

**Bureau of Environmental Health**  
 8930 Stanford Boulevard, Columbia, MD 21045  
 Main: 410-313-2640 | Fax: 410-313-2648  
 TDD 410-313-2323 | Toll Free 1-866-313-6300  
[www.hchealth.org](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

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

RECEIPT DATE: 5-28-21 **ONSITE SEWAGE DISPOSAL SYSTEM** P 569524  
 APPROVAL DATE: 7/27/21 **PERMIT: CONSTRUCTION** A \_\_\_\_\_  
 PROPERTY ADDRESS: 18430 Hidden Creek Way  
 SUBDIVISION: Windsor Forest Knolls LOT: 4 TAX ID: \_\_\_\_\_  
 CONTRACTOR: Farm Home Excavating EMAIL: \_\_\_\_\_  
 CONTRACTOR ADDRESS: 901 DAVIS RD, HARRISVILLE, MD 21041 PHONE: 410 442-2391  
 PROPERTY OWNER: Keystone Custom Homes EMAIL: \_\_\_\_\_  
 OWNER ADDRESS: 227 Granite Run Dr. PHONE: \_\_\_\_\_  
 SEPTIC TANK SIZE (GALLONS): 2000 TANK MANUFACTURER: MBI  
 PUMP MODEL: Zoeller 371-0002 PUMP SIZE: 0.5 PUMP TANK CAPACITY: 2000

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>208</u>	INLET DEPTH: <u>3'</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:		

ISSUED BY: Henk Oswald ISSUE DATE: 5-27-21 EXPIRATION DATE: 5-28-22

- 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 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  
 ELECTRICAL PERMIT ISSUED E N/A
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.  
 PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.  
 CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**

## Oswald, Hank

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**From:** Oswald, Hank  
**Sent:** Wednesday, November 18, 2020 3:33 PM  
**To:** Alice Miller  
**Subject:** OSDS Plan\_18430 Hidden Creek Way\_Lot 4

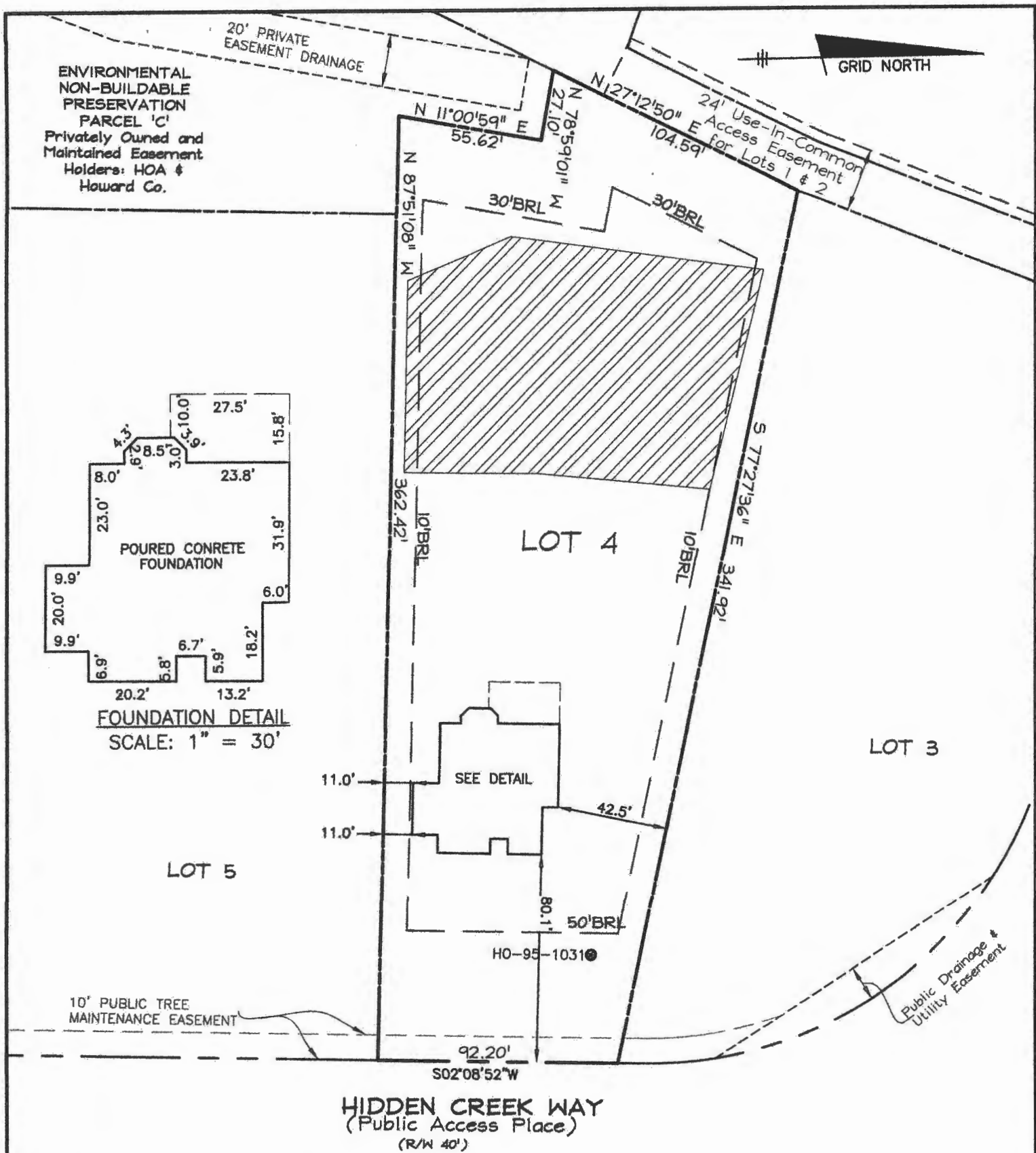
Hi Alice:

The PC plan for 18430 Hidden Creek Way (Lot 4) was approved. The OSDS Plan was missing the tank, pump tank and d-box. Please make these revisions.

