AGENDA
A meeting of the Council of the Corporation
of the Town of Northeastern Manitoulin and the Islands
to be held on Tuesday, March 8th, 2022
Electronic Format at 7:00 p.m.

1. **Call to Order**

2. **Approval of Agenda**

   Disclosure of Pecuniary Interest & General Nature Thereof

3. **Minutes of Previous Meeting**
   i. Confirming By-Law 2022-14

4. **Old Business**
   i. POA – Motion

5. **Manager Reports**
   i. Administration and Finance Reports – February 2022
   ii. Proposed 2022 Marina and Cruise Ship rates
   iii. Election Voting Method

6. **New Business**
   i. BIA proposed budget
   ii. Little Current Water Annual Report
   iii. Sheguiandah Water Annual Report
   iv. NEMI Landfill Annual Report
   v. 2022 Proposed Water and Sewer Budget
   vi. Floating Accommodations
   vii. Site Plan – Jason Elliott

7. **Minutes and Other Reports**
   i. Mayor's update

8. **In-Camera**
   i. A proposed or pending disposition or acquisition of land for municipal or local board purposes
   ii. Litigation or potential litigation, including matters before administrative tribunals. Affecting the municipality or local board.

9. **Adjournment**

THE CORPORATION OF THE TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS

BY-LAW NO. 2022-14

Being a by-law of the Corporation of the Town of Northeastern Manitoulin and the Islands to adopt the minutes of Council for the term commencing December 4, 2018 and authorizing the taking of any action authorized therein and thereby.

WHEREAS the Municipal Act, S.O. 2001, c. 25. s. 5 (3) requires a Municipal Council to exercise its powers by by-law, except where otherwise provided;

AND WHEREAS in many cases, action which is taken or authorized to be taken by a Council or a Committee of Council does not lend itself to an individual by-law;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS ENACTS AS FOLLOWS:

1. THAT the minutes of the meetings of the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands for the term commencing December 4th, 2018 and held on:

   March 1st, 2022

   are hereby adopted.

2. THAT the taking of any action authorized in or by the minutes mentioned in Section 1 hereof and the exercise of any powers by the Council or Committees by the said minutes are hereby ratified, authorized and confirmed.

3. THAT, where no individual by-law has been or is passed with respect to the taking of any action authorized in or by the minutes mentioned in Section 1 hereof or with respect to the exercise of any powers by the Council or Committees in the above-mentioned minutes, then this by-law shall be deemed for all purposes to be the by-law required for approving and authorizing the taking of any action authorized therein or thereby or required for the exercise of any power therein by the Council or Committees.

4. THAT the Mayor and proper Officers of the Corporation of the Town of Northeastern Manitoulin and the Islands are hereby authorized and directed to do all things necessary to give effect to the recommendations, motions, resolutions, reports, action and other decisions of the Council or Committees as evidenced by the above-mentioned minutes in Section 1 and the Mayor and Clerk are hereby authorized and directed to execute all necessary documents in the name of the Corporation of the Town of Northeastern Manitoulin and the Islands and to affix the seal of the Corporation thereto.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 8th day of March, 2022.

Al MacNevin Mayor

Pam Cress Clerk

The Corporation of the Town of Northeastern Manitoulin and the Islands
Minutes of a meeting of Council held Tuesday, March 1st , 2022
Via Zoom at 7:00p.m

PRESENT: Mayor Al MacNevin, Councillors: Barb Baker, Al Boyd, Laurie Cook, Mike Erskine, William Koehler, Dawn Orr, Bruce Wood, Jim Ferguson

STAFF PRESENT: David Williamson, CAO
Pam Cress, Clerk

Mayor MacNevin called the meeting to order at 7:00 p.m.

Resolution No. 57-03-2022
Moved by: M. Erskine
Seconded by: A. Boyd
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands approves the agenda as amended.

Carried

Resolution No. 58-03-2022
Moved by: M. Erskine
Seconded by: J. Ferguson
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands now reads a first, second and third time and finally passes By-Law 2022-12to adopt the minutes of Council for the term commencing December 4, 2018 and authorizing the taking of any action authorized therein and thereby.

Carried

Councillor Koehler declared a conflict and did not vote on the following resolution.

Resolution No. 59-03-2022
Moved by: M. Erskine
Seconded by: A. Boyd
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands now reads a first, second and third time and finally passes By-Law 2022-13, being a by-law to Stop-up, Close and Sell a portion of public road not travelled described as, road allowance between 219 and 229 Hwy 540.

Carried

Resolution No. 60-03-2022
Moved by: B. Wood
Seconded by: M. Erskine
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands authorizes a payment in the amount of $4389.66 to the POA Board to cover our share of the projected 2022 deficit.

Carried

Resolution No. 61-03-2022
Moved by: M. Erskine
Seconded by: W. Koehler
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands now proceeds In Camera in order to address a matter pertaining to a proposed or pending disposition or acquisition of land for municipal or local board purposes.

Carried

Resolution No. 62-03-2022
Moved by: D. Orr
Seconded by: M. Erskine
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands now approves the sale of Lot 23, Concession11, Part lot 12, Howland Township to Heartwood Mushrooms in the amount of $35 000 with a closing date of June 30, 2023 as per the existing lease agreement.

Carried

Resolution No. 63-03-2022
Moved by: J. Ferguson
Seconded by: L. Cook
RESOLVED THAT the Council of the Corporation of the Town of Northeastern Manitoulin and the Islands does now adjourn at 9:17 pm.

Carried

Al MacNevin Mayor

Pam Cress Clerk

Whereas the Town of Gore Bay on behalf of the Board of Management known as the District of Manitoulin Provincial Offences Act (POA) Management Board has entered into an agreement with the Attorney General of Ontario to oversee the administration and prosecution relating to proceedings commenced under Parts I and II of the POA Act and the administration of Part III;

And whereas the cost of providing the service has outpaced the revenue generated from the services provided;

And whereas downward trends occurring in the balance between revenue and expenses stem from ongoing systemic issues in the tickets and court processes that were becoming evident prior to the advent of COVID-19 issues;

And whereas the administration and prosecution of Provincial Offences is a Provincial responsibility that should not be subsidized by the municipalities through local property taxation;

Now therefore be it resolved that the Municipality of _____ petitions the Province of Ontario to adequately fund the operation the POA and reimburse the Board of Management for current and past deficits.

Town of Northeastern Manitouli
VENDOR CHEQUE REGISTER REPORT
Payables Management

Ranges:	From:	To:		From:	To:
Cheque Number	First	Last	Cheque Date	2022-02-01	2022-02-28
Vendor ID	First	Last	Chequebook ID	TD GENERAL	TD GENERAL
Vendor Name	First	Last			

Sorted By: Cheque Number

* Voided Cheques

Cheque Number	Vendor ID	Vendor Cheque Name	Cheque Date	Chequebook ID	Audit Trail Code	Amount
017339	BELLC02505	BELL CANADA	2022-02-04	TD GENERAL	PMCHQ00004110	$ 231.62
017340	CALHR20222	RANDOLPH CALHOUN	2022-02-04	TD GENERAL	PMCHQ00004110	$ 25.00
017341	CARRI00126	CARRIERE INDUSTRIAL SUPPLY	2022-02-04	TD GENERAL	PMCHQ00004110	$ 121.44
017342	DHELE18686	DH ELECTRICAL	2022-02-04	TD GENERAL	PMCHQ00004110	$ 4,079.01
017343	EQUIP05675	EQUIPMENT WORLD	2022-02-04	TD GENERAL	PMCHQ00004110	$ 797.78
017344	FINEH06100	MINISTER OF FINANCE	2022-02-04	TD GENERAL	PMCHQ00004110	$ 2,605.86
017345	MANEA35000	MANITOULIN EAST MUNICIPAL AIRP	2022-02-04	TD GENERAL	PMCHQ00004110	$ 63,554.50
017346	MSRTI20211	MSR TIRE LTD.	2022-02-04	TD GENERAL	PMCHQ00004110	$ 1,000.63
017347	NORCH14650	THE NORTH CHANNEL MARINE TOURI	2022-02-04	TD GENERAL	PMCHQ00004110	$ 1,000.00
017348	OLEAM20222	MICHAEL AND JENNIFER O'LEARY	2022-02-04	TD GENERAL	PMCHQ00004110	$ 11.46
017349	OTISC15800	OTIS CANADA, INC.	2022-02-04	TD GENERAL	PMCHQ00004110	$ 2,748.37
017350	PUROL16900	PUROLATOR INC.	2022-02-04	TD GENERAL	PMCHQ00004110	$ 71.84
017351	RASTA26800	RASTALL MINE SUPPLY LIMITED	2022-02-04	TD GENERAL	PMCHQ00004110	$ 842.84
017352	RECGE18025	RECEIVER GENERAL	2022-02-04	TD GENERAL	PMCHQ00004110	$ 19,914.11
017353	REDBO25000	REDBOW FLOOR AND WALL FASHIONS	2022-02-04	TD GENERAL	PMCHQ00004110	$ 86.28
017354	CAMTR00117	CAMBRIAN TRUCK CENTRE INC.	2022-02-04	TD GENERAL	PMCHQ00004111	$ 86.60
017355	CEPLO03600	UNIFOR	2022-02-04	TD GENERAL	PMCHQ00004111	$ 2,086.47
017356	COMPU75200	COMPUTREK	2022-02-04	TD GENERAL	PMCHQ00004111	$ 1,756.25
017357	DHELE18686	DH ELECTRICAL	2022-02-04	TD GENERAL	PMCHQ00004111	$ 605.97
017358	MANDI86400	MANITOULIN DISTRICT MUTUAL AID	2022-02-04	TD GENERAL	PMCHQ00004111	$ 800.00
017359	MOORT45000	TIM MOORE	2022-02-04	TD GENERAL	PMCHQ00004111	$ 40.00
017360	NORDO14630	NORDOORS SUDBURY LIMITED	2022-02-04	TD GENERAL	PMCHQ00004111	$ 1,269.39
017361	OJGRA15025	O.J. GRAPHIX & DESIGN	2022-02-04	TD GENERAL	PMCHQ00004111	$ 926.60
017362	ONTCL15670	ONTARIO CLEAN WATER AGENCY	2022-02-04	TD GENERAL	PMCHQ00004111	$ 20,000.62
017363	PATSP11999	PATRICK SPRACK LIMITED	2022-02-04	TD GENERAL	PMCHQ00004111	$ 692.43
017364	RECGE18025	RECEIVER GENERAL	2022-02-04	TD GENERAL	PMCHQ00004111	$ 1,197.85
017365	ROBID20199	DARRION ROBINSON	2022-02-04	TD GENERAL	PMCHQ00004111	$ 20.00
017366	SUDHE19910	PUBLIC HEALTH SUDBURY & DISTRI	2022-02-04	TD GENERAL	PMCHQ00004111	$ 9,805.00
017367	LAIDL34440	LAIDLEY STATIONERY & OFFICE FU	2022-02-04	TD GENERAL	PMCHQ00004112	$ 203.39
017368	NCOMM14669	NORTHERN COMMUNICATIONS	2022-02-04	TD GENERAL	PMCHQ00004112	$ 972.94
017369	RECGE18025	RECEIVER GENERAL	2022-02-04	TD GENERAL	PMCHQ00004112	$ 1,360.51
017370	WSIBO23750	WORKPLACE SAFETY & INSURANCE B	2022-02-04	TD GENERAL	PMCHQ00004112	$ 3,989.00
017371	ARMSTR10001	RICK ARMSTRONG	2022-02-07	TD GENERAL	PMCHQ00004113	$ 135.16
017372	BELLC02510	BELL CANADA	2022-02-07	TD GENERAL	PMCHQ00004113	$ 85.33
017373	COOSO66616	COOPER AND SONS PLUMBING	2022-02-07	TD GENERAL	PMCHQ00004113	$ 718.63
017374	FINEH06100	MINISTER OF FINANCE	2022-02-07	TD GENERAL	PMCHQ00004113	$ 591.62
017375	GFLEN20199	GFL ENVIRONMENTAL INC.	2022-02-07	TD GENERAL	PMCHQ00004113	$ 6,610.48
017376	OMERS15410	OMERS - PENSION ACCOUNTS	2022-02-07	TD GENERAL	PMCHQ00004113	$ 33,871.66
017377	TNEMI90327	TOWN OF NORTHEASTERN MANITOULI	2022-02-07	TD GENERAL	PMCHQ00004113	$ 14,796.37
017378	HYDRO15675	HYDRO ONE NETWORKS INC.	2022-02-08	TD GENERAL	PMCHQ00004114	$ 13,569.51
017379	MISIN20000	MIS INSURANCE SERVICES	2022-02-09	TD GENERAL	PMCHQ00004115	$ 200,403.44
017380	EASTA22550	EASTLINK	2022-02-11	TD GENERAL	PMCHQ00004116	$ 229.55
017381	EASTL58000	EASTLINK	2022-02-11	TD GENERAL	PMCHQ00004116	$ 206.34
017382	FINEH06100	MINISTER OF FINANCE	2022-02-11	TD GENERAL	PMCHQ00004116	$ 753.69
017383	LAURE12030	LAURENTIAN BUSINESS PRODUCTS I	2022-02-11	TD GENERAL	PMCHQ00004116	$ 168.40
017384	LENSC12250	LEN'S CLEAN AIR PORTABLE EMISS	2022-02-11	TD GENERAL	PMCHQ00004116	$ 282.50
017385	MAEXP20211	MANITOULIN EXPOSITOR	2022-02-11	TD GENERAL	PMCHQ00004116	$ 219.85
017386	MCQUA23000	MCQUARRIE MOTOR PRODUCTS INC.	2022-02-11	TD GENERAL	PMCHQ00004116	$ 1,788.77
017387	ONTCL15670	ONTARIO CLEAN WATER AGENCY	2022-02-11	TD GENERAL	PMCHQ00004116	$ 20,000.62
017388	PCOSE16005	ORKIN CANADA CORPORATION	2022-02-11	TD GENERAL	PMCHQ00004116	$ 141.25
017389	PITGL16460	PITNEY BOWES GLOBAL CREDIT SER	2022-02-11	TD GENERAL	PMCHQ00004116	$ 165.50
017390	REATA2017	REALTAX INC.	2022-02-11	TD GENERAL	PMCHQ00004116	$ 6,554.00
017391	SUPPR19980	SUPERIOR PROPANE	2022-02-11	TD GENERAL	PMCHQ00004116	$ 1,154.23
017392	TOROM4764	TOROMONT CAT	2022-02-11	TD GENERAL	PMCHQ00004116	$ 2,767.44

* Voided Cheques

Cheque Number	Vendor ID	Vendor Cheque Name	Cheque Date	Chequebook ID	Audit Trail Code	Amount
017393	WHITE23378	WHITEHOTS INC.	2022-02-11	TD GENERAL	PMCHQ00004116	$ 75.21
017394	WHITE60000	WHITE'S SHELL	2022-02-11	TD GENERAL	PMCHQ00004116	$ 281.29
017395	WORKE23700	WORK EQUIPMENT LTD.	2022-02-11	TD GENERAL	PMCHQ00004116	$ 350.75
017396	BRAND20199	BRANDT SUDBURY	2022-02-11	TD GENERAL	PMCHQ00004117	$ 10,123.66
017397	CONDI20199	DIANNE CONSTANTINEAU	2022-02-11	TD GENERAL	PMCHQ00004117	$ 200.00
017398	GRAHA65650	GRAHAM ENERGY LIMITED	2022-02-11	TD GENERAL	PMCHQ00004117	$ 18,344.83
017399	ONTMU15705	ONTARIO MUSEUM ASSOCIATION	2022-02-11	TD GENERAL	PMCHQ00004117	$ 170.00
017400	TNEMI90327	TOWN OF NORTHEASTERN MANITOULI	2022-02-11	TD GENERAL	PMCHQ00004117	$ 2,503.83
017401	TIMCO20500	RONA LITTLE CURRENT BUILDING C	2022-02-11	TD GENERAL	PMCHQ00004118	$ 2,813.37
017402	BELLC02500	BELL CANADA	2022-02-15	TD GENERAL	PMCHQ00004119	$ 1,521.77
017403	CAMTR00117	CAMBRIAN TRUCK CENTRE INC.	2022-02-15	TD GENERAL	PMCHQ00004119	$ 497.41
017404	EMCON20188	EMCON SERVICES INC.	2022-02-15	TD GENERAL	PMCHQ00004119	$ 270.08
017405	JEFFS37700	JEFF'S TAXI AND DELIVERY	2022-02-15	TD GENERAL	PMCHQ00004119	$ 169.50
017406	LINDE20222	LINDE CANADA INC.	2022-02-15	TD GENERAL	PMCHQ00004119	$ 304.14
017407	MANMA13025	MANITOULIN CENTENNIAL MANOR	2022-02-15	TD GENERAL	PMCHQ00004119	$ 33,603.73
017408	MOORT45000	TIM MOORE	2022-02-15	TD GENERAL	PMCHQ00004119	$ 20.00
017409	ONTCL15670	ONTARIO CLEAN WATER AGENCY	2022-02-15	TD GENERAL	PMCHQ00004119	$ 2,150.16
017410	PIERR	RODNEY PIERCE	2022-02-15	TD GENERAL	PMCHQ00004119	$ 20.00
017411	REGSP18300	REGIONAL SPRING SERVICES & TRU	2022-02-15	TD GENERAL	PMCHQ00004119	$ 71.30
017412	ROBID20199	DARRION ROBINSON	2022-02-15	TD GENERAL	PMCHQ00004119	$ 60.00
017413	TRACK20800	TRACKS & WHEELS EQUIPMENT BROK	2022-02-15	TD GENERAL	PMCHQ00004119	$ 965.94
017414	UNIMA20222	UNITED MACHINING & HYDRAULICS	2022-02-15	TD GENERAL	PMCHQ00004119	$ 2,034.00
017415	BAMMM20188	BRENDAN ADDISON MOBILE MECHANI	2022-02-15	TD GENERAL	PMCHQ00004120	$ 3,262.70
017416	ALLEN00022	ALLEN'S AUTOMOTIVE	2022-02-16	TD GENERAL	PMCHQ00004121	$ 3,875.42
017417	MANTR13175	MANITOULIN TRANSPORT INC.	2022-02-16	TD GENERAL	PMCHQ00004121	$ 237.30
017418	MAYLY20199	LYNN MAY	2022-02-16	TD GENERAL	PMCHQ00004121	$ 50.00
017419	TSSAU77000	TECHNICAL STANDARDS & SAFETY A	2022-02-16	TD GENERAL	PMCHQ00004121	$ 355.95
017420	VIANE22225	VIANET INTERNET SOLUTIONS	2022-02-16	TD GENERAL	PMCHQ00004121	$ 73.39
017421	USBAN95502	US BANK NATIONAL ASSOCIATION	2022-02-17	TD GENERAL	PMCHQ00004122	$ 4,750.24
017422	BEACO00066	BEACON IMAGES	2022-02-22	TD GENERAL	PMCHQ00004123	$ 345.36
017423	BELLC02505	BELL CANADA	2022-02-22	TD GENERAL	PMCHQ00004123	$ 387.51
017424	ISLAN20177	THE ISLAND ANIMAL HOSPITAL	2022-02-22	TD GENERAL	PMCHQ00004123	$ 50.00
017425	RECGE18025	RECEIVER GENERAL	2022-02-22	TD GENERAL	PMCHQ00004123	$ 19,829.21
017426	ROGER00116	ROGERS CANTEL INC.	2022-02-22	TD GENERAL	PMCHQ00004123	$ 276.85
017427	WHITE23378	WHITEHOTS INC.	2022-02-22	TD GENERAL	PMCHQ00004123	$ 189.50
017428	WILLI10000	DAVID WILLIAMSON	2022-02-23	TD GENERAL	PMCHQ00004124	$ 625.68
017429	MCDOU20070	MCDOUGALL ENERGY INC.	2022-02-24	TD GENERAL	PMCHQ00004125	$ 38,377.26
017430	CAMTR00117	CAMBRIAN TRUCK CENTRE INC.	2022-02-25	TD GENERAL	PMCHQ00004126	$ 2,603.66
017431	CONDI20199	DIANNE CONSTANTINEAU	2022-02-25	TD GENERAL	PMCHQ00004126	$ 200.00
017432	GINCO35000	GINCOR INDUSTRIES	2022-02-25	TD GENERAL	PMCHQ00004126	$ 121.14
017433	KSMAR85000	K. SMART ASSOCIATES LIMITED	2022-02-25	TD GENERAL	PMCHQ00004126	$ 587.60
017434	RALPH20166	RALF ISLAND TRUCK PARTS	2022-02-25	TD GENERAL	PMCHQ00004126	$ 90.81
017435	SILVA20222	SILVA-BROUWER LAND WORKS INC.	2022-02-25	TD GENERAL	PMCHQ00004126	$ 33,900.00
017436	WORKE23700	WORK EQUIPMENT LTD.	2022-02-25	TD GENERAL	PMCHQ00004126	$ 489.81
017437	BELLM00075	BELL MOBILITY	2022-02-28	TD GENERAL	PMCHQ00004127	$ 2,184.83
017438	MANDE20202	MANITOULIN DESIGN HOMES	2022-02-28	TD GENERAL	PMCHQ00004128	$ 22,780.80
017439	ADMRE20202	ADMINPLEX RESOURCE SERVICES IN	2022-02-28	TD GENERAL	PMCHQ00004129	$ 109.55
017440	BELLC00071	BELL	2022-02-28	TD GENERAL	PMCHQ00004129	$ 56.38
017441	BELLC02505	BELL CANADA	2022-02-28	TD GENERAL	PMCHQ00004129	$ 128.76
017442	BOWES20222	SARAH BOWERMAN	2022-02-28	TD GENERAL	PMCHQ00004129	$ 50.00
017443	CAMTR00117	CAMBRIAN TRUCK CENTRE INC.	2022-02-28	TD GENERAL	PMCHQ00004129	$ 170.75
017444	CIMCO20202	CIMCO REFRIGERATION	2022-02-28	TD GENERAL	PMCHQ00004129	$ 753.13
017445	MAEXP20211	MANITOULIN EXPOSITOR	2022-02-28	TD GENERAL	PMCHQ00004129	$ 1,544.44
017446	MANCY55570	MANITOULIN ISLAND CYCLING ADVO	2022-02-28	TD GENERAL	PMCHQ00004129	$ 56.50
017447	MANSU13148	MANITOULIN-SUDBURY DISTRICT SO	2022-02-28	TD GENERAL	PMCHQ00004129	$ 182,667.66
017448	MAXWR20211	ROBERT MAXWELL	2022-02-28	TD GENERAL	PMCHQ00004129	$ 7,712.25
017449	MSRTI20211	MSR TIRE LTD.	2022-02-28	TD GENERAL	PMCHQ00004129	$ 1,376.34
017450	NAHWM20222	MAUREEN NAHWEGAHBO	2022-02-28	TD GENERAL	PMCHQ00004129	$ 50.00
017451	PUROL16900	PUROLATOR INC.	2022-02-28	TD GENERAL	PMCHQ00004129	$ 85.79
017452	QUINC20222	CAROLYN QUINN	2022-02-28	TD GENERAL	PMCHQ00004129	$ 100.00
017453	RALPH20166	RALF ISLAND TRUCK PARTS	2022-02-28	TD GENERAL	PMCHQ00004129	$ 225.42

* Voided Cheques

Cheque Number	Vendor ID	Vendor Cheque Name	Cheque Date	Chequebook ID	Audit Trail Code	Amount
017454	TOROM4764	TOROMONT CAT	2022-02-28	TD GENERAL	PMCHQ00004129	$ 165.21
017455	WAMCO25000	WAMCO WATERWORKS NORTHERN INC.	2022-02-28	TD GENERAL	PMCHQ00004129	$ 3,326.27
017456	WATTG20000	G. STEPHEN WATT, BARRISTER & S	2022-02-28	TD GENERAL	PMCHQ00004129	$ 1,514.83
017457	BAMMM20188	BRENDAN ADDISON MOBILE MECHANI	2022-02-28	TD GENERAL	PMCHQ00004130	$ 8,849.12
017458	HYDRO15675	HYDRO ONE NETWORKS INC.	2022-02-28	TD GENERAL	PMCHQ00004130	$ 13,438.21
017459	PIOPO20199	PIONEER POWER INDUSTRIES LTD.	2022-02-28	TD GENERAL	PMCHQ00004130	$ 2,549.39
017460	PUBSE20222	PSD CITYWIDE INC.	2022-02-28	TD GENERAL	PMCHQ00004130	$ 7,684.00
017461	MANDE20202	MANITOULIN DESIGN HOMES	2022-02-28	TD GENERAL	PMCHQ00004131	$ 7,593.60
017462	USBAN95502	US BANK NATIONAL ASSOCIATION	2022-02-28	TD GENERAL	PMCHQ00004132	$ 4,785.88

Total Cheques: 124

Total Amount of Cheques: $ 905,307.57

TOTAL FEBRUARY 2022 PAYROLL EXPENSES : $ 94,443.55

TOTAL FEBRUARY 2022 EXPENSES : $ 999,751.12

TOWN OF NORTHEASTERN MANITOULIN & THE ISLANDS

Accounts Receivable - Water / Sewer

JANUARY	2022	$59,177.83
FEBRUARY	2022	-$2,457.19
Change in Month		-$61,635.02

Billings / Adjustments in period	$12,141.90
Payments / Adjustments in Month	$73,776.92

Currently there are 3 account over $400.00;

2 - arrangements made

1 - due to penalty

8 - accounts transferred to taxes (total amount of $4,257.55)

TOWN OF NORTHEASTERN MANITOULIN & THE ISLANDS

Accounts Receivable - Taxes

JANUARY	2022	$72,428.66
FEBRUARY	2022	$1,752,023.90
Change in Month		$1,679,595.24

Billings / Adjustments in period	$3,221,491.19
Payments / Adjustments in Month	$1,541,895.95

Next tax installment due date - April 29th, 2022

TOWN OF NORTHEASTERN MANITOULIN and the ISLANDS

2022 OPERATING SUMMARY

For the Two Months Ending 2022-02-28

Last Updated : 2022-03-03 12:26 PM

	2022 APPROVED BUDGET	2022 ACTUALS
REVENUES		
LOCAL TAXATION		
Municipal Levy	$6,160,424	$2,519,473
- Due to School Boards	(1,033,346)	512,451
Net Municipal Levy	*$5,127,078*	*$3,031,924*
Business Improvement Area	7,000	3,500
	$5,134,078	$3,035,424
PAYMENTS IN LIEU OF TAX	$88,700	$75,102
PROVINCIAL OMPF & OTHER ALLOCATION	$1,617,100	$404,275
FUNCTIONAL REVENUES		
Protective Services	$133,111	$6,934
Transportation Services	24,600	182
Environmental Services	111,500	3,894
Health Services	10,000	1,700
Social and Family Services	0	0
Recreation & Cultural Services	711,697	8,552
Planning & Development	9,000	1,000
	$999,908	$22,262
OTHER SOURCES OF REVENUE	$171,000	$23,332
TRANSFERS FROM RESERVES	0	0
PRIOR YR'S SURPLUS (DEFICIT)	0	0
TOTAL SOURCES OF REVENUE	**$8,010,786**	**$3,560,394**
EXPENDITURES		
GENERAL GOVERNMENT		
Operations	$1,260,244	$218,539
Transfers to Reserves	364,334	0
Subtotal	$1,624,578	$218,539
PROTECTIVE SERVICES		
Fire Department	$176,209	$25,394
Policing (provincial billing)	726,978	0
Building Inspection	119,075	12,406
Other Protective Services	37,400	5,796
Transfers to Reserves	0	0
Subtotal	$1,059,662	$43,596
TRANSPORTATION SERVICES		
Roadways	$1,654,745	$217,888
Street Lighting	19,000	1,442
Crossing Guards	32,260	2,577
Manitoulin East Airport	63,555	63,555
Transfers to Reserves	0	0
Subtotal	$1,769,559	$285,461

TOWN OF NORTHEASTERN MANITOULIN and the ISLANDS
2022 OPERATING SUMMARY
For the Two Months Ending 2022-02-28

Last Updated : 2022-03-03 12:26 PM

	2022 APPROVED BUDGET	2022 ACTUALS
ENVIRONMENTAL SERVICES		
Sanitary & Storm Sewers	$500	$44,308
Waterworks	2,800	59,711
Garbage Collection	73,197	6,093
Garbage Disposal	260,457	31,636
Household Hazardous Waste	32,800	0
Landfill Closure Loan Payment	72,187	12,031
Recycling	48,000	2,840
Leachate Management	20,000	0
Transfers to Reserves	0	0
Subtotal	$509,941	$156,621
HEALTH SERVICES		
Health Unit	$110,025	$19,610
Land Ambulance	736,965	116,939
Cemeteries	33,424	976
Subtotal	$880,414	$137,525
SOCIAL & FAMILY SERVICES		
Manitoulin- Sudbury DSSAB	$414,418	$65,729
Centennial Manor	138,407	33,604
Subtotal	$552,825	$99,332
RECREATION & CULTURAL SERVICES		
Municipal Parks	$102,992	$11,127
Recreation Centre	613,385	80,321
Public Library	101,884	3,647
LC-H Centennial Museum	113,155	5,934
Spider Bay Marina	247,202	16,827
Other Marine Facilities	151,982	14,663
Transfers to Reserves	57,710	0
Subtotal	$1,388,310	$132,519
PLANNING & DEVELOPMENT		
Local Planning Administration	10,997	286
Tourism Promotion	16,200	311
Business Improvement Area	7,000	0
Economic Development	28,600	139
Transfers to Reserves	0	0
Subtotal	$62,797	$737
TOTAL EXPENDITURE	$7,848,086	$1,074,330
NET OPERATING	*$162,701*	*$2,486,063*
NET CAPITAL EXPENDITURE	$162,700	$12,227
MUNICIPAL SURPLUS/(-DEFICIT)	$1	$2,473,836

PORT of LITTLE CURRENT

MARINE SERVICE RATES

2022

Seasonal	Full Service/Foot *Power, Water, Showers, Parking Included*	$51.00 + HST
	Dockage Only/Foot *Parking & Showers Included*	$36.00 + HST
	Pier 10- **Boats under 16 feet only** *No Power, Water or Finger Slip*	$380.00 + HST
Transient	Per Foot *Power, Water & Showers Included*	$2.00 + HST
Monthly	Per Foot *Power, Water & Showers Included*	$25.50 + HST
Weekly	Per Foot *Power, Water & Showers Included*	$12.00 + HST
Pump Outs	Per Holding Tank	$13.28 + HST
Ramping	Seasonal	$45.00 + HST
	Per Use	$4.43 + HST
Overnight Parking	Vehicle & Trailer Per Night	$5.31 + HST
	Boat Trailer Only	$2.00 + HST

PORT of LITTLE CURRENT

CRUISESHIP RATES
2022

Dock		
Main Wall	*400ft of Fenced Dock Wall with Accessible Ramp*	$850.00 + HST
Tender Dock	*East End Wall or Floating Dock Access for Ship Tenders and Fenced*	$500.00 + HST
Services		
Port Security	*Staffed Security Gate for Access to the Ship or Ship Tender*	$70.00 + HST per hour
Fresh Water		N/A
Waste Water Removal		N/A
Waste/Garbage Removal		N/A

NORTHEASTERN MANITOULIN & THE ISLANDS

As you all know this is an election year and as with most election years there have been a few changes.

May 1st – Last day to pass a by-law authorizing the use of voting and vote-counting equipment and/or authorizing electors to **use an alternative voting method**.

May 2nd – Nomination period begins

June 1st – Last day **to establish procedures** and forms for the use of any voting and vote counting equipment, or alternative voting method.

August 19th – Nomination Day

October 24th – VOTING DAY

Over the past few eletions the Town of Northeastern Manitouin and the Islands has used the "Mail in Ballot" format for voting and it has worked well for us, however like anything the new, tried and tested alternative to this format is the "internet and telephone voting" alternative.

It has been established that internet and telephone voting improves efficency and enhances the intergrity of the process by eliminating spoiled ballots and reducing opportunities for miscounting of paper ballots.

Included below is a number of benefits to move to this new format.

ONLINE AND TELEPHONE VOTING
Convienient for everyone – no accessibilty issues
All votes counted – Not depending on delivery of Canada Post
No spoiled ballots
Voters can confirm that their vote was counted
100% Accurate count – no human errors
No possibiltiy of ballet or count tampering
100% Privacy – no ballets laying around
Much less staff time
RESULTS ARE INSTANT

As you can see there are a number of reasons to move to this format. This is going to be more expensive however the protection of the integrity of the election process is a much higher degree.

The cost of electronic voting is approximately $21 000 compared to the mail in ballot process which would be approximately $17 000.

If Council wishes to move forward with the change in voting method a motion of Council will be required.

Little Current Business Improvement Area

PROPOSED 2022 BUDGET

INCOME

BIA Levy for 2022	$7,000

EXPENSES

Flowers for baskets	$600
Highway sign rental to BT Rolston	$1,000
Highway sign rentals (2) to MTO	$300
Ladies Night advertising	$800
Great Lakes Cruise Ship Coalition	$500
Christmas promotions	$500
Magazine advertising	$900
Donation to Lions Club (fireworks)	$500
Mailbox rental	$185
Canada Day (plus Canada funding)	$600
Provision for HST	$600
TOTAL	**$6,485**

Potential to return to reserves.....$515

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Espanola Hub
148 Fleming St, Suite 5
Espanola, ON P5E 1R8

Tel: 705 869 5578
Fax: 705-869-4374
www.ocwa.com

February 28, 2022

Dave Williamson
The Corporation of the Town of Northeastern Manitoulin and the Islands
14 Water Street East P.O. Box 608
Little Current, Ontario
P0P 1K0

Re: O. Reg. 170 Section 11 & Schedule 22 Annual Reporting under SDWA
O. Reg 387 Section 9 Annual Reporting under OWRA
For the Little Current Water Treatment Plant
Waterworks No.: 210000746

Dear Mr. Williamson;

Attached are the 2021 Annual and Summary Reports for the Little Current Water System. The Reports are based on information provided by Operators as of February 28, 2022 in accordance with Section 11 and Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act. A confirmation of submission of the PTTW reporting, as required by O.Reg 387, is included as part of the report.

Please note that any Orders that you have received directly from the MOE or any major expense incurred by the Municipality which is not listed should be reviewed and added to the report.

As per Schedule 22 of O. Reg. 170/03, this Summary Report is to be provided to the members of the municipal council no later than March 31, 2022. Please ensure this distribution.

Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Sincerely,

Sarah Beaulieu
Process & Compliance Technician
Ontario Clean Water Agency

Little Current Water Treatment

Large Municipal Residential Drinking Water System

January 1, 2021 – December 31, 2021

O.Reg 170/03 Schedule 22 Summary Report
O.Reg 170/03 Section 11 Annual Report
&
O.Reg 387/04 Annual Record of Water Taking

Prepared by the Ontario Clean Water Agency
For The Corporation of the Town of Northeastern Manitoulin and the Islands

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Drinking-Water System Number: *220002191*
Drinking-Water System Name: *LITTLE CURRENT DRINKING WATER SYSTEM*
Drinking-Water System Owner: *The Corporation of the Town of Northeastern Manitoulin and the Islands*
Drinking-Water System Category: *Large Municipal Residential*

SECTION 1: INTRODUCTION

This document is prepared in accordance with Section 11 and Schedule 22 of O.Reg.170/03 under the Safe Drinking Water Act and with Section 9 of O.Reg.387/04 under the Ontario Water Resources Act. The reports are prepared by the Ontario Clean Water Agency. Acronyms and definitions can be found at the end of the report.

A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2022.

SECTION 2: REQUIREMENTS OF THE REPORTS

Schedule 22 Report

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. It must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.
For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

Section 11 Report

The annual report must contain the following:

- A brief description of the drinking water system and a list of chemicals used by the system.
- A description of any major expenses incurred during the period covered by the report to install, repair or replace required equipment.
- A summary of all adverse water quality incidents (AWQI) reported to the Ministry
- A summary of corrective actions taken in response all AWQIs
- A summary of all test results required under the regulation, under an approval, municipal drinking water licence or order, including an OWRA order.
- A statement of where a Schedule 22 report will be available for inspection.

The report must be prepared not later than February 28 of the following year.

Regulation 387 Report

On or before March 31 in every year, every holder of a permit to take water (PTTW) shall submit to a Director the data collected and recorded for the previous year.

A record of annual water taking can be found in Appendix A.

SECTION 3: SCHEDULE 22 REPORT

Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Little Current WTP shall not be operated to exceed a maximum daily volume of 3100 m3/d to the distribution system.

The daily treated water maximum flow was 1,448 m3 in June and represents 47% of capacity. In 2021, the total volume of water sent to the distribution system was 346,675.3 m3

The quantity of treated water supplied during the reporting period **did not** exceed the rated maximum capacity.

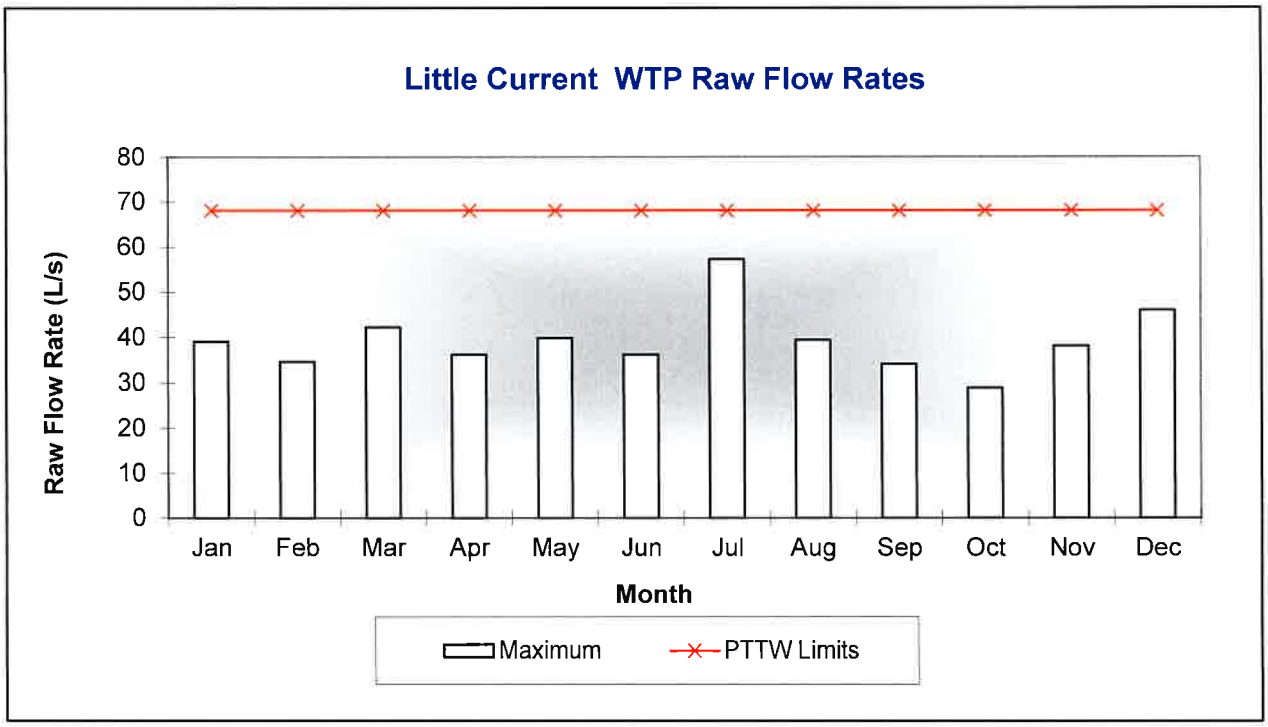
Flows - Raw

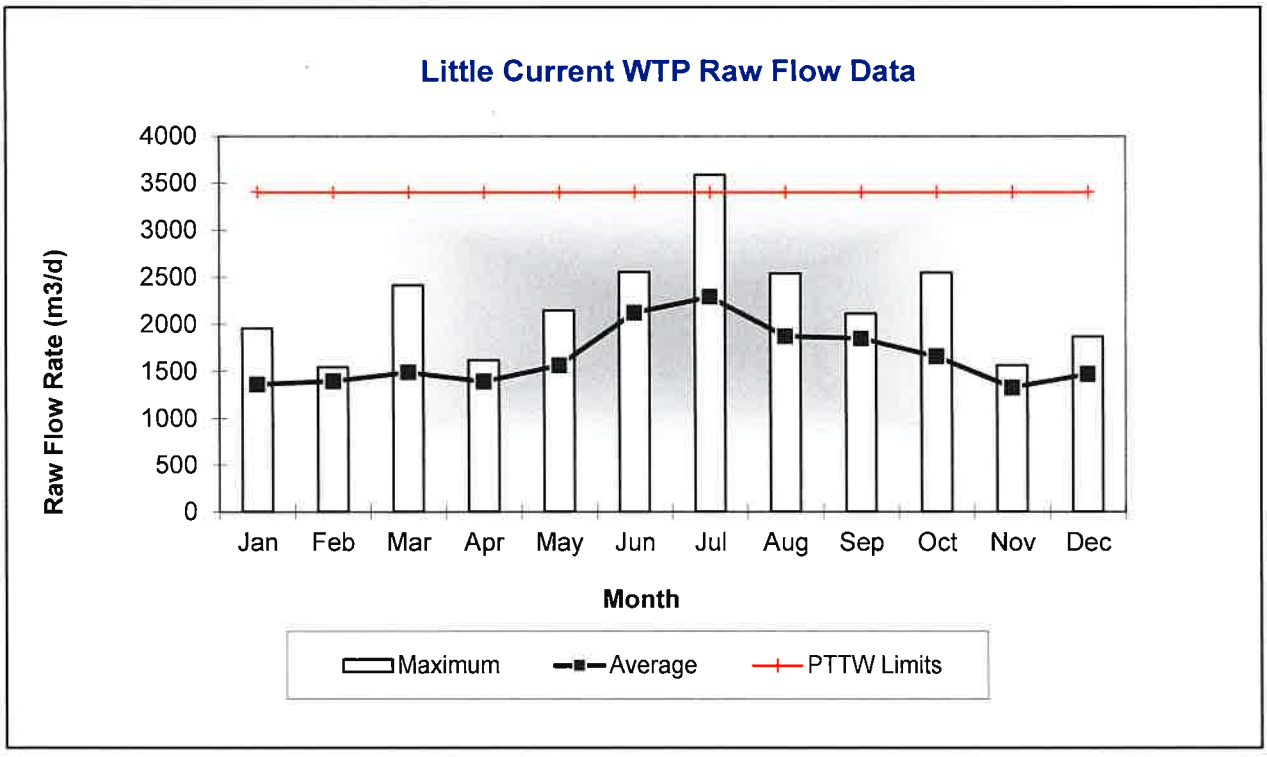
Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 68.1 L/s and a maximum daily volume of 3400 m^3/d.

The average monthly raw water flow for this reporting period was 1,650.2m3/d. The maximum daily flow was 3,585.7 m^3/d representing 105% of water taking limits. In 2021, the total volume of water taken from the environment was 602,309.2 m3

The quantity of raw water taken **did** exceed the limits stipulated within the PTTW. Details of the exceedance can be found under System Failures and Corrective Actions.

