

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

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

RECEIPT DATE: 6-19-14

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 554513-A

INSTALLATION APPROVAL DATE: \_\_\_\_\_

**PERMIT  
CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 6810 Owings Overlook

SUBDIVISION: Owings Property LOT: 23 TAX ID: \_\_\_\_\_

CONTRACTOR: Fogle's Septic Clean Inc. EMAIL: kurt@foglesinc.com

CONTRACTOR ADDRESS: 580 Obrecht Road, Sykesville, MD 21784 PHONE: 410-795-5670

PROPERTY OWNER: \_\_\_\_\_ EMAIL: \_\_\_\_\_

OWNER ADDRESS: Steuart -Kret Homes PHONE: 410-312-5163

7090 Samuel Morse Drive, Columbia, MD 21046

BAT UNIT MODEL: Orenco AX20RT PVA 1005 BAT UNIT SIZE: \_\_\_\_\_

PUMP CHAMBER CAPACITY (GALLONS): \_\_\_\_\_ PUMP SIZE: \_\_\_\_\_

NUMBER OF BEDROOMS: 5 HOUSE SQ. FT. \_\_\_\_\_ APPLICATION RATE: \_\_\_\_\_

DISTRIBUTION SYSTEM: GRAVITY FED  LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>See Bat Plan</u>	INLET DEPTH: <u>See Bat Plan</u>
	TRENCH WIDTH: <u>See Bat Plan</u>	MAXIMUM BOTTOM DEPTH: <u>See Bat Plan</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>See Bat Plan</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>See Bat Plan</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Set BAT unit per plan.	

ISSUED BY: Robert Bricker

ISSUE DATE: 8/14/14

EXPIRATION DATE: 6/18/15

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

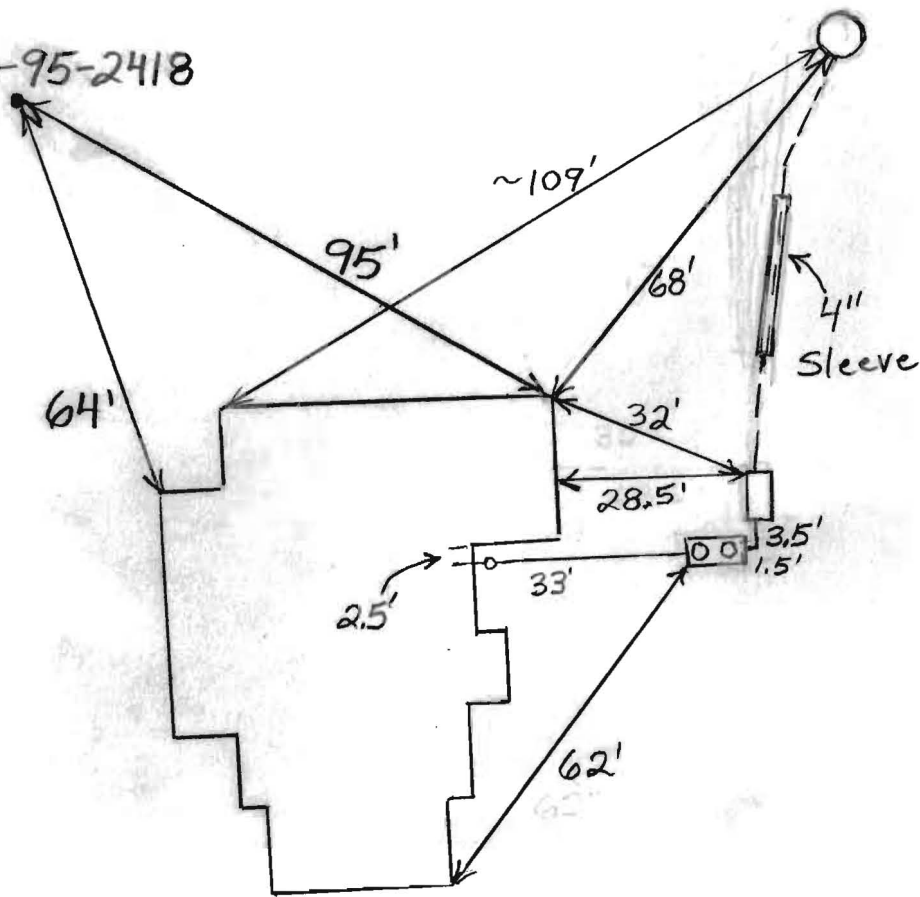
**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.**

**PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.**

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

NOT TO SCALE

HO-95-2418



ROAD NAME

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 I LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	1000 GAL
SEAM LOC	Top
TANK LID DEPTH	0.5'
BAFFLES	Yes
BAFFLE FILTER	Yes
MANHOLE LOC	Front+Rear
6" PORT LOC	None
WATERTIGHT TEST	No
SLOTTED	No
DATE ON LID	7/22/2014
PUMP/SEPTIC TANK LEVEL Yes	
MANUFACTURER	Advantex
CAPACITY	800 GAL
SEAM LOC	N/A
TANK LID DEPTH	Above Grade
BAFFLES	N/A
BAFFLE FILTER	N/A
MANHOLE LOC	None
6" PORT LOC	None
WATERTIGHT TEST	No
SLOTTED	N/A
DATE ON LID	N/A