Thanks,

Hank

Hank Oswald  
Howard County Health Department  
Well and Septic Program



**SURVEYOR'S CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS, WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21320, EXPIRATION DATE 1-7-2023 AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION AND BELIEF, THAT THE DIMENSIONS OF THE BUILDING WALLS SHOWN HEREON ARE CORRECT; THAT THEY ARE BASED ON A FIELD RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON 03/16/2021

TOP OF FOUNDATION WALL = 803.7'  
 OFFSET DIMENSIONS TO PROPERTY LINES ARE ± 0.1'

*Donald A. Mason*  
 DONALD A. MASON  
 PROFESSIONAL LAND SURVEYOR  
 MARYLAND REG. No. 21320

*Approved*  
 5/27/21 (SB)

FEMA FIRM No. 24027C0010D  
 ZONE: X  
 DATED: 11/6/2013

**WALL CHECK**

**WINDSOR FOREST KNOLLS**  
 LOTS 1 THRU 18  
 PLAT No. 19396  
 LOT No. 4

18430 HIDDEN CREEK WAY

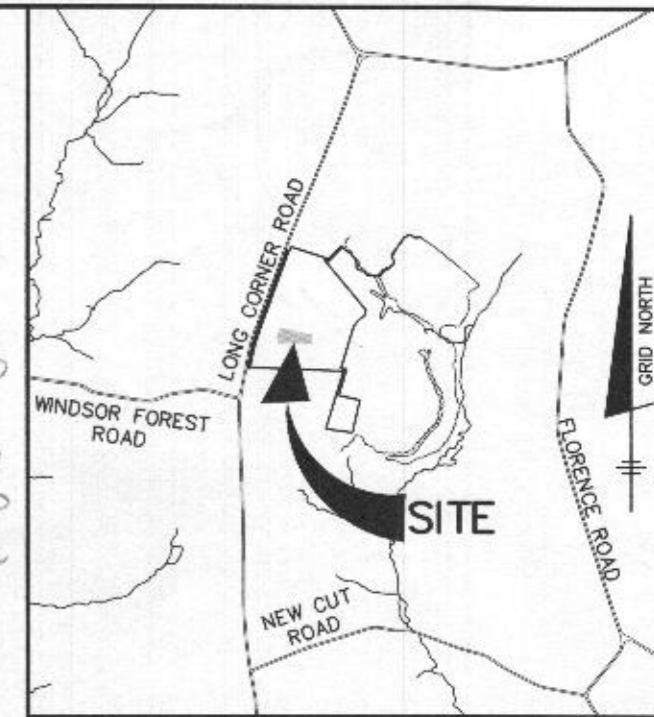
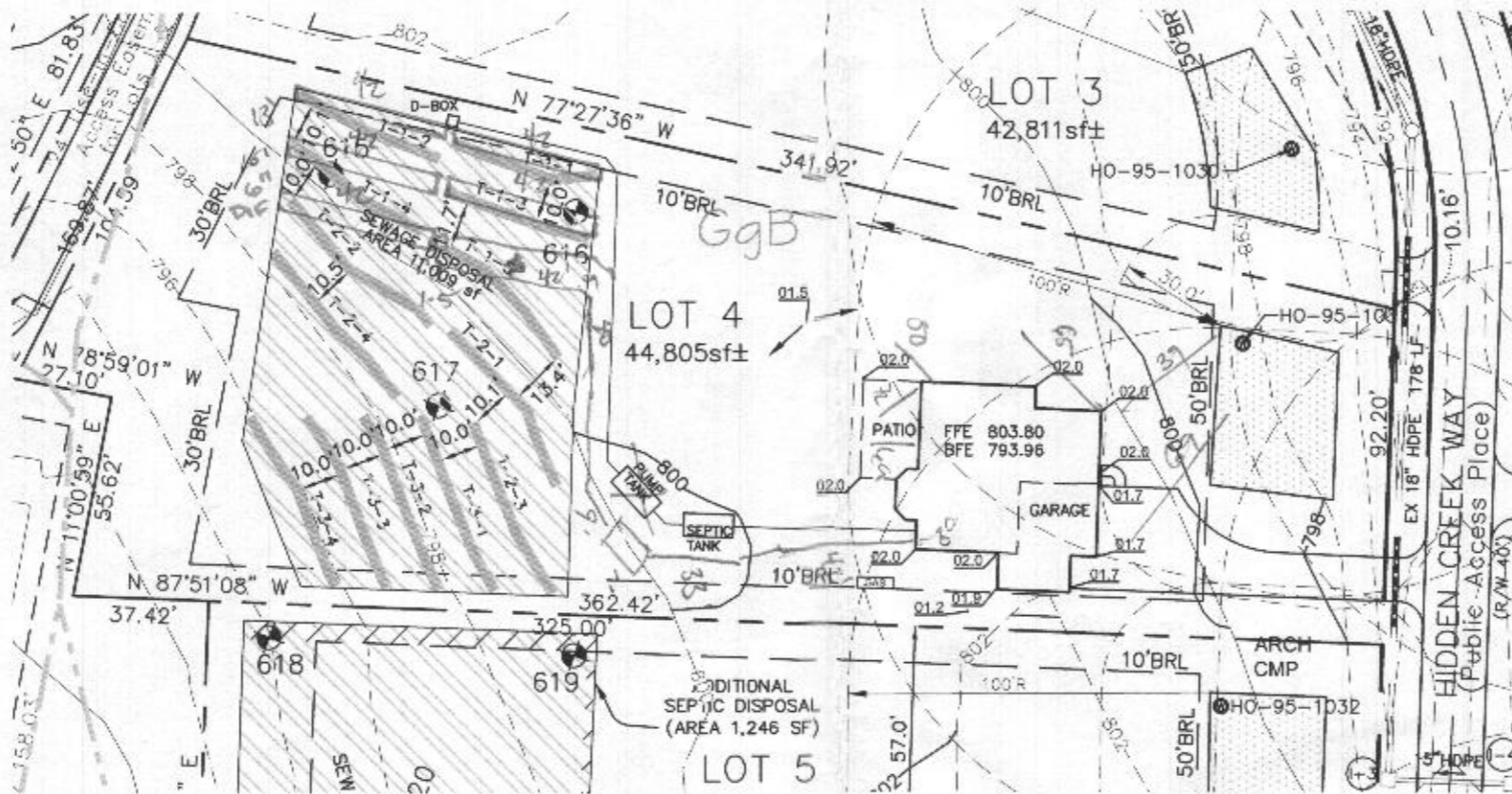
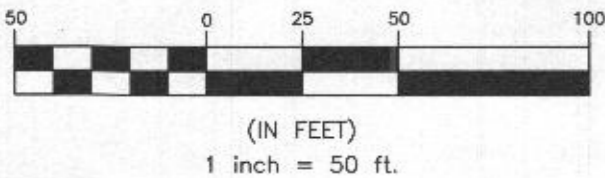
4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 FIELD OBS. BY ML  
 COMP. BY EWF  
 DRAWN BY EWF SCALE: 1" = 50' DATE: 03/16/2021

