



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: 4/25/14 **ONSITE SEWAGE DISPOSAL SYSTEM**

P 546329

INSTALLATION
APPROVAL DATE: 1/15/15 *KMD*

PERMIT CONSTRUCTION

A 516057

PROPERTY ADDRESS: 15280 Sweetbay Street

SUBDIVISION: Belle Haven Estates

LOT: 25

TAX ID: _____

CONTRACTOR: McKim Construction

EMAIL: _____

CONTRACTOR ADDRESS: 38979 Housholder Road, Lovettsville, VA 20180

PHONE: 540-338-3583

PROPERTY OWNER: Belle Haven Baker

EMAIL: _____

OWNER ADDRESS: 10751 Falls Road Ste. 405, Lutherville, MD 21093

PHONE: _____

BAT UNIT MODEL: HOOT BNR 600

BAT UNIT SIZE: 750GPD

PUMP CHAMBER CAPACITY (GALLONS): _____

PUMP SIZE: _____

NUMBER OF BEDROOMS: 4

HOUSE SQ. FT. _____

APPLICATION RATE: _____

DISTRIBUTION SYSTEM: GRAVITY FED ☒

LOW PRESSURE DOSED ☐

TRENCHES:	LINEAR FEET REQUIRED: <u>See Bat Plan 130</u>	INLET DEPTH: <u>See Bat Plan 4</u>
	TRENCH WIDTH: <u>See Bat Plan 2</u>	MAXIMUM BOTTOM DEPTH: <u>See Bat Plan 8</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. <i>3B</i> <i>2 x 65</i> <i>66</i>	

ISSUED BY: Robert Bricker

ISSUE DATE: _____

EXPIRATION DATE: _____

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

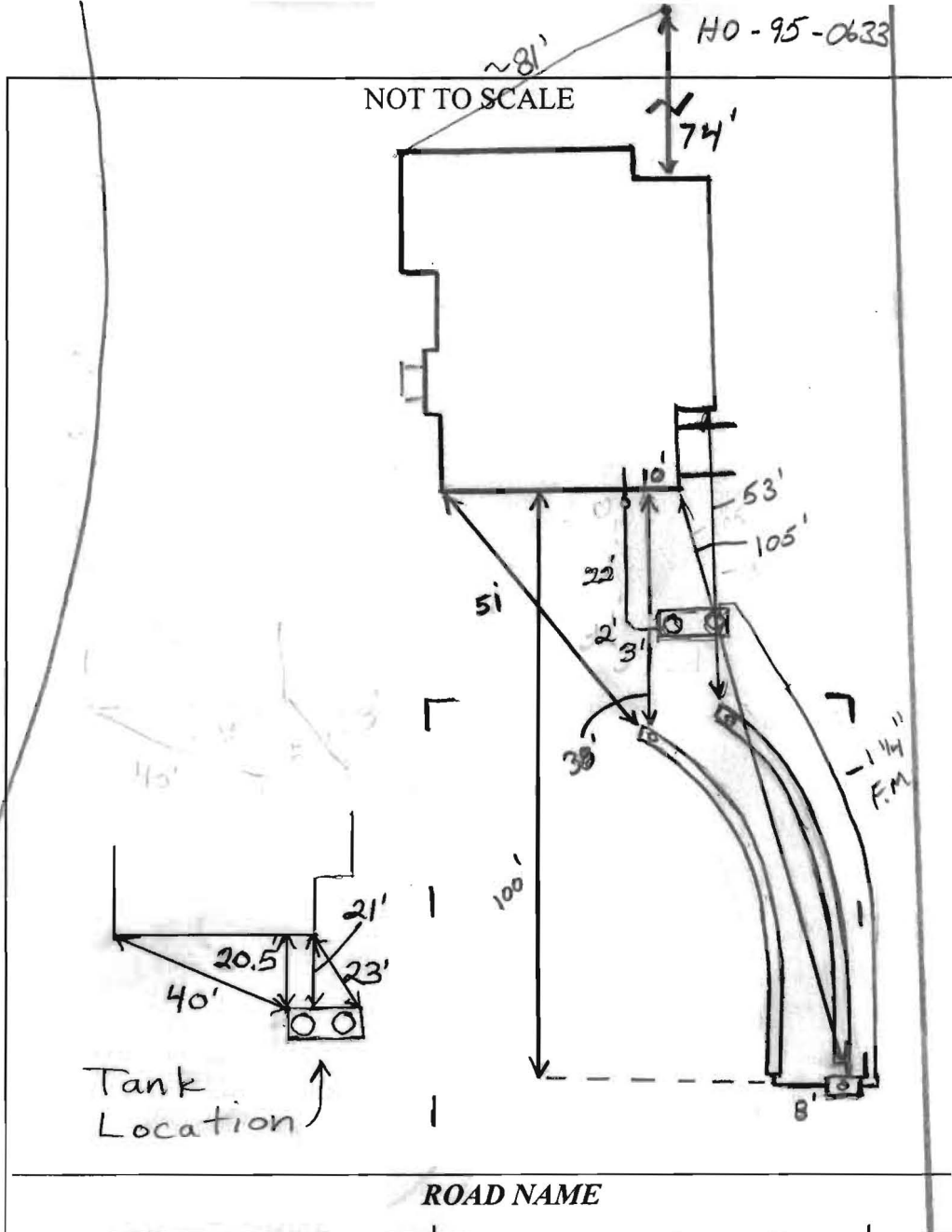
NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	3'	8'
NUMBER OF TRENCHES		
2		
TOTAL LENGTH		
130'		
ABSORPTION AREA		
260' + SW		
DISTRIBUTION BOX LEVEL		
Yes		
DISTRIBUTION BOX BAFFLE		
Yes		
DISTRIBUTION BOX PORT		
Yes		

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	Yes
MANUFACTURER	Mayer Bros
CAPACITY	2160 GAL
SEAM LOC	Top
TANK LID DEPTH	0.5'-2.5'
BAFFLES	Front
BAFFLE FILTER	N/A
MANHOLE LOC	Front + Rear
6" PORT LOC	None
WATERTIGHT TEST	No
SLOTTED	N/A
DATE ON LID	Dry
PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

PRE-CONSTRUCTION:

7/30/14 Set BAT unit per surveyed staked location matching BAT site plan. Trench spec's adjusted for 'Deep' trench system. Use 2' wide trenches. Install 2 x 65' trenches inlet 4' below grade bottom @ 0'. Stone amount will remain the same. Call for inspection. (K.W.)

INSTALLATION:

8/6/14 No tank set. Trenches installed per layout. Contractor added 1 foot of stone to inlet. Stone used in tanks looked okay. Trenches already complete. Told contractor need to see stone before it goes into trenches OK to pour tanks (K.W.)

8/7/2014 System finished except for pump and alarm test. Need certification from HOOT representative. (CB)

