

FIELD EVALUATION SHEET

PRELIMINARY EVALUATION DATE 6-2-24 , FIELD EVALUATION DATE 8-15-24
PROPERTY OWNER: TOM HORTUS PHONE _____
ADDRESS: 30196 DAM LAKE ST CITY, STATE, ZIP: AITKIN MN 56431
LEGAL DESCRIPTION: PT NW SW IN DOC 471945
PIN# 09-0-002900 SEC T R TWP NAME GLEN
FIRE# LAKE/RIVER LONG LAKE LAKE CLASS OHWL FT.

DESCRIPTION OF SOIL TREATMENT AREAS

| | AREA #1 | AREA #2 | REFERENCE BM ELEV. <u>100</u> FT | REFERENCE BM DESCRIPTION |
|--------------------|----------------------------|----------------------------|----------------------------------|----------------------------|
| DISTURBED AREAS | YES <u> </u> NO <u>X</u> | YES <u> </u> NO <u>X</u> | | |
| COMPACTED AREAS | YES <u> </u> NO <u>X</u> | YES <u> </u> NO <u>X</u> | | <u>BASE OF SMALL MAPLE</u> |
| FLOODING | YES <u> </u> NO <u>X</u> | YES <u> </u> NO <u>X</u> | | <u>TREE BY WHERE NEW</u> |
| RUN ON POTENTIAL | YES <u> </u> NO <u>X</u> | YES <u> </u> NO <u>X</u> | | <u>TANK WILL GO.</u> |
| SLOPE % | <u>8%</u> | | | |
| DIRECTION OF SLOPE | <u>SE</u> | | | |
| LANDSCAPE POSITION | <u>SIDE HILL</u> | | | |
| VEGETATION TYPES | <u>LAWN AREA</u> | | | |

DEPTH TO STANDING WATER OR MOTTLED SOIL: BORING# 1 6 1/2', 1A 6 1/2', 2 4', 2A 4'

BOTTOM ELEVATION--FIRST TRENCH OR BOTTOM OF ROCK BED: #1 94.5 FT., #2 FT.

SOIL SIZING FACTOR: SITE #1 1.27 , SITE #2

CONSTRUCTION RELATED ISSUES: STANDARD 3 BEDROOM TRENCH SYSTEM
INSTALLING 1500 GAL. SEPTIC - 152 L.F. TRENCHES - 12" UNDER
PIPE

