
The Regular Meeting of Town Council for the Town of Mahone Bay was held on Tuesday, June 29, 2023 at 7:00 p.m. in Council Chambers and broadcast via YouTube live.

Present:

Mayor D. DeVenne
Councillor J. Feeney
Councillor S. Lohnes-Croft (virtual)
Councillor P. Carver
Councillor R. Nowe
Councillor K. Wilson
CAO, D. Heide
Acting Clerk & Deputy CAO, K. Redden

Regrets:

Deputy Mayor F. Kangata

Gallery: Online & 0 in-person gallery

Land Acknowledgement

Let us begin by acknowledging that we are gathered today in Mi'kma'ki. The ancestral, present and future territory of the Mi'kmaw people. Today, we gather with the intent followed by the living Peace and Friendship Treaties - with respect, cooperation and coexistence.

1. Agenda

A motion by Councillor Carver, seconded by Councillor Feeney, "THAT the agenda be approved as presented." Motion carried.

2. Minutes

A motion by Councillor Nowe, seconded by Councillor Wilson, "THAT the minutes of the June 13, 2023 regular meeting of Council be approved as presented." Motion carried.

3. Public Input Session

No one was in attendance for the Public Input Session.

4. Presentations

No presentations.

5. Correspondence

5.1 Proclamation Request – Right to Know Week 2023

Council received a request to make a proclamation for Right to Know Week 2023.

5.2 Cara Spittal, Director, NS Provincial Housing Agency – Priority Access to Public Housing

Council received notification that the Nova Scotia Provincial Housing Authority will be reaching out to Chief Administrative Officers to request input on how to improve the application process for Nova Scotians seeking priority access to public housing.

5.3 David Lasky, Request to Discharge Development Agreement for 350 Main Street

Council received a request to discharge a development agreement.

A motion by Councillor Feeney, seconded by Councillor Wilson, “THAT Council approve the request to discharge the Development Agreement for 350 Main Street.”

Motion carried.

5.4 Honourable John Lohr, Minister of Municipal Affairs & Housing, Request for a List of Municipally Owned Vacant Land

Council received a request for a list of any municipally owned, serviced (or easily serviceable) land that may be suitable for new housing development, or unused buildings on serviced land that currently don’t have any planned future uses.

A motion by Councillor Wilson, seconded by Councillor Carver, “THAT Council direct staff to reply to Minister Lohr to state that the Town has provided the requested information in the past, and that it remains the case that no Town-owned land meets the provincial criteria and that the Town would welcome working together on a housing project in the future.”

Motion carried.

6. Staff Reports

6.1 Council Report

Council received the June 29, 2023 Staff Report to Council.

A motion by Councillor Feeney, seconded by Councillor Carver, “THAT Council accept the June 29, 2023 Staff Report for information.”

Motion carried.

6.2 Staff Report – Noise Bylaw

Council received a staff report and draft Noise Bylaw to prohibit excessive noise within the Town of Mahone Bay.

A motion by Councillor Feeney, seconded by Councillor Wilson, “THAT Council provide first reading to the draft Noise Bylaw as amended to add under 2.1 that law enforcement can also administer an approved sound meter.”

Motion carried.

6.3 Report of the Clerk – Alternative Voting Bylaw

Council received the Report of the Clerk concerning the amendments to the Alternative Voting Bylaw.

A motion by Councillor Wilson, seconded by Councillor Nowe, “THAT Council provide second reading of the draft amended Alternative Voting Bylaw.” Motion carried.

7 Council Items

No Council Items.

8. Committee Reports

8.1 Climate and Environment Advisory Committee

Council received the draft minutes of the June 7, 2023 meeting of the Climate and Environment Advisory Committee.

8.2 Asset Management Committee

Council received the draft minutes of the June 8, 2023 meeting of the Asset Management Committee.

9. New Business

No new business.

10. Closed Session

A motion by Councillor Feeney, at 8:05 pm, seconded by Councillor Wilson, “THAT Council go into Closed Session to discuss Contract Negotiations as permitted by the Municipal Government Act Section 22(2)(e).” Motion carried.

Council arose from closed session at 8:50 p.m.

Business Arising from Closed Session

A motion by Councillor Carver, seconded by Councillor Nowe, “THAT Council approve the Intermunicipal Agreement for building and development services with the Municipality of the District of Chester and direct Mayor Devenne to sign on the Town’s behalf.” Motion carried.

A motion by Councillor Feeney, seconded by Councillor Wilson, “THAT Council direct staff to proceed with an environmental assessment and geotechnical assessment of the Town-owned property located at the corner of Kinburn Street and Hawthorn Road.” Motion carried.

A motion by Councillor Wilson, seconded by Councillor Nowe, "THAT Council direct staff to proceed with preparations for the demolition of the Public Works garage on Aberdeen Road."
Motion carried.

Council adjourned at 8:54 p.m. on conclusion of business.

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Mayor, David Devenne

Town Clerk, Kelly Redden

Mahone Bay & District Fire Department

Quarterly report from April 1 2023 to June 30 2023

During this quarter the Department respond to 29 calls for assistance

Fire Calls

May – Vehicle fire. Hwy 103
May – Unattended fire. Maders Cove.
May – Woods fire. Mahone bay.
May – Smoke sighting. Mahone bay / Clearland area.
May – Smoke sighting. Clearland
June – Camper fire. Maders Cove.

Fire Alarms

May – Fire alarm. Mahone Bay.
June – Fire alarm. Mahone Bay.
June – Fire Alarm. Mahone Bay.
June – Fire Alarm. Mahone Bay

Powerline down / Trees online

June – Power line down. Maders Cove.

Motor Vehicle Collision

April – Single vehicle collision. Oakland.
April – Single vehicle collision. Oakland.

Technical Rescue

May – Person requiring extraction from trail. Mahone Bay
June – ATV crash and entrapment on trail. Oakland
June – Extricate person in medical distress from back woods camp. Clearland

Medical Calls

April – Medical. Mahone Bay

Mutual Aid

April – Structure fire. Chester Basin.
April – Structure fire flare up. Chester Basin
April – Possible structure fire. Blockhouse.
May – Structure fire. Walden
May – Single vehicle roll over. Martins River
May – Structure fire. Lunenburg

May- Medical. Martins river.
May – Vehicle fire. Hwy 103.
June – Woods fire. Shelburne County.
June – Structure fire. Lunenburg.
June – Woods fire. Shelburne County.
June – MVC. Blockhouse

Summery

The last quarter was busy with a number or mutual aid calls. We sent crews twice to help with the wildland fires in Shelburne County, this alone was well over 220 man hours when taking into account the time to clean hose and gear afterwards as well as the time it takes to return the trucks back to operational readiness. We also received some much-welcomed help when dealing with the small woods fire that was here town located in the woods at the back of the fire station. Luckily it was quickly contained and put out.

The department has been meeting for regular monthly training sessions. In May we also hosted an engine company training weekend, on this weekend members learnt and practiced different methods for deploying and advancing hose lines. During this quarter we hosted another successful breakfast fundraiser and also started planning for our next one on August.

As always if anyone has any questions, please feel free to contact me.

Regards

Adam Ekins

Chief Mahone Bay & District Fire Department.

MBDFD Ariel Devise Proposal

Mahone Bay & District Fire Department would like to propose we purchase a used 2009 ariel devise, which would provide the fire service area with this much needed piece of equipment as well as proived a much safer work environment for our firefighters when working at heights.

We would suggest that we would sell our current 2009 1500 gpm pumper that carries 500 gallons of water with a 2008 Trex Ariel ladder truck that carries 250 gallons of water with a 2000 gpm pump.



Proposed Truck



Current Truck

Advantages

- Will provide safe work platform for firefighters at heights
- Provide HIGHLY advantages rescue capabilities in fire and rescue related situations
 - Below grade rescue capabilities
- Much needed firefighting capabilities needed for our large buildings such as the churches and the new nursing home and other tall buildings in our area.

Expenses

- Asking purchase price 399 000\$ American Dollars(negotiable)
 - Estimated 7000\$ to do fully certified inspection
 - 15 000\$ estimated in upgrades we may need and decals
- Any repairs are unestimated but would have number value when inspection was completed.
- Yearly expense 5-7k for inspections , specialized techs come once a year to inspect ladder cost is estimated as partial cost shared with DND for their inspections of the same ladder

Incomes

- Sell Truck 1 value given my Rocky Mountain Phoenix 300 000\$
- We have been doing a lot of fund raising efforts to help with department expenses
 - Been selling surplus equipment helping build reserve

- Possible donations from Mcleod group?



Dear Town of Mahone Bay Council,

I am writing to thank you for your support of the work Mahone Bay United has led in the community since our establishment. It is immensely important to our board, volunteers and the large network of families we serve, to feel you at our backs and propelling us forward.

The club has grown exponentially since it was founded in 2019 with a letter of support from council. With your 2023 budget support of our management of the field, in partnership with the Mahone Bay Centre, we can consolidate our growth and build sustainable plans to bring accessible physical activity to families and communities for years to come.

This year alone has seen a huge increase in soccer activities and as a result, use of the field. This includes:

- MBU Develop: a 10 week high quality player development program, 3 nights a week for over 40 committed and passionate players aged 8-12.
- MBU Weekly drop ins: Sunday Soccer for minis and youth 4-14yrs old, Girls only 8-15, women's games on Wednesdays and a co-ed 15+ game on Sundays.
- South Shore United Competitive teams using the field for practice including: Boys U12A, Girls U15AAA and a competitive men's team (initiated by an MBU Board member).
- MBU's partnership with Halifax Wanderers has seen a busy summer including a development training, over 60 kids at a soccer festival and one week summer camp coming up in August.

In addition, we continue to see the field and walking track used for other community activities such as frisbee golf practice, weekly aikido weapons practice, running / walking laps, birthday parties, and dog walking. The social use has been on the rise too with young people enjoying the space to hang out, elder community members walking the track and families turning up for play and picnics or simply just to sit on the bleachers for a chat.

MBU Board would like to acknowledge the partnership between ourselves, the Town of Mahone Bay and the Mahone Bay Centre. We hope it sets a powerful precedent for how our community institutions, local government and non profit societies can collaborate to forge a bright future for all.

We look forward to a bright future of working together and are grateful for all we've achieved together so far.

Your sincerely,



Tim Merry
Mahone Bay United President

Mahone Bay United Soccer Association
45 School Street
Mahone Bay
B0J 2E0

E: hello@mahonebaysoccer.com
URL: www.mahonebaysoccer.com



#ForTheLoveOfTheGame



**Royal Canadian Legion,
Branch # 24
78 Churchill Street
Bridgewater, Nova Scotia
B4V 1R7**

June 30, 2023,

Your Worship Mayor David Devenne,

Re: Remembrance Day Flyby

In previous years, we have attempted to coordinate Fly Overs during the November 11th ceremonies in our areas. We would like to do the same again this year with your support.

We are again planning to conduct flybys over the following communities: Bridgewater, Chester, Chester Basin, Lunenburg, Mahone Bay, New Germany, New Ross, Chelsea and Western Shore. (These communities were selected based on the most direct aircraft approaches.)

If you would like your community to again participate and experience this flyby and because time is of the essence, I will need the following information from you as soon as possible.

- Letter of support from the Mayor allowing a low-level flyby as low as 500' over your community;
- Name, e-mail address and telephone number of a contact person.
- Please send the letter directly to me via email in Word or PDF format
- Address the letter to:
 - A3 Special Events
 - 1 Canadian Air Division
 - Po Box 17000 Stn Forces
 - Winnipeg, Manitoba, R3J 3Y5

Military flybys are usually confirmed one week prior to the event and are subject to availability of aircraft, weather and other military commitments. The flight plans and the final list of towns that will participate are at the discretion of the Special Events Coordinator.

If you have any questions or require additional information, please do not hesitate to contact me at 902-521-8221 or e-mail mdhennessey@outlook.com

Yours in Comradeship

Dan Hennessey
Chairman November 11th Committee

Dan Hennessey
1st Vice President
Bridgewater Branch #24
Royal Canadian Legion



MICA MISSION:

To protect and conserve the natural environment of the islands and shoreline of Mahone Bay and the traditional, social and recreational opportunities valued by its various communities.

July 10, 2023

Town of Mahone Bay
PO Box 530
492 Main Street
Mahone Bay, NS
B0J 2E0

Attn: Mayor David Devenne

Re: MICA Corporate Support

Dear David, *David*

We are reaching out to your company for 2023 MICA Corporate Support.

Funds raised will be used for MICA activities including future partnered island and shoreline acquisitions and our Public Mooring project.

Previously donated funds significantly helped MICA with the following recent major achievements:

1. Acquisition of Birch Island for conservation and public use, in partnership with the Province of Nova Scotia, which is now available for public use.
2. Recent installation of 26 Registered Public Moorings around MICA islands for public use in partnership with the Municipality of the District of Lunenburg along with plans for additional public moorings in the Chester area in partnership with the Municipality of Chester.
3. Donation of Little Duck Island, which MICA acquired in a tax sale in 2014, to the Province of Nova Scotia.
4. Development of a new website on a modern platform.

Thanks to the generosity of several of our corporate supporters a bike rack was fabricated and donated for the Oakland Conservation Area and picnic tables were donated for installation on appropriate MICA islands.

We are again approaching companies with a local presence who we believe support our Mission.

We are very pleased to advise that the Gala Dinner and Auction (GDA) committee is working on plans for the 18th GDA to be held at the Oak Island Resort on Nov 10, 2023.

Our 2023 Corporate Supporters will be proudly promoted at the event. The GDA has been our major fundraiser and has been crucial in allowing MICA to have participated in our past acquisitions and projects.

We are respectfully asking for a donation of \$1,000. Payment can be made by cheque to:

MAHONE ISLANDS CONSERVATION ASSOCIATION
PO Box 427, Mahone Bay, NS B0J 2E0

Or by Electronic Funds Transfer (EFT) by contacting fundraising@mahoneislands.ns.ca.

For your donation your company will receive:

- Promotion on our website with a link to your web site for the year.
- Promotion at **MICA** events during the year including the 18th GDA.
- A certificate of appreciation.
- A tax receipt.

Your company will be part of the legacy we are collectively creating for current and future generations.

We offer a huge thank you to the many companies that have supported MICA in the past.

Without being too presumptive, we have taken the liberty of enclosing an invoice.

Also enclosed is our latest Fact Sheet.

This is the 20th year for MICA, a major milestone, and we congratulate and thank all the companies that have provided support over that time.

If there are any questions, please contact any of the undersigned.

Yours sincerely and thank you,

MAHONE ISLANDS CONSERVATION ASSOCIATION

Corporate Support Committee,

Thank you for your past support David. So Am.

Martin Balcome

Martin@bmilt.ca

902-543-4395

Syd Dumaresq

syd@spda.ca

902-456-4772

Georg Ernst

Georgernst1@gmail.com

902-521-1140

Bryan Palfreyman

bryanpalfreyman54@gmail.com

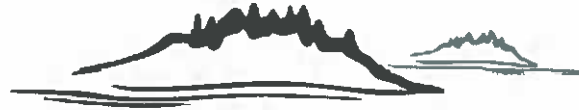
902-627-1091

John Meisner

john@aglgroupp.ca

902-634-2104

PO Box 427 | Mahone Bay | Nova Scotia | B0J 2E0 | www.mahoneislands.ns.ca



Mahone Islands Conservation Association

MICA MISSION:

To protect and conserve the natural environment of the islands and shoreline of Mahone Bay, and the traditional, social and recreational opportunities valued by its various communities.

PO Box 427
Mahone Bay
Nova Scotia B0J 2E0

www.mahoneislands.ns.ca

INVOICE

In anticipation of your support, please consider this an 'Invoice' for your records.

To: Town of Mahone Bay
Date: July 10, 2023
Attn: Mayor David Devenne
Re: MICA 2023 Corporate Support
Total Due: \$1,000.00

Sincerely and thank you,

MAHONE ISLANDS CONSERVATION ASSOCIATION



Mahone Islands Conservation Association

MICA MISSION:

To protect and conserve the natural environment of the islands and shoreline of Mahone Bay and the traditional, social and recreational opportunities valued by its various communities.

MICA WEB SITE: www.mahoneislands.ns.ca

MICA FORMATION:

- Formed by local residents in 2003 in response to the accelerated private development of many of the Mahone Bay islands.
- Registered non-profit society with charitable status. Volunteer Board of Directors and volunteer work efforts.

MICA PARTNERED ISLAND AND SHORELINE PROPERTY ACQUISITIONS and DONATIONS: *(Reference photos on back)*

PROJECT	TIMING	ACQUISITION PARTNER	TITLE HOLDER
• Andrews Island	Fall 2005	PNS	PNS
• Backmans Island	Spring 2007	PNS	PNS
• Covey Island	Spring 2007	PNS	PNS
• Masons Island (northern end)	Fall 2007	MODL	MODL
• Long, Dry, Snipe and Centre Islands	Fall 2007	Donation by LIPS	PNS
• Sacrifice Island	Spring 2009	PNS	PNS
• Shag Island	Spring 2012	PNS	PNS
• Bella Island	Fall 2013	PNS	PNS
• Masons Island (big cove and center)	Fall 2014	MODL, PNS	PNS
• Little Duck Island	Fall 2014	MICA	PNS
• Squid Island	Spring 2015	PNS	PNS
• Goat Island	Spring 2015	Donation by the McLennan family	PNS
• Zwicker Island property	Fall 2016	Donation by the Cluett family	PNS
• Zwicker Island property	Fall 2016	Donation by the Court family	PNS
• Ernst Island property	Fall 2016	Donation by the Reynolds family	PNS
• Snake, Lynch, Quaker Islands	Spring 2017	NCC	NCC
• Moland Point lots	Fall 2017	Donation by the late Rudy Haase	MOC
• Sheep Island	Spring 2018	NCC	NCC
• Oakland Waterfront Property	Fall 2020	MODL	MODL
• Birch Island	Spring 2022	MOC, PNS	PNS
• PUBLIC MOORINGS	Fall 2022/Spring 2023	MODL, PNS	MODL

ABBREVIATIONS:

PNS: Province of Nova Scotia NCC: Nature Conservancy of Canada LIPS: Long Island Preservation Society
MODL: Municipality of the District of Lunenburg MOC: Municipality of Chester

MICA FINANCIAL CONTRIBUTIONS TOWARDS ACQUISITIONS:

- MICA has contributed over \$1,700,000 towards the acquisition of the above properties.

