

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: 5/13/14 **ONSITE SEWAGE DISPOSAL SYSTEM** P 546362

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

PROPERTY ADDRESS: 1483 Route 32

SUBDIVISION: Glen Oak LOT: 7 TAX ID: _____

CONTRACTOR: Freedom Septic Clean Inc. EMAIL: _____

CONTRACTOR ADDRESS: 2809 Liberty Road, Eldersburg, MD 21784 PHONE: 410-795-2947

PROPERTY OWNER: Trinity Quality Homes EMAIL: _____

OWNER ADDRESS: 3675 Park Avenue Ste 301, Ellicott City, MD 21043 PHONE: 443-324-9806

BAT UNIT MODEL: Norweco BAT UNIT SIZE: 500GPD

PUMP CHAMBER CAPACITY (GALLONS): _____ PUMP SIZE: _____

NUMBER OF BEDROOMS: 3 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: _____ ISSUE DATE: 5/13/14 EXPIRATION DATE: 5/13/15

- 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 DOWNGRAIDENT 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

See Seperate sheet
For As-Built

ROAD NAME

TRENCH/DRAINFIELD DATA

| WIDTH | INLET | BOTTOM |
|------------------------------------|-------|--------|
| 2 | 4 | 8' |
| NUMBER OF TRENCHES | | 3 |
| TOTAL LENGTH _____ | | |
| ABSORPTION AREA _____ | | |
| DISTRIBUTION BOX LEVEL _____ | | |
| DISTRIBUTION BOX BAFFLE <u>Yes</u> | | |
| DISTRIBUTION BOX PORT <u>Yes</u> | | |

SEPTIC TANK DATA

SEPTIC TANK I LEVEL Yes
 MANUFACTURER Backover
 CAPACITY _____ GAL
 SEAM LOC Top
 TANK LID DEPTH 2.5'
 BAFFLES no
 BAFFLE FILTER _____
 MANHOLE LOC Front/End/Rear
 6" PORT LOC none
 WATERTIGHT TEST _____
 SLOTTED Yes
 DATE ON LID 8-25-14

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:

8/29/14 Set Tank per stakeout. Trenches shot in field. Install per approved plans (KW)

INSTALLATION: 9/5/14 SHC has too much fall. Ground elevation @ slope to tank approx. 10%. Need to 'step' pipe. Re do and leave open for inspection. BAT unit set. Lower trench dug, partial stone. (KW)

9/8/14 Waited on-site until contractor finished SHC to tank. Plumbing "stepped" as needed maintained 2%. OK to cover. trenches complete. Need SHC and BAT startup (KW) 9/11/14 - Sewer house connection complete - inspection completed looks good - OK to backfill - (KW)

FINAL INSPECTOR

Hank Oswald

DATE OF APPROVAL

2/19/2015

H0-95-2451



111'

126'

2'

44'

57'

63.5'



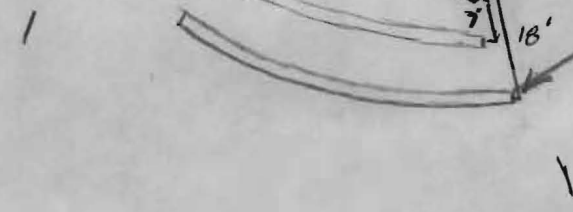
100'

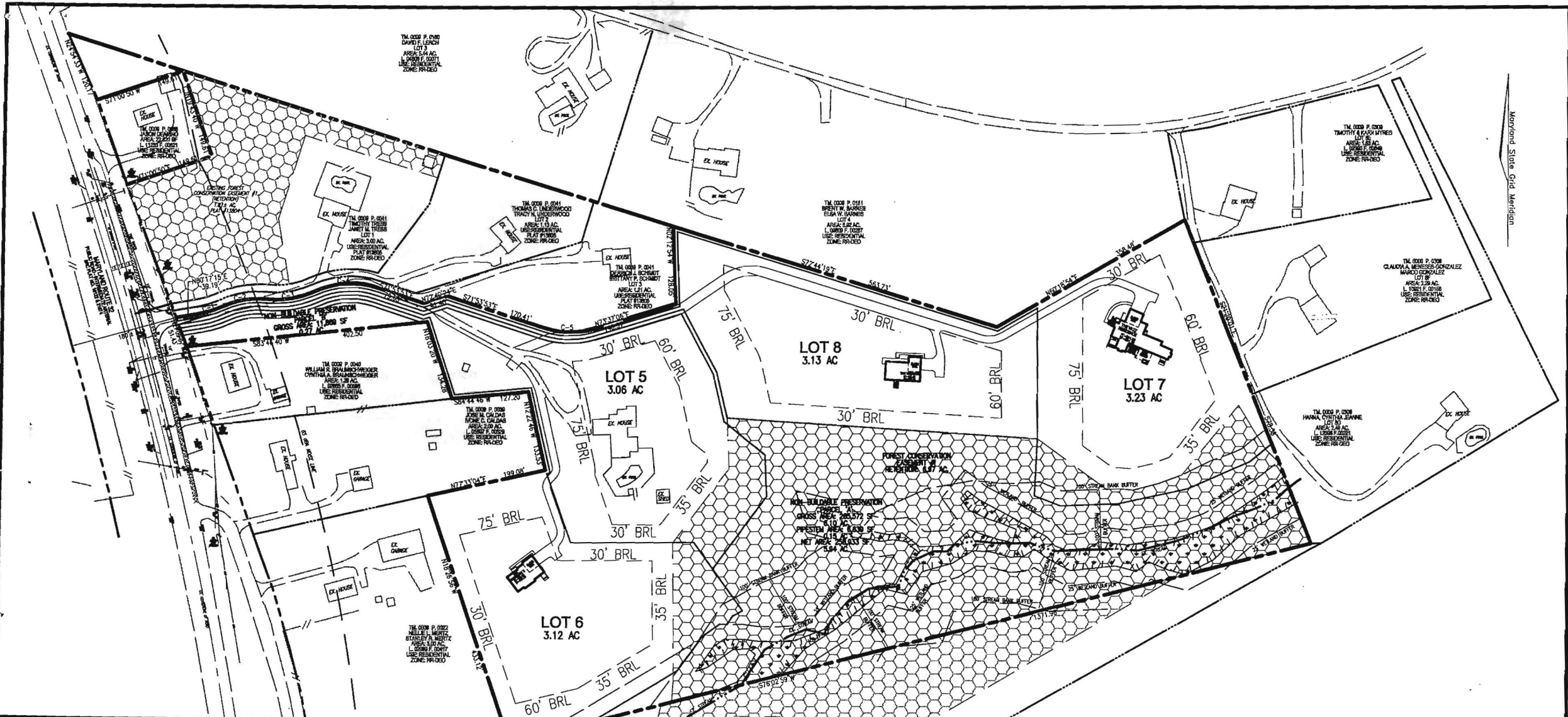
26'

16'

7'

18'





Maryland State Grid Meridian

K:\Projects\12-06\ENGR\dwg\PILOT.PLAN\01 LOT 7.dwg, 12/14/2013 16:11:21 PM

SCALE: AS SHOWN
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: DECEMBER 2013
 PROJECT #: 12-06
 SHEET#: 1 OF 3

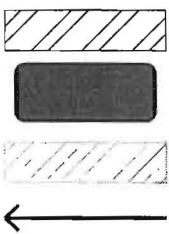
PLOT PLAN
GLEN OAK
LOT 7
REF: F-13-006
 TAX MAP 9 PARCEL 41
 BLOCK 17 & 18
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

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

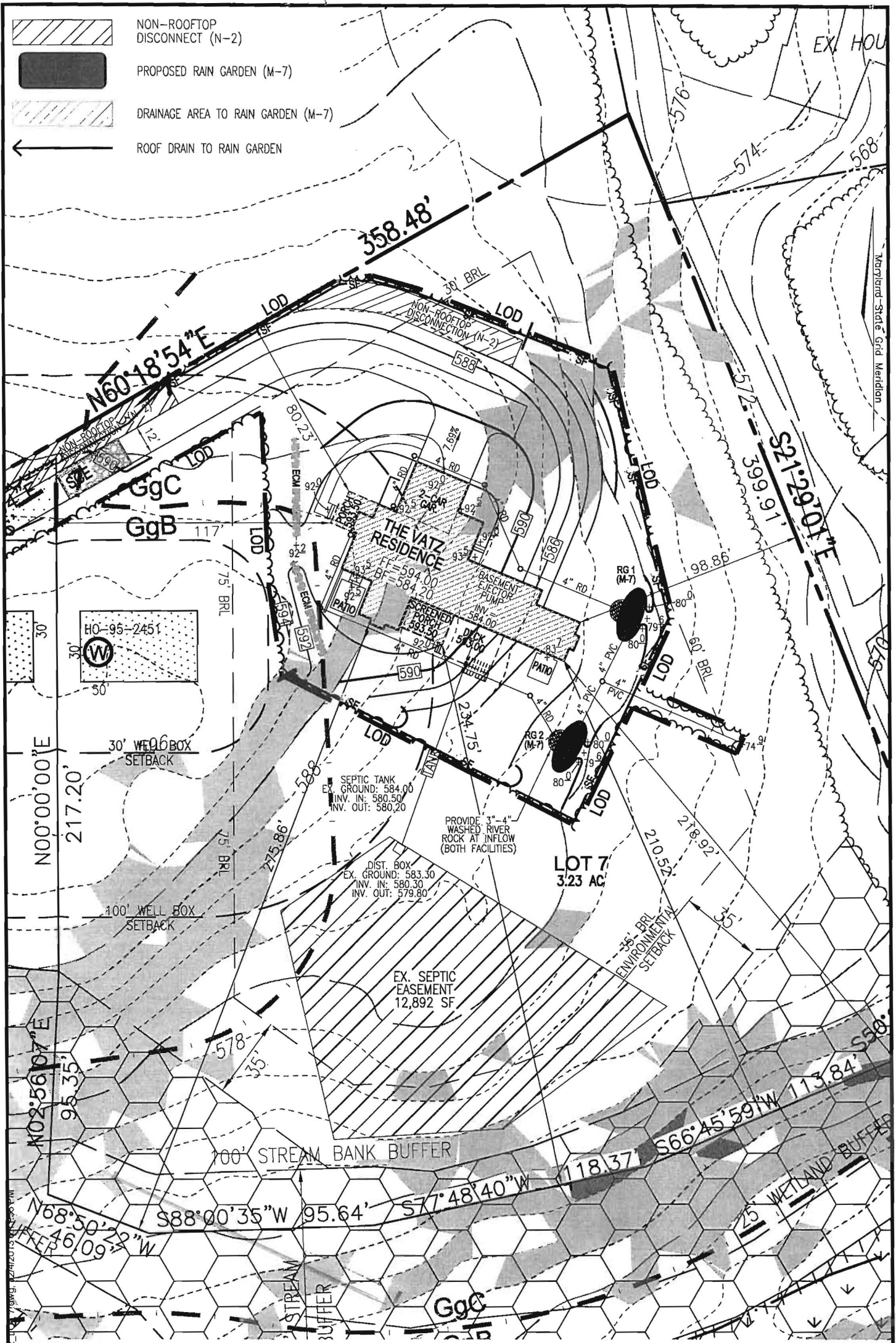
SCALE
 1"=200'

OWNER
 CHRISTIAN FAMILY OUTREACH CENTER
 1475 ROUTE 32
 SYKESVILLE, MARYLAND 21784
 (443) 324-9806
 ATTN: MR. TIM KEANE

ADDRESS
 1483 ROUTE 32
 SYKESVILLE, MD 21784
 GP: 13-050



NON-ROOFTOP DISCONNECT (N-2)
 PROPOSED RAIN GARDEN (M-7)
 DRAINAGE AREA TO RAIN GARDEN (M-7)
 ROOF DRAIN TO RAIN GARDEN



SCALE: 1"=50'
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: DECEMBER 2013
 PROJECT #: 12-06
 SHEET#: 2 OF 3

PLOT PLAN
GLEN OAK
LOT 7

REF: F-13-006
 TAX MAP 9 PARCEL 41
 BLOCK 17 & 18
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ADDRESS
 1483 ROUTE 32
 SYKESVILLE, MD 21784
 GP: 13-050

OWNER
 CHRISTIAN FAMILY OUTREACH CENTER
 1475 ROUTE 32
 SYKESVILLE, MARYLAND 21784
 (443) 324-9806
 ATTN: MR. TIM KEANE

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

THE EXISTING WELL SHOWN ON LOT 7 TAG NO. 95-2451 HAS BEEN FIELD LOCATED BY ROBERT H. VOGEL ENGINEERING, INC., AND IS ACCURATELY SHOWN.