LIC# 177 SITE EVALUATOR SIGNATURE: Larry Liljenqvist

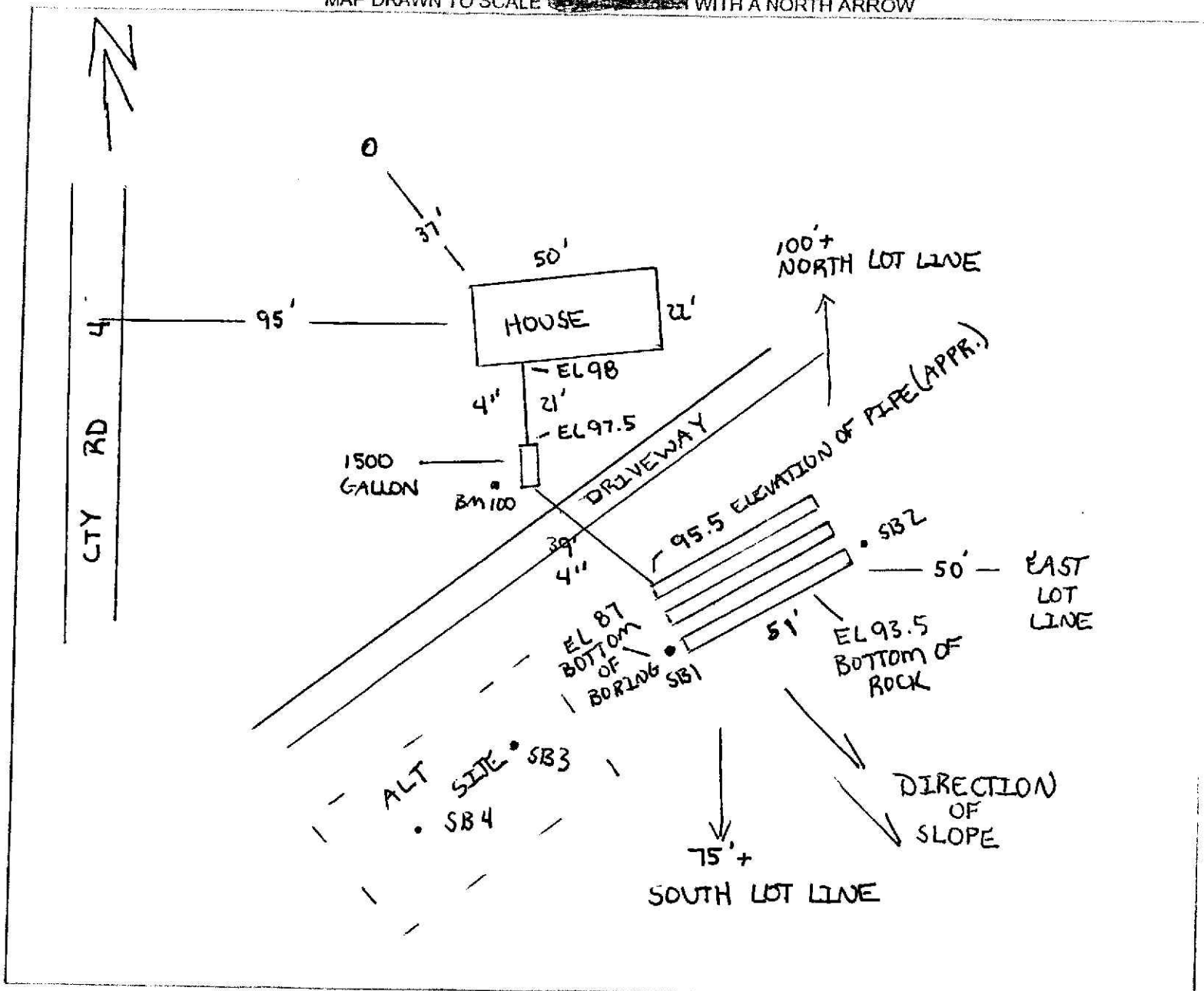
SITE EVALUATOR NAME: LARRY LILJENQVIST TELEPHONE# 218 820 8886

LUG REVIEW _____ DATE _____

Comments: _____

SOIL BORING LOGS ON REVERSE SIDE

MAP DRAWN TO SCALE WITH A NORTH ARROW



CHECK OFF LIST--HAVE ALL OF THE FOLLOWING BEEN DRAWN ON THE MAP??

SHOW EXISTING OR PROPOSED

- WATER WELLS WITHIN 100 FT OF TREATMENT AREAS
- PRESSURE WATER LINES WITHIN 10 FT OF TREATMENT AREAS
- STRUCTURES
- ALL SOIL TREATMENT AREAS
- HORIZONTAL AND VERTICAL REFERENCE
- POINT OF SOIL BORINGS
- LOT EASEMENTS
- DISTURBED/ COMPACTED AREAS
- SITE PROTECTION--LATHE AND RIBBON EVERY 15 FT
- ACCESS ROUTE FOR TANK MAINTENANCE
- LOT IMPROVEMENTS
- ALL ISTS COMPONENTS
- DIRECTION OF SLOPE
- ALL LOT DIMENSIONS

REQUIRED SETBACKS

- STRUCTURES
- OHWL
- PROPERTY LINES

COMMENTS:

INDICATE ELEVATIONS

- BENCHMARK 100
- ELEVATION OF SEWER LINE @ HOUSE 98
- ELEVATION @ TANK INLET 97.5
- ELEVATION @ BOTTOM OF ROCK LAYER 93.5
- ELEVATION @ BOTTOM OF BORING OR RESTRICTIVE LAYER 87
- ELEVATION OF PUMP
- ELEVATION OF DISTRIBUTION DEVICE