MICA MEMBERSHIP:

- MICA's membership goal is that all who enjoy MICA properties are members. \$ 25 per person. \$500 lifetime.

MICA FUNDRAISING:

- Annual Gala Fall Dinner and Auction. (GDA) - Our major annual fundraiser. (Cancelled 2020, 21, 22 because of COVID-19)
- Corporate Support program.
- Donations and financial campaigns for specific projects.

ISLAND STEWARDSHIP:

- MICA stewards the properties in partnership with the title holder to ensure their usage is monitored and respected.
- MICA's stewardship goal is that the property users are the property stewards.

YOU CAN HELP BY:

- Joining MICA. Annual membership is \$25 per person or \$500 for lifetime membership.
- Making a general donation for future acquisitions or to support our Public Mooring Program.
- Becoming a Corporate Supporter.



TOWN OF LUNENBURG PUBLIC INVITATION

FISHERS' MEMORIAL SERVICE

SUNDAY, SEPT. 10, 2023 at 2:00 pm
Lunenburg Waterfront (Bluenose Drive)

The Roll of Honour for 2023 will include names of those whose lives were lost in years ending in '3'.

MEMORIAL WREATHS

Wreaths in memory of lives lost are most welcome.

Please contact the Lunenburg Town Hall at (902) 634-4410, ext. 226, to provide your wreath details for inclusion in the service.



The Fishermen's Memorial Monument is owned and maintained by the **Lunenburg Fishermen's Memorial Society** (PO Box 800, Lunenburg, NS, B0J 2C0).

Donations are most appreciated (charity registration #892986365 RR0001).

To: Mahone Bay Town Council

From: George Anderson
Chair
Mahone Bay Tourism and Chamber of Commerce

Re: Visitor Information Centre Summer Funding Shortfall

Traditionally, the Chamber has received financial support from the Government of Canada to hire and train students to staff the Visitor Information Centre (VIC). Last year, for example, three students were allocated to the VIC under the program. There were over 9000 visitors to our Centre. We applied for assistance in 2023 and were recently informed that since demand this year exceeded funds available new criteria were being applied and that no allocation would be made for the VIC this year. Given the historic pattern of support from the Government of Canada we had proceeded to staff with the expectation that we would receive a least one student. Notice to the contrary was not sent to us until mid-July. The amount of the shortfall is \$3200.

In response to this situation we have reduced service to 5 days a week from 7, cut daily hours of operation by 1 hour and laid off one of the two local students we had hired for the summer. This is regrettable.

The letter from the CSJ program officer is attached. Although we have advised our MLA and MP of the situation, decisions under the program are not subject to appeal.

The VIC operating budget is attached.

The current proposal is to cover the \$3200 shortfall by increasing the Chamber allocation to the VIC by \$1600 and by seeking a matching grant from the Town. This will allow us to restore service to a full week and bring back the additional summer student.

Thank you for your consideration of this request.

Mahone B Bay Tourism & A27:D36 Chamber of Commerce
Visitor Information Centre Statement of Operations
Funding/Expense Review

Fiscal 2022 Performance; Fiscal 2023 Budget and Year To Date Expenditures

	Revised Budget Fiscal 2023	Actual Jan to July 15, 2023	Fiscal 2022
Financial Support (Income)			
Student Grants	0	0	3,214.00
TIANS Grants	7500	7500	7,500.00
Total Financial Support	7500	7500	10,714.00
Operating Expenses			
Payroll Expenses			
Wages (VIC Manager)	11500.00	2162.50	11,455.00
VIC Staff (Number of employees)	7000.00	1380.75	6,051.45
EI and CPP Expense	1625.00	208.95	1,047.18
Vacation Pays	720.00	159.27	632.99
Payroll Processing Fees	150.00		127.50
Total Payroll Expenses	20995.00	3911.47	19,314.12
General and Administrative Expenses			
Insurance (contents of VIC and liability)	2700	1848	2,772.00
VIC Expenses - Janitorial	65	59	105.22
VIC Expenses - Office	400		385.89
VIC Expenses - Training	240		237.13
VIC Expenses - Maintenance	172		171.99
Vic Garden and Improvements	5000		
VIC Picnic table and bench		5000	
Map - Printed	770		770.00
Printing			82.00
Signage			43.00
Membership Fees (TIANS and SS Tourism)	240		240.00
Bookkeeping	195		195.25
Total General and Administrative Expenses	9782	6907	5,002.48
Total VIC Operation Expenses	30,877.00	10818.47	24,316.60
Net funds	- 23,377.00	-3318.47	-13602.6

Kelly Redden

From: Kelly.Redden@TownofMahoneBay.ca
Subject: FW: Speed humps

From: Deryk McGrath [REDACTED] >
Sent: Wednesday, July 19, 2023 11:20 PM
To: Dylan Heide <dylan.heide@townofmahonebay.ca>
Subject: Speed humps

[You don't often get email from [REDACTED]. Learn why this is important at <https://aka.ms/LearnAboutSenderIdentification>]

CAUTION: This email originated from an external sender.

I wanted to pass along my observations on the effectiveness of the speed humps on Pleasant St. I have only been back a little over 24 hours and the difference in the speeds on Pleasant St is very encouraging. Almost all vehicles slow down to a crawl, only one vehicle a Corkum Tow truck went over the humps at a high rate of speed and I thought he was going to lose his back attachment. Please pass onto Council that the decision they made is having the desired results.

Deryk McGrath
133 Pleasant St.
Sent from my iPad

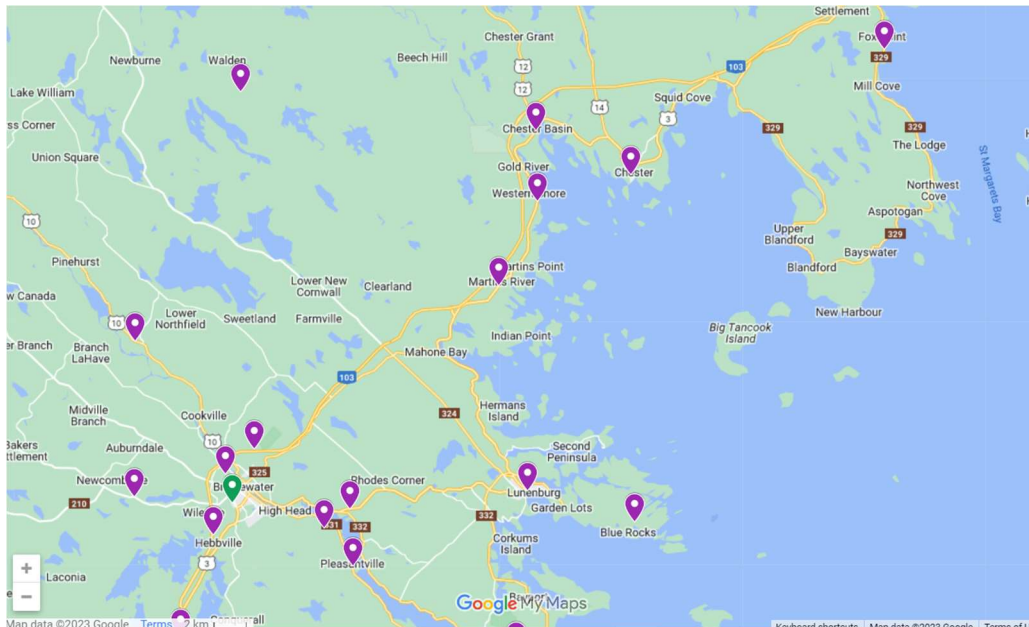
General Overview:

The purpose of this staff report is to provide Council with information about the implementation of a Comfort Centre at the Mahone Bay and District Fire Department and to present the proposed Standard Operating Procedures for the facility.

Background:

As part of standard Emergency Management practices in Nova Scotia, Comfort Centres are established around the province and activated during times of emergency or situations with significant impact to public health and safety, i.e. weather events, power outages, significant emergencies, etc. In general, Comfort Centres are available for the purposes of warming, cooling, providing electricity, and light refreshment. Unlike Emergency Shelters, Comfort Centres do not offer overnight accommodations.

Currently, there is no Comfort Centre available in the Town of Mahone Bay. The map below shows the established Comfort Centres in the local vicinity.



In case of emergency in Mahone Bay, the nearest potential Comfort Centre available would be in Martins River, if activated.

The Town's new fire station at 41 Hawthorne Road was built with this in mind. The station's generator can fully power the facility during a power outage.

Analysis:

There has been discussion around the establishment of a Mahone Bay Comfort Centre for some time. The selected site for the Comfort Centre is the Mahone Bay and District Fire Department station. The Fire Station offers the amenities required by Lunenburg County Regional Emergency Management Organization for Comfort Centres. Also, the Fire Station was designed so that volunteers can access particular areas of the facility while not interfering with Fire Department service delivery.

In many cases, volunteer organizations in the community – often specifically associated with the fire department such as an auxiliary – would spearhead the organization and operation of the Comfort Centre. In the case of Mahone Bay, it is the understanding of staff that there are no such community organizations available to take on this role. As such, staff will be seeking volunteers to form a group of volunteers for the operation of the Comfort Centre. As part of that process, the need for a set of Standard Operating Procedures for the volunteers was identified. Those procedures are attached as Appendix A for Council's consideration.

Financial Analysis:

The 2023-24 Town of Mahone Bay Budget allocates \$1,000 for the Comfort Centre at the Fire Department.

The Standard Operating Procedure identifies the need for a minimum of ten (volunteers), 2 of which will be the Volunteer Manager and Alternate. The Volunteer Manager and Alternate roles are quite involved, and during times of Comfort Centre activation, volunteers may be asked to work up to 6-hour long shifts for an undetermined number of days.

It is general practice for municipalities to incentivize community groups to support/establish comfort centres. Often this incentive is a grant or funding for infrastructure to an existing facility i.e. generator. In the case of Mahone Bay, staff do not see the opportunity to offer this sort of incentive to a community group. That being stated, since there will be a group of community volunteers, it will remain necessary to incentivize the volunteer efforts. Annual honoraria are recommended for active volunteers, particularly the Volunteer Manager / Alternate.

Given the volunteer structure and the potential requirements of the volunteers, the \$1,000 budget is too low to maintain a reasonable level of service. Staff recommend the allocation for Comfort Centre operations be set at \$5,000 going forward.

Climate Analysis:

There are no anticipated climate impacts with this initiative.

Links to Strategic Plan:

2.2 – Provide Equitable Services to Support Growth

Recommendation:

It is recommended,

THAT Council approve the Town of Mahone Bay Comfort Centre Standard Operating Procedures and direct staff to begin the recruitment of volunteers to support a Comfort Centre at the new Fire Station.

Respectfully submitted,

Eric J. Levy
Deputy CAO





Town of Mahone Bay
Standard Operating Procedures For:

Mahone Bay Comfort Station
41 Hawthorn Road, Mahone Bay, Nova Scotia B0J 2E0

OVERVIEW

The [Lunenburg County Regional Emergency Management Organization \(REMO\)](#) has an existing policy and guidelines in place for the operation of Comfort Centres. This document is to set procedures for the volunteer/community group that will operate a Comfort Centre at 41 Hawthorn Road, Mahone Bay, commonly known as the Mahone Bay & District Fire Department.

Comfort Centre Overview

- What is a Comfort Centre?
 - A Comfort Centre is a facility for residents who are staying in their homes during an emergency, but do not have full services such as electricity, heat, and water. Examples of this in Nova Scotia are hurricanes and blizzards that caused long power outages.
 - Comfort Centres are meant to be a place to go to get warm or cool off, charge devices, get light refreshment, get information, and use washrooms and sometimes showers. Comfort Centres are **not** a place to stay overnight.
- When do Comfort Centres open?
 - International standard is that residents prepare for 72 hours during an emergency. A general rule is for Comfort Centres to open 72 hours after an occurrence. Sometimes, the Comfort Centres will open early.
- Who decides to open the Comfort Centre?
 - The Chief Administrative Officer, or designate, makes the final decision to open and close the Comfort Centre.
- What amenities are required during Comfort Centre operations?
 - Heating or cooling
 - Electricity (generator)
 - Washrooms and sometimes showers
 - Light refreshments
 - Place to charge devices
 - Updated information if possible.
- What are the hours of operation of the Comfort Centre?
 - 8:00am to 8:00pm (can be amended based on the circumstances)

Volunteer Group Composition

The Comfort Centre will be operated by a group of individuals on a volunteer basis.

- There should be at least 10 volunteers to allow for at least two, 6-hour shifts of 5 people during Comfort Centre hours. Sometimes shifts will be shorter with fewer people. There should also be some volunteers with on-call availability in case more than the 10 core volunteers are needed.
- At a minimum, the Comfort Centre must have two volunteers in the building at all times for safety.

- The group should choose a Comfort Centre Volunteer Manager and Alternate. One of these people must be at the Comfort Centre at all times the Comfort Centre is open.

Roles and Responsibilities

- Comfort Centre Volunteer Manager
 - Ensure all the procedures during the activation and deactivation of the Comfort Centre are complete
 - Volunteer Manager or Alternate must be present during all hours the Comfort Centre is open
 - Maintain, and share with the Town, an inventory of volunteers including contact information and necessary credentials
 - Help in volunteer recruitment
 - Organize and give roles, responsibilities, and schedules to volunteers
 - Ensure all amenities of the Comfort Centre are at a good standard at all times
 - Request the activation and deactivation of the Comfort Centre from the Chief Administrative Officer (Deputy CAO in their absence) when needed.
 - Be the main point of contact with Lunenburg REMO, Town of Mahone Bay, and Mahone Bay & District Fire Department regarding Comfort Centre activations and deactivations
 - Provide any debriefing, reporting, or communication with the Lunenburg REMO and Town of Mahone Bay as requested
 - Ensure volunteers have valid credentials including, but not limited to, when necessary:
 - Food handling
 - Criminal record and vulnerable sector check
 - Purchase supplies and understand the allowable spending limits

****During larger emergencies, the Red Cross may take over operations or use the Comfort Centre as an Emergency Shelter. In those instances, the Comfort Centre Volunteer Manager will become a volunteer and liaison with Red Cross.****

- Comfort Centre Volunteer Manager Alternate
 - Volunteer Manager or Alternate must be present during all hours the Comfort Centre is activated
 - Act in the role of the Comfort Centre Volunteer Manager in their absence or inability to perform the duties
- All Comfort Centre Volunteers
 - Be available to support residents during times of Comfort Centre activation, which includes but is not limited to:
 - Providing information to residents or telling them who to contact

- Making and giving light refreshments (food handling if required)
 - Making sure the Comfort Centre is clean during hours of activation
 - Obtain Criminal and Vulnerable Sector Checks and submit to the Volunteer Manager
 - Other duties as assigned by the Comfort Centre Volunteer Manager
 - Participate in training or licensing requirements, briefings, and debriefings
- Chief Administrative Officer or Deputy CAO as delegated
 - Approve or Deny request to activate the Comfort Centre
 - Coordinate with Comfort Centre Volunteer Manager
- Town Public Works Department and Mahone Bay & District Fire Department
 - Maintain a good working order of facilities to allow for short notice activation and deactivation of a Comfort Centre
 - Open the facility when requested in a timely manner
- Lunenburg County REMO
 - Act as a general resource for all Emergency Management activities and provide necessary information and resources to the Comfort Centre as applicable.

Activation/Deactivation Procedure

- The activation and deactivation of the Comfort Centre can be done in three circumstances:
 1. On the recommendation of the Comfort Centre Volunteer Manager with approval of the Chief Administrative Officer
 2. On the recommendation of the Lunenburg Regional Emergency Management Organization with the approval of the Chief Administrative Officer
 3. On the request of the Chief Administrative Officer

The following is the procedure for activating the Comfort Centre.

Prior to Activation

- The Chief Administrative Officer will notify Lunenburg REMO, and the Comfort Centre Volunteer Manager, and the Mahone Bay & District Fire Chief of the activation of the Comfort Centre with the time it will open.
- The Comfort Centre Volunteer Manager will notify the Alternate and volunteers of the activation and request at least 2 volunteers report to the Fire Station for preparation.
- The Comfort Centre Volunteer Manager will organize the remaining volunteers for the anticipated time the Comfort Centre will be activated. Volunteers should not be asked to be present for more than 6 hours at a time. Ideally, volunteers will be scheduled for 4-hour time slots.
- The Preparation Volunteers
 - Turn on the heat/cooling and any other necessary equipment
 - Set up necessary signage, tables and chairs

- Prepare any refreshments
- Check the Comfort Centre to make sure it is clean and has supplies. If supplies are needed after regular Town Hall business hours, they can be later expensed to the Town of Mahone Bay. During business hours, if available, cash or credit may be accessed for purchases. Purchases must be approved by the Comfort Centre Volunteer Manager or Alternate and shall not exceed \$500 per comfort centre activation without the approval of the CAO or Deputy CAO.

During Activation

- The Comfort Centre Volunteer Manager will assign roles to volunteers including but not limited to:
 - Greeter/people counter
 - Refreshment attendants
 - General clean up and supply watch
 - Floaters
- One volunteer should be posted at the front door at all times to welcome visitors and track the number of people using the Comfort Centre.
- The Comfort Centre Volunteer Manager will keep up to date on current information and tell volunteers the updates as needed.
- Volunteers will re-stock supplies and refreshments.
- Volunteers must tell the Comfort Centre Volunteer Manager if they are leaving or reporting for volunteer duties.

Daily Closure

- Tell visitors that the Comfort Centre will be closing 30 minutes in advance.
- When the Comfort Centre is closed, make sure all visitors have left.
- Lock the Doors
- Do the last cleaning including:
 - Cleaning dishes and kitchen
 - Remove any garbage from tables
 - Pack up any leftover food and drink
 - Sweep and mop
 - Check and restock supplies
 - Clean washrooms and showers (if used)
 - Take out any garbage, recycling, and compost
- Give the Comfort Centre Volunteer Manager a list of needed supplies. The Manager will ask a volunteer to shop or do it themselves.
- Make sure everything that should be turned off or unplugged is and that heat/cooling are set for the night.
- The Comfort Centre Volunteer Manager may dismiss volunteers at their discretion, but there shall never be any volunteer in the facility alone.