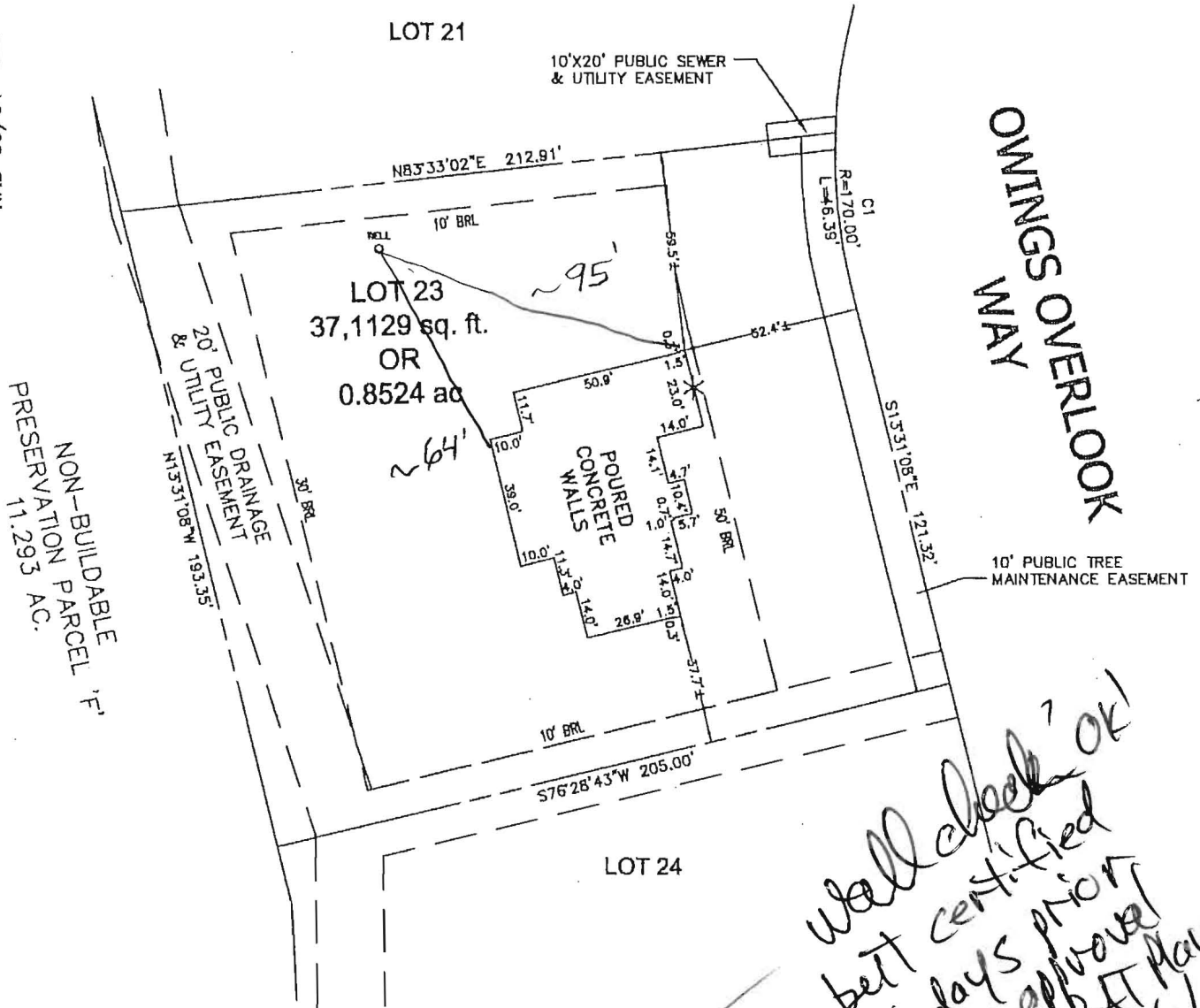
PRE-CONSTRUCTION  
8/19/2014 Layout done, BB

INSTALLATION: 8/27/2014 Tanks set, House connection made.  
O.K. to finish pump line and backfill. BB

FINAL INSPECTOR \_\_\_\_\_ DATE OF APPROVAL \_\_\_\_\_



CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHD.DIST.	CHD.BRG.
C1	15°38'06"	170.00'	23.34'	46.39'	46.25'	S05°42'06"E



NON-BUILDABLE  
PRESERVATION PARCEL 'F'  
11.293 AC.

OWINGS OVERLOOK  
WAY

*Wall checked OK!  
bett certified  
6 days prior  
to approval  
of BAT Plan  
Feb 8/14/14*

\* DENOTES TOP OF WALL  
SHOT - ELEV=503.35

FOUNDATION LOCATION SURVEY  
ON  
LOT 23  
OWINGS PROPERTY, LOT 5  
PLAT WAR 22220 - 22221  
6810 OWINGS OVERLOOK  
HOWARD COUNTY, MARYLAND  
JUNE, 2014 SCALE: 1"=50'

I hereby state this plat represents a field run survey of the location of the foundation of the proposed building to the nearest tenth of a foot. The lot dimensions are depicted as per the current record plat and any encroachments by the newly constructed foundation on those recorded lines are shown hereon.

*Clyde V. Kelly*  
Clyde V. Kelly  
Professional Land Surveyor  
MD License No 10977

*11 June 2014*  
Date



AB CONSULTANTS, INC.  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3082

DRAWN BY: MBS  
CHECKED BY: CVK  
FILE: WCHK - Lot 23



# HOWARD COUNTY HEALTH DEPARTMENT

54573

DATE  
8/7/14

PS

Received From

Ayles Septic Cloaca PHONE # 410 795-5670

For

Septic Permit - Lot 23  
6810 Owens Overlook way

CASH  
 CHECK

NO.