	RAW WATER FLOW DATA - TOTAL ALL SOURCES					
Month	**Total Monthly Flow (m3)**	**Average Flow (m3/d)**	**Maximum Flow (m3/d)**	**Maximum Flow Rate (L/s)**	**Limits**	
					L/s (PTTW)	**m^3/d** (PTTW)
January	42,194.7	1,361.12	1,955.9	39.08	68.1	3400
February	39,024.3	1,393.73	1,542.8	34.65	68.1	3400
March	46,115.6	1,487.6	2,416.7	42.28	68.1	3400
April	41,709.5	1,390.32	1,617.8	36.24	68.1	3400
May	48,361.5	1,560.05	2,148.2	39.84	68.1	3400
June	63,691.6	2,123.05	2,554	36.19	68.1	3400
July	71,034.7	2,219.44	**3,585.7**	57.29	68.1	3400
August	58,029.3	1,871.91	2,537.3	59.38	68.1	3400
September	55,474	1,849.13	2,114.4	34.15	68.1	3400
October	51,344.3	1,656.27	2,548.5	28.94	68.1	3400
November	39,834.3	1,327.81	1,563.8	38.16	68.1	3400
December	45,495.4	1,467.59	1,866.9	46.06	68.1	3400
Total	602,309.2					
Average		1,650.16				
Maximum			**3,585.7**	57.29	68.1	3400


Little Current WTP Raw Flow Rates
Raw Flow Rate (L/s)
80
70
60
50
40
30
20
10
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Maximum
PTTW Limits


Little Current WTP Raw Flow Data
Raw Flow Rate (m3/d)
4000
3500
3000
2500
2000
1500
1000
500
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Maximum
Average
PTTW Limits

Annual Raw Water Review

Raw Water Taking	Total Taking m3/d	Average Day m3/d	Max Day m3/d	Max Day % of PTTW allowable 3400 m3/d
2021	602,309.2	1,650.16	3,585.7	105%
2020	489,750.1	1,338.12	3,242.8	95%
2019	650,562.5	1,782.36	3,118.2	91.7%
2018	805,980.2	2,208.16	4,032.1	118.6 %
2017	754,481	2,067.07	4,551.5	133.9 %
2016	592,593	1,619.1	3125	91.1 %

System Failures and Corrective Actions

The following non-compliance occurred during 2021.

A total daily volume of 3,419 m3/d was drawn on July 25, 2021 and a total daily volume of 3,585.7 m3/d was drawn on July 26, 2021.The PTTW maximum daily volume of 3400 m^3/d was exceeded on both days. The exceedance was caused by a failure of the permeate pumps which resulted in plant shut down with water levels in the clearwell sinking to 4%. Once this issue was corrected and the plant was able to produce water again, an excess amount of water was required to fill the clearwell while still supplying water to the distribution.

The latest inspection of the drinking water facility took place on February 15, 2022: the inspector is in the process of completing the inspection and preparing the report. Another inspection took place on March 16, 2021. The facility scored 42/510 providing a rating of 91.76%.

The following non-compliances were identified in the inspection report:

1. All microbiological water quality monitoring requirements for distribution samples were not being met.

A minimum of 9 samples were collected each month, as required. All samples were tested for Escherichia coli (EC) and total coliforms (TC) and the required 25% of samples were also tested for general background bacteria expressed as colony counts on a heterotrophic plate (HPC). However, subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 requires that for weekly sampling, a sample that is taken during a week must be taken at least five days, and not more than 10 days, after a sample was taken for that same purpose in the previous week. Weekly samples for EC, TC and HPC testing were collected on January 14, 2021 and again on January 18, 2021. This does not meet the minimum of 5 days between sampling.

Action(s) Required:

Subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 requires that for weekly sampling, a sample that is taken during a week must be taken at least five days, and not more than 10 days, after a sample was taken for that same purpose in the previous week. Sampling between January 14 and 18, 2021 did not comply with the

weekly sampling time frame. The operating authority must ensure that all sampling is completed as per the requirements of the legislation. As this appears to be an isolated incident, no further actions are required.

2. All microbiological water quality monitoring requirements for treated samples were not being met.

At least one treated sample was collected each week, as required, and tested for EC, TC and HPC. However, subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 requires that for weekly sampling, a sample that is taken during a week must be taken at least five days, and not more than 10 days, after a sample was taken for that same purpose in the previous week. Weekly samples for EC, TC and HPC testing were collected on January 14, 2021 and again on January 18 , 2021. This does not meet the minimum of 5 days between sampling.

Action(s) Required:

Subsection 6-1.1 of Schedule 6 of O. Reg. 170/03 requires that for weekly sampling, a sample that is taken during a week must be taken at least five days, and not more than 10 days, after a sample was taken for that same purpose in the previous week. Sampling between January 14 and 18, 2021 did not comply with the weekly sampling time frame. The operating authority must ensure that all sampling is completed as per the requirements of the legislation. As this appears to be an isolated incident, no further actions are required at this time.

3. All water quality monitoring requirements imposed by the MDWL or DWWP issued under Part V of the SDWA were not being met.

The MDWL requires that monthly composite samples at the point of discharge to the North Channel be collected and tested for total suspended solids (TSS). The annual average concentration must not exceed 25 mg/L. Sampling for TSS was not completed in December 2020.

Action(s) Required:

This sampling is a requirement of Condition 4.4 of Schedule C of MDWL 197-202, and subsection 31(1) states that no person shall use or operate a municipal drinking-water system except under the authority of and in accordance with an approval under this Part or municipal drinking-water licence. The operating authority must ensure that all sampling is completed as per the requirements of the legislation. As this appears to be an isolated incident, no further actions are required at this time.

AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
14-Jun-21	**Pressure**	**0**	**Psi**	**AWQI#154293 – Loss of pressure due to main break. BWA issued by municipality. Break repair, flushed and bacti samples collected. Results for TC/EC were non detect**	**18-Jun-21**

SECTION 4: SECTION 11 REPORT

Information to be provided

Population Served	*1700*
Does your Drinking-Water System serve more than 10,000 people?	*No*
Is your annual report available to the public at no charge on a web site on the Internet?	*Yes*
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	*Town of Little Current, Municipal Office* *14 Water Street E* *Little Current, Ontario P0P 1K0*
Number of Designated Facilities served:	*0*
Did you provide a copy of your annual report to all Designated Facilities you serve?	*NA*
Number of Interested Authorities you report to:	*0*
Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	*NA*
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system:	*N/A*
Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?	*N/A*
Indicate how you notified system users that your annual report is available, and is free of charge.	*Public access/notice via the web - & via Government Office*
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method	*Yes*

Facility Description

The Little Current Water treatment facility consists of a low lift pumping station with three submersible pumps. The low lift pumping station includes a zebra mussel control system utilizing sodium hypochlorite.

Treatment consists of membrane filtration which is comprised of two concrete tanks, each tank with six ultrafiltration units. The rated capacity is 35.9 L/s into the treatment system. Each unit contains 12 modules each module has a filtering area of 23.23 m2. There are three permeate pumps used to push the water to the chlorine contact chamber. The contact chamber maintains a constant volume of 162 m3. Following the chlorine contact chamber there are two clear wells, each having a storage volume of 749.8 m3. The high lift pumping consists of four centrifugal high lift pumps, with two pumps having a capacity of 57.87 L/s and two pumps having a capacity of 28.94 L/s. The process back pulse & reject water from the plant is de-chlorinated and discharged back to the North Channel.

Wastewater from membrane cleaning is neutralized and discharged to the sanitary sewer system.

Chemicals Used

Sodium Hypochlorite 12%	Disinfection
Calcium Thiosulphate	Dechlorination of reject water & wastewater
Caustic Soda	Neutralizing membrane wastewater
Citric Acid	Membrane cleaning

Significant Expenses

Significant expenses incurred to

[] Install required equipment
[] Repair required equipment
[X] Replace required equipment

Work Order	Completion Date	Comment
2226004	12-Aug-21	Intake inspection - $5,734
	11-Jun-21	Replaced chlorine analyzer probes (2) - $6,600
2713511	15-Oct-21	Replaced vacuum pump - $3,022

Adverse Water Quality Incidents

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Comment / Corrective Action	Corrective Action Date
14-Jun-21	**Pressure**	**0**	**Psi**	**AWQI#154293 – Loss of pressure due to main break. BWA issued by municipality. Break repair, flushed and bacti samples collected. Results for TC/EC were non detect**	**18-Jun-21**

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03.

	No. of Samples Collected	Range of E.Coli		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
		Min #	Max #	Min #	Max #		Collected	Min #
Raw Water	52	0	7	0	152	n/a	n/a	n/a
Treated Water	52	0	0	0	0	52	0	2000
Distribution	156	0	0	0	0	52	0	2000

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

	No. of Samples Collected	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity – Filter 1	8760	0.03	1	(NTU)
Turbidity – Filter 2	8760	0.03	1	(NTU)
Free Chlorine Residual – TW	8760	0.202	4.55	(mg/L)
Free Chlorine Residual, Distribution Location 1	104	0.30	2.02	(mg/L)
Free Chlorine Residual, Distribution Location 2	104	0.62	1.88	(mg/L)
Free Chlorine Residual, Distribution Location 3	104	0.55	1.77	(mg/L)
Free Chlorine Residual, Distribution Location 4	52	0.72	1.80	(mg/L)

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter and limits	Month Sampled	Day Sampled	Result	Unit of Measure
197-101 Issue Date: February 25, 2021 Expiry Date: February 24, 2026	Membrane Reject Water Total Suspended Solids 25 mg/L	Jan	25	2	mg/L
		Feb	22	2	mg/L
		Mar	22	2	mg/L
		Apr	26	2	mg/L
		May	25	3	mg/L
		Jun	28	5	mg/L
		Jul	26	2	mg/L
		Aug	31	4	mg/L
		Sep	20	2	mg/L
		Oct	12	2	mg/L
		Nov	1	2	mg/L
		Dec	6	2	mg/L
		Annual Average		**2.5**	**mg/L**

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2021/01/19	<MDL 0.9	6.0	No	No
Arsenic: As (ug/L) - TW	2021/01/19	0.3	25.0	No	No
Barium: Ba (ug/L) - TW	2021/01/19	11	1000.0	No	No
Boron: B (ug/L) - TW	2021/01/19	12	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2021/01/19	<MDL 0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2021/01/19	0.15	50.0	No	No
Mercury: Hg (ug/L) - TW	2021/01/19	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2021/01/19	0.09	10.0	No	No
Uranium: U (ug/L) - TW	2021/01/19	0.154	20.0	No	No

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2017/01/26	0.08	1.5	No	No
Nitrite (mg/L) - TW	2021/01/19	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/19	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/20	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/18	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/19	0.187	10.0	No	No
Nitrate (mg/L) - TW	2021/04/19	0.162	10.0	No	No
Nitrate (mg/L) - TW	2021/07/20	0.128	10.0	No	No
Nitrate (mg/L) - TW	2021/10/18	0.104	10.0	No	No
Sodium: Na (mg/L) - TW	2017/01/26	6.59	20*	No	No

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	No. of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (ug/L)	6	0.01	1.05	10	0
Distribution - Alkalinity (mg/L)	8	62	70	N/A	N/A
Distribution - pH In-House	8	7.96	8.32	N/A	N/A

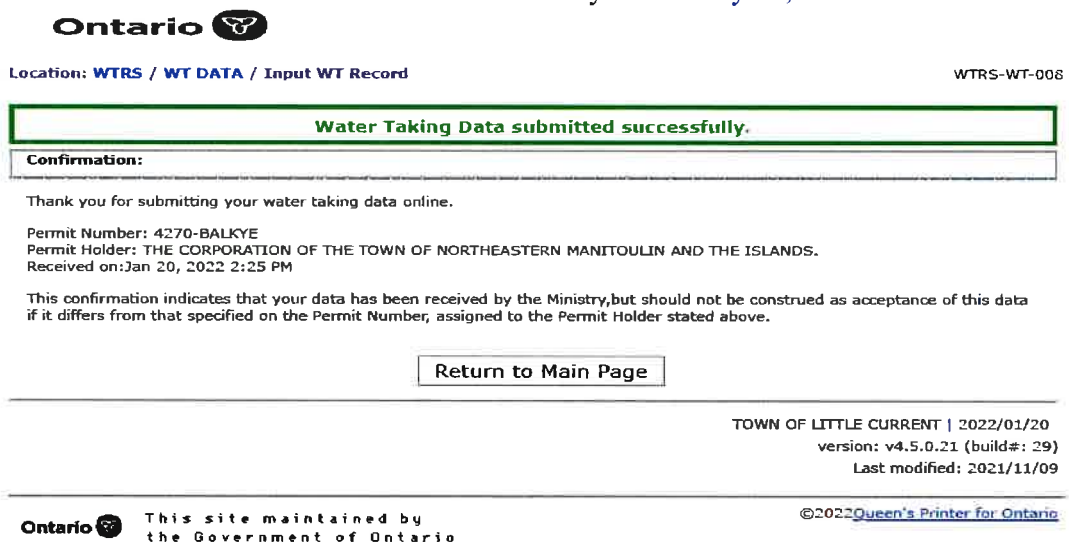
Summary of Organic parameters sampled during this reporting period or the most recent results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2021/01/19	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2021/01/19	0.02	5.0	No	No
Azinphos-methyl (ug/L) - TW	2021/01/19	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2021/01/28	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2021/01/19	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2021/01/19	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2021/01/19	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2021/01/19	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2021/01/28	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2021/01/19	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2021/01/19	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2021/01/19	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2021/01/28	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2021/01/28	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2021/01/28	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2021/01/28	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2021/01/28	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2021/01/19	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2021/01/19	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2021/01/19	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2021/01/19	<MDL 0.06	20.0	No	No

Diquat (ug/L) - TW	2021/01/19	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2021/01/19	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2021/01/19	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2021/01/19	<MDL 0.02	190.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (mg/L) - TW	2021/01/19	<MDL 0.01	50.0	N/A	N/A
Metolachlor (ug/L) - TW	2021/01/19	<MDL 0.02	80.0	No	No
Metribuzin (ug/L) - TW	2021/01/28	<MDL 0.3	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2021/01/19	<MDL 1.0	10.0	No	No
Paraquat (ug/L) - TW	2021/01/19	<MDL 0.04	3.0	No	No
PCB (ug/L) - TW	2021/01/19	<MDL 0.15	60.0	No	No
Pentachlorophenol (ug/L) - TW	2021/01/19	<MDL 0.01	2.0	No	No
Phorate (ug/L) - TW	2021/01/19	<MDL 1.0	190.0	No	No
Picloram (ug/L) - TW	2021/01/19	<MDL 0.03	1.0	No	No
Prometryne (ug/L) - TW	2021/01/19	<MDL 0.01	10.0	No	No
Simazine (ug/L) - TW	2021/01/19	<MDL 0.01	1.0	No	No
Terbufos (ug/L) - TW	2021/01/28	<MDL 0.35	10.0	No	No
Tetrachloroethylene (ug/L) - TW	2021/01/19	<MDL 0.2	100.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2021/01/19	<MDL 0.01	230.0	No	No
Triallate (ug/L) - TW	2021/01/28	<MDL 0.44	5.0	No	No
Trichloroethylene (ug/L) - TW	2021/01/19	<MDL 0.25	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2021/01/19	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2021/01/19	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2021/01/28	<MDL 0.17	1.0	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2021/12/31	44.3	100.00	No	No
HAA Total (ug/L) Annual Average - DW	2021/12/31	25.1	80.0	No	No

SECTION 5: RAW WATER SUBMISSIONS

Raw water flows were submitted to the Ministry on January 20, 2022.



Ontario

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: 4270-BALKYE
Permit Holder: THE CORPORATION OF THE TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS.
Received on:Jan 20, 2022 2:25 PM

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.

Return to Main Page

TOWN OF LITTLE CURRENT | 2022/01/20
version: v4.5.0.21 (build#: 29)
Last modified: 2021/11/09

Ontario This site maintained by the Government of Ontario

SECTION 6: CONCLUSION

The Little Current WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination.

Based on information available for the 2021 operating year, the Little Current was able to meet the demand of water use without exceeding the PTTW or the MDWL.

List of Acronyms and Definitions

Alkalinity	The capacity of water for neutralizing an acid solution
AWQI	Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards
Backwash	Water pumped backwards to clean filters
BWA	Boil Water Advisory; Issued when risk of contamination is possible in drinking water
CFU	Colony Forming Units
Chlorine Residual	A low level of chlorine remaining in water after disinfection occurs
DW	Distribution Water
DWA	Drinking Water Advisory; Issued when water cannot be consumed by any means
DWWP	Drinking Water Works Permit - provides a description of the overall system
E.Coli	Bacteria used as indicators to measure the degree of pollution and sanitary quality of water
GUDI 170/03	Groundwater Under Direct Influence – Considered to be surface water under O.Reg
HPC	Heterotrophic Plant Count
L/s	Litres per Second
m3/d	Cubic Metres per Day
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Level
MDWL requirements	Municipal Drinking Water Licence - relates to the operation and performance
mg/L	Miligrams per Litre
Ministry	Ministry of the Environment and Climate Change
MOECC	Ministry of the Environment and Climate Change
O.Reg	Ontario Regulation
PTTW water	Permit to Take Water – Permit which allows water taking from groundwater or surface
RW	Raw Water
TC	Total Coliforms
TSS	Total Suspended Solids
Turbidity	Cloudiness or haziness of water
TW	Treated Water

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Espanola Hub
148 Fleming St, Suite 5
Espanola, ON P5E 1R8

Tel: 705 869 5578
Fax: 705-869-4374
www.ocwa.com

February 28, 2022

Dave Williamson
The Corporation of the Town of Northeastern Manitoulin and the Islands
14 Water Street East P.O. Box 608
Little Current, Ontario
P0P 1K0

Re: O. Reg. 170 Section 11 & Schedule 22 Annual Reporting under SDWA
O. Reg 387 Section 9 Annual Reporting under OWRA
For the Sheguiandah Water Treatment Plant
Waterworks No.: 220009112

Dear Mr. Williamson;

Attached are the 2021 Annual and Summary Reports for the Sheguiandah Water System. The Reports are based on information provided by Operators as of February 18, 2022 in accordance with Section 11 and Schedule 22 of O. Reg. 170/03, under the Safe Drinking Water Act. A confirmation of submission of the PTTW reporting, as required by O.Reg 387, is included as part of the report.

Please note that any Orders that you have received directly from the MOE or any major expense incurred by the Municipality which is not listed should be reviewed and added to the report.

As per Schedule 22 of O. Reg. 170/03, this Summary Report is to be provided to the members of the municipal council no later than March 31, 2022. Please ensure this distribution.

Section 12 of O. Reg. 170/03, requires both the Summary Report and the Annual Report be made available for inspection by any member of the public during normal business hours, without charge. The reports should be made available for inspection at the office of the municipality, or at a location that is reasonably convenient to the users of the water system.

Sincerely,

Sarah Beaulieu
Process & Compliance Technician
Ontario Clean Water Agency

Sheguiandah Water Treatment

Small Municipal Residential Drinking Water System

January 1, 2021 – December 31, 2021

O.Reg 170/03 Schedule 22 Summary Report
O.Reg 170/03 Section 11 Annual Report
&
O.Reg 387/04 Annual Record of Water Taking

Prepared by the Ontario Clean Water Agency
For The Corporation of the Town of Northeastern Manitoulin and the Islands

Ontario Clean Water Agency
Agence Ontarienne Des Eaux

Drinking-Water System Number: *220009112*
Drinking-Water System Name: *Sheguiandah Drinking Water System*
Drinking-Water System Owner: *The Corporation of the Town of Northeastern Manitoulin and the Islands*
Drinking-Water System Category: *Small Municipal Residential*

SECTION 1: INTRODUCTION

This document is prepared in accordance with Section 11 and Schedule 22 of O.Reg.170/03 under the Safe Drinking Water Act and with Section 9 of O.Reg.387/04 under the Ontario Water Resources Act. The reports are prepared by the Ontario Clean Water Agency. Acronyms and definitions can be found at the end of the report.

A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2022.

SECTION 2: REQUIREMENTS OF THE REPORTS

Schedule 22 Report

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. It must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.
For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

Section 11 Report

The annual report must contain the following:

- A brief description of the drinking water system and a list of chemicals used by the system.
- A description of any major expenses incurred during the period covered by the report to install, repair or replace required equipment.
- A summary of all adverse water quality incidents (AWQI) reported to the Ministry
- A summary of corrective actions taken in response all AWQIs
- A summary of all test results required under the regulation, under an approval, municipal drinking water licence or order, including an OWRA order.
- A statement of where a Schedule 22 report will be available for inspection.

The report must be prepared not later than February 28 of the following year.

Regulation 387 Report

On or before March 31 in every year, every holder of a permit to take water (PTTW) shall submit to a Director the data collected and recorded for the previous year.

A record of annual water taking can be found in Appendix A.

SECTION 3: SCHEDULE 22 REPORT

Flows - Treated

In accordance with the Municipal Drinking Water License (MDWL), the Sheguiandah WTP shall not be operated to exceed a maximum flow of 546 m3/d to the distribution system.

The daily treated water maximum flow was 201.7 m3 and represents 37% of capacity. In 2021, the total volume of water sent to the distribution system was 19,167.5m3

The quantity of treated water supplied during the reporting period **did not** exceed the rated maximum capacity.

