



Howard County
Health Department

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: 9-22-14

ONSITE SEWAGE DISPOSAL SYSTEM

P 554640

INSTALLATION
APPROVAL DATE: 5/13/15 Kmw

PERMIT CONSTRUCTION

A _____

PROPERTY ADDRESS: 15255 Sweetbay Street

SUBDIVISION: Belle Haven Estates

LOT: 35 TAX ID: 04-374010

CONTRACTOR: Ben Lewis Plumbing

EMAIL: _____

CONTRACTOR ADDRESS: 23407 Frederick Road, Clarksburg, MD 20871

PHONE: 301-674-3324

PROPERTY OWNER: KHovnanian Homes

EMAIL: _____

OWNER ADDRESS: 1802 Brightseat Road, Landover, MD 20785

PHONE: 301-683-6268

BAT UNIT MODEL: HOOT BNR 600

BAT UNIT SIZE: 600GPD

PUMP CHAMBER CAPACITY (GALLONS): 750GPD

PUMP SIZE: _____

NUMBER OF BEDROOMS: 5

HOUSE SQ. FT. 6866

APPLICATION RATE: 0.8

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>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>SEE BAT PLAN</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</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. Set distribution box in SDA immediately downhill of tank outlet. Install 2 x 66' trenches on contour in upper SDA. <u>2x45' 3'-8'</u>	

ISSUED BY: Robert Bricker

ISSUE DATE: 10-2-14

EXPIRATION DATE: 10-2-15

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 DOWNGRAIENT 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 As-Built Drawing
On Separate Sheet

ROAD NAME

TRENCH/DRAINFIELD DATA

WIDTH INLET BOTTOM
2 3 8

NUMBER OF TRENCHES 2

TOTAL LENGTH 93'

ABSORPTION AREA 372

DISTRIBUTION BOX LEVEL Yes

DISTRIBUTION BOX BAFFLE Yes

DISTRIBUTION BOX PORT Yes

SEPTIC TANK DATA

SEPTIC TANK I LEVEL Yes

MANUFACTURER Mayer Broth
HOOT

CAPACITY ~2,100 GAL

SEAM LOC Top

TANK LID DEPTH 2.5'-3'

BAFFLES Front

BAFFLE FILTER No

MANHOLE LOC Front + Rear

6" PORT LOC None

WATERTIGHT TEST No

SLOTTED N/A

DATE ON LID Dry

PUMP/SEPTIC TANK LEVEL N/A

MANUFACTURER _____

CAPACITY _____ GAL

SEAM LOC _____

TANK LID DEPTH _____

BAFFLES _____

BAFFLE FILTER _____

MANHOLE LOC _____

6" PORT LOC _____

WATERTIGHT TEST _____

SLOTTED _____

DATE ON LID _____

PRE-CONSTRUCTION

10/7/2014 Layout done. Install system similar to BAT
plan. Trenches 8' deep. (BB)

INSTALLATION:

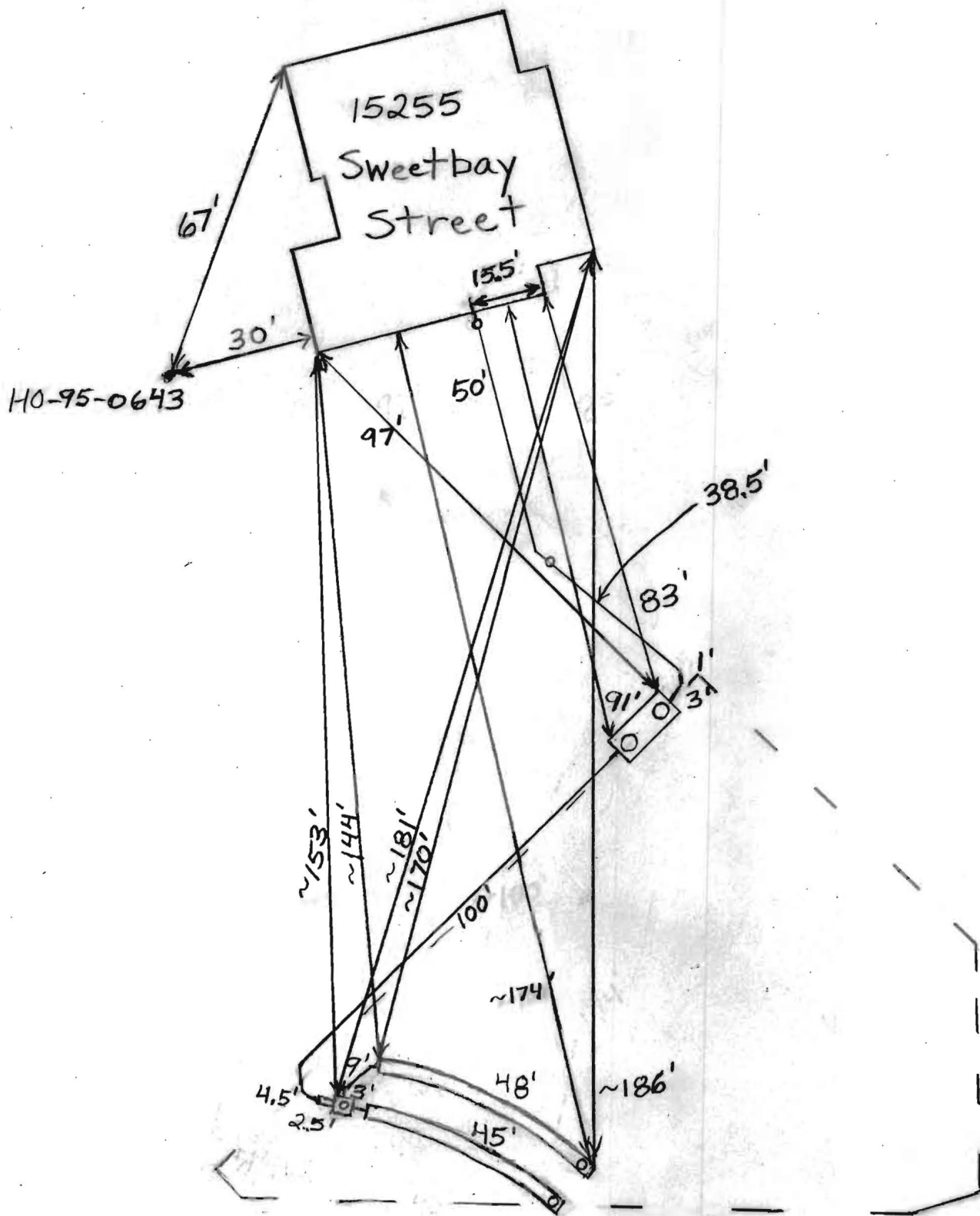
10/14/2014 Tank set. House connection made. (BB)
10/15/2014 System finished. O.K. to backfill. Need BAT
approval from Hoot inspector. (BB)