46672

Three hundred ninety five <sup>00</sup>/<sub>100</sub> Dollars

\$

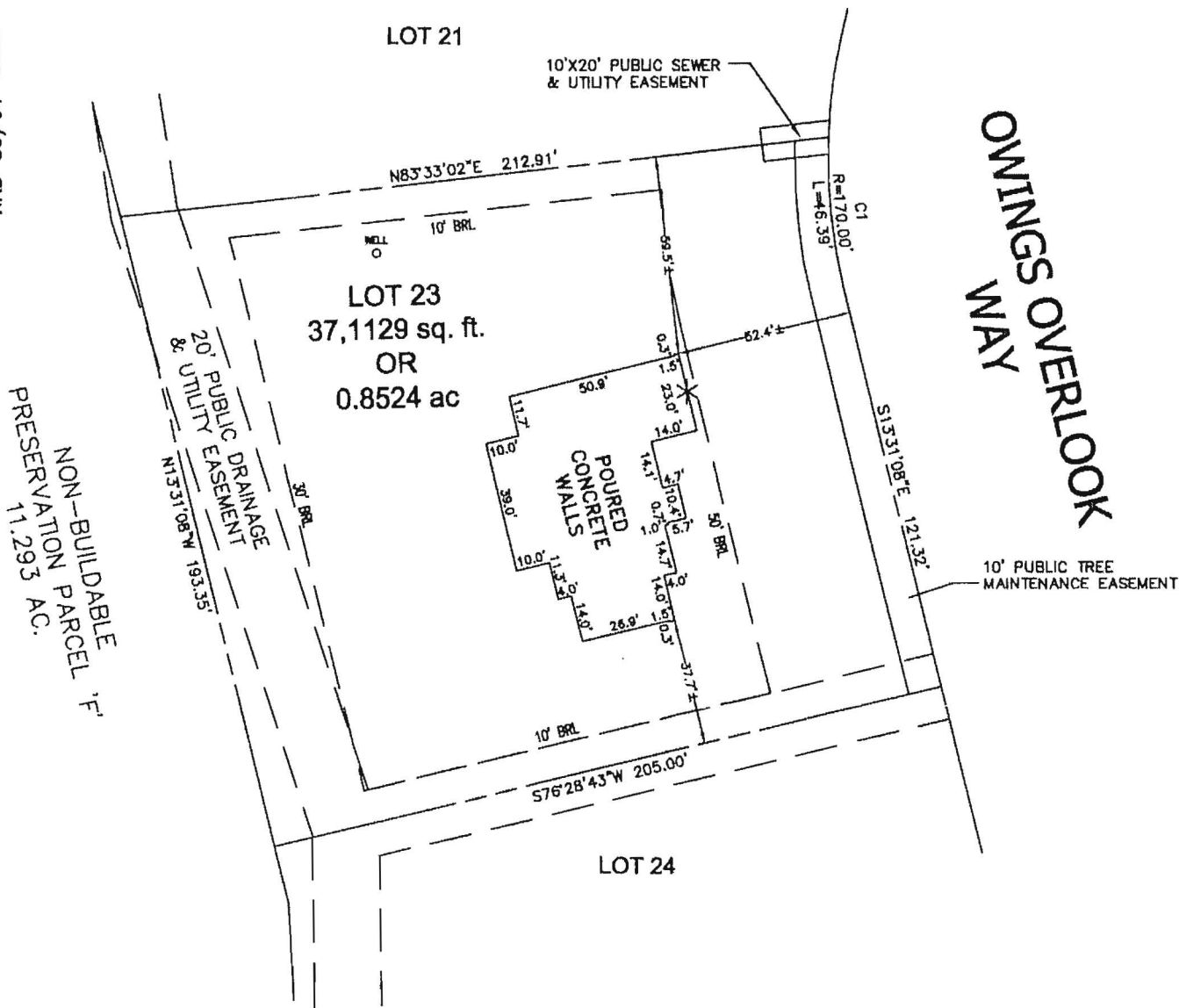
395.00

Received By

Keip

CURVE TABLE						
CURVE	DELTA	RADIUS	TANGENT	LENGTH	CHD.DIST.	CHD.BRG.
C1	15°38'06"	170.00'	23.34'	46.39'	46.25'	S05°42'06"E

NAD 83/91



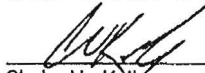
NON-BUILDABLE  
PRESERVATION PARCEL 'F'  
11.293 AC.

OWINGS OVERLOOK  
WAY

FOUNDATION LOCATION SURVEY  
ON  
LOT 23  
OWINGS PROPERTY, LOT 5  
PLAT WAR 2220 - 2221  
6810 OWINGS OVERLOOK  
HOWARD COUNTY, MARYLAND  
JUNE, 2014 SCALE: 1"=50'

\* DENOTES TOP OF WALL  
SHOT - ELEV=503.35

I hereby state this plat represents a field run survey of the location of the foundation of the proposed building to the nearest tenth of a foot. The lot dimensions are depicted as per the current record plat and any encroachments by the newly constructed foundation on those recorded lines are shown hereon.

  
Clyde V. Kelly  
Professional Land Surveyor  
MD License No 10977

*11 June 14*  
Date



**AB CONSULTANTS, INC.**  
9450 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
FAX: (301) 306-3092

DRAWN BY: MBS  
CHECKED BY: CVK  
FILE: WCHK - Lot 23



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

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

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

THIS AGREEMENT is made this 1st day of April 2014, among SK Homes at Highland Owings, LLC, 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 6810 Owings Overlook, Highland, MD 20777, in the 5th Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 13705 Folio 310.

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

NOW, THEREFORE, the parties hereto agree as follows:

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

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

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

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

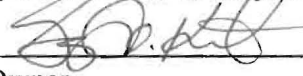
H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

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

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

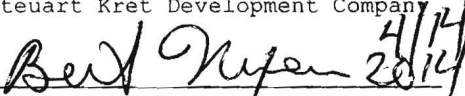
IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

SK Homes at Highland Owings, LLC  
by Steuart Kret Development Co., its sole member

  
\_\_\_\_\_  
Date 4/11/2014

Owner Date

\_\_\_\_\_  
Owner Date

Gary A. Kret, President  
Steuart Kret Development Company  
  
\_\_\_\_\_  
Date 4/14/2014

Howard County Health Department

# Owings Property & Lots

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

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

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 92

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 93

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 94

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 95

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 96

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 97

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: Sk Homes at  
Highland Owings LLC  
Reference/Control #: 98

LR - Agreement Surcharge  
1x 40.00 40.00

LR - Agreement Recording Fee  
1x 20.00 20.00

Grantor/Grantee Name: SK Homes at  
Highland Owings LLC  
Reference/Control #: 99

LR - Agreement Surcharge  
1x 40.00 40.00

SubTotal: 480.00  
Total: 480.00

REV-Cash 480.00

252 723



**AdvanTex® AX20-RT**  
**Field Maintenance Report**  
**Start-Up Summary Report**

Atlantic Solutions, MD  
 (877) 814-8426

Property Owner/Tracking #		Operator		Installed Date 09/15/2014	
Site Address 6810 Ownings Overlook Place, Highland MD 20777				Start-Up Date 09/17/2014	
Phone Number	Permit #	Mode Mode 3B	Bedrooms	Occupants	Occupancy Date
Designer/Engineer Atlantic Solutions		Phone (401) 293-0176	Authorized Installer		Phone
AdvanTex Dealer Atlantic Solutions, LTD		Phone (401) 293-0176	Electrician		Phone

**Septic Tank**

Effluent Filter Model (check one):

- FTB0444-36V
- FTW0444-36V
- FT0822-14B

**Secondary Treatment**

Residual head measurement:

Recirc pump, AX20-RT: \_\_\_\_\_ -in.

Discharge (check one):

- AX-RT discharge chamber
- Concrete tank
- Fiberglass tank or basin
- PVC basin

Manufacturer (if tank or basin): \_\_\_\_\_

Volume (if tank or basin): \_\_\_\_\_ gal.

