

FIELD EVALUATION SHEET

PRELIMINARY EVALUATION DATE 2-10-24, FIELD EVALUATION DATE 4-3-24  
PROPERTY OWNER: BRIAN BAKER PHONE \_\_\_\_\_  
ADDRESS: 30227 OAK AVE CITY, STATE, ZIP: AITKIN MN 56431  
LEGAL DESCRIPTION: PT GOVT LOT 5 (TRACT A)  
PIN# 24-0-040411 SEC 20 T 46 R 26 TWP NAME NORDLAND  
FIRE# \_\_\_\_\_ LAKE/RIVER LONE LAKE LAKE CLASS \_\_\_\_\_ OHWL \_\_\_\_\_ FT.

**DESCRIPTION OF SOIL TREATMENT AREAS**

	AREA #1	AREA #2	REFERENCE BM ELEV. <u>100</u> FT
DISTURBED AREAS	YES ___ NO <u>\</u>	YES ___ NO ___	REFERENCE BM DESCRIPTION
COMPACTED AREAS	YES ___ NO <u>\</u>	YES ___ NO ___	<u>GROUND EL. AT THE</u>
FLOODING	YES ___ NO <u>\</u>	YES ___ NO ___	<u>NW CORNER OF EXISTING</u>
RUN ON POTENTIAL	YES ___ NO <u>\</u>	YES ___ NO ___	<u>GARAGE</u>
SLOPE %	_____	_____	_____
DIRECTION OF SLOPE	_____	_____	_____
LANDSCAPE POSITION	_____	_____	_____
VEGETATION TYPES	_____	_____	_____

DEPTH TO STANDING WATER OR MOTTLED SOIL: BORING# 1 \_\_\_\_\_, 1A \_\_\_\_\_, 2 \_\_\_\_\_, 2A \_\_\_\_\_

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

SOIL SIZING FACTOR: SITE #1 \_\_\_\_\_, SITE #2 \_\_\_\_\_

CONSTRUCTION RELATED ISSUES: ADDING 1650 GALLON COMBO TANK FOR  
ADDITION. EXISTING SEPTIC IS DESIGNED FOR A

LIC# 127 SITE EVALUATOR SIGNATURE: Larry Liljenquist

SITE EVALUATOR NAME: LARRY LILJENQUIST TELEPHONE# 218 820 8886

LUG REVIEW \_\_\_\_\_ DATE \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SOIL BORING LOGS ON REVERSE SIDE

# PUMP SELECTION PROCEDURE

## 1. Determine pump capacity:

### A. Gravity distribution

1. Minimum required discharge is 10 gpm
2. Maximum suggested discharge is 45 gpm. For other establishments at least 10% greater than the water supply rate, but no faster than the rate at which effluent will flow out of the distribution device.

### B. Pressure distribution

See pressure distribution work sheet

From A or B Selected pump capacity: 10 gpm

## 2. Determine pump head requirements:

### A. Elevation difference between pump and point of discharge?

4 feet

### B. Special head requirement? (See Figure at right - Special Head Requirements)

0 feet

### C. Calculate Friction loss

1. Select pipe diameter 2 in

2. Enter Figure E-9 with gpm (1A or B) and pipe diameter (C1).

Read friction loss in feet per 100 feet from Figure E-9

Friction Loss = .73 ft/100ft of pipe

3. Determine total pipe length from pump discharge to soil treatment discharge point. Estimate by adding 25 percent to pipe length for fitting loss. Total pipe length times 1.25 = equivalent pipe length

