17.1049.324

Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194

# Compliance Inspection Form

**Existing** [illegible] **'SSTS)**

'orcement

171049324

**Inspection results** based on Minnesota Pollution Control Agency (MPCA) requirements and attached forms – additional local requirements may also apply.

**Submit completed form to Local Unit of Government (LUG) and system owner within 15 days**

For local tracking purposes:

RECEIVED
OCT 14 2013
ZONING

## System Status

**System status on date (mm/dd/yyyy):** 10/10/2013

☒ **Compliant – Certificate of Compliance**
*(Valid for 3 years from report date, unless shorter time frame outlined in Local Ordinance.)*

☐ **Noncompliant – Notice of Noncompliance**
*(See Upgrade Requirements on page 3.)*

**Reason(s) for noncompliance *(check all applicable)***

- ☐ Impact on Public Health *(Compliance Component #1) – Imminent threat to public health and safety*
- ☐ Other Compliance Conditions *(Compliance Component #3) – Imminent threat to public health and safety*
- ☐ Tank Integrity *(Compliance Component #2) – Failing to protect groundwater*
- ☐ Other Compliance Conditions *(Compliance Component #3) – Failing to protect groundwater*
- ☐ Soil Separation *(Compliance Component #4) – Failing to protect groundwater*
- ☐ Operating permit/monitoring plan requirements *(Compliance Component #5) – Noncompliant*

## Property Information

Parcel ID# or Sec/Twp/Range: 171049324

Property address: 14550 PEARL LAKE DR
Reason for inspection: SALE

Property owner: JAMES MCCAWLEY
Owner's phone:

**or**

Owner's representative: JIM BROUSE
Representative phone:

Local regulatory authority: BECKER CO ZONING
Regulatory authority phone: 846-07614

Brief system description: 1000 GAL TANK WITH APPROX 750 SQ FT CHAMBER DRAINFIELD

**Comments or recommendations:**

## Certification

*I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.*

Inspector name: RICK RENNER
Certification number: 7202

Business name: RENNER EXC LLC.
License number: 2567

Inspector signature: Rick Renner
Phone number: 439-3514

## Necessary or Locally Required Attachments

☒ Soil boring logs ☒ System/As-built drawing ☐ Forms per local ordinance

☐ Other information (list):

Property address: 14550 PEARL LAKE DR  Inspector initials/Date: RR | 10/10/2013 (mm/dd/yyyy)

## 1. Impact on Public Health – Compliance component #1 of 5

| Compliance criteria: | |
|---|---|
| System discharges sewage to the ground surface. | ☐ Yes ☒ No |
| System discharges sewage to drain tile or surface waters. | ☐ Yes ☒ No |
| System causes sewage backup into dwelling or establishment. | ☐ Yes ☒ No |

***Any "yes" answer above indicates the system is an imminent threat to public health and safety.***

**Comments/Explanation:**

**Verification method(s):**

- ☒ Searched for surface outlet
- ☒ Searched for seeping in yard/backup in home
- ☐ Excessive ponding in soil system/D-boxes
- ☒ Homeowner testimony *(See Comments/Explanation)*
- ☐ "Black soil" above soil dispersal system
- ☐ System requires "emergency" pumping
- ☐ Performed dye test
- ☐ Unable to verify *(See Comments/Explanation)*
- ☐ Other methods not listed *(See Comments/Explanation)*

## 2. Tank Integrity – Compliance component #2 of 5

| Compliance criteria: | |
|---|---|
| System consists of a seepage pit, cesspool, drywell, or leaching pit.<br>*Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.* | ☐ Yes ☒ No |
| Sewage tank(s) leak below their designed operating depth.<br>If yes, which sewage tank(s) leaks: | ☐ Yes ☒ No |

***Any "yes" answer above indicates the system is failing to protect groundwater.***

**Comments/Explanation:**

**Verification method(s):**

- ☒ Probed tank(s) bottom
- ☐ Examined construction records
- ☐ Examined Tank Integrity Form *(Attach)*
- ☐ Observed liquid level below operating depth
- ☐ Examined empty (pumped) tanks(s)
- ☐ Probed outside tank(s) for "black soil"
- ☐ Unable to verify *(See Comments/Explanation)*
- ☐ Other methods not listed *(See Comments/Explanation)*

## 3. Other Compliance Conditions – Compliance component #3 of 5

a. Maintenance hole covers are damaged, cracked, unsecured, or appear to be structurally unsound. ☐ Yes* ☒ No ☐ Unknown

b. Other issues *(electrical hazards, etc.)* to immediately and adversely impact public health or safety. ☐ Yes* ☒ No ☐ Unknown
***System is an imminent threat to public health and safety.**

**Explain:**

c. System is non-protective of ground water for other conditions as determined by inspector. ☐ Yes* ☒ No
***System is failing to protect groundwater.**