Discharge pump model: PVA 100511

Discharge floats set properly (if tank or basin):

High level \_\_\_\_\_ -in.

"On" \_\_\_\_\_ -in.

"Off" \_\_\_\_\_ -in.

Discharge pump flow rate (drawdown test): ( \_\_\_\_\_ gpm)

Discharge pump dose volume: ( \_\_\_\_\_ gal/dose)

**Control Panel**

Panel ID (RTU or UL #)	"On" Timer Setting	"Off" Timer Setting
TCOM - MVP		

**Filter Pod**

AX-RT unit Serial No. 419514
---------------------------------

**Other System Components**

Disinfection equipment (manufacturer):

Type: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Dispersal system (type of): \_\_\_\_\_

**Declarations (Initial)**

Drenco's Start-Up Procedure was followed.

All lids are secured.

Circuit breakers are on and control panel is latched.

"For Service Call" label with phone # was affixed to panel.

Homeowner Package was reviewed with:

Builder on (date) \_\_\_\_\_

Resident on (date) \_\_\_\_\_

<p>The system is ready for use <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (explain)</p> <p>_____</p> <p>_____</p> <p>_____</p>
---

Comments Start up

Signature [Signature]

Date 9-17-14

**STEUART KRET HOMES  
ADDENDUM-SHARED SEWAGE DISPOSAL FACILITY  
LOTS 21, 23 and 24**

In reference to the Agreement of Sale dated 29 of August, 2013, between **SK Homes at Highland Owings, LLC** (hereinafter called the "Seller"), and Paul Gabriel Peterson + Annee F. Patel (hereinafter called the "Purchaser"), for the purchase and sale of the property located at 6810 Owings Overlook Highland, MD 20713 Lot 23 of the subdivision known as **OWINGS PROPERTY in Howard County, Maryland** (hereinafter called the "Agreement"). Unless the context otherwise requires, the terms used in this Amendment that are defined in the Agreement shall have the same meaning as provided in the Agreement.

THE AGREEMENT IS HEREBY AMENDED AS FOLLOWS:

Purchaser acknowledge that they have been informed that the Property will be served by a Shared Sewage Disposal Facility (the "Facility") as defined in Section 18.1200 et seq. of the Howard County Code, authorized pursuant to Title 26, Subtitle 4 of the Code of Maryland Regulations ("COMAR"). The Property is subject to a Declaration of Covenants, Conditions, Right-of-Entry, and Restrictions for Shared Sewage Disposal Facility in Owings Property Subdivision (the "Shared Septic Declaration"), dated November 12, 2012, and recorded at Liber 14614 Folio 001 among the Land Records of Howard County, Maryland. It is the Purchaser's responsibility to abide by all the terms of the Shared Septic Declaration, including but not limited to the responsibilities and obligations stated in Section 3 of the Shared Septic Declaration. Purchaser acknowledges that it has received a copy of the Shared Septic Declaration.

Seller shall operate the Facility, at its expense, until Howard County accepts the Facility and the responsibility for its operation. Once Howard County accepts the operation of the Facility, Seller will no longer operate the Facility, and the Purchaser and other owners of lots in the Owings Property Subdivision will be responsible for the payment of a Facility Fee as defined in the Shared Septic Declaration. Seller's current contract to operate the Facility is \$535.00/lot/year, excluding electricity and replacement costs. Accordingly, Seller estimates a Facility Fee of approximately \$535.00/lot/year at the time the operation is transferred to Howard County. However, Seller does not guarantee the estimated amount of the Facility Fee, such amount being subject to change from time to time.

Purchaser acknowledges that it has been informed that the home on Lot 23 shall be limited to five (5) bedrooms. Purchaser is prohibited from adding any bedrooms to the home. Any and all other additions to the home are subject to approval by the Covenants Committee of the Highland Owings Homeowners Association and by any applicable state or local authorities.

By signing below, Purchaser acknowledges that Seller has disclosed the information set forth in this Addendum.

This Amendment is made pursuant to Paragraph 33(g) of the Agreement and carries the same force and effect as the Agreement. If any term or condition contained herein conflicts with the Agreement, then this Amendment shall control. Except as herein amended, all other terms and conditions of the Agreement shall remain unchanged and in full force and effect. All capitalized terms contained in this Addendum and not defined herein shall have those meanings assigned to them in the Agreement.

SELLER:

PURCHASER:

SK HOMES AT HIGHLAND OWINGS, LLC  
by Stuart Kret Development Company,  
its sole member

By: [Signature]

[Signature]

8/24/13  
Date

Name: Gary A. Kret  
Title: President

Paul G. Peterson  
Print Name

Title: \_\_\_\_\_

[Signature]  
Signature

8/24/13  
Date

Date: SEP 03 2013

ANNEE F. PATEL  
Print Name

## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Tuesday, May 20, 2014 9:52 AM  
**To:** 'Saifuddin Ahmed'; Bricker, Robert  
**Subject:** RE: Owings Property-Lot 22 comments


It looks like it's just the pump elevations and the dose. We want the dose lower so that the grinder pit can accommodate it. 50g would be plenty. Also, you only have 1% fall from house to tank, so they better make sure on this lot that the line out of the foundation is not put in lower than what is shown here. Thanks  
Jeff

---

**From:** Saifuddin Ahmed [mailto:saifu.ahmed@abconsultantsinc.com]  
**Sent:** Monday, May 19, 2014 4:24 PM  
**To:** Bricker, Robert  
**Cc:** Williams, Jeffrey  
**Subject:** RE: Owings Property-Lot 22 comments

I was actually planning to resubmit Lot 23, however, I wanted to make sure about the changes that needs to be done for this lot. Only change was the pump on and off elevation at the discharge chamber End View.  
Let me know if you can recall anything more. Thanks,

**Saifuddin Ahmed, PE**  
**Senior Project Manager**  
**AB Consultants, Inc.** | 7020 Tudsbury Road; Windsor Mill, MD 21244  
d: 443.729.2713 | t: 301.306.3091, ext. 213 | f: 301.306.3092  
[www.abconsultantsinc.com](http://www.abconsultantsinc.com) | [Saifu.ahmed@abconsultantsinc.com](mailto:Saifu.ahmed@abconsultantsinc.com)

 Please consider the environment before printing this e-mail.