**BENCHMARK**

ENGINEERS LAND SURVEYORS PLANNERS  
**ENGINEERING, INC.**  
 8480 BALTIMORE NATIONAL PIKE SUITE 315  
 ELLICOTT CITY, MARYLAND 21043  
 (P) 410-485-8105 (F) 410-485-8844  
 WWW.BEI-CMLENGINEERING.COM

**LEGEND**

- 400 PROPOSED CONTOURS
- 398 EXISTING CONTOURS
- EXISTING PRIVATE SEWAGE DISPOSAL AREA
- ADDITIONAL SEWAGE DISPOSAL AREA
- EXISTING WELL BOX
- SOILS MAP SYMBOL
- SOILS DELINEATION LINE
- PERC TEST PASSED



VICINITY MAP  
SCALE: 1" = 2000'

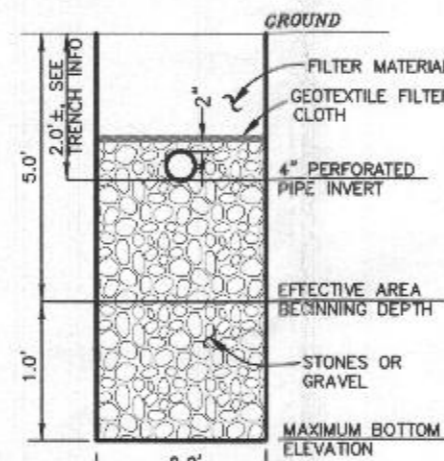
**PLAN VIEW**

1" = 50'

NOTE: CELLAR NOT SERVICED VIA GRAVITY, PUMP REQ'D FOR BASEMENT SERVICE

**GENERAL NOTES**

1. THE LOT SHOWN HEREON WAS RECORDED ON THE PLAT FOR WINDSOR FOREST KNOLLS, PLAT NUMBER 19395. REFER TO THE PLAT FOR LOT DIMENSIONS, LOT AREA, ALL EASEMENTS AND CONDITIONS.
2. THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-1031) HAS BEEN FIELD LOCATED BY BENCHMARK ENGINEERING INC. JULY 2020 AND IS ACCURATELY SHOWN.
3. THERE ARE NO EXISTING WELLS OR SEPTIC SYSTEMS WITHIN 100' OF THIS PROJECT'S BOUNDARY EXCEPT AS NOTED.
4. TOPOGRAPHY SHOWN WAS BASED ON FIELD RUN TOPOGRAPHY BY C.B. MILLER & ASSOCIATES IN APRIL, 2002, AND WAS SUPPLEMENTED BY FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC. JULY 2020.
5. SEDIMENT AND EROSION CONTROLS WILL BE SUBMITTED BY HOWARD SOILS CONSERVATION DISTRICT AS A CUSTOM GRADING PLAN.
6. ALL DRAINAGE AND STORMWATER MANAGEMENT FEATURES USED ON THIS SITE MUST COMPLY WITH THE APPROVED BUILDING PERMIT AND CUSTOM GRADING PLANS.
7. ANY CHANGES TO A PRIVATE SEWAGE DISPOSAL AREA OR WELL BOX SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
8. ANY CHANGES 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.
9. ANY ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
10. THE SEPTIC TANK WILL BE A 2000 GALLON TWO COMPARTMENT TANK. THE PUMP TANK WILL BE A 2000 GALLON ONE COMPARTMENT TANK.
11. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
12. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
13. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS/OR SEPTIC SYSTEM HAVE BEEN SHOWN.