**Explain:**

Property address: 14550 PEARL LAKE DR  Inspector initials/Date: RR | 10/10/2013 (mm/dd/yyyy)

## 4. Soil Separation – Compliance component #4 of 5

**Date of installation:** _____ (mm/dd/yyyy) ☒ Unknown

**Shoreland/Wellhead protection/Food beverage lodging?** ☒ Yes ☐ No

**Compliance criteria:**

| | |
|---|---|
| *For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment:* Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock. | ☐ Yes ☐ No |
| *Non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment:* Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.* | ☒ Yes ☐ No |
| *"Experimental", "Other", or "Performance" systems built under pre-2008 Rules; Type IV or V systems built under 2008 Rules (7080. 2350 or 7080.2400* (Advanced Inspector License required) Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock. | ☐ Yes ☐ No |

***Any "no" answer above indicates the system is failing to protect groundwater.***

**Verification method(s):**

*Soil observation does not expire. Previous soil observations by two independent parties are sufficient, unless site conditions have been altered or local requirements differ.*

☒ Conducted soil observation(s) *(Attach boring logs)*
☒ Two previous verifications (Attach boring logs)
☐ Not applicable *(Holding tank(s), no drainfield)*
☐ Unable to verify *(See Comments/Explanation)*
☐ Other *(See Comments/Explanation)*

**Comments/Explanation:**

SANDY LOAM

**Indicate depths or elevations**

| | |
|---|---|
| A. Bottom of distribution media | 22"" |
| B. Periodically saturated soil/bedrock | 7'+ |
| C. System separation | 4'+ |
| D. Required compliance separation* | 36" |

*May be reduced up to 15 percent if allowed by Local Ordinance.

## 5. Operating Permit and Nitrogen BMP* – Compliance component #5 of 5 ☒ Not applicable

Is the system operated under an Operating Permit? ☐ Yes ☐ No **If "yes", A below is required**

Is the system required to employ a Nitrogen BMP? ☐ Yes ☐ No **If "yes", B below is required**

*BMP = Best Management Practice(s) specified in the system design*

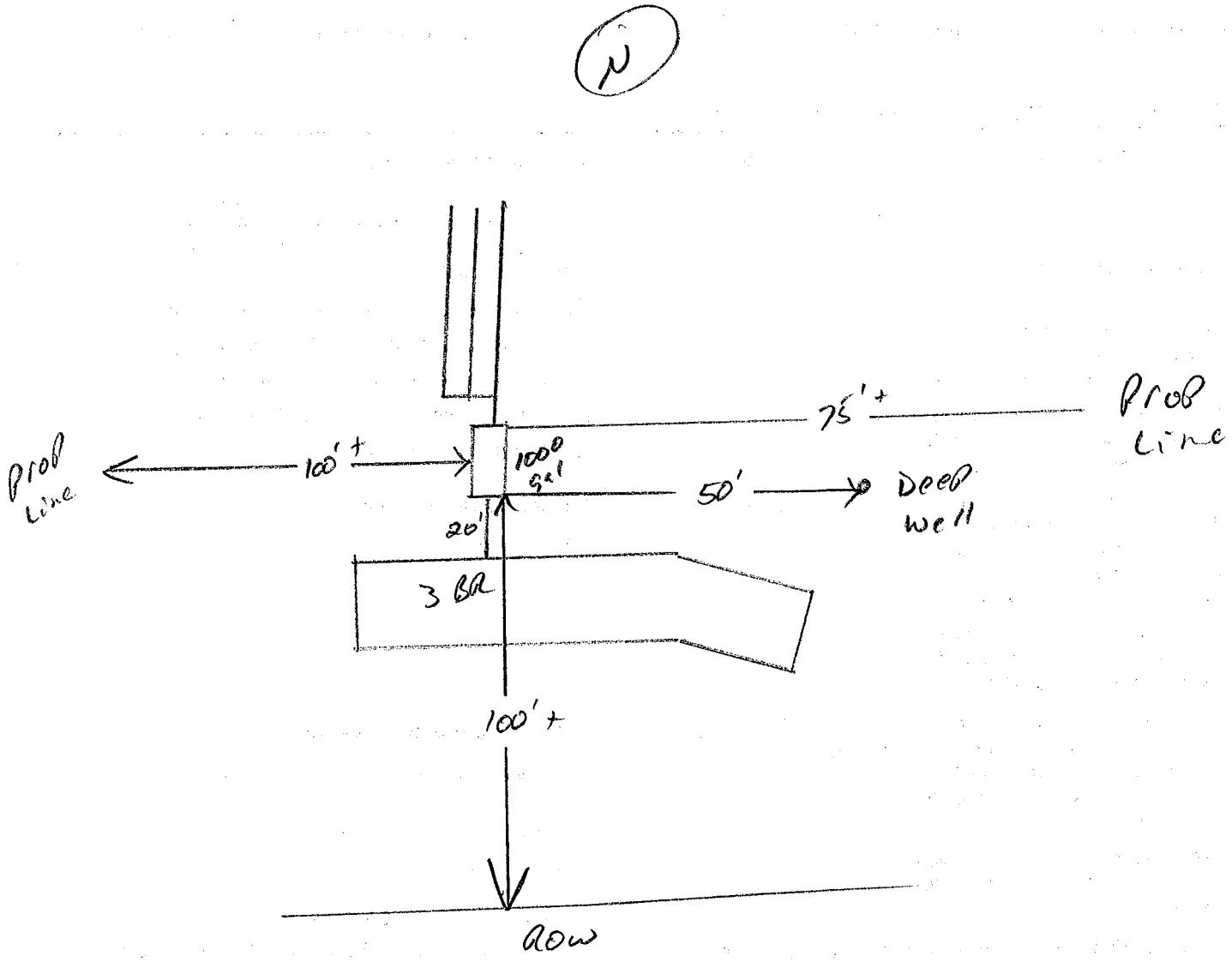
***If the answer to both questions is "no", this section does not need to be completed.***

