This Design is to replace the Septic tank (combo) We will re-use the Mound.

Preliminary & Field Evaluation Form

Owner Information

Date	4/20/2024	Sec / Twp / Rng	
Parcel ID	39-0-022603	LUG (county, city, township)	Aitkin co. P&Z
Property Owner:	Craig Anderson & Lisa Kalkes	Owners address (if different)	
Property Address:	50013 St. Hwy. 65		
City / State / Zip:	McGregor,Mn.55760		

Flow Information and Waste Type / Strength

Estimated Design flow: 450

Comments:

Anticipated Waste strength	☐ Hi Strength	☑ Domestic
Any Non-Domestic Waste	☐ Yes (class V)	☑ No
Sewage ejector/grinder pump	☐ Yes	☑ No
Water softener	☐ Yes	☑ No
Garbage Disposal	☐ Yes	☑ No
Daycare / In home business	☐ Yes	☑ No

Site Information

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

Construction related issues

Soil Information

Evidence of site:

Cut	☐ Yes	☐ No
Filled	☐ Yes	☐ No
Compacted	☐ Yes	☐ No
Disturbed	☐ Yes	☐ No

Original soils ☐ Yes ☐ No

Soil logs completed and attached ☐ Yes ☐ No

Perk test completed and attached (if applicable) ☐ Yes ☐ No

Soil loading rate (gpd/ft^2) ?

Percolation rate (if applicable) _____

Depth/elev to SHWT _____

Flooding or run-on potential (comments) ☐ Yes ☐ No

Depth to system bottom maximum (or elev minimum) #VALUE!

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) ☐ Yes ☐ No

Differences between soil survey and field evaluation (if applicable) We are re-using The existing mound.

We are replacing the septic tank.

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

Jarold R. Farley	Farley Sewer Systems	L-1919
Designer Signature	Company	License #

Owners Septic System Management Plan

Date: 4/202024

Property Address: 50013 St. Hwy. 65

Septic Systems can be an expensive investment, good maintenance will ensure they last a lifetime. The purpose of a septic system is to properly "decompose" the pollutants before the water is recycled back into the groundwater. If you're not taking this seriously, ask yourself where your well water comes from.

Your septic design lists all the components of your system and their location. Keep the design, this management plan and the UofM "Septic System Owners Guide" in a safe place for future reference. For a copy of the Owners guide call the University of MN at 1-800-876-8636.

Some of the following tasks you can do yourself, some require a professional, but is it YOUR responsibility to see that it gets done.

Homeowner Tasks

- Do your best to conserve water. Don't overload your septic with multiple large water uses at the same time or on the same day.
- Fix household leaks promptly (leaky toilet, dripping faucets).
- Limit bleach and anti-bacterial products. Use Biodegradable dishwasher detergent.
- Consider a lint filter on your clothes washer.
- Regularly check for wet or spongy soil around your drainfield.
- Have a septic professional check your tanks every 3 years to determine if they need pumping.
- If you have a septic tank filter (effluent filter) clean it on a regular basis (or have a professional do it).
- If a septic alarm goes off, call your septic professional to diagnose the problem.
- Notify the County/City/Township when this management plan is not being met.
- Be aware of and protect your secondary drainfield site.

Professional Tasks

- Disclose the location of the secondary drainfield (if applicable).
- Respond to alarms and diagnose problems as needed.
- Review water use with the owner, check for a "soggy" drainfield.
- Pump the septic tanks as needed and ensure they are in proper working order.
- Verify the pump, dose amount, HI Level Alarm & drainback are all working properly.

"As the owner, I understand it is my responsibility to properly operate and maintain this septic system".

Property Owner Signature: Craig Johnson **Date** 4/20/2024

We are Re-using the Mound
Re-Placing the Tank

Installer Summary

1000 gallon Septic tank (minimum)

Tank options: none

500 gallon Dose tank (minimum)

at 15.00 gpi

27 GPM @ 14 ft. of head, Pump required

8.0 inch swing on Demand float which translates to roughly 5.0 inches of float tether length

Optional Time dosing of:

4.4 minutes ON

8.5 hours OFF

20 inches from bottom of tank to "pump ON" float, or

12 inches to "timer ON" float

23 inches from bottom of tank to "Hi Level Alarm" or

33 inches to "Hi level" float

40 ft. of 2.0 inch supply line with end feed manifold connection

(Tip: "top feed" manifold to control drainback)

