

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

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

RECEIPT DATE: 2/17/18 **ONSITE SEWAGE DISPOSAL SYSTEM** P 562427

APPROVAL DATE: 03/14/18 **PERMIT: CONSTRUCTION** A 560600

PROPERTY ADDRESS: 8025 Kayladine Lane

SUBDIVISION: Dustin's Golden Field's LOT: 7 TAX ID: \_\_\_\_\_

CONTRACTOR: Sam's Excavating EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: P.O Box 1057, Fulton, MD 20759 PHONE: 443-277-7915

PROPERTY OWNER: Roy Grant EMAIL: Roygrant84@gmail.com

OWNER ADDRESS: 3012 Patuxent Overlook, Ellicott City, MD PHONE: 443-336-4238

SEPTIC TANK SIZE (GALLONS): 2000g TANK MANUFACTURER: Babylon Vault

PUMP MODEL: n/a PUMP SIZE n/a PUMP TANK CAPACITY: n/a

DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 6 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>317</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>9</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>7</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Initial system sized for 900gpd with 1ft of useable sidewall. Install system per approved layout inspection as directed by Environmental Health Specialist. System designed with aprx. 220ton of #2 stone.	

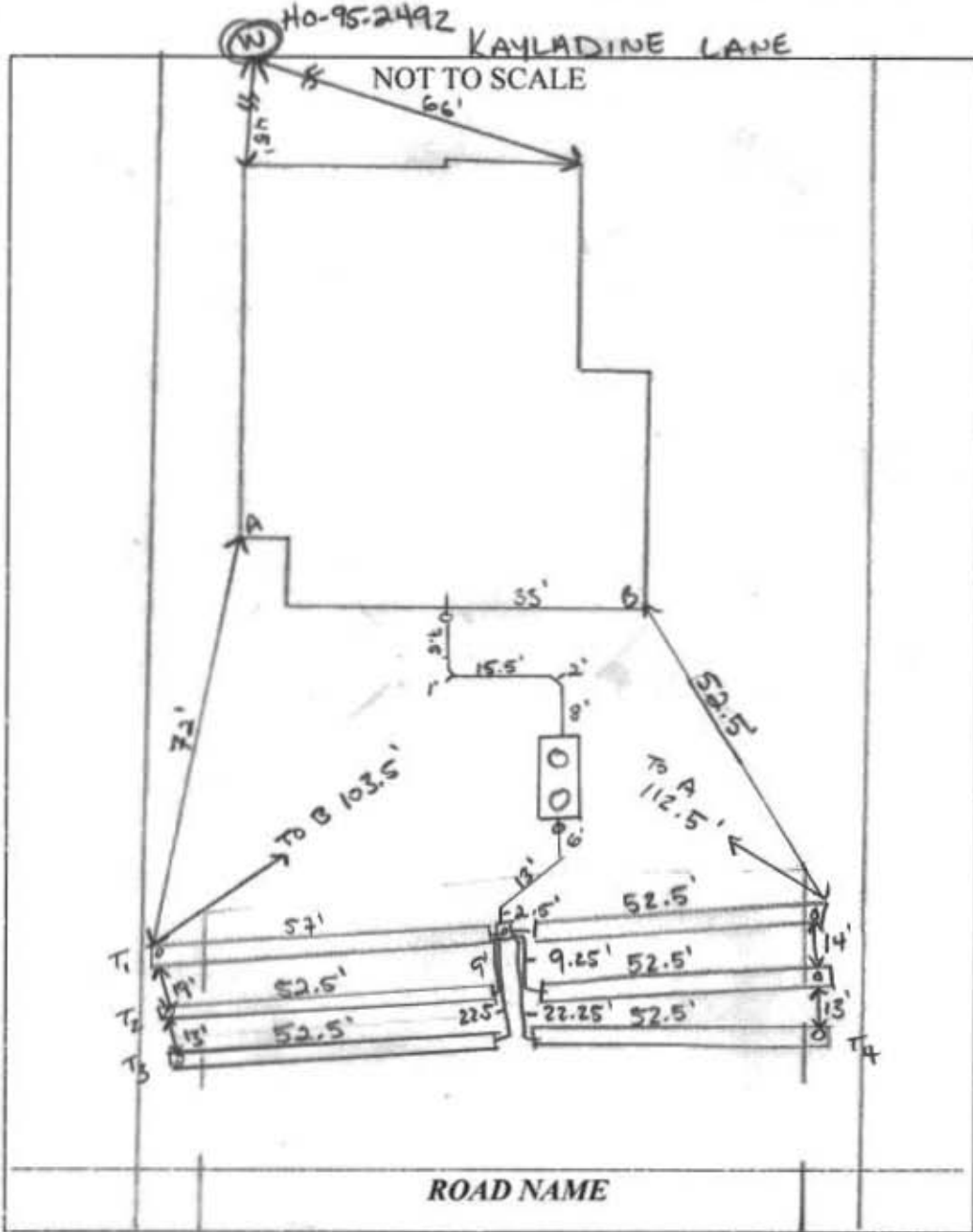
ISSUED BY: K. Wolf, L.E.H.S. ISSUE DATE: 2/9/2018 EXPIRATION DATE: 2/9/2019