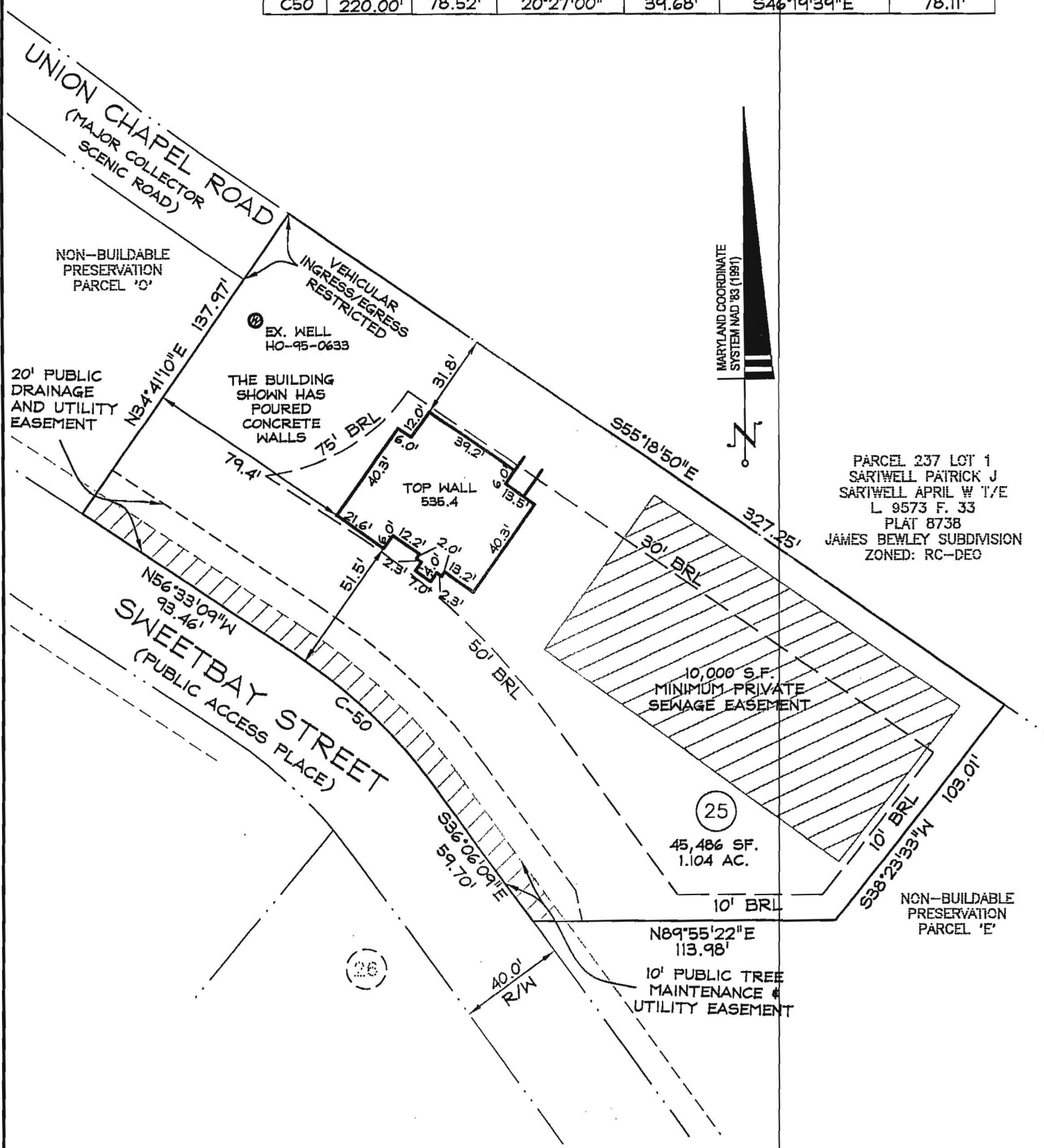
FINAL INSPECTOR

K. Wolf

DATE OF APPROVAL

1/15/15

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TAN	CHD. BRG.	CHD. DIST.
C50	220.00'	78.52'	20°27'00"	39.68'	S46°19'39"E	78.11'



PARCEL 237 LOT 1
SARIWELL PATRICK J
SARIWELL APRIL W T/E
L 9573 F. 33
PLAT 8738
JAMES BEWLEY SUBDIVISION
ZONED: RC-DEO

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 7/6/14.

Robert B. Southard 4-23-2014



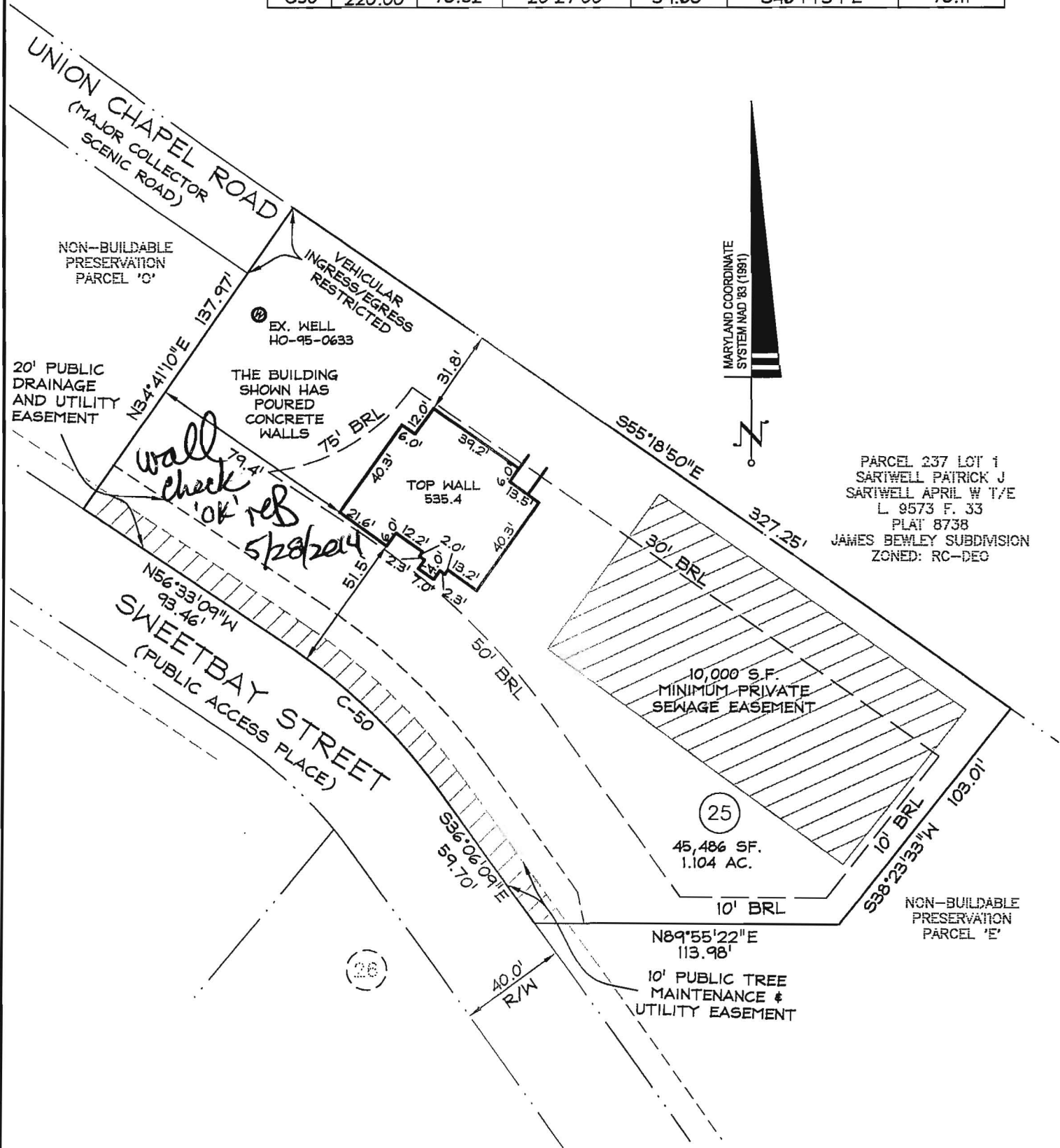
WALL CHECK SURVEY		DDC JOB#:	06116.5
15280 SWEETBAY STREET		DATE:	04-22-2014
LOT 25		SCALE:	1"=50'
BELLE HAVEN ESTATES		DRN. BY:	BKC
PLAT No. 19951		CHK. BY:	RBS
ELECTION DIST. No.4			
HOWARD COUNTY, MD			

DDC inc.
Development Design Consultants

Planners
Surveyors
Engineers
Landscape Architects

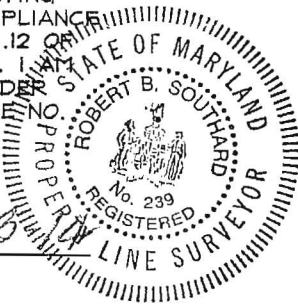
192 East Main Street
Westminster, MD 21157
410.386.0560
410.386.0564 (Fax)
DDC@DDCinc.us
www.DDCinc.us

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TAN	CHD. BRG.	CHD. DIST.
C50	220.00'	78.52'	20°27'00"	39.68'	S46°19'39"E	78.11'



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, 1-11, A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 239, EXPIRATION DATE 7/6/14.



Robert B. Southard 4-25-14

WALL CHECK SURVEY
15280 SWEETBAY STREET
LOT 25
BELLE HAVEN ESTATES
PLAT No. 19951

ELECTION DIST. No.4 HOWARD COUNTY, MD

DDC JOB#:	06116.5
DATE:	04-22-2014
SCALE:	1"=50'
DRN. BY:	BKC
CHK. BY:	RBS



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DDC@DDCinc.us
www.DDCinc.us



MAYER BROS., INC.

Precast Concrete Products

6264 Race Rd. Elkridge, MD 21075

Letter of Satisfaction Hoot System Installation

Address of Property: 15280 Sweetbay St. Lot #25
Woodbine, MD. 21797

Date of Final Inspection: 10/3/14

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,

W. Michael Dwyer

Name of Inspector
Mayer Bros. Inc.

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



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Landscape Architects

192 East Main Street
Westminster, MD 21157

410 386 0560
Fax 410 386 0564

DDC@DDCinc.us
www.DDCinc.us

May 09, 2014

Mr. Andrew Geisert
Environmental Sanitarian Supervisor
Howard County Health Department
8930 Stanford Blvd.
Columbia, MD 21045

Reference: Belle Haven Estates, Lot 25
15280 Sweetbay Street
BAT Site Plan
DDC Project No.: 06116.5

Mr. Geisert,

The following are responses to comments issued on May 2nd, 2014 (via email) for the above referenced project.

Comment: Site Plan Scale was missing. Should be 1"=30'

Response: A scale has been added to the plan view.

Comment: Label on overhead view – 522.7 as invert elevation

Response: Per our phone discussion this comment was withdrawn.

Comment: Piping slope % from tank to D-box

Response: Pipe slope from the tank to the D-box and from D-box to the drain field has been added to the profile.

Comment: Fill Depth over D-box

Response: The existing grade in the profile has been labeled to clearly delineate the depth of fill over the D-Box

Comment: Compare "to drain field inv 523.7" with "522.7" invert elevation in specs.

