

**Becklin & Whitney**  
*Consulting Engineers, Inc.*  
253 MAIN STREET NORTH, SUITE 1  
P. O. Box 471  
CAMBRIDGE, MN 55008  
PHONE (763) 689-5631 FAX (763) 552-5631

August 16, 2024

Nancy Hintz

RE: Review of Setback to new  
Box Mound Drainfield System  
20086 472<sup>nd</sup> Lane  
McGregor, MN

To Whom It May Concern:

**Introduction**

The owner is planning to construct a new box mound drainfield system on the property. The box mound will be less than 20 feet, but more than 7 feet from the existing garage. The garage is built on a floating slab at the ground surface. We were asked to comment on the setback of garage to the proposed box mound.

**Discussion**

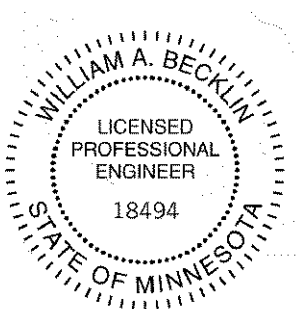
The box mound is to be built on top of the ground and the box mound is specifically used where constraints on size of mound are present. The existing garage will not have any influence on the design function of the box mound, provided proper drainage is provided between the box mound drainfield system and the garage.

**Conclusions**

**The box mound can be placed as desired less than 20 feet, but more than 7 feet from the existing garage. The function of the box mound will not be affected by the location of the existing garage provided positive drainage is maintained between garage and box mound drainfield. A swale must be created so that surface water can run around the drainfield and garage. Rain gutters need to be installed on garage within 20 feet of the box mound so that roof water can be directed away from the area between the garage and the box mound drainfield.**

**Attachments:**

**Site Survey  
Septic Design (Partial Document)**



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*William A Becklin*

WILLIAM A. BECKLIN, P.E.

DATE: AUGUST 16, 2024 Lic. No. 18494



ORIENTATION OF THE BEARING SYSTEM IS BASED ON THE AITKEN COUNTY COORDINATE SYSTEM WAS 81 (1985 ADJ.)

0 10 20  
SCALE IN FEET

Lake Minnewawa  
General Development Classification  
OHW = 1225.13 (NAVD83)

MINNEWAWA DUCK PASS

West line of Lot 15, MINNEWAWA DUCK PASS

East line of Lot 15, MINNEWAWA DUCK PASS

Benchmark Spike to powerhouse  
Elevation = 1230.39 (NAVD83)

Total Area = 10,217 SF  
Buildable Area = 2,842 SF

**PROPERTY BOUNDARY MONUMENT LEGEND**

○ SET IRON PIPE WITH CAP STAMPED "MS 57077"

● FOUND IRON MONUMENT

**Legal Description**  
Lot 15, MINNEWAWA DUCK PASS, Section 29, Township 49 North, Range 23 West, Aitken County, Minnesota.

**MAPPING LEGEND**

WELL (AS SPECIFIED) [Symbol]

LIFT STATION [Symbol]

UTILITY POLE [Symbol]

SOIL BORING [Symbol]

CONTOUR (NAVD83) [Symbol]

CONTOUR (MINDR) [Symbol]

CONCRETE [Symbol]

GRAVEL [Symbol]

**Interpolation Calculation**

Total Area	=	10,217 Sq. Ft.
Buildings	=	1,884 Sq. Ft.
Concrete	=	395 Sq. Ft.
Gravel	=	366 Sq. Ft.
<b>Total</b>	<b>=</b>	<b>3,778 Sq. Ft. (36.9% Impervious Coverage)</b>

**Surveyor's Notes**

The property address for the subject property is:  
20006 472<sup>nd</sup> Lane  
McGregor, MN 55760

The Parcel Number for the subject property is 29-1-132109.

The current zoning classification for the subject property is Shoreland.

This survey was completed without the benefit of a current title commitment or title opinion. Kramer Leas DeLeo, P.C. makes no guarantee that all easements, encroachments, or other rights related to the premises property are depicted on this survey.