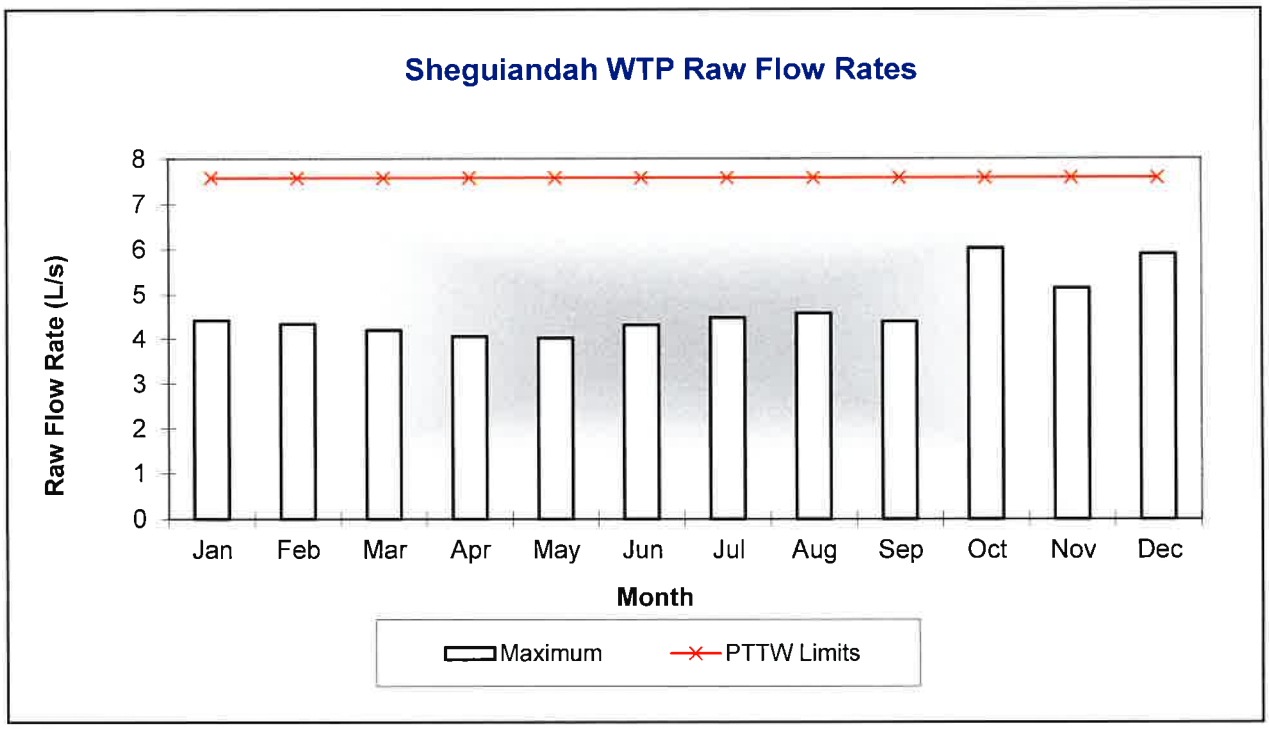
Flows – Raw

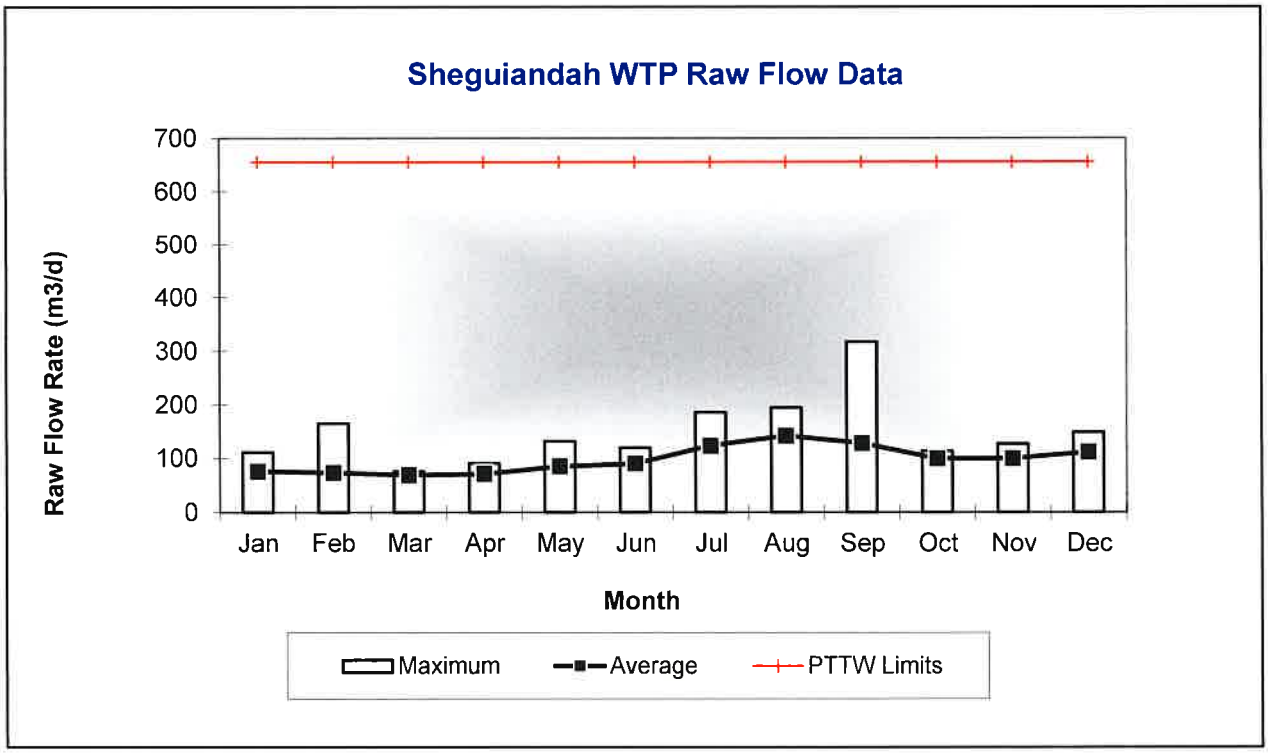
Daily raw maximum instantaneous flow is stated in the PTTW at a maximum rate of flow of 7.6 L/s and a maximum daily volume of 654.624 m^3/d.

The average monthly raw water flow for this reporting period was 97.23 m^3/d. The maximum daily flow was 317.5 m^3/d representing 48.5% of water taking limits. In 2021, the total volume of water sent to the distribution system was 35,490.3 m3

The quantity of raw water taken **did not** exceed limits stipulated within the PTTW.

	RAW WATER FLOW DATA - TOTAL ALL SOURCES					
Month	**Total Monthly Flow (m3)**	**Average Flow (m3/d)**	**Maximum Flow (m3/d)**	**Maximum Flow Rate (L/s)**	**Limits**	
					L/s (PTTW)	**m^3/d** (PTTW)
January	2,349.3	75.78	111.1	4.42	7.58	654.6
February	2,051.9	73.28	165.1	4.34	7.58	654.6
March	2,130.1	68.71	75.8	4.2	7.58	654.6
April	2,126	70.87	90.5	4.06	7.58	654.6
May	2,625.3	84.69	131.1	4.02	7.58	654.6
June	2,691.2	89.71	119	4.31	7.58	654.6
July	3,809.9	122.9	185.8	4.48	7.58	654.6
August	4,382.4	141.37	194.9	4.58	7.58	654.6
September	3,825.4	127.51	317.5	4.39	7.58	654.6
October	3,069.6	99.02	113.5	6.03	7.58	654.6
November	2,978.9	99.3	126.5	5.14	7.58	654.6
December	3,450.3	111.3	148	5.9	7.58	654.6
Total	35,490.3					
Average		97.23				
Maximum			317.5	6.03	7.58	654.6


Sheguiandah WTP Raw Flow Rates
Raw Flow Rate (L/s)
0
1
2
3
4
5
6
7
8
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Maximum
PTTW Limits


Sheguiandah WTP Raw Flow Data
Raw Flow Rate (m3/d)
0
100
200
300
400
500
600
700
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month
Maximum
Average
PTTW Limits

Annual Raw Water Review

Raw Water Taking	Total Taking m3/d	Average Day m3/d	Max Day m3/d	Max Day % of PTTW allowable 654.624 m3/d
2021	35,490.3	97.23	317.5	48.5%
2020	35,116.5	95.95	321.3	49%
2019	30,977	84.87	238.8	36.5%
2018	40,487.3	110.92	312.6	47.8%
2017	28,233.9	77.35	314	47.9%

System Failures and Corrective Actions

The latest inspection of the drinking water facility took place on December 13, 2021. The inspector is currently in the process of completing the inspection and associated report.

AWQIs reported to the Ministry

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

SECTION 4: SECTION 11 REPORT

Information to be provided

Population Served	**353**
Does your Drinking-Water System serve more than 10,000 people?	**No**
Is your annual report available to the public at no charge on a web site on the Internet?	**Yes**
Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.	**Town of Little Current, Municipal Office 14 Water St E Little Current, Ontario P0P 1K0**
Number of Designated Facilities served:	**0**
Did you provide a copy of your annual report to all Designated Facilities you serve?	**NA**
Number of Interested Authorities you report to:	**0**
Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?	**NA**
List all Drinking-Water Systems (if any), and their DWS Number which receive all of their drinking water from your system:	**N/A**
Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?	**N/A**

Indicate how you notified system users that your annual report is available, and is free of charge.	**Public access/notice via the web & via Government Office**
Indicate if you notified system users that your annual report is available and is free of charge using an alternate method	**YES**

Facility Description

The Sheguiandah plant consists of a raw water pumping station equipped with a sodium hypochlorite injection system for the control of zebra mussels. The zebra mussel control system is operated seasonally from May to November inclusive when the raw temperature is above 8 Celsius. The building houses three low lift vertical turbine pumps.

The treatment consists of a direct filtration chemically assisted plant with a rated capacity of 6.3 L/s. There are two multimedia filters after the flocculator. Each filter contains anthracite, sand and gravel. There are two backwash pumps, to provide filter backwashing as required. The plant has two clearwells, with a capacity of 142 m3 and 176 m3, respectively. Following the clear well there is a high lift pump well with a volume of 119.7 m3. There are three vertical turbine high lift pumps, two located in clearwell two and one located in the high lift pump well. Each pump has a rated capacity of 9.9 L/s at a TDH of 86.75 m. Also included in the highlift well is a fire pump rated at 23L/sec which can be activated from the Sheguiandah Fire Hall. There are two hydro pneumatic tanks which provide system pressure when the high lift pumps are off.

Primary disinfection is achieved by ultraviolet disinfection and sodium hypochlorite. The process wastewater supernatant is returned back to Sheguiandah Bay. The settled solids are hauled from the plant for disposal in the municipal lagoon.

Chemicals Used

Sodium Hypochlorite 12%	- Disinfection
Aluminum Sulphate (Dry)	– Coagulant

Significant Expenses

Significant expenses incurred to

[ ] Install required equipment
[] Repair required equipment
[X] Replace required equipment

Work Order	Completion Date	Comment
2318504	27-Sep-21	*Annual verification for reference radiometer – $1,039*
2452267	14-Dec-21	*Replaced raw water turbidimeter – $600*

Adverse Water Quality Incidents

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
n/a	n/a	n/a	n/a	n/a	n/a

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03.

	No. of Samples Collected	Range of E.Coli		Range of Total Coliform Results		Number of HPC Samples	Range of HPC Results	
		Min #	Max #	Min #	Max #		Min #	Max #
Raw Water	0							
Treated Water	0	0	0	0	0	0		
Distribution	26	0	0	0	0	26	0	135

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

	No. of Samples Collected	Range of Results		Units of Measure
		Minimum	Maximum	
Turbidity, On-Line - Filter 1	8760	0	0.75	(NTU)
Turbidity, On-Line - Filter 2	8760	0	2	(NTU)
Free Chlorine Residual, Treated	8760	0.54	4.30	(mg/L)
Free Chlorine Residual, Distribution Location 1	104	0.58	2.15	(mg/L)

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of legal instrument issued	Parameter and limits	Month Sampled	Day Sampled	Result	Unit of Measure
MDWL 197-101 Issue Date: February 25, 2021 Expiry Date: February 24, 2026	Backwash (BW) Total Suspended Solids (TSS) Quarterly sampling 25 mg/L annual average	Jan	18	2	mg/L
		Feb			mg/L
		Mar			mg/L
		Apr	12	2	mg/L
		May			mg/L
		Jun			mg/L
		Jul	12	2	mg/L
		Aug			mg/L
		Sep			mg/L
		Oct	12	5	mg/L
		Nov			mg/L
		Dec			mg/L
		Annual Average		**2.75**	**mg/L**

Summary of Inorganic parameters tested during this reporting period or the most recent sample results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Antimony: Sb (ug/L) - TW	2020/01/13	0.14	6.0	No	No
Arsenic: As (ug/L) - TW	2020/01/13	<MDL 0.2	25.0	No	No
Barium: Ba (ug/L) - TW	2020/01/13	12.2	1000.0	No	No
Boron: B (ug/L) - TW	2020/01/13	12.0	5000.0	No	No
Cadmium: Cd (ug/L) - TW	2020/01/13	0.003	5.0	No	No
Chromium: Cr (ug/L) - TW	2020/01/13	0.19	50.0	No	No
Mercury: Hg (ug/L) - TW	2020/01/13	<MDL 0.01	1.0	No	No
Selenium: Se (ug/L) - TW	2020/01/13	0.08	10.0	No	No
Uranium: U (ug/L) - TW	2020/01/13	0.01	20.0	No	No

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	No. of Exceedances	
				MAC	1/2 MAC
Fluoride (mg/L) - TW	2020/01/13	<MDL 0.06	1.5	No	No
Nitrite (mg/L) - TW	2021/01/18	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/04/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/07/12	<MDL 0.003	1.0	No	No
Nitrite (mg/L) - TW	2021/10/12	<MDL 0.003	1.0	No	No
Nitrate (mg/L) - TW	2021/01/18	0.186	10.0	No	No
Nitrate (mg/L) - TW	2021/04/12	0.167	10.0	No	No
Nitrate (mg/L) - TW	2021/07/12	0.104	10.0	No	No
Nitrate (mg/L) - TW	2021/10/12	0.101	10.0	No	No
Sodium: Na (mg/L) - TW	2020/01/13	9.13	20*	No	No

*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 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.

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	No.of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
		Minimum	Maximum		
Distribution - Lead Results (ug/L)	2	0.01	0.04	10	0
Distribution - Alkalinity (mg/L)	2	60	68	n/a	n/a
Distribution - pH In-House	2	7.95	8.12	n/a	n/a

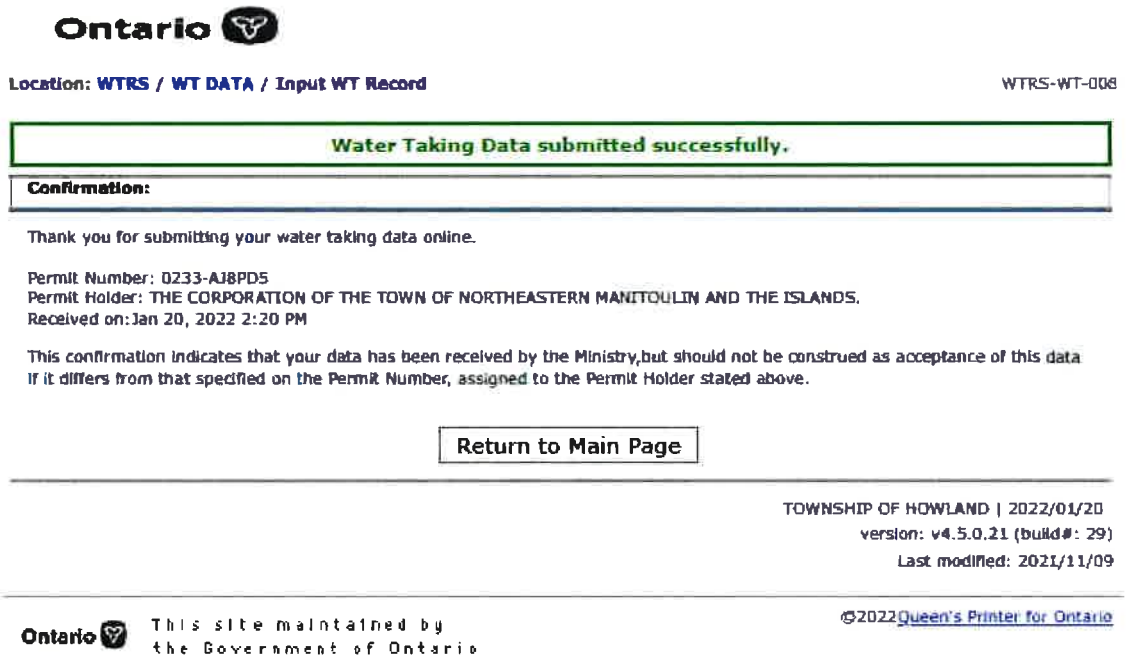
Summary of Organic parameters sampled during this reporting period or the most recent results

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2020/01/13	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) - TW	2020/01/13	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2020/01/13	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2020/01/13	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2020/01/13	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2020/01/13	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2020/01/13	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2020/01/13	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2020/01/13	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2020/01/13	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2020/01/13	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2020/01/13	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2020/01/13	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2020/01/13	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2020/01/13	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2020/01/13	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L) - TW	2020/01/13	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2020/01/13	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L) - TW	2020/01/13	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2020/01/13	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2020/01/13	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2020/01/13	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2020/01/13	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2020/01/13	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2020/01/13	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2020/01/13	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2020/01/13	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) - TW	2020/01/13	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2020/01/13	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2020/01/13	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2020/01/13	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2020/01/13	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2020/01/13	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2020/01/13	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2020/01/13	<MDL 0.01	10.0	N/A	N/A
Terbufos (ug/L) - TW	2020/01/13	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2020/01/13	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2020/01/13	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2020/01/13	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2020/01/13	<MDL 0.44	5.0	No	No

2,4,6-Trichlorophenol (ug/L) - TW	2020/01/13	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (ug/L) - TW	2020/01/13	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2020/01/13	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2020/01/13	<MDL 0.17	1.0	No	No
DISTRIBUTION WATER					
Trihalomethane: Total (ug/L) Annual Average - DW	2021/12/31	39.5	100.00	No	No
HAA Total (ug/L) Annual Average – DW	2021/12/31	26.5	80.0	No	No

SECTION 5:RAW WATER SUBMISSIONS

Raw water flows were submitted to the MOECC on January 20, 2022.



Ontario

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: 0233-AJ8PD5
Permit Holder: THE CORPORATION OF THE TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS.
Received on:Jan 20, 2022 2:20 PM

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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SECTION 6: CONCLUSION

The Sheguiandah WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination.

Based on information available for the 2021 operating year, the Sheguiandah WTP was able to meet the demand of water use without exceeding the PTTW or the MDWL.

List of Acronyms and Definitions

Alkalinity	The capacity of water for neutralizing an acid solution
AWQI	Adverse Water Quality Incident- when a water sample test result exceeds the Ontario Drinking Water Quality Standards
Backwash	Water pumped backwards to clean filters
BWA	Boil Water Advisory; Issued when risk of contamination is possible in drinking water
CFU	Colony Forming Units
Chlorine Residual	A low level of chlorine remaining in water after disinfection occurs
DW	Distribution Water
DWA	Drinking Water Advisory; Issued when water cannot be consumed by any means
DWWP	Drinking Water Works Permit - provides a description of the overall system
E.Coli	Bacteria used as indicators to measure the degree of pollution and sanitary quality of water
GUDI 170/03	Groundwater Under Direct Influence – Considered to be surface water under O.Reg
HPC	Heterotrophic Plant Count
L/s	Litres per Second
m3/d	Cubic Metres per Day
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Level
MDWL requirements	Municipal Drinking Water Licence - relates to the operation and performance
mg/L	Miligrams per Litre
Ministry	Ministry of the Environment and Climate Change
MOECC	Ministry of the Environment and Climate Change
O.Reg	Ontario Regulation
PTTW water	Permit to Take Water – Permit which allows water taking from groundwater or surface
RW	Raw Water
TC	Total Coliforms
TSS	Total Suspended Solids
Turbidity	Cloudiness or haziness of water
TW	Treated Water

Prepared By:

BluePlan ENGINEERING

Annual Monitoring Report (2021)

Little Current Landfill Site
Town of Northeastern Manitoulin and the Islands (NEMI) MECP Environmental Compliance Approval No. A551002

GMBP File: M-1593

February 2022

NEMI
NORTHEASTERN MANITOULIN AND THE ISLANDS
PORT OF LITTLE CURRENT

GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | LONDON | HAMILTON | GTA 1260-2ND AVE. E., UNIT 1, OWEN SOUND ON N4K 2J3 P: 519-376-1805 WWW.GMBLUEPLAN.CA

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LITTLE CURRENT LANDFILL SITE

ANNUAL MONITORING REPORT (2021)

TOWN OF NORTHEASTERN MANITOULIN AND THE ISLANDS (NEMI)

FEBRUARY 2022

GMBP FILE: M-1593

1. INTRODUCTION

The closed Little Current landfill property is located approximately one kilometer southwest of Little Current on the north side of Highway 540 (Figure 1). The Site is situated on Part of Lots 4 and 5, Concession 8 and Part of Lot 5, Concession 9, in the former Township of Howland, District of Manitoulin. The Town of Little Current operated the site until it amalgamated with the Township of Howland and the unorganized Municipality of McGregor Bay to become the Town of Northeastern Manitoulin and the Islands (NEMI), District of Manitoulin (herein referred to as 'the Town') on January 1, 1998. Following amalgamation, NEMI assumed responsibility for the Site.

Operations at the site were conducted under the Ministry of the Environment, Conservation and Parks (MECP) Provisional Certificate of Approval for a Waste Disposal Site No. A551002 (now referred to as an Environmental Compliance Approval or ECA), which was originally issued on March 19, 1980, and was replaced with the ECA dated September 9, 1986. The ECA was further amended in March 2003, October 2004, and June 2005. Copies of the Approval for the site, as amended, are provided in Appendix A.

The MECP approved a useable area of approximately 1.6 hectares (4 acres) for landfilling within the 3.69 ha (9.1 acre) waste disposal site. A Site Plan is provided as Figure 2. Landfilling of domestic and commercial wastes at the site reportedly began before 1942 and was suspended in October of 2002. The site was formally closed and capped at that time. Waste generated in Little Current, and the surrounding area has since been redirected to the NEMI Landfill Site, located at 9571 Highway 6, located approximately two kilometers south of the community of Little Current.

Condition 16 of the ECA requires that an annual monitoring report be submitted by February 28th of each year to summarize the previous year's monitoring results. This monitoring report is submitted to meet the monitoring requirements specified under Condition 16 of the ECA.

2. GENERAL SITE OPERATIONS

The Little Current Landfill Site closed in October 2002, at which time the site operations ceased. Site access is restricted by a locking gate at the entrance and the perimeter of the site is fenced with post and wire fencing. Condition 16(e) of the ECA requires that the monitoring report include "*inspection results and maintenance required for the final cover system*". Inspection of the ground cover system involves a visual assessment of the cover for areas of ponding, eroding ground cover, and/or dead or dying ground cover, trees and brush. The

ground cover inspections are conducted twice annually in conjunction with the annual sampling programs. Based on the most recent inspections, the ground cover system continues to be adequate with no areas showing signs of apparent stress or deficiencies. Condition 16(f) requires the inclusion of "*a copy of all complaints received during the reporting period, including the Town's response and mitigative actions taken to address these complaints*". The Town reports that no complaints related to the closed Little Current Landfill site were received during the reporting period.