Overall Deactivation (End of Event)

- The Chief Administrative Officer or Deputy will notify Lunenburg REMO, the Comfort Centre Volunteer Manager, and the Mahone Bay & District Fire Chief of the deactivation of the Comfort Centre with the time it will close.
- Complete all tasks outlined in the Daily Closure Checklist

Post Deactivation

Be prepared for a debrief session.

DRAFT



Town of Mahone Bay
Staff Report
RE: Draft Fire Services Bylaw
July 27, 2023

General Overview:

This report is to provide Council with an amended draft Fire Services Bylaw following receipt of anticipated feedback from Fire Dept. members.

Background:

On November 8, 2022, Council was presented with a Staff Report and associated draft Fire Services Bylaw (attached). At that meeting the following motion was passed:

THAT Council direct staff to coordinate with the Fire Chief to present the draft by-law to the Fire Department to obtain specific stakeholder feedback to be presented to Council.

Staff presented to the Department in November of 2022. Feedback on the proposed bylaw was submitted by the Chief on July 18, 2023 (attached).

Analysis:

Staff have amended the draft Fire Services By-law on the basis of the feedback received (attached).

Recommendation:

It is recommended,

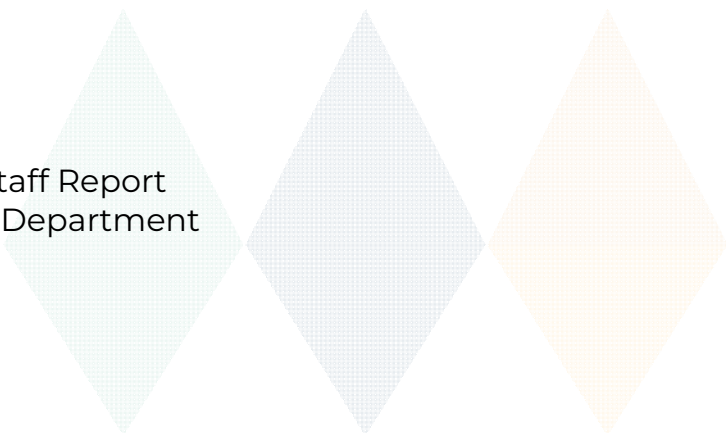
THAT Council provide first reading to the Fire Services Bylaw as presented.

Respectfully submitted,

A handwritten signature in blue ink that reads "Kelly Hedden".

Attached:

Appendix A – November 8, 2022 Staff Report
Appendix B – Feedback from Fire Department
Appendix C – Fire Services Bylaw





Town of Mahone Bay

Staff Report

RE: Development of Fire Services By-law

November 8, 2022

General Overview:

This report is to provide Council with an update on the progress of the development of a Fire Services By-law and present a draft by-law for consideration.

Background:

Council was last presented with a Staff Report for update in April of 2022 at which time Council was advised that staff were trying to find a time to meet with the Fire Department Investigating Committee to determine which standard procedures of the Fire Department could inform the development of a Town Fire Services By-law. The effort to meet was delayed by a number of mitigating circumstances and ultimately staff were able to coordinate with a representative of the Investigating Committee to highlight the existing practices of the Department which may be relevant to the development of a by-law for the Town.

Analysis:

The primary areas for which staff sought consultation were around existing practices regarding membership, code of conduct, and disciplinary matters. The draft by-law in front of Council refers to a standard to which Council will hold the Fire Department and its membership accountable, on behalf of both the department membership and rate payers, and provides a framework for which the Fire Chief has the responsibility to ensure that standard is met while also having the ability to create such internal subcommittees and working groups as is deemed necessary for the equitable performance of those duties.

While the draft by-law provides the Chief, and by extension the fire department leadership, the ability to manage their day-to-day operations and internal matters as they arise, the draft by-law also clarifies the ability for a member, as a de-facto member of staff, to appeal to Council if they disagree with their treatment, and how Council will respond if that situation should arise.

The draft by-law also clarifies the financial responsibilities of the Fire Chief in respect to responsible management of public funds and participation in the Town's budget process to ensure valuable input in establishing operating and capital budgets for the provision of fire services to rate payers.

Primarily the draft by-law provides the Fire Chief with the responsibilities and authority of a Town department manager and provides clarity regarding those responsibilities and authorities. It is the opinion of staff that clarifying the relationship between the Town and the Fire Department, the Fire Chief, and the members of the Department will provide for a better understanding of expectation of each party and therefore better public accountability for all parties.

Stakeholder Input

It is the recommendation of staff that the draft by-law be shared with the Fire Department for review and comment to inform a report back to Council before setting a date for a Public Hearing prior to second reading of the by-law. Specifically, staff recommend that the matter be discussed with the Fire Chief as to the best way to review the draft by-law with the Fire Department and to obtain feedback for that feedback report.

Financial Analysis:

It is anticipated that the primary financial impact of the draft by-law is better financial accountability and budgeting for the provision of fire services on behalf of the Town of Mahone Bay.

Links to Strategic Plan:

Sustainable Municipal Services

- Deliver efficient, progressive, and affordable service to our community, ensuring our prosperity for the years to come.

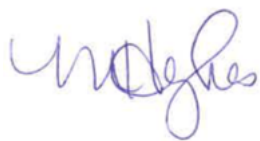
Recommendation:

It is recommended, that at the November 8, 2022 meeting of Council

THAT Council direct staff to coordinate with the Fire Chief to present the draft by-law to the Fire Department to obtain specific stakeholder feedback to be presented to Council at the November 24, 2022 regular Council meeting.

THAT Council direct staff to add consideration of first reading of the Draft Fire Services By-law to the agenda of the November 24, 2022 regular Council meeting.

Respectfully submitted,



Maureen Hughes

Town Clerk and Deputy CAO

Attached: Draft Fire Services By-law



Kelly Redden

From: Kelly.Redden@TownofMahoneBay.ca
To: Dylan Heide
Subject: RE: Fire Service bylaw

From: Adam Ekins <chief@townofmahonebay.ca>
Sent: Tuesday, July 18, 2023 10:15 PM
To: Dylan Heide <Dylan.Heide@TOWNOFMAHONEBAY.CA>
Cc: Kelly Redden <Kelly.Redden@TownofMahoneBay.ca>; Eric Levy <Eric.Levy@TOWNOFMAHONEBAY.CA>
Subject: Fire Service bylaw

Hi Dylan,

Here is the long-awaited feed back on the fire service bylaw.

3.3 The question of what this section is trying to achieve as the department feels this should be reworded as would respond to any call we are paged for even if out of our immediate area.

4.1 Where it says the fire chief shall be appointed by council the department feels this should read accepted or approved.

4.2 The dept would like clarification of what is entailed as a department manager.

4.5 ii Department feels it should read upholding instead of enforcement.

4.5 v This section requires change as the chief does not have sole responsibility for the fire hall as town staff manage multiply aspects of the hall. This is a joint responsibility.

4.5 vi a The department feels this should be removed as this would be in an internal issue.

5.1 i. Should read be not less than 18 years of age not 19 years.

6.0 Years of service for becoming honorary member is 16 not 15

7.0 The department asked how the town would be recognizing remember who meet these service increments.

10.0 Discipline.

The department feels this requires revision, so it better reflects the departments disciplinary process. In section 10.6 it is felt a member shouldn't be able to appeal to Council their disciplinary action.

As things are currently the investigating committee would investigate a complaint and decide if any action should be taken, if it is felt further disciplinary action is required the investigating committee makes a recommendation to the body at which point a vote is taken on the recommendation.

I'm sure there will be lots of questions so please feel free to contact me. The department is also open to meeting to discuss these items further if required.

Thanks

Adam Ekins.

Mahone Bay & District Fire Department

"We Protect the Beauty Around Us"

41 Hawthorn Road

Mahone Bay, NS

1.0 Purpose

The purpose of this by-law is to clarify the expectations and responsibilities for the provision of fire services in the Town of Mahone Bay.

2.0 Definitions

CAO means the Chief Administrative Officer of the Town of Mahone Bay

Council means the Council of the Town of Mahone Bay

Fire Provision Area the area for which the Town of Mahone Bay, on behalf of the Mahone Bay and District Volunteer Fire Department, has contracted to provide fire services and for which a fire rate is paid to the Town of Mahone Bay for the upkeep and operation of the Mahone Bay and District Fire Department.

Department means the Mahone Bay and District Fire Department, a Department of the Town.

Member means a member in good standing of the Mahone Bay and District Fire Department, including junior fire fighters, probationary members, and Officers.

Officer means a member of the Mahone Bay and District Fire Department with the rank of Lieutenant or higher.

Town means the Town of Mahone Bay.

3.0 Provision of Fire Services

3.1 The Town of Mahone Bay shall maintain the registration of the Fire Department upon the confirmation of the specific emergency services that the department will endeavour to provide, as required by the Municipal Government Act of Nova Scotia, the Fire Services Act of Nova Scotia, and other relevant provincial and federal legislation.

3.2 The Mahone Bay and District Fire Department shall maintain and provide fire and emergency services to the Town of Mahone Bay as well as the established fire provision area as defined by agreement between the Town of Mahone Bay, the Municipality of the District of Lunenburg, and the Mader's Cove Fire Service Commission by way of contract with the Town of Mahone Bay on behalf of the Mahone Bay and District Fire Department.

3.3 The Department shall **not** respond to a call with respect to a fire or emergency outside of the established fire provision area **except** with respect to a fire or emergency:

- a) when in the opinion of the Chief, threatens property in the established service area or property that is owned and occupied by the Town of Mahone Bay; or
- b) at property for which an agreement has been entered into with the Council to provide fire protection; or
- c) in Mutual Aid calls with other departments.

4.0 Fire Chief

4.1 The Fire Chief shall be **appointed** (Dept suggested that this word be changed to "accepted" or "approved"; staff recommend it remains appointed as that is the terminology we use and the intent remains the same) by Council following a nominating vote of the Fire Department membership held in compliance with the internal procedures of the Fire Department.

4.2 Upon appointment by Council, the Fire Chief shall have the authorities and responsibilities of a Town department manager, with respect to the fire department.

4.3 In the absence of the Fire Chief the Deputy Chief shall perform the duties of the Fire Chief.

4.4 The Deputy Fire Chief and all duly elected officers shall report to the Fire Chief.

4.5 The Fire Chief shall:

- i. Perform such duties as required by the Office of the Fire Marshall
- ii. Serve as the Executive Officer of the Department and shall be responsible for the **enforcement** (Dept suggested that the word "enforcement" be replaced with "upholding"; staff recommend it remains enforcement as the Chief specifically has an enforcement role with respect to this by-law) of this by-law, general operating guidelines, and department rules.
- iii. Take required measures for the prevention, control, and extinguishment of fires for the protection of life and property, shall enforce all laws respecting fire prevention, and shall exercise the powers and duties imposed by the Nova Scotia Fire Safety Act, the Nova Scotia Fire Safety Regulations, and the Nova Scotia Municipal Government Act
- iv. Manage, control, and supervise the Fire Department membership to ensure a safe and respectful working environment
- v. Have the care, custody, and responsibility for the **buildings**, apparatus, and equipment in the stewardship of the Department **and jointly with the Manager of Public Works and Transportation, the buildings utilized by the Department.**

- vi. Review the membership on a quarterly basis to ensure that all members are in good-standing
 - a. if any members are found to not be in good standing the Chief will suspend membership until the member is up to date with all requirements as set out for membership
- vii. Report quarterly to Council on the membership and activities of the Department
- viii. Provide an annual public report to Council on the efficiency of the Department, training of the membership, and the condition of the buildings, apparatus, and equipment under the stewardship of the Department
- ix. Ensure that internal procedures are in place to ensure that the qualifications, expectations, and opportunities for members are handled in an equitable manner.
- x. periodically review the policies and procedures of the department and participate in the development of new general operating guidelines, procedures, and policies as required
- xi. Ensure that the Department operates within the annual budget as approved by the Town and is accountable for Department spending
- xii. Provide input to the Town's annual budgeting process, including short and long term capital and operational planning

4.6 The Fire Chief may establish subcommittees and/or working groups within the membership to advise the Chief and membership

5.0 Fire Department Members

5.1 To be eligible for Fire Department membership an individual must:

- i. be not less than 18 years of age
 - a) Notwithstanding 5.1, there may be an opportunity for youth between the ages of 12 and 17 years of age to participate in a junior firefighter program with parental consent
 - b) participants in a junior firefighter program with the Mahone Bay and District Fire Department must comply with all safety and application regulations as other members.
- ii. provide a certificate of medical fitness as requested by the Department
- iii. reside within the area protected by the Department
 - a) an exception to 5.1 will be made in the case of a member who resides outside the area but is able to attend meetings and calls to meet minimum requirements
 - b) a member who is eligible for membership under the provisions of 5.1.ii must be able to demonstrate on an ongoing basis that they are able to meet the minimum requirements to maintain active membership

- iv. provide a current criminal record check, including a vulnerable sector check as requested by the Department, on application and thereafter as requested.

5.2 Every member shall provide current valid driver's license to use Department vehicles or any vehicle in response to or at the scene of a fire or emergency

5.3 Every member shall provide such information to the Town as is required for licensing, insurance, or other necessary administrative matters.

- i. the Town will ensure that personal information is held in accordance with the Freedom of Information and Protection of Privacy Act and any other relevant provincial or federal legislation regarding the care and use of personal information

5.4 Every member shall be provided with the same safe and respectful workplace protections as all other employees of the Town of Mahone Bay.

5.5 Every member of the Department shall report for duty at the time prescribed by the Department rules and shall remain on duty until relieved.

5.6 Every member in good standing, with the exception of participants in a junior firefighter program, will have the right to vote in the annual selection of Chief, Deputy Chief, and Officers.

5.7 Every member in good standing will receive an honoraria in keeping with the annual budget approved by Council and in relation to the number of hours each member contributes for call outs, meetings, and practices. It shall be the responsibility of the Chief to promptly advise the Town regarding any changes to Department membership.

5.8 Every member in good standing will be eligible for Recognition of Service as detailed in this by-law.

5.9 No member shall consume any alcohol, prescription drug or non prescription drug while on duty that may impair their ability to perform their required duties. No member shall be permitted to remain on duty if their ability is impaired by the use of alcohol or drug and such impairment shall be reported directly to the Fire Chief, or senior officer at hand, by the person noting the impairment.

6.0 Honourary Members

A member in good standing may apply to become an honourary member with the completion of 16 years of active service with the Mahone Bay and District Fire Department and a satisfactory disciplinary record.

7.0 Recognition of Service

Members in good standing with the Mahone Bay and District Fire Department shall be recognized by the Town of Mahone Bay on an annual basis on occasion of the five years of service and in five-year increments thereafter.

8.0 Medical Examinations

8.1 Failure to report for medical examination after direction to report shall result in suspension until the necessary certificate is obtained.

8.2 Failure by a member to provide the certification shall result in suspension until the necessary certificate is obtained.

8.3 A member may, from time to time, be requested to provide additional medical certificates when deemed appropriate to ensure the safety of that member, fellow fire-fighters, and the operation of Department equipment.

8.4 Following a medical incident during training or responding to a call, the Chief may, at their discretion, require a medical fitness test.

9.0 Code of Ethics

9.1 Members are required to swear or affirm to uphold the Code of Ethics of the Department. (Appendix – Department Code of Ethics)

9.2 Members who violate the Code of Ethics will be subject to disciplinary action in accordance with this By-law.

9.3 The Department will annually review the Code of Ethics after which the Chief will confirm that the Town has the current version.

10.0 Discipline

10.1 The Fire Chief may, reprimand, suspend, or dismiss a member for insubordination, inefficiency, misconduct, tardiness, or for non-compliance with the provisions of this by-law or the general operating guidelines that, in the Opinion of the Chief, would be detrimental to the discipline, safety, and/or efficiency of the Department. In so doing the Chief shall be guided by the policies and procedures established by the Department. (as the "investigating committee" is not established by this by-law the appropriate reference here – where the Department has established this committee by policy – is to the "policies and procedures established by the Department")

10.2 Following the suspension of any member, the Chief shall report, in writing, the suspension to the CAO.

- 10.3 In the case where a member is suspended for more than seven (7) days or dismissed, the Chief shall within three (3) days of the suspension or dismissal give written notice to the member stating the date of suspension and reasons for the suspension or dismissal.
- 10.4 In the case where a member is suspended for less than seven (7) days a note shall be added to the personnel file of that member
- 10.5 Notes shall be kept regarding all disciplinary actions regarding a member in a confidential file, the contents of which will be protected as per the Nova Scotia Freedom of Information and Protection of Privacy Act and all other relevant provincial and federal legislation.
- ~~10.6 A member may appeal disciplinary action to Town Council who will consult with the Fire Chief after which time the Council shall, in writing, either uphold or overturn the action.~~
- ~~i. such appeals will be handled in closed session as permitted by the Municipal Government Act, section 22(2). (The Department wanted this clause removed)~~

11. Force and Effect

This by-law is to come into effect on approval. This by-law shall repeal and supersede any and all previous regulations and/or by-laws held by the Town of Mahone Bay regarding the provision of fire services in the Town of Mahone Bay.

David W. Devenne, Mayor

Kelly Redden, Town Clerk

This is to certify that the foregoing is a true copy of the by-law passed at a duly convened meeting of the Council of the Town of Mahone Bay, held the ____ day of _____ 202_.

Given under the hand of the Mayor and the Town Clerk and the seal of the Town of Mahone Bay this ____ day of _____ 202_.

CLERK'S NOTATION

First Reading:	
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"Notice of Intent" Publication:	
Second Reading:	
Ministerial Approval:	
Date of Publishing:	
Forwarded to the Minister:	
Forwarded to Town Website:	

DRAFT



General Overview:

The purpose of this staff report is to provide Council with the draft of the 2023-2024 Town of Mahone Bay Business Plan (the Plan).