24 inch, or 2.0 ft. Sand Lift Mound

10.0 ft. wide by 37.5 ft. long Rock bed

3 laterals 2.00 inch diameter 35.5 ft. long 3.0 ft. lateral spacing

1/4" inch perfs 3.0 ft. perforation spacing

No Effluent filter & alarm

3 clean out & valve box assemblies

ft.Total sand ABSORPTION width (minimum)

0.0 ft. upslope and sideslope (sand beyond rockbed, minimum)

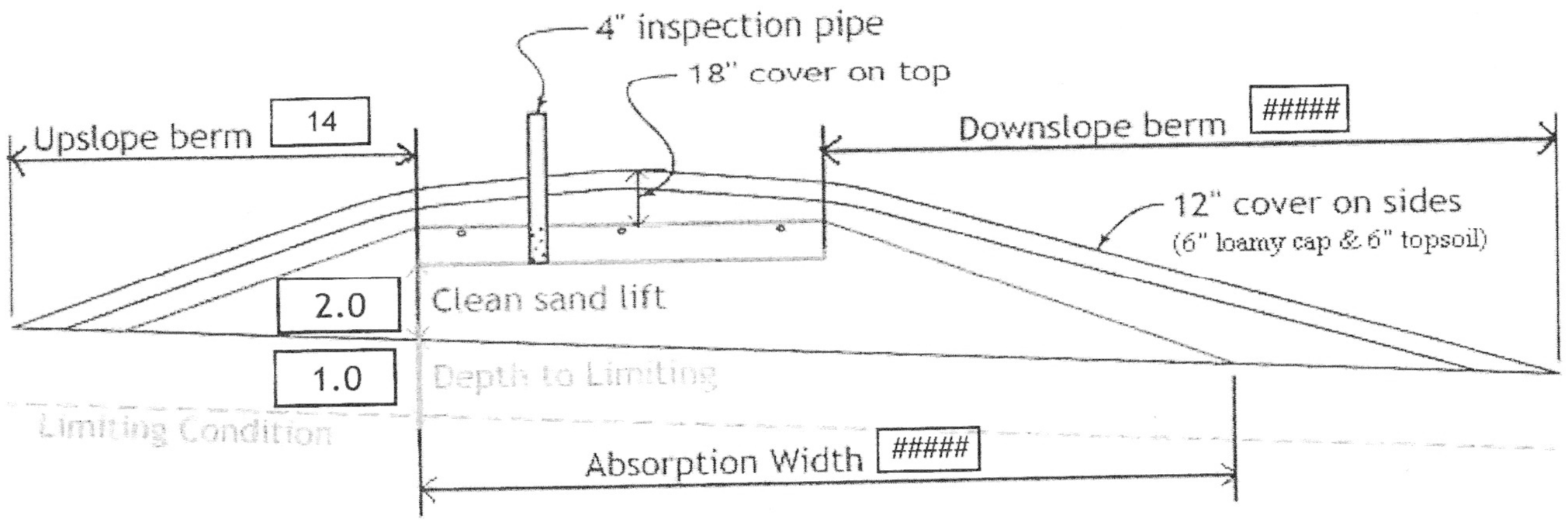
ft. Downslope (sand beyond rockbed, minimum)

Specific slope ratios give BERM widths (topsoil beyond rockbed) of:

4:1 upslope ratio 14 ft. upslope berm

4:1 sideslope 16 ft. sideslope berms

4:1 downslope ##### ft. downslope berm



Note:
For 0 to 1% slopes, *Absorption Width* is measured from the *Bed* equally in both directions.
For slopes >1%, *Absorption Width* is measured downhill from the upslope edge of the *Bed*.

Rock Bed:	13.0	yd^3 or *1.4=	18	ton
Mound Sand:	160	yd^3 or *1.4=	223	ton
Loamy Cap:	#####	yd^3 or *1.4=	######	ton
Topsoil:	#####	yd^3 or *1.4=	######	ton

6 inches under pipe

calculation based on 3:1/4:1 slope from top of rockbe

6" deep

6" deep

INSPECTOR CHECKLIST - mound

50013 St. Hwy. 65

☐ WELL setbacks: 20'- 50' to sewer line req's MDH pressure test form (5 psi for 15 min)
50' to everything 100' to drainfield 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 10' to bed,tank & sewer line. (else sewer line > 12" below)

☐ Sewer line & tank connection (no hard 90's, long sweep 90 or 2-45's, slope minimum 1" in 8' = 1%)
(no depth req's, clean out every 100', Sch 40 pipe)

