

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: 6/11/16 **ONSITE SEWAGE DISPOSAL SYSTEM** P 558735

APPROVAL DATE: 2/6/17 **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 2042 Drivers Lane

SUBDIVISION: Vista Ridge LOT: 12 TAX ID: 04-595477

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

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

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: DR Horton EMAIL: _____

OWNER ADDRESS: 1356 Beverly Road, McLean, VA 22101 PHONE: 571-723-0813

BAT UNIT MODEL: Norweco 750 GPD PUMP SIZE: _____ PUMP TANK CAPACITY: _____

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

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 0.8
1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>156</u> 180	INLET DEPTH: <u>3</u> <u>4'</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>12</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5.5</u>

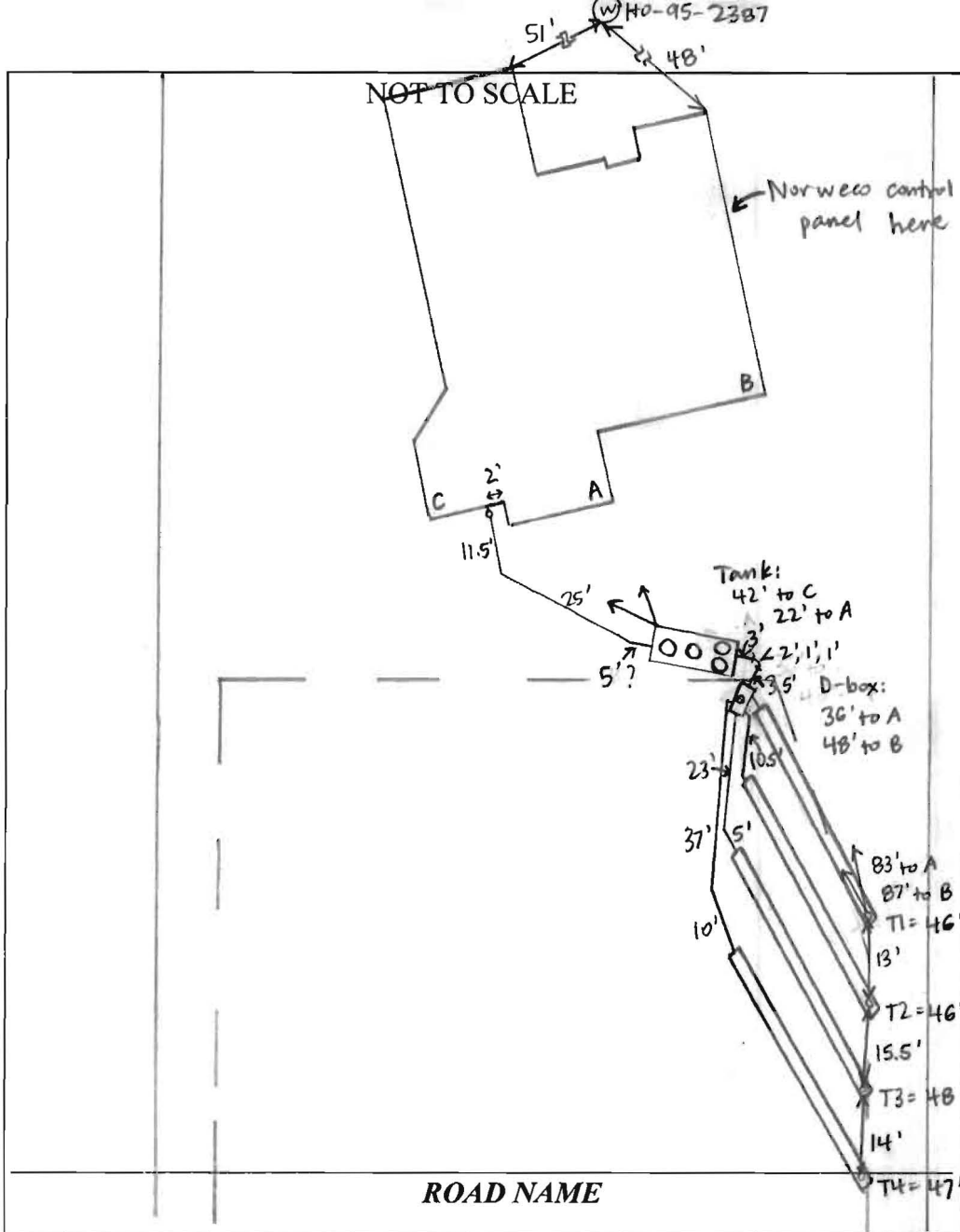
LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

NOTES: Install BAT unit per plan.
4x47' trenches

ISSUED BY: Dana Bernard ISSUE DATE: 6/11/16 EXPIRATION DATE: 6/11/17

- 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 16002803
- 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

**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.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	4'	8.5'
NUMBER OF TRENCHES		4
TOTAL LENGTH		187'
ABSORPTION AREA		561' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BACKRIVER/NORWECO
CAPACITY	1600 GAL
SEAM LOC	TOP
TANK LID DEPTH	2'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, 2 REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	7-6-16 (on side)

PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

PRE-CONSTRUCTION:

7/7/16 Met Fogle's on site for layout. All SDA stakes present, no tank stake. Laid out 4 x 47' trenches on contours. Connector at house is different than shown on plan. Spoke with builder - okay to set tank closer to SDA corner near D-box. (SC)

INSTALLATION:

7/8/16 T1 dug + left open at ends, 3.5-4' to stone, Fogle's digging T2 - 8.5' to bottom D-box set. Line ran from house to tank hole but house connection not made. (SC) 7/11/16 Trenches complete + left open at ends. D-box not yet leveled - will level once tank is set + connected. (SC) 7/15/16 Tank set and connected to D-box. Speed levelers in D-box leveled. Need house connection + BAT startup certification. (SC) 7/25/16 BAT startup certification received. (SC) 1/31/17 House connection covered - builder ran water at a sink inside house + I verified flow at house c/a Norweco startup good - alarm sounds + aerator runs. Need 6" extension on all risers. (SC) 2/6/17 Risers extended to 6" above grade. (SC)

FINAL INSPECTOR

Sarah Collins

DATE OF APPROVAL

2/6/17

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 Singulair TNT 750 GPD Septic Tank installed at 2042 Drovers Ln., Cooksville, MD 21723 July 15, 2016 was installed according to the manufacture's specifications.

Installer: Matt Cooney

Property Owner: Dr Horton, Inc.

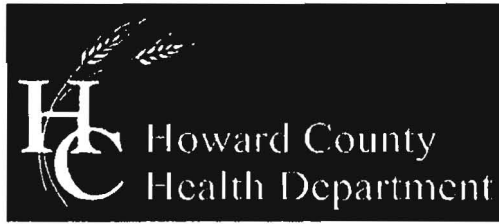
Permit #

THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



MATTHEW GECKLE

Vice-President



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

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 25 day of Sept, among DR Horton Inc. DR Horton Inc, 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 2042 Drivers Lane, in the 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 14970 Folio 364

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

NOW, THEREFORE, the parties hereto agree as follows:

24

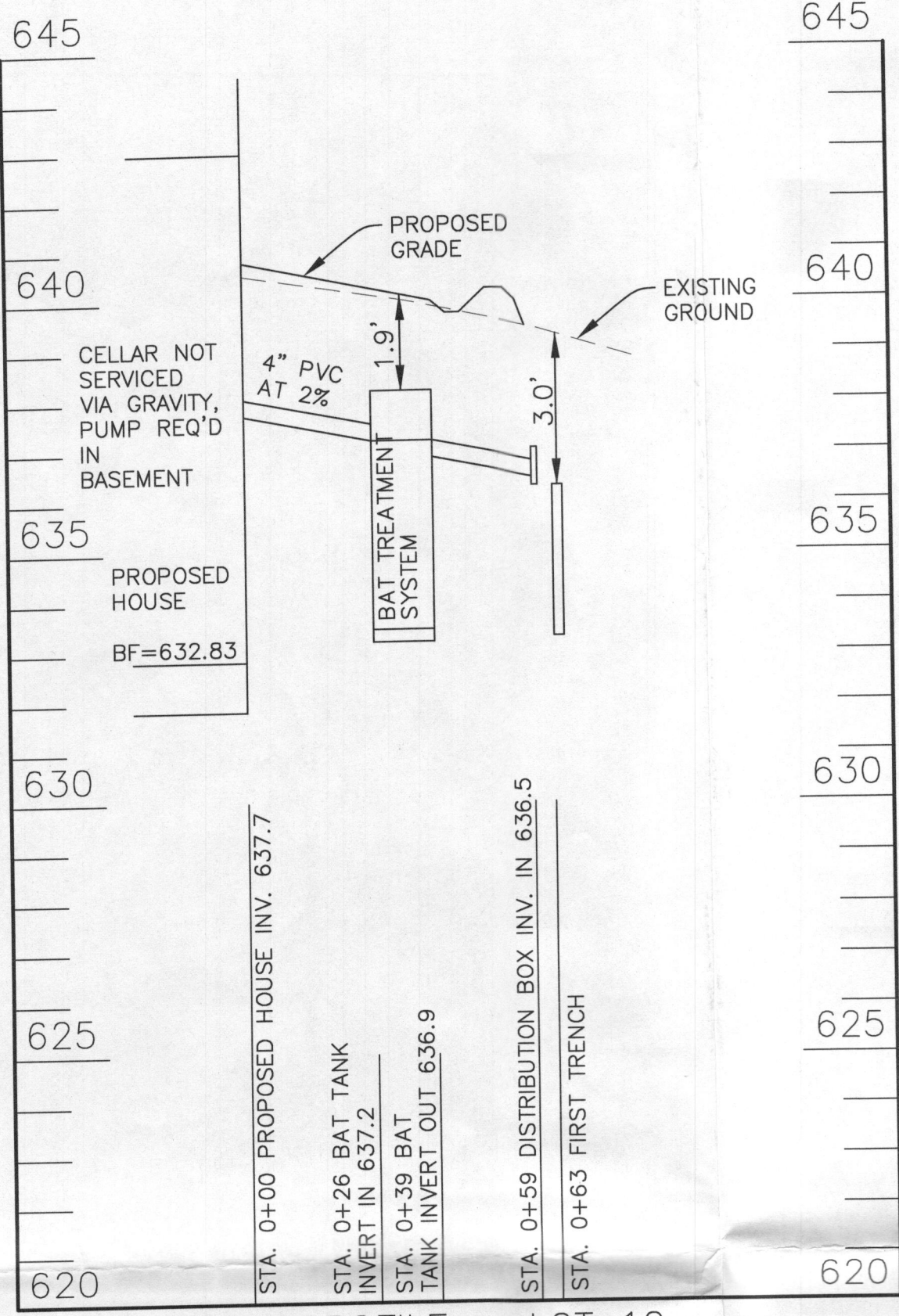
A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough 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.