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**From:** Bricker, Robert [mailto:RBricker@howardcountymd.gov]  
**Sent:** Monday, May 19, 2014 4:19 PM  
**To:** Saifuddin Ahmed  
**Cc:** Williams, Jeffrey  
**Subject:** RE: Owings Property-Lot 22 comments

I will be away until May 27.

---

**From:** Saifuddin Ahmed [mailto:saifu.ahmed@abconsultantsinc.com]  
**Sent:** Monday, May 19, 2014 10:49 AM  
**To:** Bricker, Robert  
**Subject:** RE: Owings Property-Lot 22 comments

Mr. Robert,

I wanted to discuss with you on Lot 23. Please let me know when you can be available so I can call you. You can also reach me at 443-729-2713. Thanks,

**Saifuddin Ahmed, PE**  
**Senior Project Manager**  
**AB Consultants, Inc.** | 7020 Tudsbury Road; Windsor Mill, MD 21244  
d: 443.729.2713 | t: 301.306.3091, ext. 213 | f: 301.306.3092  
[www.abconsultantsinc.com](http://www.abconsultantsinc.com) | [Saifu.ahmed@abconsultantsinc.com](mailto:Saifu.ahmed@abconsultantsinc.com)

 Please consider the environment before printing this e-mail.

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**From:** Bricker, Robert [<mailto:RBricker@howardcountymd.gov>]  
**Sent:** Thursday, May 01, 2014 9:15 AM  
**To:** Saifuddin Ahmed  
**Subject:** RE: Owings Property-Lot 22 comments

Saifuddin,  
As I remember I accepted the plans for these lots, except Lot 23, as being accurate and correct –approvable for septic system permit release.  
Robert Bricker, REHS/R.S., L.E.H.S.


---

**From:** Saifuddin Ahmed [<mailto:saifu.ahmed@abconsultantsinc.com>]  
**Sent:** Wednesday, April 30, 2014 1:51 PM  
**To:** Bricker, Robert  
**Subject:** RE: Owings Property-Lot 22 comments

Hello Robert,

I will send you lot 23 revised plans as we discussed in your office. Can you please let me know where we stand on other lots. Based on our discussion it appears you are good with other lots except Lot 23. Please let me know. Thanks

**Saifuddin Ahmed, PE**  
**Senior Project Manager**  
**AB Consultants, Inc.** | 7020 Tudsbury Road; Windsor Mill, MD 21244  
d: 443.729.2713 | t: 301.306.3091, ext. 213 | f: 301.306.3092  
[www.abconsultantsinc.com](http://www.abconsultantsinc.com) | [Saifu.ahmed@abconsultantsinc.com](mailto:Saifu.ahmed@abconsultantsinc.com)

 Please consider the environment before printing this e-mail.

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**From:** Bricker, Robert [<mailto:RBricker@howardcountymd.gov>]  
**Sent:** Thursday, April 17, 2014 12:04 PM  
**To:** Saifuddin Ahmed  
**Cc:** Williams, Jeffrey  
**Subject:** RE: Owings Property-Lot 22 comments

Saifuddin,  
Jeff Williams and/or I can meet with you tomorrow, 10 am or later.  
Robert Bricker

---

**From:** Saifuddin Ahmed [<mailto:saifu.ahmed@abconsultantsinc.com>]  
**Sent:** Wednesday, April 16, 2014 11:02 AM

**To:** Bricker, Robert  
**Subject:** RE: Owings Property-Lot 22 comments

Robert,

We have revised lots 22 and other lots based on our meeting and your current comments on March 28, 2014. If possible I wanted to drop by to show the new AX-BT detail that we are using for all gravity flows. This may help you with review and answer question you may have. If you are available we can have it done as early as tomorrow at your convenient time. Please let me know. Thanks,

**Saifuddin Ahmed, PE**  
**Senior Project Manager**  
**AB Consultants, Inc.** | 7020 Tudsbury Road; Windsor Mill, MD 21244  
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**From:** Bricker, Robert [<mailto:RBricker@howardcountymd.gov>]  
**Sent:** Friday, March 28, 2014 11:48 AM  
**To:** Saifuddin Ahmed  
**Subject:** Owings Property-Lot 22 comments