- 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.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
5'	4'	8'
NUMBER OF TRENCHES	6	
TOTAL LENGTH	319.5	
ABSORPTION AREA	958.5 sqft + 2	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	Calayton
CAPACITY	2000 GAL
SEAM LOC	TOP
TANK LID DEPTH	3' inlet - 45' outlet
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	Front/Back
6" PORT LOC	Inlet
WATERTIGHT TEST	N/A
SLOTTED	YES
DATE ON LID	1-14-18

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:**

2/12/18 Met Sam and owner Ray on site for layout. Future patio planned in back of house - Ray showed dimensions + proposed location for patio, pulled 5' off for tank location. No laser on site. Okay to set tank, will check trench contours during inspection for tank setting. (S)

**INSTALLATION:**

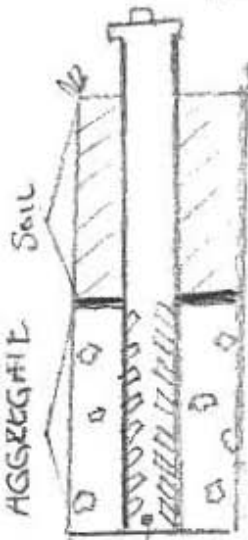
2/26/18 Set trench contour w/ SC. Confirmed w/ contractor to use transit + get elevations @ beginning middle + end of trenches as elev. changed @ ends of run. 2/27/18 Began construction of first trench @ 2/28/18 Trench 1 completed. Corrective action for cleanout @ end of trench w/ slots through the stone aggregate. 3/1/18 Completed Trench 2. Co. used perforated light weight used @ end of trench for obs part @ 3/2/18 on site after work was completed. Extremely windy @ 3/5/18 Clo for third trench. Reclarified inspection pipe specs per 3.805 (HOCO). Began const. on fourth trench @ 3/6/18 Case backhoe broke 1/2 way through 5th Trench Const. Insp. pipes @ end of T1, T2, T3, T4 connect

FINAL INSPECTOR [Signature] DATE OF APPROVAL 03/14/18  
 3/1/18 C.O. replace worn geotextile w/ spun @ 3/15/18 Trenches completed. Installed man from D. Box @ 3/14/18 leveled D Box (S)



- (d) *Length of Laterals.* The maximum length of a lateral shall not exceed 100 feet. Laterals shall be designed of equal length unless equal distribution is accomplished by low pressure dosing.
- (e) *Disposal Lines.* Disposal lines shall be constructed of not less than four-inch perforated plastic pipe of a type approved by the approving authority. The perforated pipe shall contain three rows of perforations. Each row of perforations shall consist of a minimum of 20 five-eighths-inch diameter holes for a ten-foot section of pipe.
- (f) *Drainfield Trench.* The trench bottom shall be uniformly graded to slope no more than four inches per 100 feet. The drainfield pipe shall be laid at the same pitch as the bottom of the drainfield trench.
- (g) *Drainfield Trench Excavations.* Drainfield trench excavations shall be inspected before the addition of aggregate unless an alternative arrangement has been made with the approving authority.