TYPICAL TRENCH DETAIL  
ALL SYSTEMS  
NOT TO SCALE

Approved Septic System Plan  
Howard County Health Department

*Handwritten Signature* 12/8/2020  
Signature Date

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. 28376, Expiration Date: 01-01-2021.



Nov 23 2020 1:06 PM DocuSign

PROJECT: WINDSOR FOREST KNOLLS LOT 4	
LOCATION: TAX MAP: 6 - GRID: 16 - PARCEL: 57 18430 HIDDEN CREEK WAY, TAX ID# 04-373197 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND	
TITLE: ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE: CUSTOM - KEYSTONE HOMES	
DATE: OCTOBER, 2020	PROJECT NO. 2986
SCALE: AS SHOWN	DRAWING 1 OF 4

OWNER/BUILDER:  
KEYSTONE CUSTOM HOMES, INC.  
227 GRANITE RUN DR.  
SUITE 100  
LANCASTER, PA 17601  
717-464-9060

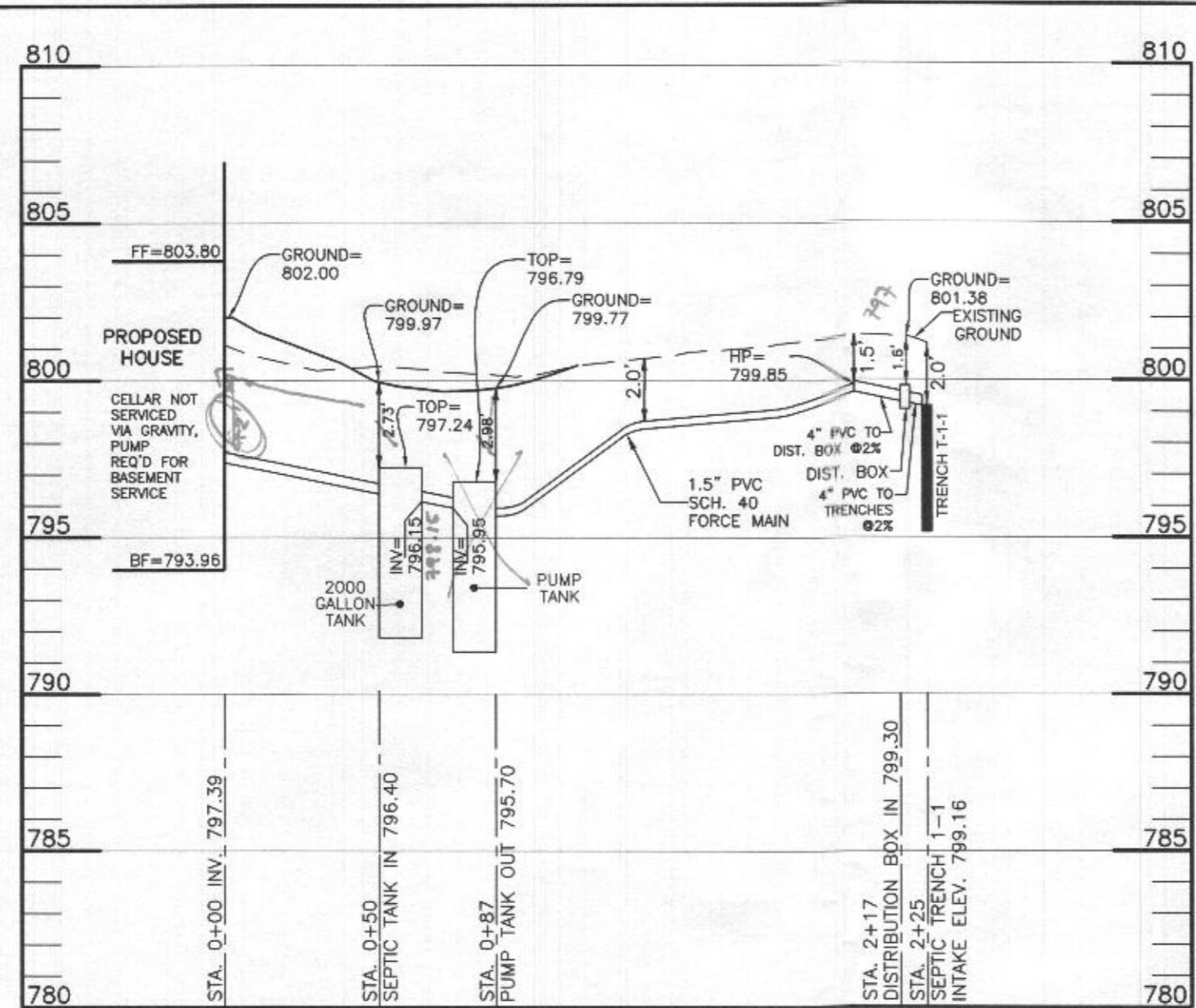
**BENCHMARK**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
**ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 315  
ELLCOTT CITY, MARYLAND 21043  
(P) 410-465-6105 • (F) 410-465-6644  
WWW.BEI-CVILENGINEERING.COM

