Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information

Date	4/16/2021	Sec / Twp / Rng	S-21, T-48, R-25
Parcel ID	08-1-088000	LUG (county, city, township)	Aitkin Co.
Property Owner:	Joanne Gibbs 763-242-4219	Owners address (if different)	
Property Address:	42450 310th Pl Aitkin MN 56431		749 Holland Lane NE
City / State / Zip:	(jj.gibbs@comcast.net)		Spring Lake Park MN 55432

Flow Information and Waste Type / Strength

Estimated Design flow: 300

Comments:
Mound Pinched between drive way and South Property Line
Upslope and Downslope Berms Are 4:1
East End Berm is at 3.5:1 = 14 ft.
West End Berm is at 3:1 = 12 Ft.

Anticipated Waste strength	☐ Hi Strength	☑ Domestic
Any Non-Domestic Waste	☐ Yes (class V)	☑ No
Sewage ejector/grinder pump	☐ Yes	☑ No
Water softener	☐ Yes	☑ No
Garbage Disposal	☐ Yes	☑ No
Daycare / In home business	☐ Yes	☑ No

Site Information

Existing & proposed lot improvements located (see site map)	☐ Yes	☑ No	Well casing depth	Proposed deep well
Easements on lot located (see site map)	☐ Yes	☑ No	Drainfield w/in 100' of residential well	☐ Yes ☑ No
Property lines determined (see site map) Marked by Owner	☑ Yes	☐ No	Site w/in 200' of transient noncommunity water supply (TNCWS)	☐ Yes ☑ No
Req'd setbacks determined (see site map)	☑ Yes	☐ No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	☐ Yes ☑ No
Utilities located & identified (gopher state one call)	☐ Yes	☑ No	Buried water supply pipe w/in 50' of system	☐ Yes ☑ No
Access for system maintenance (shown on site map)	☑ Yes	☐ No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	☑ Yes ☐ No
Soil treatment area protected	☑ Yes	☐ No	Site map prepared with previous items included	☑ Yes ☐ No

Construction related issues

Soil Information

Evidence of site:

Cut	☐ Yes	☑ No
Filled	☐ Yes	☑ No
Compacted	☐ Yes	☑ No
Disturbed	☐ Yes	☑ No

Original soils ☑ Yes ☐ No

Soil logs completed and attached ☑ Yes ☐ No

Perk test completed and attached (if applicable) ☐ Yes ☑ No

Soil loading rate (gpd/ft^2) 0.60

Percolation rate (if applicable) _____

Depth/elev to SHWT 20"

Flooding or run-on potential (comments) ☐ Yes ☐ No

Depth to system bottom maximum (or elev minimum) (+ 18 ")

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) ☑ Yes ☐ 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: Joanne Gibbs Date 4/16/2021

Property Address / PID: 42450 310th Pl Aitkin MN 56431

Soil Survey Information

☐ refer to attached soil survey

Parent matl's: ☑ Till ☐ Outwash ☐ Lacustrine ☐ Alluvium ☐ Organic ☐ Bedrock

landscape position: ☐ Summit ☐ Shoulder ☑ Side slope ☐ Toe slope

soil survey map units: 928C & 928D slope 5 % direction- SE

Soil Log #1

☑ Boring ☐ Pit Elevation 98.5' Depth to SHWT 20"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 7	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
7 - 20	Loam	<35	10YR5/3 With some blending of 10YR4/4		Friable	Loose	Granular
20 - 26	Clay Loam	<35	10YR4/4	7.5YR5/6 Very small dots	Friable	Weak	Blocky
					Loose	Loose	Granular
					Loose	Loose	Granular

Comments:

42450 310th Pl Aitkin MN 56431

Soil Log #2

☑ Boring ☐ Pit Elevation 98.3' Depth to SHWT 22"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 7	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
7 - 22	Loam	<35	10YR5/3 With some blending of 10YR4/4		Friable	Loose	Granular
22 - 26	Clay Loam	<35	10YR4/4	7.5YR5/6 Very small dots	Friable	Weak	Blocky
					Loose	Loose	Granular
					Loose	Loose	Granular

42450 310th Pl Aitkin MN 56431

Soil Log #3

☑ Boring ☐ Pit Elevation 97.6' Depth to SHWT 23"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 7	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
7 - 23	Loam	<35	10YR5/3 With some blending of 10YR4/4		Friable	Loose	Granular
23 - 28	Clay Loam	<35	10YR4/4	7.5YR5/6 Very small dots	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

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 #

2011 purple code

Mound Design - Aitkin county

www.SepticResource.com (vers 15.2)

Property Owner: Joanne Gibbs **Date:** 4/16/2021

Site Address: 42450 310th Pl Aitkin MN 56431 **PID:** 08-1-088000

Comments:

instructions: [ ] = enter data [ ] = adjust if desired [ ] = computer calculated - DO NOT CHANGE!

1) [2] bedroom Type [I] Residential System

2) [300] GPD design flow

3) [No] Garbage disposal or pumped to septic Install Jacobeson 1650 2/Compartment tank

4) [1000] Gal Septic tank (code minimum) [1120] Gal Septic tank (design size / LUG req'd)
Tank options: Effluent filter & alarm req'd

5) [1.2] GPD/ft^2 mound sand loading rate contour loading rate of [12] req's a min [25] ft. long rockbed

6) [10.0] ft rockbed width [25.0] ft rockbed length

7) [3.0] ft lateral spacing [3.0] ft perforation spacing (maximum of 3 for both)
[end feed] manifold connection

8) [3] laterals [23.0] feet long [8.0] perfs / lateral [24] perfs total
(1/2 a perf means the first perf starts at the middle feed manifold)

9) [1/4"] inch perfs at [1] feet residual head gives [0.74] gpm flow rate per perforation

for this perf size & spacing, & pipe size on line 12, max perfs/lateral = [16], line #8 must be less --> OK

10) [7.0] doses per day (4 minimum)

11) [43] gallons per dose (treatment volume)

1.50 5x

12) [1.50] inch diameter laterals must be used to meet "4x pipe volume" requirement

