

Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information			
Date	<u>6/7/2019</u>	Sec / Twp / Rng	<u>S- 3, T-49, R-23</u>
Parcel ID	<u>29-1-354600</u>	LUG (county, city, township)	<u>Aitkin Co.</u>
Property Owner:	<u>Dale Richter</u>	Owners address (if different)	
Property Address:	<u>51411 189th Ave. McGregor MN 55760</u>	PO Box. 164	
City / State / Zip:		<u>St. Joseph MN 56374</u>	

Flow Information and Waste Type / Strength			
Estimated Design flow	<u>600</u>	Anticipated Waste strength	<input type="checkbox"/> HI Strength <input checked="" type="checkbox"/> Domestic
Comments: <u>Install Pressure bed odd shaped.</u>		Any Non-Domestic Waste	<input type="checkbox"/> Yes (class V) <input checked="" type="checkbox"/> No
		Sewage ejector/grinder pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Water softener	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Garbage Disposal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Daycare / In home business	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Site Information					
Existing & proposed lot improvements located (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well casing depth	Proposed deep well	
Easements on lot located (see site map)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Drainfield w/in 100' of residential well	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Property lines determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in 200' of transient noncommunity water supply (TNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Req'd setbacks determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Utilities located & identified (gopher state one call)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Buried water supply pipe w/in 50' of system	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Access for system maintenance (shown on site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Soil treatment area protected	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site map prepared with previous items included	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Construction related issues	<u>Approx. 6 ft. x 20 ft of pressure bed will be located in area of existing trailer</u>				
	<u>Existing trailer will be removed, it is on blocks.</u>				

Soil Information

			Evidence of site:
Original soils	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		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
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 ²)	<u>0.78</u>		Percolation rate (if applicable) _____
Depth/elev to SHWT	<u>(+84"</u>		Flooding or run-on potential <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (comments)
Depth to system bottom maximum (or elev minimum)	<u>48"</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)	_____ _____		

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



 Designer Signature

Brummer Septic LLC.

 Company

L-1347

 License #

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information	
Property Owner / project: <u>Dale Richter</u>	Date <u>6/7/2019</u>
Property Address / PID: <u>51411 189th Ave. McGregor MN 55760</u>	

Soil Survey Information	
<input type="checkbox"/> refer to attached soil survey	
Parent matl's:	<input checked="" 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 type="checkbox"/> Shoulder <input type="checkbox"/> Side slope <input type="checkbox"/> Toe slope
soil survey map units:	<u>625 & 454E</u> slope <u>3</u> % direction- <u>West</u>

Soil Log #1							
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	Depth to SHWT (+84") grade	shape
<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit Elevation <u>98.6'</u>							
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 14	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
14 - 62	Med Sand	<35	10YR4/4		Loose	Loose	Granular
62 - 84	Med Sand	<35	10YR5/4		Loose	Loose	Granular
		<35					
Comments:							

51411 189th Ave. McGregor MN 55760

Soil Log #2

<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation <u>97.7'</u>		Depth to SHWT <u>(+84")</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 14	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
14 - 62	Med Sand	<35	10YR4/4		Loose	Loose	Granular
62 - 84	Med Sand	<35	10YR5/4		Loose	Loose	Granular

51411 189th Ave. McGregor MN 55760

Soil Log #3

<input type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation _____		Depth to SHWT _____			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
		<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
		<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
		<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.


 Designer Signature

Brummer Septic LLC.
 Company

L-1347
 License #

Pressure Bed Design

contact Troy Johnson at
www.SepticResource.com
for questions or comments

Property Owner: Dale Richter Date: 6/7/2019

Site Address: 51411 189th Ave. McGregor MN 55760 PID: 29-1-354600

Comments: Will be Odd Shaped

instructions: = req'd input = input or default = calculated field *** = installer info

