



Howard County
Health Department

Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

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

www.hchealth.org

Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE:

9/8/15

ONSITE SEWAGE DISPOSAL SYSTEM

P

557361

APPROVAL DATE:

11/25/2015

PERMIT:

CONSTRUCTION

A

PROPERTY ADDRESS: 18305 Chelsea Knolls Drive

SUBDIVISION: Chelsea Knolls

LOT: 1

TAX ID: 04-594315

CONTRACTOR: Hatfield's Equipment

EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 519 Annapolis Junction, MD 20701

PHONE: 301-490-4289

CONTRACTOR CERTIFIED FOR BAT INSTALLATION:



MDE



MANUFACTURER:

PROPERTY OWNER: Ryan Homes

EMAIL: dsnyder@nvrinc.com

OWNER ADDRESS: 9720 Patuxent Woods Drive

PHONE: 410-796-0980

BAT UNIT MODEL: Norweco TNTLP-600

PUMP SIZE: 0.5

PUMP TANK CAPACITY: 1500 GAL

OPERATION & MAINTENANCE AGREEMENT

DATE SIGNED: 5/1/14

DATE RECORDED: 5/1/14

DISTRIBUTION SYSTEM:



GRAVITY



PRESSURE DOSED

BEDROOMS: 4

APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>250</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</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:	Monarch pump tank. Pump is (Meyers) ME45 or equivalent.	

ISSUED BY: Robert Bricker

ISSUE DATE: 9/8/15

EXPIRATION DATE: 9/8/16

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 15002829

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.

Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

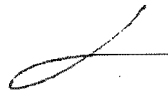
Letter of Certification

This is to certify that the Norweco Singlair TNT 600 GPD Septic Tank installed at 18305 Chelsea Knolls Dr., MT. Airy, MD 21771 on September 17, 2015 was installed according to the manufacture's specifications.