2.00 3x

13) [75] feet of [2.0] inch supply line leads to [13] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [56] gallons TOTAL pump out volume (treatment + drainback)

15) [15] feet vertical lift from pump to mound laterals, leads to a:

16) [18] GPM @ [21] feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)

17) [500] gal Dose tank (code minimum) [533] gal Dose tank (design size / LUG req'd) at [12.69] gpi
leads to a

18) [4.4] inch swing on Demand float, or timed dosing of [3.1] min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) [5.1] hrs OFF test and adjust as necessary)

19) [12] inches from bottom of tank to "Pump OFF" float

20) [16] inches from bottom of tank to "Pump ON" float, or [12] inches to "Timer ON" float if time dosed

21) [19] inches from bottom of tank to "Hi Level" float, or [29] inches to "Hi Level" float if time dosed

22) [292] gallons reserve capacity (after High Level Alarm is activated)

23) 0.60 gpd/ft² Absorption area Soil Loading Rate, (this must match the soil boring log) which gives a mound ratio of 2 (minimum) desired mound ratio 2.0

24) 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) 20.0 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
10.0 ft. Downslope sand down slope 15.0

Individual slope ratios give BERM widths (topsoil beyond rockbed) of:

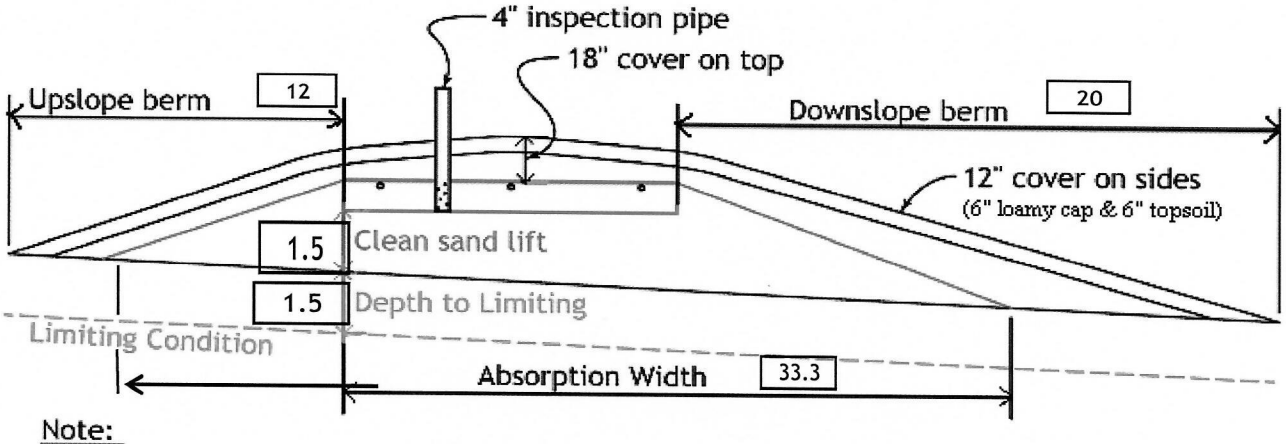
29) 4:1 upslope ratio 12 ft. upslope berm

30) 3:1 sideslope 12 ft. sideslope berms

31) 4:1 downslope 20 ft. downslope berm

West End Berm 3:1= 12 ft. East End Berm 3.5:1 = 14 ft.

32) Overall Dimensions: 10.0 ft. wide by 25.0 ft. long Rock bed
42 ft. wide by 51 ft. long Mound footprint



Note:
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*.

33) Rock Bed:
10.0 ft. by 25.0 ft. by 9 inches under pipe, plus 20% gives 12 yd³ or *1.4= 17 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)
15.8 up + 34.2 downslope + 10.0 ends + 16.2 under rock = 91 yd³ or *1.4= 128 ton
plus 20%

35) Loamy Cap:
38 ft. by 47 ft. 6" deep, plus 20% gives 40 yd³ or *1.4= 56 ton

36) Topsoil:
42 ft. by 51 ft. 6" deep, plus 20% gives 48 yd³ or *1.4= 67 ton

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

Designer Signature	Company	License#	Date
	Brummer Septic LLC.	L-1347	4/16/2021

Installer Summary

1120 gallon Septic tank (minimum)

Tank options: Effluent filter & alarm req'd
Install Jacobeson 1650 2/Compartment tank
at 12.69 gpi

533 gallon Dose tank (minimum)

18 GPM @ 21 ft. of head, Pump required
4.4 inch swing on Demand float which translates to roughly 3.2 inches of float tether length
if time dosing is required --> 3.1 minutes ON time & 5.1 hours OFF time
16 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float
19 inches from bottom of tank to "Hi Level Alarm" or 29 inches to "Hi level alarm" if time dosed

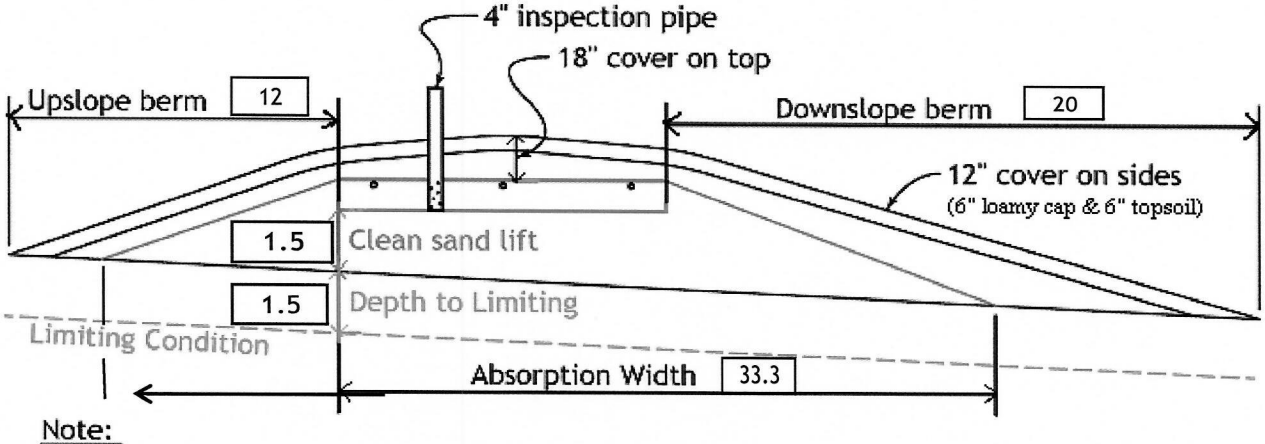
75 ft. of 2.0 inch supply line with end feed manifold connection
(Tip: "top feed" manifold to control drainback)

