Pd Randy

PARCEL	
APP	SEPTIC
YEAR	
SCANNED	
LAKE	

030558000

Onsite Septic System Application

Becker County Planning & Zoning
915 Lake Ave, Detroit Lakes, MN 56501
Phone (218)-846-7314; Fax (218)-846-7266

1. PROPERTY DATA (as it appears on the tax statement, purchase agreement or deed)
Parcel Number(s) of property where the system will be installed: 03055800O

Is this a split of an existing property? Yes (No)
(If yes and a parcel number has not yet been assigned, indicate the main parcel number from which the new parcel was split.)

Section 5 Township 138 Range 40 Township Name Burlington

Lake Name non Shoreland Lake Classification _____

Legal Description: Hidden Hills 1st Add Blk 3 Lot 1

Project Address: 15068 Elm DR Detroit Lakes

2. PROPERTY OWNER INFORMATION (as it appears on the tax statement, purchase agreement or deed)
Owner's First Name Todd & Pam Owner's Last Name Teiken

Mailing Address 14063 Freeport Ct City, State, Zip Apple Valley, MN 55124

Phone Number _____

3. DESIGNER/INSTALLER INFORMATION
Designer Name Randy Anderson Company Name Anderson On-Site License # 639

Address P.O 1421 Detroit Lakes Phone Number 847-3072

Installer Name Tim Stenger Company Name _____ License # _____

Address _____ Phone Number _____

SEP 06 2017

4. SYSTEM DESIGN INFORMATION

System Status

X Vacant Lot-No existing system-new structure
_____ Replacement – structure removed and being rebuilt
_____ Failing –Replacement- cesspool/seepage pit or other
_____ Enlargement of system-Undersized
_____ Repairs Needed to existing
_____ Additional system on property

What will new system serve? Check one

X Dwelling
_____ Resort/Commercial
_____ Commercial (Non-resort)
_____ Other -- explain below

5/9/17 Date of site evaluation

Design Flow 750 Gallons Per Day
Number of Bedrooms 5
Garbage Disposal _____ Yes X No
Dishwasher X Yes ___ No
Lift station in House X Yes ___ No
Grinder pump in House X Yes ___ No

Well Depth to be drilled
Depth of other wells within 100 ft of system NF

Original Soil X Compacted Soil _____
Type of Soil Observation
X Pit ___ Probe ___ Boring
Depth to Restricting Layer 28
Maximum Depth of System Mound

Size of All Tanks to be installed
_____ gal Single Compartment Septic Tank
2250 gal Compartmented Tank
_____ Pit Privy
1000 gal Separate Lift Station
_____ gal Holding Tank
_____ Existing Tank to be used
_____ Existing tank w/new Additional Tank
_____ Existing tank w/new Lift Station
_____ Holding Tank with Privy

Total Number of tanks to be installed in this system 2 (This # will be reported to MPCA at end of year.)

PARCEL	
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YEAR	

Type of Drainfield	Full Size of Drainfield	Reduced/Warrantied size
____ Chamber Trench	____ sq ft	630 sq ft
____ Rock Trench	____ sq ft	____ sq ft
____ Gravelless	____ sq ft	____ sq ft
X Mound	1260 sq ft ***	
____ Pressure Bed	____ sq ft ***	
____ Seepage Bed	____ sq ft ***	
____ At-grade	____ sq ft ***	
____ Alternative / Performance	____ sq ft ***	***Attach Worksheets

Type of chamber ____
Depth of Rock ____

Alarm? Yes X No ____
Type of Alarm Elec
Size of Lift Pump 47gpm 23' Head
Size of Lift Line 2

PROPOSED SETBACKS

	TANK	DRAINFIELD
Distance to Well	to be Dr. 1160	
Distance to Building	15	50
Distance to Property Line	75	45
Distance to OHW of Lake	—	—
Distance to Pressure Line	50+	50+
Distance to Wetland/Protected Water	—	—

Perc Rate ____ Soil Sizing Factor .6 *If SSF other than .83, attach Perc Test Data

Soil Borings (three are required)