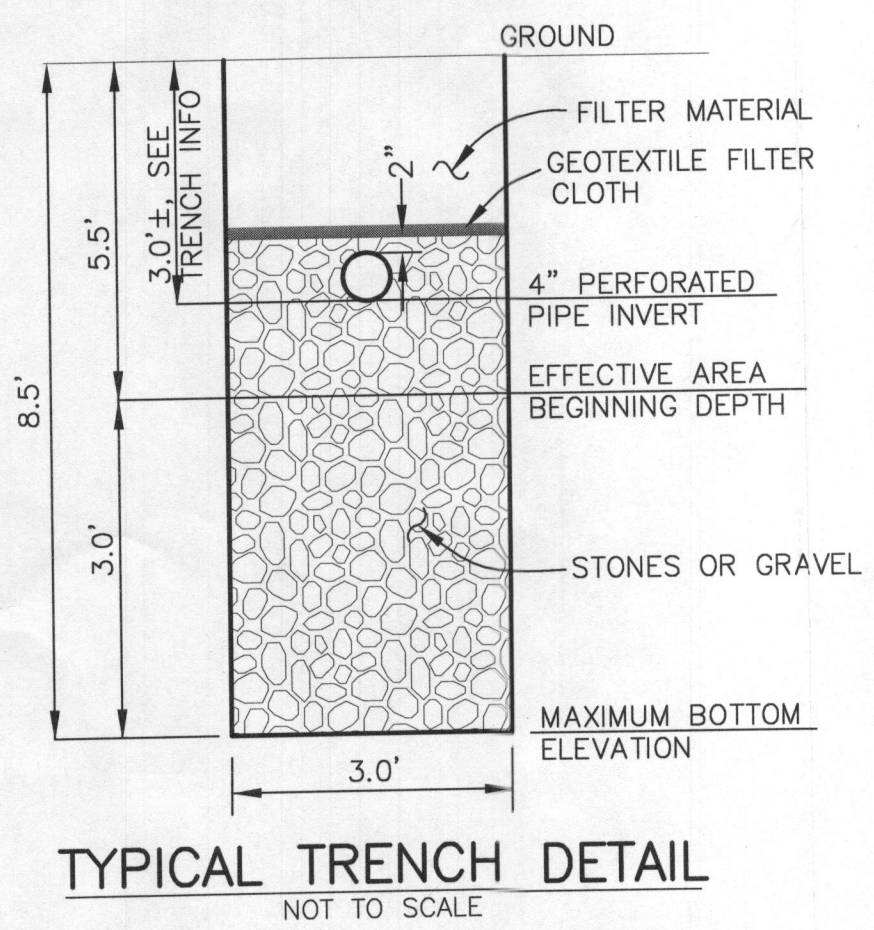
D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.

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



TRENCH INFORMATION

TRENCH	LENGTH	GROUND ELEVATION	INVERT ELEVATION	MAX. BOTTOM ELEV.	INVERT. OUT OF HOUSE	INV. IN TANK	INV. OUT SEPTIC TANK	TOP OF SEPTIC TANK	GROUND OVER SEPTIC TANK	INV. INTO BOX	INV. OUT OF BOX	GROUND AT BOX
TRENCH 1-1	52 LF	639.4	636.2	630.9	637.7	637.2	636.9	638.2	640.1	636.5	636.4	639.4
TRENCH 1-2	52 LF	638.9	635.9	630.4								
TRENCH 1-3	52 LF	638.5	635.5	630.0								
TRENCH 2-1	52 LF	638.5	635.5	630.0								
TRENCH 2-2	52 LF	638.1	635.1	629.6								
TRENCH 2-3	52 LF	637.9	634.9	629.4								



CRITICAL DIMENSIONS

A	1'-0"	N	0'-3"
B	3'-0"	O	0'-6"
C	3'-4"	P	0'-3"
D	4'-5"	Q	1'-4"
E	3'-7"	R	3'-8"
F	12'-2"	S	5'-0"
G	1'-0"	T	2'-0"
H	4'-0"	U	6'-0"
I	0'-3"	V	
J	0'-3"	W	
K	1'-0"	X	
L	0'-2"	Y	
M	3'-6"	Z	

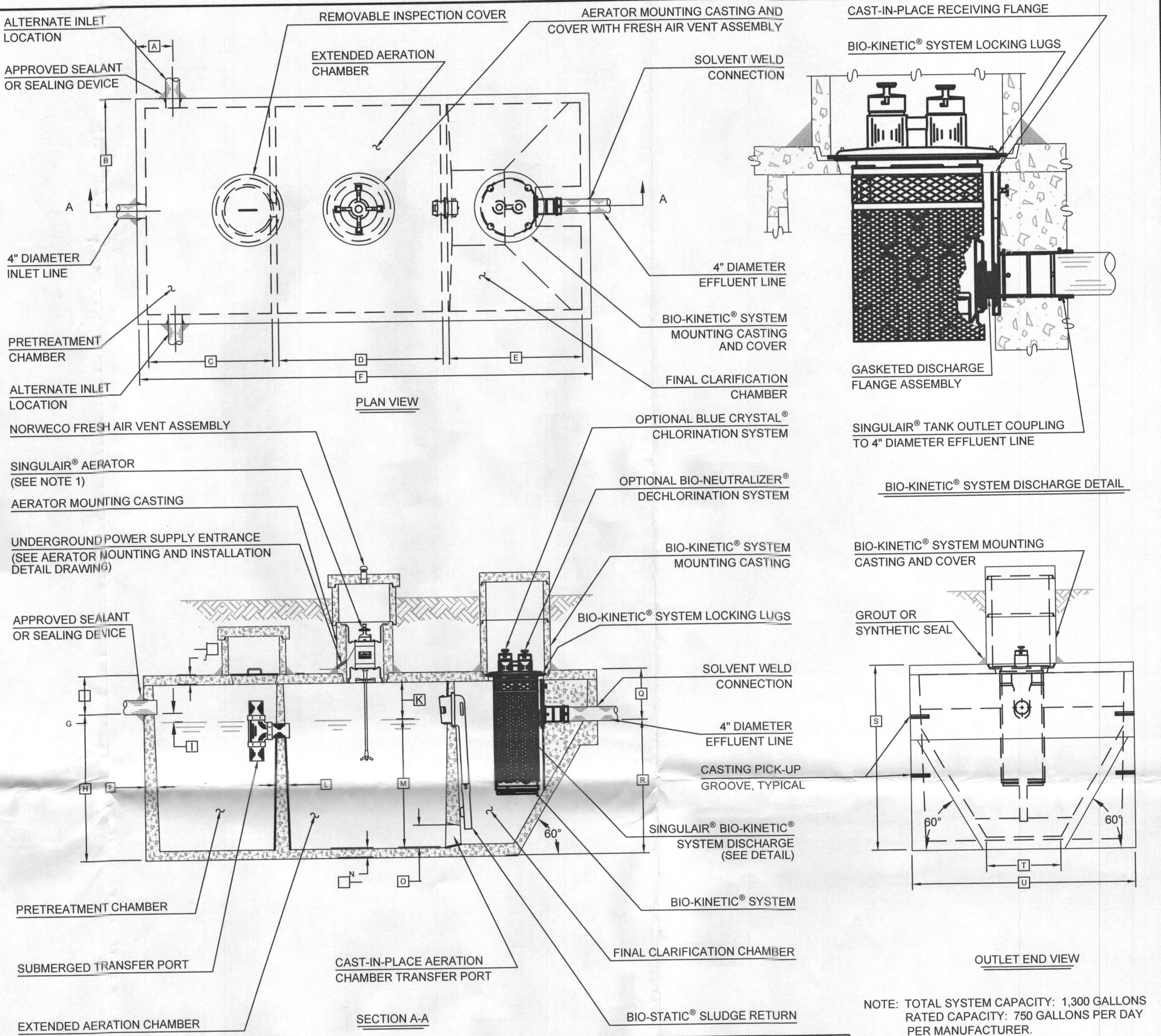
norweco 3-26-07 B

U.S. AND FOREIGN PATENTS PENDING

LOW-PROFILE SINGLAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL TNLTP-600 GPD

DESIGNED BY JMM 10-16-06

PC-5-7091



NOTES:
TOTAL SYSTEM CAPACITY: 1,300 GALLONS
RATED CAPACITY: 600 GALLONS PER DAY AND
ABLE TO SERVICE UP TO FIVE (5)
BEDROOMS PER MANUFACTURER.

SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. WWW.NORWECO.COM

NOTE: TOTAL SYSTEM CAPACITY: 1,300 GALLONS
RATED CAPACITY: 750 GALLONS PER DAY
PER MANUFACTURER.

- 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 sit plan may be required.
 - The maximum depth of the BAT shall be per the manufacturer's specification, 3.0'.
 - The blower may not be located further from the tank than the manufacturer's specifications, 75'.
 - The BAT system shall be maintained and operated for the life of the system.
 - The BAT shall be operated by and maintained by a certified service provider.
 - Within one month of installation, a person installing the BAT system shall report to the 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.

BENCHMARK ENGINEERING, INC.
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 ▲ FAX: 410-465-6644
BEI@BEI-CIVLENGINEERING.COM

BAT Plan Book

SIGNATURE AND SEAL ARE FOR CULVERT PROFILE ONLY:
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 6-08-2016.

STATE OF MARYLAND
JOHN M. GARLAND
PROFESSIONAL ENGINEER
No. 45577
9/13/14

OWNER/BUILDER:
DR HORTON, INC.
1356 BEVERLY ROAD
SUITE 300
MCLEAN, VA 22101
PHONE: 571-723-0813
FAX: 800-551-5015

PROJECT:
VISTA RIDGE
LOT 12

LOCATION:
2042 DROVERS LANE
COOKSVILLE, MD 21723
TAX MAP No. 8 - BLOCK No. 23 - PARCEL No. 176
4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
TAX ID NUMBER 04-595485

TITLE: BUILDING PERMIT PLAN AND BAT SITE PLAN

HOUSE TYPE: CHRISTOPHER WREN

DATE: AUGUST 6, 2014
SEPTEMBER 12, 2014

PROJECT NO. 1635

SCALE: 1" = 30'

DRAWING 2 OF 2

DESIGN: JMC DRAFT: JMC

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.

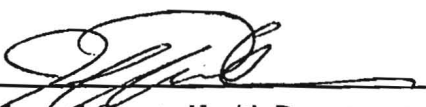
G. This agreement may be voided at any time at the discretion of the County.

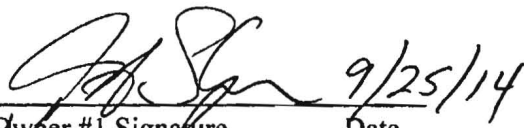
H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

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.


Howard County Health Department

 9/25/14
Owner #1 Signature Date
DR Horton Inc
Owner #1 Print Name

Buyer #1 Signature Date

Buyer #1 Print Name

LR - Agreement
Recording Fee 20.00
Grantor/Grantee Name:
D.R HORTON INC
Reference/Control #: 65
LR - Agreement
Surcharge 40.00
=====
SubTotal: 60.00
=====
Total: 240.00
09/25/2014 10:50
CC13-ES
#3340310 CC0503 -
Howard Co
Columbia/CC05.03.08 -
Register 08
Owner#2 Signature Date
Owner #2 Print Name

Buyer #2 Signature Date

Buyer #2 Print Name

HOWARD COUNTY CIRCUIT COURT (Land Records) WAR 15799, p. 0477, MSA_CE53_15790. Date available 10/01/2014. Printed 02/29/2016.

SEPTIC SPECIFICATIONS WORK-SHEET

SUBDIVISION: Susan Moxley Property

A 516045

STREET NAME: off of Rt 144

LOT NUMBER: 12

AVERAGE PERCOLATION RATE: 9 SQUARE FEET PER BEDROOM: 210

NUMBER OF BEDROOMS: LINEAR FEET OF TRENCH PER BEDROOM:

TOTAL LINEAR FEET OF TRENCH: SEPTIC TANK CAPACITY:

TOP SEAMED TANK REQUIRED? YES NO

COMPARTMENTED TANK REQUIRED? YES NO

$$\frac{\# \text{ of bdrm} \times 210}{3'} = \text{TLF}$$

TRENCH DIMENSIONS: Trench to be 3 feet wide. Inlet 6 feet below original grade. Bottom maximum depth 8 feet below original grade.

Effective area begins at 6 1/2 - 7' feet below original grade. 2 feet of stone below distribution pipe.

=====
PUMPED SYSTEM PROPOSED: YES NO

PUMPED SEPTIC SYSTEM DETAIL: _____ gallon pump chamber.

YES NO Top seamed pump chamber required?

Note 1: Septic pump detail to be provided by installer prior to issuance of septic permit.

Note 2: Pump performance test is necessary prior to Health Department approval of pumped septic system.

=====

LOCATION: _____

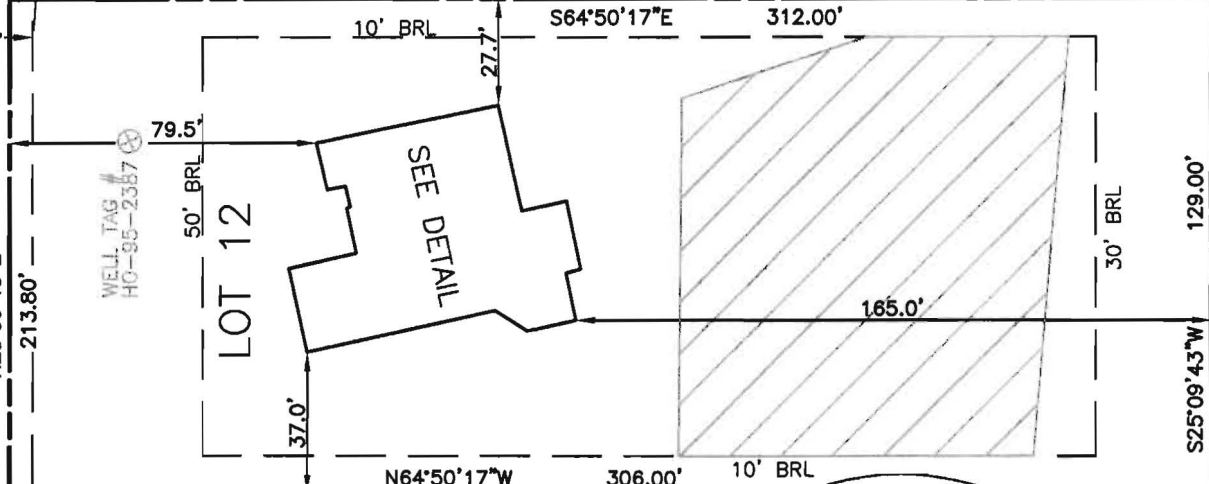
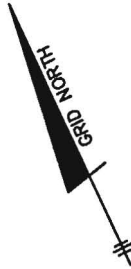
ADDITIONAL NOTES: _____

Reviewer: _____

Date: _____

LOT 13

24' PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 12-15 AND TO ACCESS THE NOISE WALL



ROBB PROPERTY
PLAT NO. 3940
LOT 2
ZONED: RC-DEO

DROVERS LANE
PUBLIC ACCESS PLACE
55' RIGHT-OF-WAY

R=55.00'
L=9.05'

10' PUBLIC TREE MAINTENANCE EASEMENT

VARYING WIDTH PUBLIC DRAINAGE & UTILITY EASEMENT

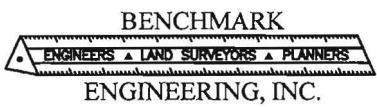
TOP OF FOUNDATION WALL ELEVATION = 641.6'
OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.1'

SURVEYOR'S CERTIFICATE

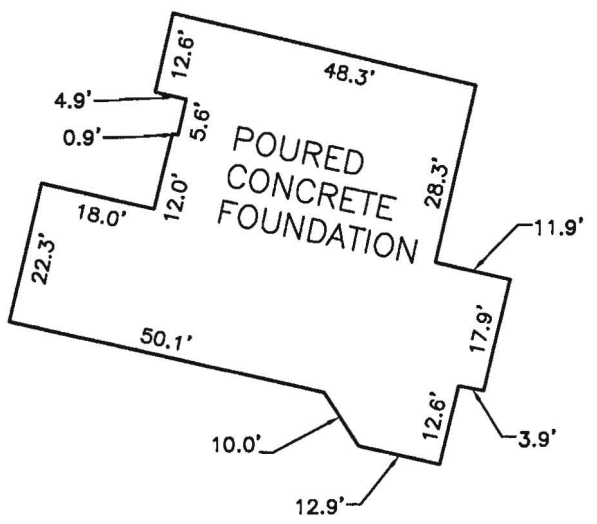
I HEREBY CERTIFY THAT THESE DOCUMENTS, WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21320, EXPIRATION DATE 1-7-2017 AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON 04/18/2016.

