Preliminary & Field Evaluation Form

23-219

Type III Mound (Distrurbed Soil)

www.SepticResource.com vers 12.4

	Owne	r Information				
	_	Sec / Twp / Rng	S-12, T-49, R-	27		
	 >	LUG (county, city, township)	Aitkin Co.			
n		Owners address (if different)				
Ln Palisade	MN 56469	6707 Wildrye	e Cir. S.			
2-7897		Cottage Gro	ve MN 55016			

Flow Inf	formation a	and Waste Type / Strength				
		Anticipated Waste strength	Hi Strength	✓ Domestic		
a af sama di	oto ebod galla	Any Non-Domestic Waste	Yes (class V)	☑ No		
shed founda		Sewage ejector/grinder pump	Yes	✓ No		
Existing Shallow well to be sealed, new deep well installed Aitkin Co. Operating permit required. Event counter on pump control Or Water meter on household water.			☐ Yes	✓ No		
			Yes	☑ No		
			☐ Yes	☑ No		
	ž					
	Site :	Information				
☐ Yes	✓ No	Well casing depth				
Yes	☑ No	Drainfield w/in 100' of residential well	✓ Yes	☐ No		
✓ Yes By Owner	☐ No	Site w/in 200' of transient noncommunity water supply (T	Yes	✓ No		
✓ Yes	□ No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	Yes	☑ No		
Yes	✓ No	Buried water supply pipe w/in 50' of system	Yes	✓ No		
✓ Yes	☐ No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	✓ Yes	☐ No		
✓ Yes	☐ No	Site map prepared with previous items included	✓ Yes	☐ No		
Deep Wel	To the West	53ft to rockbed of mound.				
Existing sl	nallow well to	be sealed, new deep well between	veen house and	l lake		
Type III Mound because of distrubed soil, old shed foundations and side walk removed						
	Flow Inf See of some distance of some deep were deed. The second of the	En Palisade MN 56469 2-7897 Flow Information as se of some disturbed soils a shed foundation removed anew deep well installed red. control er. Site Yes No Deep Well To the West Existing shallow well to	Den	LUG (county, city, township) Aitkin Co. Owners address (if different) Cottage Grove MN 55016 Flow Information and Waste Type / Strength Anticipated Waste strength		

		Soil Information		
Original soils	✓ Yes	Evidence of site: Cut Filled Compacted Disturbed	☐ Yes ☐ Yes ☐ Yes ☑ Yes	✓ No ✓ No ✓ No ✓ No
Soil logs completed and attached	✓ Yes No	Perk test completed and attached (if applicable)	Yes	✓ No
Soil loading rate (gpd/ft ²)	0.78	Percolation rate (if applicable)		_
Depth/elev to SHWT Depth to system bottom		Flooding or run-on potential (comments)	☐ Yes	✓ No
maximum (or elev minimum) Depth/elev to standing water (if applicable)	-	Flood elevation (if applicable)	-	_
Depth/elev to bedrock (if applicable)	(Elevation of ordinary high water level (if applicable)	1233.7	_ ,,
Soil Survey information determined (see attachment) Differences between soil survey and field evaluation (if applicable)	✓ Yes No	Floodplain designation and elev - 100 yr/10 yr (if applicable Approx. Upslope edge grade of rockbed E	-	 ı Aitkin Co. GIS Map
				· · · · · · · · · · · · · · · · · · ·
I hereby certify this evaluation wa	-	rdance with MN 7080 and any local req's. Brummer Septic LLC.		L-1347
Designer/Engnature		Company	·	License #

Soil Observation Log

			Owner Info	rmation	W 17 19	Septienesoure	e.com vers 12.4
Property Own		Heidi Samr 40309 502nd			Date	10/3	0/2023
			Soil Survey I	nformation	refer	to attached so	all survey
Parent matl's:		IJΠI	Outwash		uvium 🔲 C	rganic	Bedrock
landscape pos	sition:	Summit	Shoulder	✓ Side slope	Toe slope		
soil survey m	ap units:	928C		slope 5	_% direction-	South	-
			Soil Lo	ıa #1			
		Boring			Depth to SHWT	22"	
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	- shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 16	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
16 - 22	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
22 - 26	Sandy Loam	<35	10YR5/4	7.5YR5/6	Loose	Loose	Granular
Comments:		1					

