100084009

| PARCEL | |
|---|---|
| APP | SEPTIC |
| YEAR | |
| SCANNED | |
| LAKE | |

# 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: 100084009

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 08 Township 139 Range 040 Township Name Erie

Lake Name No Lake Lake Classification NA

Legal Description: 410' N + S By 330' E + W in SW corner of SW 1/4 of SE 1/4

Project Address: 30558 Sunset Rd Detroit Lakes, MN 56501

**2. PROPERTY OWNER INFORMATION (as it appears on the tax statement, purchase agreement or deed)**

Owner's First Name Michael Owner's Last Name Livingood

Mailing Address 30558 Sunset Rd City, State, Zip Detroit Lakes, MN 56501

Phone Number

**3. DESIGNER/INSTALLER INFORMATION**

Designer Name Ron Muff Company Name Muff's Trenching License # 5074

Address Callaway Phone Number 218-204-0925

Installer Name Larry Muff Company Name Muff's Trenching License # 576

Address Ogema Phone Number 218-204-0922

**4. SYSTEM DESIGN INFORMATION**

**System Status**

_____ 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**

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

6/19/15 Date of site evaluation

Design Flow 450 Gallons Per Day
Number of Bedrooms 3
Garbage Disposal ___ Yes ✓ No
Dishwasher ✓ Yes ___ No
Lift station in House ___ Yes ✓ No
Grinder pump in House ___ Yes ✓ No

Well Depth >250'
Depth of other wells within 100 ft of system _____

Original Soil ✓ Compacted Soil ___
Type of Soil Observation
___ Pit ___ Probe ✓ Boring
Depth to Restricting Layer >60"
Maximum Depth of System 24"

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

RECEIVED
JUL 01 20
ZONING

Total Number of tanks to be installed in this system 1 (This # will be reported to MPCA at end of year)

| PARCEL | |
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| Type of Drainfield | Full Size of Drainfield | Reduced/Warrantied size |
|---|---|---|
| ✓ Chamber Trench | 760 sq ft | _____ sq ft |
| _____ Rock Trench | _____ sq ft | _____ sq ft |
| _____ Gravelless | _____ sq ft | _____ sq ft |
| _____ Mound | _____ sq ft *** | |
| _____ Pressure Bed | _____ sq ft *** | |
| _____ Seepage Bed | _____ sq ft *** | |
| _____ At-grade | _____ sq ft *** | |
| _____ Alternative / Performance | _____ sq ft *** | ***Attach Worksheets |

Type of chamber 04
Depth of Rock NA

Alarm? Yes _____ No _____
Type of Alarm _____
Size of Lift Pump N/A
Size of Lift Line _____

PROPOSED SETBACKS

| | TANK | DRAINFIELD |
|---|---|---|
| Distance to Well | 180 | 190 |
| Distance to Building | 20' | 30 |
| Distance to Property Line | Not | close |
| Distance to OHW of Lake | — | — |
| Distance to Pressure Line | — | — |
| Distance to Wetland/Protected Water | — | — |

Perc Rate _____ Soil Sizing Factor 1.67 *If SSF other than .83, attach Perc Test Data

Soil Borings (three are required)

| Depth | Texture | Color | Structure | | Depth | Texture | Color | Structure |
|---|---|---|---|---|---|---|---|---|
| 0-8 | Topsoil | Black | | | 0-10 | Topsoil | Black | |
| 8-19 | Sandy Loam | 10YR 5/3 | | | 10-30 | Sandy Loam | 10YR 5/3 | |
| 19-32 | Loam | 10YR 4/4 | | | 30-60 | Loam | 10YR 4/4 | |
| 32-60 | Loam | 10YR 5/3 | | | | | | |

| Depth | Texture | Color | Structure | | Depth | Texture | Color | Structure |
|---|---|---|---|---|---|---|---|---|
| 0-8 | Topsoil | Black | | | | | | |
| 8-24 | Sandy Loam | 10YR 5/3 | | | | | | |
| 24-36 | Loam | 10YR 4/4 | | | | | | |
| 36-60 | Loam | 10YR 5/3 | | | | | | |

## 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? ✓ Yes _____ No

## 6. DESIGNER'S CERTIFIED STATEMENT

I, Ron Muff (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

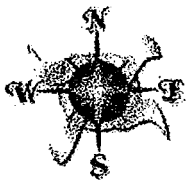
Date 6/30/15

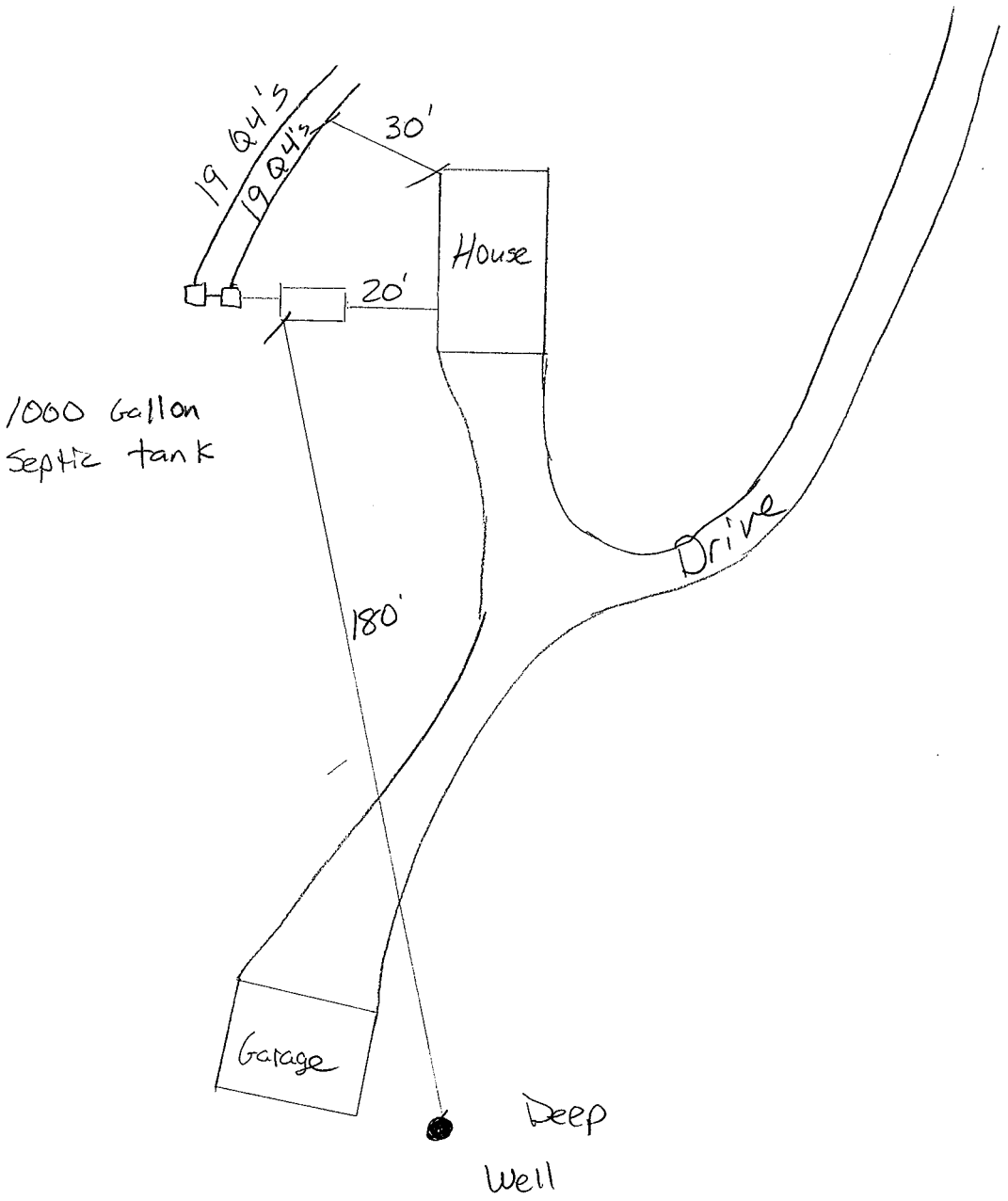
Scale 1" = 40'

## SKETCH OF PROPERTY

Please sketch all structures and septic systems on the property;
Include setbacks and wells within 100 feet of the property.

| | |
|---|---|
| PARCEL | |
| APP | SEPTIC INSPECTION |
| YEAR | |



# Trench and Bed Worksheet

*All boxed rectangles must be entered, the rest will be calculated.*

## 1. AVERAGE DESIGN FLOW

A. Estimated: 450 gpd *(see figure A-1)*
or measured: ____ x 1.5 *(safety factor)* = 0 gpd

B. Septic tank capacity: 1000 gallons

**A-1 Estimated Sewage Flows in GPD**

| Number of Bedrooms | Class I | Class II | Class III | Class IV |
|---|---|---|---|---|
| 2 | 300 | 225 | 180 | 60% of |
| 3 | 450 | 300 | 218 | the |
| 4 | 600 | 375 | 256 | values |
| 5 | 750 | 450 | 294 | in the |
| 6 | 900 | 525 | 332 | Class I, |
| 7 | 1050 | 600 | 370 | II or II |
| 8 | 1200 | 675 | 408 | columns |

## 2. SOILS (Site evaluation data)

C. Depth to restricting layer = 5 feet

D. Maximum depth of system Item C - 3 ft = 2 feet

E. Texture: Sandy Loam / Loam — Percolation rate: ____ mpi

F. SSF: 1.67 $ft^2$/gpd (see figure D-15)

G. % Land slope: 4 %

**D-15 Soil Characterisitcs & SSF**

| Perc Rate mpi | Soil Tecture | SSF sq ft/gpd |
|---|---|---|
| < 0.1 * | Coarse sand | 0.83 |
| 0.1- 5 | Medium sand | 0.83 |
| | Loamy sand | |
| 0.1- 5** | Fine sand | 1.67 |
| 6 - 15 | Sandy loam | 1.27 |
| 16 - 30 | Loam | 1.67 |
| 31 - 45 | Silt loam, silt | 2.00 |
| 46 - 60 | Clay loam, sandy clay or silty clay | 2.20 |
| 61 - 120*** | Clay, sandy or silty clay | 4.20 |
| >120**** | | |

* No trench >25% of total system

** Soil with >50% fine sand particles

*** A mound must be used

**** An other or performance system

**C-1 Septic Tank Capacity in Gallons**

| Number of Bedrooms | Minimum Capacity | Capacity with Garb. Disp. | Capacity with Disp. and Lift |
|---|---|---|---|
| 2 or less | 750 | 1125 | 1500 |
| 3 or 4 | 1000 | 1500 | 2000 |
| 5 or 6 | 1500 | 2250 | 3000 |
| 7, 8 or 9 | 2000 | 3000 | 4000 |

**D-9: Soil Characteristics and Soil sizing factors (SSF) for Gravelless Pipe**

| percolation rate (minutes/inch) | soil texture | lineal feet / gallon / day |
|---|---|---|
| Faster than 0.1 * | Coarse Sand | ---- |
| 0.1 to 5 | Medium Sand | 0.28 |
| | Loamy Sand | |
| 0.1 to 5 | Fine Sand ** | 0.6 |
| 6 to 15 | Sandy Loam | 0.42 |
| 16 to 30 | Loam | 0.56 |
| 31 to 45 | Silt Loam | 0.67 |
| | Silt | |
| 46 to 60 | Clay Loam (CL) | 0.74 |
| | Sandy CL | |
| | Silty CL | |
| slower than 60*** | Clay | ---- |
| | Sandy Clay | |
| | Silty Clay | |

*Soil too coarse for sewage treatment. Use systems for rapidly permeable soils.
**Soil having 50% or more fine sand + very fine sand.
***Soil with too high a percentage of clay for installation of a standard inground system.

**NCH OR BED BOTTOM AREA**

For trenches with 6 inches of rock below the pipe:

A x F = 450 gpd x 1.67 ft/gpd = 751.5 $ft^2$

I. For trenches with 12 inches of rock below the pipe:

A x F x 0.8= 450 gpd x 1.67 ft/gpd x 0.8 = 601.2 $ft^2$

J. For trenches with 18 inches of rock below the pipe:

A x F x 0.66= 450 gpd x 1.67 ft/gpd x 0.66 = 496.0 $ft^2$

K. For trenches with 24 inches of rock below the pipe:

A x F x 0.6= 450 gpd x 1.67 ft/gpd x 0.6 = 450.9 $ft^2$

L. For gravity beds with 6 or 12 inches of rock below the pipe;

1.5 x A x F = 1.5 x 450 gpd x 1.67 ft/gpd = 1127.3 $ft^2$

M. For pressure beds with 6 or 12 inches of rock below the pipe;

A x F = 450 gpd x 1.67 ft/gpd = 751.5 $ft^2$

**4. DISTRIBUTION** (Check all that apply)

| | | | | | |
|---|---|---|---|---|---|
| | Bed (<6% slope) | x | Drop Boxes (any slope) | | Rock |
| x | Trenches | | Distribution Box (<3%) | x | Chamber |
| | Pressure | x | Gravity | | Gravelless |

**5. SYSTEM WIDTH, LENGTH AND VOLUME**

M. Select width = ft

N. If using rock, divide bottom area by width: (H, I, J or K) divided by P = lineal feet

$ft^2$ / 0.0 ft = #DIV/0! lineal feet

Rock depth below distribution pipe plus 0.5 foot times bottom area:

(Rock depth + 0.5 foot) x Area (H, I, J, K, L)

( ft + 0.5 ft) x $ft^2$ = 0.0 $ft^3$

Volume in cubic yards = volume in cubic feet divided by 27

0.0 / 27= 0.0 $yd^3$

Weight of rock in tons = cubic yards times 1.4

0.0 x 1.4= 0.0 tons

O. If using 10" Gravelless Pipe, length = Flow (A) x Gravelless SSF (see figure D-9)

gpd x ft/gpd = 0.0 lineal feet

P. If using a Chamber (H, I, J, K [based on height of chamber slats] divided by width of chamber in ft)

**760sq ft/ 20 sq ft per chamber = 38 chambers** **38 chambers x 4 ft per chamber = 152 lineal feet**

**7. LAWN AREA**

Q. Select trench spacing, center to center = feet

R. Multiply trench spacing by lineal feet R x Q = sq. ft. of lawn area

x = 0 $ft^2$

**8. LAYOUT**

Select an appropriate scale; one inch = feet

Show pertinent property boundaries, rights-of-way, easements.

Show location of house, garage, driveway, and all other improvements, existing or proposed.

Show location and layout of sewage treatment system, well and dimensions of all elevations

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

(signature) 5074 (license #) 6/30/15 (date)

mailed COC 7-15-15

| PARCEL | |
|---|---|
| APP | SEPTIC |
| YEAR | |

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

Application Approved by: Laurel Stoll Date: 7/2/15

Amount Paid $150.00 Receipt Number 181782 Permit Number 344274

NOTES:

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## INSPECTION REPORT

**Home Information**

Does the structure contain any of the following elements?

Garbage disposer ____ Yes ✓ No — Dishwasher ✓ Yes ____ No

Grinder pump ____ Yes ✓ No — Lift pump in basement ____ Yes ✓ No

Effluent screen installed? ____ Yes ✓ No — Effluent screen manufacturer ____

Alarm required? ____ Yes ✓ No Alarm Type ____ Alarm manufacturer ____

Lift pump in system? ____ Yes ✓ No Pump manufacturer ____

Number of bedrooms 3

**Component Information**

Tank size 1000 Tank manufacturer Thele

Drainfield size 760 sq.ft.

Drainfield medium ____ Medium manufacturer 38 Qus

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 | +150 |
| Distance to Building | +10 | +20 |
| Distance to Property Line | +10 | +10 |
| Distance to OHWof Lake | | |
| Distance to Pressure Line | N/A | N/A |
| Distance to Wetland/Protected Water | | |

Date System Installed 7/8/15 Installer Muffs Etc. Inspector Laurel 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.

Laurel Stoll — Signature

ISTS Inspector — Title

7/8/15 — Date

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