Background:

The intention of the Business Plan is to align the work of the Town Departments (CAO, Administration, Finance, Climate & Energy, Electrical, Water/Wastewater, and Public Works & Transportation) with Council priorities for the year. The Plan is developed in accordance with the 2021-2025 Strategic Plan and the 2023-2024 Town Budget.

The Plan is presented yearly at the end of the budget process. The approval of the Plan completes the Town of Mahone Bay annual operational and financial cycle. The Plan is meant to be a reference document for Council, staff, and the community to summarize Town of Mahone Bay priorities and day-to-day operational functions. Once approved, the Plan will be available to the public.

Analysis:

The draft 2023-2024 Town of Mahone Bay Business Plan is attached as Appendix A.

Financial Analysis:

The Plan outlines the plans for the use of resources to achieve Department objectives in line with Council's objectives.

Climate Analysis:

The Plan establishes special mandates for each Department, tied to Council's Strategic Plan objectives, including climate objectives.

Links to Strategic Plan:

2.3 Governance to Meet Expectations of our Growing Community

- Align staff capacity, capital and operating plans with strategic priorities.

Recommendation:

It is recommended,

THAT Council approve the 2023-2024 Business Plan as presented.

Attachments

Draft 2023-2024 Business Plan

Respectfully submitted,

Eric J. Levy
Deputy CAO



2023-24 BUSINESS PLAN

July 27, 2023 Draft

Contents

Chief Administrative Officer’s Message.....page 3

Plan Introduction & Department Structure.....page 3

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2023-24 Town of Mahone Bay Business Plan Summary.....page 5

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 Administration.....page 7

 Finance..... page 11

 Climate & Energypage 14

 Public Works & Transportation.....page 16

 Electrical Utility.....page 18

 Water / Wastewaterpage 20

Chief Administrative Officer's Message

This is the Town's fifth annual business plan and represents a continuation of initiatives from prior years, supporting the implementation of Council's 2021-25 Strategic Plan.

This year-over-year predictability in Council's strategic priorities is essential in making effective use of limited staff and financial resources. We're also more able to identify and benefit from external funding sources to support the implementation of Council's strategic projects.

The strategic plan and annual budget, combined with this business plan, provide numerous benefits including:

- Improving Council's strategic control over Town operations;
- Establishing a professional operating environment to support staff effectiveness;
- Increasing openness and transparency to the public; and,
- Improving organizational resilience to emergencies, unanticipated costs, staff turnover, etc.

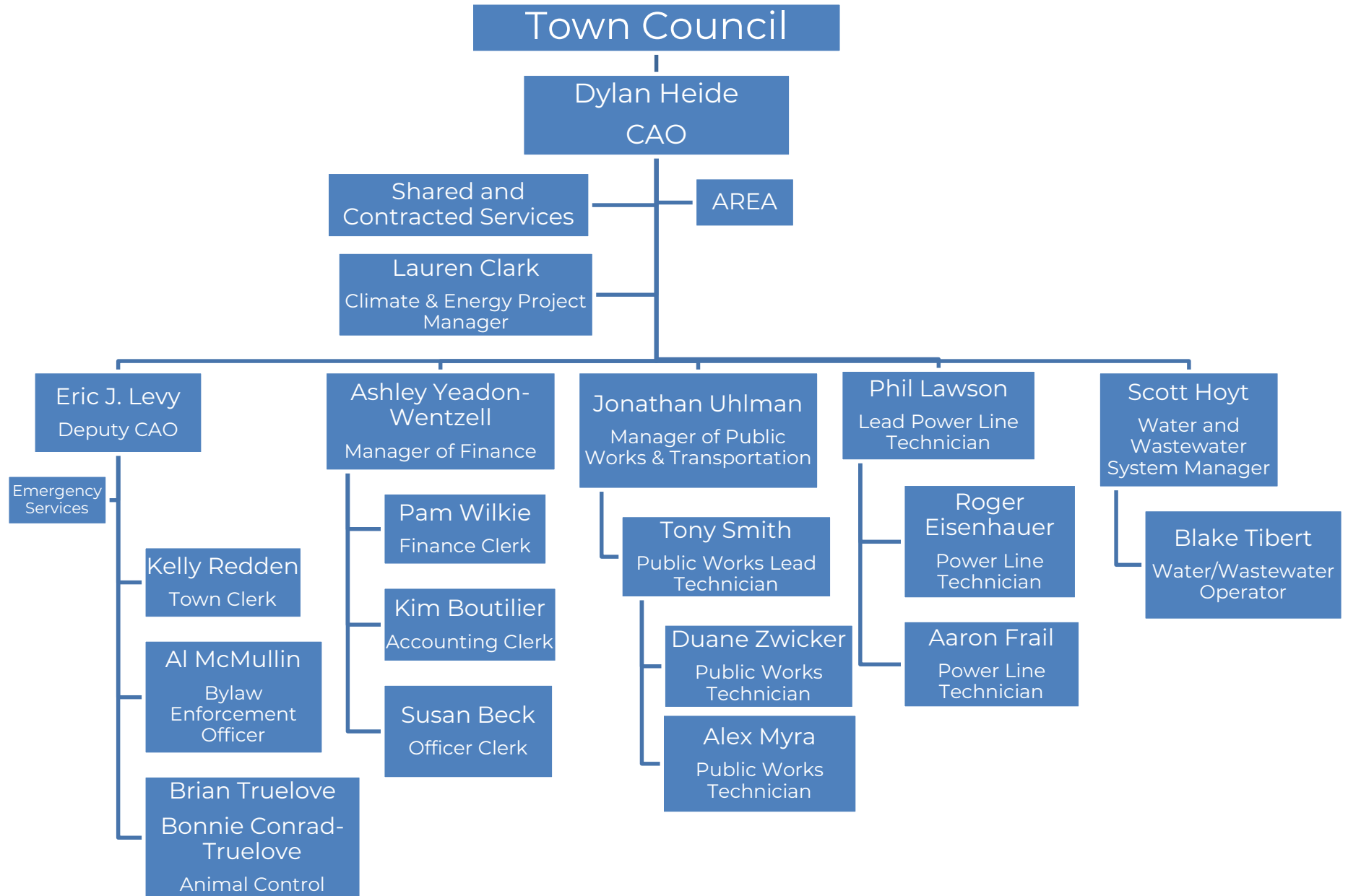
Plan Introduction & Department Structure

Developed by staff in accordance with the Council's [2021-25 Strategic Plan](#) (adopted by Council June 3rd, 2021), as well as the Town's [2023-24 Budget](#) (approved July 13th, 2023), the 2023-24 Business Plan aligns the work of Town Departments (CAO, Administration, Finance, Climate & Energy, Electrical, Water / Wastewater, and Public Works & Transportation) with Council's priorities for the year.

Business plans are presented annually by staff following the conclusion of the annual budget process. The approval of this document by Council completes an annual cycle which begins with Council's review of the strategic plan and includes the operating and capital budget process.

The annual Business Plan serves as reference document for Council, staff and the public. Once approved by Council, annual Business Plans will be available to the public, presented on the Town's website along with the annual Budgets.

Town Organizational Chart



2023-24 Town of Mahone Bay Business Plan

The following chart provides an outline of the various departments in the Town of Mahone Bay. “Core Functions” are those activities that are the foundation of departmental day to day business operations. The highlighted “Special Mandates” fall outside the core operations of the Town yet are considered integral to the operations to the organization.

CAO	Administration	Finance	
Core Function	Core Function	Core Function	
Staff Management	Council Support	Assessment Roll, Taxation and Billing	Annual Audit Preparation / Support
Contract Management	By-law and Policy Development	Accounts Receivable / Collections	Insurance
Strategic Direction	Communications and Public Engagement	Utility Accounts and Billing	External Reporting Requirements
Communications	Budget Initiatives and Projects	Accounts Payable	Inventory Management
Public Safety / Traffic Authority	Development of Internal Documents	Payroll and Benefits	Administration of Permits
Special Mandates	By-law Enforcement	Cemetery Administration	Support for Capital Projects
Accessibility	Special Mandates	Budgeting and Reporting	Journal Entries and Reconciliations
Safety Program Implementation	Capacity and Effectiveness Initiative	Special Mandates	Special Mandates
Major Projects	Implementation of Record Mgmt. System	Setup Accountability Codes	Implementation of PO Module
Capacity and Effectiveness Initiative	Safety Program Implementation	Separation of Cemetery Ledger	Capacity and Effectiveness Initiative
Asset Management	Housing Strategy	Implement Inventory Management System	Asset Management

Draft Town of Mahone Bay 2023-24 Business Plan

Climate	Public Works	Electrical	Water/WW
Core Function	Core Function	Core Function	Core Function
Customer Initiatives and Engagement	Streets and Sidewalks	Electrical Power Supply	Source Water Protection
Monitor & Implement GHG Plan	Stormwater Management	Service Extensions	Drinking Water Treatment
Special Projects Management	Parks and Greenspaces	Electrical Inspections	Water Distribution and Hydrants
Asset Management (GIS Coordination)	Facilities	Street Lighting	Water Quality Monitoring
Special Mandates	Support for Utilities	Special Mandates	Wastewater Collection
Natural Asset Management	Special Mandates	System Upgrades on West Circuit	Wastewater Treatment
Community Solar Garden Project	Local Improvements	Transformer testing and replacement	Special Mandates
Home Heating Programs	Special Projects	Capacity and Effectiveness Initiative	Water System Loss Reduction Project
Shoreline Improvement	Capacity and Effectiveness Initiative	Safety Program Implementation	Capacity and Effectiveness Initiative
	Safety Program Implementation		Safety Program Implementation
			Support for Planned Capital Projects

Core Functions & Special Mandates

Chief Administrative Officer (CAO)

The Town's Chief Administrative Officer (CAO) is Dylan Heide. The CAO reports directly to Council, leads and manages the Town's administrative functions and is responsible for all Town staff. It is the duty of the CAO to inform, support, and guide the Town Council in the development and evaluation of strategic directions, policies and priorities.

Department heads (Administration, Finance, Water/Wastewater, Electrical, and Public Works & Transportation) report to the CAO who is also responsible for managing intermunicipal partnerships including the Municipal Joint Services Board (MJSB), Regional Emergency Management Organization (REMO), Alternative Resources Energy Authority (AREA), and Town/RELC Utility Shared Service Advisory Committee, and contracting relationships such as that with the Municipality of the District of Chester (MODC) for the provision of community development services. Climate and Energy Program Manager Lauren Clark also reports to the CAO.

Core Function	Activities
Core Function: Staff Management	Activities: <ul style="list-style-type: none">▪ Overall Management of Town Staff▪ Management / Employee Relations▪ Human Resource Management
Core Function: Contract Management	Activities: <ul style="list-style-type: none">▪ Management of intermunicipal partnerships (MJSB, REMO, AREA, Riverport Electric) and contracting relationships (MODC - development services, etc.).
Core Function: Strategic Direction	Activities: <ul style="list-style-type: none">▪ Strategic Advice to Council (Strategic Plan development/amendment).▪ Preparation of Staff Reports / Council Reports.▪ Support for Council Committees. Financial Planning & Budgeting (2023-24 budget with Finance).▪ Procurement for Major Town Projects.▪ Oversight of land-use planning processes include MPS/LUB review. Liaising with Town Solicitor on matters of legal significance.
Core Function: Communications	Activities: <ul style="list-style-type: none">▪ Communication with residents, stakeholders, partners, clients, etc.▪ Oversight of Media / Social Media contact / outgoing correspondence.▪ FOIPOP / PIIDPA Coordinator

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Core Function: Public Safety / Traffic Authority	Activities: <ul style="list-style-type: none"> ▪ Oversight and recommendations to council, speed / traffic counting, development of Transportation projects with Manager of Public Works & Transportation ▪ Coordination of fire service operations with MBDFD with Manager of Finance ▪ EMO coordination / planning.
Special Mandates	Activities
Special Mandate: Accessibility	Activities: <ul style="list-style-type: none"> ▪ Overseeing the finalization and adoption of the Town's Accessibility Action Plan in accordance with our commitments to the Lunenburg County Accessibility Plan. ▪ Leading the Management Team in the implementation of the Accessibility Action Plan.
Strategic Plan Item – 1.3	
Special Mandate: Safety Program Implementation	Activities: <ul style="list-style-type: none"> ▪ Oversight of safety program development and implementation process with all Departments ▪ Development of HR/policy components with Administration Department ▪ Coordination of Safety Representative
Strategic Plan Item– 2.3	
Special Mandate: Major Projects	Activities: <ul style="list-style-type: none"> ▪ Oversight of Major Projects – Capital Projects (solar garden, living shoreline and waterfront trail, water/wastewater/stormwater upgrades and transportation projects) and Operating Initiatives (Plan Mahone Bay process, Accessibility Audits, etc.) ▪ Funding applications, procurement activities, management of contracts, public engagement and consultations in relation to approved projects, etc.
Strategic Plan Items – Numerous	
Special Mandate: Capacity and Effectiveness Initiative	Activities: Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> ▪ Management of Work Orders ▪ Shared Document Access ▪ Calendar Coordination ▪ Process Improvement
Strategic Plan Item – 2.3	
Special Mandate: Asset Management	Activities: Support for AM initiatives / Committee (CAO Participation on Committee) / AIM Network participation.
Strategic Plan Item – 1.2	

Administration

The Town's Administration Department consists of Deputy CAO Eric J. Levy and Town Clerk Kelly Redden, along with part-time By-Law Enforcement Officer Al McMullin. The Department provides administrative support to the Town Council as well as to other Town Departments.

Core Function	Activities
Core Function: Council Support	Activities: <ul style="list-style-type: none"> ▪ Council Agendas, Meeting Packages, Minutes ▪ Receiving, Filing, and Sending Correspondence ▪ Preparation of reports, memoranda, etc. ▪ Support for various committees ▪ Documents for training and best practices ▪ Maintenance of official records
Core Function: Bylaw and Policy Development	Activities: <ul style="list-style-type: none"> ▪ Creation of new bylaws and policies ▪ Research and communication with other municipalities ▪ Review and amend bylaws and policies ▪ Respond to inquiries from Council, staff, and public
Core Function: Communications and Public Engagement	Activities: <ul style="list-style-type: none"> ▪ Respond to phone, emails, and in-person inquiries ▪ Publication of Mayor's Newsletter ▪ Maintain Council videos and livestreaming ▪ Coordination of public engagement events including hearings, public meetings, and information sessions ▪ Municipal Awareness Week
Core Function: Projects	Activities: <ul style="list-style-type: none"> ▪ Coordinate with community initiatives ▪ Project and program implementation and management ▪ External funding applications ▪ Cemetery management in cooperation with Finance Department

Core Function: Development of Internal Documents	Activities: <ul style="list-style-type: none"> ▪ Development of HR Policies and Procedures ▪ Development of orientation material for new staff and Council members ▪ Development of new forms and templates
Core Function: Bylaw Enforcement	Activities: <ul style="list-style-type: none"> ▪ Consistent enforcement of Town bylaws ▪ Enforcement training program development, JEIN (vehicle owner information) implementation, ticket review.
Special Mandates	Activities
Special Mandate: Capacity and Effectiveness Initiative	Activities: Leading the Management Team in the implementation of initiatives to Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> ▪ Management of Work Orders ▪ Shared Document Access ▪ Calendar Coordination ▪ Process Improvement
Strategic Plan Item –2.3	
Special Mandate Records Management	Activities: <ul style="list-style-type: none"> ▪ Complete ongoing overhaul of historic physical records ▪ Complete filing upgrade ▪ Work with departments to support proper handling of records ▪ Implement new file sharing protocol
Strategic Plan Item – 2.3	
Special Mandate: Safety Program Implementation	Activities: <ul style="list-style-type: none"> ▪ Department participation in safety program development and implementation. ▪ Development of safety policies.
Strategic Plan Item – 2.3	
Special Mandate: Housing Strategy	Activities: <ul style="list-style-type: none"> ▪ Development of Housing Action plan and application for CMHC Housing Accelerator funding ▪ Development of Housing Strategy ▪ Oversight of implementation of Housing Accelerator actions (if approved)
Strategic Plan Item – 2.1	

Finance

The Finance Department consists of Manager of Finance Ashley Yeadon-Wentzell, along with Office Clerk Susan Beck, Finance Clerk Pam Wilkie, and Accounting Clerk Kim Boutilier, and is occasionally supplemented by casual staff. The Finance Department provides direct customer service to the public, oversees the Town's accounts and utilities, working closely with Council and other departments, and is responsible for all external financial reporting including the annual audit.

Core Function	Activities
Core Function: Assessment roll, taxation and billing	Activities: <ul style="list-style-type: none"> ▪ Maintain assessment roll and monitor appeals ▪ Conduct bi-annual tax billing. Collect rental and lease income from Town-owned properties
Core Function: Accounts Receivable / Collections	Activities: <ul style="list-style-type: none"> ▪ Conduct yearly tax sale. ▪ Oversee tax payment arrangements. Send arrears notices. ▪ Oversee collections on outstanding accounts.
Core Function: Utility Accounts and Billing	Activities: <ul style="list-style-type: none"> ▪ Maintain utility accounts ▪ Conduct monthly and bi-monthly water and electrical billings ▪ Oversee connection and disconnection requests. Issuing utility arrears / cut off notices ▪ Sending closed accounts to collections ▪ Water Utility Rate Study
Core Function: Accounts Payable	Activities: <ul style="list-style-type: none"> ▪ Oversight of invoice filling ▪ Preparation of weekly and special cheque runs
Core Function: Payroll and Benefits	Activities: <ul style="list-style-type: none"> ▪ Processing bi-weekly payroll ▪ Administer employee benefits such as Pension Plan, Medical/Dental Benefits
Core Function: Cemetery Administration	Activities: <ul style="list-style-type: none"> ▪ Process cemetery transactions for new plot sales/interment fees. ▪ Maintain records of purchased burial plots. ▪ Provide administrative support to Cemetery Commission.

