcustomhomes.com>
Sent: Thursday, November 20, 2014 9:44 AM
To: Oswald, Hank
Subject: RE: Perpetual Sewer Easement
Attachments: health_department_agreement.pdf

Hi Hank,

They are not finishing the basement.

I am attaching the signed Operating Agreement.

Let me know if you need anything else?

Thank you,

Cary!

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Thursday, November 20, 2014 8:31 AM
To: Cary Cumberland
Subject: RE: Perpetual Sewer Easement

Hi Cary:

I got it. Thanks. Can you tell me if the basement is finished with rec rm, office, gym and full bath?

Regards,

Hank

From: Cary Cumberland [<mailto:cary@vikingcustomhomes.com>]
Sent: Wednesday, November 19, 2014 8:18 PM
To: Oswald, Hank
Subject: Fwd: Perpetual Sewer Easement

Hi hank, here is the easment. Thank you

----- Forwarded message -----

From: "Anthony G. Meyers" <ameyers@clsi-civileng.com>
Date: Nov 19, 2014 3:52 PM
Subject: Perpetual Sewer Easement
To: "Cary Cumberland" <cary@vikingcustomhomes.com>
Cc:

Cary,

Here is the deed the health department is looking for. Thanks, Tony

Please consider the environment before printing this email.

This message and any attachments may be privileged, confidential or proprietary. If you are not the intended recipient of this email or believe that you have received this correspondence in error, please contact the sender through the information provided above and permanently delete this message.

B14003794

Oswald, Hank

From: Oswald, Hank
Sent: Wednesday, October 08, 2014 10:55 AM
To: 'ameyers@clsi-civileng.com'
Subject: 12386 Howard lodge Drive_BAT Plan
Attachments: OM agreement_revised 8 8 14 (2).pdf

Tony Meyers:

The BAT Installation Site Plan for 12386 Howard lodge Drive has been approved. At this point, this office also needs a copy of the floor plans and a copy of the recorded easement agreement prior to building permit approval. Additionally, an Operation and Maintenance Agreement is required for the file (See Attachment) prior to ICOP letter.

An older building permit application exist in the file dated 4/4/2008. Is there a new building permit application for this property?

Please contact me with any questions.

Respectfully,

Hank

Hank Oswald, L.E.H.S.
Howard County Health Department
Well & Septic Program
8930 Stanford BLVD
Columbia, MD 21045
410-313-1786
410-313-2648 (Fax)

LAYOUT _____ INSP 4 _____

INSP 2 _____ INSP 5 _____

INSP 3 _____ INSP 6 _____

ISSUE DATE: _____

P _____

APPROVAL DATE: _____

A 526292

PERMIT

TAX ID # 03301125 ON-SITE SEWAGE DISPOSAL SYSTEM HOWARD COUNTY HEALTH DEPARTMENT BUREAU OF ENVIRONMENTAL HEALTH

_____ IS PERMITTED TO INSTALL ALTER

ADDRESS: _____ PHONE NUMBER: _____

SUBDIVISION: Nelson Property LOT NUMBER: 2-B

ADDRESS: 12386 Howard Lodge Rd PROPERTY OWNER: Gregory Nelson

SEPTIC TANK CAPACITY (GALLONS): 2000 OUTLET BAFFLE FILTER REQUIRED

PUMP CHAMBER CAPACITY (GALLONS): 1500 COMPARTMENTED TANK REQUIRED

NUMBER OF BEDROOMS: 4

SQUARE FEET PER BEDROOM: _____

LINEAR FEET OF TRENCH REQUIRED: 120

TRENCHES:	Trench to be 3.0 feet wide. Inlet 2.0 feet below original grade. Bottom maximum depth 5.0 feet below original grade. Effective area begins at 3.5 feet below original grade. 3.0 feet of stone below distribution pipe.
LOCATION:	Keep both tanks out of fill area. Distribution box to be set per sanitarian at time of pre-construction meeting. Possible trench design: 2x60' on contour.
NOTES:	Septic pump detail to be provided by installer prior to issuance of septic permit. Pump performance test required prior to Health Department approval of pumped septic system. Store tickets required. Outlet baffle filter required due to proximity to stream and ex. Site/soil conditions.

PLANS APPROVED: Kevin Wolf DATE: 4/18/08

NOTE: PERMIT VOID AFTER 2 YEARS

NOTE: CONTRACTOR RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION INSPECTION FOR ALL INSTALLATIONS

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

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

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

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 FOR INSPECTION OF SEPTIC SYSTEM

NOT TO SCALE

TRENCH/DRAINFIELD DATA

WIDTH _____ INLET _____ BOTTOM _____

NUMBER OF TRENCHES _____

TOTAL LENGTH _____

ABSORPTION AREA _____

DISTRIBUTION BOX LEVEL _____

DISTRIBUTION BOX BAFFLE _____

DISTRIBUTION BOX PORT _____

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

BAFFLE FILTER _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

SEPTIC TANK 2 LEVEL _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

BAFFLE FILTER _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

ROAD

PRE-CONSTRUCTION _____

INSTALLATION _____

FINAL INSPECTOR _____ DATE OF APPROVAL _____

From: Gabriel Creighton
To: jpurdy@clsi-civileng.com
Date: 7/30/2007 3:25:46 PM
Subject: informal approval of off-site sewage easement

Joe,

As per our earlier telephone conversation, I am sending you this email for the purpose of offering an informal approval of an off-site sewage easement on the Nelson Property (formerly known as Weisensel Property). This easement shall be established on the lot known as lot 2-C, which at this time is to remain in the ownership of the Nelson's. Said easement shall be established for the purpose of sewage disposal to serve the lot known as 2-B, where a house shall be built, and a well shall be drilled, to become a separate buildable lot. This approval is dependent on the approval of a Percolation Certification plat. Also, this approval shall be dependent on the recordation of a legal easement for the purpose of access to the septic easement, construction of a septic system and maintenance of said system; in the Land Records of Howard County.

As we discussed earlier, I asked Mike Davis in what order these two items should occur, and he stated that it is preferable for the percolation certification to be submitted and approved prior to the recordation of the legal easement (just in case we should need to revise the area)

In addition, I am forwarding a few copies (via facsimile) of examples for legal easements. These are by no means excellent, but they seem to get the idea across. The true easement must be drafted by an attorney, and signed and notarized by all parties appropriately. Said easement should have language to make it perpetual regardless of ownership, and cannot be dissolved unless public sewer is connected to the home built on lot 2-B. The easement agreement will also require a legal description of the property where the easement will be created, and also an exhibit plat to illustrate the area to be eased, (these are typically prepared by a surveyor).

As always, please don't hesitate to contact me with any questions. Thank you.

Gabe Creighton
Registered Environmental Sanitarian/GIS
Howard County Health Department
Bureau of Environmental Health
Well and Septic Program
(410) 313-2775
gcreighton@howardcountymd.gov

SANITARY/ENVIRONMENTAL ENG, INC
 Consulting Engineers
 1414 Washington Road
 WESTMINSTER, MARYLAND 21157
 (410) 876-7740
 FAX (410) 840-9924

JOB NELSON PROPERTY - LOT-2B
 SHEET NO. 1 OF _____
 CALCULATED BY _____ DATE 5/11/07
 CHECKED BY Howard Co. DATE _____
 SCALE FOR CLSI - JOE PURDY

4 BEDROOMS X 150 = 600 GPD 10% SLOPE
 @ 1 GPD/SQ FT = 600 SQ. FT.
 BED 9' X 70' = 630 SQ. FT.

UP SIDE SAND DEPTH 24"
 DOWN SIDE SAND DEPTH = 24" + (0.1 x 108") = 35"

UP SLOPE SETBACK = 24" + 22" (3)(0.77) = 106" = 8'-10"
 DOWN SLOPE SETBACK = 35" + 22" (3)(0.44) = 246" = 20'-6"
 SIDE SLOPE SETBACK = $\frac{24 + 35}{2} + 28" (3) = 172" = 14'-4"$

4 BED ROOM MOUND
 WIDTH = 9' + 8'-10" + 20'-6" = 38'-4"
 LENGTH = 70' + 14'-4" + 14'-4" = 98'-8"

3 BEDROOM MOUND
 WIDTH = 9' + 8'-10" + 20'-6" = 38'-4"
 LENGTH = 50' + 14'-4" + 14'-4" = 78'-8"

@ 6% SLOPE
 UP SIDE SAND DEPTH - 24"
 DOWN SIDE SAND DEPTH - 24" + (0.06 x 108") = 30 1/2"

UP SLOPE SETBACK = 24" + 22" (3)(0.86) = 118" = 9'-10"
 DOWN SLOPE SETBACK = 30.5 + 22 (3)(1.22) = 192" = 16'
 SIDE SLOPE SETBACK = $\frac{24 + 30.5}{2} + 28 (3) = 166" = 13'-10"$

MOUND WIDTH = 9' + 9'-10" + 16' = 34'-10"
 MOUND LENGTH = 50' + 13'-10" + 13'-10" = 76'-8"

Oswald, Hank

From: Oswald, Hank
Sent: Thursday, November 20, 2014 11:15 AM
To: 'Cary Cumberland'
Subject: RE: Perpetual Sewer Easement

Hi Cary:

To clarify, the original O & M Agreement will need to be dropped-off or mailed for signature and then recorded. This will have to be done prior to BP approval.

Please note, the septic system is designed for four bedrooms. Per your comment, the basement will remain unfinished. The floor plan shows 4 bedrooms on the second floor and 0 bedrooms on the first. Any future improvements to the basement may warrant upgrades to the septic system (if the proposed plan shows a room in the basement meeting the definition of a bedroom) under Sec. 3.801 (b) bedroom of the County Code.

Should you have any questions, please don't hesitate to ask.

Regards,

Hank

From: Cary Cumberland [<mailto:cary@vikingcustomhomes.com>]
Sent: Thursday, November 20, 2014 9:44 AM
To: Oswald, Hank
Subject: RE: Perpetual Sewer Easement

Hi Hank,

They are not finishing the basement.

I am attaching the signed Operating Agreement.

Let me know if you need anything else?

Thank you,

Cary!

From: Oswald, Hank [<mailto:hoswald@howardcountymd.gov>]
Sent: Thursday, November 20, 2014 8:31 AM
To: Cary Cumberland
Subject: RE: Perpetual Sewer Easement

Hi Cary:

I got it. Thanks. Can you tell me if the basement is finished with rec rm, office, gym and full bath?

