



Building Permit Application

Howard County Maryland
 Department of Inspections, Licenses and Permits
 3430 Court House Drive
 Permits: 410-313-2455
 www.howardcountymd.gov

Date Received: 5/4/18

Permit No.: B18001515

Building Address: 7417 Haven Court
 City: Hydland State: MD Zip Code: 20777
 Suite/Apt. #: _____ SDP/WP/BA #: F-17-077
 Census Tract: _____ Subdivision: Estates at Seaboard
 Section: _____ Area: _____ Lot: 8
 Tax Map: 40 Parcel: _____ Grid: 11
 Zoning: RP-DE Map Coordinates: _____ Lot Size: 59,838 sq ft
 Existing Use: Vacant lot
 Proposed Use: Single Family Home
 Estimated Construction Cost: \$ 652,000
 Description of Work: George town, 2 story, full lot, 1200 sq ft, 3 BR, 4.5 BA, 2 car garage (4000 sq ft) + 1000 sq ft on 10' concrete
 Occupant/Tenant Name: _____
 Was tenant space previously occupied? Yes No
 Contact Name: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 Phone: _____ Fax: _____
 Email: _____

Property Owner's Name: Williamburg Homes
 Address: 5485 Harris's Farm Rd #202
 City: Columbia State: MD Zip Code: 21044
 Phone: 410-957-8800 Fax: _____
 Email: maria.morris@williamburghomes.com
Applicant's Name & Mailing Address, (If other than stated herein)
 Applicant's Name: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 Phone: _____ Fax: _____
 Email: _____
 Contractor Company: _____
 Contact Person: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 License No.: 155
 Phone: _____ Fax: _____
 Email: _____
 Engineer/Architect Company: _____
 Responsible Design Prof.: _____
 Address: _____
 City: _____ State: _____ Zip Code: _____
 Phone: _____ Fax: _____
 Email: _____

Commercial Building Characteristics	Residential Building Characteristics
Height: _____	<input type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse
No. of stories: _____	Depth Width
Gross area, sq. ft./floor: _____	1 st floor: _____
Area of construction (sq. ft.): _____	2 nd floor: _____
Use group: _____	Basement: _____
Construction type:	<input type="checkbox"/> Finished Basement
<input type="checkbox"/> Reinforced Concrete	<input type="checkbox"/> Unfinished Basement
<input type="checkbox"/> Structural Steel	<input type="checkbox"/> Crawl Space
<input type="checkbox"/> Masonry	<input type="checkbox"/> Slab on Grade
<input type="checkbox"/> Wood Frame	No. of Bedrooms: <u>5</u>
<input type="checkbox"/> State Certified Modular	Multi-family Dwelling
<input type="checkbox"/> Roadside Tree Project Permit	No. of efficiency units: _____
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No. of 1 BR units: _____
Roadside Tree Project Permit # _____	No. of 2 BR units: _____
	No. of 3 BR units: _____
	Other Structure: _____
	Dimensions: _____
	Footings: _____
	Roof: _____
	<input type="checkbox"/> State Certified Modular
	<input type="checkbox"/> Manufactured Home

Utilities	
Electric:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Gas:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Supply	
<input type="checkbox"/> Public	
<input checked="" type="checkbox"/> Private	
Sewage Disposal	
<input type="checkbox"/> Public	
<input checked="" type="checkbox"/> Private	
Heating System	
<input type="checkbox"/> Electric <input type="checkbox"/> Oil	
<input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> Propane Gas	
<input type="checkbox"/> Other:	
Sprinkler System:	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Grading Permit Number:	<u>G18000108</u>
GP-18-060	
Building Shell Permit Number:	

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

Applicant's Signature: _____
 Email Address: maria.morris@williamburghomes.com
 Title/Company: Project Manager

Print Name: _____
 Date: 5/4/18

Checks Payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY
 PLEASE WRITE NEATLY & LEGIBLY
 -FOR OFFICE USE ONLY-

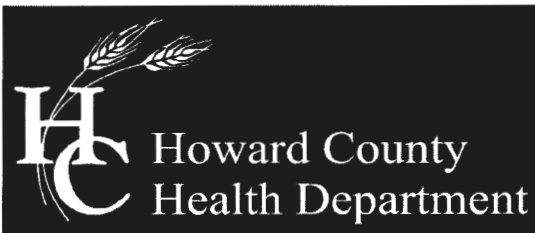
AGENCY	DATE	SIGNATURE OF APPROVAL
State Highways		
Building Officials		
PSZA (Zoning)		
PSZA (Engineering)		
Health		<u>5/22 R. B. [Signature]</u>

Is Sediment Control approval required for issuance? Yes No
 CONTINGENCY CONSTRUCTION START

DPZ SETBACK INFORMATION
Front: _____
Rear: _____
Side: _____
Side St.: _____
All minimum setbacks met? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is Entrance Permit Required? <input type="checkbox"/> Yes <input type="checkbox"/> No
Historic District? <input type="checkbox"/> Yes <input type="checkbox"/> No
Lot Coverage for New Town Zone: _____
SDP/Red-line approval date: _____

Filing Fee	\$ <u>100</u>
Permit Fee	\$
Tech Fee	\$
Excise Tax	\$
PSFS	\$
Guaranty Fund	\$ <u>50</u>
Add'l per Fee	\$
Total Fees	\$
Sub- Total Paid	\$
Balance Due	\$
Check	# <u>090059</u>

Distribution of Copies: White: Building Officials Green: PSZA,Zoning Yellow: PSZA,Engineering Pink: Health Gold: SHA



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

MEMORANDUM

TO: **Marina Morris, The Williamsburg Group LLC**

FROM: **Robert Bricker, REHS/RS, L.E.H.S.**
Well & Septic Program

RE: **7417 Haven Court, Potential Basement Bedroom**

DATE: May 22, 2018

I have reviewed the floor plans in support of Building Permit **B18001515** for a new home at **7417 Haven Court** and noted that there is a full bath in the finished basement. Please note that this makes it very likely for one or more rooms to be considered bedrooms should the future owner choose to modify the design to enclose conditioned space where there is a window.

For reference, the following is the bedroom definition in Howard County Code Section 3.801(b):

- (1) Except as provided in paragraph (2) of this subsection, a bedroom is any space in the conditioned area of a dwelling unit or accessory structure that:
 - (i) Is 90 square feet or greater in size;
 - (ii) May be used as a private sleeping area; and
 - (iii) Has at least one window and one interior door.
- (2) If a home office, library, or similar room is proposed, it may not be a bedroom if there is no closet; and
 - (i) The room contains permanently built-in bookcases around the perimeter of the room, desks, and other features that encumber the room;
 - (ii) A minimum 4 foot-wide opening, without doors, into another room;
 - (iii) A half wall (4 foot maximum height) between the room and another room; or
 - (iv) The room is a first floor room or basement area that does not have direct access to full bathrooms or "roughed in" plumbing that would provide direct access to future full bathroom facilities.

The Health Department strongly recommends sizing the onsite sewage disposal system at least one bedroom larger than the existing **five (5)** bedroom design to accommodate a future modification of the basement area. If you choose to only size for the existing design, any future building permit for modification of finished space in the basement may be placed on hold until the system is upgraded to accommodate the proposed number of bedrooms. This memo will be retained in the Health Department file for future reference.

**COMPLETE THIS FORM WHEN DROPPING OFF ANY
CORRESPONDENCE AND/OR PLANS TO THE HOWARD COUNTY
DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS COUNTER:**

Date: 5/11/18

To: George Martin
(Person's Name and Division)

From: Marina Morris-Williamsburg Homes (410) 997-8800
(Your Name, Company Name and Telephone Number)

Subject: Project name Estates at Schooley Mill Lot B
Project site address 7417 Haven Court, Highland
Permit # GP-18-060 SDP # _____
Other information pertinent to this project B18001515

- Please check the attachments below that you are submitting with this transmittal:
- Letter of response to address plan review comment letter
 - Revised plans and/or revised details: When submitting for a complete re-review, duplicate sets shall be submitted.
 - Letter Summarizing Changes
 - Energy conservation calculations
 - Copies of Floor plans (be specific).
- Health Department Request DPZ/ DED Request Applicant's Request
- Two sets of single family dwelling model plans to be placed on permanent file: Model name and/or # Georgetown II
- Other _____

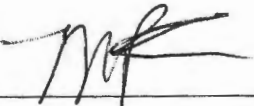
Contact Person Information: (Required)

Marina Morris
Please Print Name

Telephone No: 410-997-8800

E-Mail Address: marinamorris@williamsburgllc.com

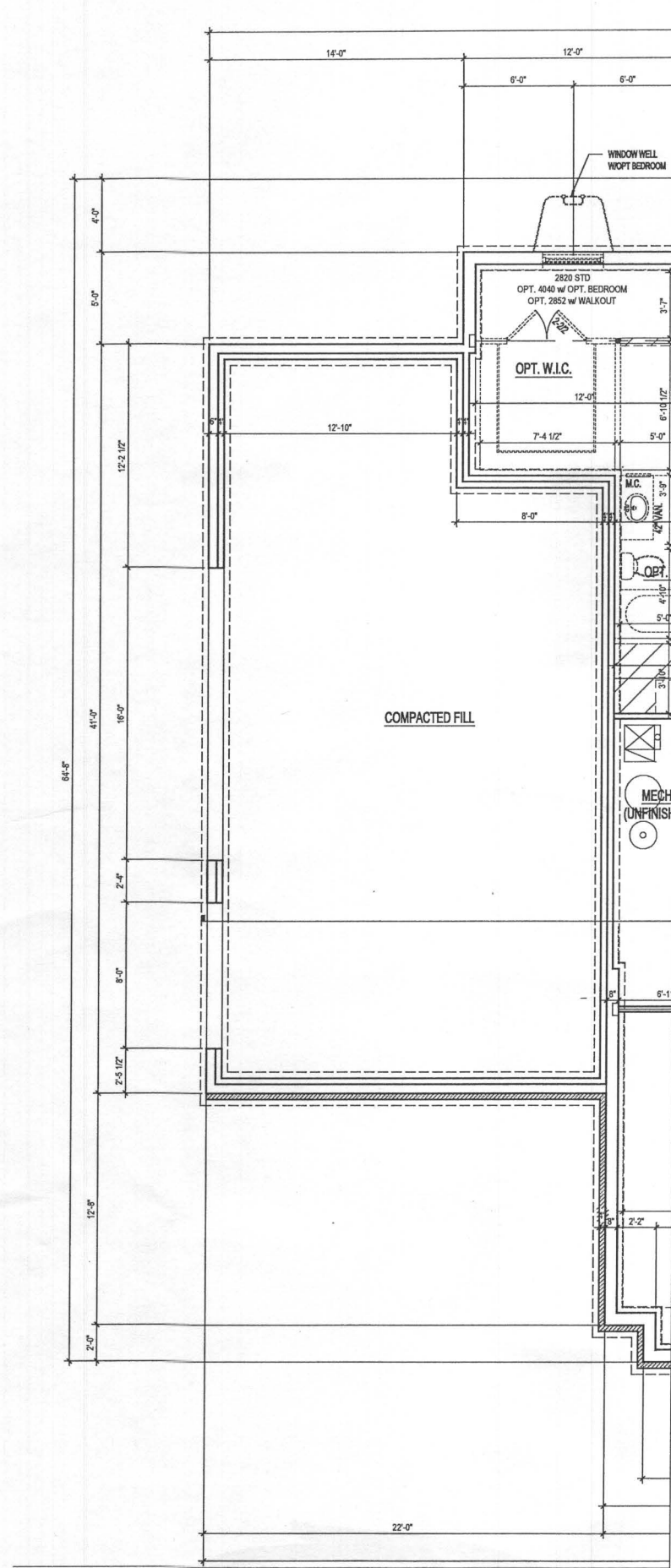
PLEASE ASSURE ALL DOCUMENTS AND/OR REVISIONS ARE APPROPRIATELY SIGNED AND SEALED, IF NECESSARY, BY A LICENSED ARCHITECT OR ENGINEER. PLEASE BE ADVISED THAT INSUFFICIENT INFORMATION MAY RESULT IN THE DELAY OF REVIEW BY THE PLANS EXAMINER. THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS WILL CONTACT YOU IF THERE IS A PROBLEM. IN ADDITION, ONCE THE BUILDING PERMIT IS APPROVED BY THE PLAN REVIEW DIVISION AND ALL OTHER REQUIRED SIGNATORY AGENCIES, AND THE BUILDING PERMIT IS READY FOR ISSUANCE, THE PERMIT DIVISION WILL NOTIFY THE APPROPRIATE CONTACT PERSON FOR PERMIT PICK UP. ALL PERMIT STATUS INQUIRIES SHALL BE DIRECTED TO THE PERMIT DIVISION AT 410-313-2455. CODE RELATED QUESTIONS AND PLAN REVIEW INQUIRIES SHALL BE DIRECTED TO THE PLAN REVIEW DIVISION AT 410-313-2436. PLEASE ALLOW A MINIMUM OF FIVE (5) WORKING DAYS FOR ANY PLAN SUBMITTALS TO BE REVIEWED. THANK YOU.