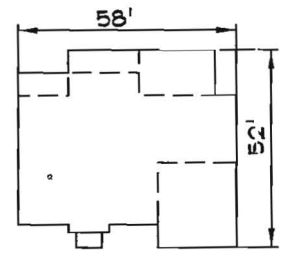
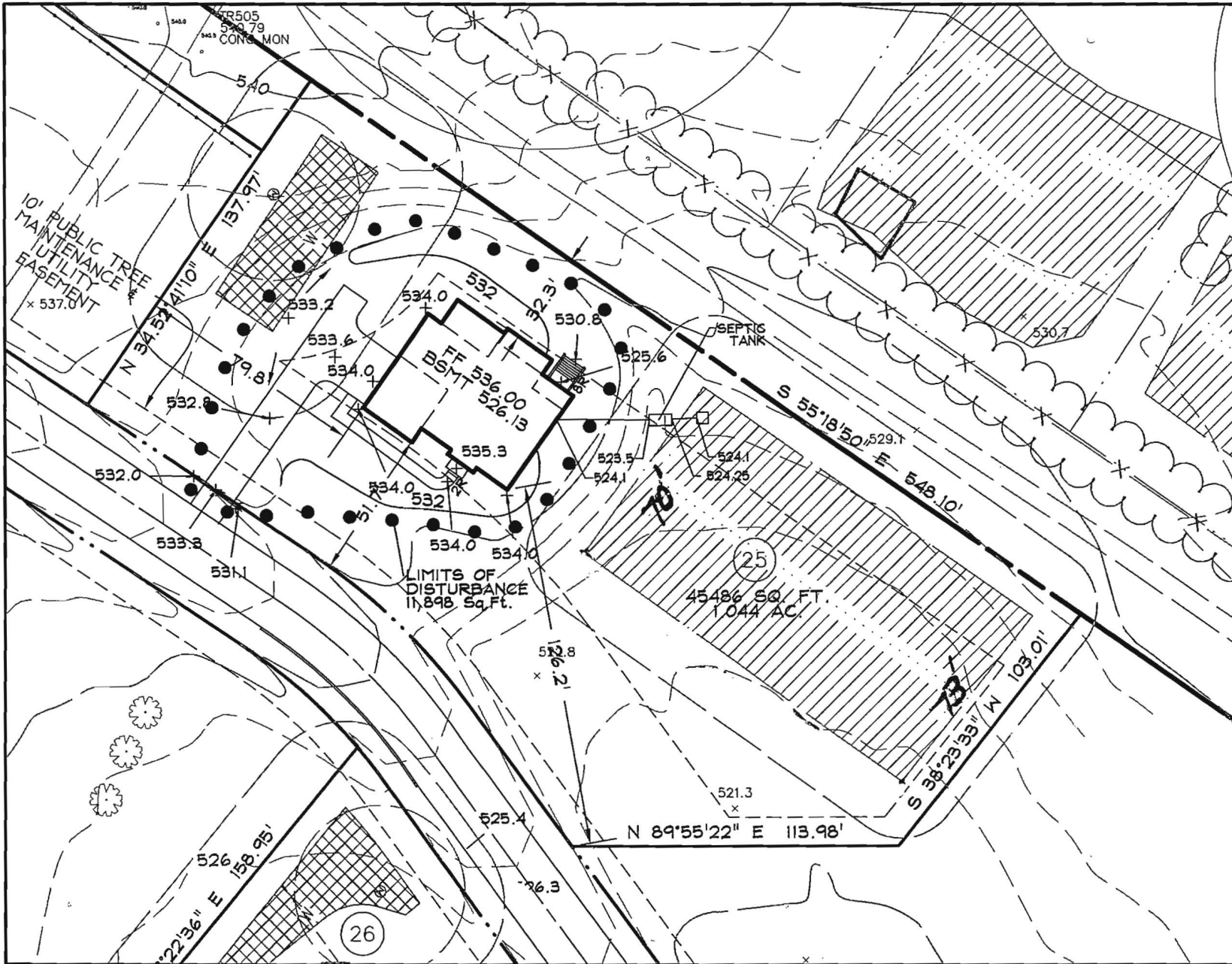
Response: The invert elevation in the profile was separated from the "to drain field" label to eliminate confusion.

We believe these responses adequately address your comments. Should you have any questions please do not hesitate to contact this office.

Very truly yours,
Development Design Consultants, Inc.

Joshua H. Kline, E.I.
Engineer

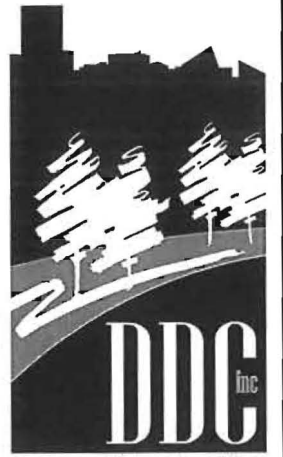
OK' RB 12/7/12



COLORADO
GEORGIAN ELEVATION
BRICK FRONT
REVERSE UNIT

- GENERAL NOTES**
1. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-0633) HAS BEEN LOCATED BY DDC, PROFESSIONAL LAND SURVEYOR, AND IS ACCURATELY SHOWN.
 2. BASE SQUARE FOOTAGE OF HOUSE: 3,530 sq. ft. NUMBER OF BEDROOMS: 4
 3. INFORMATION SHOWN ON THIS PLAN BASED ON PLANS PREPARED BY DMW DATED 6/25/07. EXISTING TOPOGRAPHY BASED ON GRADING PLAN PREPARED BY DEMARIO DESIGN CONSULTANTS DATED 7/9/07 AND FIELD RUN TOPOGRAPHY PREPARED BY DDC INC IN JAN. 2012

Lot dimensions
& septic reserve
area
match Record Plat
#19951
RB OK' to proceed
per HDD



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Landscape Architects

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

DDC JOB#:	06116.5
DATE:	12/03/12
SCALE:	1" = 50'
DES. BY:	BKC
DRN. BY:	AJS
CHK. BY:	BKC

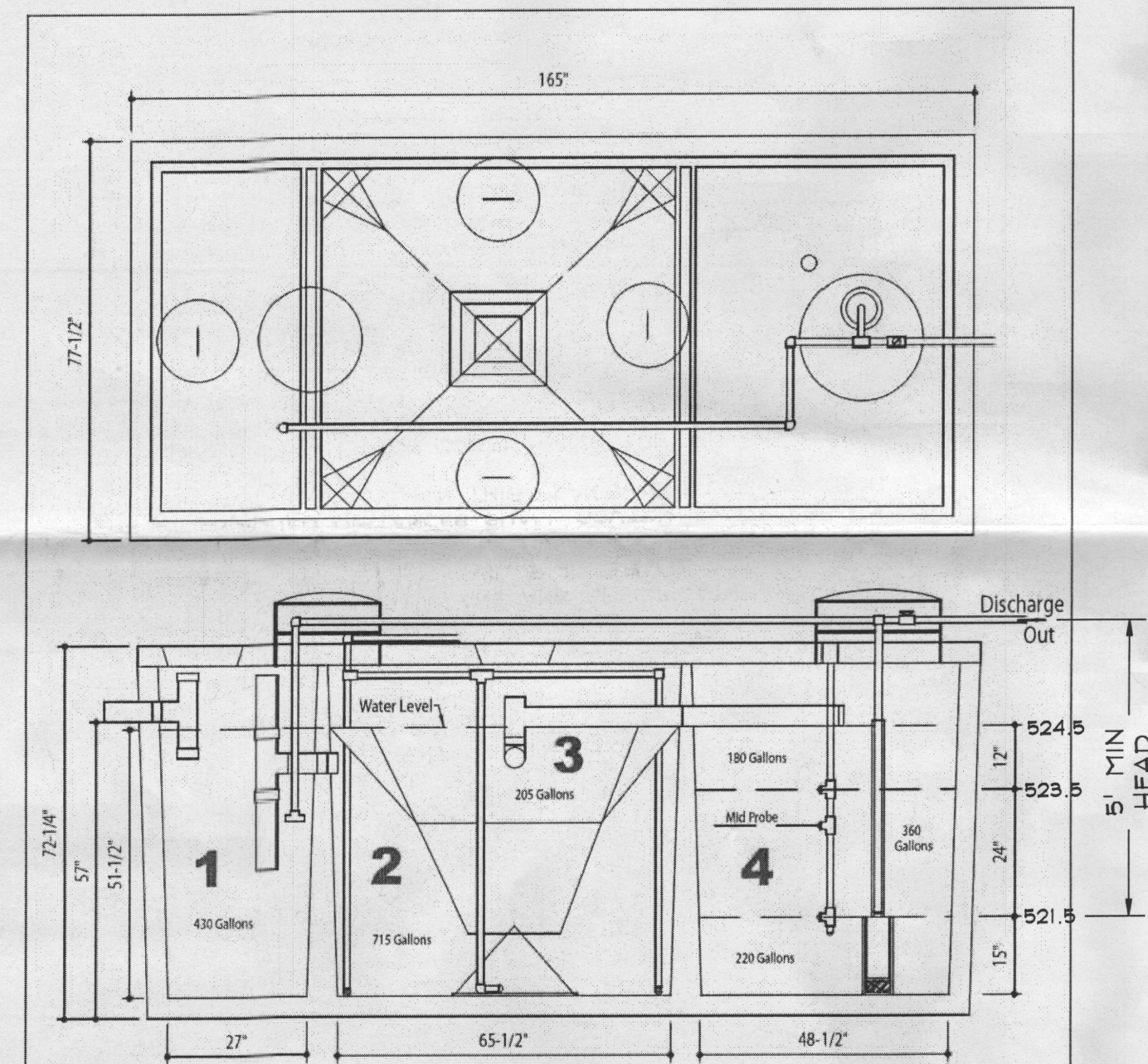
BELLE HAVEN ESTATES 3rd ELECTION DISTRICT HOWARD COUNTY, MD TAX MAP 14, PARCEL 66	LOT 25 15280 SWEETBAY STREET WOODBINE, MD 21797 PLOT PLAN KHOV ELEVATION	OWNER/BUILDER: K.HOVNANIAN HOMES 1802 Brightseat Road Landover, Maryland 20785 (301)683-6268
--	---	--

GENERAL NOTES

1. BASE SQUARE FOOTAGE OF HOUSE: 4,144 SQ. FT.
2. NUMBER OF BEDROOMS: 4
3. EJECTOR PUMP REQUIRED TO SEWER BASEMENT
4. DRIVEWAY CULVERT 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 DMH, 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 DEVELOPMENT 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: 12,915 SQ. FT. / 0.30 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.