40309 502r	nd Ln Palisade M	IN 56469	S	oil Log #2			
	✓ E	oring] Pit Elevation		Depth to SHWT	22"	
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 16	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
16 - 22	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
22 - 26	Sandy Loam	<35	10YR5/4	7.5YR5/6	Loose	Loose	Granular
40309 5021	nd Ln Palisade N	IN 56469	S	oil Log #3			
☑ Boring ☐ Pit Elevation 97.9' Depth to SHWT 18"							
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 18	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
18 - 22	Sandy Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

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

O. S. M. Manuelle	Brummer Septic LLC	L-1347
Designer Aggrature	Company	License #

2011 purple code

Mound Design - Aitkin county

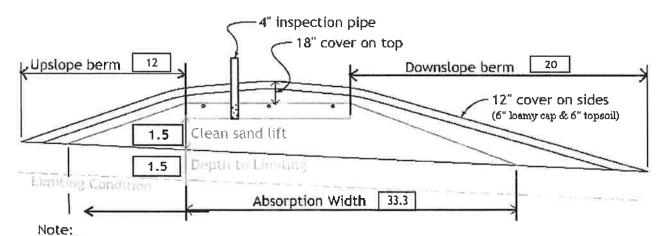
www.SepticResource.com (vers 15.2)

	Property Owner:	Heidi Sammon	Pate: 10/30/2023
	Site Address:	40309 502nd Ln Palisade MN 56469 P	ID: 52-1-036500
	Comments:	3 lots total lot 5/52-1-036500, Lot 4/52-1-0363	00, Lot 6/ 52-1-036700
instruc	etions: = ente	er data = adjust if desired	= computer calculated - DO NOT CHANGE!
1)	3 bedroom	Type III Residential S	ystem
2)	450 GPD design fl	ow	
3)	No Garbage dispo	osal or pumped to septic Install 1650 Jaco	obson 2/Compartment Septic/Pump tank
4)	1000 Gal Septic tar		ic tank (design sîze / LUG req'd) tions: none
5)	1.2 GPD/ft ² mour	nd sand loading rate contour loading rat	e of 12 req's a min 37.5 ft. long rockbed
6)	10.0 ft rockbed w	ridth 38.0 ft rockbed length	
7)	3.0 ft lateral space		maximum of 3 for both) I connection
8)	3 laterals	36.0 feet long 13.0 perfs / lateral (1/2 a perf means the f	39 perfs total irst perf starts at the middle feed manifold)
9)	1/4" inch perfs at	1 feet residual head gives 0.74 g	pm flow rate per perforation
	for this perf size & sp	pacing, & pipe size on line 12, max perfs/lateral	= 16, line #8 must be less> OK
10)	7.0 doses per day	(4 minimum)	
11)	64 gallons per do	ose (treatment volume)	1.50 5x
12)	1.50 inch diamete	r laterals must be used to meet "4x pipe volume	
13)	50 feet of		allons of drainback volume Tip: "top feed" manifold to control the drainback)
14)	73 gallons TOTA	L pump out volume (treatment + drainback)	
15) 16)	15 feet vertical 29 GPM @	lift from pump to mound laterals, leads to a: 22 feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)
17)			design size / LUG req'd) at 12.69 gpi
744	leads to a	Bound float	
18)	(this delivers A		nin ON (confirm pump rate with drawdown test and adjust as necessary)
19) 20)	-	pottom of tank to "Pump OFF" float pottom of tank to "Pump ON" float, or 12	inches to "Timer ON" float if time dosed
21)			inches to "Hi Level" float if time dosed
22)	267 gallons reserv	ve capacity (after High Level Alarm is activated	d)