TRENCH CROSS-SECTION  
2018



- (h) *Inspection Pipe.* An inspection pipe shall be installed at the distal end of each lateral of a drainfield absorption system. The pipes shall be perforated in the aggregate, solid above the aggregate, and shall extend from the bottom of the trench to above finished grade. An approved cleanout cap shall be placed on top of the pipe. Both SDR 35 and SCH 40 PVC are approved for the inspection pipe.
- (i) *Deep Trenches.* In cases where State regulations would allow the use of deep absorption trenches, credit may be given for the added absorption area provided in deeper trenches with a resultant decrease in length of trenches. Such credit shall be given in accordance with the following table, which gives the percentage of length of standard absorption trenches based on six-inch increments of increase in depth of filter material:

Percentage of Length of Standard Trench

Effective Depth of Gravel Below Pipe in Inches	Trench Width (in inches)			
	12	18	24	36
12	75	78	80	83
18	60	64	66	71
24	50	54	57	62
30	43	47	50	55
36	37	41	44	50



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SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 8025 Kaylarkine

Subdivision: Dustins Golden Field Lot: 7

★ Initial system: Application rate: 0.8 Effective area beginning depth: 7 Bottom maximum depth: 8  
 1<sup>st</sup> Replacement: Application rate: 0.8 Effective area beginning depth: 4.5 Bottom maximum depth: 8  
 2<sup>nd</sup> Replacement: Application rate: 0.6 Effective area beginning depth: 4.5 Bottom maximum depth: 6

Design Flow = 150 gallons per day per bedroom

Design flow ÷ application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

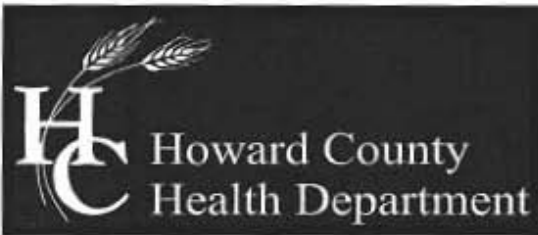
Standard design requirements:

- Trenches must be located to provide room for 3 systems in the disposal area
- All trenches must be equal length unless low pressure dosed
- All trenches must be on contour
- Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D + W up to a maximum spacing of 18'.
- Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
- Maximum trench length is 100'
- Maximum pipe depth is 4'

Additional requirements:

★ - If SDA is configured to use area by hole 704 as ~~initial~~ initial system ~~etc~~

Approved: \_\_\_\_\_ Date: \_\_\_\_\_



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SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: 8025 Kayladine

Subdivision: Dustins Golden Field Lot: 7

Table with 4 columns: Replacement, Application rate, Effective area beginning depth, Bottom maximum depth. Rows for Initial system, 1st Replacement, and 2nd Replacement.

Design Flow = 150 gallons per day per bedroom

Design flow ÷ application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

(W + 2) / (W + 1 + 2D) x 100 = Percent of length of standard trench where W=trench width and D= depth between effective area beginning depth and trench bottom.

Standard design requirements:

- Trenches must be located to provide room for 3 systems in the disposal area
All trenches must be equal length unless low pressure dosed
All trenches must be on contour
Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is 2D + W up to a maximum spacing of 18'.
Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
Maximum trench length is 100'
Maximum pipe depth is 4'

Additional requirements:

Approved: [Signature] Date: 8/4/17

TRENCH DATA:

TRENCH 1:  
EX. GROUND ABOVE = 430.2  
INV. IN = 426.2  
BOTTOM TRENCH = 422.2

TRENCH 2:  
EX. GROUND ABOVE = 430.0  
INV. IN = 426.0  
BOTTOM TRENCH = 422.0

TRENCH 3:  
EX. GROUND ABOVE = 429.0  
INV. IN = 425.0  
BOTTOM TRENCH = 421.0

TRENCH 4:  
EX. GROUND ABOVE = 428.5  
INV. IN = 424.5  
BOTTOM TRENCH = 420.5

REPLACEMENT TRENCH 1:  
EX. GROUND ABOVE = 428.0  
INV. IN = 424.0  
BOTTOM OF TRENCH = 420.0

REPLACEMENT TRENCH 2:  
EX. GROUND ABOVE = 427.0  
INV. IN = 423.0  
BOTTOM OF TRENCH = 419.0

GENERAL NOTES:

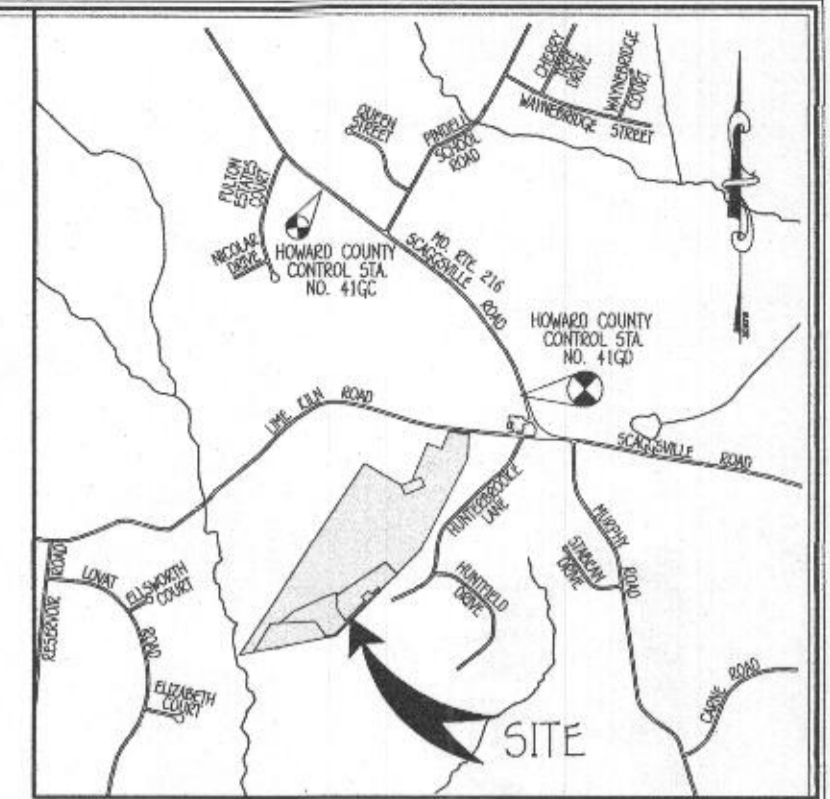
- THE EXISTING SEPTIC SYSTEM SHALL BE ABANDONED WHEN THE NEW SEPTIC SYSTEM IS INSTALLED.
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY BEARING TANK.
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND 200 FEET DOWNGRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.

NOTE:

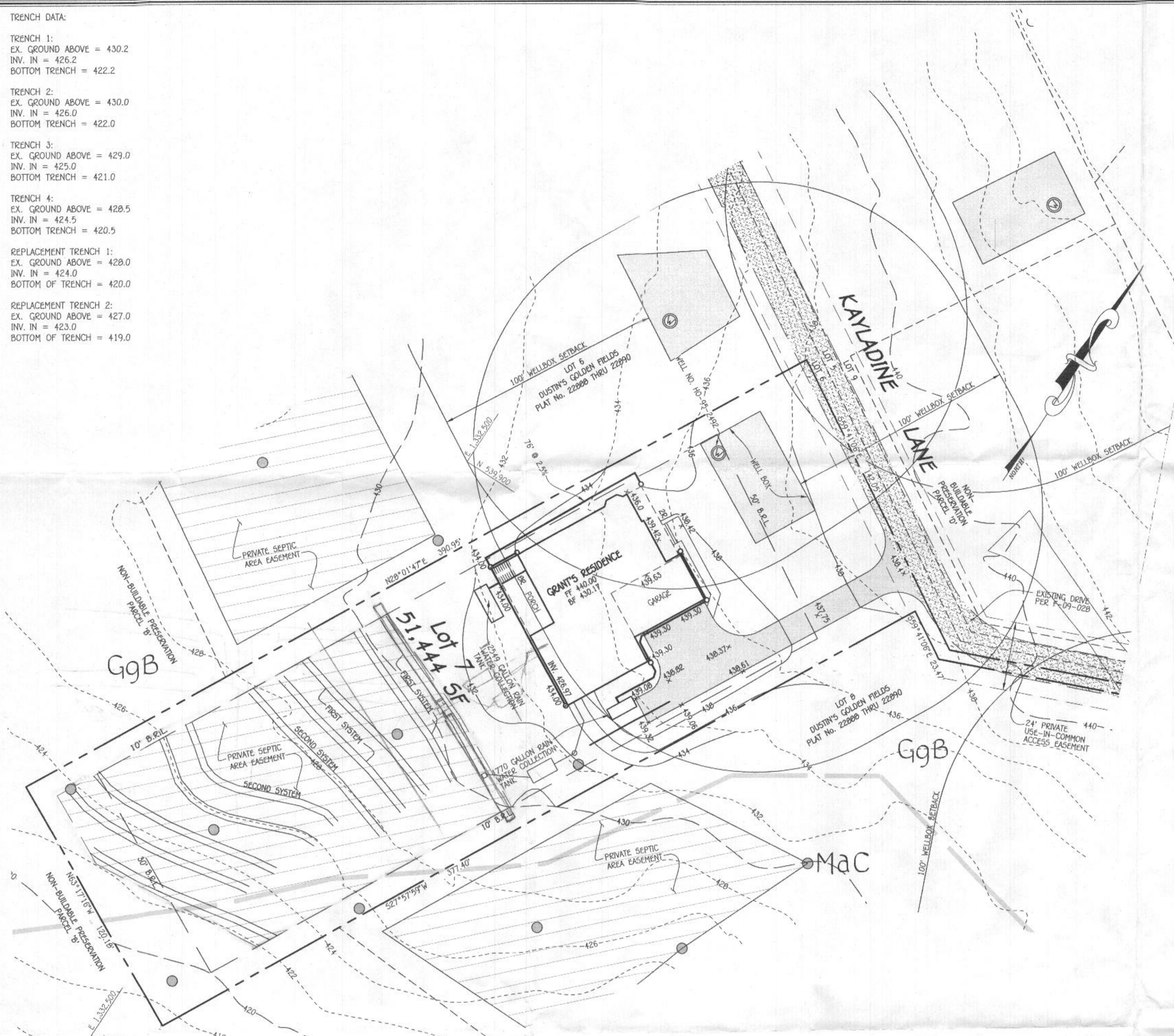
- THE EXISTING WELLS SHOWN ON THIS PLAN, HO-95-2492 HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- IF THE HOUSE ELEVATION AND/OR FIELD ELEVATIONS CHANGE FROM THE DESIGNED SEPTIC PLAN, A NEW SEPTIC PLAN WILL BE REQUIRED.

LEGEND

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- ⊙ DENOTES EXISTING WELL
- ⊙ 2511 DENOTES PASSED PERC HOLE 2511 POINT NUMBER 563.1 ELEVATION
- ⊙ DENOTES 1500 Sq.Ft. ALTERNATE WELL SITE



VICINITY MAP  
SCALE: 1" = 2,000'