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

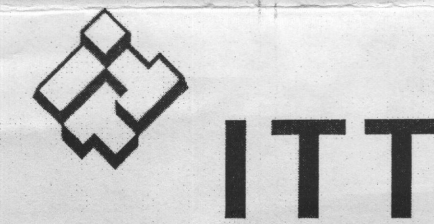
- (1) Concrete strength (f'c) 4000 psi at 28 days. Density = 150 pcf.
- (2) Cement - Portland Type III per ASTM C 150-92.
- (3) Admixtures & plasticizers per ASTM C 260-86 & C 494-92.
- (4) Reinforcing per ASTM A108. Min. 1/2" cover.

Mayer Brothers, Inc.
6264 Race Road
Bridgeton, Maryland 21075
Tel. 410.796.1434
Fax. 410.796.1434
www.mayerbrothersinc.com

**600 GPD BNR SYSTEM
H-600 ABRN**
with 750 GALLON PUMP CHAMBER

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

LOT 25 PUMP ELEVATIONS		
OFF	ON	ALARM
521.5	523.5	524.5



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	5.0'
FRICTION HEAD	5.5'
DISTAL END HEAD	0'
TOTAL DYNAMIC HEAD	10.5'
GALLONS PER MINUTE	45 GPM

GOULDS PUMPS Wastewater

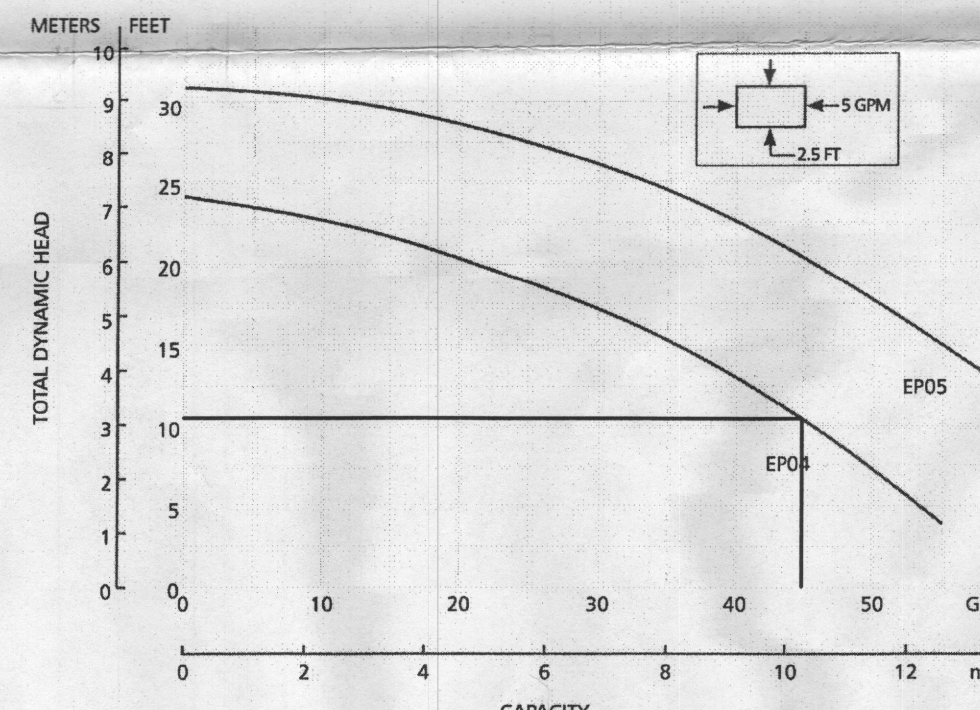
TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD
OFF FLOAT ELEVATION: 521.5'
HIGH POINT OF THE SYSTEM: + 526.5'
VERTICAL ELEVATION CHANGE: 5.0'

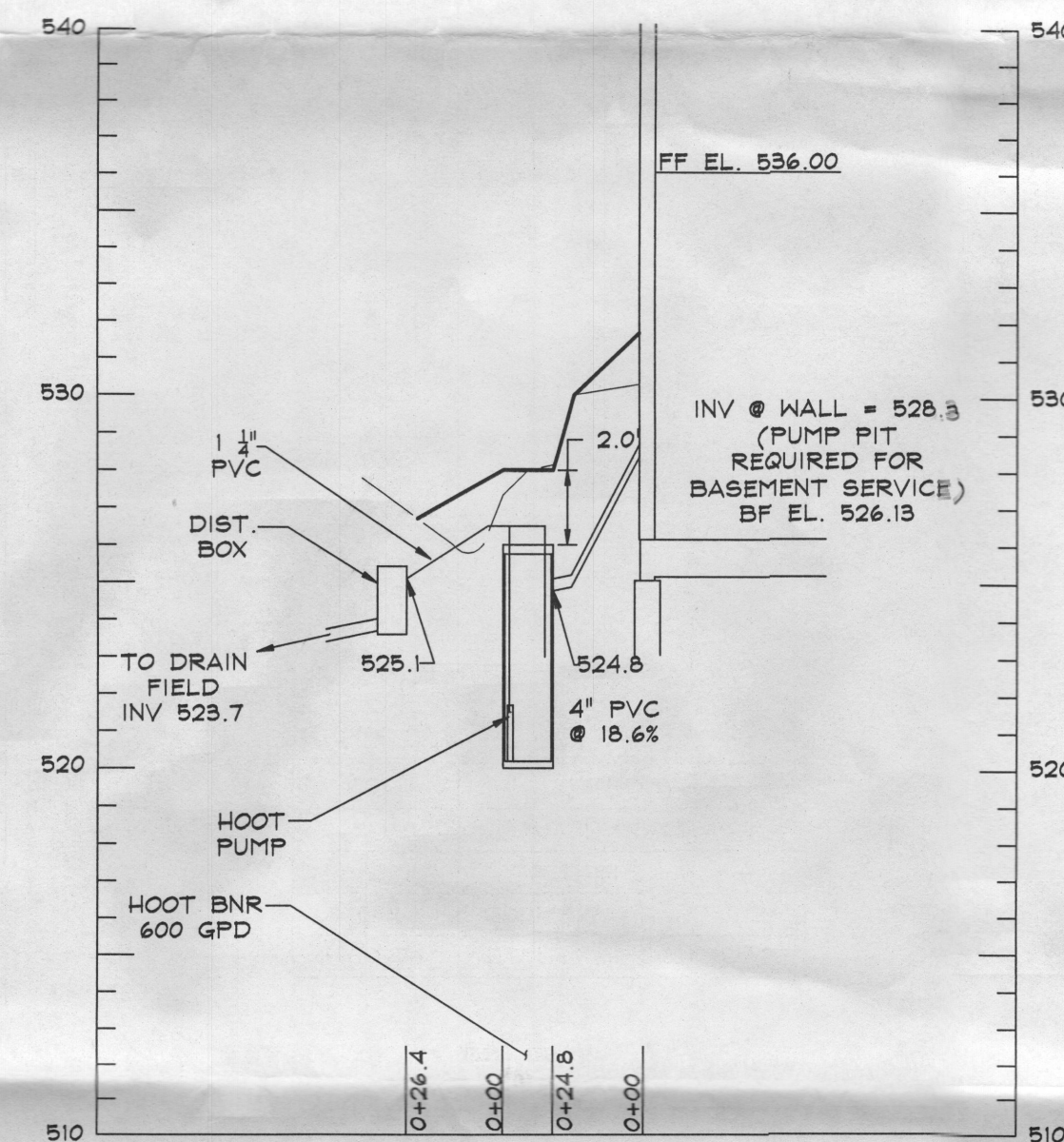
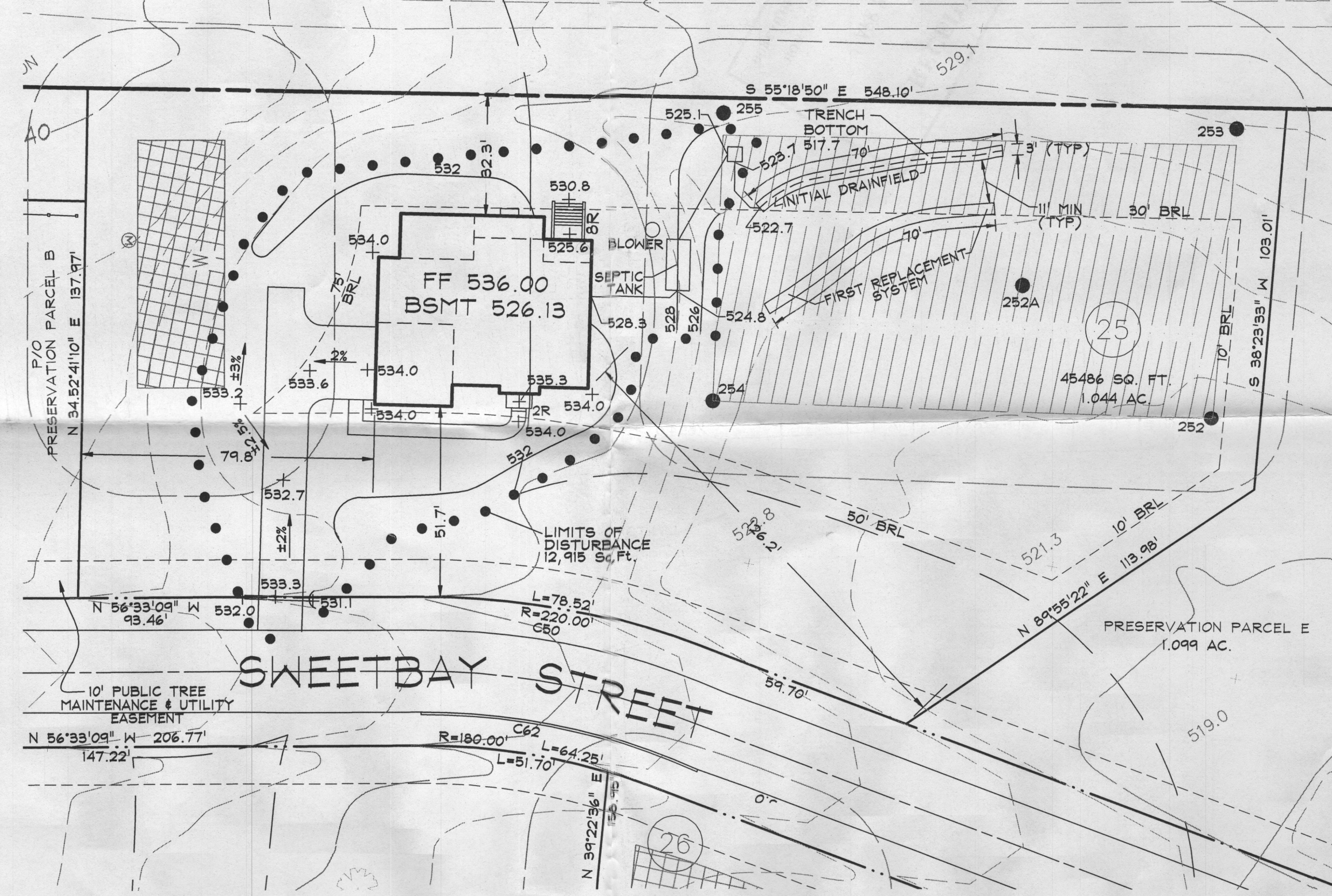
FRICTION HEAD
FITTINGS: 13.5'
LENGTH OF PVC PIPE: + 26.4'
TOTAL LENGTH: 40.2'