23)	0.78 gpd/ft ² Absorption area Soil Loading Rate, which gives a mound ratio of (minimum) (this must match the soil boring log) desired mound ratio 1.5
24)	(this must match the soil boring log) desired mound ratio 1.5 percent site slope (0-20% range) 5 (% downslope site slope, if different than upslope)
25)	18 inches, or 1.5 ft. to Redox or other limiting condition (need at least 12" to be a Type I)
	Treatment zone contains 0 inches of 0% soil credit, and 0 inches of 50% soil credit. Giving a:
26)	18 inch, or 1.5 ft. Sand Lift Mound CRITICAL FOR FUTURE CERTIFICATIONS!!!
27)	15.0 ft. base absorption width (with sand beyond rockbed as follows:) 33.3 greater of: absorption width OR sand slope
28)	0.0 ft. upslope and sideslope sand upslope 8.3
	5.0 ft. Downslope sand down slope 15.0
	Individual slope ratios give BERM widths (topsoil beyond rockbed) of:
29)	4:1 upslope ratio 12 ft. upslope berm
30)	4:1 sideslope 16 ft. sideslope berms
31)	4:1 downslope 20 ft. downslope berm
32)	Overall Dimensions: 10.0 ft. wide by 42 ft. wide by 70 ft. long Rock bed ft. long Mound footprint
	Upslope berm 12 Downslope berm 12" cover on sides (6" loamy cap & 6" topsoil) 1.5 Clean sand lift 1.5 Depth to Limiting
	Limiting Condition Absorption Width 33.3
	Asserbeight Highli
	Note: For 0 to 1% slopes, <i>Absorption Width</i> is measured from the <i>Bed</i> equally in both directions. For slopes >1%, <i>Absorption Width</i> is measured downhill from the upslope edge of the <i>Bed</i> .
33)	Rock Bed: 10.0 ft. by 38.0 ft. by 9 inches under pipe, plus 20% gives 17 yd³ or *1.4= 24 ton
34)	Mound Sand: (note: volume is based on 3:1/4:1 slope from top of rockbed, Exchange sand for loamy cap if desired) 23.9 up + 51.7 downslope + 13.3 ends + 24.6 under rock = 136 yd ³ or *1.4= 191 ton plus 20%
35)	Loamy Cap: 38 ft. by 66 ft. 6" deep, plus 20% gives 56 yd3 or *1.4= 78 ton
36)	Topsoil: 42 ft. by 70 ft. 6" deep, plus 20% gives
	I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.
	Brummer Septic LLC. L-1347 10/30/2023
	Designature Company License# Date

Installer Summary

1000 gallon Septic tank (minimum) Tank options: none Install 1650 Jacobson 2/Compartment Septic/Pump tank 533 gallon Dose tank (minimum) 12.69 gpi 22 ft. of head, Pump required 29 GPM @ 5.8 inch swing on Demand float which translates to roughly 3.9 inches of float tether length if time dosing is required --> minutes ON time & 5.2 hours OFF time 18 inches from bottom of tank to "pump ON" float, or inches to "timer ON" float 21 inches from bottom of tank to "Hi Level Alarm" or inches to "Hi level alarm" if time dosed 50 ft. of 2.0 |inch supply line with end feed manifold connection (Tip: "top feed" manifold to control drainback) linch, or 18 1.5 ft. Sand Lift Mound 10.0 ft. wide by 38.0 ft. long Rock bed 3 laterals 1.50 linch diameter 36.0 ft. long 3.0 ft. lateral spacing 1/4" inch perfs 3.0 ft. perforation spacing No Effluent filter & alarm clean out & valve box assemblies 33.3 ft. Total sand ABSORPTION width (minimum) 8.3 ft. upslope and sideslope (sand beyond rockbed, minimum) 15.0 ft. Downslope reand beyond rockbed, minimum) Specific slope ratios give BERM widths (topsoil beyond rockbed) of: 4:1 upslope ratio 12 ft. upslope berm 4:1 sideslope 16 ft. sideslope berms 20 4:1 downslope ft. downslope berm