18 inch, or 1.5 ft. Sand Lift Mound
10.0 ft. wide by 25.0 ft. long Rock bed
3 laterals 1.50 inch diameter 23.0 ft. long 3.0 ft. lateral spacing
1/4" inch perfs 3.0 ft. perforation spacing

Yes
~~No~~ Effluent filter & alarm
3 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 (sand beyond rockbed, minimum)

Specific slope ratios give BERM widths (topsoil beyond rockbed) of:
4:1 upslope ratio 12 ft. upslope berm
3:1 sideslope 12 ft. sideslope berms West end Berm 3:1 = 12 Ft. East End Berm 3.5:1 = 14 ft.
4:1 downslope 20 ft. downslope berm



Note:
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:	12.0	yd^3 or *1.4=	17	ton
Mound Sand:	91	yd^3 or *1.4=	128	ton
Loamy Cap:	40	yd^3 or *1.4=	56	ton
Topsoil:	48	yd^3 or *1.4=	67	ton

9 inches under pipe
calculation based on 3:1/4:1 slope from top of rockbec
6" deep
6" deep

INSPECTOR CHECKLIST - mound

42450 310th Pl Aitkin MN 56431

☐ 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 req's, clean out every 100', Sch 40 pipe)

☐ Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping)
mfg_____ 1120 gallons Effluent filter & alarm req'd

☐ Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.

☐ ~~No~~ Yes effluent filter & alarm

☐ Dose tank risers and piping (water tight, insulated, proper depth, drainback)
mfg_____ 533 gallons

☐ dose pump _____ 18 gpm 21 head VERIFY PUMP CURVE 3.1 min ON 5.1 hr OFF

☐ float setting drop 4.4 inches at 12.7 gpi "DESIGNED" 3.2 inches approx float tether length
56.0 gal dose divided by _____ gpi "INSTALLED" = _____ inches float drop (field corrected
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

☐ mound rock dimensions 10.0 X 25.0

☐ Sand lift depth 18 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

☐ Absorption Sand beyond rock 8.3 upslope 15.0 downslope

☐ Bermed topsoil beyond rockbed 12 upslope 12 sideslope 20 downslope

☐ cover depth of 12-18"+ VERIFY

☐ 3 laterals (1-2' from edge of rock)

☐ 1.50 inch pipe size (Sch40 pipe & fittings)

☐ 3.0 ft lateral spacing

☐ 1/4" inch perforations

☐ 3.0 ft perforation spacing

☐ Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY

☐ clean outs (no hard 90's)

☐ 4" inspection pipe to bottom of rock, anchored VERIFY

☐ Abandon existing system - if necessary ☐ Re-use existing tank certification

☐ monitoring plan and type _____

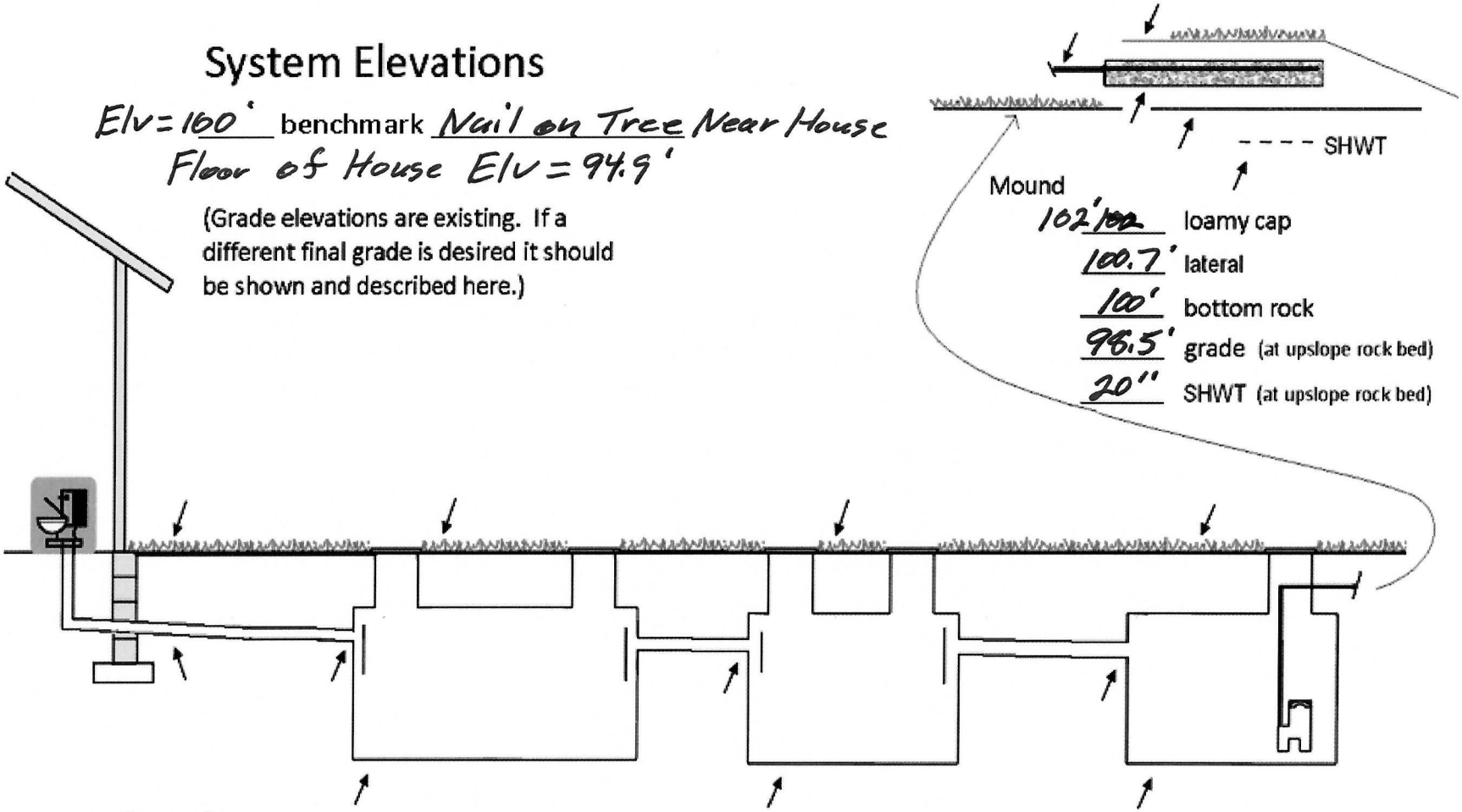
☐ well abandonment form - if necessary

System Elevations

Elv = 160' benchmark Nail on Tree Near House

Floor of House Elv = 94.9'

(Grade elevations are existing. If a different final grade is desired it should be shown and described here.)



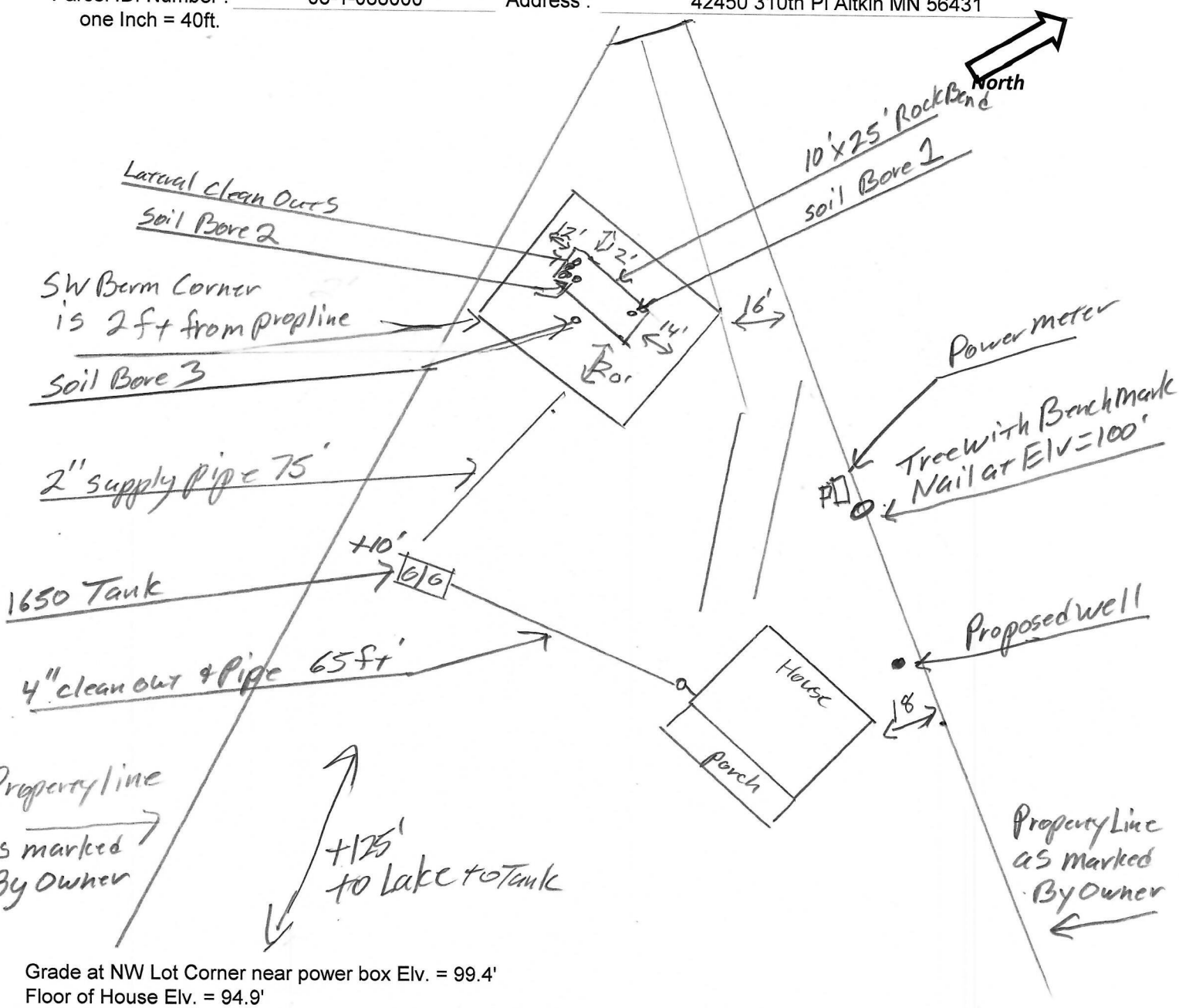
Sewer pipe exiting house	Septic Tank	Septic Tank (if applicable)	Pump Tank
94.1' Grade	91.8' Grade	_____ Grade	91.8' Grade
92.9' Pipe	90' inlet	_____ inlet	89.7' inlet
	86' Tank bottom	_____ Tank bottom	86' Tank bottom

{ Design Drawing }

Property Owner: Joanne Gibbs Date: 4/16/21 Designer's Initials : JB

Parcel ID. Number : 08-1-088000 Address : 42450 310th Pl Aitkin MN 56431

one Inch = 40ft.



