



160132002

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CERTIFICATE OF COMPLIANCE With The Becker County Zoning Ordinance

Application Number

11589

Tax Parcel Number

16.0132.002

Fire Number of Project Location

A. GENERAL INFORMATION

1. Applicant's Name (Last, First, M.I.) OKeson, Chris		2. Authorized Agent (if applicable)	
3. Mailing Address (Street, RFD, Box Number, City, State, Zip Code) Rt 2 Box 128A Detroit Lakes MN 56501			
4. Day Phone	5. Evening Phone	6. Section 19	7. Township Helmerville

B. PROPERTY DESCRIPTION

1. Lot(s), Block, Subdivision Name

Pl of Gov Lot 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)

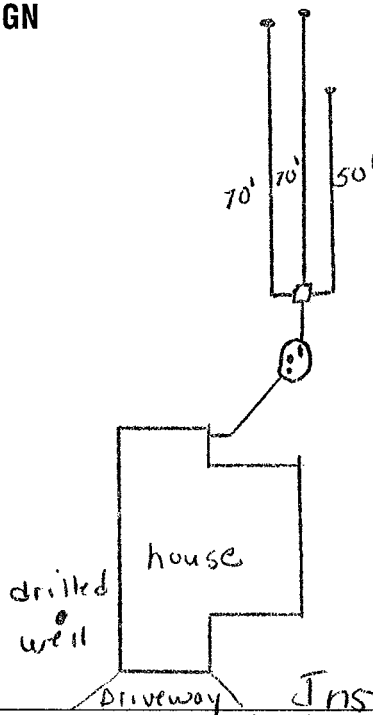
Well Data

- a. Depth _____
b. Diameter _____

Type of Well

- a. ☐ Drilled
b. ☐ Sand Point

1 Inch Equals _____ DESIGN



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

	Tank	Drainfield		Tank	Drainfield
Distances to Well:	= 750'	750'	Distance to Pressure Line:	= 750'	750'
Distance to Building:	= 710'	720'	Tank Capacity (gal. & Area of Drainfield (ft ²))	= 1000	570
Distance to Property Line:	= 750'	750'	Distance to Ordinary High Water Level:	= NA	NA
Drainfield separation from Highest Known Ground Water Level, Impervious Lens or Soil Mottling:					= 13'

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

D Johnson *OKM*
Signature
Chief Inspector
Title
Date *11/3/97*

BECKER COUNTY PLANNING & ZONING

835 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 16.0132-002

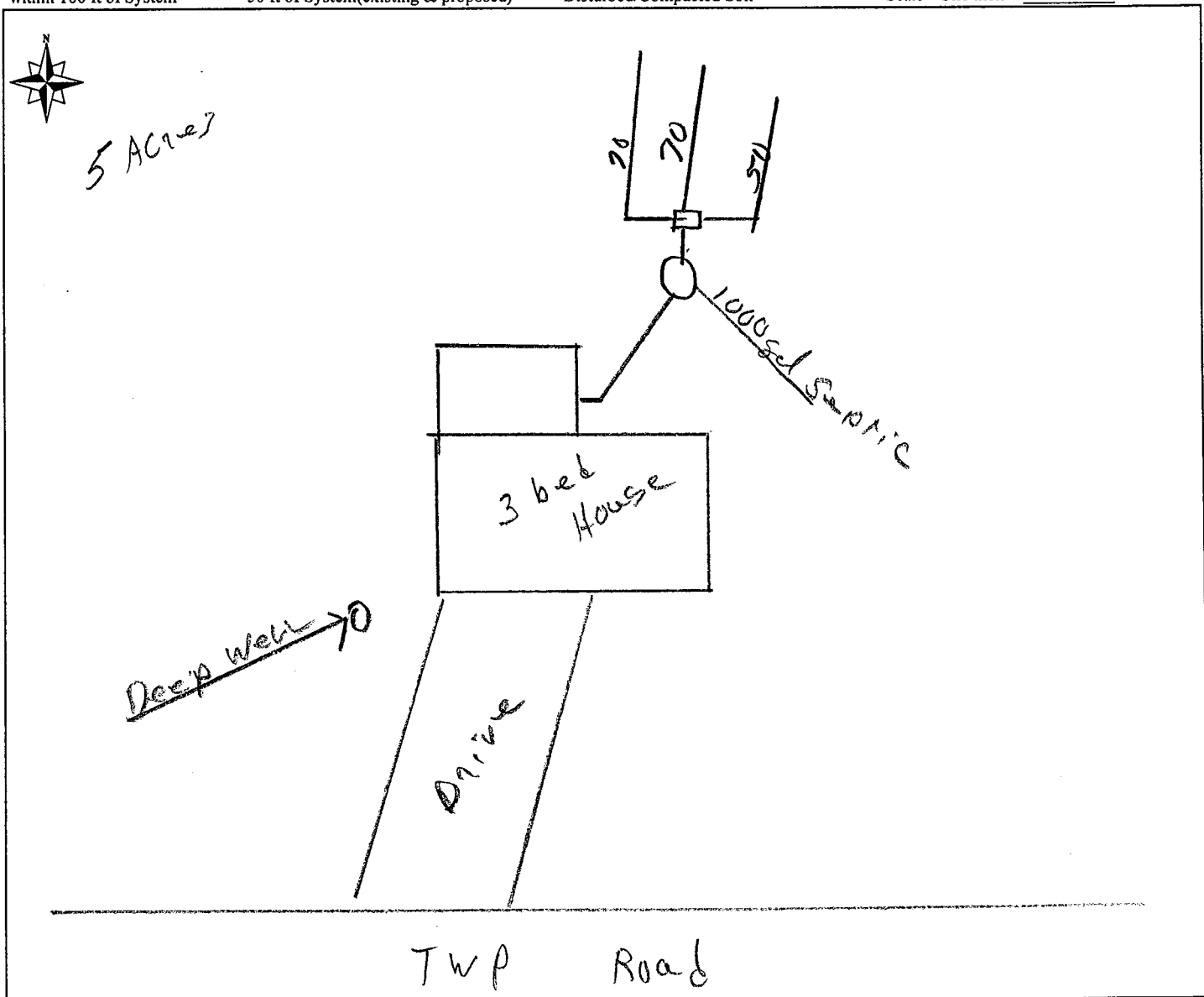
Legal Description:

Pt of Cont Lot 1				
Lake/Stream Name	Lake/Stream Class	Section	TWP	Range
		19	140	40
		Hulmesville		
Property Owner	Address	City, State, Zip Code	Phone Number	
Chris Okeson	Rt 2 Box 128A	Detroit Lakes MN 56501		
ISTS Designer I / Designer II	License Number	Address	Phone Number	
BACKLON Service	228			

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 |



TEST HOLE #1

TEST HOLE #2

DEPTH IN INCHES	SOIL TEXTURE	MUNSELL COLOR	STRUCTURE	DEPTH IN INCHES	SOIL TEXTURE	MUNSELL COLOR	STRUCTURE
6"	TOP SOIL		BLOCKY PLATY PRISMATIC NONE				BLOCKY PLATY PRISMATIC NONE
12	CLAY Gravel		BLOCKY PLATY PRISMATIC NONE				BLOCKY PLATY PRISMATIC NONE
24	"		BLOCKY PLATY PRISMATIC NONE				BLOCKY PLATY PRISMATIC NONE
36	"		BLOCKY PLATY PRISMATIC NONE				BLOCKY PLATY PRISMATIC NONE
Depth to standing water	15'			Depth to standing water			
Depth to mottling	15'			Depth to mottling			

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

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 2
 TOTAL SQ. FT OF STRUCTURE 1600
 TANK SIZE 1000

TYPE OF RESIDENCE

- () 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 DEPTH OF WELL —

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

Name of Designer I

Designer II Backhoe Service

MPCA Number 228

DEPTH OF SYSTEM 3'

SYSTEM DESIGN FLOW 450 GPD

SOIL SIZING FACTOR 1.27

PUMP SIZE —

LENGTH OF LIFT LINE —

TOTAL DYNAMIC HEAD —

TYPE OF WELL Drill

Type of Wells —

Date of Site

Evaluation —

Phone —

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

Signature of Evaluator — Date —

For Office Use Only

Date Site Evaluation / Design received — Received by —

Date Site Evaluation approved 10/8/97 Approved by Jebi Mottzo

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 = 5 feet
D. Maximum depth of system C - 3 ft = 2 feet
E. Texture _____ Percolation rate 8 MPI
F. SSF 1.27 sq ft/gpd
G. Slope _____%

TRENCH BOTTOM AREA

H. 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:
 $A \times F \times 0.6 = ___ \times ___ \times 0.6 = ___ \text{ sq ft of bottom area}$

BED BOTTOM AREA

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

ROCK VOLUME IN CU FT

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

ROCK VOLUME IN CU YDS

N. Volume in cu ft divided by 27
 $M \div 27 = \text{cu yds } ___ \div 27 = ___ \text{ cu yds}$

ROCK WEIGHT

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

SYSTEM LENGTH

P. Select trench width = _____ ft
Q. Divide bottom area by trench width: (H, I, J, or K) $\div$ P =
lineal feet
 $___ \div ___ = ___ \text{ lineal feet}$
Q1. Gravelless Design
 $A \times F \div (3 \text{ for } 10" \text{ pipe, } 2 \text{ for } 8" \text{ pipe, width of the Chamber})$
 $450 \times 1.27 \div 3 = 190 \text{ feet}$

LAWN AREA

R. Select trench spacing, center to center = _____ feet
S. Multiply trench spacing by lineal feet $R \times Q = \text{sq ft of lawn area}$
 $___ \times ___ = ___ \text{ sq ft}$