Donald A. Mason 4/19/2016

DONALD A. MASON
PROFESSIONAL LAND SURVEYOR
MD REG. No. 21320
FOR BENCHMARK ENGINEERING, INC.
MD REG. No. 351
FEMA FIRM No. 24027C0035D
ZONE: X
DATED: 11/06/2013



8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLCOTT CITY, MARYLAND 21043
phone: 410-465-6105 ▲ fax: 410-465-6644
www.bei-civilengineering.com



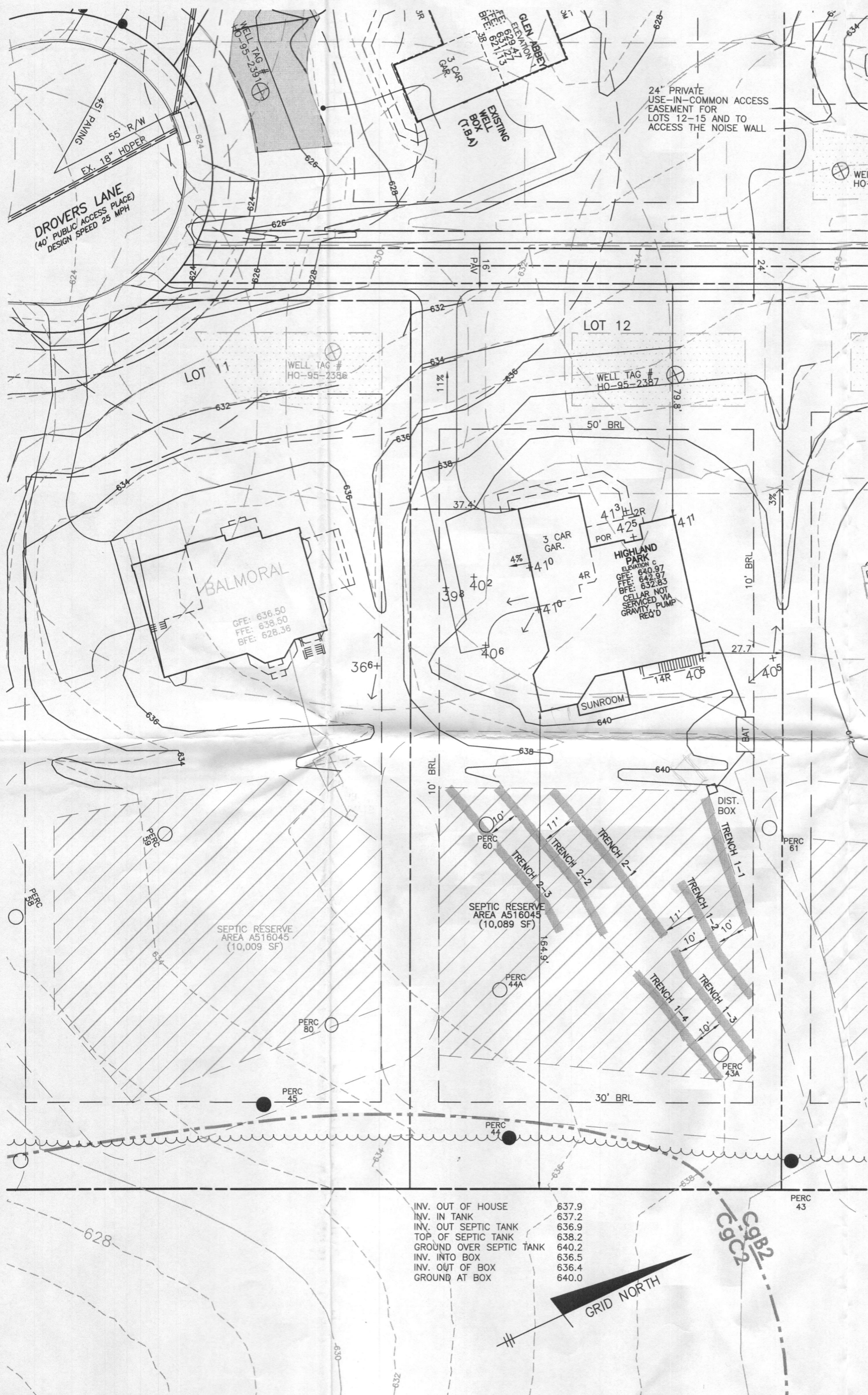
FOUNDATION DETAIL
SCALE: 1" = 30'

WALL CHECK
VISTA RIDGE
PLAT No.22432
LOT No.12

2042 DROVERS LANE

4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

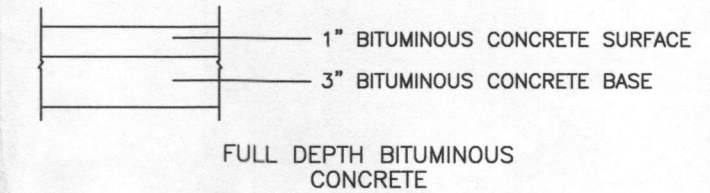
SCALE: 1" = 50' DATE: 04/18/2016



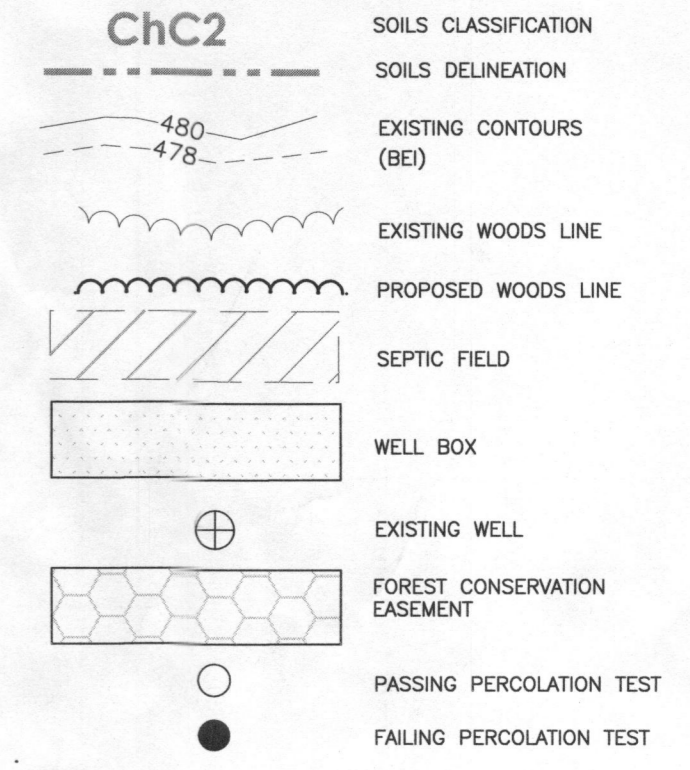
PLAN VIEW
1" = 30'

SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
CgB2	C	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
-	-	-

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 33



PAVING SECTION
NOT TO SCALE
LEGEND

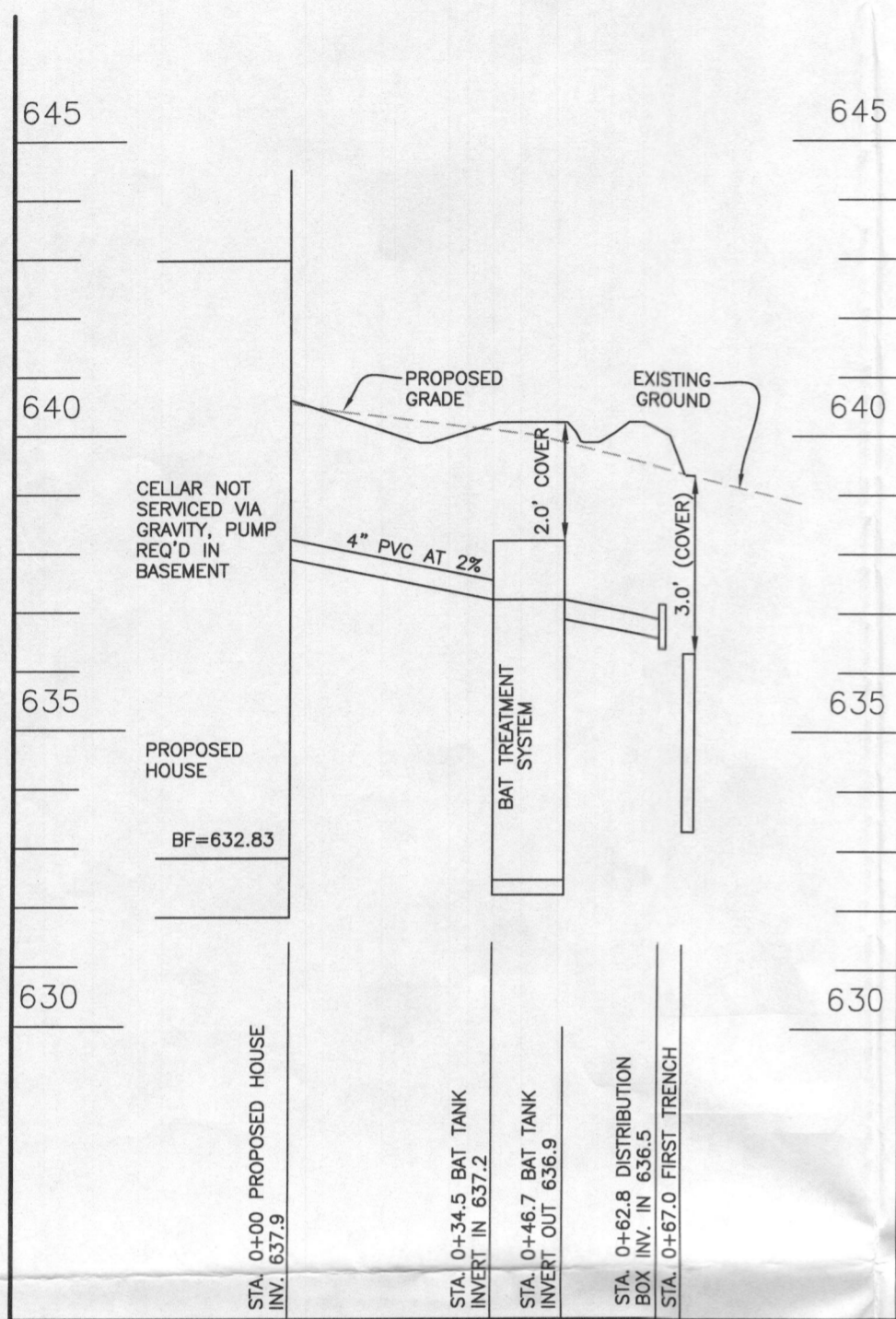


BUILDING PERMIT PLAN NOTES:

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR VISTA RIDGE, PLAT Nos. 22430-22435. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER A GRADING PLAN AND MODIFIED FOR THIS SPECIFIC HOUSE.
3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS AND TOPOGRAPHIC INFORMATION PROVIDED BY ACCUBID, INC., ON OR ABOUT JUNE 27, 2013.
4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-95-2387, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
8. ANY CHANGES TO A PRIVATE SEWAGE EASEMENT OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
9. STORMWATER MANAGEMENT FOR THIS LOT WAS DESIGNED TO BE PROVIDED BY BOTH POND #1, A POCKET POND, AND IN POND #2, A MICROPOL ED POND.

Approved Septic System Plan
Howard County Health Department
Dana Bernard 6-1-16
Signature Date

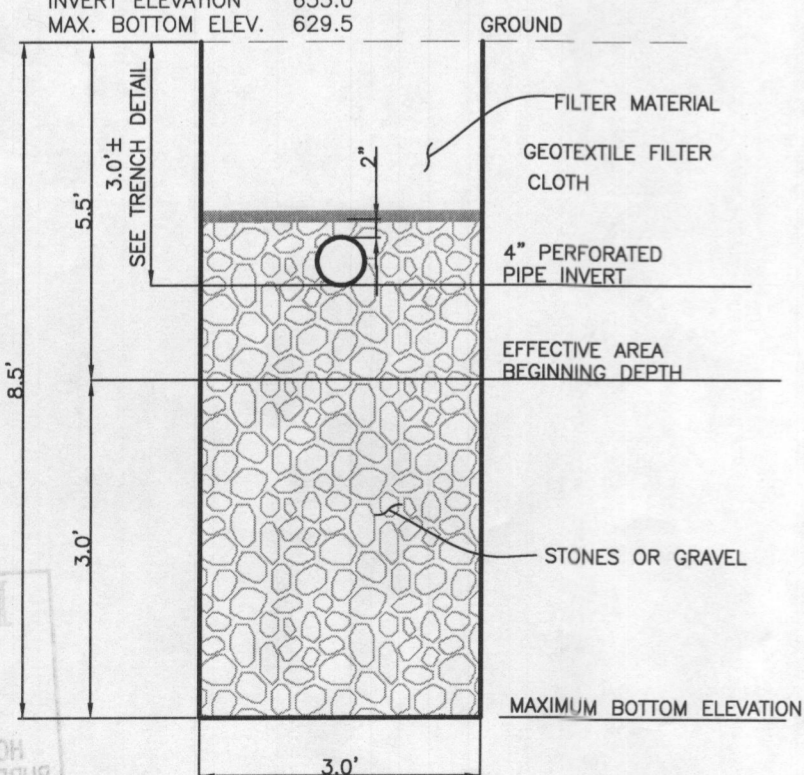
BENCHMARK ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-6105 ▲ FAX: 410-465-6644 BEI@BEI-CIVILENGINEERING.COM	
OWNER/BUILDER:	PROJECT:
DR HORTON, INC. 1356 BEVERLY ROAD SUITE 300 McLEAN, VA 22101 PHONE: 571-723-0813 FAX: 800-551-5015	VISTA RIDGE LOT 12
DESIGN: JMC	DRAFT: JMC
LOCATION:	TITLE:
2042 DROVERS LANE COOKSVILLE, MD 21723 TAX MAP No. 8 - BLOCK No. 23 - PARCEL No. 176 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	REVISED BAT SITE PLAN
HOUSE TYPE: HIGHLAND PARK 3 CAR GARAGE	DATE:
JANUARY, 2016 MAY, 2016	PROJECT NO. 1635
SCALE: 1" = 30'	DRAWING 1 OF 2



SEWER PROFILE - LOT 12
SCALE: VERTICAL 1"=3', HORIZONTAL 1"=30'

TRENCH INFORMATION

TRENCH	LENGTH	GROUND ELEVATION	INVERT ELEVATION	MAX. BOTTOM ELEV.
TRENCH 1-1	47 LF	639.4	636.2	630.9
TRENCH 1-2	47 LF	638.9	635.9	630.4
TRENCH 1-3	47 LF	638.5	635.5	630.0
TRENCH 1-4	47 LF	638.0	635.0	629.5
TRENCH 2-1	63 LF	638.5	635.5	630.0
TRENCH 2-2	63 LF	638.0	635.0	629.5
TRENCH 2-3	63 LF	637.5	634.5	629.0



TYPICAL TRENCH DETAIL
NOT TO SCALE

INITIAL SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	5.5 ft
Bottom Max Depth	8.5 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall reduction credit	0.5
Trench width	3
Effective Area Depth	3
Linear Length of trench Required	188 lf

1st REPLACEMENT SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	5.5 ft
Bottom Max Depth	8.5 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall reduction credit	0.5
Trench width	3
Effective Area Depth	3
Linear Length of trench Required	188 lf

2nd REPLACEMENT SYSTEM	
Number of Bedrooms	6
Application Rate	0.8 gpd/sf
Effective Area Beginning Depth	6 ft
Bottom Max Depth	8 ft
Design Flow	900 gpd
Drainage Field square footage	1125 sf
Sidewall reduction credit	0.625
Trench width	3
Effective Area Depth	2
Linear Length of trench Required	234 lf

SEPTIC INVERT CHART	
INV @ HOUSE	637.91
GROUND @ HOUSE	640.60
INV IN BAT TANK	637.21
INV OUT BAT TANK	636.90
TOP OF BAT TANK	638.21
GROUND OVER TANK	640.20
INV IN DIST BOX	636.50
INV OUT DIST BOX	636.40
GROUND AT DIST BOX	640.00

CRITICAL DIMENSIONS			
A	1'-0"	N	0'-3"
B	3'-0"	O	0'-6"
C	3'-4"	P	0'-3"
D	4'-5"	Q	1'-4"
E	3'-7"	R	4'-8"
F	12'-2"	S	6'-0"
G	1'-0"	T	2'-0"
H	5'-0"	U	6'-0"
I	0'-3"	V	
J	0'-3"	W	
K	1'-0"	X	
L	0'-2"	Y	
M	4'-6"	Z	