Installer: Jeff Reiter

Property Owner: NVR, Inc,

Permit #

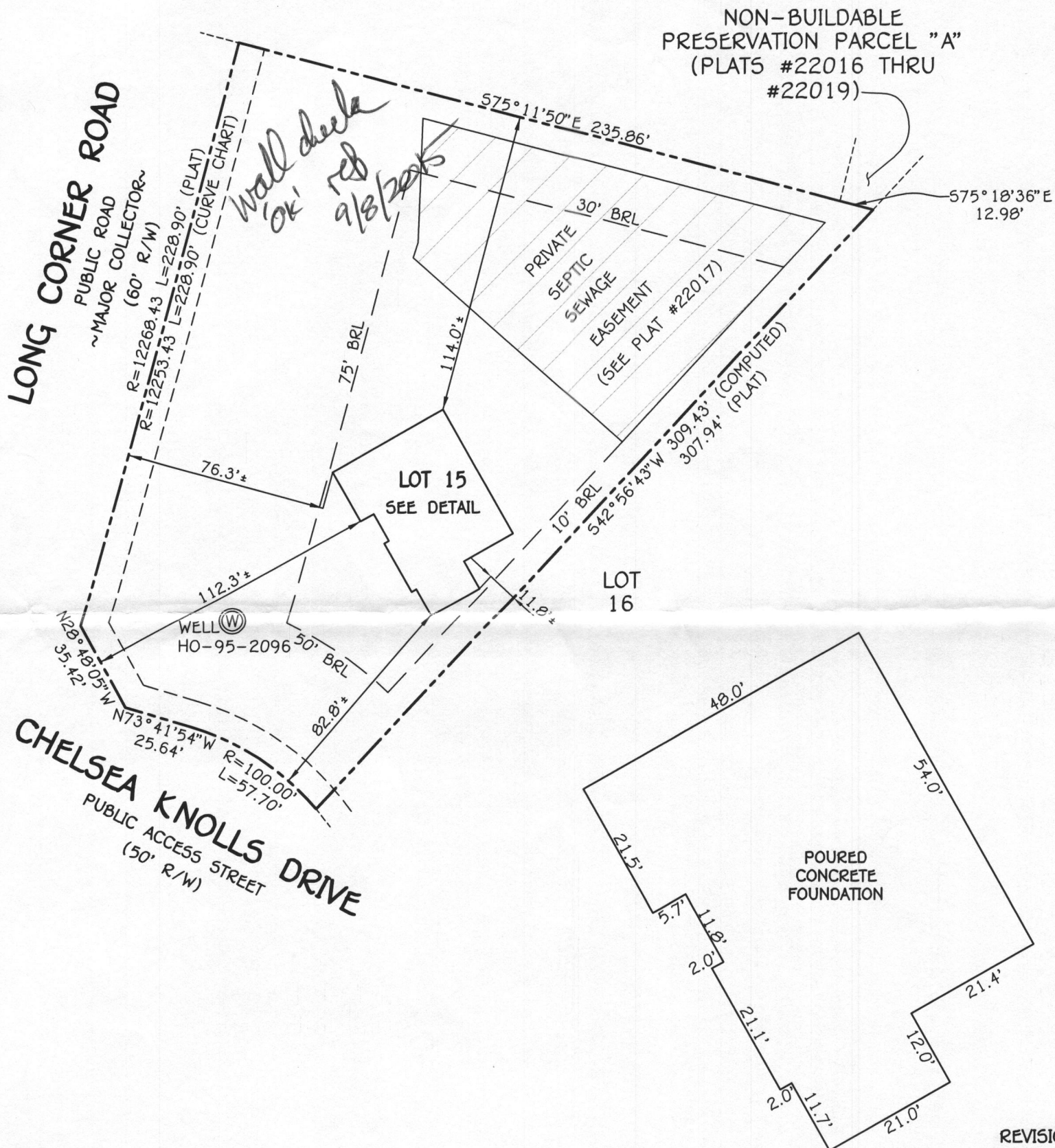


MATTHEW GECKLE

Vice-President

GENERAL NOTES:

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C0010D EFFECTIVE 11/06/2013
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1.0.'
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-2096 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2016.
- 7) BUILDING PERMIT #B-15001386



#18305 CHELSEA KNOLLS DRIVE
B.R.L. = BUILDING RESTRICTION LINE
TOP OF FOUNDATION ELEVATION = 776.1'±

REVISION PLAT
LOT 15
CHELSEA KNOLLS
LOTS 15 AND 16,
NON-BUILDABLE PRESERVATION
PARCELS 'A-1' & PUBLIC ROAD
RIGHT OF WAY
PLAT NOS. 23471 THRU 23473
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461 - 2855

Drawing Name:



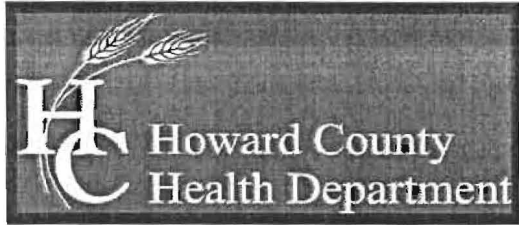
PROPERTY LINE SURVEYOR
REG. #339

9/01/15
DATE

HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 7/31/15
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=50'
DATE: 9/1/15
DRAWN BY: GAD
CHECKED BY: MLR
PROJECT No.: 13038-3001



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Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

Lot 1

**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 May 2014, among Chelsea Knolls, LC, 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 18305 Chelsea Knolls Drive, Mt Airy, Maryland 21771, in the 4th 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 8717 Folio 579.

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.

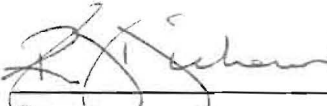
G. This agreement may be voided at any time at the discretion of the County.

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.

 4/25/14

Owner Date
Chelsea Knolls, L.C., Russell Dickens, Manager

Owner Date

 5/1/2014

Howard County Health Department

13038-301

Clerk of the Circuit Court for
Howard County
Land Records/Licensing
14 SAT AGREEMENTS
The Thomas Dorsey Building
9250 Bendix Road
Columbia, MO 21045
410-313-5850

~~FILE CHECK~~
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 82

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 83

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 84

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 85

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 86

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 87

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 88

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 89

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 90

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC

1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 88

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 89

LR - Agreement Surcharge
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LR - Agreement Recording Fee
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 90

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 91

LR - Agreement Surcharge
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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 92