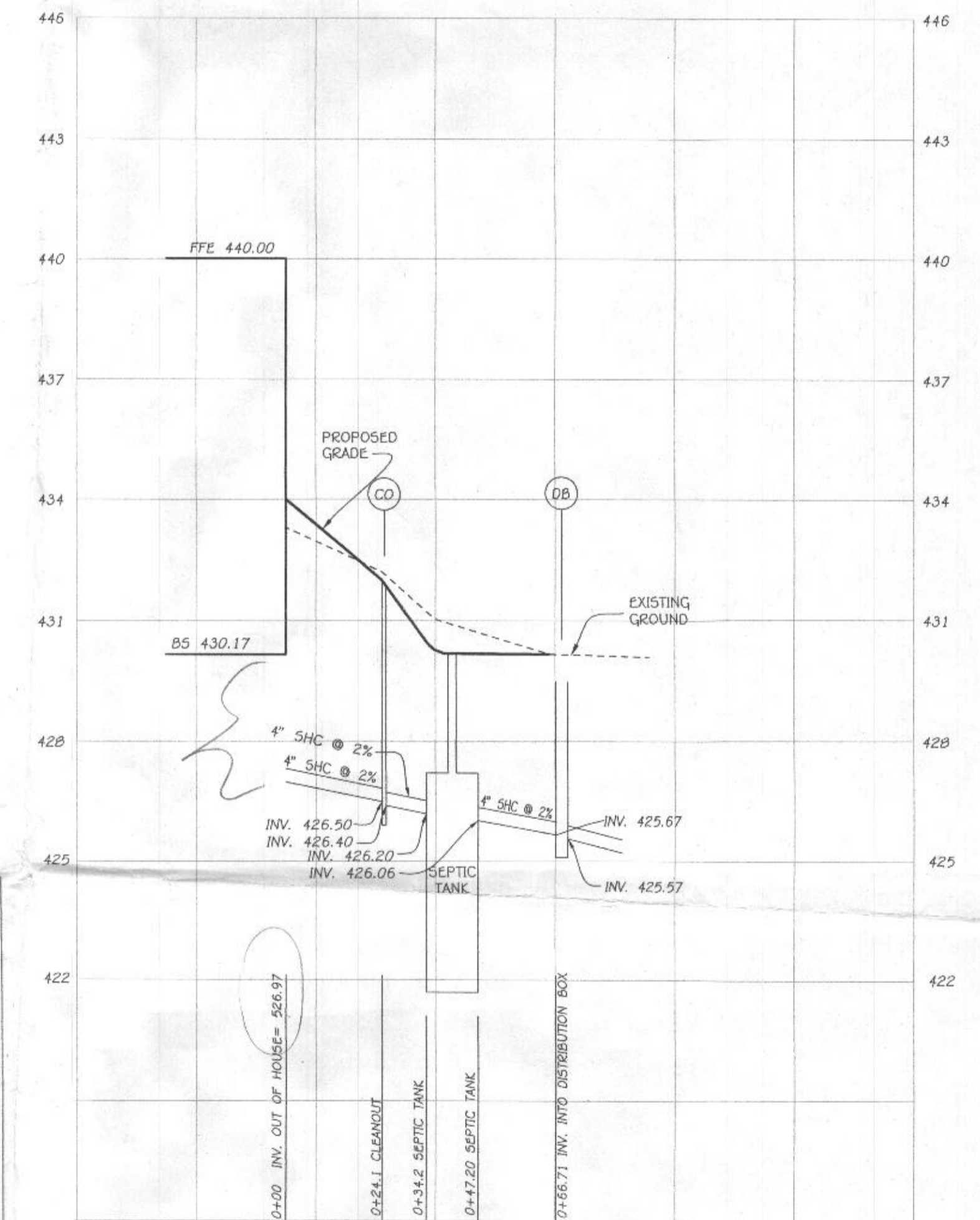


FFE 440.00  
BSE 430.17  
INV. OUT OF HOUSE = 426.97  
PROP. GROUND AT CLEANOUT = 432.2  
INV. INTO CLEANOUT = 426.50  
INV. OUT OF CLEANOUT = 426.40  
EX. GROUND AT SEPTIC TANK = 430.20  
COVER OVER SEPTIC TANK = 3.00'  
TOP OF SEPTIC TANK = 427.20  
INV. INTO SEPTIC TANK = 426.20  
INV. OUT OF SEPTIC TANK = 426.06  
EX. GROUND AT DISTRIBUTION BOX = 430.5  
INV. INTO DISTRIBUTION BOX = 425.67  
INV. OUT OF DISTRIBUTION BOX = 425.57