☐ Septic tank and risers (water tight risers, baffles, insulated, proper depth, existing verified by pumping)
mfg___ Jac. 1650 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 risers, insulated, proper depth, drainback)
mfg_____ 500 gallons

☐ dose pump _____ 27 gpm 14 head VERIFY PUMP CURVE

Optional Time dosing of:
4.4 min ON 8.5 hr OFF

☐ verify that installed "vertical lift from pump to laterals" is no more than design value of 8 feet

☐ float setting drop 8.0 inches at ☐ 15.0 gpi "DESIGNED" 5.0 inches approx float tether length
120.0 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 / Hi Level Alarm

☐ flow measurement: CT, ETM, time dosed, home water meter

☐ mound absorption area rough up

☐ mound rock dimensions 10.0 X 37.5

☐ Sand lift depth 24 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

☐ Absorption Sand beyond rock 0.0 upslope ##### downslope

☐ Bermed topsoil beyond rockbed 14 upslope 16 sideslope ##### downslope

☐ cover depth of 12-18"+ VERIFY

☐ 3 laterals (1-2' from edge of rock)

☐ 2.00 inch pipe size (Sch40 pipe & fittings)

☐ 3.0 ft lateral spacing

☐ 1/4" inch perforations

☐ 3.0 ft perforation spacing

☐ Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY

☐ clean outs (no hard 90's)