3. SUMMARY OF SITE SETTING

A detailed description of the geologic and hydrogeologic conditions at the Little Current landfill sire were presented in the previous hydrogeologic study for the site prepared by Proctor and Redfern Limited (August 1992). Key findings, as provided in previous annual reports and the report outlining the Closure and Post-Closure Care of the Little Current Landfill Site (prepared by Burnside Environmental, May 2001) are summarized below. A summary of the monitoring locations and borehole details are provided in Table 1. Geological properties are summarized in the borehole logs provided in Appendix C.

3.1 Geologic Conditions

Manitoulin Island is part of the Niagara Escarpment and forms a flat tableland area, which is characterized by shallow soil cover overlying flat-lying limestone, dolostone and shale. The overburden on the tablelands consists of lacustrine silty clay to fine sandy silt deposits from glacial Lake Algonquin. The Ontario Geological Survey (OGS) (Map P2670, 1985) describes the bedrock beneath the site as a sequence of shales, limestones and dolostones belonging to the Middle to Upper Ordovician Lindsay Formation. Adjacent and south of the landfill is a contact between the Lindsay Formation and the blue-grey shale of the more recently deposited Upper Ordovician Blue Mountain Formation.

As defined by Russell and Telford (1983) and summarized in the Hydrogeologic Study for the Site (Proctor and Redfern Limited, August 1992), the Lindsay Formation has two members. The Lower Member consists of 15.25 meters of thick grey to grey-brown, finely crystalline to sub-lithographic limestone and dolostone. This member has moderate amounts of interbedded shale and has a characteristic "mottling" or nodular appearance. The Upper, or Collingwood Member, is a black calcareous, petroliferous shale that measures approximately 7.5 meters in thickness.

Based on the borehole and test hole logs, the overburden to the south of the landfill, as noted in BH1, consists of approximately 2 meters of unsaturated sand (with gravel interbeds) underlain by approximately 5 meters of silt till. To the north and east of the landfill footprint, the overburden consists of 2 to 3 meters of clay underlain by 0.3 to 0.6 meters of silt till. To the north of the landfill footprint, the silt till unit grades into a coarser grained till with fine sand and gravel, as observed in BH3 and BH5. It is noted that the borehole identified in the appended borehole logs were completed with monitoring wells as presented on the attached figures (i.e., BH3 is representative of MW-3).

The bedrock encountered at the site consists of the black shale of the Upper Member and the underlying limestone/dolostone of the Lower Member of the Lindsay Formation. As indicated by the borehole logs, the black petroliferous shale appears to be thickest to the south of the landfill in the vicinity of BH1 and gradually thins to the north towards BH3, BH4 and BH5. The limestone/dolostone of the Lower Member was encountered north of the landfill, in boreholes BH3, BH4 and BH5, and at the locations of the more recent monitoring well- couplets MW-6A/B, MW-7A/B and MW-8A/B installed by GM BluePlan Engineering Limited (GMBP, formerly Gamsby and Mannerow). As part of the subsurface investigations, the thinly laminated fossiliferous shale was reported to have a petroliferous or sulphurous odour when split. Further, thin zones of pyrite mineralization were visible on

parting planes. Some interbedding of the shale with thin layers of the limestone/dolostone was also evident in the borehole core samples.

3.2 Hydrogeologic Conditions

The information presented herein summarizes information provided within the Hydrogeologic Study for the Little Current Landfill prepared by Proctor and Redfern Limited (August 1992). According to the borehole logs for BH3, BH4, and BH5, and based on the 2011 drilling investigation, a relatively significant water bearing fracture zone appears to exist at the interface between the shale and limestone/dolostone units. These fractures were typically found to be weathered and infilled with silt and clay.

The water quality in the area is typically considered to be poor. Poor water quality has been attributed to the brines associated within the upper bedrock unit (i.e., derived from the black petroliferous shale unit). According to the Hydrogeological Study (1992), naturally elevated concentrations of sodium, calcium, magnesium, sulphate, chloride, and TDS are typical for groundwater derived from petroliferous shales. Background water quality in the upper four meters of the bedrock around the landfill (i.e., lower shale and upper dolostone units) has been found to be very saline and alkaline, with elevated concentrations of chloride, sodium, boron, strontium, and TDS.

3.3 Groundwater Flow Direction

Groundwater level measurements are collected bi-annually in conjunction with the monitoring program. A summary of historical groundwater level measurements is provided in Table 2. A groundwater flow map, developed using the most recent water level measurements from wells screened within the overburden and/or shallow bedrock, is provided in Figure 3. Based on the available measurements, groundwater generally flows in a north to northwesterly direction. The groundwater flow pattern is consistent with those historically present.

Consistent with past measurements, the groundwater levels at monitoring well MW-1 were not used as the water levels were significantly lower than those measured in well MW-6B (i.e., a difference of greater than 8 meters), which is located approximately 15 m to the southwest. This difference in water levels is inferred to be from a lack of recharge due to the location of the well screen in MW-1 within a low permeability unit of bedrock that may potentially have a lack of 'active' fractures (i.e., fractures that are interconnected). Therefore, it appears that MW-1 is screened within a zone of the Upper Member that is not hydraulically active, as supported anecdotally by a lack of observed recharge during purging. Based on the lack of recharge experienced at this monitoring location and the installation of a replacement well couplet (i.e., MW-6A/B), it is recommended that this well be decommissioned in accordance with O.Reg.903.

Groundwater levels measured at well couplets MW-6A/B, located upgradient of the landfill, and MW-7A/B, located to the northwest of the closed landfill, suggest that while a downwards gradient exists to the south of the landfill, groundwater level measurements obtained from MW-7A/B indicate that the area downgradient of the landfill contains vertical gradients that vary between slightly upwards and downwards between the overburden and shallow bedrock unit. Further evidence of upwards gradients between the overburden/shallow bedrock in the area is provided by water levels from bedrock well MW-2 in which water levels are, at times, reported to be measured within less than 0.1 meters of the top of the pipe (i.e., above ground surface).

4. MONITORING

4.1 Monitoring Locations

4.1.1 Groundwater

The Little Current landfill site is currently monitored through the collection of samples at a network of nine (9) groundwater monitoring wells installed throughout the landfill site and the adjacent property to the east, where shown on Figure 2.

Monitoring wells MW-1 through MW-5 (previously referred to as BH1 through BH5) were installed by Proctor and Redfern Limited in September 1991. Due to the reported observation of stained oily soil around MW-4 by a representative of Burnside Environmental in 1998, soil clean-up and monitoring well decommissioning was reportedly recommended and completed in 1998. Further, as previously discussed, since MW-1 has little to no yield, it is no longer considered to be part of the monitoring program.

Condition 12 of the amended ECA (March 2003) for the Little Current landfill required that the Town install, for the purpose of post-closure care and groundwater monitoring, several wells in addition to the initial five monitoring wells that were installed in 1991. These wells were to aid in the assessment of site compliance and to assist in the evaluation of the potential need to acquire downgradient lands for registration as a contaminant attenuation zone (CAZ). To satisfy the requirements of the ECA, Northland Engineering recommended the installation of six additional monitoring wells and one gas monitor. In January 2006, Northland Engineering installed two of the planned wells and MW-9, which is situated in the unsaturated zone within the refuse and is used as a gas monitor. The four remaining recommended monitoring locations were installed in July 2011 by GMBP.

The additional recommended monitoring wells were installed at three different locations surrounding the closed landfill and include a new upgradient background monitoring well couplet (i.e., MW-6A/B), intended to replace MW1 and to better characterize the background water quality associated with the overburden and bedrock unit; and two overburden/shallow bedrock well couplets situated downgradient of the landfill to aid in the assessment of site compliance (i.e., MW-7A/B and MW-8A/B).

4.1.2 Surface Water

Currently, surface water quality monitoring is completed twice annually at two (2) locations to support the requirements of the Approval. The surface water sampling locations, as shown on Figure 2, include the following:

SW-1: Located within a seasonal highly localized ponded area located to the north of the landfill footprint.

SW-2: Engineered surface water collection pond located centrally and to the north of the landfill footprint. This engineered stormwater management system was designed to collect non-contact surface water originated from the closed and capped landfill pile.

4.1.3 Methane Monitoring

Methane monitoring is completed to satisfy Condition 16(b) of the ECA, which states that '*monitoring results and details of maintenance required for the landfill gas venting*' be provided in the annual report. The ECA require that measurements of the lower explosive limit (LEL) be obtained once annually. The landfill gas vents on the top of the refuse pile are inspected annually and gas measurements are collected using a gas detector calibrated to methane. Historical gas monitoring results are summarized in Table 3.

4.2 Monitoring Program

Based on MECP concurrence with recommendations provided by GMBP in the 2008 Annual Report, as outlined in correspondence dated February 11, 2010 (Appendix B), the annual monitoring program for the Site, as amended, is as follows:

SAMPLING LOCATIONS		ANALYTICAL PARAMETERS
GROUNDWATER (Summer and Fall)		
Overburden	MW-6B MW-7A MW-8A	Conductivity, Total Dissolved Solids (TDS), pH, Alkalinity, Hardness, Ammonia, DOC Bromide, Chloride and Sulphate **Metals:** arsenic, barium, boron, chromium, cobalt, copper, selenium, strontium, calcium, magnesium, manganese, iron, potassium, and sodium
Bedrock	MW-2 MW-3 MW-5 MW-6A MW-7B MW-8B	
SURFACE WATER (Summer and Fall)		
SW-1 SW-2		Conductivity, Total Dissolved Solids (TDS), pH, Alkalinity, Hardness, Ammonia, DOC, BOD, COD Bromide, Chloride and Sulphate **Metals:** arsenic, barium, boron, chromium, cobalt, copper, selenium, strontium, calcium, magnesium, manganese, iron, potassium, and sodium **Field Parameters:** Temperature and water level

Summaries of the historical groundwater quality analytical results and surface water quality results are provided in Appendix D and Appendix E, respectively.

4.3 Sampling Procedures

For completion of the groundwater sampling program, the static groundwater level and well depth are measured in each monitoring well prior to purging three casing volumes of stagnant water from each well. GMBP personnel also check to ensure that all monitoring wells are properly secured and in compliance with Ontario Regulation 903. After purging, monitoring wells are allowed to recharge with fresh groundwater before sampling occurs. Groundwater purging and sampling is conducted using dedicated Waterra™ tubing and inertial-type pumps. Samples are collected in laboratory supplied containers. Under the site-specific program, samples collected for the indicator metals are placed in unpreserved containers and are filtered and preserved by Bureau Veritas Laboratories (an accredited laboratory) in accordance with the applicable protocols. The laboratory analytical reports for the current monitoring period are included in Appendix F.

Surface water samples are collected by submerging the appropriate sample container into the water body and removing the container when a sufficient volume of sample has been collected. During collection, contact with the bottom sediment is avoided to prevent stirring-up sediment. When collecting surface water samples, direct dipping of the sample bottle is acceptable unless the bottle contains preservative. For those samples requiring preservative, a clean unpreserved bottle is used to obtain the sample, which is then transferred into the appropriate preserved bottle. The surface water temperature is measured and recorded at the time of sampling.

The groundwater and surface water samples are kept chilled following completion of the sampling program and are submitted within 24 hours of the sampling event to an accredited laboratory for analysis. Copies of the laboratory analytical reports for the current monitoring period are provided in Appendix F.

5. DETERMINATION OF REASONABLE USE CRITERIA FOR THE SITE

5.1 Determination of Action Levels

MECP Guideline B-7 establishes the basis for determining what constitutes the reasonable use of groundwater on properties adjacent to landfill sites. This approach uses both the provincial maximum concentrations identified in the Ontario Drinking Water Standards (ODWS), revised June 2006, and the site-specific background values, to calculate acceptable concentrations at the Site Boundary. By applying the RUC, the potential use of groundwater for domestic consumption will almost always provide the lowest allowable concentration limits, referred to as the objective levels. MECP Procedure B-7-1 provides technical details for the application of the reasonable use approach. A change in the quality of groundwater on an adjacent property, where the reasonable use is determined to be for drinking water, will be acceptable only where:

> i) Quality is not degraded by more than 50% of the difference between background concentrations and the Ontario Drinking Water Standards for non-health related parameters, and ii) Quality is not degraded by more than 25% of the difference between background concentrations and the Ontario Drinking Water Standards for health-related parameters.

Background concentrations are considered to be the quality of the groundwater prior to any contamination from landfill activities.

5.2 Background Water Quality

Background concentrations are the site-specific values that represent the quality of groundwater prior to any contamination from landfill activities. As previously discussed, historically water quality results obtained from MW-1 were used to determine the background water quality. However, due to the lack of recharge into this well, the inability to regularly collect samples, and the identified differing water quality characteristics associated with the overburden and bedrock units, it was recommended to replace MW-1 with an overburden/bedrock well couplet MW-6A/B.

The background water quality was determined using data from overburden monitoring well MW-6B, installed in 2006, and bedrock well MW-6A which was installed in 2011. This monitoring well couplet is located upgradient from the landfill where shown in Figure 3. All available groundwater quality, up to and including September 2021, were used to calculate the average and 95th-percentile background concentrations for each indicator parameter to aid in the determination of RUC values for groundwater in the shallow overburden and the bedrock. The 95th percentile concentration was used to reflect the RUC background concentrations for parameters with background concentrations that exceed the ODWS. The background concentration ranges, averages, and resulting RUC values (i.e., objective levels) for the indicator parameters monitored at the Site are summarized in Table 4A (overburden) and Table 4B (bedrock).

Overburden monitoring well MW-6B was installed to a depth of approximately 8.5 meters and is screened within the silt till unit overlying the bedrock and MW-6A is screened at an interval that straddles the lower shale and the upper dolostone units, which is geologically consistent with the screened intervals in the downgradient bedrock monitoring wells MW-3, MW-5, MW-7B, and MW-8B. Downward gradients are consistently noted at this well nest. It is evident that the groundwater quality within each of the units, including the overburden, petroliferous black shale and the underlying limestone/dolostone varies significantly. This variation is likely due to the different geochemical characteristics and groundwater sources associated with each unit (i.e., shallow groundwater is

more likely influenced by the infiltration of precipitation versus the brines associated with the low conductivity shale unit). Consequently, background groundwater quality within each unit is evaluated separately.

Overburden

Based on the analytical data for well MW-6B, the shallow background groundwater chemistry for the Site can generally be described as having chloride concentrations in the general range of 30-50 mg/L, a slightly basic pH of approximately 8.0, and an average conductivity in the range of 675 µS/cm. The average hardness and alkalinity concentrations are approximately 350 mg/L and 250 mg/L, respectively, which is representative of a carbonate-rich groundwater system. Further, as demonstrated by the historical water quality results and trends noted at well MW-6B, the background groundwater quality shows naturally elevated, and highly variable concentrations of sulphate, iron, and manganese.

It is noted that during the Fall 2020 monitoring event, anomalously elevated concentrations of manganese, strontium, calcium, sulphate, hardness, alkalinity, TDS, and conductivity were reported in MW-6B. The cause of the elevated concentrations is currently unknown, however, a decrease in concentrations for these parameters was reported at the time of the the Fall 2021 monitoring event. The elevated parameter concentrations are not expected to be associated with landfill leachate due to their location adjacent to the hydraulically upgradient property boundary and are more likely associated with a degree of influence from groundwater from the underlying shale bedrock unit. An assessment of the long-term trends in MW-6B will be conducted on an ongoing basis.

Bedrock

Groundwater quality in the bedrock unit is generally poor, showing the natural occurrence of several parameters typically relied upon to characterize and identify landfill leachate impacts. Relative to the overburden groundwater quality, the bedrock unit is characterized by elevated concentrations of boron and strontium. In addition, average background concentrations of sodium and chloride are generally in the range of five to ten times those measured in the overburden. The concentration of TDS is also, on average, approximately two times greater in the bedrock. The average hardness and alkalinity concentrations are approximately 450 mg/L and 270 mg/L, respectively. As previously discussed, the elevated parameter concentrations in the bedrock wells are expected to be caused by the natural petroliferous-rich brines associated with the shale bedrock. Further, as noted by the reported spikes in concentrations in the Fall of 2012 and 2017, concentrations can vary significantly depending on the level of influence from the upper shale bedrock unit.

In general, when compared to the overburden groundwater quality, the groundwater quality within the bedrock unit is characterized by elevated concentrations of boron, strontium, sodium, chloride, conductivity, total dissolved solids (TDS), and to a lesser degree, hardness, and potassium.

5.3 Calculation of Objective Levels (RUC)

Table 4A and Table 4B identify the concentrations of groundwater quality indicator parameters in overburden and bedrock, respectively, used for evaluating the acceptable level of contaminant concentrations at the site boundary. Background concentrations (C_b) are the site-specific values (discussed in the previous section). The provincial maximum concentrations (C_r) are identified in the Technical Support Document for the Ontario Drinking Water Standards Objectives and Guidelines (June 2006), referred to herein as the ODWS. Acceptable concentrations at the site boundary (C_m) (herein referred to as the Reasonable Use Criteria (RUC)), are calculated from MECP Procedure B-7-1, using the following formula:

Where,

C_m = maximum concentration acceptable in groundwater beneath an adjacent property
C_b = background concentration
C_r = maximum concentration that should be present in groundwater for domestic according to the ODWS
x = 0.5 for non-health related parameters (AO and OG) and 0.25 for health-related parameters (MAC and IMAC)

AO = aesthetic objective
OG = operational guideline
MAC = maximum acceptable concentration – parameters related to health
IMAC = interim maximum acceptable concentration – parameters related to health

It should be noted that if background concentrations exceed the ODWS, the objective level is to be set at the background concentration, as outlined by Procedure B-7-1. A summary of the analytical results from the current monitoring period, compared to the RUC and ODWS, is provided in Table 5A (overburden) and Table 5B (bedrock).

To determine if leachate is impacting groundwater, individual indicator parameters were evaluated in conjunction with other indicator parameters and concentration trends. Wells with elevated and stable concentrations of the identified naturally elevated constituents, that show no increases in other leachate indicator parameters, are deemed un-impacted by landfill leachate. Additionally, monitoring wells with suspected leachate impacts are compared to the groundwater chemistry at locations with naturally elevated concentrations to determine if leachate contributes to the elevated concentrations measured.

5.4 Surface Water – Provincial Water Quality Objectives

The purpose of surface water quality management at the Site is to achieve the requirements established in the Provincial Water Quality Objectives (PWQO) set out by the MECP. The PWQOs were established to ensure that surface waters are of a quality, which is satisfactory for aquatic life and recreation. Areas that have water quality surpassing the PWQO requirements are to be maintained at or above the applicable objectives. Areas that have water quality that does not presently meet the PWQO are not to be degraded any further and are to be upgraded if practical. Although the surface water locations were both either dry or too stagnant to sample during the Summer 2021 monitoring program, the most recent surface water results compared to the PWQO are presented in Table 6. These results include a sample from SW-2 during the Fall 2021 monitoring program.

Although surface water sampling is completed at the Site as part of the annual monitoring program, the surface water features at the site are either man-made or do not have an outflow and are representative of surface water that is designed to infiltrate. Surface water sampling location SW-1 is located within a seasonal, stagnant, organicrich ponded area that has consistently been dry in recent years. SW-2 is located within an engineered surface water collection pond that was designed to collect non-contact surface water drainage from the closed and capped landfill pile. In essence, water quality data represents surface water that either evaporates or infiltrates via the engineered pond rather than information pertaining to surface water flowing offsite.

As such, due to the nearby monitoring wells (i.e., MW-8A and MW-3) used to monitor the shallow groundwater quality downgradient of the landfill mound, the low occurrence of sufficient volumes of water being present in these features, and the lack of water flowing offsite from the landfill property, **it is recommended that the surface water locations SW-1 and SW-2 be removed from the Summer and Fall monitoring programs.**

6. GROUNDWATER MONITORING RESULTS AND DISCUSSION

6.1 Leachate Generation

Leachate is produced when surface water percolates down through refuse resulting in impacted water that has the potential to migrate along the surface or in the ground. Landfill derived leachate that enters into the surface water and/or groundwater is often attenuated by natural mechanisms along the water migration pathway. The attenuation of leachate can occur by dilution, biological activity, and geochemical mechanisms. To determine the presence of (or potential impacts from) leachate, several indicator parameters are monitored, and a trend analysis is conducted to determine changes in water quality over time.

Upon closure, landfill sites are generally considered to have a 25-year 'contaminating' lifespan during which time leachate production peaks, and then reduces. The cover material acts to limit the volume of surface water percolating down through the refuse, thereby limiting leachate production through surface water infiltration. At the Little Current landfill site, consideration should be given to the small fill area of 1.6 ha, the placement of waste above the prelandfill development ground surface (i.e., providing for a separation distance between the bottom of waste and the water table), and the closure of the landfill site in 2002.

6.2 Leachate Characterization

Leachate generation is typically greatest directly beneath the landfill and at the perimeter of the landfilled area. Based on our assessment, monitoring well MW-8A is considered to be the well closest to providing the characteristics of leachate-impacted groundwater. It is an overburden monitoring well situated within approximately 25 meters hydraulically downgradient of the landfill footprint.

Further, it is important to recognize that the hydraulic gradients have been measured to transition from downward gradients to the south of the landfill (i.e., background well MW-6A/B) to gradients varying between slightly upwards to slightly downwards in the area to the north of the landfill. Therefore, while potential leachate impacted groundwater downgradient of the landfill footprint is generally expected to flow horizontally, primarily through the relatively thin layer (i.e., up to ±3.5 meters) of overburden soils and the shallow bedrock, it is also anticipated that some interaction between the overburden and the shallow bedrock groundwater flow systems will occur.