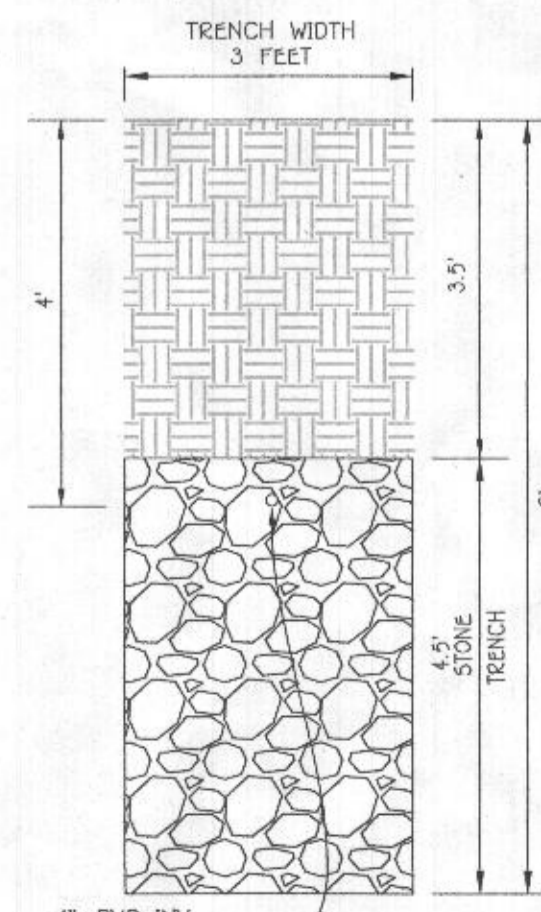
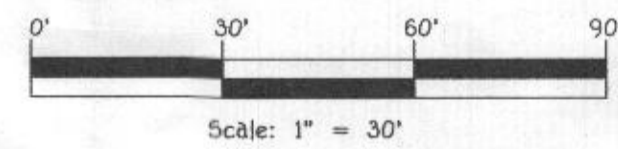
SEWAGE DISPOSAL SYSTEM DATA

6 BEDROOMS  
LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 7 FEET  
TRENCH DEPTH = 0 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 1 FEET  
SF OF DRAINFIELD = 900 GPD / 0.8 = 1125 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x1)) = 0.833  
TRENCH LENGTH = 1125 SF x 0.833 / 4 = 78.09 FEET  
TRENCH SPACING = 2D+W = ((2x1) + 3) = 10' USE 10'

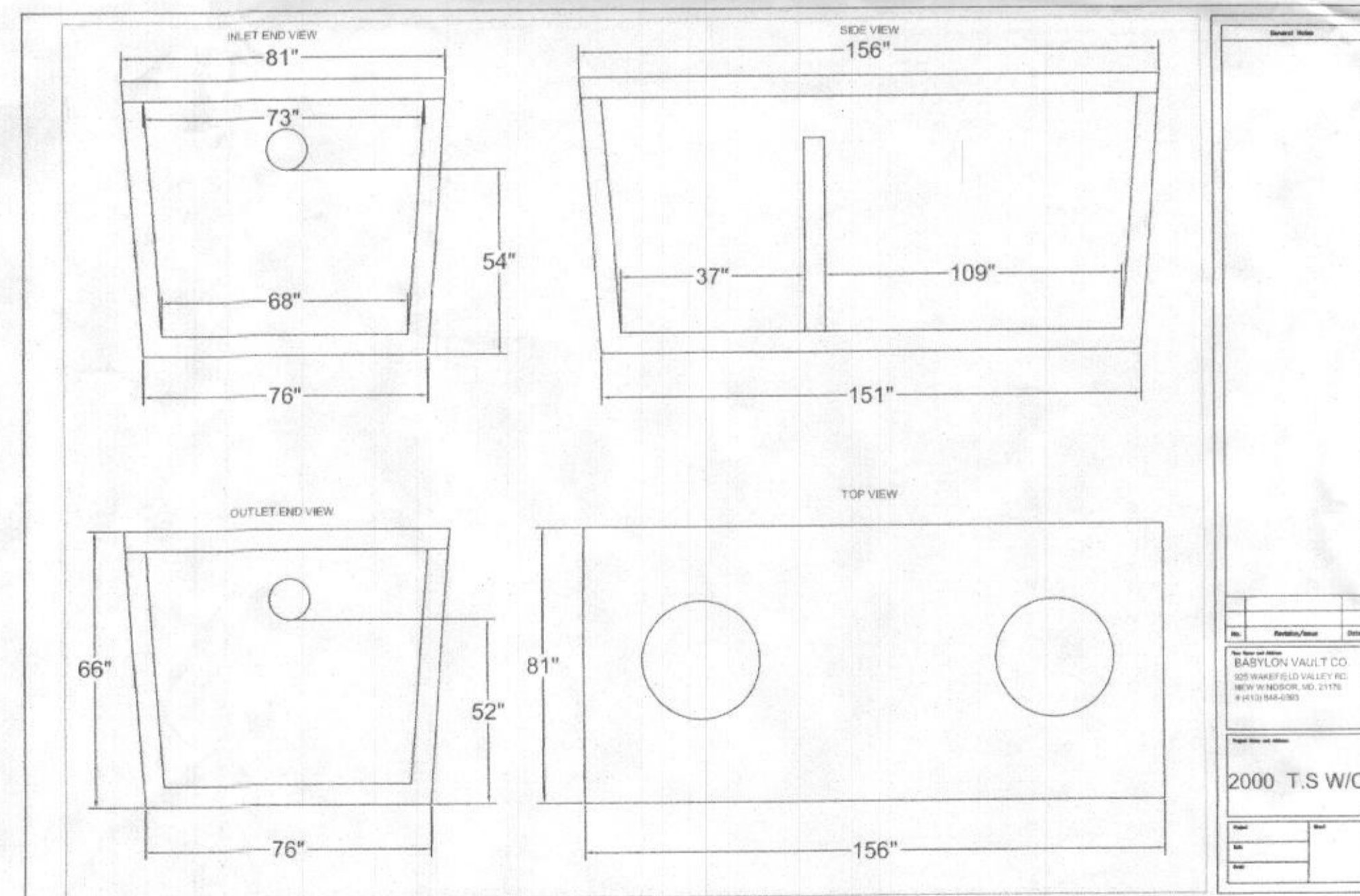
LOADING RATE = 6 BEDROOMS X 150 GPD/BEDROOM = 900 GPD  
APPLICATION RATE = 0.8  
EFFECTIVE SIDEWALL BEGINS AT 7 FEET  
TRENCH DEPTH = 0 FEET  
TRENCH WIDTH (W) = 3 FEET  
EFFECTIVE DEPTH (D) = 3.5 FEET  
SF OF DRAINFIELD = 900 GPD / 0.8 = 1125 SF  
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x3.5)) = 0.454  
TRENCH LENGTH = 1125 SF x 0.454 / 2 = 85.12 FEET  
TRENCH SPACING = 2D+W = ((2x3.5) + 3) = 10' USE 10'



SEPTIC PROFILE  
HORIZONTAL SCALE: 1"=30'  
VERTICAL SCALE: 1"=3'



INITIAL TRENCH DETAIL  
SCALE: 1"=2'



SOILS LEGEND			
SOIL	NAME	CLASS	E. FACTOR
GgB	Glenny loam, 3 to 6 percent slopes	B	0.20
MaC	Manor loam, 0 to 15 percent slopes	B	0.20

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. 38386, EXPIRATION DATE: 01/12/2018.

*Robert M. Vitucci*  
Signature Of Professional Engineer  
9/16/17  
DATE



OWNERS / DEVELOPERS  
LOREI A. FRIEDMAN & ROBERT O. BAKER  
1596 DAISY ROAD  
WOODBINE, MARYLAND 21797  
410-499-8156

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
2000 T.S.W.C.  
CONTINENTAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL Pkwy.  
ELICOTT CITY, MARYLAND 21042  
(410) 481-2295

Approved Septic System Plan  
Howard County Health Department  
*Dana Bernard* 9-20-17  
Signature Date

SEPTIC PLAN  
DUSTIN'S GOLDEN FIELDS  
LOT 7  
8025 KAYLADINE LANE  
ZONING: RR-DEO  
TAX MAP No. 45 GRID No. 2 PARCEL Nos. 103 & 194  
FIFTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: AUGUST 9, 2017  
SHEET 1 OF 1