80 feet x 1.25 = 100 feet

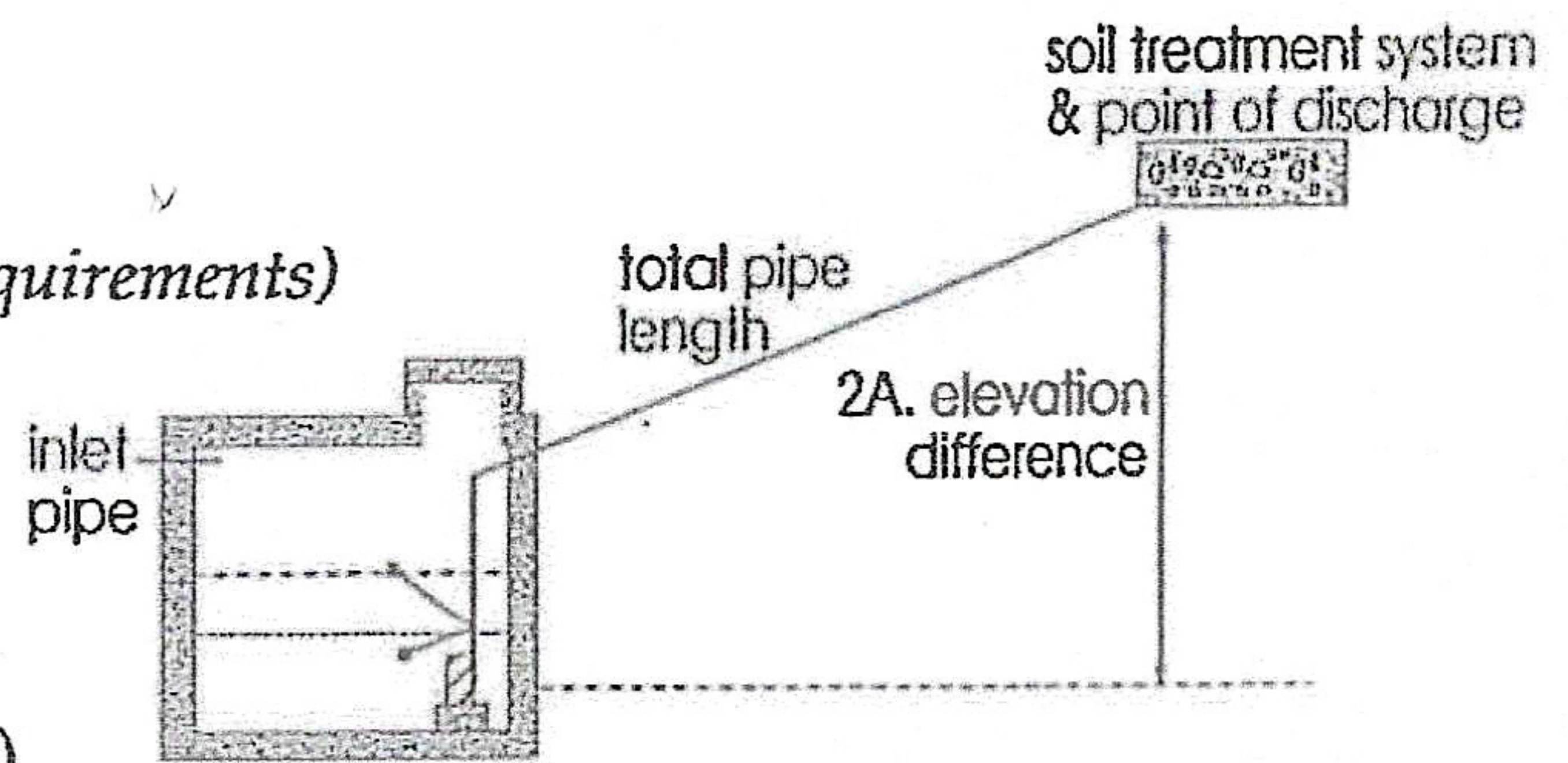
4. Calculate total friction loss by multiplying friction loss (C2) in ft/100 ft by the equivalent pipe length (C3) and divide by 100.