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 93

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 94

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: 95

LR - Agreement Surcharge
1x 40.00 40.00
LR - Agreement Recording Fee
** VOID **

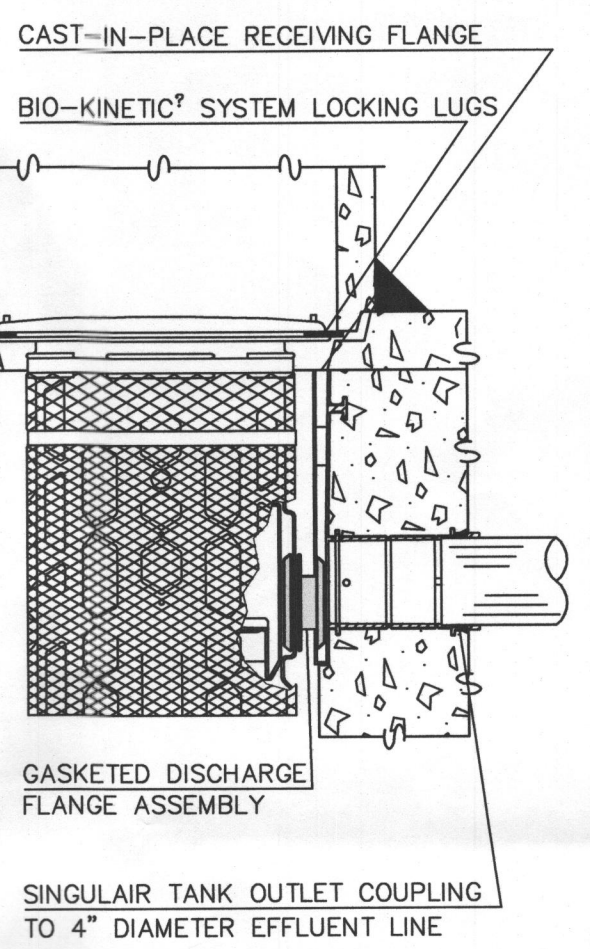
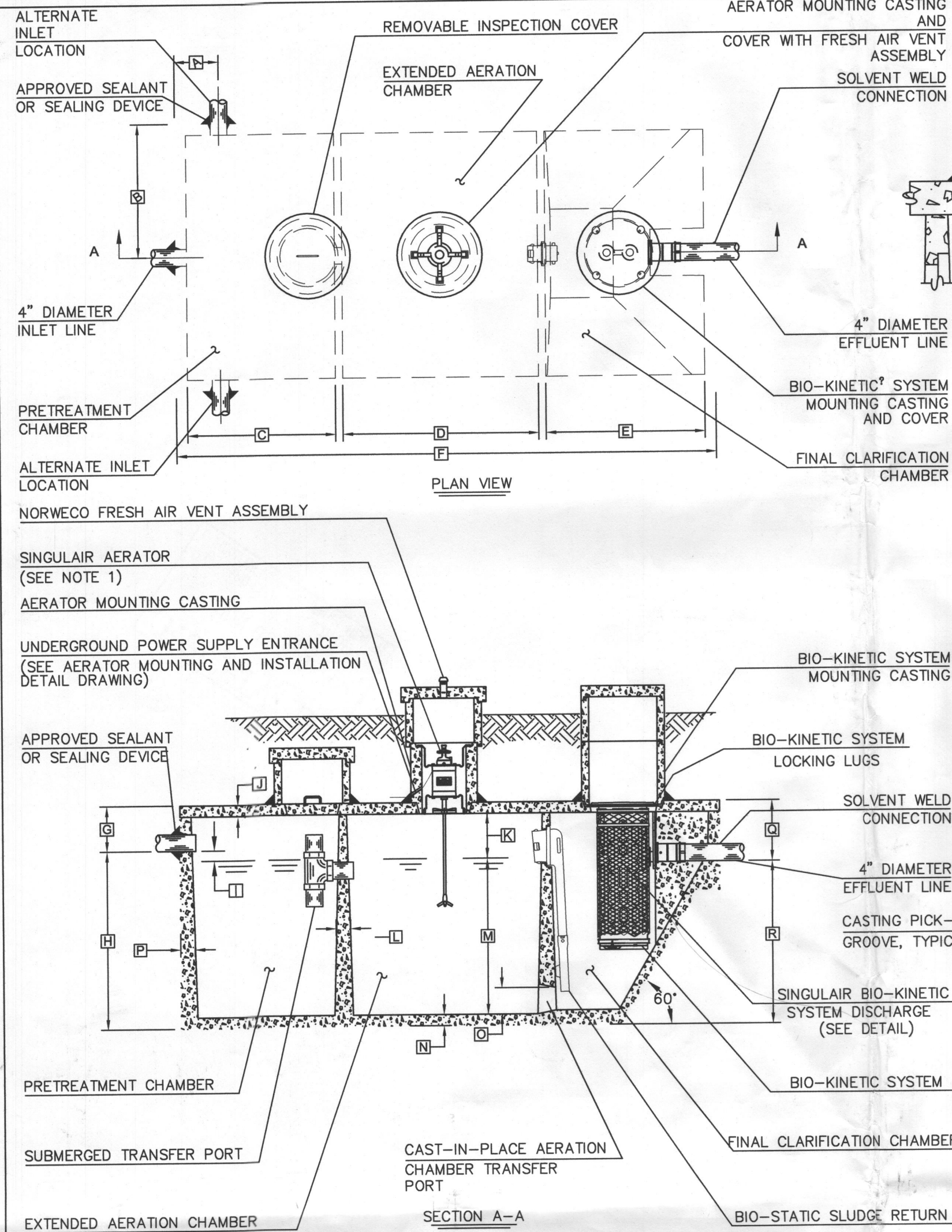
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LR - Agreement Surcharge
** VOID **