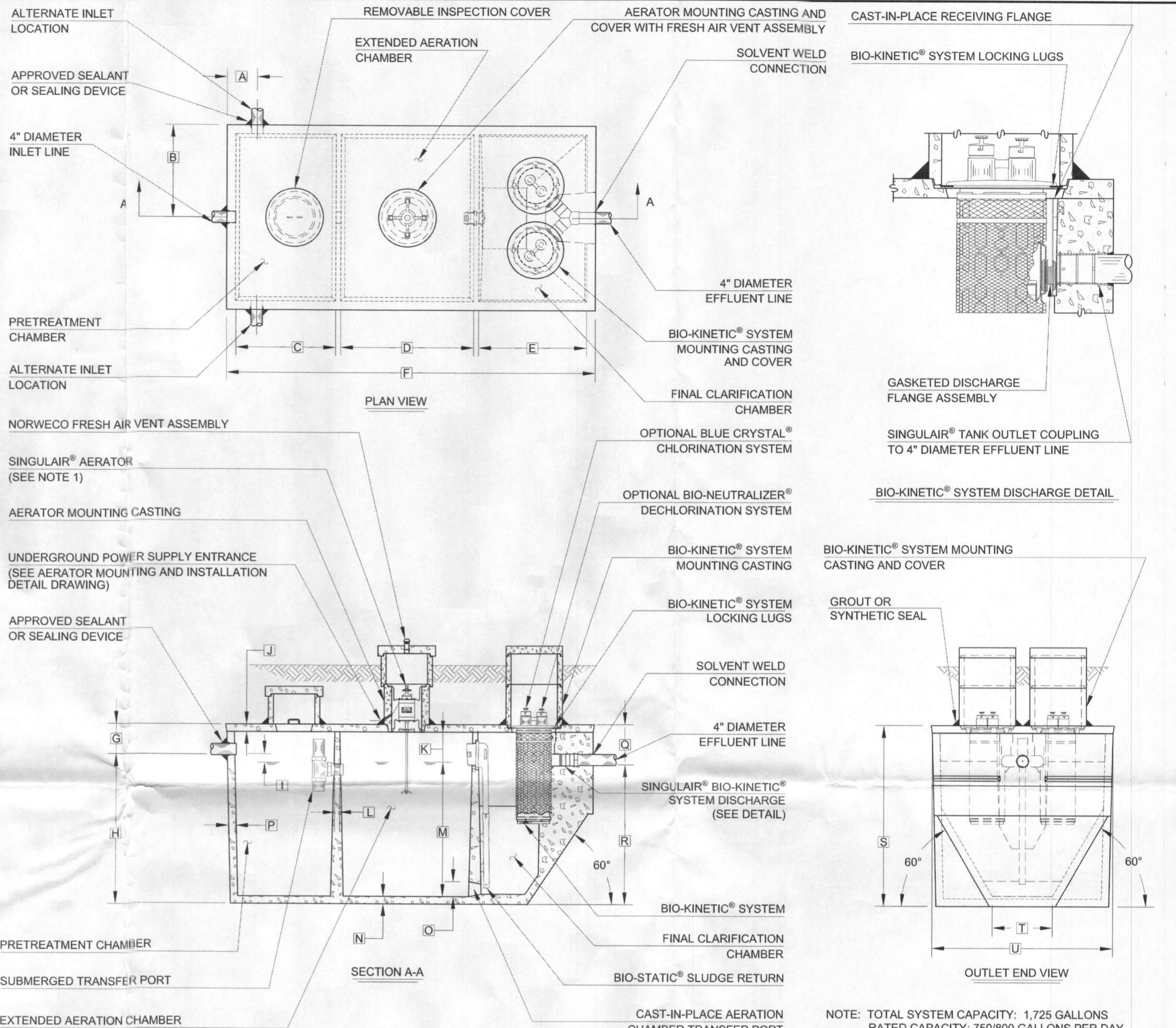
norweco

LOW PROFILE SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL 950LP-750GPD

U.S. AND FOREIGN PATENTS PENDING

© MMXVI

DESIGNED BY: MT
APPROVED BY: JMM
DATE: 4-25-2016
SCALE: NTS
PROJECT: PC-5-7157



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 shall be per the manufacturer's specification, 3.0'.
- The blower may not be located further from the tank than the manufacturer's specifications, 75'.
- The BAT system shall be maintained and operated for the life of the system.
- The BAT shall be operated by and maintained by a certified service provider.
- Within one month of installation, a person installing the BAT system shall report to the 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.

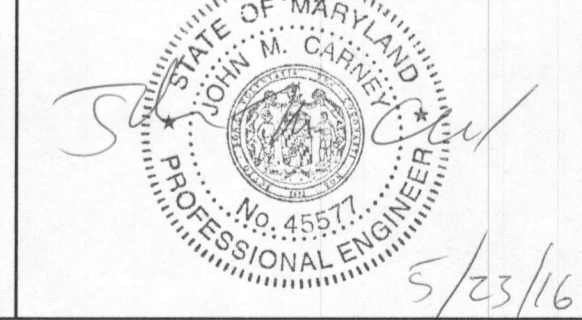
SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. WWW.NORWECO.COM

BENCHMARK ENGINEERING, INC.

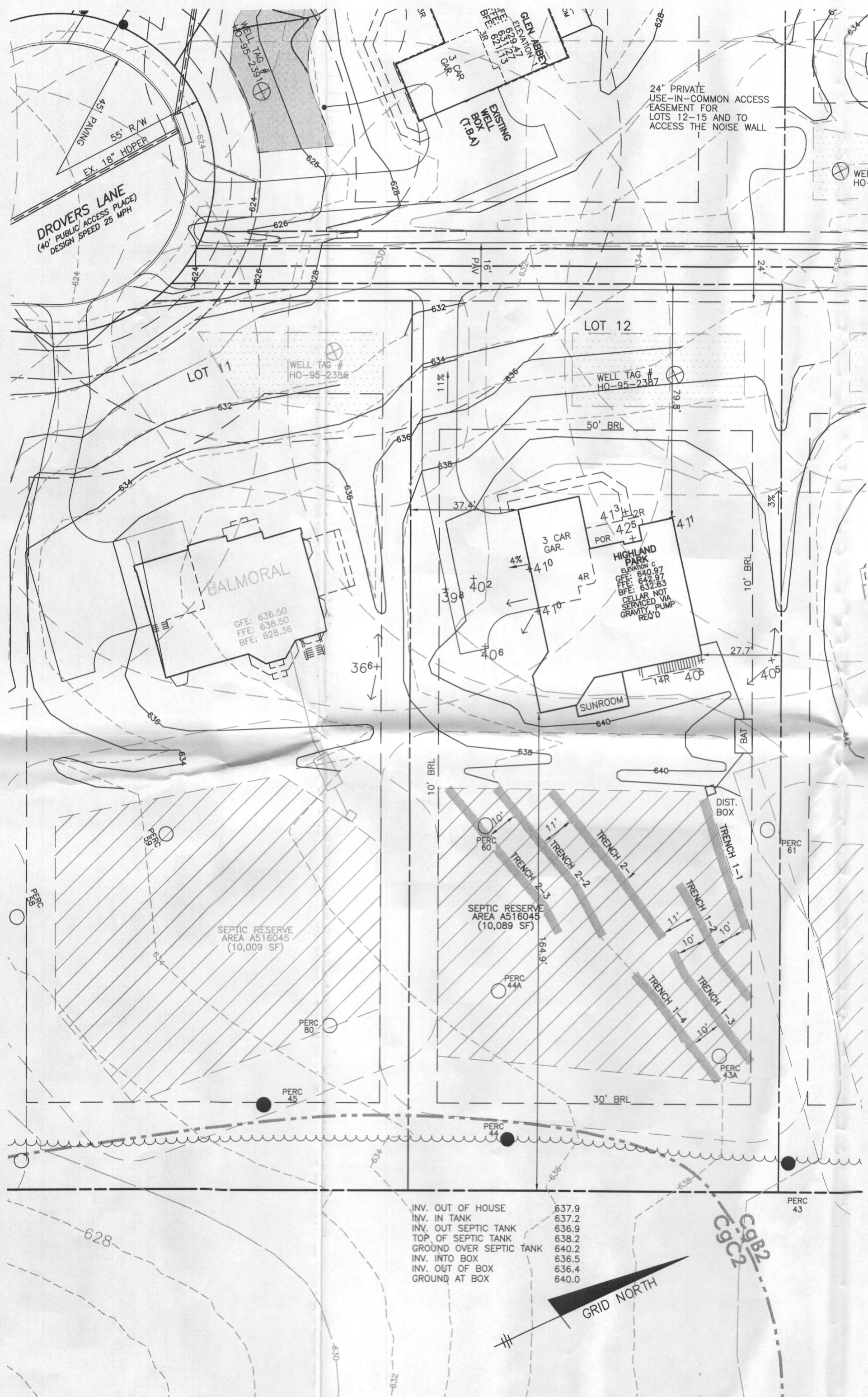
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 ▲ FAX: 410-465-6644
BEI@BEI-CIVILENGINEERING.COM

SIGNATURE AND SEAL ARE FOR PROFESSIONAL ENGINEER ONLY. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 6-08-2016.

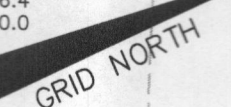


OWNER/BUILDER:	DR HORTON, INC. 1356 BEVERLY ROAD SUITE 300 McLEAN, VA 22101 PHONE: 571-723-0813 FAX: 800-551-5015	PROJECT:	VISTA RIDGE LOT 12
DESIGN:	JMC	DRAFT:	JMC
DATE:	JANUARY, 2016 MAY, 2016	PROJECT NO.:	1635
SCALE:	1" = 30'	DRAWING:	2 OF 2
LOCATION:		2042 DROVERS LANE COOKSVILLE, MD 21723 TAX MAP No. 8 - BLOCK No. 23 - PARCEL No. 176 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND TAX ID NUMBER 04-595485	
TITLE:		REVISED BAT PLAN	
HOUSE TYPE:		HIGHLAND PARK 3 CAR GARAGE	

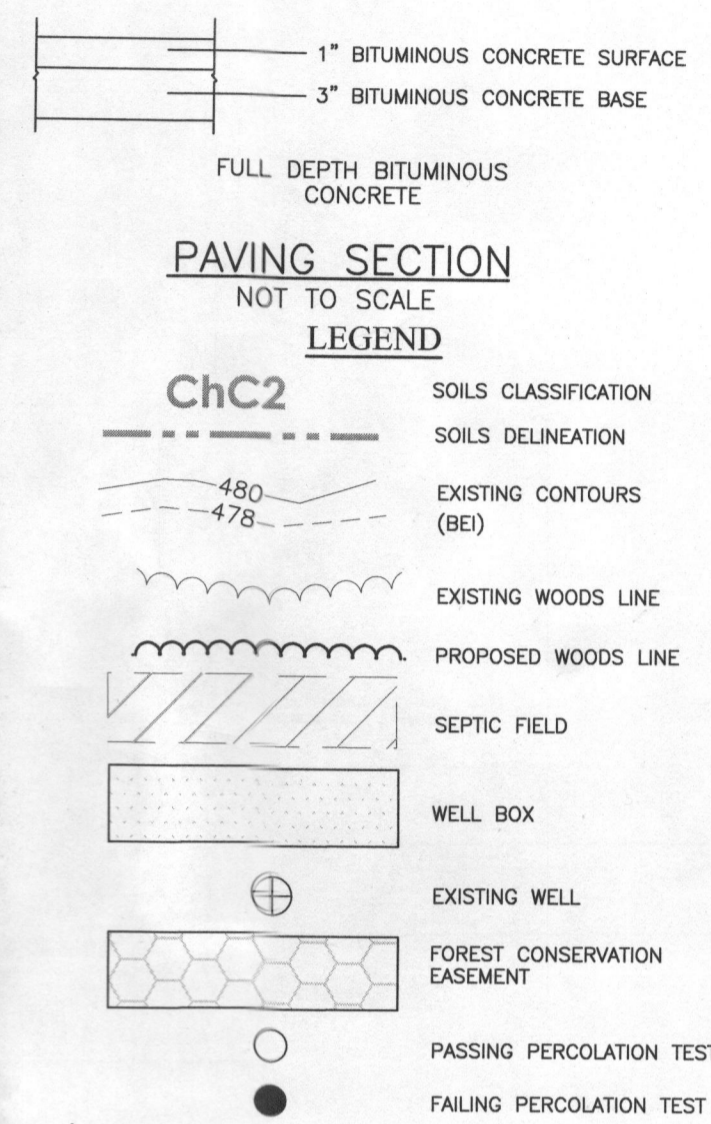


PLAN VIEW
1" = 30'

