



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

November 15, 2022

Princeton Public Utilities Commission  
907 First Street  
P.O. Box 218  
Princeton, Minnesota 55371

Water System Owner/Operator:

SUBJECT: Sanitary Survey Report for Princeton Public Water System (PWS), Mille Lacs County, PWSID 1480008

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. Scott Schmit 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 Soltys  
Drinking Water Protection  
Midtown Square  
3333 West Division Street, Suite 212  
St. Cloud, Minnesota 56301-4557

JS  
Enclosures  
cc: Water Superintendent



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



System Name: **Princeton**

PWSID: **1480008**

System Contact: **Scott Schmit**

Survey Date: **10/25/2022**

Surveyor: **Jennifer Soltys**

PWS Type: **Community**

**Contact Information**

<u>Name</u>	<u>Address</u>	<u>Phone/Email</u>
<b>Contact</b>		
Scott Schmit		Business Fax 763/389-2273 Business Phone 1 763/260-3392, Ext. Mobile Business Phone 2 763/389-2252 Email <a href="mailto:sschmit@princetonutilities.com">sschmit@princetonutilities.com</a>
<b>Owner/Responsible Party</b>		
Princeton Public Utilities Commission	907 First Street P.O. Box 218 Princeton, MN 55371	Business Phone 1 763/389-2252 Email <a href="mailto:kbutcher@princetonutilities.com">kbutcher@princetonutilities.com</a>
<b>Financial</b>		
Princeton Public Utilities	c/o Keith Butcher, Manager 907 1st St. Princeton, MN 55371	Business Phone 1 763/389-2252 Email <a href="mailto:kbutcher@princetonutilities.com">kbutcher@princetonutilities.com</a>
<b>Sample Bottles/General Correspondence</b>		
Princeton Public Utilities Commission	907 First Street P.O. Box 218 Princeton, MN 55371	Business Fax 763/389-2273 Business Phone 1 763/389-2252 Email <a href="mailto:pparsons@princetonutilities.com">pparsons@princetonutilities.com</a>
<b>Emergency Workday</b>		
Scott Schmit		Business Phone 1 612/715-8703, Ext. On Call Business Phone 2 763/260-3392, Ext. Mobile Email <a href="mailto:sschmit@princetonutilities.com">sschmit@princetonutilities.com</a>
<b>Emergency After-Hours</b>		
Scott Schmit		Business Phone 1 612/715-8703, Ext. On Call Business Phone 2 763/260-3392, Ext. Mobile Email <a href="mailto:sschmit@princetonutilities.com">sschmit@princetonutilities.com</a>
<b>Consumer Confidence Report</b>		
Keith Butcher		Business Phone 1 763/389-2252 Email <a href="mailto:kbutcher@princetonutilities.com">kbutcher@princetonutilities.com</a>

**Classification Information**

Owner Type:	Municipal	Population:	4727
System Class:	C	Service Connections:	1749
Service Area Characteristics:	Municipal	Class Points:	40



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**Certified Operators**

<u>Name</u>	<u>Class</u>	<u>Expiration Date</u>	<u>Name</u>	<u>Class</u>	<u>Expiration Date</u>
Hall, Tyler T.	C	05/31/2022(Expired)	Schmit, Scott B.	C	11/30/2023
Bigger, James R.	D	02/28/2025	Elton, Kenny E.	D	02/28/2025

**Production Totals**

Design Capacity: 1,500 Gallons per Minute	Emergency Capacity: 750 Gallons per Minute
Average Daily: 512,633 Gallons	Storage Capacity: 800,000 Gallons
Highest Daily: 1,065,000 Gallons	

**Source Information**

Well #7

Unique Well No.: 00578949	Source Type: Groundwater
Type: Well	Pump Capacity (gpm): 750
Status: Active	Pumping Rate (gpm): 675
Availability: Primary	Emergency Capacity: 750 Gallons per Minute
Year Constructed: 1998	Static Depth (ft): 31
Well Depth (ft): 169	Drawdown (ft): 13
Casing Depth (ft): 137	Pump Type: Vertical Turbine VFD
Casing Diameter (in): 14	Vulnerable: Yes
Screen Length (ft): 40	
Aquifer: Quaternary Buried Artesian Aquifer	

Well #8

Unique Well No.: 00751504	Source Type: Groundwater
Type: Well	Pump Capacity (gpm): 750
Status: Active	Pumping Rate (gpm): 750
Availability: Primary	Emergency Capacity:
Year Constructed: 2007	Static Depth (ft): 20
Well Depth (ft): 139	Drawdown (ft): 50
Casing Depth (ft): 104	Pump Type: Submersible VFD
Casing Diameter (in): 18	Vulnerable: Yes
Screen Length (ft): 41	
Aquifer: Quaternary Buried Artesian Aquifer	



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Well #9

Unique Well No.: 00749848

Type: Well

Status: Active

Availability: Primary

Year Constructed: 2007

Well Depth (ft): 160

Casing Depth (ft): 135

Casing Diameter (in): 18

Screen Length (ft): 30

Aquifer: Quaternary Water Table Aquifer

Source Type: Groundwater

Pump Capacity (gpm): 750

Pumping Rate (gpm): 750

Emergency Capacity:

Static Depth (ft): 22

Drawdown (ft): 52

Pump Type: Submersible VFD

Vulnerable: Yes

**Treatment Information**

TREATMENT PLANT #1

Type: Treatment Plant

Status: Active

Availability: Primary

Treatment Objective

Disinfection

Fluoridation

Iron/Manganese Removal

Lead/Copper Corrosion Control

Source Water: Groundwater

Design Capacity: 750 Gallons per Minute

Emergency Capacity: 750 Gallons per Minute

Operating Rate: 750 Gallons per Minute

Treatment Process Mechanism

Chlorine/Sodium hypochlorite

Fluoridation/Hydrofluosilicic acid

Filtration (Pressure)/Anthracite/Greensand

Oxidation - chemical/Chlorine

Oxidation - chemical/Sodium permanganate

Stabilization/Inhibitors/Polyphosphates

TREATMENT PLANT #2

Type: Treatment Plant

Status: Active

Availability: Primary

Treatment Objective

Disinfection

Fluoridation

Iron/Manganese Removal

Lead/Copper Corrosion Control

Source Water: Groundwater

Design Capacity: 1,500 Gallons per Minute

Emergency Capacity:

Operating Rate: 750 Gallons per Minute

Treatment Process Mechanism

Chlorine/Sodium hypochlorite

Fluoridation/Hydrofluosilicic acid

Filtration (Pressure)/Anthracite/Greensand

Oxidation - chemical/Chlorine

Oxidation - chemical/Sodium permanganate

Stabilization/Inhibitors/Blended phosphates



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**Storage Information**

Elevated 250000 - Middle

Type: Storage-Elevated

Status: Active

Capacity: 250,000 Gallons

Availability: Primary

Chlorination:

Specific Storage Notes: Mixer installed 2016

Elevated 250000 - North

Type: Storage-Elevated

Status: Active

Capacity: 250,000 Gallons

Availability: Primary

Chlorination:

Specific Storage Notes: Mixer installed 2016

Elevated 300000 - South

Type: Storage-Elevated

Status: Active

Capacity: 300,000 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>
01	Casey's North 810 N Rum River Drive	Active	
02	Casey's South 501 S. Rum River Drive	Active	
03	City Shop	Active	
04	Hospital	Active	
05	131 North Rum River Drive	Active	
06	802 1st Street	Active	
07	205 North Rum River Driver	Active	
08	701 1st Street	Active	
09	1400 North 15thh Avenue	Active	
10	1616 South 10th Street	Active	
11	1224 Oak Lane	Active	
12	919 Northland Drive	Active	



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## **Requirements and Recommendations**

### **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 to all wells and both water treatment plants 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**

As a reminder, changes in treatment are required to be approved by the Minnesota Department of Health before they are implemented. [Minn. Rules 4720.0010]

It is required the stock polyphosphate solution carry a chlorine residual of at least 10 mg/l at all times to inhibit bacteriological growth. Phosphates with a pH of less than 2 are exempted from this requirement. [Recommended Standards for Water Works 4.8.6]

### **Water Storage**

The middle elevated water storage tower is taken offline typically from October through April due to decreased water usage in the system.

It is recommended that the community water storage tank be internally inspected on a regular basis. Tank cleaning should take place every 2 to 5 years based on tank sediments, decline of chlorine residuals within the tank or other indicators of a decrease in water quality.

### **Distribution**

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]

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]



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**Requirements and Recommendations**

**Monitoring/Reporting Data Verification**

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]

It is recommended that the static and drawdown water levels be taken at least monthly and permanently recorded.

**Water System Management/Operation**

As a reminder, 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 a comprehensive program of cross-connection surveillance be instituted to protect the water supply. This includes:

- a. The detection and correction of cross-connections to unsafe water supplies.
- b. The education of the public on the dangers of cross-connections.
- c. The installation of vacuum breakers on all threaded hose bibbs in new and old buildings.
- d. The replacement of defective plumbing in older buildings.
- e. Periodic cross-connection inspections of potentially hazardous industries and commercial establishments.
- f. The education of the employees on the dangers of cross-connections.

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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**Bacteriological Results and Chlorine Residuals**

<u>Date</u>	<u>Sampling Location</u>	<u>Chlorine Residual Free / Total (mg/L)</u>	<u>Coliform Bacteria</u>	<u>E.Coli</u>
10/25/2022	Treatment Plant #2	/	Absent	
10/25/2022	Well #8	/	Absent	
10/25/2022	Well #9	/	Absent	
10/25/2022	Well #7	/	Absent	
10/25/2022	Treatment Plant #1	/	Absent	
10/25/2022	Marathon	0.58 / 0.98	Absent	
10/25/2022	BP	0.41 / 0.57	Absent	
10/25/2022	Casey's North	0.10 / 0.15	Absent	