**Compliance criteria**

| | |
|---|---|
| a. Operating Permit number: _____ Have the Operating Permit requirements been met? | ☐ Yes ☐ No |
| b. Is the required nitrogen BMP in place and properly functioning? | ☐ Yes ☐ No |

***Any "no" answer indicates Noncompliance.***

**Upgrade Requirements** *(Minn. Stat. § 115.55) An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.*


N
75'+
Prop Line
Prop Line
100'+
1000 Sq'
50'
Deep well
20'
3 BR
100'+
ROW

# APPLICATION FOR SEWAGE SYSTEM

## CERTIFICATE OF COMPLIANCE

With The Becker County Zoning Ordinance

Application Number: 10370

Tax Parcel Number: 17.1049.324

Fire Number of Project Location:

### A. GENERAL INFORMATION

| 1. Applicant's Name (Last, First, M.I.) | 2. Authorized Agent (if applicable) |
|---|---|
| Jenson Jim | Grant Ohm |

3. Mailing Address (Street, RFD, Box Number, City, State, Zip Code): RR 1 Box 58D Detroit Lakes, MN 56501

| 4. Day Phone | 5. Evening Phone | 6. Section | 7. Township |
|---|---|---|---|
| | | 12 | Lake Eunice |

### B. PROPERTY DESCRIPTION

1. Lot(s), Block, Subdivision Name: Pearl Lake Terrace 1st Addition Lot 4 Block 1

SEWAGE SYSTEM DATA

Anticipated Use
- a. (✓) Single Family
- b. ( ) Multiple Family
- c. ( ) Commercial
- d. ( ) Other (specify)

Type of Installation
- a. ( ) Septic Tank Only
- b. ( ) Drainfield Only
- c. (✓) Septic Tank & Drainfield
- d. ( ) Holding Tank
- e. ( ) Septic Tank/Drainfield Lift Station

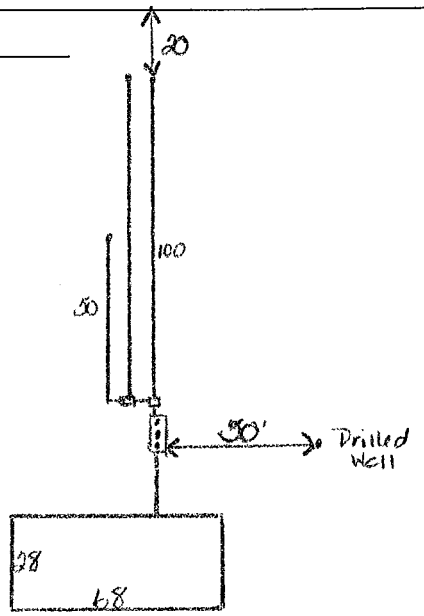
Type of Drainfield
- a. (✓) Standard System
- b. ( ) Mound (pressure distribution)

Well Data
- a. Depth 50'
- b. Diameter

Type of Well
- a. (✓) Drilled
- b. ( ) Sand Point

**1 Inch Equals**

**DESIGN**




Drop Box Distribution
10" Gravel Less Pipe

**Show Distance Between Sewage System And Buildings, Property Lines, Lake, Road And All Wells Within 125 Feet.**

| | Tank | Drainfield | | Tank | Drainfield |
|---|---|---|---|---|---|
| Distances to Well: | 50 | 50 | Distance to Pressure Line: | 10' | 10' |
| Distance to Building: | 20 | 30 | Tank Capacity (gal.) & Area of Drainfield (ft 2) | 1000 | 750 |
| Distance to Property Line: | 50 | 20 | Distance to Ordinary High Water Level: | N/A | N/A |
| | | | Drainfield separation from Highest Known Ground Water Level, Impervious Lens or Soil Mottling: | | 4+ |

I hereby certify with my signature that all data on my application forms, plans and specifications are true and correct: _____

Signature of Applicant — Date

**TO BE COMPLETED BY PLANNING AND ZONING**

( ) CERTIFICATE IS HEREBY DENIED: (See back For Reasons)

(✓) CERTIFICATE IS HEREBY GRANTED: Based upon the application, addendum from, plans, specifications and all other supporting data. With proper maintenance this system can be expected to function satisfactory, however this is not a guarantee.