Regards,

Hank

From: Cary Cumberland [mailto:cary@vikingcustomhomes.com]

Sent: Wednesday, November 19, 2014 8:18 PM

To: Oswald, Hank

Subject: Fwd: Perpetual Sewer Easement

Hi hank, here is the easment. Thank you

----- Forwarded message -----

From: "Anthony G. Meyers" <ameyers@clsi-civileng.com>

Date: Nov 19, 2014 3:52 PM

Subject: Perpetual Sewer Easement

To: "Cary Cumberland" <cary@vikingcustomhomes.com>

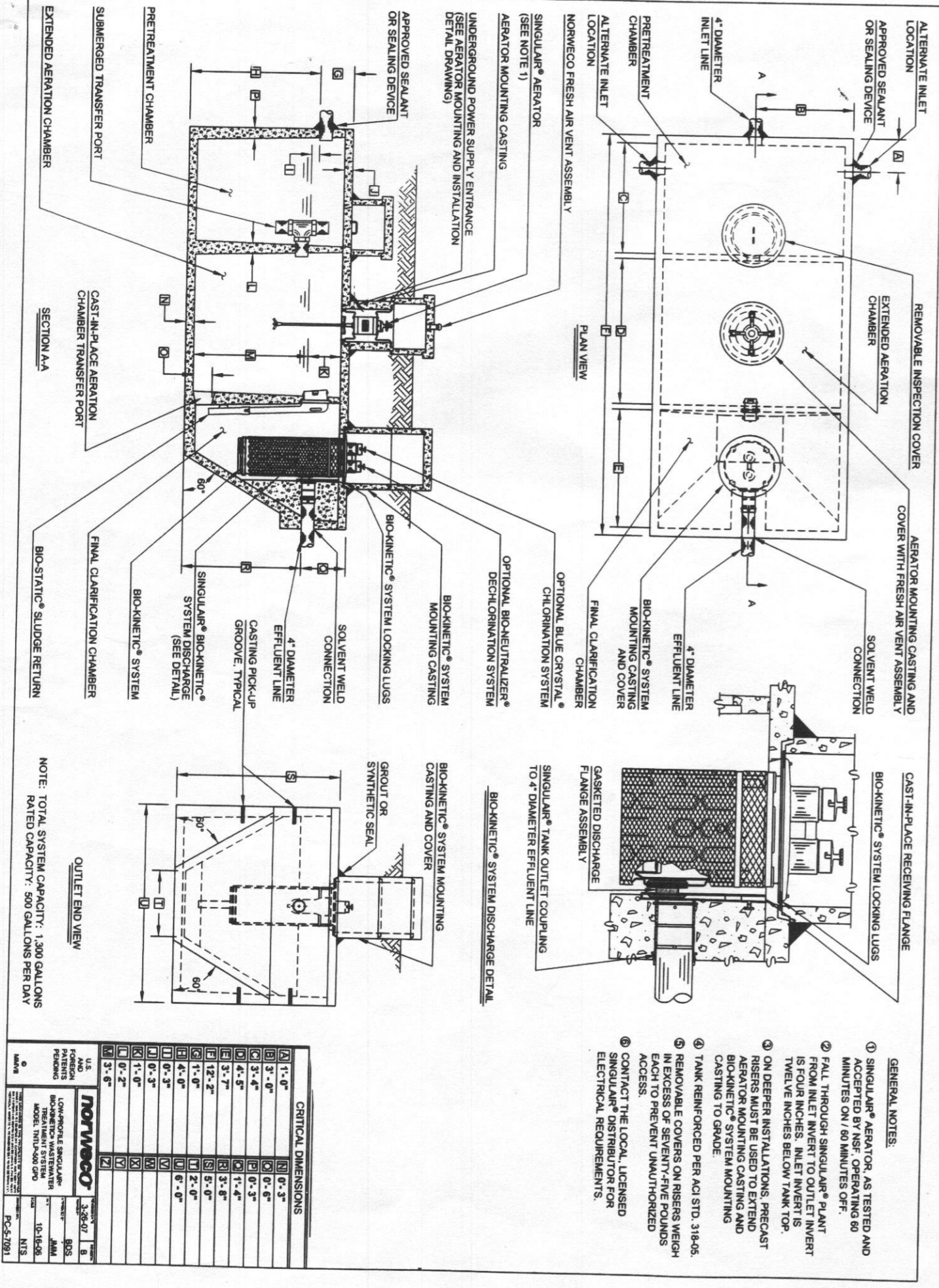
Cc:

Cary,

Here is the deed the health department is looking for. Thanks, Tony

Please consider the environment before printing this email.

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GOULDS PUMPS

Submersible Effluent Pump WE Series

PROBUREN AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS
Specifically designed for the following uses:
• Homes
• Farms
• Trailer courts
• Hotels
• Schools
• Hospitals
• Industry
• Effluent systems

SPECIFICATIONS
Pump
• Solid handling capabilities: 3" maximum.
• Discharge size: 2" NPT.
• Capacities: up to 140 GPM.
• Total heads: up to 120 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.

FEATURES
• Impeller: Cast iron, wear-resistant, non-clog with pump-out vane for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
• Casing: Cast iron vane type for maximum efficiency. 2" NPT discharge.
• Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE wearing faces. Stainless steel metal parts. Buna-N elastomers.

AGENCY LISTINGS
Approved by NSF and NSF 61 for use in food service applications.
UL listed for use in wet locations.
UL listed for use in damp locations.
UL listed for use in dry locations.

PERFORMANCE RATINGS (gallons per minute)

Order No.	115V		230V		230V		230V		230V	
	1/2 HP	3/4 HP	1 HP	1 1/2 HP	2 HP	3 HP	4 HP	5 HP	7 1/2 HP	10 HP
1750	10	15	20	25	30	35	40	45	50	55
1751	10	15	20	25	30	35	40	45	50	55
1752	10	15	20	25	30	35	40	45	50	55
1753	10	15	20	25	30	35	40	45	50	55
1754	10	15	20	25	30	35	40	45	50	55
1755	10	15	20	25	30	35	40	45	50	55
1756	10	15	20	25	30	35	40	45	50	55
1757	10	15	20	25	30	35	40	45	50	55
1758	10	15	20	25	30	35	40	45	50	55
1759	10	15	20	25	30	35	40	45	50	55
1760	10	15	20	25	30	35	40	45	50	55
1761	10	15	20	25	30	35	40	45	50	55
1762	10	15	20	25	30	35	40	45	50	55
1763	10	15	20	25	30	35	40	45	50	55
1764	10	15	20	25	30	35	40	45	50	55
1765	10	15	20	25	30	35	40	45	50	55
1766	10	15	20	25	30	35	40	45	50	55
1767	10	15	20	25	30	35	40	45	50	55
1768	10	15	20	25	30	35	40	45	50	55
1769	10	15	20	25	30	35	40	45	50	55
1770	10	15	20	25	30	35	40	45	50	55
1771	10	15	20	25	30	35	40	45	50	55
1772	10	15	20	25	30	35	40	45	50	55
1773	10	15	20	25	30	35	40	45	50	55
1774	10	15	20	25	30	35	40	45	50	55
1775	10	15	20	25	30	35	40	45	50	55
1776	10	15	20	25	30	35	40	45	50	55
1777	10	15	20	25	30	35	40	45	50	55
1778	10	15	20	25	30	35	40	45	50	55
1779	10	15	20	25	30	35	40	45	50	55
1780	10	15	20	25	30	35	40	45	50	55
1781	10	15	20	25	30	35	40	45	50	55
1782	10	15	20	25	30	35	40	45	50	55
1783	10	15	20	25	30	35	40	45	50	55
1784	10	15	20	25	30	35	40	45	50	55
1785	10	15	20	25	30	35	40	45	50	55
1786	10	15	20	25	30	35	40	45	50	55
1787	10	15	20	25	30	35	40	45	50	55
1788	10	15	20	25	30	35	40	45	50	55
1789	10	15	20	25	30	35	40	45	50	55
1790	10	15	20	25	30	35	40	45	50	55
1791	10	15	20	25	30	35	40	45	50	55
1792	10	15	20	25	30	35	40	45	50	55
1793	10	15	20	25	30	35	40	45	50	55
1794	10	15	20	25	30	35	40	45	50	55
1795	10	15	20	25	30	35	40	45	50	55
1796	10	15	20	25	30	35	40	45	50	55
1797	10	15	20	25	30	35	40	45	50	55
1798	10	15	20	25	30	35	40	45	50	55
1799	10	15	20	25	30	35	40	45	50	55
1800	10	15	20	25	30	35	40	45	50	55

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Motor
4	Motor Mount
5	Motor
6	Motor Mount
7	Power Cable
8	Casting (1/2")

WE Series

NOTE:
PUMP CHAMBER SIZE AND FLOATS BASED ON GOULDS WE SERIES SUBMERSIBLE PUMP. IF A PUMP SUBSTITUTION OCCURS, CHAMBER SIZE AND FLOATS WILL NEED TO BE RECALCULATED TO ENSURE THAT PUMP IS COVERED.

SPECIFICATIONS

- Tank measurements and elevations are based on septic tanks and pump chambers as manufactured by Meyer Bros., Elbridge, Maryland (410) 796-434 and Babler Vault Co., New Windsor, Maryland (410) 848-0999.
- All piping to be schedule 40 PVC of sizes shown.
- A submersible pump to remove 50,000 GPM against 24.74 TDH to be provided. Pump to be a Goulds Model 3885-WE-07H, or equal.
- Alarm to be located in the house on circuit separate from the pump.