As would be expected due to the close proximity of well MW-8A to the closed fill area, concentrations of primary leachate indicator parameters for alkalinity, hardness, chloride, sodium, sulphate, and TDS, which typically exceed the RUC, coupled with decreasing concentration trends, specifically for chloride, sodium, TDS, and conductivity, indicates that the groundwater quality at well MW-8A was impacted by landfill leachate. However, the elevated and stable concentrations of boron and strontium, relative to that reported in the background overburden well, suggest that influence from the underlying shallow bedrock unit is also contributing to the degraded groundwater quality at this location, causing the RUC exceedances. It is noted that the RUC for overburden were established using the background concentrations derived from overburden well MW-6B, where downward hydraulic gradients are evident. This suggests that there is negligible influence on the overburden groundwater from the underlying petroliferous shale at MW-6B.

6.3 Groundwater Quality Assessment: Influencing Factors

The flow of groundwater influenced by the petroliferous shale into the overburden unit complicates the assessment of leachate impacts due to the natural occurrence of several parameters that are typically relied upon to identify leachate impacts, such as chloride, sodium, and hardness. As a result, a detailed review and assessment of the groundwater quality results was completed, and an approach to assist in distinguishing the various influencing factors on groundwater quality is outlined below.

Based on a detailed assessment and comparison of the groundwater quality in the monitoring wells throughout the Site, the following observations were drawn and are considered to be useful tools in the assessment of the relative influence of groundwater flow from the shallow bedrock into the overburden versus the potential leachate impacts to groundwater at a given location.

- The presence of boron, strontium, and to a lesser degree, potassium can be used to distinguish the relative magnitude of influence of the petroliferous shale unit on the groundwater quality. When increased concentrations of boron and strontium are reported at a given monitoring location, relative to other locations, similarly increased concentrations of chloride, sodium, hardness, and TDS are realized.

- Alkalinity concentrations are similar in background groundwater associated with the overburden and bedrock unit, consistently remaining below 400 mg/L in well couplet MW-6A/B. Alkalinity is commonly considered to be a good indicator of leachate impacts. Therefore, alkalinity concentrations that are notably elevated are indicative of potential leachate influence.

- While background sulphate concentrations are highly variable in the overburden background well (i.e., MW-6B), sulphate concentrations typically remain below 50 mg/L. Monitoring locations that consistently report elevated concentrations of sulphate, in conjunction with other indicators of leachate impacts (i.e., alkalinity), are considered to be influenced, to some degree, by landfill-derived leachate.

- Although it is evident that hardness is influenced by the bedrock unit (i.e., increased boron and strontium concentrations are correlated to increased hardness), landfill-leachate derived impacts also appear to affect notable increases in this parameter.

Due to the relative concentrations of sodium and chloride in groundwater influenced by the petroliferous shale unit, which can be up to an order of magnitude greater than that anticipated from landfill leachate, contributions of increased chloride and sodium, that can be directly attributed to landfill leachate impacts, are difficult to quantify at the majority of the monitoring locations downgradient of the landfill. However, it is noted that based on the decreasing concentration trends noted at well MW-8A, it appears that landfill-leachate impacted groundwater contributed to elevated chloride concentrations in the range of 150 to 200 mg/L and sodium concentration of up to 100 mg/L.

Therefore, when assessing the potential for leachate impacts, the relative influence of impacts from the bedrock aquifer should be considered. At locations where boron and strontium concentrations are significantly higher relative to other locations, a similar increase in chloride, sodium, TDS, and hardness is expected. As a result, the initial assessment for leachate impacts should consider alkalinity as the primary indicator of leachate, which should be evaluated in conjunction with other indicator parameters and concentration trends, such as hardness, sulphate, and to a lesser degree, sodium, chloride, and TDS.

In addition, due to the elevated concentrations of various metals measured in the background wells which are reported to be greater than concentrations that would typically be expected from landfill leachate, and in consideration of the anticipated interaction between the overburden and bedrock units downgradient of the landfill, it is thought that while the concentrations of metals can be effectively used to evaluate potential influence of bedrock groundwater on the overburden groundwater quality, specifically boron and strontium, metals alone are generally not considered to be a useful indicator of leachate influence at the Little Current landfill site.

The following sections evaluate the potential impacts on-site and the potential for off-site impacts to the area surrounding the closed Little Current Landfill Site using historical and recent water quality data available. The groundwater quality results for the monitoring period, compared to the RUC and ODWS, are summarized in Tables 5A and 5B. As previously noted, hardness consistently exceeds the ODWS operational guidelines, which is consistent with groundwater flowing through carbonate-rich soils. Further, when RUC exceedances are reported for overburden monitoring locations situated downgradient of the landfill, the influence of groundwater flow from the underlying bedrock unit should be considered (i.e., boron and strontium). Historical groundwater sampling results and graphical trends of indicator parameters, which include summaries of the average maximum, minimum and 95th percentile concentrations for each parameter, are included in Appendix D.

6.4 Boundary Conditions

6.4.1 South Boundary Condition

The southern property boundary is inferred to be hydraulically upgradient of the landfill footprint and is situated adjacent to Highway 540. The approximate limit of the existing landfill is approximately 35 m from the property boundary at its closest point. Due to the northerly to north-westerly groundwater flow direction, the southern side of the landfill is considered low risk for leachate impact. Monitoring well couplet MW-6A/B is situated to the south and upgradient of the landfill footprint and is considered background groundwater quality in the overburden and shallow bedrock units. Groundwater quality at these locations was discussed in detail in Section 5.2 of this report.

6.4.2 East Boundary Condition

The eastern property boundary is located hydraulically cross-gradient from the landfill footprint, which is situated approximately 35 meters from the property boundary at its closest point. There are no monitoring wells situated between the landfill footprint and the property line. However, the area to the east of the landfill is considered low risk for leachate impact due to the north to north-westerly groundwater flow direction.

Monitoring well MW-2 is located approximately 105 meters east of the landfill footprint, at its closest point, and is separated from the landfill property by a low-lying swampy area. The swampy area appears to have been created by the damming of a small creek which resulted in the minor flooding of a vegetated, treed area. Similar to MW-6A, well MW-2 is screened within the shallow bedrock. Based on the separation distance between MW2 and the landfill, its cross-gradient location, and the historical analytical results, no impacts related to landfill leachate are evident at this location. Therefore, this monitoring location can also be considered to reflect background conditions.

Historical groundwater quality suggests that the groundwater quality is geochemically similar to that reported for background bedrock well MW-6A, although concentrations are typically greater. The reported concentrations from the most recently collected samples are consistent with previous monitoring years and with the geochemical signature at other bedrock monitoring locations.

The groundwater quality at MW-2 is characterized by elevated concentrations of boron, strontium, hardness, chloride, conductivity, and TDS. While several exceedances of the ODWS are noted, only an RUC exceedance for boron was reported in the current monitoring period.

Based on the location of MW-2 (cross-gradient and outside of the area of potential influence from landfilling), the elevated concentrations of boron, relative to background, coupled with the typically elevated concentrations of chloride and hardness, in the groundwater appears to be influenced by the petroliferous shale. Further, the significantly higher concentrations of parameters identified that signify greater influence from petroliferous shale

unit, along with the concentration spikes in the background well, support the concept that concentrations in groundwater derived from the shale unit can be highly variable.

6.4.3 North Boundary Condition

The northern property boundary is considered to be hydraulically downgradient of the landfill and is situated approximately 25 to 40 meters from the existing landfill limit. The groundwater monitoring network includes six monitoring wells situated at four different locations, downgradient from the landfill including overburden monitoring wells MW-7A and MW-8A, and bedrock wells MW-3, MW-5, MW-7B, and MW-8B. These wells, which are located approximately 5 to 10 meters from the northern property boundary, are used to monitor groundwater quality and Site compliance.

As previously noted, several parameter concentrations within the bedrock wells appear to be naturally elevated and in contrast to the downwards vertical gradients noted to the south of the landfill (i.e., background wells MW-6A/B), the vertical gradients to the north of the landfill footprint appear to fluctuate over time between slightly upwards to slightly downwards. Therefore, the vertical gradients noted to the north suggest that there is the potential for interaction between the overburden and bedrock groundwater flow systems. Consequently, it is somewhat difficult to differentiate the relative influence from landfill leachate and the influence from the petroliferous shale bedrock unit and associated brines. The ensuing discussion provides, an assessment of the groundwater quality results and trends for the monitoring wells located at, or near, the north property boundary and presents and interpretation of the findings.

Overburden Groundwater Quality

Monitoring well MW-8A is considered the most likely location to be influenced by landfill leachate due to its downgradient location within the shallow overburden. As previously discussed, MW-8A has been used to characterize leachate impacts associate with the Little Current landfill (refer to Section 6.2). The presence of leachate impacts from the closed landfill at this location is primarily supported by the generally decreasing concentration trends for sodium and chloride that have been observed, coupled with the elevated concentrations of sulphate and alkalinity.

However, the presence of higher concentrations of boron and strontium, relative to the background overburden well MW-6B, suggest that groundwater quality at this location is also influenced by the interactions between the overburden and bedrock groundwater flow systems.

Monitoring well MW-7A is situated in the northwest corner of the site. Groundwater quality at this monitoring location has shown stable concentration trends since the inception of monitoring in 2011 with decreasing analytical trends since 2015. RUC exceedances for hardness, alkalinity, manganese, and TDS are typically reported at MW-7A, however concentrations of other leachate indicator parameters as well as parameters that are indicative of influence from the underlying bedrock unit, such as boron and strontium, are consistently similar to the background (overburden). Based on the overall groundwater quality characteristics and trends, and the location of this monitoring well generally cross-gradient to groundwater flow from the landfill, landfill-leachate derived impacts are considered to be negligible at this location. Elevated alkalinity and hardness may be due to the natural mineralization of groundwater within the shallow overburden at this monitoring location.

Bedrock Groundwater Quality

Bedrock groundwater quality in proximity to the north property boundary is monitored (from east to west) at monitoring locations MW-5, MW-8B, MW-3, and MW-7B. The bedrock groundwater quality is discussed in detail below.

Monitoring Well MW-8B

Leachate impacts were identified in overburden monitoring well MW-8A, consequently landfill-leachate derived impacts, if present, would likely be noted in the corresponding bedrock well MW-8B. MW-8B was installed in 2011 to satisfy previous MECP recommendations for an additional bedrock monitoring well located directly north and hydraulically downgradient of the landfill footprint. The monitoring well was installed with a screened interval that straddles the lower portion of the shale unit and the upper portion of the underlying dolostone bedrock. During advancement of the borehole and installation of this monitoring well, a strong petroliferous odour was detected throughout the fractured black shale bedrock, and the drill fluid was observed to become black in colour with evidence of naturally occurring petroleum product. After installing and developing the monitoring well, the dedicated Waterra sample tubing was observed to be coated with globules of dark brown/black bitumen. Based on the subsurface conditions and the occurrence of naturally occurring petroleum product and natural gas within the black petroliferous shale identified at MW-8B, it is reasonable to expect that the groundwater quality at this location would be significantly degraded.

It is noted that the occurrence of black shale and the associated sulfurous odour was also documented by others at the location of former shallow bedrock well MW-4, formerly situated ±100 meters north of MW-8A/B, where shown on Figure 3. However, based on a review of the previous Closure Report and the 2007 Annual Monitoring Report completed by others, it appears that these conditions were attributed to an oil spill or fuel release to the ground surface. Consequently, MW-4 was subsequently decommissioned and soil "clean-up" efforts were completed by others at that time.

According to the GIS mapping provided by the Ontario Oil, Gas, and Salt Resource Library, there are numerous oil and gas producing test/exploration wells in the vicinity of the landfill property, in the general vicinity of Little Current, and throughout Manitoulin Island. Therefore, the occurrence of petroleum product and natural gas at MW-8B appears to be related to the subsurface geology and is considered to be naturally occurring. The conditions identified at MW-8B, and those historically noted at MW-4, are due to the local geologic conditions are not considered to be associated with a spill or release.

One groundwater quality sample was collected from this monitoring location in October 2011 and the analytical results are included in Appendix D. However, due to the presence of naturally occurring petroleum product, monitoring well MW-8B has not been included in the monitoring program since that time. While the concentrations of the primary leachate indicators including alkalinity and sulphate were reported to be lower in the bedrock as compared to the overburden (i.e., MW-8A), groundwater quality results from this monitoring location included an alkalinity concentration of 615 mg/L and sulphate concentration of 340 mg/L, both in exceedance of the RUC and indicating the potential for influence from landfill leachate at this location. However, based on the significantly elevated concentrations of boron and strontium, relative to background, and the corresponding concentrations of sodium, chloride, hardness and TDS, which were also reported to exceed the RUC, and in consideration of the observed variability in groundwater quality within the shallow bedrock in the area around the site, it is apparent that the groundwater quality is also influenced by the petroliferous shale unit. Therefore, it appears that the RUC exceedances at well MW-8B are predominantly naturally occurring.

Based on the requirements of the Ontario Water Resources Act (Ontario Regulation 903/90), as amended, a monitoring well where natural gas is encountered, and where it is deemed to pose a potential hazard, is to be decommissioned as per the requirements of the Regulation. Additionally, it is anticipated that the groundwater at this location is sufficiently 'degraded' as a result of the natural geologic conditions and would not be considered potable.

Therefore, future monitoring at this location is not expected to provide significant additional information pertaining to the Site's compliance with the Reasonable Use Policy. Due to the geologic conditions encountered during drilling and the potential hazard related to the natural occurrence of bitumen and gas, the decommissioning of well MW-8B is recommended as per the requirements of Ontario Regulation 903/00.

Monitoring Wells MW-3 and MW-7B

Monitoring wells MW-3 and MW-7B monitor groundwater quality in the bedrock in the northwest portion of the property. The reported concentrations for several of the parameters are elevated above background conditions, with RUC exceedances reported for boron, hardness, alkalinity, sodium, chloride and TDS. The analytical results from the current monitoring period are consistent with historical results which display average strontium and boron concentrations at these two monitoring locations (combined) in the range of 15,000 µg/L and 6,700 µg/L, respectively, as compared to concentrations of typically less than 1000 µg/L in the background bedrock well MW-6A (refer to Appendix D). Coupled with the significantly greater boron and strontium concentrations, average concentrations of chloride and sodium are typically greater than 10X those reported in the background well, the conductivity and TDS are in the range of 5X to 10X higher, and hardness concentrations are notably elevated (i.e., typically greater than 1,400 mg/L). Based on the alkalinity concentrations which remain in the range of approximately 300 to 400 mg/L, and the geochemical signature which suggests significant influence from the petroliferous shale unit, landfill leachate derived impacts to groundwater are considered to be negligible at these monitoring locations.

Monitoring Well MW-5 (Bedrock)

Monitoring well MW-5 is situated in the northeast portion of the Site. Relative to background well MW-6A, the average concentrations of boron and strontium suggest that there is a greater degree of influence from the petroliferous shale unit at this monitoring location. However, the magnitude of this influence is less than that interpreted for other bedrock monitoring locations situated downgradient of the landfill.

Groundwater quality trends at MW-5 indicate that while the concentrations of strontium and boron have remained relatively stable, the concentrations of some other leachate indicator parameters appear to have increased slightly in the early 2000's and have remained stable since that time. In general, concentrations of sodium, chloride and TDS remain similar to background, however alkalinity, sulphate, and hardness are higher indicating the potential for minor influence from landfill leachate at this location. RUC exceedances in the current monitoring period are noted for boron and alkalinity. With the exception of alkalinity, which is reported to be only 20 mg/L over the existing RUC for the Site from the spring sampling event, the exceedances can generally be attributed to natural background conditions.

6.4.4 West Boundary Condition

The western limit of the approved landfill footprint is located approximately 30 meters from, and cross-gradient to, the west property boundary at its closest point (Figure 3). Based on the groundwater flow direction and the distance between the westerly limit of the landfill footprint and the compliance limit to the west, the buffer area appears to be sufficient. Offsite impacts are generally not anticipated along the majority of the western property line, however, if present, are considered to most likely be proximal to the northern property boundary. Consequently, monitoring well couplet MW-7A/B was installed in July of 2011. As discussed above, landfill leachate derived impacts at this monitoring location are not apparent.

6.5 Groundwater Quality Summary

Groundwater quality within each of the geologic units, including the overburden and shallow bedrock, varies significantly. Due to the downwards hydraulic gradients consistently noted at the background monitoring well

couplet MW-6A/6B, the water quality in each of these units could be effectively characterized. In addition, monitoring results from bedrock well MW-2, which is located greater than 100 meters to the east of the landfill footprint, could be used to verify the bedrock groundwater quality and demonstrate that a level of variability can be expected depending on the magnitude of influence from the petroliferous shale unit.

Based on a review of the water quality data, boron and strontium were identified as key indicators that could be used to measure the relative influence of the petroliferous shale unit on the water quality at a given location, including overburden monitoring locations where upwards gradients could allow for the flow of groundwater from the bedrock into the overburden. The elevated concentrations appear to be associated with the natural occurrence of petroliferous-rich salt brines within the upper shale unit. In general, increased concentrations of sodium, chloride, conductivity, TDS and, to a lesser degree, hardness, and potassium, are expected in conjunction with increased boron and strontium concentrations.

Within the bedrock groundwater, several of the parameters typically relied upon to characterize leachate are present at concentrations that would typically 'mask' potential impacts from landfill leachate, particularly from a small, closed landfill site. However, based on concentrations of alkalinity that were reported to be in the range of 300 mg/L in both the background overburden and bedrock groundwater, alkalinity was identified as a primary indicator of leachate, which should then be evaluated in conjunction with other indicator parameters and concentration trends, such as hardness, sulphate and, to a lesser degree, sodium, chloride, and TDS.

Downgradient of the landfill, the presence of leachate impacts from the closed landfill at overburden well MW-8A is indicated by the generally decreasing concentration trends for sodium and chloride that have been observed, coupled with the elevated concentrations of sulphate and alkalinity. However, the presence of higher concentrations of boron and strontium, relative to the background overburden well MW-6B, suggest that groundwater quality at this location is also influenced by the interactions between the overburden and bedrock groundwater flow systems. In the northeast portion of the Site, in the vicinity of bedrock well MW-5, the relatively stable concentrations of boron and strontium, coupled with slightly increased concentrations for some leachate indicator parameters (i.e., chloride and sodium in the early 2000's) and the continued elevated concentrations of alkalinity, sulphate and hardness is indicative of minor influence from landfill leachate. In the northwest portion of the Site, in the vicinity of well couplet MW-7A/B and bedrock well MW-3, landfill-leachate derived impacts are not evident. The long-term trend analysis for parameter concentrations reported in the monitoring wells to the north of the landfill footprint indicates a stable to slightly decreasing trend for the target analytical parameters.

Due to the north to north-westerly groundwater flow direction, and the buffer of greater than 30 meters between the landfill footprint and the compliance limits to the east, south and west of the landfill footprint, leachate impacts are not anticipated in the areas situated up-gradient to cross-gradient of the Little Current landfill site.

In summary, since the concentrations of several indicator parameters in the bedrock groundwater are elevated beyond that of typical landfill-derived leachate, even a minor influence from the bedrock unit is likely to be greater than potential impacts from the closed landfill site. As a result, the magnitude of impacts from landfill leachate and compliance with the RUC along the north property boundary is difficult to discern. However, at this time it appears that the groundwater quality downgradient of the landfill is more significantly influenced by the native petroliferous shales than by the closed landfill site.

7. SURFACE WATER QUALITY RESULTS AND DISCUSSION

Surface water quality monitoring at the site consists of water quality monitoring from two locations (i.e., SW-1 and SW-2) located to the north of the landfill footprint and includes the measurement of water levels, when possible. Surface water sampling location SW-1 is located within a seasonal, localized ponded area that has primarily been dry in recent years due to the small size (i.e., approximately 2 m in diameter) and the highly localized nature of this stagnant feature. SW-2 is located within an engineered surface water collection pond that was designed to collect surface water drainage from the closed and capped landfill. Based on our observations and the groundwater elevation noted in overburden well MW-8A, SW-1 and SW-2 may be partially groundwater fed in addition to serving as a collection system for surface water flow in the highly vegetated area to the north of the closed and capped refuse pile. It is noted that these features do not provide information pertaining to surface water flowing offsite and represent surface water that either evaporates or infiltrates.

Surface water quality results are compared to the allowable concentrations specified within the PWQO. This comparison is considered to be conservative as the two sampling locations are representative of highly localized features that have no outlets or connection to other surface water bodies (e.g., streams or rivers) and do not represent surface water flowing offsite. In the current monitoring period, the surface water sampling locations were noted to be dry during the summer monitoring period, while SW-2 was sampled during the fall monitoring period. The surface water quality results for 2013 to 2017, as well as 2021 results for SW-2, compared to the PWQO, are summarized in Table 6 and a summary of the historical surface water quality results is included in Appendix E.

Historical analytical results often report PWQO exceedances for boron, and periodically iron and cobalt (Table 6). Similar to overburden well MW-8A, boron and strontium concentrations are reported to be greater in the surface water than in the background overburden (i.e., MW-6B). In addition, the concentrations for various indicator parameters are noted to be variable, particularly at SW-2, however, generally follow a similar trend to that observed for boron and strontium, suggesting that the surface water quality is predominantly influenced by the bedrock flow system. However, based on the location of these features directly downgradient of the closed landfill, there is potential for landfill leachate derived impacts. Similar to the groundwater quality assessment, the magnitude of impacts from leachate is difficult to discern due to the natural occurrence of several indicator parameters in groundwater derived from the petroliferous shale unit.

In order to further assess whether PWQO exceedances at SW-1 and SW-2 are groundwater derived, two samples (labelled SW-3) were previously collected (in 2009) from the upper surface water pond that was designed to provide catchment for the surface water/overburden flow originating from the closed refuse pile. The analytical results from this sample are considered to be representative of the surface water flowing off the closed landfill. Based on the analytical results for SW-3, it appears that the elevated concentrations of parameters identified in all surface water features (i.e., aluminum, boron, chloride, sodium etc.) are more related to the local surficial soils at the site. The overburden at the site consists primarily of clayey soils derived from the underlying shales. These soils are known to produce elevated levels of the above-mentioned parameters. Additionally, the water quality observed at SW-1 and SW-2 is generally consistent with the water quality observed in overburden monitoring well MW-8A.