Received by 

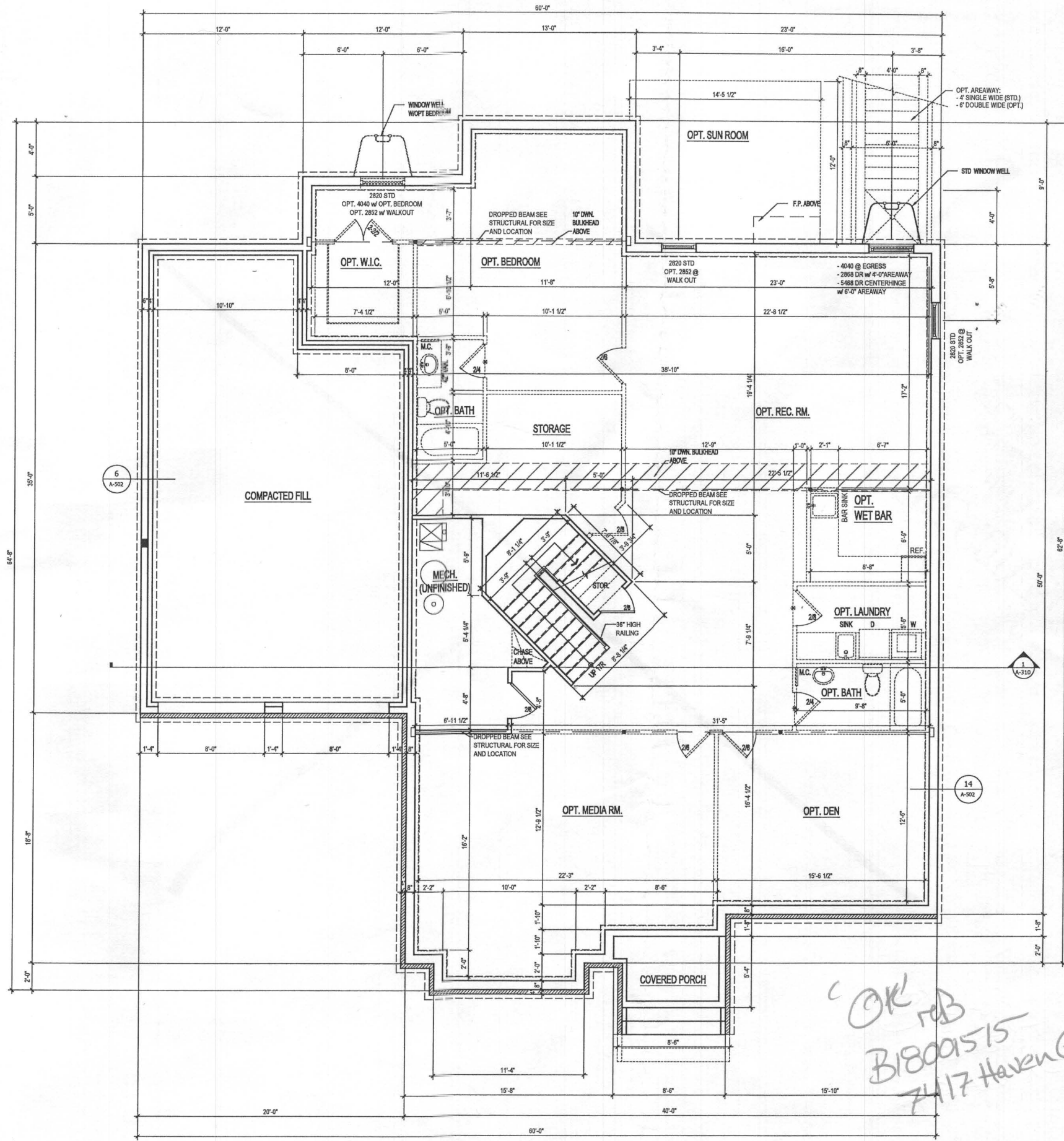
White-Plan Review / Yellow-Applicant / Pink-Permit Division
t:\Operations\Updated forms\transmit.frm - Rev. 04/2014

Revised plans to be placed on file

File No: WIL004aA110.dwg
 Plot By: gfuertes



1a
A-110
 BASEMENT FLOOR PLAN
 W/ 3 CAR GARAGE OPT.
 SCALE: 1/4" = 1'-0"
 WIL004aA110



1
A-110
 BASEMENT FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 WIL004aA110
 2,250 SQ. FT.

*OK reB
 B180915
 7/17 Haven G.*

ARCHITECT:

 lessard
 DESIGN
 8521 Leesburg Pike
 Suite 700 | Vienna, VA 22182
 P:571.830.1800 | F:571.830.1801
 www.lessarddesign.com

SEAL & SIGNATURE:

 Professional Certification:
 I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional architect under the State of Maryland laws License No.: 15246 Expiration date: 10/30/2019

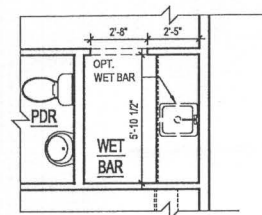
OWNER:
 The Williamsburg Group
 5485 Harpers Farm Rd.
 Columbia, MD 21046
 410-997-8800

CONSULTANTS:
 STRUCTURAL:
 KSE ENGINEERING
 925 MAIN STREET
 PENNSBURG, PA 18073
 P: 215-541-2271

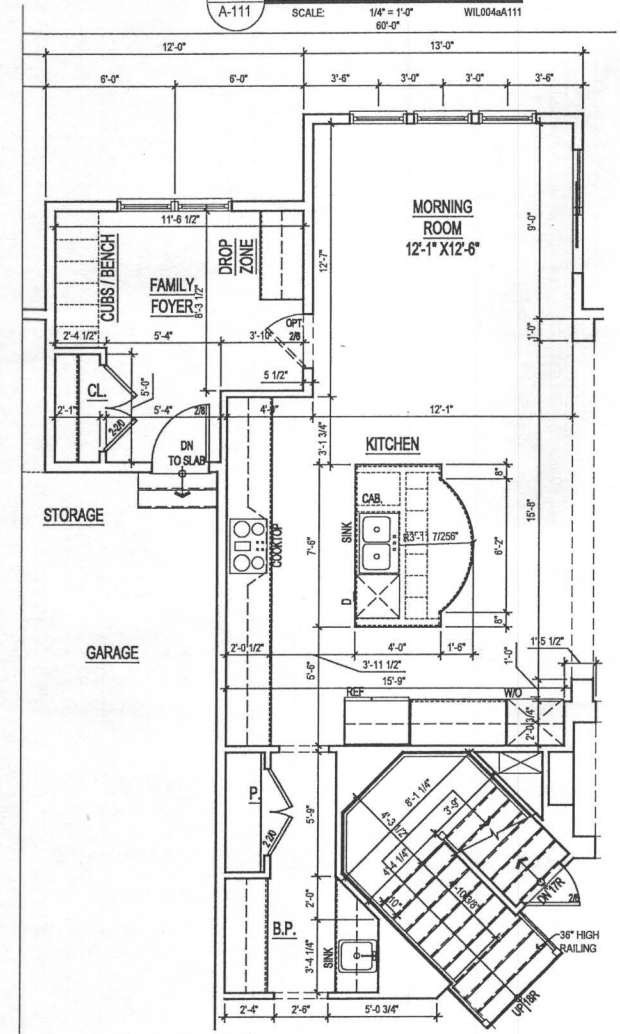
Single Family Homes
 Howard County, MD
 The Williamsburg Group
 GEORGETOWN II
 FLOOR PLANS

ISSUE FOR PERMIT	05/04/18
NO. ISSUE/REVISION	DATE
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FILE NAME:	WIL004aA110.dwg
DRAWN BY:	
CHECKED BY:	
PLOT DATE:	

