

Preliminary & Field Evaluation Form

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Owner Information			
Date	7/13/2019	Sec / Twp / Rng	S.9 T.48 R.22
Parcel ID	61-0-000800	LUG (county, city, township)	Aitkin County
Property Owner:	Kathleen Sellers	Owners address (if different)	
Property Address:	13953 Goshawk St.		
City / State / Zip:	Tamarack, MN. 55787		

Flow Information and Waste Type / Strength			
Estimated Design flow	450	Anticipated Waste strength	<input type="checkbox"/> Hi Strength <input checked="" type="checkbox"/> Domestic
Comments: Use existing combo tank.		Any Non-Domestic Waste	<input type="checkbox"/> Yes (class V) <input checked="" type="checkbox"/> No
		Sewage ejector/grinder pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Water softener	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Garbage Disposal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Daycare / In home business	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Site Information			
Existing & proposed lot improvements located (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well casing depth
Easements on lot located (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Drainfield w/in 100' of residential well
Property lines determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in 200' of transient noncommunity water supply (TNCWS)
Req'd setbacks determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)
Utilities located & identified (gopher state one call)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Buried water supply pipe w/in 50' of system
Access for system maintenance (shown on site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site located in Shoreland (w/in 1000' of lake, 300' of river)
Soil treatment area protected	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site map prepared with previous items included
Construction related issues	<hr/> <hr/>		

Soil Information

		Evidence of site:	
		Cut	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Filled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Compacted	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Disturbed	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Original soils	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Soil logs completed and attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Perk test completed and attached (if applicable)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Soil loading rate (gpd/ft ²)	<u>1.20</u>	Percolation rate (if applicable)	_____
Depth/elev to SHWT	<u>54.00</u>	Flooding or run-on potential (comments)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to system bottom maximum (or elev minimum)	<u>18.00</u>	Flood elevation (if applicable)	_____
Depth/elev to standing water (if applicable)	_____	Elevation of ordinary high water level (if applicable)	_____
Depth/elev to bedrock (if applicable)	_____	Floodplain designation and elev - 100 yr/10 yr (if applicable)	_____
Soil Survey information determined (see attachment)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Differences between soil survey and field evaluation (if applicable)	_____ _____		

I hereby certify this evaluation was completed in accordance with MN 7080 and any local req's.

Roque Hernandez
Designer Signature

R.H. Inspection & Design
Company

3847
License #

Pressure Bed Design

Property Owner: Kathleen SellersDate: 7/13/2019Site Address: 13953 Goshawk St.PID: 61-0-000800

Comments: _____

Instructions: = enter data = adjust if desired = computer calculated - DO NOT CHANGE!

- 1) 3 bedroom Type I Residential System
- 2) 450 GPD design flow
- 3) No Garbage disposal or pumped to septic
- 4) 1000 Gal Septic tank (code minimum) 1140 Gal Septic tank (design size / LUG req'd)
Tank options: none
- 5) 1.20 GPD/ft² Soil Loading Rate 375 ft² bed (code minimum) 570 ft² (design size / LUG req'd)
(must match soil boring log)
- 6) 15.0 ft desired bed width, leads to a 38.0 ft bed length
(25' maximum)
- 7) 3.0 ft lateral spacing 3.0 ft perforation spacing (maximum 3 for both)
end feed manifold connection
- 8) 5 laterals 36.0 feet long 13.0 perfs / lateral 65 perfs total
(1/2 perf means the first perf starts at the middle feed manifold)
- 9) 7/32 inch perfs at 1 feet residual head gives 0.56 gpm flow rate per perforation
(If bed has > 1' of cover, increase residual head for cleanout req's)
for this perf size & spacing, & pipe size on line 12, max perfs/lateral = 19, line #8 must be less --> OK
- 10) 4.0 doses per day (4 minimum)
- 11) 113 gallons per dose (treatment volume) 1.50 5x
- 12) 1.50 inch diameter laterals must be used to meet "4x pipe volume" requirement 2.00 3x
- 13) 50 feet of 2.0 inch supply line leads to 9 gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)
- 14) 122 gallons TOTAL pump out volume (treatment + drainback)
- 15) 7 feet vertical lift from pump to drainfield laterals, leads to a
- 16) 37 GPM @ 15 feet of head, Pump requirement
(>50 gpm may require additional 3-6' head allowance for discharge assy)