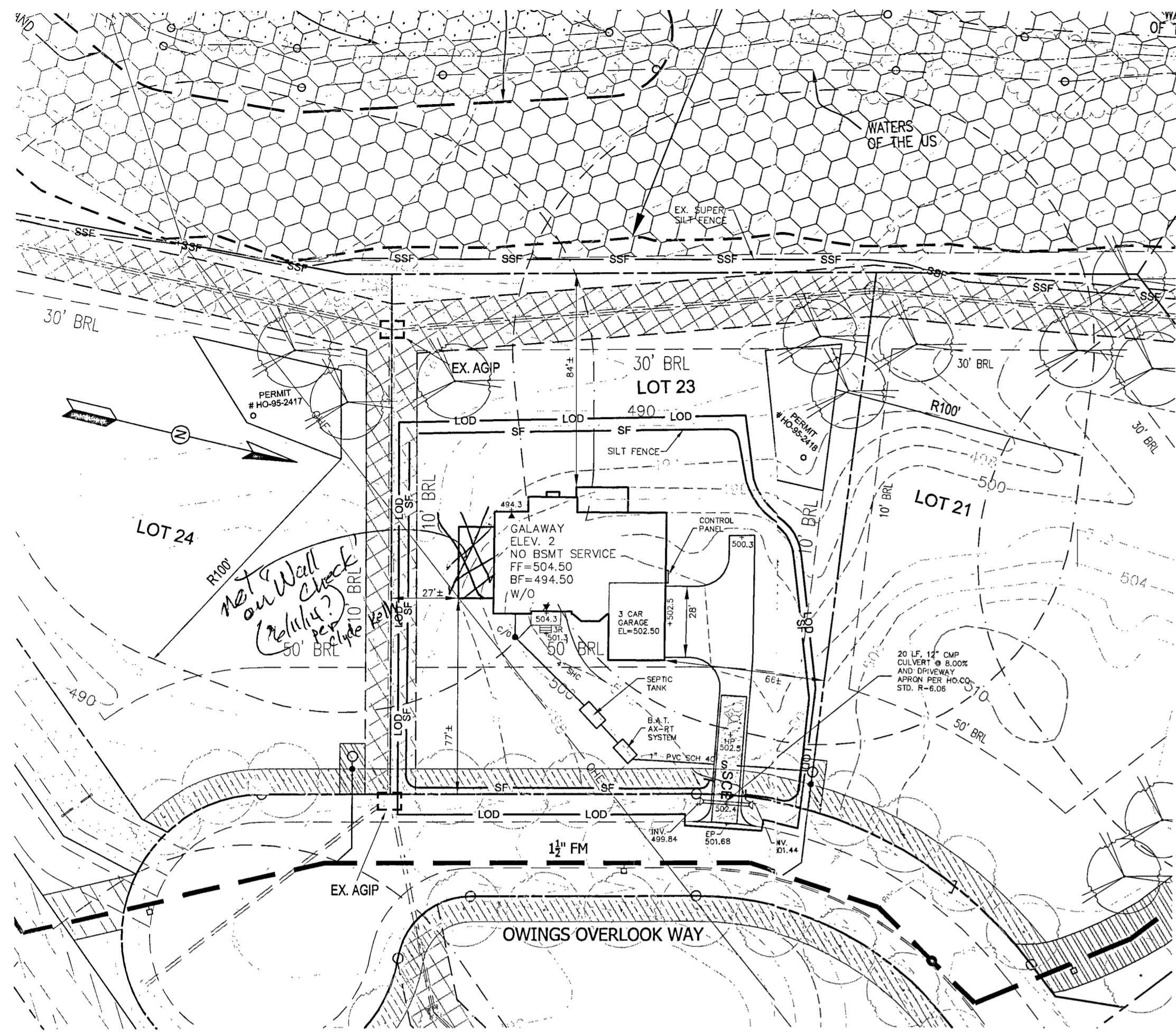
See attached PDF

ROBERT BRICKER, CPSS, REHS/RS  
ENVIRONMENTAL HEALTH SPECIALIST  
DEVELOPMENT COORDINATION SECTION, WELL AND SEPTIC PROGRAM  
HOWARD COUNTY BUREAU OF ENVIRONMENTAL HEALTH  
8930 STANFORD BOULEVARD  
COLUMBIA, MD 21045

410-313-2691; fax, 410-313-2648  
[rbricker@howardcountymd.gov](mailto:rbricker@howardcountymd.gov)

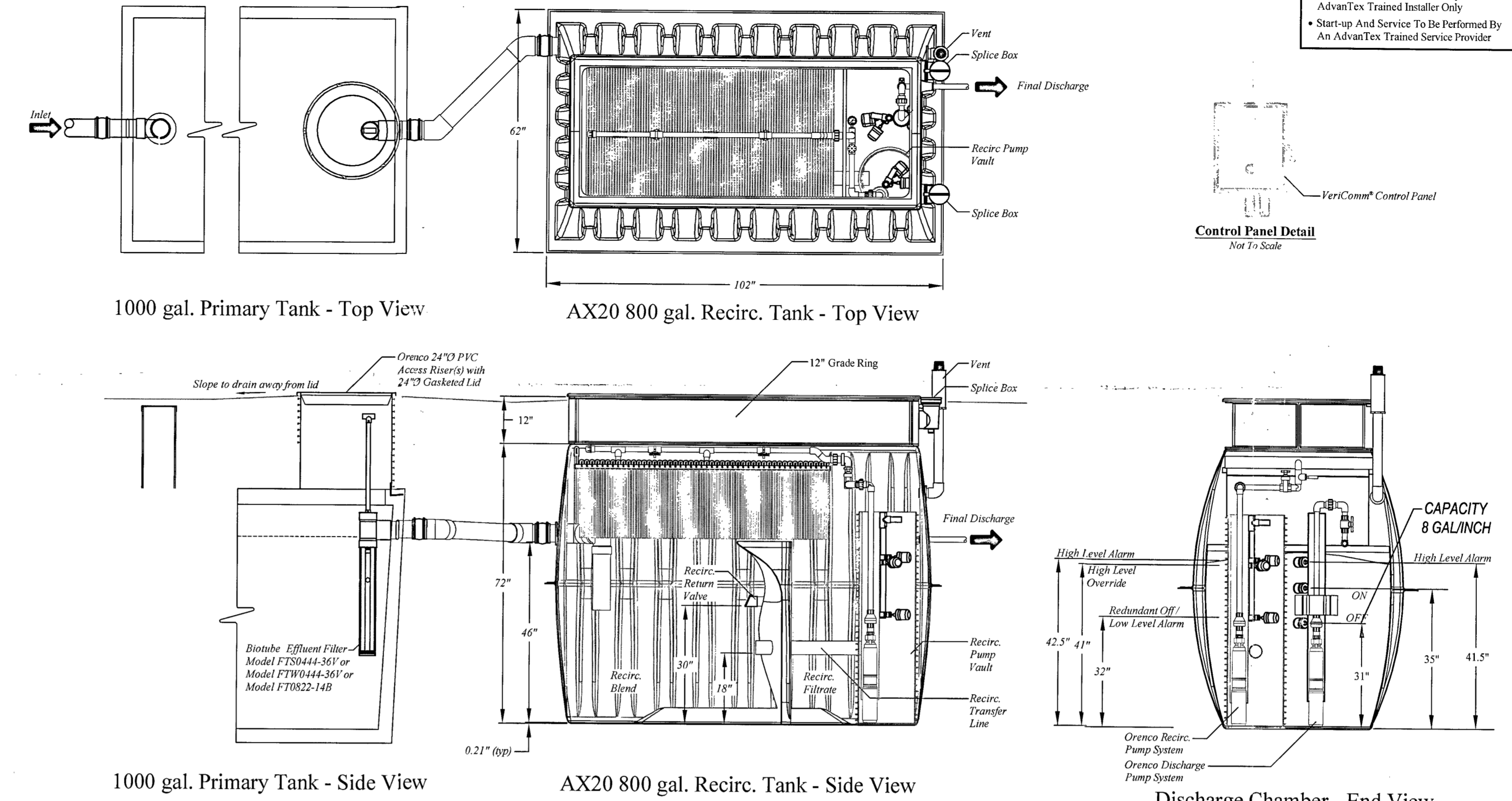
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**SITE PLAN**  
SCALE: 1"=40'

**AX20RT Treatment System - Pump Discharge**



UNAUTHORIZED CHANGES & USES: Orenco has prepared these drawings for use by the design engineer. Orenco will not be responsible or liable for unauthorized changes to or uses of these drawings. All changes to these drawings must be made in writing and must be approved by the design engineer.