INITIAL SYSTEM		
Number of Bedrooms	4	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	5.0	ft
Bottom Max Depth	6.0	ft
Design Flow	600	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.83	
Trench width	3	ft
Effective Area Depth	1	ft
Trench Spacing	10	ft
<b>Trench Length Required</b>	<b>208</b>	<b>lf</b>

1ST REPLACEMENT SYSTEM		
Number of Bedrooms	4	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	5.0	ft
Bottom Max Depth	6.0	ft
Design Flow	600	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.83	
Trench width	3	ft
Effective Area Depth	1	ft
Trench Spacing	10	ft
<b>Trench Length Required</b>	<b>208</b>	<b>lf</b>

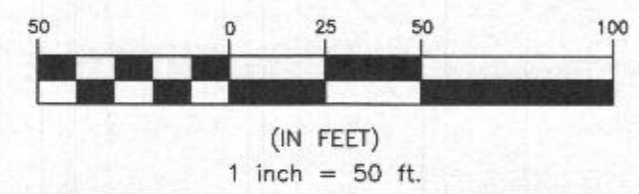
2ND REPLACEMENT SYSTEM		
Number of Bedrooms	4	
Application Rate	0.8	gpd/sf
Effective Area Beginning Depth	5.0	ft
Bottom Max Depth	6.0	ft
Design Flow	600	gpd
Drainage Field square footage	750	sf
Sidewall Reduction Credit	0.83	
Trench width	3	ft
Effective Area Depth	1	ft
Trench Spacing	10	ft
<b>Trench Length Required</b>	<b>208</b>	<b>lf</b>

SEPTIC INVERT CHART - Lot 4	
INV @ HOUSE	797.39
GROUND @ HOUSE	802.00
INV IN SEPTIC TANK	796.40
INV OUT SEPTIC TANK	796.15
TOP OF SEPTIC TANK	797.24
GROUND OVER SEPTIC TANK	799.97
INV IN PUMP TANK	795.95
INV OUT PUMP TANK	795.70
TOP OF PUMP TANK	796.79
GROUND OVER PUMP TANK	799.77
INV IN DIST BOX	799.30
INV OUT DIST BOX	799.20
GROUND AT DIST BOX	801.38



**LOT 4 SEPTIC PROFILE**  
SCALE: 1"=50' HORIZ., 1"=5' VERT.

HEALTH DEPARTMENT SPEC SHEET INFORMATION - Lot 4			
System	Application Rate	Effective Depth	Bottom Depth
1st System	0.8	5.0	6.0
2nd system	0.8	5.0	6.0
3rd System	0.8	5.0	6.0



OWNER/BUILDER:  
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227 GRANITE RUN DR.  
SUITE 100  
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BENCHMARK  
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WWW.BEI-CIVILENGINEERING.COM

TRENCH DESIGN - Lot 4					
<b>INITIAL SYSTEM</b>					
T-1-1	LENGTH	41.7 ft	T-1-2	LENGTH	41.7 ft
	GROUND ELEVATION	801.2		GROUND ELEVATION	801.0
	INVERT ELEVATION	799.2		INVERT ELEVATION	799.0
	MAX BOTTOM ELEVATION	795.2		MAX BOTTOM ELEVATION	795.0
T-1-4	LENGTH	41.7 ft	T-1-5	LENGTH	41.7 ft
	GROUND ELEVATION	800.3		GROUND ELEVATION	800.3
	INVERT ELEVATION	798.3		INVERT ELEVATION	798.3
	MAX BOTTOM ELEVATION	794.3		MAX BOTTOM ELEVATION	794.3
<b>1ST REPLACEMENT SYSTEM</b>					
T-2-1	LENGTH	52.1 ft	T-2-2	LENGTH	52.1 ft
	GROUND ELEVATION	799.6		GROUND ELEVATION	799.4
	INVERT ELEVATION	797.6		INVERT ELEVATION	797.4
	MAX BOTTOM ELEVATION	793.6		MAX BOTTOM ELEVATION	793.4
T-2-3	LENGTH	52.1 ft	T-2-4	LENGTH	52.1 ft
	GROUND ELEVATION	798.9		GROUND ELEVATION	798.4
	INVERT ELEVATION	796.9		INVERT ELEVATION	796.4
	MAX BOTTOM ELEVATION	792.9		MAX BOTTOM ELEVATION	792.4
<b>2ND REPLACEMENT SYSTEM</b>					
T-3-1	LENGTH	52.1 ft	T-3-2	LENGTH	52.1 ft
	GROUND ELEVATION	798.4		GROUND ELEVATION	797.8
	INVERT ELEVATION	796.4		INVERT ELEVATION	795.8
	MAX BOTTOM ELEVATION	792.4		MAX BOTTOM ELEVATION	791.8
T-3-3	LENGTH	52.1 ft	T-3-4	LENGTH	52.1 ft
	GROUND ELEVATION	796.8		GROUND ELEVATION	795.9
	INVERT ELEVATION	794.8		INVERT ELEVATION	793.9
	MAX BOTTOM ELEVATION	790.8		MAX BOTTOM ELEVATION	789.9

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. 28376, Expiration Date: 01-01-2021.