40.2/100 x 13.62 = 5.5' TOTAL FRICTION LOSS

TOTAL HEAD
VERTICAL ELEVATION CHANGE: 5.0'
TOTAL FRICTION LOSS: 5.5'
SYSTEM PRESSURE REQUIREMENTS: + 0.0'
TOTAL DYNAMIC HEAD: 10.5'



LOT 25 INITIAL SYSTEM TRENCH SPECIFICATIONS			
	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH (70')	525.7	522.7	517.7



SEPTIC SYSTEM PROFILE

LOT 25

SCALE: HORIZ. 1"=50'

VERT. 1"=5'

SEWAGE DISPOSAL SYSTEM DATA (4 BEDROOM):

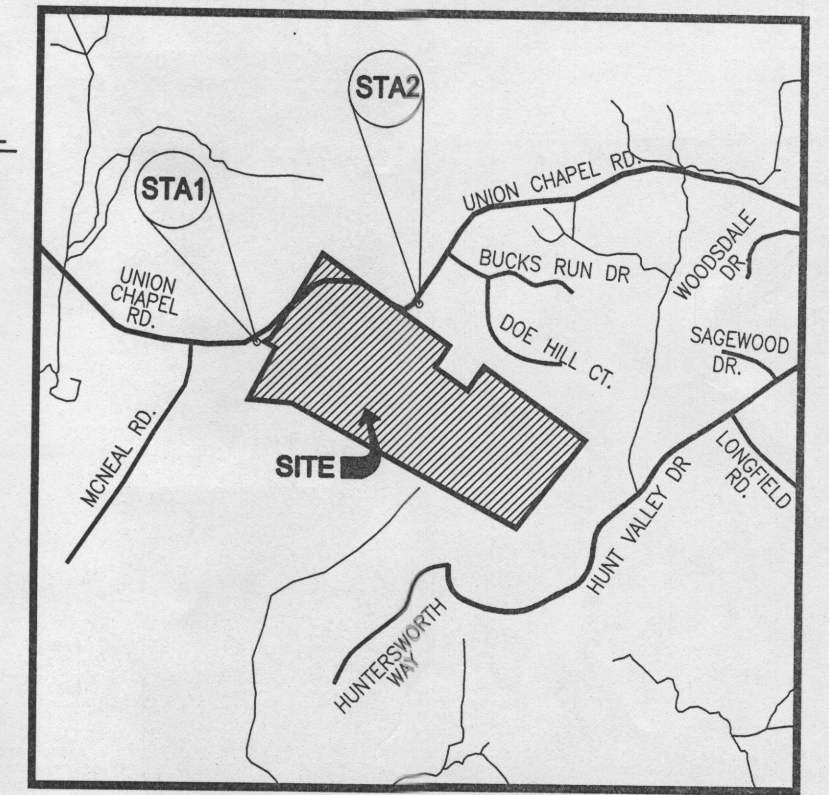
1. INVERT @ FOUNDATION WALL: 528.3 (BASEMENT PUMP REQUIRED)
2. 600 GPD BNR SYSTEM W/ 750 GALLON PUMP CHAMBER
EX GRADE OVER TANK: 528.0
PROPOSED GRADE OVER TANK: 528.0
INVERT: 524.8
3. DISTRIBUTION BOX
EX @ PROPOSED GRADE OVER TANK: 527.2
INVERT: 525.1
4. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
600 GPD / 1.2 GPD/SF (APP. RATE) = 500 SF
USE 3' WIDE TRENCH W/ 48" OF GRAVEL BELOW PIPE
11' MIN SPACING BETWEEN TRENCH EDGES
500 SF / 3' WIDTH = 166.67 LF x 0.42 = 70 LF MIN. TRENCH
USE 1 - 70' LONG TRENCH = 70 LF FOR INITIAL SYSTEM
USE 1 - 70' LONG TRENCH = 70 LF FOR FIRST REPLACEMENT SYSTEM

BENCHMARK

GEODETIC SURVEY CONTROL #1
N. 891450.42
E. 1297571.25
A.A. 146A
ELEV. 535.43

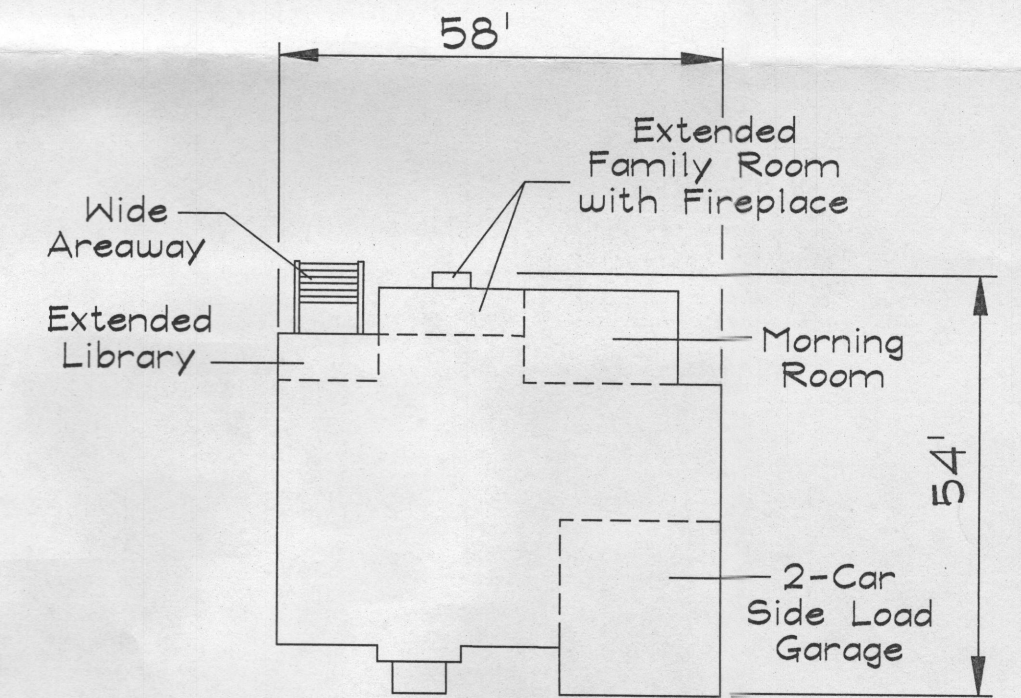
GEODETIC SURVEY CONTROL #2
N. 891663.88
E. 1308121.00
B.M. 140B
ELEV. 542.23