1500 GAL. PUMP CHAMBER
NOT TO SCALE

BAT DETAILS
SITE PLAN FOR BAT INSTALLATION
LOT #2B & 2C
#12386 HOWARD LODGE DRIVE
NELSON PROPERTY
3RD ELECTION DISTRICT · HOWARD COUNTY, MARYLAND
DEED REFERENCE 1982/280
TAX MAP: 9 PARCEL: 306 GRID: 12

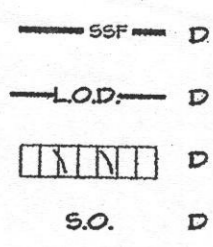
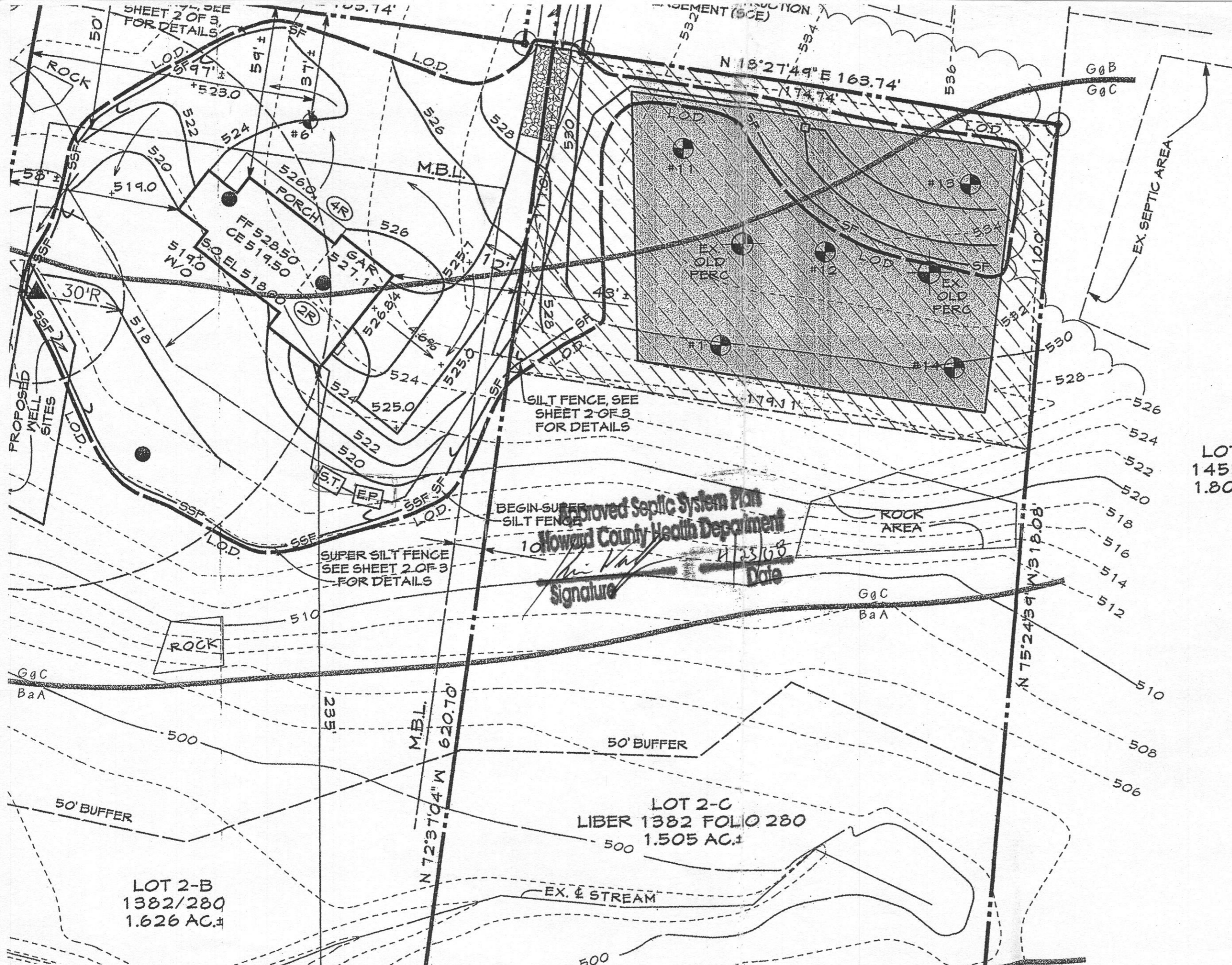
CLSI
www.clsi-civileng.com

WESTMINSTER OFFICE:
419 East Main Street
Westminster, MD 21157-5539
(410) 848-1790
FAX (410) 848-1791

DATE 4/11/14
REVISIONS

Surveyed By: CLSI
Checked By: LDA
Drawing No: 2006168
City/Plot No: 2 OF 2

GoULds Pumps
ITT Industries



GENERAL NOTES

1. THE PROPERTY WIDTH AND LOCATION OF THE ENVIRONMENTAL RESERVE AREA SHALL BE AS SHOWN ON THIS PLAN.
2. THERE ARE NO OTHER REGULATIONS OF THIS PROPERTY THAT CONTRADICT THE ABOVE REGULATIONS.
3. THE EXISTING PERMITS AND REGULATIONS SHALL BE MAINTAINED.
4. THE EXISTING PERMITS AND REGULATIONS SHALL BE MAINTAINED.
5. ALL EXISTING PERMITS AND REGULATIONS SHALL BE MAINTAINED.
6. ANY CHANGES TO THE PERMITS AND REGULATIONS SHALL BE REVISITED PRIOR TO ISSUANCE OF A PERMIT.
7. THE PERPETUAL ENVIRONMENTAL RESERVE AREA SHALL BE MAINTAINED PRIOR TO ISSUANCE OF A PERMIT.
8. THE PROPOSED SEWAGE RESERVE AREA SHALL NOT BE NECESSARILY MAINTAINED.

LOT 1-C
1453/194
1.806 AC.±

Approved Septic System Plan
Howard County Health Department

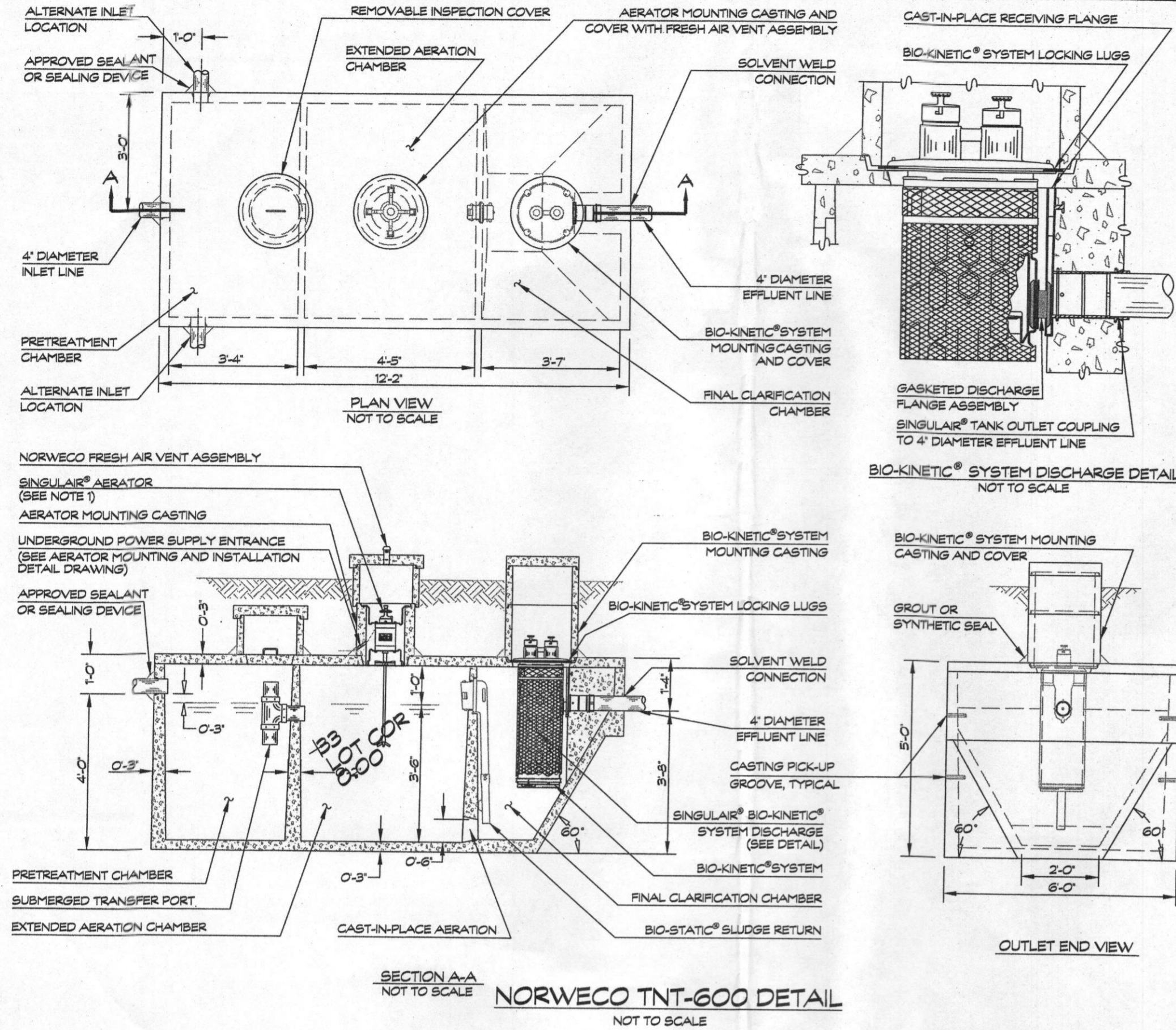
[Signature]
Date 4/23/08

OWNER
GREGORY S. & ELIZABETH ANN NI
12490 HOWARD LODGE DR
SYKESVILLE, MD 21784-54

THIS AREA DESIGNATED AS A 10,000 SQUARE FOOT ENVIRONMENTAL RESERVE AREA SHALL HAVE THE AUTHORITY TO RESERVE AND SHALL NOT BE NECESSARILY MAINTAINED.

LOT 2-B
1382/280
1.626 AC.±

LOT 2-C
LIBER 1382 FOLIO 280
1.505 AC.±



SECTION A-A NOT TO SCALE
NORWECO TNT-600 DETAIL
NOT TO SCALE

SEPTIC TANK 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.

GOULDS PUMPS



Submersible Effluent Pump
MODEL 3885
WE Series

PROURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

- Solids handling capabilities: 1/2" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 120 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.

FEATURES

- Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.
- Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, BUNA-N elastomers.

- Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

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

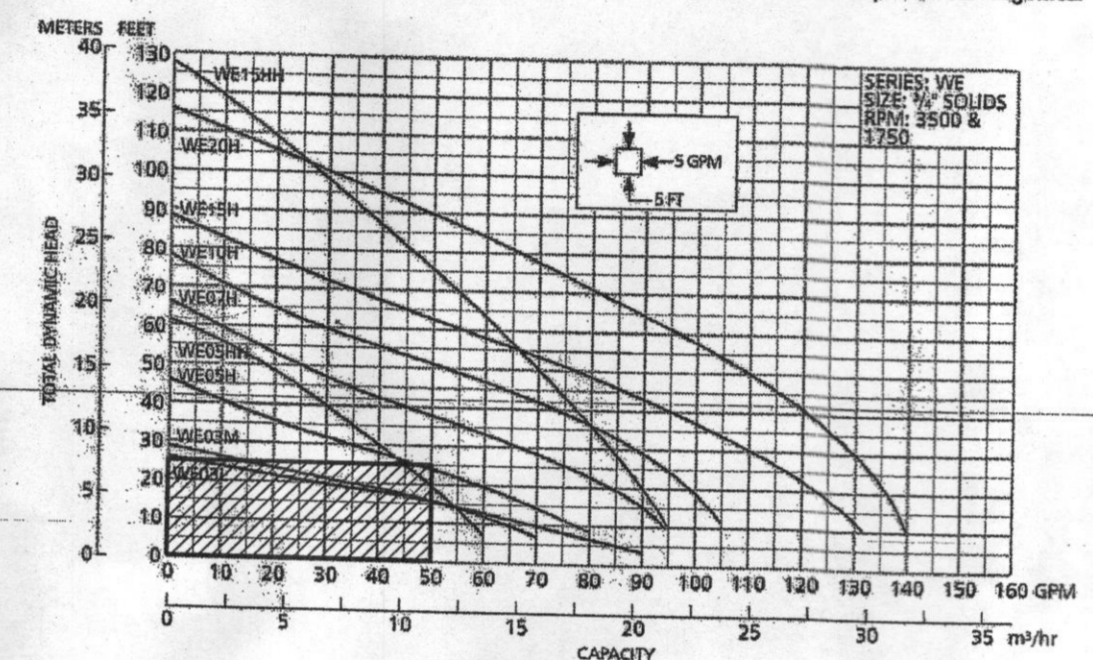
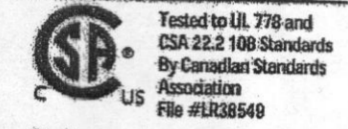
Three phase (60 Hz):

- 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 wicking. Standard cord is 20'. Optional lengths are available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

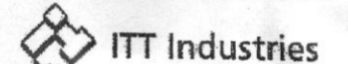
AGENCY LISTINGS



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Effective July, 2003
85865

www.goulds.com

Goulds Pumps



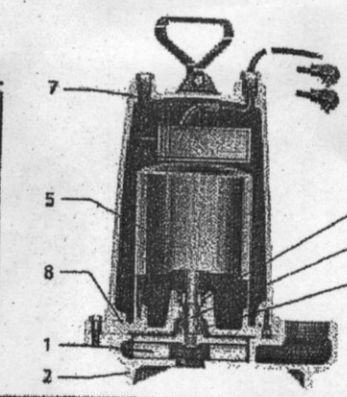
GOULDS PUMPS

Submersible Effluent Pump
MODEL 3885

WE Series

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



MODELS

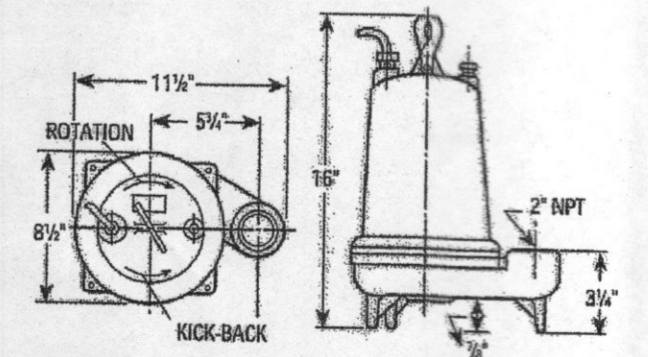
Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	WC (lbs.)
WE031L	1/2	115		10.7			
WE031R	1/2	208		6.8			
WE032L	1/2	230		4.9		1750	56
WE032R	1/2	208		6.8			
WE033M	1/2	230		4.9			
WE033H	1/2	115		14.5			
WE034H	1/2	208		5.1			
WE035H	1/2	230		7.3			
WE036H	1/2	200		4.9			
WE037H	1/2	230		3.3			
WE038H	1/2	460	3	3.7			
WE039H	1/2	575		1.4			
WE040H	1/2	115		14.5			60
WE041H	1/2	208	1	8.1			
WE042H	1/2	230		7.3			
WE043H	1/2	200		4.9			
WE044H	1/2	230		3.6			
WE045H	1/2	460	3	1.8			
WE046H	1/2	575		1.5			
WE047H	1/2	208	1	11.0			
WE048H	1/2	230		10.0			
WE049H	1/2	200		6.2			
WE050H	1/2	230		5.4			
WE051H	1/2	460	3	2.7			
WE052H	1/2	575		2.2			
WE053H	1/2	208	1	14.0			
WE054H	1/2	230		12.5		3500	
WE055H	1/2	200		8.1			
WE056H	1	230		7.0			
WE057H	1	460	3	3.5			
WE058H	1	575		2.8			
WE059H	1	230		15.7			
WE060H	1	200		10.0			
WE061H	1	230		9.2			
WE062H	1	460	3	4.8			
WE063H	1	575		3.7			
WE064H	1 1/2	208		17.5			80
WE065H	1 1/2	230		15.7			
WE066H	1 1/2	200		10.6			
WE067H	1 1/2	230		9.2			
WE068H	1 1/2	460	3	4.8			
WE069H	1 1/2	575		3.7			
WE070H	1 1/2	208		17.5			
WE071H	1 1/2	230		15.7			
WE072H	1 1/2	200		10.6			
WE073H	1 1/2	230		9.2			
WE074H	1 1/2	460	3	4.8			
WE075H	1 1/2	575		3.7			
WE076H	1 1/2	208		17.5			
WE077H	1 1/2	230		15.7			
WE078H	1 1/2	200		10.6			
WE079H	1 1/2	230		9.2			
WE080H	1 1/2	460	3	4.8			
WE081H	1 1/2	575		3.7			
WE082H	2	230		18.0			83
WE083H	2	200		12.0			
WE084H	2	230		11.6			
WE085H	2	460	3	5.8			
WE086H	2	575		4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.	HP	Total Head (feet of water)													
		WE031	WE032	WE033	WE034	WE035	WE036	WE037	WE038	WE039	WE040	WE041	WE042	WE043	WE044
1	1/2	1750	1750	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
10	1/2	70	63	78	-	-	-	-	58	-	-	-	-	-	-
15	1/2	52	50	70	60	-	-	-	53	-	-	-	-	-	-
20	1/2	35	35	60	63	88	123	49	90	136	-	-	-	-	-
25	1/2	-	-	48	78	94	110	45	87	133	-	-	-	-	-
30	1/2	-	-	35	67	88	110	40	83	130	-	-	-	-	-
35	1/2	-	-	20	57	82	103	35	80	126	-	-	-	-	-
40	1/2	-	-	-	45	74	95	30	77	121	-	-	-	-	-
45	1/2	-	-	-	35	64	86	25	74	116	-	-	-	-	-
50	1/2	-	-	-	25	53	77	-	69	110	-	-	-	-	-
55	1/2	-	-	-	-	40	67	-	58	103	-	-	-	-	-
60	1/2	-	-	-	-	30	56	-	48	96	-	-	-	-	-
65	1/2	-	-	-	-	20	45	-	38	89	-	-	-	-	-
70	1/2	-	-	-	-	-	35	-	28	81	-	-	-	-	-
75	1/2	-	-	-	-	-	25	-	18	74	-	-	-	-	-
80	1/2	-	-	-	-	-	15	-	8	66	-	-	-	-	-
85	1/2	-	-	-	-	-	5	-	-	58	-	-	-	-	-
90	1/2	-	-	-	-	-	-	-	-	50	-	-	-	-	-
100	1/2	-	-	-	-	-	-	-	-	30	-	-	-	-	-

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)

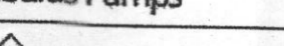


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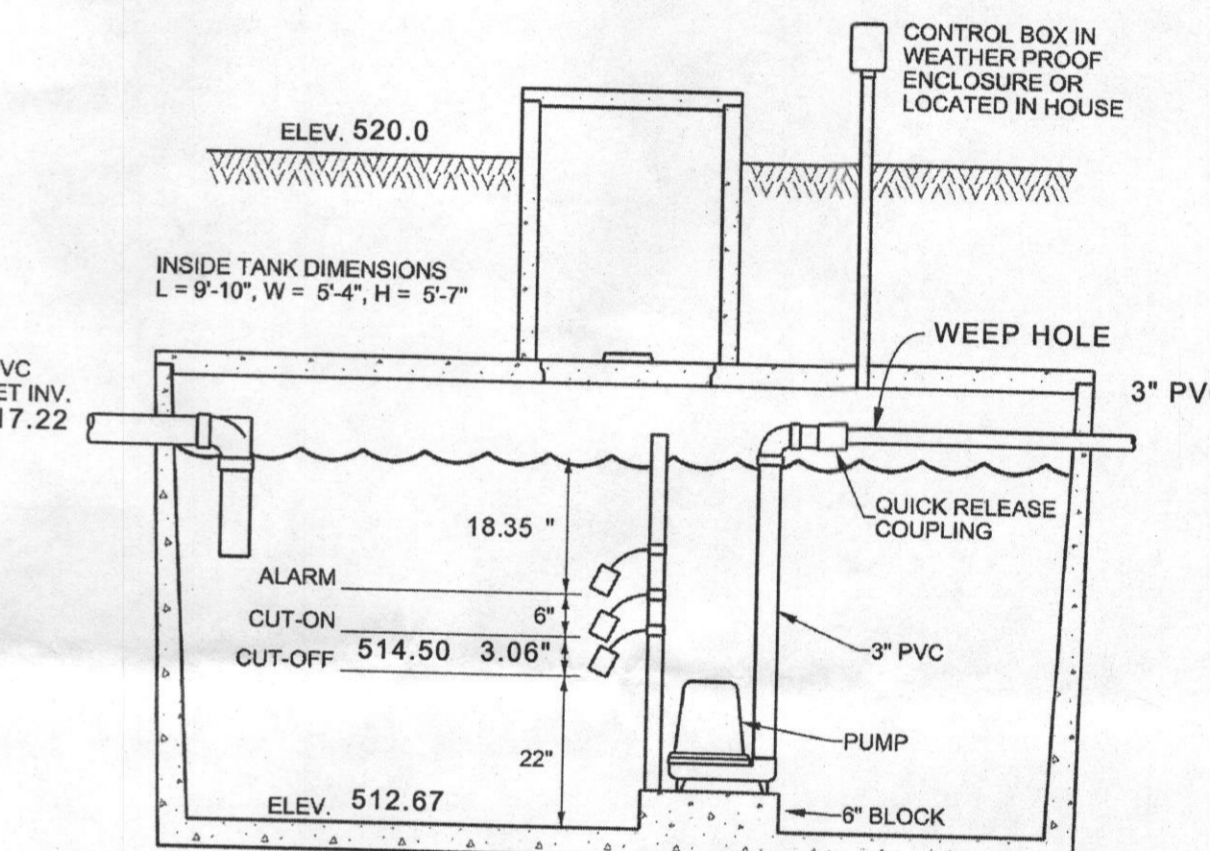
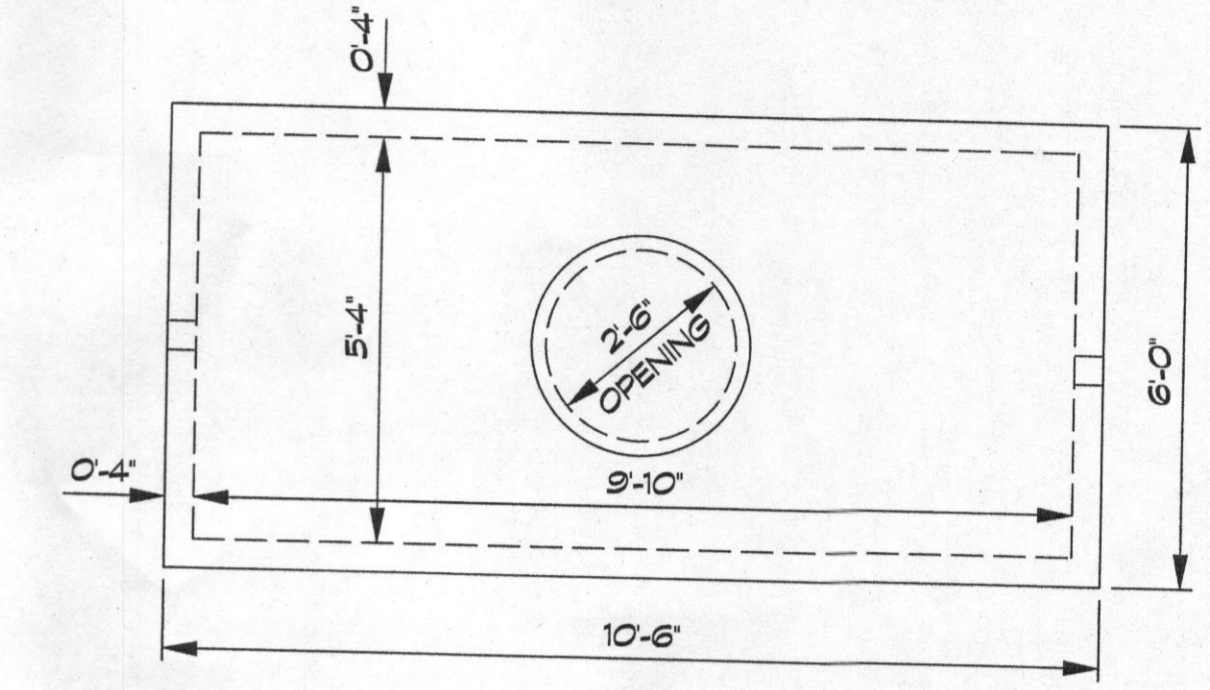
Goulds Pumps



