

May 5, 2024



3050 Glennfinnan Dr.  
Albany, OH 45710  
740-698-9100  
740-591-4776  
sjwiley@goodgroundenvironmental.com

Blain Borden  
019763 Clark's Run Road  
Mt. Sterling, Ohio 43143

**RE: Findings for a Site and Soil Evaluation for a Subsurface Treatment System for a New Home at 9800 Cincinnati-Zanesville Road, SW, Amanda, Ohio.**

Dear Mr. Borden:

In accordance with our proposal sent to you on April 20, 2024, Good Ground LLC has conducted a site and soil evaluation to assess feasibility, to support design and to provide necessary documents for permitting through Fairfield County Health Department (FCHD) of a new on-site subsurface wastewater dispersal and treatment system (STS) for a new domicile located at 9800 Cincinnati-Zanesville Road, SW, Amanda, Ohio. The new home will be situated on an approximately 20-acre lot to be subdivided from property that is currently listed as owned by Mark and Sheryl Pontius (Fairfield County parcel 0010026400). The Pontius property currently comprises approximately 138.223 acres and is located in the southwest quarter of the southwest quarter of Section 33, Amanda, Fairfield County, as approximately shown on Figure 1. The new domicile will be a 4-bedroom home on a foundation with an estimated daily wastewater output of 480 gallons per day (gpd).

On April 26, 2024, Good Ground LLC evaluated the site and collected soil data from multiple extractions using a 3" diameter soil auger to depths of up to 60 inches below the ground surface and a 60-inch hammer probe. Soils were sampled in multiple locations. The collected soil data for 5 of these samples are attached to this report and identified as soil samples BB1 and BB3 through BB6. Sample BB2 was a subsurface resistance depth check and not logged by stratum. Soil sample points were flagged in the field and GPS-located using a Trimble GeoXH 6000 unit. GPS data were imported into an ArcGIS format for map depiction. Soil sample locations are illustrated in Figures 1 and 2.

The new home will be located on a northwest-facing hillslope. The assessment area includes the hillslopes north of the new home location and south of the northern property line. There is approximately 45 feet of topographic relief within the assessment area. Slopes range from 10 to 20 percent. The current land use is mowed lawn and mixed successional forest. There are no risk factors or restrictive features within 100 feet of the assessment area.

Soils are formed in residuum and colluvium from sandstone and siltstone. Soils within the assessment area are mapped in the USDA Soil Survey of Fairfield County as Amanda silt loam. Soils observed resemble the mapped soil type, however clay content of the upper strata is lower than for the typical pedon. Shallow bedrock may have been observed at 42 to 44 inches in samples BB2 and BB5. A layer of sandstone rock fragments was observed in many locations sampled at greater than 40 inches below the surface. These zones were penetrable to 54-60 inches with the probe but too rocky to excavate with the auger. Densifying

from increasing compaction of glacial till increased in all samples at depths greater than 50 inches, A seasonal water table was observed at 39 inches below the surface in sample BB4.

Selection of the assessment area is based on site topography, soil conditions and other natural or man-made features observed on the site. The design of the on-site subsurface wastewater treatment system is based on the most restrictive soil infiltration and permeability characteristics observed in the selected sample for the installation area. Collected soil characteristics for soils at least 12 inches below the surface were used with the Tyler Table (Table 1) to estimate the infiltration loading capacity, minimum infiltration area and minimum trench length for a primary and a replacement infiltration trench field for the new 4-bedroom home. The design layer for this treatment system is silt loam, which has an infiltration loading rate of 0.6 gallons per day per square foot. Daily design flow is based on the domestic default volume of wastewater production of 120 gpd per bedroom, or 480 gpd for the proposed home.

**Table 1: Tyler Data for Calculation for Absorption Area and Dispersal Trench Length – Simple Infiltration Trench System**

Soil Sample Number	Texture	Structure		Infiltration Loading Rate > 30 mg/l BOD (gal/day /ft <sup>2</sup> )	Loading Rate Conditions		Hydraulic Linear Loading Rate (gal/day/lf)			Infiltration Area (SF)	Infiltration Component Length (ft)	Total Trench Length (LF)
		Shape	Grade		Slope %	Infiltration Distance (inches)	Infiltration Distance Factor	Design Flow (gpd)	SF/LF 24" Trench			
BB1	SIL	BK	2	0.6	15	24-48	4.3	480	2	800	112	400
BB3	SICL	BK	2	0.4	12	24-48	4.0	480	2	1200	120	600
BB4	SIL	BK	2	0.6	12	24-49	4.3	480	2	800	112	400
BB5	SIL	BK	2	0.6	6	24-50	4.3	480	2	800	112	400
BB6	SIL	BK	2	0.6	6	24-51	4.3	480	2	800	112	400

In addition to the minimum absorption area and minimum trench lengths derived through use of the Tyler Table, Ohio Health Department regulations require a “resting” area component. The resting area must be a minimum of 25% in addition to the Tyler Table-derived design figures. The use of gravelless chambers, instead of gravel-filled trenches, allows reduction of the total length of trenches required, while continuing to accommodate the required resting trench area. Tables 2A and 2B (attached) present the calculations for both a gravel infiltration trench system and for gravelless system, with the resting area burden added.

Given the findings presented in Tables 1 and 2, the use of a gravelless chamber-based subsurface treatment system for wastewater dispersal would be both feasible and recommended for a new gravity-driven STS at the approximate location shown on Figure 2. The minimum septic system components for the new home would include:

- A 2000 gallon septic tank,
- Approximately 120 feet of Schedule 40 4-inch PVC sewer pipe with joints and clean-out ports to connect the home to the septic tank and the septic tank to the distribution box,
- An accessible 5-port parallel distribution box with shut-off valves meeting the specifications of OAC Appendix A rules 3701-29-15.1 (F),

- Four 112-foot long by 24-inch wide, low profile Quick-4 EQ36 Equalizer Chambers (or equivalent) with end caps and inspection ports,
- Approximately 100 feet of 4-inch pipe to connect individually from the distribution box to each trench inlet.

All materials and equipment used for STS construction must meet the requirements of OAC 3701-29. A layout of the STS is shown on Figure 2 using the gravelless chamber trenches. The replacement system for the new home would be constructed south of the primary system, as also shown in Figure 2. Trenches for the replacement system as shown would be the same length as the primary trench field.

All trenches would be excavated along the contour to a maximum depth of 18 inches at a minimum inter-trench spacing of 6 feet. Take care during construction to preserve soil infiltration capacity by not grading deeply or working when the soil is saturated. Should there be trees within the infiltration trench field area, do not grub. Cut them to the ground and excavate through the root system. The location selected for STS Field 1 as shown on Figure 2 appears to be the most practical option given the home location, the site topography, and the soil conditions.

The next step is identification of the STS system materials that considers actual system components and comparative system costs. These are choices that you, the homeowner, will make in consultation with your selected county registered STS septic system installer and FCHD. All materials and equipment used for STS construction must meet the requirements of OAC 3701-29.

A final specification of materials, a field layout and a final field sketch may be needed to obtain a permit to install the septic system in Fairfield County. It is likely that your chosen registered installer with your local health department can provide specifications, a list of materials and costs. The county health department sanitarian will most likely inspect the field layout prior to installation permit issuance. As a result, the location of the new STS trench field, septic tank and distribution box will need to be finally marked on the ground by your selected installer. The FCHD can provide further guidance on system final documents, application forms that are needed, certified STS installers, and the names of septic system design engineers that could be needed for more complex systems.

This report is for the sole and only use of Blain Borden, or the owners of record of the subject property in support of obtaining a permit to install a subsurface septic treatment and dispersal system from the FCHD and shall not be used or relied upon by any other person, firm, corporation, or other entity. Please contact me if you have any additional questions. Thank you for allowing Good Ground LLC to assist you with this project.



Robert L. Wiley, President,  
Good Ground LLC

Attachments: Figure 1, Figure 2  
Tables 2A and 2B  
5 Soil Data Forms

**TABLE 2A Infiltration Trench Length Calculations - Primary**

Parcel	10026400
Owner/Client:	Blain Borden

**Calculation of the Trench Bottom Area and Trench Length Required for Shallow Leaching Gravel Infiltration Trenches**

Design Parameters	Value	Comment
Wastewater Source:	Home	Manual Input
Condition:	New	Manual Input
Daily WW Volume (gal/day):	480	Manual Input
<b>Soil</b>		
Texture	SIL	Soil data sheet input
Shape	BK	Soil data sheet input
Grade	2	Soil data sheet input
Sample	BB4	Tyler Table input
<b>Tyler Table Data</b>		
Loading Rate (gpd/sf)	0.6	Tyler Table input
Slope (%)	12	Soil data sheet input
Infiltration Distance (inches)	24-49	Soil data sheet input

**Tyler Calculations**

Infiltration Area (sf)	800	Daily WW volume/Loading Rate in gpd/sf
Hydraulic Loading Rate (gpd/lf)	4.3	Tyler Table input
Minimum Trench Length (ft)	112	Infiltration area/min trench length for 24" trench
Proposed Trench Width (ft):	2	Manual input
Number of Minimum Length Trenches Needed	3.58	Total Trenches needed at minimum length
On-Site Feasible Trench Length (ft)	112	Manual input length needed for 3 equal trenches
Number of Feasible-length Trenches	4	Infiltration area/feasible trench length
Resting Trenches (min 25% addition)	1	Additional resting trenches
Total Number of Trenches Needed at on-site feasible Length:	5	Number of trenches needed for Shallow Gravel Infiltration System
Absorption Base Width/ Trench Spacing(ft):	4	(HLLR/soil infiltration rate)/2

The required minimum bottom area for a Gravelless trench (chamber) shall be no less than 75% of a shallow gravel infiltration trench

**Calculation of the Trench Bottom Area and Trench Length Required for Gravelless (chamber) Infiltration Trenches**

Total Infiltration area using chambers (sf)	600	Total infiltration area X 0.75
Minimum Trench Length (ft)	112	Infiltration area/min trench length for 24" trench
Number of Minimum Length Trenches Needed	2.7	Total Trenches needed at minimum length
On-Site Feasible Trench Length (ft)	112	Manual input length needed for 3 equal trenches
Round to Number of Uncut 4' Sections	112	Total actual trench length for uncut sections
Minimum Infiltration Trenches Needed	3	Actual trench length/minimum number of chambers needed
Resting Trenches (min 25% addition)	1	Additional resting trench
Total Number of Trenches Needed at On-site Feasible Length:	4	Number of trenches needed for a Gravelless chamber infiltration system