- 1) bedroom Type Residential System
- 2) GPD design flow
- 3) Garbage disposal or pumped to septic
Install Jacobson 1650 Compartment tank
- 4) *** Gallon septic tank (minimum) Tank options: none
- 5) GPD/ft² Soil Loading Rate (must match soil boring log) ft² bed req'd, or ft² LUG minimum
600 x 1.27 = 762 sq Ft.
- 6) *** ft desired bed width, leads to a ft bed length
(25' maximum) ERROR # of laterals incorrect
- 7) *** ft lateral spacing ft perforation spacing (maximum 3 for both)
 manifold connection
- 8) *** laterals feet long perfs / lateral perfs total
(1/2 perf means the first perf starts at the middle feed manifold)
- 9) *** inch perfs at feet residual head gives gpm flow rate per perforation
(If bed has > 1' of cover, increase residual head for cleanout req's)
for this perf size & spacing, & pipe size on line 12, max perfs/lateral = , line #8 must be less --> OK
- 10) doses per day (4 minimum)
- 11) gallons per dose (treatment volume)
- 12) 1.25 inch diameter laterals (or smaller) will meet "5x pipe volume"
*** inch diameter laterals (or smaller) must be used to meet "4x pipe volume" requirement
1.50 inch diameter laterals (or smaller) will meet "3x pipe volume"
- 13) *** feet of inch supply line leads to gallons of drainback volume
("top feed" to control the drainback)
- 14) gallons TOTAL pump out volume (treatment + drainback)
- 15) feet vertical lift from pump to dispersal area, leads to a
- 16) *** GPM @ feet of head, Pump requirement
(>50 gpm may require additional 3-6' head allowance for discharge assy)

- 17) *** 533 gal Dose tank (minimum) at 12.69 gpi
- 18) *** 8.7 inch swing on Demand float, or Timed dosing of 2.5 min ON (<100% of design flow requires a larger OFF time) 4 hrs OFF (confirm pump rate with drawdown test and adjust as necessary)
- 19) 12 inches of from bottom of tank to "pump OFF" float, and/or to cover pump
- 20) *** 21 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float
- 21) *** 24 inches from bottom of tank to "Hi Level" float (add 5-15 inches if Time Dosed)
- 22) 228 gallons reserve capacity (after High Level Alarm is activated)
- 23) 84 inches, or 7.00 ft. to Redox or other limiting condition (This must match the soil boring log)
- 24) 36 inches, or 3.00 ft. of vertical separation required leads to bottom of rock no more than:
- 25) *** 48 inches, or 4.0 ft. Below existing grade **CRITICAL FOR FUTURE CERTIFICATIONS!!!**
- 26) *** 9 inches of rock below the pipe
3 inches of rock to cover the pipe
- 27) Overall Dimensions: $(19' \times 32' = 608) + (13' \times 13' = 169) = 770$ sq ft.
19.0 ft. wide by 40.1 ft. long Pressure Bed
- 28) *** Rock Bed materials:
19 ft. by 40.1 ft. by 12 inches total, plus 20% gives 34 yd³ or *1.4= 48 ton

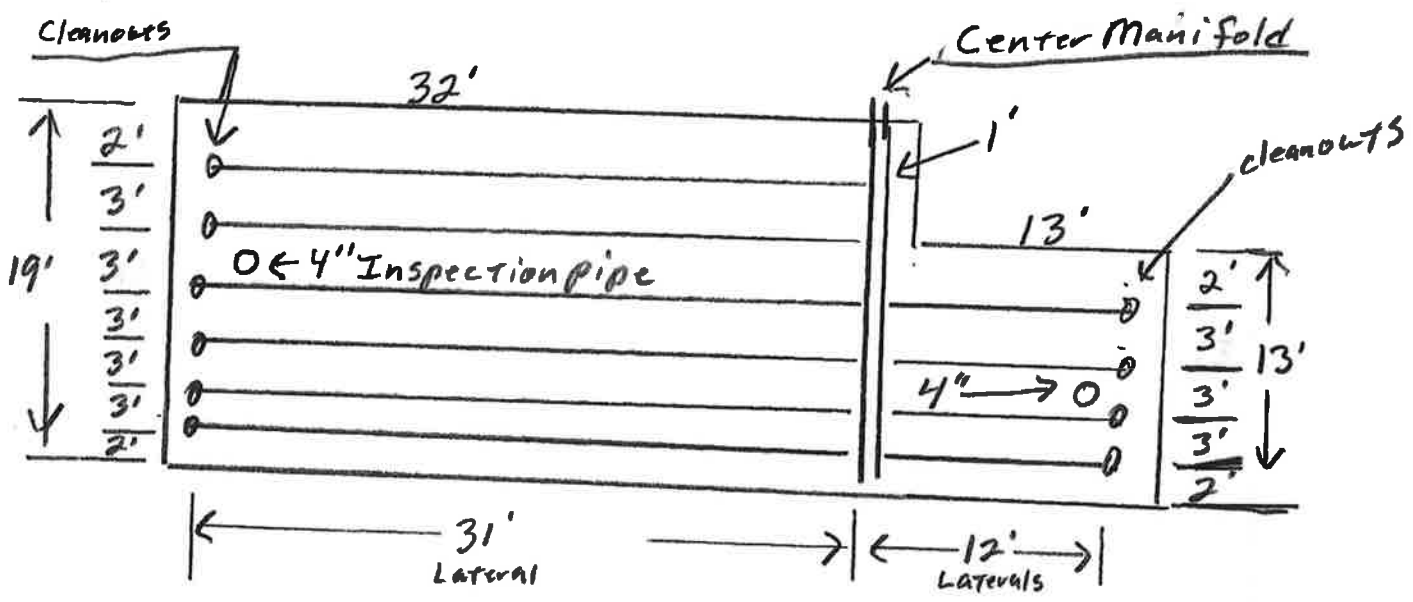
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