NOTE:
PUMP CHAMBER SIZE AND FLOATS BASED ON GOULDS WE SERIES SUBMERSIBLE PUMP. IF A PUMP SUBSTITUTION OCCURS, CHAMBER SIZE AND FLOATS WILL NEED TO BE RECALCULATED TO ENSURE THAT PUMP IS COVERED.

SPECIFICATIONS

- > Tank measurements and elevations are based on septic tanks and pump chambers as manufactured by Mayer Bros., Elkridge, Maryland (410) 798-1434 and Babylon Vault Co, New Windsor, Maryland (410) 848-0393
- > All piping to be schedule 40 PVC of sizes shown.
- > A submersible pump to remove 50,00 GPM against 22.56 TDH to be provided. Pump to be a Goulds Model 3885-WE-07H, or equal.
- > Alarm to be located in the house on circuit separate from the pump.



1500 GAL. PUMP CHAMBER
NOT TO SCALE

BAT DETAILS
SITE PLAN FOR BAT INSTALLATION
LOT #2B & 2C
#12386 HOWARD LODGE DRIVE
NELSON PROPERTY
3RD ELECTION DISTRICT * HOWARD COUNTY, MARYLAND
DEED REFERENCE 1382/280
TAX MAP: 9 PARCEL: 306 GRID: 12

DATE	REVISIONS
8/11/14	remove eocopy and add Norweco

WESTMINSTER OFFICE:
433 East Main Street
Westminster, MD 21157-5339
(410) 848-1790
FAX (410) 848-1791

Linda D. Alexander
Qualified Professional
Date: 8/11/14
Drawing No: 2006166
County File No: 2 OF 2

L.O.D. - DENOTES LIMIT OF DISTURBANCE TOTAL AREA = 29,490 S.F.

BAT SITE PLAN 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.
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4. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
5. 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.
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9. THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURER'S SPECIFICATIONS.

NOTE: THERE IS NO EXISTING SEPTIC RESERVE EASEMENT AREA LOCATED ON THIS LOT.

LOT 3-C
LIBER 3811/19
1.535 AC.±

HOUSE DETAIL
SCALE: 1" = 20'

PLAN
SCALE: 1" = 30'

CAD Drawing File Name: 6:2006/2006.166/SURVEY/REV2_SITE_PLAN_04-10-14.DGN

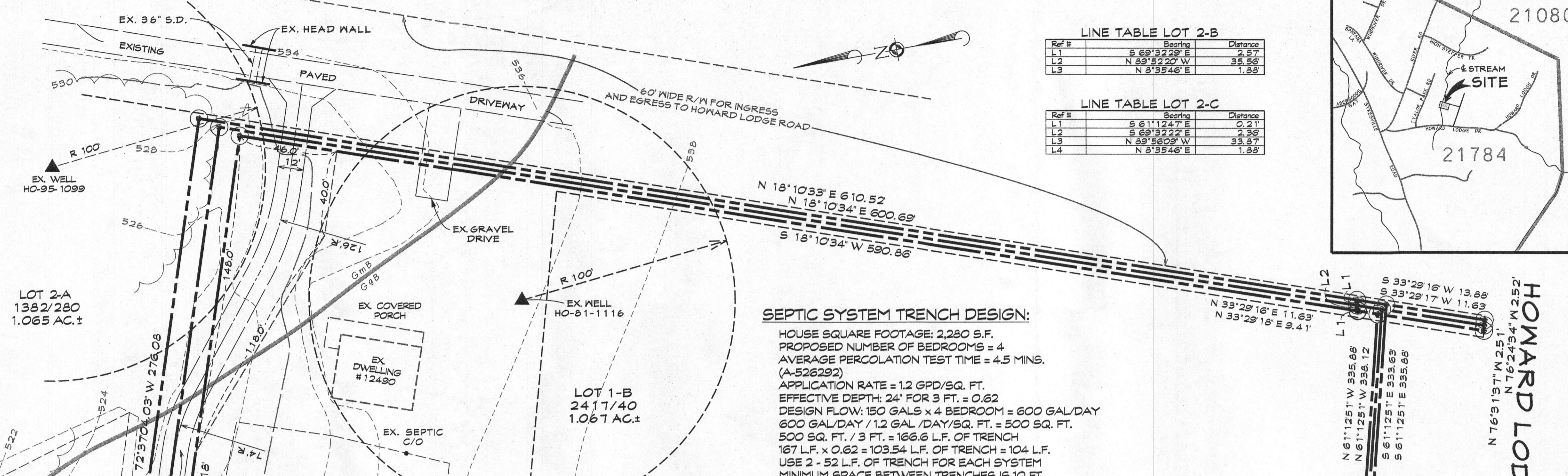
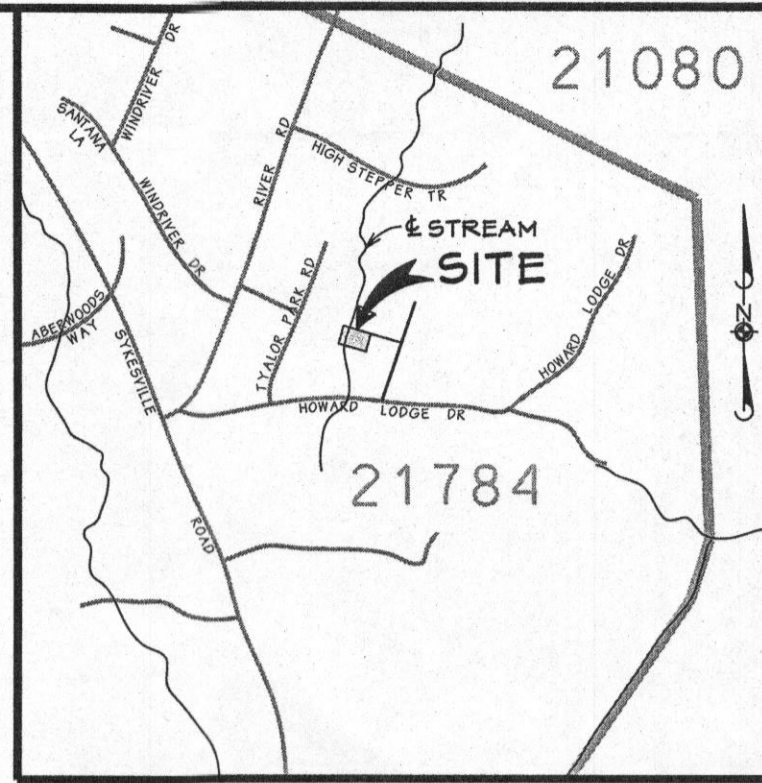
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LINE TABLE LOT 2-B

Ref #	Bearing	Distance
L1	S 69°32'29" E	2.37
L2	N 89°52'20" W	35.56
L3	N 8°35'46" E	1.88

LINE TABLE LOT 2-C

Ref #	Bearing	Distance
L1	S 61°12'47" E	2.31
L2	S 69°32'22" E	2.36
L3	N 89°56'09" W	33.67
L4	N 8°35'46" E	1.88



SEPTIC SYSTEM TRENCH DESIGN:

HOUSE SQUARE FOOTAGE: 2,280 S.F.
 PROPOSED NUMBER OF BEDROOMS = 4
 AVERAGE PERCOLATION TEST TIME = 4.5 MINS.
 (A-526292)
 APPLICATION RATE = 1.2 GPD/SQ. FT.
 EFFECTIVE DEPTH: 24" FOR 3 FT. = 0.62
 DESIGN FLOW: 150 GALS x 4 BEDROOM = 600 GAL/DAY
 600 GAL/DAY / 1.2 GAL./DAY/SQ. FT. = 500 SQ. FT.
 500 SQ. FT. / 3 FT. = 166.6 L.F. OF TRENCH
 167 L.F. x 0.62 = 103.54 L.F. OF TRENCH = 104 L.F.
 USE 2 - 52 L.F. OF TRENCH FOR EACH SYSTEM
 MINIMUM SPACE BETWEEN TRENCHES IS 10 FT.