FINAL INSPECTOR

M. Wolf

DATE OF APPROVAL

5/13/15



Letter of Satisfaction

Hoot System Installation

Address of Property: 15255 Sweetbay St.
Woodbine, MD 21797

Date of Final Inspection: 3/12/15

Installer: Ben Lewis Plumbing

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,

W. Michael Sage
Name of Inspector
Mayer Bros., Inc.

E-mailed 3/18/15

PH: 410-796-1434

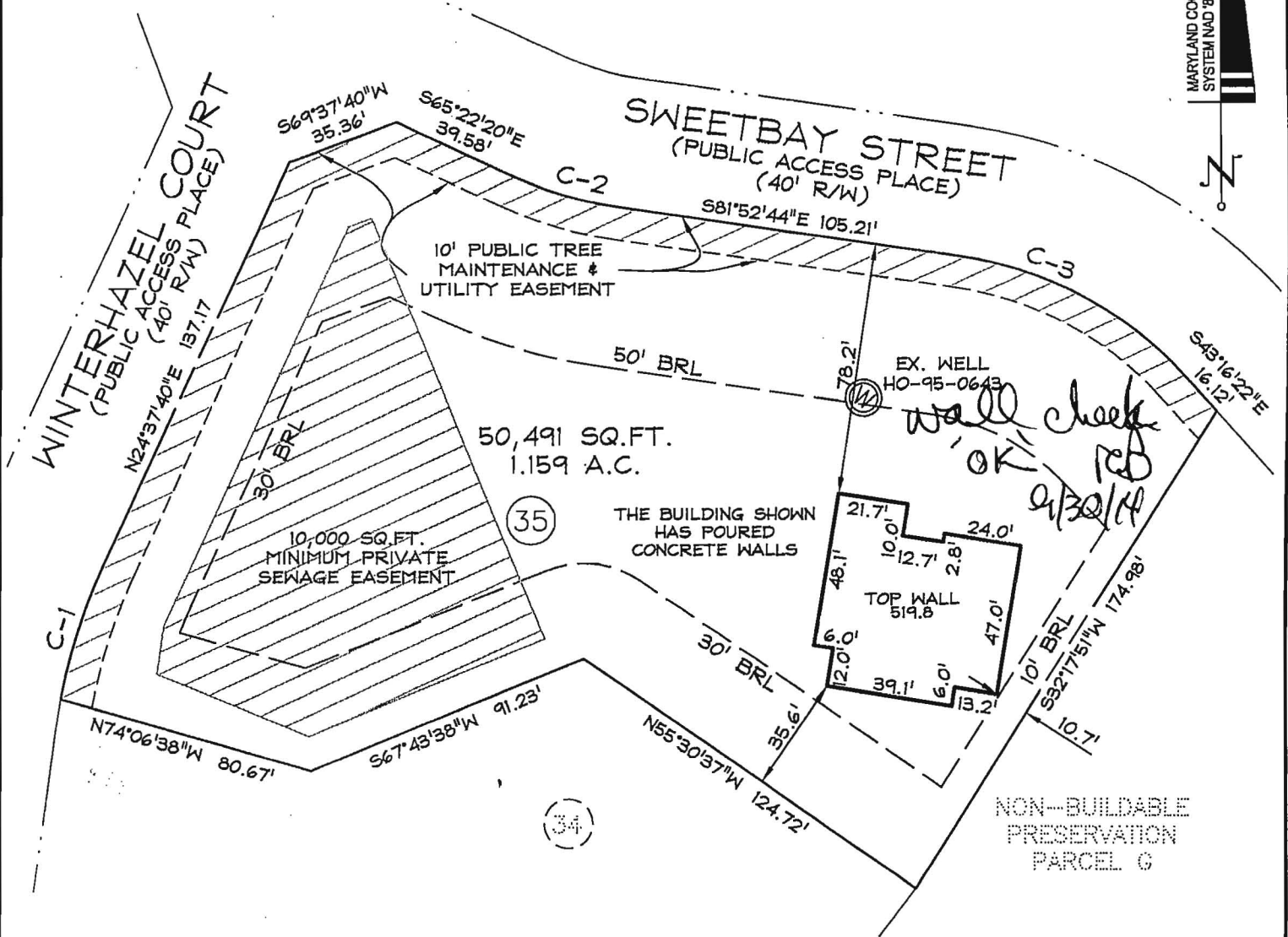
FX: 410-796-1438

WBE
NPCA Certified Plant

mayerbro@connext.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

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TAN	CHD. BRG.	CHD. DIST.
C-1	180.00'	44.29'	14°05'49"	22.26'	N17°34'46"E	44.18'
C-2	120.00'	34.57'	16°30'24"	17.41'	S73°37'32"E	34.45'
C-3	120.00'	80.86'	38°36'22"	42.03'	S62°34'33"E	79.34'



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 12.01, CHAPTER 06, MINIMUM STANDARDS OF PRACTICE, AND AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 239, EXPIRATION DATE 7/6/16.

Robert B. Southard

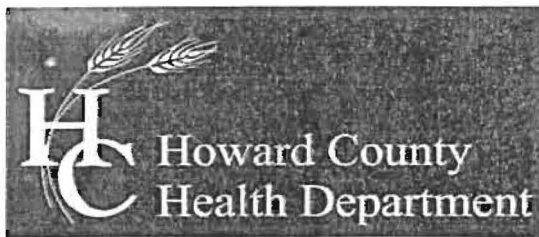


Planners
Surveyors
Engineers
Landscape Architects

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

WALL CHECK SURVEY
15255 SWEETBAY STREET
LOT 35
BELLE HAVEN ESTATES
PLAT No. 19952
ELECTION DIST. No.4 HOWARD COUNTY, MD

DDC JOB#: 06116.5
DATE: 09-12-2014
SCALE: 1"=50'
DRN. BY: DAP
CHK. BY: RBS



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 22ND day of SEPTEMBER, 2014, among K HONNANIAN HOMES OF MARYLAND I LLC, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 15255 SWEETBAY STREET WOODBINE 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 15691 Folio 273. Bele Haven lot 35

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 HOV SYSTEM BNR 600.

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.

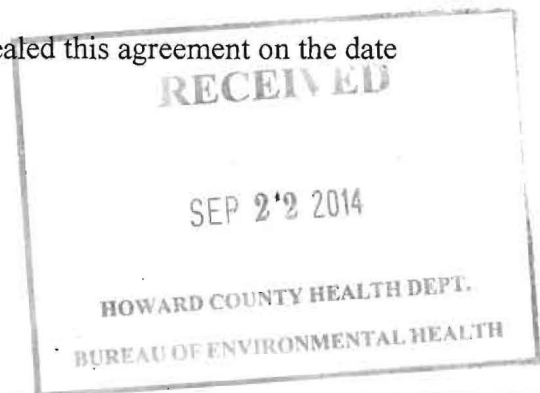
H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

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.

Bert Nifon 9/22/2014
Howard County Health Department



Steve Snyder 9-18-14
Owner #1 Signature Date
STEVE SNYDER / VP KHOVATIAN HOMES OF MARYLAND LLC

Owner #2 Signature Date

Owner #1 Print Name

Owner #2 Print Name

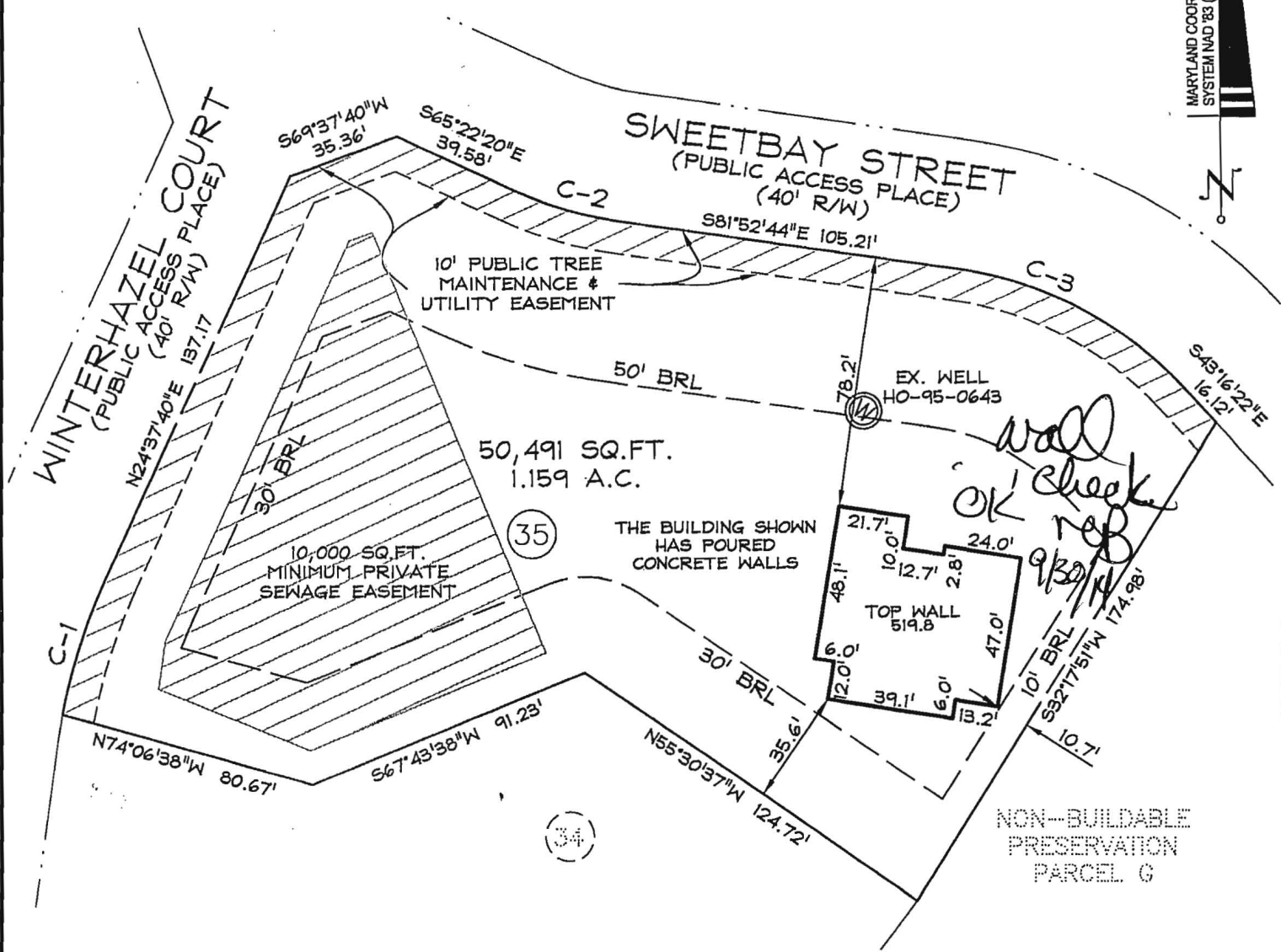
NOT SOLD AS OF 9/22/14
Buyer #1 Signature Date