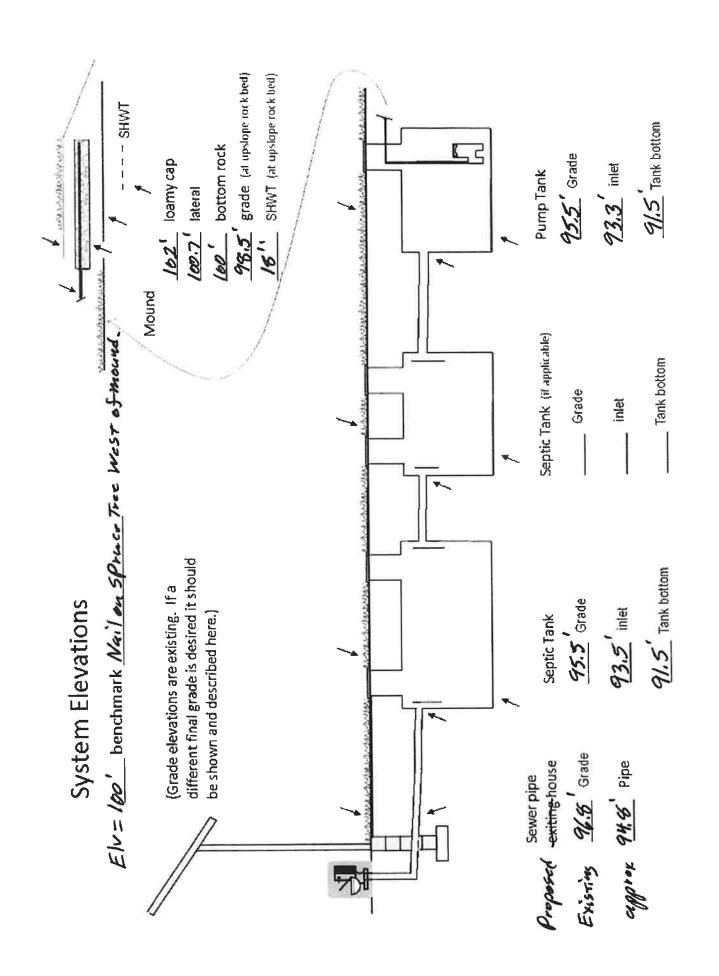


For 0 to 1% slopes, *Absorption Width* is measured from the *Bed* equally in both directions. For slopes > 1%, *Absorption Width* is measured downhill from the upslope edge of the *Bed*.

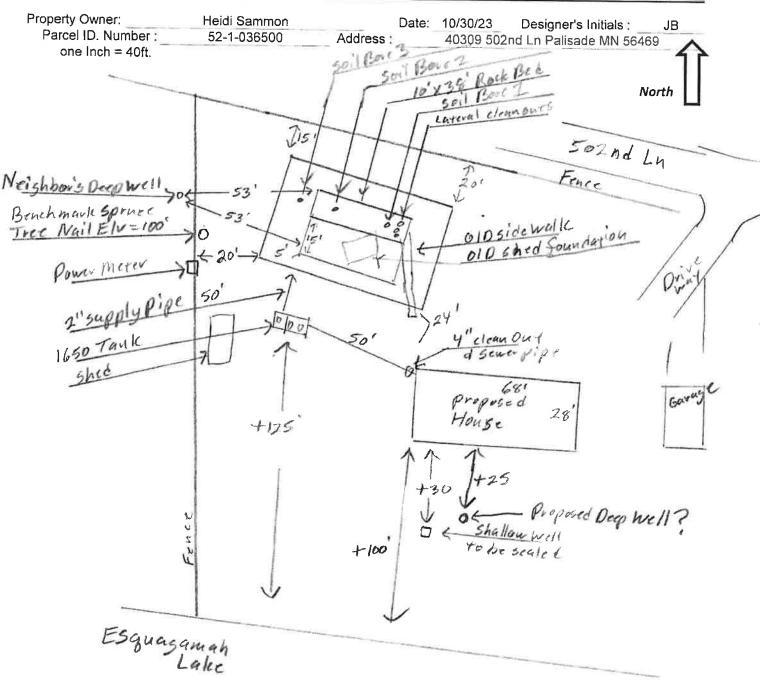
Rock Bed:	17.0 yd³ or *1.4=	24 ton	9 inches under pipe
Mound Sand:	136 yd³ or *1.4=	191 ton	
Loamy Cap:	56 yd ³ or *1.4=	78 ton	6" deep
Topsoil:	66 yd³ or •1.4=	92 ton	6" deep

