ZIERKE SOIL TESTING

Tommy Boesel
121 Judd St
Marine on St Croix, MN 55047

September 27th, 2022

Dear Tommy Boesel,

At your request, I have conducted a septic inspection to determine the compliance status of a city-owned septic system pursuant to Minnesota Rules Chapter 7080.1500.

The compliance test set out in 7080.1500 has three main inquiries: 1). Is the system functioning hydraulically (disposing of effluent in a manner that prevents it from coming in contact with people)? 2). Are the septic tanks water tight? 3). Does the system have sufficient vertical separation between the bottom of the septic system and restrictive layers (bedrock, standing water, seasonally wet layers, etc) to provide full treatment of effluent?

Based off of these criteria, your system is non-compliant due to a lack of vertical separation between the bottom of your drain field and indicators of seasonally wet soil (redoximorphic features). Therefore, this system is considered "failing to protect groundwater" and is not considered an imminent threat to public health. I am required to provide copies of this report to you and to Washington County. You should contact them as to the next steps that will be required to bring the system into compliance.

Sincerely,

Benjamin Zierke

Benjamin Zierke
MPCA Lic 119, Cert 9594

ADDRESS:
28587 Jeffrey Ave
Chisago City, MN 55013

PHONE 651-249-1346
EMAIL benzierke@gmail.com

MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Compliance inspection report form

Existing Subsurface Sewage Treatment System (SSTS)

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: 1203120410003 Reason for Inspection Sale

Local regulatory authority info: Washington County

Property address: 520 Nason Hill Rd N Marine on St Croix, MN 55047

Owner/representative: Tommy Boesel Owner's phone: 651-755-2197

Brief system description: 1250 gallon round concrete septic tank, round 500 gallon concrete lift station, rock trench dispersal system

System status

System status on date (mm/dd/yyyy): 9/27/2022

☐ **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

This septic system is owned and has been maintained by the City of Marine on St Croix. System has had history of leaking sewage on the bottom two trenches. City installed valves on the bottom two trenches and closed them off to force water to the other trenches. No issues have been noted by homeowner or the city since installation of the valves. During site visit 9/27/2022, ponding was noted on the 2nd trench (lowest trench not closed by valve). No surfacing effluent was observed, either before or after dosing of the system.

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: Zierke Soil Testing Certification number: 9594

Inspector signature: Benjamin Zierke License number: 119

(This document has been electronically signed)

Phone: 651-249-1346

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: 520 Nason Hill Rd N Marine on St Croix, MN 55047

Business Name: Zierke Soil Testing Date: 9/27/2022

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:

System was functioning hydraulically during site visit 9/27/2022. See notes on page one for system history. The second trench was ponded during the site visit, and we did dose the system to see how it would function. After dosing, the ponding elevation in the inspection pipe did rise slightly, but no sewage leaked from the drainfield area.

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: Smilies

License number of maintenance business: 2428

Date of maintenance: 9/27/2022

☐ 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:

Present for pumping by Smilies Sewer 9/27/2022. Tanks watertight. Baffles confirmed with camera.

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: 520 Nason Hill Rd N Marine on St Croix, MN 55047
Business Name: Zierke Soil Testing Date: 9/27/2022

5. Soil separation – Compliance component #5 of 5

Date of installation 1987 ☐ Unknown
(mm/dd/yyyy)