INV. OUT OF HOUSE 637.9
 INV. IN TANK 637.2
 INV. OUT SEPTIC TANK 636.9
 TOP OF SEPTIC TANK 636.2
 GROUND OVER SEPTIC TANK 640.2
 INV. INTO BOX 636.5
 INV. OUT OF BOX 636.4
 GROUND AT BOX 640.0



SOILS LEGEND		
MAP SYMBOL	SOIL GROUP	SOIL TYPE
CgB2	C	CHESTER GRAVELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
CgC2	B	CHESTER GRAVELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED
* INDICATES HYDRIC SOILS		
TAKEN FROM SOILS SURVEY, ISSUED JULY 1968, MAP NO. 33		



- BUILDING PERMIT PLAN NOTES:**
1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR VISTA RIDGE, PLAT Nos. 22430-22435. REFER TO THE PLATS FOR LOT DIMENSIONS, LOT AREAS, ALL EASEMENTS AND CONDITIONS.
 2. SEDIMENT AND EROSION CONTROLS WERE APPROVED BY HOWARD SOIL CONSERVATION DISTRICT UNDER A GRADING PLAN AND MODIFIED FOR THIS SPECIFIC HOUSE.
 3. TOPOGRAPHY SHOWN HEREON IS TAKEN FROM THE APPROVED ROAD CONSTRUCTION PLANS AND TOPOGRAPHIC INFORMATION PROVIDED BY ACCUBID, INC., ON OR ABOUT JUNE 27, 2013.
 4. ALL SEDIMENT AND EROSION CONTROL FEATURES USED ON THIS SITE SHALL COMPLY WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 5. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED ROAD CONSTRUCTION PLANS EXCEPT AS WAIVED.
 6. THE EXISTING WELL SHOWN ON THIS PLAN, HO-95-2387, HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING, INC., AND IS ACCURATELY SHOWN.
 7. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
 8. ANY CHANGES TO A PRIVATE SEWAGE EASEMENT OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 9. STORMWATER MANAGEMENT FOR THIS LOT WAS DESIGNED TO BE PROVIDED BY BOTH POND #1, A POCKET POND, AND IN POND #2, A MICORPOOL ED POND.

BENCHMARK
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 ▲ FAX: 410-465-6644
 BEI@BEI-CIVILENGINEERING.COM

<p>OWNER/BUILDER: DR HORTON, INC. 1356 BEVERLY ROAD SUITE 300 McLEAN, VA 22101 PHONE: 571-723-0813 FAX: 800-551-5015</p>	<p>PROJECT: VISTA RIDGE LOT 12</p> <p>LOCATION: 2042 DROVERS LANE COOKSVILLE, MD 21723 TAX MAP No. 8 - BLOCK No. 23 - PARCEL No. 176 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND</p> <p>TITLE: REVISED BAT SITE PLAN</p> <p>HOUSE TYPE: HIGHLAND PARK 3 CAR GARAGE</p>
<p>DESIGN: JMC DRAFT: JMC</p>	<p>DATE: JANUARY, 2016 MAY, 2016</p> <p>SCALE: 1" = 30'</p>
<p>PROJECT NO. 1635 DRAWING <u>1</u> OF <u>2</u></p>	

INITIAL SYSTEM		
Number of Bedrooms	6	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	5.5	ft
Bottom Max Depth	8.5	ft
Design Flow	900	gpd
Drainage Field square footage	1125	sf
Sidewall reduction credit	0.5	
Trench width	3	
Effective Area Depth	3	
Linear Length of trench Required	188	lf

1st REPLACEMENT SYSTEM		
Number of Bedrooms	6	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	5.5	ft
Bottom Max Depth	8.5	ft
Design Flow	900	gpd
Drainage Field square footage	1125	sf
Sidewall reduction credit	0.5	
Trench width	3	
Effective Area Depth	3	
Linear Length of trench Required	188	lf

2nd REPLACEMENT SYSTEM		
Number of Bedrooms	6	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	6	ft
Bottom Max Depth	8	ft
Design Flow	900	gpd
Drainage Field square footage	1125	sf
Sidewall reduction credit	0.625	
Trench width	3	
Effective Area Depth	2	
Linear Length of trench Required	234	lf

SEPTIC INVERT CHART	
INV @ HOUSE	637.91
GROUND @ HOUSE	640.60
INV IN BAT TANK	637.21
INV OUT BAT TANK	636.90
TOP OF BAT TANK	638.21
GROUND OVER TANK	640.20
INV IN DIST BOX	636.50
INV OUT DIST BOX	636.40
GROUND AT DIST BOX	640.00

CRITICAL DIMENSIONS			
A	1'-0"	N	0'-3"
B	3'-0"	O	0'-6"
C	3'-4"	P	0'-3"
D	4'-5"	Q	1'-4"
E	3'-7"	R	4'-8"
F	12'-2"	S	6'-0"
G	1'-0"	T	2'-0"
H	5'-0"	U	6'-0"
I	0'-3"	V	
J	0'-3"	W	
K	1'-0"	X	
L	0'-2"	Y	
M	4'-6"	Z	

norweco

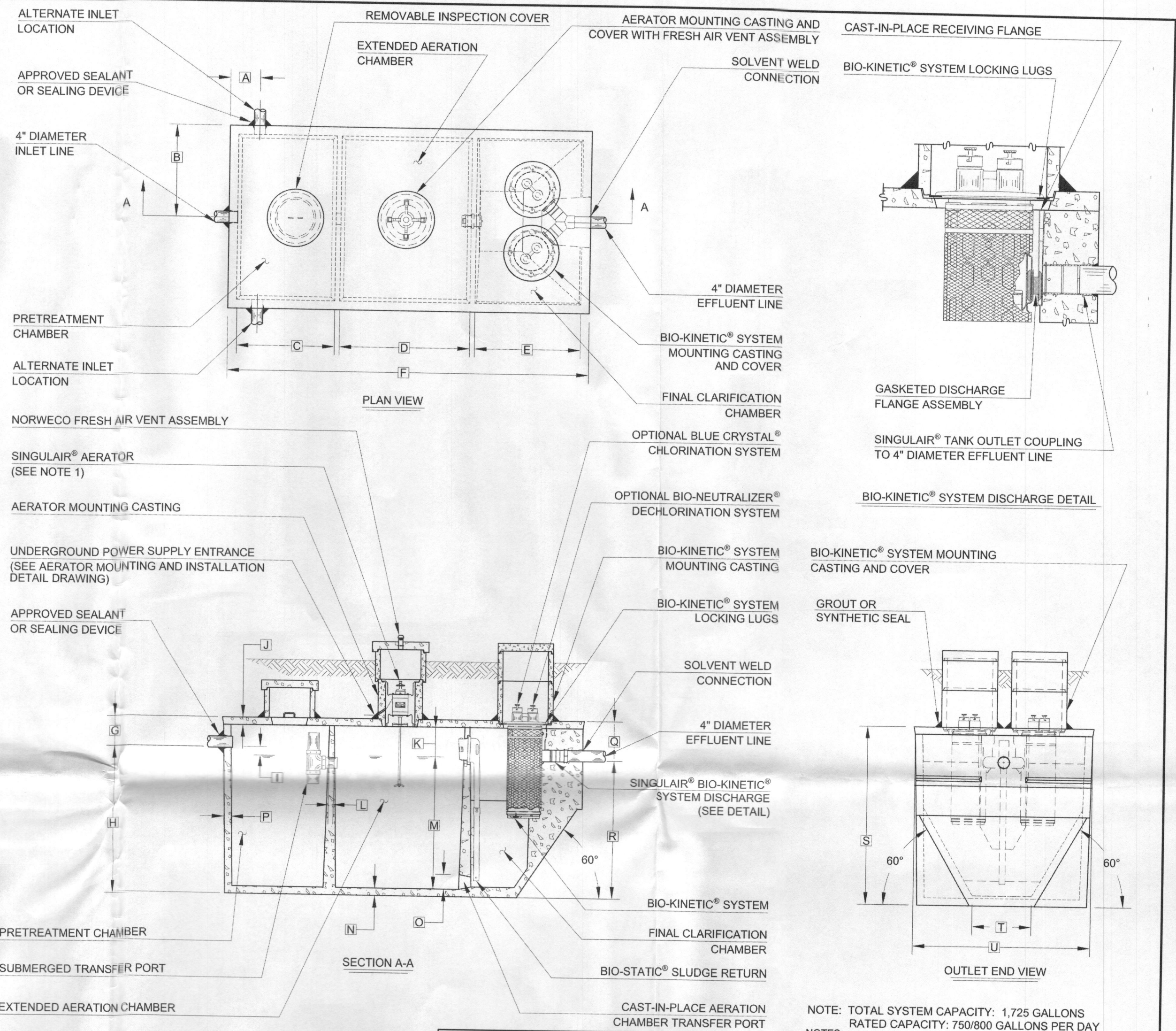
U.S. AND FOREIGN PATENTS PENDING

LOW PROFILE SINGULAIR® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM MODEL 960LP-750GPD

DATE: 4-25-2016

NTS

PC-S-7157



- 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 shall be per the manufacturer's specification, 3.0'.
 - The blower may not be located further from the tank than the manufacturer's specifications, 75'.
 - The BAT system shall be maintained and operated for the life of the system.
 - The BAT shall be operated by and maintained by a certified service provider.
 - Within one month of installation, a person installing the BAT system shall report to the 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.