Buyer #2 Signature Date

NOT SOLD AS OF 9/22/14
Buyer #1 Print Name

Buyer #2 Print Name

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TAN	CHD. BRG.	CHD. DIST.
C-1	180.00'	44.29'	14°05'49"	22.26'	N17°34'46"E	44.18'
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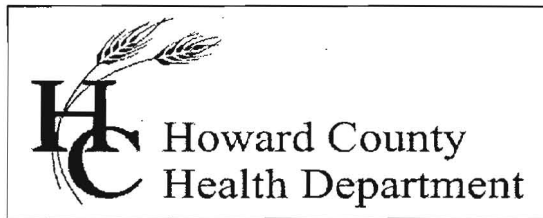
SURVEYOR'S CERTIFICATE

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Robert B. Southard



WALL CHECK SURVEY 15255 SWEETBAY STREET LOT 35 BELLE HAVEN ESTATES PLAT No. 19952 ELECTION DIST. No.4 HOWARD COUNTY, MD		DDC JOB#:	06116.5	 Development Design Consultants	Westminster, MD 21157
		DATE:	09-12-2014		410.386.0560
		SCALE:	1"=50'		410.386.0564 (Fax)
		DRN. BY:	DAP		DDC@DDCinc.us
		CHK. BY:	RBS		www.DDCinc.us



Bureau of Environmental Health

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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

July 18, 2014

TO: Paul Cavanaugh, P.E.
DDC, Inc.

FROM: Robert Bricker
Environmental Sanitarian II

RE: **15255 Sweetbay Street (Lot 35), BAT Site Plan: comment**

The BAT Site Plan needs to be amended as follows:

1. I have enclosed a mark-up of the Plan View illustrating the following:
 - a. re-orient the direction of the BAT unit and location of Blower
 - b. re-locate the Distribution Box
 - c. re-locate the initial drainfield system to the uppermost region of the SDA
 - d. relocate the first replacement drainfield as indicated.
2. In Septic System Profile, edit the following:
 - a. Re-position the invert at the foundation wall making it equal or higher in elevation than the top of the BAT unit. (Thereby the entire volume of the BAT unit may store discharge from the house in the event of pump failure, and the wastewater doesn't back-up into the house until the tank is full.)
 - b. Correct the height and relative elevation change for Inverts IN and OUT of Distribution Box. There is a drop of 1.3 feet across the Distribution Box. I recommend obtaining more accurate dimensions for Distribution Boxes and illustrating the height accurately.
3. Reconsider the Force Main design and calculations and impact on required size of Pump. For example, I have a reference for Charlotte Pipe and Foundry Company that describes 11.85 feet of Friction Head per 100 feet pipe length for 1 1/4" diameter Schedule 40 pipe at 30 gallons per minute, and having velocity of 6.63 ft/sec. In comparison, a 2" diameter Schedule 40 pipe at 30 gallons per minute has only 1.62 feet of Friction Head per 100 feet pipe length and velocity of 2.93 ft/sec.
4. Correct all calculations and elevations per edits.

Re-submit two (2) copies of the revised plan directly to the Bureau of Environmental Health, to my attention.

Copy: file

FTFinksburg Dispatch
410-833-4400Finksburg Sales
410-833-4400Land Sand & Gravel, Inc. T/A
S. W. Barrick & Sons
Finksburg Terminal

FINKSBURG, MARYLAND

Mailing Address: P.O. Box 1504 Laurel, Maryland 20725

INSPECTOR'S COPY

FAX
410-833-4909BILLING INQUIRIES
1-800-762-2294

TICKET #00330689

STATION FT

DATE 10/13/14 TIME 06:18:16

CUSTOMER LEWEN
DEN LEWIS, INC.
23407 FREDERICK RD
CLARKSBURG, MD 20871JOB BELHAV : BELL HAVEN
P.O. # 31062 PROJECT #:
15255 SWEET BAYTRUCK 743D LICENSE 3 AXLES
DRIVER: RAY'S RELIABLE TRKING LLC

ANDY 301-674-3324

GROSS	SCALE A	68960 lb
TARE	IN (STORED)	28320 lb
NET		40640 lb
NET		20.32 t

	Loads	Tons
DAILY	1	20.32
TOTAL	1	20.32
TIME IN	06:18:16	TIME OUT 06:18:16

MAT'L 0022 : #2 STONE
HAUL ZONE L-10

WEIGHMASTER

Jim Cooke

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FT

Finksburg Dispatch
410-833-4400

Finksburg Sales
410-833-4400

Land Sand & Gravel, Inc. T/A
S. W. Barrick & Sons
Finksburg Terminal
FINKSBURG, MARYLAND

Mailing Address: P.O. Box 1504 Laurel, Maryland 20725

INSPECTOR'S COPY

FAX
410-833-4909

BILLING INQUIRIES
1-800-762-2294

TICKET #00330691

STATION FT

DATE 10/13/14 TIME 06:28:54

CUSTOMER LEW BEN
BEN LEWIS, INC.
23407 FREDERICK RD
CLARKSBURG, MD 20871

JOB BELHAV : BELL HAVEN
P.O. # 31062 PROJECT #:
15255 SWEET BAY

TRUCK 743B LICENSE 3 AXLES
DRIVER: RAY'S RELIABLE TRKING LLC

ANDY 301-674-3324

GROSS	SCALE A	70000 lb
TARE IN	(STORED)	26680 lb
NET		43320 lb
NET		21.66 t

	Loads	Tons
DAILY	2	41.98
TOTAL	2	41.98
TIME IN 06:28:54		TIME OUT 06:28:54

HAT'L 0022 : #2 STONE
HAUL ZONE L-10

WEIGHMASTER

Jim Cobke

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APB/S

PMB ASSOCIATES LLC (877) 790-5446 331-35604

PP 7/07

FTFinksburg Dispatch
410-833-4400Finksburg Sales
410-833-4400Land Sand & Gravel, Inc. T/A
S. W. Barrick & Sons
Finksburg Terminal

FINKSBURG, MARYLAND

Mailing Address: P.O. Box 1504 Laurel, Maryland 20725

INSPECTOR'S COPYFAX
410-833-4909BILLING INQUIRIES
1-800-762-2294**TICKET #00330741**

STATION FT

DATE 10/13/14 TIME 08:49:45

CUSTOMER LEW BEN
BEN LEWIS, INC.
23407 FREDERICK RD
CLARKSBURG, MD 20871**JOB BELHAV : BELL HAVEN**
P.O. # 31062 PROJECT #:
15255 SWEET BAY**TRUCK 743D LICENSE** 3 AXLES
DRIVER: RAY'S RELIABLE TRKING LLC