PUMP SYSTEM:

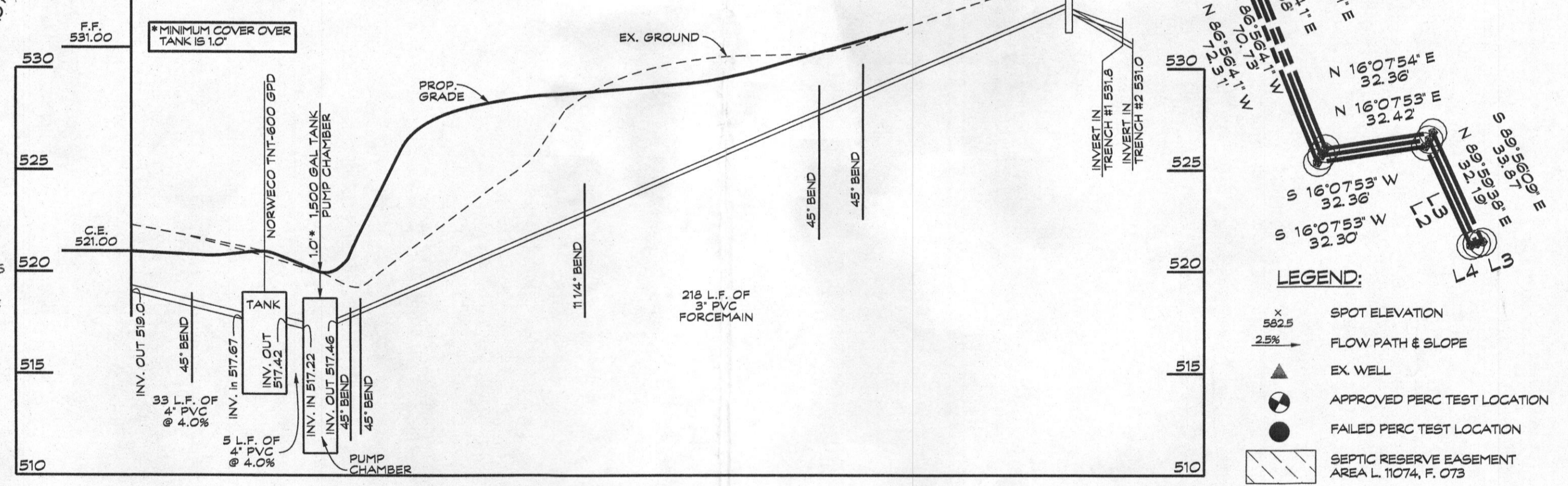
1. 1/6 DESIGN FLOW = 100 GAL MINIMUM DOSE
2. MINIMUM DOSE CALCULATION:
218 x 38.4 / 100 = 83.71 GALS.
3. DOSE VOLUME: USE 100 GALS. DOSE
4. PUMP CHAMBER CAPACITY = 600 GPD
DOSE = 100 GPD
TOTAL STORAGE = 700 GPD
5. PUMP ON TO PUMP OFF:
t = 100 x 231 / 7552 = 3.06'
6. HIGH WATER ALARM SWITCH TO PUMP CHAMBER
r = 600 x 231 / 7552 = 18.35'

PUMP DESIGN:

1. DESIGN FLOW: 600 GPD
2. DESIGN HEAD:
STATIC HEAD = 531.80 - 512.67 = 19.13
OPERATING HEAD = 2
FRICTION HEAD =
218 L.F. OF 3" PVC = 218
4 - 45° BENDS = 4 x 6 = 24
1 - 11 1/4" BEND = 1 x 6 = 6
248 x 0.58 / 100 = 1.43
TOTAL HEAD = 19.13 + 2 + 1.43 = 22.56 @ 50 GPM

TRENCH CHART

TRENCH	EX. GROUND	INV. ELEV.	BOTTOM OF TRENCH
1	534.8	531.8	529.8
2	534.0	531.0	529.0



SEPTIC LINE PROFILE

LOT 1-C
1453/194
1.806 AC.±

GENERAL NOTES

1. THE STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED THRU ROOF LEADER OVERLAND FLOW DISCONNECT.
2. ALL EXISTING TOPO ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON A FIELD RUN SURVEY PREPARED BY CLSI AND ALSO HOWARD COUNTY '2004' TOPOGRAPHY MAP #255. THE HORIZONTAL DATUM IS THE MARYLAND COORDINATE SYSTEM NAD 1983 AND VERTICAL DATUM IS BASED ON NAVD 1988.
3. THE PERC TESTS AND SEPTIC AREA SHOWN HEREON ARE FROM THE APPROVED PERCOLATION CERTIFICATION PLAN DATED OCTOBER 2, 2007 SIGNED BY HOWARD COUNTY HEALTH DEPARTMENT OCTOBER 18, 2007.
4. THE EXISTING WELL HAS BEEN FIELD LOCATED.
5. THE PERPETUAL EASEMENT ON LOT 2C ALLOWS ACCESS TO AN OFF-SITE SEPTIC RESERVE AREA WHICH IS TO SERVE A RESIDENCE TO BE BUILT ON LOT 2B. THIS EASEMENT IS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY IN LIBER 11074, FOLIO 073.

SITE PLAN FOR BAT INSTALLATION
 LOT #2B & 2C
 #12386 HOWARD LODGE DRIVE
NELSON PROPERTY
 3RD ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 DEED REFERENCE 1382/280
 TAX MAP: 9 PARCEL: 306 GRID: 12



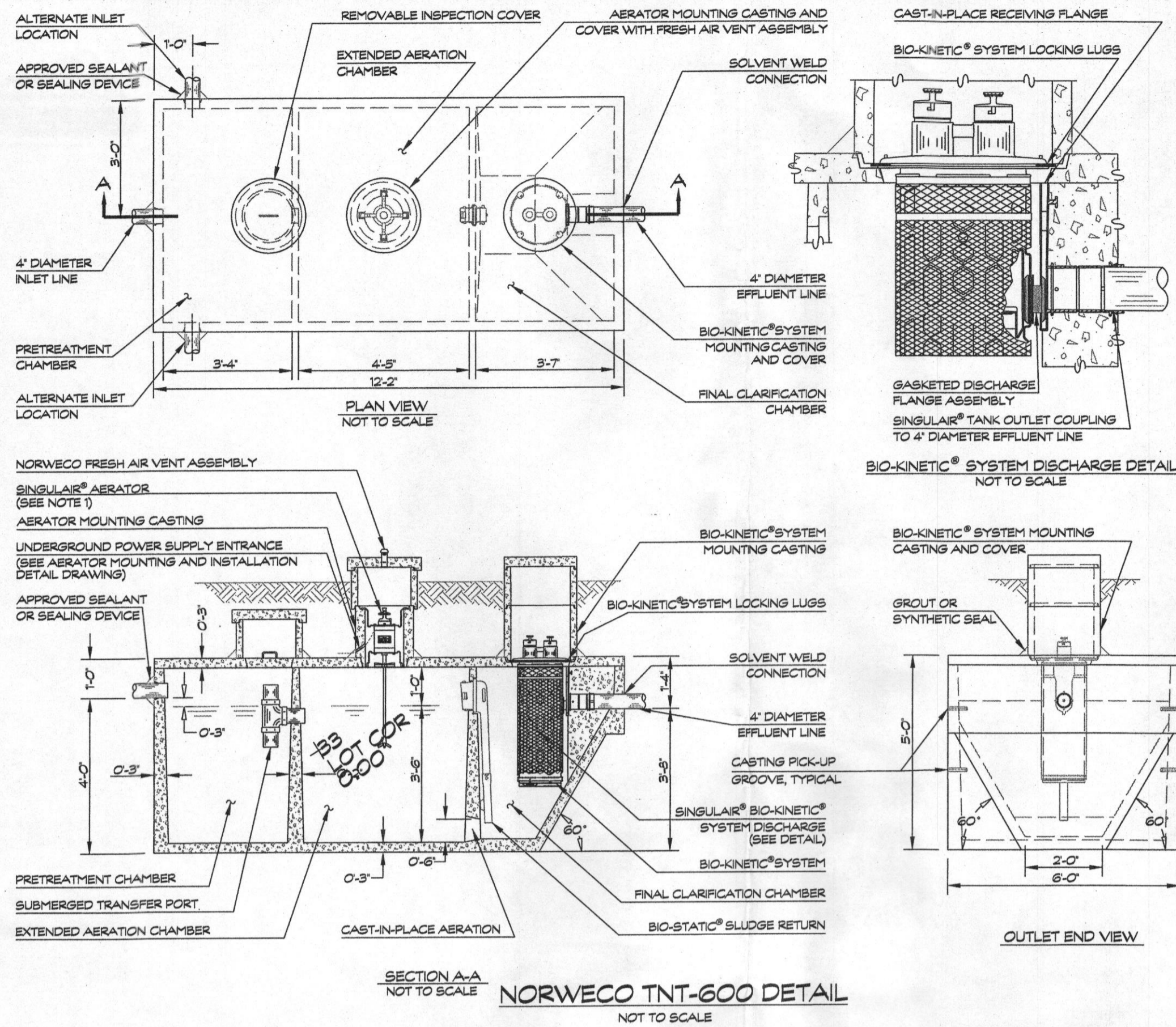
OWNER
 GREGORY S. & ELIZABETH ANN NELSON
 12490 HOWARD LODGE DRIVE
 SYKESVILLE, MD 21784-5420

WESTMINSTER OFFICE:
 439 East Main Street
 Westminster, MD 21157-5339
 (410) 848-1790
 FAX (410) 848-1791

Surveyed By:	CLSI	Drawn By:	BM
Computed By:	CLSI	Checked By:	LDA

Date: 9/11/14
 Drawing No: 2006.166
 Sheet: 1 OF 2

Linda D. Alexander
 8-13-15
 Linda D. Alexander
 Qualified Professional



SEPTIC TANK 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.

GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

- Specifically designed for the following uses:
- Homes
 - Farms
 - Trailer courts
 - Hotels
 - Schools
 - Hospitals
 - Industry
 - Effluent systems

SPECIFICATIONS

- Pump**
- Solids handling capabilities: 1/4" 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.

FEATURES

- Impeller: Cast iron, semi-open, non-slag with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.
- Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, BUNA-N elastomers.

- Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2-1/2 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.
 - SLOW or STOW severe duty oil and water resistant power cords.
 - 1/2 and 3/4 HP models have NEMA three prong grounding plugs.
 - 3/4 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.