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*

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

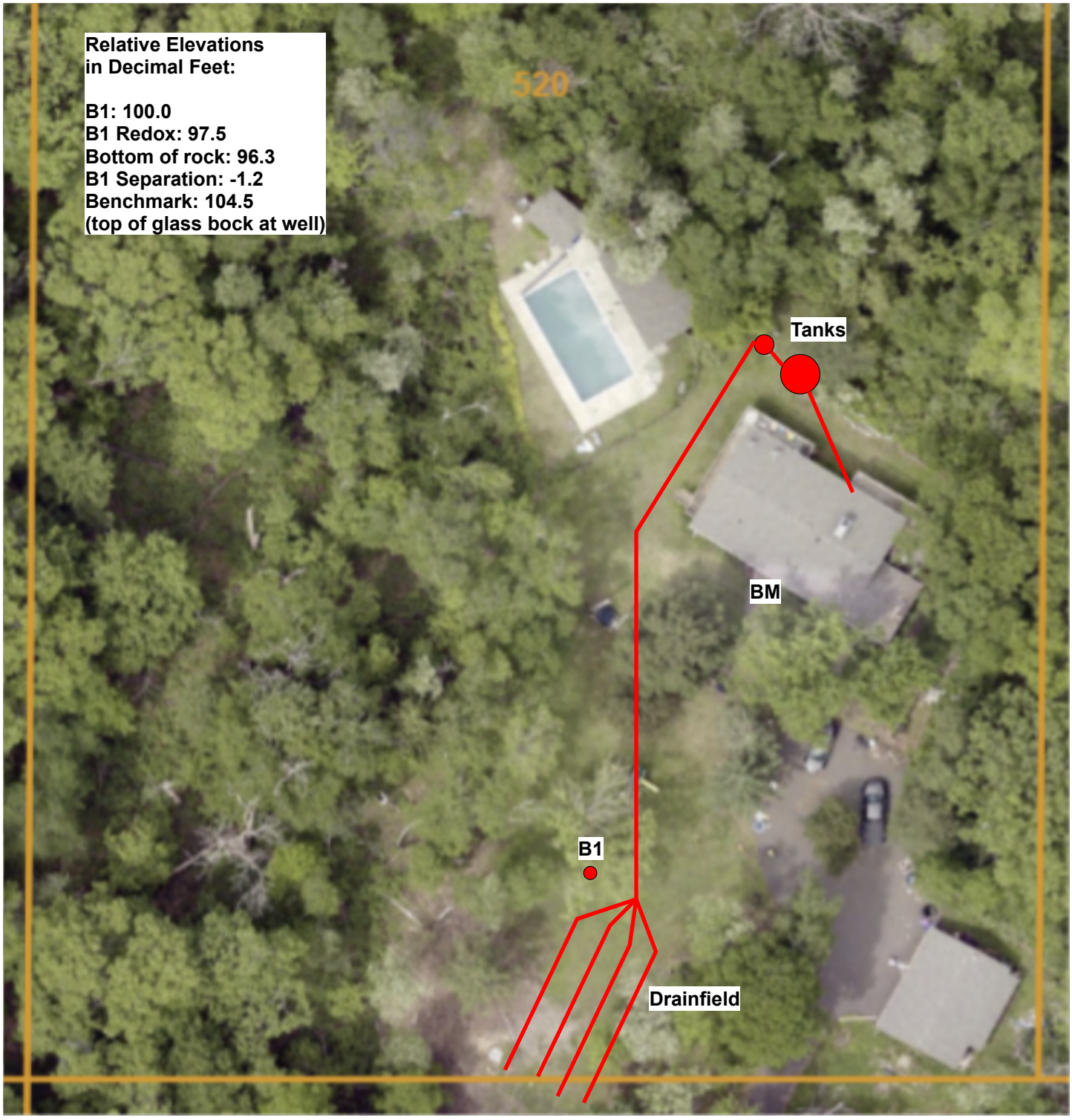
Indicate depths or elevations

A. Bottom of distribution media	96.3'
B. Periodically saturated soil/bedrock	97.5'
C. System separation	-1.2'
D. Required compliance separation*	2.0'

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

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.*


Relative Elevations
in Decimal Feet:
B1: 100.0
B1 Redox: 97.5
Bottom of rock: 96.3
B1 Separation: -1.2
Benchmark: 104.5
(top of glass bock at well)
520
Tanks
BM
B1
Drainfield

Logs of Soil Borings

Location of Project: 520 Nason Hill Rd Marine on St Croix, MN 55047
Borings Made by Ben Zierke Date: 9/27/2022
Hand bucket auger used for borings; USDA - SCS Soil Classification used.

Depth, in Inches	Boring Number 1	Depth, in Inches	Boring Number 2
0----------	----------	0----------	----------
0-4"	10YR 3/2 sandy loam, 10% rock		
4-30"	7.5YR 4/4 loamy sand, 3% rock		
30-40"	5YR 4/3 silt loam, 7.5YR 5/6 and 5YR 5/2 redox		

End of boring at 3.3 feet
Standing water table:
Present at feet of depth Hours after boring
Standing water not present in hole [X]
Mottled Soil:
Observed at 2.5 feet of depth
Mottled soil not present in bore hole [ ]
Comments:

End of boring at feet
Standing water table:
Present at feet of depth Hours after boring
Standing water not present in hole [ ]
Mottled Soil:
Observed at feet of depth
Mottled soil not present in bore hole [ ]
Comments:

Depth, in Inches	Boring Number 3	Depth, in Inches	Boring Number 4
0----------	----------	0----------	----------

End of boring at feet
Standing water table:
Present at feet of depth Hours after boring
Standing water not present in hole [ ]
Mottled Soil:
Observed at feet of depth
Mottled soil not present in bore hole [ ]
Comments:

End of boring at feet
Standing water table:
Present at feet of depth Hours after boring
Standing water not present in hole [ ]
Mottled Soil:
Observed at feet of depth
Mottled soil not present in bore hole [ ]
Comments: