



## Minnesota Department of Health Drinking Water Sanitary Survey

### Background and Preparation

#### What is a Sanitary Survey?

It is an on-site review of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the adequacy of the facilities for producing and distributing safe drinking water.

#### How often are Sanitary Surveys Done?

Routine Sanitary Surveys are done in Minnesota every 18 months. They may be scheduled more frequently if there are water quality concerns or to follow-up on an issue from previous sanitary surveys. Yes, a water systems participation in sanitary surveys is required by state and federal law.

#### Who should attend?

It is mandatory that the person or persons that have responsibility for the water system be present. This includes the person that is the certified operator for the water system.

#### How long will it take?

The sanitary survey can take a couple hours to a few days depending on the system size and complexity. When your sanitary survey is scheduled the District Engineer will give you an estimate of the time required.

#### Eight Elements of a Sanitary Survey

Element	Description
Water Source	Evaluate water supply source to ensure proper protection.
Pumps, Pumping Facilities and Controls	Identify proper operation and maintenance of water system pumps and pumping stations.
Treatment	Evaluate treatment processes (e.g., chemical addition, filtration), facilities, components and techniques.
Water Storage	Evaluate the reliability, integrity and safety of the water storage.
Distribution	Evaluate the reliability, adequacy and safety of the system distributing water.
Monitoring and Reporting	Review paperwork and plans to demonstrate compliance with National Primary Drinking Water Regulations.
Water System Management and Operation	Review paperwork and plans to demonstrate that maintenance and operation can maintain compliance.
Operator Compliance with State Requirements	Review operator status to ensure the operator's certification is current and the appropriate level.

The inner wellhead management zone (IWMZ) information will be updated periodically. Your District Engineer will let you know if it will be included in this inspection.

#### What are the goals of the Sanitary Survey?

The goals include 1. To identify and address deficiencies to ensure the production and distribution of safe drinking water, 2. Provide MDH's assistance to the system, 3. The production of a consistent and informative report that will identify compliance and technical issues at the system, 4. Accurately document the systems inventory and needs, and 5. To foster a positive relationship between MDH and the drinking water system.



*Protecting, maintaining and improving the health of all Minnesotans*

July 12, 2024

Buhl City Council  
c/o Tony Jeffries, Clerk/Treas.  
Buhl City Hall  
PO Box 704  
Buhl, Minnesota 55713

Dear Council Members:

SUBJECT: Sanitary Survey Report for Buhl Public Water System (PWS), St. Louis County,  
PWSID 1690006

Enclosed is a copy of the sanitary survey report summarizing an on-site inspection of your Community Public Water System. This report includes a review of the system's water source, facilities, equipment, operation, maintenance, and monitoring compliance for the purpose of evaluating the adequacy of the facilities for producing and distributing safe drinking water. Technical and management information regarding the operation of the system may also be provided. Conducting sanitary surveys on a regular basis is an important element in preventing contamination of drinking water supplies and in maintaining compliance with the National Primary Drinking Water Standards. Trent Pink was present during this inspection.

Please take appropriate action to address any deficiencies or recommendations identified within this report. A deficiency may lead to a contamination of the water supply or failure of the system to be in compliance with the Safe Drinking Water Act. The enclosed report must be kept on file and made available for public review for not less than ten (10) years.

The Minnesota Department of Health (MDH) continues to monitor your PWS for contaminants identified by state and federal drinking water regulations. The results of such monitoring are not part of this report. They are sent to you under separate cover as they become available.

If you have questions concerning the information contained in the report, please contact me at 320/223-7340.

Sincerely,

Jennifer Showers  
Digitally signed by  
Jennifer Showers  
Date: 2024.07.12  
12:43:04 -05'00'

Jennifer Showers  
Community Public Water Supply Unit  
Environmental Health Division  
11 East Superior Street, Suite 290  
Duluth, Minnesota 55802-2007

JS  
Enclosures  
cc: Water Superintendent



**MINNESOTA DEPARTMENT OF HEALTH**  
**SECTION OF DRINKING WATER PROTECTION**  
**Public Water Supply Inventory Report**



System Name: **Buhl**  
 PWSID: **1690006**

Survey Date: **06/13/2024**  
 Surveyor: **Jennifer Showers**  
 PWS Type: **Community**