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LR - Agreement Recording Fee
1x 20.00 20.00
Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 95

LR - Agreement Surcharge
1x 40.00 40.00

=====
SubTotal: 840.00
Total: 840.00
=====
REV-Check-BDA 840.00
Number : 3616

05/01/2014 14:01 CC13-JE
#2738771 /494/109
~ Thank you for visiting us today ~



- GENERAL NOTES:**
- SINGULAIR AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
 - FALL THROUGH SINGULAIR[®] 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 SINGULAIR DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

PROJECT ENGINEER'S APPROVAL:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:
NAME:

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

DATE:
NAME:

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

SEPTIC SYSTEM ELEVATIONS
FFE = 777.5
SSE = 768.3
INV. OUT OF HOUSE = 765.3
PROP GROUND AT BAT TANK = 768.5
TOP OF BAT TANK = 768.01
COVER OVER BAT TANK = 2.49 FT
INVERT INTO BAT TANK = 765.01
INVERT OUT OF BAT TANK = 764.68
PROP GROUND AT PUMP TANK = 768.3
TOP OF PUMP TANK = 765.39
COVER OVER PUMP TANK = 2.91 FT
INVERT INTO PUMP TANK = 764.64
INVERT OUT OF PUMP TANK = 765.56

SEPTIC SYSTEM DESIGN
4 BEDROOM HOUSE
LOADING RATE = 600 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5.5 FEET
TRENCH DEPTH = 6 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 0.5 FEET
SF OF DRAINFIELD = 600 GPD / 0.8 = 750 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x0.5)) = 1.0
TRENCH LENGTH = 750 SF x 1.0 / 3 = 250 FEET (USE 250 FEET)
TRENCH SPACING = 20+W = ((2x0.5) + 3) = 4 USE 10'

FRICITION LOSS IN 2" & 3" PIPE FITTINGS:

TOTAL LINEAR FEET OF 2" & 3" SCH. 40 PVC = 71 LF + 131 LF = 202 LF
DYNAMIC HEAD
36 LF x 1.63 FT PER 100 LF OF PIPE = 0.59 FT OF FRICTION HEAD
86 LF x 2.71 FT PER 100 LF OF PIPE = 2.33 FT OF FRICTION HEAD
72 LF x 4.26 FT PER 100 LF OF PIPE = 3.07 FT OF FRICTION HEAD
DISTAL HEAD = 2.0 FT
VERTICAL FROM PUMP OFF TO DISCHARGE = 3.66 FT OF FRICTION HEAD
DISCHARGE TO HIGHEST ELEV OF MAIN = 0.0 FT (DISCHARGE IS HIGHEST ELEV OF SYSTEM)
TOTAL DYNAMIC HEAD = 11.65 FT