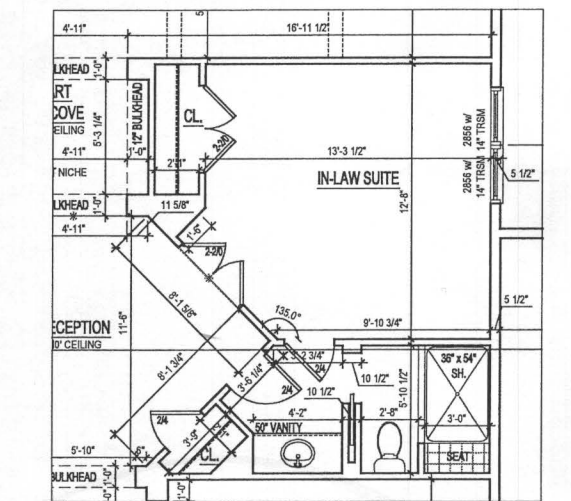
A-110



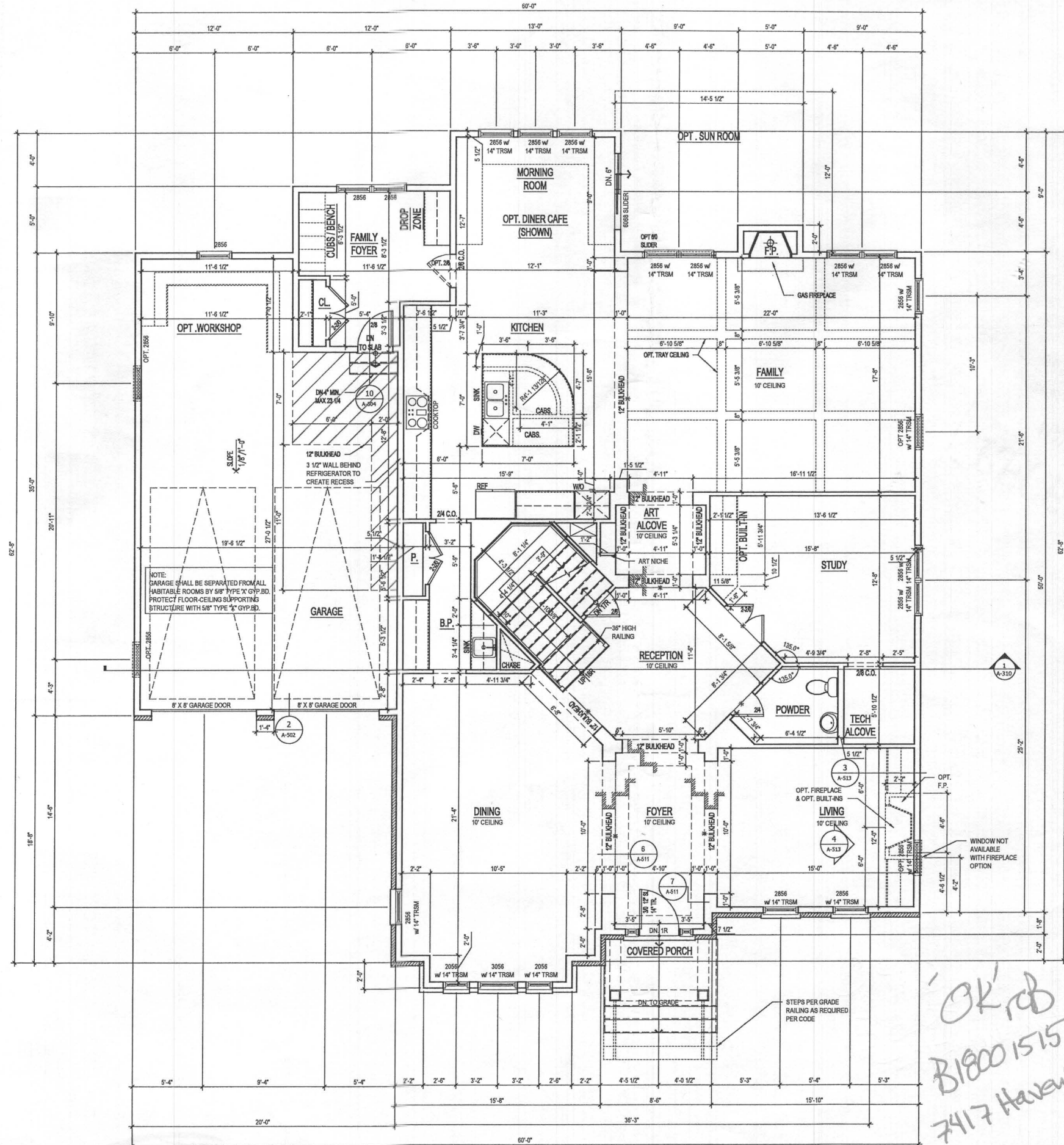
4 OPT. WET BAR
SCALE: 1/4" = 1'-0"
WIL004a111



3 ALT. KITCHEN
SCALE: 1/4" = 1'-0"
WIL004a111



2 ALT. IN-LAW SUITE
SCALE: 1/4" = 1'-0"
WIL004a111



1 FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"
WIL004a111

ARCHITECT:
lessard DESIGN
8521 Leesburg Pike
Suite 700 | Vienna, VA 22182
P: 571.830.1800 | F: 571.830.1801
www.lessarddesign.com

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I hereby certify that these documents were prepared or approved by me and that I am a duly licensed professional architect under the State of Maryland laws.
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Expiration date: 10/30/2017

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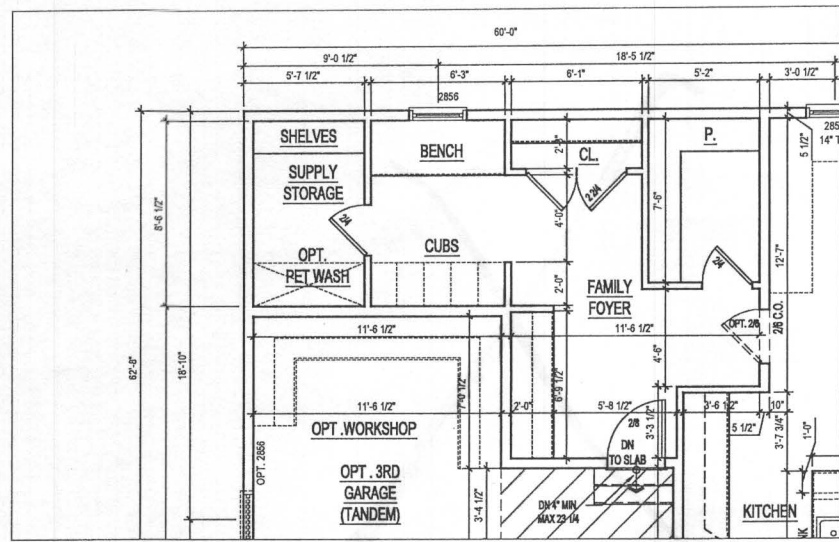
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KSE ENGINEERING
925 MAIN STREET
PENNSBURG, PA 18073
P: 215-541-2271

Single Family Homes
Howard County, MD
The Williamsburg Group
GEORGETOWN II
FLOOR PLANS

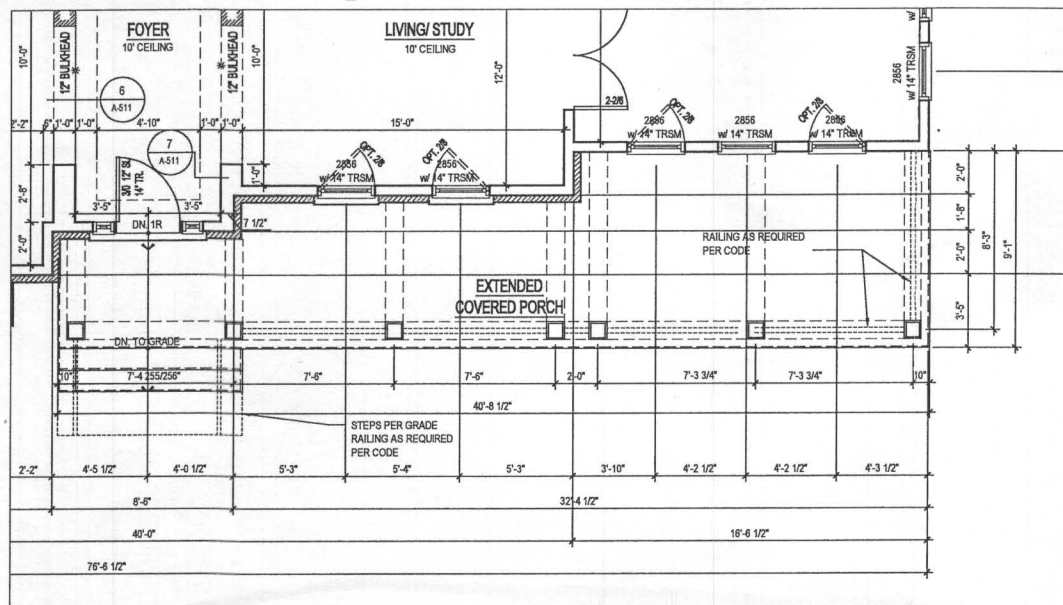
NO	ISSUE/REVISION	DATE

PROJECT No: WIL004
FILE NAME: WIL004a111.dwg
DRAWN BY:
CHECKED BY:
PLOT DATE:
A-111

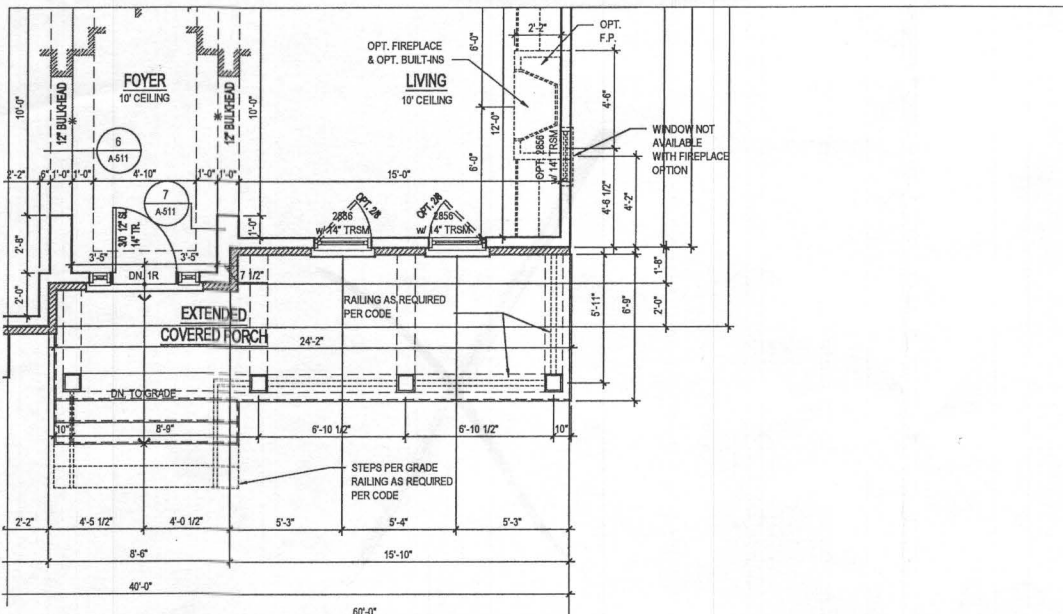
*OK'ed
B1800 1515
7417 Haven Ct*



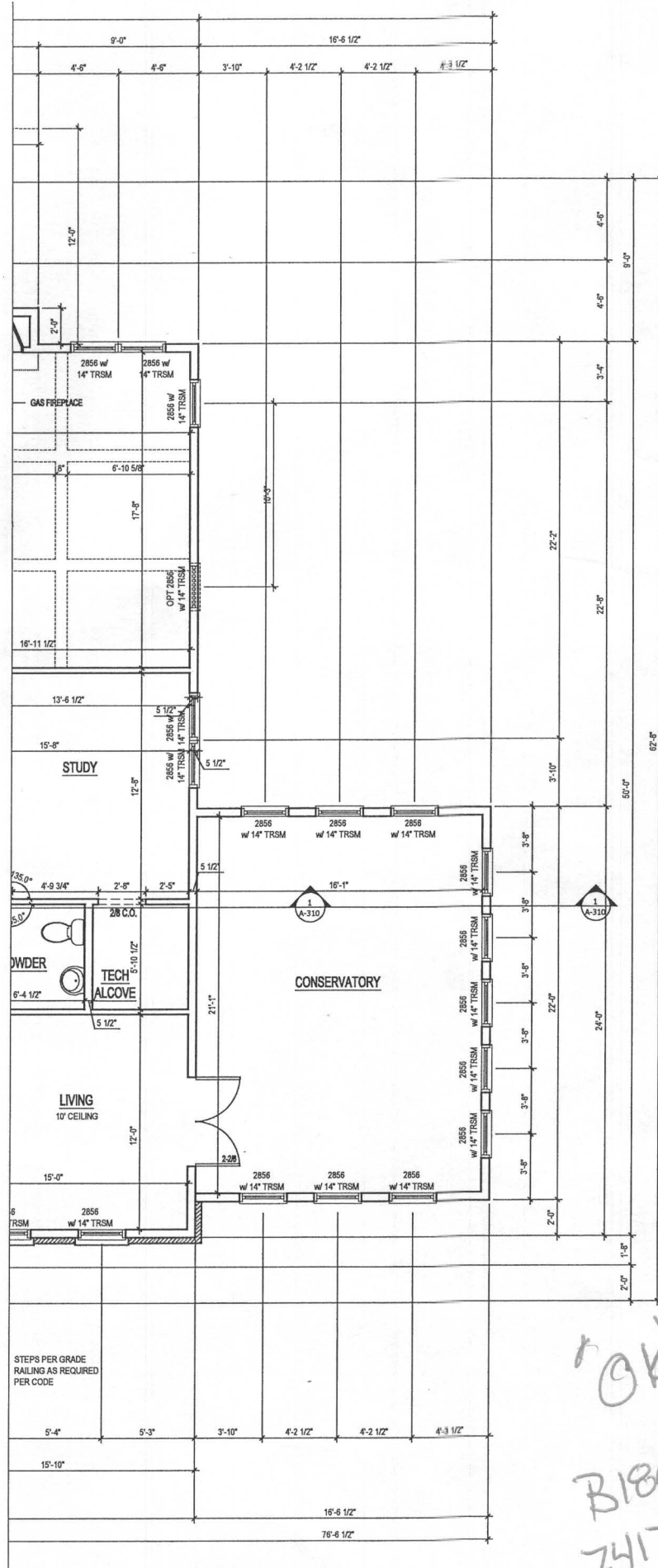
5 FIRST w/ OPT. FAMILY FOYER
A-111a SCALE: 1/4" = 1'-0" WILD004a111