Grade at NW Lot Corner near power box Elv. = 99.4'
Floor of House Elv. = 94.9'
Estimated Lake Elv. = 61'

	Surface/ SHWT	***Nail on Tree = Bench Mark 100'***			Existing Grade
Soil Bore 1	98.5'/ 20"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 98.5'
Soil Bore 2	98.3'/22"	Ground Elv. BM	96.5'		Bottom of Rockbed Elv.= 100'
Soil Bore 3	97.6'/23"	Ground Elv. Tank	91.8'		Top of Washed Sand Elv.= 100'
	Ground at	SW house	94.1	Corner	Elv. Of Sewer pipe at House Elv.= 92.9'

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	Access Route for Tank Maintenance
	Component Location	Property Lines
	OHW ordinary high water	Structures
	Lot Easements	Setbacks

Mound Design Notes - Aitkin county

Property Owner: Joanne Gibbs **Date:** 4/16/21

Site Address: 42450 310th Pl Aitkin MN 56431 **PID:** 08-1-088000

Comments: ***Mound design may not follow Aitkin co. Auto fill form for mound design.***

1 This is a type I mound for a 2 bedroom House. Proposed deep well location will be North of House.

2 Because of the Driveway and the South Property line, designer used shorter end berms than 4:1.
West End Berm is at 3:1 = 12 Ft. East End Berm is at 3.5:1 = 14 Ft.
Upslope and downslope are at 4:1 ratio.
Property Line are marked by Owner.

3 SW berm corner is 2 ft from property line. Absorption area is + 16 ft from Property line.

4 Bench Mark Elevation is a nail on a tree near NW corner of House.

5 Install Jacobson 1650 Compartment tank for gravity flow from Slab on grade house.
Set tank away from house for maybe future garage.
Top of pipe at house is Elv. = 92.9' SW Corner of house.

6 Elevation contour of rock bed upslope edge is 98.5'.
The area size of the rock bed is 10' x 25' . Absorption area is 25' x 33.3.
Sand absorption area is 8.3 ft. up slope + 10 ft. rockbed + 15 downslope = approx. 33.3 ft. wide sand base.
Berms are 12ft. Upslope, 20ft. Down slope, 10ft. Rock bed = approx. 42ft. Wide.
Overall mound size is approx. 42' wide x 51' long and approx. 3.5' high.
West End Berm is at 3:1 = 12 Ft. East End Berm is at 3.5:1 = 14 Ft. Mound Length is 14' + 25' + 12 ' = 51 ft.

7 The bench mark is the nail on the tree near house BM = Elv. 100'.
Installer to double check bench mark. Installer should confirm bench mark and sand height Elv. with inspector.
Installer should record bench mark Elv. and sand height on installation inspection form.

8 The top of the washed sand and bottom of rock bed is Elv. 100'.
It is important that the soils do not get compacted, and that clean washed sand is used.

9 The Jacobson 1650 compartment tank will be gravity flow from dwelling. Install the pump for 7 demand doses per day. approx. 56 gallons per dose, 4.4 inches of tank level. Install alarm at 3 inches from pump on level.
Install all manholes, inspection pipes and clean-outs to grade or above, insulate top of tank.
(Designer recommends manhole raised 4" above finished grade.)
Install Effluent Filter on septic tank out-let with an electric alarm.

10 Install a 2" supply pipe from tank to end manifold in rock bed, install so pipe drains back to tank.
Install 1.5" laterals with 9" of rock under them. (Install Lateral clean-outs at far end of laterals. Recommended)

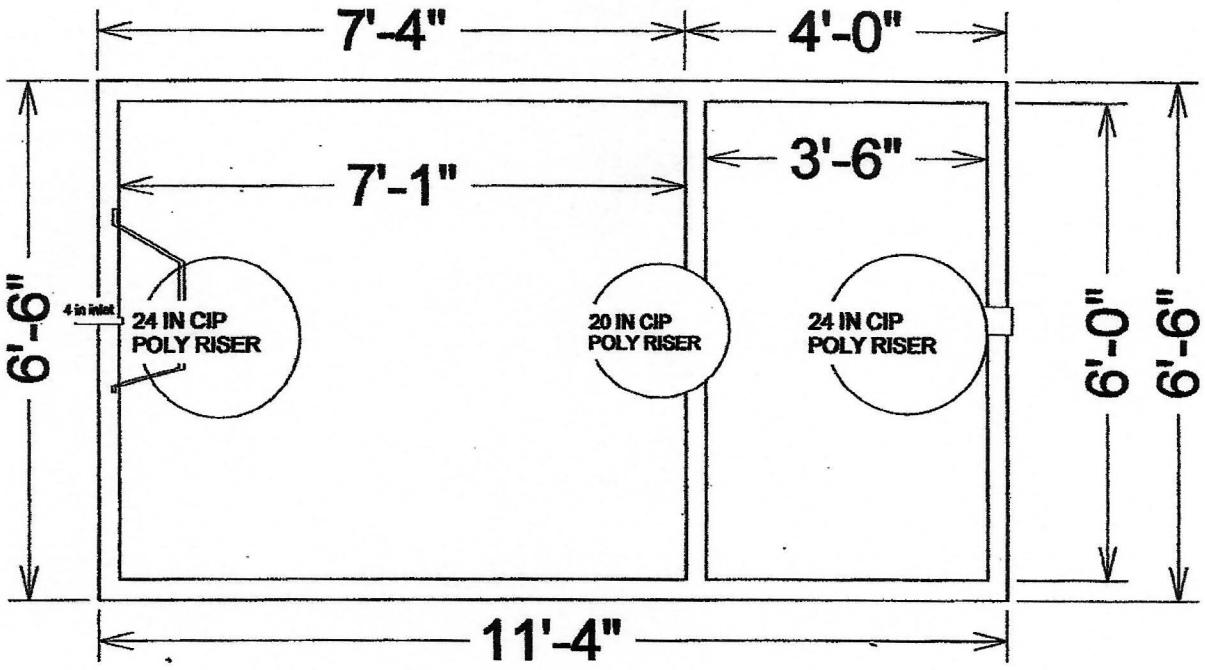
11 **Drill 1/4" holes for Perf sizing, 36" on centers.**
Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.

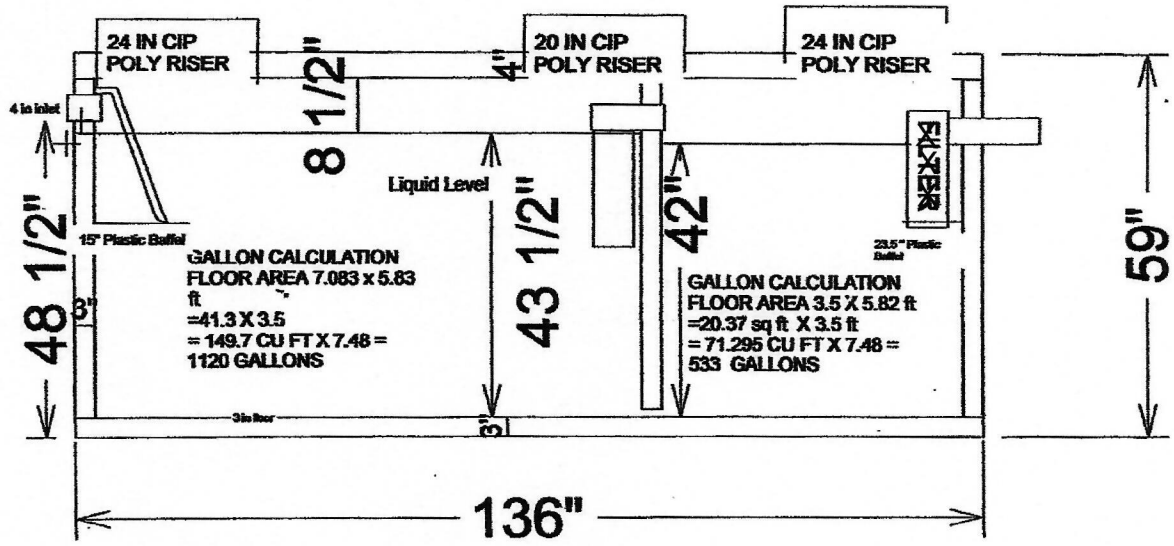
Designed to Aitkin Co. and MPCA recommendations and requirements.

Designer Signature | Brummer Septic LLC. Design Company | L-1347 License#

1650 Gallon 2 Compartment Septic Tank

TOP VIEW





SIDE VIEW

533 / 42" = 12.69 GPI

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

Aitkin County

Detailed Parcel Report

Parcel Number: 08-1-088000

General Information

Township/City:	FLEMING TWP		
Taxpayer Name:	GIBBS, JOSEPH & JOANNE		
Taxpayer Address:	749 HOLLAND LANE NE SPRING LAKE PARK MN 55432		
Property Address:	42450 310TH PL		
Township:	48	**Lake Number:**	1010500
Range:	25	**Lake Name:**	FLEMING LAKE
Section:	21	**Acres:**	0.00
Green Acres:	No	**School District:**	1.00
Plat:	FLEMING HEIGHTS		
Brief Legal Description:	LOT 6 BLK 1		

Tax Information

Class Code 1:	Non-Comm Seasonal Residential Recreational
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2020

Estimated Land Value:	$45,700.00
Estimated Building Value:	$61,700.00
Estimated Total Value:	$107,400.00
Prior Year Total Taxable Value:	$87,100.00
Current Year Net Tax (Specials Not Included):	$678.00
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.**