Core Function: Budgeting and reporting	Activities: <ul style="list-style-type: none"> • Preparation of YTD Quarterly financial reports regarding budget implementation. • Development of operating and capital budgets including a 10-year Capital Investment Plan (CIP)
Core Function: Annual audit preparation / support	Activities: <ul style="list-style-type: none"> • Preparation and support for external audit. • Preparation of quarterly reports to Audit Committee. • Participation on Audit Committee • Audit Controls Project
Core Function: Insurance	Activities: <ul style="list-style-type: none"> • Liaise with insurance provider when required (i.e. annual renewal, submitting claim)
Core Function: External reporting requirements	Activities: <ul style="list-style-type: none"> • Keeping appropriate and up-to-date records for external reporting. Filing FIR, SOE, CIP, Gas Tax (AER), GST/HST and other Provincial and Federal required information.
Core Function: Inventory Management	Activities: <ul style="list-style-type: none"> • Maintain accurate records of inventory for the Water, Wastewater, and Electric Utilities. • Performing monthly inventory reconciliations.
Core Function: Administration of Permits	Activities: <ul style="list-style-type: none"> • Receive and process various permit applications such as facility use, temporary vending, burial, building, and development permits
Core Function: Support for Capital Projects	Activities: <ul style="list-style-type: none"> • Staff setup the various financing/borrowing requirements for Capital Projects, and prepare both internal status reports, as well as external reports to various stakeholder parties.
Core Function: Journal entries and reconciliations	Activities: <ul style="list-style-type: none"> • Bi-weekly reconciliations. • Preparation of journal entries and review of general ledger. • Daily cash balance.
Special Mandates	Activities
Special Mandate: Setup Accountability Codes	Activities: <ul style="list-style-type: none"> • Setup accountability codes in PROCOM to allow for segregated reporting directly from Procom, to support annual budget process / improve related financial reporting.
Strategic Plan Item: 2.3	

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Special Mandate: Separation of Cemetery Ledger Strategic Plan Item: 2.3	Activities: <ul style="list-style-type: none"> • Staff are working to create a segregated chart of accounts for Bayview and Park Cemeteries which will allow for more accurate and timely financial reporting.
Special Mandate: Implement Inventory Management System Strategic Plan Item: 2.3	Activities: <ul style="list-style-type: none"> • In coordination with other Departments (Management of Work Orders below), implement new electronic inventory management system to support inventory reconciliation.
Special Mandate: Implement PO Module Strategic Plan Item: 2.3	Activities: <ul style="list-style-type: none"> • Create the ability for Purchase Orders to be created electronically to ensure proper sign off and to enhance the timeliness of information being captured in the Town's Financial Reporting System.
Special Mandate: Capacity and Effectiveness Initiative Strategic Plan Item: 2.3	Activities: Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> ▪ Management of Work Orders ▪ Shared Document Access ▪ Calendar Coordination ▪ Process Improvement
Special Mandate: Asset Management Strategic Plan Item: 1.2	Activities: Provide support as required for asset management initiatives, participation on AM Committee.

Climate & Energy

The Town's Climate & Energy division reports to the CAO. The division consists of Climate & Energy Program Manager Lauren Clark supported by summer intern(s). The Climate & Energy division oversees the Town's environmental initiatives including the implementation of the Community GHG Reduction Action Plan and supports the Town's asset management program.

Core Function	Activities
Core Function: Customer Initiatives and Engagement	Activities: <ul style="list-style-type: none"> ▪ Implement GHG Reduction Engagement Campaigns ▪ Create system for residents & business to implement behaviours and self-report emissions reductions. ▪ Begin inter-community sustainability challenges. ▪ Implement Active Transportation Engagement Campaign. ▪ Support implementation of active transportation infrastructure improvements.
Core Function: Monitor & Implement GHG Plan	Activities: <ul style="list-style-type: none"> ▪ Continue implementing current capital Projects and engagement on sustainable behaviours. ▪ Assess funding opportunities coming up and identify what actions in GHG Plan are eligible to build a pipeline of GHG reducing projects once current projects begin to wrap up. ▪ Support new Climate & Environment Committee to complete climate analyses, review and reprioritize GHG actions as needed. ▪ Produce annual progress reports stating which actions are complete, amendments to the plan needed, GHG emissions saved from progress with Plan.
Core Function: Special Projects Management	Activities: <ul style="list-style-type: none"> ▪ Coordinate the review and expansion of the HOME Program (with potential FCM support) and proposed home EV Charger pilot program. ▪ Neothermal pilot project (archetype modelling with Dalhousie University and NRCAN, selection of pilot candidates/financing for ETS installations). ▪ Identify and pursue project funding opportunities.

Special Mandate	Activities
Special Mandate: Natural Asset Management Strategic Plan Items: 1.2/3.3	Activities: <ul style="list-style-type: none"> ▪ Completion of natural asset data collection project. Coordinate and integrate data with asset management program / urban forest management plan development. ▪ Mapping of Town trees and health of trees through centralized data management system.
Special Mandate: Community Solar Garden Project Strategic Plan Links: 3.1	Activities: <ul style="list-style-type: none"> ▪ Finalize arrangements for service corridor to substation. ▪ Coordinate public engagement activities in relation to the project. ▪ Promote subscription opportunities with solar garden to community (with AREA staff). ▪ Support development of solar garden assets by AREA.
Special Mandate: Home Heating Programs Strategic Plan Links: 3.1	Activities: <ul style="list-style-type: none"> ▪ Coordination of HOME Program advertising and promotion (with AREA staff). ▪ Assess opportunities for HOME program expansion (ETS, home EV chargers, etc.) and pursue external funding.
Special Mandate: Shoreline Improvement Strategic Plan Links: 3.2	Activities: <ul style="list-style-type: none"> ▪ Coordinate with Coastal Action to engage and communicate demonstration project progress and importance to the community (i.e. social media updates, poster updates and website upkeep). ▪ Support Coastal Action in securing external funding for living shoreline expansion. ▪ Support the implementation of living shoreline and associated waterfront trail projects.

Public Works & Transportation

The Department of Public Works & Transportation is responsible for the safe operation of the Town's streets and sidewalks (including snow and ice control) and for maintenance of assets including fleet, buildings, recreational facilities, parks and open spaces, stormwater management and transportation infrastructure (including active transportation). Department staff coordinate closely with and support water, wastewater and electrical utility operations. The Manager, on behalf of the department, reports directly to the Town's CAO. Department staff include:

Jonathan Uhlman – Manager
 Tony Smith – Public Works Technician 3 (Lead)
 Duane Zwicker – Public Works Technician 2
 Alex Myra – Public Works Technician 1

Core Function	Activities
Core Function: Streets and Sidewalks	Activities: <ul style="list-style-type: none"> ▪ Snow & ice control, patching, paving, line painting, signage, street & sidewalk repairs and/or renewals. ▪ Implementation of approved transportation projects ▪ Accessibility audits of existing infrastructure.
Core Function: Stormwater Management	Activities: <ul style="list-style-type: none"> ▪ Stormwater collection (ditches, culverts, & catch basins). ▪ Preventative maintenance and improvement of stormwater assets incorporated into AM Plan / Budget.
Core Function: Facilities	Activities: <ul style="list-style-type: none"> ▪ Maintenance of Town-owned facilities. ▪ Operation and maintenance of fire station ▪ Repurposing or divestiture of old fire station ▪ New public work garage or alternative
Core Function: Parks and Greenspaces	Activities: <ul style="list-style-type: none"> ▪ Mowing, leaves, vegetation maintenance, maintenance of parks & playgrounds, ball field, trails, swimming pool, public washrooms, etc. ▪ Strengthen shared-service partnerships for recreational service delivery ▪ Accessibility audits of existing infrastructure.

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Core Function: Support for Utilities	Activities: <ul style="list-style-type: none"> Provide support for support water, wastewater and electrical utility operations.
Special Mandates	Activities
Special Mandate: Local Improvements	Activities: <ul style="list-style-type: none"> Strategic expansion of existing infrastructure to support planned growth and development. Explore shared services and partnerships for efficient service delivery while connecting with community passion and interest.
Strategic Plan Item: 2.2	
Special Mandate: Special Projects	Activities: <ul style="list-style-type: none"> Participation in Safety Program Development and Implementation Accessibility Action Plan Implementation Support for Tree Planting / Benches Donation initiatives (installations) Transportation Projects Participation in engineering pre-design for projects going to construction in 2024-25 including: <ul style="list-style-type: none"> Replacement and upgrade of water and wastewater infrastructure on Main Street; Improvement of stormwater management infrastructure at the corner of Fairmont and Pine Grove Streets; Renovation / rebuilding of the Mahone Bay Pool.
Strategic Plan Item: Numerous	
Special Mandate: Capacity and Effectiveness Initiative	Activities: Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> Management of Work Orders Shared Document Access Calendar Coordination Process Improvement
Strategic Plan Item: 2.3	
Special Mandate: Asset Management	<ul style="list-style-type: none"> Support for AM Committee, condition assessments and diagnostics. Operationalization of AM practice to front line PW staff.
Strategic Plan Item: 1.2	

Electrical Utility

The Town's electric utility operates in partnership with the Riverport Electric Light Commission (RELC) to deliver dependable electrical service to residents of both communities. Our shared electrical staff team includes:

Phil Lawson – Lead Powerline Technician
Roger Eisenhauer – Powerline Technician
Aaron Frail – Powerline Technician

Core Function	Activities
Core Function: Electrical Power Supply	Actions: <ul style="list-style-type: none">▪ Respond to outages▪ Repair/replace poles▪ Repair/replace lines▪ Repair/replace transformers▪ Meter reading▪ Meter changes
Core Function: Service Extensions	Activities: <ul style="list-style-type: none">▪ Run new services▪ Scope new lines▪ Install new poles▪ Install new lines▪ Install new transformers
Core Function: Electrical Inspections	Activities: <ul style="list-style-type: none">▪ Timely conduct of electrical inspections to support development.
Core Function: Street Lighting	Activities: <ul style="list-style-type: none">▪ Maintenance of street lighting to serve streets and sidewalks.

Special Mandates	Activities
Special Mandate: System Upgrades on West Circuit	Activities: <ul style="list-style-type: none"> Installation of three voltage regulators to improve reliability
Strategic Plan Item: 1.1	
Special Mandate: Transformer testing and replacement	Activities: <ul style="list-style-type: none"> Implementation of planned replacement of transformers as required to meet legislated environmental requirements.
Strategic Plan Item: 1.1	
Special Mandate: Capacity and Effectiveness Initiative	Activities: Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> Management of Work Orders Shared Document Access Calendar Coordination Process Improvement
Strategic Plan Item: 2.3	
Special Mandate: Safety Program Implementation	Activities: <ul style="list-style-type: none"> Department participation in safety program development and implementation.
Strategic Plan Item: 2.3	

Water / Wastewater

The Water / Wastewater Department is responsible for the reliable supply of drinking water to residents and businesses as well as the collection and treatment of wastewater. The Department operates in accordance with all federal and provincial regulations to ensure the safety of staff, the public and our natural environment. Department staff include:

Scott Hoyt – Water/Wastewater System Manager
Blake Tibert – Water/Wastewater System Operator

Core Function	Activities
Core Function: Source Water Protection	Activities: <ul style="list-style-type: none">▪ Oakland Lake Watershed Advisory Committee▪ Source Water Protection Plan▪ Approval to Withdrawal (Province)▪ Source Water Sampling▪ Lake Outlet Flow Monitoring▪ Compliance Reporting (Province)▪ Update and evaluate hazard assessments for source water protection area with committee▪ Update withdrawal permit
Core Function: Drinking Water Treatment	Activities: <ul style="list-style-type: none">▪ Raw water pumping and transmission▪ Tanks Inspections/Cleanings▪ Membrane Filters Inspections/Cleanings▪ Chemical handling and equipment handling▪ Inspection and exercise of pumps/mixers, air compressors, valves/actuators▪ UV System operation and inspection▪ SCADA operation and monitoring▪ Compliance Reporting (Province)▪ Approval to Operate (Province)▪ Procurement▪ Clearwell inspection▪ Online Analyzers Maintenance/Calibration▪ Facilities improvements (chemical room upgrades, process improvements, etc.) and preventative maintenance.

<p>Core Function: Water Distribution and Hydrants</p>	<p>Activities:</p> <ul style="list-style-type: none"> ▪ Biannual unidirectional flushing ▪ Annual valves inspection/exercise ▪ Water quality maintenance flushing ▪ Install new services as needed ▪ Service repairs as needed ▪ PRV/ARV inspection ▪ Water meters operation and repair ▪ Water disconnections / connections ▪ Draft 10-year AM Plan for Water Assets, Capital Replacement of Water Distribution Lines on Main St., Installation of dead end flushing equipment.
<p>Core Function: Water Quality Monitoring</p>	<p>Activities:</p> <ul style="list-style-type: none"> ▪ Annual Sampling Plan (Province) ▪ Compliance Reporting (Province) ▪ Approval to Operate (Province) ▪ In-House sampling and analysis ▪ Third-part sampling and analysis ▪ Lead and copper monitoring
<p>Core Function: Wastewater Collection</p>	<p>Activities:</p> <ul style="list-style-type: none"> ▪ SCADA monitoring ▪ Lift station inspection and cleaning ▪ Compliance monitoring and reporting (Provincial and Federal) ▪ Approval to Operate (Province) ▪ Sewer Main cleaning and inspection ▪ Install new services as needed ▪ Service repairs as needed ▪ Stormwater Inflow / Infiltration Study ▪ Draft 10-year AM Plan for Wastewater Assets, Capital Replacement of Wastewater Collection Mains or Trunk Sewer.
<p>Core Function: Wastewater Treatment</p>	<p>Activities</p> <ul style="list-style-type: none"> ▪ Headworks Inspections/Cleaning ▪ Daily inspections and calibration (aerators, blowers, effluent chamber) ▪ Chemical handling and equipment ▪ Approval to Operate (Province) ▪ Compliance Monitoring and Reporting (Provincial and Federal) ▪ Procurement ▪ Continued PAA Effluent Implementation & Compliance Monitoring (chemical storage and injection), Cell cleaning and inspections starting with Cell 3 in 2023.

Special Mandates	Activities
Special Mandate: Water System Loss Reduction Project	Activities: <ul style="list-style-type: none"> Continue working with internal resources and third-party contractors to pinpoint sources of water loss in need of repair or replacement. Reduce water losses through repairs. Regularly update Council concerning water loss.
Strategic Plan item: 1.1	
Special Mandate: Capacity and Effectiveness Initiative	Activities: Improve staff capacity and operational effectiveness with all Departments prioritizing: <ul style="list-style-type: none"> Management of Work Orders Shared Document Access Calendar Coordination Process Improvement
Strategic Plan Item: 2.3	
Special Mandate: Safety Program Implementation	Activities: <ul style="list-style-type: none"> Department participation in safety program development and implementation. SOP and O&M manual review annually
Strategic Plan Item: 2.3	
Special Mandate: Support for Planned Capital Projects	Activities: <ul style="list-style-type: none"> Participation in engineering pre-design for projects going to construction in 2024-25 including: <ul style="list-style-type: none"> Replacement and upgrade of water and wastewater infrastructure on Main Street; Improvement of stormwater management infrastructure at the corner of Fairmont and Pine Grove Streets. Renovation / rebuilding of the Mahone Bay Pool.
Strategic Plan: 2.2	



Mahone Bay Centre Development Permit Application

Date July 27, 2023

General Overview:

Mahone Bay Centre Society has submitted a request via development permit to expand the storage area at 45 School Street (PID 60604261). The property is regulated by a Development Agreement and the request will not require a substantial amendment to the Development Agreement; however, it requires any changes to the Parking Plan (Schedule 'B') to have written consent of Town Council.

Background:

By development permit application dated July 06, 2023, Mahone Bay Centre is requesting permission to install a 12x30 foot shed to be used as storage & an 'Equipment Loan Program' for Mahone Bay United in place of current parking spots. The Mahone Bay Centre has noted there will not be a reduction in passage space.

Analysis:

Upon review of the request, this is considered minor in nature and a substantial amendment to the existing development agreement is NOT required. This proposal will require a minor change to the Parking Plan (Schedule 'B'). Section 8(b) of the approved Development Agreement outlines the changes and alterations that are considered minor in nature:

CHANGES AND ALTERATIONS

- (a) That all matters in this Agreement not specified in Subclause 8(b) below are substantial matters which shall not be changed or altered except by amendment to this Agreement in the form of a further Development Agreement; and
- (b) That the following matters are not substantial matters and may be changed or altered without amendment to this Agreement but with the written consent of the Council of the Town, provided that the Council of the Town determines that the changes do not significantly alter the intended effect of these aspects of this agreement:
 - (i) minor exterior alterations to the building such as, but not limited to, those required to accommodate wheelchair access;
 - (ii) minor alterations to the site plan to accommodate vehicle circulation and parking, pedestrian circulation, and screening of vehicle areas;
 - (iii) the replacement of Schedule 'B' with a new Schedule 'B' which shows vehicle circulation, pedestrian circulation, parking areas, fences, hedges, earthworks or other forms of screening from adjacent properties;
 - (iv) the hours of operation.

The applicant has provided elevation drawings, a site sketch & building details, as part of the development permit process.

Electrical and water service have been requested to the location of the proposed shed. The electrical service is anticipated to be installed along the westerly side of the property approximately 10 ft from the westerly lot line to provide electricity to the storage sheds. That will shift the location of the parking along the west side of the building and require the internal laneway shown on the most recent site sketch to shift westward. The new water line is also planned to be installed along the westerly property line.

The Society anticipates a future revised Parking Plan (Schedule 'B'), as they anticipate a future Shed #2, however the timing of the future Parking Plan revision from the Society is not known at this time.

Financial Analysis:

The Town would be responsible for the water line to the property boundary and the first 55 meters of the electrical service with the Society paying any additional costs. These costs to the Town's utilities are already anticipated in the annual budget,

No other significant financial impacts are anticipated.


Links to Strategic Plan:

2.3 Governance to Meet Expectations of our Growing Community

Recommendation:

It is recommended,

THAT Council give written consent to approve the minor change to Schedule B of the Development Agreement in relation to the development permit request received from Mahone Bay Centre Society to install a 12x30 shed.



Applicant name: MAHONE BAY CENTRE SOCIETY Phone number: 902-624-0890

Mailing address: P.O. Box 489, MAHONE BAY NS. B0J 2E0

Email address: WELCOME@mahonebaycentre.org

Name of property owner: MAHONE BAY CENTRE SOCIETY

Civic address or location of property: 45 School St.