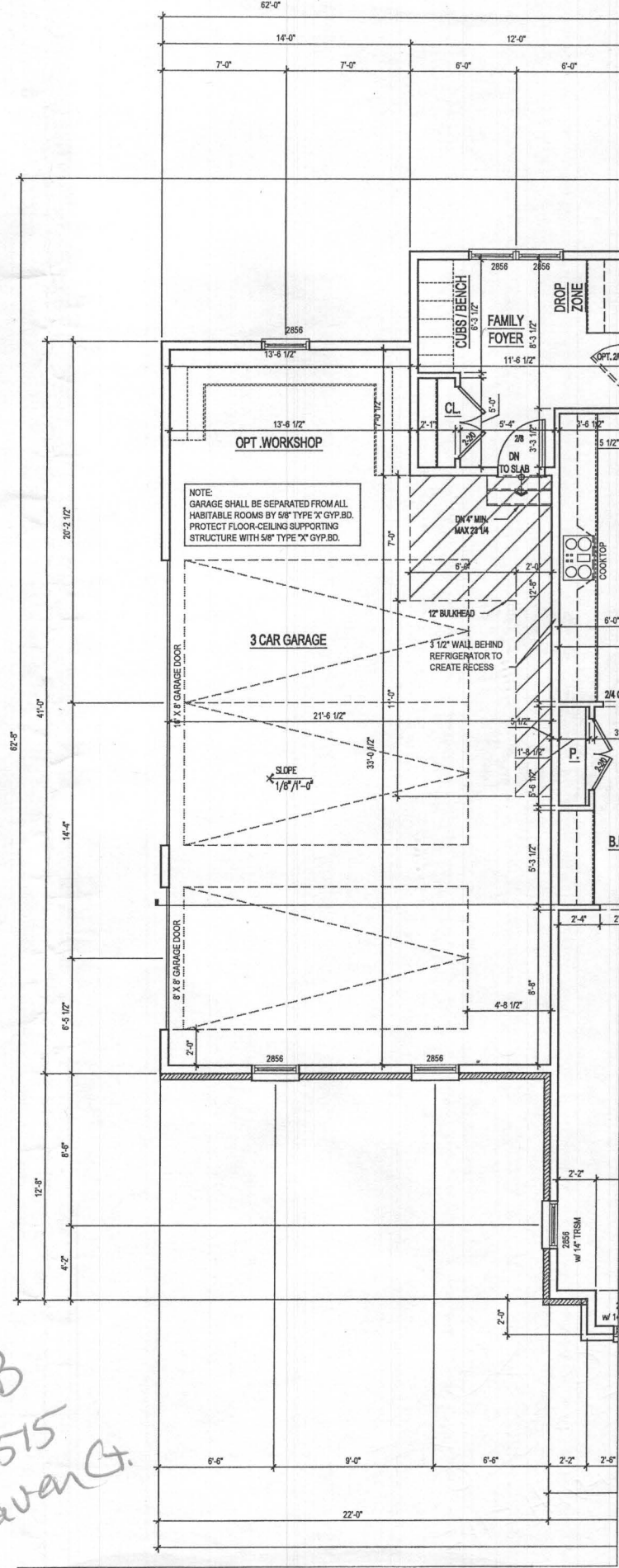
4 FIRST w/ OPT. CONSERVATORY w/ OPT. EXTENDED PORCH
A-111a SCALE: 1/4" = 1'-0" WILD004a111



3 FIRST w/ OPT. EXTENDED PORCH
A-111a SCALE: 1/4" = 1'-0" WILD004a111



2 FIRST w/ OPT. CONSERVATORY
A-111a SCALE: 1/4" = 1'-0" WILD004a111



1 FIRST FLOOR 3 CAR GARAGE PLAN OPT.
A-111a SCALE: 1/4" = 1'-0" WILD004a111

OK MB
B18001515
7417 Haven Ct.

ARCHITECT:
lessard DESIGN
8521 Leesburg Pike
Suite 700 | Vienna, VA 22182
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925 MAIN STREET
PENNSBURG, PA 18973
P: 215-541-2271

Single Family Homes
Howard County, MD
The Williamsburg Group
GEORGETOWN II
FLOOR PLANS

NO	ISSUE/REVISION	DATE

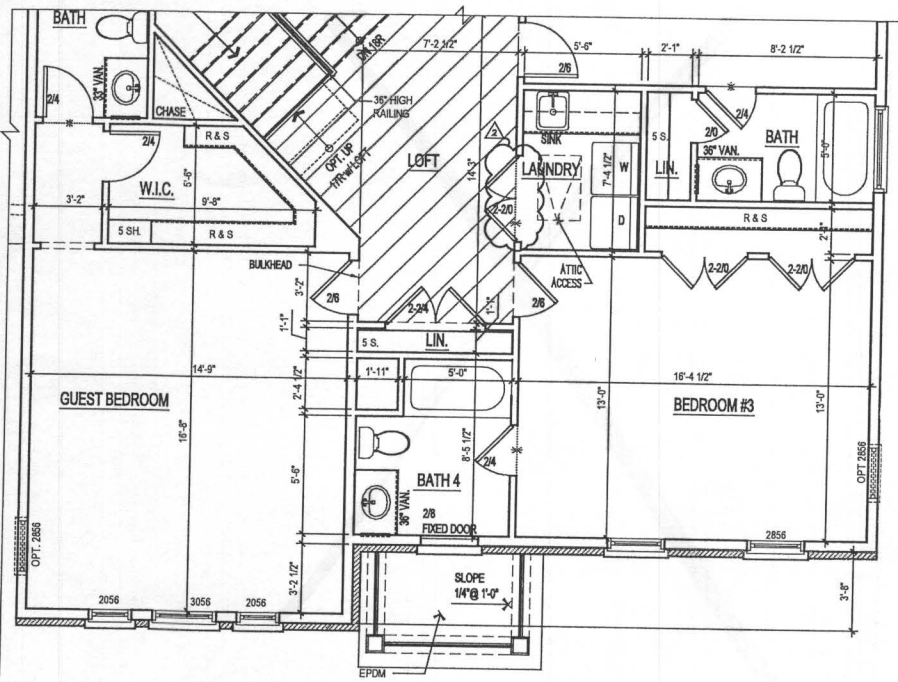
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FILE NAME: WILD004a111.dwg
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CHECKED BY:
PLOT DATE:

A-111a

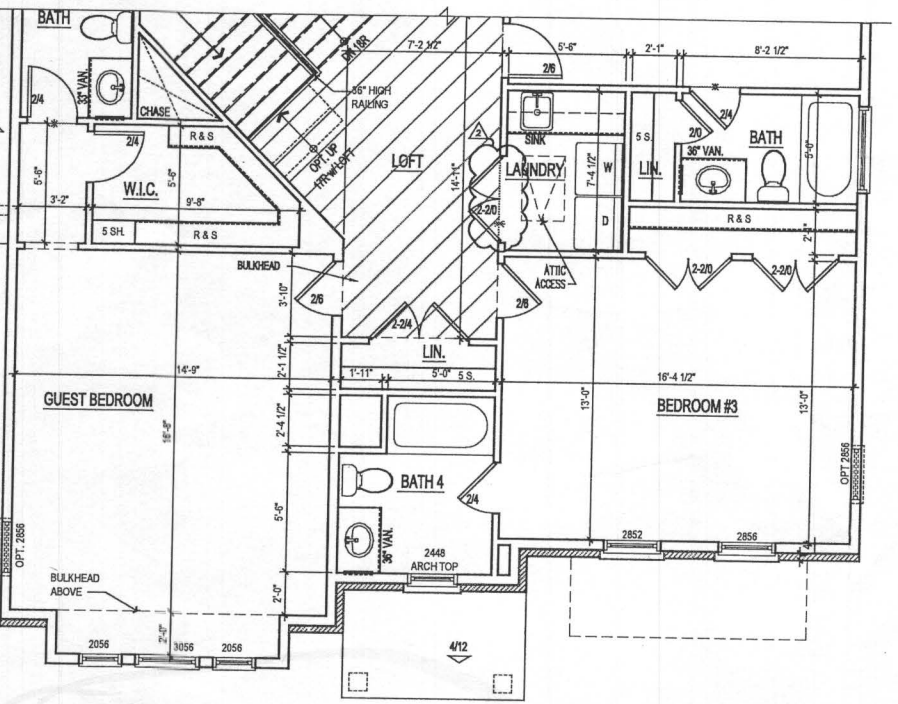
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Plot By: gfluentes



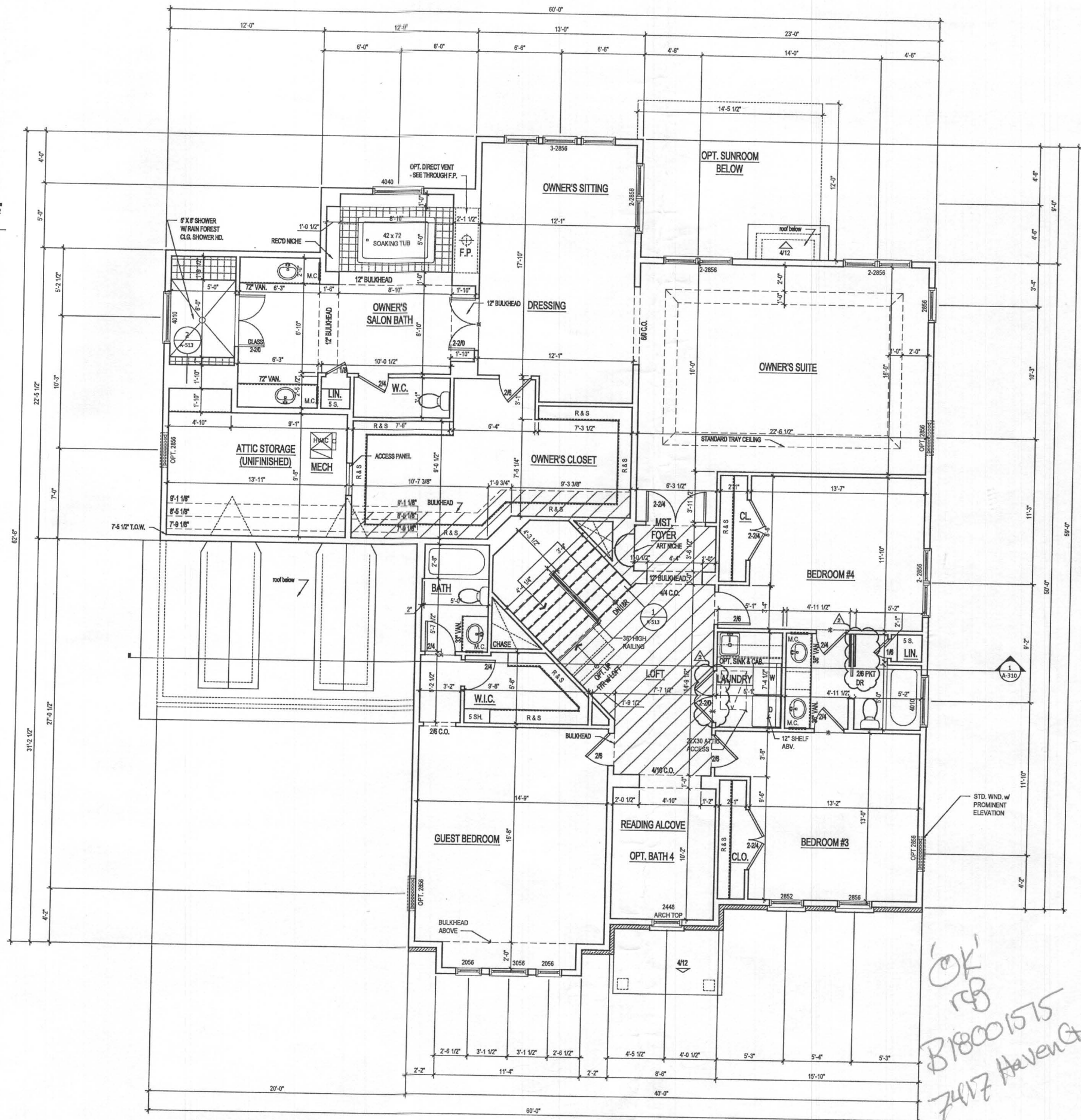
3 ALT. DRESSING w/ OPT. COFFEE/ WET BAR
 A-112 SCALE: 1/4" = 1'-0" WIL004aA112