ANDY 301-674-3324

	SCALE A	
GROSS	69480 lb	
TARE IN (STORED)	28320 lb	
NET	41160 lb	
NET	20.58 t	

	Loads	Tons
DAILY	3	62.56
TOTAL	3	62.56
TIME IN 08:49:45		TIME OUT 08:49:45

MAT'L 022W : #2 STONE-DOUBLE WASHED
HAUL ZONE L-10

WEIGHMASTER

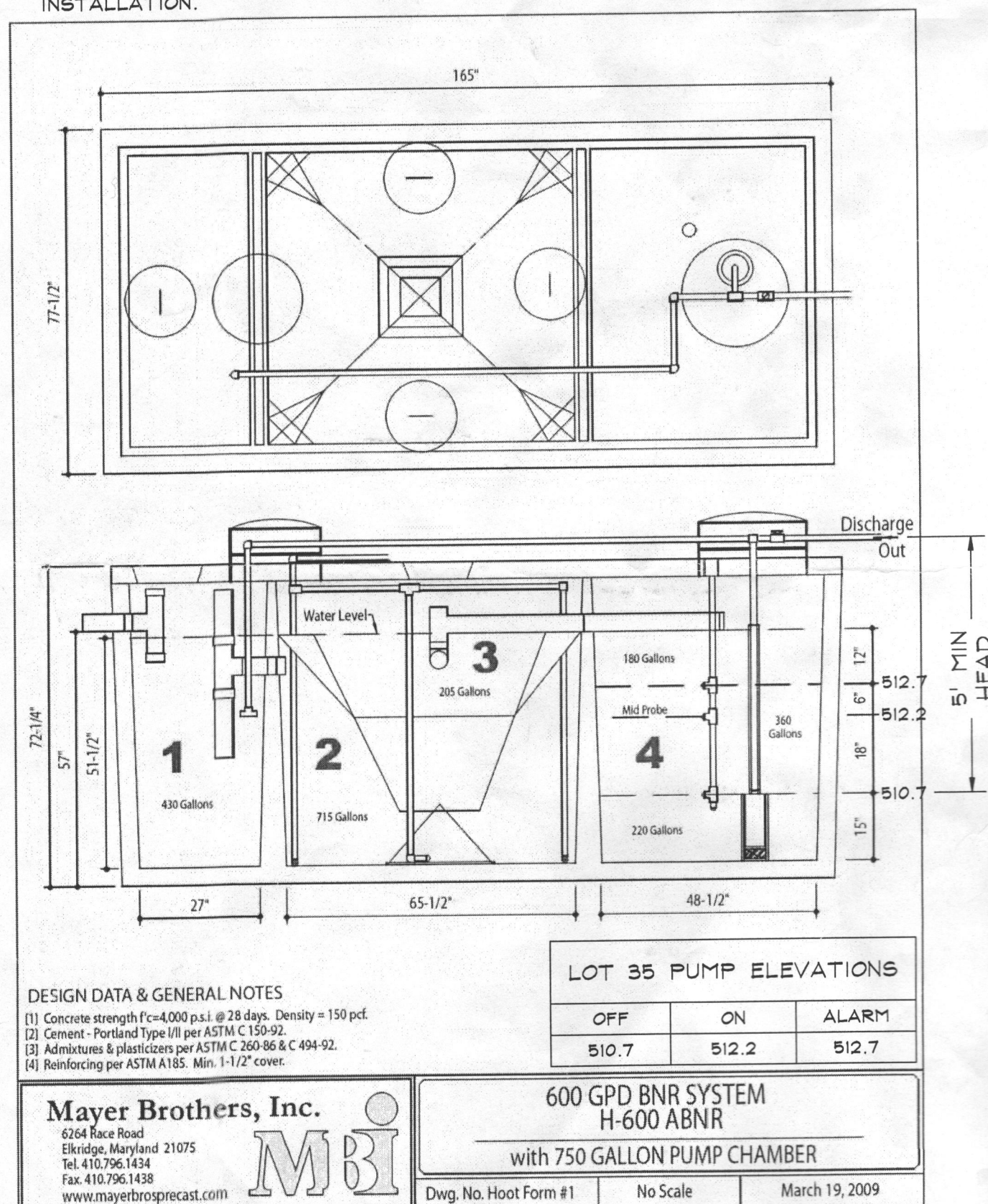
Jim Cooke

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- GENERAL NOTES
1. BASE SQUARE FOOTAGE OF HOUSE: 3,593 SQ. FT.
 2. NUMBER OF BEDROOMS: 4
 3. EJECTOR PUMP REQUIRED TO SEWER BASEMENT
 4. A DRIVEWAY CULVERT HAS BEEN SHOWN 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 07/04/07 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)383-1881 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: 12,856 SQ. FT. / 0.28 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.
 18. 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.
 19. 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.
 20. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 21. 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.
 22. THE DEVELOPMENT OF THIS LOT DOES NOT REQUIRE AN ENVIRONMENTAL CONCEPT PLAN SINCE STORMWATER MANAGEMENT WAS PREVIOUSLY APPROVED UNDER F-07-38.
 23. THE EXISTING WELL SHOWN (H0-095-0643) 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 MANUFACTURER'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 (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.



DESIGN DATA & GENERAL NOTES

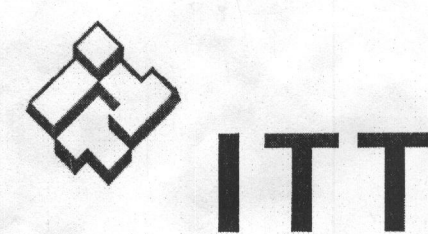
1. Concrete strength f'c=4000 psi & 28 days. Density = 150 pcf.
2. Cement - Portland Type II per ASTM C 150-92.
3. Admixtures & plasticizers per ASTM C 260-86 & C 494-92.
4. Reinforcing per ASTM A108. Min. 1/2" cover.

Mayer Brothers, Inc.

6264 Race Road
Elkridge, Maryland 21075
Tel: 410.796.1434
Fax: 410.796.1438
www.mayerbrothersinc.com

1600 GPD BNR SYSTEM
H-600 ABNR
with 750 GALLON PUMP CHAMBER

Dwg. No. Hoot Form #1 No Scale March 19, 2009

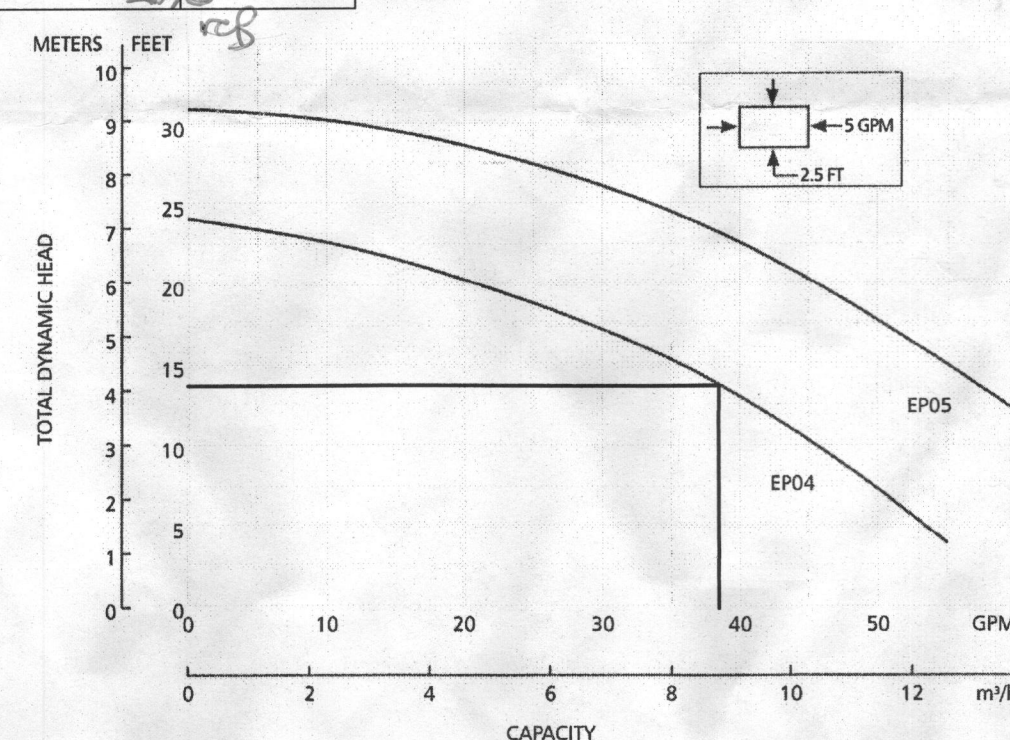


PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute
5	53
10	46
15	36
20	21
25	0
30	-

