Soil Evaluation For On-Site Wastewater Treatment

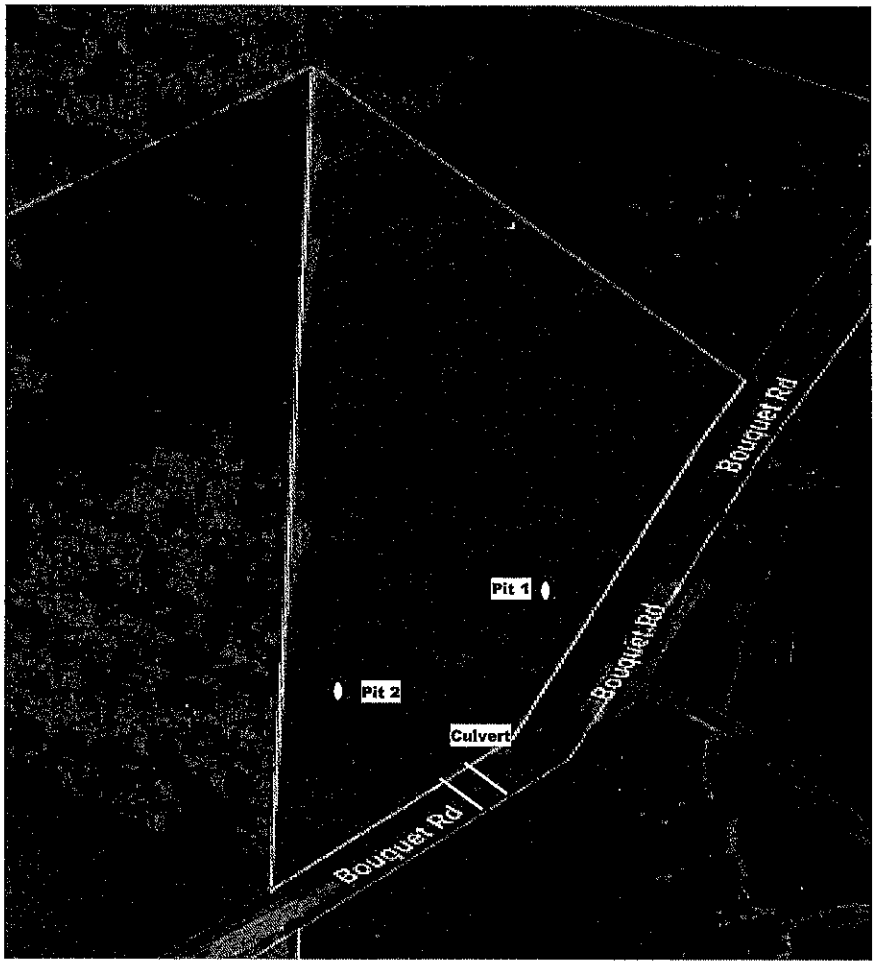
Prepared For:
Baumgartner Homes Inc.
3107 Bouquet Road
Wildwood, MO 63038

Date:
11/23/2022

Chris Chapman
P.O. Box 73
St. Clair, MO 63077

636-629-1788
www.showmesoils.com
e-mail: chris@showmesoils.com

Chris Chapman
P.O. Box 73
St. Clair, Mo. 63077



Requesting Party: **Baumgartner Homes Inc.**

Site Address: **3107 Bouquet Road**
Wildwood, MO 63038

County: **St. Louis**

Site is approximately **3 Acres**

Design Flow: **600 GPD**

System is a New Septic System for a New Residential Home.

Note: Drawing isn't to scale

012023-23A

SOIL PROFILE DESCRIPTION

Requesting Party: Baumgartner Homes Inc — Date: 11/23/23

SOIL CHARACTERISTICS — Excavation Depth: 27" — Pit (required for new installation) or Core #: 1

Vegetation: Lightly Wooded — Parent Material: Loess/Residuum

Suitability (S, PS, U)	Horizon Designation	Horizon Depth / Boundary[1]	Munsell Color (moist)	Redoximorphic Features[2]	Texture USDA[3]	Texture % Clay	% Coarse Fragments by volume <3"	% Coarse Fragments by volume >3"	Consistence[4]	Structure[5]	Roots/Pores[6]	Shrink/Swell	Soil Group	Application Rate Conv. (Table 13)	Application Rate LPP (Table 14)
PS	0-6		10YR 5/6	-	sicl	28	-	-	fr	1mGR	m-v-f-m	LOW	III	.4	.2
	C-S										c-f				
PS	6-14		10YR 5/8	-	sicl	32	-	-	fr	3mGR	c-f-v-f	MOD	III	.3	.15
	C-S										c-f				
PS	14-27		7.5YR 5/6	-	sicl	38	-	15	vfi	3mSBK	f-v-f	MOD	III	.3	.125
	A-S										c-f				
R				Bedrock											

Notes Moderately Well Drained

■ Any soil removed during clearing or tree removal should be replaced with certified soil in its place

Notations used on Soil Profile Description

[1] **Boundary** distinctness: A-abrupt, C-clear, G-gradual; topography: S-smooth, W-wavy, I-irregular;

[2] **Redox Features** Report low chroma Munsell colors and iron and manganese concentrations indicative of soil drainage limitations;

[3] **Texture** s-sand, ls-loamy sand, sl-sandy loam, l-loam, sil-silt loam, si-silt, scl-sandy clay loam, cl-clay loam, sicl-silty clay loam, sc-sandy clay, sic-silty clay, c-clay; Designate estimated clay content for all horizons;

[4] **Consistence** (report moist consistence) moist: fr-friable, fi-firm, vfi-very firm; wet: ss-slightly sticky, s-sticky, vs-very sticky and sp-slightly plastic, p-plastic, vp-very plastic; dry: sh-slightly hard, h-hard, vh-very hard;

[5] **Structure** grade: 1-weak, 2-moderate, 3-strong; size: f-fine (thin if platy), m-medium, c-coarse (thick if platy); shape: ABK-angular blocky, SBK-subangular blocky, GR-granular, PL-platy, PR prismatic, MA-massive;

[6] **Roots/Pores** abundance: f-few, c-common, m-many; size: vf-very fine, f-fine, m-medium, c-coarse.

SOIL PROFILE DESCRIPTION

Requesting Party: Baumgartner Homes Inc — Date: 11/23/23

SOIL CHARACTERISTICS — Excavation Depth: 48" — Pit (required for new installation) or Core #: 2

Vegetation: Lightly Wooded — Parent Material: Loess/Residuum

Suitability (S, PS, U)	Horizon		Munsell Color (moist)	Redoximorphic Features [2]	Texture		% Coarse Fragments by volume		Consistence [4]	Structure [5]	Roots /Pores [6]	Shrink /Swell	Soil Group	Application Rate	
	Designation	Depth / Boundary[1]			USDA [3]	% Clay	<3"	>3"						Conv. (Table 13)	LPP (Table 14)
PS	0-6		10YR 3/3	-	sil	20	-	-	fr	1mGR	m-v-f-m	LOW	III	.5	.25
	C-S										c-f				
PS	6-14		10YR 6/4	-	sicl	25	-	-	fr	3mGR	c-f-v-f	MOD	III	.4	.2
	C-S										c-f				
PS	14-22		10YR 5/4	-	sicl	32	-	-	fr	1mABK	f-v-f	MOD	III	.3	.15
	A-S										c-f				
PS	22-33		7.5YR 4/4	-	c	42	-	-	vfi	3mPR	-	MOD	IVa	.2	.1
	C-S										f-v-f				
PS	33-48		7.5YR 4/6	-	c	46	10	-	vfi	3mPR	-	MOD	IVa	.15	.075
											f-v-f				

Notes Moderately Well Drained

- Any soil removed during clearing or tree removal should be replaced with certified soil in its place
- Swale required

Notations used on Soil Profile Description

[1] **Boundary** distinctness: A-abrupt, C-clear, G-gradual; topography: S-smooth, W-wavy, I-irregular;

[2] **Redox Features** Report low chroma Munsell colors and iron and manganese concentrations indicative of soil drainage limitations;

[3] **Texture** s-sand, ls-loamy sand, sl-sandy loam, l-loam, sil-silt loam, si-silt, scl-sandy clay loam, cl-clay loam, sicl-silty clay loam, sc-sandy clay, sic-silty clay, c-clay; Designate estimated clay content for all horizons;

[4] **Consistence** (report moist consistence) moist: fr-friable, fi-firm, vfi-very firm; wet: ss-slightly sticky, s-sticky, vs-very sticky and sp-slightly plastic, p-plastic, vp-very plastic; dry: sh-slightly hard, h-hard, vh-very hard;

[5] **Structure** grade: 1-weak, 2-moderate, 3-strong; size: f-fine (thin if platy), m-medium, c-coarse (thick if platy); shape: ABK-angular blocky, SBK-subangular blocky, GR-granular, PL-platy, PR prismatic, MA-massive;

[6] **Roots/Pores** abundance: f-few, c-common, m-many; size: vf-very fine, f-fine, m-medium, c-coarse.

SITE CLASSIFICATION for
ONSITE SEWAGE SYSTEM – 19 CSR 20-3.060(2) & (7)

Requesting Party: Baumgartner Homes Inc Pit/Core #: 1-2 Date:11/23/22

Suitability See recommendations below S – Suitable; PS – Provisionally Suitable; U – Unsuitable; for conventional system.

PS	**LANDSCAPE POSITION: Back slope**	
	Flooding frequency: None √ Rare ☐ Occasional ☐ Frequent ☐	Surface depression(s) in evaluated area? No
PS	**& TOPOGRAPHY** Percent Slope: 5-6%	Slope Type: Uniform √ Complex ☐
	Shape across (contour): Linear	Shape down (profile: Linear
	SOIL CHARACTERISTICS (See Profile Description for details)	
PS	PS **TEXTURE** to a depth of 27 inches	Depth of unsuitable texture 27 inches
PS	PS **STRUCTURE** to a depth of 27 inches	Depth of unsuitable structure 27 inches
PS	**SOIL DRAINAGE** Type of water table: -	Depth to water table - inches
PS	Surface drainage limitations: Swale/Curtain Drain recommended	Runoff slope length 50-75 feet
PS	**SOIL THICKNESS** Depth of bedrock: 27"	Rock outcrops? None Noted
S	**RESTRICTIVE HORIZON** Type: -	Depth: - Thickness: -
PS	**AVAILABLE SPACE** Estimated space available: 50*80	
	Adequate for a conventional system? Yes an alternative system? Yes	replacement area? Yes
S	**OTHER FACTORS** Note any environmental hazards: -	
	High groundwater contamination potential? (If yes, indicate reason): -	
	Sinkhole ☐ Rapid permeability ☐ Depth to highly permeable bedrock ☐ Fill material /depth ☐	
PS	**OVERALL** Notes:	

Overall site classification will be determined by the lowest of the uncorrectable characteristics.

- **S** An overall site classification of **suitable** indicates soil and site conditions favorable for the operation of a conventional absorption system.
- **PS** Sites classified as **provisionally suitable** require some modifications and careful planning, design, and installation for a conventional system or alternative system to function satisfactorily.
- **U** Sites originally classified as **unsuitable** may possibly be reclassified as **provisionally suitable** according to subsection (7)(K).
- An **unsuitable** site may be used for soil absorption systems, provided engineering, hydrogeologic and soil studies indicate to the administrative authority that a conventional or alternative system could be expected to function satisfactorily. These sites may be reclassified as **provisionally suitable** upon meeting the requirements of the administrative authority according to subsection (6)(K).

Recommendations* associated with Provisionally Suitable or Unsuitable classifications:

Surface water diversion is recommended

A Curtain Drain is recommended upslope of the drain field a minimum of 10' @ a depth 36"

Shallow or modified shallow placed trenches should be installed at a depth of 8 inches.

An alternative/engineered system ***will*** be needed to overcome site limitations.

Trenches must not be dug when wet to prevent damaging soil/trench surfaces.

Show Me Soils

Requesting Party: Baumgartner Homes Inc Date: 11/23/2022

Comments/Recommendations

Pits 1-2 are Provisionally Suitable to an Alternative Engineered Designed Septic System with the

The installation of a swale is upslope of the field

A curtain drain is also recommended upslope of the drain field a mininum or 10' at a depth of 36"

Exact System specifications are to be determined by a licensed engineer

Alternative System Load Rate: .01

*Recommendations are to assist the property owner, and their agents in complying with the standards, and are subject to approval by the administrative authority.Show Me Soils LLC does not and cannot represent nor warrant either expressed, implied, or written the proper installation, function, operation, and maintenance of the installed individual on-site wastewater treatment system at any time.I, the undersigned, hereby certify that the site evaluation was made in accordance with the requirements of Sections 701.025-701.059 RSMo and 19 CSR 20-3.060 and 19 CSR 20-3.080, and that the data recorded is correct to the best of my knowledge.

Chris Chapman	**10099**		**11/23/2022**
Print name	OSE ID #	Signature	Date

Important Recommendations for Installers and Homeowners:

Protect the absorption area before and after construction. Do not drive over or store excavated materials on field area etc.

Shallow placed absorption systems utilize more permeable and better-aerated soil horizons.

Do not install soil absorption system when soil is wet.

Redirect surface water, house guttering, and foundation drains away from absorption field.

Establish & maintain adequate vegetative cover over the field.

Regularly inspect, maintain, and pump your sewage system.

Install water saving devices & practice water conservation.

Check for and repair any water leaks as soon as discovered.

Spread out water use, such as laundry, throughout the week.

Restrict garbage disposal use.

Do not put fats or grease into the sewage system.

Keep chemicals and hazardous wastes out of your system.

Use disinfectants and high strength cleaners sparingly.

Do not plan any building improvements, patios, etc. near the sewage system or repair area.

Minimum Set-Back Distances
Based on **19 CSR 20-3.060(1)(D) Table 1**
[See also (6)(D) for lagoons]

Minimum Distance from	**Sewage Tank**	**Disposal Area**	**Lagoons**
	(feet)	(feet)	(feet)
Private water supply well	50	100	100
Public water supply well	300	300	300
Cistern	25	25	25
Spring	50	100	100
Classified stream or lake	50	50	50
Stream or open ditch	25	25	25
Property lines	10	10**	75
Building foundation	5	15	[100]
Basement	15	25	[100]
Swimming pool	15	15	
Pressure water line	10	10	10
Suction water line	50	100	100
Upslope interceptor drain	-	10	
Downslope interceptor drain	-	25	
Embankment or cuts	-	20	
Edge of sink holes	50	100	500
Other absorption system	-	20	20

**Recommend 25 feet from downslope property line.