2a ALT. SECOND FLOOR PLAN
 A-112 SCALE: 1/4" = 1'-0" ELEVATION #2 WIL004aA112



2 ALT. SECOND FLOOR PLAN
 A-112 SCALE: 1/4" = 1'-0" ELEVATION #1 WIL004aA112



1 SECOND FLOOR PLAN
 A-112 SCALE: 1/4" = 1'-0" ELEVATION #1 WIL004aA112

ARCHITECT:

lessard DESIGN
 8521 Leesburg Pike
 Suite 700 | Vienna, VA 22182
 P: 571.830.1800 | F: 571.830.1801
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 PENNSBURG, PA 18073
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Single Family Homes
 Howard County, MD
The Williamsburg Group
GEORGETOWN II
FLOOR PLANS

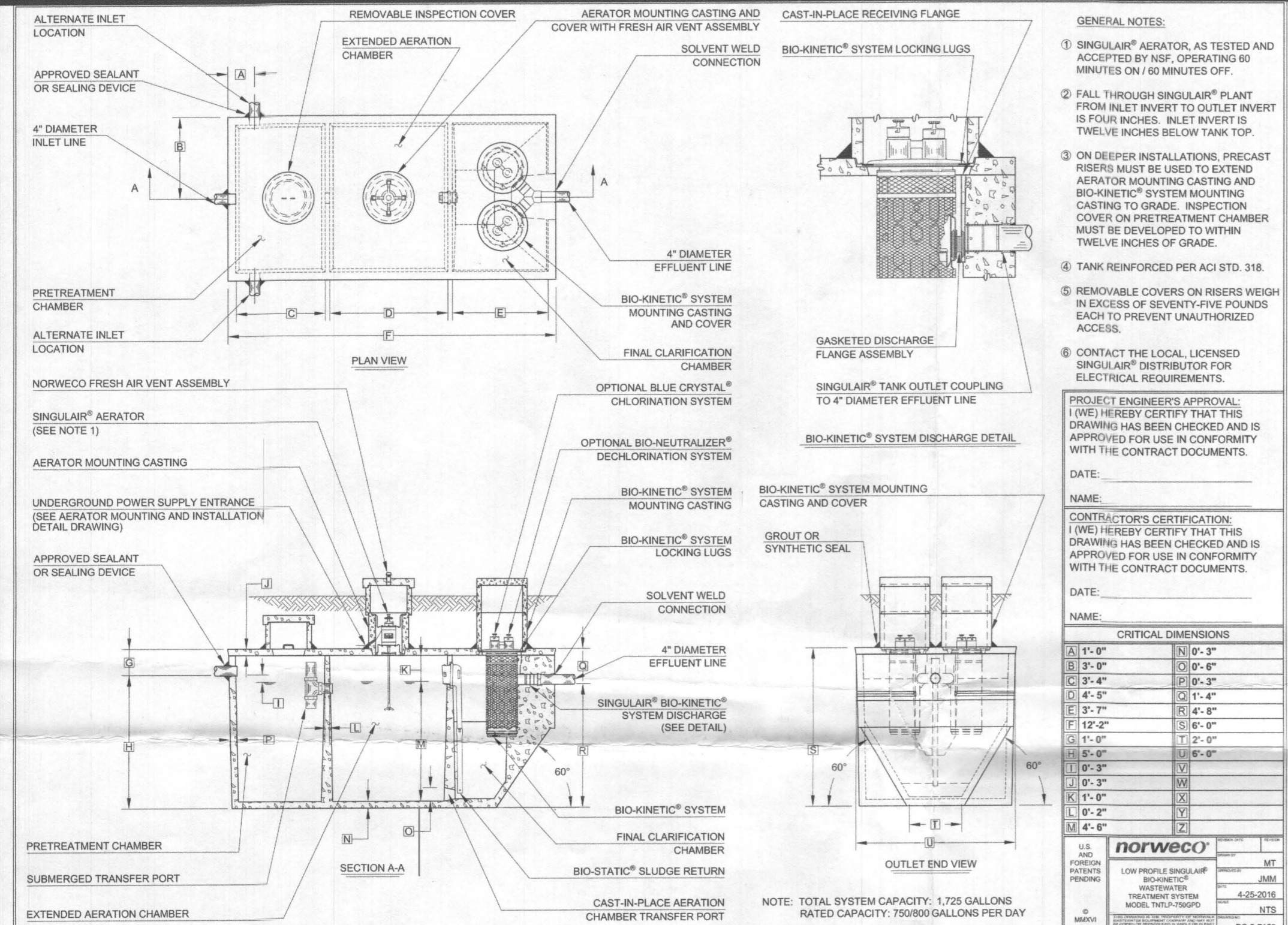
NO ISSUE/REVISION DATE
 PROJECT No: WIL004A
 FILE NAME: WIL004aA112.dwg
 DRAWN BY:
 CHECKED BY:
 PLOT DATE:

A-112

2,647 SQ. FT.

OK! rfb B18001575 7417 Haven G

Plot By: gfluentes File No: WIL004aA112.dwg



GENERAL NOTES:

- SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 90 MINUTES OFF.
- FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER ACI STD. 318.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

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

DATE: _____

NAME: _____

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

DATE: _____

NAME: _____

CRITICAL DIMENSIONS

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

U.S. PATENT & TRADEMARK OFFICE
FORUM PAPER PENDING
MODEL #19-73903
P.O. 5-119

norweco

NOTE: TOTAL SYSTEM CAPACITY: 1,725 GALLONS
RATE CAPACITY: 750 GALLONS PER DAY

Source: From Norweco local supplier/distributor - Back River Pre-cast, LLC, PO Box 329 Glyndon, MD 21071-0329 Ph:410.833-3394

LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS
Per MDE BASIC LPD DESIGN - Draft Version 1 - Date July 3, 2014

ADDRESS: 7417 Haven Court
SUBDIVISION: Estates at Schooley Mill
DATE: 07/03/14

Design Flow: 750 gpd
Pump Off Elevation: 462.42
Inv. Out of Pump Tank: 463.67
Pump Bottom Elevation: 461.25

Manifold	Type	End-Feed
Lateral 1	Elev: 474.0	Length: 68
Lateral 2	Elev: 472.8	Length: 53
Lateral 3	Elev: 472.8	Length: 53
Lateral	Elev: _____	Length: _____
Lateral	Elev: _____	Length: _____

1.2' Elev. Range, Single Manifold OK

Manifold Length	Type
54 ft	SCH 40
196.0 ft	SCH 40

Manifold	Trench Elev (ft)	Head (ft)	Orifice Diam. (in)	Orifice Flow Rate (gpm)	Orifice Spacing (ft)	Number of Orifices	Trench Length (ft)	Lateral Length (ft)	Lateral Diam. (in)	Type	
Manifold 1	1	474.0	2	5/16	1.63	7.56	9	14.65	64.22	1.5	SCH 40
	2	472.8	3.2	5/16	2.06	7.57	7	14.42	49.21	1.5	SCH 40
	3	472.8	3.2	5/16	2.06	7.57	7	14.42	49.21	1.5	SCH 40

Min. System Discharge Rate: 43.5 gpm
Manifold Diam. 2.0 in Vel. 4.4 fps Friction Loss (Table 4.4) 3.074
Force Main Diam. 2.0 in Vel. 4.4 fps Friction Loss (Table 4.4) 3.074
Minimum Dose: 129.7 gal

Calculate Total Design Head
1. Friction Loss in Force Main: 6.1 ft
Friction Loss from Fittings: 53 ft X 3.074 = 1.6 ft
No. Type Equ. Length No. Type Equ. Length
7 90 Deg. Std Ell 7.0 0 Gate Valve 1.3
2 45 Deg. Std Ell 4.0 0 Globe Valve 55
0 90 Deg. Side Tee 10.0 0 Angle Valve 28
2 Run of Tee 2.0
Friction Loss from Laterals: 1.5 ft
2. Static Head: 11.98 ft
3. Min. Distal (discharge) head 2 ft
TDH = 22.8 ft

SDA TRENCH CALCULATIONS (Lot 8)

System Input Information	Initial System	Replacement System No.1	Replacement System No.2
Application Rate	0.8	0.8	0.8
Effective area beginning depth	5.5	6.0	5.0
Effective area maximum bottom depth	8.0	8.0	7.0
Number of Bedrooms	5	5	5
Design flow at 150 gal./day/bedroom	750	750	750

Absorption Trench Calculations	938 s.f.	938 s.f.	938 s.f.
Drainfield area required (Design flow/application rate)			
Effluent pipe depth to invert (cannot exceed 4', if < 2', then field run top to 1-ft interval is required)	4.0	4.0	4.0
Effective sidewall depth "D" = depth between the effective beginning depth or pipe depth (which ever is deeper) and maximum trench bottom.	2.5	2.0	2.0
Trench Width "W" (2 or 3 feet)	3.0	3.0	3.0
SideWall Reduction Percent = (W*(W+1))/2	55.56%	62.50%	62.50%
Linear feet of trench required = (drainfield area x sidewall reduction)/W	178.6	195.3	195.3

Trench Layout Information	3	2	4
Number of trenches to use			
Total (linear feet)	173.7	195.4	195.6
Minimum Trench Spacing:	10.0	10.0	10.0

For trenches with no sidewall credit the spacing is 10' for a 2' wide trench and 9' for a 3' wide trench (measured edge to edge). All trenches utilizing sidewall reduction credit must be spaced a min. of 10' for effective sidewall not over 3.5'. If > 3.5', then spacing formula is 20W up to a maximum of 18'.

