

# Rural Municipality of Dufferin



**PUBLIC WATER SYSTEM ANNUAL REPORT**

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## **1. Description of The Drinking Water System**

The primary water source for the Rural Municipality of Dufferin water distribution system is the Stephenfield water treatment plant located on the Stephenfield Reservoir approximately 4,000 meters northwest of Stephenfield, MB. The Stephenfield water treatment plant pumps treated water to the R.M. of Dufferin distribution system. The Stephenfield water treatment plant is owned and operated by the Pembina Valley Water Cooperative Inc. (PVWC). The R.M. of Dufferin which is a Level 2 Distribution system purchases their water consumption on an as needed basis from the PVWC, and services approx. 673 metered water accounts providing high quality, potable, provincially regulated water to its residents.

## **2. Description of the Disinfection Methods**

The Rural Municipality of Dufferin owns and operates the R. M. of Dufferin distribution system and the PVWC owns and operates the Stephenfield water treatment plant. The Stephenfield water treatment plant pumps treated water to the R.M. of Dufferin distribution system. Approximately 30% - 40% of the water provided by the PVWC to the R.M. of Dufferin passes through a re-chlorination station that is owned and operated by the R.M. of Dufferin. The station has a chlorine injection point, but no booster pumps or storage reservoirs. It is located approximately 1,600 meters north of the Town of Carman and provides re-chlorinated water to the northeast portion of the R.M. of Dufferin. The R. M. of Dufferin re-chlorination station is designed to re-chlorinate the treated water from the Stephenfield water treatment plant with sodium hypochlorite (liquid chlorine). Chlorine is added to the treated water to increase the chlorine residual and contact time in the distribution system to further enable disinfection and protection of the distribution system. Monthly chlorination reports are sent to the regional Drinking Water Officer at the end of each month. The R.M. of Dufferin has met regulatory requirements with regards to collecting and providing distribution treated water samples for bacteriological analysis. Our distribution system was designed with a lot of dead ends, which result in low free chlorine residuals in certain spots. To ensure a safe water supply to all residents we flush the system twice a year and routinely do Bac'T and HPC testing throughout the municipality.

### 3. Water Quality Standards and Analysis Results

<b>WATER QUALITY STANDARDS</b>		<i>Percent Compliance</i>	<i>Corrective Action</i>
<b>BACTERIOLOGICAL</b>			
<i>E. Coli</i>	Less than one E. Coli bacteria detectable per 100ml in all distributed water	100%	n/a
<i>Total Coliform</i>	Less than one total coliform bacteria detectable per 100ml in all distributed water	100%	n/a
<i>Comments</i>	A bi-weekly sampling program with each set of samples consisting of a minimum of 3 distribution samples taken, the Distribution samples are taken at various locations. The bacterial water quality standard was met. See attached <b>3a.</b> R.M. of Dufferin Addendum A & <b>3b.</b>		
<b>DISINFECTION</b>			
<i>Chlorine Residual</i>	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution systems	<100%	n/a
<i>Comments</i>	The disinfection water quality standard was met throughout 2017, except for incident in June 2017 for failure to maintain a free chlorine residual of at least 0.1 mg/L . Long residence times in some sections of the distribution system can cause free chlorine levels to diminish. Supplementary Heterotrophic Plate Count (HPC) tests were used by the RM of Dufferin as an additional monitoring tool to detect and measure any bacterial re-growth due to diminishing chlorine levels		
<b>PHYSICAL</b>			
<i>Turbidity</i>	Not applicable		
<b>CHEMICAL</b>			
<i>Total Trihalomethanes</i>	Failure to meet the trihalomethane (THM) standard of less than or equal to 0.10 mg/L as a locational annual average of samples (0.10mg/L - 100 ug/L)		
<i>Comments</i>	Dufferin will continue to monitor, the hope of the RM is that once the new Pembina Valley Water Co-op water treatment plant is in full operation at Stephenfield, the Trihalomethanes levels will become compliant levels.		

See attached

**3a.** R.M. of Dufferin Addendum A – MB Conservation and Water Stewardship Record of Non-Compliance

**3b.** R.M. of Dufferin Bacti Report

#### **4. Water System Incidents and Corrective Actions**

Other than the THM there are no major system incidents within the RM of Dufferin in 2017. The THM will continue to be monitored but no corrective action is required.

#### **5. Summary of Additional Records**

Under Section 31 of The Act, the RM of Dufferin has no pertinent applicable information.

#### **6. Description of Drinking Water Safety Orders Issued**

The RM of Dufferin had no orders issued and therefore no actions were taken.

#### **7. Description of Boil Water Advisories**

The RM of Dufferin did not have any boil water advisories issued for the RM of Dufferin Water System in 2017, therefore no actions were required. The RM of Dufferin was issued “precautionary” boil water advisories that in turn were issued to the pertinent water consumers as a precautionary effort for safety during repairs.