Depth	Texture	Color	Structure		Depth	Texture	Color	Structure
0-9	loam	10YR 2/2	granular		0-10	loam	10YR 2/2	Granl
9-18	Sandy loam	10YR 4/3	single		10-20	Sandy loam	10YR 4/3	Single
18-28	"	10YR 3/4	"		20-30	"	10YR 3/4	"
28+	Sandy Clay loam	2.5Y 5/4	platy		30+	Sandy Clay loam	2.5Y 5/4	platy

Depth	Texture	Color	Structure		Depth	Texture	Color	Structure
0-10	loam	10YR 2/2	Granl					
10-19	Sandy loam	10YR 4/3	Single					
19-29	"	10YR 3/4	"					
29+	Sandy Clay loam	2.5Y 5/4	Platy					

5. REQUIRED DOCUMENTS

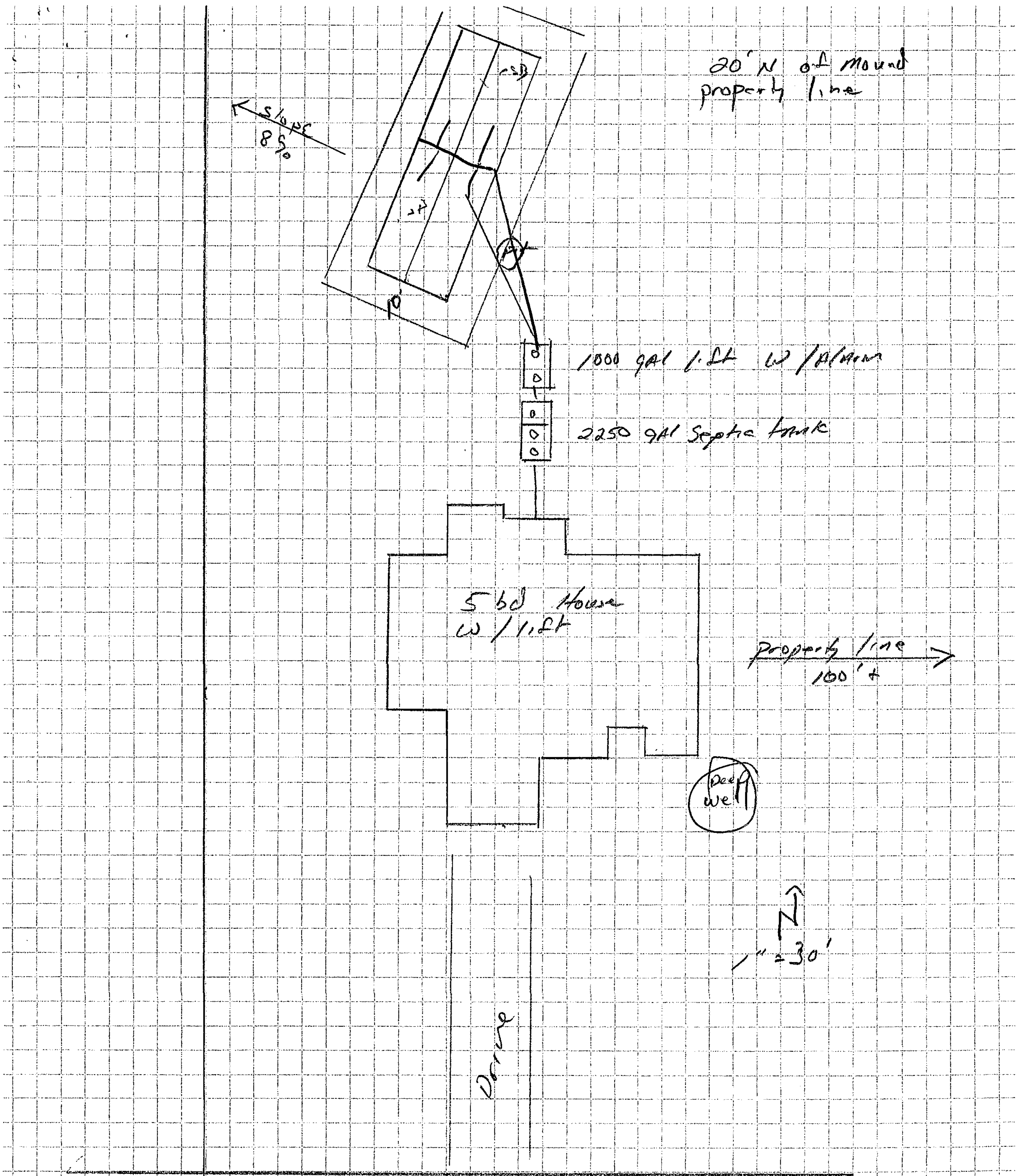
U of MN worksheets are required for mounds, pressure beds, seepage beds, at-grades or Type IV or Type V systems. Are the required worksheets attached? X Yes ____ No

6. DESIGNER'S CERTIFIED STATEMENT

I, Randy Anderson (Print Name of Designer) certify that I have completed the preceding design work in accordance with all applicable requirements (including, but not limited to Minnesota Chapter 7080 and the Becker County Individual Sewage Treatment System Ordinance).

Signature of Designer

Date 5/9/17



15068 Elm DR

030558000

2011 purple code

Mound Design

www.SepticResource.com (vers 15.2)

Property Owner: Todd Teiken **Date:** 5/9/2017

Site Address: 15068 Elm Dr. Detroit Lakes, MN **PID:** 030558000

Comments:

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

1) [5] bedroom Type [I] Residential System

2) [750] GPD design flow

3) [No] Garbage disposal or pumped to septic

4) [1500] Gal Septic tank (code minimum) [2250] Gal Septic tank (design size / LUG req'd)
Tank options: none

5) [1.2] GPD/ft^2 mound sand loading rate contour loading rate of [12] req's a min [62.5] ft. long rockbed

6) [10.0] ft rockbed width [62.5] 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 [60.5] feet long [21.0] perfs / lateral [63] 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 = [25], line #8 must be less --> OK

10) [4.0] doses per day (4 minimum)

11) [188] gallons per dose (treatment volume)

2.00 5x

12) [2.00] inch diameter laterals must be used to meet "4x pipe volume" requirement

2.00 3x

13) [45] feet of [2.0] inch supply line leads to [8] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [196] gallons TOTAL pump out volume (treatment + drainback)

15) [17] feet vertical lift from pump to mound laterals, leads to a:

16) [47] GPM @ [26] feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)

17) [750] gal Dose tank (code minimum) [1000] gal Dose tank (design size / LUG req'd) at [23.30] gpi
leads to a

18) [8.4] inch swing on Demand float, or timed dosing of [4.2] min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) [9] hrs OFF test and adjust as necessary)

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

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

21) [23] inches from bottom of tank to "Hi Level" float, or [33] inches to "Hi Level" float if time dosed

22) [464] 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) 8 percent site slope (0-20% range) 8 (% downslope site slope, if different than upslope)

25) 28 inches, or 2.3 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) 12 inch, or 1.0 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 20.0 ft.Total ABSORPTION width (with sand beyond rockbed as follows:)

28) 0.0 ft. upslope and sideslope
10.0 ft. Downslope

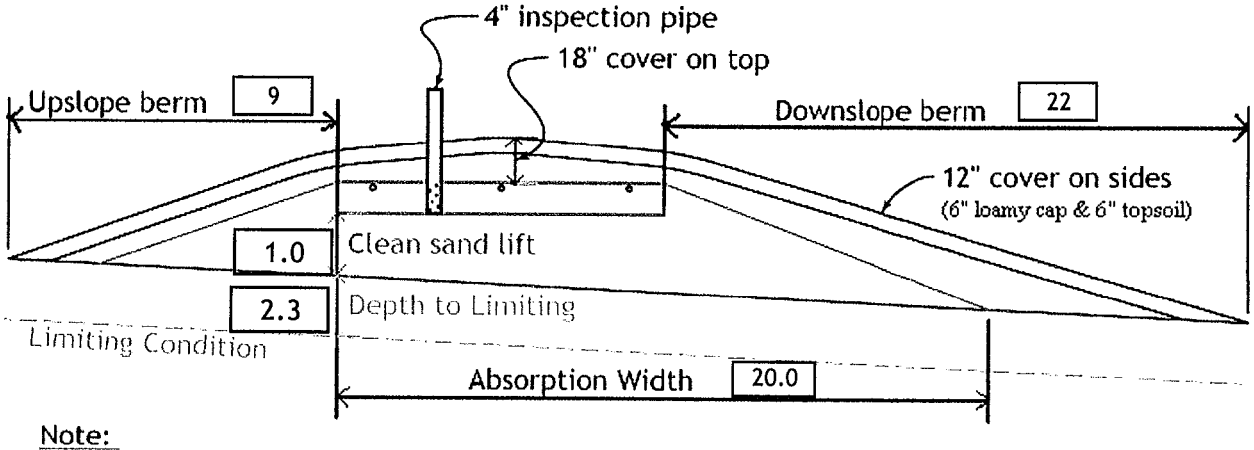
Individual slope ratios give BERM widths (topsoil beyond rockbed) of:

29) 4:1 upslope ratio 9 ft. upslope berm

30) 4:1 sideslope 15 ft. sideslope berms

31) 4:1 downslope 22 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 62.5 ft. long Rock bed
41 ft. wide by 93 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 62.5 ft. by 6 inches under pipe, plus 20% gives 21 yd³ or *1.4= 29 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)
19.0 up + 72.1 downslope + 11.6 ends + 32.4 under rock = 162 yd³ or *1.4= 227 ton
plus 20%

35) Loamy Cap:
37 ft. by 89 ft. 6" deep, plus 20% gives 73 yd³ or *1.4= 102 ton

36) Topsoil:
41 ft. by 93 ft. 6" deep, plus 20% gives 85 yd³ or *1.4= 119 ton

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

Designer Signature	Company	License#	Date
	Anderson On-Site	634	5/9/2017

Installer Summary

2250	gallon Septic tank (minimum)		Tank options: none	13'10"X 7'	Inlet 54" out 51"
1000	gallon Dose tank (minimum)		at	23.30	gpi
47	GPM @	26	ft. of head, Pump required		
8.4	inch swing on Demand float	which translates to roughly	5.2	inches of float tether length	
		if time dosing is required -->	4.2	minutes ON time &	9 hours OFF time
20	inches from bottom of tank to "pump ON" float, or		12	inches to "timer ON" float	
23	inches from bottom of tank to "Hi Level Alarm" or		33	inches to "Hi level alarm" if time dosed	

45	ft. of	2.0	inch supply line	with end feed	manifold connection

(Tip: "top feed" manifold to control drainback)

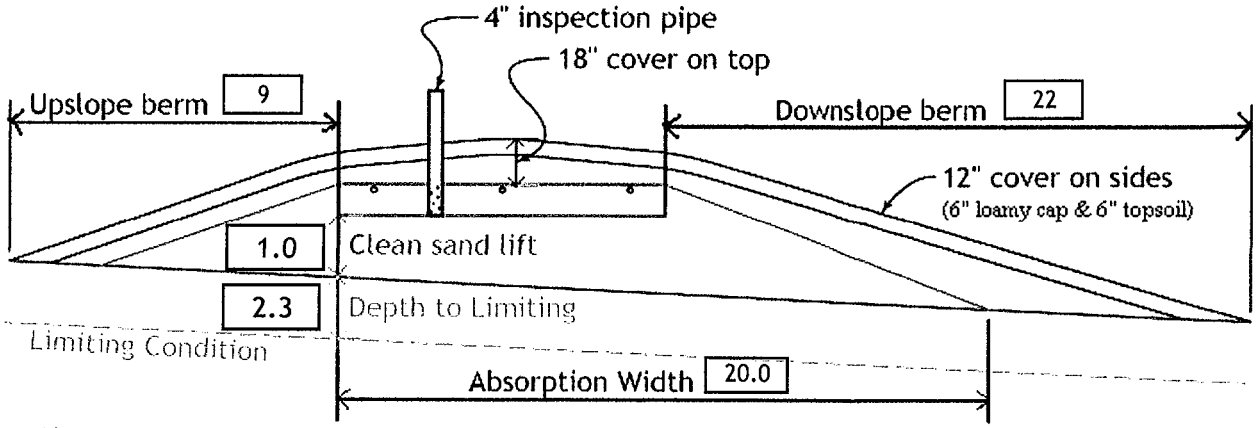
12	inch, or	1.0	ft. Sand Lift Mound				
10.0	ft. wide by	62.5	ft. long Rock bed				
3	laterals	2.00	inch diameter	60.5	ft. long	3.0	ft. lateral spacing
1/4"	inch perfs	3.0	ft. perforation spacing				

No	Effluent filter & alarm
3	clean out & valve box assemblies

20.0	ft.Total sand ABSORPTION width (minimum)		
	0.0	ft. upslope and sideslope	(sand beyond rockbed, minimum)
	10.0	ft. Downslope	(sand beyond rockbed, minimum)

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

4:1	upslope ratio	9	ft. upslope berm
4:1	sideslope	15	ft. sideslope berms
4:1	downslope	22	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:	21.0	yd^3 or *1.4=	29	ton	6	inches under pipe
Mound Sand:	162	yd^3 or *1.4=	227	ton	calculation based on 3:1/4:1 slope from top of rockbe	
Loamy Cap:	73	yd^3 or *1.4=	102	ton	6" deep	
Topsoil:	85	yd^3 or *1.4=	119	ton	6" deep	

Becker County, Minnesota

776C—Snellman-Sugarbush complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: fbpm
Elevation: 800 to 2,000 feet
Mean annual precipitation: 20 to 28 inches
Mean annual air temperature: 37 to 45 degrees F
Frost-free period: 90 to 150 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Snellman and similar soils: 60 percent
Sugarbush and similar soils: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Snellman

Setting

Landform: Hillslopes on moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy glacial till

Typical profile

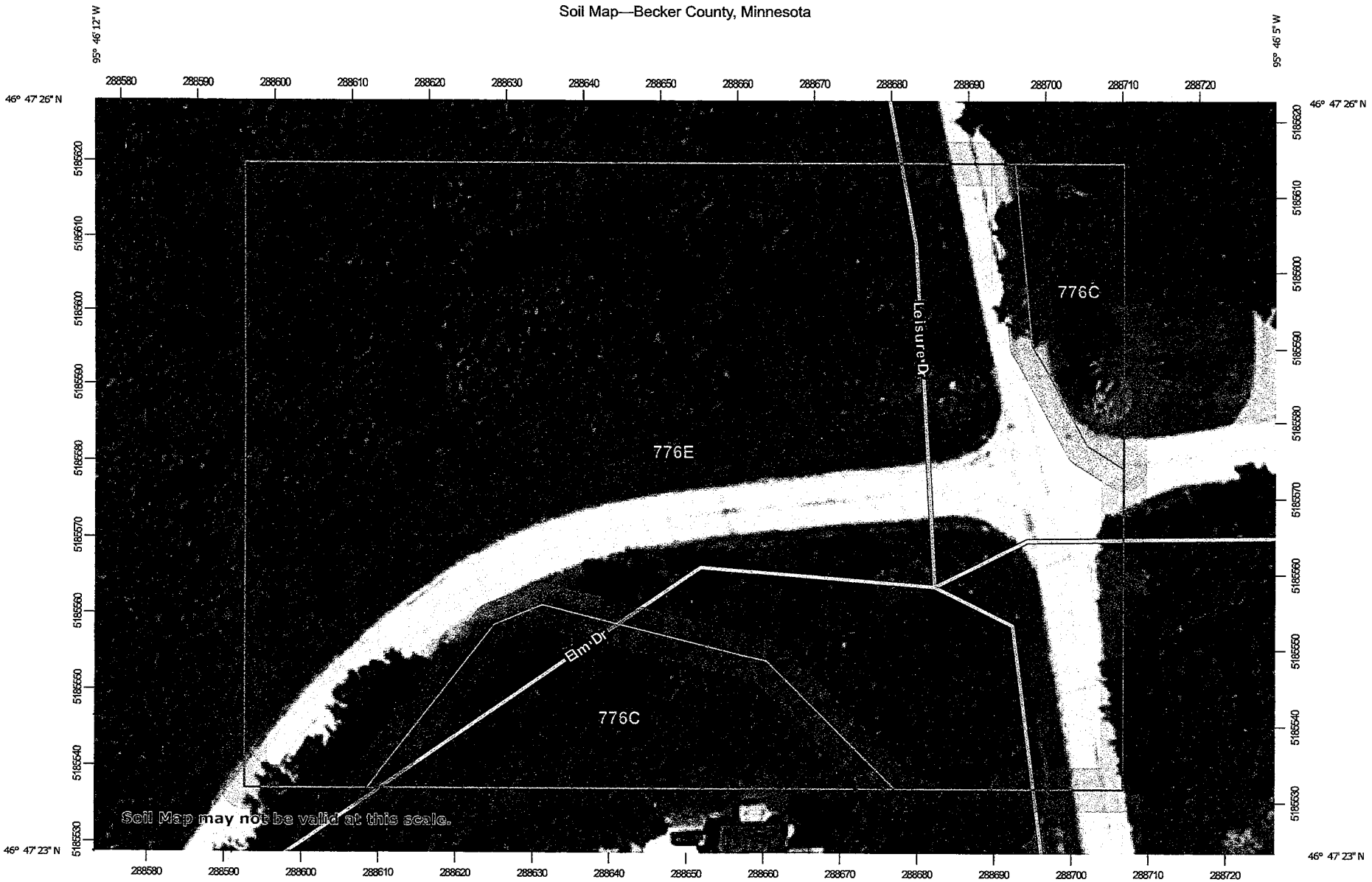
A - 0 to 2 inches: sandy loam
E - 2 to 16 inches: sandy loam
Bt - 16 to 32 inches: sandy clay loam
Bk,C - 32 to 60 inches: sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 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: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Other vegetative classification: Sloping Upland, Acid (G057XN006MN)



Map Scale: 1:700 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

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

APP YEAR	SEPTIC

********** FOR OFFICE USE ONLY **********

Application Approved by: Laine A Stoll Date: 9/7/17

Amount Paid $ 150.00 Receipt Number 104631-659633 Permit Number _____

NOTES: 9/7/17

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INSPECTION REPORT

Home Information

Does the structure contain any of the following elements?

Garbage disposer ____ Yes X No Dishwasher X Yes ____ No

Grinder pump ____ Yes X No Lift pump in basement ____ Yes X No

Effluent screen installed? ____ Yes ____ No Effluent screen manufacturer _____

Alarm required? X Yes ____ No Alarm Type E/ec Alarm manufacturer _____

Lift pump in system? X Yes ____ No Pump manufacturer 47 gpm

Number of bedrooms _____

Component Information

Tank size 2250 +1020 Tank manufacturer Brown

Drainfield size 630 sq. ft.

Drainfield medium _____ Medium manufacturer 10' x 63' mound

Drainfield medium size/depth _____

Soil Verification

Vertical separation verified for Boring #1 on _____ Depth +36"

Vertical separation verified for Boring #2 on _____ Depth _____

Vertical separation verified for Boring #3 on _____ Depth _____

Setback Verification

	TANK	DRAINFIELD
Distance to Well	+50	+50
Distance to Building	+10	+20
Distance to Property Line	+10	+10
Distance to OHWof Lake	—	—
Distance to Pressure Line	+50	+50
Distance to Wetland/Protected Water	—	—

Date System Installed 9/8/17 **Installer** Tim Stenger Exc **Inspector** Laine A Stoll

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CERTIFICATE OF COMPLIANCE

( ) Certificate Is Hereby Denied

(X) Certificate is Hereby Granted Based upon the Application, addendum from, plans, specifications and all other supporting data. With property maintenance, this system can be expected to function satisfactory, however, this is not a guarantee.

Laine A Stoll — Signature

IST's inspector — Title

9/8/17 — Date

(Certificate of Compliance is not valid unless signed by a Registered Qualified Employee)