PIPE VOLUMES
3 LF (3" SCH. 40 PIPE) x 38.4 GALLONS PER 100 LF = 1.2 GALLONS
69 LF (2" SCH. 40 PIPE) x 17.4 GALLONS PER 100 LF = 12.0 GALLONS
232 LF (1.5" SCH. 40 PIPE) x 10.6 GALLONS PER 100 LF = 24.6 GALLONS

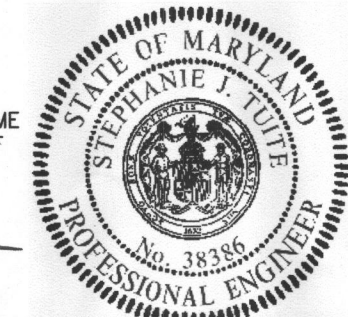
MINIMUM DOSE
MINIMUM DOSE = (5 x LATERAL PIPE VOLUME) + (FORCE MAIN & MANIFOLD)
= (5 x 24.6) + (13.2)
= 136.2 GALLONS

136.2 GALLONS IS MORE THAN 1/8 DESIGN FLOW (600/8=100)
USE 163.6 GALLON DOSE (136.2 GALLON MINIMUM)
(RUN TIME = 2 MIN (81.8 GPM x 2 = 163.6 GALLON DOSE))

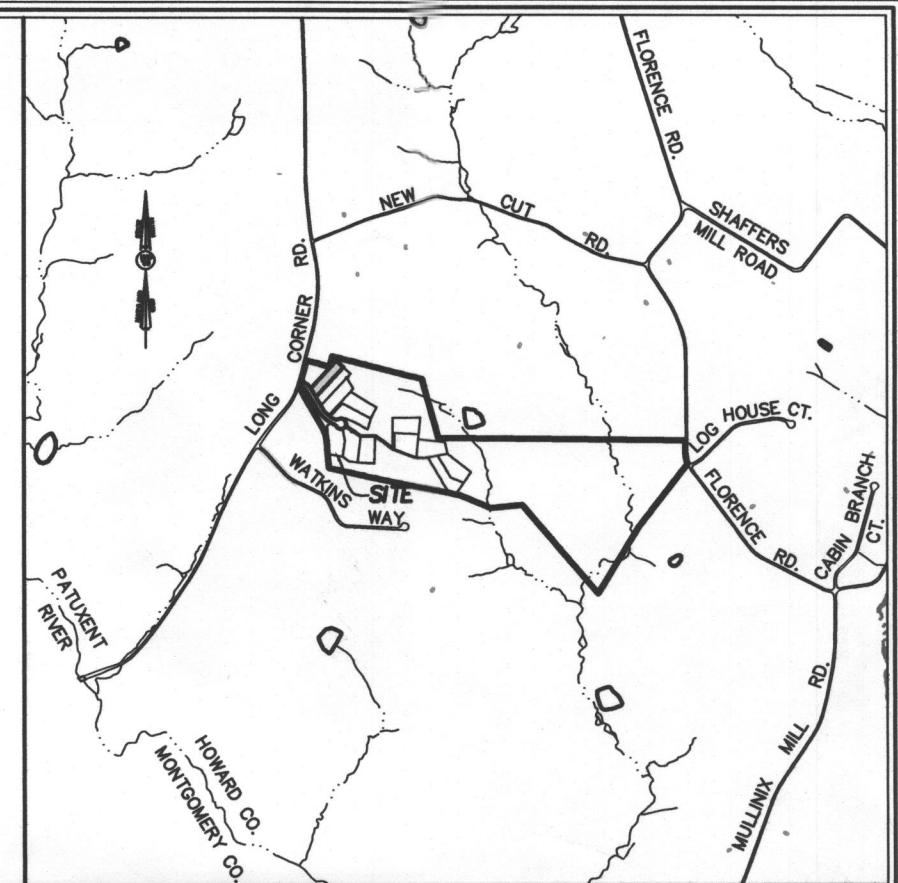
PUMP NEEDS TO HANDLE 81.8 GPM AT 12 FT OF HEAD
USE 0.5 HP (ME45 PUMP)

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. 38386, EXPIRATION DATE: 01/12/2016.