SEE MANUFACTURER SPECIFICATIONS FOR DETAILS. WWW.NORWECO.COM

BENCHMARK ENGINEERING, INC.

ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 ▲ FAX: 410-465-6644
BEI@BEI-CIVILENGINEERING.COM

NOTE: TOTAL SYSTEM CAPACITY: 1,725 GALLONS
RATED CAPACITY: 750/800 GALLONS PER DAY

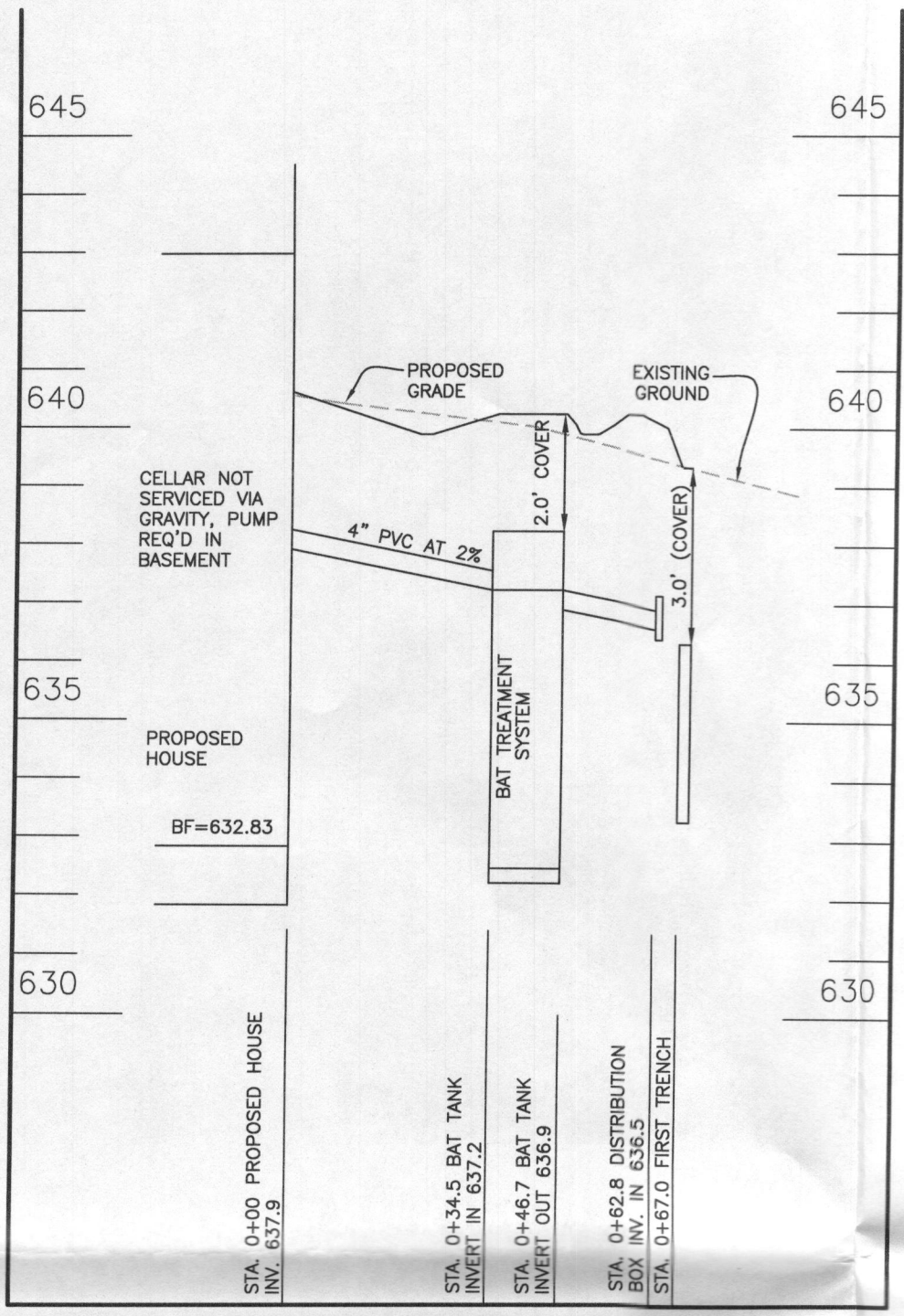
NOTES:
TOTAL SYSTEM CAPACITY: 1,725 GALLONS
RATED CAPACITY: 750 GALLONS PER DAY AND
ABLE TO SERVICE UP TO SIX (6) BEDROOMS PER MANUFACTURER.

SIGNATURE AND SEAL ARE FOR REGISTERED PROFESSIONAL ENGINEER ONLY:

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 45577, Expiration Date: 6-08-2016.

STATE OF MARYLAND
JOHN M. GARNER, GOV.
PROFESSIONAL ENGINEER
No. 45577
6/23/16

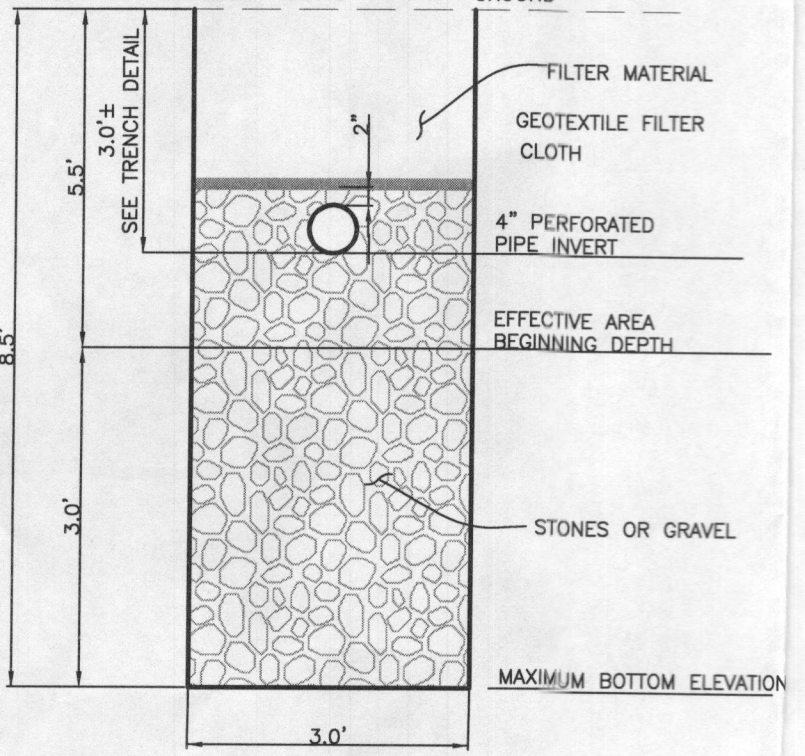
OWNER/BUILDER:	DR HORTON, INC. 1356 BEVERLY ROAD SUITE 300 MCLEAN, VA 22101 PHONE: 571-723-0813 FAX: 800-551-5015	PROJECT:	VISTA RIDGE LOT 12
DESIGN:	JMC	DRAFT:	JMC
DATE:	JANUARY, 2016 MAY, 2016	PROJECT NO.	1635
SCALE:	1" = 30'	DRAWING	2 OF 2
LOCATION:		2042 DROVERS LANE COOKSVILLE, MD 21723 TAX MAP No. 8 - BLOCK No. 23 - PARCEL No. 176 4TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND TAX ID NUMBER 04-595485	
TITLE:		REVISED BAT PLAN	
HOUSE TYPE:		HIGHLAND PARK 3 CAR GARAGE	



SEWER PROFILE - LOT 12
SCALE: VERTICAL 1"=3', HORIZONTAL 1"=30'

TRENCH INFORMATION

TRENCH	LENGTH	GROUND ELEVATION	INVERT ELEVATION	MAX. BOTTOM ELEV.
TRENCH 1-1	47 LF	639.4	636.2	630.9
TRENCH 1-2	47 LF	638.9	635.9	630.4
TRENCH 1-3	47 LF	638.5	635.5	630.0
TRENCH 1-4	47 LF	638.0	635.0	629.5
TRENCH 2-1	63 LF	638.5	635.5	630.0
TRENCH 2-2	63 LF	638.0	635.0	629.5
TRENCH 2-3	63 LF	637.5	634.5	629.0



TYPICAL TRENCH DETAIL
NOT TO SCALE