



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](http://www.hchealth.org)  
Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 2/24/2015

**ONSITE SEWAGE DISPOSAL SYSTEM**

P 555725

INSTALLATION

APPROVAL DATE: 5/1/15 SEC

**PERMIT  
CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 15241 SWEETBAY STREET, WOODBINE, MD 21797

SUBDIVISION: BELLE HAVEN

LOT: 38 TAX ID: 04-374045

CONTRACTOR: BEN LEWIS INC

EMAIL: BRIAN@BENLEWISPLUMBING.COM

CONTRACTOR ADDRESS: 23407 FREDERICK ROAD, CLARKSBURG, MD

PHONE: 301-617-3507

PROPERTY OWNER: BELLE HAVEN BAKER LLC

EMAIL: \_\_\_\_\_

OWNER ADDRESS: 10751 FALLS ROAD, STE. 405, LUTHERVILLE, MD 21093

PHONE: 410-616-9631

BAT UNIT MODEL: HOOT 600BNR

PUMP SIZE: EPO 511

PUMP TANK CAPACITY: 1500 GAL

DISTRIBUTION SYSTEM: GRAVITY ☒

LOW PRESSURE DOSED ☐

NUMBER OF BEDROOMS: 6

|           |  |  |
|-----------|--|--|
| TRENCHES: | LINEAR FEET REQUIRED: <u>188 170'</u>  | INLET DEPTH: <u>3</u>                    |
|           | TRENCH WIDTH: <u>3</u>   | MAXIMUM BOTTOM DEPTH: <u>8.5'</u>        |
|           | MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>  | EFFECTIVE AREA BEGINNING DEPTH: <u>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:    | <u>2x85' Trenches</u>  |  |

ISSUED BY: DANA BERNARD

ISSUE DATE: 2/24/2015

EXPIRATION DATE: 2/24/2016

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

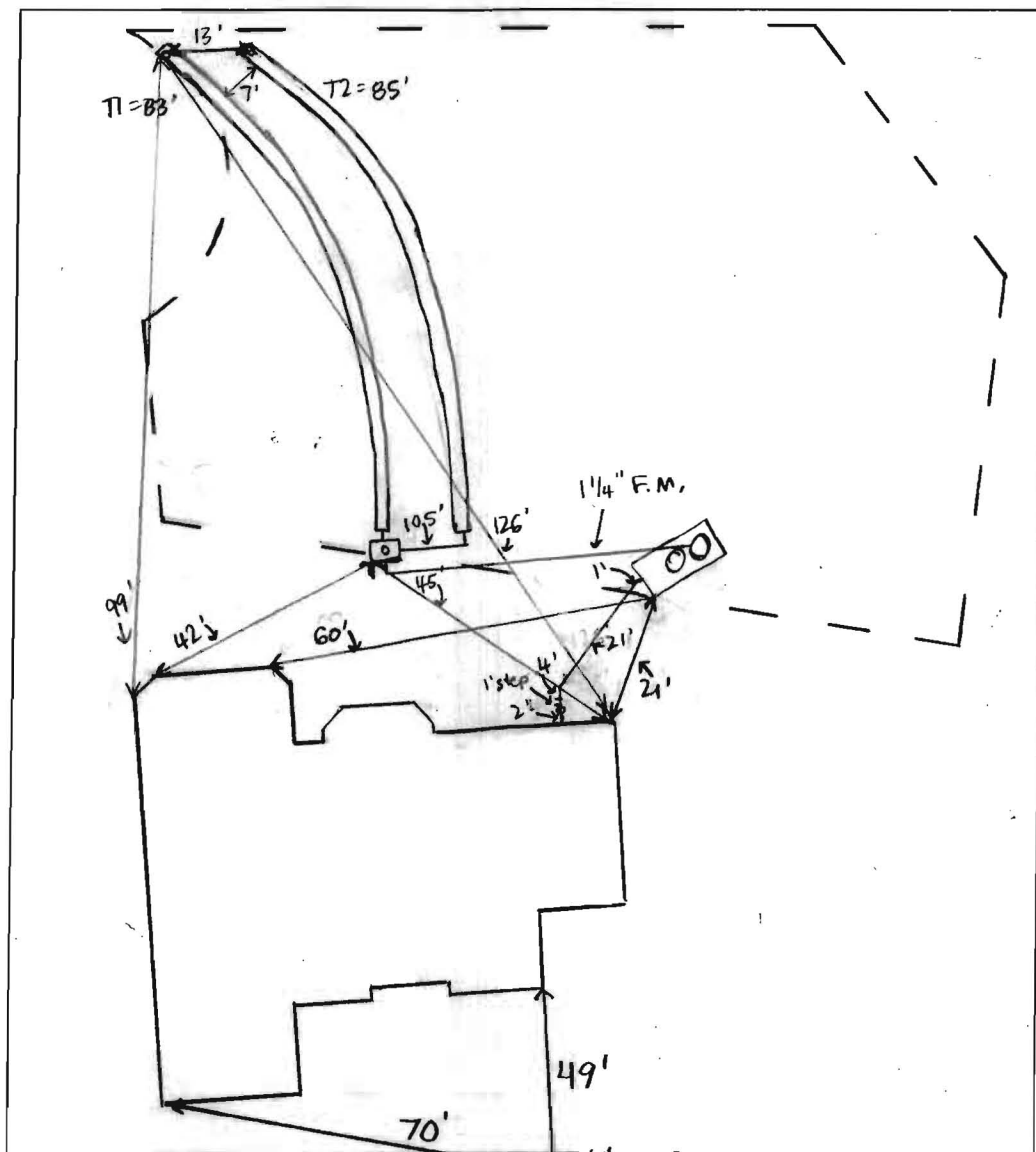
NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.