System Contact: **Tony Jeffries - Clerk / Treasurer**

**Contact Information**

<u>Name</u>	<u>Address</u>	<u>Phone/Email</u>
<b>Contact</b>		
Tony Jeffries - Clerk / Treasurer		Business Phone 1 218/258-3226 Email tjeffries@cityofbuhlmn.com
<b>Owner/Responsible Party</b>		
Buhl City Council	c/o Tony Jeffries, Clerk/Treas. Buhl City Hall PO Box 704 Buhl, MN 55713	Business Phone 1 218/258-3226 Email tjeffries@cityofbuhlmn.com
<b>Financial</b>		
City of Buhl	c/o City Clerk Buhl City Hall P.O. Box 704 Buhl, MN 55713	Business Phone 1 218/258-3226 Email rpervenanze@cityofbuhlmn.com
<b>Sample Bottles/General Correspondence</b>		
Buhl Water Superintendent	Buhl City Hall PO Box 704 300 Jones Avenue Buhl, MN 55713	Business Phone 1 218/556-8553 Email puc@cityofbuhlmn.com
<b>Emergency Workday</b>		
Trent Pink		Business Fax 218/258-3796 Business Phone 1 218/556-8553 Email puc@cityofbuhlmn.com
<b>Emergency After-Hours</b>		
Trent Pink		Business Phone 1 218/556-8553 Email puc@cityofbuhlmn.com
<b>Consumer Confidence Report</b>		
Tony Jeffries		Business Phone 1 218/258-3226 Email tjeffries@cityofbuhlmn.com

**Classification Information**

Owner Type:	Municipal	Population:	1000
System Class:	D	Service Connections:	489
Service Area Characteristics:	Municipal	Class Points:	17

**Certified Operators**

<u>Name</u>	<u>Class</u>	<u>Expiration Date</u>	<u>Name</u>	<u>Class</u>	<u>Expiration Date</u>
Lamere, Owen L.	D	04/30/2025	Pederson, Lyle J.	D	05/31/2026
Pink, Trent T.	D	04/30/2026			



**MINNESOTA DEPARTMENT OF HEALTH**  
**SECTION OF DRINKING WATER PROTECTION**  
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Survey Date: **06/13/2024**

PWSID: **1690006**

Surveyor: **Jennifer Showers**

System Contact: **Tony Jeffries - Clerk / Treasurer**

PWS Type: **Community**

**Production Totals**

Design Capacity:	310 Gallons per Day	Emergency Capacity:	300,000 Gallons
Average Daily:	80,000 Gallons	Storage Capacity:	300,000 Gallons
Highest Daily:	110,000 Gallons		

**Source Information**

Well #1

Unique Well No.: 00238030	Source Type: Groundwater
Type: Well	Pump Capacity (gpm): 350
Status: Active	Pumping Rate (gpm): 310
Availability: Primary	Emergency Capacity:
Year Constructed: 1915	Static Depth (ft):
Well Depth (ft): 598	Drawdown (ft): 60
Casing Depth (ft): 366	Pump Type: Submersible VFD
Casing Diameter (in): 8	Vulnerable: Yes
Screen Length (ft):	
Aquifer: Biwabik Iron-Formation	

Well #2

Unique Well No.: 00238031	Source Type: Groundwater
Type: Well	Pump Capacity (gpm): 350
Status: Active	Pumping Rate (gpm): 310
Availability: Emergency	Emergency Capacity:
Year Constructed: 1926	Static Depth (ft):
Well Depth (ft): 500	Drawdown (ft): 60
Casing Depth (ft): 400	Pump Type: Submersible VFD
Casing Diameter (in): 12	Vulnerable: Yes
Screen Length (ft):	
Aquifer: Biwabik Iron-Formation	

**Treatment Information**

Well #1 Entry Point

Type: Treatment Plant	Source Water: Groundwater
Status: Active	Design Capacity: 350 Gallons per Minute
Availability: Primary	Emergency Capacity:
	Operating Rate: 310 Gallons per Minute

Treatment Objective

Fluoridation

Treatment Process Mechanism

Fluoridation/Hydrofluosilicic acid



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**Storage Information**

Elevated 100000

Type: Storage-Elevated  
Status: Active

Capacity: 100,000 Gallons  
Availability: Primary  
Chlorination:

Ground 200000

Type: Storage-Ground  
Status: Active

Capacity: 200,000 Gallons  
Availability: Primary  
Chlorination:



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**Bacteriological Sample Site Plan**

**Distribution**

<u>Sample Site ID</u>	<u>Sample Location</u>	<u>Status</u>	<u>Notes</u>
	City Hall - 216 Forest St	Active	
	City Garage - 101 Mine St	Active	
	Senior Center - 302 Frantz St	Active	
	Firehall - 216 Forest St	Active	



**MINNESOTA DEPARTMENT OF HEALTH**  
Section of Drinking Water Protection  
Sanitary Survey Report



System Name: **Buhl**  
PWSID: 1690006  
System Contact: **Tony Jeffries - Clerk / Treasurer**

Survey Date: **06/13/2024**  
Surveyor: **Jennifer Showers**  
PWS Type: **Community**

### **Requirements and Recommendations**

Requirements are based on regulation, code, and standard operating procedures across the water industry to be followed to maintain the public water supply and are listed here as informational guidance. Requirements not followed may be elevated to deficiencies. Recommendations are best practices for a public water supply to maintain the safe delivery of drinking water to consumers.