BUILDING OF LOT 7 FLOOR AREAS:

BASEMENT FLOOR AREA: 3,150
 FIRST FLOOR AREA: 3,220
 SECOND FLOOR AREA: 820
 BEDROOMS: 3

NOTE: STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED BY 2 RAIN GARDENS (M-7), AND NON-ROOFTOP DISCONNECTS (N-2).

BUILDING PERMIT NO. _____

OWNER

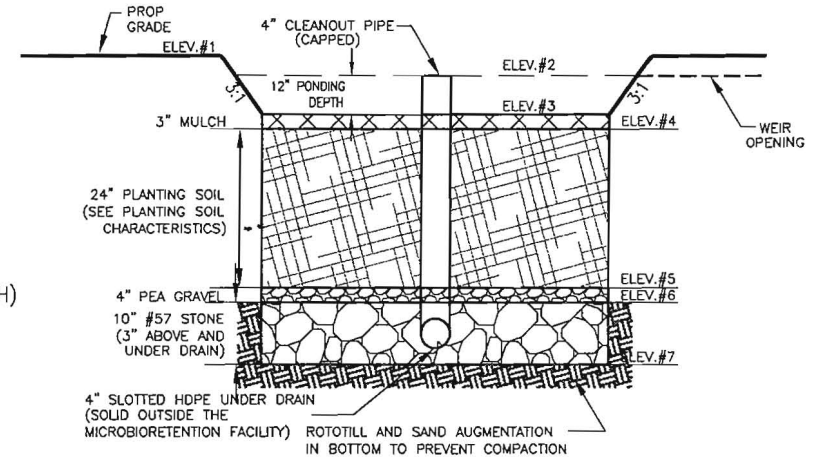
CHRISTIAN FAMILY OUTREACH CENTER
 1475 ROUTE 32
 SYKESVILLE, MARYLAND 21784
 (443) 324-9806
 ATTN: MR. TIM KEANE

ADDRESS

1483 ROUTE 32
 SYKESVILLE, MD 21784
 GP: 13-050

RAIN GARDEN 1 & 2

ROOFTOP=2,033 SF (EACH)
 $P_e = 1"$ $R_v = 0.95$
 $ESDV = A(P_e)(R_v)/12 =$
 $ESDV = 2,033 SF(1")(0.95)/12 = 161 CF (EACH)$



DETAIL - RAIN GARDEN (M-7)

NOT TO SCALE

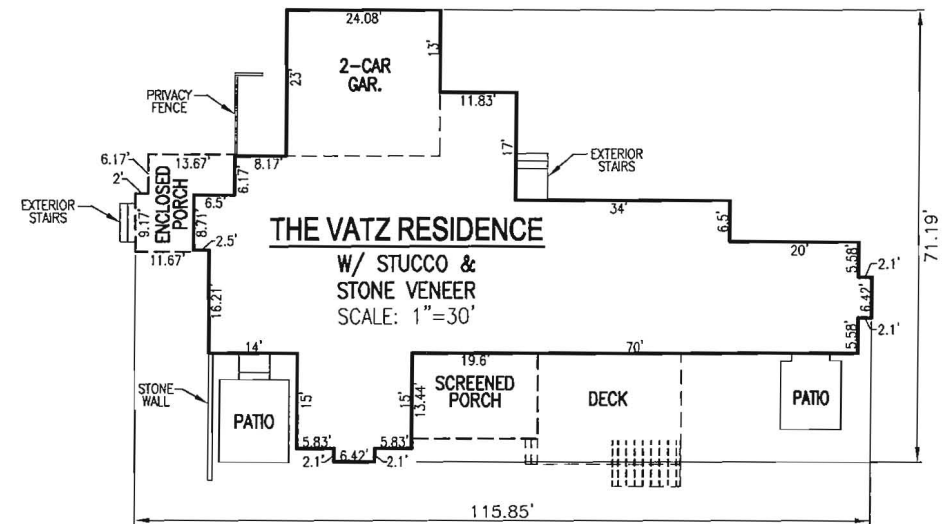
OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), AND ENHANCED FILTERS (M-9)

1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

| LOT # | RAIN GARDEN | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 4" INV. | 4" INV. OUTFALL | RAIN GARDEN SIZE |
|-------|----------------|--------|--------|--------|--------|--------|--------|--------|---------|-----------------|------------------|
| LOT 7 | RG 1 & 2 (M-7) | 580.00 | 579.60 | 578.60 | 578.35 | 576.35 | 576.02 | 575.19 | 575.44 | 574.90 | 161 CF |

Appendix B.4. Construction Specifications for Environmental Site Design Practices

| Material | Specifications | Size | Notes |
|---|--|--|--|
| Plantings | see Appendix A, Table A.4 | n/a | plantings are site-specific |
| Planting soil [2" to 4" deep] | loamy sand (60-65%) & compost (35-40%) or sandy loam (10%), coarse sand (30%) & compost (40%) | n/a | USDA soil types loamy sand or sandy loam; clay content < 5% |
| Organic content | Min. 10% by dry weight (ASTM D 2974) | | |
| Mulch | shredded hardwood | | aged 6 months, minimum; no pine or wood chips |
| Pea gravel diaphragm | pea gravel: ASTM-D-448 | NO. 8 OR NO. 9 (1/8" TO 3/8") | |
| Curtain drain | ornamental stone: washed cobbles | stone: 2" to 5" | |
| Geotextile | | n/a | PE Type 1 nonwoven |
| Gravel (underdrains and infiltration berms) | AASHTO M-43 | NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4") | |
| Underdrain piping | F 758, Type PS 24 or AASHTO M-278 | 4" to 6" rigid schedule 40 PVC or SDR35 | Sloped or perforated pipe, 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/2-inch galvanized hardware cloth. |
| Poured in place concrete (if required) | MSEA Mix No. 3; $f_c = 3500$ psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-A615-60 | n/a | in-situ testing of poured-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 309 R79; vertical loading [1:10 or 1:20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking. |
| Sand | AASHTO-M-6 or ASTM-C-33 | 0.02" to 0.04" | Sand substitutions such as Diabase and Gneiss (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand. |



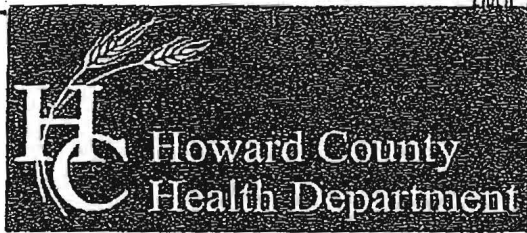
SCALE: AS SHOWN
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: DECEMBER 2013
 PROJECT #: 12-06
 SHEET#: 3 OF 3

**PLOT PLAN
 GLEN OAK
 LOT 7**

REF: F-13-006
 TAX MAP 9 PARCEL 41
 BLOCK 17 & 18
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

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K:\Projects\12-06\ENGR\dwg\PILOT PLANS\ID3 LOT 7.dwg, 12/14/2013 6:12:35 PM



LIBER 5463 FOLIO 319

000065

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**

*KEANE PROPERTY
 Glen Oak #7*

THIS AGREEMENT is made this 19th day of January, among Richard and Dolore Vata, 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 1483 Rt. 32, Sykesville MD 21784, 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 ___ Folio ___.

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:

*20
40*

- 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

LIBER | 5463 FOLIO 320

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.

Richard E. Vatz 1/19/2014
Owner Date
Richard E. VATZ

Joanne P. Vatz 1/19/2014
Owner Date
JOANNE VATZ

Beid Rufen 1/23/14
Howard County Health Department

LR - DOT/Mortgage
Recording Fee 20.00
Remitter Name: Howard
County Health
Department
Reference/Control #: 65
LR - DOT/Mortgage
Surcharge 40.00
Subtotal: 60.00
Total: 310.00
#2451633-5
02/12/2014 09:38
#2451633 002303 -
CC13-MH
Howard Co
Columbia/COB.03.02 -
Register B2.494

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 1483 RT.32, Sykesville, MD 21784 September 5, 2014 was installed according to the manufacture's specifications.

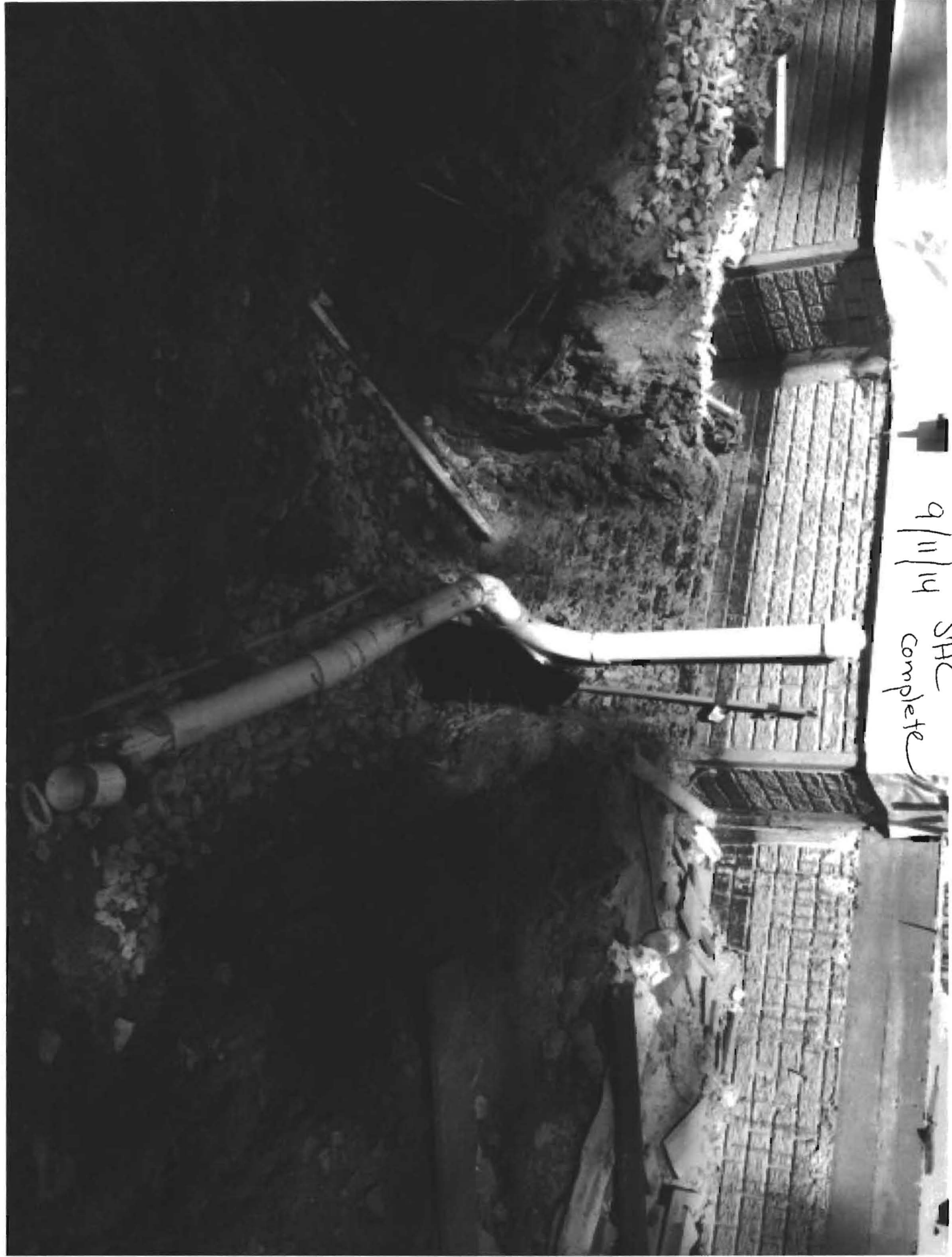
Installer: Daniel Farrow



MATTHEW GECKLE

Vice-President

9/11/14 SHC
complete



Williams, Jeffrey

From: Williams, Jeffrey
Sent: Wednesday, February 26, 2014 2:30 PM
To: 'Rob Vogel'
Subject: Keane Property/Glen Oak lot 7

Hi Rob. I reviewed the BAT plan for Glen Oak lot 7. It looks good except for one change I would like to see on a revision:

We always need to see equal length trenches unless the system is to be low pressure dosed. Also, I would like to see a notation of the length of each trench and the invert elevation of each trench. In this case, we have a 3 bedroom house with 2 foot wide trenches and a 57% sidewall reduction, so the total linear length of trench needed is 161'. We could go with three 52' trenches in the general area you show them. What would be helpful in general is a small chart or notation showing the math of how you got the total linear length for your design. In this case, we have 3 bedrooms at 450gpd / 0.8 absorption rate = $562.5 \text{ sq ft} / 2 (\text{trench width}) \times .57 (\text{sidewall reduction}) = 161 \text{ linear feet}$.