Present use of the lot and existing building: COMMUNITY CENTRE

Describe the new Construction, new use of property and/or new business signs, as applicable. See notes below about plans and sketches.

PLEASE SEE ATTACHED

Non-refundable application fee, payable at the time of application. No permit will be issued until the application fee is paid.

☐ \$30 (basic application fee) or ☒ \$50 (if construction value is over \$1,000)

Payments can be made in person at Town Hall, emailed to inquiries@townofmahonebay.ca or a cheque can be mailed to: Town of Mahone Bay, PO Box 530, Mahone Bay NS B0J 2E0

Payment ☒ In person ☐ Cheque mailed ☐ Emailed

I hereby certify that I am the owner of the land on which this development is proposed, or, am making this application with the consent of the owner.

Date: JULY 6, 2023 Signature: [Signature]

Please Forward a Plan or Sketch Showing your Proposal, Preferably Drawn to Scale

For new construction, including additions, decks and outbuildings: Sketch the lot, showing its width and length. Show where the new construction is to be located on the lot, including distances from the lot lines. Show existing building (with dimensions), driveways and parking areas. Show the height of the proposed construction. Also, a detailed floor plan and elevation views.

For new signs: Sketch the sign and the building. Show where the sign will be attached to the building or where it will be located on the lot, as applicable. Also, please show the dimensions and location of all existing signs on the lot or building.

Free standing signs: Please show dimensions and height of sign(s) and proposed location on the lot including distance to the lot lines.

Signs on buildings: Please show dimensions of sign(s), location on building, length of building wall to which the sign will be attached, and (for projecting signs) height above grade. For window signs include the length and width of the window.

Development Permit Application Sketch

Mahone Bay Centre - Accessory Sheds

The Mahone Bay Centre would like to add two accessory sheds to the property to support the needs of the community and one of our tenants. Both structures will be located on Mahone Bay Centre property but building permits will be submitted separately by the two organizations building and using them. The structures will be the property of the Mahone Bay Centre. All buildings will be one floor and have roof peak heights under 20 feet.

Mahone Bay United (MBU)

Structure #1 on the attached sketch will be used to support sporting and recreation events on the field owned by the Town of Mahone Bay and surrounding areas. Use of that structure and construction details will be covered under the building permit to be submitted by MBU. Structure will be 12 feet wide and 30 feet long (360 square feet). There is an urgent need to get this first structure built to house the sports field maintenance and recreational equipment.

Tenant (Coastal Action)

Structure #2 on the attached sketch will be used to consolidate the storage of field testing and support equipment for Coastal Action, an anchor tenant for the Mahone Bay Centre. Use of that structure and construction details will be covered under the building permit to be submitted by Coastal Action. The tenant is still in the feasibility study part of the process and does not have a tentative construction start date. Structure will be similar to the MBU structure for aesthetic purposes and will not have a foot print larger than 16 feet wide and 40 feet long (640 square feet) and may be smaller.

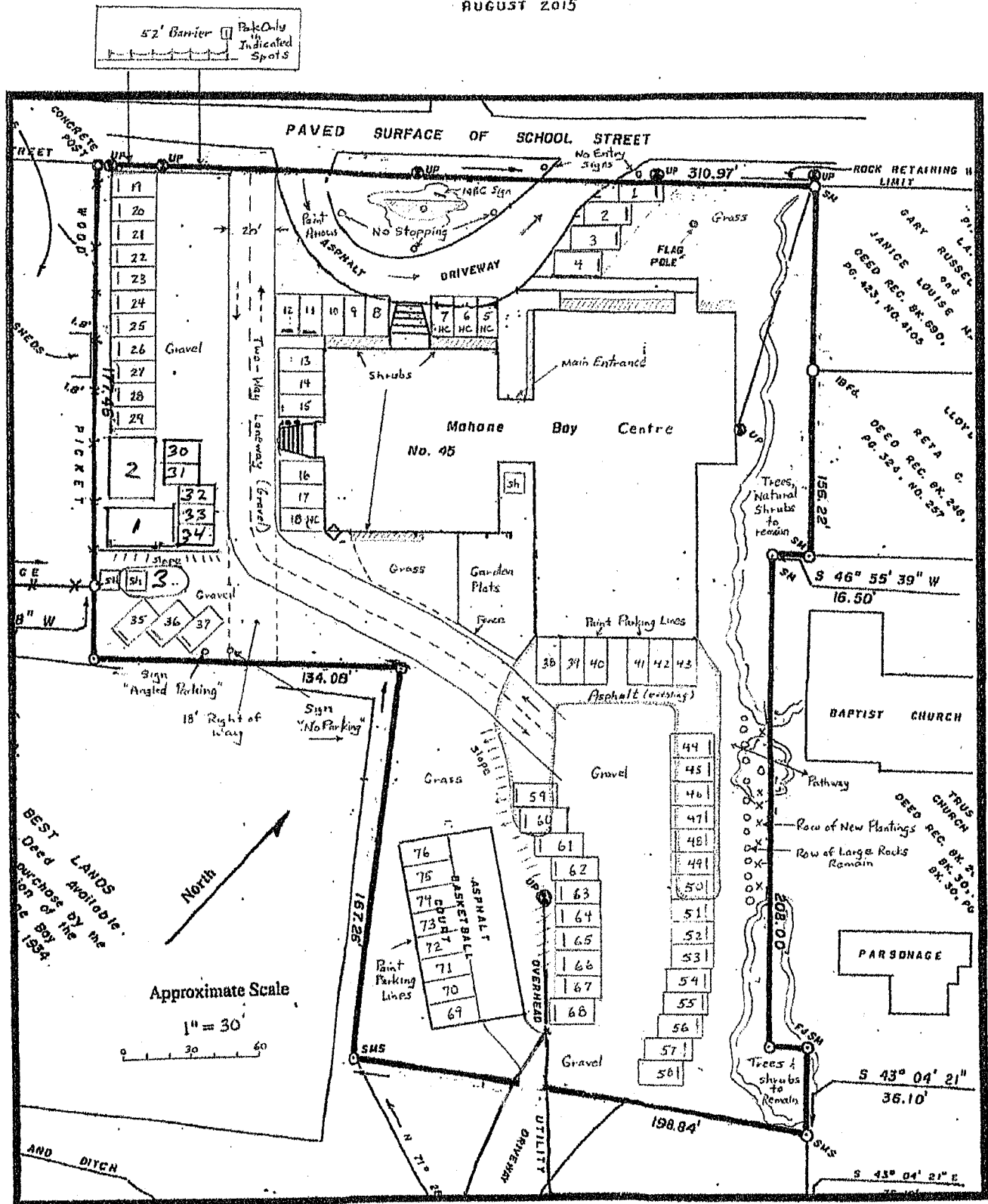
Mahone Bay Centre Trash and Recycle Shed

Structure # 3 is an existing 8 foot by 8 foot (64 square feet) deteriorating structure that serves as the storage place for trash and recycle. The long term plan would be to demolish this structure and replace with either a new structure of similar size and appearance to the new structures.

Note: All three of these accessory structures are well within the 10% of total land used at the Mahone Bay Centre.

Parking: Spaces will not be reduced as the amount of passage space currently not being used will allow us to pull the existing spaces forward. In fact, we are in very preliminary discussions on a larger landscaping plan and part of that planning will be to re-think our existing parking areas to ensure a more efficient use of the land and provide more spaces should we need them in the future.

AUGUST 2015



Development Permit Application Sketch

Mahone Bay Centre - Accessory Shed

The Mahone Bay Centre would like to add an accessory shed to the property to support the needs of the community. The structure will be located on Mahone Bay Centre property but building permit will be submitted separately by the organization building and using it. The structure will be the property of the Mahone Bay Centre. The building will be one floor and have roof peak height under 15 feet.

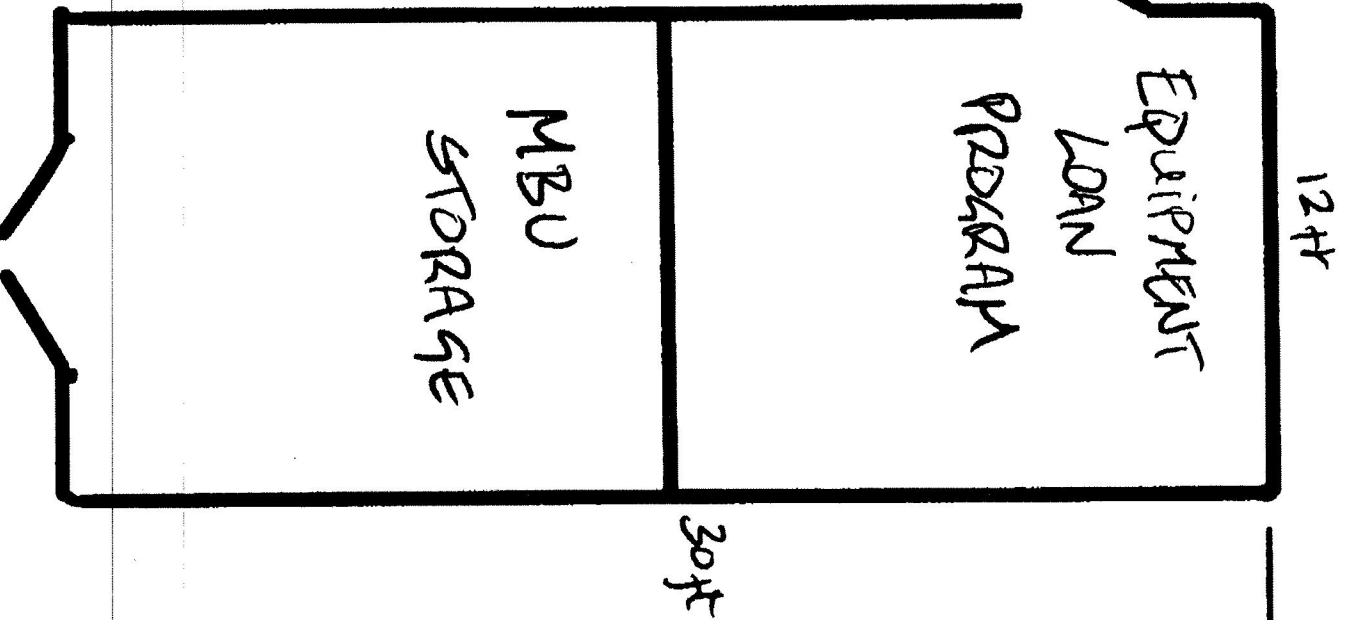
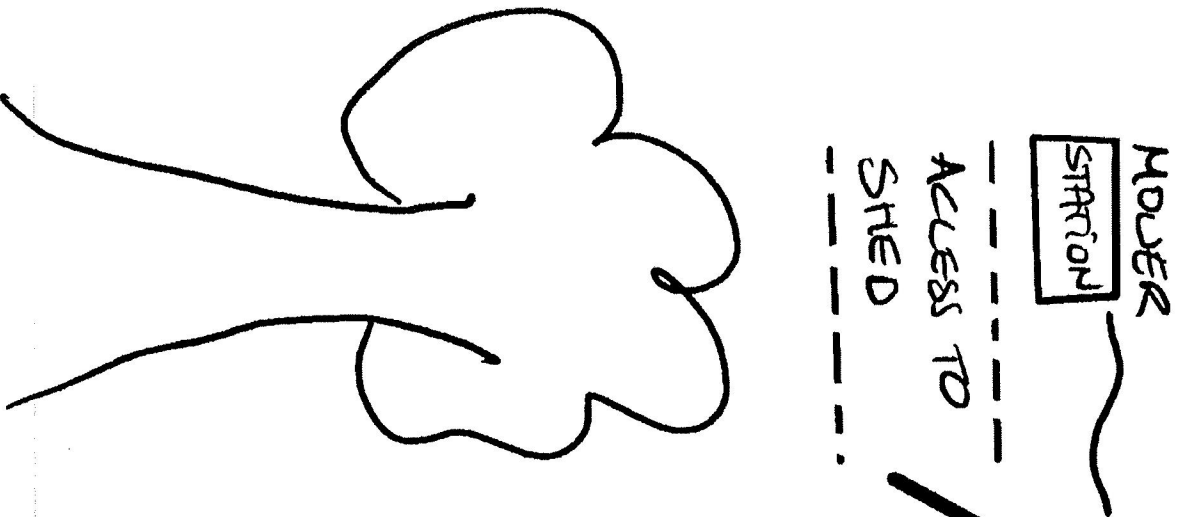
Mahone Bay United (MBU)

Structure #1 on the attached sketch will be used to support sporting and recreation events on the field owned by the Town of Mahone Bay and surrounding areas. Use of that structure and construction details will be covered under the building permit to be submitted by MBU. Structure will be 12 feet wide and 30 feet long (360 square feet). There is an urgent need to get this first structure built to house the sports field maintenance and recreational equipment.

Note: The additional accessory structure is well within the 10% of total land used at the Mahone Bay Centre.

Parking: Spaces will not be reduced as the amount of passage space currently not being used will allow us to pull the two existing spaces forward. In fact, we are in very preliminary discussions on a larger landscaping plan and part of that planning will be to re-think our existing parking areas to ensure a more efficient use of the land and provide more spaces should we need them in the future.

Future Structures: for information only, the Mahone Bay Centre may submit an additional and separate Development Permit within the next 12 - 18 months as one of our tenants (Coastal Action) may require a similar accessory structure to the one being requested on this permit and the Mahone Bay Centre may decide to replace our existing 8x8 trash and recycle shed and relocate it to a more convenient area. However, both of these structures have yet to be committed to and will fall under a separate permit request when the time is appropriate.



PARKING



**BUILDING PERMIT APPLICATION - MAHONE BAY UNITED
SUPPORTING LETTER**

Mahone Bay United is seeking permission to build a structure adjacent to the Mahone Bay Community Field on Mahone Bay Centre Property. Structure #1 on the attached sketch will be used to support sporting and recreation events on the field owned by the Town of Mahone Bay and surrounding areas.

Use of structure:

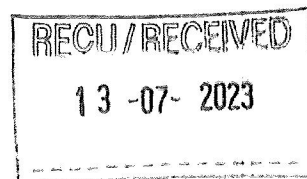
- 50% of the structure will be storage for equipment for Mahone Bay United Soccer Association.
- 50% of the Structure will house an equipment loan program to support community use of the field. This will include equipment for activities all year round.
- Provide standard electrical exterior power point for the Community Field Automower charging station.

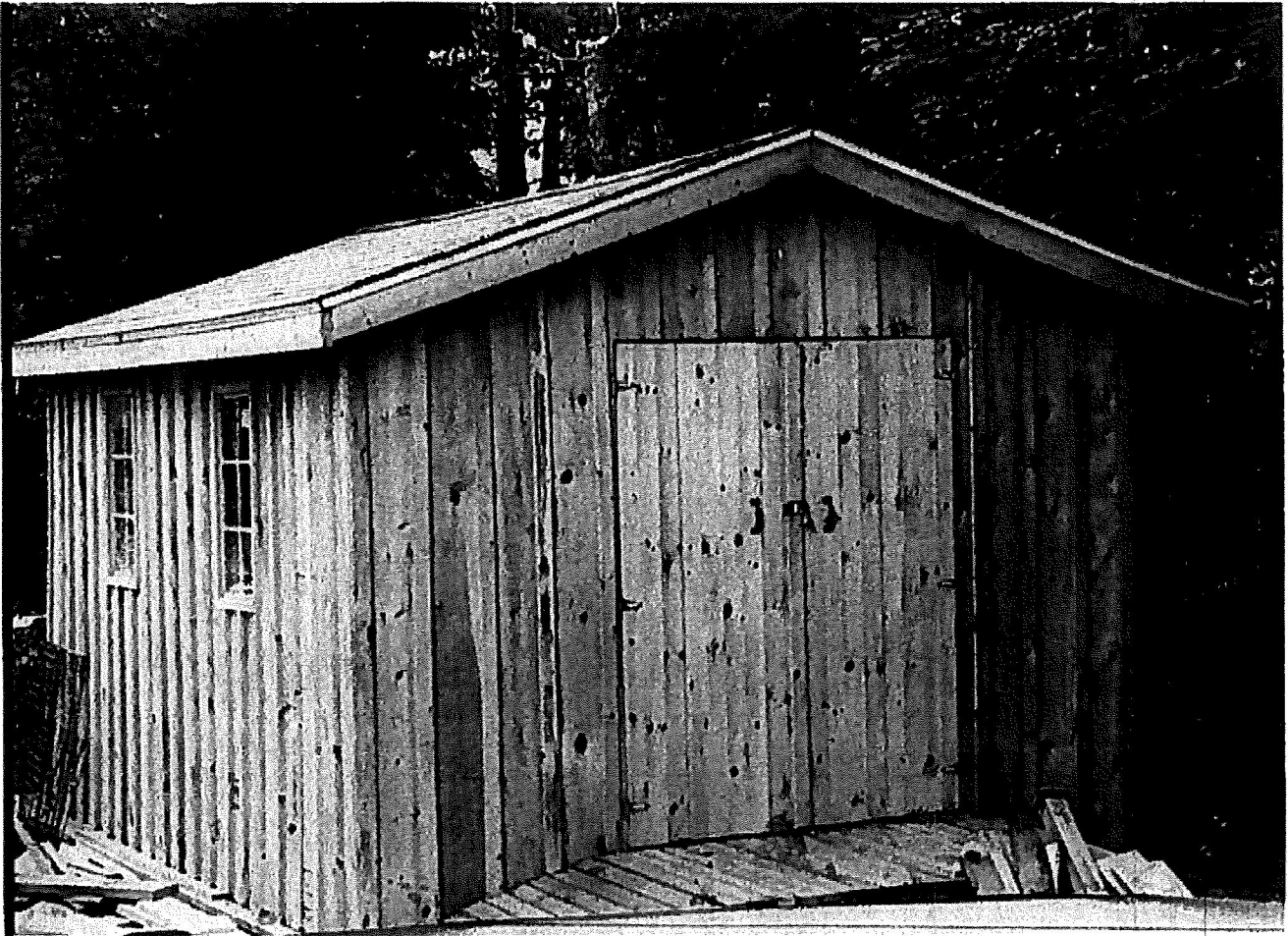
Construction details:

- 12 feet wide and 30 feet long (360 square feet) and not exceeding 20 feet at peak. (9.5 ft)
- The building will be on skids and rest on 24x24 pavers on a gravel surface.
- The roof will be shingled or metal roofing and the siding is board and batten.
- Two entrances to the shed - one from the field and one from the parking lot area.
- The shed will require electrics for lights in each of the two sections and two outdoor electrical outlets to support the automower installation for field maintenance. Town of Mahone Bay is submitting a quote to deliver the electrical installation.