DESIGNER SIGNATURE *Larry Dymond*
LICENSE# 127

DATE 8-16-24

SOILS CHARTS FOR BOTH PROPOSED AND ALTERNATE SITES

1 (PROPOSED) SOILS DATA

| DEPTH (INCHES) | TEXTURE | MUNSELL COLOR |
|----------------|------------------|----------------|
| 0-7 | TOPSOIL | 10YR 3/2 |
| 7-43 | SANDY LOAM LOOSE | 10YR 5/6 |
| 43-48 | SANDY LOAM | 10YR 5/6 w 4/4 |
| 48-63 | LOAMY SAND | 10YR 5/6 |
| 63-78 | SANDY LOAM | 10YR 5/6 |

2 (PROPOSED) SOILS DATA

| DEPTH (INCHES) | TEXTURE | MUNSELL COLOR |
|----------------|------------------|----------------|
| 0-7 | TOPSOIL | 10YR 3/2 |
| 7-48 | SANDY LOAM LOOSE | 10YR 5/6 |
| 48-54 | SANDY LOAM | 10YR 5/6 w 4/4 |
| 54-78 | SANDY LOAM | 10YR 5/6 |

1 (ALTERNATE) SOILS DATA

| DEPTH (INCHES) | TEXTURE | MUNSELL COLOR |
|----------------|------------|----------------|
| 0-8 | TOPSOIL | 10YR 3/2 |
| 8-28 | LOAMY SAND | 10YR 5/6 |
| 28-48 | SANDY LOAM | 10YR 5/6 w 4/4 |

2 (ALTERNATE) SOILS DATA

| DEPTH (INCHES) | TEXTURE | MUNSELL COLOR |
|----------------|------------|----------------|
| 0-8 | TOPSOIL | 10YR 3/2 |
| 8-30 | LOAMY SAND | 10YR 5/6 |
| | SANDY LOAM | 10YR 5/6 w 4/4 |

ADDITIONAL SOIL BORINGS MAY BE REQUIRED

Subsurface Sewage Treatment System Management Plan

Property Owner: TOM KORTUS Phone: _____ Date: 8-16-24
Mailing Address: 2944 ARCADE ST City: LITTLE CANADA Zip: 55109
Site Address: 30196 DAM LK ST City: AITKIN Zip: 56431

This management plan will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic service provider or maintenance provider.

System Designer: Recommends SSTS check every 36 months.
Local Government: Recommends SSTS check every _____ months.
State Requirement: Requires SSTS check every 36 months.
(State requirements are based on MN Rules Chapter 7080.2450, Subp. 2 & 3)

**My System needs to be checked
every 36 months.**

Homeowner Management Tasks:

Leaks – Check (look, listen) for leaks in toilets and dripping faucets. Repair leaks promptly.

Surfacing sewage – Regularly check for wet or spongy soil around your soil treatment area.

Effluent filter – *Inspect and clean twice a year or more.*

Alarms – Alarm signals when there is a problem. Contact a service or maintenance provider any time an alarm signals.


Event counter or water meter – Record your water use.

-recommend meter readings be conducted (circle one): DAILY WEEKLY MONTHLY N/A

Licensed septic service provider or maintenance provider (Check all that apply):

- Check to make sure tank is not leaking
- Check and clean the in-tank effluent filter (if exists)
- Check the sludge/scum layer levels in all septic tanks
- Recommend if tank should be pumped
- Check inlet and outlet baffles
- Check the drainfield effluent levels in the rock layer
- Check the pump and alarm system functions
- Check wiring for corrosion and function
- Check dissolved oxygen and effluent temperature in tank
- Provide homeowner with list of results and any action to be taken
- Flush and clean laterals if cleanouts exist

"I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in the Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."