INSPECTOR CHECKLIST - mound 40309 502nd Ln Palisade MN 56469 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: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch. LAKE/BLUFF setback: 20' for bluff. Lakes: GD ____, RD ____, NE ____. Protected wetland ____. Building setbacks: 10' for everything, 20' for dispersal area. WATER LINE under pressure se 10' to bed, tank & sewer line. (else sewer line > 12" below, else ok w/pvc) Sewer line & baffle connection (no 90's, 3' between 45's, slope min 1" in 8', max 2" in 8') (no depth reg's, clean out every 100', Sch 40 pipe) Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping) 1000 gallons none Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles. effluent filter & alarm Dose tank risers and piping (water tight, insulated, proper depth, drainback) 533 gallons dose pump _____ 29 gpm 22 head VERIFY PUMP CURVE 2.5 min ON 5.2 hr OFF 12.7 gpi "DESIGNED" float setting drop 5.8 inches at 3.9 inches approx float tether length inches float drop (field corrected 73.0 gal dose divided by gpi "INSTALLED" = LABEL pump requirements and drawdown on riser or panel Cam lock reachable from grade - 30" max. J-hook weep hole. Supply line access (no hard 90's) 2.0 inch supply pipe: Sch40, sloped 1/8"+, supported by 4" sch40 sleeve or compacted, and buried 6"+. splice box / control panel / electrical connections flow measurement: CT, ETM, time dosed, home water meter mound absorption area rough up Χ 38.0 mound rock dimensions 10.0 inches. (Jar test: 2" sand leaves < 1/8" silt after 30 min) Sand lift depth 8.3 upslope 15.0 downslope Absorption Sand beyond rock Bermed topsoil beyond rockbed 12 upslope 16 sideslope 20 downslope cover depth of 12-18"+ **VERIFY** 3 laterals (1-2' from edge of rock) (Sch40 pipe & fittings) 1.50 inch pipe size 3.0 ft lateral spacing 1/4" inch perforations 3.0 ft perforation spacing VERIFY Air inlet at end of laterals, and at top feed manifold if necessary. clean outs (no hard 90's) VERIFY 4" inspection pipe to bottom of rock, anchored Re-use existing tank certification Abandon existing system - if necessary monitoring plan and type

well abandonment form - if necessary



{ Design Drawing }



Existing Grade at Proposed house corners NW Elv.= 96.8' SW Elv.= 96.3' NE Elv.= 102.8' SE Elv.= 100.7'

Lake Elv.= 89.3' on 10/30/23 Shore Elv.= 91.6' Estimated Upslope grade Elv.= 1244' Aitkin Co. GIS Map

	Surface/ SHWT	Nail on Maple tre	e = Bencl	Mark 100'	Existing Grade
Soil Bore 1	98.2' / 22"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 98.5'
Soil Bore 2	98' / 22"	Ground Elv. BM	95'		Bottom of Rockbed Elv.= 100'
Soil Bore 3	97.9' / 18"	Ground Elv. Tank	95.5'		Top of Washed Sand Elv.= 100'
	Ground at	Proposed house	96.81	NW Corner	Elv. Of Sewer pipe at Cabin Elv.= 94.8'

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

Mound Design Notes - Aitkin county

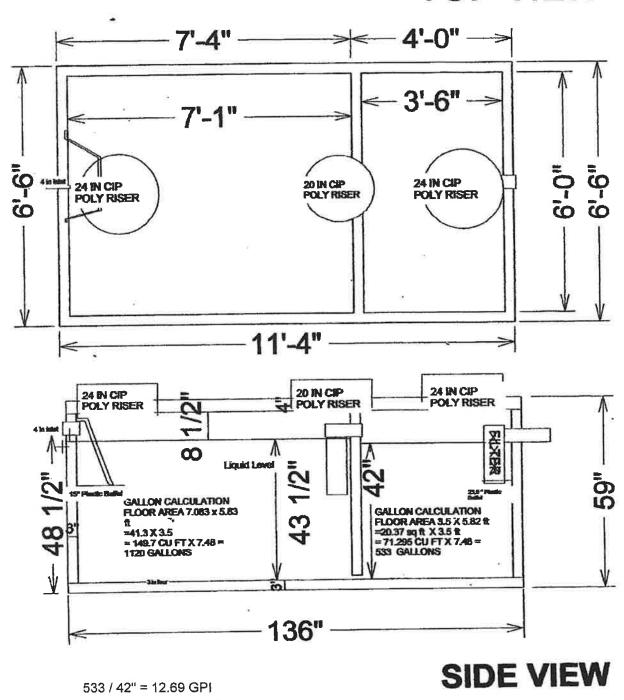
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	711	ckiii codii	- y	
P	roperty Owner:	Heidi	Sammon	_ Date: _	10/30/23	
	Site Address:	40309 502nd Ln Pali	sade MN 56469	PID:	52-1-036500	14
	Comments:	Mound desig	n may not follow Aitki	n co. Auto fili	form for mound	design.
1	This is a tune III i	mound / Disturbed S	Coil old foundation and	nida walle same	ural \ aima d fa 2	hadaa
			Soil, old foundation and			bearoom system.
			w Deep well might be b			f 17
J			hbor's lot) will meet the	ou π serback	to Rockbed and a	osorption area.
	Buried power on		-4 -1-164 14-12			
_			est side of house, install			
5			Septic/Pump tank for g	*	n house.	
			rom mound to pump tar			
_			r in septic tank outlet. In			
Ö		*	s Well setback is 53 ft fo		,	a.
_			slope up slope also (U			
1			edge is 98.5', SW berr		e approx. 20 ft. fro	m West property line
			38' . Absorption area is			
		, ,	e + 10 ft. rockbed + 15	•	• •	de sand base.
			slope, 10ft. Rock bed = a			
_			x 70' long and approx.			Nide.
8			uce tree West of mound			
			Installer should confirm		_	v. with inspector.
			/. and sand height on in	stallation inspe	ection form.	
	· ·	and bottom of rocl				
		-	compacted, and that cle			
10			y flow from dwelling. Ins			
	per day, approx.	73 gallons per dose,	5.8 inches of tank level.	. Install alarm a	at 3 inches from p	ump on level.
			and clean-outs to grade	,		• .
	Install a 2" suppl	y pipe from tank to en	nd manifold in rock bed,	install so pipe	drains back to tar	ak.
			er them. (Install Lateral	clean-outs at	far end of laterals.	. Recommended)
11	Drill 1/4" per	f holes spaced 3	ft. on center.			
			rock bed, secure in rock		_	ade.
			o, calibrate pump and gi anty any Type III system		event to Owner.	
13	_	-	commendations and req			
	1 //	n 30. and m ortice	sommionachono and toq	an orner tto;		
		mour	_	Septic LLC.	L-1347	
	Designs Sign	ature	Design Co	ompany	License	#