Nov 23 2020 1:06 PM DocuSign

PROJECT:	WINDSOR FOREST KNOLLS LOT 4	
LOCATION:	TAX MAP: 6 - GRID: 16 - PARCEL: 57 18430 HIDDEN CREEK WAY, TAX ID# 04-373197 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND	
TITLE:	ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE:	CUSTOM - KEYSTONE HOMES	
DATE:	OCTOBER, 2020	PROJECT NO. 2986
SCALE:	AS SHOWN	DRAWING 2 OF 4

**Pumping Station**

Diameter of Force Main and Manifold = 1.5" PVC SCH. 40  
 Length of Force Main = 131 feet SCH.40 gallons/100 feet = 10.4 Table 4.2

Volume of Main = 13.6 gallons

Total Volume = 13.6 gallons

Minimum Dose must be greater than 1/6 of the design flow 100 gallons

Minimum Dose must be greater than the volume of the main 14 gallons

Use minimum dose of 126 gallons okay Doses per Day = 4.761905

**Size Pump Chamber**

Pump chamber must be able to hold one dose and one days design flow

One day Capacity = 600 gallons  
 Dose = 126 gallons  
 Totals = 726 gallons

Use 2,000 gallon pump tank

Tank Dimensions:	Exterior	Interior	Walls:	Bottom:	Top:	Bottom to Inlet:
Length:	13.75 feet	13.08 feet	0.33 feet	0.33 feet	0.42 feet	
Width:	6.25 feet	5.58 feet				
Height:	5.42 feet	4.87 feet				
Area:		73.05 sf				
Volume:		340.89 cf				4.58 feet

**Sizing the Pump**

Flow: runtime = 6.000 minutes  
 rate = 21.00 gallons/minute

**Design Head:**  
 Design Head = Static Head + Friction Head  
 Static Head = highest elevation of main - pump off elevation  
 Highest component of system = 799.85 Main HP  
 Pump off elevation = 793.30  
 Static Head = 6.55 feet  
 Friction Head = Head loss due to pipe friction  
 1.5" pipe = 131 feet  
 90° bends 3 loss for bend 15 feet per table 4.3  
 45° bends 3 loss for bend 9 feet per table 4.3  
 Friction loss per table 4.4 = 3.75 (ft/100 ft)  
 Equivalent Length = 155 Friction loss 5.81 feet  
 Total Friction Head = 5.81  
 Design Head = 12.36 feet

**Pump Requirements:**

Performance = 21.00 gpm  
 Head of Water = 12.36 feet of head

Pump Selection: Zoeller Pump Company, Model 371  
 1/3 horse power

Pump Flow Rate = 26.90 gallons/minute per rating curve. Run time: 4.68 Minutes  
 TDH analysis 13.23 ft  
 Between design and curve? Yes

**Design Pump Chamber**

Ground over Tank = 799.77 Cover = 2.98 ft

Top of Tank = 796.79  
 Invert of Tank = 791.70  
 6" Riser = 0.50 feet  
 Pump Height = 0.84 feet

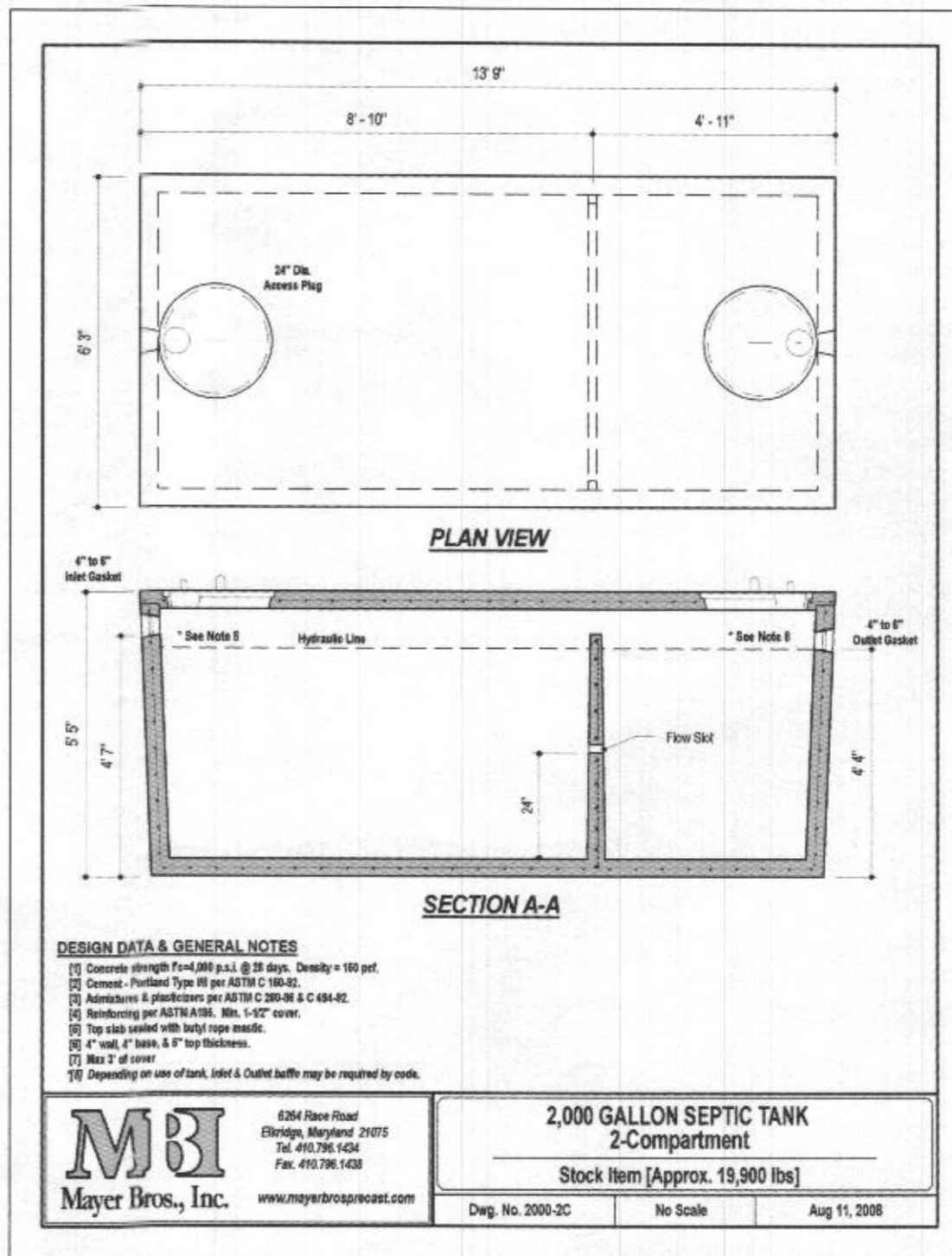
Min. Pump off = 793.04  
 Selected Pump off = 793.30