**TABLE 2B Infiltration Trench Length Calculations - Replacement**

Parcel	10026400
Owner/Client:	Blain Borden

**Calculation of the Trench Bottom Area and Trench Length Required for Shallow Leaching Gravel Infiltration Trenches**

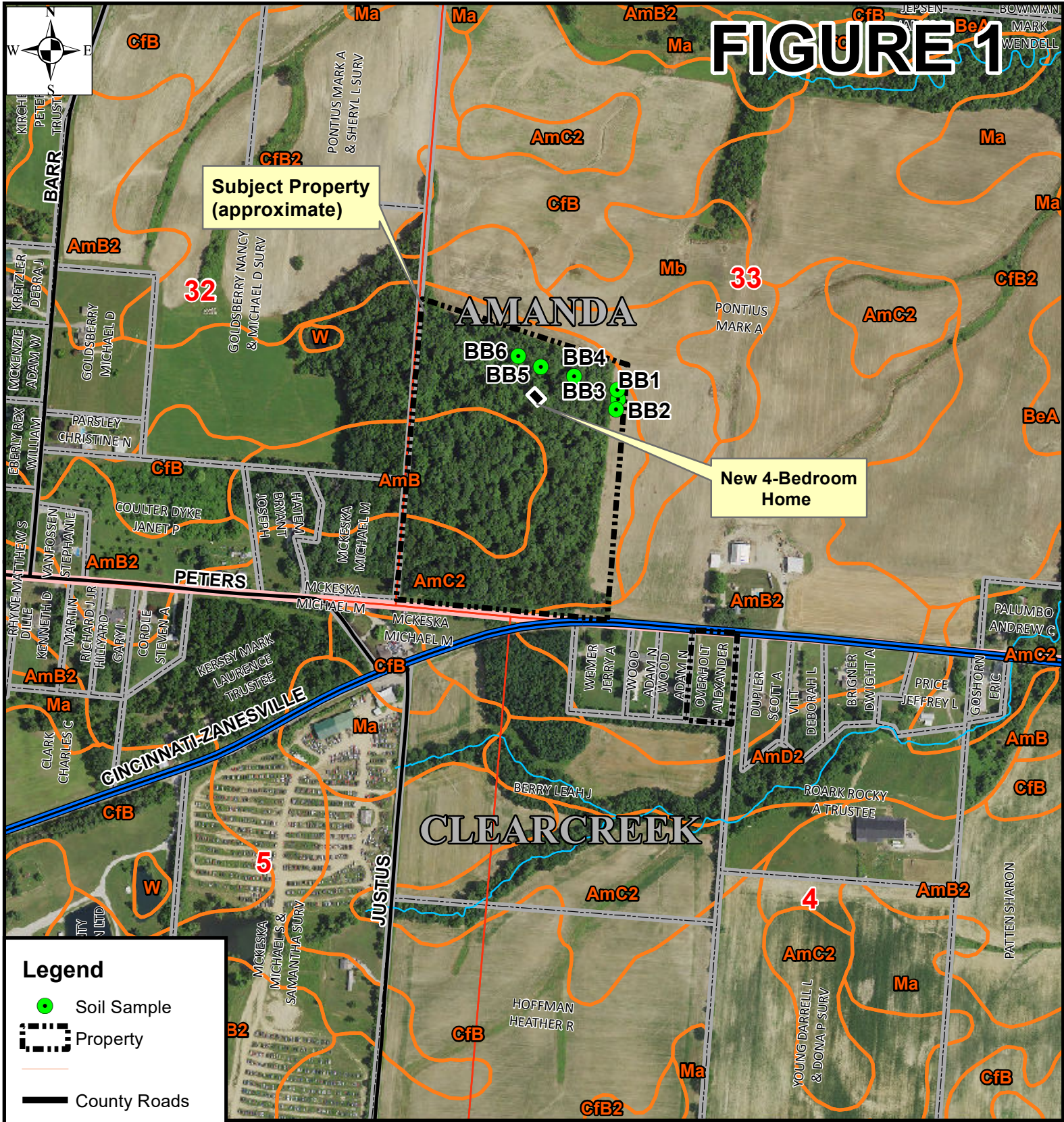
Design Parameters	Value	Comment
Wastewater Source:	Home	Manual Input
Condition:	New	Manual Input
Daily WW Volume (gal/day):	480	Manual Input
<b>Soil</b>		
Texture	SIL	Soil data sheet input
Shape	BK	Soil data sheet input
Grade	2	Soil data sheet input
Sample	BB6	Tyler Table input
<b>Tyler Table Data</b>		
Loading Rate (gpd/sf)	0.6	Tyler Table input
Slope (%)	6	Soil data sheet input
Infiltration Distance (inches)	24-51	Soil data sheet input
<b>Tyler Calculations</b>		
Infiltration Area (sf)	800	Daily WW volume/Loading Rate in gpd/sf
Hydraulic Loading Rate (gpd/lf)	4.3	Tyler Table input
Minimum Trench Length (ft)	112	Infiltration area/min trench length for 24" trench
Proposed Trench Width (ft):	2	Manual input
Number of Minimum Length Trenches Needed	3.58	Total Trenches needed at minimum length
On-Site Feasible Trench Length (ft)	112	Manual input length needed for 3 equal trenches
Number of Feasible-length Trenches	4	Infiltration area/feasible trench length
Resting Trenches (min 25% addition)	1	Additional resting trenches
Total Number of Trenches Needed at on-site feasible Length:	5	Number of trenches needed for Shallow Gravel Infiltration System
Absorption Base Width/ Trench Spacing(ft):	4	(HLLR/soil infiltration rate)/2

The required minimum bottom area for a Gravelless trench (chamber) shall be no less than 75% of a shallow gravel infiltration trench

**Calculation of the Trench Bottom Area and Trench Length Required for Gravelless (chamber) Infiltration Trenches**

Total Infiltration area using chambers (sf)	600	Total infiltration area X 0.75
Minimum Trench Length (ft)	112	Infiltration area/min trench length for 24" trench
Number of Minimum Length Trenches Needed	2.7	Total Trenches needed at minimum length
On-Site Feasible Trench Length (ft)	112	Manual input length needed for 3 equal trenches
Round to Number of Uncut 4' Sections	112	Total actual trench length for uncut sections
Minimum Infiltration Trenches Needed	3	Actual trench length/minimum number of chambers needed
Resting Trenches (min 25% addition)	1	Additional resting trench
Total Number of Trenches Needed at On-site Feasible Length:	4	Number of trenches needed for a Gravelless chamber infiltration system

# FIGURE 1



Subject Property  
(approximate)

New 4-Bedroom  
Home

## Legend

- Soil Sample
- Property
- County Roads
- State Roads
- Township Roads
- U sections
- townships
- Streams
- parcels
- USDA Soils

## SITE FEATURES AND LOCATION

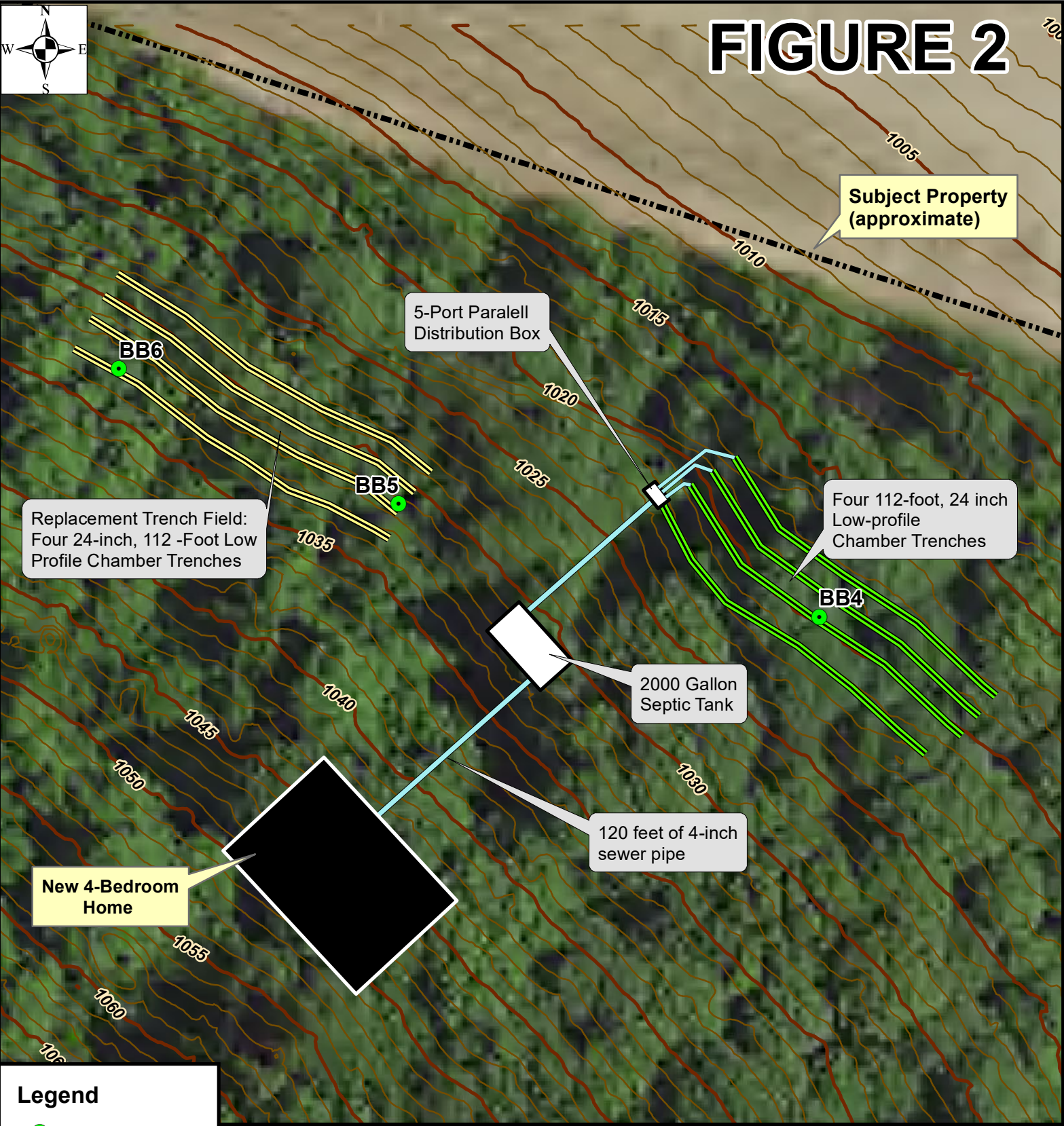
**Brian Borden**  
**9800 Cinnnc-Zanes Rd, Amanda**  
**Section 33, Amanda Township**

400 200 0 400 Feet

1 inch = 500 feet  
 Contour Interval: na

Prepared by Good Ground LLC.050424  
 Planimetrics: Fairfield County Auditors DB & 2009-2022 OGRIP:  
<http://gis5.oit.ohio.gov/geodatadownload/>  
 Coordinate System: NAD 1983, Ohio State Plane, Feet.  
 Parcel Data based on "Parcels 041223"  
 Soil code key found at <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> Fairfield County 2005

# FIGURE 2



Replacement Trench Field:  
Four 24-inch, 112 -Foot Low  
Profile Chamber Trenches

5-Port Paralell  
Distribution Box

Subject Property  
(approximate)

Four 112-foot, 24 inch  
Low-profile  
Chamber Trenches

2000 Gallon  
Septic Tank

120 feet of 4-inch  
sewer pipe

New 4-Bedroom  
Home

**Legend**

- Soil Sample
- Infiltration Trench**
- ▬▬▬ Field 1
- ▬▬▬ Field 2
- Contour Interval**
- 1 foot
- 5 feet
- Property


**SEPTIC SYSTEM  
LAYOUT**

**Brian Borden**  
**9800 Cinnc-Zanes Rd, Amanda**  
**Section 33, Amanda Township**

30    15    0    30 Feet


1 inch = 40 feet  
Contour Interval: 1 foot

Prepared by Good Ground LLC.050424  
Planimetrics: Fairfield County Auditors DB &  
2009-2022 OGRIP:  
<http://gis5.oit.ohio.gov/geodatadownload/>  
Coordinate System: NAD 1983, Ohio State Plane,  
Feet.  
Parcel Data based on "Parcels 041223"  
Soil code key found at <https://websoilssurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> Fairfield  
County 2005

Site and Soil Evaluation for Sewage Treatment and Dispersal						TH#	BB1
County:	Fairfield			Landuse/ Vegetation:	Ag field		
TWP./Section:	Amanda Township, Section 33			Landform:	Upland		
Property Address/Location:	9800 Cincinnati-Zanesville Road, SW Amanda, Ohio 43102			Position on Landform:	Hillslope		
Applicant Name:	Blain Borden			Percent Slope:	10-15%		
Applicant Address:	019763 Clark's Run Road			Slope Shape:	Convex-Linear	Cert. Stamp or Cert. #:	
Applicant Address:	Mt. Sterling, Ohio 43143			Date:	April 26, 2024		ODH Certified April, 2016
Phone #:	614-519-4734 Cell/text			Evaluator:	Robert L. Wiley		
Lot #:	10026400			3050 Glennfinnan Drive			Signature: 
Test Hole #:	BB1			Albany, OH 45710			
Lat./Long; ddms	39.64966974		82.79735185		Mapped soil type(s):		740-698-9100
Method (circle):	Pit	Auger	Probe	All	Amanda silt loam (AmC2, AmB)		


Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability								Other Soil Features
		Munsell Color			Texture			Structure			Consistence		
Horizon	Depth (inches)	Matrix Color	Redoximorphic Features		Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)		Consistence	Other Soil Features
Ap	0-6	10YR4/4	NONE	NONE	1	15	<1	2	f	sbk	fr		
B1	6-31	10YR5/4	NONE	NONE	sil	20	1-5	2	f	sbk	fr		
C1	31-43	10YR5/4	NONE	NONE	1-GR	15	10-15	2	f	sbk	fr	sandstone flags & channers	

Limiting Conditions	Depth to (inches)	Descriptive Notes	Remarks/ Risk Factors:
Perched Seasonal Water Table	Not Encountered		
Apparent Water Table	Not Encountered		
Highly Permeable Material	Not Encountered		
Bedrock	Not Encountered		
Restrictive Layer	Not Encountered		

Site and Soil Evaluation for Sewage Treatment and Dispersal						TH#	BB3
County:	Fairfield			Landuse/ Vegetation:	Ag field		
TWP./Section:	Amanda Township, Section 33			Landform:	Upland		
Property Address/Location:	9800 Cincinnati-Zanesville Road, SW Amanda, Ohio 43102			Position on Landform:	Hillslope		
Applicant Name:	Blain Borden			Percent Slope:	10-15%		Cert. Stamp or Cert. #:
Applicant Address:	019763 Clark's Run Road			Slope Shape:	Convex-linear		
Applicant Address:	Mt. Sterling, Ohio 43143			Date:	April 26, 2024		ODH Certified April, 2016
Phone #:	614-519-4734 Cell/text			Evaluator:	Robert L. Wiley		
Lot #:	10026400			3050 Glennfinnan Drive			Signature: 
Test Hole #:	BB3			Albany, OH 45710			
Lat./Long; ddms	39.64976953		82.79735255		Mapped soil type(s):		740-698-9100
Method (circle):	Pit	Auger	Probe	All	Amanda silt loam (AmC2, AmB)		


Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
Horizon	Depth (inches)	Matrix Color	Munsell Color		Texture			Structure			Consistence	
			Concretions	Depletions	Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)		
Ap	0-11	10YR5/4	NONE	NONE	sil	15	1-5	2	f	sbk	fr	
B1	11-21	10YR5/6	NONE	NONE	sil	20	1-5	2	f	sbk	fr	
B2	21-26	10YR5/6	NONE	NONE	sil	20	1-5	2	f	sbk	fr	
B3	26-32	10YR5/6	10YR2/1	10YR5/2	sil	20	1-5	2	f	sbk	fr	Colluvial, redox not active
B4	32-41	10YR5/6	NONE	NONE	sil	20	1-5	2	f	sbk	fr	
Bt5	41-60	10YR5/4	NONE	NONE	sicl	35	1-5	2	f	sbk	fr	

Limiting Conditions	Depth to (inches)	Descriptive Notes	Remarks/ Risk Factors:
Perched Seasonal Water Table	26"	Redox crisp edges, Mn crystallized	
Apparent Water Table	Not Encountered		
Highly Permeable Material	Not Encountered		
Bedrock	Not Encountered		
Restrictive Layer	Not Encountered		

Site and Soil Evaluation for Sewage Treatment and Dispersal							TH#	BB4
County:	Fairfield			Landuse/ Vegetation:	Successional forest			
TWP./Section:	Amanda Township, Section 33			Landform:	upland			
Property Address/Location:	9800 Cincinnati-Zanesville Road, SW Amanda, Ohio 43102			Position on Landform:	hillslope			
Applicant Name:	Blain Borden			Percent Slope:	10-15%		Cert. Stamp or Cert. #:	
Applicant Address:	019763 Clark's Run Road			Slope Shape:	convex-linear		Date:	
Applicant Address:	Mt. Sterling, Ohio 43143			Date:	April 26, 2024		Evaluator:	
Phone #:	614-519-4734 Cell/text			Evaluator:	Robert L. Wiley		ODH Certified April, 2016	
Lot #:	10026400			3050 Glennfinnan Drive			Signature:	
Test Hole #:	BB4			Albany, OH 45710				
Lat./Long; ddms	39.64992796		82.79796270		Mapped soil type(s):			
Method (circle):	Pit	<b>Auger</b>	Probe	All	Amanda silt loam (AmC2, AmB)			740-698-9100

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
Horizon	Depth (inches)	Matrix Color	Munsell Color		Texture			Structure			Consistence	
			Concretions	Depletions	Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)		
Ae	0-11	10YR5/4	NONE	NONE	1	15	<1	2	f	sbk	fr	loess
B1	11-22	10YR5/6	NONE	NONE	sil	20	1-5	2	f	sbk	fr	
B2	22-39	10YR5/6	NONE	NONE	sil	20	5-10	2	f	sbk	fr	sandstone flags & channers
B3	39-60	10YR5/4	NONE	10YR6/1	sil	20	5-10	2	f	sbk	fr	Diffuse redox, active

Limiting Conditions	Depth to (inches)	Descriptive Notes	Remarks/ Risk Factors:
Perched Seasonal Water Table	Not Encountered		Likely a kame feature. Mississippian sandstone rise topped with till and glacial erratics. Loess capped
Apparent Water Table	Not Encountered		
Highly Permeable Material	Not Encountered		
Bedrock	Not Encountered		
Restrictive Layer	Not Encountered		

Site and Soil Evaluation for Sewage Treatment and Dispersal						TH#	BB5
County:	Fairfield			Landuse/ Vegetation:	Successional forest		
TWP./Section:	Amanda Township, Section 33			Landform:	Upland		
Property Address/Location:	9800 Cincinnati-Zanesville Road, SW Amanda, Ohio 43102			Position on Landform:	Hillslope		
Applicant Name:	Blain Borden			Percent Slope:	10-15%		
Applicant Address:	019763 Clark's Run Road			Slope Shape:	Convex-Linear	Cert. Stamp or Cert. #:	
Applicant Address:	Mt. Sterling, Ohio 43143			Date:	April 26, 2024		ODH Certified April, 2016
Phone #:	614-519-4734 Cell/text			Evaluator:	Robert L. Wiley		
Lot #:	10026400			3050 Glennfinnan Drive			Signature:
Test Hole #:	BB5			Albany, OH 45710			
Lat./Long; ddms	39.65004360		82.79840883	Mapped soil type(s):			
Method (circle):	Pit	Auger	Probe	All	Amanda silt loam (AmC2, AmB)		
							740-698-9100