ADC MAP COORDINATES
4812C4



VICINITY MAP

SCALE: 1" = 2000'

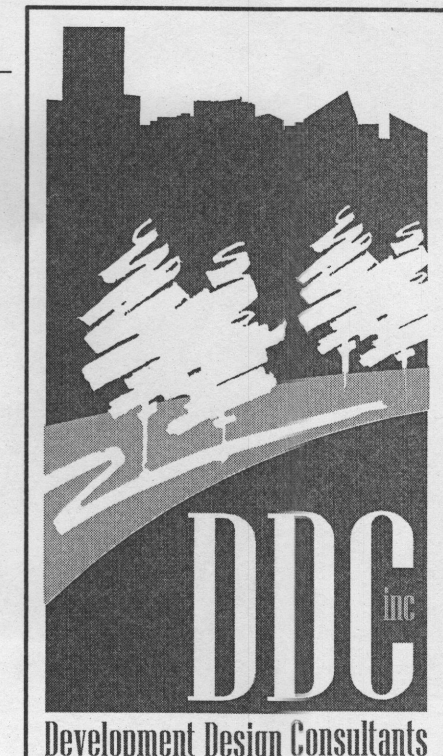


COLORADO
GEORGIAN ELEVATION
BRICK FRONT
REVERSE UNIT

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



OWNER:
K. HOVANIAN HOMES
1802 Brightest Road
Landover, Maryland 20785
(301) 655-6285

DEVELOPER:

SITE ADDRESS:
15280 Sweetbay Street
Woodbine, Maryland 21797

BELLE HAVEN ESTATES
LOT 25

SITE PLAN FOR BAT INSTALLATION

3rd ELECTION DISTRICT HOWARD COUNTY

REVISIONS

NO. DESCRIPTION OF CHANGES DRN. REV. DATE

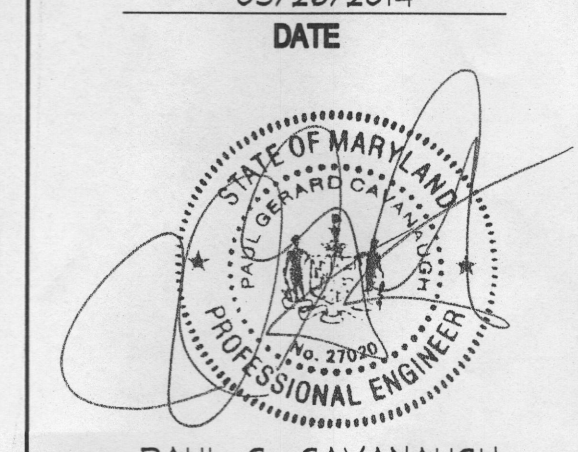
CO. FILE #:	DES. BY: JHK
TAX ACC. #:	DRN. BY: BKC
TAX MAP: 14	CHK. BY: PGC
BLOCK / GRID:	DATE: 03/28/14
PARCEL #: 68	DDC JOB#: 08116.5
ZONE / USE: RC-DEO	SHEET NUMBER:
DWG. SCALE: 1"=30'	1 of 1

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

03/26/2014

DATE



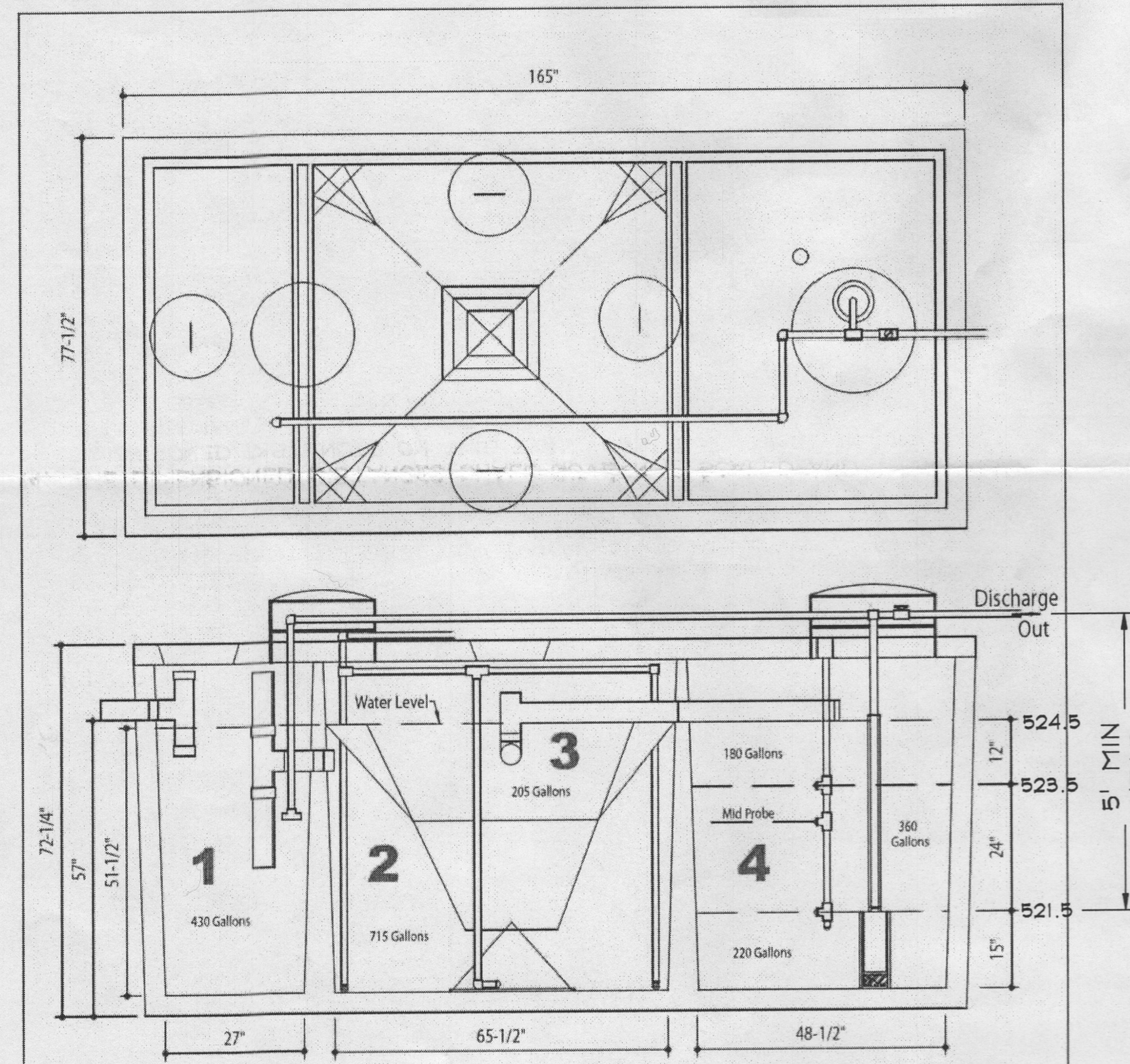
PAUL G. CAVANAUGH

GENERAL NOTES

1. BASE SQUARE FOOTAGE OF HOUSE: 4,144 SQ. FT.
2. NUMBER OF BEDROOMS: 4
3. EJECTOR PUMP REQUIRED TO SEWER BASEMENT
4. DRIVEWAY CULVERT 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 DMN, 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 DEVELOPMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DEVISION AT (410)315-1881 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: 12,915 SQ. FT. / 0.30 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 SEWAGE 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) Cement - Portland Type III per ASTM C 150-92.
- 3) Admixtures & plasticizers per ASTM C 260-86 & C 494-92.
- 4) Reinforcing per ASTM A185. Min. 1/2" cover.

