2008 Onsite Sep

030519516

Becker County Planning & Zoning
835 Lake Ave, P O Box 787
Detroit Lakes, MN 56502-0787
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: 03'0519-516

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 _____ Township 138N Range 40 W Township Name Burlington

Lake Name NA Lake Classification NA

Legal Description: Lot 6 Block 2

Project Address: 33294 Heavenly acres Dr Frazee, MN 56544

2. **PROPERTY OWNER INFORMATION (as it appears on the tax statement, purchase agreement or deed)**
Owner's First Name Habitat for Humanity Owner's Last Name DL Area

Mailing Address 211 W Holmes St City, State, Zip DL, MN 56501

Phone Number 218-844-5397

3. **DESIGNER/INSTALLER INFORMATION**
Designer Name Ron Muff Company Name Muff's Trenching License # 5074
Address 32201 County Hwy 34 Ogema, MN 56569 Phone Number 218-983-3377

Installer Name Larry Muff Company Name Muff's Trenching License # 576
Address 33111 County Hwy 34 Ogema, MN 56569 Phone Number 218-983-3376

4. **SYSTEM DESIGN INFORMATION**

Existing System Status?
- ✓ No existing system-new structure
- _____ Cesspool/Seepage
- _____ Failing (other than cesspool)
- _____ Undersized
- _____ Replacement or repair to existing

What will new system serve? Check one
- ✓ Dwelling
- _____ Resort/Commercial
- _____ Commercial (Non-resort)
- _____ Other – explain below

10/20/08 Date of site evaluation

Design Flow 900 Gallons Per Day
Number of Bedrooms 6
*Garbage Disposal ✓ Yes ____ No
*Dishwasher ✓ Yes ____ No
*Lift station in House ____ Yes ✓ No
*Grinder pump in House ____ Yes ✓ No

Well Depth No well yet
Depth of other wells within 100 ft of system _____
*Requires effluent screen

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
2500 gal Septic Tank
____ gal Holding Tank**
____ gal Lift Station
____ Other Tank
____ Existing tank to be used
**Requires operating permit

Compartmented tank ____ Yes ✓ No Multiple Tanks ✓ Yes ____ No
Total Number of tanks to be installed in this system 2 (This # will be reported to MPCA at end of year.)

Type of Drainfield	Full Size of Drainfield	Reduced/Warrantied size	
✓ Chamber Trench	1160 sq ft	_____ sq ft	Type of chamber Q 4
_____ Rock Trench	_____ sq ft	_____ sq ft	Depth of Rock NA
_____ Gravelless	_____ sq ft	_____ sq ft	
_____ Mound	_____ sq ft ***		
_____ Pressure Bed	_____ sq ft ***		Alarm? Yes _____ No _____
_____ Seepage Bed	_____ sq ft ***		Type of Alarm _____
_____ At-grade	_____ sq ft ***		Size of Lift Pump NA
_____ Alternative / Performance	_____ sq ft ***	***Attach Worksheets	Size of Lift Line _____

SETBACKS

	TANK	DRAINFIELD
Distance to Well	80'	80'
Distance to Building	30'	50'
Distance to Property Line	80'	10'
Distance to OHW of Lake	—	—
Distance to Pressure Line	—	—
Distance to Wetland/Protected Water	—	—

Perc Rate _____ Soil Sizing Factor 1.27 *If SSF other than .83, attach Perc Test Data

Soil Borings (three are required)

Depth	Texture	Color	Structure	Depth	Texture	Color	Structure
0-11	Topsoil	Black		0-9	Topsoil	Black	
11-26	Sand	10YR 4/4		9-36	Sand	10YR 4/6	
26-36	Sand	10YR 3/4		36-60	Sand	10YR 5/4	
36-60	Sand	10YR 4/4					

Depth	Texture	Color	Structure	Depth	Texture	Color	Structure
0-10	Topsoil	Black					
10-20	Sand	10YR 4/6					
20-30	Sand	10YR 4/4					
30-60	Sand	10YR 5/4					

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

Management plans are required for all systems. Is a management plan attached? _____ Yes ✓ No

An operating permit is required for holding tanks and performance system. Is an operating permit attached? _____ Yes ✓ No