= .73 ft/100ft x 100 ÷ 100 = .73 ft

### D. Total head required is the sum of elevation difference (A), special head requirements (B), and total friction loss (C4)

4 ft + 0 ft + .73 ft =

Total head: 4.73 feet



Special Head Requirements	
Gravity Distribution	0 ft
Pressure Distribution	5 ft

E-9: Friction Loss in Plastic Pipe Per 100 feet			
flow rate gpm	nominal pipe diameter		
	1.5"	2"	3"
20	2.47	<u>0.73</u>	0.11
25	3.73	1.11	0.16
30	5.23	1.55	0.23
35	6.96	2.06	0.30
40	8.91	2.64	0.39
45	11.07	3.28	0.48
50	13.46	3.99	0.58
55		4.76	0.70
60		5.60	0.82
65		6.48	0.95
70		7.44	1.09

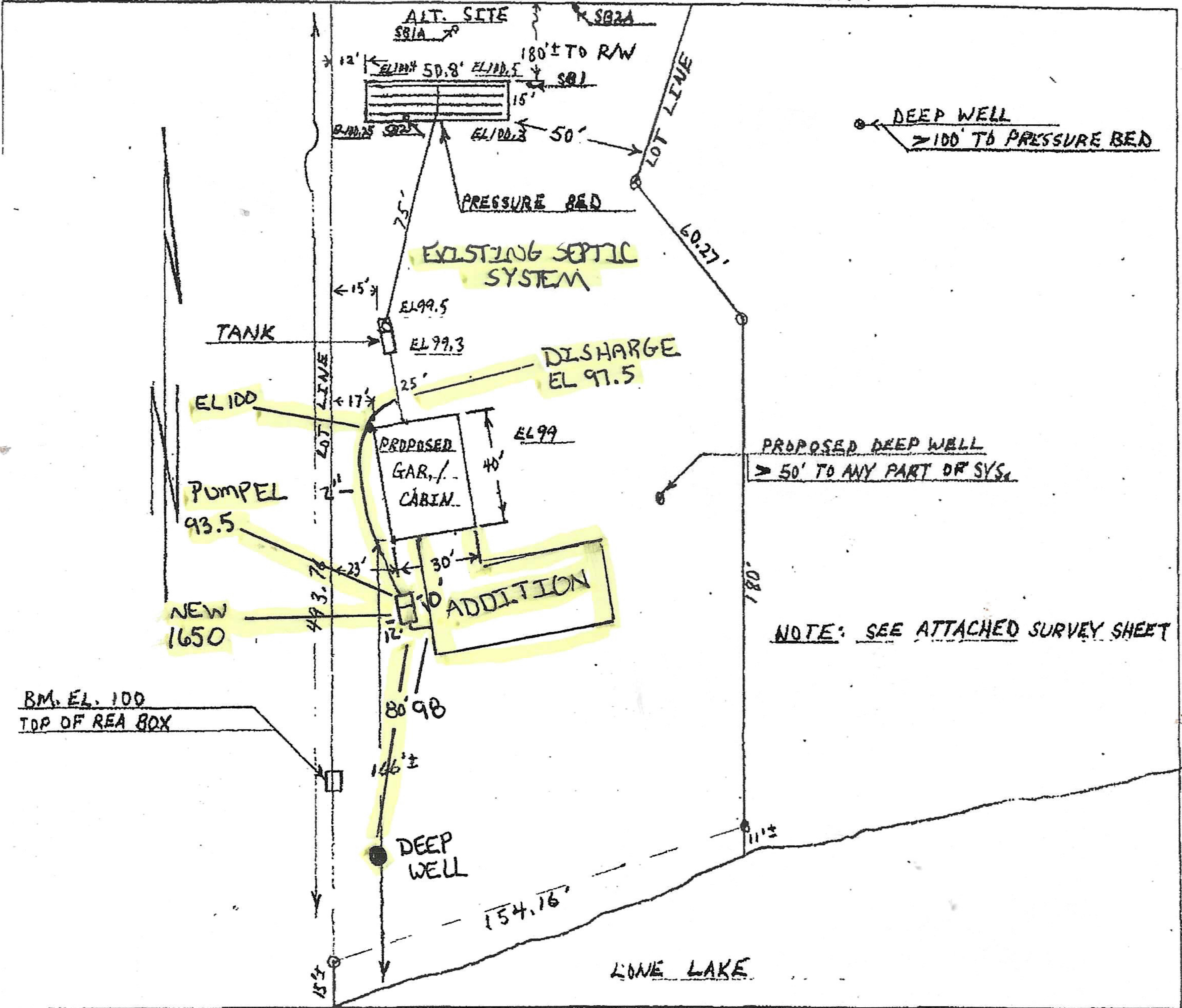
## 3. Pump selection

A pump must be selected to deliver at least 10 gpm (1A or B) with at least 4.73 feet of total head (2D)

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

Larry Lyngard (signature) 127 (license #) 4-3-24 (date)

MAP DRAWN TO SCALE OR DIMENSION 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
- REQUIRED SETBACKS
- STRUCTURES
- OHWL
- COMMENTS:
- LOT IMPROVEMENTS
- ALL ISTS COMPONENTS
- DIRECTION OF SLOPE
- ALL LOT DIMENSIONS
- PROPERTY LINES

**INDICATE ELEVATIONS**

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

DESIGNER SIGNATURE Larry Lymond  
 LICENSE# 127

DATE 4-3-24

**INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM  
AITKIN COUNTY, MINNESOTA**

Township Nordland Date of Inspection 10-8-02 Permit Number 29188  
 Owner Brian Baker Parcel Number 240-040411  
 Project Address Pt 0004 Lot 5 (Tract A) Installer Ed Liljenquist  
 City Aitkin Zip Code 56431 New  Repair