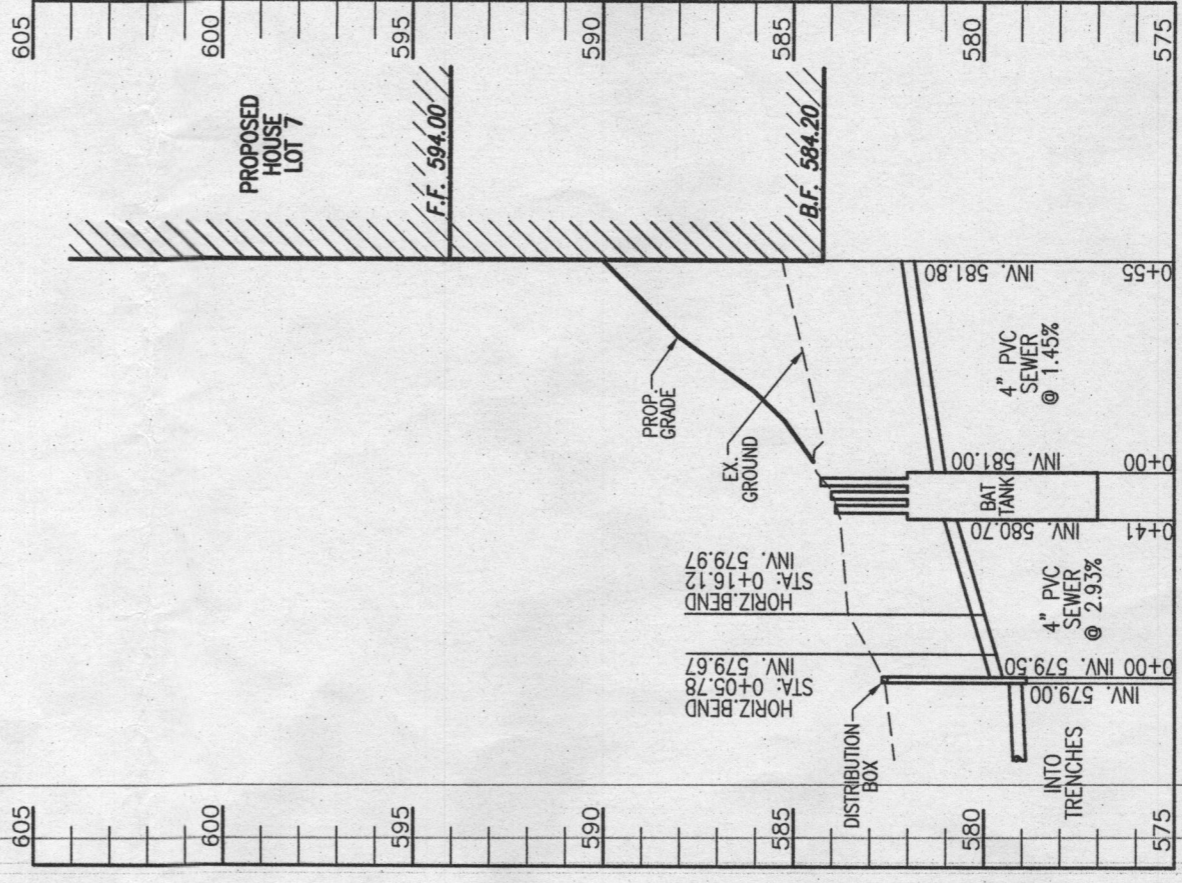
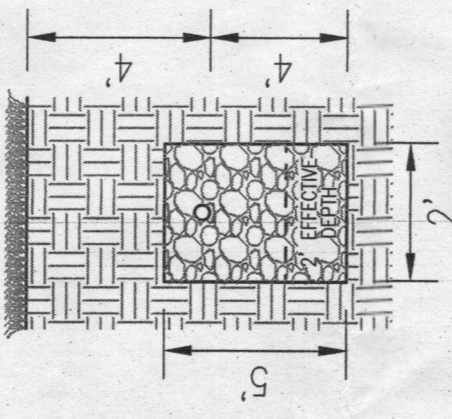
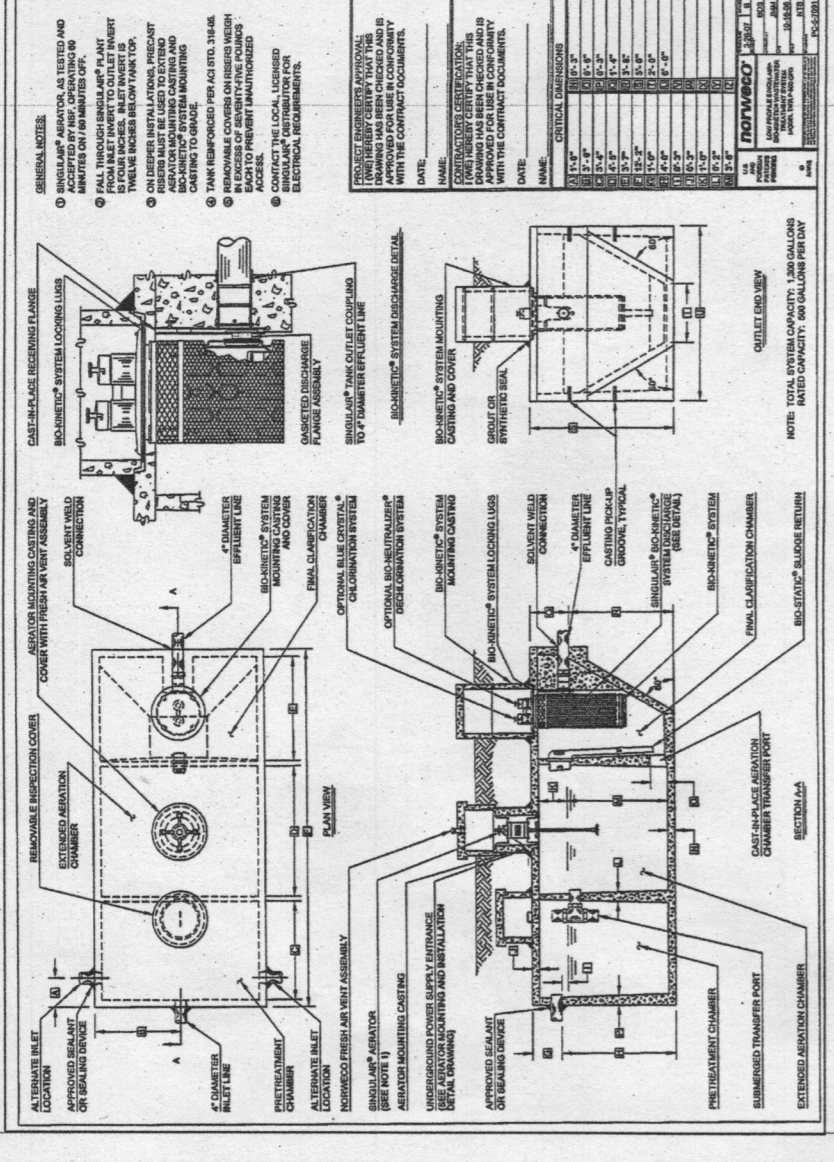
Thanks.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov

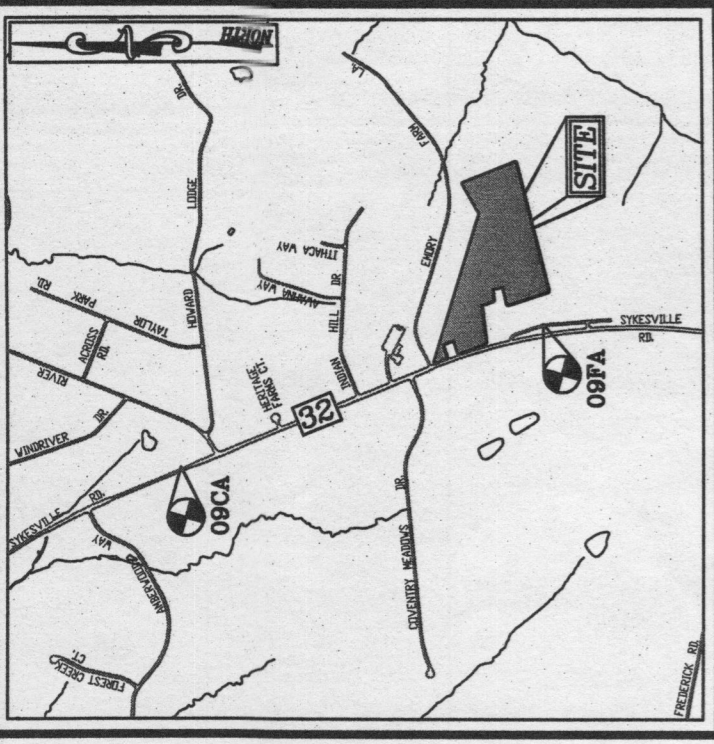
CONFIDENTIALITY NOTICE

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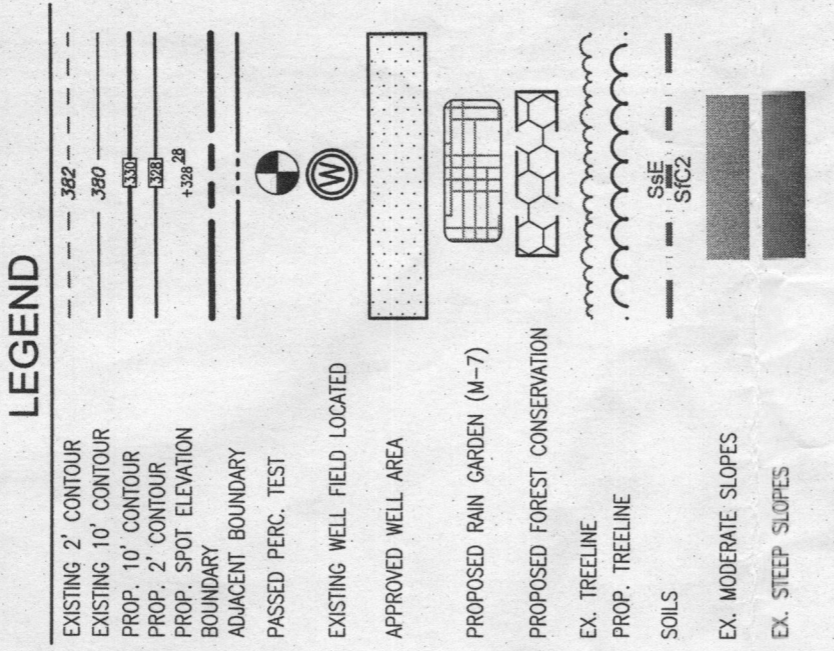
- GENERAL NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER, AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET.
 3. NO BLOWER IS REQUIRED. THE NORMECO WASTEWATER TREATMENT SYSTEM HAS AN AERATOR MOUNTED IN THE TANK.
 4. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED BY A CERTIFIED SERVICE PROVIDER.
 5. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 6. 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.
 7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.



THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS EASEMENT ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO CONDUCT INSPECTIONS OF THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.



VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4693 / J7



OWNER
CHRISTIAN FAMILY OUTREACH CENTER
1475 MD ROUTE 32
SYKESVILLE, MARYLAND 21784
(443) 324-9806
ATTN: MR. TIM KEANE

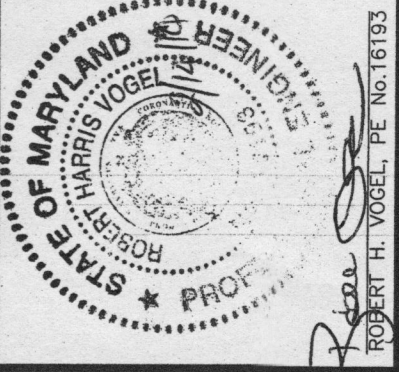
OWNER/DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVENUE, SUITE 301
ELlicOTT CITY, MARYLAND 21043
(410) 480-0023
ATTN: MR. MICHAEL PFAU

SITE PLAN FOR BAT INSTALLATION

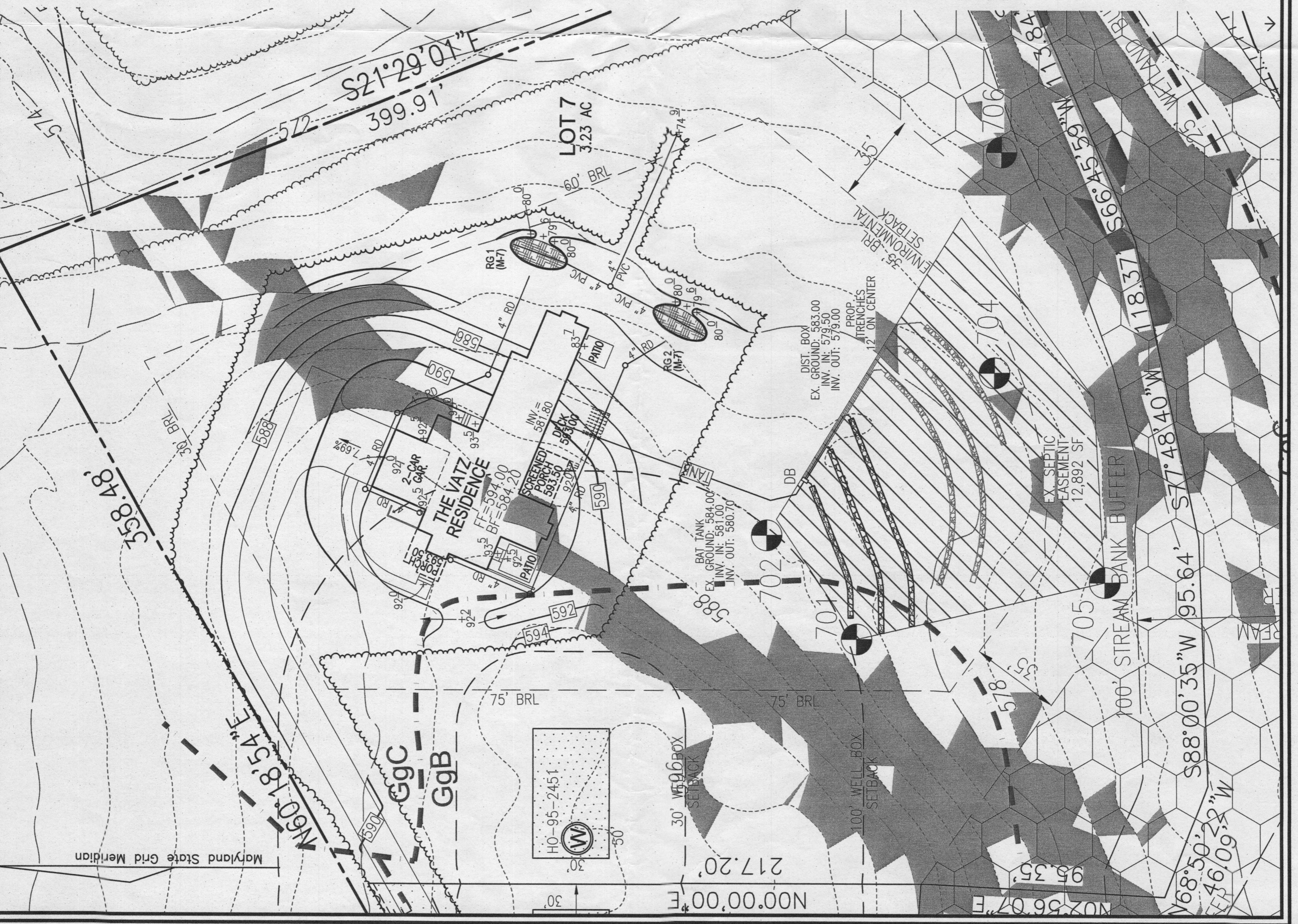
GLEN OAK - LOT 7
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B-14000374

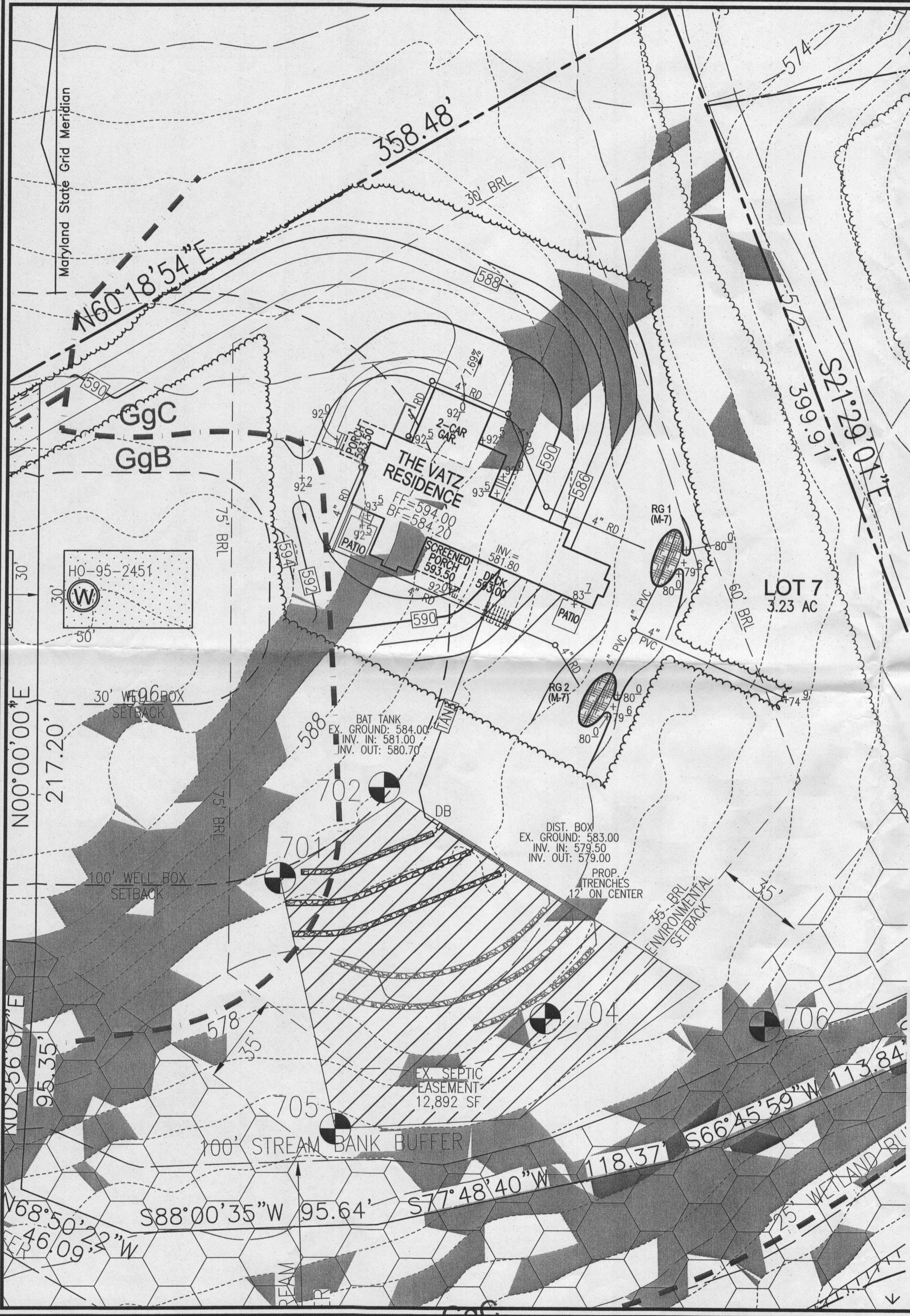
TAX MAP: 9 BLOCK: 17 & 18
3RD ELECTION DISTRICT
PARCEL: 41
ZONED: RR-DEO
HOWARD COUNTY, MARYLAND

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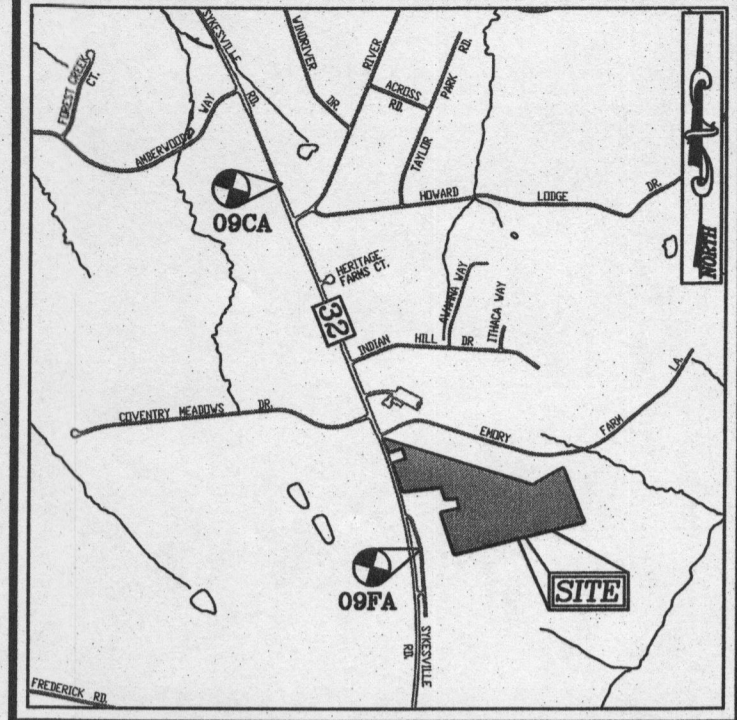
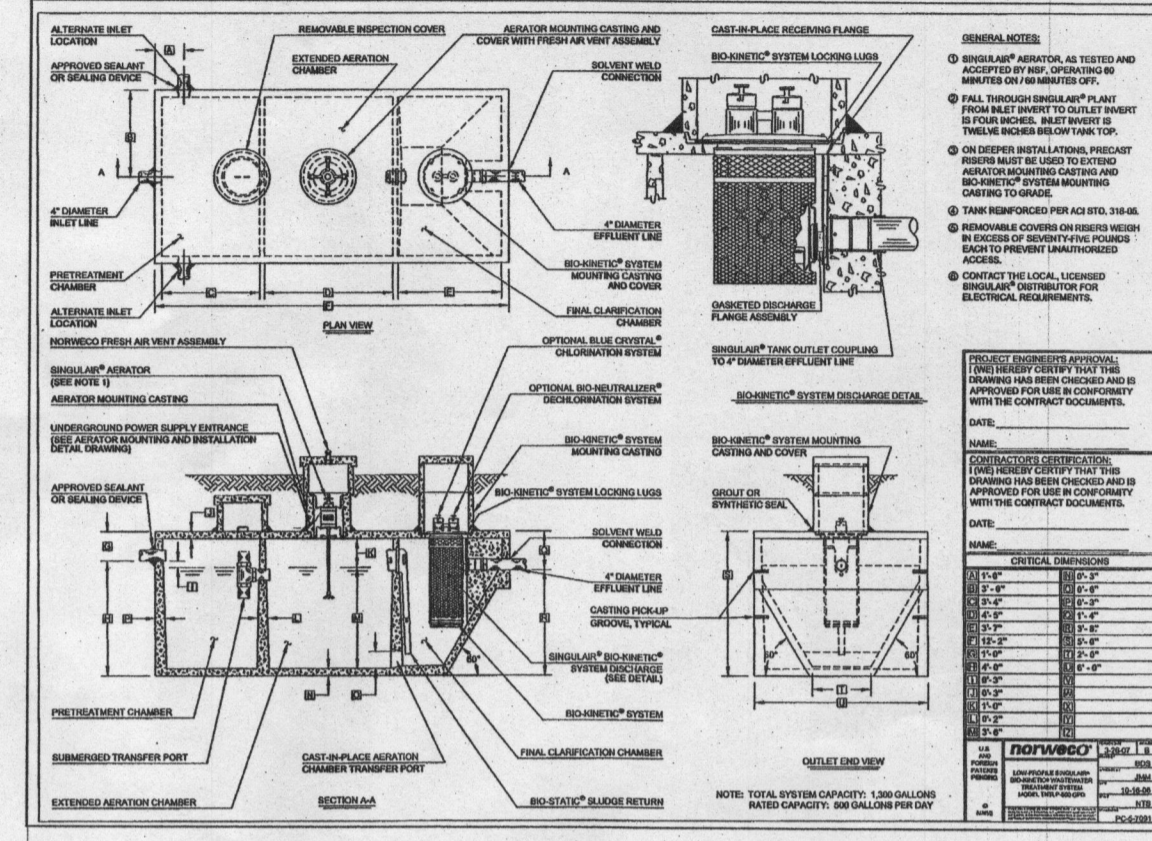


DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: 1"=30'
W.O. NO.: 12-06





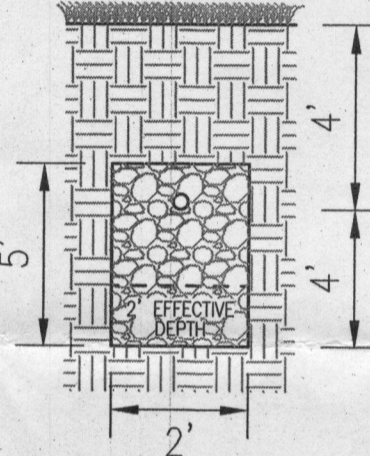
- GENERAL NOTES:**
1. ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 2. THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET.
 3. NO BLOWER IS REQUIRED. THE NORWECO WASTEWATER TREATMENT SYSTEM HAS AN AERATOR MOUNTED IN THE TANK.
 4. THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
 5. THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
 6. 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.
 7. ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
 8. AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
 9. THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.



VICINITY MAP
SCALE: 1"=200'
ADC MAP COORDINATES: 4693 / J7

LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- PROP. 10' CONTOUR
- PROP. 2' CONTOUR
- PROP. SPOT ELEVATION
- BOUNDARY
- ADJACENT BOUNDARY
- PASSED PERC. TEST
- EXISTING WELL FIELD LOCATED
- APPROVED WELL AREA
- PROPOSED RAIN GARDEN (M-7)
- PROPOSED FOREST CONSERVATION
- EX. TREELINE
- PROP. TREELINE
- SOILS
- EX. MODERATE SLOPES
- EX. STEEP SLOPES



TRENCH DETAIL
NOT TO SCALE

OWNER
CHRISTIAN FAMILY OUTREACH CENTER
1475 MD ROUTE 32
SYKESVILLE, MARYLAND 21784
(443) 324-9806
ATTN: MR. TIM KEANE

OWNER/DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023
ATTN: MR. MICHAEL PFAU

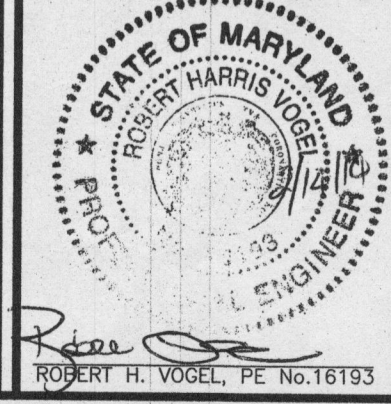
SITE PLAN FOR BAT INSTALLATION

GLEN OAK - LOT 7
1483 ROUTE 32
SYKESVILLE, MD 21784
B-14000374

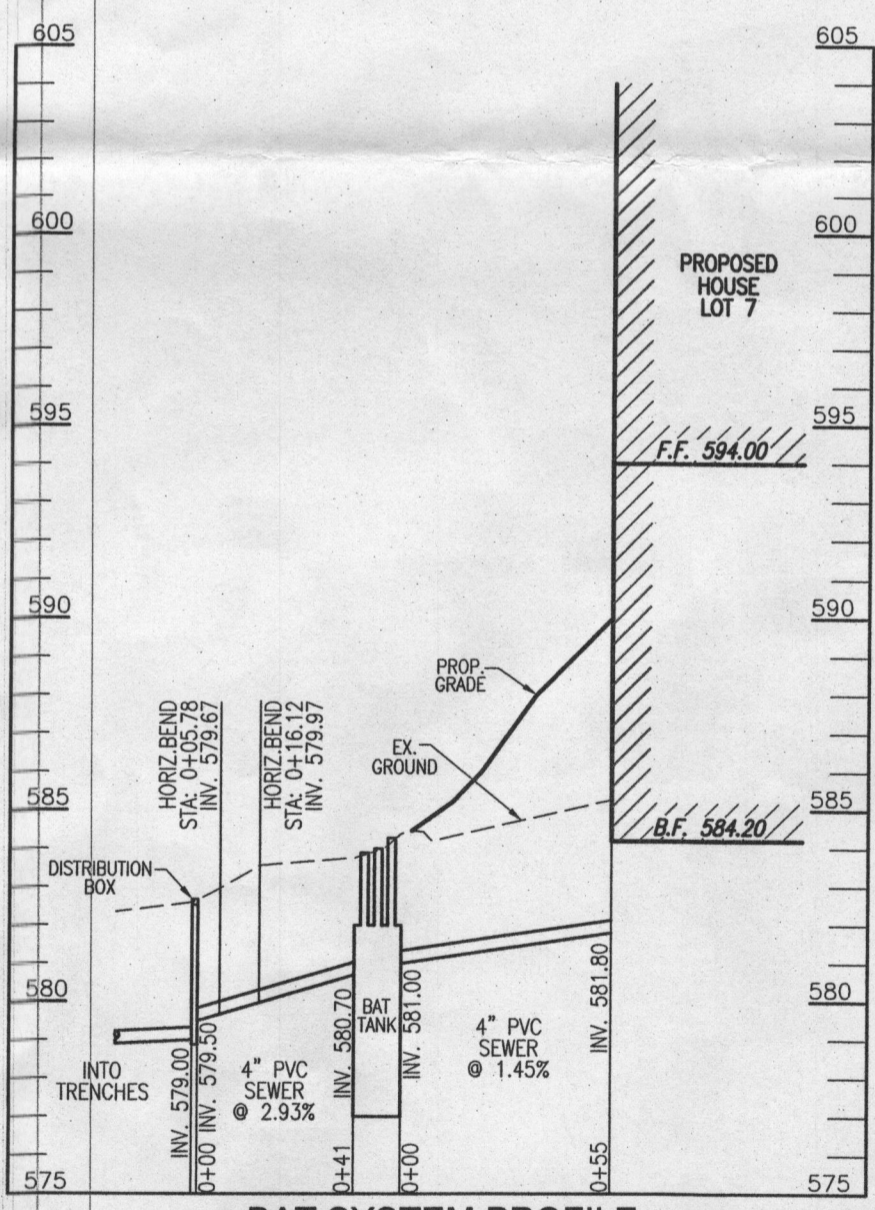
TAX MAP: 9 BLOCK: 17 & 18
3RD ELECTION DISTRICT