All structure setbacks should be verified with Aitken County prior to any construction.

NO.	REVISIONS SINCE INITIAL DATE OF	DATE



**PROJECT NO. HINTN2401**

I HEREBY CERTIFY THAT THIS PLAN, SURVEY, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A duly REGISTERED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

Signature: *[Signature]* 07/31/2024  
Jordan Chapman, MN License No. 57077 Date

**CERTIFICATE OF SURVEY**  
**Topographic and Property Boundary Survey**

Nancy Hintz  
Section 29, Township 49 North, Range 23 West  
Aitken County, Minnesota

Sheet No. 1 of 1

**ENVIRONMENTAL SYSTEMS LLC.**

2358 HWY# 23  
MORA MN. 55051  
Ph. 320-241-7036  
06/10/2024

**BOX MOUND DESIGN**

**LOCATION: 20086 472<sup>nd</sup> LANE MCGREGOR MN**

**PID: 29-1-132100**

**OWNER: SCOTT & NANCY HINTZ**

**SYSTEM TYPE: TYPE III BOX MOUND**

**DESIGN FLOW: 2- BEDROOM DESIGNED @ 300 GPD**

**TREATMENT AREA: 250 SQ.FT.**

**SLOPE: 0 %**


**SEPTIC TANK: EXISTING 1350 GAL. SPLIT/COMBO  
(Tank will need to be certified before installation)**

**PUMP TANK: 1000 AGL CEMSTONE #9551001**

**PUMP: GOULDS PE51**

**METER/CONTROL: SJE RHOMBUS #TDIW924H8C21E  
( Timed dose with event counter)**

**KEVIN HERWIG M.P.C.A. 3945**



## **Construction Notes**

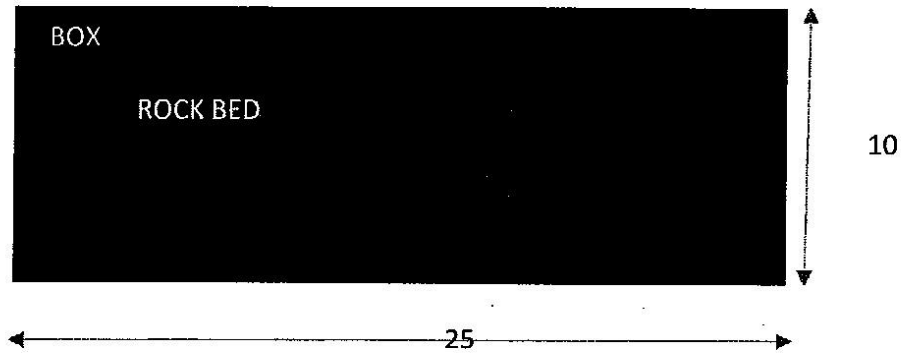
- **Existing septic tank is to be pumped and certified before use**
- **Existing rock bed is to be removed in the area near the property line for a width of three feet for the entire length of the existing bed, the excavated area is to be filled with washed sand and topped with 6 inches of topsoil.**
- **The box mound area is to be graded to an Elevation of 99.42**
- **Final surface rough up of box mound surface is to be done after box construction is completed**
- **The new pump tank will need to be installed before box construction**
- **Cemstone pump tank # 9551001 must be used or pump setting will be incorrect.**
- **Maximum post spacing for the box mound is 5 feet center to center**

## Box Mound Material Specifications

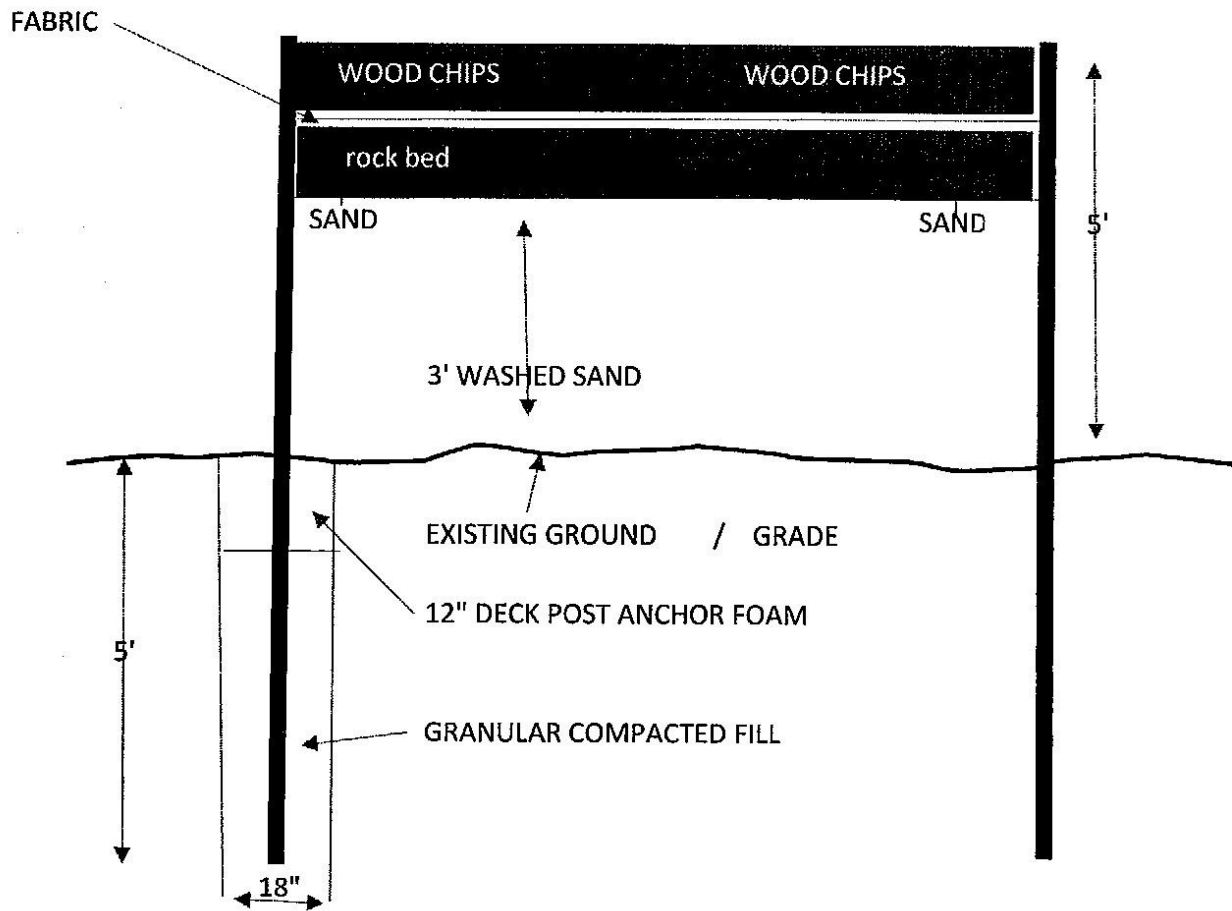
Poly liner-	40 Millimeter Continuous Sheet
Insulation-	1 ½" Rigid Foam
Cable-	3/8" Poly Coated Steel
Eye-Bolts	7/16" Galvanized Steel
Turn Buckles-	7/16" Galvanized Steel
Cable Clamps-	Galvanized Steel
Posts-	10'x5"X6" Treated .60
Planks-	2"X6" Tongue and Groove Treated .40
Concrete Pads-	4"X16" Round ( pole barn pad )

# BOX MOUND DETAILS

TOP VIEW



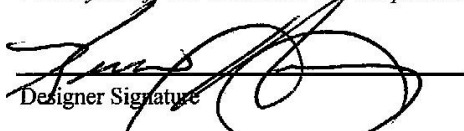
END VIEW MATERIAL PROFILE



**Soil Information**

		Evidence of site:		
		Cut	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		Filled	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		Compacted	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
		Disturbed	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Original soils	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Soil logs completed and attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Perk test completed and attached (if applicable)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Soil loading rate (gpd/ft <sup>2</sup> )	<u>1.20</u>	Percolation rate (if applicable)	_____	
Depth/elev to SHWT	<u>14"</u>	Flooding or run-on potential (comments)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Depth to system bottom maximum (or elev minimum)	<u>-36.00</u>	Flood elevation (if applicable)	_____	
Depth/elev to standing water (if applicable)	_____	Elevation of ordinary high water level (if applicable)	_____	
Depth/elev to bedrock (if applicable)	_____	Floodplain designation and elev - 100 yr/10 yr (if applicable)	_____	
Soil Survey information determined (see attachment)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Differences between soil survey and field evaluation (if applicable)	<u>FEW COLOR VARIATIONS</u>			

I hereby certify this evaluation was completed in accordance with MN 7080 and any local req's.

  
Designer Signature

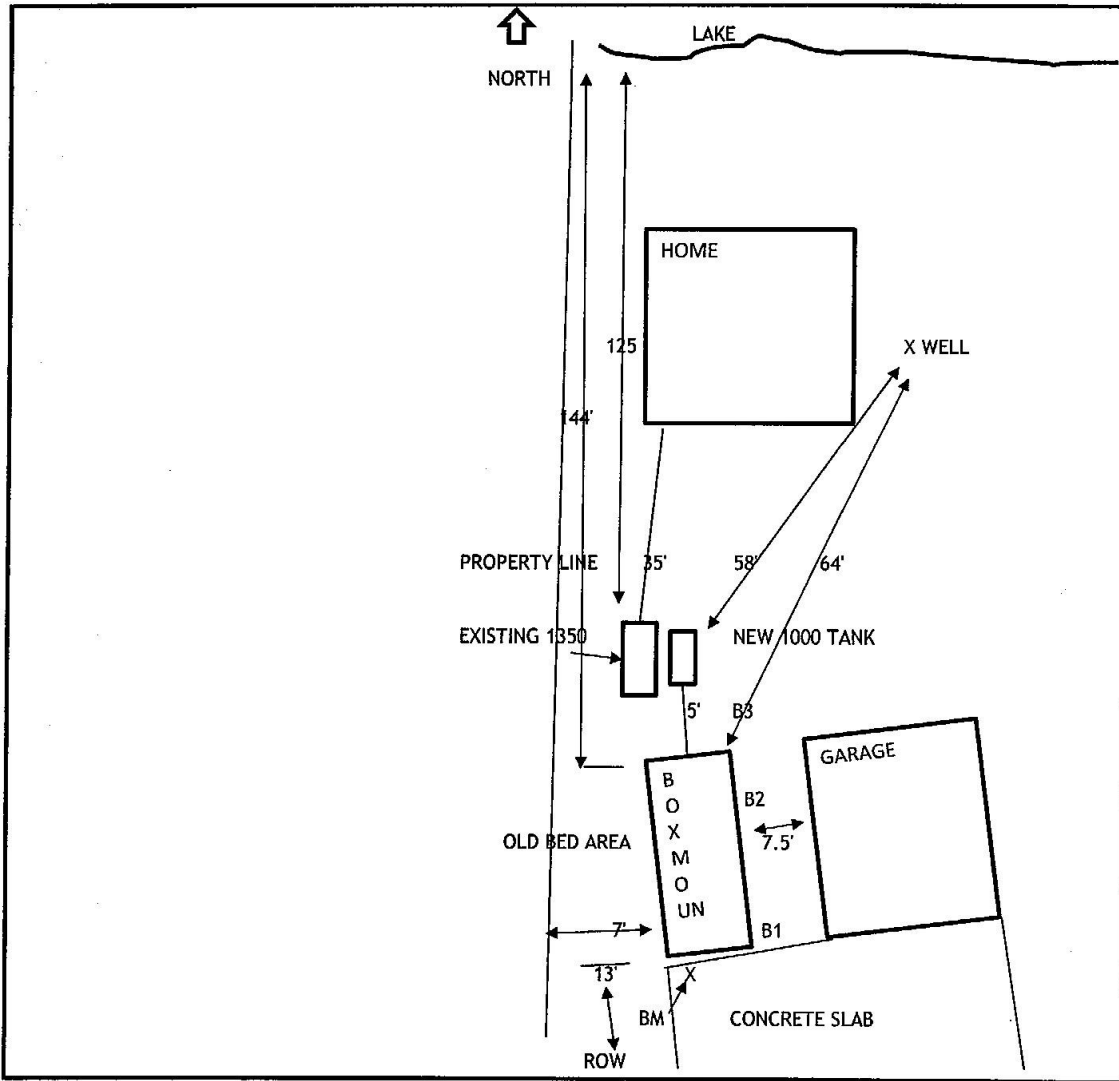
ENVIRONMENTAL SYSTEMS  
Company

3945  
License #

Project ID:

v 03.15.2023

Property Owner/Client: SCOTT HINTZ



Map scale:

Indicated north

Show slope/contours

Elevations in feet

Benchmark:

ft

System Corners:

NW:  ft  
 NE:  ft  
 SW:  ft  
 SE:  ft

Soil Observation:

#1:  ft  
 #2:  ft  
 #3:  ft  
 #4:  ft

PUMP TANK INLET

ft

Other:

ft  
 ft

Date Completed:



# Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information	
Property Owner / project: <u>SCOTT &amp; NANCY HINTZ</u>	Date <u>5/10/2024</u>
Property Address / PID: <u>20086 472nd McGREGOR</u>	

Soil Survey Information	
<input type="checkbox"/> refer to attached soil survey	
Parent mat'l's:	<input type="checkbox"/> Till <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Alluvium <input type="checkbox"/> Organic <input type="checkbox"/> Bedrock
landscape position:	<input type="checkbox"/> Summit <input checked="" type="checkbox"/> Shoulder <input type="checkbox"/> Side slope <input type="checkbox"/> Toe slope
soil survey map units:	<u>B39A</u> slope <u>1</u> %    direction- <u>downhill</u>

Soil Log #1							
		<input type="checkbox"/> Boring	<input checked="" type="checkbox"/> Pit	Elevation <u>99.8</u>	Depth to SHWT <u>18"</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0-5	Loamy Sand	<35	10YR2/4		Friable	Weak	Granular
5-9	Loamy Sand	<35	10YR3/2		Friable	Weak	Granular
9-18	Med Sand	<35	10YR3/4		loose friable firm rigid	Weak	Granular
18-30	Med Sand	<35	10YR5/3	7.5YR4/6	Friable	loose weak moderate strong	single grain granular blocky prismatic platy massive
30-50	Med Sand	<35	10YR6/4	10YR5/8	Loose	Loose	Single grain
Comments:							

20086 472nd McGREGOR								Soil Log #2	
		<input checked="" type="checkbox"/> Boring	<input type="checkbox"/> Pit	Elevation	<u>99.6</u>	Depth to SHWT	<u>12"</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape		
0-4	Loamy Sand	<35	10YR3/2		Friable	Weak	Granular		
4-12	Med Sand	<35	10YR4/6	7.5YR4/6	Friable	Weak	Blocky		
12-29	Med Sand	<35	10YR5/3	7.5YR4/6	Friable	Weak	Blocky		
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive		
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive		

20086 472nd McGREGOR								Soil Log #3	
		<input checked="" type="checkbox"/> Boring	<input type="checkbox"/> Pit	Elevation	<u>99.42</u>	Depth to SHWT	<u>10"</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape		
0-4	Loamy Sand	<35	10YR3/2		Friable	Weak	Granular		
4-10	Med Sand	<35	10YR4/6		Friable	Weak	Blocky		
10-12	Med Sand	<35	10YR4/6	7.5YR4/6	Friable	Weak	Blocky		
12-20	Med Sand	<35	10YR5/3	7.5YR4/6	Friable	Weak	Blocky		
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive		

I hereby certify this work was completed in accordance with MN 7080 and any local req's.

*Kevin DeWitt* ENVIRONMENTAL SYSTEMS #3945