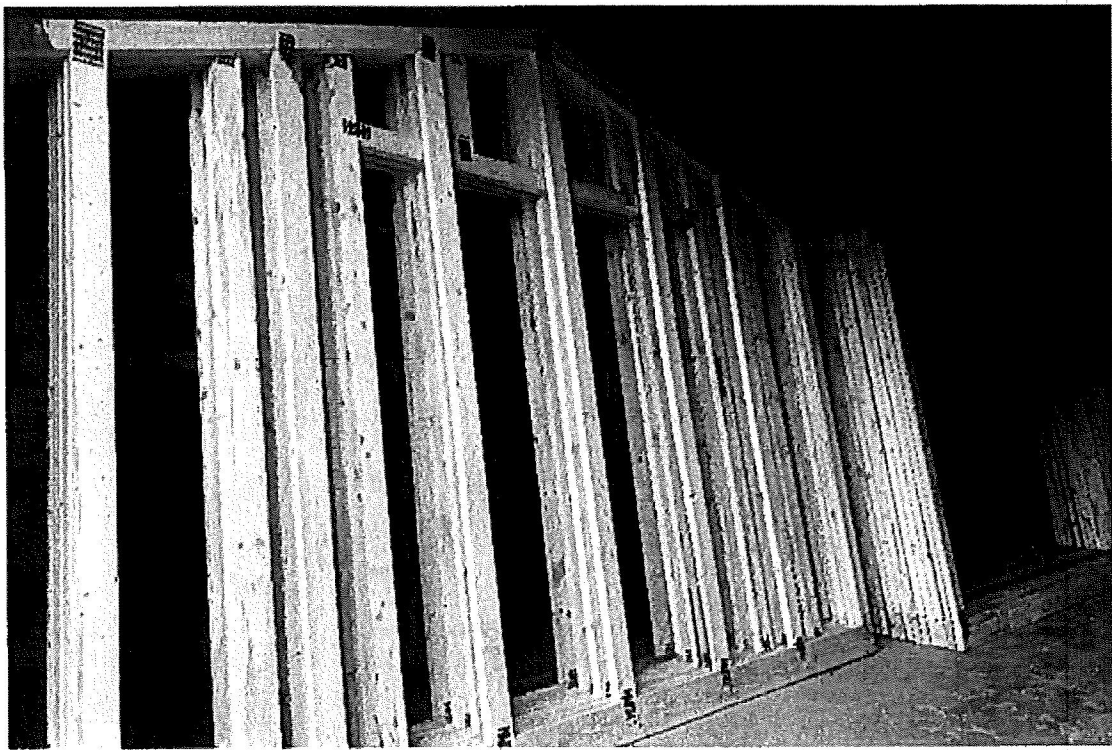
Your sincerely,

Tim Merry
Mahone Bay United President
E: hello@mahonebaysoccer.com
URL: www.mahonebaysoccer.com





REC'D / RECEIVED
13 -07- 2023

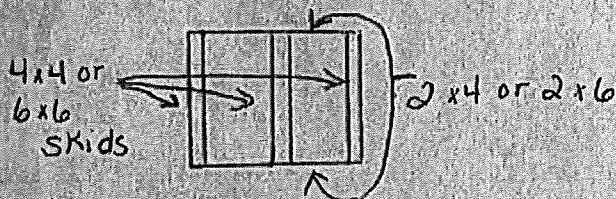


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13 -07- 2023

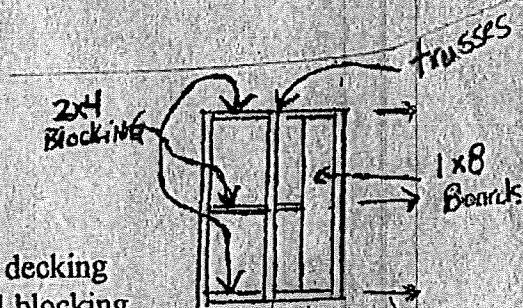
Elmer Lohnes Lumbering Ltd.
3426 Hwy 325
Wileville, NS B4V 5G8

Office: (902) 543-3010
Fax: (902) 543-8607

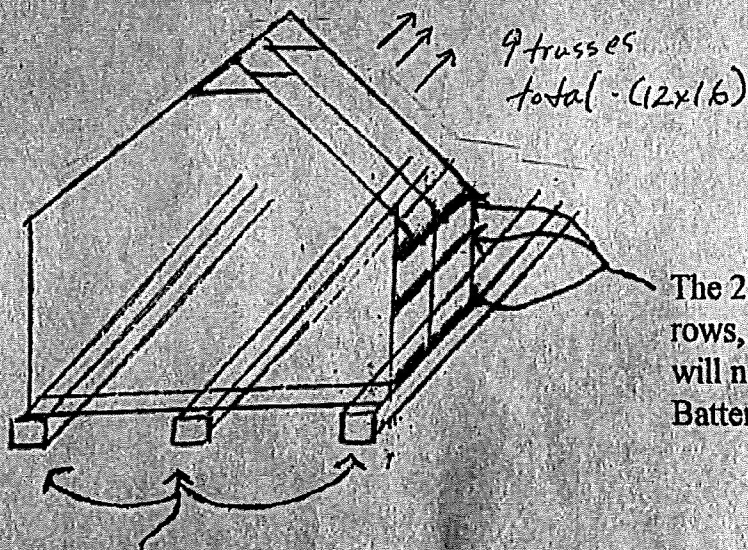
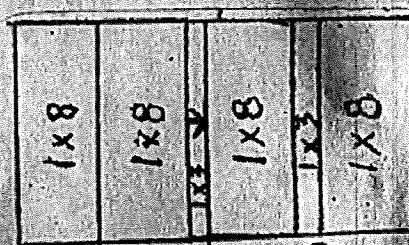
- First lay down the 3 skids (4x4 or 6x6)
- Tie them together on the ends with 2x4 or 2x6 - Rough



- Toe-Nail trusses to the 3 skids @ 2 Feet on center
 - Next, deck in the floor with 1 1/4" decking or 1 1/2" decking
 - Next block in between the trusses with 3 rows of 2x4 blocking.
- You now have something to nail your 1x8 & (1x3, 1x4) board & battens to.



- Put all of your 1x8's up 1st and then put the (1x3 or 1x4's) over the cracks.
- Next, Board the roof in with the remaining boards.



The 2 x 4 is for blocking. There are 3 rows, top middle and bottom - You will need these to nail the Board & Battens too.

3 Skids to set the trusses on 4x4 or 6x6. Nail trusses to the skids at 2' on center.

16 Trusses for 12x30 shed
9.5 ft peak of roof.



Town of Mahone Bay

Staff Report

RE: Orchard Street

July 27th, 2023

General Overview:

This staff report is intended to present Council with a recommendation concerning traffic flow on Orchard Street, following up on previous direction in this regard.

Background:

The 2020/21 Transportation Project – which Council approved shortly after receipt of the CBCL Transportation Plan Report in the Spring of 2020 – included the reconfiguration of Cherry Lane and Parish Street. This reconfiguration was successfully completed in 2021.

The Project also included a plan to make Orchard St. one-way – to Parish St. – with the only exit being via Parish St. to Edgewater Street. This change was not completed but put on hold pending an engineering review of the Main Street / Edgewater St. intersection. The engineering review was completed by WSP and reports were presented to Council in April of 2023.

Analysis:

The engineering review of the Main St. / Edgewater St. intersection presented Council with several options for reconfiguration. These options had differing impacts on the intersection of Orchard St. with Main St. – as this is located within the larger Main St. / Edgewater St. intersection area – but generally the restriction of traffic exiting Orchard St. onto Main St. was recommended.

Staff do not recommend the originally proposed one-way configuration for Orchard St. as it could result in too large a volume of traffic exiting to Edgewater St. via Parish St. (or via Aberdeen St. through the Town Hall parking lot) and could have negative impacts on businesses in the area.

Instead staff recommend a “right turn only” sign be installed on Orchard St. at the intersection with Main St.. This restriction on traffic flow will improve visibility for motorists and crosswalk safety for pedestrians crossing Main St. at the nearby crosswalk. A sign advising that Parish St. is the only exit to Edgewater St. would also be installed at the corner of Parish St. and Orchard St., to help direct motorists.



Orchard St. as seen from the corner of Aberdeen St.



48" x 32"

4" letter height, similar to
NO EXIT at Orchard & Parish

Financial Analysis:

Costs associated with the proposed restriction of traffic flow would be minimal.

Climate Analysis:

N/A

Strategic Plan:

1.3. Improve Accessibility of Public Infrastructure

- Strategically improve transportation infrastructure to support healthy living

Recommendation:

It is recommended,

THAT Council direct staff to restrict Orchard St. to "right turn only" at the intersection with Main St..

Respectfully Submitted,

Dylan Heide
Town of Mahone Bay CAO



Town of Mahone Bay

Staff Report

RE: Non-Revenue Water Update

July 27th, 2023

General Overview:

This staff report is intended to present Council with an update concerning water loss (non-revenue water) in the water utility and staff efforts to reduce.

Background:

Council received a previous update concerning non-revenue water in July of 2022, following on a water system audit conducted in the Fall of 2021. Previous reports are attached for reference.

Analysis:

2023 Water Loss Summary

April 20th H2O Acoustic Leak Detection performed in town. Three leaks identified plus one unresolved leak from a previous report.

1. Northern Sun Building, leak identified on customer side. This is a significant leak still outstanding with a disconnection notice sent in June and final notice sent in July. Water scheduled to be turned off by July 28th, until the property owner has effected needed repairs.
2. 57 School Street, leak identified on town side of service lateral. The service lateral was replaced June 12th from the connection point in front of the Mahone Bay Centre to the water meter within the home, repairs completed by town staff.

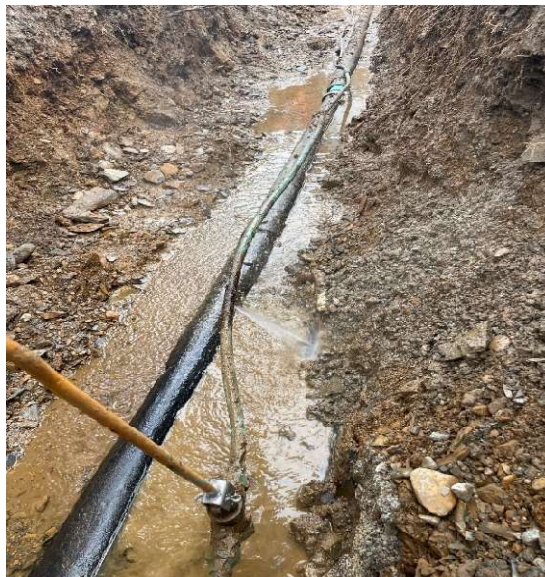


3. 299 Main St., broken hydrant, leak identified at hydrant base due to damage. Hydrant was replaced by contractor and town staff April 28th.
4. 147 Main St., noise heard at fire hydrant. This was a significant leak identified by town staff at 150 Main St. after the customer called about a sewer backup. Location of the lateral leak couldn't be pinpointed due to a leaky service valve. Repairs were made on June 22nd by town staff.



Repairs not identified on Leak Detection (or occurred after the leak survey)

1. 39 Pleasant St. Lateral Leak. This leak was identified by town staff on June 6th after the customer called about a sewer blockage. Customer contractor replaced both water and sewer laterals to the home.



2023 SCADA Trends

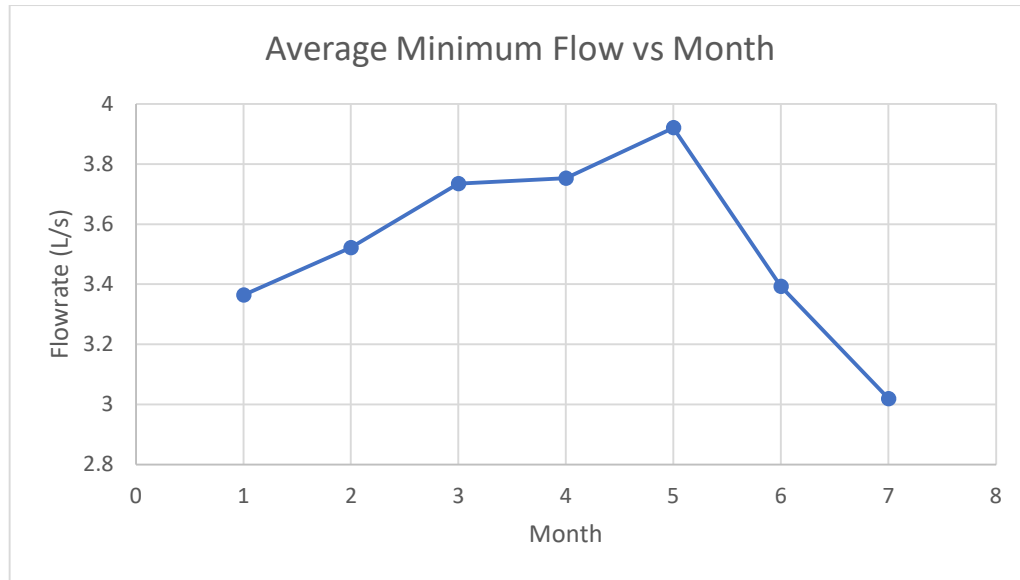


Table 1 displays a graph of the nightly minimum flows, averaged monthly.

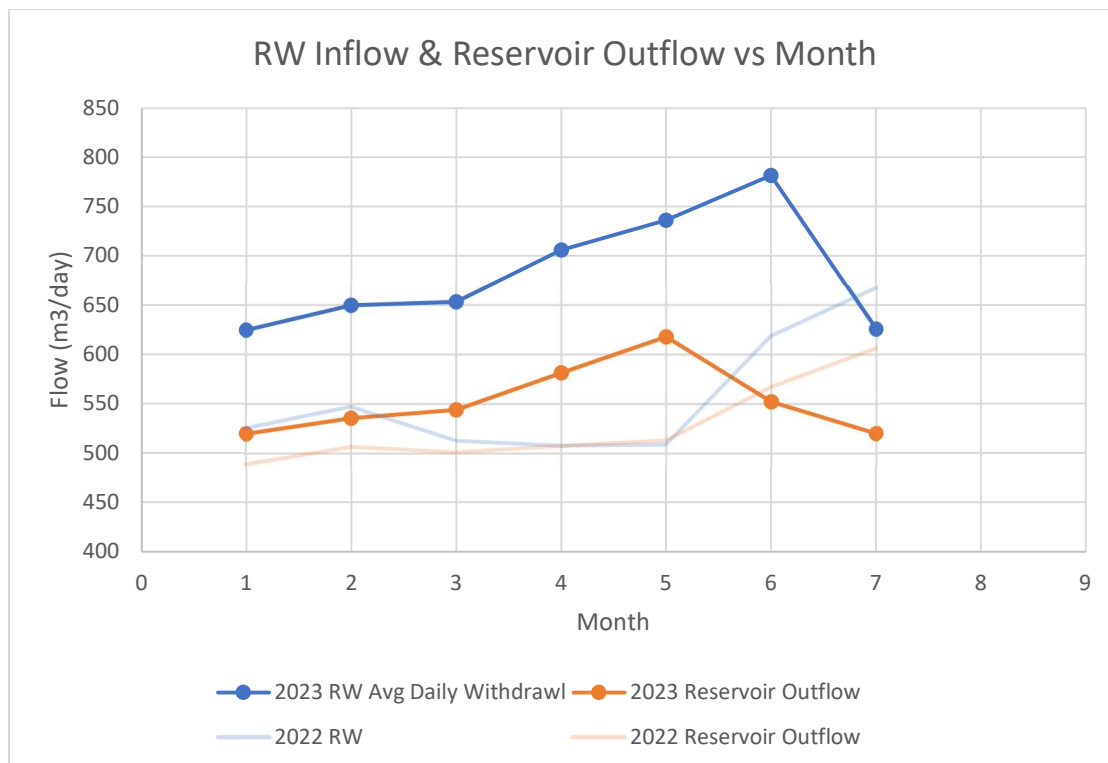


Table 2 displays the average daily flow volumes for both Raw Water and Distribution (Reservoir Outflow)

Scada trends and historical data are used daily to monitor the treatment facility and distribution system. This is a key component when troubleshooting issues within the treatment facility, and for monitoring instantaneous and daily flows in the distribution system.

2023 Leak Detection Follow Up

Once the repairs have been completed to the Northern Sun Building a follow up visit can be booked with H2O to confirm the repairs made are satisfactory and to identify any additional leaks.

Auto Flusher program

In July 2022 an Auto flush unit was installed at 922 Main Street (a dead-ended water main), to help maintain chlorine residual and water quality and eliminate the need to manually flush the fire hydrant regularly. A second Auto Flusher is to be installed at the dead-end on Edgewater Street for the same purpose with the ability to control flow and to eliminate the continuously running flush line.

Another problem area required a residential auto flusher to be installed in a customer building at 647 Main St, this eliminated a continuously running flush line and reduces the need to flush the Fairmont and Main St. hydrant for water quality and chlorine residual.

Installation of auto flushers has reduced non-revenue water as less water is lost as a result of system operations.

Delivery of a portable auto flushing unit is expected in August, this will allow staff to perform routine flushing or a sequence of test flushing in problematic areas, helping to diagnose and resolve issues.



600 SERIES

Financial Analysis:

Leak detection activities, equipment and contracted services are already reflected in the water utility's annual budget. The portable auto flusher cost \$3916+HST.

Conservatively estimated operational savings from reduction in water loss so far in 2023-24 amount to more than \$8,000/year.

Climate Analysis:

Reduction in non-revenue water decreases the utility's energy consumption, resulting in some reduction in corporate GHG emissions for the utility.

