



APPLICATION FOR SEWAGE SYSTEM CERTIFICATE With The Becker



171111000

Application Number 10612
Tax Parcel Number 17.1111.000
Fire Number of Project Location L5422

A. GENERAL INFORMATION

1. Applicant's Name (Last, First, M.I.) Boe, Alvin		2. Authorized Agent (if applicable) Nels Thorsen		
3. Mailing Address (Street, RFD, Box Number, City, State, Zip Code) RR 1 Box 554 Audubon, MN 56511-9786				
4. Day Phone 439-3037	5. Evening Phone	6. Section 18	7. Township Lake Eunice	

B. PROPERTY DESCRIPTION

1. Lot(s), Block, Subdivision Name
Sub Div of 60v Lot 7 E 1/2 AC in Wly Pt + EXT B + Rd + E LN Lot 6

<p>SEWAGE SYSTEM DATA</p> <p>Anticipated Use</p> <p>a. <input checked="" type="checkbox"/> Single Family</p> <p>b. <input type="checkbox"/> Multiple Family</p> <p>c. <input type="checkbox"/> Commercial</p> <p>d. <input type="checkbox"/> Other (specify)</p> <p>Type of Installation</p> <p>a. <input type="checkbox"/> Septic Tank Only</p> <p>b. <input type="checkbox"/> Drainfield Only</p> <p>c. <input checked="" type="checkbox"/> Septic Tank & Drainfield</p> <p>d. <input type="checkbox"/> Holding Tank</p> <p>e. <input type="checkbox"/> Septic Tank/Drainfield Lift Station</p> <p>Type of Drainfield</p> <p>a. <input checked="" type="checkbox"/> Standard System</p> <p>b. <input type="checkbox"/> Mound (pressure distribution)</p> <p>Well Data</p> <p>a. Depth 80'</p> <p>b. Diameter 4"</p> <p>Type of Well</p> <p>a. <input checked="" type="checkbox"/> Drilled</p> <p>b. <input type="checkbox"/> Sand Point</p>	<p style="font-size: 1.2em; text-align: center;">1 Inch Equals _____</p> <p style="font-size: 1.2em; text-align: center;">DESIGN</p> <p style="font-size: 1.5em; text-align: center; margin-top: 20px;"><i>See Attached Plan</i></p> <p style="text-align: center; font-size: 0.8em;">Show Distance Between Sewage System And Buildings, Property Lines, Lake, Road And All Wells Within 125 Feet.</p>
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	Tank	Drainfield		Tank	Drainfield
Distances to Well:	= 75	= 108	Distance to Pressure Line:	= 10'	= 10'
Distance to Building:	= 11	= 20	Tank Capacity (gal. & Area of Drainfield (ft ²))	= 2101500	= 750
Distance to Property Line:	= 100	= 50	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
T. J. ...
 Signature _____ Date 11/4/96
 Title Chief Inspector



Onsite Septic System Site Evaluation/Design.

Fire Number 25422
 Tax Parcel Number 17,111.000

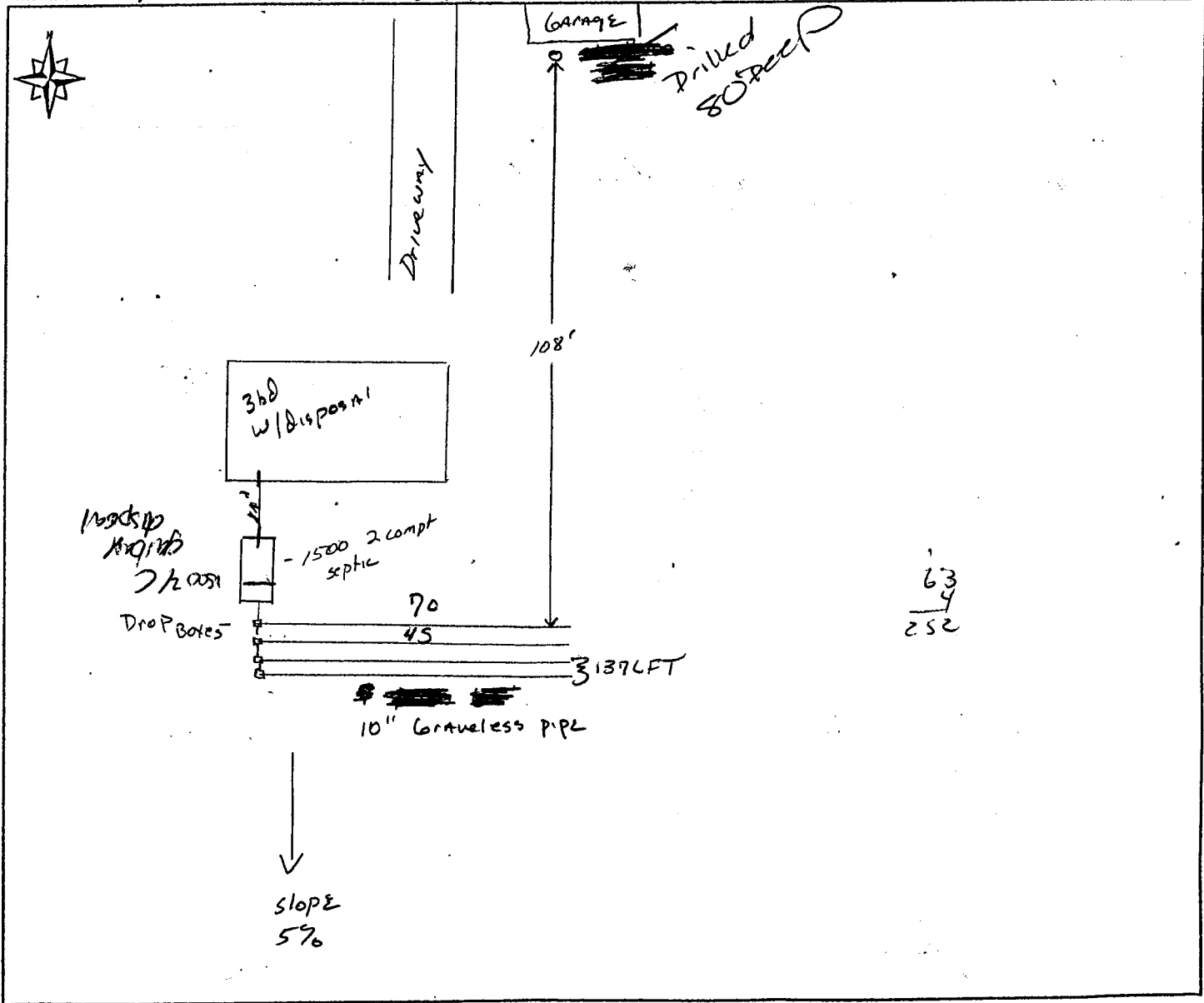
Legal Description: Sub Div L3, Lot 7 Big at most sly COR Lot 7, T4NW582.08' to RAIL					
Lake/Stream Name	Lake/Stream Class	Section	TWP	Range	Township Name
Cormorant	N/A	18	138N	42W	Lake Eunice
Property Owner	Address		City, State, Zip Code		Phone Number
Alvin Boe	RR 1 Box 554 Audubon, MA		56511-9786		
ISTS Designer I / Designer II	License Number	Address		Phone Number	
Randy Anderson	634	Detroit Lakes mn		849-1143	

