

# Barry's Bay Drinking Water System

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Waterworks # **210000942**  
System Category – Large Municipal Residential

## Annual Water Report

Prepared For: The Township of Madawaska Valley



Reporting Period of January 1<sup>st</sup> – December 31<sup>st</sup> 2018

Issued: January 30<sup>th</sup>, 2018

Revision: 0

Operating Authority:



This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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## Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents at the Madawaska Valley Township Municipal Office. Notification will be at the Municipal Office and copies provided free of charge if requested. The Madawaska Valley Township is located at, 85 Bay Street in the Village of Barry’s Bay.

## Compliance Report Card

Compliance Event	# of Events	Details
Ministry of Environment Inspections	2	There were two MECP inspections during the reporting period.  February 14 <sup>th</sup> , 2018 – 100%  November 28, 2018 - 100%
Ministry of Labour Inspections	0	
QEMS External Audit	1	No Non-Conformances identified
AWQI’s	0	
Non-Compliance	0	
Community Complaints	1	1 related to aesthetics, cloudy appearance caused by air in the water.
Spills	0	
Watermain Breaks	1	October 26, 2018 - Stafford St

## System Process Description

### Raw Source

Raw water source for the Barry’s Bay Drinking Water System is Kamaniskeg Lake. The water is drawn from the lake using low lift pumps.



### Treatment

The Barry’s Bay Water Treatment Plant is a direct filtration plant. The plant utilized the coagulation, flocculation and filtration processes.



Alum is added to assist coagulation and soda ash for pH adjustment. Filter effluent is disinfected using chlorine gas before entering the clearwell.



This facility has the ability to add polymer to aid flocculation and to add ammonia sulphate for chloramination but does not utilize these processes at this time.



*Treatment Chemicals used during the reporting year:*

Chemical Name	Use	Supplier
Alum	Coagulant	Kemira
Soda Ash	pH Adjustment	Univar
Chlorine Gas	Disinfection	Brenntag

**Distribution**

The distribution system consists of PVC piping. Various valves are installed on the distribution lines to allow for isolation and flow direction control. Located at 65 Tower Hill Road is the Barry’s Bay Water Tower. The tower is engineered as a stand-pipe. Levels in the stand-pipe start and stop the highlift pumps at the treatment plant. The distribution piping runs as far north as Parkway Ave and south as far as Lakeshore Drive. The system also extends west to Lane Street and east to Old Barry’s Bay Road. Fire hydrants are located throughout the distribution system.

**Summary of Non-Compliance**

**Adverse Water Quality Incidents**

Date	AWQI #	Location	Problem	Details	Legislation	Corrective Action Taken
There was no adverse water quality incidents reported during the reporting period.						

**Non-Compliance**

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There was no non-compliance issues reported during the reporting period.				

**Non-Compliance Identified in a Ministry Inspection:**

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There were two inspections during this period. No non-compliances were identified during the inspections.				

## Flows

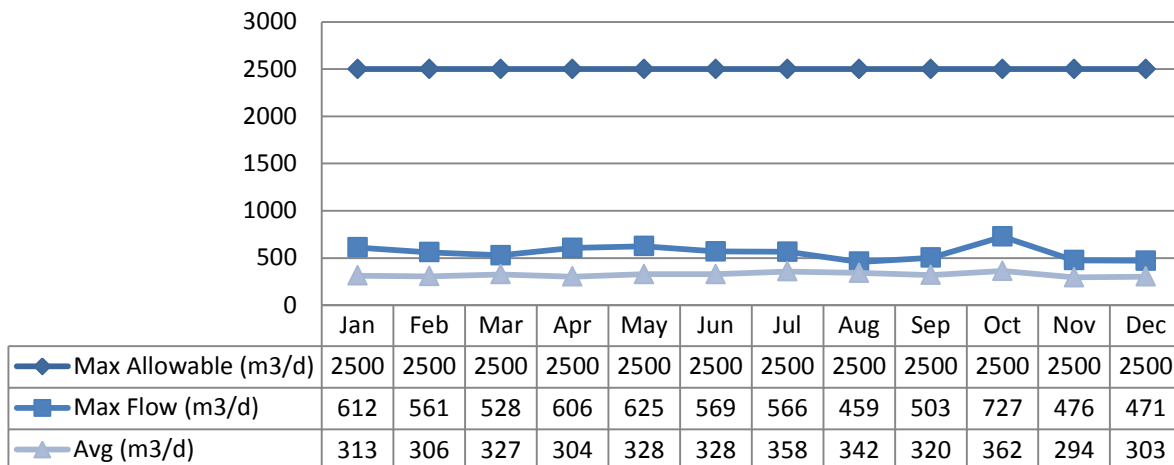
The Barry’s Bay Drinking Water System is operating under half the rated capacity.