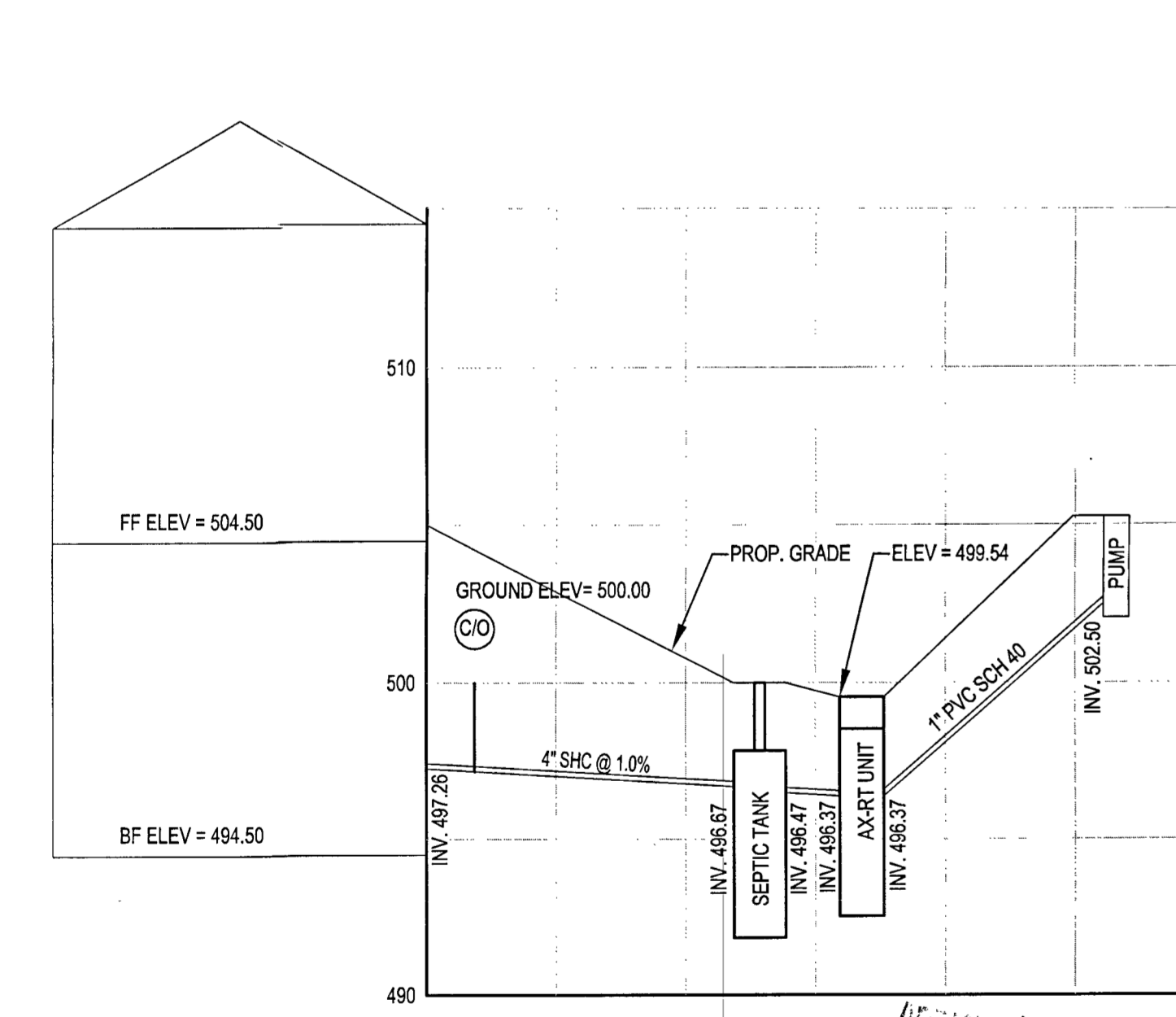
PRODUCT CONFIGURATION DRAWINGS

**Orenco Systems<sup>®</sup> Incorporated**  
Changing the Way the World Does Wastewater<sup>®</sup>

Drawn By: BEN SMITH  
Drawn For:

Project: AX20RT Mode 1B  
Title: NDW-ATX-RT-AK-01

Scale: N.T.S.  
Sheet: 1 OF 1  
Rev: A-01 Date: 9/23/2011



**SHC PROFILE**  
SCALE:  
1"=30" (H), 1"=5" (V)

**Pump Selection for a Non-Pressurized System - Single Family Residence Project**  
LOT 23

**Parameters**

Discharge Assembly Size	1.0FC inches
Transport Length	71 feet
Transport Pipe Class	40
Transport Line Size	1.00 inches
Distributing Valve Model	None
Max Elevation Lift	6.13 feet
Design Flow Rate	10 gpm
Flow Meter	None
*Add-on Friction Losses	0 feet

**Calculations**

Transport Velocity	3.7 fps
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**Frictional Head Losses**