### **Water Source**

As a reminder, it is required that a well for a community public water supply be located according to distances specified in Minn. Rules 4725.4450, including not less than 50 feet from a source of contamination including buried sewers (except as specified in Minn. Rules 4725.5850).

### **Pumps/Pump Facilities and Controls**

To ensure continuous service when the primary power has been interrupted, it is recommended that a standby power source be provided through: 1. a direct connection to at least two independent public power sources, or 2. dedicated portable or in-place auxiliary power of adequate supply and connectivity. [Minn. Rules 4720.3927]

### **Treatment**

It is recommended that all containers holding hydrofluosilicic acid be labeled, sealed as air tight as possible and vented to the outside atmosphere to minimize the effect of the acid fumes.

It is required that the electrical outlet for the fluoride feed pump be clearly labeled to identify the continually energized outlet and the flow controlled outlet. Outlet covers may be used to protect from the accidental use of a continually energized outlet. [Recommended Standards for Water Works 5.4.7c]

### **Water Storage**

It is required that the large crack, observed during the inspection, on the supporting wall for the ground storage tank be repaired. The CPWS stated that there a plans to repair the crack in the summer of 2024.

### **Distribution**

It is recommended that dead ends in the distribution system be minimized by looping. If looping is not feasible, a fire hydrant, approved flushing hydrant or blow off for flushing purposes must be used at the dead ends to maintain water quality and/or chlorine residual. [Recommended Standards for Water Works 8.0]

It is recommended that a valve exercising and replacement program be initiated to ensure valves are in working condition. This will minimize sanitary hazards and inconvenience to the customer when working on the distribution system. [AWWA Standards Distribution Systems Operation and Management, Section 4]



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### **Distribution**

As a reminder, all building services are required to be installed in accordance with the Minnesota Plumbing Code. [Minnesota Rules, Chapter 4715]

### **Monitoring/Reporting Data Verification**

As a reminder, it is required to collect representative total coliform samples from sites throughout the entire distribution system according to the approved, written bacteriological sample site plan. If there have been any updates or changes to these sites, please notify your MDH district engineer. [Minn. Rules 4720.0350]

The following applicable records are required to be maintained by the water supply system:

- a. Coliform bacteria results - 5 years
- b. Chlorine residual results - 5 years
- c. Chemical results - 10 years
- d. Sanitary survey reports - 10 years
- e. All lead and copper materials - 12 years
- f. Consumer confidence reports - 3 years
- g. Public Notices - 3 years
- h. Fluoride quarterly results and monthly reports - 1 year
- i. Turbidity results - 3 years

[Minn. Rules 4720.0350]

### **Water System Management/Operation**

Engineering plans for new, modifications to, or additions to the water supply system, including watermains, are required to be properly submitted to the Minnesota Department of Health for review. All plans must be approved prior to the start of construction. [Minn. Rules 4720.0010]

It is recommended that all community drinking water systems develop an asset and water management plan. This plan is an important part of capacity development and the operation and management of the water system.

To ensure security, it is recommended that a daily check of critical system components be conducted, including confirmation that all doors and access hatches are locked.





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### **Water System Management/Operation**

Public water supplies are required to maintain effective security measures to protect physical infrastructure and operational practices. This includes security of the physical infrastructure and related operational practices and institutional controls. Listed below are the security concerns that must be identified and addressed:

- a. Intrusion deterrents such as physical barriers, lighting, camera, alarms, and sturdy locking hardware with hardened protective covers for all facilities and components.
- b. Computer based control technologies such as SCADA must be secured from unauthorized physical access and potential cyber attacks.
- c. Safe delivery, handling and storage of chemicals.
- d. Redundancy and enhanced security features to eliminate single point of failure.

[ANSI/AWWA G430-14(R20) and Recommended Standards for Water Works 2.19]

### **Operator Compliance with State Requirements**

The certified operators are required to qualify themselves by attending waterworks operators training seminars offered throughout the state. Continuing education is valuable experience for anyone engaged in this field. The required contact hours in the previous 3 years for certification renewal are:

Class A 32 contact hours

Class B 24 contact hours

Class C 16 contact hours

Class D 8 contact hours

Class E 4 contact hours

[Minn. Rules 9400.1200]



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Survey Date: 06/13/2024

Surveyor: Jennifer Showers

PWS Type: Community

**Bacteriological Results and Chlorine Residuals**

<u>Date</u>	<u>Sampling Location</u>	<u>Chlorine Residual</u> <u>Free / Total</u>	<u>Coliform</u> <u>Bacteria</u>	<u>E.Coli</u>
06/13/2024	Well #1	/	Absent	
06/13/2024	Well #1 EP	/	Absent	
06/13/2024	Senior Center	/	Absent	
06/13/2024	Fire Hall	/	Absent	
06/13/2024	City Garage	/	Absent	
06/13/2024	Short Stop	/	Absent	