As such, due to the nearby monitoring wells (i.e., MW-8A and MW-3) used to monitor the shallow groundwater quality downgradient of the landfill mound, the expected nature and chemistry of the ponded water in these locations, the low occurrence of sufficient volumes of water being present in these features, and the lack of water flowing offsite from the landfill property, **it is recommended that the surface water locations SW-1 and SW-2 be removed from the summer and fall monitoring programs.**

8. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

As part of the QA/QC program, surrogate recoveries, method blanks and laboratory duplicates were reviewed to ensure analytical validity. The results for surrogate recoveries and method blanks were all reported to be within the acceptable limits as presented in the laboratory reports.

For laboratory duplicates, the relative percent difference (RPD) was calculated and is presented in Table 7. A review of the duplicate analyses indicates that the RPDs were within the laboratory quality control limits which are indicative of good laboratory practices and analytical validity.

In addition, a review of the historical analytical data indicates that the analytical data from the current monitoring period are within historical norms or are consistent with historic trends. In summary, the QA/QC protocols indicate that the analytical results are valid.

9. METHANE GAS MONITOING RESULTS

Methane is a colourless and odourless gas formed by the decomposition of organic matter under oxygen poor (anaerobic) conditions and is commonly associated with landfills. It is produced by anaerobic bacteria, which become active only when the oxygen in the landfill has been completely consumed. The primary concern related to this parameter is that, under certain conditions, the mixture of methane in air can be explosive within a confined area. Methane gas is measured relative to the lower explosive limit (LEL) which corresponds to 5% of the concentration of methane in air.

There is currently a total of six landfill gas vents in the vicinity of MW-9, which are situated at the top of the refuse pile. According to the Municipal information provided, the vents were installed in November of 2004. The gas vents are generally described as areas measuring 3.5 m^2 excavated through the low permeability cover and 0.5 m into the waste. According to the Closure and Post Closure Care Report, the entire area is lined by a nonwoven geotextile and filled with clear stone to promote the venting of landfill gases.

Historically, LEL measurements from the monitoring locations, with the exception of MW-9, have typically produced readings of zero (Table 3). Landfill gas measurements at MW-9 fluctuate significantly and have historically ranged between 9.8% and 100%. Although landfill gases are being produced within the landfill, the landfill gas vents were designed to prevent the off-site migration of these gases. In addition, methane gas has not been historically detected at any other monitoring locations surrounding the landfill mound, indicating that methane gas is not migrating laterally off the property. It is noted that the closest structures where the accumulation of methane may potentially occur are greater than one hundred meters from the landfill.

10. REVIEW OF MONITORING PROGRAM

Condition 13 of the revised ECA (March 2003) states that the frequency of sampling and the list of parameters shall be reviewed after two years of sampling have been completed. As per the ECA, a detailed assessment of the monitoring results was completed by GMBP in the 2008 Annual Monitoring Report. Based on this review, GMBP proposed that the previously established monitoring program be revised to better reflect the conditions of the site. The proposed revisions included reducing the sampling frequency from three times annually to twice annually and that the analytical parameters be reduced to a list that is specifically intended to provide further information regarding the Site's compliance with the Reasonable Use Criteria.

Based on MECP concurrence with recommendations provided in the 2008 Annual Report, as outlined in correspondence dated February 11, 2010 (Appendix B), the annual monitoring program for the Site, as amended, is as follows:

SAMPLING LOCATIONS		ANALYTICAL PARAMETERS
GROUNDWATER (Summer and Fall)		
Overburden	MW-6B MW-7A MW-8A	Conductivity, Total Dissolved Solids (TDS), pH, Alkalinity, Hardness, Ammonia, DOC Bromide, Chloride and Sulphate **Metals:** arsenic, barium, boron, chromium, cobalt, copper, selenium, strontium, calcium, magnesium, manganese, iron, potassium and sodium
Bedrock	MW-2 MW-3 MW-5 MW-6A MW-7B MW-8B	
SURFACE WATER (Summer and Fall)		
SW-1 SW-2		Conductivity, Total Dissolved Solids (TDS), pH, Alkalinity, Hardness, Ammonia, DOC, BOD, COD Bromide, Chloride and Sulphate **Metals:** arsenic, barium, boron, chromium, cobalt, copper, selenium, strontium, calcium, magnesium, manganese, iron, potassium and sodium **Field Parameters:** Temperature and water level

Since the Landfill has been closed and capped for a period of 20 years (i.e., since 2002), it is reasonable to expect that the primary period of leachate generation has passed. Through the past sampling program, it has been established that there are no significant seasonal fluctuations in groundwater flow direction and that the

site conditions are stable (i.e., it is closed). In addition, the groundwater quality measured in the last several years of monitoring has been relatively consistent with the exception of the decreasing concentration trends for sodium and chloride observed at monitoring location MW-8A. This decreasing concentration trend is interpreted to reflect decreasing influence from landfill-leachate derived impacts at this downgradient overburden monitoring location.

Previous recommendations have been made to consider a further reduction in the sampling frequency once stabilized concentration trends were evident at the location of MW-8A over a five-year period. Therefore, **based on the generally stable concentration trends in the groundwater at MW-8A since 2016 (i.e., a period of 6 years), it is recommended that the sampling frequency be revised to once per year during the fall season.**

Due to the geologic conditions encountered during drilling and the potential hazard related to the occurrence of naturally occurring bitumen and gas, **the removal from the monitoring program and decommissioning of MW-8B is recommended as per the requirements of Ontario Regulation 903/00.**

11. CONCLUSIONS

1. As a result of the site closure in October 2002 and the subsequent placement of a low permeability cover, it is anticipated that leachate production at the site will continue to decrease over time. Therefore, it is reasonable to expect that groundwater concentrations of leachate indicator parameters will remain stable or continue to decrease.

2. To satisfy Condition 12 of the ECA, four additional monitoring wells (MW-6A, MW-7A, MW-7B, and MW-8B) were previously installed at the Site in 2011. No further monitoring well installations are required under this condition.

3. The groundwater flow direction at the site is consistently in a north to north-westerly direction. Leachate impacts are most likely to occur to the north of the landfill and along the northerly compliance limit. Further, landfillleachate derived impacts cross-gradient to the landfill (i.e. to the east and west) are not anticipated.

4. Groundwater quality within each of the geologic units, including the overburden and shallow bedrock, varies significantly. Based on a review of the water quality data, boron and strontium were identified as key indicators that can be used to measure the relative influence of the petroliferous shale unit on the water quality at a given location, including overburden monitoring locations where upwards gradients could allow for the flow of groundwater from the bedrock into the overburden. The elevated concentrations appear to be associated with the natural occurrence of petroliferous-rich salt brines within the upper shale unit. In general, increased concentrations of sodium, chloride, conductivity, TDS and, to a lesser degree, hardness and potassium, are expected in conjunction with increased boron and strontium concentrations.

5. Downgradient of the landfill, the presence of leachate impacts from the closed landfill at overburden well MW-8A is indicated by the generally decreasing concentration trends for sodium and chloride coupled with elevated concentrations of sulphate and alkalinity. However, groundwater quality at this location is also influenced by the interactions between the overburden and bedrock groundwater flow systems. In the northeast portion of the Site, in the vicinity of bedrock well MW-5, groundwater quality results suggest minor influence from landfill leachate. In the northwest portion of the Site, in the vicinity of well couplet MW-7A/B and bedrock well MW-3, landfill-leachate derived impacts are not evident.

6. A typical leachate plume from a small Municipal Landfill has lower concentrations of characteristic indicator parameters than seen in the shallow bedrock unit. Given that the purpose of the RUC is to not permit further degradation of the groundwater on adjacent properties, a significant leachate plume would be required to further degrade the groundwater quality within the bedrock unit at the Site. Consequently, even a minor influence from the underlying shale unit on groundwater quality in the overburden effectively influences groundwater chemistry beyond that expected from landfill leachate.

7. Based on the natural occurrence of significantly elevated concentrations of various parameters typically relied upon to assess landfill leachate derived impacts, compliance with the RUC downgradient of the landfill and along the north property boundary is difficult to discern. However, at this time it appears that the groundwater quality downgradient of the landfill is more significantly influenced by the native petroliferous shales than by the closed landfill site.

8. The designed pond/wetland type features from which the surface water samples are collected are intended to promote the infiltration of surface water. Therefore, SW-1 and SW-2 are representative of localized features that have no outlets or connection to other surface water bodies (e.g. streams or rivers). Based on the groundwater elevations, the locations of the surface water features, and the similarity between the surface water quality and the groundwater quality reported in MW-8A, it appears that the seasonal localized ponded area (i.e. SW-1) and lower overflow pond (i.e. SW-2) may be influenced somewhat by groundwater discharge. At the surface water sampling locations, no exceedances of the PWQO, related directly to stormwater run-off from the landfill, are noted. As discussed, there is a low occurrence of sufficient volumes of water being present in these features.

12. RECOMMENDATIONS

1. It is recommended to continue the existing approved twice annual sampling program in the summer and fall as outlined in the Summary Table provided in Section 10 of this report. However, it was previously recommended that once the Site's compliance with the RUC is more clearly established, or establishment of stabilized concentration trends over a five-year period is evident at the location of MW-8A, that additional review of the sampling frequency take place in order to determine the applicability of further reduction to the monitoring program. Based on the generally stable to decreasing concentration trends at MW-8A since 2015/2016 (i.e., a period of 6 years), it is recommended that the annual sampling frequency be revised to once per year in the fall.

2. Considering the lack of sufficient groundwater in MW-1 for sampling and analysis, the inconsistency in the water level in this well with surrounding water level measurements, and the replacement of MW-1 with MW-6A as a background bedrock monitoring well, it is recommended that MW-1 be removed from the sampling program and decommissioned as per the requirements of Ontario Regulation 903/00.

3. Due to the geologic conditions encountered during drilling and the potential hazard related to the occurrence of naturally occurring bitumen and gas, the decommissioning of MW-8B is recommended as per the requirements of Ontario Regulation 903/00.

4. As per the recommendations outlined in the MECP correspondence dated June 27, 2016, it is recommended that monitoring well MW-2 be removed from the monitoring program and decommissioned in accordance with O.Reg.903.

5. Continued review of the analytical results and trends should be used to assist in the determination of compliance with the RUC along the northerly property boundary.

6. It is recommended that the surface water locations SW-1 and SW-2 be removed from the summer and fall monitoring programs due to the expected nature and chemistry of the ponded water in these locations (as

discussed in Section 7), the low occurrence of sufficient volumes of water being present in these features for sampling, the lack of water flowing offsite from the landfill property, and the nearby monitoring wells (i.e. MW-8A and MW-3) used to monitor the shallow groundwater quality downgradient of the landfill mound.

7. Although the addition of downgradient buffer lands or a contaminant attenuation zone (CAZ) is considered to be advantageous to reducing the potential for offsite impacts, it appears that degradation of the water quality beyond the property boundary due to the landfill is not evident or discernible at this time due to the occurrence of several parameters that are naturally encountered in the petroliferous black shale /dolostone bedrock observed directly downgradient of the landfill, both on-site (i.e. MW-8B) and off-site (i.e. MW-4). The natural occurrence of significantly elevated concentrations of several parameters that are typically relied upon in the assessment of landfill leachate-derived impacts makes it difficult to discern the relative influence of groundwater derived from the shallow bedrock and potential impacts from landfill leachate.

All of which is respectfully submitted,

GM BLUEPLAN ENGINEERING LIMITED

Per:

C.D. Cantwell, M.Eng., E.I.T.

Per:

A.W. Bringleson, B.E.S., C.E.T.

Per:

M.D. Nelson, P.Eng., P.Geo.

TOWN OF NORTHEASTERN MANITOULIN and the Islands
PROPOSED 2022 Water Rates

PROPOSED 2022

Version 1

	Sheg	***L C***
2021 Revenue	$138,757.69	$518,479.24
2021 Operating Cost	$125,480.00	$370,140.00
	$13,277.69	$148,339.24
2022 Revenue	$141,388.00	$550,018.41
2022 Operating Costs	$136,230.00	$422,640.00
	$5,158.00	$127,378.41
Increase in Net Operations	-$8,119.69	-$20,960.83
Number of Users	87	700
2021 Annual Rate	$1,426.64	$481.90
Annual Increase (4%)	$57.07	$19.28
Recommended 2022 Water Rates	$1,483.71	$501.18
Increase		
Base Rate	$129,082.39	$350,823.20
Quarterly Rate	$371	$125
Reserve Contribution	$5,158	$127,378

LC Sewer Rate

2021 Annual		$482
2022 Annual		501
	Annual Increase	$19
LC Sewer Proposed	Quarterly Rate	$125

TOWN OF NORTHEASTERN MANITOULIN THE ISLANDS

Feb 16, 2022
Version 1

2022
DRAFT SHEG WATER BUDGET

	Account	Description	APPROVED BUDGET 2021	ACTUAL 2021	PROPOSED BUDGET 2022
				Pre-Audit	
	Sheg Water - Operating			*31-Dec-21*	
1	00-04-125-024-4378	Transf Fr Rsrves - Sheg Water System		0.00	
2	00-04-125-029-6729	Sheg Wtr System Rpr Trnsf to Reserve	13,277.69	31,571.52	5,158.00
3	00-04-125-220-6110	Sheg Water Mains Wages	3,000.00	0.00	3,000.00
4	00-04-125-220-6161	Sheg Water Mains MERC	360.00	0.00	360.00
5	00-04-125-220-6165	Sheg Water Mains Grp Life	360.00	0.00	360.00
6	00-04-125-220-6168	Sheg Water Mains OMERS	360.00	0.00	360.00
7	00-04-125-220-6349	Sheg Water Mains Contracted Services		0.00	
8	00-04-125-220-6370	Sheg Water Depreciation Expense		0.00	
9	00-04-125-220-6411	Sheg Water Mains Insurance	650.00	708.60	1,000.00
10	00-04-125-220-6429	Sheg Water Mains Material	1,500.00	0.00	1,500.00
11	00-04-125-221-6110	Sheg WTP Wages		0.00	
12	00-04-125-221-6161	Sheg WTP MERC	100.00	99.59	
13	00-04-125-221-6165	Sheg WTP Grp Life	100.00	81.20	
14	00-04-125-221-6168	Sheg WTP OMERS		0.00	
15	00-04-125-221-6303	Sheg WTP Advertising	150.00	0.00	150.00
16	00-04-125-221-6349	Sheg WTP Contracted Services	56,000.00	51,669.98	56,000.00
17	00-04-125-221-6351	Sheg WTP Other Services	10,000.00	16,426.76	20,000.00
18	00-04-125-221-6360	Sheg WTP Dyed Diesel		0.00	
19	00-04-125-221-6405	Sheg WTP Hydro	17,500.00	15,695.25	18,500.00
20	00-04-125-221-6407	Sheg WTP Telephone	2,500.00	2,108.42	2,500.00
21	00-04-125-221-6411	Sheg WTP Insurance	6,500.00	7,444.64	10,000.00
22	00-04-125-221-6418	Sheg WTP Chemicals		0.00	
23	00-04-125-221-6426	Sheg WTP Permits, Licensing & Fees	2,000.00	0.00	2,000.00
24	00-04-125-221-6429	Sheg WTP Material	7,000.00	1,464.71	2,000.00
25	00-04-125-221-6459	Sheg WTP Courier Charges	100.00	0.00	150.00
26	00-04-125-221-6468	Sheg WTP Grant In Lieu	4,800.00	4,227.34	4,800.00
27	00-04-125-221-6474	Sheg WTP Bldg Mtce	5,000.00	3,238.79	5,000.00
28	00-04-125-221-6475	Sheg WTP Grounds Mtce Materials	100.00	0.00	
29	00-04-125-221-6479	Sheg WTP Safety Wear		0.00	
30	00-04-125-221-6516	Sheg WTP Travel		0.00	
31	00-04-125-221-6998	Sheg WTP Payroll Burden Clearing		0.00	
32	00-04-125-225-6110	Sheg Hydrants Mtce Wages		0.00	
33	00-04-125-225-6429	Sheg Hydrants Mtce Materials	4,500.00	0.00	6,000.00
34	00-04-125-226-6995	Sheg Water Util Billing Collecting	450.00	450.00	450.00
35	00-04-125-227-6110	Sheg Water Meter Mtce Wages	200.00	35.58	
36	00-04-125-227-6161	Sheg Water Meter Mtce MERC	50.00	4.42	
37	00-04-125-227-6165	Sheg Water Meter Mtce Grp Life	50.00	3.62	
38	00-04-125-227-6168	Sheg Water Meter Mtce OMERS	50.00	3.05	
39	00-04-125-227-6429	Sheg Water Meter Mtce Materials	500.00	0.00	500.00
40	00-04-125-228-6110	Sheg Water Meter Reading Wages	1,000.00	847.66	1,000.00
41	00-04-125-228-6161	Sheg Water Meter Reading MERC		0.00	
42	00-04-125-228-6165	Sheg Water Meter Reading Grp Life		0.00	
43	00-04-125-228-6168	Sheg Water Meter Reading OMERS		0.00	
44	00-04-125-228-6429	Sheg Water Meter Reading -Materials	600.00	0.00	600.00
45	00-04-125-429-4292	Sheg Water Metered	-135,757.69	-135,981.13	-141,188.00
46	00-04-125-429-4304	Sheg Water - Other Revenue	-3,000.00	-100.00	-200.00
47	00-04-125-429-4279	Sheg Water - OSWAP Assistance		0.00	
48	00-04-125-432-4278	NOHFC Sheg WTP Funding		0.00	
49	00-04-125-435-4309	Water Users Meters Prepayment		0.00	
50	00-04-125-435-4310	Water Meter System LT Financing		0.00	
51	00-04-125-429-6415	internal Interest - Sheg Water		0.00	
		TOTAL OPERATIONS	**0.00**	**0.00**	**0.00**

TOWN OF NORTHEASTERN MANITOULIN THE ISLANDS

Feb 15, 2022
Version 1

2022
DRAFT SHEG WATER BUDGET

	Account	Description	APPROVED BUDGET 2021	ACTUAL 2021 Pre-Audit	PROPOSED BUDGET 2022
	Sheg Water - Capital				
52	00-24-125-024-4378	Trnsf frm Rsrves for Sheg Water Capital Proj	-28,241.00	0.00	-39,900.00
53	00-24-125-029-6729	Trnsf to Rsrves from Capital - Sheg Water		-17,361.57	
54	00-24-125-221-6429	Sheg Bldg Capital - Load test generator / **DWQUIS**	1,100.00	650.00	2,800.00
55	00-24-125-222-6429	Replace highlift pump	3,800.00	1,504.60	35,000.00
56	00-24-125-260-6429	Sheg Capital Replace alarm dialer		0.00	
57	00-24-125-263-6429	Sheg Water Meters - Materials upgrade meter reader software	941.00	549.00	
58	00-24-125-264-6110	Sheg WTP Upgrade Wages OSTAR		0.00	
59	00-24-125-264-6300	Sheg Water - Reduction in Capital Rec'ble		0.00	
60	00-24-125-264-6429	Sheg WTP SCADA programming	2,100.00	7,808.96	2,100.00
61	00-24-125-267-6429	Sheg Capital Raw water quality analysis	1,800.00	0.00	
62	00-24-125-270-6429	Sheg Capital- Intake Inspection		0.00	
63	00-24-125-268-6429	Sheg Capital - Swab lines	15,000.00	0.00	
64	00-24-125-271-6429	Sheg Capital - PH Meter / Asset registry prep		0.00	
65	00-24-125-268-4278	SHEG WATER - Federatl Funding		0.00	
66	00-24-125-268-4279	SHEG WATER - Provincial Funding		0.00	
67	00-24-125-268-6429	Sheg Water Capital Chlorine analyzer probe	3,500.00	6,849.01	
68	00-24-125-269-4279	OSTAR - Sheg WTP Upgrade		0.00	
69	00-24-125-435-4307	Sheg WTP Upgrade - User Charges		0.00	
		TOTAL CAPITAL	**0.00**	**0.00**	**0.00**
NET OPER & CAP SHEG WATER (Surplus / - Deficit)			**$0.00**	**$0.00**	**$0.00**