Mayer Brothers, Inc.
6304 Race Road
Elkridge, Maryland 21075
Tel: 410.796.1434
Fax: 410.796.1438
www.mayerbrothersinc.com

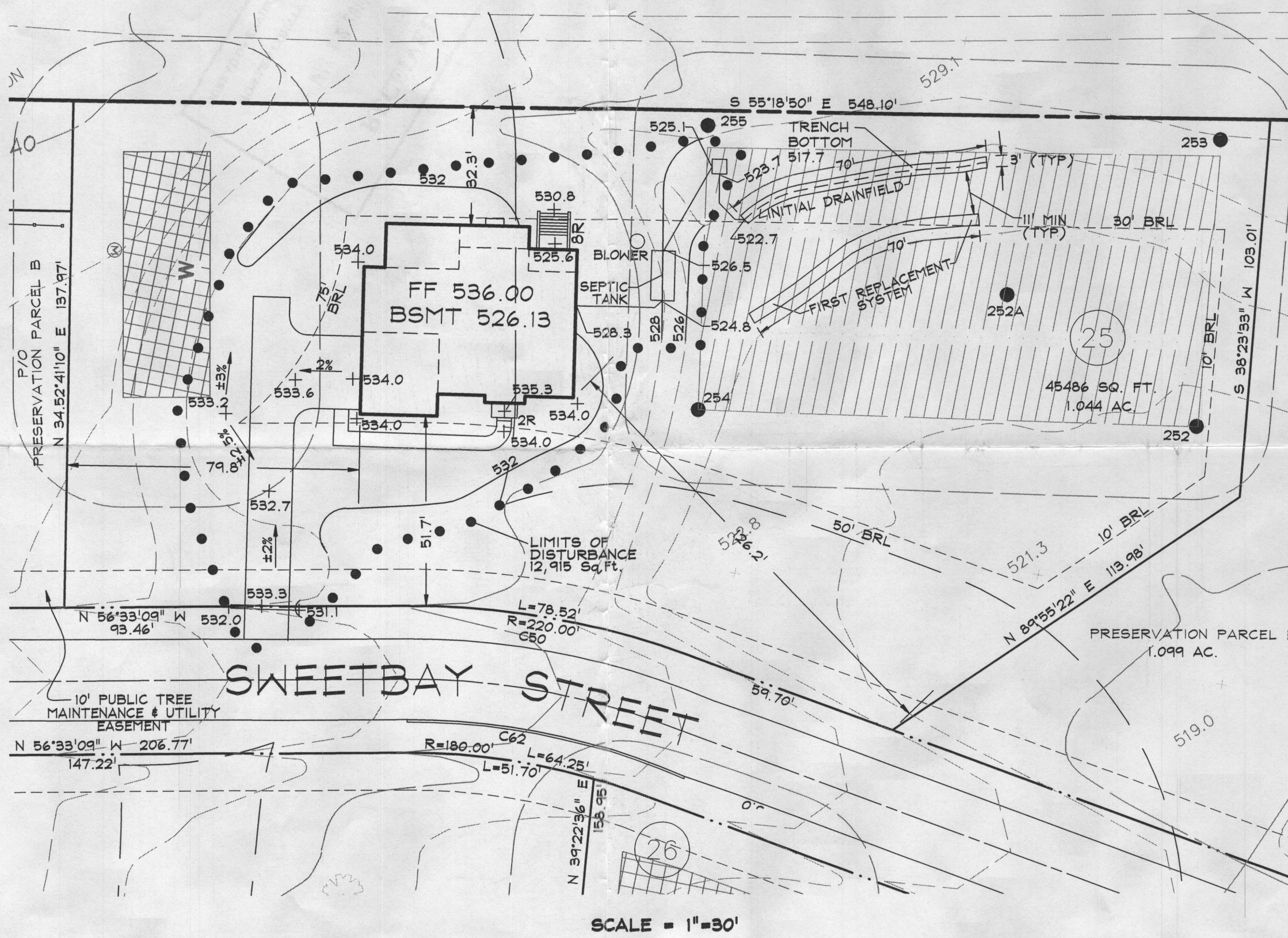
600 GPD BNR SYSTEM
H-600 ABNR
with 750 GALLON PUMP CHAMBER

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

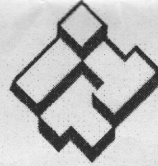
LOT 25 PUMP ELEVATIONS		
OFF	ON	ALARM
521.5	523.5	524.5

LOT 25 INITIAL SYSTEM TRENCH SPECIFICATIONS

	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH (70')	525.7	522.7	517.7



SCALE = 1"=30'



ITT

GOULDS PUMPS
Wastewater

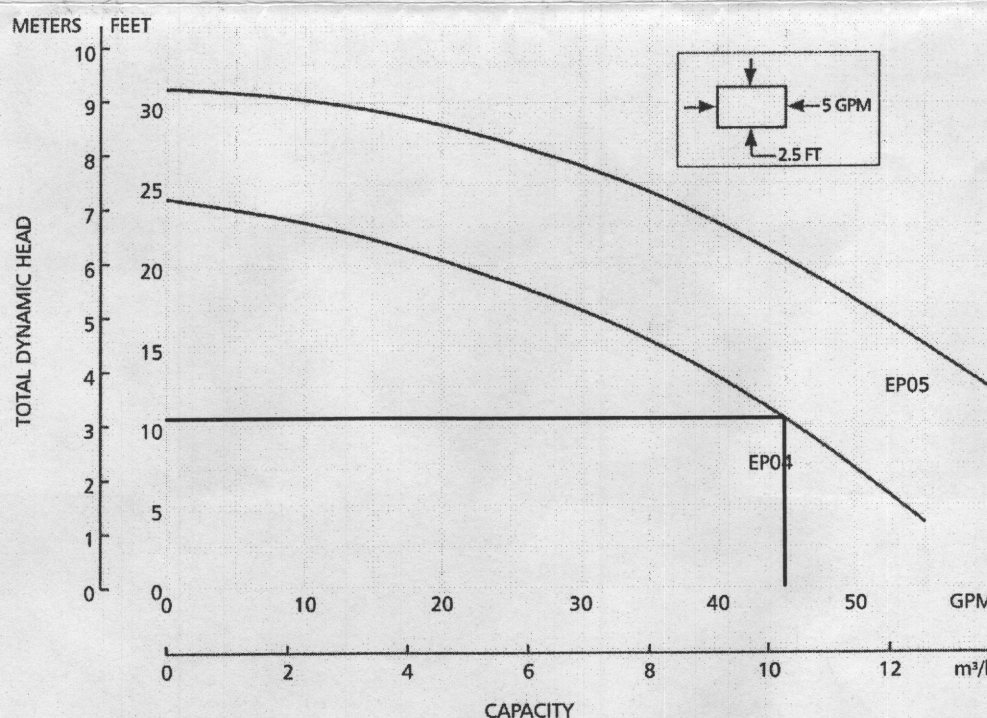
PERFORMANCE RATINGS

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	-

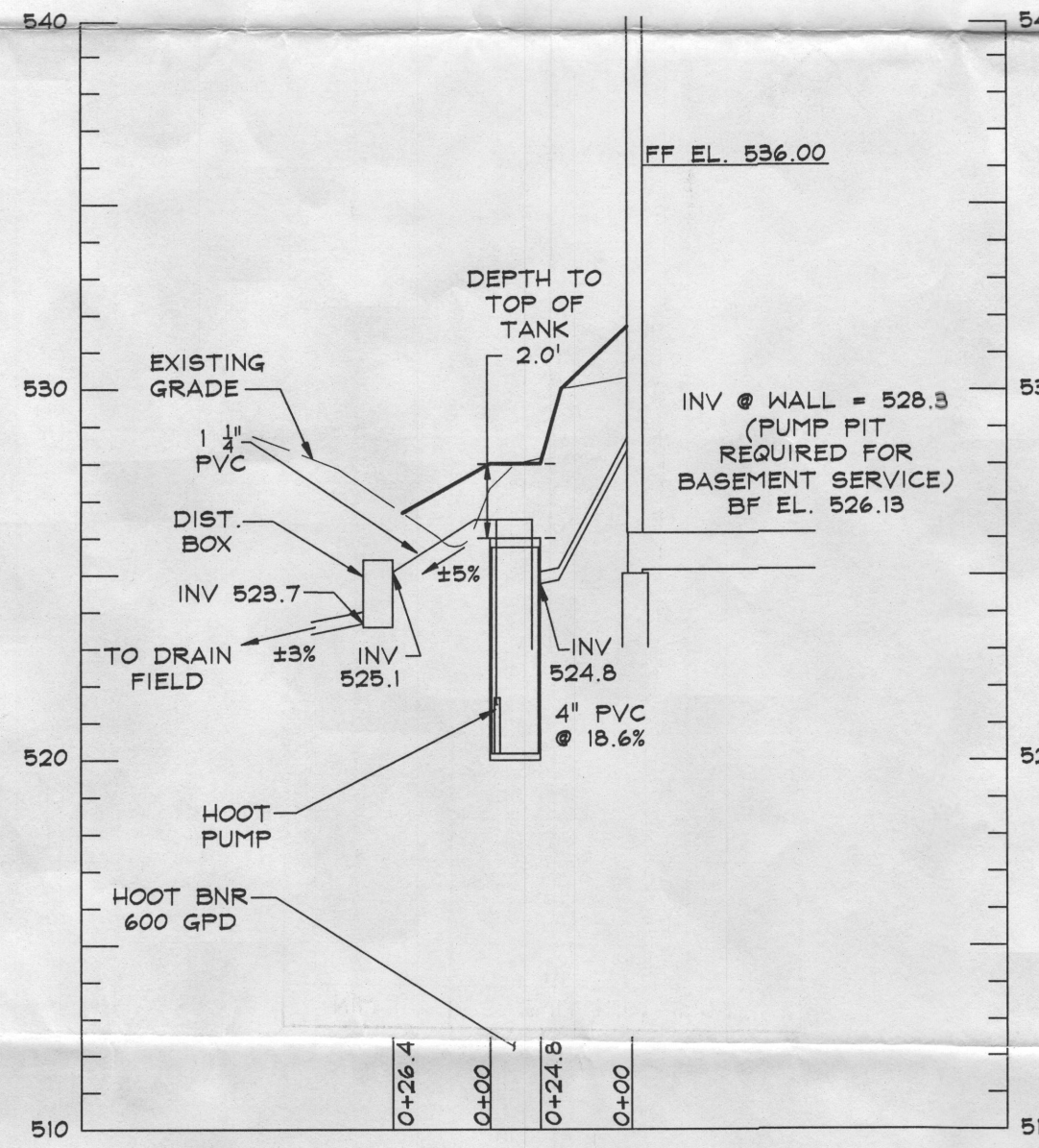
STATIC HEAD	5.0'
FRICTION HEAD	5.5'
DISTAL END HEAD	0'
TOTAL DYNAMIC HEAD	10.5'
GALLONS PER MINUTE	45 GPM
DOSE	45
PUMP RUN TIME	1 MIN