EFFLUENT AND DRAIN WATER PUMPS

MYERS® M45 SERIES

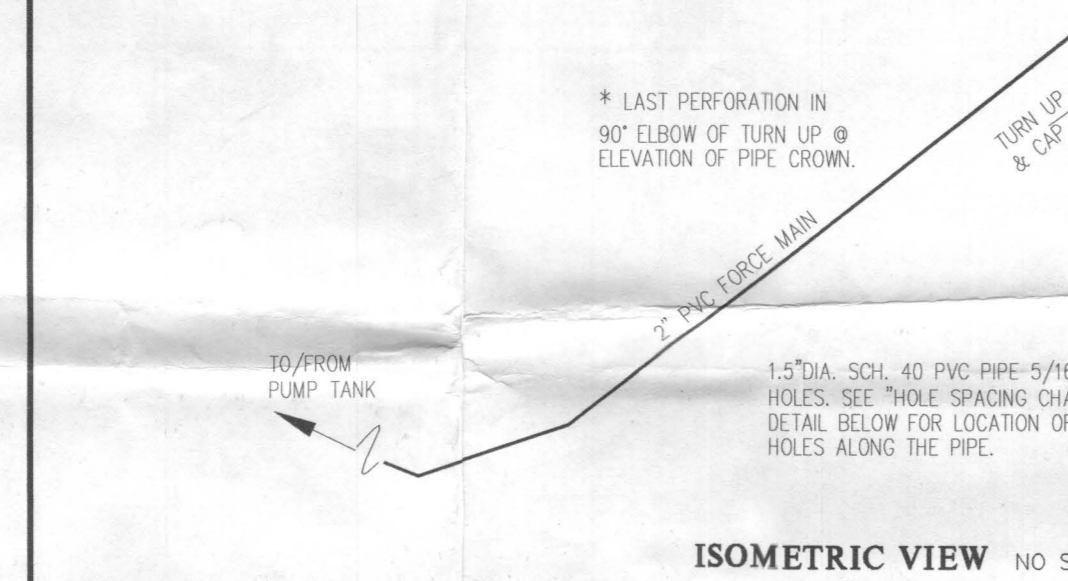
ORDERING INFORMATION

Catalog Number	HP	Volts	Phase/Cycles	Amps	Discharge Size	Switch Type	Approx. Wt. Lbs.
ME45MC-11	1/2	115	1/60	8.6	2"	Manual	58
ME45MC-21	1/2	230	1/60	4.3	2"	Manual	58

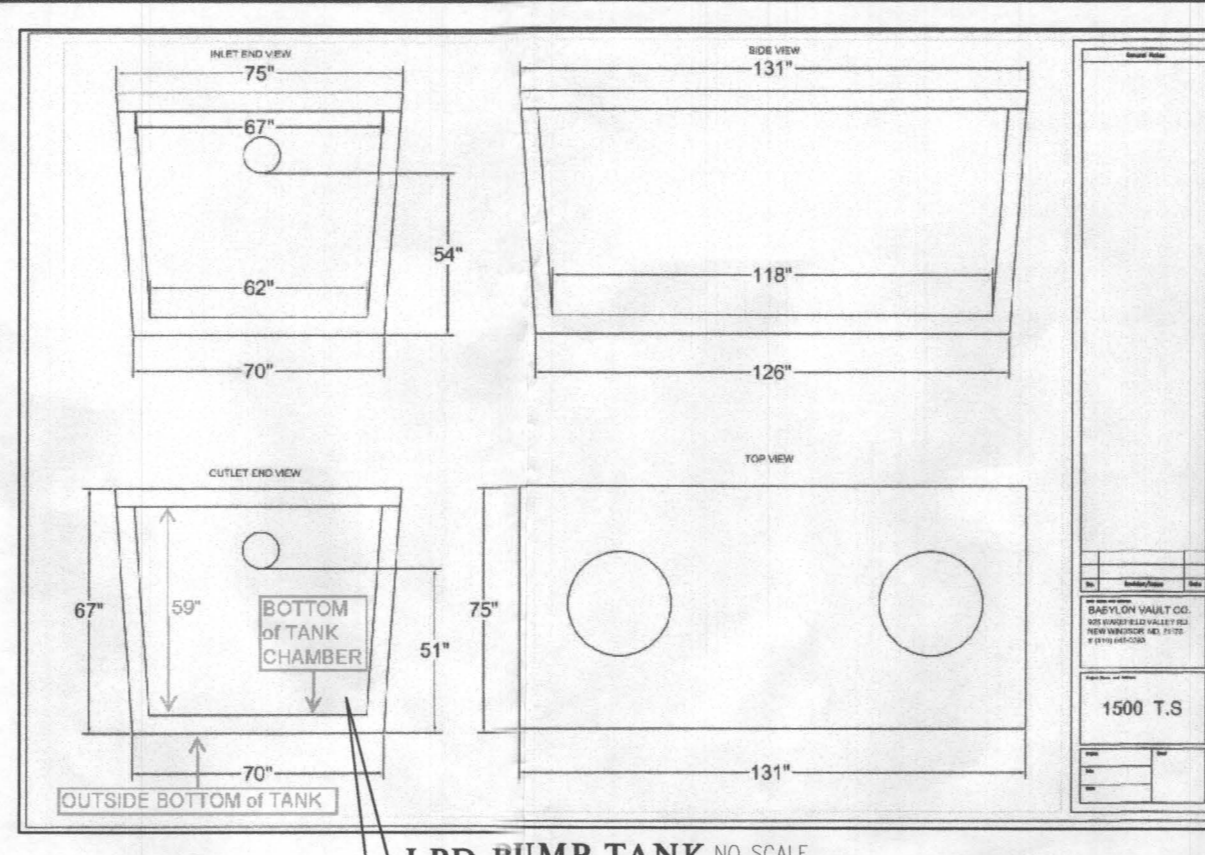
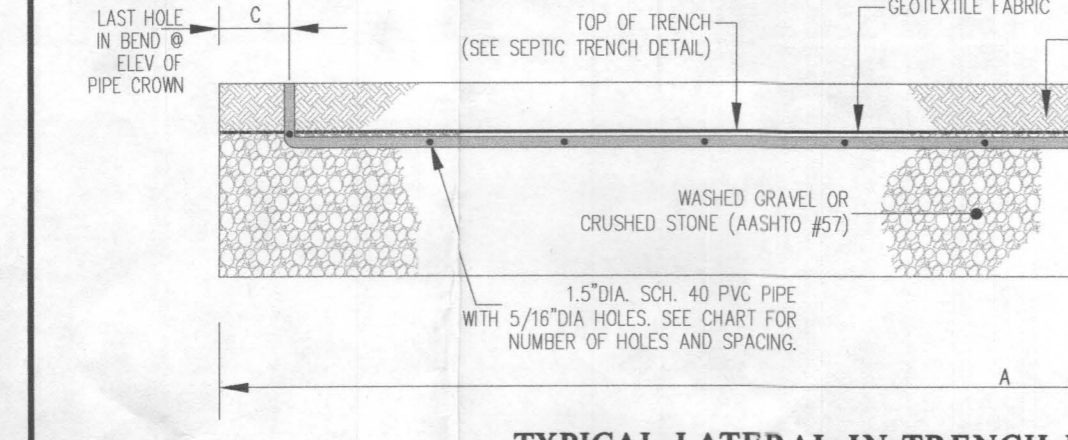
DIMENSIONS

PUMP PERFORMANCE

ISOMETRIC VIEW NO SCALE



TYPICAL LATERAL IN TRENCH DETAIL NO SCALE



LPD PUMP TANK NO SCALE

PUMP CHAMBER FLOAT SWITCH INFORMATION:

- ALARM HIGH WATER LEVEL @ 28.0'
- PUMP-ON WATER LEVEL @ 23.77'
- PUMP-OFF @ 20.0'

NOTES:

- SWITCH WATER LEVELS ARE MEASURED FROM THE BOTTOM OF THE TANK CHAMBER.
- TANK SHALL BE INSTALLED SO THAT THE BOTTOM OF THE CHAMBER IS ABSOLUTELY LEVEL.
- SWITCH LEVELS ARE CALCULATED FOR THE TANK CHAMBER DIMENSIONS SHOWN. IF A CHAMBER DIMENSION CHANGES, THEN THE SWITCH WATER LEVEL MUST BE RECALCULATED.
- PROVIDE A 1/4" SPRING BREAKER HOLE @ THE TOP END OF THE DISCHARGE PIPE INSIDE THE TANK IF THE INVERT OF THE LOWEST SDA LATERAL IS BELOW THE PUMP TANK INVERT OUT.

Rectangular Trapezoidal Pump Chamber Volume Calculations (Babylon Vault 1500 T.S.)

H: Height (inside dimension from bottom of chamber to top seam)	59.0 in.
W: Top Width (inside dimension)	67.0 in.
L: Top Length (inside dimension)	123.0 in.
a: Bottom Width (inside dimension)	62.0 in.
b: Bottom Length (inside dimension)	118.0 in.
Chamber Bottom Area (a x b)	7316.0 sq. in.
Height from bottom of chamber to inlet level (S)	50.0 in.
Chamber width at inlet level (C)	68.24 in.
Chamber length at inlet level (D)	122.24 in.
Chamber Sectional Area at inlet level (C x D)	8096.7 sq. in.
Chamber Volume at inlet level (V)	385167 cu. in. 1667 gal.

Float Switch Setting Parameters & Volume Calculations

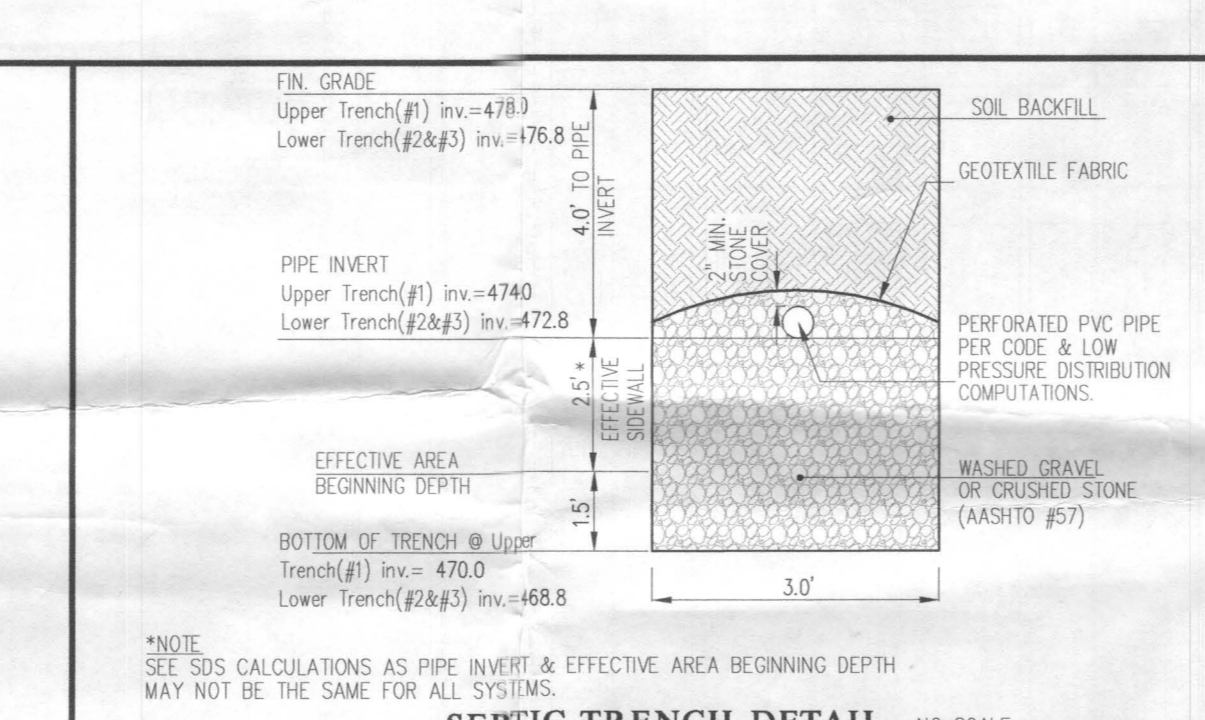
Design Flow per day (min. reserved capacity to set alarm level)	750 gal.
Dosing frequency per day & volume per dose	6 doses at 125 gal./dose
Water level (Sa) to switch on alarm	28.000 in.
Chamber width at alarm level (Ca)	64.37 in.
Chamber length at alarm level (Da)	120.37 in.
Chamber Sectional Area at alarm level (Ca x Da)	7748.7 sq. in.
Water volume at alarm level (Va)	210980 cu. in.
Reserved Capacity provided at alarm setting (V(Va))	174287 cu. in.
Back check reserved capacity: ((S1-Sa)/H)*(C1*Di + (C+Ca)*(Di+Da)+Ca*Da)	174287 cu. in.
Alarm High water Level (from bottom of pump chamber)	28.000 in.
Pump on water level (O, from bottom of pump chamber)	23.770 in.
Chamber width at this level (Co)	64.01 in.
Chamber length at this level (Do)	120.01 in.
Chamber Sectional Area at this level (Co x Do)	7682.65 sq. in.
Water volume (Vo) to switch pump on:	178243 cu. in.
Chamber width at this level (Cf)	20.000 in.
Chamber length at this level (Df)	63.69 in.
Chamber Sectional Area at this level (Cf x Df)	119.69 sq. in.
Water volume (Vf) to switch pump off:	149390 cu. in.
Volume between on-off switches: ((O-F)/H)*(Co*Do+(Co+Cf)*(Do+Df)+Cf*Df)	28853 cu. in.
Back Check doing volume switch setting: Vo-Vf	28853 cu. in.