Signature of Professional Engineer DATE: 6/5/15

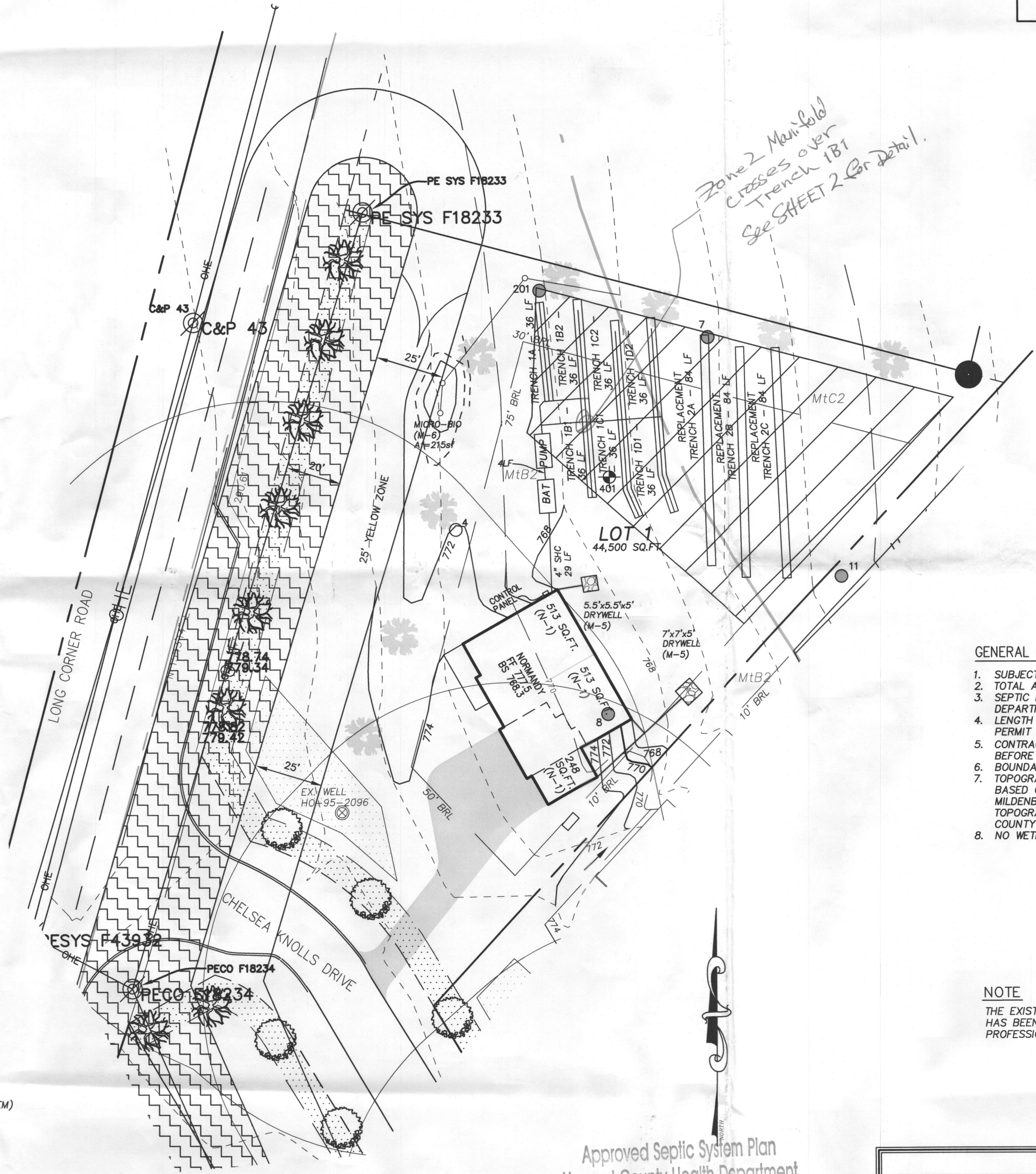


LEGEND	
---	EXISTING CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x362.5	SPOT ELEVATION
W	EXISTING WELL
	EXISTING STREET TREES FROM F-12-072
	EXISTING PERIMETER TREES FROM F-12-072
7	PASSED PERC HOLES
4	FAILED PERC HOLES