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**

(If Installed/Needed)

| WIDTH                | INLET | BOTTOM |
|----------------------|-------|--------|
| 3'                   | 3'    | 8.5'   |
| NUMBER OF TRENCHES 2 |       |        |
| TOTAL LENGTH 168'    |       |        |
| ABSORPTION AREA 504' |       |        |
| DIST. BOX LEVEL YES  |       |        |
| DIST. BOX BAFFLE YES |       |        |
| DIST. BOX PORT YES   |       |        |

# **HOOT 600 GPD BNR SYSTEM** **BAY RESTORATION FUND**

|                     |               |                 |
|---------------------|---------------|-----------------|
| MANUFACTURER        | MAYER BROS    |                 |
| CAPACITY            | 1500          | GAL + 1500 PUMP |
| SEAM LOCATION       | TOP           |                 |
| TANK LID DEPTH      | 2'            |                 |
| FRONT BAFFLE        | YES           |                 |
| MANHOLE LOC         | MIDDLE + REAR |                 |
| 6" PORT LOC         | NONE          |                 |
| WATERTIGHT TEST     | NO            |                 |
| AERATOR FUNCTIONING |               |                 |
| ALARM FUNCTIONING   |               |                 |
| DATE ON LID         | NONE          |                 |
| PUMP MODEL          |               |                 |

PRE-CONSTRUCTION:

HO-95-0646

2/27/2015 Easement stakes missing. Couldn't lay out trenches. Tank location staked. (BB)

3/4/2015 Layout done. Installing three trenches takes up too much repair area. To install two 85' trenches on contour across the top of the septic easement. (BB)

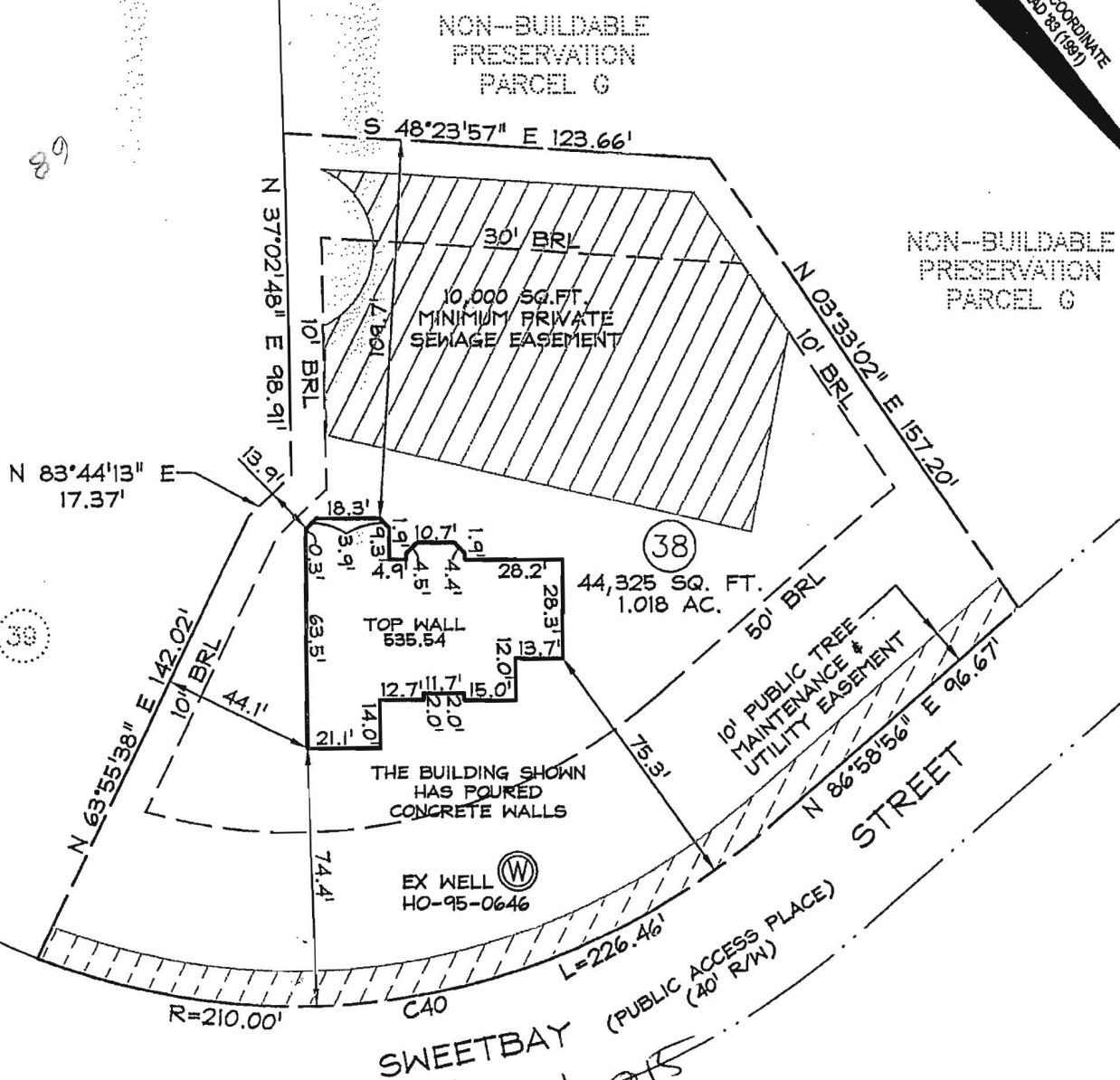
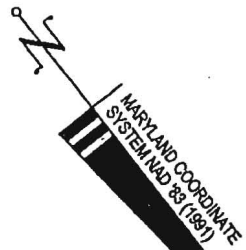
INSTALLATION: 3/17/15 Both trenches finished and left open. 2.5' to stone, 7' between trenches at ends. Observation pipes are on outer edges of trenches. (SC) 3/23/15 Tank installed, all connections made. Tank has a 1500-gal pump chamber as third compartment. House connection under footer. Force main from tank to D-box is 1 1/4" PVC. Needs BAT startup certification. (SC) 5/1/15 BAT startup received from Hoot/Mayer Bros. (SC)

FINAL INSPECTOR Sarah Collins

DATE OF APPROVAL 5/1/15

CURVE TABLE

| CURVE | RADIUS  | LENGTH  | DELTA     | TAN     | CHD. BRG.     | CHD. DIST. |
|-------|---------|---------|-----------|---------|---------------|------------|
| C40   | 210.00' | 226.46' | 61°47'11" | 125.65' | N 62°07'28" W | 215.64'    |

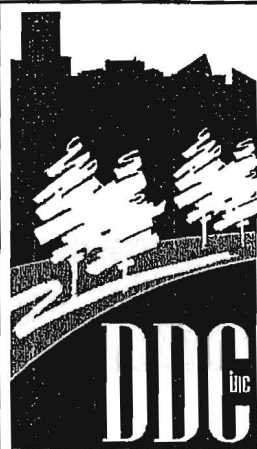
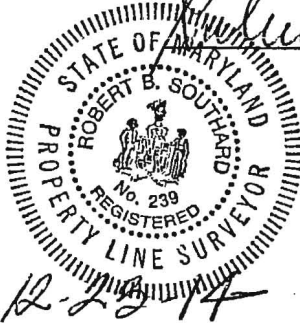


Wall check OK  
ref 2/24/2015

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I EITHER PERSONALLY PREPARED OR WAS IN RESPONSIBLE CHARGE OVER THE PREPARATION OF THIS DRAWING AND THE SURVEYING WORK REFLECTED IN IT, AND THAT IT IS IN COMPLIANCE WITH REQUIREMENTS SET FORTH IN REGULATION .12 OF CHAPTER 06, MINIMUM STANDARDS OF PRACTICE.