Property Owner Signature:  Date: 8-17-24

Designer Signature:  Date: 8-16-24

See Reverse Side for Management Log

Maintenance Log

| Activity | Date Accomplished |
|--|-------------------|
| Check frequently: | |
| Leaks: check for plumbing leaks | |
| Soil treatment area check for surfacing | |
| Lint filter: check, clean if needed | |
| Effluent screen: if owner-maintained | |
| Water usage rate (monitor frequency _____) | |
| Check annually: | |
| Caps: inspect, replace if needed | |
| Sludge & Scum/Pump | |
| Inlet & Outlet baffles | |
| Drainfield effluent leaks | |
| Pump, alarm, wiring | |
| Flush & clean laterals if cleanouts exists | |
| Other: _____ | |
| Other: _____ | |

Notes: _____

Area of Interest (AOI)

Soil Map

Soil Data Explorer

Download Soils Data

Shopping Cart (Free)

Printable Version | Add to Shopping Cart

Soil Map

Search

Map Unit Legend

Aitkin County, Minnesota (MN001)

Aitkin County, Minnesota (MN001)

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------------|----------------|
| 458C | Menahga loamy sand, 6 to 12 percent slopes | 0.6 | 69.1% |
| 543 | Markey muck | 0.3 | 30.9% |
| Totals for Area of Interest | | 0.9 | 100.0% |

Map Unit Descriptive

Report – Map Unit

Aitkin County, 458C—Menahga

Map Unit Sett

National r
 Elevation:
 Mean ann
 Mean ann
 Frost-free
 Farmland

Map Unit Cor

Menahga
 Minor con
 Estimates
 mapu.

Description o Setting

Landfor
 Landfor
 Down-s
 Across-t
 Parent r

Typical prof

A - 0 to
 E, Bw -
 C - 23 t

Properties :

TRENCH AND BED WORKSHEET

1. AVERAGE DESIGN FLOW

- A. Estimated 450 gpd (see figure A-1)
 or measured x 1.5 (safety factor) = gpd
- B. Septic tank capacity 1000 gal (see figure C-1)

A-1: Estimated Sewage Flows in Gallons per Day

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

2. SOILS (Site evaluation data)

- C. Depth to restricting layer = 5 1/2 ft
- D. Max depth of system Item 2C - 3 ft = 5 1/2 ft - 3 ft = 2 1/2 ft
- E. Texture SANDY LOAM Percolation rate 6-15 MPI
- F. Soil Sizing Factor (SSF) 1.27 sqft/gpd (see figure D-15)
- G. % Land Slope 6 %

C-1: Septic Tank Capacities (in gallons)

| Number of Bedrooms | Minimum Liquid Capacity | Liquid capacity with garbage disposal | Liquid capacity with disposal & lift inside |
|--------------------|-------------------------|---------------------------------------|---|
| 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 |

3. TRENCH or BED BOTTOM AREA

- H. For trenches with 6 inches of rock below the pipe:
 $A \times F = \text{ } \text{ gpd} \times \text{ } \text{ sqft/gpd} = \text{ } \text{ sqft}$
- I. For trenches with 12 inches of rock below the pipe:
 $A \times F \times 0.8 = \text{450} \text{ gpd} \times \text{1.27} \text{ sqft/gpd} \times 0.8 = \text{457} \text{ sqft}$
- J. For trenches with 18 inches of rock below the pipe:
 $A \times F \times 0.66 = \text{ } \text{ gpd} \times \text{ } \text{ sqft/gpd} \times 0.66 = \text{ } \text{ sqft}$
- K. For trenches with 24 inches of rock below the pipe:
 $A \times F \times 0.6 = \text{ } \text{ gpd} \times \text{ } \text{ sqft/gpd} \times 0.6 = \text{ } \text{ sqft}$
- L. For gravity beds with 6 or 12 inches of rock below the pipe;
 $1.5 \times A \times F = 1.5 \times \text{ } \text{ gpd} \times \text{ } \text{ sqft/gpd} = \text{ } \text{ sqft}$
 For pressure beds with 6 or 12 inches of rock below the pipe;
 $A \times F = \text{ } \text{ gpd} \times \text{ } \text{ sqft/gpd} = \text{ } \text{ sqft}$