This System will require an Aitkin Co. Operator permit, annual inspection

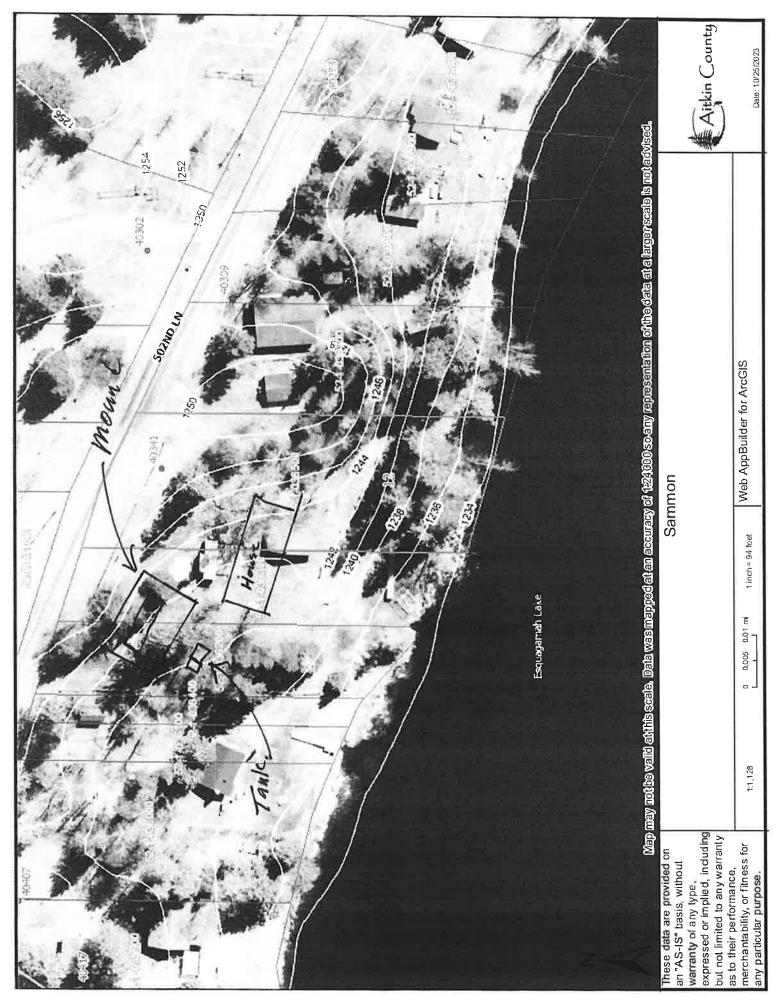
Owner and installer are responsible for owner knowing how system is maintained.