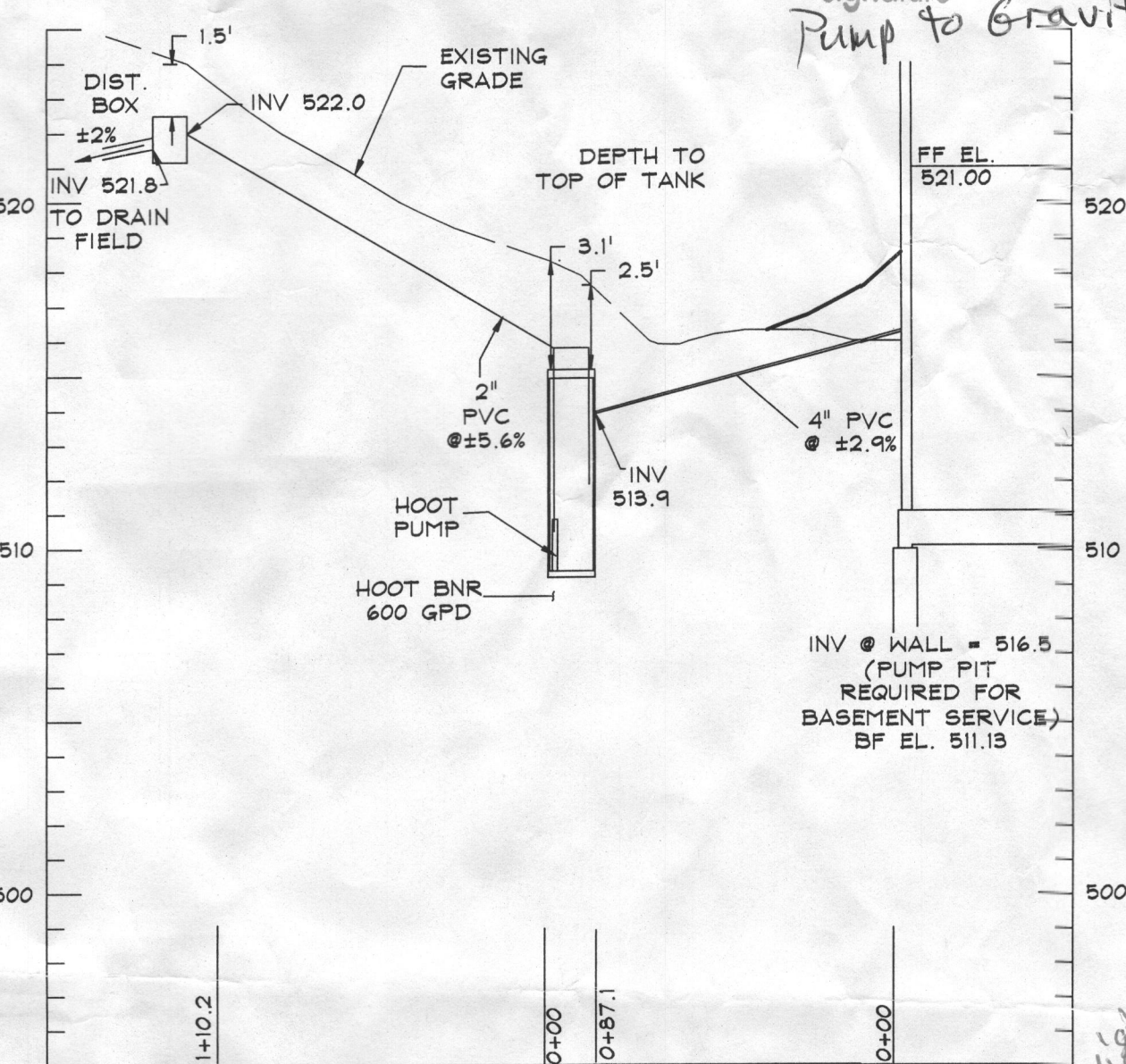
STATIC HEAD

STATIC HEAD	11.3'
FRICTION HEAD	2.3'
DISTAL END HEAD	0'
TOTAL DYNAMIC HEAD	13.6'
GALLONS PER MINUTE	38.0 GPM
DOSE	104.5 250 GAL
PUMP RUN TIME	2.56 MIN



GOULDS PUMPS
Wastewater

TOTAL DYNAMIC HEAD CALCULATIONS	
STATIC HEAD	
OFF FLOAT ELEVATION:	0.7'
HIGH POINT OF THE SYSTEM:	+ 2.0'
VERTICAL ELEVATION CHANGE:	3'
FRICTION HEAD	
FITTINGS:	3.4'
LENGTH OF PVC PIPE:	+ 0.2'
TOTAL LENGTH :	3.6'
$123.6/100 \times 1.89 = 2.34'$ TOTAL FRICTION	3.6'
TOTAL HEAD	
VERTICAL ELEVATION CHANGE	11.3'
TOTAL FRICTION LOSS	2.3'
SYSTEM PRESSURE REQUIREMENTS	+ 0.0'
TOTAL DYNAMIC HEAD	13.6'



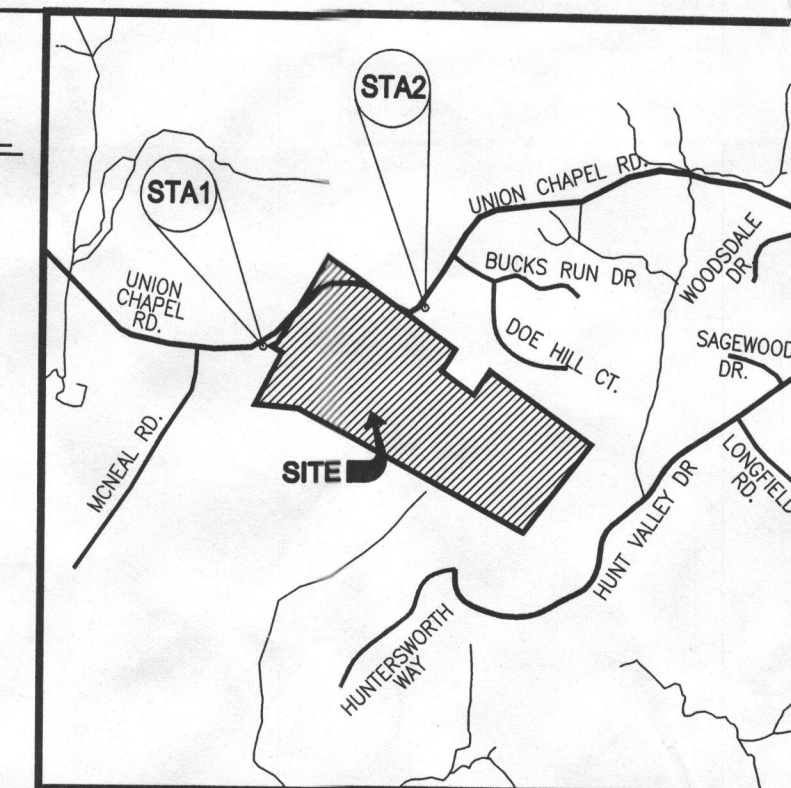
- SEWAGE DISPOSAL SYSTEM DATA (4 BEDROOM):
1. INVERT @ FOUNDATION WALL: 515.0 (BASEMENT PUMP REQUIRED)
 2. 600 GPD BNR SYSTEM W/ 750 GALLON PUMP CHAMBER
EX. GRADE OVER TANK: 518.0
PROPOSED GRADE OVER TANK: 518.0
INVERT: 515.9
 3. DISTRIBUTION BOX
EX. GRADE OVER TANK: 524.2
INVERT: 522.0
 4. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
600 GPD / 1.2 GPD/SF (APP. RATE) = 500 SF
USE 2' WIDE TRENCH W/ 48" OF GRAVEL BELOW PIPE
12' MIN SPACING BETWEEN TRENCH EDGES
500 SF / 2' WIDTH = 250 LF x 0.36 = 90 LF MIN. TRENCH
USE 2 - 45' LONG TRENCH FOR INITIAL SYSTEM
USE 2 - 45' LONG TRENCH FOR FIRST REPLACEMENT SYSTEM
USE 2 - 45' LONG TRENCH FOR SECOND REPLACEMENT SYSTEM