Site Plan

(check name masses)

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

- *All Wells within 100 feet of the System
- *Distance from all Wells within 100 ft of System
- *Existing & Proposed Buildings
- *Easements
- *Distance from Water Lines within 50 ft of System (existing & proposed)
- *Distance from OIHW
- *Distance from Property Lines
- *Location of any Unsuitable Disturbed/Compacted Soil
- *Soil Boring & Perc Test Locations
- *Dimensions of Lot
- *Tank Access Route
- *Scale - One Inch = 30 ft



INDIVIDUAL SEWAGE TREATMENT SYSTEM WORKSHEET

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

B. _____ SEPTIC TANK VOLUME
1500 gallons

C. SOILS (Site evaluation data)
Depth to restricting layer = 5 feet
D. Maximum depth of system C - 3 ft = 2 feet
E. Texture loam Percolation rate 13.3 MPI
F. SSF 167 sq ft/gpd - loam soils + garbage disposal
G. Slope 5%

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	

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

H. TRENCH BOTTOM AREA
For trenches with 6 inches of rock below the pipe:
 $A \times F = ___ \times ___ = ___ \text{ sq ft of bottom area}$

I. For trenches with 12 inches of rock below the pipe:
 $A \times F \times 0.8 = ___ \times ___ \times 0.8 = ___ \text{ sq ft of bottom area}$

J. For trenches with 18 inches of rock below the pipe:
 $A \times F \times 0.66 = ___ \times ___ \times 0.66 = ___ \text{ sq ft of bottom area}$

K. For trenches with 24 inches of rock below the pipe:
 $A \times F \times 0.6 = ___ \times ___ \times 0.6 = ___ \text{ sq ft of bottom area}$

L. BED BOTTOM AREA
For seepage beds with 6 or 12 inches of rock below the pipe:
 $1.5 \times A \times F = 1.5 \times ___ \times ___ = ___ \text{ sq ft of bottom area}$

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.

M. ROCK VOLUME IN CU FT
Rock depth below distribution pipe plus 0.5 foot times bottom area:
 $M = \text{Rock depth} + 6 \text{ inches} \times \text{Area (H,I,J,L,K)}$
 $(___ + 0.5 \text{ ft}) \times ___ = ___ \text{ cu ft}$

N. ROCK VOLUME IN CU YDS
Volume in cu ft divided by 27
 $M + 27 = \text{cu yds} ___ + 27 = ___ \text{ cu yds}$

O. ROCK WEIGHT
Cubic yards times 1.4 = tons
 $N \times 1.4 = \text{tons} ___ \times 1.4 = ___ \text{ tons}$

6 inches = 50% Reduction*
12 inches = 20% Reduction
18 inches = 34% Reduction
24 inches = 40% Reduction
sizing for gravelless trench

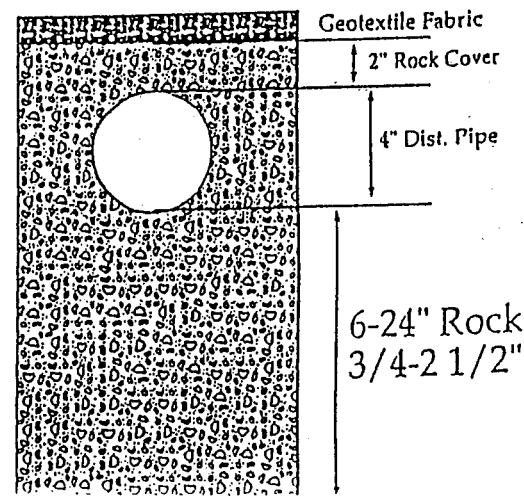
P. SYSTEM LENGTH
Select trench width = _____ ft

Q. Divide bottom area by trench width: (H, I, J, or K) + P = lineal feet
 $___ + ___ = ___ \text{ lineal feet}$

Q1. Gravelless Design
 $A \times F + (3 \text{ for } 10" \text{ pipe, } 2 \text{ for } 8" \text{ pipe, width of the Chamber})$
 $\underline{450} \times \underline{1.67} + \underline{3} = \underline{250} \text{ feet}$

R. LAWN AREA
Select trench spacing, center to center = 250 feet

S. Multiply trench spacing by lineal feet $R \times Q = \text{sq ft of lawn area}$
 $\underline{250} \times \underline{4} = \underline{1000} \text{ sq ft}$



If the site evaluation determines a

SOIL INFORMATION

TEST HOLE #1

TEST HOLE #2

DEPTH IN INCHES	SOIL TEXTURE	MUNSELL COLOR	STRUCTURE	DEPTH IN INCHES	SOIL TEXTURE	MUNSELL COLOR	STRUCTURE
0-6 6-12	10AM 10AM	Topsoil 2.5YR 4/3	BLOCKY PLATY PRISMATIC NONE	0-4 0-4	10AM	Topsoil	BLOCKY PLATY PRISMATIC NONE
12-38	10AM	5Y 5/3	BLOCKY PLATY PRISMATIC NONE	4-12	10AM	5Y 4/3	BLOCKY PLATY PRISMATIC NONE
38-60	10AM	2.5Y 5/4	BLOCKY PLATY PRISMATIC NONE	12-38	10AM	5Y 5/3	BLOCKY PLATY PRISMATIC NONE
mottles	48" to 52" then soils cleared		BLOCKY PLATY PRISMATIC NONE	38-60	10AM	2.5Y 5/4	BLOCKY PLATY PRISMATIC NONE
Depth to standing water				Depth to standing water			
Depth to mottling	NF			Depth to mottling	NF		

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

Lawn Area sloping 5% away from house

SYSTEM IS NEW REPAIR

SYSTEM DESIGN

GRAVITY FLOW PRESSURE DISTRIBUTION

WATER USES:

- WASHING MACHINE
- DISHWASHER
- WATER SOFTENER
- GARBAGE DISPOSAL

NUMBER OF BEDROOMS 3
 NUMBER OF BATHROOMS _____
 TOTAL SQ. FT OF STRUCTURE _____
 TANK SIZE 1500

DEPTH OF SYSTEM 2'

SYSTEM DESIGN FLOW 450 GPD

SOIL SIZING FACTOR 1.67

PUMP SIZE _____

TYPE OF RESIDENCE

- TYPE I TYPE II
- TYPE III TYPE IV

LIFT STATION SIZE _____
 SOIL TREATMENT _____
 AREA SIZE 750 SQ FT
 DOSE VOLUME _____

LENGTH OF LIFT LINE _____

TOTAL DYNAMIC HEAD _____

WELL INFORMATION-Property's Well DEPTH OF WELL shallow

TYPE OF WELL sandpoint

Neighboring wells (within 100 ft of system) Depth of Wells _____

Type of Wells _____

Name of Designer I

Designer II Randy Anderson

Date of Site

Evaluation 11.6.96

MPCA Number 634

Phone 849-1143

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

Signature of Evaluator Randy Anderson

Date 11-6-96

For Office Use Only

- PERCOLATION TEST SHEET -

Test hole location Sanfield Hole # 1 Date test hole was prepared: 11-6-96
 Depth of hole bottom: 17 inches Diameter of hole: 6 inches
 Soil Data from test hole: depth, inches soil texture: TOPSOIL
6-12 loam
12-18 clay
18-24 clay

Method of scratching sidewall: barboard Depth of pea size gravel in bottom of hole: 18 inches
 Date and hour of initial water filling: 11:00 Depth of initial water filling: 12 above hole bottom
 Method used to maintain 1" of water depth in hole for 1 hour: not needed
 Percolation test conducted by: Randy Anderson Percolation test started at: 8:15 (pm)
 Maximum water depth above hole bottom during test: 8 inches

TIME	INTERVAL (MINUTES)	WATER DEPTH	WATER DROP (fraction)	WATER DROP (decimal)	PERC RATE CALCULATION	CONVERSIONS
	START	<u>8</u>	<u>1</u>	<u>1</u>	$\frac{10}{\text{TIME}} = \frac{10}{\text{DROPT}} = \text{PERC A}$	175 = .25
	REFILL	<u>7:42</u>	<u>1/2</u>	<u>.5</u>	$\frac{5}{\text{TIME}} = \frac{5}{\text{DROPT}} = \text{PERC B}$	13 = .33
	REFILL	<u>7:42</u>	<u>1/2</u>	<u>.5</u>	$\frac{5}{\text{TIME}} = \frac{5}{\text{DROPT}} = \text{PERC C}$	316 = .33
	REFILL					14 = .25
	REFILL					516 = .21
	REFILL					13 = .25
	REFILL					716 = .44
	REFILL					12 = .2
	REFILL					516 = .25
	REFILL					516 = .21
	REFILL					1116 = .21
	REFILL					31 = .23
	REFILL					1516 = .31
	REFILL					71 = .25
	REFILL					1516 = .31

Ten Percent Calculation *

A, B, C	Sum of A, B, C = _____	Sum of A, B, C = _____
C, D, E	Sum of C, D, E = _____	Sum of C, D, E = _____
E, F, G	Sum of E, F, G = _____	Sum of E, F, G = _____

* 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 per rate.

- PERCOLATION TEST SHEET -

Test hole location Sanfield Hole # 2 Date test hole was prepared: 11-6-96
 Depth of hole bottom: 20 inches Diameter of hole: 6 inches
 Soil Data from test hole: depth, inches soil texture: TOPSOIL
0-4 loam
4-12 clay
12-20 clay

Method of scratching sidewall: barboard Depth of pea size gravel in bottom of hole: _____
 Date and hour of initial water filling: 11:00 Depth of initial water filling: 12 above hole bottom
 Method used to maintain 1" of water depth in hole for 1 hour: not needed
 Percolation test conducted by: Randy Anderson Percolation test started at: 9:11
 Maximum water depth above hole bottom during test: 8 inches

TIME	INTERVAL (MINUTES)	WATER DEPTH	WATER DROP (fraction)	WATER DROP (decimal)	PERC RATE CALCULATION
	START	<u>8</u>	<u>3/4</u>	<u>.75</u>	$\frac{10}{\text{TIME}} = \frac{10}{\text{DROPT}} = \text{PERC A}$
	REFILL	<u>6:48</u>	<u>1/8</u>	<u>.125</u>	$\frac{15}{\text{TIME}} = \frac{15}{\text{DROPT}} = \text{PERC B}$
	REFILL	<u>6:48</u>	<u>3/4</u>	<u>.75</u>	$\frac{10}{\text{TIME}} = \frac{10}{\text{DROPT}} = \text{PERC C}$
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				

Ten Percent Calculation *

A, B, C	Sum of A, B, C = _____	Sum of A, B, C = _____
C, D, E	Sum of C, D, E = _____	Sum of C, D, E = _____
E, F, G	Sum of E, F, G = _____	Sum of E, F, G = _____

* 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 per rate.

Onsite Septic System Site Evaluation/Design.

Fire Number L 5422
 Tax Parcel Number 17.111.000

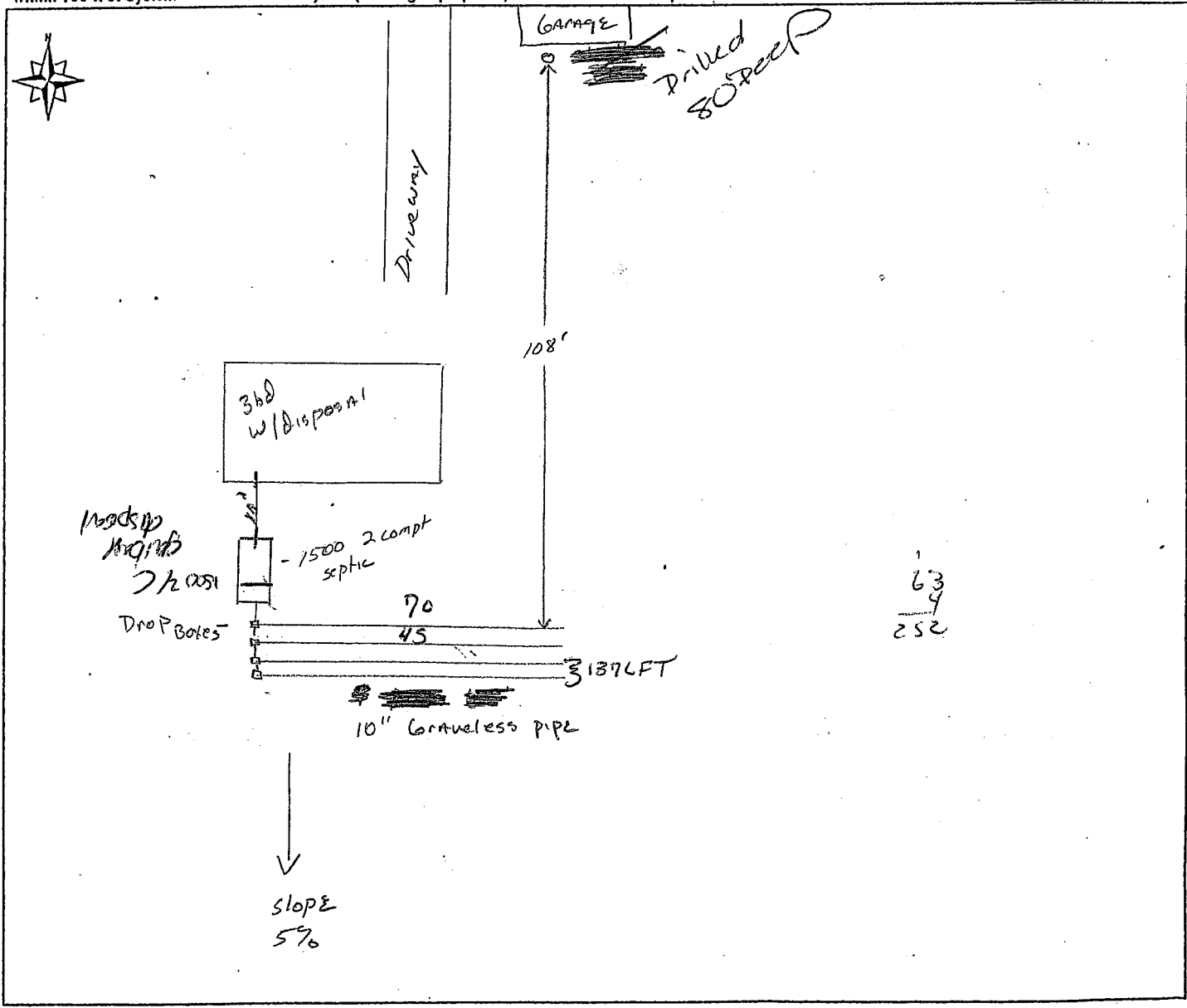
Legal Description: <u>Sub Div L3, Lot 7 Big at most sly cor lot 7, 1/4 NW 582.08' to RMA</u>					
Lake/Stream Name	Lake/Stream Class	Section	TWP	Range	Township Name
<u>Cormorant</u>	<u>N/A</u>	<u>18</u>	<u>138N</u>	<u>42W</u>	<u>Lake Eunice</u>
Property Owner	Address		City, State, Zip Code		Phone Number
<u>Alvin Boe</u>	<u>RR 1 Box 554 Audubon, MA</u>		<u>56511-9786</u>		
ISTS Designer I/Designer II	License Number	Address		Phone Number	
<u>Randy Anderson</u>	<u>634</u>	<u>Detroit Lakes mn</u>		<u>849-1143</u>	

Site Plan

(check name masses)

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

- *All Wells within 100 feet of the System
- *Distance from all Wells within 100 ft of System
- *Existing & Proposed Buildings
- *Easements
- *Distance from Water Lines within 50 ft of System (existing & proposed)
- *Distance from OI/W
- *Distance from Property Lines
- *Location of any Unsuitable Disturbed/Compacted Soil
- *Soil Boring & Perc Test Locations
- *Dimensions of Lot
- *Tank Access Route
- *Scale - One Inch = 30 ft



Onsite Septic System Site Evaluation/Design.

Fire Number L 5422
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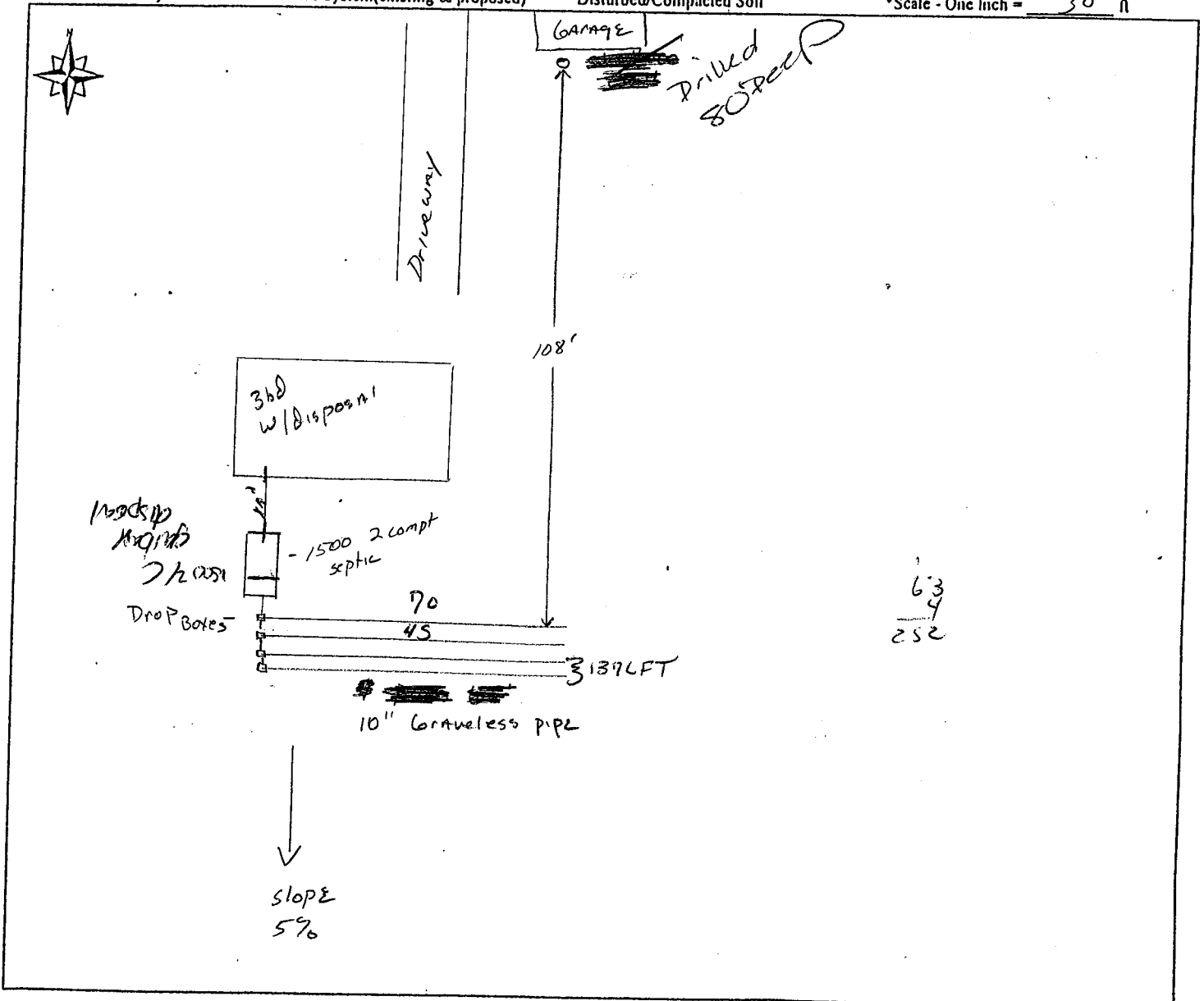
Legal Description: <u>Sub Div L3, Lot 7 Big at most sly COR Lot 7, 1/4 NW 582.08' TO ROAD</u>			
Lake/Stream Name	Lake/Stream Class	Section TWP Range	Township Name
<u>Cormorant</u>	<u>N/A</u>	<u>18 138N 42W</u>	<u>Lake Eunice</u>
Property Owner	Address	City, State, Zip Code	Phone Number
<u>Alvin Boe</u>	<u>RR 1 Box 554 Audubon, MN</u>	<u>56511-9786</u>	
ISTS Designer I / Designer II	License Number	Address	Phone Number
<u>Randy Anderson</u>	<u>634</u>	<u>Detroit Lakes mn</u>	<u>849-1143</u>

Site Plan

(check name masses)

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- *Existing & Proposed Buildings
- *Easements
- *Distance from Water Lines within 50 ft of System (existing & proposed)
- *Distance from OIHW
- *Distance from Property Lines
- *Location of any Unsuitable Disturbed/Compacted Soil
- *Soil Boring & Perc Test Locations
- *Dimensions of Lot
- *Tank Access Route
- *Scale - One inch = 30 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
0-6 6-12	10AM 10AM	Topsoil 2.5YR 4/3	BLOCKY PLATY PRISMATIC NONE	0-4 0-4	10AM	Topsoil	BLOCKY PLATY PRISMATIC NONE
12-38	10AM	5Y 5/3	BLOCKY PLATY PRISMATIC NONE	4-12	10AM	5Y 5/3	BLOCKY PLATY PRISMATIC NONE
38-60	10AM	2.5Y 5/4	BLOCKY PLATY PRISMATIC NONE	12-38	10AM	5Y 5/3	BLOCKY PLATY PRISMATIC NONE
mottles	48" to 52" then soils cleared		BLOCKY PLATY PRISMATIC NONE	38-60	10AM	2.5Y 5/4	BLOCKY PLATY PRISMATIC NONE
Depth to standing water				Depth to standing water			
Depth to mottling	NF			Depth to mottling	NF		

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

- Lawn Area sloping 5% away from house

SYSTEM IS NEW REPAIR

SYSTEM DESIGN

GRAVITY FLOW PRESSURE DISTRIBUTION

WATER USES:

- WASHING MACHINE
 DISHWASHER
 WATER SOFTENER
 GARBAGE DISPOSAL

NUMBER OF BEDROOMS 3
 NUMBER OF BATHROOMS _____
 TOTAL SQ. FT OF STRUCTURE _____
 TANK SIZE 1500

DEPTH OF SYSTEM 2'

SYSTEM DESIGN FLOW 450 GPD

SOIL SIZING FACTOR 1.67

PUMP SIZE _____

TYPE OF RESIDENCE

- TYPE I TYPE II
 TYPE III TYPE IV

LIFT STATION SIZE _____
 SOIL TREATMENT _____
 AREA SIZE 750 SQ FT
 DOSE VOLUME _____

LENGTH OF LIFT LINE _____

TOTAL DYNAMIC HEAD _____

WELL INFORMATION-Property's Well DEPTH OF WELL shallow

TYPE OF WELL sandpoint

Neighboring wells (within 100 ft of system) Depth of Wells _____

Type of Wells _____

Name of Designer I _____
 Designer II Randy Anderson

Date of Site Evaluation 11.6.96

MPCA Number 634

Phone 849-1143

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

Signature of Evaluator Randy Anderson Date 11.6.96

For Office Use Only

INDIVIDUAL SEWAGE TREATMENT SYSTEM WORKSHEET

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

B. _____ SEPTIC TANK VOLUME
1500 gallons

C. SOILS (Site evaluation data)
 Depth to restricting layer = 5 feet
 D. Maximum depth of system C-3 ft = 2 feet
 E. Texture loam Percolation rate 13.3 MPI
 F. SSF 1.67 sq ft/gpd - loam soils + garbage disposal
 G. Slope 5%

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	

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

TRENCH BOTTOM AREA

H. For trenches with 6 inches of rock below the pipe:
 $A \times F = \underline{\quad} \times \underline{\quad} = \underline{\quad}$ sq ft of bottom area

I. For trenches with 12 inches of rock below the pipe:
 $A \times F \times 0.8 = \underline{\quad} \times \underline{\quad} \times 0.8 = \underline{\quad}$ sq ft of bottom area

J. For trenches with 18 inches of rock below the pipe:
 $A \times F \times 0.66 = \underline{\quad} \times \underline{\quad} \times 0.66 = \underline{\quad}$ sq ft of bottom area

K. For trenches with 24 inches of rock below the pipe:
 $A \times F \times 0.6 = \underline{\quad} \times \underline{\quad} \times 0.6 = \underline{\quad}$ sq ft of bottom area

BED BOTTOM AREA

L. For seepage beds with 6 or 12 inches of rock below the pipe:
 $1.5 \times A \times F = 1.5 \times \underline{\quad} \times \underline{\quad} = \underline{\quad}$ sq ft of bottom area

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
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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.

M. **ROCK VOLUME IN CU FT**
 Rock depth below distribution pipe plus 0.5 foot times bottom area:
 $M = \text{Rock depth} + 6 \text{ inches} \times \text{Area (H,I,J,L,K)}$
 $(\underline{\quad} + 0.5 \text{ ft}) \times \underline{\quad} = \underline{\quad}$ cu ft

N. **ROCK VOLUME IN CU YDS**
 Volume in cu ft divided by 27
 $M + 27 = \text{cu yds } \underline{\quad} + 27 = \underline{\quad}$ cu yds

O. **ROCK WEIGHT**
 Cubic yards times 1.4 = tons
 $N \times 1.4 = \text{tons } \underline{\quad} \times 1.4 = \underline{\quad}$ tons

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

SYSTEM LENGTH

P. Select trench width = _____ ft

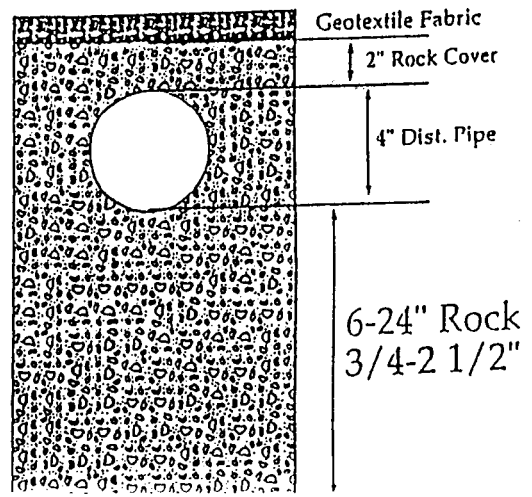
Q. Divide bottom area by trench width: (H, I, J, or K) + P = lineal feet
 $\underline{\quad} + \underline{\quad} = \underline{\quad}$ lineal feet

Q1. Gravelless Design
 $A \times F + (3 \text{ for } 10" \text{ pipe, } 2 \text{ for } 8" \text{ pipe, width of the Chamber})$
 $\underline{450} \times \underline{1.67} + \underline{3} = \underline{250}$ feet

LAWN AREA

R. Select trench spacing, center to center = 250 feet

S. Multiply trench spacing by lineal feet $R \times Q = \text{sq ft of lawn area}$
 $\underline{250} \times \underline{4} = \underline{1000}$ sq ft



- PERCOLATION TEST SHEET -

Test hole location Drainfield Hole # 1 Date test hole was prepared: 11-6-96
 Depth of hole bottom: 17 inches Diameter of hole: 6 inches
 Soil Data from test hole:

depth, inches soil texture
0-6 loam
6-12 loam
12-18 loam

Method of scratching sidewall: rainboard Depth of pea size gravel in bottom of hole: 18 inches
 Date and hour of initial water filling: 11-6-8:00am Depth of initial water filling: 12 above hole bottom
 Method used to maintain 1" of water depth in hole for 1 hour: not needed
 Percolation test conducted by: Randy Anderson Percolation test started at: 8:15 (pm).
 Maximum water depth above hole bottom during test: 8 inches

TIME	INTERVAL (MINUTES)	WATER DEPTH	WATER DROP (fraction)	WATER DROP (decimal)	PERC RATE CALCULATION	CONVERSIONS
	START	<u>8</u>	<u>1</u>	<u>1</u>	<u>10</u> PERC A TIME: <u>10</u> DROP: <u>10</u> PERC A (Decimal)	<u>116 ± .25</u>
	REFILL	<u>7 1/2</u>	<u>1/2</u>	<u>.5</u>	<u>5</u> PERC B TIME: <u>5</u> DROP: <u>5</u> PERC B (Decimal)	<u>14 ± .25</u>
	REFILL	<u>8 1/2</u>	<u>1/2</u>	<u>.5</u>	<u>5</u> PERC C TIME: <u>5</u> DROP: <u>5</u> PERC C (Decimal)	<u>316 ± .11</u>
	REFILL					<u>14 ± .25</u>
	REFILL					<u>516 ± .31</u>
	REFILL					<u>16 ± .25</u>
	REFILL					<u>716 ± .4</u>
	REFILL					<u>12 ± .5</u>
	REFILL					<u>516 ± .25</u>
	REFILL					<u>516 ± .25</u>
	REFILL					<u>1016 ± .31</u>
	REFILL					<u>31 ± .25</u>
	REFILL					<u>1516 ± .31</u>
	REFILL					<u>74 ± .25</u>
	REFILL					<u>1516 ± .31</u>

Ten Percent Calculation *

A, B, C	_____
_____	_____
_____	_____
C, D, E	_____
_____	_____
_____	_____
E, F, G	_____
_____	_____
_____	_____

* If the 100 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.

- PERCOLATION TEST SHEET -

Test hole location Drainfield Hole # 2 Date test hole was prepared: 11-6-96
 Depth of hole bottom: 20 inches Diameter of hole: 6 inches
 Soil Data from test hole:

depth, inches soil texture
0-4 loam
4-12 loam
12-20 loam

Method of scratching sidewall: rainboard Depth of pea size gravel in bottom of hole: _____ inches
 Date and hour of initial water filling: 11-6-8 Depth of initial water filling: 2 above hole bottom
 Method used to maintain 1" of water depth in hole for 1 hour: not needed
 Percolation test conducted by: Randy Anderson Percolation test started at: 9:00 (am).
 Maximum water depth above hole bottom during test: 8 inches

TIME	INTERVAL (MINUTES)	WATER DEPTH	WATER DROP (fraction)	WATER DROP (decimal)	PERC RATE CALCULATION
	START	<u>8 1/4</u>	<u>3/4</u>	<u>.75</u>	<u>10</u> PERC A TIME: <u>10</u> DROP: <u>10</u> PERC A (Decimal)
	REFILL	<u>8 1/4</u>	<u>1 1/8</u>	<u>1.13</u>	<u>15</u> PERC B TIME: <u>15</u> DROP: <u>15</u> PERC B (Decimal)
	REFILL	<u>8 1/4</u>	<u>3/4</u>	<u>.75</u>	<u>10</u> PERC C TIME: <u>10</u> DROP: <u>10</u> PERC C (Decimal)
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				
	REFILL				

Ten Percent Calculation *

A, B, C	_____
_____	_____
_____	_____
C, D, E	_____
_____	_____
_____	_____
E, F, G	_____
_____	_____
_____	_____

* If the 100 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.



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

17.1111.000
Compliance Inspection Form

Existing Subsurface Sewage Treatment Systems (SSTS)

Doc Type: Compliance and Enforcement

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:

System Status

System status on date (mm/dd/yyyy): 4/27/2016

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: 171111000

Property address: 13597 E BIG CORMORANT RD Reason for inspection: COUNTY REQUEST

Property owner: EARL MCCLENAHEN Owner's phone: _____

or
Owner's representative: _____ Representative phone: _____

Local regulatory authority: BECKER CO ZONING Regulatory authority phone: 846-7314

Brief system description: 1500 GAL 2 COM TANK WITH APPROX 200 LINIAL FEET OF GRAVELESS PIPE DRAINFIELD

Comments or recommendations:

FIRST RUN WAS FULL. TANK NEEDED PUMPING

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): _____

RECEIVED
MAY 13 2016
ZONING

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

Compliance criteria:	
System discharges sewage to the ground surface.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System discharges sewage to drain tile or surface waters.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System causes sewage backup into dwelling or establishment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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. <i>Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sewage tank(s) leak below their designed operating depth. If yes, which sewage tank(s) leaks:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:

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

Compliance criteria:

System discharges sewage to the ground surface.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System discharges sewage to drain tile or surface waters.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System causes sewage backup into dwelling or establishment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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. <i>Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sewage tank(s) leak below their designed operating depth. If yes, which sewage tank(s) leaks:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:

4. Soil Separation – Compliance component #4 of 5

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

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: Yes No

Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock.

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: Yes No

Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.*

"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)) Yes No

Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock.

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:

Indicate depths or elevations

A. Bottom of distribution media	24"
B. Periodically saturated soil/bedrock	60"+
C. System separation	36"+
D. Required compliance separation*	36"

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

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

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: _____ Yes No
Have the Operating Permit requirements been met?
- 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.

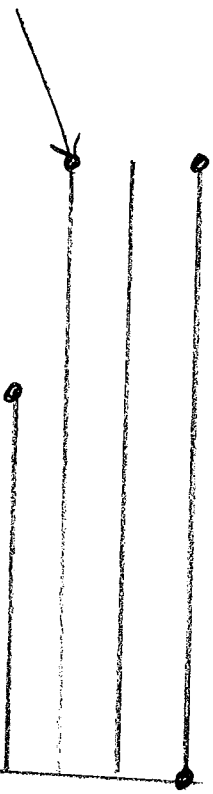
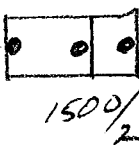
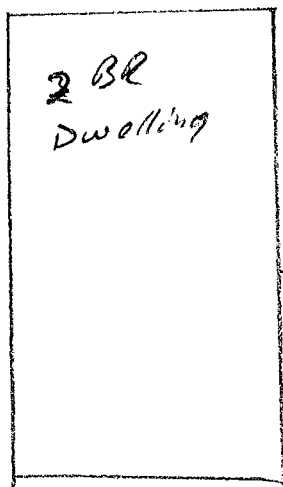
Elliottson
Lake

← Dug up + filled
old tank on
property

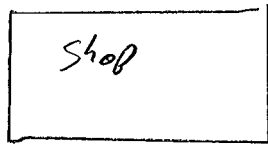
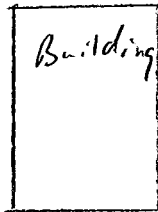
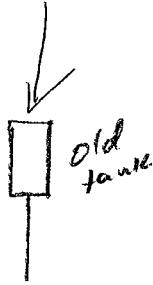
Deep
well

60' ±

150' ±



Dump out, crush
+ fill old abandon tank



171111000

13597 E Big Horn Rd.

5-12-16

Rick Remer

Remer Exc LLC 2567

CERTIFICATE OF COMPLIANCE
SEWAGE SYSTEM

This certificate has been issued this _____ day of _____ 19____
to certify compliance with regulations of Zoning Ordinance, Becker County, Minnesota.

The premises covered by this certificate are legally described as:

Lake No. _____ Sec. _____ Twp. _____ Range _____ Twp. Name _____

Owner: Name _____

Address _____

Zip No. _____

Permit No. SP _____

Signed by: *W. J. [Signature]*
Zoning Administrator
Becker County, Minnesota

Faint vertical text or markings along the left edge of the page.

Faint horizontal text or markings near the top center of the page.

Faint horizontal text or markings near the bottom center of the page.

INSPECTOR'S CHECK LIST

Make all measurements and computations

LOCATION AND DESCRIPTION	Sq. Ft.	MINIMUM Shall Be	ACTUAL IS	TYPE OF IMPROVEMENT
Building Set Back from High Water Mark	Ft.	Ft.	Ft.	() Non-Residential Proposed Use
Building Set Back from State Highway	Ft.	Ft.	Ft.	() Residential Proposed Use
Side Yard	Ft.	Ft.	Ft.	() Other
Rear Yard	Ft.	Ft.	Ft.	() Multiple Dwelling
Elevation at Building Line above High Water-Mark	Ft.	Ft.	Ft.	

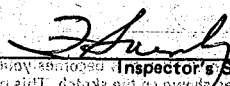
SEWAGE DISPOSAL SYSTEM STATISTICS

CATEGORY	SEPTIC TANK		SEEPAGE PIT		DRAIN FIELD	
	Actual	Should be	Actual	Should be	Actual	Should be
Capacity	1000 Gls.				378 SF	
Distance from Nearest Well	125 F			75 F	125 F	50 F
Distance from Lake or Stream	110 F				110 F	
Distance from Occupied Building	10 F	10 F		20 F	10 F	20 F
Distance from Property Line	100 F	10 F		10 F	100 F	10 F
Distance from Bottom to Water Table	---			4 F	4 F	4 F

Inspector's Comments: 12 1/2 yards of Rock. Called in by Ohm

INTERPRETATION OF ABBREVIATIONS

- Gls — Gallons
- SF — Square Feet
- F — Linear Feet


 Inspector's Signature
 Title

Inspection Dated 7-12-84

White - Office
 Yellow - Owner
 Pink - Assessor
 Goldenrod - Inspector

BECKER COUNTY ZONING ADMINISTRATION
 COUNTY COURT HOUSE — Phone 218-847-3938—Detroit Lakes, Minn. 56501

Perm. No. 16-13977-3
 Date _____

APPLICATION FOR BUILDING OR SEWAGE PERMIT AND CERTIFICATE OF OCCUPANCY

LEGAL DESCRIPTION AND LOCATION	Subdivision Lot 7, Section 14, Twp 14N, R. 10W, S. 10N						
	Lake No.	Lake Name	Lake Classif.	Sec.	TWP	Range	TWP Name

IDENTIFICATION: Please Print All Information

Owner	Last Name	First	Initial	Mailing Address— No. Street, City and State	Zip No.	Tel. No.
	Kohler	Jerome		1111 1st St, Detroit Lakes, MN	56501	
Contractor	Name					

8941

TYPE OF IMPROVEMENT: <input type="checkbox"/> New Building <input type="checkbox"/> Alteration Other <u>Mobile Home</u>	RESIDENTIAL PROPOSED USE: <input type="checkbox"/> One Family Dwelling <input type="checkbox"/> Multiple Dwelling _____ Units	NON-RESIDENTIAL PROPOSED USE: Specify: _____ Size: <u>14' X 70'</u>
---	--	--

ESTIMATED COST OF IMPROVEMENT \$ 10,000 **Construction Starting Date:** _____

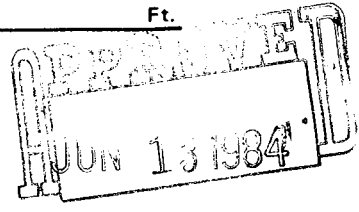
PRINCIPAL TYPE OF FRAME: <input type="checkbox"/> Masonry <input type="checkbox"/> Wood Frame <input checked="" type="checkbox"/> Structural Steel <input type="checkbox"/> Other — Specify _____	TYPE OF SEWAGE DISPOSAL: <input type="checkbox"/> Public <input type="checkbox"/> Individual Septic Tank, etc. WATER SUPPLY: <input type="checkbox"/> Public <input type="checkbox"/> Individual Well MECHANICAL EQUIPMENT : Elevator: <input type="checkbox"/> Yes <input type="checkbox"/> No Air Conditioning: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Central <input type="checkbox"/> Unit	DIMENSIONS: Basement: <input type="checkbox"/> Yes <input type="checkbox"/> No Stories above basement: _____ Sq. feet (outside dimension) <u>14' X 70'</u> Bedrooms _____ Baths _____ HEATING: <input type="checkbox"/> Electric <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Oil <input type="checkbox"/> Coal <input type="checkbox"/> None Other: _____
--	---	--

SEWAGE DISPOSAL SYSTEM DATA:	SEPTIC TANK	SEEPAGE PIT	DRAIN FIELD
Capacity	1000 Gls.	375 Sq. Ft.	Sq. Ft.
Distance from nearest well	75 Ft.	75 Ft.	Ft.
Distance from lake or stream	75 Ft.	75 Ft.	Ft.
Distance from occupied building	10 Ft.	10 Ft.	Ft.
Distance from property line	10 Ft.	10 Ft.	Ft.
Distance from bottom to Water Table	Ft.	4 Ft.	Ft.

All distances are shortest distance between nearest points

CHARACTERISTICS:

Lot Area is 900 square feet. Water frontage is _____ feet.
 Building set back from high water mark is _____ feet. (Building Line)
 Land height above high water mark at building line is _____ feet
 Building set back from State highway is _____ feet — from road or street is _____ feet.
 Side yard is _____ and _____ feet. Rear yard is _____ feet.
 Building will be located _____ feet from septic tank (Sewage System Permit must be obtained before installation).
 Building will be located _____ feet from soil absorption system (Cesspool, Drainfield, etc.).



Agreement: I hereby certify that the information contained herein is correct and agree to do the proposed work in accordance with the description above set forth and according to the provisions of the ordinances of Becker County, Minnesota. I further agree that any plans and specifications submitted herewith shall become a part of this permit application. I also understand that this permit is valid for a period of six (6) months. Applicant further agrees that no part of the sewage system shall be covered until it has been inspected and accepted. It shall be the responsibility of the applicant for the permit to notify the County Zoning Administrator, 48 hours before the job is ready for inspection.

Dated 6-13-84 _____
 Signature of Owner

When signed and approved by the Zoning Administration this becomes your permit. Permission is hereby granted to the above named applicant to perform the work described in the above statement and/or as shown on the sketch. This permit is granted upon the express condition that the person to whom it is granted, and his agent, employees and workmen shall conform in all respects to the ordinances of Becker County, Minnesota. This permit may be revoked at any time upon violation of said ordinances.

MUST BE POSTED AT THE BUILDING SITE

Dated 6-13-84 _____
 Becker County Zoning Administrator

Permit Fee \$ 15.00 State Surcharge \$ _____

Comments: _____