These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

Gibbs

0 25 50 ft

1 inch = 77 feet

Aitkin County

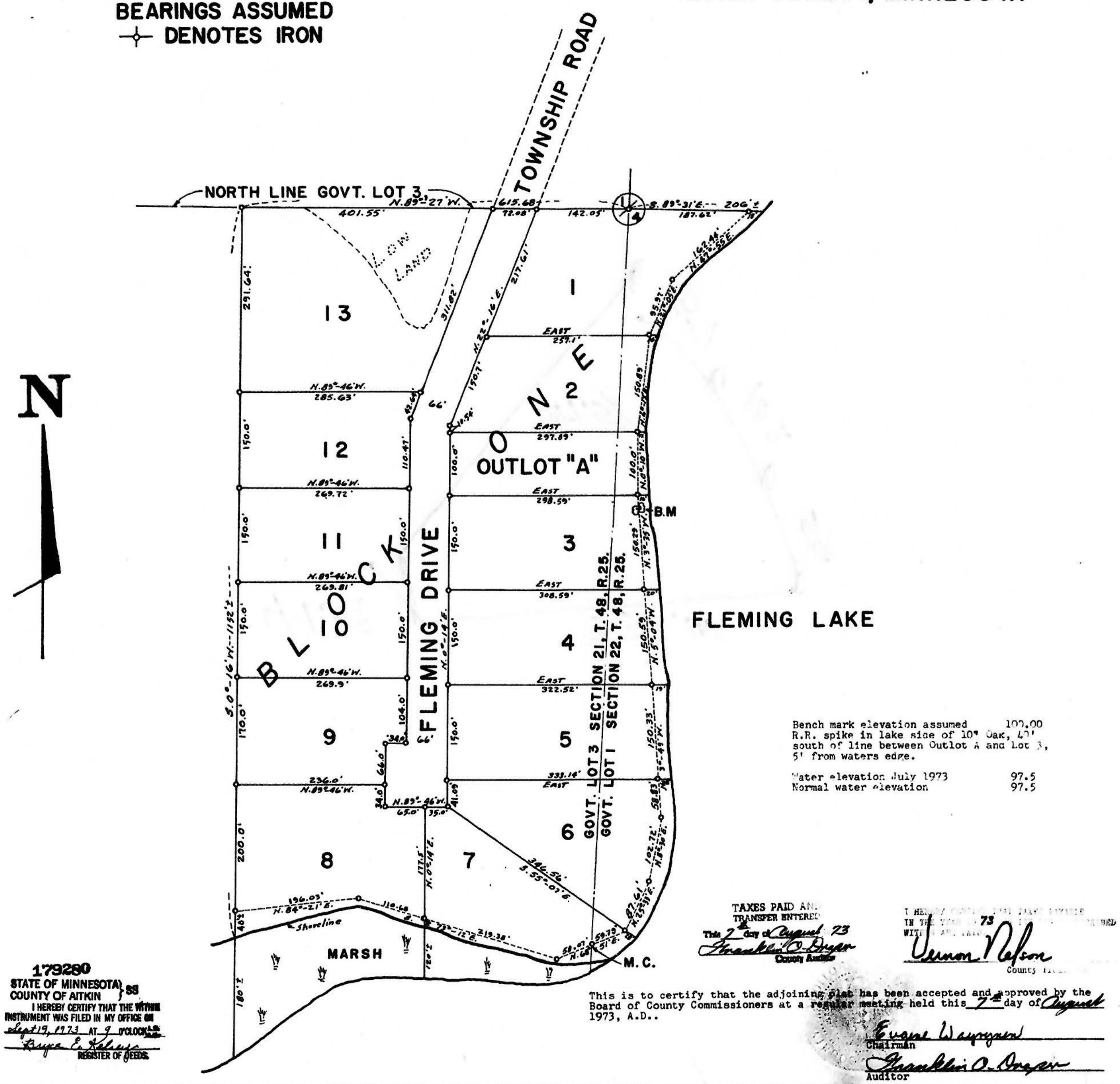
Date: 3/9/2021

FLEMING HEIGHTS

AITKIN COUNTY, MINNESOTA

W.L.VOIGT, SURVEYOR
AITKIN, MINNESOTA

SCALE 1" = 100'
BEARINGS ASSUMED
-+- DENOTES IRON



Bench mark elevation assumed 100.00
R.R. spike in lake side of 10" Oak, 40' south of line between Outlot A and Lot 3, 5' from waters edge.

Water elevation July 1973 97.5
Normal water elevation 97.5

KNOW ALL MEN BY THESE PRESENTS: That DAVID D. HASSKAMP and C. LOUISE HASSKAMP, his wife, fee owners, and the FIRST NATIONAL BANK OF AITKIN, a United States corporation, mortagee of the following described property situated in the County of Aitkin, State of Minnesota to wit: That part of Government Lot 3, Section 21, Township 48, Range 25 and that part of Government Lot 1, Section 22, Township 48, Range 25. Commencing at the Northeast corner of said Government Lot 3; thence North 89°-27' West along the North line of said Government Lot 3, 615.68 feet; thence South 0°-16' West, 1152.0 feet, more or less, to the shoreline of Fleming Lake; thence Easterly and Northerly along the shoreline to the intersection with a line bearing South 89°-31' East from the point of beginning; thence North 89°-31' West, 206.0 feet, more or less, to the point of beginning. Containing 18 Acres, more or less. Have caused the same to be surveyed and platted as FLEMING HEIGHTS and do hereby donate and dedicate to the public for public use forever Fleming Drive as shown on the annexed plat.

In witness whereof said DAVID D. HASSKAMP and C. LOUISE HASSKAMP, his wife, have hereunto set their hands and seals this 31st day of July 1973 A.D.

In witness whereof said FIRST NATIONAL BANK OF AITKIN has caused these presents to be signed by its proper officers and its corporate seal to be hereunto affixed this 27th day of July 1973 A.D.

In presence of: Wm. C. Hudson, Doris M. Lee — as to — Signed: David Hasskamp, David Hasskamp; C. Louise Hasskamp, C. Louise Hasskamp

Wm. L. Voigt, Wm. C. Hudson — as to — FIRST NATIONAL BANK OF AITKIN, M. M. Welshons, W. R. Anderson

State of Minnesota
County of Aitkin s.s.

On this 31st day of JULY 1973 A.D., before me, a Notary Public, within and for said County and State, personally appeared DAVID D. HASSKAMP and C. LOUISE HASSKAMP, his wife, to me known to be the persons described in and who executed the foregoing instrument and they acknowledged that they executed the same as their own free act and deed.

Doris M. Lee
Notary Public
My commission expires

State of Minnesota
County of Aitkin s.s.

On this 27th day of July 1973 A.D., before me, a Notary Public, within and for said County and State, personally appeared M.M. Welshons and W.R. Anderson who being by me each duly sworn did say that they are respectively the President and Vice President of the FIRST NATIONAL BANK OF AITKIN the corporation named in the foregoing instrument, that the corporate seal affixed to said instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said President and Vice President acknowledge said instrument to be the free act and deed of said corporation.

JOAN L. TOKLE
NOTARY PUBLIC - MINNESOTA
AITKIN COUNTY
My Commission Expires Sept. 16, 1976

Joan L. Tokle
Notary Public
My commission expires 9/16/76

I, Wm. L. Voigt, do hereby certify that I have surveyed and platted the property described on this plat as FLEMING HEIGHTS and have placed iron monuments in the ground for guidance of future surveys and the same are correct as shown, that all distances are correctly shown in feet and decimals of a foot, that the outside boundary lines are correctly designated and that there are no wet lands, easements, public highways or roads laid out or travelled except as shown.

Wm. L. Voigt
Registered Land Surveyor
Minnesota Registration No. 5522

State of Minnesota
County of Aitkin s.s.

On this 27th day of July 1973 A.D., before me, a Notary Public, within and for said County and State, personally appeared Wm. L. Voigt, to me well known and acknowledged that he executed the foregoing certificate as his own free act and deed.