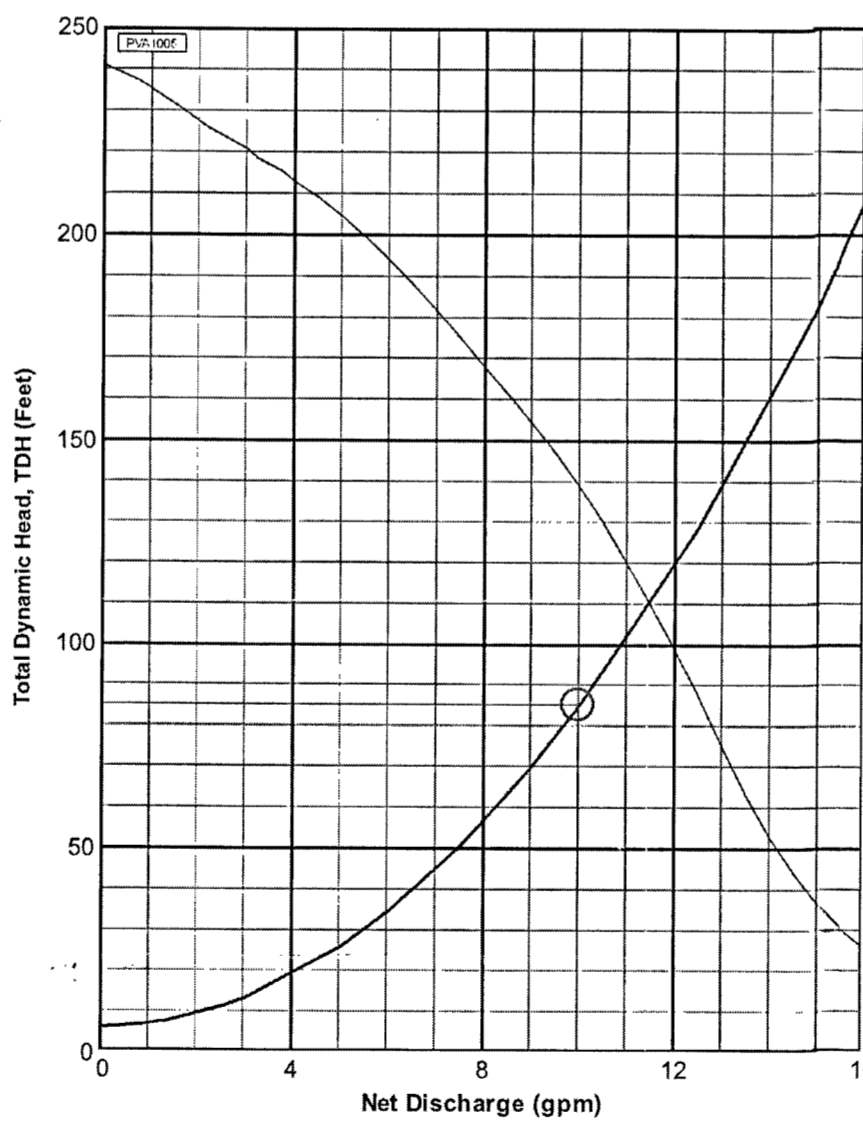
Loss through Discharge	75.0 feet
Loss in Transport	3.9 feet
Loss through Valve	0.0 feet
Loss through Flowmeter	0.0 feet
*Add-on Friction Losses	0.0 feet

**Pipe Volumes**

Vol of Transport Line	3.2 gals
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**Minimum Pump Requirements**

Design Flow Rate	10.0 gpm
Total Dynamic Head	85.0 feet



**Pump Data**

PVA 9005 High Head Effluent Pump  
10 GPM, 12HP  
115V 1Ø

**Legend**

- System Curve
- Pump Curve
- Pump Optimal Range
- Operating Point
- Design Point

**GENERAL NOTES (LOT 23):**

- STORMWATER MANAGEMENT IS PROVIDED IN THE MD-378 POND, BUILT UNDER F-06-112.
- THE EXISTING WELL, TAG NO. HO-95-2417 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- REFER TO CONTRACT DRAWINGS 50-4436-D FOR SEWER FORCE MAIN AND SHARED SEPTIC FIELD THAT SERVES THIS LOT.
- REFER TO GP-13-085 FOR ALL EROSION & SEDIMENT CONTROL MEASURES.
- TOTAL DISTURBED AREA: 24,798 SF
- THE DESIGN OF THE RESIDENCE PROPOSED FOR THIS LOT INCLUDES 5 BEDROOMS. DUE TO THE LIMITATIONS OF THE SHARED-(SEPTIC) SYSTEM AND THE SEWAGE DISPOSAL AREA, NO BEDROOMS MAY BE ADDED TO THIS RESIDENCE.

ELEVATION		
HOUSE	GROUND OVER INVERT OUT	501.00
	INV. OUT	497.26
SEPTIC TANK	GROUND OVER SEPTIC TANK	500.00
	INV. IN	496.67
	INV. OUT	496.47
	BAT AX-RT SYSTEM	GROUND OVER BAT SYSTEM
INV. IN		496.37
	INV. OUT	496.37
	PUMP	INV. IN
INV. OUT		502.40
AT FORCEMAIN	INV. IN	501.84

NOTE: BASEMENT WILL NOT DRAIN BY GRAVITY

ADDITIONAL INFORMATION	
VOLUME OF SHARED SYSTEM GRINDER BELOW ALARM LEVEL	70 GAL
DOSE VOLUME FROM AX-RT DISCHARGE CHAMBER	32.00
DOSE RATE OF DISCHARGE PUMP	10 GPM
TOTAL DYNAMIC HEAD	85 FT
STATIC HEAD	3.9 FT
FRICITION HEAD	6.13 FT

**REQUIRED BAT SITE PLAN NOTES**

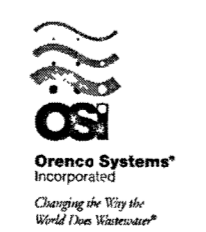
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT AND CONCRETE TANK PER THE MANUFACTURER'S SPECIFICATION IS 8 FEET. EXCAVATE A MINIMUM OF 2.0' OUT LATERALLY FROM ALL SIDES OF CONCRETE TANK.
- FIBER GLASS TREATMENT TANK WILL BE FLUSH WITH EXISTING/PROPOSED GRADE.
- BAT SYSTEM WILL COMPLY WITH ALL MANUFACTURER GUIDELINES AND REQUIREMENTS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER. (SEE LOCAL DISTRIBUTOR ABOVE)
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

APPROVED: FOR BEST AVAILABLE TECHNOLOGY (BAT) SYSTEM INSTALLATION ON LOT 22

HOWARD COUNTY HEALTH DEPARTMENT

*R. Bickel*  
DELEGATED APPROVING AUTHORITY

6/17/2014  
DATE



**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 31042 EXPIRATION DATE: 02/18/15"

OWNER / DEVELOPER:  
SK HOMES AT HIGHLAND OWINGS, LLC  
7090 SAMUEL MORSE DRIVE  
SUITE 500  
COLUMBIA, MD 21046  
301-870-5603

**AB CONSULTANTS, INC.**  
9-60 ANNAPOLIS ROAD  
LANHAM, MARYLAND 20706  
PHONE: (301) 306-3091  
AX: (301) 306-3092

**SITE PLAN FOR BAT INSTALLATION**  
OWINGS PROPERTY, LOT 5  
LOTS 23

8810 OWINGS OVERLOOK WAY, HIGHLAND, MD 20777  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND.

PROJECT NO. 2011200.04  
SCALE: AS SHOWN  
DATE: 04/16/2014  
DRAWN BY: HRP  
CHECKED BY: SBP  
SHEET: 1-1

CONTACT: SANJAY PATEL PHONE: (301)-306-3091 x121