6. DESIGNER'S CERTIFIED STATEMENT

I, Ron Mutt (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 10/20/08

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

Application Approved by: Laurel A Stoll Date: 10/24/08

Amount Paid $100.00 Receipt Number 180664 -- Permit Number

NOTES: 404790 10/24/08

* Sent copy/yellow & receipt to Larry Muff

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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 required? _____ Yes _____ No Effluent screen manufacturer _____

Alarm required? _____ Yes _____ No Alarm Type _____ Alarm manufacturer _____

Lift pump in system? _____ Yes _____ No Pump manufacturer _____

Number of bedrooms _____

Component Information

Tank size 1000-1500 Tank manufacturer Thelen Tanks

Drainfield size 1160 Sq ft.

Drainfield medium _____ Medium manufacturer _____

Drainfield medium size/depth _____

Soil Verification

Vertical separation verified for Boring #1 on _____ Depth _____

Vertical separation verified for Boring #2 on _____ Depth _____

Vertical separation verified for Boring #3 on _____ Depth _____

Soils Sand Good

Setback Verification

	TANK	DRAINFIELD
Distance to Well		
Distance to Building		
Distance to Property Line		
Distance to OHW of Lake		
Distance to Pressure Line		
Distance to Wetland/Protected Water		

OK.

Management Plan attached _____ Yes _____ No

Operating Permit required _____ Yes _____ No **If required, it the operating permit attached?** _____ Yes _____ No

Date System Installed 10/23/08 **Installer** Muff Exc. **Inspector** Laurel A Stoll

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CERTIFICATE OF COMPLIANCE

( ) Certificate Is Hereby Denied

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

Laurel A Stoll — Signature

ISTS Inspector — Title

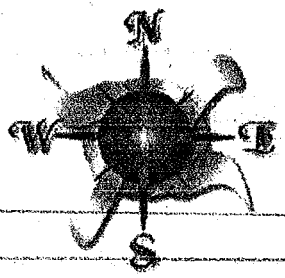
10/23/08 — Date

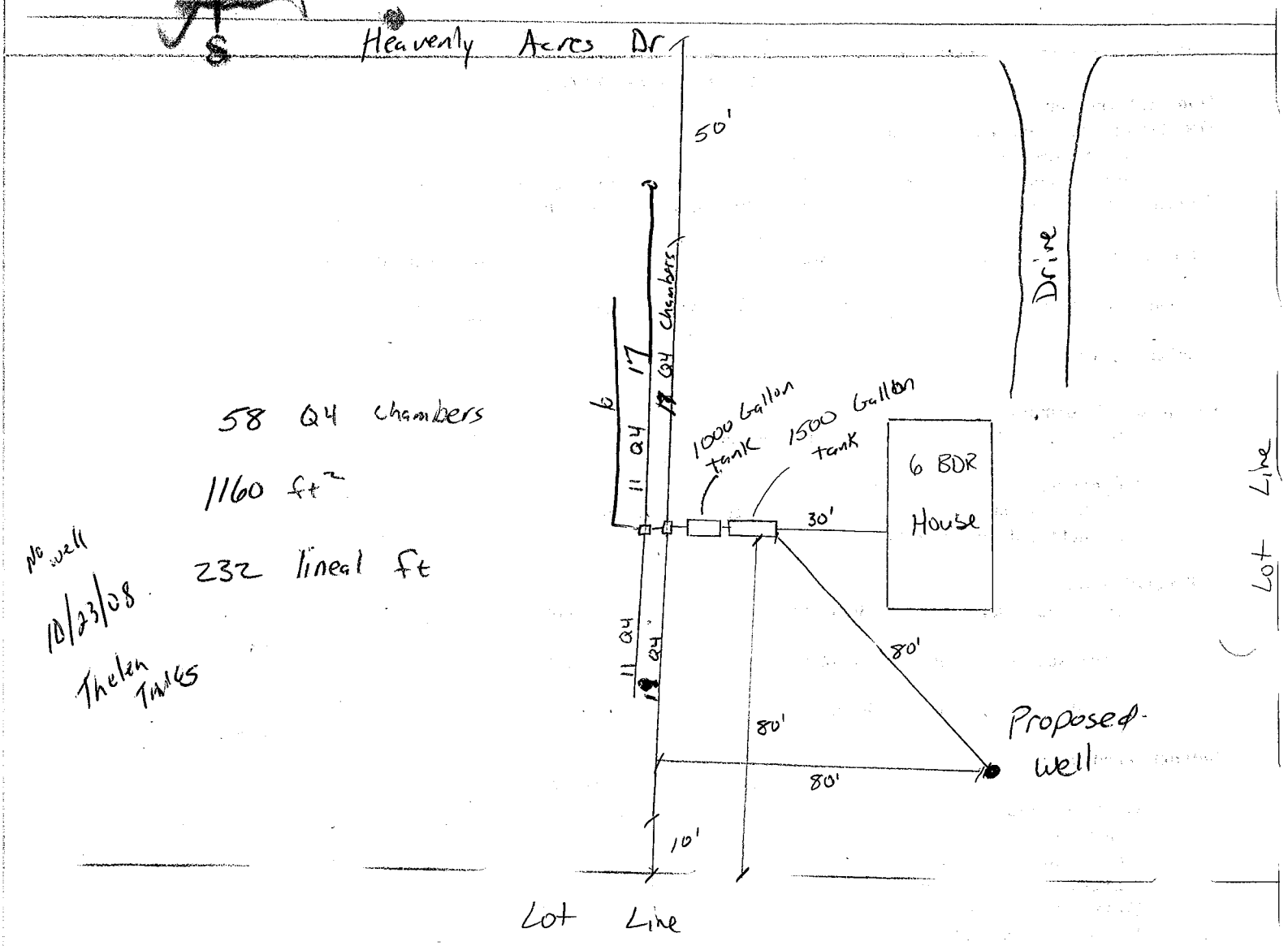
(Certificate of Compliance is not valid unless signed by a Registered Qualified Employee)

Scale 1" = 40'

SKETCH OF PROPERTY

Please list all impervious coverage on your property and include dimensions.
Show roadways adjacent to property as well as where the driveway is located.





58 Q4 Chambers

1160 ft²

232 lineal ft

No well

10/23/08

Thelen Trucks

I hereby certify with my signature that all data contained within this application as well as all supporting data is true and correct to the best of my knowledge. I will contact the Becker County Planning and Zoning office for an inspection once the footings have been constructed.

Signature(s)

10/20/08
Date

Trench and Bed Worksheet

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

1. AVERAGE DESIGN FLOW

A. Estimated: 900 gpd *(see figure A-1)*
or measured: ____ x 1.5 *(safety factor)* = 0 gpd

B. Septic tank capacity: 2500 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: sand Percolation rate: ____ mpi

F. SSF: 1.27 ft^2/gpd (see figure D-15)

G. % Land slope: 1 %

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.

3. TRENCH OR BED BOTTOM AREA

H. For trenches with 6 inches of rock below the pipe:
A x F = 900 gpd x 1.27 ft/gpd = 1143.0 ft^2

I. For trenches with 12 inches of rock below the pipe:
A x F x 0.8= 900 gpd x 1.27 ft/gpd x 0.8 = _____ ft^2

J. For trenches with 18 inches of rock below the pipe:
A x F x 0.66= 900 gpd x 1.27 ft/gpd x 0.66 = _____ ft^2

K. For trenches with 24 inches of rock below the pipe:
A x F x 0.6= 900 gpd x 1.27 ft/gpd x 0.6 = _____ 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 900 gpd x 1.27 ft/gpd = _____ ft^2

M. For pressure beds with 6 or 12 inches of rock below the pipe;
A x F = 900 gpd x 1.27 ft/gpd = 1143.0 ft^2

4. DISTRIBUTION (Check all that apply)

	Bed (<6% slope)		Drop Boxes (any slope)		Rock
x	Trenches	x	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)
1143 sq ft/ 20 sq ft per chamber = 58 chambers **58 chambers x 4 ft per chamber = 232 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 #) 10/20/08 (date)

City of Frazee

LR Co-op

Loretell Systems

MN Energy resources

East ottertail telephone

ottertail power