☐ 4" inspection pipe to bottom of rock, anchored VERIFY

☐ Abandon existing system - if necessary ☐ Re-use existing tank certification

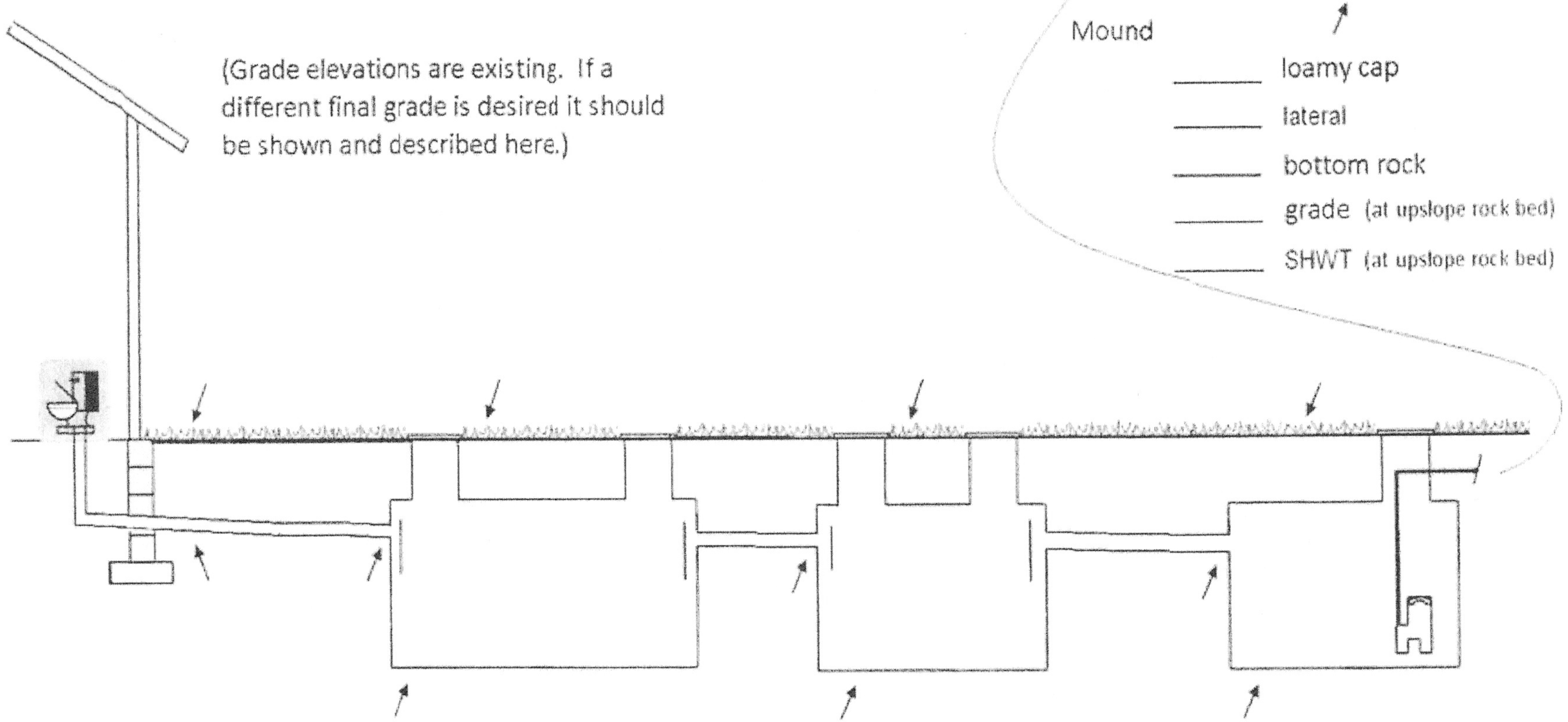
☐ monitoring plan and type _____

☐ well abandonment form - if necessary

System Elevations

100.0 benchmark Top of step by House

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



Sewer pipe exiting house

106.0 Grade

105.0 Pipe

Septic Tank

99.0 Grade

93.0 inlet

94.1 Tank bottom

Septic Tank (if applicable)

_____ Grade

_____ inlet

_____ Tank bottom

Pump Tank

99.0 Grade

97.8 inlet

94.1 Tank bottom

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North
St. Paul, MN 55155-4194

Compliance inspection report form

Existing Subsurface Sewage Treatment System (SSTS)

This is For the Mound

Doc Type: Compliance and Enforcement

Instructions: Inspector must submit completed form to Local Governmental Unit (LGU) and system owner within 15 days of final determination of compliance or noncompliance. Instructions for filling out this form are located on the Minnesota Pollution Control Agency (MPCA) website at https://www.pca.state.mn.us/sites/default/files/wq-wwists4-31a.pdf.

Property information

Local tracking number:

Parcel ID# or Sec/Twp/Range: 39-0-022603 Workman Twp. Reason for Inspection App. for bld. permit

Local regulatory authority info: Aitkin county planning and zoning Phone#218-927-7342

Property address: 50013 St. Hwy. 65,McGregor,Mn.55760

Owner/representative: Craig Anderson And Lisa Kalkes Owner's phone: 612-325-2339

Brief system description: 1600 gallon tank that is failing compliance and needs to be replaced.(failing compliance by Timber Lakes)That pumps up into a 2' sand base mound with a 10' x 38' Rockbed.

System status

System status on date (mm/dd/yyyy): 4/20/2024

☒ **Compliant – Certificate of compliance***

*(**Valid for 3 years from report date** unless evidence of an imminent threat to public health or safety requiring removal and abatement under section 145A.04, subdivision 8 is discovered or a shorter time frame exists in Local Ordinance.)*

Note: Compliance indicates conformance with Minn. R. 7080.1500 as of system status date above and does not guarantee future performance.

☐ **Noncompliant – Notice of noncompliance**

Systems failing to protect ground water must be upgraded, replaced, or use discontinued within the time required by local ordinance.

An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance or under section 145A.04 subdivision 8.

Reason(s) for noncompliance (check all applicable)

- ☐ Impact on public health (Compliance component #1) – *Imminent threat to public health and safety*
- ☐ Tank integrity (Compliance component #2) – *Failing to protect groundwater*
- ☐ Other Compliance Conditions (Compliance component #3) – *Imminent threat to public health and safety*
- ☐ Other Compliance Conditions (Compliance component #3) – *Failing to protect groundwater*
- ☐ System not abandoned according to Minn. R. 7080.2500 (Compliance component #3) – *Failing to protect groundwater*
- ☐ Soil separation (Compliance component #5) – *Failing to protect groundwater*
- ☐ Operating permit/monitoring plan requirements (Compliance component #4) – *Noncompliant - local ordinance applies*

Comments or recommendations

Certification

I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.

***By typing my name below**, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.*

Business name: Farley Sewer Systems Certification number: C-4744

Inspector signature: Jarold R. Farley License number: L-1919

(This document has been electronically signed) Phone: 218-839-4737

Necessary or locally required supporting documentation (must be attached)

☒ Soil observation logs ☐ System/As-Built ☐ Locally required forms ☐ Tank Integrity Assessment ☐ Operating Permit

☐ Other information (list):

Property Address: 50013 St. Hwy. 65,McGregor,Mn.55760

Business Name: Farley Sewer Systems Date: 4/20/2024

1. Impact on public health – Compliance component #1 of 5

Compliance criteria:

System discharges sewage to the ground surface	☐ Yes* ☒ No
System discharges sewage to drain tile or surface waters.	☐ Yes* ☒ No
System causes sewage backup into dwelling or establishment.	☐ Yes* ☒ No

Any "yes" answer above indicates the system is an imminent threat to public health and safety.

Attached supporting documentation:

☐ Other:

☐ Not applicable

Describe verification methods and results:

2. Tank integrity – Compliance component #2 of 5

Compliance criteria:

System consists of a seepage pit, cesspool, drywell, leaching pit, or other pit?	☐ Yes* ☐ No
Sewage tank(s) leak below their designed operating depth?	☐ Yes* ☐ No
If yes, which sewage tank(s) leaks:	

Any "yes" answer above indicates the system is failing to protect groundwater.

Attached supporting documentation:

☐ Empty tank(s) viewed by inspector

Name of maintenance business:

License number of maintenance business:

Date of maintenance:

☐ Existing tank integrity assessment (Attach)

Date of maintenance (mm/dd/yyyy): (must be within three years)

(See form instructions to ensure assessment complies with Minn. R. 7082.0700 subp. 4 B (1))

☒ Tank is Noncompliant (pumping not necessary – explain below)

☐ Other:

Describe verification methods and results:

I will have the tank pumped and removed replaced with A new one.

Property Address: 50013 St. Hwy. 65,McGregor,Mn.55760

Business Name: Farley Sewer Systems Date: 4/20/2024

3. Other compliance conditions – Compliance component #3 of 5

3a. Maintenance hole covers appear to be structurally unsound (damaged, cracked, etc.), or unsecured?

☐ Yes* ☒ No ☐ Unknown

3b. Other issues *(electrical hazards, etc.)* to immediately and adversely impact public health or safety? ☐ Yes* ☒ No ☐ Unknown

**Yes to 3a or 3b - System is an imminent threat to public health and safety.*

3c. System is non-protective of ground water for other conditions as determined by inspector? ☐ Yes* ☒ No

3d. System not abandoned in accordance with Minn. R. 7080.2500? ☐ Yes* ☒ No

**Yes to 3c or 3d - System is failing to protect groundwater.*

Describe verification methods and results:

Attached supporting documentation: ☐ Not applicable ☐ _____

4. Operating permit and nitrogen BMP* – Compliance component #4 of 5 ☒ Not applicable

Is the system operated under an Operating Permit? ☐ Yes ☐ No **If "yes", A below is required**

Is the system required to employ a Nitrogen BMP specified in the system design? ☐ Yes ☐ No **If "yes", B below is required**

BMP = Best Management Practice(s) specified in the system design

If the answer to both questions is "no", this section does not need to be completed.

Compliance criteria:

a. Have the operating permit requirements been met? ☐ Yes ☐ No

b. Is the required nitrogen BMP in place and properly functioning? ☐ Yes ☐ No

Any "no" answer indicates noncompliance.

Describe verification methods and results:

Attached supporting documentation: ☐ Operating permit (Attach) ☐

Property Address: 50013 St. Hwy. 65,McGregor,Mn.55760

Business Name: Farley Sewer Systems Date: 4/20/2024

5. Soil separation – Compliance component #5 of 5

Date of installation 10/20/2000 *(mm/dd/yyyy)* ☐ Unknown

Shoreland/Wellhead protection/Food beverage lodging? ☒ Yes ☐ No

Attached supporting documentation:

☒ Soil observation logs completed for the report

☐ Two previous verifications of required vertical separation

☐ Not applicable (No soil treatment area)

☐ _____

Compliance criteria (select one):

5a. *For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment:* Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock.	☐ Yes ☐ No*
5b. *Non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment:* Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.*	☒ Yes ☐ No*
5c. *"Experimental", "Other", or "Performance" systems built under pre-2008 Rules; Type IV or V systems built under 2008 Rules 7080. 2350 or 7080.2400 (Intermediate Inspector License required ≤ 2,500 gallons per day; Advanced Inspector License required > 2,500 gallons per day)* Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock.	☐ Yes ☐ No*

Indicate depths or elevations

A. Bottom of distribution media	102
B. Periodically saturated soil/bedrock	98.9
C. System separation	37"
D. Required compliance separation*	36"

*May be reduced up to 15 percent if allowed by Local Ordinance.

Any "no" answer above indicates the system is failing to protect groundwater.