D-15: Soil Characteristics and Soil Sizing Factor (SSF) (> 3' separation)

| Percolation Rate (minutes per inch (mpi)) | Soil Texture | Soil Sizing Factor (square feet/gallon per day (sqft/gpd)) |
|---|--------------|--|
| faster than 0.1* | Coarse sand | 0.83 |
| 0.1 to 5** | Medium sand | 0.83 |
| 6 to 15 | Loamy sand | 1.27 |
| 16 to 30 | Fine sand | 1.27 |
| 31 to 45 | Sandy loam | 2.00 |
| | Loam | 2.00 |
| | Silt loam | 2.20 |
| 46 to 60 | Silt | 2.20 |
| | Clay loam | 4.20 |
| over 61 to 120*** | Sandy clay | 4.20 |
| | Silty clay | 4.20 |
| slower than 120**** | Clay | 4.20 |
| | Sandy clay | 4.20 |
| | Silty clay | 4.20 |

*Use systems for rapidly permeable soils: pressure distribution or serial distribution with no trench > 25% of the total system.
 **Soil having 50% or more fine sand plus very fine sand
 ***A mound must be used.
 ****An other or performance system must be used

4. DISTRIBUTION (Check all that apply)

- Bed (< 6% slope) Drop boxes (any slope) Rock
- Trenches Distribution box (< 3%) Chamber
- Pressure Gravity Gravelless

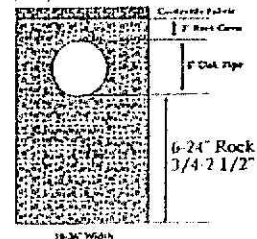
5. SYSTEM WIDTH, LENGTH and VOLUME

- M. Select trench width = 3 ft
- N. If using rock, divide bottom area by width: $(H, I, J, K \text{ or } L) \div M =$
 $\text{457} \text{ sqft} \div \text{3} \text{ ft} = \text{152} \text{ lineal feet}$
 Rock depth below distribution pipe plus 0.5 foot times bottom area:
 Rock depth in feet + 0.5 feet x Area (H, I, J, K, or L)
 $(\text{1} \text{ ft} + 0.5 \text{ ft}) \times \text{457} \text{ sqft} = \text{686} \text{ cuft}$
 Volume in cubic yards = cuft $\div 27$
 $\text{686} \text{ cuft} \div 27 = \text{25} \text{ cu yds}$
 Weight of rock in tons = cubic yds x 1.4
 $\text{25} \text{ cu yds} \times 1.4 = \text{35} \text{ tons}$
- O. If using 10" Gravelless Pipe, Flow (A) x Gravelless SSF (see figure D-9)
 gpd x lineal feet/gpd = lineal feet
- P. If using Chambers, H, I, J, or K (based on height of chamber slats) + width of chamber in feet (M)
 sqft + ft = lineal ft

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 |
| 6 to 15 | Loamy Sand | 0.6 |
| 16 to 30 | Fine Sand** | 0.42 |
| 31 to 45 | Sandy Loam | 0.56 |
| | Loam | 0.67 |
| 46 to 60 | Silt Loam | 0.74 |
| | Silt | — |
| slower than 60*** | Clay Loam (CL) | — |
| | Sandy CL | — |
| | Silty CL | — |
| | Clay | — |
| | Sandy Clay | — |
| | Silty Clay | — |

*Soil too coarse for percolation 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



6. LAWN AREA

- Q. Select trench spacing, center to center = feet
- R. Multiply trench spacing by lineal feet $R \times Q =$ sqft of lawn area
6 ft x 152 ft = 912 sqft

7. Include a drawing with scale (one inch = ft). Show pertinent boundaries, right of way, easements, location of house, garage, driveway, all other improvements, existing or proposed soil treatment system, well and dimensions of all elevations, setbacks and separation distances.

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

Larry Lyngard (signature) 127 (license #) 8-16-24 (date)

TRENCH CROSS-SECTION

FINISHED GRADE

_____ INCHES OF BACKFILL OVER ROCK