### Raw Water Flows

The Raw Water flows are regulated under the Permit to Take Water (PTTW). 2018 Raw Flow Data was submitted to the Ministry electronically under permit #6233-8MXPXP. The confirmation and a copy of the data that was submitted are attached in Appendix A.

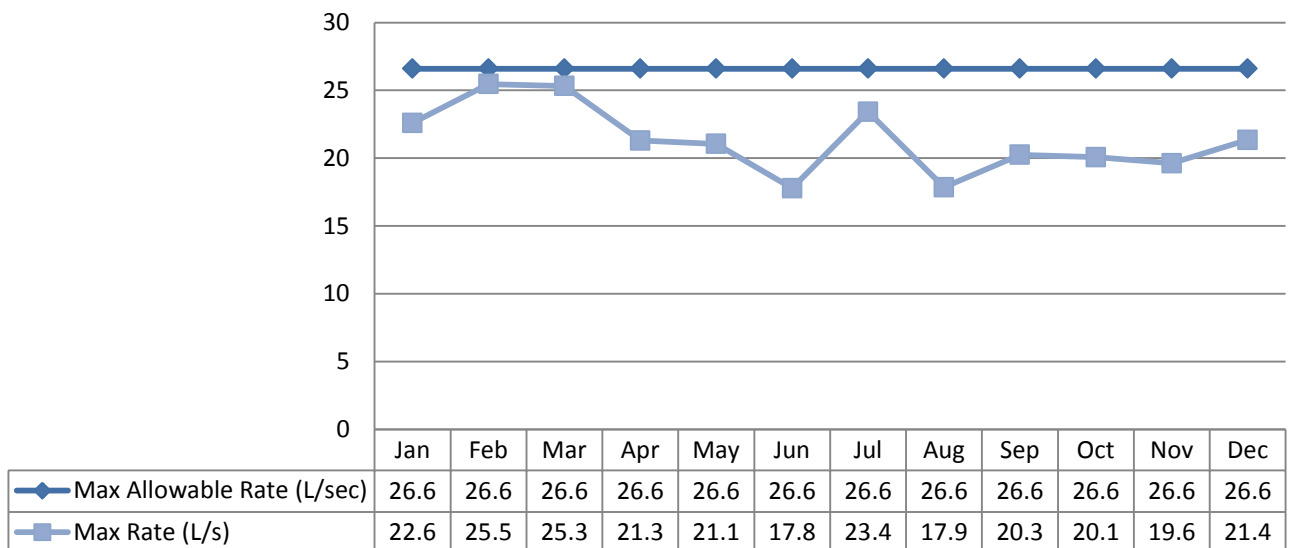
#### Total Monthly Flows (m3/d)

Max Allowable – PTTW



#### Monthly Rated Flows (L/s)

Max allowable rate – PTTW

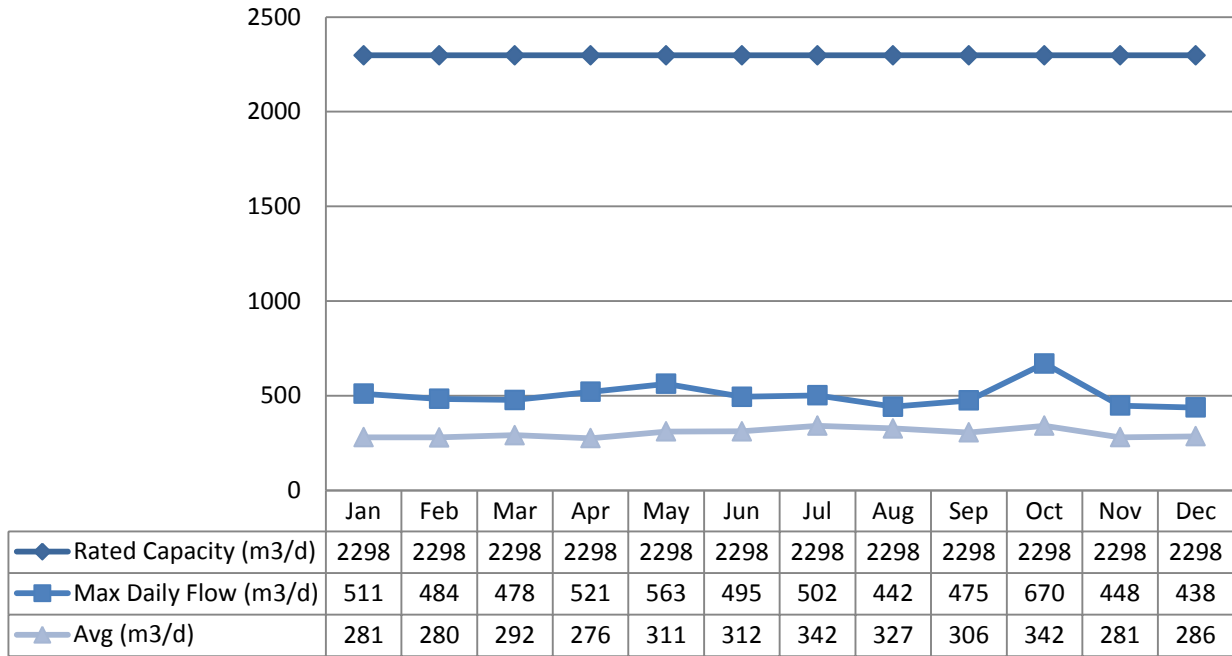


**Treated Water Flows**

The Treated Water flows are regulated under Municipal Drinking Water Licence (MDWL) #192-101.

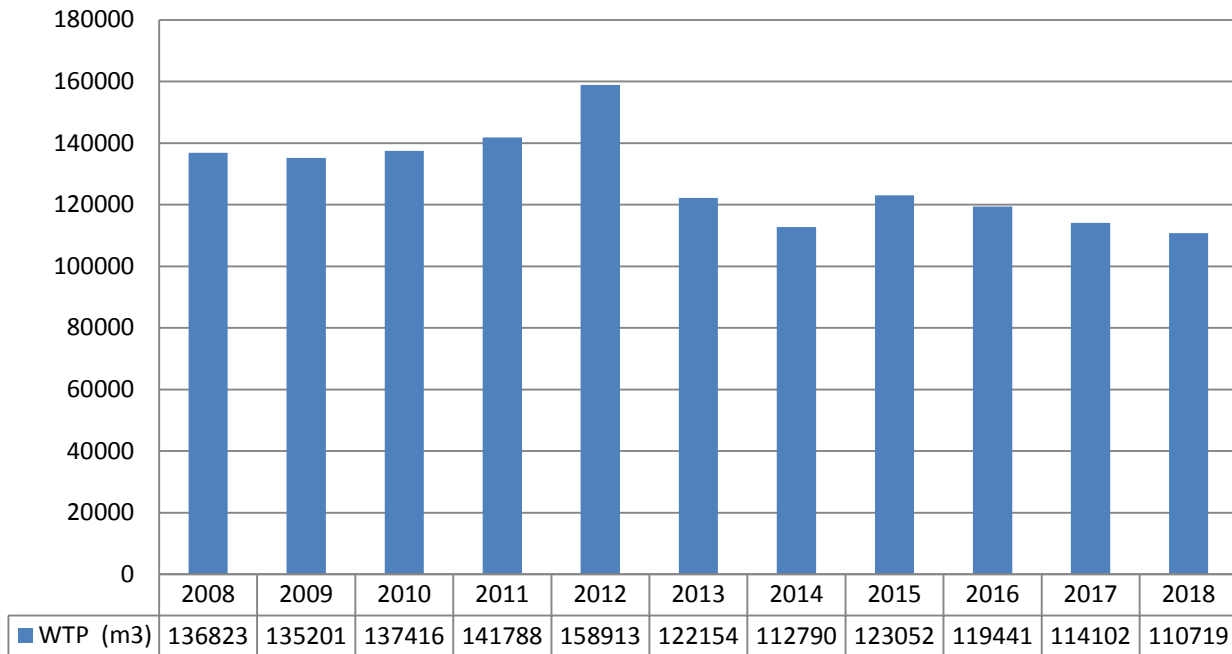
**Monthly Rated Flows**

Rated Capacity - MDWL



**Annual Total Flow Comparison-**

Total Annual m3



## Regulatory Sample Results Summary

### Microbiological Testing

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		Range of HPC Results	
		Min	Max	Min	Max	Min	Max
Raw Water	52	0	69	0	680		
Treated Water	52	0	0	0	0	0	39
Distribution Water	144	0	0	0	0	0	4

### Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Turbidity, In-House (NTU) - RW	249	0.52	1.92
Turbidity, On-Line (NTU) - TW	8760	0	2
Turbidity, In-House (NTU) - TW	249	0.14	0.59
Turbidity, On-Line (NTU) - Filt1	8760	0	0.670
Turbidity, On-Line (NTU) - Filt2	8760	0	0.398
Turbidity, On-Line (NTU) - Filt3	8760	0	0.277
Free Chlorine Residual, On-Line (mg/L) - TW	8760	0.70	2.95
Free Chlorine Residual, In-House (mg/L) - TW	247	1.23	2.18
Free Chlorine Residual, On-Line (mg/L) - DW	8760	0.35	1.60
Free Chlorine Residual, DW Field (mg/L) Lab Upload - DW	148	0.25	1.55

NOTE: spikes recorded by on-line instrumentation were a result of air bubbles and various maintenance/calibration activities. All spikes are reviewed for compliance with O.Reg 170/03

### Inorganic Parameters

These parameters are tested as a requirement under 170/03. Sodium and Fluoride are required to be tested every 5 years. Nitrate and Nitrite are tested quarterly and the metals are tested annually as required under 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

- MAC = Maximum Allowable Concentration as per O.Reg 169/03
- BDL = Below the laboratory detection level

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Antimony: Sb (ug/L) - TW	2018/01/10	<MDL 0.02	6.0	No	No
Arsenic: As (ug/L) - TW	2018/01/10	<MDL 0.2	10.0	No	No
Barium: Ba (ug/L) - TW	2018/01/10	15.9	1000.0	No	No
Boron: B (ug/L) - TW	2018/01/10	7.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2018/01/10	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2018/01/10	0.13	50.0	No	No
Mercury: Hg (ug/L) - TW	2018/01/10	<MDL 0.01	1.0	No	No



	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Selenium: Se (ug/L) - TW	2018/01/10	<MDL 0.04	50.0	No	No
Uranium: U (ug/L) - TW	2018/01/10	0.026	20.0	No	No
<b>Additional Inorganics</b>					
Fluoride (mg/L) - TW	2018/01/09	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2018/01/02	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/04/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/07/03	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2018/10/01	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2018/01/02	0.116	10.0	No	No
Nitrate (mg/L) - TW	2018/04/03	0.184	10.0	No	No
Nitrate (mg/L) - TW	2018/07/03	0.173	10.0	No	No
Nitrate (mg/L) - TW	2018/10/01	0.192	10.0	No	No
Sodium: Na (mg/L) - TW	2014/01/08	19.5	20*	No	Yes

\*There is no "MAC" for Sodium. The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified mg/L when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

#### Schedule 15 Sampling:

The Schedule 15 Sampling is required under O.Reg 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	14	16	32	n/a	n/a
pH	2	12	6.95	7.6	n/a	n/a
Lead (ug/l)	2	4	0.08	2.11	10	0

#### Organic Parameters

These parameters are tested annually as a requirement under O.Reg 170/03. In the event any of the parameters exceed half of the maximum allowable concentration the parameter is required to be sampled quarterly.

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
<b>Treated Water</b>					
Alachlor (ug/L) - TW	2018/01/10	<MDL 0.02	5.00	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2018/01/10	<MDL 0.01	5.00	No	No
Azinphos-methyl (ug/L) - TW	2018/01/10	<MDL 0.05	20.00	No	No
Benzene (ug/L) - TW	2018/01/10	<MDL 0.32	1.00	No	No
Benzo(a)pyrene (ug/L) - TW	2018/01/10	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2018/01/10	<MDL 0.33	5.00	No	No
Carbaryl (ug/L) - TW	2018/01/10	<MDL 0.05	90.00	No	No
Carbofuran (ug/L) - TW	2018/01/10	<MDL 0.01	90.00	No	No
Carbon Tetrachloride (ug/L) - TW	2018/01/10	<MDL 0.16	2.00	No	No