**DIST. or DROP BOX & TYPE**

**SETBACKS:**

Buildings to tank(s) 24  
 Buildings to drainfield 109'  
 Well(s) 50' or 100' No installed  
 Lake/Creek/Wetland 165 to structure

**SEPTIC TANKS:**

Liquid capacity 1230  
 Manufacturer & type Jacobson  
 Type of baffle Fiberglass  
 Inspection pipes 1 @ 6" 1 @ 4"  
 Manholes access 2 @ 26"  
 No. & height of risers 2 @ 20"

**MOUNDS:**

Percent slope 0-2%  
 Upslope dike width —  
 Downslope dike width —  
 Sideslope dike width —  
 Drainfield rock below pipe 9"  
 Depth of sand below rock N/A  
 Perforation size & spacing 1/4 @ 3'  
 Pipe size & spacing 1 1/2"  
 Dimensions of rock bed 15 x 50.8'  
 Dimensions of sand base N/A  
 Final cover N/A

**TRENCHES, BEDS, OR GRAVELLESS LEACHFIELD:**

Trench depth 21"  
 Trench length 50.8  
 Trench bottom width 15  
 Trench bottom level yes  
 Trench spacing N/A  
 Drainfield rock below pipe 9"  
 Size of gravelless pipe N/A  
 Depth of backfill 10"  
 Absorption area: square feet 762 sqft  
 lineal feet —

**PUMPS:**

Tank capacity 630  
 Tank manufacturer & type Jacobson  
 No. & height of risers 2 @ 26"  
 Pump manufacturer & model# 98 Zoeter  
 Horsepower & GPM 1/2 HP  
 Feet of head 16  
 Cycles per day 6  
 Gallons per cycle 80 gal/day  
 Size of discharge line 2"  
 Type of electrical hookup Post  
 Type & location of alarm in filter basket, Level alarm  
 Cycle counter (commercial) N/A

**DRAWING OF SYSTEM**

Soil PA #1  
 0-4 10yr 3/2 sandy loam  
 4-11 10yr 4/3 loam  
 11-22 10yr 4/4 sand  
 22-20+ 7.5yr 4/4 sand