PARCEL: 41
ZONED: RR-DEO
HOWARD COUNTY, MARYLAND

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

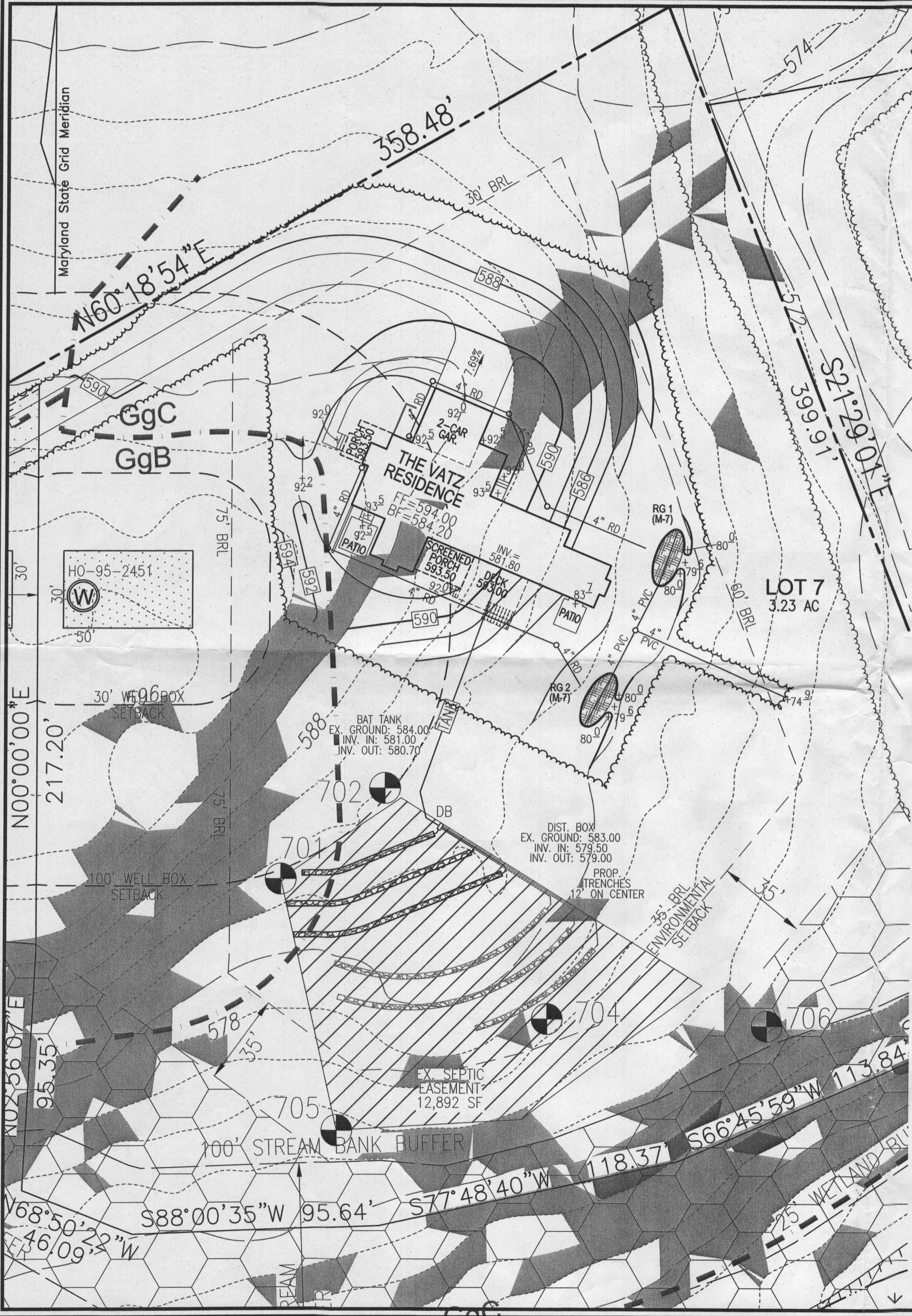


DESIGN BY: RHW
DRAWN BY: JMR
CHECKED BY: RHW
DATE: FEBRUARY 2014
SCALE: 1"=30'
W.O. NO.: 12-06



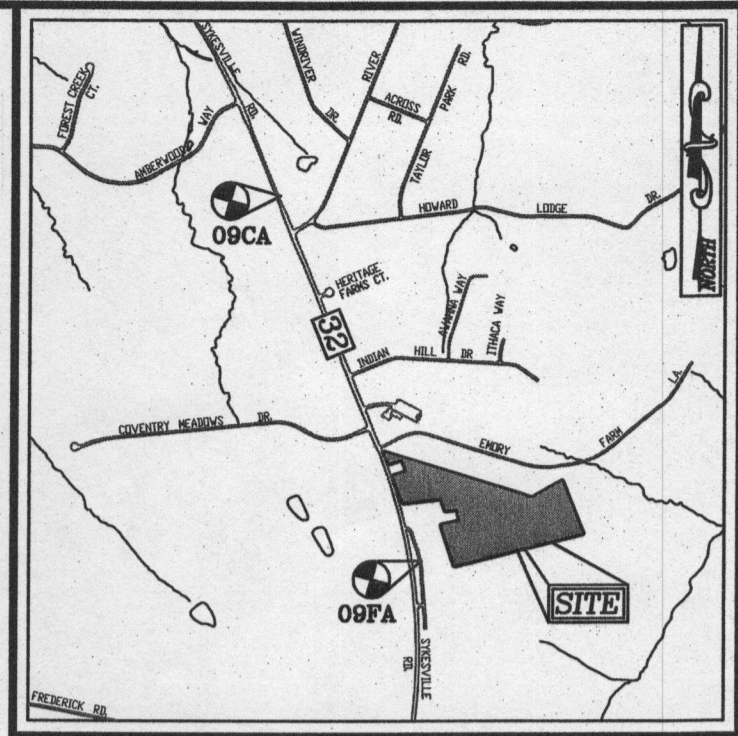
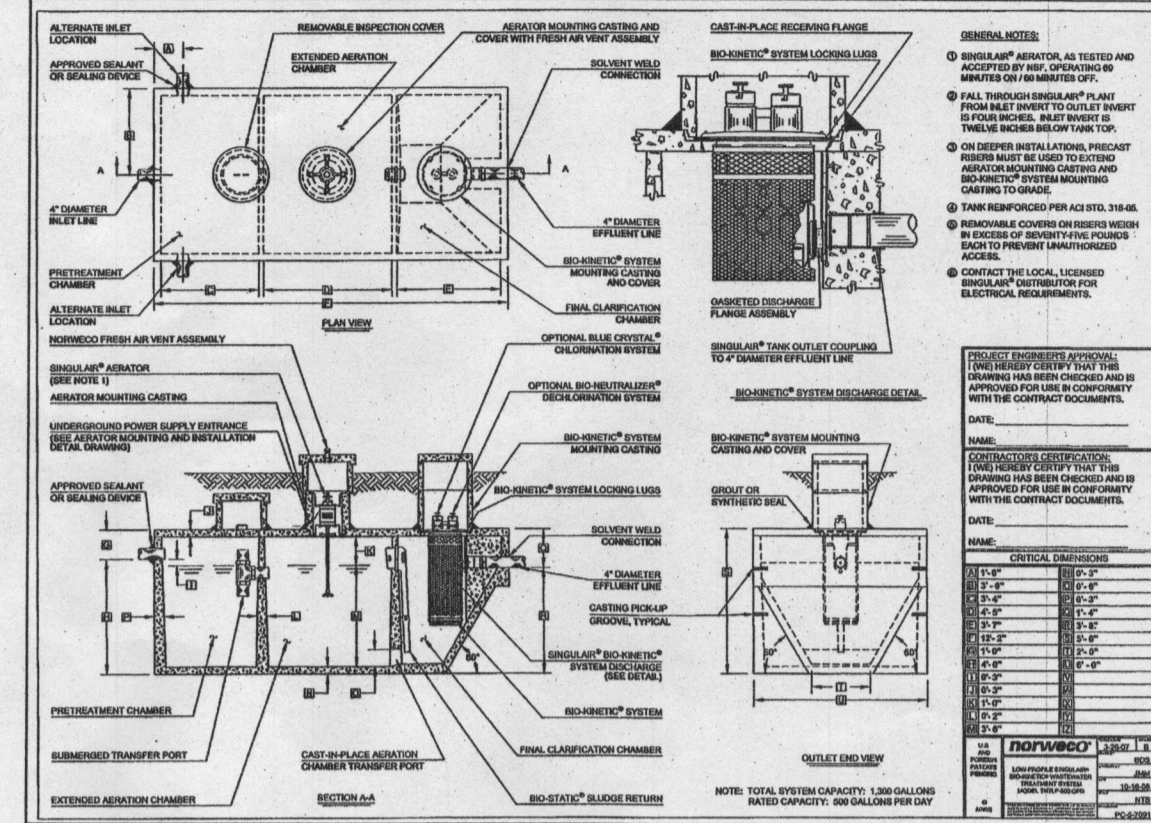
BAT SYSTEM PROFILE
SCALE: HORIZONTAL - 1"=50'
VERTICAL - 1"=5'

THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS EASEMENT ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.



GENERAL NOTES:

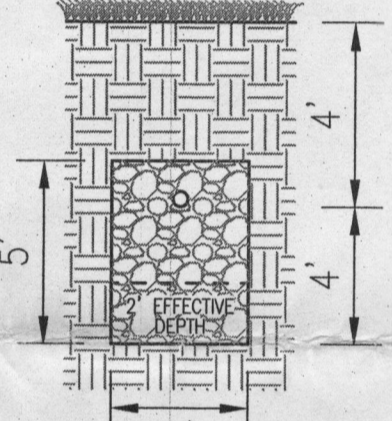
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VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4693 / J7

LEGEND

| | |
|------------------------------|-------------|
| EXISTING 2' CONTOUR | 382 |
| EXISTING 10' CONTOUR | 380 |
| PROP. 10' CONTOUR | 330 |
| PROP. 2' CONTOUR | 328 |
| PROP. SPOT ELEVATION | +328.28 |
| BOUNDARY | |
| ADJACENT BOUNDARY | |
| PASSED PERC. TEST | |
| EXISTING WELL FIELD LOCATED | |
| APPROVED WELL AREA | |
| PROPOSED RAIN GARDEN (M-7) | |
| PROPOSED FOREST CONSERVATION | |
| EX. TREELINE | |
| PROP. TREELINE | |
| SOILS | S&E SfC2 |
| EX. MODERATE SLOPES | |
| EX. STEEP SLOPES | |



TRENCH DETAIL
NOT TO SCALE

OWNER
CHRISTIAN FAMILY OUTREACH CENTER
1475 MD ROUTE 32
SYKESVILLE, MARYLAND 21784
(443) 324-9806
ATTN: MR. TIM KEANE

OWNER/DEVELOPER
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ELLCOTT CITY, MARYLAND 21043
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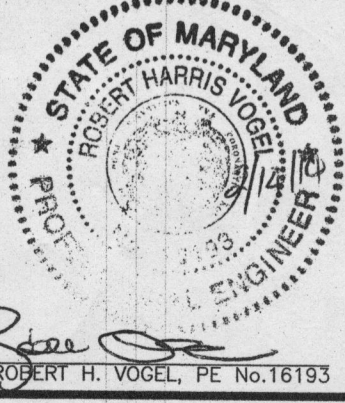
SITE PLAN FOR BAT INSTALLATION

GLEN OAK - LOT 7
1483 ROUTE 32
SYKESVILLE, MD 21784
B-14000374

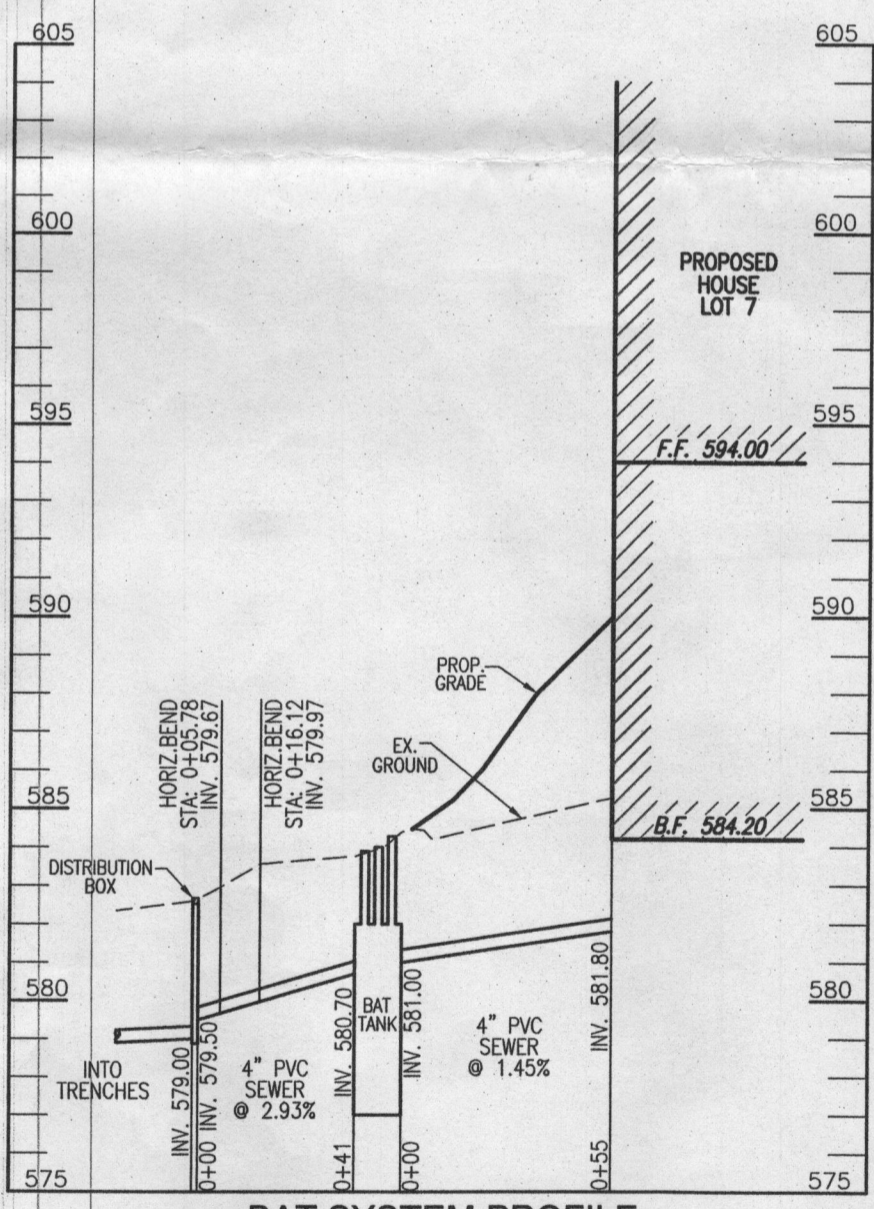
TAX MAP: 9 BLOCK: 17 & 18
3RD ELECTION DISTRICT

PARCEL: 41
ZONED: RR-DEO
HOWARD COUNTY, MARYLAND

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



DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: 1"=30'
W.O. NO.: 12-06



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

THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS EASEMENT ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.