Describe verification methods and results:

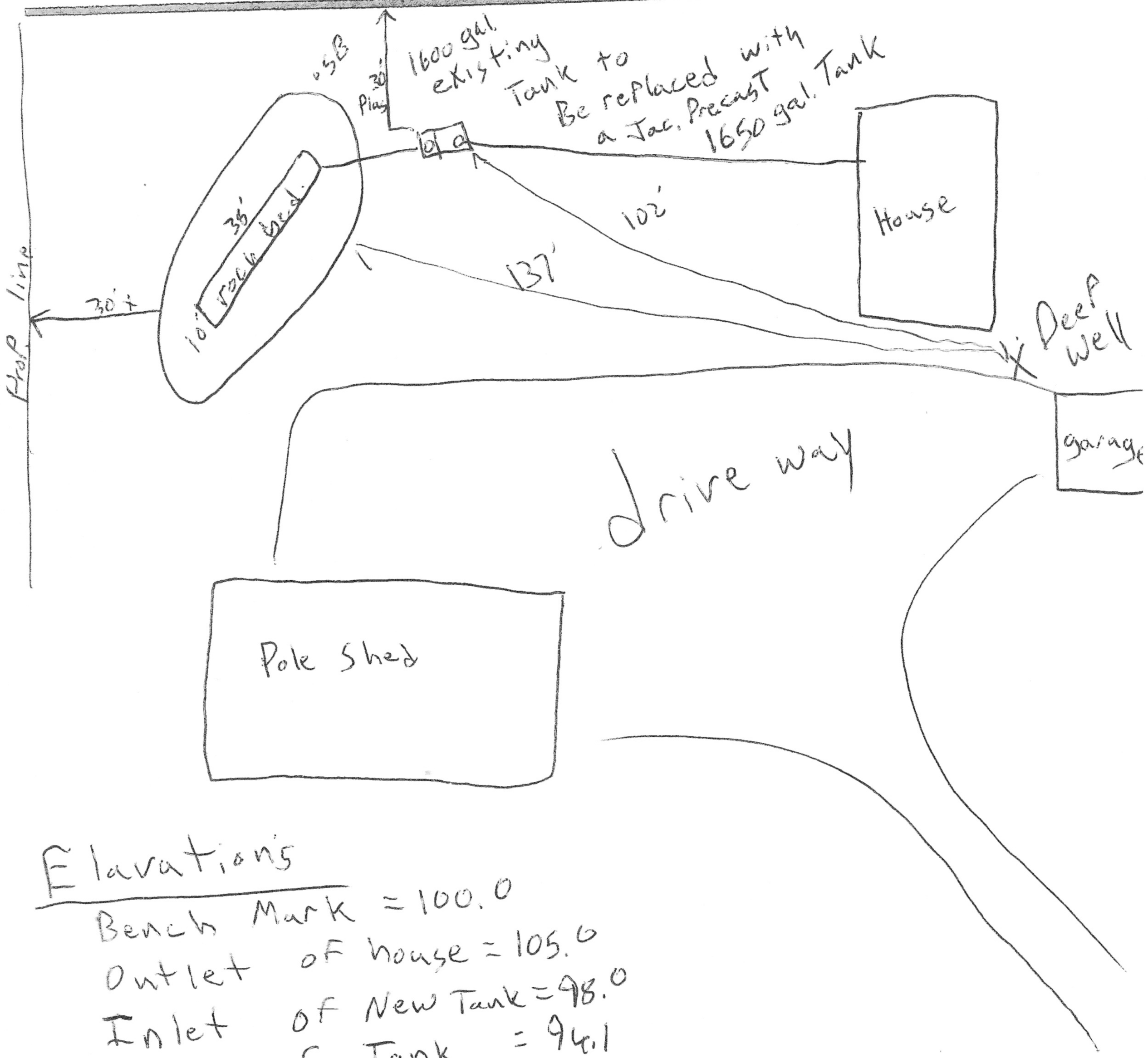
Upgrade requirements: *(Minn. Stat. § 115.55) An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.*

FARLEY SEWER SYSTEMS

SEWER DESIGN & INSTALLATION
JAROLD R. FARLEY

P.O. Box 472
McGregor, MN 55760

Bus. Lic. No. L1919
Reg. No. 4744
218-839-4737 cell



Elavations

Bench Mark = 100.0
Outlet of house = 105.6
Inlet of New Tank = 98.0
Bottom of Tank = 94.1
Top of Pump = 95.3
Pipe @ disp. Feild = 102.0