Soil Profile		Estimating Soil Saturation			Estimating Soil Permeability							Other Soil Features
Horizon	Depth (inches)	Matrix Color	Munsell Color		Texture			Structure			Consistence	
			Concretions	Depletions	Class	Approx. % Clay	Approx. % Fragments	Grade	Size	Type (shape)		
Ae	0-6	10YR5/4	NONE	NONE	sil	15	<1	2	f	sbk	fr	loess
B1	6-23	10YR5/6	NONE	NONE	sil	20	1-5	2	f	sbk	fr	
B2	23-42	10YR5/3	NONE	NONE	sil	20	1-5	2	f	sbk	fr	sandstone flags & channers

Limiting Conditions	Depth to (inches)	Descriptive Notes	Remarks/ Risk Factors:
Perched Seasonal Water Table	Not Encountered		Likely a kame feature. Mississippian sandstone rise topped with till and glacial erratics
Apparent Water Table	Not Encountered		
Highly Permeable Material	Not Encountered		
Bedrock	42"		Able to probe to 58 but too rocky for excavation
Restrictive Layer	Not Encountered		

## Septic System Components Reference Links

The following list includes some URL hot links to images and information about common septic systems and components. These are provided as examples of the products and materials that may be used by an installer to create your new or replacement septic system. These are provided as information only. There are many more such links and product types if searched by product name in your favorite search engine. The actual product configurations, brands, models and materials vary in form and cost from place to place. Discuss brands and costs with your selected septic system installer. Good Ground LLC does not specifically endorse or recommend the use of any products or manufacturers. Use Ctrl-left click while hovering to activate link and access the site, or highlight, copy and paste the link into your browser.

**Simple Septic System:** <https://flatheadlakers.org/programsissues/safeguarding-flathead-lake/sewage-treatment-septic-systems/>  
<https://ohiowatersheds.osu.edu/resources/human-dimensions/mental-models/septic-maintenance-and-upgrades>

**Septic Tank:** <https://buildwithabang.com/the-lowdown-topics/the-best-septic-tanks-for-your-home>

**Concrete Septic Tank:** <https://www.concrete-info.com/concrete-septic-tank/>  
<http://www.dixiesepticetanks.com/concrete-septic-tanks.cfm>

**Plastic Septic Tank:** <https://www.aandpsepticllc.com/new-tanks.php>; <http://fltanks.com/product/septic-tank-overview/>  
<https://www.plastic-mart.com/product/7881/1500-gallon-two-compartment-plastic-septic-tank-ast-1500-2>  
<https://www.environmental-expert.com/products/model-im-1530-plastic-septic-tank-129372>

**Lift Station:** <https://www.xylem.com/en-us/brands/flygt/flygt-engineering--expertise/pump-station-design/packaged-pump-stations/>  
[https://www.sumppumpsdirect.com/Zoeller-915-0005-Sewage-Pump/p61880.html?gclid=EAIaIQobChMI6Pil1cyB6gIVVdyGCh17OAtyEAQYBCABEgJ4G\\_D\\_BwE](https://www.sumppumpsdirect.com/Zoeller-915-0005-Sewage-Pump/p61880.html?gclid=EAIaIQobChMI6Pil1cyB6gIVVdyGCh17OAtyEAQYBCABEgJ4G_D_BwE)  
<https://www.amazon.com/XY-Stainless-Submersible-Agricultural-Household/dp/B07PN221VY>

**Grinder Pump:** [https://inspectapedia.com/septic/Septic\\_Pump\\_Inspection.php](https://inspectapedia.com/septic/Septic_Pump_Inspection.php)

**Parallel Distribution Box:** <https://www.northboroseptic.com/about/distribution-box-replacement-repair/>;  
<https://polylok.com/blog/2013/01/25/product-review-equal-flow-distribution-boxes/>

**Wastewater Infiltration Trench:** <https://www.thenaturalhome.com/septic/>

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