Dose = 16.8 cf  
 Area of Pit = 73.05 sf

Pump on dist. = 0.23  
 Pump on Elev. = 793.53

Distance between Pump on and Highwater Alarm = 0.5 feet  
 Highwater Alarm Elevation = 794.03

Dist. for day stored above alarm 1.10  
 Minimum inlet Elev. = 795.13  
 Tank Inlet = 795.95 Okay  
 Dist. Alarm to Inlet = 1.92 Okay



SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

**THIS PLAN IS FOR SEPTIC DESIGN ONLY**

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. 28376, Expiration Date: 01-01-2021.



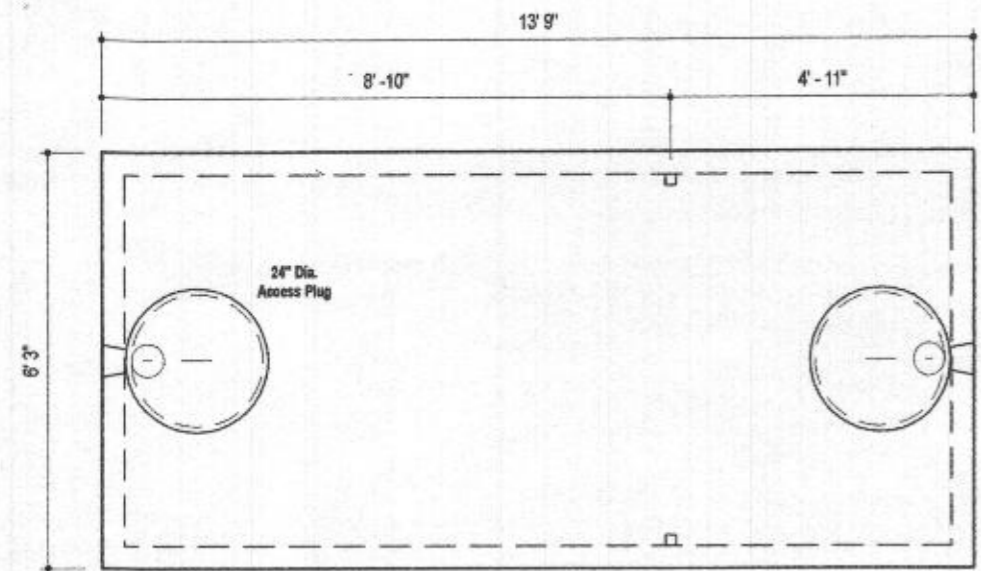
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SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

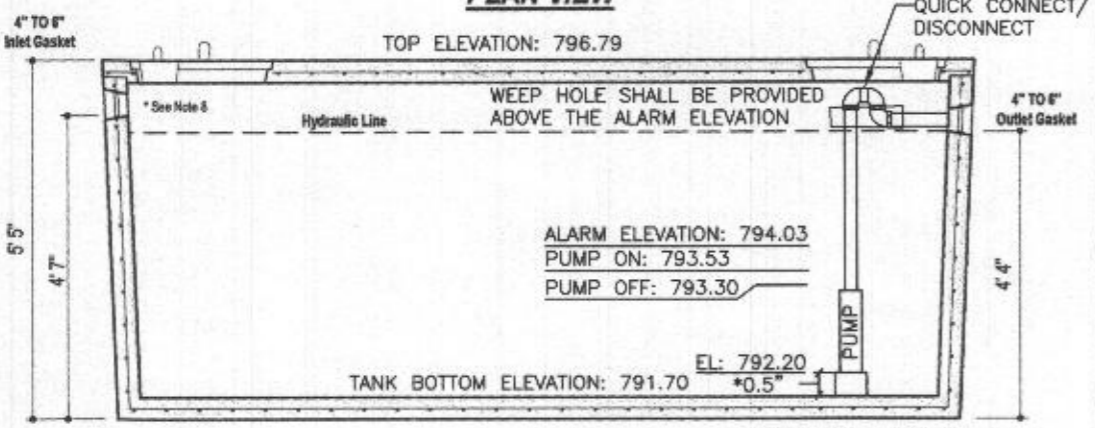
**OWNER/BUILDER:**  
 KEYSTONE CUSTOM HOMES, INC.  
 227 GRANITE RUN DR.  
 SUITE 100  
 LANCASTER, PA 17601  
 717-464-9060

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS  
 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315  
 ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-6105 ▲ (F) 410-465-6644  
 WWW.BEI-CIVILENGINEERING.COM