LEGEND:

| | |
|--|---|
| | PROPERTY LINE |
| | RIGHT-OF-WAY LINE |
| | ADJACENT PROPERTY LINE |
| | EXISTING CURB AND GUTTER |
| | EXISTING 10' CONTOUR |
| | EXISTING 2' CONTOUR |
| | SOILS |
| | EXISTING TREELINE |
| | EXISTING FENCE |
| | PROPOSED SIDEWALK |
| | PROPOSED TREELINE |
| | PROPOSED 10' CONTOUR |
| | PROPOSED 2' CONTOUR |
| | PROPOSED SPOT ELEVATION |
| | PROPOSED WELL ENVELOPE |
| | PROPOSED WELL LOCATION |
| | PROPOSED SEPTIC EASEMENT |
| | EXISTING SEPTIC EASEMENT |
| | PROPOSED FOREST CONSERVATION EASEMENT |
| | EXISTING FOREST CONSERVATION EASEMENT |
| | 24' PRIVATE USE-IN-COMMON ACCESS EASEMENT |
| | EXISTING MODERATE SLOPES |
| | EXISTING STEEP SLOPES |

OWNER
 CHRISTIAN FAMILY OUTREACH CENTER
 1475 SYKESVILLE ROAD
 SYKESVILLE MD, 21784
 443-324-9806

DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD 21043
 410-480-0023

LOT 7
 GROSS AREA: 140,899 SF
 3.23 AC
 PIPESTEM AREA: 10,177 SF
 0.23 AC
 NET AREA: 130,722 SF
 3.00 AC

TM. 0009 P. 0309
 HANNA, CYNTHIA JEANNE
 LOT 8G
 AREA: 2.49 AC.
 L. 12096 F.00221
 USE: RESIDENTIAL
 ZONE: RR-DEO

FOREST CONSERVATION
 EASEMENT #1
 RETENTION: 6.97 AC.

| NO. | REVISION | DATE |
|-----|----------|------|
| | | |
| | | |
| | | |
| | | |
| | | |

SEPTIC PLOT PLAN

KEANE PROPERTY
LOT 7

TAX MAP 9 BLOCK 17 & 18
 3RD ELECTION DISTRICT
 DPZ REF'S: F-99-98, ECP-12-060, WP-13-033

PARCEL: 41
 ZONED: RR-DEO
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
ENGINEERING, INC.
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 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
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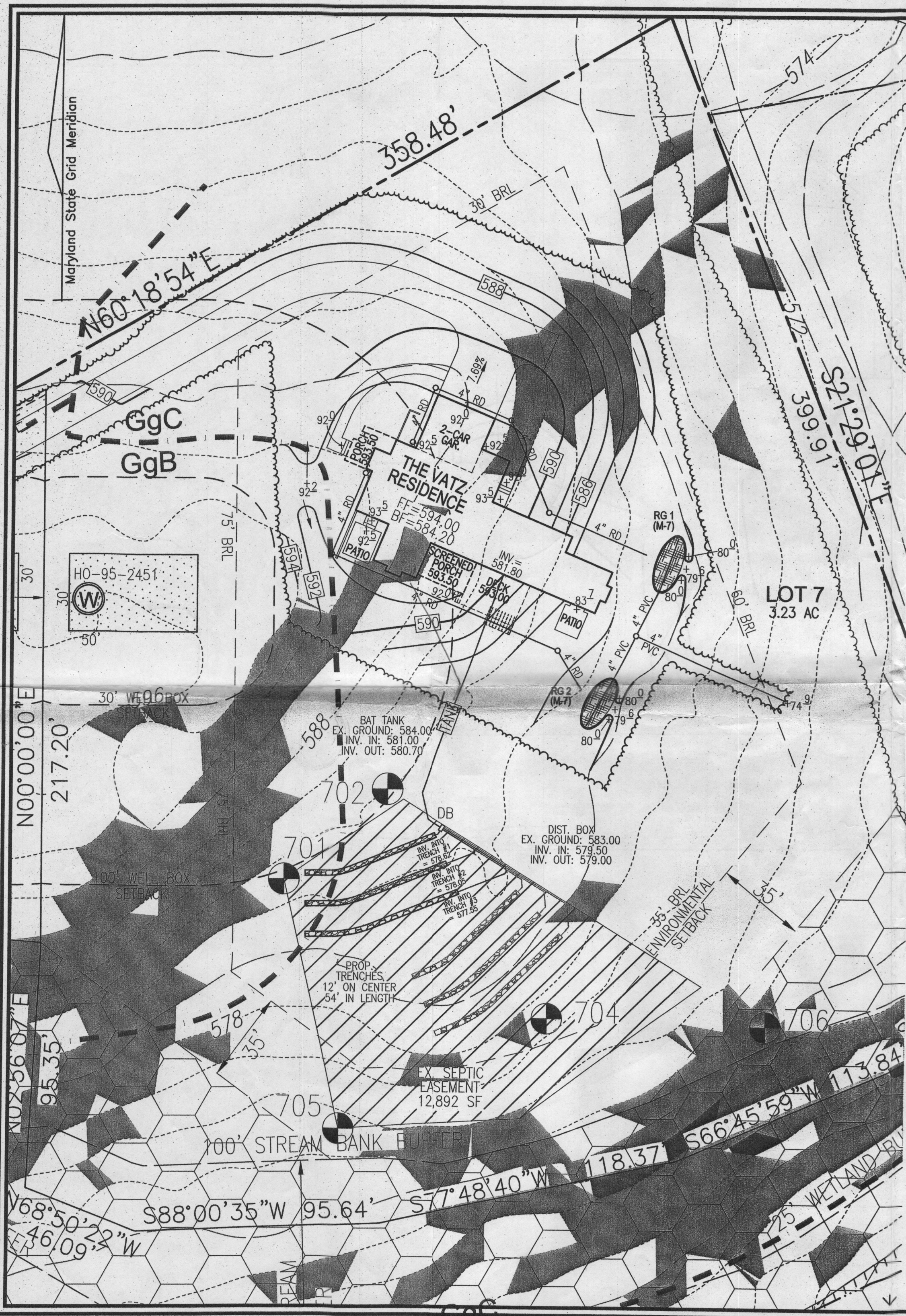
PROFESSIONAL CERTIFICATE

DESIGN BY: RHV
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: DECEMBER 2012
 SCALE: 1"=50'
 W.O. NO.: 12-06

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. 31373 EXPIRATION DATE: 01-21-2013.

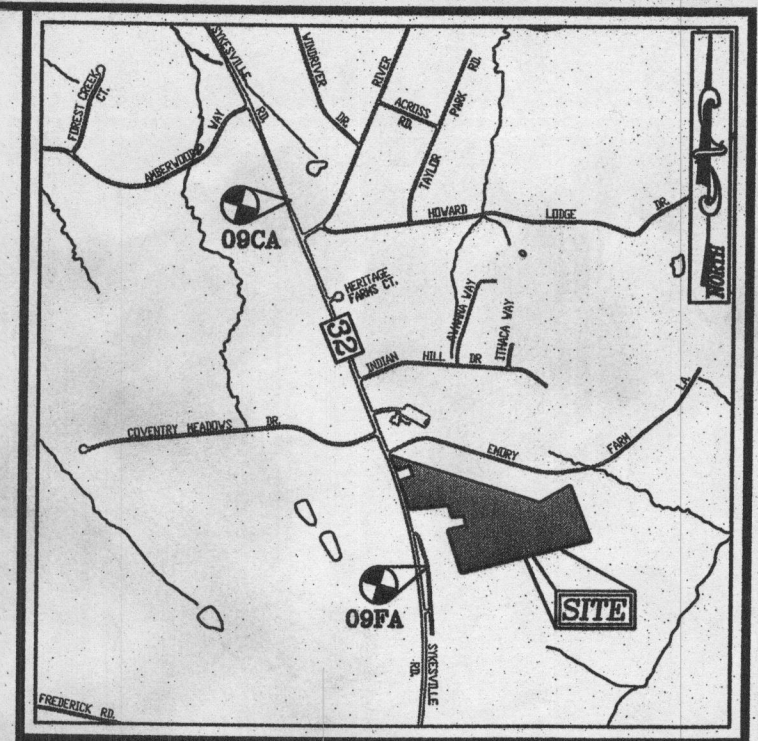
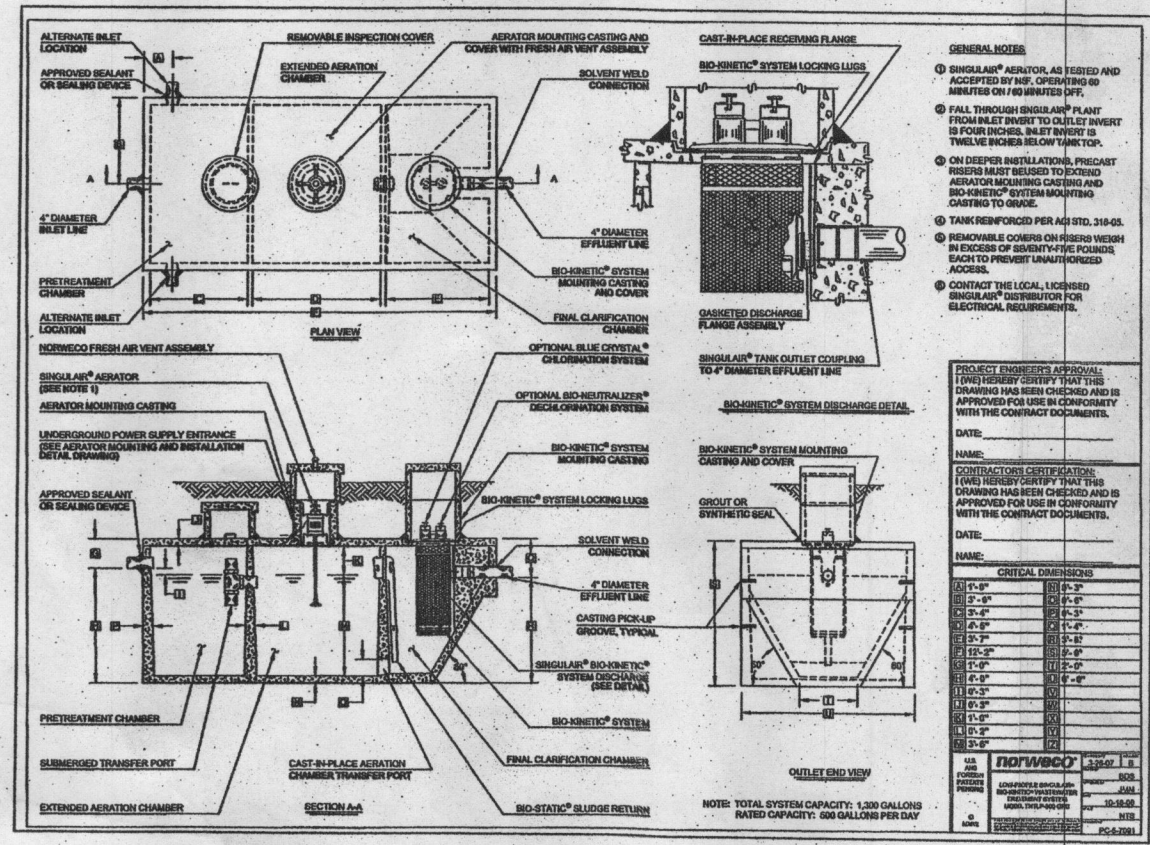
1 SHEET OF 1

JEFFREY B. SMITH, PE No.31373



GENERAL NOTES:

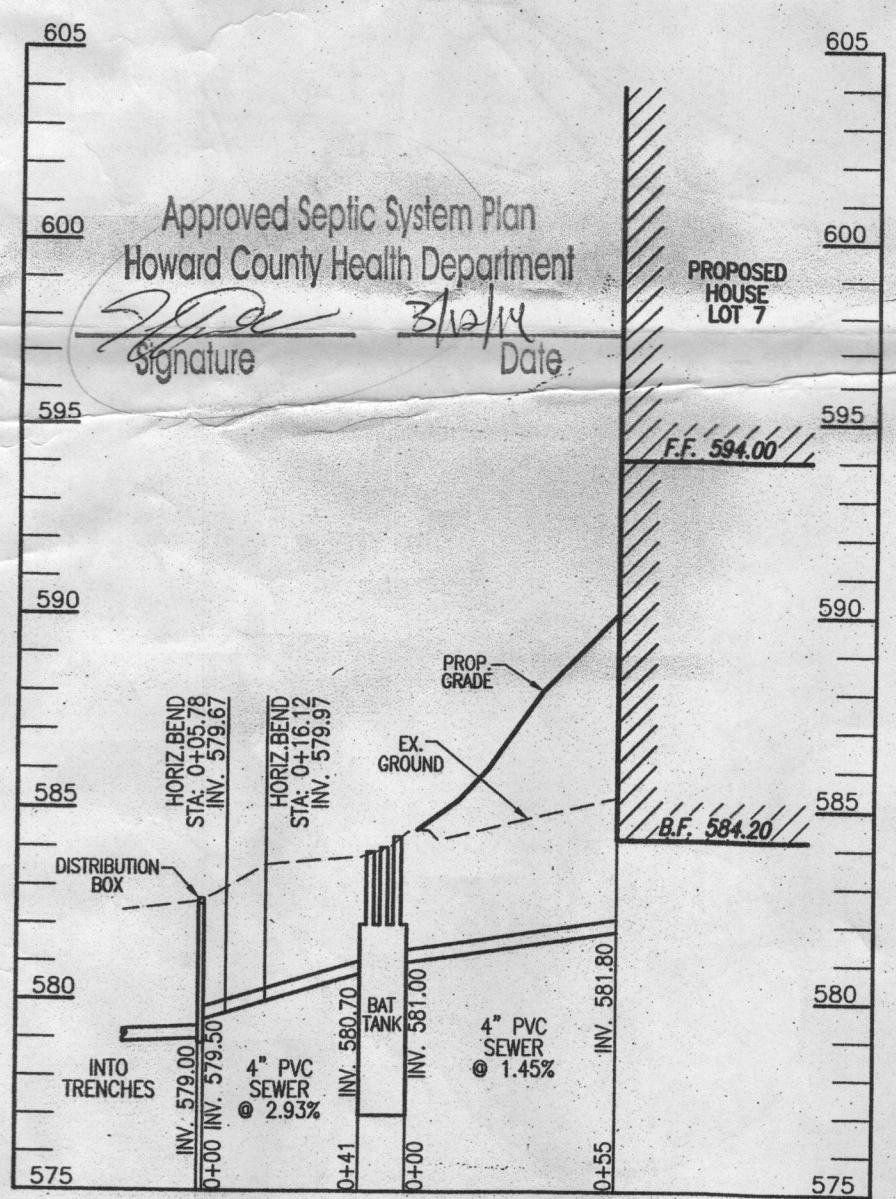
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VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATES: 4693 / J7

LEGEND

| | |
|------------------------------|-------------|
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| EXISTING 10' CONTOUR | 380 |
| PROP. 10' CONTOUR | 330 |
| PROP. 2' CONTOUR | 320 |
| PROP. SPOT ELEVATION | +328.28 |
| BOUNDARY | |
| ADJACENT BOUNDARY | |
| PASSED PERC. TEST | |
| EXISTING WELL FIELD LOCATED | |
| APPROVED WELL AREA | |
| PROPOSED RAIN GARDEN (M-7) | |
| PROPOSED FOREST CONSERVATION | |
| EX. TREELINE | |
| PROP. TREELINE | |
| SOILS | S&E SFC2 |
| EX. MODERATE SLOPES | |
| EX. STEEP SLOPES | |



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

SYSTEM CALCULATIONS:
3 BEDROOMS AT 450gpd / 0.8 ABSORPTION RATE = 562.5 SQ. FT.
562.5 SQ. FT. / 2 (TRENCH WIDTH) x .57 (SIDEWALL REDUCTION) = 161 LINEAR FEET
3 TRENCHES OF 54 FEET IN LENGTH ARE PROVIDED WITH THE SYSTEM FOR LOT 7.

THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS EASEMENT ARE RESTRICTED. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.

OWNER
CHRISTIAN FAMILY OUTREACH CENTER
1475 MD ROUTE 32
SYKESVILLE, MARYLAND 21784
(443) 324-9806
ATTN: MR. TIM KEANE

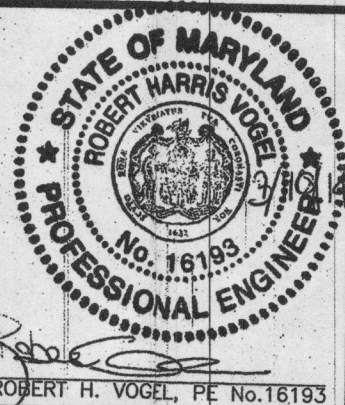
OWNER/DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023
ATTN: MR. MICHAEL PFAU

SITE PLAN FOR BAT INSTALLATION
GLEN OAK - LOT 7
1483 ROUTE 32
SYKESVILLE, MD 21784

TAX MAP: 9 BLOCK: 17 & 18
3RD ELECTION DISTRICT

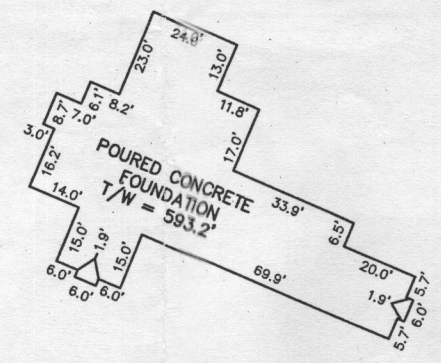
PARCEL: 41
ZONED: RR-DEO
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961



DESIGN BY: RHV
DRAWN BY: JMR
CHECKED BY: RHV
DATE: FEBRUARY 2014
SCALE: 1"=30'
W.O. NO.: 12-06

| USE-IN-COMMON EASEMENT CURVE DATA TABLE | | | | | |
|---|---------|---------|---------|-----------|---------------------|
| CURVE | RADIUS | LENGTH | TANGENT | △ | CHORD |
| C-1 | 154.00' | 40.32' | 20.27' | 15°00'00" | N72°47'15"E 40.20' |
| C-2 | 146.00' | 76.44' | 39.12' | 30°00'00" | N80°17'15"E 75.57' |
| C-3 | 154.00' | 80.63' | 41.26' | 30°00'00" | N80°17'15"E 79.72' |
| C-4 | 146.00' | 109.10' | 57.24' | 42°48'52" | N86°41'41"E 106.58' |
| C-5 | 130.00' | 78.24' | 40.35' | 34°29'01" | S89°08'23"E 77.07' |
| C-6 | 136.25' | 82.00' | 42.29' | 34°29'01" | S89°08'23"E 80.77' |
| C-7 | 139.75' | 104.43' | 54.79' | 42°48'52" | N86°41'41"E 102.02' |
| C-8 | 160.25' | 83.91' | 42.94' | 30°00'00" | N80°17'15"E 82.95' |
| C-9 | 139.75' | 73.17' | 37.45' | 30°00'00" | N80°17'15"E 72.34' |
| C-10 | 160.25' | 41.95' | 21.10' | 15°00'00" | N72°47'15"E 41.83' |



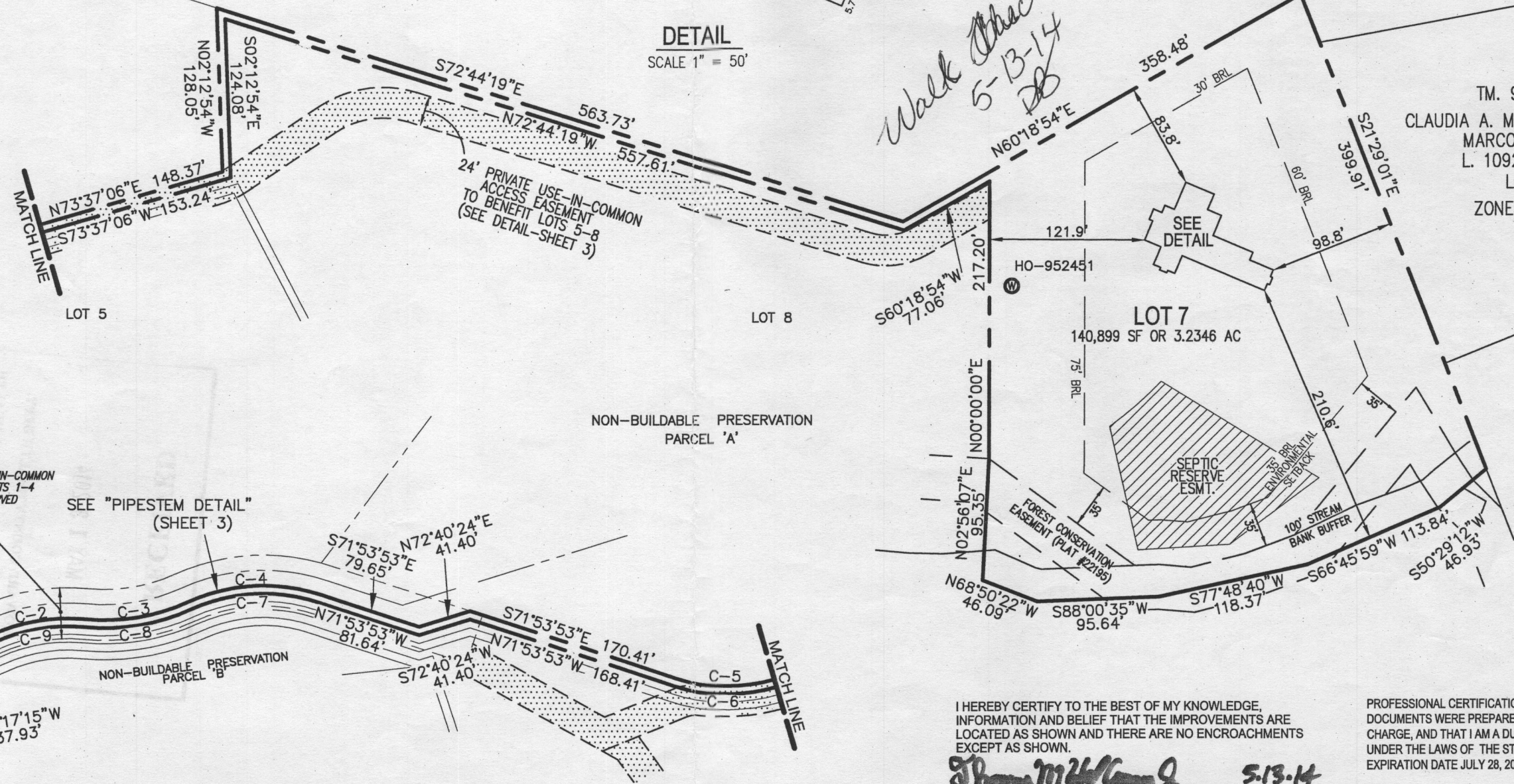
Wall Check 5-13-14

TM. 9 P. 309
TIMOTHY & KARN MYRES
L. 02390 F. 00649
LOT 8E
ZONE: RR-DEO

TM. 9 P. 309
CLAUDIA A. MENESES-GONZALEZ
MARCO GONZALEZ
L. 10921 F. 00158
LOT 8F
ZONE: RR-DEO

TM. 9 P. 309
HANNA, CYNTHIA JEANNE
L. 12096 F.00221
LOT 8G
ZONE: RR-DEO

MARYLAND STATE GRID MERIDIAN (NAD83/07)



EXISTING 40' PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR LOTS 1-4 THIS AREA IS ALSO RESERVED FOR A 40' WIDE FUTURE ROAD RIGHT-OF-WAY. PLAT 13805

SEE "PIPESTEM DETAIL" (SHEET 3)

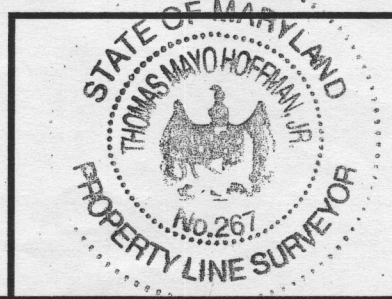
I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE IMPROVEMENTS ARE LOCATED AS SHOWN AND THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN.

Thomas M. Hoffman Jr. 5.13.14
THOMAS M. HOFFMAN JR., PROPERTY LINE SURVEYOR #267 DATE

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. 267, EXPIRATION DATE JULY 28, 2014.

BUILDING PERMIT #14000374

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



| | |
|----------------------------|------------------------|
| SCALE 1" = 100' | DATE 05/12/14 |
| DRAWN BY R.E.D. | CHECKED BY T.M.H. |
| PLAT NUMBER 22194-22196 | JOB NUMBER 12-06.00 |

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS - SURVEYORS - PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MARYLAND 21043
TEL:410-461-7666 FAX:410-461-8961

WALL CHECK DRAWING
1483 ROUTE 32
LOT 7
KEANE PROPERTY
PLAT NO. 22195
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND