RURAL MUNICIPALITY OF MORRIS

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2021 Annual Report

R.M. of Morris (Morris Regional) Public Water System

System Code: 187.00

R.M. of Morris (Stephenfield Regional) Public Water System

System Code: 205.15

Name of the public water system:
R.M. of Morris (Morris Regional) Public Water System
R.M. of Morris (Stephenfield Regional) Public Water System

Name of the legal owner:
Rural Municipality of Morris

Water Source:
Red River - Pembina Valley Water CO-OP
Stephenfield Lake – Pembina Valley Water CO-OP

Emergency Contact Information:

Call the RM of Morris Office: 204-746-7300

In the event of an emergency outside of regular business hours you can use the phone tree to be transferred to an on-call operator.

Office Fax: 204-746-8801
Email: info@rmofmorris.ca

Name of Contact Persons:

Paul Robert – Public Works Manager
Warren Wood – Utility Operator
Jennifer Taylor – Utilities (Administrative)

Operators & Certification under The Environment Act's Water & Wastewater Facility Operators Regulation

Warren Wood -	Level 1 Water Distribution
	Level 1 Waste Water Collection
	Level 1 Waste Water Treatment
Paul Robert -	Level 1 Water Distribution
	Level 1 Waste Water Collection
	Level 1 Waste Water Treatment

Introduction:

This report is prepared to promote public transparency in regard to the operation of the R.M. of Morris water system for the 2021 calendar year. Our goal is to provide reliable drinking water to our residents. After reviewing this report, we hope you will understand the efforts made to meet this goal. Paper copies of this report can be obtained at our Municipal Office, 207 Main Street North, Morris, MB.

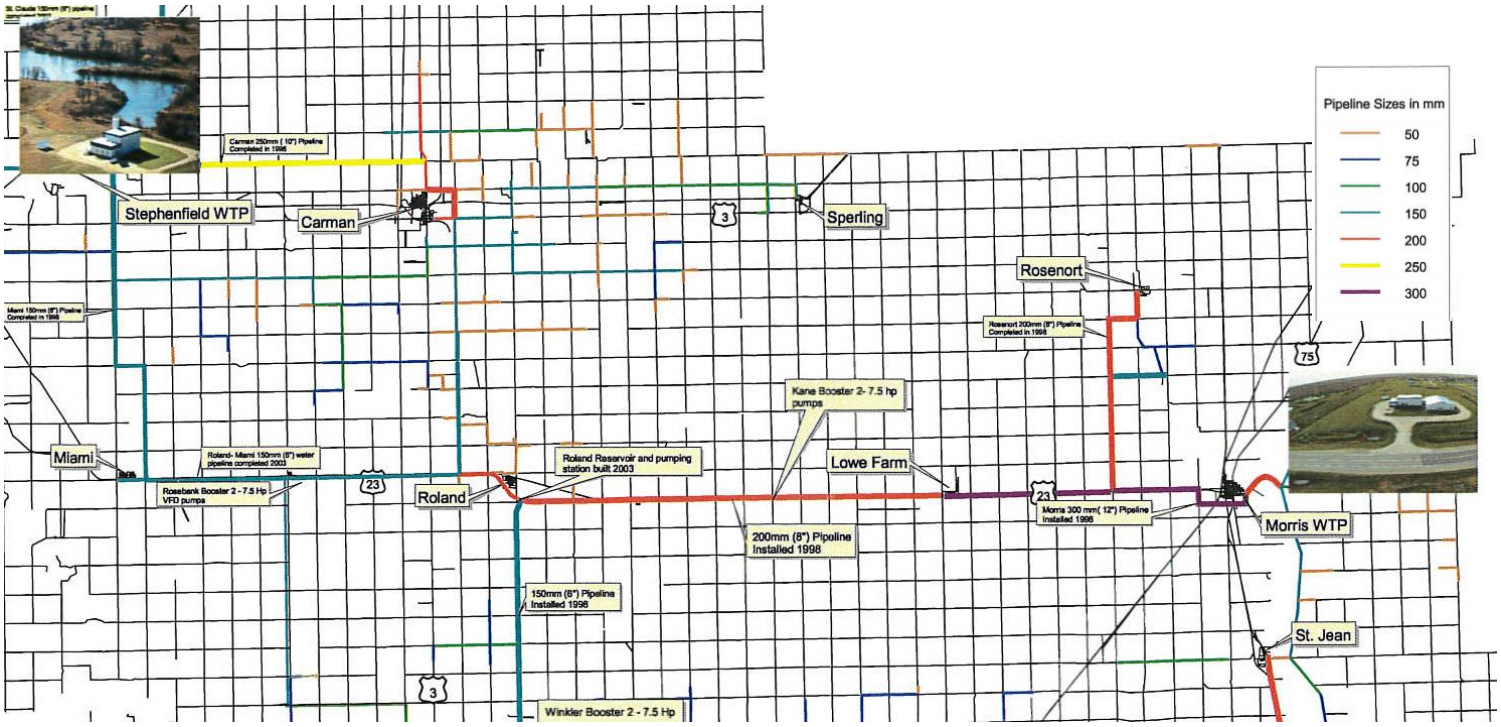
The R.M. of Morris utility system is regulated by Manitoba Sustainable Development, Office of Drinking Water to ensure compliance of the Drinking Water Safety Act. To review this Act, please visit: https://web2.gov.mb.ca/laws/statutes/ccsm/d101e.php .

Description of the Water System:

Source

The R.M. of Morris purchases water from the Pembina Valley Water Co-op (PVWC). PVWC is owned by 14 Towns/Municipalities with a Council representative sitting on the PVWC board.

Sperling and Sperling Rural are serviced from the Stephenfield water reservoir where it is treated by PVWC and pumped to the Sperling water reservoir. It is then monitored and distributed to customers. The remainder of the R.M. draws water from the Red River which is treated through the PVWC Morris Water Treatment Plant. The main line runs along Hwy 23 with water reservoirs near Lowe Farm and Rosenort where the water is monitored. Networks of water lines service the LUD of Rosenort, communities of Lowe Farm, Riverside & Aubigny as well as any rural residences who have hooked up. Please see the map below for PVWC service lines:



Treatment

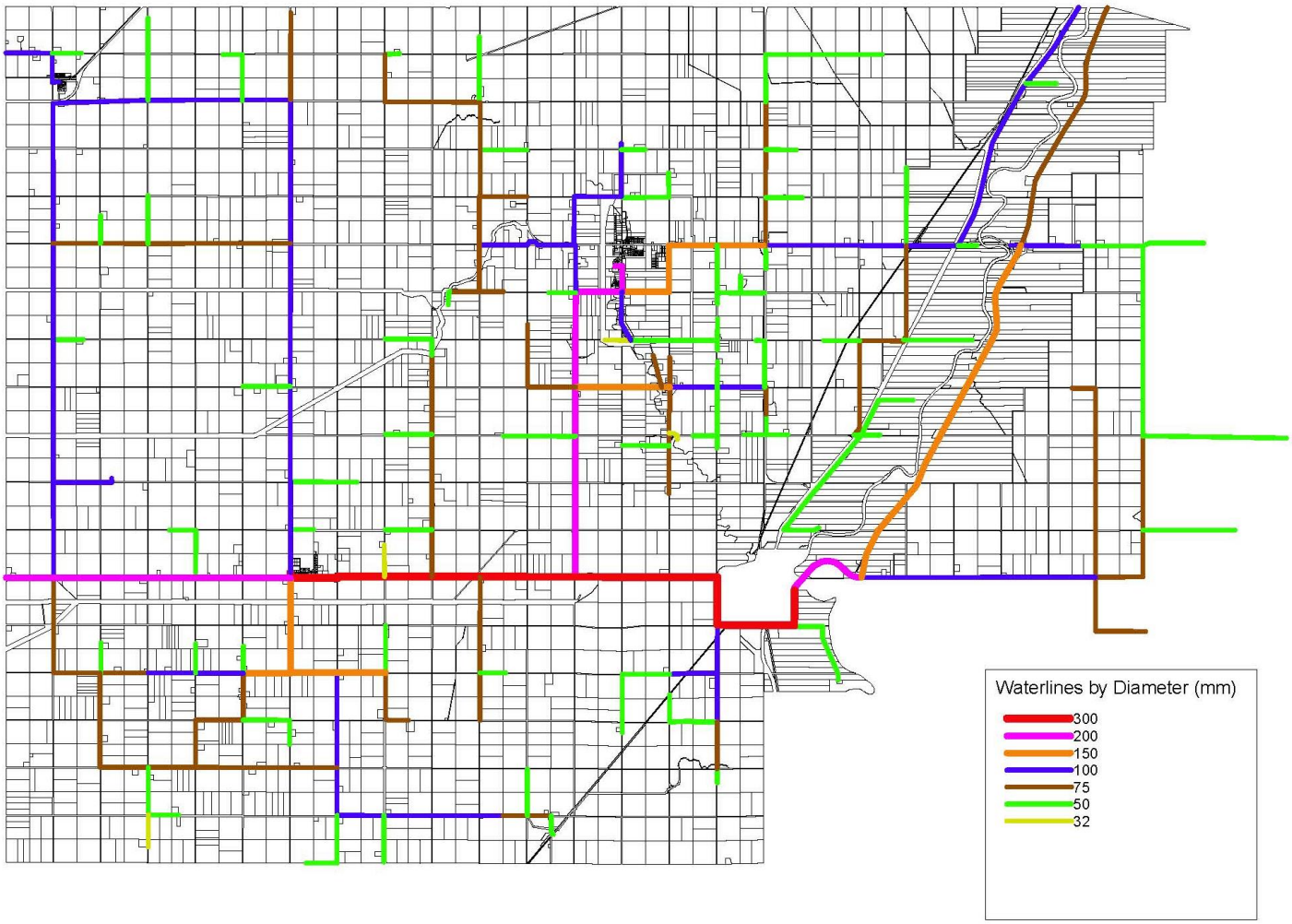
The water is treated at the PVWC Treatment Plant in Stephenfield for Sperling & Sperling Rural and by the PVWC Morris Treatment Plant for the remainder of the municipality. A detailed description of their treatment process can be obtained directly from the PVWC at 204-324-1931 or email: water@pvwc.ca .

Upon entering the R.M. of Morris reservoirs, the treated water is re-chlorinated to ensure that required disinfection residuals are maintained throughout the system. Treated water is then pumped throughout the distribution system to the final consumer.

Distribution

The distribution system is a network of underground pipes which delivers the water to the end consumers. When the water leaves the reservoirs, it is pumped through various sizes of PVC and high-density pipe (2"-6"). Most service line sizes range from ¾" – 2". The total distribution network is approximately 220 miles of rural water lines plus the systems in Rosenort, Lowe Farm, and Sperling. Gate valves are installed throughout the system in order to be able to isolate sections of line for emergency or maintenance purposes. Curb stops are installed on most service lines in order to be able to shut off residential lines in case of emergencies. Customers should take care not to damage valves.

RM of Morris Rural Waterlines



Storage Reservoirs

The R.M. of Morris operates 1 (one) 200,000 litre reinforced concrete 2-cell reservoir in Sperling, 1 (one) 230,000 litre reinforced concrete 2-cell reservoir in Rosenort and 1 (one) 145,000 litre reinforced concrete 2-cell reservoir in Lowe Farm. These reservoirs act as a buffer to alleviate peak demands and maintain adequate pressure on the system. At current demands, the reservoirs hold approximately 1 day of storage for Rosenort, 2.5 days of storage for Lowe Farm, and 10 days storage for Sperling. There are bulk truck fill stations at the reservoirs in Sperling and Lowe Farm.

Number of connections, population served, & types of water users

As of December 2021, the R.M. of Morris had 1,049 service connections and billed out an average of 62,899,201 gallons of water per year since 2012. This served an estimated population of 3,047. These systems service 3 Schools, 10 Churches and 119 (approx.) Agricultural, Commercial and Manufacturing users while the majority of connections (917) are for residential properties. Each connection is equipped with a water meter to measure water volumes for monitoring, administrative, and billing purposes. Water meters are read quarterly by radio signal to our reading device.

Classification/Certification

The R.M. of Morris Water System is classified as a Class One (1) Distribution System. Classification/certification is regulated under Manitoba Conservation's Water and Wastewater Facility Operators Regulation under *The Environment Act*.

Equipment:

The Rosenort reservoir has three 5 horsepower submersible pumps and one 10 horsepower pump for a combined pumping rate of 360 gallons per minute. The Lowe Farm reservoir has two 5 horsepower pumps and one 7.5 horsepower pump for a combined pumping rate of 270 gallons per minute. The Sperling reservoir has a ½ hp jockey pump and two 1 horsepower pumps for a combined pumping rate of 36 gallons per minute. All water lines on the system are made of PVC materials. The line pressure in most rural lines is supplied by PVWC.

How is the Utility Operator notified in cases of emergencies?

The water pumphouses use electronic tele-metering equipment for monitoring operations. This system notifies the utility operator by way of telephone, text or email in case of any problems regarding pressures, water levels, power failures, temperatures, flow rates and chorine levels. This equipment also allows the utility operator to monitor several components of the reservoir operations while off-site through the use their new app. A Utility Operator is on call 24 hours/day. In case of an emergency call the RM of Morris office where you will be transferred to an on-call operator. Emergency #: 1-204-746-7300

Water Quality Standards

Water samples are retrieved, tested, and recorded onsite for chlorine levels each day. There are two chlorine standards, one for leaving the reservoir and one for within the distribution system. The minimum free chlorine standards are 0.5 mg/L leaving the reservoir and 0.1mg/L throughout the distribution system.

See the table below for parameter and quality standards:

Parameter	Quality Standard
Total Coliform	Less than one total coliform bacteria detectable per 100 mL in all distributed water
E. coli	Less than one *E. coli* bacteria detectable per 100 mL in all distributed water
Chlorine residual	A free chlorine residual of at least 0.1 mg/L at all times at any point in the distribution system
Total Trihalomethanes (THMs)	Less than or equal to 0.10 mg/L as locational annual average quarterly samples
Total Haloacetic Acids (HAAs)	Less than or equal to 0.08 mg/L as locational annual average quarterly samples

The following outlines the 2021 test results as submitted by the Operator to ALS Environmental for analysis. Samples are submitted bi-weekly from the following sites: Outgoing from Lowe Farm water plant, Lowe Farm Co-op Hardware Store, Outgoing from Rosenort water plant, RM of Morris Public Works Shop, Aubigny Hall, Outgoing from Sperling water plant, Sperling Fire Hall and the Sperling Arena. The distribution chlorine residuals are measured at the same time and location as the bacteriological distribution samples and are included in the chart on the next page.

Lowe Farm – Outgoing

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	FreeChlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	1.26	1.46	Yes
26-Jan-21	0	0	yes	1.37	1.57	yes
08-Feb-21	0	0	yes	1.21	1.42	yes
23-Feb-21	0	0	yes	1.21	1.4	yes
09-Mar-21	0	0	yes	1.17	1.35	yes
23-Mar-21	0	0	yes	1.22	1.42	yes
06-Apr-21	0	0	yes	1.22	1.45	yes
20-Apr-21	0	0	yes	1.08	1.28	Yes
04-May-21	0	0	yes	1.12	1.29	Yes
18-May-21	0	0	yes	1.33	1.51	Yes
01-Jun-21	0	0	yes	1.37	1.55	Yes
15-Jun-21	0	0	yes	1.25	1.42	Yes
28-Jun-21	0	0	yes	1.23	1.37	Yes
13-Jul-21	0	0	yes	1.09	1.28	Yes
28-Jul-21	0	0	yes	1.27	1.44	Yes
11-Aug-21	0	0	yes	1.12	1.26	Yes
24-Aug-21	0	0	yes	1.13	1.33	Yes
07-Sep-21	0	0	yes	1.15	1.3	Yes

21-Sep-21	0	0	yes	1.18	1.31	Yes
05-Oct-21	0	0	yes	1.13	1.29	Yes
19-Oct-21	0	0	yes	1.13	1.32	Yes
02-Nov-21	0	0	yes	1.42	1.63	Yes
16-Nov-21	0	0	yes	1.41	1.62	Yes
30-Nov-21	0	0	yes	1.05	1.28	Yes
14-Dec-21	0	0	yes	1.22	1.39	Yes
29-Dec-21	0	0	yes	1.24	1.47	Yes

Lowe Farm @ Co-op Hardware

Date	Total Coliforms MPN/100 ml	E-Coli MPN/100ml	Compliant	FreeChlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	1.22	1.42	Yes
26-Jan-21	0	0	yes	1.26	1.43	yes
08-Feb-21	0	0	yes	1.1	1.3	yes
23-Feb-21	0	0	yes	1.2	1.35	yes
09-Mar-21	0	0	yes	1.15	1.32	yes
23-Mar-21	0	0	yes	1.22	1.37	yes
06-Apr-21	0	0	yes	1.15	1.34	yes
20-Apr-21	0	0	yes	1.1	1.28	Yes
04-May-21	0	0	yes	1.07	1.23	Yes
18-May-21	0	0	yes	1.35	1.53	Yes
01-Jun-21	0	0	yes	1.28	1.44	Yes
15-Jun-21	0	0	yes	1.22	1.39	Yes
28-Jun-21	0	0	yes	0.83	0.95	Yes
13-Jul-21	0	0	yes	0.92	1.16	Yes
28-Jul-21	0	0	yes	1.29	1.49	Yes
11-Aug-21	0	0	yes	1.14	1.24	Yes
24-Aug-21	0	0	yes	1.1	1.27	Yes
07-Sep-21	0	0	yes	1.11	1.28	Yes
21-Sep-21	0	0	yes	1.12	1.25	Yes
05-Oct-21	0	0	yes	1.16	1.31	Yes
19-Oct-21	0	0	yes	1.14	1.29	Yes
02-Nov-21	0	0	yes	1.25	1.46	Yes
16-Nov-21	0	0	yes	1.3	1.5	Yes
30-Nov-21	0	0	yes	0.92	1.13	Yes
14-Dec-21	0	0	yes	1.17	1.35	Yes
29-Dec-21	0	0	Yes	0.96	1.06	Yes

Rosenort – Outgoing

Date	Total Coliforms MPN/100 ml	E-Coli MPN/100ml	Compliant	FreeChlorine mg/l	Total Chlorine mg/l	Compliant

12-Jan-21	0	0	yes	1.13	1.39	Yes
26-Jan-21	0	0	yes	1.3	1.52	yes
08-Feb-21	0	0	yes	1.15	1.4	yes
23-Feb-21	0	0	yes	1.09	1.31	yes
09-Mar-21	0	0	yes	1.13	1.36	yes
23-Mar-21	0	0	yes	1.22	1.43	yes
06-Apr-21	0	0	yes	0.65	0.81	yes
20-Apr-21	0	0	yes	1.14	1.32	Yes
04-May-21	0	0	yes	1.28	1.46	Yes
18-May-21	0	0	yes	1.35	1.54	Yes
01-Jun-21	0	0	yes	1.39	1.58	Yes
15-Jun-21	0	0	yes	1.35	1.55	Yes
28-Jun-21	0	0	yes	1.2	1.39	Yes
13-Jul-21	0	0	yes	1.24	1.42	Yes
28-Jul-21	0	0	yes	1.28	1.46	Yes
11-Aug-21	0	0	yes	1.1	1.25	Yes
24-Aug-21	0	0	yes	1.34	1.49	Yes
07-Sep-21	0	0	yes	1.22	1.36	Yes
21-Sep-21	0	0	yes	1.32	1.49	Yes
05-Oct-21	0	0	yes	1.28	1.44	Yes
19-Oct-21	0	0	yes	1.23	1.38	Yes
02-Nov-21	0	0	yes	1.31	1.51	Yes
16-Nov-21	0	0	yes	1.41	1.64	Yes
30-Nov-21	0	0	yes	1.22	1.4	Yes
14-Dec-21	0	0	yes	1.15	1.37	Yes
29-Dec-21	0	0	yes	1.18	1.4	Yes

Rosenort @ RM Shop

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	FreeChlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	1.12	1.31	Yes
26-Jan-21	0	0	yes	1.12	1.29	yes
08-Feb-21	0	0	yes	0.92	1.08	yes
23-Feb-21	0	0	yes	1.07	1.2	yes
09-Mar-21	0	0	yes	1.16	1.29	yes
23-Mar-21	0	0	yes	1.09	1.27	yes
06-Apr-21	0	0	yes	1.02	1.21	yes
20-Apr-21	0	0	yes	1.09	1.27	Yes
04-May-21	0	0	yes	1.1	1.25	Yes
18-May-21	0	0	yes	1.23	1.42	Yes
01-Jun-21	0	0	yes	1.11	1.28	Yes
15-Jun-21	0	0	yes	1.22	1.38	Yes
28-Jun-21	0	0	yes	1.25	1.43	Yes
13-Jul-21	0	0	yes	1.19	1.36	Yes

28-Jul-21	0	0	yes	1.35	1.58	Yes
11-Aug-21	0	0	yes	1.16	1.33	Yes
24-Aug-21	0	0	yes	1.27	1.44	Yes
07-Sep-21	0	0	yes	1.1	1.23	Yes
21-Sep-21	0	0	yes	1.03	1.14	Yes
05-Oct-21	0	0	yes	1.05	1.2	Yes
19-Oct-21	0	0	yes	0.92	1.14	Yes
02-Nov-21	0	0	yes	1.22	1.39	Yes
16-Nov-21	0	0	yes	1.27	1.42	Yes
30-Nov-21	0	0	yes	0.79	0.98	Yes
14-Dec-21	0	0	yes	1.09	1.25	Yes
29-Dec-21	0	0	yes	1.06	1.25	Yes

Aubigny Hall

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	Free Chlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	0.57	0.68	Yes
26-Jan-21	0	0	yes	0.74	0.83	yes
08-Feb-21	0	0	yes	0.52	0.68	yes
23-Feb-21	0	0	yes	0.82	1.02	yes
09-Mar-21	0	0	yes	0.93	1.1	yes
23-Mar-21	0	0	yes	0.93	1.15	yes
06-Apr-21	0	0	yes	0.65	0.81	yes
20-Apr-21	0	0	yes	0.55	0.7	Yes
04-May-21	0	0	yes	0.87	1.04	Yes
18-May-21	0	0	yes	1.14	1.31	Yes
01-Jun-21	0	0	yes	1.01	1.2	Yes
15-Jun-21	0	0	yes	1.15	1.29	Yes
28-Jun-21	0	0	yes	0.5	0.57	Yes
13-Jul-21	0	0	yes	0.8	0.92	Yes
28-Jul-21	0	0	yes	0.8	0.92	Yes
11-Aug-21	0	0	yes	1.09	1.32	Yes
24-Aug-21	0	0	yes	0.95	1.15	Yes
07-Sep-21	0	0	yes	1.06	1.21	Yes
21-Sep-21	0	0	yes	1.08	1.19	Yes
05-Oct-21	0	0	yes	1.15	1.31	Yes
19-Oct-21	0	0	yes	1.15	1.33	Yes
02-Nov-21	0	0	yes	0.55	0.7	Yes
16-Nov-21	0	0	yes	1.05	1.2	Yes
30-Nov-21	0	0	yes	0.9	1.05	Yes
14-Dec-21	0	0	yes	0.59	0.7	Yes

Sperling -Outgoing

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	Free Chlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	0.93	1.13	Yes
26-Jan-21	0	0	yes	1.07	1.24	yes
08-Feb-21	0	0	yes	1.03	1.21	yes
23-Feb-21	0	0	yes	1.27	1.44	yes
09-Mar-21	0	0	yes	0.98	1.15	yes
23-Mar-21	0	0	yes	1.09	1.26	yes
06-Apr-21	0	0	yes	0.95	1.12	yes
20-Apr-21	0	0	yes	1.13	1.35	yes
04-May-21	0	0	yes	1.16	1.34	yes
18-May-21	0	0	yes	1.07	1.25	yes
01-Jun-21	0	0	yes	1	1.09	yes
15-Jun-21	0	0	yes	1.04	1.09	yes
28-Jun-21	0	0	yes	1.16	1.24	yes
13-Jul-21	0	0	yes	1.1	1.19	Yes
28-Jul-21	0	0	yes	0.96	1.06	Yes
11-Aug-21	0	0	yes	0.9	0.97	Yes
24-Aug-21	0	0	yes	0.85	0.9	Yes
07-Sep-21	0	0	yes	1.11	1.21	Yes
21-Sep-21	0	0	yes	1.06	1.12	Yes
05-Oct-21	0	0	yes	0.9	0.97	Yes
19-Oct-21	0	0	yes	0.93	1.01	Yes
02-Nov-21	0	0	yes	0.91	0.99	Yes
16-Nov-21	0	0	yes	0.94	0.99	Yes
30-Nov-21	0	0	yes	1.09	1.17	Yes
14-Dec-21	0	0	yes	1	1.08	Yes
29-Dec-21	0	0	yes	1.05	1.1	Yes

Sperling @ Arena

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	Free Chlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	0.86	1.06	Yes
26-Jan-21	0	0	yes	0.87	1.06	yes
08-Feb-21	0	0	yes	0.94	1.07	yes
23-Feb-21	0	0	yes	0.88	0.99	yes
09-Mar-21	0	0	yes	0.89	1.05	yes
23-Mar-21	0	0	yes	0.83	1.02	yes
06-Apr-21	0	0	yes	0.92	1.13	yes
20-Apr-21	0	0	yes	0.54	0.69	yes
04-May-21	0	0	yes	0.89	1.02	yes
18-May-21	0	0	yes	1.06	1.23	Yes

01-Jun-21	0	0	yes	1.08	1.09	Yes
21-Jun-21	0	0	yes	1.08	1.19	Yes
15-Jun-21	0	0	yes	0.92	0.99	Yes
28-Jun-21	0	0	yes	0.84	0.91	Yes
13-Jul-21	0	0	yes	0.6	0.65	Yes
28-Jul-21	0	0	yes	0.86	0.91	Yes
11-Aug-21	0	0	yes	0.71	0.81	Yes
24-Aug-21	0	0	yes	0.51	0.6	Yes
07-Sep-21	0	0	yes	0.66	0.72	Yes
21-Sep-21	0	0	yes	0.98	1.05	Yes
05-Oct-21	0	0	yes	0.77	0.84	Yes
19-Oct-21	0	0	yes	0.56	0.61	Yes
02-Nov-21	0	0	yes	0.64	0.69	Yes
16-Nov-21	0	0	yes	0.68	0.77	Yes
30-Nov-21	0	0	yes	0.95	1.09	Yes
14-Dec-21	0	0	yes	0.85	0.9	Yes
29-Dec-21	0	0	yes	0.7	0.76	Yes

Sperling & Sperling Fire Hall

Date	Total Coliforms MPN/100ml	E-Coli MPN/100ml	Compliant	Free Chlorine mg/l	Total Chlorine mg/l	Compliant
12-Jan-21	0	0	yes	0.63	0.82	yes
26-Jan-21	0	0	yes	0.54	0.65	yes
08-Feb-21	0	0	yes	1.01	1.15	yes
23-Feb-21	0	0	yes	0.71	0.89	yes
09-Mar-21	0	0	yes	0.85	1.04	yes
23-Mar-21	0	0	yes	0.92	1.09	yes
06-Apr-21	0	0	yes	0.76	0.95	yes
20-Apr-21	0	0	yes	0.8	0.98	yes
04-May-21	0	0	yes	0.75	0.91	yes
18-May-21	0	0	yes	0.87	1.02	yes
01-Jun-21	0	0	yes	0.89	0.93	yes
15-Jun-21	0	0	yes	0.71	0.76	yes
28-Jun-21	0	0	yes	1.08	1.12	yes
13-Jul-21	0	0	yes	0.81	0.89	yes
28-Jul-21	0	0	yes	0.94	1	yes
11-Aug-21	0	0	yes	0.59	0.68	yes
24-Aug-21	0	0	yes	1.01	1.08	yes
07-Sep-21	0	0	yes	1.08	1.18	yes
21-Sep-21	0	0	yes	1.08	1.19	yes
05-Oct-21	0	0	yes	0.9	0.95	yes
19-Oct-21	0	0	yes	1.03	1.09	yes
02-Nov-21	0	0	yes	0.79	0.84	yes
16-Nov-21	0	0	yes	0.71	0.82	yes

30-Nov-21	0	0	yes	0.83	0.93	yes
14-Dec-21	0	0	yes	1.03	1.11	yes
29-Dec-21	0	0	yes	0.58	0.68	yes

Other

Location	Date	Total Coliforms MPN/100ml	E-Coli MPN/100 ml	Compliant	Free Chlorine mg/l	Total Chlorine mg/l	Compliant	Notes
Rosenort	08-Jan-21	0	0	yes	1.08	1.27	yes	Water break on service line at 312 River Road South
Rosenort	08-Jan-21	0	0	yes	1.01	1.21	yes	Upstream of break at 33 Sunburst Cres.
Rosenort	08-Jan-21	0	0	yes	1.06	1.27	yes	Downstream of break at 336 River Road South
Rosenort	09-Jan-21	0	0	yes	1.1	1.31	yes	Water break on service line at 312 River Road South
Rosenort	09-Jan-21	0	0	yes	1.02	1.21	yes	Upstream of break at 33 Sunburst Cres.
Rosenort	09-Jan-21	0	0	yes	1.03	1.22	yes	Downstream of break at 336 River Road South
Lowe Farm	20-Aug-21	0	0	yes	1.08	1.25	yes	LF Valve Replacements - 68 - 1st Ave
Lowe Farm	20-Aug-21	0	0	yes	1.17	1.34	yes	LF Valve Replacements - Co-op Hardware
Lowe Farm	20-Aug-21	0	0	yes	0.88	1.04	yes	LF Valve Replacements - LF park
Lowe Farm	21-Aug-21	0	0	yes	1.29	1.44	yes	LF Valve Replacements - 68 - 1st Ave
Lowe Farm	21-Aug-21	0	0	yes	1.33	1.46	yes	LF Valve Replacements - Co-op Hardware
Lowe Farm	21-Aug-21	0	0	yes	0.92	1.07	yes	LF Valve Replacements - LF park
Rural	29-Dec-21	0	0	yes	0.63	0.83	yes	34051 PTH 75 service road

Metal Testing

Date	Location	Compliant
07-Sep-21	Sperling Arena	Yes
07-Sep-21	RM Shop	Yes

At any time when the free chlorine residual requirement is not met immediate action is taken by the Operator to adjust amounts of chlorine being added to ensure future compliance.

THM's & HAA's

Every two years, quarterly testing is done for THM's & HAA's as required by the Office of Drinking Water. Reporting years are 2018, 2020 and so on. These were the results from 2020.

Trihalomethanes (THM's) are formed when chlorine reacts with naturally occurring organic matter in the water. Studies have shown a link between high levels of THM's and cancer. For that reason, the province has set a health-based standard for THM's of *0.1mg/L.* THM's were tested in the RM of Morris (Morris Regional) Public Water System at Lowe Farm in 2020 producing the following results. Compliance with provincial standards is dependent on the effectiveness of the treatment process.

THMs – 2020 PWS 187.00

February	May	August	November	Average
0.0680	0.0711	0.149	0.0609	0.0873

THMs – 2020 PWS 205.15

February	May	August	November	Average

0.0082	0.0603	0.0369	0.0781	0.0459

Meets Standard
Does not meet standard

Haloacetic acids (HAAs) are a common undesirable by-product of drinking water chlorination. HAAs can be formed by chlorination, ozonation or chlorination of water with formation promoted by slightly acidic water, high organic matter content and elevated temperature. Chlorine from the water disinfection process can react with organic matter and small amounts of bromide present in water to produce various HAAs. The MAC (maximum acceptable concentration) for HAA's is 80 ug/L. Compliance with provincial standards is dependent on the effectiveness of the treatment process.

HAAs – 2020 PWS 187.00

February	May	August	November	Average
0.0752	0.0410	0.0361	0.0443	0.0492

HAAs – 2020 PWS 205.15

February	May	August	November	Average
0.0054	0.0448	0.0138	0.0459	0.0275

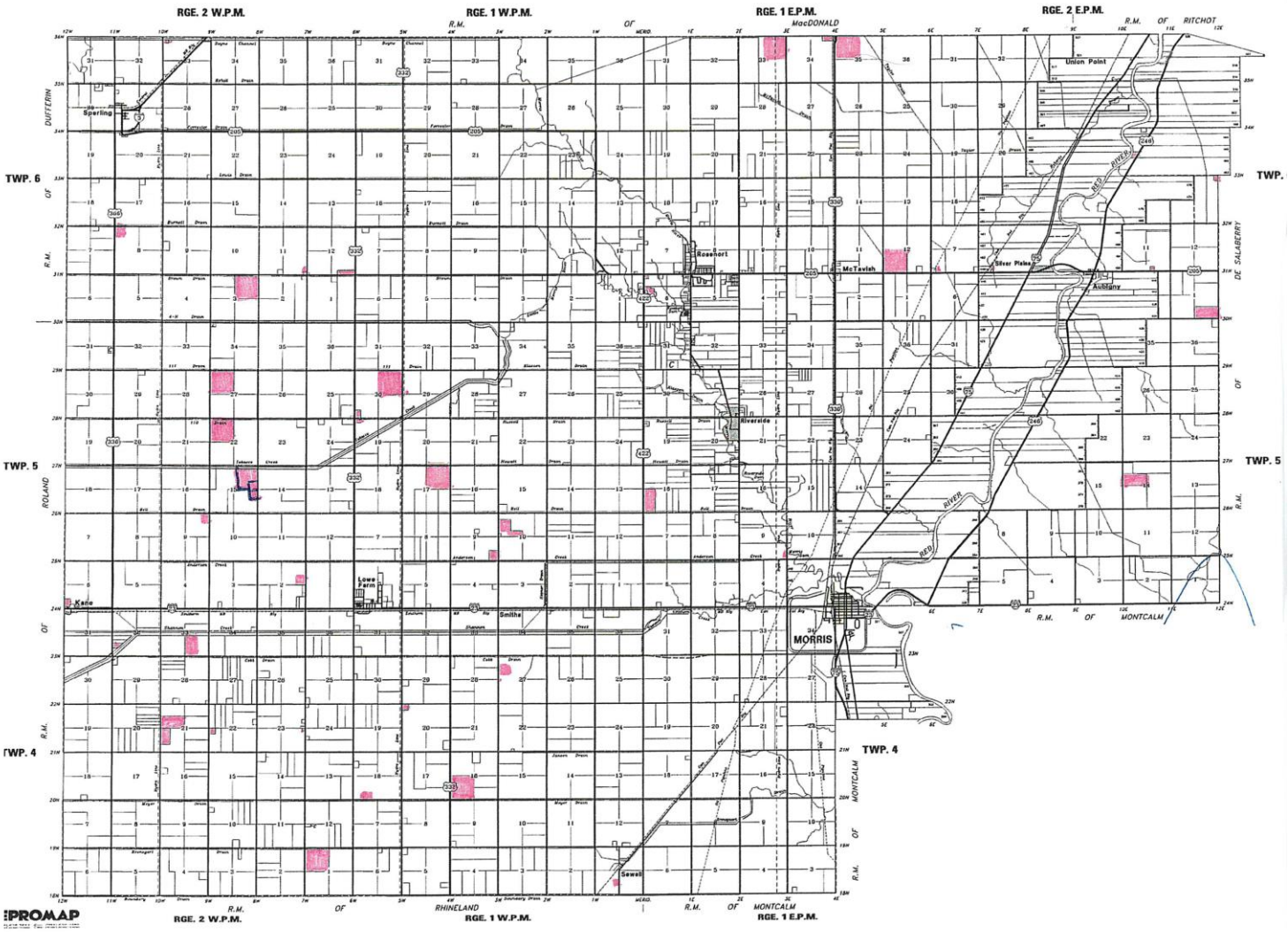
Meets Standard
Does not meet standard

Drinking water safety orders on system.
None.

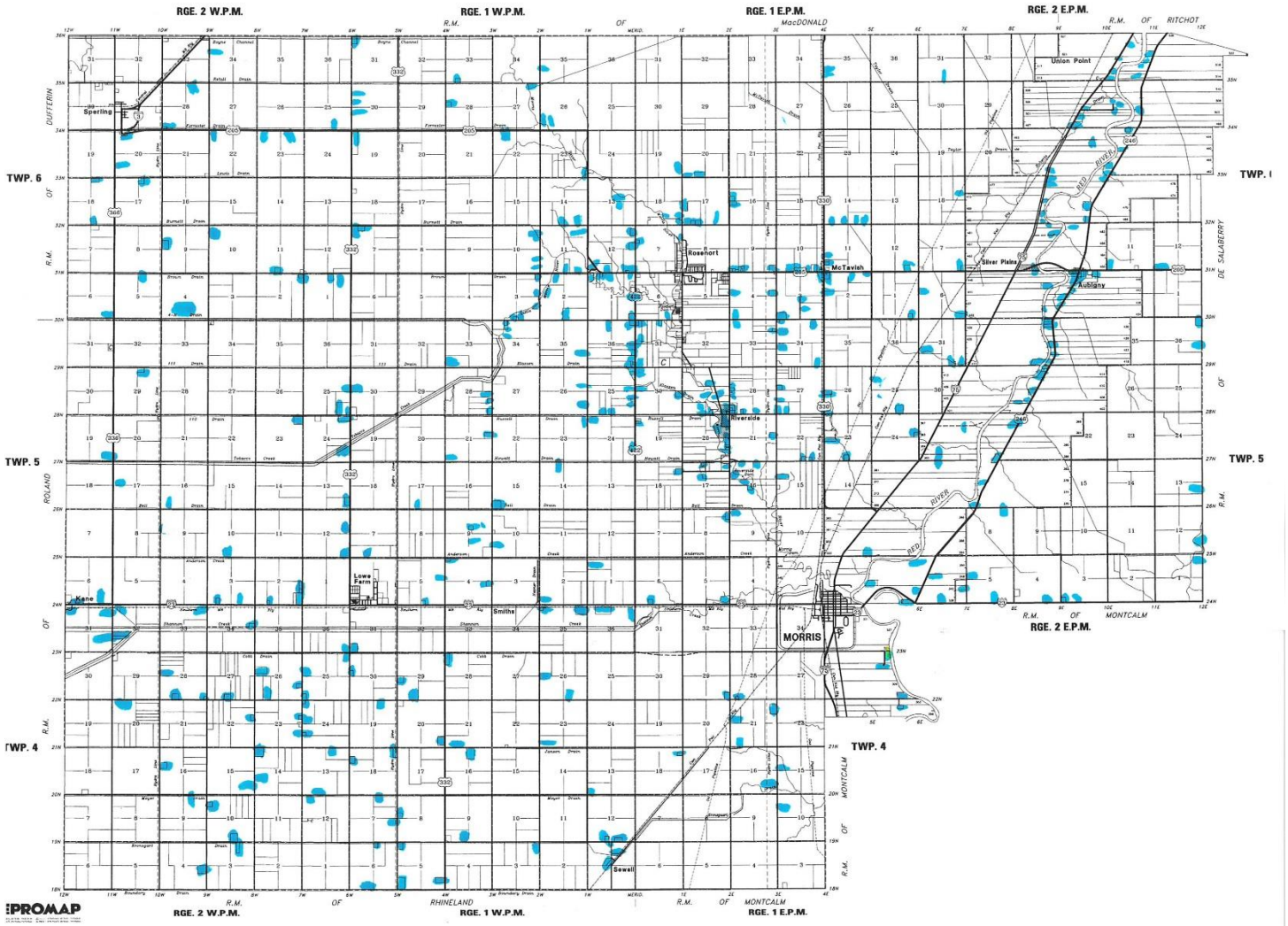
Boil water advisories issued.
1 BWA was issued for certain areas in Rosenort in early January. Within the week the advisory was lifted.
1 BWA was issued for Lowe Farm residents due to replacement of water valves. The water supply was also shut off for a period of time. The advisory was lifted after a couple days.
1 BWA was issued for properties on the east side of the Red River at the end of December due to a line break. By December 31st water sample results had been received and advisory was lifted.

Warnings issued or charges laid in accordance with Drinking Water Safety Act.
None.

Un-serviced Rural Sites



Serviced Rural Sites



RM OF MORRIS

ANNUAL COMPARISON - WATER CONSUMPTION REPORT

All Water Measurements are based on Imperial Gallons

		WATER SALES:				TOTAL WATER LOSSES:						
YEAR	WATER PURCHASED	Customer Billed	Interim Billings	Bulk Sales	TOTAL SALES	Total Purchases	Less: Total Sales	LOSSES FOR PERIOD	PERCENTAGE LOSSES	NOTES	AVERAGE LOSSES	
2012	61,597,690	50,237,549		2,589,706	52,827,255	61,597,690	52,827,255	8,770,435	14.2%		14.24%	1 Year Average
2013	66,910,782	59,787,264		2,226,742	62,014,006	66,910,782	62,014,006	4,896,776	7.3%		10.78%	2 Year Average
2014	66,906,926	59,069,273		2,021,572	61,090,845	66,906,926	61,090,845	5,816,081	8.7%		10.1%	3 Year Average
2015	66,120,180	58,897,190		1,715,456	60,612,646	66,120,180	60,612,646	5,507,534	8.3%		9.64%	4 Year Average
2016	71,626,777	63,611,296		1,150,453	64,761,749	71,626,777	64,761,749	6,865,028	9.6%		9.63%	5 Year Average
2017	79,164,929	63,668,870	203,103	1,534,593	65,406,566	79,164,929	65,406,566	13,758,363	17.4%		10.9%	6 Year Average
2018	71,065,063	65,327,686	372,773	1,162,965	66,863,424	71,065,063	66,863,424	4,201,639	5.9%	708,248 g flushing credits	10.2%	7 Year Average
2019	71,531,306	64,012,403	161,814	1,410,157	65,584,374	71,531,306	65,584,374	5,946,932	8.3%	132,000 water leak - loss	10.0%	8 Year Average
										486,134 water flushing credit		
2020	73,225,838	65,434,209	458,246	1,039,490	66,931,945	73,225,838	66,931,945	6,293,893	8.6%		9.8%	9 Year Average
2021	77,555,376	69,482,013	111,918	851,152	70,445,083	77,555,376	70,445,083	7,110,293	9.2%		8.3%	10 Year Average

ROSENORT

	WATER SALES:				TOTAL WATER LOSSES:					
WATER	Customer	Interim	Bulk	TOTAL	Total	Less: Total	LOSSES FOR	PERCENTAGE		AVERAGE

YEAR	PURCHASED	Billed	Billings	Sales	SALES	Purchases	Sales	PERIOD	LOSSES	NOTES	LOSSES	
2012	17,634,996	18,491,156		847,984	19,339,140	17,634,996	19,339,140	-1,704,144	-9.7%		-9.66%	1 Year Average
2013	16,506,107	16,308,774		723,687	17,032,461	16,506,107	17,032,461	-526,354	-3.2%		-6.43%	2 Year Average
2014	16,728,279	16,277,206		573,070	16,850,276	16,728,279	16,850,276	-121,997	-0.7%		-4.53%	3 Year Average
2015	16,405,801	14,806,688		362,201	15,168,889	16,405,801	15,168,889	1,236,912	7.5%		-1.51%	4 Year Average
2016	15,126,678	16,565,965		89,978	16,655,943	15,126,678	16,655,943	-1,529,265	-10.1%		-3.23%	5 Year Average
2017	17,430,423	14,821,081		252,167	15,073,248	17,430,423	15,073,248	2,357,175	13.5%		-0.44%	6 Year Average
2018	17,281,504	15,475,040	47,624	160,800	15,683,464	17,281,504	15,683,464	1,598,040	9.2%		0.95%	7 Year Average
2019	17,649,513	15,757,221	58,285	427,992	16,243,498	17,649,513	16,243,498	1,406,016	8.0%		1.82%	8 Year Average
2020	18,035,121	15,610,556	42375	174128	15,827,059	18,035,121	15,827,059	2,208,062	12.2%		2.98%	9 Year Average
2021	18,219,457	15,679,576	59,035	26,619	15,765,230	18,219,457	15,765,230	2,454,227	13.5%		5.00%	10 Year Average

LOWE FARM

		WATER SALES:				TOTAL WATER LOSSES:						
YEAR	WATER PURCHASED	Customer Billed	Interim Billings	Bulk Sales	TOTAL SALES	Total Purchases	Less: Total Sales	LOSSES FOR PERIOD	PERCENTAGE LOSSES	NOTES	AVERAGE LOSSES	
2012	6,589,420	4,490,479		1,133,065	5,623,544	6,589,420	5,623,544	965,876	14.7%		14.66%	1 Year Average
2013	6,180,716	4,091,130		1,181,459	5,272,589	6,180,716	5,272,589	908,127	14.7%		14.68%	2 Year Average
2014	6,203,578	3,922,070		966,548	4,888,618	6,203,578	4,888,618	1,314,960	21.2%		16.85%	3 Year Average

2015	5,720,740	4,223,892		820,268	5,044,160	5,720,740	5,044,160	676,580	11.8%	15.59%	4 Year Average
2016	4,797,546	4,084,435		686,086	4,770,521	4,797,546 0	4,770,521 0	27,025 0	0.6%	12.59%	5 Year Average
2017	5,535,543	4,228,877		790,792	5,019,669	5,535,543	5,019,669	515,874	9.3%	12.04%	6 Year Average
2018	5,409,061	4,249,644	23,580	702,363	4,975,587	5,409,061	4,975,587	433,474	8.0%	11.47%	7 Year Average
2019	5,177,213	3,948,462	40,160	696,865	4,685,487	5,177,213	4,685,487	491,726	9.5%	11.22%	8 Year Average
2020	5,345,272	4,010,795	28,930	684,326	4,724,051	5,345,272	4,724,051	621,221	11.6%	11.27%	9 Year Average
2021	4,917,649	3,838,643	11,242	579,840	4,429,725	4,917,649	4,429,725	487,924	9.9%	9.67%	10 Year Average

SPERLING

		WATER SALES:				TOTAL WATER LOSSES:						
YEAR	WATER PURCHASED	Customer Billed	Interim Billings	Bulk Sales	TOTAL SALES	Total Purchases	Less: Total Sales	LOSSES FOR PERIOD	PERCENTAGE LOSSES	NOTES	AVERAGE LOSSES	
2012	2,347,350	1,516,373		608,657	2,125,030	2,347,350	2,125,030	222,320	9.5%		9.47%	1 Year Average
2013	1,922,850	1,502,610		321,596	1,824,206	1,922,850	1,824,206	98,644	5.1%		7.30%	2 Year Average
2014	2,109,939	1,486,770		481,954	1,968,724	2,109,939	1,968,724	141,215	6.7%		7.10%	3 Year Average
2015	1,939,474	1,518,840		532,987	2,051,827	1,939,474	2,051,827	-112,353	-5.8%		3.88%	4 Year Average
2016	1,741,282	1,384,482		315,877	1,700,359	1,741,282	1,700,359	40,923	2.4%		3.57%	5 Year Average
2017	1,884,702	1,450,396		379,008	1,829,404	1,884,702	1,829,404	55,298	2.9%		3.46%	6 Year Average
2018	1,717,306	1,412,637	90	204,572	1,617,299	1,717,306	1,617,299	100,007	5.8%		3.80%	7 Year Average

2019	1,686,948	1,225,466	2,760	221,069	1,449,295	1,686,948	1,449,295	237,653	14.1%	5.09%	8 Year Average
2020	1,825,312	1,443,713	5,256	181,036	1,630,005	1,825,312	1,630,005	195,307	10.7%	5.71%	9 Year Average
2021	1,580,483	1,350,330	0	187414	1,537,744	1,580,483	1,537,744	42,739	2.7%	4.46%	10 Year Average

RURAL

		WATER SALES:			TOTAL WATER LOSSES:						
YEAR	WATER PURCHASED	Customer Billed	Interim Billings	Bulk Sales	TOTAL SALES	Total Purchases	Less: Total Sales	LOSSES FOR PERIOD	PERCENTAGE LOSSES	NOTES	AVERAGE LOSSES
2012	35,025,924	25,739,541			25,739,541	35,025,924	25,739,541	9,286,383	26.5%		26.51% 1 Year Average
2013	42,301,109	37,884,750			37,884,750	42,301,109	37,884,750	4,416,359	10.4%		18.48% 2 Year Average
2014	41,865,130	37,383,227			37,383,227	41,865,130	37,383,227	4,481,903	10.7%		15.89% 3 Year Average
2015	42,054,165	38,347,770			38,347,770	42,054,165	38,347,770	3,706,395	8.8%		14.12% 4 Year Average
2016	49,961,271	41,576,414		58,512	41,634,926	49,961,271	41,634,926	8,326,345	16.7%		14.63% 5 Year Average
2017	54,314,261	43,371,619		112,625	43,484,244	54,314,261	43,484,244	10,830,017	19.9%		15.51% 6 Year Average
2018	46,657,194	44,190,365	301,479	95,230	44,587,074	46,657,194	44,587,074	2,070,120	4.4%		13.93% 7 Year Average
2019	47,017,631	43,081,252	60,609	64,231	43,206,092	47,017,631	43,206,092	3,811,539	8.1%		13.20% 8 Year Average
2020	48,020,134	44,369,144	381684	0	44,750,828	48,020,134	44,750,828	3,269,306	6.8%		12.49% 9 Year Average
2021	52,837,786	44,296,560	30370	0	44,326,930	52,837,786	44,326,930	8,510,856	16.1%		10.20% 10 Year Average