



**Water Quality Report**  
2024



**SaskWater**





SaskWater is committed to ensuring a long-term, sustainable, quality water supply to our customers.

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# SaskWater's Potable Water Customers and Water Sources

SaskWater owns and operates nine water treatment plants serving municipalities and pipeline associations. Each treatment plant has a different source of water as described in the following table.

## OWNED WATER TREATMENT SYSTEMS

<i><b>Our water treatment plant located in...</b></i>	<i><b>Draws water from this source...</b></i>	<i><b>Delivers potable water to these major users...</b></i>	<i><b>And produced this volume in 2024 (in m<sup>3</sup>)</b></i>
Melfort	Codette Lake on the North Saskatchewan River	Village of Beatty Star City Farming Co. Ltd. Town of Kinistino City of Melfort Town of Star City Village of Weldon Melfort Rural Pipeline Association	934,516
Elbow	Lake Diefenbaker	Village of Elbow Line 19 Water Pipeline Utility (Loreburn, Strongfield) Lakeside R.V. Trailer Park Ltd.	93,157
Gravelbourg	Thomson Lake	Town of Gravelbourg Thomson Lake Regional Park Authority	118,646
Pierceland	Local Aquifer	Village of Pierceland	53,058
Wakaw	South Saskatchewan River	Village of Annaheim Town of Bruno Town of Cudworth City of Humboldt Village of Lake Lenore Jocelyn LeBlanc Village of Muenster Village of St. Louis RM of St. Louis (Hamlet of Domremy, Hamlet of Hoey, Hamlet of St. Isidore-de-Bellevue) Town of Wakaw SHL Rural Pipeline Association Inc. North Central Rural Pipeline Association Inc. One Arrow First Nation	1,180,660
White City	Zehner Aquifer	Town of White City	346,408
Cupar	Hatfield Aquifer	Town of Cupar	32,477
Melville	Hatfield Aquifer, Melville Aquifer	City of Melville (Yorkville Public Utility Board)	584,445
Meadow Lake	Constructed ponds fed from the Meadow River	City of Meadow Lake (Flying Dust First Nation)	575,164

## SaskWater's Potable Water Customers and Water Sources

SaskWater also owns and operates nine water transmission systems. Our transmission business buys water from the City of Saskatoon, the City of Regina, the City of Lloydminster and the Buffalo Pound Water Treatment Corporation and delivers it to customers.

### OWNED WATER TRANSMISSION SYSTEMS

<b><i>This transmission system...</i></b>	<b><i>Purchases water from this supplier...</i></b>	<b><i>And delivers potable water to these customers...</i></b>	<b><i>And produced this volume in 2024 (in m<sup>3</sup>)</i></b>
Buffalo Pound East	City of Regina	Windsor Salt Ltd, Eastview Water Users Co-operative, Town of Grand Coulee, Yara Belle Plaine Inc.	77,575
Buffalo Pound North	Buffalo Pound Water Treatment Corporation	Arm River Farming Co. Ltd, Village of Bethune, Buffalo Plains Cattle Co., Country Springs Water Users, Village of Disley, Dufferin Water Association, Peaceful Springs Water Users Inc, Qu'Appelle Valley Water Users Association, K+S Potash Canada General Partnership	117,505
Buffalo Pound West	Buffalo Pound Water Treatment Corporation	Eight Mile Pipeline Association Inc, Village of Marquis, Marquis Rural Water Users Inc, Parklane Waterline Inc, Parkview Water Users Inc, Village of Tuxford, Tuxford Rural Water Users Inc.	49,332
Prairie North	City of Lloydminster	Town of Lashburn, Town of Marshall	104,112
Saskatoon East	City of Saskatoon	3045 Range Road Water Corp, 3050 Range Road Water Corp, Agrium Canada Partnership, Allan South Rural Water Utility, Town of Allan, Aspen Grove Estates, Bar K Ranch House Ltd, RM of Blucher (Sunset Estates), Village of Bradwell, Canlan Ice Sports (Jemini), Village of Clavet, Closed Creek Resources Inc, RM of Corman Park (Casa Rio/Wood Meadows/Grasswood), Cory Park Mobile City, Dundum Rural Water Utility, Eighth Street Waterline Group Inc, Elstow North Rural Water Utility, English River Enterprises, Southeast Corman Park Rural Water Corp, GNC Bioferm Inc, Green Meadow Estates, Greenbryre Utility Corp, Hwy 394 Water Corp, Lakeside Water Utility Ltd, Lost River Water Co. Ltd, Meadow Lark Water System, Potash Corp. of Sask Inc. – Allan Division, Potash Corp. of Sask. Inc. – Patience Lake Division, Prairie Spirit School Division #41, Schroh Arenas Ltd, South Yellowhead Water Corporation, University of Saskatchewan (Goodale Farms), South Floral Water Corp, SCS Water Group Inc, Teen Challenge Canada	971,123
Saskatoon North	City of Saskatoon	3051 Water Co-operative Ltd, Richardson Milling, Murrion Poultry Farms Ltd, RM of Corman Park (North Corman Industrial Park), Town of Dalmeny, Dalmeny West Water System Ltd, Town of Hague, Town of Hepburn, Hidden Valley Dairy Farm, Intervalley Water Inc, City of Martensville, Town of Osler, Ranch Ehrlo Society, Sask. Valley Rural Water Utility, Wanuskewin Heritage Park, City of Warman	2,485,873
Saskatoon West	City of Saskatoon	Burnco Rock Products Ltd, Chemtrade West Limited Partnership, MS Gas Station Ltd, Potash Corp. of Sask. Inc. – Cory Division, Prairie Pride Chick Sales Ltd, Pratus Development Ltd.	75,867
Saskatoon Northeast	City of Saskatoon	Town of Aberdeen, Highway 41 Water Utility, Lost River Water Co. Ltd, Tower Hills/Settler's Ridge subdivisions, University of Saskatchewan (Kernen Farm)	185,841
Saskatoon Northwest	City of Saskatoon	BizHub Developments Ltd, Yellowhead Industrial Park Water Corp, Brandt Tractor Properties Ltd, RM of Corman Park (Battleford Trail)	46,109

## SaskWater's Certified Operation and Maintenance Customers and Water Sources

In addition to operating our own potable water systems, SaskWater also provides certified operation and maintenance (COM) services to communities and user groups across Saskatchewan.

### COM WATER TREATMENT SYSTEMS

<b><i>This water treatment plant located in...</i></b>	<b><i>Is owned by...</i></b>	<b><i>Draws water from this source...</i></b>	<b><i>And delivers potable water to these major users...</i></b>
Cochin (Service ended March 31, 2024)	Interlake Regional Water Board	Local Aquifer	Village of Cochin, Hamlet of Days Beach, Hamlet of Trevesa Beach, Hamlet of West Chatfield, Hamlet of Summerfields Beach
Kindersley	Town of Kindersley	Infiltration wells adjacent to the South Saskatchewan River	Town of Kindersley
La Ronge	Lac La Ronge Regional Water Corp.	Lac La Ronge	Village of Air Ronge, Town of La Ronge, Lac La Ronge Indian Band
Meota	Jackfish Lake West Water Utility Corp.	Infiltration wells adjacent to the North Saskatchewan River	Village of Meota, Village of Metinota, RM of Meota, Hamlet of Lakeview, Hamlet of Suttons Beach
Vanscoy	Village of Vanscoy	South Saskatchewan River	Village of Vanscoy

### COM WATER TRANSMISSION SYSTEMS

<b><i>This distribution system...</i></b>	<b><i>Purchases water from this supplier...</i></b>	<b><i>And delivers potable water to these major customers...</i></b>
Caron/Mortlach Regional Public Utility Board	City of Moose Jaw	Village of Caronport, Hamlet of Caron, Village of Mortlach
City of Meadow Lake	SaskWater	City of Meadow Lake
Global Transportation Hub Authority	City of Regina	CP Rail, Loblaw's, SaskPower, Cargill
North Central Rural Pipeline Association	SaskWater	Various connections to the north and south of the Wakaw-Humboldt regional water treatment plant
Town of Star City	SaskWater	Town of Star City
Town of White City	SaskWater	Town of White City
Village of Air Ronge	Lac La Ronge Regional Water Corporation	Village of Air Ronge
Village of Edenwold	Town of Balgonie	Village of Edenwold
Village of Elbow	SaskWater	Village of Elbow
Village of Meota	Jackfish Lake West Water Utility Corp.	Village of Meota

# Treatment

## Water Treatment Processes

Water treatment removes natural and man-made contaminants from the source water so that it is safe and aesthetically pleasing. The treatment process for a surface water source (like a river or lake) differs from treatment for groundwater (drawn from an aquifer).

### Surface Water

Generally, surface water treatment involves either conventional treatment, which consists of screening to remove debris, coagulation-flocculation, clarification or sedimentation, filtration, and disinfection; or membrane treatment, which consists of screening to remove debris, membrane filtration, and disinfection to remove physical, chemical, microbial and other contaminants from the water.

Our treatment plants in Melfort, Wakaw, Gravelbourg, Meadow Lake and Elbow use these types of processes.

### Groundwater

For groundwater, the treatment process generally consists of oxidation of iron, manganese and other minerals with aeration and/or other processes followed by detention, filtration and disinfection.

Our treatment plants in Pierceland, White City, Melville and Cupar use groundwater sources with this kind of treatment process.

## Monitoring Requirements

SaskWater undertakes water quality testing as required by *The Waterworks and Sewage Works Regulations* and by operating permits issued by the Water Security Agency (WSA) for our water treatment plants and distribution systems.

SaskWater monitors water quality to:

- assess and ensure the safety of the water for our customers
- assess the need for any process adjustments
- determine quality trends and identify potential concerns

We employ more than 60 provincially certified operators who monitor and maintain the quality of water from the initial source to the final point of delivery.

Our highly trained, dedicated operators, technicians, technologists and professional engineers keep abreast of technological changes, water quality, and any upgrading needs of our waterworks systems to meet ever-changing water quality standards and monitoring requirements.

SaskWater also monitors most of our facilities and customer facilities remotely. We have remote monitoring equipment installed in 62 locations, which we either own or operate, allowing continuous facility surveillance. We monitor key water quality parameters, equipment operation and water levels, pressures and flows.



## Transmission

In addition to water treatment facilities, SaskWater also owns and provides certified operation and maintenance for potable water transmission systems. There are no treatment facilities on any of these transmission systems.

## Information

Further water quality information on potable water that we purchase is available from our suppliers:

- Buffalo Pound Water Treatment Corporation  
<https://www.buffalopoundwtp.ca/publications/annual-report>
- City of Regina  
<https://www.regina.ca/home-property/water/water/quality-protection/>
- City of Saskatoon  
<https://www.saskatoon.ca/services-residents/power-water/water-wastewater/drinking-water>  
and select from the available reports under Related Documents.

### Key Drinking Water Parameters and Effects

As the regulator for water quality, the Water Security Agency (WSA) determines standards which are legally enforceable requirements for drinking water quality as per *The Waterworks and Sewage Works Regulations*. In general, standards are mandatory health parameters for systems that supply water for human consumptive use. The WSA also determines water quality aesthetic objectives, which apply to certain characteristics of, or substances found in, water for human consumptive or hygienic use.

SaskWater's governing standards for potable water quality direct us to meet or exceed the water quality parameters set by the province of Saskatchewan.

Additional information on water quality, standards and aesthetic objectives can be found here:

- Health Canada – Canadian Drinking Water Quality Guidelines  
<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html>
- Saskatchewan – Water and Wastewater Management  
<https://www.saskatchewan.ca/residents/environment-public-health-and-safety/environmental-health/water-and-wastewater-management>

## Explanation of Terms

### Abbreviations

**mg/L:** Milligrams per litre  
(equivalent to parts per million)

**NTU:** Nephelometric Turbidity Unit

**WTP:** Water Treatment Plant

**RWSS:** Regional Water Supply System

**⋄:** Below detection limits

**95th Percentile:** Turbidity levels from each filter must not exceed this limit in at least 95 per cent of the discrete measurements made during the period defined in the permit to operate.



### **Aesthetic Objectives (AO)**

These apply to certain characteristics of or substances found in water for human consumptive or hygienic use. The presence of these substances will affect the acceptance of water by consumers and/or interfere with the practice of supplying good quality water.

Compliance with drinking water aesthetic objectives is not mandatory as these objectives are in the range where they do not constitute a health hazard. The aesthetic objectives for several parameters (including hardness as CaCO<sub>3</sub>, magnesium, sodium and total dissolved solids) consider regional differences in drinking water sources and quality.

### **Bacteriological Quality**

Analysis is performed on a single sample for Total Coliforms, E. Coli and Background Bacteria. All waterworks are required to submit samples for bacteriological water quality; the frequency of monitoring depends on the population served by the waterworks.

### **Giardia and Cryptosporidium – Source Water**

Sampling for this parameter is required from the source water entering the water treatment plant semi-annually (early spring and fall) and following upsets or significant events that may affect source water quality.

### **Haloacetic Acids (HAA5)**

Haloacetic acids are formed when chlorine reacts with organic matter in water. The five regulated haloacetic acids are: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid and dibromoacetic acid. The sum of the concentrations of these five components is referred to as HAA5. The limit for HAA5 is a long-term objective based on an annual average of quarterly samples.

### **Microcystin LR and/or Total Microcystin Toxins**

Sampling for this parameter is required once every month from the treated water at the water treatment plant during the algal bloom period.

### **Non-potable Water**

Water that is *not* suitable for human consumption in accordance with applicable regulations.

### **Potable Water**

Treated water that is suitable for human consumption in accordance with applicable regulations.

### **Precautionary Drinking Water Advisory**

An advisory issued under the authority of Subsection 36(1) of *The Environmental Management and Protection Act, 2010* by Water Security Agency Field Offices (WSAFO) when the WSAFO and Health Region determine that drinking water quality concerns exist but immediate public health threats have not been identified. As an example, it is standard protocol to issue a PDWA when a water main is depressurized to undertake repairs.

### **Trihalomethanes (THM)**

Trihalomethanes are formed when chlorine reacts with organic matter in water. The four THM compounds are: chloroform, dibromochloromethane, bromoform and bromodichloromethane. The sum of the concentrations of these four components is referred to as Total Trihalomethanes. The limit for THM is a long-term objective based on an annual average of seasonal samples.

### **Water Disinfection**

Regulations require a minimum of 0.5 mg/L total chlorine residual in the water entering the distribution system **OR** 0.1 mg/L free chlorine residual is always required throughout the distribution system. Individual Permits to Operate may specify a higher minimum required residual. An adequate chlorine is a result that indicates that the chlorine level is above the required minimums.

## Summary of Situations Where Permit to Operate Requirements Were Not Met

The full details of the water quality for the facilities that SaskWater owns and operates are available in the Notification to Consumers posted to [www.saskwater.com](http://www.saskwater.com). This section provides an overview of the instances in 2024 where facilities did not meet requirements as laid out in their permit to operate. Other than these few instances, SaskWater owned and operated facilities meet or exceed water quality and sampling guidelines.

### SaskWater Owned Water Treatment Systems

#### Pierceland Water Supply System

**Requirement** – Sample and test for one bacteriological sample per week.

**Comment** – One sample collected for the week of November 17, was not able to be tested because of a courier delivery delay. The Environment Officer was notified. All bacteriological samples tested in 2024 were negative.

#### Meadow Lake Water Supply System

**Requirement** – Sample and test for one bacteriological sample per week.

**Comment** – One sample collected for the week of August 4, was not able to be tested by the lab because it was damaged in transit. The Environment Officer was notified. All bacteriological samples tested in 2024 were negative.

**Requirement** – Maintain a free chlorine residual of not less than 0.51 mg/L in the water entering the distribution system.

**Comment** – The free chlorine residual dropped below the required minimum on August 10 (0.47 mg/L), because of increased blending, therefore increased chlorine demand, August 13 (0.44 mg/L), because of a flow meter break down, causing an incorrect chlorine feed, November 25 (0.09 mg/L), because one chlorine system was not able to keep up with chlorine demand and the operator had to manually start up the second system, and December 5 (0.12 mg/L), and December 6 (0.28 mg/L), because of chlorine system failure to switch to standby cylinder. Measures are being taken to avoid low chlorine incidents happening again. The chlorine was adequate 99.8 per cent of the time. The Environment Officer was notified of all incidents.

**Requirement** – Test on-site for pH once per day.

**Comment** – The pH was not tested on March 16, because of an instrument breakdown.

**Requirement** – Test on-site for conductivity once per day.

**Comment** – The conductivity was not tested on March 16, because of an instrument breakdown.

**Requirement** – Maintain a filter effluent turbidity that is < 0.3 NTU 95 per cent of the time if the average raw water turbidity is > 1.5 NTU; maintain a filter effluent turbidity of < 0.2 NTU 95 per cent of the time if average raw water turbidity is < 1.5 NTU; not to exceed 0.3 or 0.2 for more than 12 consecutive hours; never > 1.0.

**Comment** – Filter 1: 95<sup>th</sup> Percentile limit was exceeded January (0.223 NTU) and February (0.240 NTU). The filter turbidity exceeded 1.0 NTU on February 10, and October 24.

Filter 2: 95<sup>th</sup> Percentile limit was exceeded in January (0.274 NTU), February (0.234 NTU), and March (0.271 NTU).

Filter 3: 95<sup>th</sup> Percentile limit was exceeded in January (0.212 NTU), February (0.205), and March (0.247 NTU).

The filter turbidity exceeded 1.0 NTU on February 10 and August 15.

Filter 6: 95<sup>th</sup> Percentile limit was exceeded in January (0.218 NTU), February (0.213 NTU), and March (0.263 NTU).

The filter turbidity exceeded 1.0 NTU February 10, and October 24.

Filter 7: 95<sup>th</sup> Percentile limit was exceeded in January (0.259 NTU), February (0.261 NTU), and March (0.215 NTU).

The filter turbidity exceeded 1.0 NTU on February 10, August 15, and October 24.

The Environment Officer was notified of all exceedances.

## **SaskWater Owned Water Transmission Systems**

There were no instances of SaskWater owned water transmission systems not meeting any requirements of their permit to operate.

## **Certified Operation and Maintenance Water Treatment Systems**

### *Kindersley WTP*

**Requirement** – Test and record daily readings for ultraviolet transmission, ultraviolet dosage and ultraviolet flow rate.

**Comment** – Ultraviolet transmittance, ultraviolet dosage, and ultraviolet flow rate were mistakenly not recorded on November 14. The Environment Officer was notified.

**Requirement** – A minimum ultraviolet transmission of 90 per cent in the treated water shall be maintained.

**Comment** – One ultraviolet transmittance reading of 84.3 per cent occurred on February 16. The Environment Officer was notified.

### *Lac La Ronge Regional Water Corporation*

**Requirement** – Test on-site fluoride once per day in the water entering the distribution system. The maximum limit is 1.50 mg/L.

**Comment** – The fluoride limit was exceeded on July 30, and July 31, because an instrumentation upgrade and error caused the chemical to overfeed. The issue was corrected immediately. The Environment Officer was notified.

## **Certified Operation and Maintenance Water Transmission Systems**

### *Caron/Mortlach Regional Public Utility Board*

**Requirement** – Based on the average of quarterly samples, the limit for total trihalomethanes must be < 0.100 mg/L.

**Comment** – The annual average of quarterly total trihalomethanes results for 2024 was 0.118 mg/L. This

water is supplied by the Buffalo Pound Water Treatment Plant and high THM formation has already occurred before entering this distribution system. Buffalo Pound Water Treatment Plant continues to upgrade their treatment process to lower THMs. The Environment Officer was notified.

### *City of Meadow Lake*

**Requirement** – Sample and have tested three bacteriological samples per week.

**Comment** – Three samples collected for the week of August 4, were not able to be tested by the lab because they were damaged in transit. The Environment Officer was notified. All bacteriological samples tested in 2024 were negative.

### *Global Transportation Hub Authority*

**Requirement** – Based on the average of quarterly samples, the limit for total trihalomethanes must be < 0.100 mg/L.

**Comment** – The annual average of quarterly total trihalomethanes results for 2024 was 0.114 mg/L. This water is supplied by the Buffalo Pound Water Treatment Plant and high THM formation has already occurred before entering this distribution system. Buffalo Pound Water Treatment Plant continues to upgrade their treatment process to lower THMs. The Environment Officer was notified.

### *Town of Star City*

**Requirement** – Sample and have tested for trihalomethanes and Haloacetic acids once every three months in 2024.

**Comment** – Samples were mistakenly not taken in quarters one and two because of this new requirement in the permit to operate. The average in quarter three and four for trihalomethanes are 0.046 mg/L and HAA5 are 0.029 mg/L, both well below the limit. The Environment Officer is aware.

## Emergency Boil Water Orders

There were no emergency boil water orders (EBWO) issued on any SaskWater owned or operated facilities in 2024.

## Precautionary Drinking Water Advisories

A Precautionary Drinking Water Advisory (PDWA) is issued when drinking water quality concerns exist but immediate public health threats have not been identified. They are commonly issued as a result of power outages or maintenance that may result in depressurization of the distribution system.

There were eighteen (18) PDWAs issued on SaskWater owned potable water systems in 2024:

- **Buffalo Pound Potable Water System – West** had a PDWA issued on January 24, January 30, February 13, April 30, August 20, August 24, October 17, and December 4 due to depressurization caused by outages at the Buffalo Pound Water Treatment Plant due to planned system work.
- **Buffalo Pound Potable Water System – North** had PDWAs issued on January 24, January 30, February 13, April 30, August 20, August 24, October 17, and December 4 due to depressurization caused by outages at the Buffalo Pound Water Treatment Plant due to planned system work.
- **Saskatoon Potable Water System – West** had PDWAs issued on January 2, due to a line break caused by a contractor hitting the line and June 18 due to a depressurization caused by planned maintenance by the City of Saskatoon.

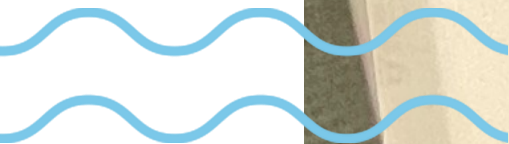
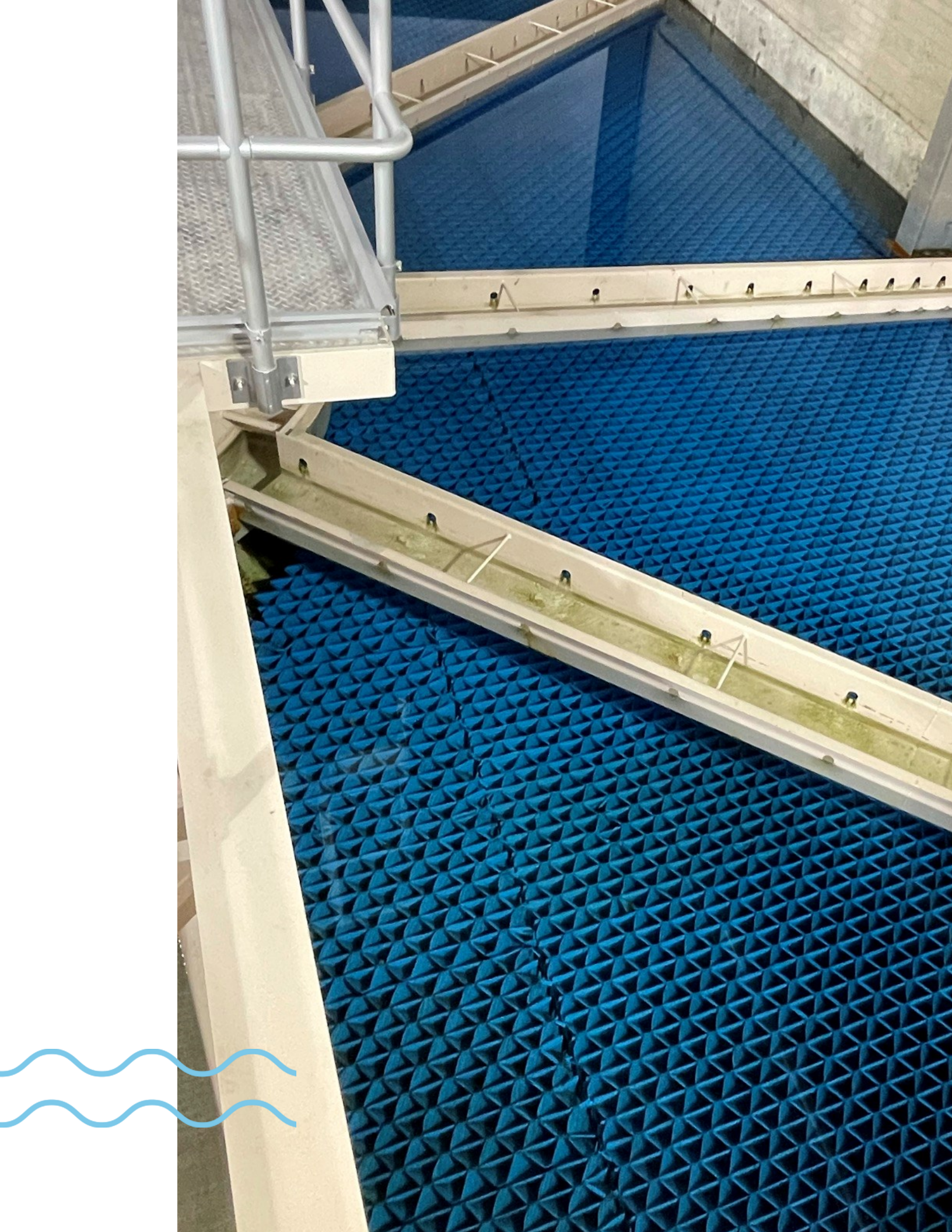
Where SaskWater provides operation and maintenance services to systems owned by a community or rural pipeline association, there were eighteen (18) PDWAs issued in 2024:

- **The Village of Elbow** had PDWAs issued on January 21, due to depressurization caused by an extended power outage, March 18 due to depressurization

caused by planned system maintenance, June 19, and June 26, due to depressurization caused by a power outage during upgrades at the WTP, July 2, due to planned system maintenance, September 7, due to depressurization caused by a line break and September 18, due to loss of power to a distribution pump.

- **The Northern Village of Air Ronge** had PDWAs issued on March 13, and May 1, due to planned system maintenance.
- **The Village of Edenwold** had PDWAs issued on July 22, due to a leak repair, September 2, due to depressurization caused by a power outage and October 21, due to a leak repair.
- **The Jackfish Lake Water Utility** had a PDWA issued on September 12, due to depressurization caused by a hydrant repair.
- **The Village of Meota** had PDWAs issued on July 24, due to depressurization caused by a line repair and September 12, due to depressurization caused by a hydrant repair.
- **North Central Rural Pipeline Association** had PDWAs issued on February 21, due to low pressure in the system and November 5, due to planned system maintenance.
- **The Town of White City** had a PDWA issued on April 11 due to depressurization caused by a line break.







**SaskWater**