I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 239, EXPIRATION DATE 07/06/16.



Planners  
Surveyors  
Engineers  
Landscape Architects

192 East Main Street  
Westminster, MD 21157  
410.386.0560  
410.386.0564 (Fax)  
DDC@DDCinc.us  
www.DDCinc.us

LOCATION DRAWING / WALL CHECK  
#15241 SWEETBAY STREET  
LOT 38  
BELLE HAVEN ESTATES  
PLAT No. 19953

ELECTION DIST. No. 4 HOWARD COUNTY, MD

DDC JOB#: 06116.5  
DATE: 12-19-2014  
SCALE: 1"=50'  
DRN. BY: RC  
CHK. BY: RBS



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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 23<sup>rd</sup> day of JANUARY, among JUSTIN J. BOWEN, JR. (Owner), 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 15241 SUNDOWN STREET WOODRIDGE 21797, in the 04 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 15703 Folio 2277.

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 600 GPD PINK SYSTEM w/ 1500 Gallon PUMP.

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.

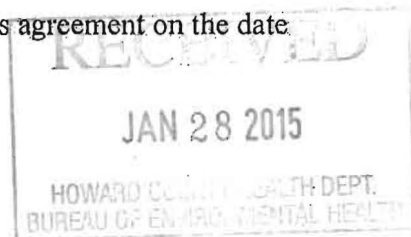
H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

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.

Beth Rifon 1/28/2015  
Howard County Health Department



Steve Smyth 1-27-15  
Owner #1 Signature Date  
STEVE SMYTH  
Owner #1 Print Name

\_\_\_\_\_  
Owner #2 Signature Date  
\_\_\_\_\_  
Owner #2 Print Name

X Benedict 01/25/15  
Buyer #1 Signature Date

X Josephine Benedict 01/25/15  
Buyer #2 Signature Date

X JUSTIN BENEDICT  
Buyer #1 Print Name

X JOSEPHINE BENEDICT  
Buyer #2 Print Name

# Letter of Satisfaction

## Hoot System Installation

Address of Property: 15241 Sweetbay St.  
Woodbine MD 21797

Date of Final Inspection: 7/24/15

Installer: Ben Lewis Plumbing Inc.

Hoot Technician/Inspector: Mike Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

H. Michael Dwyer  
Name of Inspector  
Mayer Bros., Inc.

PH: 410-796-1434

FX: 410-796-1438

**WBE**  
**NPCA Certified Plant**

mayerbro@connect.net  
www.mayerbrosprecast.com

Grease Interceptors, Grease Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors,  
Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, PermEntry Basement Entries,  
Scapewel Window Wells, Custom Precast Products

## Bernard, Dana

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**From:** Bernard, Dana  
**Sent:** Thursday, October 09, 2014 10:25 PM  
**To:** Bricker, Robert; Willett, Chester  
**Cc:** Shehata, Claudia; Williams, Jeffrey  
**Subject:** RE: BelleHaven lot 38

Mr. Willett,

Your BAT plan must be revised to reflect a Hoot system which can support a 6 bedroom house. The current BAT plan shows a Hoot system with a 600 GPD. However, the proposed system reflects a 900 GPD. The 600 BNR only has enough emergency storage for a 5 bedroom design (it has ~790 gallons of storage, which is good for a 750 g design flow). A 900 g design for a 6 bedroom home must show either a hoot with a bigger emergency storage capacity or a separate pump chamber to get to at least 900 g emergency storage. Please show and note the emergency storage capacity on the plan. Please revise and resubmit. Our office will review the plan as soon as we receive the revision.

Thanks  
Dana

---

**From:** Bricker, Robert  
**Sent:** Thursday, October 09, 2014 12:17 PM  
**To:** Willett, Chester  
**Cc:** Shehata, Claudia; Williams, Jeffrey; Bernard, Dana  
**Subject:** RE: BelleHaven lot 38

Chester,  
Our database indicates the review is assigned to Dana Bernard.  
Robert Bricker

---

**From:** Willett, Chester [mailto:cwillett@khov.com]  
**Sent:** Wednesday, October 08, 2014 8:10 PM  
**To:** Williams, Jeffrey; Bricker, Robert  
**Cc:** Shehata, Claudia  
**Subject:** RE: BelleHaven lot 38

Just checking to see if this lot has been reviewed by the HD ... sorry, I know of no other way to check on the status...

Thank you  
Chester / KHOV

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**From:** Willett, Chester  
**Sent:** Tuesday, September 30, 2014 6:48 PM  
**To:** Williams, Jeffrey (jewilliams@howardcountymd.gov); Bricker, Robert (RBricker@howardcountymd.gov)  
**Subject:** BelleHaven lot 38

Evening gentlemen ... may I inquire about the building permit review for lot 38 / B14003222 / 15241 Sweetbay Street ?  
On approximately 9/13 a courier dropped off to the Health Department the proposed BAT plan , finished floor plans and site plan for review. If I can be of any assistance please let me know.

Thank you  
Chester / KH☺V



HOWARD COUNTY HEALTH DEPARTMENT

55725

1 128115

P-5

Received From

K. Hovnanian

PHONE # 301-683-6208

☐ CASH  
☒ CHECK  
NO.