- 17) gal Dose tank (code minimum) gal Dose tank (design size / LUG req'd) at gpi
- 18) inch swing on Demand float, or Timed dosing of min ON (confirm pump rate with drawdown test and adjust as necessary)
(this delivers Average flow, =70% of Peak design flow) hrs OFF
- 19) inches from bottom of tank to "pump OFF" float
- 20) inches from bottom of tank to "pump ON" float, or inches to "timer ON" float if time dosed
- 21) inches from bottom of tank to "Hi Level" float, or inches to "Hi Level" float if time dosed
- 22) gallons reserve capacity (after High Level Alarm is activated)
- 23) inches, or ft. to Redox or other limiting condition (This must match the soil boring log)
Treatment zone contains inches of 0% soil credit, and inches of 50% soil credit
- 24) inches, or ft. of vertical separation required
leads to bottom of rock no more than:
- 25) inches, or ft. Below existing grade **CRITICAL FOR FUTURE CERTIFICATIONS!!!**
- 26) inches of rock below the pipe
 inches of rock to cover the pipe
- 27) Overall Dimensions: ft. wide by ft. long Pressure Bed
- 28) Rock Bed materials:
 ft. by ft. by inches total, plus 20% gives yd³ or *1.4= ton

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


Designer Signature

R.H. Inspection & Design
Company

3847
License#

7/13/2019
Date

Installer Summary

gallon Septic tank (minimum) Tank options: none

gallon Dose tank (minimum) at gpi

GPM @ ft. of head, Pump required

inch swing on Demand float which translates to roughly inches of float tether length
if time dosing is required --> minutes ON time & hours OFF time

inches from bottom of tank to "pump ON" float, or inches to "timer ON" float
 inches from bottom of tank to "Hi Level Alarm" float

ft. of inch supply line with manifold connection

laterals inch diameter feet long ft lateral spacing
1st and last laterals are ft. from the sides of the bed

inch perfs ft perforation spacing

Effluent filter & alarm
 clean out & valve box assembly

Pressure Bed:

ft. wide by ft. Long

Bottom of rock no more than:

inches, or ft. Below existing grade

inches of rock below the pipe

Overall Dimensions: ft. wide by ft. long Pressure Bed

Rock Bed materials: yd³ or *1.4= ton

INSPECTOR CHECKLIST - Pressure bed

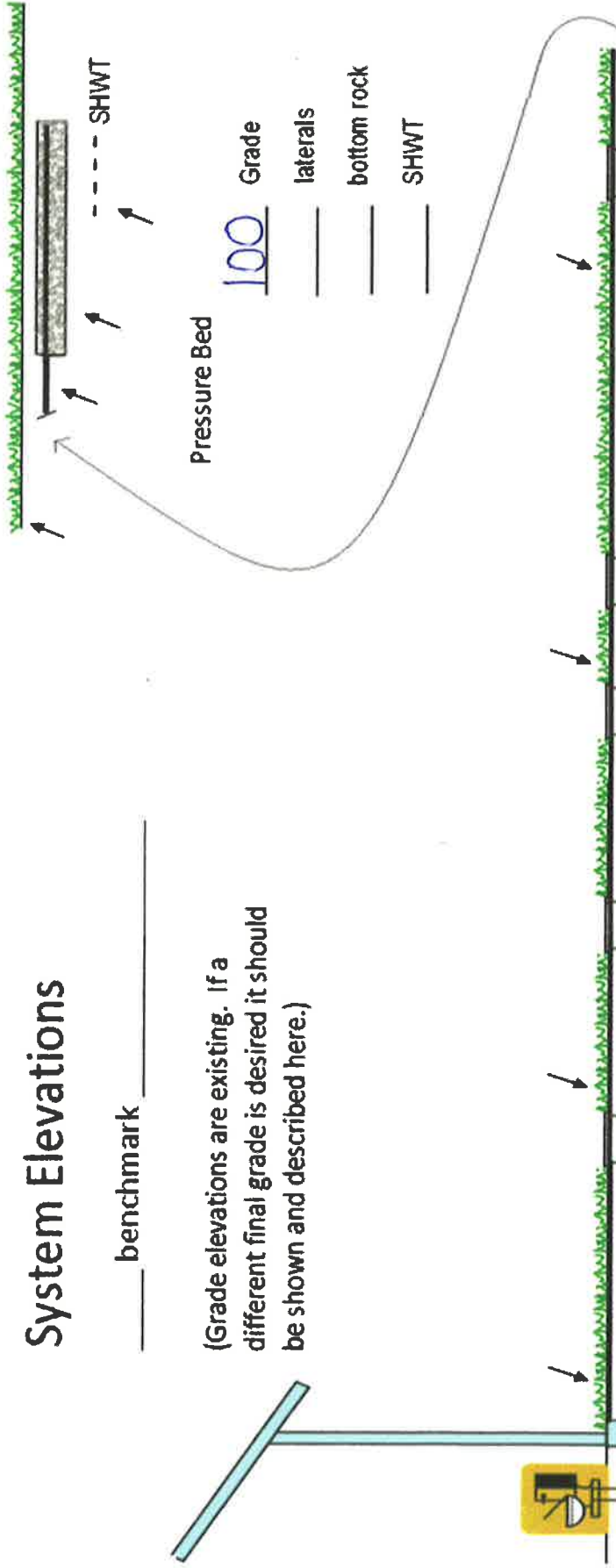
13953 Goshawk St.

- WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min)
50' to everything 100' to dispersal area with shallow well
- PROPERTY LINES setback: 10' to everything
- Road setback: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch.
- LAKE / BLUFF setback: 20' for bluff. Lakes: GD ____, RD ____, NE _____. Protected wetland ____.
- Building setbacks: 10' for everything, 20' for dispersal area.
- WATER LINE under pressure set 10' to bed, tank & sewer line. (else sewer line > 12" below)
- Sewer line & baffle connection (no 90's, 3' between 45's, min slope 1" in 8', max 2" in 8')
(no depth req's, clean out every 100', Sch 40 pipe)
- Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping)
mfg Jacobson 1140 gallons none
- Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.
- No effluent filter & alarm
- Dose tank risers and piping (water tight, insulated, proper depth, drainback)
mfg 510 gallons
- dose pump 37 gpm 15 head VERIFY PUMP CURVE 3.3 min ON 9 hr OFF
- float setting drop 10.9 inches at 11.20 gpi "DESIGNED" 6.5 inches approx float tether length
122.0 gal dose divided by gpi "INSTALLED" = inches float drop (field corrected)
LABEL pump requirements and drawdown on riser or panel
- Cam lock reachable from grade - 30" max. J-hook weep hole. Supply line access (no hard 90's)
- 2.0 inch supply pipe: Sch40, sloped 1/8"+, supported by 4" sch40 sleeve or compacted, and buried 6"+.
splice box / control panel / electrical connections
- flow measurement: CT, ETM, time dosed, home water meter
- Bed dimensions 15 X 38.0
- Rock depth below pipe 6 inches
- Rock bottom elevation 18.0 inches from Grade to bottom of rock (max)
- cover depth of 12"+ VERIFY
- 5 laterals (1-2' from edge of rock)
- 1.50 inch pipe size (Sch40 pipe & fittings)
- 3.0 ft lateral spacing
- 7/32 inch perforations
- 3.0 ft perforation spacing
- Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY
- clean outs (deep bed 2' of head) (no hard 90's)
- 4" inspection pipe to bottom of rock, anchored VERIFY
- Abandon existing system - if necessary Re-use existing tank certification
- monitoring plan and type
- well abandonment form - if necessary

System Elevations

_____ benchmark

(Grade elevations are existing. If a different final grade is desired it should be shown and described here.)



Pressure Bed

Grade 100

laterals _____

bottom rock _____

SHWT _____

Sewer pipe exiting house _____

Septic Tank 102

Grade 98

inlet _____

Tank bottom _____

Septic Tank (if applicable) _____

Grade _____

inlet _____

Tank bottom _____

Pump Tank _____

Grade _____

inlet _____

Tank bottom _____

Soil Observation Log

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Owner Information	
Property Owner / project: <u>Kathleen Sellers</u>	Date <u>7/13/2019</u>
Property Address / PID: <u>13953 Goshawk St.</u>	

Soil Survey Information	
<input type="checkbox"/> refer to attached soil survey	
Parent mat'l's:	<input checked="" type="checkbox"/> Till <input type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Alluvium <input type="checkbox"/> Organic <input type="checkbox"/> Bedrock
landscape position:	<input type="checkbox"/> Summit <input type="checkbox"/> Shoulder <input type="checkbox"/> Side slope <input type="checkbox"/> Toe slope
soil survey map units:	_____ slope <u><1</u> % direction- <u>downhill</u>

Soil Log #1							
		<input checked="" type="checkbox"/> Boring	<input type="checkbox"/> Pit	Elevation _____	Depth to SHWT <u>54"+</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0-4	Topsoil	<35	5YR3/3		Friable	Weak	Blocky
4-24	Med sand	<35	7.5YR4/6		Loose	Loose	Single grain
24-54+	Med sand	<35	7.5YR5/6		Loose	Loose	Single grain
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive

Comments:

13953 Goshawk St.

Soil Log #2

<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation _____		Depth to SHWT <u>54"+</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0-4	Topsoil	<35	5YR3/3		Friable	Weak	Blocky
4-24	Med sand	<35	7.5YR4/6		Loose	Loose	Single grain
24-54+	Med sand	<35	7.5YR5/6		Loose	Loose	Single grain
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive

13953 Goshawk St.

Soil Log #3

<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation _____		Depth to SHWT <u>54"+</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0-4	Topsoil	<35	5YR3/3		Friable	Weak	Blocky
4-24	Med sand	<35	7.5YR4/6		Loose	Loose	Single grain
24-54+	Med sand	<35	7.5YR5/6		Loose	Loose	Single grain
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive

I hereby certify this work was completed in accordance with MN 7080 and any local req's.

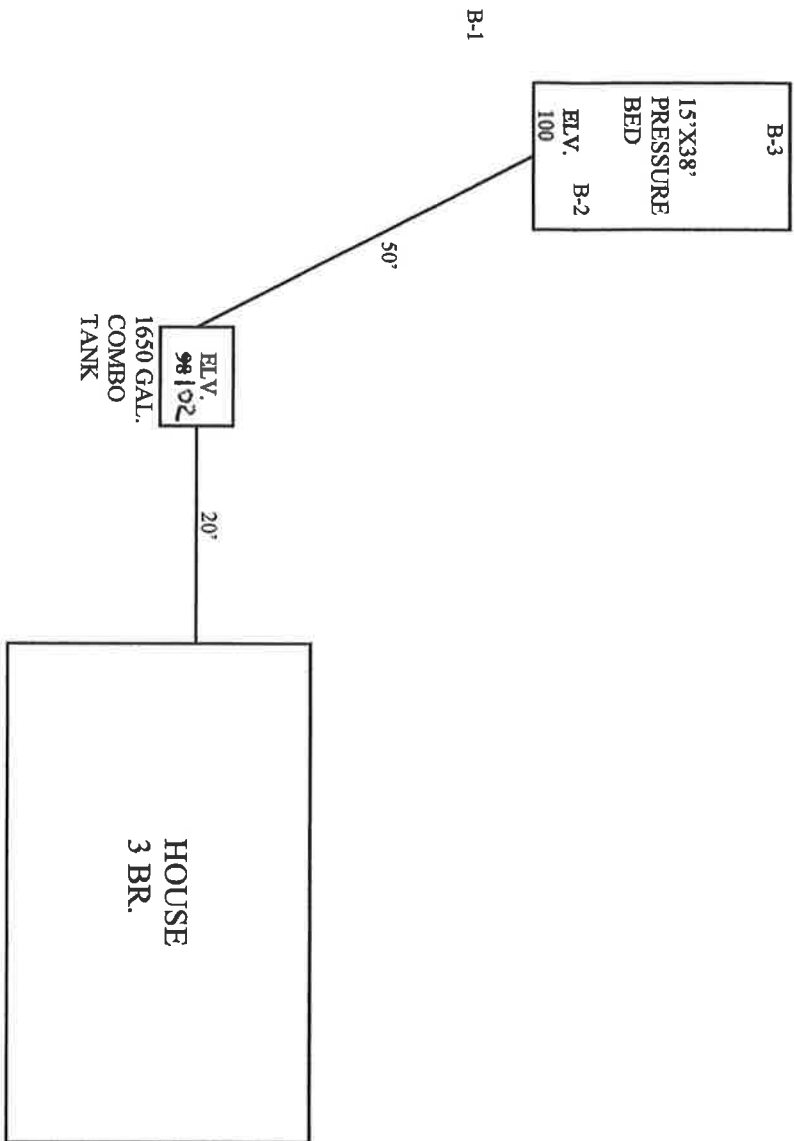

 Designer Signature

R.H. Inspection & Design
 Company

3847
 License #

13953 GOSHAWK ST.
TAMARACK, MN. 55787

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N



GOSHAWK ST.

WELL
X

Subsurface Sewage Treatment System Management Plan

Property Owner: KATHLEEN SELLERS Phone: 218-380-8532 Date: 7/13/2019
Mailing Address: 13953 GOSHAWK ST. City: TAMARACK Zip: 55787
Site Address: _____ City: _____ Zip: _____

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 36 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: Kathleen Sellers Date: 8-12-19

Designer Signature: Roger Hurst Date: 13 JUL 19

See Reverse Side for Management Log

Maintenance Log

Activity	Date Accomplished									
<i>Check frequently:</i>										
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 _____)										
<i>Check annually:</i>										
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: _____