PROJECT: WINDSOR FOREST KNOLLS LOT 4	
LOCATION: TAX MAP: 6 - GRID: 16 - PARCEL: 57 18430 HIDDEN CREEK WAY, TAX ID# 04-373197 ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND	
TITLE: ONSITE SEWAGE DISPOSAL PLAN	
HOUSE TYPE: CUSTOM - KEYSTONE HOMES	
DATE: OCTOBER, 2020	PROJECT NO. 2986
SCALE: AS SHOWN	DRAWING 3 OF 4



**PLAN VIEW**



**SECTION A-A**

- DESIGN DATA & GENERAL NOTES**
- [1] Concrete strength f'c=4,000 p.s.i. @ 28 days. Density = 150 pcf.
  - [2] Cement - Portland Type III per ASTM C 150-92.
  - [3] Admixtures & plasticizers per ASTM C 260-98 & C 494-92.
  - [4] Reinforcing per ASTM A195. Min. 1-1/2" cover.
  - [5] Top slab sealed with butyl rope mastic.
  - [6] 4" wall, 4" base, & 8" top thickness.
  - [7] Max 3" of cover
  - [8] Depending on use of tank, inlet & outlet baffle may be required by code.

WEIGHT = 19,000 lbs.

<p>6264 Race Road Elkridge, Maryland 21075 Tel. 410.796.1434 Fax. 410.796.1438 www.mayerbrosprecast.com</p>	<b>2,000 GALLON SEPTIC TANK 1-Compartment</b>	
	Stock Item [Approx. 19,000 lbs]	
Dwg. No. 2000-1C	No Scale	Aug. 11, 2006

**ZOELLER PUMP COMPANY**  
Zoeller Family of Water Solutions

**TECHNICAL DATA SHEET  
EVAPORATIVE COOLING PUMPS  
Models 371, 372, 373 Submersible Effluent/Dewatering Pump**

PRODUCT SPECIFICATIONS	
Motor Power	0.3-0.4
Voltage	115 or 230
Phase	1 Ph
Fertz	50 Hz
SPM	1600-2000
Type	Permanent split capacitor or shaded pole
Insulation	Class II
Temp	32 - 93
Orientation	Nonautomatic
Discharge Size	1 1/2" NPT
Wetted Surfaces	100% PVC or stainless steel
Cord Length	20 FT in standard
Cord Type	UL listed
Max. Head	30 FT (9.14m)
Max. Flow Rate	89 GPM (335 LPM)
Max. Operating Temp.	130°F (54°C)
Cooling	Oil Filled
Motor Protection	Auto reset thermal overheat
Cop	0.85 min
Motor Housing	Cast iron
Pump Housing	Cast iron
Shaft	Cast iron or stainless
Upper Bearing	Oil-fred cast iron
Lower Bearing	Oil-fred cast iron or ball bearing
Mechanical Seal	Carbon and silicon carbide
Impeller Type	Non-clogging vortex
Impeller	Engineering plastic
Hardware	Stainless steel
Motor Shell	ABS 1215-vented rubber cap
Cables	Nylon

**RECOMMENDED PUMP:**

Model	MODEL COMPARISON									
	Seal	Motor	Volts	Ph	Arrays	HP	1/2"	1 1/2"	1 1/2"	1 1/2"
371-0000	Single	Non	115	1	0.7	0.25	80	210	90	
371-0004	Single	Non	230	1	0.8	0.3	80	210	90	
372-0000	Single	Non	115	1	6.0	0.3	80	320	14.5	
372-0004	Single	Non	230	1	2.0	0.2	80	320	14.5	
373-0000	Single	Non	115	1	0.5	0.4	80	300	18.8	
373-0004	Single	Non	230	1	4.2	0.4	80	300	18.8	

Float Tree:	Elev.	Relative to Bottom
Bottom of Tank	791.70	
Top of Pump	793.04	1' 4 1/16"
Pump Off	793.30	1' 7 3/16"
Pump On	793.53	1' 9 15/16"
High Alarm	794.03	2' 3 15/16"

SIGNATURE AND SEAL ARE FOR SEPTIC PROFILE AND CALCULATIONS ONLY, TANK, PUMP AND DETAILS WERE NOT DESIGNED OR REVIEWED BY THE ENGINEER:

**THIS PLAN IS FOR SEPTIC DESIGN ONLY**

SEE MANUFACTURER'S SPECIFICATIONS FOR DETAILS. EQUIVALENT FROM OTHER MANUFACTURERS CAN BE SUBSTITUTED.

OWNER/BUILDER:  
KEYSTONE CUSTOM HOMES, INC.  
227 GRANITE RUN DR.  
SUITE 100  
LANCASTER, PA 17601  
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PROJECT: **WINDSOR FOREST KNOLLS LOT 4**

LOCATION: TAX MAP: 6 - GRID: 16 - PARCEL: 57  
18430 HIDDEN CREEK WAY, TAX ID# 04-373197  
ELECTION DISTRICT NO. 4 - HOWARD COUNTY, MARYLAND

TITLE: **ONSITE SEWAGE DISPOSAL PLAN**

HOUSE TYPE: **CUSTOM - KEYSTONE HOMES**

DATE: OCTOBER, 2020 PROJECT NO. 2986

SCALE: AS SHOWN DRAWING 4 OF 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. 28376, Expiration Date: 01-01-2021.



Nov 23 2020 1:06 PM DocuSign