For Bell Haven - Lot #38  
Septic Permit

00020573

Three hundred ninety-six 00 Dollars

\$396.00

Received By Marion Curry

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

The Thomas Dorsey Building  
9250 Bendix Road  
Columbia, MD 21045  
410-313-5850

|                                  |          |         |
|----------------------------------|----------|---------|
| =====                            |          |         |
| LR - Agreement Recording Fee     | 1x 20.00 | 20.00   |
| Grantor/Grantee Name: Benedict   |          |         |
| Reference/Control #: 108         |          |         |
| LR - Agreement Surcharge         | 1x 40.00 | 40.00   |
| =====                            |          |         |
| SubTotal:                        |          | 60.00   |
| Total:                           |          | 60.00   |
| =====                            |          |         |
| REV-Check-BOA                    |          | 60.00   |
| Number : 00054991                |          |         |
| 01/28/2015 14:35                 |          | CC13-CH |
| #3784437 / 495/109               |          |         |
| Thank you for visiting us today~ |          |         |

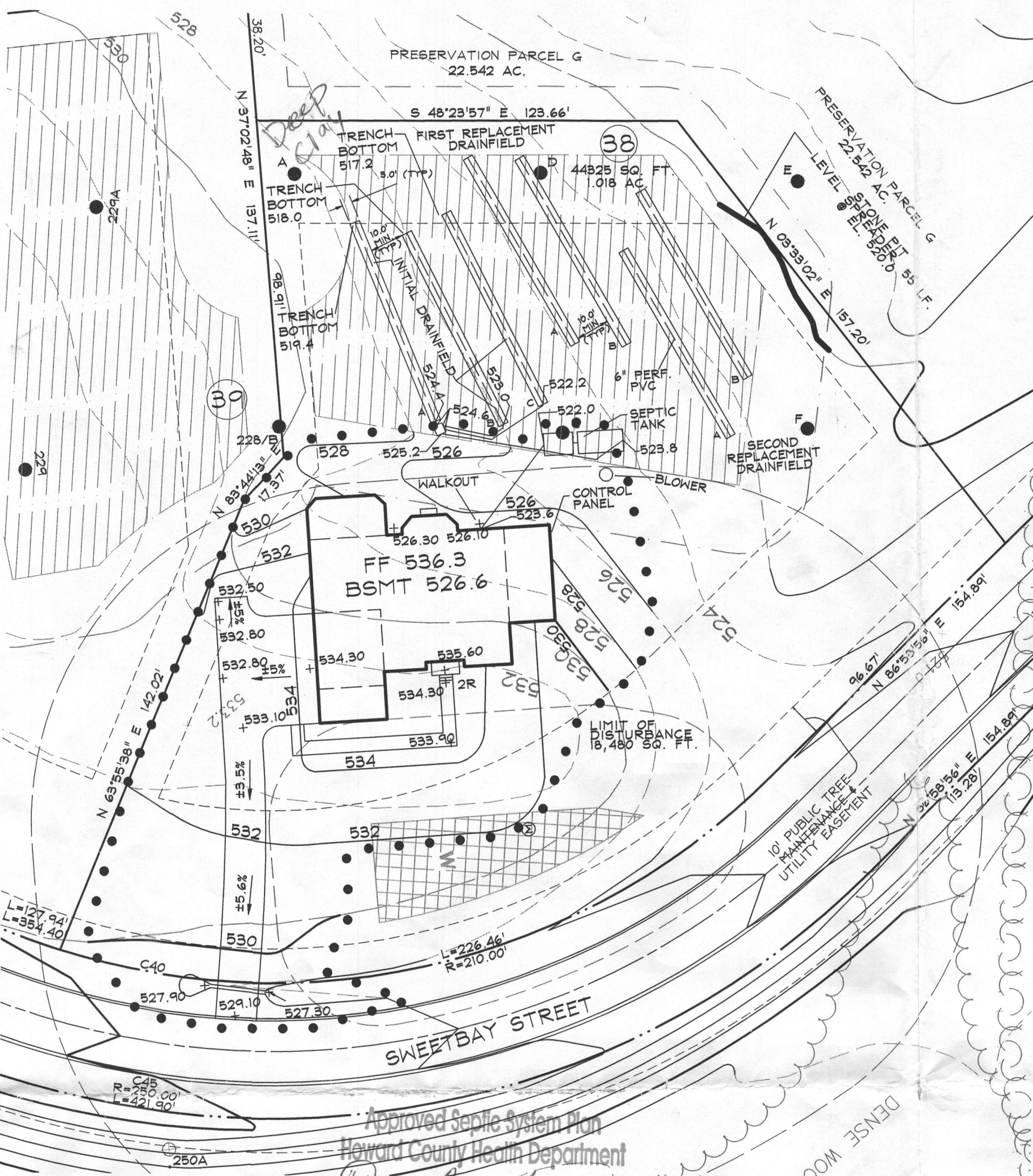


# GENERAL NOTES

1. BASE SQUARE FOOTAGE OF HOUSE: 4,143 SQ.FT.
2. NUMBER OF BEDROOMS: 6
3. EJECTOR PUMP IS NOT REQUIRED TO SEWER BASEMENT.
4. DRIVEWAY CULVERT IS REQUIRED PER THE APPROVED ROAD DRAWINGS, F-07-38.
5. THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER COMP-LITE ZONING REGULATIONS DATED 7/28/06.
6. PLAT REFERENCE: #19948
7. BASE INFORMATION SHOWN ON THIS PLAN IS BASED ON PLANS PREPARED BY DMW, AND DATED 06/25/07. EXISTING TOPOGRAPHY BASED ON GRADING PLAN PREPARED BY DEMARIO DESIGN CONSULTANTS DATED 07/09/07 AND FIELD RUN TOPOGRAPHY PREPARED BY DDC INC IN JAN. 2012.
8. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND DESIGN DETAILS. PRIOR TO STAKEOUT FOR CONSTRUCTION, IT SHALL BE THE OWNER/BUILDERS RESPONSIBILITY TO PROVIDE DDC, INC. WITH THE MOST RECENT SET OF HOUSE PLANS.
9. THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410)313-1891 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
10. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
11. TOTAL LIMIT OF DISTURBANCE: 19,480 SQ. FT. / 0.42 AC.
12. STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED PER THE PREVIOUSLY APPROVED FINAL PLAN (F-07-38).
13. ANY DAMAGE TO PUBLIC "RIGHT-OF-WAYS" OR PAVED PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
14. DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER (DDC, INC.) MAY CAUSE THE WORK TO BE UNACCEPTABLE.
15. THE DIMENSIONED DISTANCES SHALL GOVERN IF SCALED AND DIMENSIONED DISTANCES ON THIS PLAN ARE FOUND TO BE IN DISAGREEMENT.
16. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM LOT AREA AND OWNERSHIP WIDTH AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
17. THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQ.FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA 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.
18. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
19. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
20. UPON BUILDING PERMIT REVIEW THE SEPTIC SYSTEMS OF ALL PROPOSED STRUCTURES AND OR EXISTING STRUCTURE EXPANSIONS SHALL BE RE-EVALUATED TO DETERMINE SUFFICIENT SYSTEM CAPACITY.
21. THE DEVELOPMENT OF THIS LOT DOES NOT REQUIRE AN ENVIRONMENTAL CONCEPT PLAN SINCE STORMWATER MANAGEMENT WAS PREVIOUSLY APPROVED UNDER F-07-38.
22. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-0646) HAS BEEN FIELD LOCATED AND IS SHOWN ACCURATELY.