BENCHMARK

GEODETIC SURVEY CONTROL #1
N. 581450.42
E. 1297571.25
AA. 14GA
ELEV. 536.43

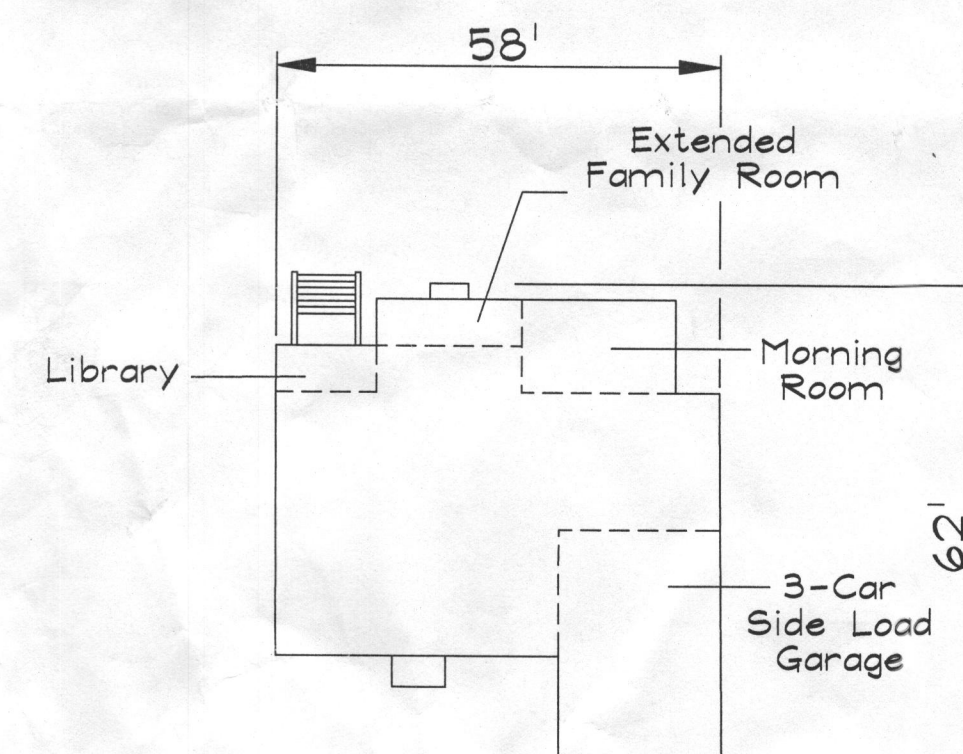
GEODETIC SURVEY CONTROL #2
N. 581683.08
E. 1298121.60
B.M. 14GB
ELEV. 542.23

ADD MAP COORDINATES
4812C4



VICINITY MAP

SCALE: 1" = 2000'



COLORADO
COUNTRY ELEVATION, BRICK FRONT, 3 CAR SIDE
LOAD GARAGE, EXTENDED FAMILY, MORNING ROOM,
EXTENDED LIBRARY, FIRST FLOOR SUITE,
WALKOUT

DATA SOURCES:

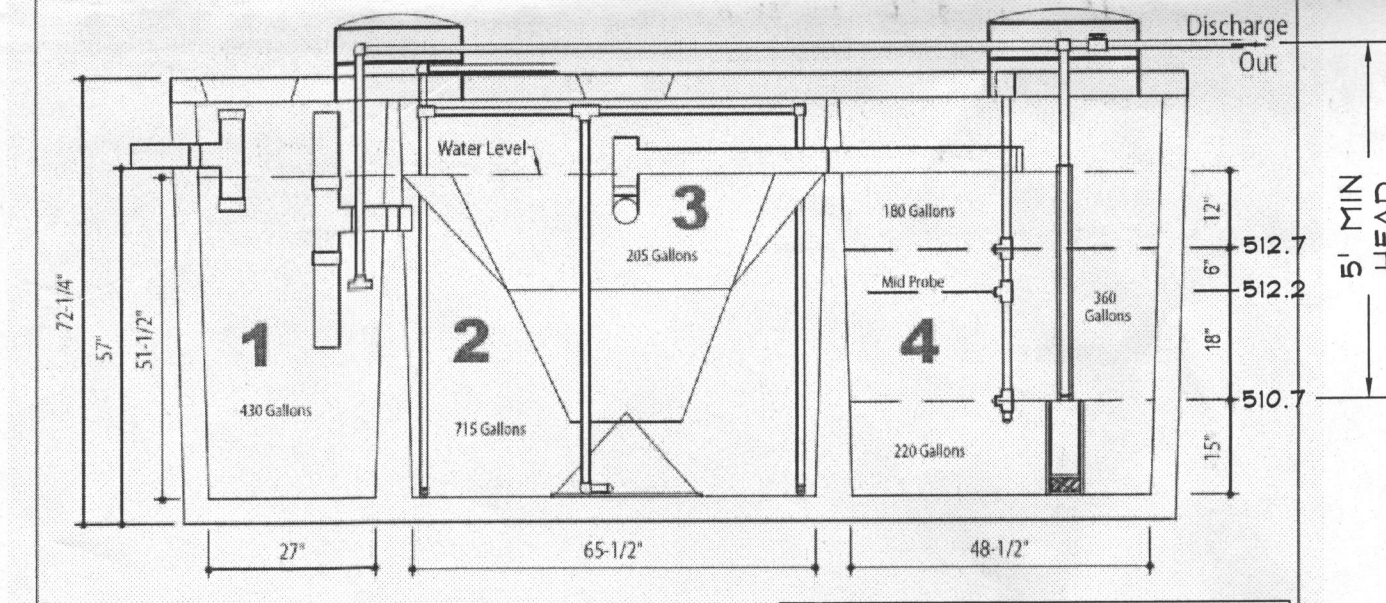
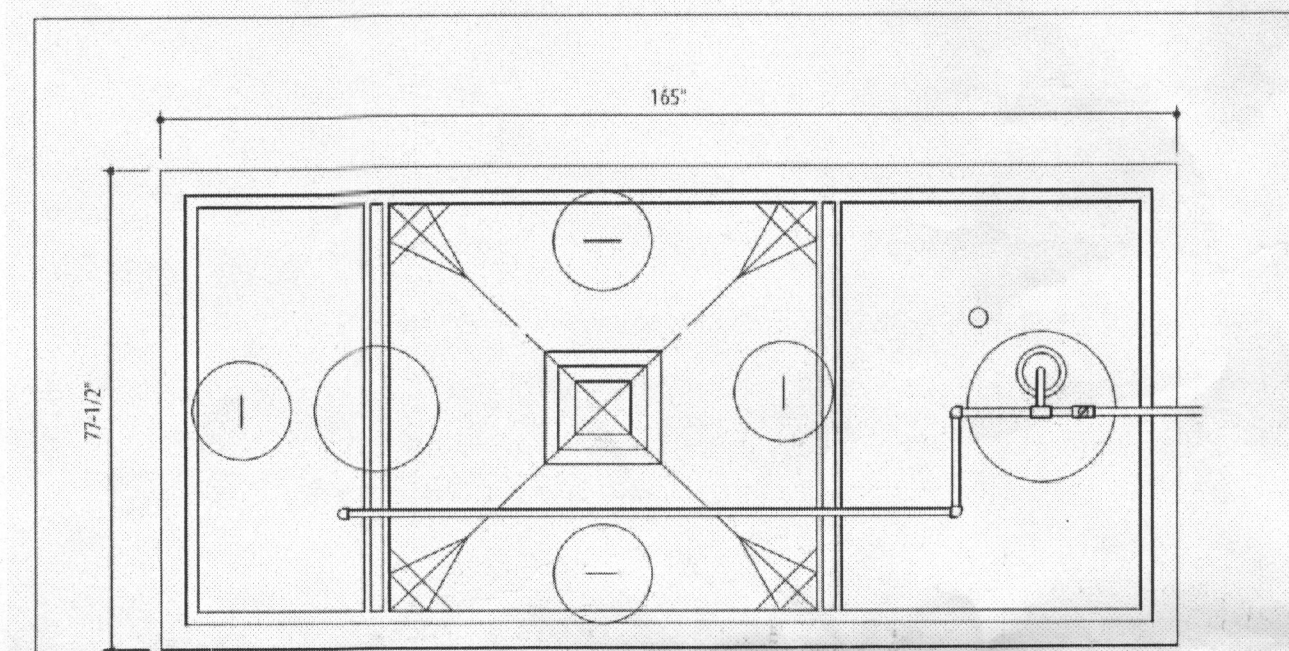
DRAWING LEGEND

500	PROPOSED GRADE
502	PROPOSED LIMIT OF DISTURBANCE
+	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
●	PASSED PERCOLATION TEST
○	FAILED

- GENERAL NOTES
1. BASE SQUARE FOOTAGE OF HOUSE: 3,593 SQ.FT.
 2. NUMBER OF BEDROOMS: 4
 3. EJECTOR PUMP REQUIRED TO SEWER BASEMENT
 4. A DRIVEWAY CULVERT HAS BEEN SHOWN 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 DDA AND DATED 06/25/07. EXISTING TOPOGRAPHY BASED ON GRADING PLAN PREPARED BY DENARIO 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)313-1881 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: 12,856 SQ. FT. / 0.28 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 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.

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 (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.



DESIGN DATA & GENERAL NOTES

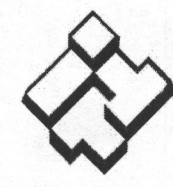
(1) Concrete strength f'c=4000 psi, @ 28 days. Density = 150 pcf.
(2) Concrete: Portland Type III per ASTM C 150-92.
(3) Admixtures & plasticizers per ASTM C 260-96 & C 494-92.
(4) Reinforcing per ASTM A108, Min. 1-1/2" cover.