TOTAL DYNAMIC HEAD CALCULATIONS

STATIC HEAD	5.0'
OFF FLOAT ELEVATION:	521.5'
HIGH POINT OF THE SYSTEM:	+ 526.5'
VERTICAL ELEVATION CHANGE:	5.0'
FRICTION HEAD	5.5'
FITTINGS:	13.8'
LENGTH OF PVC PIPE:	+ 26.4'
TOTAL LENGTH:	40.2'
40.2/100 x 13.82 = 5.5' TOTAL FRICTION LOSS	
TOTAL HEAD	10.5'
VERTICAL ELEVATION CHANGE	5.0'
TOTAL FRICTION LOSS	5.5'
SYSTEM PRESSURE REQUIREMENTS	+ 0.0'
TOTAL DYNAMIC HEAD	10.5'



3



SEPTIC SYSTEM PROFILE

LOT 25

SCALE: HORIZ. 1"=50'

VERT. 1"=5'

SEWAGE DISPOSAL SYSTEM DATA (4 BEDROOM):

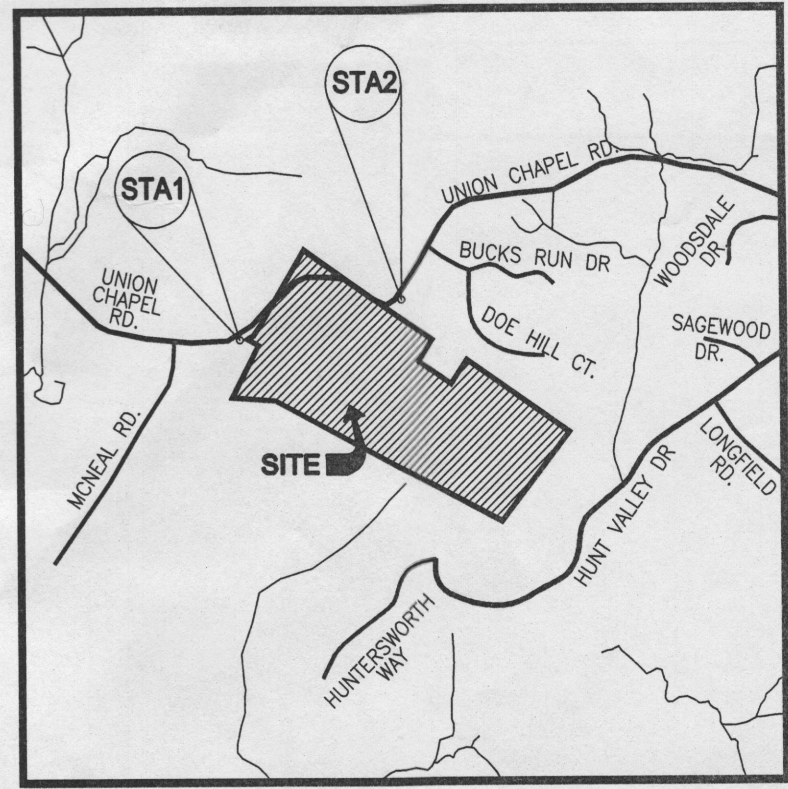
1. INVERT @ FOUNDATION WALL: 528.3 (BASEMENT PUMP REQUIRED)
2. 600 GPD BNR SYSTEM W/ 750 GALLON PUMP CHAMBER
EX. GRADE OVER TANK: 528.0
PROPOSED GRADE OVER TANK: 528.0
INVERT: 524.8
3. DISTRIBUTION BOX
EX & PROPOSED GRADE OVER TANK: 527.2
INVERT: 525.1
4. TRENCH DESIGN (4 BDRM x 150 GPD/BDRM = 600 GPD)
600 GPD / 1.2 GPD/SF (APP. RATE) = 500 SF
USE 3' WIDE TRENCH W/ 48" OF GRAVEL BELOW PIPE
11' MIN SPACING BETWEEN TRENCH EDGES
500 SF / 3' WIDTH = 166.67 LF x 0.42 = 70 LF MIN. TRENCH
USE 1 - 70' LONG TRENCH = 70 LF FOR INITIAL SYSTEM
USE 1 - 70' LONG TRENCH = 70 LF FOR FIRST REPLACEMENT SYSTEM

BENCHMARK

GEODETIC SURVEY CONTROL #1
N. 591450.42
E. 1297671.25
A.A. 146A
ELEV. 535.45
GEODETIC SURVEY CONTROL #2
N. 601693.88
E. 1299121.80
B.M. 146B
ELEV. 542.23
ADC MAP COORDINATES
4812C4

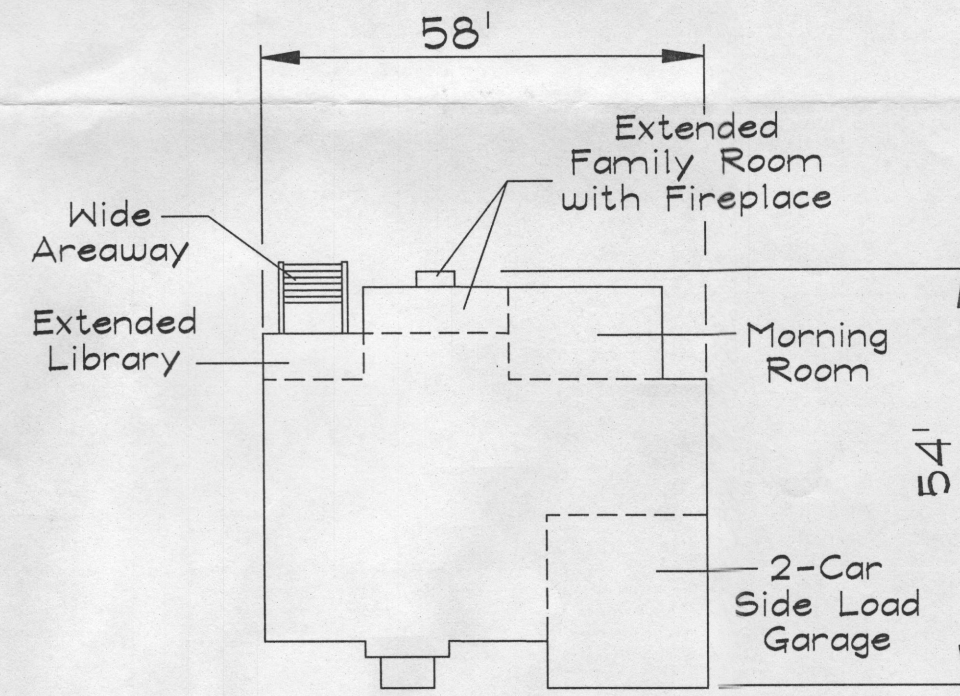
Approved Sept. System Plan
Howard County Health Department

Signature *Andrew Leut* 5/14/14
Date



VICINITY MAP

SCALE: 1"= 200'

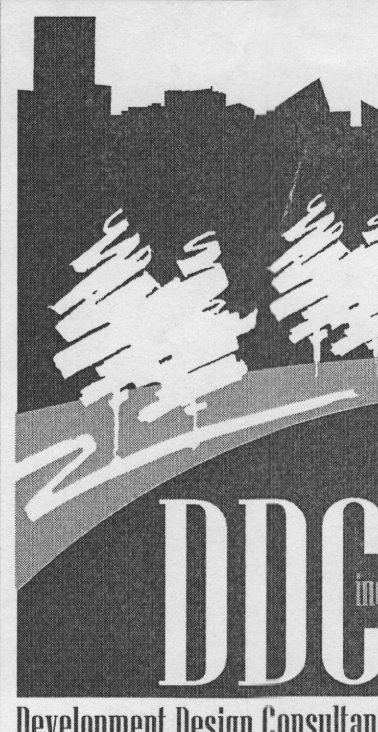


COLORADO
GEORGIAN ELEVATION
BRICK FRONT
REVERSE UNIT

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



OWNER: K. HOVHANIAN HOMES
1802 Brightside Road
Landover, Maryland 20785
(301) 683-8288

DEVELOPER:

SITE ADDRESS:

LOT 25
15260 Sweetbay Street
Woodbine, Maryland 21797

BELLE HAVEN ESTATES
LOT 25

SITE PLAN FOR BAT INSTALLATION

3rd ELECTION DISTRICT HOWARD COUNTY

REVISIONS	
NO.	DESCRIPTION OF CHANGES

CO. FILE #:	DES. BY: JHK
TAX ACC. #:	DRN. BY: BKC
TAX MAP: 14	CHK. BY: PGC
BLOCK / GRID:	DATE: 05/09/14
PARCEL #: 68	DDC JOB#: 06116.5
ZONE / USE: RC-DEO	SHEET NUMBER:
DWG. SCALE: 1"=30'	1 of 1

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

05/09/2014
DATE
PAUL G. CAVANAUGH
PROFESSIONAL ENGINEER