TOWN OF NORTHEASTERN MANITOULIN THE ISLANDS

Feb 15, 2022
Version 1

2022 LC WATER DRAFT BUDGET

	Account	Description	APPROVED BUDGET 2021		ACTUAL 2021		PROPOSED BUDGET 2022
					Pre-Audit		
	LC Water - Operating				*31-Dec-21*		
1	00-04-125-024-4376	Transf Fr Rsrves - L C Water			0.00		
2	00-04-125-024-4379	Transf Fr Rsrves - Hwy 540 Water			0.00		
3	00-04-125-024-4380	Transf Fr Rsrves - Hwy 6 Water			0.00		
4	00-04-125-029-6728	LC Wtr System Rpr Tansf to Reserve	148,339.24		180,705.78		127,378.41
5	00-04-125-029-6730	Hwy 6 Wtr System Rpr Transf to Reserve			0.00		
6	00-04-125-029-6731	Hwy 540 Wtr System Rpr Transf to Reserve			0.00		
7	00-04-125-212-6110	LC Water Mains Wages	10,000.00		0.00		10,000.00
8	00-04-125-212-6161	LC Water Mains MERC	1,200.00		0.00		1,200.00
9	00-04-125-212-6165	LC Water Mains Group Life	1,200.00		0.00		1,200.00
10	00-04-125-212-6168	LC Water Mains OMERS	1,000.00		0.00		1,000.00
11	00-04-125-212-6320	LC Water Mains Bad Debts written off			0.00		
12	00-04-125-212-6349	LC Water Mains - Contracted Servces	13,500.00		12,000.00		15,000.00
13	00-04-125-212-6351	LC Water Mains - Other Services	12,000.00		1,885.80		12,000.00
14	00-04-125-212-6411	LC Water Mains Insurance	3,500.00		4,026.26		5,000.00
15	00-04-125-212-6418	LC Water Mains Lab/Testing Fees			0.00		
16	00-04-125-212-6429	LC Water Mains Material Parts	12,000.00		17,817.09		16,000.00
17	00-04-125-213-6110	LC WTP Wages			2,665.95		4,000.00
18	00-04-125-213-6161	LC WTP MERC			363.63		800.00
19	00-04-125-213-6165	LC WTP Grp Life			229.31		400.00
20	00-04-125-213-6168	LC WTP OMERS			239.47		800.00
21	00-04-125-213-6303	LC WTP Advertising	300.00		0.00		300.00
22	00-04-125-213-6336	LC WTP Chemicals			136.92		
23	00-04-125-213-6349	LC WTP Contracted Services	135,000.00		154,601.02		165,000.00
24	00-04-125-213-6351	LC WTP Other Services	15,000.00		305.28		15,000.00
25	00-04-125-213-6360	LC WTP Dyed Diesel			0.00		
26	00-04-125-213-6405	LC WTP Utilities	75,000.00		62,502.70		75,000.00
27	00-04-125-213-6407	LC WTP Telephone	4,500.00		3,599.95		4,500.00
28	00-04-125-213-6411	LC WTP Insurance	6,100.00		4,025.64		6,100.00
29	00-04-125-213-6418	LC WTP Lab Testing Fees	4,500.00		0.00		4,500.00
30	00-04-125-213-6426	LC WTP Permits, Licensing & Fees	2,000.00		0.00		2,000.00
31	00-04-125-213-6429	LC WTP Materials	20,000.00		11,982.98		20,000.00
32	00-04-125-213-6459	LC WTP Courier Charges			62.68		
33	00-04-125-213-6468	LC WTP Grant In Lieu	20,000.00		16,776.46		20,000.00
34	00-04-125-213-6474	LC WTP Building Maintenance & Repairs	10,000.00		3,941.99		10,000.00
35	00-04-125-213-6479	LC WTP Safety Wear			0.00		
36	00-04-125-213-6516	LC WTP Travel			0.00		
37	00-04-125-214-6995	LC Water Util Billing & Collecting	4,600.00		3,600.00		4,600.00
38	00-04-125-215-6110	LC Hydrants Mtce Wages	3,000.00		0.00		3,000.00
39	00-04-125-215-6161	LC Hydrants Mtce MERC	360.00		0.00		360.00
40	00-04-125-215-6165	LC Hydrants Mtce Group Life	360.00		0.00		360.00
41	00-04-125-215-6166	LC Hydrants Mtce RRSP			0.00		
42	00-04-125-215-6168	LC Hydrants Mtce OMERS			0.00		
43	00-04-125-215-6429	LC Hydrants Mtce Parts	4,500.00		0.00		6,000.00

TOWN OF NORTHEASTERN MANITOULIN THE ISLANDS

Feb 15, 2022
Version 1

2022 LC WATER DRAFT BUDGET

	Account	Description	APPROVED BUDGET 2021	ACTUAL 2021 Pre-Audit	PROPOSED BUDGET 2022
44	00-04-125-217-6110	LC Water Meters Mtce - Wages		106.74	
45	00-04-125-217-6161	LC Water Meters Mtce MERC		14.02	
46	00-04-125-217-6165	LC Water Meters Group Life		11.56	
47	00-04-125-217-6168	LC Water Meters OMERS		9.79	
48	00-04-125-217-6429	LC Water Meters Mtce - Materials	4,000.00	10,371.44	12,000.00
49	00-04-125-218-6110	LC Water Meter Reading - Wages	3,000.00	1,986.54	3,000.00
50	00-04-125-218-6161	LC Water Meter Reading - MERC	360.00	233.51	360.00
51	00-04-125-218-6165	LC Water Meter Reading - Group Life	360.00	190.30	360.00
52	00-04-125-218-6168	LC Water Meter Reading - OMERS	300.00	169.95	300.00
53	00-04-125-218-6429	LC Water Meter Reading - Materials	2,500.00	0.00	2,500.00
54	00-04-125-428-4270	LC Water Interest on Connection Charges		0.00	
55	00-04-125-428-4279	LC Water - OSWAP Assistance		0.00	
56	00-04-125-428-4292	LC Water - Metered	-515,979.24	-476,641.70	-536,618.41
57	00-04-125-428-4304	LC Water - Other Revenue		-6,336.00	-6,400.00
58	00-04-125-428-4307	LC Water User Charges		0.00	
59	00-04-125-428-4328	LC Water Other Water Syst Revenue	-1,500.00	-6,765.06	-2,000.00
60	00-04-125-428-4341	LC Water - External Sales	-1,000.00	-4,820.00	-5,000.00
61	00-04-125-428-6415	Internal Interest - LC Water		0.00	
		TOTAL OPERATIONS SURPLUS	**0.00**	**0.00**	**0.00**
	LC Water - Capital				
62	00-24-125-024-4376	Trnsf frm LC Wtr Rsrves for Capital Projects	-613,714.00	0.00	-488,260.00
63	00-24-125-024-4377	Trnsf frm Rsrves for Water Quality Stud		0.00	
64	00-24-125-029-6728	Trnsf to Rsrves from Capital - LC Water		-510,743.72	
65	00-24-125-212-4279	Water Main Replacement Funding		0.00	
66	00-24-125-212-4310	Water Main Replacement - Loan Proceeds		0.00	
67	00-24-125-212-6429	LC Watermain Capital		7,029.37	
68	00-24-125-218-6429	Replace filters/ **Air eductor vacuum priming system**	550,000.00	493,274.16	29,110.00
69	00-24-125-219-6429	Generator transfer switch	12,445.00	0.00	
70	00-24-125-214-6429	Intake Inspection / **Replace watermain line in alley**	5,400.00	0.00	300,000.00
71	00-24-125-215-6429	Swab lines Distribution system / **Alarm Dialer**	12,000.00	0.00	4,000.00
72	00-24-125-220-6429	Replace electrical actuator process on valves	9,750.00	0.00	9,750.00
73	00-24-125-211-6429	**Zebra Mussel feed pump**	2,750.00	0.00	2,750.00
74	00-24-125-213-6429	Chlorine analyzer probe / **Enomer Assessment**	6,800.00	0.00	100,000.00
75	00-24-125-216-6429	Load test generator	1,100.00	0.00	
76	00-24-125-217-6429	Upgrade water meter reader software / **Fencing**	8,469.00	4,940.95	6,000.00
77	00-24-125-260-6429	Raw water quality analysis / **Replace backpulse tank**	1,800.00	0.00	22,000.00
81	00-24-125-261-6429	LC WATER SCADA Upgrade	2,100.00	5,499.24	2,100.00
83	00-24-125-262-6429	LC WATER Sump Pumps		0.00	9,750.00
84	00-24-125-265-6429	LC WATER DWQUIS Audit	1,100.00	0.00	2,800.00
		TOTAL CAPITAL EXPENSES	**0.00**	**0.00**	**0.00**
NET OPER & CAP LC WATER (Surplus / - Deficit)			**$0.00**	**$0.00**	**$0.00**

Notes:

TOWN OF NORTHEASTERN MANITOULIN THE

Feb 15, 2022
Version 1

2022 LC SEWER DRAFT BUDGET

	Account	Description	APPROVED BUDGET 2021	ACTUAL 2021	PROPOSED BUDGET 2022
				Pre-Audit	
	LC Sewer - Operating			31-Dec-21	
1	00-04-115-001-6370	Sanitary Services Depreciation Expense		0.00	
2	00-04-115-029-6727	LC Swr System Rpr Trnsf to Reserve	125,911.24	105,969.70	129,700.41
3	00-04-115-202-6110	Sanitary Sewers Wages	10,000.00	0.00	10,000.00
4	00-04-115-202-6161	Sanitary Sewers MERC	800.00	0.00	800.00
5	00-04-115-202-6165	Sanitary Sewers Group Life	800.00	0.00	800.00
6	00-04-115-202-6168	Sanitary Sewers OMERS	650.00	0.00	650.00
7	00-04-115-202-6210	Sanitary Sewers - Principal Loan Payment	126,447.53	106,303.49	126,447.53
8	00-04-115-202-6211	Sanitary Sewers - Loan Int Payment	37,720.47	36,450.21	37,720.47
9	00-04-115-202-6349	Sanitary Sewers Contr Services	57,000.00	15,096.52	57,000.00
10	00-04-115-202-6351	Sanitary Sewers Other Services	11,000.00	712.32	11,000.00
11	00-04-115-202-6360	Sanitary Sewers Dyed Diesel	650.00	715.62	1,000.00
12	00-04-115-202-6405	Sanitary Sewers Utilities	38,000.00	36,026.93	40,000.00
13	00-04-115-202-6411	Sanitary Sewers Insurance	8,500.00	9,495.47	12,000.00
14	00-04-115-202-6429	Sanitary Sewers Material	32,000.00	12,221.91	32,000.00
15	00-04-115-202-6468	Sanitary Sewers Grant in Lieu		0.00	
16	00-04-115-202-6474	Sanitary Sewers Bldgs - Maintenance & Repairs	10,000.00	1,889.13	10,000.00
17	00-04-115-209-6110	Lagoon Operation Wages		0.00	
18	00-04-115-209-6349	Lagoon Operation Contracted Svces	21,000.00	62,731.03	32,000.00
19	00-04-115-209-6418	Lagoon Operation Lab Testing Fees		0.00	
20	00-04-115-209-6429	Lagoon Operation Material	30,000.00	52,326.49	30,000.00
21	00-04-115-209-6468	Lagoon Operation Grant In Lieu	7,500.00	4,394.41	7,500.00
22	00-04-115-427-4292	LC Sewer Billing Metered	-515,979.24	-444,333.23	-536,618.41
23	00-04-115-427-4328	LC Sewers Other Charges	-2,000.00	0.00	-2,000.00
24	00-04-115-427-6415	Internal Interest - L C Sewers		0.00	
		TOTAL OPERATIONS	**0.00**	**0.00**	**0.00**
	LC Sewer - Capital				
25	00-24-115-024-4375	Trnsf frm LC Swr Rsrve for Capital Projects	-$135,000.00	-45,946.99	-$158,235.00
26	00-24-115-201-6429	Improve chemical offloadin at lagoon		0.00	3,500.00
26	00-24-115-202-4307	LC Sewer - User Charges		0.00	
27	00-24-115-202-4310	LC Sewer - Loan Proceeds		0.00	
28	00-24-115-202-6110	Sewer Repairs CL/Forcemain Wages		0.00	
29	00-24-115-202-6161	Sewer Repairs CL/Forcemain MERC		0.00	
30	00-24-115-202-6165	Sewer Repairs CL/Forcemain Group Life		0.00	
31	00-24-115-202-6166	Sewer Repairs CL/Forcemain RRSP		0.00	
32	00-24-115-202-6429	Sewer Repairs CL/Forcemain Materials / **Flush sewers**		0.00	3,600.00
33	00-24-115-207-6429	Chemical for treatment / **Lagoon treatment**		0.00	20,000.00
34	00-24-115-204-6429	Complete engineering design on main lift station (SPS Sewage pumping site)	75,000.00	0.00	111,135.00
35	00-24-115-206-6429	Clean Wetwell		0.00	3,500.00
36	00-24-115-202-6419	Flush Sanitary Sewers / **Flush system**		0.00	
37	00-24-115-208-6429	Campbell generator/transfer switch and fuel tank	45,000.00	45,946.99	
38	00-24-115-205-6429	Rebuild Campbell St pumps	15,000.00	0.00	16,500.00
39	00-24-115-209-6110	Lagoon Capital Wages		0.00	
40	00-24-115-209-6161	Lagoon Capital MERC		0.00	
41	00-24-115-209-6165	Lagoon Capital Group Life		0.00	
42	00-24-115-209-6166	Lagoon Capital RRSP		0.00	
43	00-24-115-209-6168	Lagoon Capital OMERS		0.00	
44	00-24-115-209-6429	Lagoon Capital Materials		0.00	

TOWN OF NORTHEASTERN MANITOULIN THE

Feb 15, 2022
Version 1

2022 LC SEWER
DRAFT BUDGET

	Account	Description	APPROVED BUDGET 2021	ACTUAL 2021 Pre-Audit	PROPOSED BUDGET 2022
45	00-24-115-209-4278	Lagoon Capital Funding - Federal		0.00	
46	00-24-115-209-4279	Lagoon Capital Funding - Provincial		0.00	
47	00-24-115-209-4310	Lagoon Capital - Loan Proceeds		0.00	
48	00-24-115-202-4278	LC Sewers - Federal Funding		0.00	
49	00-24-115-202-4279	LC Sewers - Provincial Funding		0.00	
50	00-24-130-251-4304	Environmental Funding - Other		0.00	
		TOTAL CAPITAL	**0.00**	**0.00**	**0.00**
NET OPER & CAP LC SEWER		**(Surplus / - Deficit)**	**$0.00**	**$0.00**	**$0.00**

Notes:

LC WATER - 2022 CAPITAL PROJECTS

Project		Number	Name/Description	Amount	G/L Account
1.	OCWA	***LCW-22-001***	Alarm Dialer	$4,000	00-24-125-215-6429
2.	OCWA	***LCW-22-002***	Air Eductor vacuum priming system	29,110	00-24-125-218-6429
3.	NEMI	***LCW-22-003***	Fencing	6,000	00-24-125-217-6429
4.	OCWA	***LCW-22-004***	Replace backpulse tank	22,000	00-24-125-260-6429
5.	OCWA	***LCW-22-005***	Zebra Mussel Feed Pump (carry over a/per Keith)	2,750	00-24-125-211-6429
6.	OCWA	***LCW-22-006***	Replace Electrical Actuator Process on valves (carry over a/per Keith)	9,750	00-24-125-220-6429
7.	OCWA	***LCW-22-007***	Scada Programming	2,100	00-24-125-2161-6429
8	OCWA	***LCW-22-008***	DWQUIS	2,800	00-24-125-265-6429
9	OCWA	***LCW-22-009***	Replace Electrical Actuator on valves	9,750	00-24-125-262-6429
10	OCWA	***LCW-22-010***	Replace line/watermain on alley behind main street	300,000	00-24-125-214-6429
11	OCWA	***LCW-22-011***	Enomer Assessment	$100,000	00-24-125-213-6429
					00-24-125-216-6429
				$488,260	

SHEG WATER - 2022 CAPITAL PROJECTS

Project		Number	Name/Description	Amount	G/L Account
1.	OCWA	***SW-22-001***	Replace highlift pump	$35,000	00-24-125-222-6429
2.	OCWA	***SW-22-002***	SCADA Programming	2,100	00-24-125-264-6429
3.	NEMI	***SW-22-003***	DWQUIS	2,800	00-24-125-221-6429
				$39,900	

LC SEWER - 2022 CAPITAL PROJECTS

Project		Number	Name/Description	Amount	G/L Account
1.	OCWA	**LCS-22-001**	Improve chemical offloading at lagoon	3,500	00-24-115-201-6429
2.	OCWA	**LCS-22-002**	Chemical for lagoon system	20,000	00-24-115-207-6429
3.	OCWA	**LCS-22-003**	Engineering design on Main Lift Station (carried frm '21) and increased from $ 75,000 to $ 111,000 a/per Keith	111,135	00-24-115-204-6429
4.	OCWA	**LCS-22-004**	Rebuild Campbell St Pumps	16,500	00-24-115-205-6429
5.	OCWA	**LCS-22-005**	Flush Sanitary in problem areas	3,600	00-24-115-202-6429
6.	OCWA	**LCS-22-002**	Clean main SPS wetwell	3,500	00-24-115-206-6429
				$158,235	

Ministry of Northern Development, Mines, Natural Resources and Forestry

Policy Division

Director's Office
Crown Forests and Lands Policy Branch
70 Foster Drive, 3rd Floor
Sault Ste. Marie, ON P6A 6V5

Ministère du Développement du Nord, des Mines, des Richesses naturelles et des Forêts

Division de la politique

Bureau du directeur
Direction des politiques relatives aux forêts et aux terres de la Couronne
70, rue Foster, 3e étage
Sault Sainte Marie, ON P6A 6V5

Ontario

March 03, 2022

Re: Seeking input about the use of floating accommodations on waterways over Ontario's public lands

Greetings,

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) would like to make you aware of a Bulletin recently posted to the Environmental Registry of Ontario [https://ero.ontario.ca/notice/019-5119].

We are seeking to engage municipalities on potential ideas and approaches to manage "camping" and the use of floating accommodations on waterways over Ontario's public lands. The ministry is seeing increased interest in the use of waterways by various types of vessels (i.e., watercrafts equipped for overnight accommodation). In some cases, the ministry has heard concerns relating to vessels that are primarily designed for accommodation and not navigation.

We are seeking input from the public, Indigenous communities, and municipal associations, and various stakeholders including your organization **by April 19, 2022**.

Input from this process will inform consideration of potential future changes intended to address growing concerns around the impacts of this activity on Ontario waterways and those who use them.

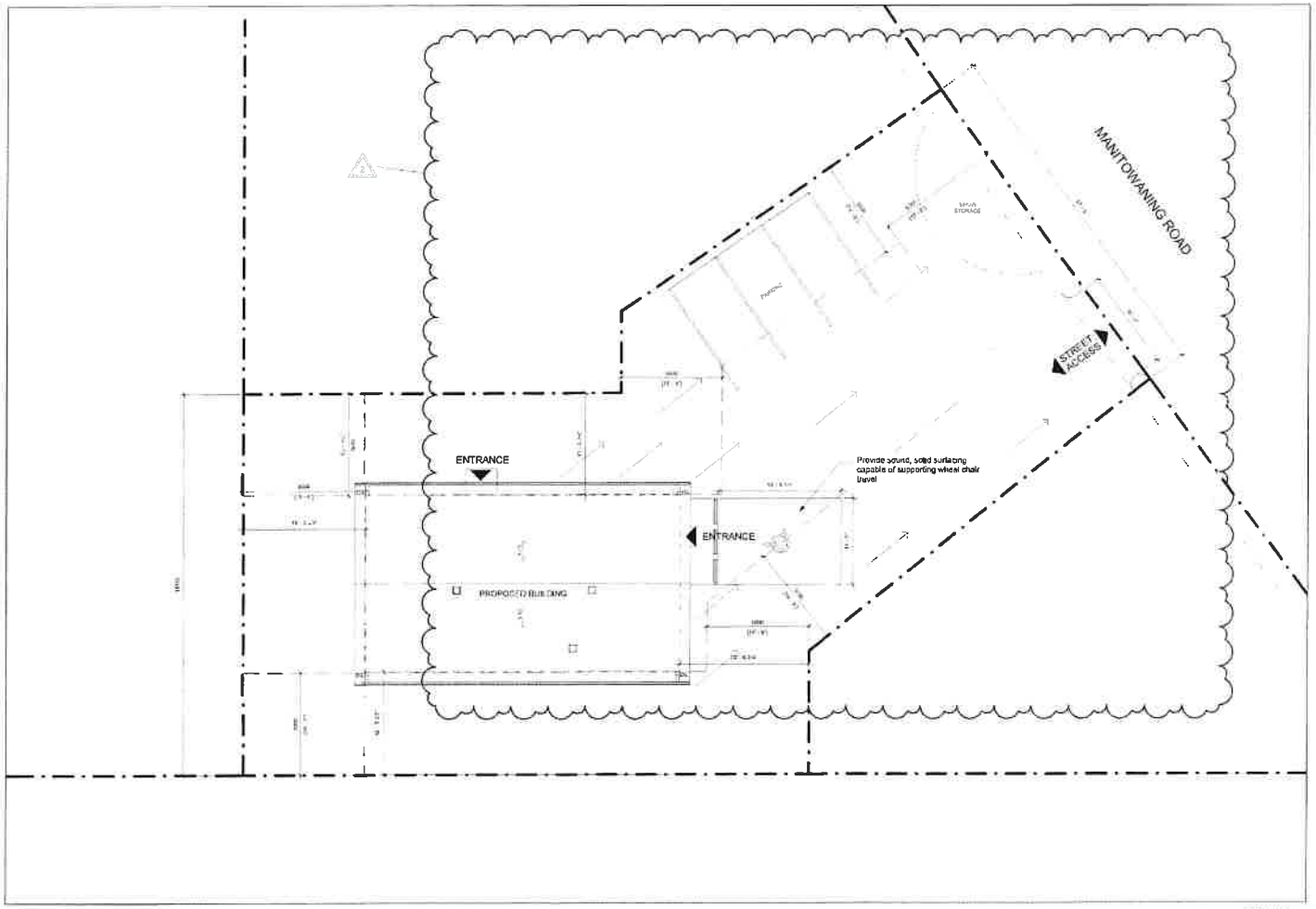
Please note, no regulatory changes are being proposed at this time. Any regulatory or policy changes that may be considered in the future would be posted on the Environmental Registry for consultation purposes.

If you have any questions, please reach out to Julie Reeder, Sr. Program Advisor, Crown Lands Policy Section at Julie.reeder@ontario.ca.

Sincerely,

Peter D. Henry, R.P.F.
Director
Crown Forests and Lands Policy Branch

c. Pauline Desroches, Manager, Crown Lands Policy Section
Julie Reeder, Sr. Program Advisor, Crown Lands Policy Section



SITE LEGEND

DENOTES SETBACK LINE

DENOTES TYPICAL PARKING SPACE 9'-0" x 20'-0"

GENERAL NOTES:

1. CONTRACTOR TO LOCATE ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORK
2. NOTE: ALL DRAINAGE FROM SWALE TO FLOW TO DOWNSPOUTS AT FRONT OF BUILDING AND OUT FLOW TO MANITOWANING ROAD

NO.	REVISION / ISSUED	DATE
1	ISSUED FOR PERMIT	2022.02.25
2	ISSUED FOR PERMIT - REVISIONS	2022.03.31

3RDLINE.STUDIO

ELLIOTT COMMERCIAL KITCHEN

MANITOWANING ROAD, LITTLE CURRENT, ON

SITE PLAN

Date: 2022.02.25
Scale: 1/4" = 1'-0"
Drawn By: MS CO Checked By: ML
Project No: 2246
Drawing No: Rev: 2

A-1.0