VICINITY MAP
SCALE : 1" = 2000'
HO. CO. MD. ADC MAP 7, GRID D8

BENCH MARKS
STA 081A ELEV 786.421
N. 603,004.896
E. 1,333,265.9
STA 081A ELEV 714.263
N. 602,649.523
E. 1,271,163.330



GENERAL NOTES

- SUBJECT PROPERTY ZONED: RC-DEO
- TOTAL AREA OF PROPERTY: 44,500 SQ.FT. OR 1.02 AC.
- SEPTIC EASEMENT SUBJECT TO HOWARD COUNTY HEALTH DEPARTMENT REVIEW.
- LENGTH OF TRENCH TO BE DETERMINED AT TIME OF SEPTIC PERMIT ISSUANCE.
- CONTRACTOR/BUILDER TO VERIFY ELEVATION IN THE FIELD BEFORE BEGINNING ANY CONSTRUCTION.
- BOUNDARY OF LOT BASED ON PLAT #22017.
- TOPOGRAPHY SHOWN HEREON TAKEN FROM F-07-072 WHICH IS BASED ON FIELD RUN TOPOGRAPHIC SURVEY CONDUCTED BY MILDENBERG, BOENDER & ASSOCIATES, INC. IN SEPTEMBER, 2001. TOPOGRAPHY IN NON-DEVELOPED AREAS IS BASED ON HOWARD COUNTY 200 SCALE TOPOGRAPHY.
- NO WETLANDS EXIST ON THIS LOT.

NOTE

THE EXISTING WELL SHOWN ON THIS PLAN, TAG NO. HO #95-2096 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION									
TRENCH	GROUND ELEV.	PIPE INVERT ELEV.	TRENCH LENGTH (FT)	LATERAL PIPE LENGTH (FT)	PERFORATION DIAMETER (IN)	HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	TRENCH FLOW RATE (GPM)
1A	768.3	764.3	36	33.43	5/16	2	1.63	5.14	11.41
1B1	767.2	763.2	36	33.00	5/16	3.1	2.04	6.00	12.24
1B2	767.2	763.2	36	33.00	5/16	3.1	2.04	6.00	12.24
1C1	766.2	762.2	36	33.43	5/16	2	1.63	5.14	11.41
1C2	766.2	762.2	36	33.43	5/16	2	1.63	5.14	11.41
1D1	765.4	761.4	36	33.00	5/16	2.8	1.92	6.00	11.52
1D2	765.4	761.4	36	33.00	5/16	2.8	1.92	6.00	11.52
TOTAL TRENCH FLOW RATE									81.75

TRENCH DESIGN									
TRENCH	GROUND ELEV.	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH TO STONE FROM GROUND	DEPTH OF TRENCH (FT)	EFFECTIVE DEPTH AT	EFFECTIVE DEPTH (D)	WIDTH OF TRENCHES (W)	TRENCH SPACING
1A	768.3	764.55	764.3	3.75'	2.25'	762.3	5.5'	3.0'	10'
1B1	767.2	763.45	763.2	3.75'	2.25'	761.2	5.5'	3.0'	10'
1B2	767.2	763.45	763.2	3.75'	2.25'	761.2	5.5'	3.0'	10'
1C1	766.2	762.45	762.2	3.75'	2.25'	760.2	5.5'	3.0'	10'
1C2	766.2	762.45	762.2	3.75'	2.25'	760.2	5.5'	3.0'	10'
1D1	765.4	761.65	761.4	3.75'	2.25'	759.4	5.5'	3.0'	10'
1D2	765.4	761.65	761.4	3.75'	2.25'	759.4	5.5'	3.0'	10'

SOILS LEGEND		
SOIL	NAME	CLASS
MB2	Mt. Airy channery loam, 3 to 8 percent slopes, moderately eroded	A
MC2	Mt. Airy channery loam, 8 to 15 percent slopes, moderately eroded	A

**BAT SITE PLAN
CHELSEA KNOLLS**

LOT 1
18305 CHELSEA KNOLLS DRIVE

ZONING: RC-DEO
GRID NO. 5
PARCEL NO. 78
TAX MAP NO. 12
FOURTH ELECTION DISTRICT
DATE: APRIL, 2015
SHEET 1 OF 2

Approved Septic System Plan
Howard County Health Department
NORWECO TMLP - 600 GPD
Monarch 1500-gal Pump Tank
w/ 0.5 HP pump (Meyers ME45 or equiv)
R. B. Baker
Signature
6/18/15
Date
B15001386

PLAN VIEW
SCALE: 1"=30'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2855