Lot-8 LPD Pump Tank Elevations

Finished Grade along tank center line	468.80
Top of tank elevation	466.00
Delta (cover above tank, 3" max.)	2.80 ft.
Outside bottom of tank	460.42
Bottom of chamber elevation	460.75
Invert in	464.92
Invert out	464.67
Bottom of Pump (set on 6" block)	461.25

Lot-8 BAT (Norweco) Tank Elevations

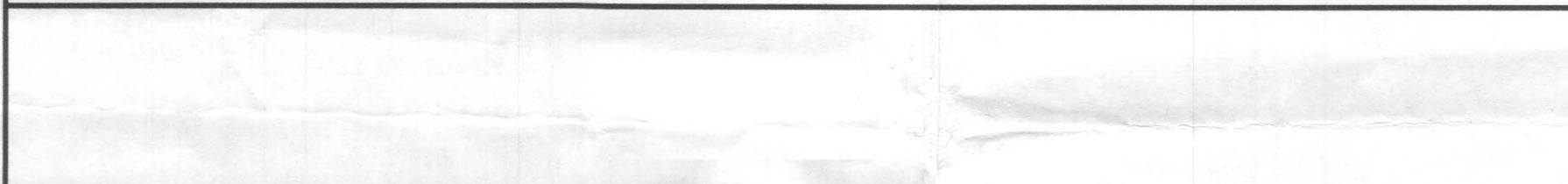
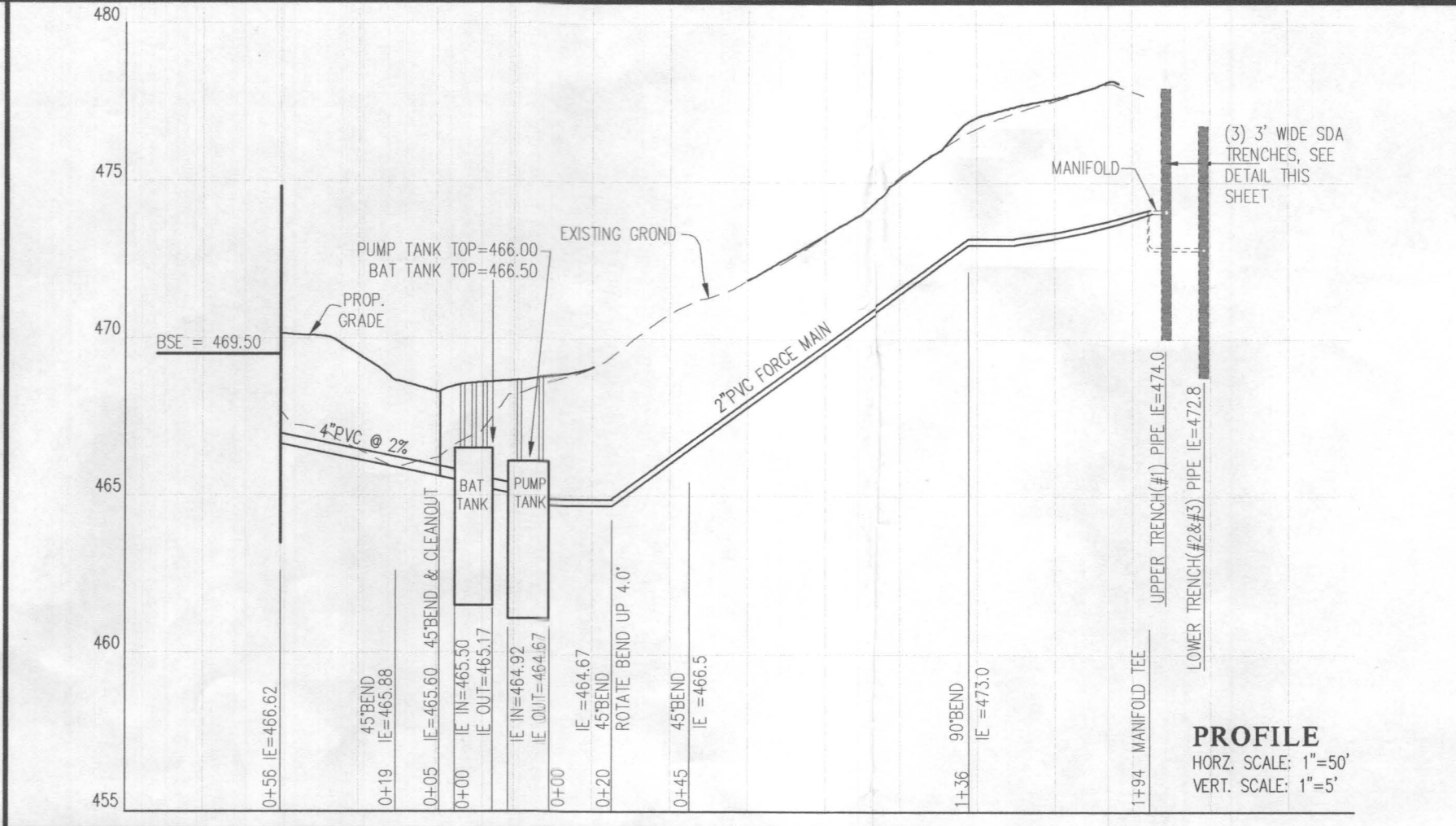
Finished Grade along tank center line	469.40
Top of tank elevation	466.60
Delta (cover above tank, 3" max.)	2.80 ft.
Outside bottom of BAT tank elevation	460.10
Invert in	465.10
Invert out	465.17



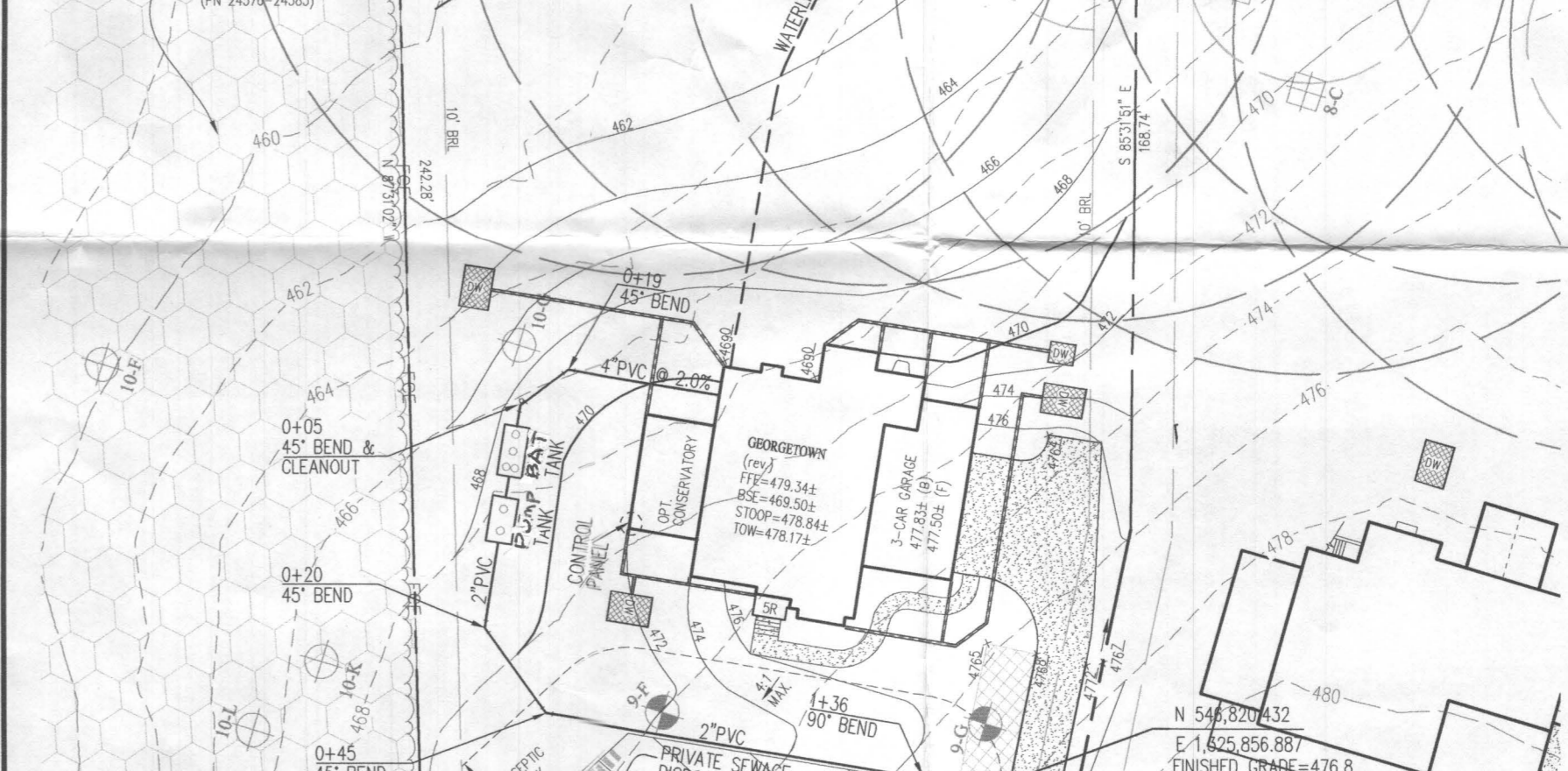
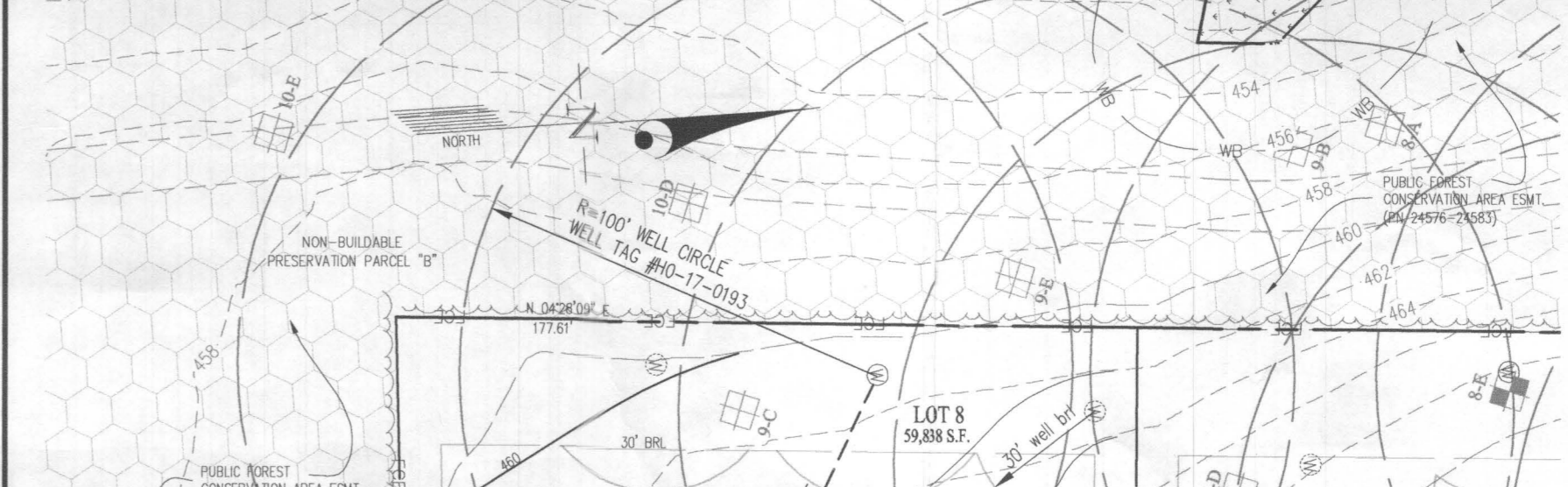
HOLES PACING CHART