LOT 35 PUMP ELEVATIONS

	OFF	ON	ALARM
	510.7	512.2	512.7

600 GPD BNR SYSTEM
H-600 ABNR
with 750 GALLON PUMP CHAMBER

Dwg. No. Hoot Form #1 No Scale March 19, 2009



ITT

GOULDS PUMPS
Wastewater

PERFORMANCE RATINGS

Total Head (ft. of water)	Gallons Per Minute	EP04	EP05
5	53	-	-
10	46	62	-
15	36	55	-
20	21	46	-
25	0	33	-
30	-	11	-

STATIC HEAD	11.3'
FRICTION HEAD	2.3'
DISTAL END HEAD	0'
TOTAL DYNAMIC HEAD	13.6'
GALLONS PER MINUTE	38.0 GPM
DOSE	104.5
PUMP RUN TIME	2.75 MIN

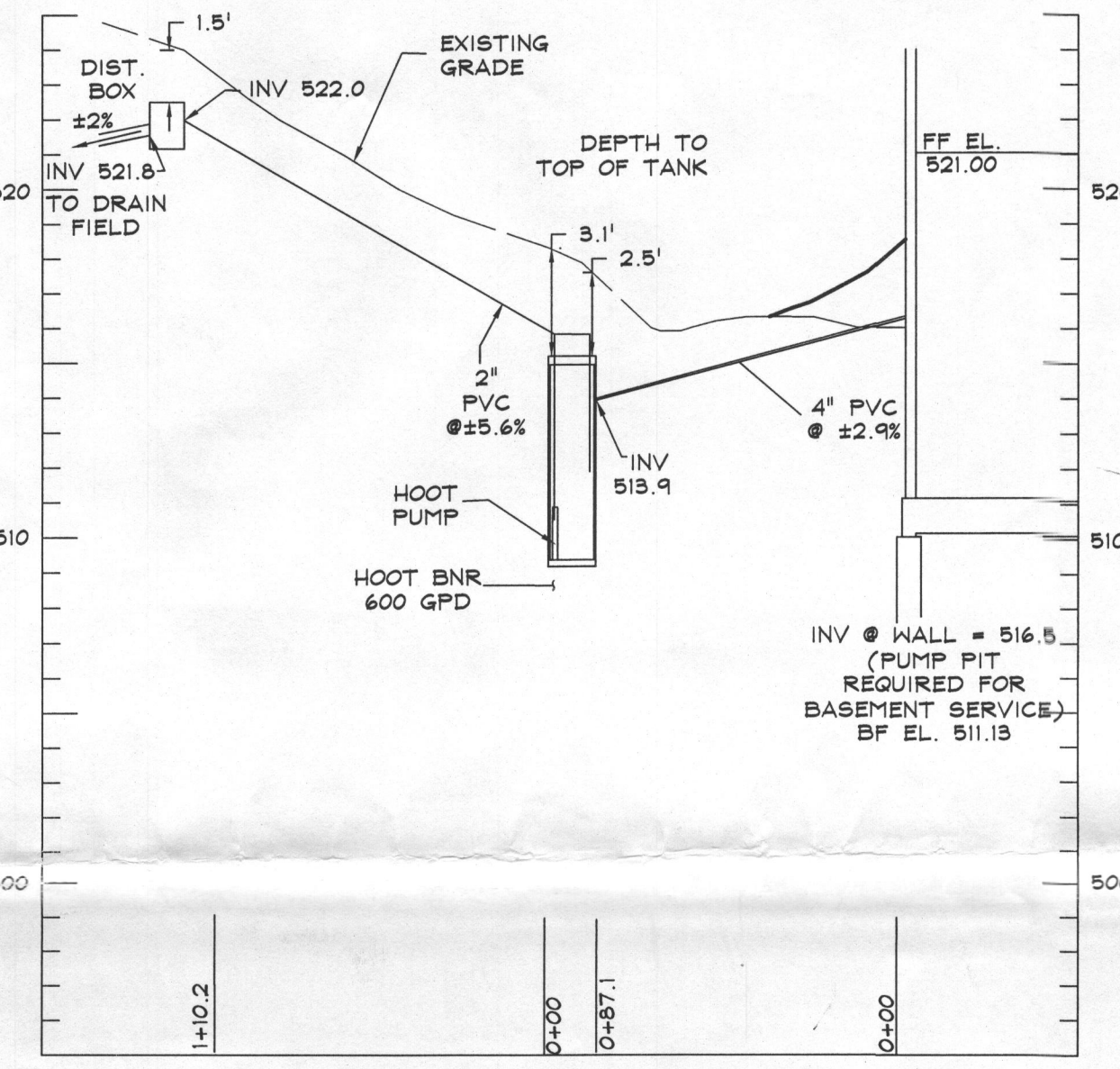
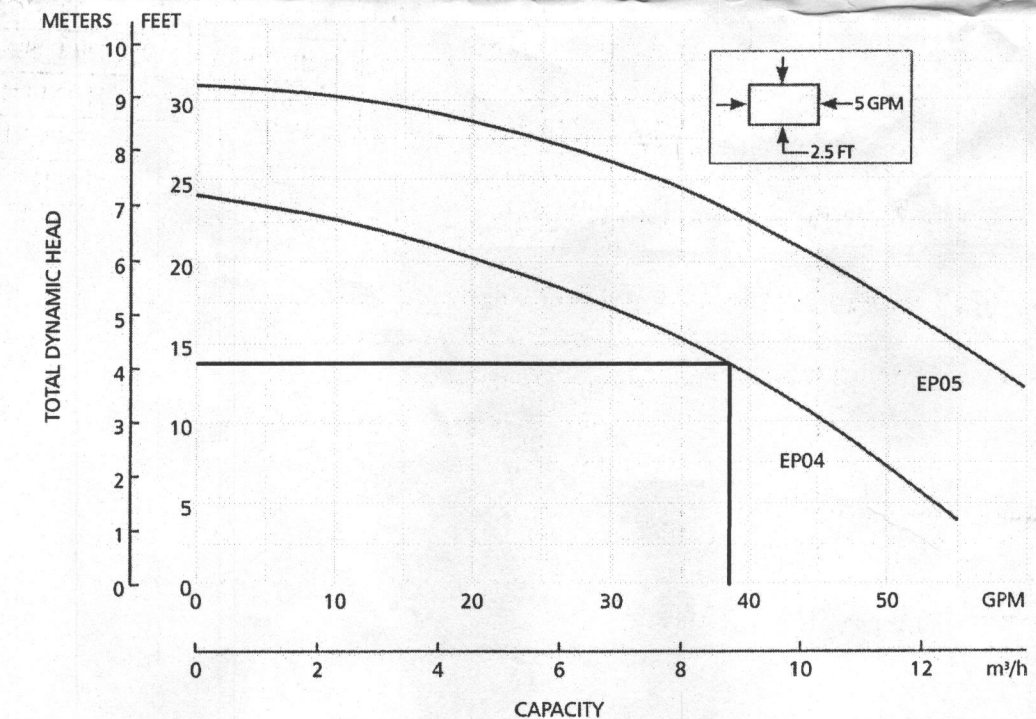
TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD
OFF FLOAT ELEVATION: 510.7'
HIGH POINT OF THE SYSTEM: + 523.0'
VERTICAL ELEVATION CHANGE: 11.3'

FRICTION HEAD
FITTINGS: 15.4'
LENGTH OF PVC PIPE: + 110.2'
TOTAL LENGTH: 125.6'

125.6'/100 x 1.89 = 2.34' TOTAL FRICTION LOSS

TOTAL HEAD
VERTICAL ELEVATION CHANGE: 11.3'
TOTAL FRICTION LOSS: 2.3'
SYSTEM PRESSURE REQUIREMENTS: + 0.0'
TOTAL DYNAMIC HEAD: 13.6'



SEPTIC SYSTEM PROFILE
LOT 35
SCALE: HORIZ. 1"=50'
VERT. 1"=5'

SEWAGE DISPOSAL SYSTEM DATA (4 BEDROOM):