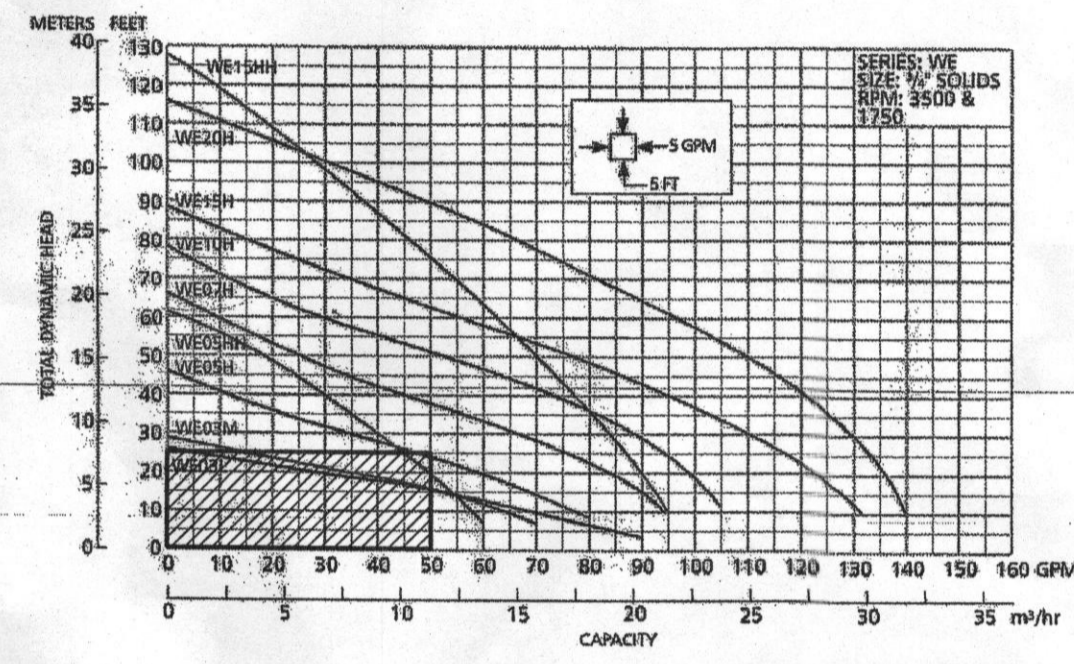
DESIGNED FOR CONTINUOUS OPERATION:

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 wicking. Standard cord is 20'. Optional lengths are available.
- O-Ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 100 Standards By Canadian Standards Association File #1038464
Goulds Pumps is ISO 9001 Registered.



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www.goulds.com

Goulds Pumps
ITT Industries

GOULDS PUMPS

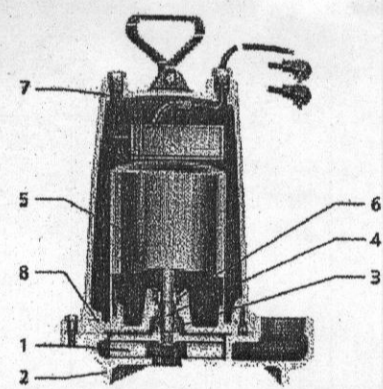
Submersible Effluent Pump

MODEL 3885

WE Series

COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



MODELS

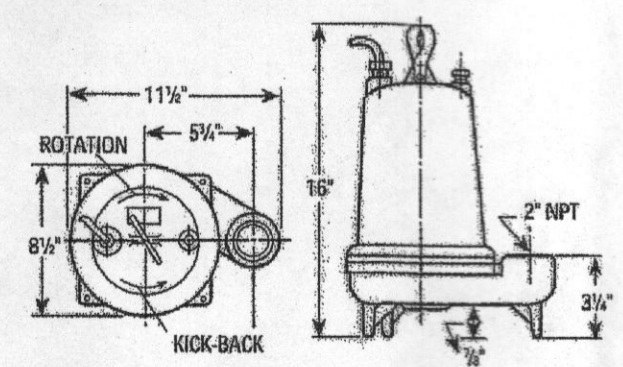
Order No.	HP	Volts	Phase	Min. Amp.	RPM	Solids	Wt. (lbs.)
WE031L	115			10.7			
WE031L	208			6.8			
WE031L	230			4.9			
WE031M	115			10.7	1750		66
WE031M	208			8.8			
WE031M	230			4.9			
WE031H	115			14.5			
WE031H	208			8.1			
WE031H	230			7.3			
WE032H	200			4.9			
WE032H	230			3.3			
WE033H	480			1.7			
WE037H	575			1.4			
WE037H	115			14.5			
WE037H	208			8.1			
WE037H	230			7.3			
WE038H	200			4.9			
WE038H	230			3.6			
WE034H	460			1.8			
WE037H	575			1.5			
WE071H	208			11.0			
WE071H	230			10.0			
WE073H	200			6.2			
WE073H	230			5.4			
WE073H	480			2.7			
WE073H	575			2.2			
WE101H	208			14.0			
WE101H	230			12.5	3500		
WE103H	200			8.1			
WE103H	230			7.0			
WE103H	460			3.5			
WE103H	575			2.8			
WE151H	208			17.5			
WE151H	230			15.7			
WE153H	200			10.6			
WE153H	230			9.2			
WE153H	460			4.6			
WE153H	575			3.7			
WE151H	208			17.5			
WE151H	230			15.7			
WE153H	200			10.6			
WE153H	230			9.2			
WE153H	460			4.6			
WE153H	575			3.7			
WE207H	230			18.0			
WE207H	200			12.0			
WE207H	230			11.6			
WE203H	460			5.8			
WE203H	575			4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.	GPM													
	WE03L	WE03M	WE03H	WE07H	WE10H	WE15H	WE15H	WE15H	WE15H	WE15H	WE15H	WE15H	WE15H	WE15H
HP	1/2	1/2	1/2	1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Feet of Water	5	68	-	-	-	-	-	-	-	-	-	-	-	-
10	70	63	78	-	-	-	-	-	-	-	-	-	-	-
15	52	50	70	90	-	-	-	-	-	-	-	-	-	-
20	27	35	60	83	98	123	49	90	136	-	-	-	-	-
25	-	-	48	76	94	117	45	87	133	-	-	-	-	-
30	-	-	35	67	88	110	40	83	130	-	-	-	-	-
35	-	-	20	57	82	103	36	80	126	-	-	-	-	-
40	-	-	-	45	74	95	30	77	121	-	-	-	-	-
45	-	-	-	35	64	86	25	74	116	-	-	-	-	-
50	-	-	-	25	53	77	-	70	110	-	-	-	-	-
55	-	-	-	25	40	67	-	66	103	-	-	-	-	-
60	-	-	-	30	36	63	96	63	96	-	-	-	-	-
65	-	-	-	20	45	58	88	58	88	-	-	-	-	-
70	-	-	-	35	55	61	81	55	81	-	-	-	-	-
75	-	-	-	25	51	74	74	51	74	-	-	-	-	-
80	-	-	-	25	47	66	66	47	66	-	-	-	-	-
90	-	-	-	-	37	49	49	37	49	-	-	-	-	-
100	-	-	-	-	28	30	30	28	30	-	-	-	-	-

DIMENSIONS

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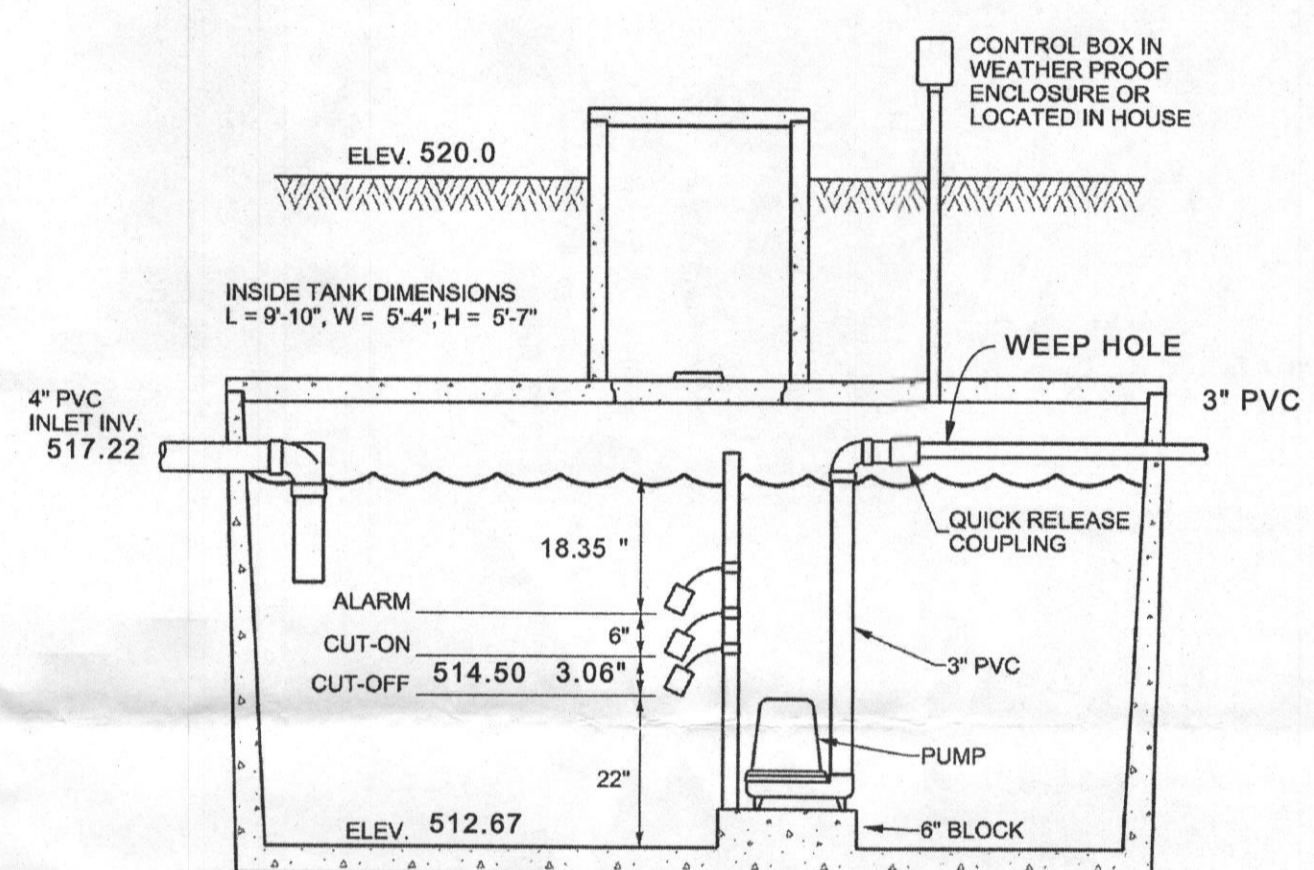
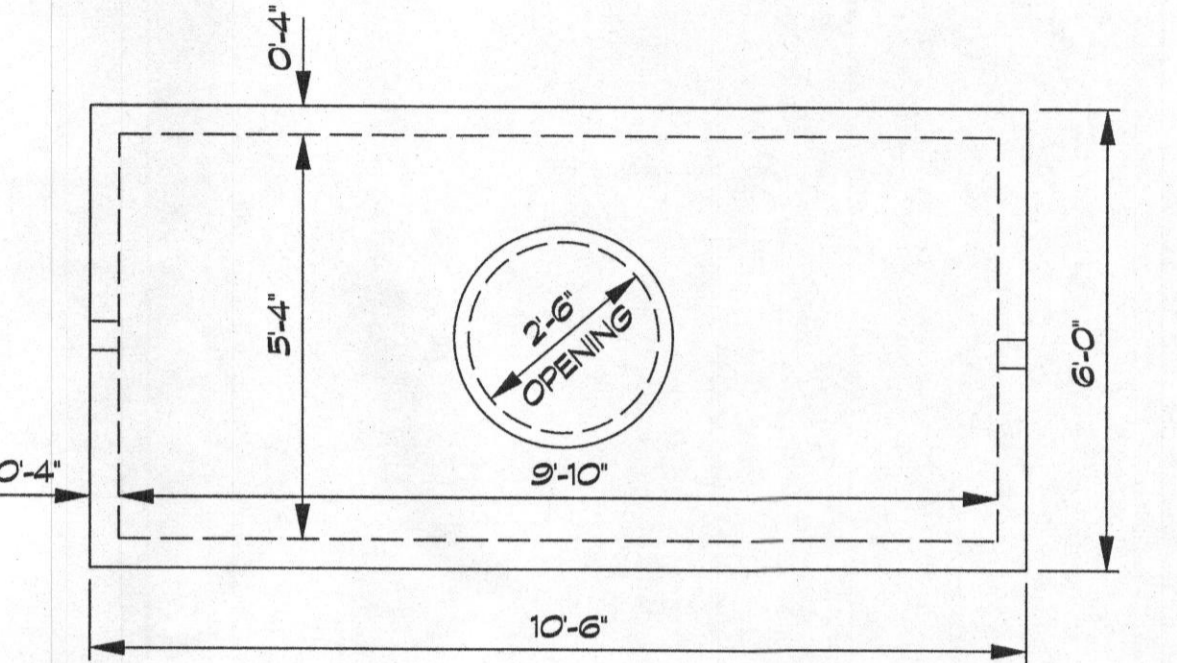
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Goulds Pumps
ITT Industries