1650 Gallon 2 Compartment Septic Tank

TOP VIEW



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





Mississis West Manager

General Information

Neighbor's well to the west

Unique Well ID:	590360	Well Name:	HEALY, THOMAS C.	County:	Aitkin	Aquifer;	Quat. buried artes. aquifer
Well Elevation (msl in feet):	1238	Drilled Depth (ft):	80	Well Completed (ft):	80	Date Drilled:	10/22/1996
Township:	49	Range:	27	Dir:	W	Section:	12
Subsection:	DBDDCA	Use:	domestic	Well Status:	Active	Depth To Bedrock:	
Driller:	Lambert Well Co.	Entry Date:	02/10/1997	Update Date:	11/14/2017		

Related Resources:

Go to MN Well Index Map Well Log Report S	<u>Scanned Record(s)</u>	Stratigraphy Report
---	--------------------------	---------------------

More Details Static Water		Stratigraphy Comments	Address	s Cher	Chemical Data		truction	Pump Test
			Location Changes		Overview Map			
	Description	From(ft)	To(ft)	Color	Hard ness	Lith Prima ry	Lith Seco ndary	Interpretation
	CLAY	0	8	GRAY	SOFT	CLAY		clay-gray
	SAND	8	20	BROW N	SOFT	SAND		sand-brown
	CLAY	20	45	GRAY	HARD	CLAY		clay-gray
	CLAY/GRAVEL	45	55	GRAY	HARD	CLAY		pebbly sand/silt/clay- gray
	SAND/GRAVEL	55	80	BLUE	SOFT	SAND		sand +larger-gray



Detailed Parcel Report

Parcel Number: 52-1-036500

General Information

middle lot.

Township/City:

49-27 UNORG

Taxpayer Name:

SAMMON, DANIEL & HEIDI

Taxpayer Address:

6707 WILDRYE CIR S

COTTAGE GROVE MN 55016

Property Address:

40309 502nd Ln

Township:

49

Lake Number:

1014700

Range:

27

Lake Name:

ESQUAGAMAH LAKE RD . 75

Section:

12

Acres:

0.00

Green Acres:

No

School District:

1.00

Plat:

ESQUAGAMAH BEACH

Brief Legal Description:

LOT 5

Tax Information

Class Code 1:

Non-Comm Seasonal Residential Recreational

Class Code 2:

Unclassified

Class Code 3:

Unclassified

Homestead:

Non Homestead

OHW 1233.7 10098 1236.9 Lower flow 1237.9.

Assessment Year:

2023

Estimated Land Value:

\$93,000.00

Estimated Building Value: Estimated Total Value:

\$34,400.00 \$127,400.00

Prior Year Total Taxable Value:

\$109,800.00

Current Year Net Tax (Specials Not Included):

\$590.00

Total Special Assessments:

\$0.00

**Current Year Balance Not Including Penalty:

\$295.00

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: 52-1-036700

General Information

East lot

Township/City:

49-27 UNORG

Taxpayer Name:

SAMMON, DANIEL & HEIDI

Taxpayer Address:

6707 WILDRYE CIR S

COTTAGE GROVE MN 55016

Property Address:

40257 502nd Ln

Township:

49

Lake Number:

1014700

Range:

27

Lake Name:

ESQUAGAMAH LAKE

Section:

12

Acres:

0.00

Green Acres:

No

School District:

1.00

Plat:

ESQUAGAMAH BEACH

Brief Legal Description:

W 75 FT LOT 6

Tax Information

Class Code 1:

Non-Comm Seasonal Residential Recreational

Class Code 2:

Unclassified

Class Code 3:

Unclassified

Homestead:

Non Homestead

Assessment Year:

2023

Estimated Land Value:

\$60,700.00

Estimated Building Value: Estimated Total Value:

\$6,200.00

Prior Year Total Taxable Value:

\$59,200.00

Current Year Net Tax (Specials Not Included):

\$304.00

Total Special Assessments:

\$0.00

**Current Year Balance Not Including Penalty:

\$152.00

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: 52-1-036300

General Information

West lot.

Township/City: 49-27 UNORG

Taxpayer Name: SAMMON, DANIEL & HEIDI

Taxpayer Address: 6707 WILDRYE CIR S

COTTAGE GROVE MN 55016

Property Address:

Township: 49 Lake Number: 1014700

Range: 27 Lake Name: ESQUAGAMAH LAKE

Section: 12 Acres: 0.00
Green Acres: No School District: 1.00

Plat: ESQUAGAMAH BEACH

Brief Legal Description: E 50 FT LOT 4

Tax Information

Class Code 1: Non-Comm Seasonal Residential Recreational

Class Code 2: Unclassified
Class Code 3: Unclassified
Homestead: Non Homestead

Assessment Year: 2023

Estimated Land Value: \$40,500.00
Estimated Building Value: \$700.00
Estimated Total Value: \$41,200.00

Prior Year Total Taxable Value: \$36,600.00

Current Year Net Tax (Specials Not Included): \$188.00

Total Special Assessments: \$0.00

**Current Year Balance Not Including Penalty: \$94.00

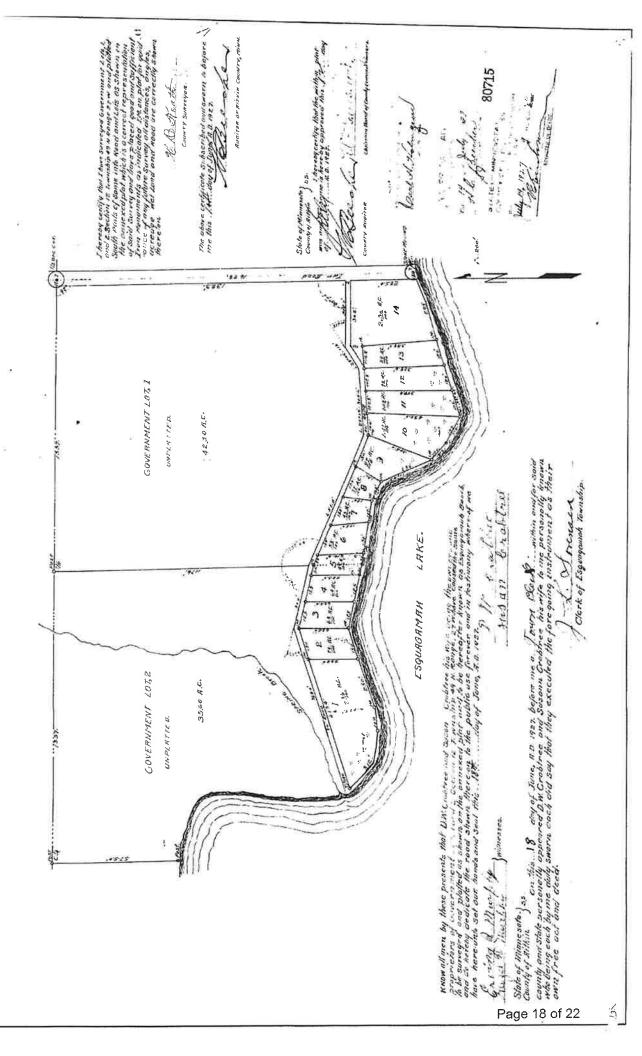
Delinquent Taxes: No

10/25/2023 4:02:57 PM p. 1

^{*} 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.

ESQUAGAMAH-BEACH



Aitkin County, Minnesota

928C—Cushing-Mahtomedi complex, 2 to 10 percent slopes

Map Unit Setting

National map unit symbol: gjk4 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

Cushing and similar soils: 50 percent Mahtomedi and similar soils: 35 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of

the mapunit.

Description of Cushing

Setting

Landform: Moraines

Landform position (two-dimensional): Backslope

Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy till

Typical profile

E - 0 to 16 inches: very fine sandy loam

B/E - 16 to 19 inches: loam Bt - 19 to 44 inches: loam C - 44 to 60 inches: loam

Properties and qualities

Slope: 2 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F090AY015WI - Loamy Upland with Carbonates Forage suitability group: Sloping Upland, Acid (G090AN006MN)

Other vegetative classification: Sloping Upland, Acid

(G090AN006MN) Hydric soil rating: No

Description of Mahtomedi

Setting

Landform: Moraines

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 sand E - 4 to 15 inches: coarse sand

Bw - 15 to 26 inches: gravelly coarse sand

C - 26 to 60 inches: gravelly sand

Properties and qualities

Slope: 2 to 10 percent

Depth to restrictive feature: More than 80 inches

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 content: 15 percent

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A

Ecological site: F090AY019WI - Dry Sandy Uplands Forage suitability group: Sandy (G090AN022MN) Other vegetative classification: Sandy (G090AN022MN)

Hydric soil rating: No

Minor Components

Cathro

Percent of map unit: 4 percent

Landform: Bogs Hydric soil rating: Yes

Meehan

Percent of map unit: 4 percent

Hydric soil rating: No

Sandwick

Percent of map unit: 4 percent

Landform: Flats Hydric soil rating: Yes

Alstad

Percent of map unit: 3 percent Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota Survey Area Data: Version 24, Sep 9, 2023