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)

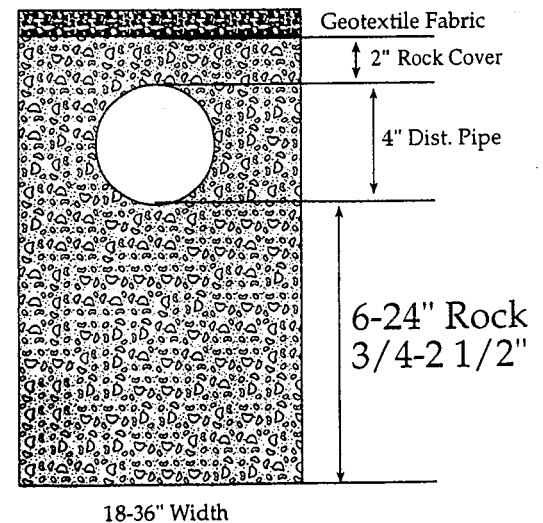
Number of Bedrooms	Minimum Liquid Capacity	Liquid capacity with garbage disposal
2 or less	750	1125
3 or 4	1000	1500
5 or 6	1500	2250
7, 8 or 9	2000	3000

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



- PERCOLATION TEST SHEET -

Test hole location _____ Hole # _____ Date test hole was prepared: _____

Depth of hole bottom: _____ inches Diameter of hole: _____ inches

Soil Data from test hole: _____ depth, inches _____ soil texture: _____ soil color: _____

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	CONVERSIONS
---	START	---	---	---	TIME ÷ DROP = PERC (Decimal)	1/16 = .06
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	1/8 = .13
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	3/16 = .19
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	1/4 = .25
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	5/16 = .31
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	3/8 = .38
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	7/16 = .44
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	1/2 = .5
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	9/16 = .56
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	5/8 = .63
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	11/16 = .69
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	3/4 = .75
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	13/16 = .81
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	7/8 = .88
---	REFILL	---	---	---	TIME ÷ DROP = PERC (Decimal)	15/16 = .94

Ten Percent Calculation *

A, B, C	B, C, D
Largest # of ABC - Smallest # of ABC	Largest # of BCD - Smallest # of BCD
Smallest # of ABC x 0.10 =	Smallest # of BCD x 0.10 =
C, D, E	D, E, F
Largest # of CDE - Smallest # of CDE	Largest # of DEF - Smallest # of DEF
Smallest # of CDE x 0.10 =	Smallest # of DEF x 0.10 =
E, F, G	F, G, H
Largest # of EFG - Smallest # of EFG	Largest # of FGH - Smallest # of FGH
Smallest # of EFG x 0.10 =	Smallest # of FGH x 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.

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Largest # of ABC - Smallest # of ABC	Largest # of BCD - Smallest # of BCD
Smallest # of ABC x 0.10 =	Smallest # of BCD x 0.10 =
C, D, E	D, E, F
Largest # of CDE - Smallest # of CDE	Largest # of DEF - Smallest # of DEF
Smallest # of CDE x 0.10 =	Smallest # of DEF x 0.10 =
E, F, G	F, G, H
Largest # of EFG - Smallest # of EFG	Largest # of FGH - Smallest # of FGH
Smallest # of EFG x 0.10 =	Smallest # of FGH x 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.

INSTALLATION PERMIT FOR
INDIVIDUAL SEWAGE TREATMENT

Property Owner: Chris Okeson

PERMIT
NUMBER

Parcel Number: 16.0133.002

WORK CATEGORY

- ☒ NEW SYSTEM
☐ REPAIR

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

☒ STANDARD (gravelless)

☐ STANDARD (rock trench)

☐ STANDARD (bed)

☐ MOUND (pressure distb)

SIZE OF LIFT STATION

 GALLONS

SIZE OF PUMP

DEPTH TO RESTRICTING

LAYER 5'

MAXIMUM DEPTH OF

SYSTEM 2'

PERC RATE 8

SSF 1.27

SIZE OF GRAVELLESS

PIPE 10 inch

DEPTH OF ROCK

TYPE OF SYSTEM

☒ SEPTIC TANK/DRAINFIELD

☐ DRAINFIELD ONLY

☐ HOLDING TANK

☐ ALTERNATE (specify)

☐ LIFT STATION

ADDITIONAL INFORMATION

INSTALLER Backhoe Services

LICENSE NUMBER 228

ADDRESS/PHONE

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.

on file
Signature

10/8/97
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.

For Office Use Only

Application Fee 45⁰⁰ State Surcharge .50 Total 45⁵⁰

☐ Application is hereby denied

☒ Application is hereby granted to Chris Okeson 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:

Hebi Moltzan
Signature of Becker County Qualified Employee

10/8/97
Date

This permit expires on 4/8/98

Date Inspected _____ Inspector _____