Items	A	B	C	D	E
Trench-1	68 ft	64.22 ft	3.78 ft	9	7.56 ft
Trench-2	53 ft	49.21 ft	3.79 ft	7	7.57 ft
Trench-3	53 ft	49.21 ft	3.79 ft	7	7.57 ft

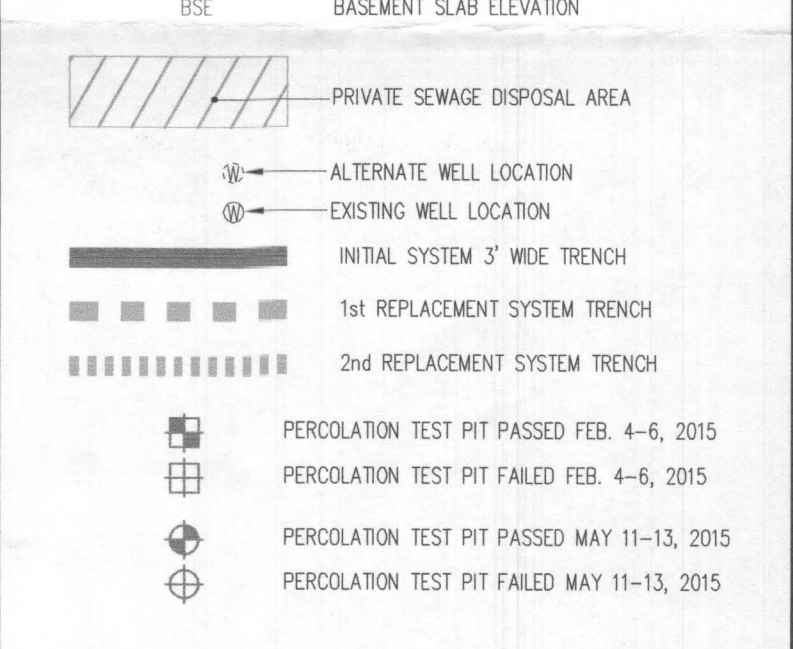
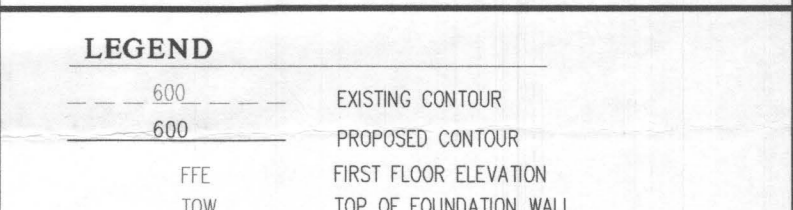
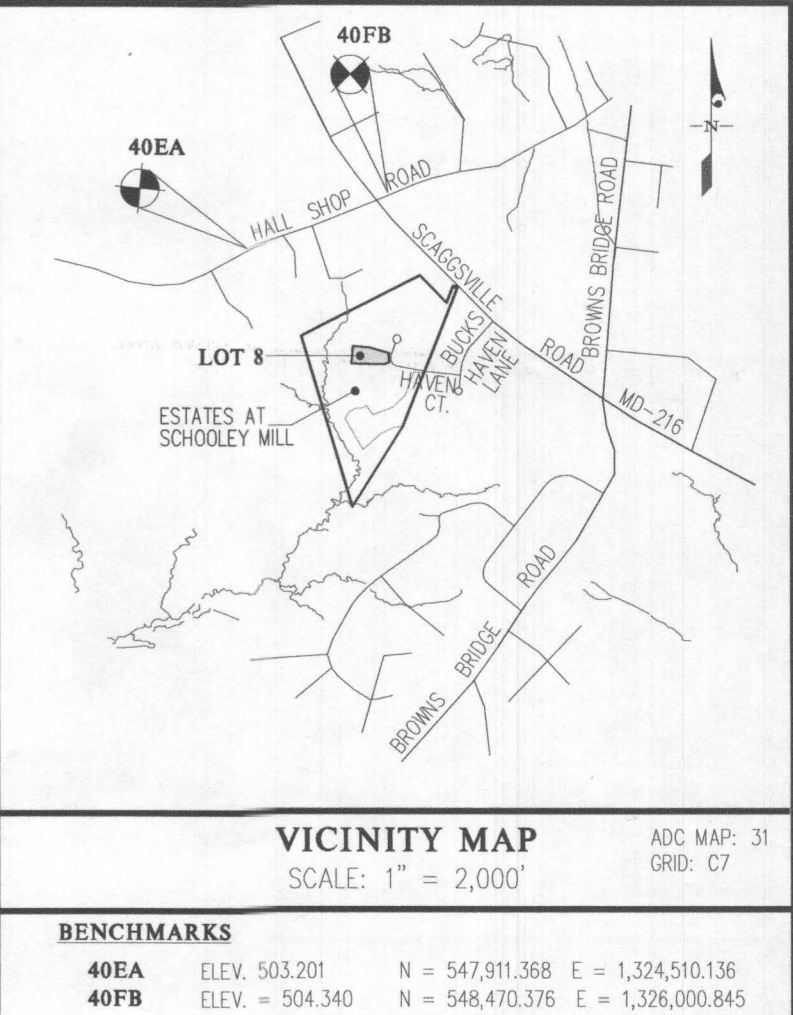
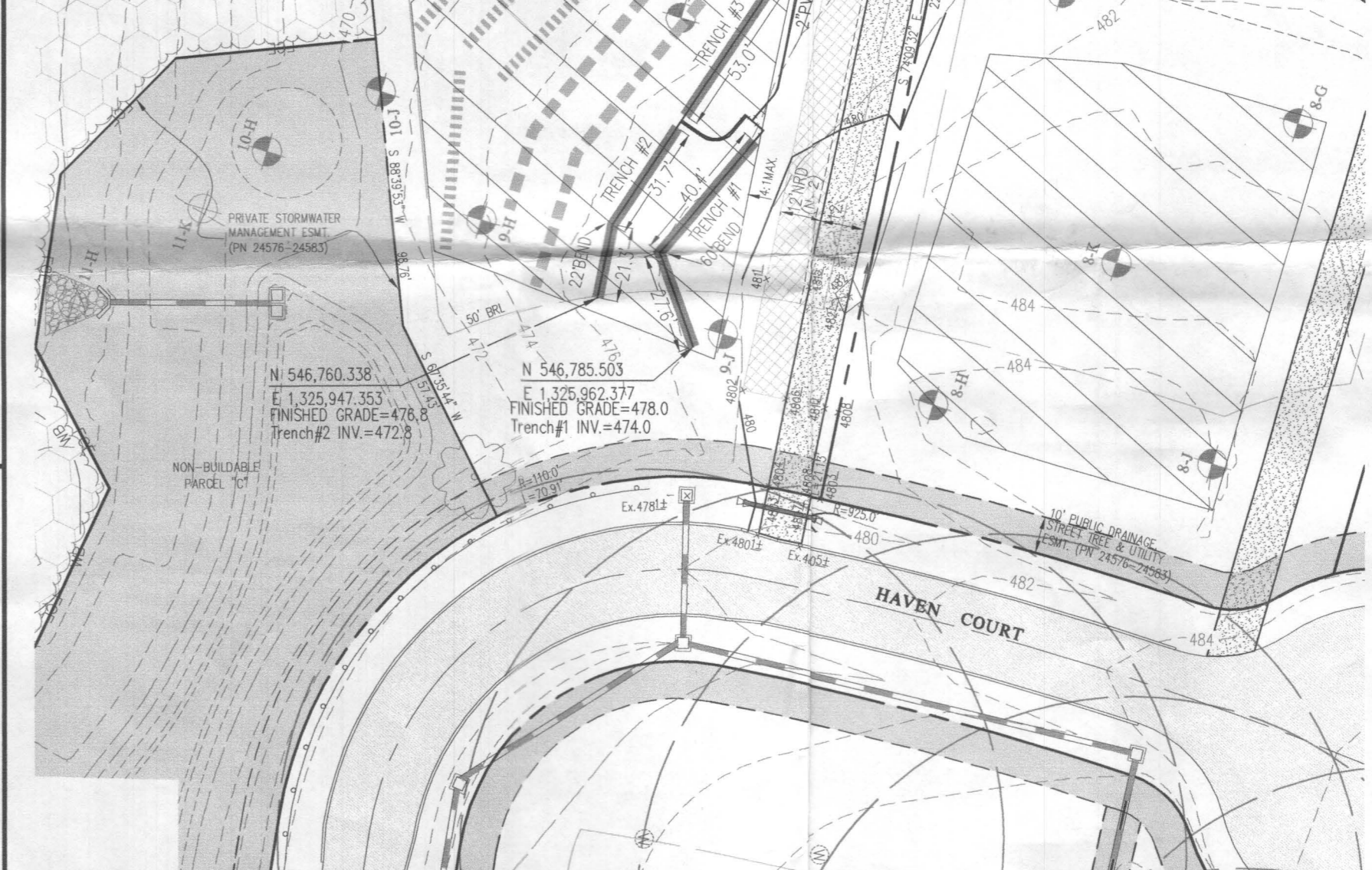
A: Trench Length.
B: Pipe length within the trench.
C: Distance from the end of the trench to the first and last holes.
D: Total number of holes including the first and last holes.
E: Orifice Spacing (distance between holes)



LEGEND



SITE PLAN for BAT INSTALLATION



NOTES:

- 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.
- THE MAXIMUM EARTH COVER OVER THE TANK(S) IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- THE BLOWER MAY NOT BE LOCATED MORE THAN N/A FEET FROM THE TANK-BASED ON THE MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SYSTEM SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARLAND 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.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- THE WELL TAG # 17-1093 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

Approved Septic System Plan
Howard County Health Department
NORWECO INCLP 750
w/1500 gal Pump tank & 115 gpm
Pumps
Signature
3/8/2015
7417 Haven Ct.
GRAPHIC SCALE

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DESIGN	DATE	REVISION	BY	APP'R.

PREPARED FOR:
WBG ESM, LLC
5485 HARRERS FARM ROAD
COLUMBIA, MD 21044
PH: 410-997-8800

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 12205.
EXPIRATION DATE: MAY 26, 2018
4/25/18



ELECTION DISTRICT No. 5
HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=40'	RR-DEO	14067
DATE	TAX MAP - GRID	SHEET
APRIL 2018	40 - 11	1 OF 1