**BECKER COUNTY PLANNING AND ZONING**

Signature

Title — Date 12-29-96

# BECKER COUNTY PLANNING & ZONING

829 LAKE AVENUE, PO BOX 787
DETROIT LAKES, MN 56502-0787
PHONE (218) 846-7314 - FAX (218) 846-7266

INSTALLATION PERMIT FOR
INDIVIDUAL SEWAGE TREATMENT

FIRE NO. _____

PERMIT/RECEIPT NO. 10536

TAX PARCEL NUMBER 17.104.9324

LEGAL DESCRIPTION
Lot 4 Block 1 Pearl Lake Terrace 1st Addition

| LAKE/STREAM NAME | LK/STR CLASS | SECTION | TWP | RANGE | TOWNSHIP NAME |
|---|---|---|---|---|---|
| Pearl | RD | 12 | 138 | 42 | Lake Eunice |

| PROPERTY OWNER | ADDRESS/ CITY/ STATE | PHONE NO |
|---|---|---|
| Jim Jenson | RR1 Box 580 Detroit Lakes MN 56501 | |

| INSTALLER | LICENSE NO | PHONE NO |
|---|---|---|
| Grant Ohm | | |

SEWAGE TREATMENT SYSTEM DATA

WORK CATEGORY

(X) NEW SYSTEM
( ) REPAIR

TYPE OF SYSTEM

(X) SEPTIC TANK/DRAINFIELD
( ) DRAINFIELD ONLY
( ) HOLDING TANK
( ) ALTERNATE (specify)
_____
( ) LIFT STATION

SIZE OF TANK
1000 GALLONS

SIZE OF DRAINFIELD
571 FT2

SYSTEM LENGTH
190 FT

NUMBER OF TRENCHES 3

ESTIMATED FLOW 450 GPD

TYPE OF DRAINFIELD

(X) STANDARD (gravelless)
( ) STANDARD (rock trench)
( ) STANDARD (bed)
( ) MOUND (pressure distb)

SIZE OF LIFT STATION
N/A GALLONS

SIZE OF PUMP
N/A

DEPTH TO RESTRICTING LAYER 60"

MAXIMUM DEPTH OF SYSTEM 24"

PERC RATE 5.3

SSF 1.27

SIZE OF GRAVELLESS PIPE 4 inch

DEPTH OF ROCK _____

I hereby certify with my signature that all the data contained herein as well as all supporting data are true and correct to the best of my knowledge. I also understand that this permit is valid for a period of six (6) months.

Signature on site evaluation — Signature
10-15-96 — Date

Any changes to the permit must first be approved by Becker County Planning & Zoning. No system shall be covered up without inspection by Becker County Planning & Zoning.

Site Plan as approved on Site Evaluation.

site plan attached

For Office Use Only

Application Fee 45.00 State Surcharge .50 Total $45.50

[ ] Application is hereby denied

[X] Application is hereby granted to Jim Jenson to install an individual septic system according to the specifications of the site evaluation and design submitted to the Becker County Environmental Services Office. By Order of:

Heki Mottaz 10-15-96

Signature of Becker County Qualified Employee Date

This permit expires on 4-15-97

BECKER COUNTY PLANNING & ZONING
829 Lake Avenue, P O Box 787
Detroit Lakes, MN 56502-0787
Phone (218) 846-7314, Fax (218) 846-7266

# Onsite Septic System Site Evaluation/Design

Fire Number _____

Tax Parcel Number 17.1049.324

Legal Description:

| Lake/Stream Name | Lake/Stream Class | Section | TWP | Range | Township Name |
|---|---|---|---|---|---|
| PEARL LAKE ~~ESTATES~~ Terrace 1st Addition Lot 4 Block 1 | | | | | |
| PEARL | RD | 12 | 138N | 42W | LAKE EUNICE |