Jeff Brummer
Designer Signature

Brummer Septic LLC.
Company

L-1347
License#

Date



Installer Summary

gallon Septic tank (minimum) none Install Jacobson 1650

gallon Dose tank (minimum) at gpi

GPM @ ft. of head, Pump required

inch swing on Demand float or minutes ON time & hours OFF time

inches from bottom of tank to "pump ON" float, or inches to "timer ON" float
 inches from bottom of tank to "Hi Level Alarm" float

ft. of inch supply line with manifold connection

laterals inch diameter feet long ft lateral spacing

inch perfs ft perforation spacing

Effluent filter & alarm
 clean out & valve box assembly

Pressure Bed:

ft. wide by ft. Long

Bottom of rock no more than:

inches, or ft. Below existing grade

inches of rock below the pipe

Overall Dimensions: ft. wide by ft. long Pressure Bed

Rock Bed materials: yd³ or *1.4= ton

INSPECTOR CHECKLIST - Pressure bed

- WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min)
50' to everything 100' to dispersal area with shallow well
- PROPERTY LINES setback: 10' to everything
- Road setback: outer ditch, or 33' from center of township road, or 65' from center of cnty road
- LAKE / BLUFF setback: 20' for bluff. Lakes: gen 50', rec 75', nat 150'. Protected wetland 50'.
- Building setbacks: 10' for everything, 20' for dispersal area.
- WATER LINE under pressure 10' to bed, tank & sewer line.
- Sewer line & baffle connection (no 90's, 3' between 45's, slope of 1/8"/ft, or 1" in 8', or 1' in 96'.
(no depth req's, clean out every 100', Sch 40 D2665 or F891)
- Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping)
mfg _____ 1000 gallons none _____
- Riser over outlet, riser over inlet, 6"+ inspection pipe over any remaining baffles.
- No effluent filter & alarm
- Dose tank risers and piping (water tight, insulated, proper depth, drainback)
mfg _____ 533 gallons
- dose pump _____ 44 gpm 19 head VERIFY PUMP CURVE 2.5 M on 4 H off
- float setting drop 8.7 inches
LABEL pump requirements and drawdown on riser or panel
- Cam lock, weep hole, supply line access (no hard 90, pipes reachable from grade)
- supply pipe sloped 1/8"+, supported by sch40 sleeve, and buried 6"+.
- splice box / control panel / electrical connections
- Bed dimensions 19 X 40.1
- Rock depth below pipe 9 inches
- Rock bottom elevation 48.0 inches from Grade to bottom of rock (max)
- cover depth of 12"+ VERIFY
- 12 laterals (1-2' from edge of rock)
- 1.25 inch pipe size (bigger is ok but do not exceed 4 times pipe volume)
- 3.0 ft lateral spacing
- 7/32 inch perforations (smaller is ok)
- 3.0 ft perforation spacing
- Air inlet at end of laterals, and at top feed manifold. VERIFY
- clean outs (deep bed 2' of head) (no hard 90's)
- 4" inspection pipe to bottom of rock, anchored VERIFY
- Abandon existing system if necessary
monitoring plan and type _____

Mound Design Notes - Aitkin county

Property Owner: Dale Richter

Date: 6/7/2019

Site Address: 51411 189th Ave. McGregor MN 55760

PID: 29-1-354600

Comments: Type I Pressure Bed / 4 bedroom

- 1 This is a type I Pressure Bed for a proposed 4 bedroom House.
Soil separation is at 84" with a West slope of 1.2' across pressure bed area.
- 2 There are no existing wells with 100' of drainfield area, Proposed Deep well meets setbacks.
- 3 The proposed pressure bed will be partly constructed under existing trailer house, approx. 6 ft. x 20 ft..
Existing trailer house is on blocks, not footings, and will be removed. Trailer is dry, no plumbing.
- 4 Bench Mark (Elv. = 100') is nail on power pole near driveway.
- 5 The Pressure bed area will be 19 ft. wide and 32 ft. long West of center manifold
and 13ft. X 13ft. East of center manifold. See Map. Bottom of rockbed Elv= 96'.
The NW corner is the lowest corner, it is under existing trailer house to be removed.
Elevation of the bottom of the rock bed should be approx. 96' can be higher if it will fit.
The area size of the rock bed is 19 x 32' plus 13' x 13' for approx. 770 sq. ft. '
Cover rock bed with fabric and 12" to 18" of soil.
- 6 Installer to double check bench mark. Installer should confirm bench mark height Elv. with inspector.
Installer should record bench mark Elv. and bottom of rockbed height on installation inspection form.
- 7 It is important that the soils do not get compacted, and area stays protected.
- 8 The Jacobson 1650 Combo tank will be gravity flow from dwelling. Install the pump for 6 demand doses
per day. approx. 110 gallons per dose, 8.7 inches of tank level. Install alarm at 3 inches from pump on level.
Install pump with 44 GPM and 19 Ft. head.
- 9 Install all manholes, inspection pipes and clean-outs to grade or above, including existing tank.
- 10 Install a 2" supply pipe from tank to Center manifold in rock bed, install so pipe drains back to tank.
Insulate 2" supply pipe from tank to manifold under driveway.
- 11 Install 1.5" laterals with 9" of rock under them. Install clean-outs at far end of laterals. (12" total inches of rock)
Drill 7/32" perf holes spaced 3 ft. apart.
Install inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
- 12 Installer will pressure test and squirt height laterals when finished. Give info to owner.
- 13 Owner is responsible to maintain protection of bed area through construction of house and septic system.

Designed to Aitkin Co. and MPCA recommendations and requirements.

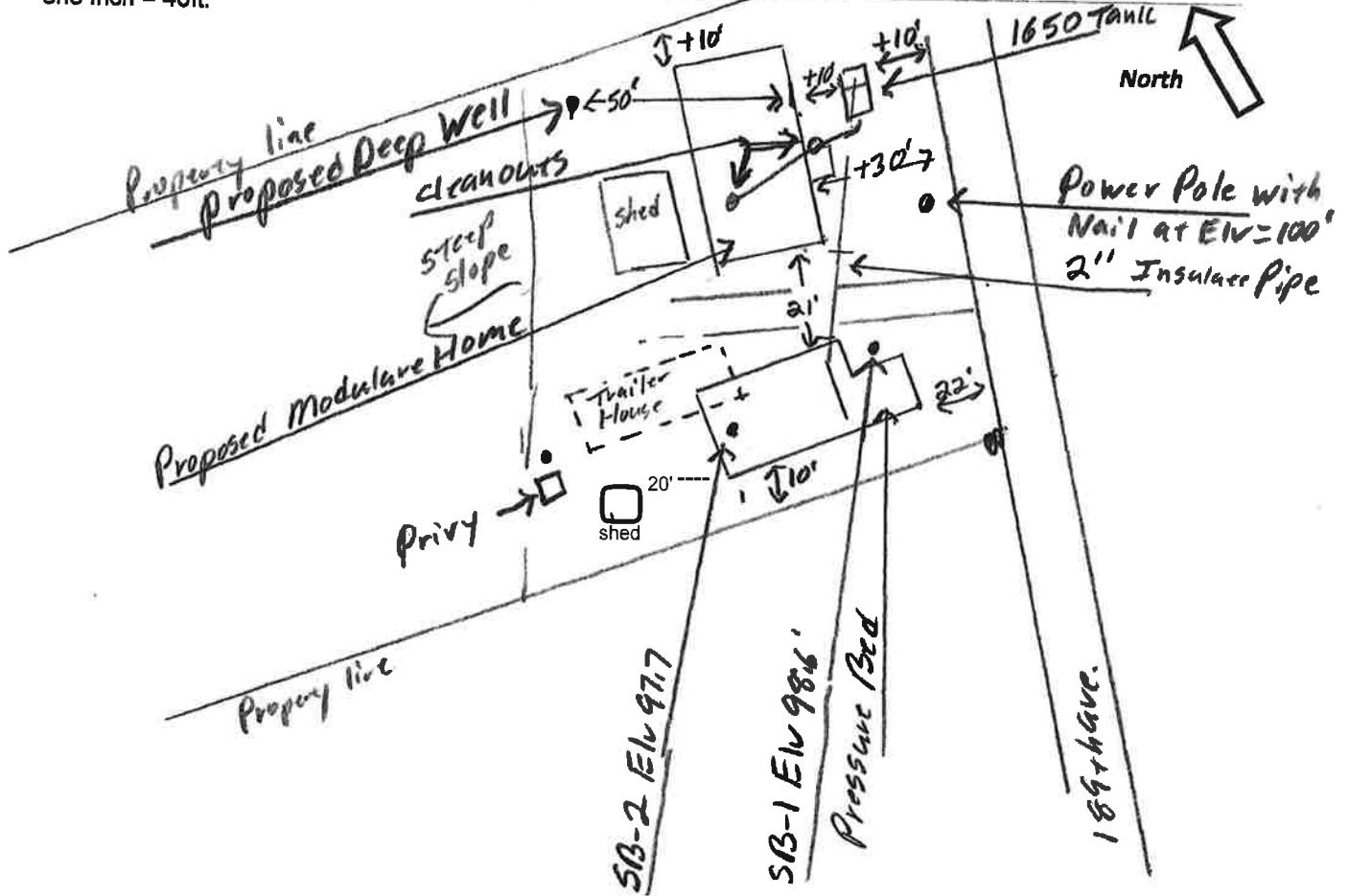

Designer Signature

Brummer Septic LLC.
Design Company

L-1347
License#

{ Design Drawing }

Property Owner: Dale Richter Date: 6/7/19 Designer's Initials: JB
 Parcel ID. Number: 29-1-354600 Address: 51411 189th Ave. McGregor MN 55760
 one Inch = 40ft.



	Surface/ SHWT	Nail on Power Pole = Bench Mark 100'	Existing Grade
Soil Bore 1	98.6'/84"	Bench Mark 100'	Grade at NW bed corner Elv.= 97.5'
Soil Bore 2	97.7'/84"	Ground Elv. BM 98.6'	Grade at NE bed corner Elv.= 98.6'
Soil Bore 3		Ground Elv. Tank 98.2'	Bottom of Rockbed Elv.= 96'
	Ground at Proposed house	98.4'	Driveway at 2" supply pipe Elv.= 98.7'

Please show all that apply (Existing)

Wells within 100ft. Of Drain field.

Water lines within 10 ft. of Drain field.

Drain field Areas:

Please Draw to Scale with North to Top or Left Side of Page:

Disturbed/Compacted Areas

Component Location

OHW ordinary high water

Lot Easements

Access Route for Tank Maintenance

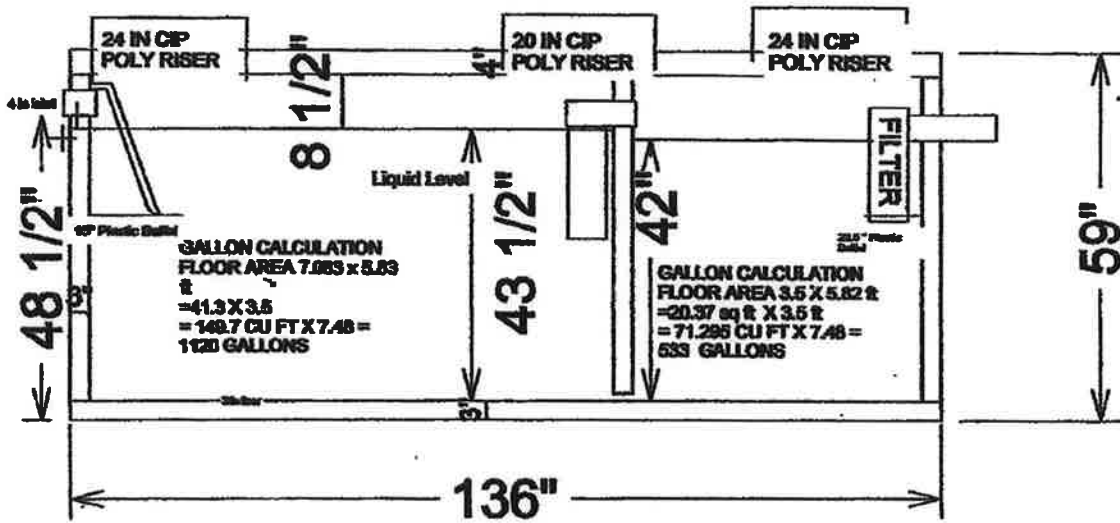
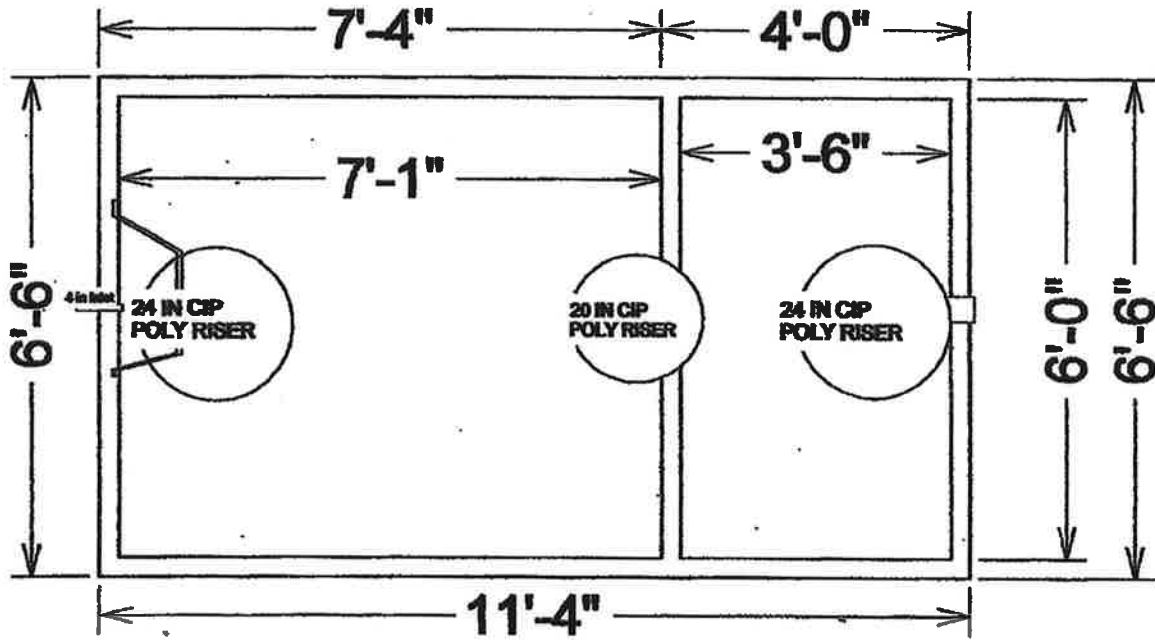
Property Lines

Structures

Setbacks

1650 Gallon 2 Compartment Septic Tank

TOP VIEW



$533 / 42 = 12.69 \text{ GPI}$

SIDE VIEW

Drawings Owned BY Jacobson Precast, Inc.
36641 HWY 169, Aitkin, Mn 56431



Detailed Parcel Report

Parcel Number: 29-1-354600

General Information

Township/City:	SHAMROCK TWP		
Taxpayer Name:	RICHTER, DALE & JUDY		
Taxpayer Address:	PO BOX 164		
	ST JOSEPH MN 56374		
Property Address:	51411 189th Ave		
Township:	49	Lake Number:	1906200
Range:	23	Lake Name:	BIG SANDY - BACK LOT
Section:	3	Acres:	0.00
Green Acres:	No	School District:	4.00
Plat:	BIG SANDY LAKE HIGHLANDS		
Brief Legal Description:	LOT 49		

Tax Information

Class Code 1:	Non-Comm Seasonal Residential Recreational
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2019

Estimated Land Value:	\$5,000.00
Estimated Building Value:	\$1,500.00
Estimated Total Value:	\$6,500.00
Prior Year Total Taxable Value:	\$6,400.00
Current Year Net Tax (Specials Not Included):	\$56.00
Total Special Assessments:	\$0.00
**Current Year Balance Not Including Penalty:	\$0.00
Delinquent Taxes:	No

*** For more information on delinquent taxes, please call the Aitkin County Treasurer's Office at 218-927-7325.**

**** Balance Due on a parcel does not include late payment penalties.**



Detailed Parcel Report

Parcel Number: 29-1-354700

General Information

Township/City: SHAMROCK TWP
Taxpayer Name: RICHTER, DALE & JUDY
Taxpayer Address: PO BOX 164
ST JOSEPH MN 56374
Property Address:
Township: 49 **Lake Number:** 1906200
Range: 23 **Lake Name:** BIG SANDY - BACK LOT
Section: 3 **Acres:** 0.00
Green Acres: No **School District:** 4.00
Plat: BIG SANDY LAKE HIGHLANDS
Brief Legal Description: LOT 50

Tax Information

Class Code 1: Non-Comm Seasonal Residential Recreational
Class Code 2: Unclassified
Class Code 3: Unclassified
Homestead: Non Homestead
Assessment Year: 2019

Estimated Land Value:	\$22,000.00
Estimated Building Value:	\$5,000.00
Estimated Total Value:	<u>\$27,000.00</u>
Prior Year Total Taxable Value:	\$26,700.00
Current Year Net Tax (Specials Not Included):	\$236.00
Total Special Assessments:	\$0.00
**Current Year Balance Not Including Penalty:	\$0.00
Delinquent Taxes:	No

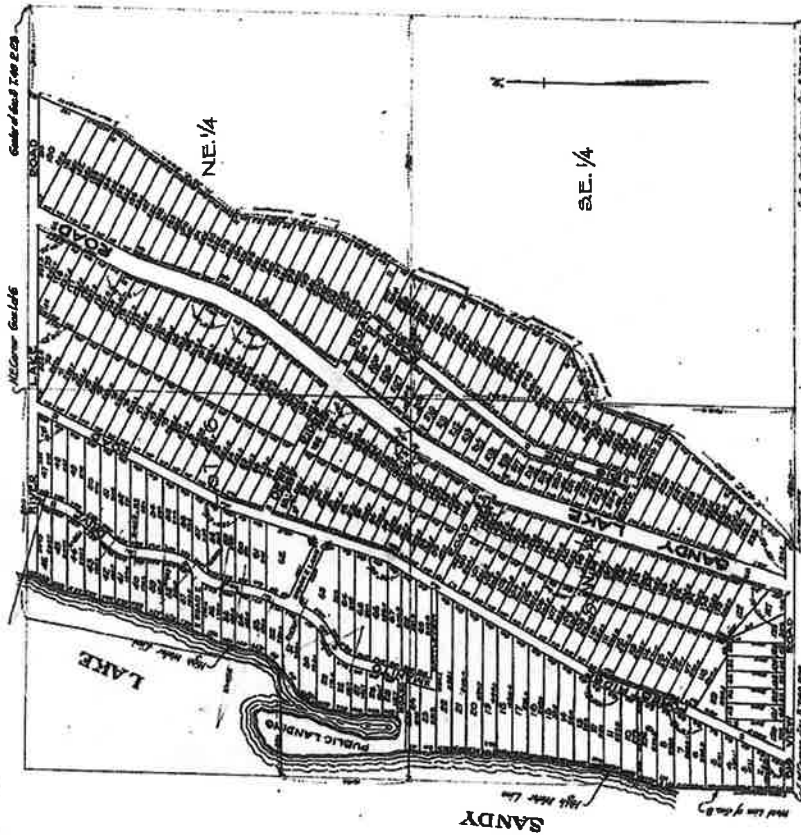
*** For more information on delinquent taxes, please call the Aitkin County Treasurer's Office at 218-927-7325.**

**** Balance Due on a parcel does not include late payment penalties.**

BIG SANDY LAKE HIGHLANDS

AITKIN COUNTY MINN.
1881. 38. Luman Barringer

Scale 1"=200'



These lands were purchased by the Minnesota Land Company...
The Minnesota Land Company, an organization organized under the laws of the State of Minnesota, is the owner of the above described lands...
The Minnesota Land Company is a corporation organized under the laws of the State of Minnesota, and its capital is paid up in cash...
The Minnesota Land Company is a corporation organized under the laws of the State of Minnesota, and its capital is paid up in cash...

In witness whereof, the Minnesota Land Company has hereunto set its hand and seal this 1st day of May, A.D. 1900.

John R. ...
President
The Minnesota Land Company

REGISTERED
INDEXED
FILED
MAY 1 1900
REGISTER
INDEXER
FILED

65 130

Mrs. R. L. ...
Chairman





Search

Map Unit Legend

Aitkin County, Minnesota (MN001)			
Aitkin County, Minnesota (MN001)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
454C	Mahtomedi loamy coarse sand, 6 to 12 percent slopes	0.3	18.6%
454E	Mahtomedi loamy coarse sand, 12 to 25 percent slopes	1.0	56.3%
625	Sandwich loamy sand	0.4	25.1%
Totals for Area of Interest		1.7	100.0%

Soil Map

Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:20,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Aitkin County, Minnesota

454C—Mahtomedi loamy coarse sand, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: gix
Elevation: 980 to 1,640 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 120 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Mahtomedi and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mahtomedi

Setting

Landform: Outwash plains
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly outwash

Typical profile

A - 0 to 4 inches: loamy coarse sand
E - 4 to 17 inches: gravelly coarse sand
Bw - 17 to 38 inches: gravelly sand
C - 38 to 60 inches: gravelly sand

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Sandy (G090AN022MN)
Hydric soil rating: No

Minor Components

Leafriver and similar soils

Percent of map unit: 2 percent

Landform: Depressions

Hydric soil rating: Yes

Meehan and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Newson and similar soils

Percent of map unit: 2 percent

Landform: Swales

Hydric soil rating: Yes

Soils with less gravel

Percent of map unit: 2 percent

Hydric soil rating: No

Soils with more gravel

Percent of map unit: 2 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 19, Sep 12, 2018

Aitkin County, Minnesota

454E—Mahtomedi loamy coarse sand, 12 to 25 percent slopes

Map Unit Setting

National map unit symbol: gjgy
Elevation: 980 to 1,640 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 120 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Mahtomedi and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mahtomedi

Setting

Landform: Outwash plains
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly outwash

Typical profile

A - 0 to 1 inches: loamy coarse sand
E - 1 to 14 inches: loamy coarse sand
Bw - 14 to 25 inches: gravelly sand
C - 25 to 60 inches: gravelly sand

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Steep; Coarse Texture; Low AWC (G090AN018MN)

Hydric soil rating: No

Minor Components

Leafriver and similar soils

Percent of map unit: 2 percent

Landform: Depressions

Hydric soil rating: Yes

Meehan and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Newson and similar soils

Percent of map unit: 2 percent

Landform: Swales

Hydric soil rating: Yes

Soils with less gravel

Percent of map unit: 2 percent

Hydric soil rating: No

Soils with more gravel

Percent of map unit: 2 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 19, Sep 12, 2018

Aitkin County, Minnesota

625—Sandwich loamy sand

Map Unit Setting

National map unit symbol: gjj4
Elevation: 980 to 1,310 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 37 to 41 degrees F
Frost-free period: 95 to 105 days
Farmland classification: Not prime farmland

Map Unit Composition

Sandwich and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sandwich

Setting

Landform: Swales on moraines
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Sandy outwash over loamy till

Typical profile

E - 0 to 6 inches: loamy sand
Bw,E' - 6 to 34 inches: sand
2E/B,2Btg - 34 to 55 inches: loam
2Cg - 55 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Forage suitability group: Level Swale, Low AWC, Acid
(G088XN007MN)
Hydric soil rating: Yes

Minor Components

Alstad and similar soils

Percent of map unit: 3 percent

Hydric soil rating: No

Cutaway and similar soils

Percent of map unit: 3 percent

Hydric soil rating: No

Dusler and similar soils

Percent of map unit: 3 percent

Hydric soil rating: No

Northwood and similar soils

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Stuntz and similar soils

Percent of map unit: 3 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 19, Sep 12, 2018

Subsurface Sewage Treatment System Management Plan

Property Owner: Dale Richter Phone: (320) 630-6446 Date: 6/7/2019
Mailing Address: PO. Box 164 City: St. Joesph MN Zip: 56374
Site Address: 51411 189th Ave. City: McGregor MN Zip: 55760

This management plan will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic service provider.

System Designer: check every 36 months.
Local Government: check every _____ months.
State Requirement: check every 36 months.

My System needs to be checked every 36 months.

(State requirements are based on MN Rules Chapter 7080.2450, Subp. 2 & 3)

Homeowner Management Tasks

- Leaks* – Check (look, listen) for leaks in toilets and dripping faucets. Repair leaks promptly.
- Surfacing sewage* – Regularly check for wet or spongy soil around your soil treatment area.
- Effluent filter* – *Inspect and clean twice a year or more.*
- Alarms* – Alarm signals when there is a problem. Contact a service provider any time an alarm signals.
- Event counter or water meter* – Record your water use.
-recommend meter readings be conducted (circle one: DAILY WEEKLY MONTHLY)

Professional Management Tasks

- Check to make sure tank is not leaking
- Check and clean the in-tank effluent filter
- Check the sludge/scum layer levels in all septic tanks
- Recommend if tank should be pumped
- Check inlet and outlet baffles
- Check the drainfield effluent levels in the rock layer
- Check the pump and alarm system functions
- Check wiring for corrosion and function
- Check dissolved oxygen and effluent temperature in tank
- Provide homeowner with list of results and any action to be taken
- Flush and clean laterals if cleanouts exist

"I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in the Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."

Property Owner Signature: *Dale Richter* Date: 6-13-19

Designer Signature: *Jeff Brummer* Date: 6/7/2019

See Reverse Side for Management Log

Maintenance Log

Activity	Date Accomplished
Check frequently:	
Leaks: check for plumbing leaks	
Soil treatment area check for surfacing	
Lint filter: check, clean if needed	
Effluent screen: if owner-maintained	
Water usage rate (monitor frequency _____)	
Check annually:	
Caps: inspect, replace if needed	
Sludge & Scum/Pump	
Inlet & Outlet baffles	
Drainfield effluent leaks	
Pump, alarm, wiring	
Flush & clean laterals if cleanouts exists	
Other: _____	
Other: _____	

Notes: Check alarms and pumps at least once a year

Pump septic & pump tanks at least once every three years.

Mow Drainfield area at least once a year to keep trees and brush from growing in area.

No parking or driving on drainfield area, no snowmobiles on drainfield area.

Mitigation/corrective action plan: _____