#### **8. Summary of Charges Laid or Pending**

In 2017, The RM of Dufferin had no charges laid or any pending offences in regards to section 31 of the Act.

#### **9. Description of any Major Expenses**

In 2017 The RM of Dufferin incurred a total of 33.00 internal man hours for repairs of water breaks, as well a cost of parts and labour hired of \$11,722.82. The anticipated costs for 2018 water breaks will be approximately, or a bit higher than the same expenses for water breaks incurred in 2017. In conjunction with the change out of all existing meters within the RM of Dufferin to R900 remote reader meters, and in an effort to work with PVWC to isolate our internal water losses, The RM of Dufferin installed a second new meter chamber in 2018 , to the cost of just over \$25,000.00, and will be installing a third meter chamber in 2019 as well. The Municipality has purchased in January 2018, and is waiting on delivery in April of 2018, a new handheld/reader system, this expense of \$25,000.00 has been allocated for in our current budget.

#### **10. Other Information**

PVWC completed the build of a new water treatment plant at Stephenfield in 2017, this should increase both the volume available as well as the quality of water (THM’s) to be supplied to the

RM of Dufferin. The financial implications for this expansion/upgrade are the responsibility of PVWC.



Conservation and Water Stewardship  
Office of Drinking Water  
1007 Century Street, Winnipeg, Manitoba R3H 0W4

**OPERATING LICENCE FOR  
A PUBLIC WATER SYSTEM**

**LICENCE NUMBER: PWS-09-304-01**

**THE DRINKING WATER SAFETY ACT  
CHAPTER D101, C.C.S.M.**

**WATER SYSTEM CODE: 55.25**  
**OPERATION ID: 28053**  
**EFFECTIVE DATE: JUNE 1, 2014**  
**EXPIRY DATE: NOVEMBER 30, 2019**

IN ACCORDANCE WITH *THE DRINKING WATER SAFETY ACT*, THIS OPERATING LICENCE IS ISSUED PURSUANT TO SUBSECTION 8(1) TO:

**RURAL MUNICIPALITY OF DUFFERIN: "THE LICENSEE"**

FOR THE OPERATION OF THE **RURAL MUNICIPALITY OF DUFFERIN (STEPHENFIELD REGIONAL) PUBLIC WATER SYSTEM**, WHICH INCLUDES TREATMENT FACILITIES AND DISTRIBUTION LINES, SUBJECT TO THE ATTACHED TERMS AND CONDITIONS.

THIS LICENCE DOES NOT AFFECT THE LICENSEE'S OBLIGATIONS WITH RESPECT TO COMPLIANCE WITH ALL APPLICABLE MUNICIPAL, PROVINCIAL, AND FEDERAL LEGISLATION. THIS LICENCE SUPERSEDES ALL PREVIOUS LICENSES FOR THIS PUBLIC WATER SYSTEM.

*Original signed by:*

DATE: September 19, 2014

Kim Philip, P.Eng.  
Director

**Sustainable Development**

**2017 Annual Compliance Audit**

Water System: RURAL MUNICIPALITY OF DUFFERIN ( STEPHENFIELD REGIONAL ) - PWS

Code: 55.25

Water System Owner: Rural Municipality of Dufferin

Water System Operating Licence: PWS-09-304-01

Expiry Date: November 30, 2019

- 1) This report documents the Rural Municipality Of Dufferin ( Stephenfield Regional ) Public Water System compliance for the period from January 1 to December 31, 2017.
- 2) Addendum A to this report provides specific information on the non-compliance incidents identified in the summary below.
- 3) Other than the information provided in attached Addendum A, the water supplier has complied with *The Drinking Water Safety Act*, its supporting regulations, and the terms and conditions of the water system's current operating licence
- 4) This report is based on information submitted by the water supplier, agents of the water supplier, and / or the Province of Manitoba.

**Summary of Non-Compliance Incidents:**

- |   |
|---|
| <ul style="list-style-type: none"><li>• Failure to Meet Disinfection Requirements</li></ul> |
|---|



**Sustainable Development**

Addendum A: Record of Non-Compliance

Water System: RURAL MUNICIPALITY OF DUFFERIN ( STEPHENFIELD REGIONAL ) - PWS

Report period: January 1, 2017 to December 31, 2017.

***Enforcement Action Taken***

Date	Incident	Outcome
	None reported	

***Disinfection Requirements***

Date	Incident	Outcome
June	Failure to maintain a free chlorine residual of at least 0.5 mg/L in accordance with the operating licence	Non-compliant

***Bacteriological Requirements***

Date	Incident	Outcome
	None reported	

***Microbial Requirements***

Date	Incident	Outcome
	None reported	

***Turbidity Requirements***

Date	Incident	Outcome
	None reported	

***Chemical Requirements***

Date	Incident	Outcome
	None reported	

***Operational Requirements***

Date	Incident	Outcome
	None reported	