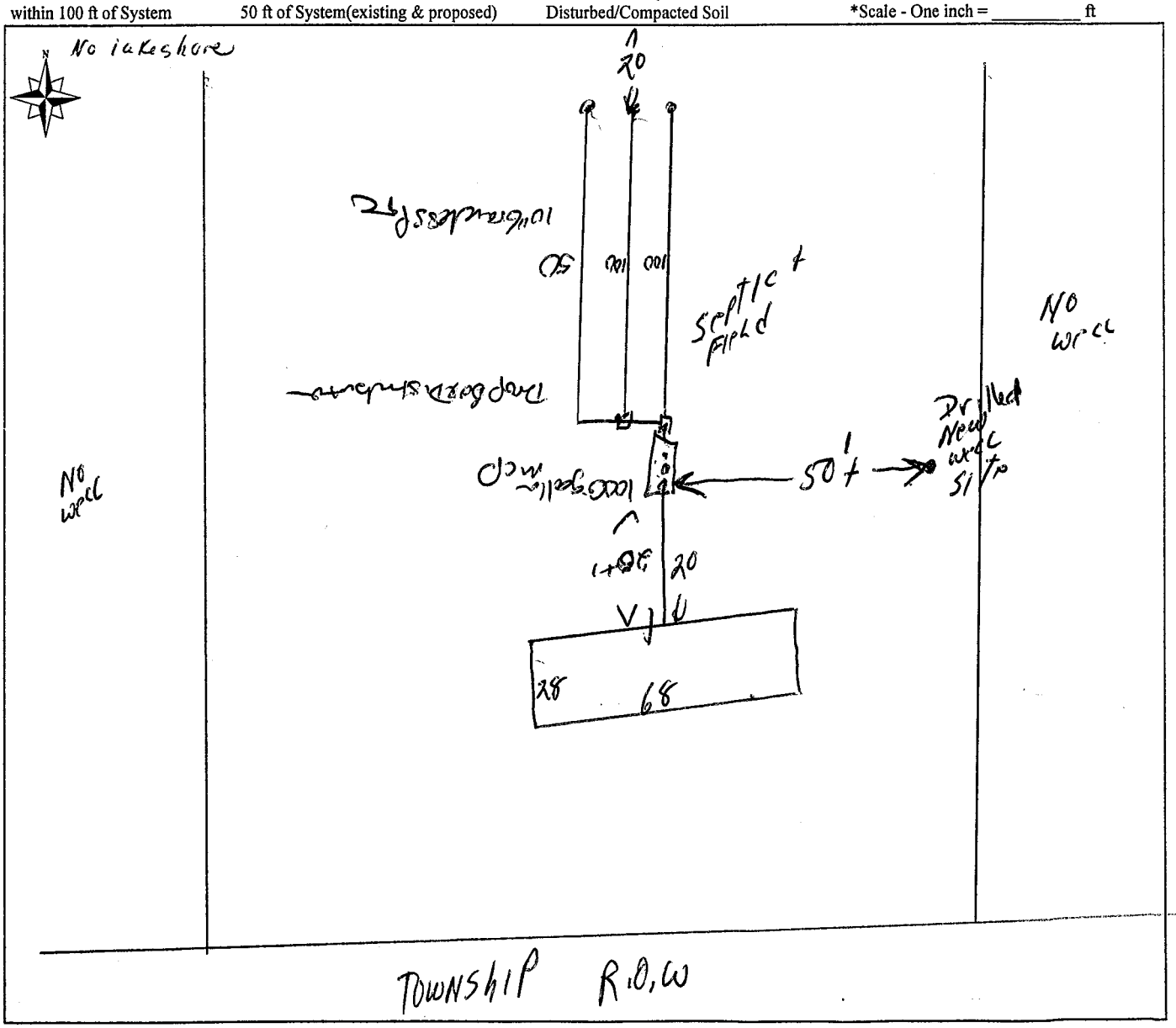
| Property Owner | Address | City, State, Zip Code | Phone Number |
|---|---|---|---|
| JIM JENSON | RR1 BOX 580 | DETROIT LAKES, MN 56501 | |

| ISTS Designer I / Designer II | License Number | Address | Phone Number |
|---|---|---|---|
| GRANT OHM | 932 | BOX 293 AUDUBON, MN | 4396498 |

## Site Plan

The site plan must be drawn to dimension or to scale:

| | | | |
|---|---|---|---|
| *All Wells within 100 feet of the System | *Existing & Proposed Buildings | *Distance from OHW | *Soil Boring & Perc Test Locations |
| *Distance from all Wells within 100 ft of System | *Easements | *Distance from Property Lines | *Dimensions of Lot |
| | *Distance from Water Lines within 50 ft of System(existing & proposed) | *Location of any Unsuitable Disturbed/Compacted Soil | *Tank Access Route |
| | | | *Scale - One inch = _____ ft |



SOIL INFORMATION

| TEST HOLE #1 | | | | TEST HOLE #2 | | | |
|---|---|---|---|---|---|---|---|
| DEPTH IN INCHES | SOIL TEXTURE | MUNSELL COLOR | STRUCTURE | DEPTH IN INCHES | SOIL TEXTURE | MUNSELL COLOR | STRUCTURE |
| 0-5 | SANDY LOAM | 10YR 4/2 DK GREY BRN | BLOCKY PLATY PRISMATIC NONE | 0-12 | SANDY LOAM | 10YR 3/1 DK GREY | BLOCKY PLATY PRISMATIC NONE |
| 5-12 | CLAY LOAM | 10YR 6/2 LT BRN GREY | BLOCKY PLATY PRISMATIC NONE | 12-24 | CLAY LOAM | 10YR 4/2 DK GREY BRN | BLOCKY PLATY PRISMATIC NONE |
| 12-24 | LOAM | 10YR 7/1 LT GREY | BLOCKY PLATY PRISMATIC NONE | 24-60 | LOAM | 10YR 6/2 LT BRN GREY | BLOCKY PLATY PRISMATIC NONE |
| 24-60 | LOAM | 10YR 7/2 LT GREY | BLOCKY PLATY PRISMATIC NONE | | | | BLOCKY PLATY PRISMATIC NONE |
| Depth to standing water | +5' | — | | Depth to standing water | — | — | |
| Depth to mottling | — | — | | Depth to mottling | — | — | |

Describe the surface features (slope, runoff, weather conditions, vegetation type, evidence of compaction, etc.)

HAY Field - 15% Slope DAMP

SYSTEM IS (X) NEW ( ) REPAIR

SYSTEM DESIGN (X) GRAVITY FLOW ( ) PRESSURE DISTRIBUTION

WATER USES:
(X) WASHING MACHINE
( ) DISHWASHER
( ) WATER SOFTENER
( ) GARBAGE DISPOSAL

NUMBER OF BEDROOMS 3
NUMBER OF BATHROOMS 2
TOTAL SQ. FT OF STRUCTURE
TANK SIZE 1000

DEPTH OF SYSTEM 24"
SYSTEM DESIGN FLOW 450 GPD
SOIL SIZING FACTOR 1.27
PUMP SIZE
LENGTH OF LIFT LINE
TOTAL DYNAMIC HEAD

TYPE OF RESIDENCE
(X) TYPE I ( ) TYPE II
( ) TYPE III ( ) TYPE IV

LIFT STATION SIZE
SOIL TREATMENT AREA SIZE 571 SQ FT
DOSE VOLUME

WELL INFORMATION-Property's Well To Be drilled DEPTH OF WELL +50

TYPE OF WELL 4"

Neighboring wells (within 100 ft of system) Depth of Wells -0-

Type of Wells -0-

Name of Designer I
Designer II GRANT Ohm

Date of Site Evaluation 9-10-96

MPCA Number 932

Phone 4396428

I certify that the site evaluation has been completed in accordance with all provisions of ISTS Minnesota Rules Chapter 7080.

Signature of Evaluator Grant Ohm Date 10-14-96

For Office Use Only

Date Site Evaluation / Design received 10-15-96 Received by Debi Moltzan

Date Site Evaluation approved 10-15-96 Approved by Debi Moltzan

# INDIVIDUAL SEWAGE TREATMENT SYSTEM WORKSHEET

## FLOW

A. Estimated 450 gpd
measured _____ x 1.5= _____ gpd

## SEPTIC TANK VOLUME

B. 1000 gallons

## SOILS (Site evaluation data)

C. Depth to restricting layer = 4.5 feet
D. Maximum depth of system C - 3 ft = 2 feet
E. Texture loamy Percolation rate 5.3 MPI
F. SSF 1.27 sq ft/gpd
G. Slope 15 %

## TRENCH BOTTOM AREA

H. For trenches with 6 inches of rock below the pipe:
A x F = _____ x _____ = _____ sq ft of bottom area

I. For trenches with 12 inches of rock below the pipe:
A x F x 0.8 = _____ x _____ x 0.8 = _____ sq ft of bottom area

J. For trenches with 18 inches of rock below the pipe:
A x F x 0.66 = _____ x _____ x 0.66 = _____ sq ft of bottom area

K. For trenches with 24 inches of rock below the pipe:
A x F x 0.6 = _____ x _____ x 0.6 = _____ sq ft of bottom area

## BED BOTTOM AREA

L. For seepage beds with 6 or 12 inches of rock below the pipe;
1.5 x A x F = 1.5 x _____ x _____ = _____ sq ft of bottom area

## ROCK VOLUME IN CU FT

M. Rock depth below distribution pipe plus 0.5 foot times bottom area:
M =Rock depth + 6 inches x Area (H,I,J,L,K)
(_____ + 0.5 ft) x _____ = _____ cu ft

## ROCK VOLUME IN CU YDS

N. Volume in cu ft divided by 27
M ÷ 27 = cu yds _____ ÷ 27 = _____ cu yds

## ROCK WEIGHT

O. Cubic yards times 1.4 = tons
N x 1.4 = tons _____ x 1.4 = _____ tons

## SYSTEM LENGTH

P. Select trench width = _____ ft

Q. Divide bottom area by trench width: (H, I, J, or K) ÷ P = lineal feet
_____ ÷ _____ = _____ lineal feet

Q1. Gravelless Design
A x F ÷ ( 3 for 10" pipe, 2 for 8" pipe , width of the Chamber )
450 x 1.27 ÷ 3 = 190 feet

## LAWN AREA

R. Select trench spacing, center to center = _____ feet

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

If the site evaluation determines a mound system, please attach the mound design worksheets.

| Estimated Sewage Flows in Gallons per day (gpd) | | | | |
|---|---|---|---|---|
| Number of Bedrooms | Type I | Type II | Type III | Type IV |
| 2 | 300 | 225 | 180 | 60% of the values in Type I, II or III columns |
| 3 | 450 | 300 | 218 | |
| 4 | 600 | 375 | 256 | |
| 5 | 750 | 450 | 294 | |
| 6 | 900 | 525 | 332 | |
| 7 | 1050 | 600 | 370 | |
| 8 | 1200 | 675 | 408 | |

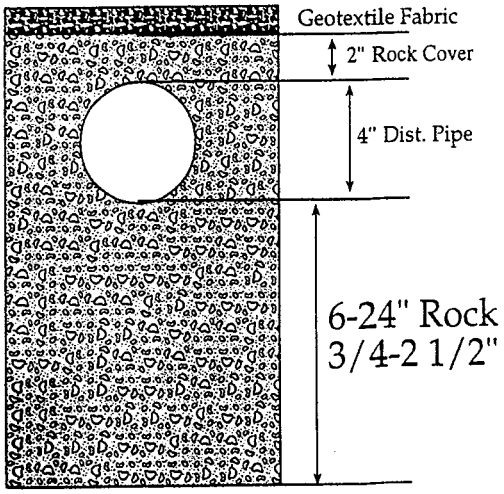
| Septic Tank Capacities (in gallons) | | |
|---|---|---|
| Number of Bedrooms | Minimum Liquid Capacity | Liquid capacity with garbage disposal |
| 2 or less | 750 | 1125 |
| 3 or 4 | 1000 | 1500 |
| 5 or 6 | 1500 | 2250 |
| 7, 8 or 9 | 2000 | 3000 |

**Soil Characteristics and Required Areas for Sewage Treatment**

| Percolation Rate in Minutes per Inch (MPI) | Soil Texture | Square feet per gallon per day |
|---|---|---|
| Faster than 0.1 * | Coarse Sand | ----- |
| 0.1 to 5 | Sand | 0.83 |
| 0.1 to 5 | Fine Sand ** | 1.67 |
| 6 to 15 | Sandy Loam | 1.27 |
| 16 to 30 | Loam | 1.67 |
| 31 to 45 | Silt Loam | 2.00 |
| 46 to 60 | Clay Loam | 2.20 |
| Slower than 60*** | Clay | ----- |

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

**6 inches= 0% Reduction***
**12 inches= 20% Reduction**
**18 inches= 34% Reduction**
**24 inches= 40% Reduction**
* sizing for gravelless trench



18-36" Width

## - PERCOLATION TEST SHEET -

Test hole location SOUTH Hole # 1 Date test hole was prepared: 9-10-96

Depth of hole bottom: 24 inches Diameter of hole: 7 inches

Soil Data from test hole:

| depth, inches | soil texture: | soil color |
|---|---|---|
| 0-5 | SILOAM | GREY |
| 5-12 | LOAM | GREY |
| 12-24 | LOAM | LT GREY |

Method of scratching sidewall: _____ Depth of pea size gravel in bottom of hole: 2 inches

Date and hour of initial water filling: _____ Depth of initial water filling: _____ above hole bottom

Method used to maintain 12" of water depth in hole for 4 hours: _____

Percolation test conducted by: _____ Percolation test started at _____ (am / pm).

Maximum water depth above hole bottom during test: 6 inches

| TIME | INTERVAL (MINUTES) | WATER DEPTH | WATER DROP (fraction) | WATER DROP (decimal) | PERC RATE CALCULATION | |
|---|---|---|---|---|---|---|
| | START 4 | 6 / 4 | 2 | 2 | 4 ÷ 2 = 2 | A |
| | REFILL 4 | 6 / 4 1/4 | 1 3/4 | 1.75 | 4 ÷ 1.75 = 2.28 | B |
| | REFILL 4 | 6 / 4 3/8 | 1 5/8 | 1.63 | 4 ÷ 1.63 = 2.45 | C |
| | REFILL 4 | 6 / 4 1/2 | 1 1/2 | 1.5 | 4 ÷ 1.5 = 2.66 | D |
| | REFILL 4 | 6 / 4 1/2 | 1 1/2 | 1.5 | 4 ÷ 1.5 = 2.66 | E |
| | REFILL 4 | 6 / 4 1/2 | 1 1/2 | 1.5 | 4 ÷ 1.5 = 2.66 | F |
| | REFILL | | | | ÷ = | G |
| | REFILL | | | | ÷ = | H |

conversions: 1/16 = .06; 1/8 = .13; 3/16 = .19; 1/4 = .25; 5/16 = .31; 3/8 = .38; 7/16 = .44; 1/2 = .5; 9/16 = .56; 5/8 = .63; 11/16 = .69; 3/4 = .75; 13/16 = .81; 7/8 = .88; 15/16 = .94

Ten Percent Calculation *

| | |
|---|---|
| A,B,C: Largest # of ABC − Smallest # of ABC = ____ ; Smallest # of ABC × 0.10 = ____ | B,C,D: Largest # of BCD − Smallest # of BCD = ____ ; Smallest # of BCD × 0.10 = ____ |
| C,D,E: Largest # of CDE − Smallest # of CDE = ____ ; Smallest # of CDE × 0.10 = ____ | D,E,F: Largest # of DEF − Smallest # of DEF = ____ ; Smallest # of DEF × 0.10 = ____ |
| E,F,G: Largest # of EFG − Smallest # of EFG = ____ ; Smallest # of EFG × 0.10 = ____ | F,G,H: Largest # of FGH − Smallest # of FGH = ____ ; Smallest # of FGH × 0.10 = ____ |

* If the top number in each set of boxes is larger than the bottom number then take another reading. If the top number is equal or smaller than bottom number, average the three numbers for the perc rate.

2.66 AVG MPI

5.33 AVERAGE

## - PERCOLATION TEST SHEET -

Test hole location NORTH Hole # 2 Date test hole was prepared: 9-10-96

Depth of hole bottom: 24 inches Diameter of hole: 7 inches

Soil Data from test hole:

| depth, inches | soil texture: | soil color |
|---|---|---|
| 0-12 | SILOAM | DK GREY |
| 12-24 | LOAM | GREY |

Method of scratching sidewall: _____ Depth of pea size gravel in bottom of hole: _____ inches

Date and hour of initial water filling: _____ Depth of initial water filling: _____ above hole bottom

Method used to maintain 12" of water depth in hole for 4 hours: _____

Percolation test conducted by: _____ Percolation test started at _____ (am / pm).

Maximum water depth above hole bottom during test: _____ inches

| TIME | INTERVAL (MINUTES) | WATER DEPTH | WATER DROP (fraction) | WATER DROP (decimal) | PERC RATE CALCULATION | |
|---|---|---|---|---|---|---|
| | START 10 | 6 / 2 | 4 | 4 | 10 ÷ 4 = 2.5 | A |
| | REFILL 10 | 6 / 3 1/2 | 2 1/2 | 2.5 | 10 ÷ 2.5 = 4 | B |
| | REFILL 10 | 6 / 4 1/2 | 1 1/2 | 1.5 | 10 ÷ 1.5 = 6.7 | C |
| | REFILL 10 | 6 / 4 3/4 | 1 1/4 | 1.25 | 10 ÷ 1.25 = 8 | D |
| | REFILL 10 | 6 / 4 3/4 | 1 1/4 | 1.25 | 10 ÷ 1.25 = 8 | E |
| | REFILL 10 | 6 1/8 / 4 7/8 | 1 1/4 | 1.25 | 10 ÷ 1.25 = 8 | F |
| | REFILL | | | | ÷ = | G |
| | REFILL | | | | ÷ = | H |

conversions: 1/16 = .06; 1/8 = .13; 3/16 = .19; 1/4 = .25; 5/16 = .31; 3/8 = .38; 7/16 = .44; 1/2 = .5; 9/16 = .56; 5/8 = .63; 11/16 = .69; 3/4 = .75; 13/16 = .81; 7/8 = .88; 15/16 = .94

Ten Percent Calculation *

| | |
|---|---|
| A,B,C: Largest # of ABC − Smallest # of ABC = ____ ; Smallest # of ABC × 0.10 = ____ | B,C,D: Largest # of BCD − Smallest # of BCD = ____ ; Smallest # of BCD × 0.10 = ____ |
| C,D,E: Largest # of CDE − Smallest # of CDE = ____ ; Smallest # of CDE × 0.10 = ____ | D,E,F: Largest # of DEF − Smallest # of DEF = ____ ; Smallest # of DEF × 0.10 = ____ |
| E,F,G: Largest # of EFG − Smallest # of EFG = ____ ; Smallest # of EFG × 0.10 = ____ | F,G,H: Largest # of FGH − Smallest # of FGH = ____ ; Smallest # of FGH × 0.10 = ____ |

* If the top number in each set of boxes is larger than the bottom number then take another reading. If the top number is equal or smaller than bottom number, average the three numbers for the perc rate.

8 AVG MPI