JOAN L. TOKLE
NOTARY PUBLIC - MINNESOTA
AITKIN COUNTY
My Commission Expires Sept. 16, 1976

Joan L. Tokle
Notary Public
My commission expires 9/16/76

TAXES PAID AND
TRANSFER ENTERED
This 7 day of August 73
Franklin O. Dryer
County Auditor

I HEREBY CERTIFY ... 73
Vernon Nelson
County Treasurer

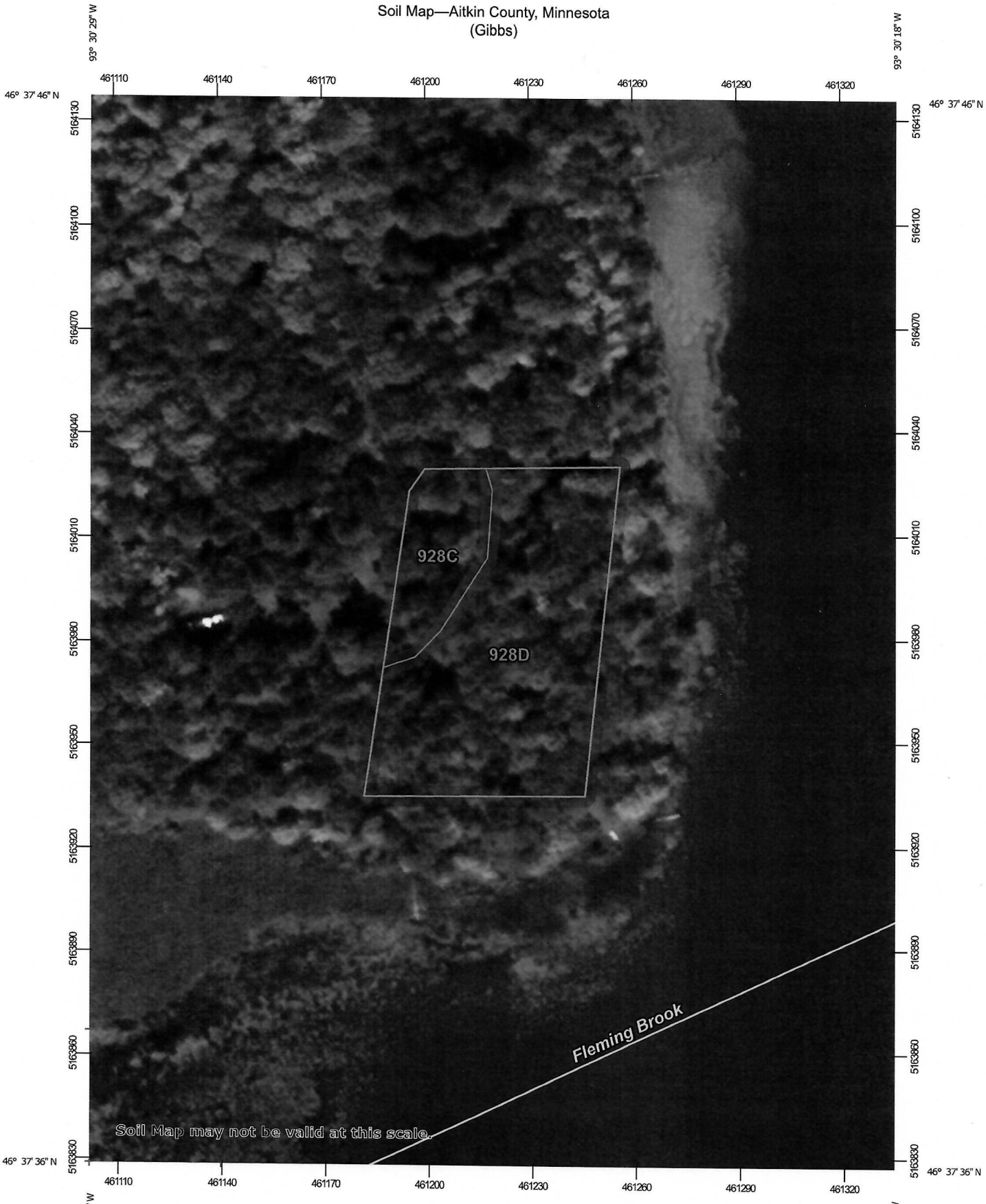
This is to certify that the adjoining plat has been accepted and approved by the Board of County Commissioners at a regular meeting held this 7th day of August 1973, A.D..

Eugene Wayrynen
Chairman

Franklin O. Dryer
Auditor

179280
STATE OF MINNESOTA } SS
COUNTY OF AITKIN
I HEREBY CERTIFY THAT THE WITHIN INSTRUMENT WAS FILED IN MY OFFICE ON Sept 19, 1973 AT 9 O'CLOCK A.M.
Bruce E. Kelsey
REGISTER OF DEEDS

20



Map Scale: 1:1,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

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 capacity: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
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 capacity: Low (about 4.2 inches)

Interpretive groups

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

Minor Components

Sandwick and similar soils

Percent of map unit: 4 percent
Landform: Flats
Hydric soil rating: Yes

Meehan and similar soils

Percent of map unit: 4 percent
Hydric soil rating: No

Cathro and similar soils

Percent of map unit: 4 percent
Landform: Bogs
Hydric soil rating: Yes

Alstad 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 21, Jun 4, 2020

Aitkin County, Minnesota

928D—Cushing-Mahtomedi complex, 10 to 25 percent slopes

Map Unit Setting

National map unit symbol: gjk5
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: 45 percent
Mahtomedi and similar soils: 40 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): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

E - 0 to 7 inches: loam
B/E - 7 to 17 inches: loam
Bt - 17 to 30 inches: loam
C - 30 to 60 inches: loam

Properties and qualities

Slope: 10 to 25 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 capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Forage suitability group: Sloping; Fine Texture (G090AN023MN)

Other vegetative classification: Sloping; Fine Texture (G090AN023MN)
Hydric soil rating: No

Description of Mahtomedi

Setting

Landform: Moraines
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 3 inches: loamy coarse sand
E - 3 to 13 inches: coarse sand
Bw - 13 to 25 inches: gravelly coarse sand
C - 25 to 60 inches: gravelly sand

Properties and qualities

Slope: 10 to 25 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 capacity: Low (about 4.2 inches)

Interpretive groups

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

Minor Components

Alstad and similar soils

Percent of map unit: 8 percent
Hydric soil rating: No

Cathro and similar soils

Percent of map unit: 7 percent
Landform: Bogs

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 21, Jun 4, 2020