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TAX MAP: 9 PARCEL: 306 GRID: 12

DATE	REVISIONS
8/11/15	remove escrow and add Norweco

www.clsi-civileng.com

WESTMINSTER OFFICE:
139 East Main Street
Westminster, MD 21157-5539
(410) 848-1790
FAX (410) 848-1791

Linda D. Alexander
Qualified Professional
Date: 8/11/15

Surveyed By: CLS	Drawn By: BM	Drawing No: 2006166
Computed By:	Checked By: LDA	County File No: 2 OF 2

L.O.D. - DENOTES LIMIT OF DISTURBANCE TOTAL AREA = 29,490 S.F.

BAT SITE PLAN NOTES

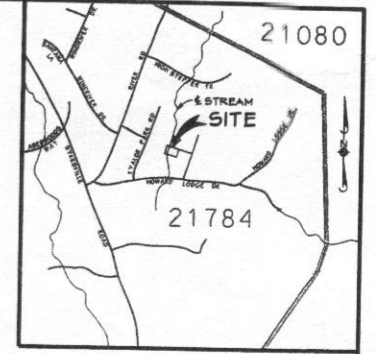
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LINE TABLE LOT 2-B

Ref #	Bearing	Distance
L1	S 61°12'27"E	2.57
L2	N 69°32'22"E	38.88
L3	N 8°52'46"E	1.68

LINE TABLE LOT 2-C

Ref #	Bearing	Distance
L1	S 61°12'27"E	2.57
L2	N 69°32'22"E	38.88
L3	N 8°52'46"E	1.68



SEPTIC SYSTEM TRENCH DESIGN:

HOUSE SQUARE FOOTAGE: 2,280 S.F.
 PROPOSED NUMBER OF BEDROOMS: 4
 AVERAGE PERCOLATION TEST TIME = 4.5 MINS. (A-526292)
 APPLICATION RATE = 12 GPD/SQ. FT.
 EFFECTIVE DEPTH: 24" FOR 3 FT. = 0.62
 DESIGN FLOW: 150 GALS x 4 BEDROOM = 600 GAL/DAY
 600 GAL/DAY / 12 GAL/DAY/SQ. FT. = 500 SQ. FT.
 500 SQ. FT. / 3 FT. = 166.6 L.F. OF TRENCH = 104 L.F.
 USE 2 - 52 L.F. OF TRENCH FOR EACH SYSTEM
 MINIMUM SPACE BETWEEN TRENCHES IS 10 FT.

PUMP SYSTEM:

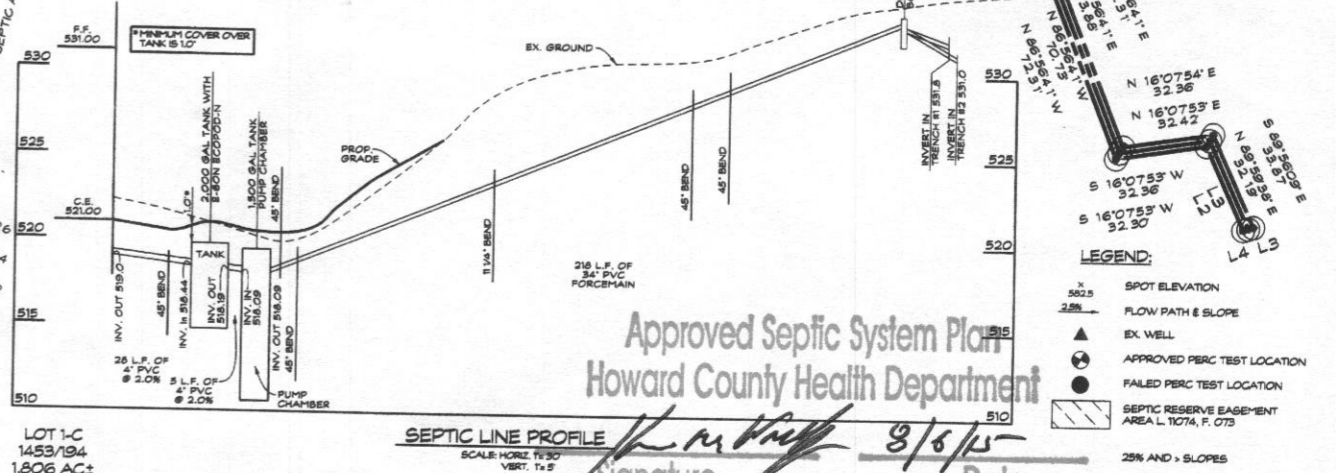
1. 1/6 DESIGN FLOW = 100 GAL MINIMUM DOSE
2. MINIMUM DOSE CALCULATION:
216 L.F. OF 3" DIA. FORCEMAIN
216 x 38.4 / 100 = 83.71 GALS.
3. DOSE VOLUME: USE 100 GALS. DOSE
DOSE = 100 GPD
TOTAL STORAGE = 700 GPD
5. PUMP ON TO PUMP OFF:
d = 100 x 231 / 7552 = 3.06
6. HIGH WATER ALARM SWITCH TO PUMP CHAMBER
r = 600 x 231 / 7552 = 18.35'

PUMP DESIGN:

1. DESIGN FLOW: 600 GPD
2. DESIGN HEAD:
STATIC HEAD = 531.80 - 510.49 = 21.31
OPERATING HEAD = 2
FRICTION HEAD =
216 L.F. OF 3" PVC = 216
4 - 45° BENDS = 4 x 6 = 24
1 - 1 1/4" BEND = 1 x 6 = 6
248 x 0.58 / 100 = 1.43
TOTAL HEAD = 21.31 + 2 + 1.43 = 24.74' @ 50 GPM

TRENCH CHART

TRENCH	EX. GROUND	INV. ELEV.	BOTTOM OF TRENCH
1	534.8	531.8	529.8
2	534.0	531.0	529.0



GENERAL NOTES

1. THE STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED THRU ROOF LEADER OVERLAND FLOW DISCONNECT.
2. ALL EXISTING TOPO ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON A FIELD RUN SURVEY PREPARED BY CLSI AND ALSO HOWARD COUNTY 2004 TOPOGRAPHY MAP #255. THE HORIZONTAL DATUM IS THE MARYLAND COORDINATE SYSTEM NAD 1983 AND VERTICAL DATUM IS BASED ON NAVD 1988.
3. THE PERC TESTS AND SEPTIC AREA SHOWN HEREON ARE FROM THE APPROVED PERCOLATION CERTIFICATION PLAN DATED OCTOBER 2, 2007 SIGNED BY HOWARD COUNTY HEALTH DEPARTMENT OCTOBER 18, 2007.
4. THE EXISTING WELL HAS BEEN FIELD LOCATED.
5. THE PERPETUAL EASEMENT ON LOT 2C ALLOWS ACCESS TO AN OFF-SITE SEPTIC RESERVE AREA WHICH IS TO SERVE A RESIDENCE TO BE BUILT ON LOT 2B. THIS EASEMENT IS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY IN LIBER 11074, FOLIO 073.

OWNER

GREGORY S. & ELIZABETH ANN NELSON
 12490 HOWARD LODGE DRIVE
 SYKESVILLE, MD 21784-5420



WESTMINSTER OFFICE:
 439 East Main Street
 Westminster, MD 21157-5539
 (410) 548-1790
 FAX (410) 848-1791

Surveyed By	CLSI	Drawn By	BM
Compiled By	CLSI	Checked By	LPA

Drawing No. 2006166
 Sheet: 1 OF 2

SITE PLAN FOR BAT INSTALLATION
 LOT #2B & 2C
 #12386 HOWARD LODGE DRIVE
NELSON PROPERTY
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DEED REFERENCE 1382/280
 TAX MAP: 9 PARCEL: 306 GRID: 12

Approved Septic System Plan
 Howard County Health Department
 Signature: [Signature] Date: 8/6/15

1" = 60'

CAD Drawing File Name: 6-2006-2006166/SURVEY/BAT PLAN/012B&2C BAT_20140911.DWG-Default



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