	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Chlorpyrifos (ug/L) - TW	2018/01/10	<MDL 0.02	90.00	No	No
Diazinon (ug/L) - TW	2018/01/10	<MDL 0.02	20.00	No	No
Dicamba (ug/L) - TW	2018/01/10	<MDL 0.2	120.00	No	No
1,2-Dichlorobenzene (ug/L) - TW	2018/01/10	<MDL 0.41	200.00	No	No
1,4-Dichlorobenzene (ug/L) - TW	2018/01/10	<MDL 0.36	5.00	No	No
1,2-Dichloroethane (ug/L) - TW	2018/01/10	<MDL 0.35	5.00	No	No
1,1-Dichloroethylene (ug/L) - TW	2018/01/10	<MDL 0.33	14.00	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2018/01/10	<MDL 0.35	50.00	No	No
2,4-Dichlorophenol (ug/L) - TW	2018/01/10	<MDL 0.15	900.00	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2018/01/10	<MDL 0.19	100.00	No	No
Diclofop-methyl (ug/L) - TW	2018/01/10	<MDL 0.4	9.00	No	No
Dimethoate (ug/L) - TW	2018/01/10	<MDL 0.03	20.00	No	No
Diquat (ug/L) - TW	2018/01/10	<MDL 1.0	70.00	No	No
Diuron (ug/L) - TW	2018/01/10	<MDL 0.03	150.00	No	No
Glyphosate (ug/L) - TW	2018/01/10	<MDL 1.0	280.00	No	No
Malathion (ug/L) - TW	2018/01/10	<MDL 0.02	190.00	No	No
2-Methyl-4chlorophenoxyacetic Acid (MCPA)	2018/01/10	<MDL 0.00012	0.00012	No	No
Metolachlor (ug/L) - TW	2018/01/10	<MDL 0.01	50.00	No	No
Metribuzin (ug/L) - TW	2018/01/10	<MDL 0.02	80.00	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2018/01/10	<MDL 0.3	80.00	No	No
Paraquat (ug/L) - TW	2018/01/10	<MDL 1.0	10.00	No	No
PCB (ug/L) - TW	2018/01/10	<MDL 0.04	3.00	No	No
Pentachlorophenol (ug/L) - TW	2018/01/10	<MDL 0.15	60.00	No	No
Phorate (ug/L) - TW	2018/01/10	<MDL 0.01	2.00	No	No
Picloram (ug/L) - TW	2018/01/10	<MDL 1.0	190.00	No	No
Prometryne (ug/L) - TW	2018/01/10	<MDL 0.03	1.00	No	No
Simazine (ug/L) - TW	2018/01/10	<MDL 0.01	10.00	No	No
Terbufos (ug/L) - TW	2018/01/10	<MDL 0.01	1.00	No	No
Tetrachloroethylene (ug/L) - TW	2018/01/10	<MDL 0.35	10.00	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2018/01/10	<MDL 0.2	100.00	No	No
Triallate (ug/L) - TW	2018/01/10	<MDL 0.01	230.00	No	No
Trichloroethylene (ug/L) - TW	2018/01/10	<MDL 0.44	5.00	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2018/01/10	<MDL 0.25	5.00	No	No
Trifluralin (ug/L) - TW	2018/01/10	<MDL 0.02	45.00	No	No
Vinyl Chloride (ug/L) - TW	2018/01/10	<MDL 0.17	1.00	No	No
<b>Distribution Water</b>					
Trihalomethane: Total (ug/L) Annual Average - DW	2018	43.25	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2018	51.2		N/A	N/A

MAC = Maximum Allowable Concentration as per O.Reg 169/03

BDL = Below the laboratory detection level

### Additional Legislated Samples

There was no additional sampling required.

## Major Maintenance Summary

WO #	Description
701313	Filter#2 Under drain replacement (CWWF Funded)
543489	Chlorinator Upgrades (CWWF Funded)
472582	Replacement Water Main for stock replacement
822410	Waste Pump repairs
742959	SCADA Computer repairs and programming

### Distribution Maintenance

Date	Location Reference	Category	Details	Corrective Repair
May 2018	Dead Ends	N/A	Routine Spring Flushing	N/A
May 2018	North Side of Hwy 60	N/A	All watermain valves were exercised on the north side of Hwy 60	N/A
October 2018	Entire System	N/A	Routine fall flushing program.	N/A
October 26, 2018	141 Stafford St.	1	Emergency repair of a watermain leak on Stafford St.	Service connection was leaking at the main. The main stop was replaced and a clamp installed.

# Appendix A

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## WTRS Data and Submission Confirmation

Location: [WTRS](#) / [WT DATA](#) / [Input WT Record](#)

WTRS-WT-008

**Water Taking Data submitted successfully.****Confirmation:**

Thank you for submitting your water taking data online.

Permit Number: 6233-8MXPXP

Permit Holder: THE CORPORATION OF THE TOWNSHIP OF MADAWASKA VALLEY.

Received on: Jan 28, 2019 8:45 AM

This confirmation indicates that your data has been received by the Ministry, but should not be construed as acceptance of this data if it differs from that specified on the Permit Number, assigned to the Permit Holder stated above.

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TOWNSHIP2 MADAWASKA VALLEY2 | 2019/01/28

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