## SEPTIC SYSTEM/BEST AVAILABLE TECHNOLOGY (BAT) 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. THE BLOWER MAY NOT BE LOCATED MORE THAN 10 FEET FROM THE TANK BASED ON THE MANUFACTURE'S SPECIFICATIONS.
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 (HDE) IN A MANNER ACCEPTABLE TO HDE, 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.



## TOTAL DYNAMIC HEAD CALCULATIONS

|                            |          |
|----------------------------|----------|
| STATIC HEAD                | 6.8'     |
| OFF FLOAT ELEVATION:       | 518.4'   |
| HIGH POINT OF THE SYSTEM:  | + 528.2' |
| VERTICAL ELEVATION CHANGE: | 6.8'     |

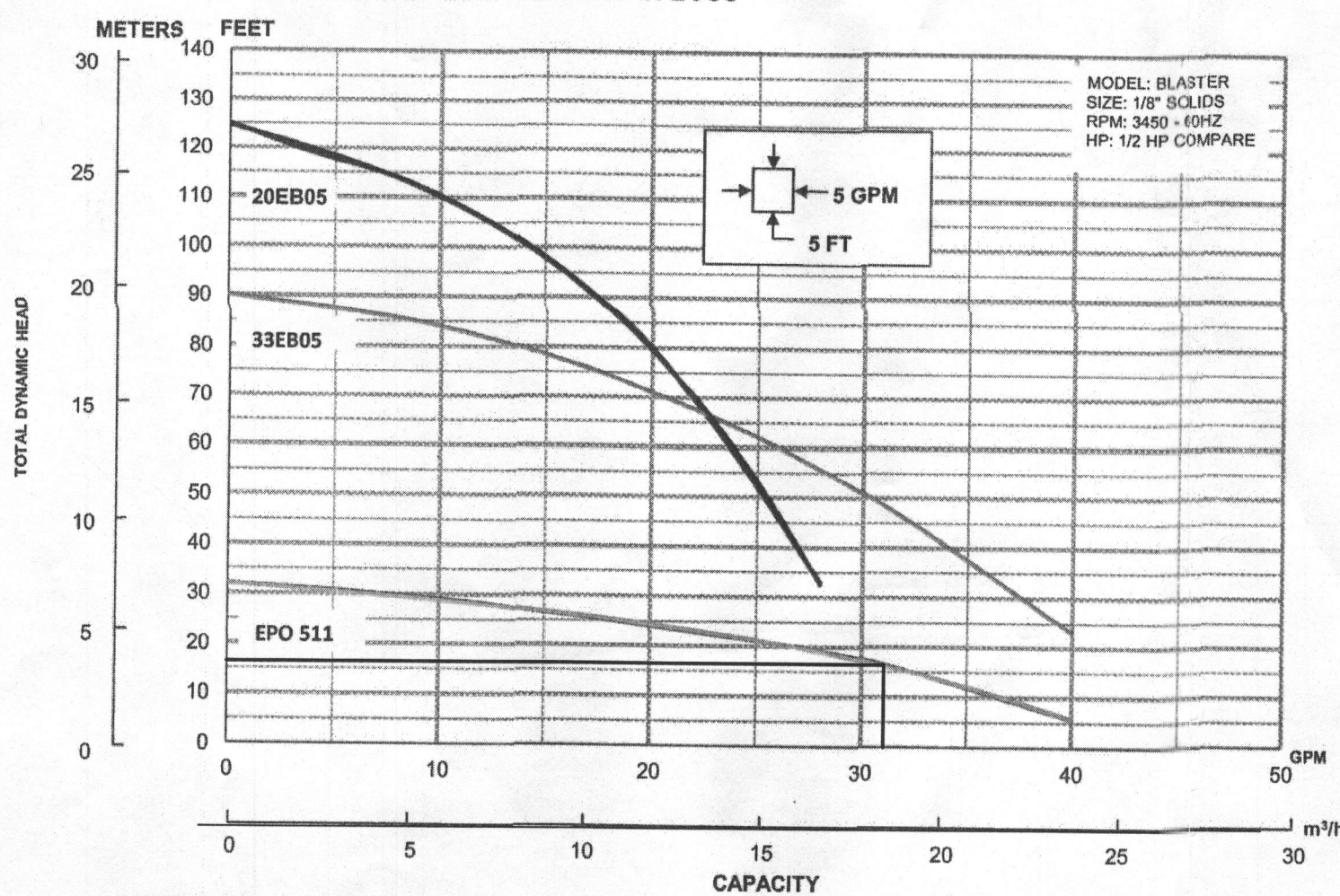
|                     |         |
|---------------------|---------|
| FRICTION HEAD       | 15.6'   |
| LENGTH OF PVC PIPE: | + 55.7' |
| TOTAL LENGTH:       | 71.3'   |

$$71.3' / 100 \times 13.62 = 9.7' \text{ TOTAL FRICTION LOSS}$$

|                              |       |
|------------------------------|-------|
| TOTAL HEAD                   | 6.8'  |
| VERTICAL ELEVATION CHANGE    | 9.7'  |
| TOTAL FRICTION LOSS          | 0.0'  |
| SYSTEM PRESSURE REQUIREMENTS | 16.5' |
| TOTAL DYNAMIC HEAD           | 16.5' |

|                    |          |
|--------------------|----------|
| STATIC HEAD        | 6.8'     |
| FRICTION HEAD      | 9.7'     |
| DISTAL END HEAD    | 0'       |
| TOTAL DYNAMIC HEAD | 16.5'    |
| GALLONS PER MINUTE | 31.0 GPM |
| DOSE               | 62 GAL   |
| PUMP RUN TIME      | 2.0 MINS |

## HOOT PUMP CURVES w/BNR RISER FIGURED IN LOSS



| LOT 38 SYSTEM TRENCH SPECIFICATIONS |                  |                  |                  |
|-------------------------------------|------------------|------------------|------------------|
|                                     | GROUND ELEVATION | INVERT ELEVATION | BOTTOM ELEVATION |
| INITIAL SYSTEM TRENCH A (63')       | 527.4            | 524.4            | 519.4            |
| INITIAL SYSTEM TRENCH B (63')       | 526.0            | 523.0            | 518.0            |
| INITIAL SYSTEM TRENCH C (63')       | 525.2            | 522.2            | 517.2            |
| FIRST REPLACEMENT TRENCH A (63')    | 524.0            | 521.0            | 516.0            |
| FIRST REPLACEMENT TRENCH B (63')    | 523.3            | 520.3            | 517.3            |
| SECOND REPLACEMENT TRENCH A (63')   | 522.7            | 519.7            | 516.7            |
| SECOND REPLACEMENT TRENCH B (63')   | 521.8            | 518.8            | 515.8            |

## SEWAGE DISPOSAL SYSTEM DATA (6 BEDROOM):

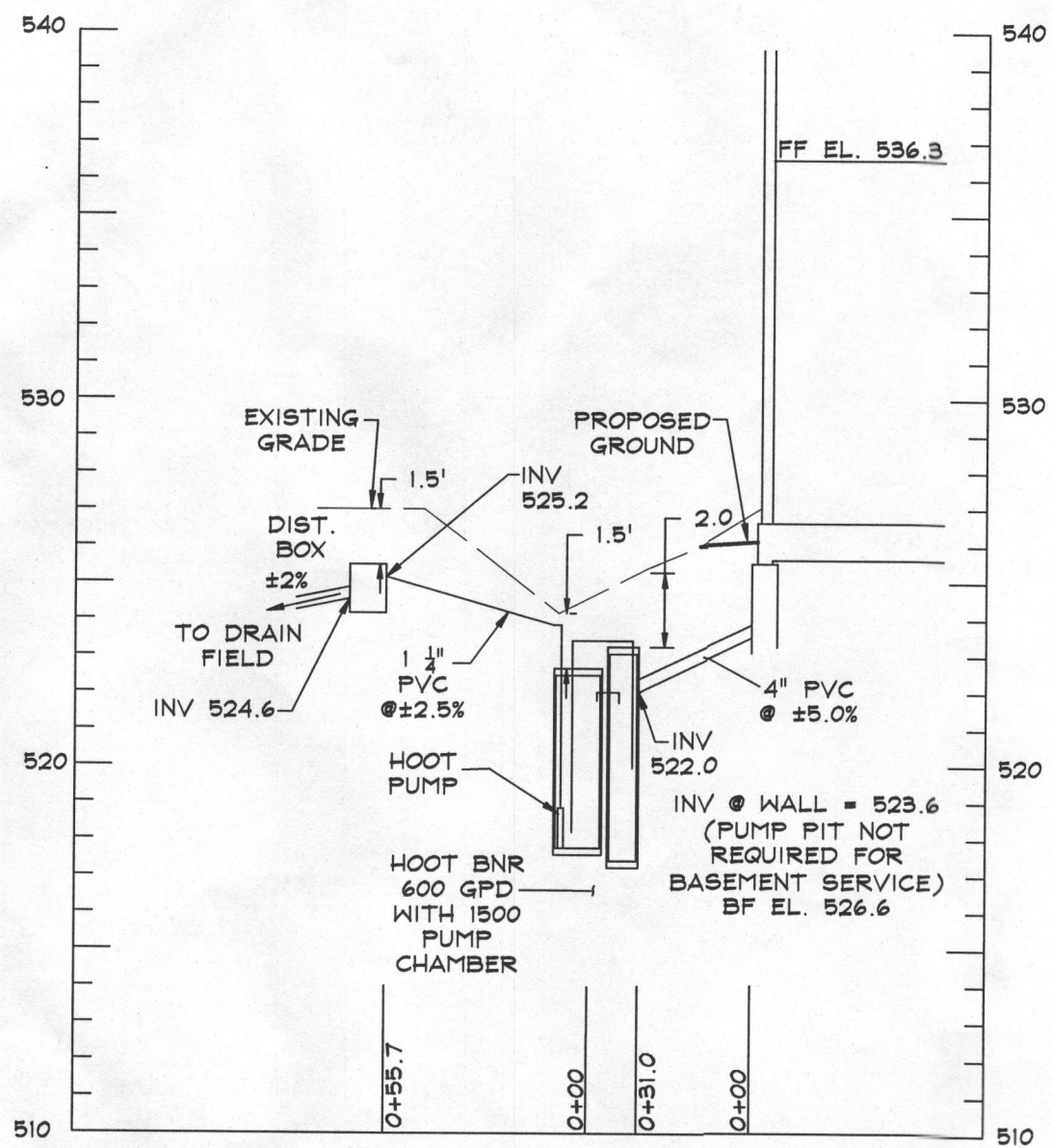
1. INVERT @ FOUNDATION WALL: 523.6
2. 600 GPD BNR SYSTEM W/ 1500 GALLON PUMP CHAMBER  
EX. GRADE OVER TANK: 525.3  
PROPOSED GRADE OVER TANK: 525.3  
INVERT: 522.0
3. DISTRIBUTION BOX  
EX & PROPOSED GRADE OVER TANK: 527.0  
INVERT: 525.2
4. TRENCH DESIGN (6 BEDROOM):

## INITIAL SYSTEM

(6 BDRM x 150 GPD/BDRM = 900 GPD)  
900 GPD / 0.8 GPD/SF (APP. RATE) = 1125 SF  
USE 3' WIDE TRENCH W/ 36" OF GRAVEL BELOW PIPE  
10' MIN SPACING BETWEEN TRENCH EDGES  
1125 SF / 3' WIDE = 375 LF x 0.5 = 188 LF MIN. TRENCH  
USE 3 - 63' LONG TRENCH = 189 LF FOR INITIAL SYSTEM

## FIRST/SECOND REPLACEMENT SYSTEM

(6 BDRM x 150 GPD/BDRM = 900 GPD)  
900 GPD / 1.2 GPD/SF (APP. RATE) = 750 SF  
USE 3' WIDE TRENCH W/ 36" OF GRAVEL BELOW PIPE  
10' MIN SPACING BETWEEN TRENCH EDGES  
750 SF / 3' WIDE = 250 LF x 0.5 = 125 LF MIN. TRENCH  
USE 2 - 63' LONG TRENCH = 126 LF FOR FIRST REPLACEMENT SYSTEM  
USE 2 - 63' LONG TRENCH = 126 LF FOR SECOND REPLACEMENT SYSTEM

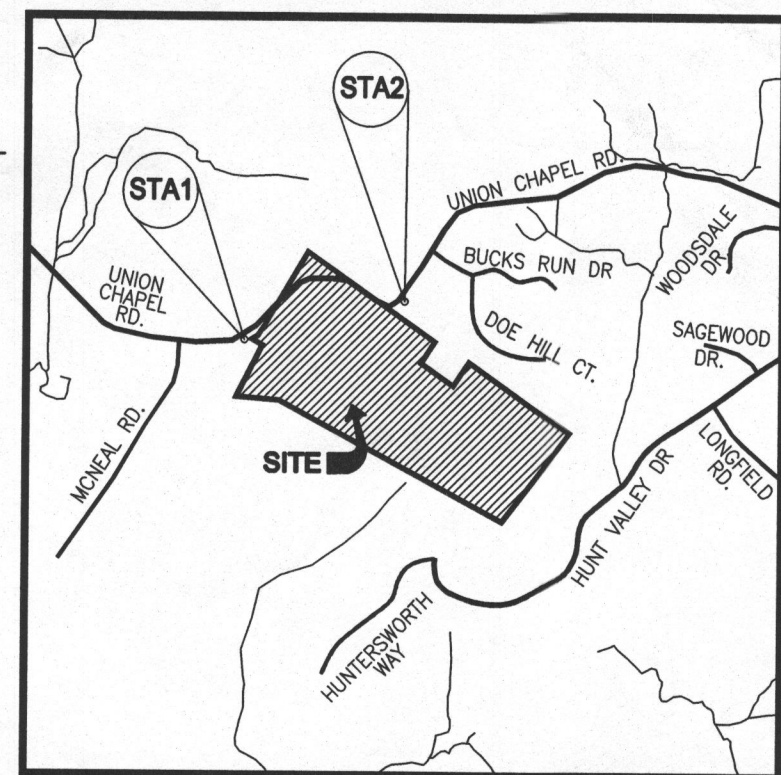


## SEPTIC SYSTEM PROFILE

LOT 38  
SCALE: HORIZ. 1"=50'  
VERT. 1"=5'

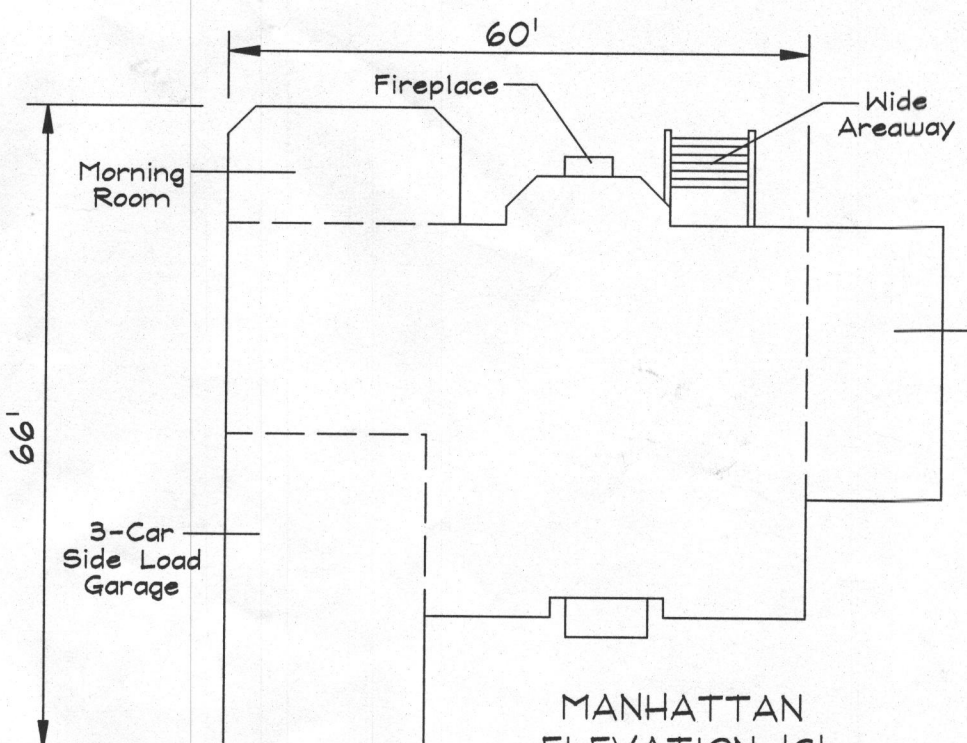
## BENCHMARK

|                            |            |
|----------------------------|------------|
| GEODETIC SURVEY CONTROL #1 |            |
| N.                         | 691402.42  |
| E.                         | 1297671.25 |
| A.A.                       | 146A       |
| ELEV.                      | 535.43     |
| GEODETIC SURVEY CONTROL #2 |            |
| N.                         | 691993.88  |
| E.                         | 1299121.80 |
| B.M.                       | 140B       |
| ELEV.                      | 542.23     |
| ADC MAP COORDINATES        |            |
| 48121C4                    |            |



## VICINITY MAP

SCALE: 1"= 2000'

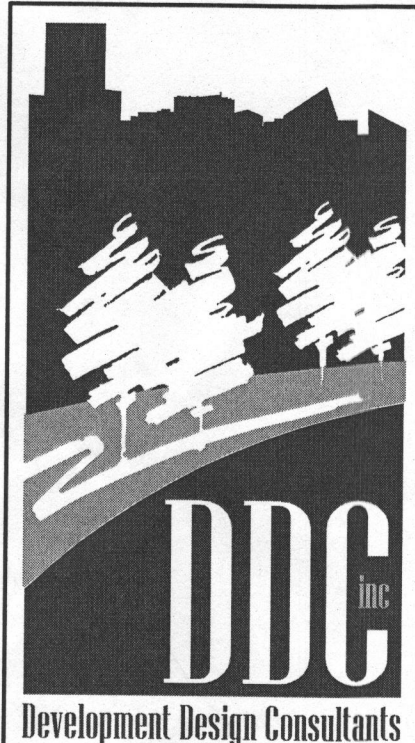


## MANHATTAN ELEVATION 'C' BRICK FRONT

## DATA SOURCES:

## DRAWING LEGEND

|           |                                    |
|-----------|------------------------------------|
| 500       | PROPOSED GRADE                     |
| 502       | PROPOSED GRADE                     |
| • • • • • | PROPOSED LIMIT OF DISTURBANCE      |
| ← + 665.5 | PROP. SPOT ELEV./FLOW ARROW        |
| ---       | PROPOSED 20' SEPTIC RESERVE BUFFER |
| ---       | EXISTING 30' WELL BUFFER           |
| ---       | EXISTING 100' WELL BUFFER          |
| ---       | BUILDING RESTRICTION LINE          |
| ▨         | SEPTIC RESERVE AREA                |
| ▨         | WELL AREA                          |
| ● 174     | PASSED PERCOLATION TEST            |
| ○ 127     | FAILED PERCOLATION TEST            |
| ---       | PROPOSED SPREADER                  |
| ---       | STONE PIT LEVEL                    |



OWNERS:  
K. HOWMAN HOMES  
1001 Brightline Road  
Landover, Maryland 20705  
(301) 683-6288

DEVELOPER:  
Belle Haven Estates  
LOT 38  
1504 Sweetbay Street  
Woodbine, Maryland 21797

## SITE PLAN FOR BAT INSTALLATION

3rd ELECTION DISTRICT HOWARD COUNTY

REVISIONS

| NO. | DESCRIPTION OF CHANGES | DRN. | REV. | DATE |
|-----|------------------------|------|------|------|
|-----|------------------------|------|------|------|

CO. FILE #:

DES. BY: JHK

TAX MAP: 14

DRN. BY: JHK

BLOCK / GRID:

CHK. BY: PGC/BKC

DATE: 10/23/14

PARCEL #: 66

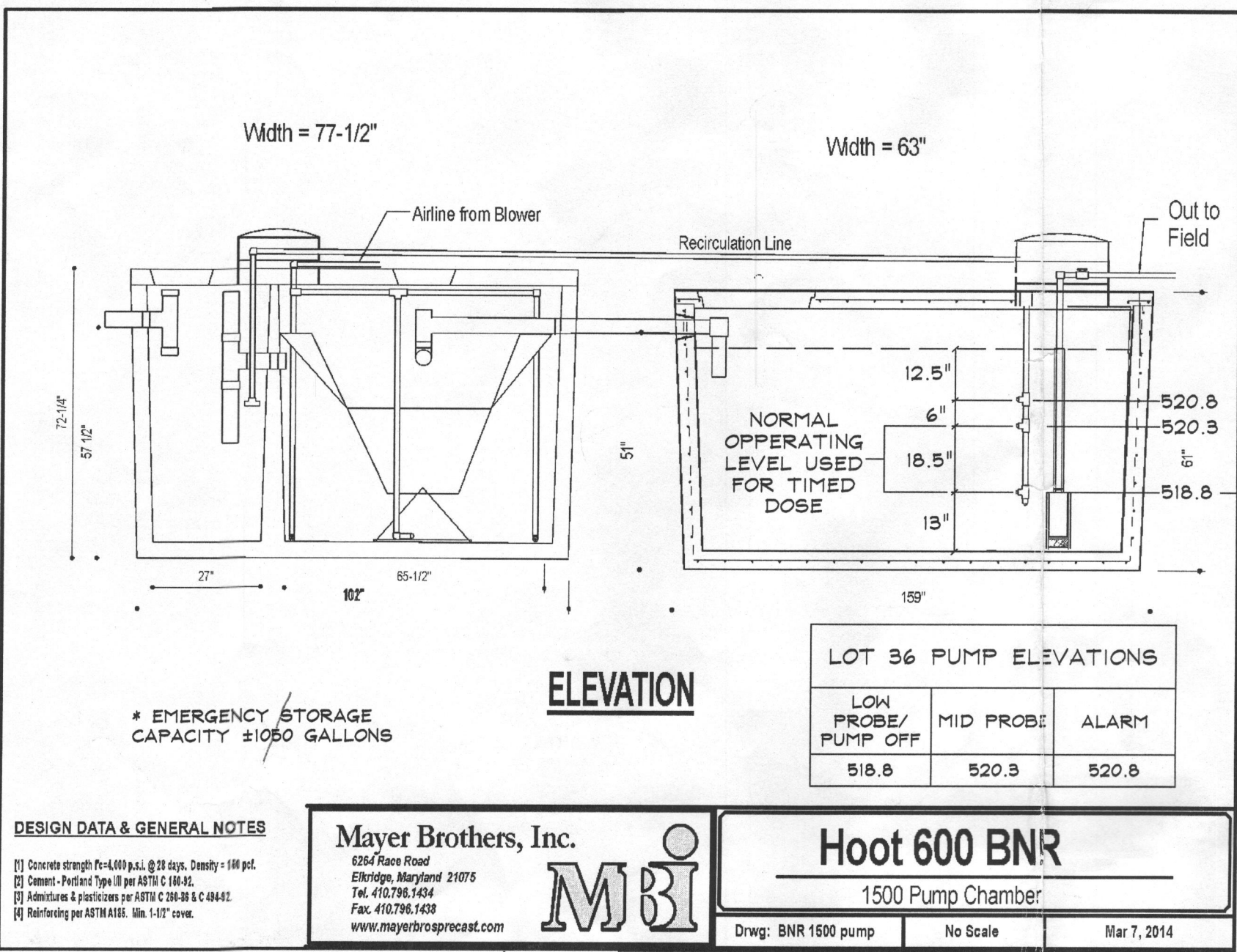
DDC JOB#: 06116.5

ZONE / USE: RC-DEO

SHEET NUMBER:

DWG. SCALE: 1"=30'

1 of 1



## ELEVATION

| LOT 36 PUMP ELEVATIONS |           |       |
|------------------------|-----------|-------|
| LOW PROBE/ PUMP OFF    | MID PROBE | ALARM |
| 518.6                  | 520.3     | 520.8 |

## Hoot 600 BNR

1500 Pump Chamber

Dwg: BNR 1500 pump No Scale Mar 7, 2014

## DESIGN DATA & GENERAL NOTES

1. Drawings prepared by DDC, Inc. for the use of the owner.
2. Owner: Perfect Type B per ASTM C 1363.
3. Materials & workmanship per ASTM C 1363 & C 1364.
4. Referencing per ASTM A116, 118, & 119.

Mayer Brothers, Inc.  
6364 Race Road  
Elkridge, Maryland 21075  
Tel: 410.768.1434  
Fax: 410.768.1435  
www.mayerbrothers.com



## Hoot 600 BNR

1500 Pump Chamber

Dwg: BNR 1500 pump No Scale Mar 7, 2014