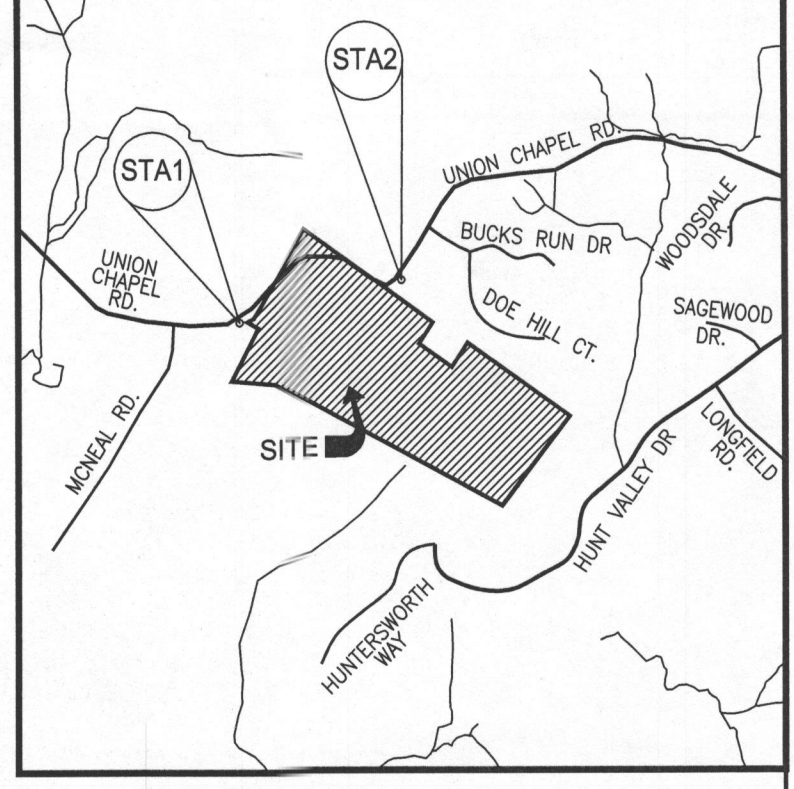
1. INVERT @ FOUNDATION WALL: 515.0 (BASEMENT PUMP REQUIRED)
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INVERT: 515.9
3. DISTRIBUTION BOX
EX. PROPOSED GRADE OVER TANK: 524.2
INVERT: 522.0
4. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
600 GPD / 1.2 GPD/SF (APP. RATE) = 500 SF
USE 2' WIDE TRENCH W/ 60" OF GRAVEL BELOW PIPE
10' MIN SPACING BETWEEN TRENCH EDGES
500 SF / 2' WIDTH = 250 LF x 0.36 = 90 LF MIN. TRENCH
USE 2 - 45' LONG TRENCH FOR INITIAL SYSTEM
USE 2 - 45' LONG TRENCH FOR FIRST REPLACEMENT SYSTEM

BENCHMARK

GEODETTIC SURVEY CONTROL #1
N. 591450.42
E. 1297571.25
A.A. 1450
ELEV. 535.43

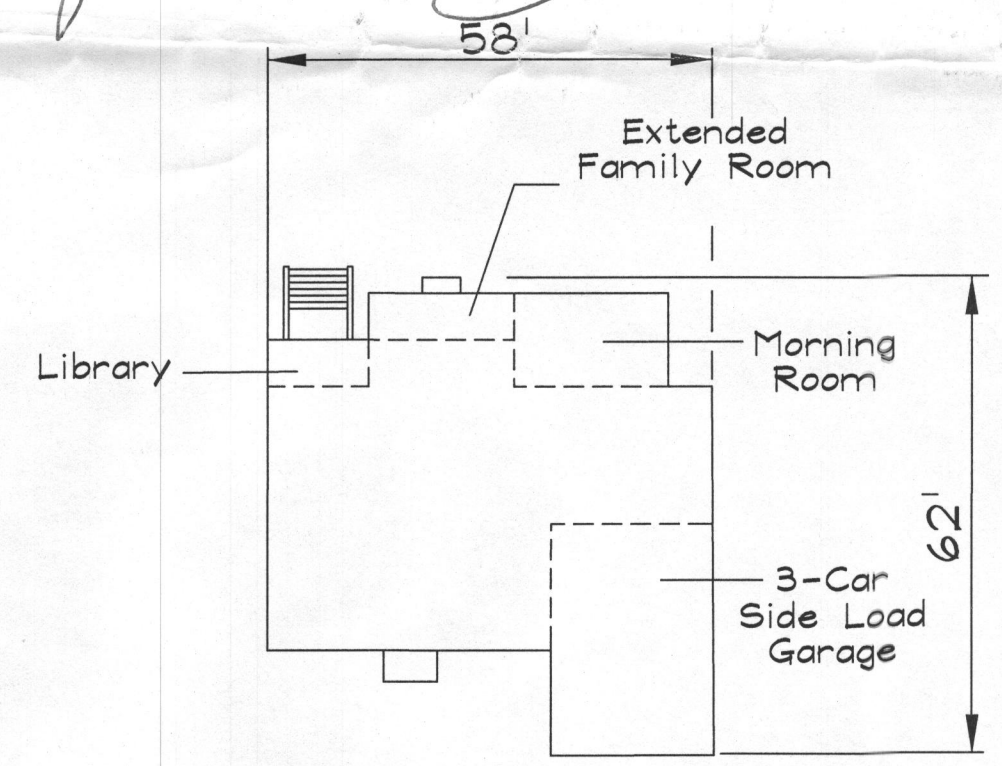
GEODETTIC SURVEY CONTROL #2
N. 591693.88
E. 1299121.60
B.M. 1458
ELEV. 542.23

ADC MAP COORDINATES
4812/C4



VICINITY MAP

SCALE: 1" = 2000'



COLORADO
COUNTRY ELEVATION, BRICK FRONT, 3 CAR SIDE
LOAD GARAGE, EXTENDED FAMILY, MORNING ROOM,
EXTENDED LIBRARY, FIRST FLOOR SUITE,
WALKOUT

DATA SOURCES:

DRAWING LEGEND

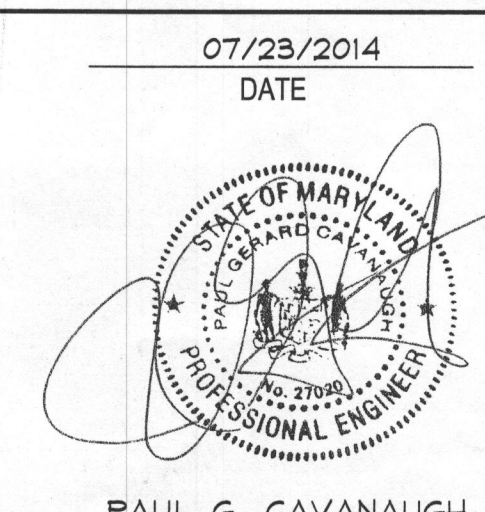
- 500 PROPOSED GRADE
- 502 PROPOSED LIMIT OF DISTURBANCE
- + 665.5 PROP. SPOT ELEV./FLOW ARROW
- PROPOSED 20' SEPTIC RESERVE BUFFER
- EXISTING 30' WELL BUFFER
- EXISTING 100' WELL BUFFER
- BUILDING RESTRICTION LINE
- SEPTIC RESERVE AREA
- WELL AREA
- 174 PASSED PERCOLATION TEST
- 127 FAILED PERCOLATION TEST

LOT 35 SYSTEM TRENCH SPECIFICATIONS

	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH A (45')	524.1	521.1	516.1
INITIAL SYSTEM TRENCH B (45')	523.3	520.3	515.3
FIRST REPLACEMENT TRENCH A (45')	522.8	519.8	514.8
FIRST REPLACEMENT TRENCH B (45')	522.4	519.4	514.4

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. 27020 EXPIRATION DATE: JANUARY 25, 2016



Planners
Surveyors
Engineers
Landscape Architects

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

DDC inc
Development Design Consultants

OWNER:
K HOVANNIAN HOMES
1802 Brightseat Road
Landover, Maryland 20785
(301) 663-6268

DEVELOPER:
Belle Haven Estates
LOT 35

SITE ADDRESS:
LOT 35
5855 Sweetbay Street 1/2 S25' E
Woodbine, Maryland 21797

SITE PLAN FOR
BAT INSTALLATION

REVISIONS		NO.	
DESCRIPTION OF CHANGES		DRN. REV. DATE	
CO. FILE #:		DES. BY: JMM	
TAX ACC. #:		DRN. BY: JMM	
TAX MAP: 14		CHK. BY: PGC	
BLOCK / GRID:		DATE: 07/23/14	
PARCEL #: 66		DDC JOB#: 06116.5	
ZONE / USE: RC-DEO		SHEET NUMBER:	
DWG. SCALE: 1"=30'		1 of 1	