Strategic Plan:**1.1. Improve Performance of Town-Owned Utilities**

- Complete water and wastewater system diagnostics

Recommendation:

It is recommended,

THAT Council accept this report for information.

Attached for Council Review:

None

Respectfully Submitted,

Dylan Heide
Town of Mahone Bay CAO



Town of Mahone Bay

Staff Report

RE: 2021 Water System Audit Follow-up

July 28th, 2022

General Overview:

This staff report is intended to present Council with information concerning the 2021 Water System Audit and how the recommendations of this audit have been considered in the development of the draft 2022-23 budget.

Background:

At Council's regular meeting on July 13th, 2021 the following motion was passed:

"THAT Council direct staff to engage Xylem Inc. to perform the works described in the Identification and Reduction of Non-Revenue Water Proposal."

A staff report on the results of the water system loss audit was presented to Council on November 25th, 2021. This prior staff report – and the consultant's report it was presenting – are attached as Appendix A to this report.

On the basis of the staff report Council passed the following motion at the November 25th meeting:

"THAT Council direct staff to provide a staff report highlighting the recommendations of the water system audit for which additional budget allocations would be required for implementation, ahead of the 2022-23 annual budget process."

This is that report.

Analysis:

As noted in the prior report many of the recommendations of the consultant's report can be implemented by staff within existing budget allocations. In development of the 2022-23 budget the following key recommendations were considered:

- Additional meter at treatment plant recommended to provide additional operator information to be used in annual water system loss audit procedure.
 - Included in 2022-23 capital budget (\$3,000 allocation).

- Recommendation to annually test key meters (flowmeters on raw water system and distribution system) for accuracy.
 - Annual testing now being carried out (within existing budget allocations).
- Testing of customer meters for accuracy across a range of ages recommended (mechanical meters will under-register over time).
 - Testing now being carried out (within existing budget allocations).
- Recommendation to collect additional information on customer service lines and meter location, and extrapolate for the whole system, to arrive a more accurate length.
 - To be undertaken by Town staff (within existing budget allocations).
- Recommendation to implement a system to ensure additions and subtractions to the mains inventory are completed.
 - Implementation of new work order system – which will incorporate this feature – included in 2022-23 operating budget (new software licenses).
- Temporary installation of pressure data loggers in the distribution system recommended to obtain additional operator information.
 - Staff are exploring options for temporary installation of pressure data loggers on an annual basis (within existing budget allocations).
- Recommended installation of auto flushers at 918 Main Street and 77 Edgewater Road.
 - Included in 2022-23 capital budget (\$13,000 allocation); Main Street unit recently installed.
- It was recommended that Town staff continue to complete the AWWA water audit process annually utilizing the latest AWWA software.
 - Cognizant of turnover, staff have worked with the consultant who undertook the water system audit to ensure the improved process put in place in 2021 remains in place going forward.
- Finally it was recommended that staff continue to locate and repair potential leaks found in step testing.
 - Staff continue to work to locate leaks to be repaired. Repairs located on private property are the responsibility of the property owner to address.

Financial Analysis:

Key allocations in the 2022-23 Water Utility Budget include \$10,000 for Distribution Mains and \$4,000 for Services, along with \$3,000 for a new flow meter and \$13,000 for two auto flushers.

Climate Analysis:

Reducing water system losses reduces the energy consumed in treating and distributing water, which reduces the Town's carbon footprint. As per page 24 of the consultant's report (attached), targeted reduction in water system losses could reduce GHG emissions resulting from water treatment by as much as 22.6 Tonnes of CO2 per year (of an estimated 61.7 Tonnes attributable to the Town's water treatment).

Strategic Plan:**1.1. Improve Performance of Town-Owned Utilities**

- Reduce water loss, increase flow capacity, reduce service disruptions, and increase demand.

Strategic Actions

- Complete water and wastewater system diagnostics

Recommendation:

It is recommended,

THAT Council accept this report for information.

Attached for Council Review:

- Staff Report – Water System Loss Audit, Nov 25th, 2021 with Appendix

Respectfully Submitted,



Dylan Heide
Town of Mahone Bay CAO

Appendix A



Town of Mahone Bay

Staff Report

RE: Water System Loss Audit

November 25th, 2021

General Overview:

The purpose of this report is to present Council with the findings of the recent audit conducted to quantify losses in the Town's water system.

Background:

At Council's regular meeting on July 13th, 2021 the following motion was passed:

"THAT Council direct staff to engage Xylem Inc. to perform the works described in the Identification and Reduction of Non-Revenue Water Proposal."

Analysis:

The Identification and Reduction of Non-Revenue Water report prepared for the Town by Xylem Canada Inc. is attached to this report for Council's consideration. This report represents the results of water system audit activities carried out by Town staff and Xylem Canada Inc. to quantify water loss in the Town's water system. The report's recommendations are summarized on page 26 and staff are now working to implement these recommendations, including addressing leaks detected in the water system.

Financial Analysis:

Reducing water system losses reduces operating costs. As per page 24 of the attached report targeted reduction in water system losses could reduce the water utility's costs by as much as \$34,598 per year.

Many of the recommendations of the attached report can be implemented by staff within existing budget allocations. Recommendations requiring additional budget allocations should be considered in Council's 2022-23 annual budget process.

Climate Analysis:

Reducing water system losses reduces the energy consumed in treating and distributing water, which reduces the Town's carbon footprint. As per page 24 of the attached report, targeted reduction in water system losses could reduce GHG emissions resulting from water treatment by as much as 22.6 Tonnes of CO₂ per year (of an estimated 61.7 Tonnes attributable to the Town's water treatment).

Strategic Plan:

1.1. Improve Performance of Town-Owned Utilities

- **Reduce water loss, increase flow capacity, reduce service disruptions, and increase demand.**

Strategic Actions:

- **Complete water and wastewater system diagnostics**

Recommendation:

It is recommended,

THAT Council direct staff to provide a staff report highlighting the recommendations of the water system audit for which additional budget allocations would be required for implementation, ahead of the 2022-23 annual budget process.

Attached for Council Review:

- Identification and Reduction of Non-Revenue Water Report (Xylem Inc.) with appendices

Respectfully Submitted,



Dylan Heide
Town of Mahone Bay CAO

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water
Final Report

The Town of Mahone Bay is aware of the importance of identifying and reducing Non-Revenue Water (NRW) in its water distribution system. Following a meeting with Town staff, to obtain an initial understanding of the operation of the water supply and distribution system, we developed a methodology to identify and reduce NRW.

We recommended a “Top Down” approach of completing an American Water Works Association (AWWA) water balance, plus a “Bottom Up” approach with night flow analysis, night step testing and leak detection. This double approach is recommended by the AWWA, and is recognised as a Best Management Practice (BMP), for water systems.

Part One of this report represents the water audit, AWWA software results, and recommendations from the “Top Down” approach. **Part Two** of the report covers the “Bottom Up” approach, of night flow analysis, night step testing, along with leak detection and repair. Finally **Part Three** of the report provides a summary of the recommendations from both the “Top Down” and “Bottom Up” approach.

Benefits of Reducing Leakage

For leakage from the water distribution system, this pro-active approach of identifying leaks before they surface, referred to as “unreported leakage”, has significant benefits for Mahone Bay, which include:

- Finding leaks before they surface reduces the time they are leaking, referred to as “run time”
- Leaks can be repaired before they surface, in a planned manner, frequently during normal hours of operation, not as emergency work, often outside normal hours
- Damage to property caused by the leak is reduced or eliminated
- Using the distribution flowmeter at the water plant, the measured night flow can be monitored, and limits set when there is enough leakage to be economically found
- Less leakage, means reduced costs of electricity and chemicals for pumping and treatment, and reduced CO2 emissions to the environment, related to less electricity production

Part One – “Top Down” AWWA Water Audit

1.0 Introduction

The AWWA recommends that a water audit be completed annually, and for Mahone Bay, this was for the full year of 2020. Town staff were involved at every stage of the water audit, working alongside the consulting team, and will now be able to complete the audit in future years.

NRW comprises of three main components, which are as follows:

1. Leakage from the water distribution system, referred to by the AWWA as ***Real Losses***
2. Under-registration of customer water meters, theft, and billing system errors, referred to by the AWWA as ***Apparent Losses***
3. Water use by the utility by operations staff, for typically mains flushing, hydrant flow tests etc. This is referred to by the AWWA as ***Unbilled Authorised Consumption***

In addition, the AWWA, in order to improve the understanding of NRW, and its messaging, has stated that NRW should be assessed in terms of **the three V's**:

- **Volume** – of Real Losses, Apparent Losses and Unbilled Authorised Consumption
- **Value** – in terms of costs to produce and distribute water for the Real Losses and Unbilled Authorised Consumption, plus uncaptured revenue from the Apparent Losses
- **Validity** – establish the quality of data gathered

2.0 Data Gathering Process and Water Audit

The data required for the water audit was provided by the Town staff, and in order to facilitate this process, a questionnaire, which describes all areas of water use was sent to the Town. This questionnaire has been developed by Kingsley Blease over the last 15 years, during the completion of over 50 water audits / balances.

Obtaining data was a series of tasks – as data was received it was recorded in the questionnaire. The updated questionnaire was sent back to the Town, with the areas noted where data was still needed. This process was repeated three times, which is typical for water audit data collection. A copy of the third version of the questionnaire, is included as **Appendix A**.

As data was received, it was entered into a spreadsheet, which has a tab for each type of data gathered – the spreadsheet is attached as **Appendix B**. All the raw gathered data, assumptions made, and calculations completed are shown in each tab. The final aggregate values from each tab were then used to enter into the AWWA software.

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

The water balance was performed using the AWWA water audit software. The current version of the software is 6.0, released by AWWA in December, 2019, and this was used for the audit. A copy of the completed audit for Mahone Bay is included as **Appendix C**. The Interactive Data Grading scoring task was completed as a team, with Dylan Heide, and Meghan Rafferty, working with Kingsley Blease, to review the series of questions on data validity. The best fit answers were selected, which can be reviewed in the Interactive Data Grading tab of the software.

3.0 Summary of Gathered Data

A summary of the gathered data is shown in the following table. This summary is included as the first tab of the spreadsheet in **Appendix B**.

January 1 to December 31, 2020				
Item	Water Balance Item	Volume (m3 per year)	Units	Comments
1	Volume from Own Sources	197,674	m3	
2	Source Meter inaccuracies		m3	Unknown
3	Water Imported	0	m3	
4	Water Exported	0	m3	
5	Billed Metered	86,831	m3	
6	Billed Unmetered	0	m3	
7	Unbilled Metered	0	m3	
8	Unbilled Unmetered	6,455	m3	
9	Unauthorized Consumption	217	m3	Use AWWA default of 0.25%
10	Customer Meter Inaccuracies	2,692	m3	Estimate based on age is 3.1% under-registration
11	Data Handling Errors	217	m3	Use AWWA default of 0.25%
12	Length of Mains	14	km	
13	Number of Services	490	no	
14	Av Length of Customer Service Line	24.3	m	80 ft average
15	Av Operating Pressure	57.0	m	81 psi
16	Total Annual Cost of Operating		\$ / Yr	Not required for AWWA software version 6.0
17	Customer Water Rates	\$3.16	\$/m3	
18	Variable Water Production Cost	\$476.61	\$/ML	

4.0 Review of Data Collected, and Analysis

In order to provide an understanding of the **Volume**, **Value** and **Validity**, of the gathered data, the following review is provided:

4.1 Volume of Water Supplied

The Town of Mahone Bay is supplied from Oakland Lake, and water is pumped into an 8 inch cast iron main, which delivers water to the water treatment plant (WTP). There is a 3 inch magnetic inductive (mag) flowmeter at the raw water pumphouse, and another mag meter (3 inch) at flocculation tanks inlet, in the WTP.

After treatment, water is pumped upto a clear water tank, which then supplies water to the Town. On the outlet main of the clear well, there is a third mag meter, which is 8 inch, and is located inside the WTP. Finally on the 8 inch cast iron distribution line, there is a

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

pressure reduction valve (PRV), which is located close to the WTP. The volume of water supplied to the distribution system in 2020, recorded by this flowmeter, was 197,674 m³. Magnetic inductive flowmeters are the standard for industry water production flowmeters. Generally manufacturers require a minimum of five diameters of straight pipework before the flowmeter, and two after. During the virtual site visits, Meghan Rafferty took measurements of the pipework before and after the meters. It can be seen from the following tables, that all three meters met or exceeded these conditions.

Flowmeter Details - Raw Water Pump House		
<u>Make</u>	<u>ABB Magmaster</u>	
Line Diameter	3	inch
Inlet pipework dia	3	inch
Straight pipe length	22.5	inch
Straight pipe length	7.5	diameters
Outlet pipework dia	3	inch
Straight pipe length	12	inch
Straight pipe length	4	diameters

Flowmeter Details - WTP - Inlet to Floc Tank		
<u>Make</u>	<u>ABB Magmaster</u>	
Line Diameter	3	inch
Inlet pipework dia	3	inch
Straight pipe length	14	inch
Straight pipe length	4.7	diameters
Outlet pipework dia	3	inch
Straight pipe length	12	inch
Straight pipe length	4	diameters

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

Flowmeter Details - WTP - Treated Water		
Make	Rosemount	
Line Diameter	8	inch
Inlet pipework dia	8	inch
Straight pipe length	54.2	inch
Straight pipe length	6.8	diameters
Outlet pipework dia	8	inch
Straight pipe length	23	inch
Straight pipe length	2.9	diameters

It is understood that the 3 inch mag meter on the inlet of the flocculation tank is not functioning correctly, and may be replaced. For the flowmeter on the outlet of the clear well, which supplies water along the distribution line to Town, generally key meters like this are tested for accuracy, so that will be a recommendation included in this report.

The normal test, is an electronic test, which can involve checking both the sensor (or flow tube in the watermain), and the transmitter (which converts the 4 – 20 mA signal to flow, and sends that data to SCADA). In addition, the AWWA recommends that insitu testing can also be performed. Both these methods will be reviewed in the recommendation section.

In order to arrive at the **Value** of water produced, the variable cost was calculated. Variable costs include the electricity used to pump and treat the water, and also includes the chemical costs. For Mahone Bay there are two main pumping stations, at Oakland Lake raw water pumphouse, and the WTP in Town.

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

These costs were gathered, and when divided by the volume of water produced, give the cost per unit volume, both in m3 and megalitres. The following table shows these costs, along with how the variable cost was calculated:

2020 Variable Cost		
Cost		
Electricity - Raw Water Pumphouse	\$17,872.87	
Electricity - Water Treatment Plant	\$27,429.17	
Chemicals	\$48,910.89	
Total Cost	\$94,212.93	
Volume Supplied	197,674	m3
	197.674	ML
Cost Per m3	\$0.477	
Cost Per ML	\$476.61	

4.2 Customer Meter Volumes

The Town's customer meters have both imperial gallon registers, and metric m3 registers. There are several commercial customer meter sizes, with both imperial and metric registers. Similarly, the residential customer meters have both imperial and metric registers.

There are three routes for meter reading. One of the routes is read and billed each month, for the larger commercial sites. The other two routes are read and billed bi-monthly. The following table, which was provided by the Town, during the data gathering process, summarises these customer meters:

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

Description
5/8" Imperial Bi-monthly Com.
1" Imperial Bi-monthly Com.
1 1/2" Imperial Bi-monthly Com.
5/8" Imperial Monthly Com.
3/4" Imperial Monthly Com.
1 1/2" Imperial Monthly Com.
2" Imperial Monthly Com.
5/8" Metric Bi-monthly Com.
1" Metric Bi-Monthly Com.
1 1/2" Metric Bi-monthly Com.
5/8" Metric Monthly Com.
1 1/2" Metric Monthly Com.
2" Metric Monthly Com.
Special Water Meter 1 1/2" Metric Monthly
5/8" Imperial Bi-monthly Res.
5/8" Metric Bi-monthly Res.

Mahone Bay bills customers for water based on the volume used, along with a base charge. In 2020, there were two periods in that year, with different water volumetric rates – January to March, and April to December. Wastewater charges are included in the Tax Rate.

The weighted **Value** customer rates, for water only in 2020, are shown in the following table:

Customer Water Rates		
Period	Water Only	
	<u>1,000 gallons</u>	<u>m3</u>
January to March	\$15.26	\$3.36
April to December	\$14.08	\$3.10
Average	\$14.38	\$3.16

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4.3 Unbilled Authorised Volumes

In Mahone Bay there are two bleeders, which are locations where water flows continuously to maintain water quality. These two bleeders contribute the major part of unbilled authorised consumption. There is also water used at the Spring and Fall flushing, as well as other flushing throughout the year. In addition, water is used as part of watermain repairs, and in November 2020, the clear wells were cleaned. The following table shows the volumes of all these uses:

Unbilled Authorised Consumption	
Description	Volume (m3)
Seasonal flushing - Spring (unidirectional)	360.6
Seasonal flushing - Fall (unidirectional)	403.8
Flushing as needed	504.0
Fire flow tests	0.0
Watermain repairs and subsequent flushing	349.0
Clear well cleaning, in November, 2020	302.0
Bleeders - 2 operating continuously	4,300.0
Fire Department 2 inch fill line	0.0
Fire Department - no fills from hydrants	0.0
Fire Department - pumper trucks, vac trucks, sweepers, construction totes	236.0
Total	6,455

4.4 Other Data

The AWWA recommends that the balance includes small volumes of water for data handling errors in the reading and billing systems, at a value of 0.25% of billed volumes, so that has been included. In addition, AWWA also recommends including 0.25% of water supplied volumes for unauthorized consumption, or theft.

The other collected data is for the physical water distribution system. This included the km of mains, number of services, number of blow offs, and water pressures in the distribution system.

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5.0 AWWA Software Run

The gathered data was entered into the AWWA – WLCC (American Water Works Association – Water Loss Control Committee) software program (version 6.0), which is included as **Appendix C**. All volumes for this program are entered as Megalitres (ML) - one thousand cubic metres, and the data is for a full year – 2020 for this audit.

The Data Validity Score is 46 (out of 100), which puts Mahone Bay at the top of Tier II (26 to 50 range). This score represents the quality of data gathered in the water audit. The software Worksheet provides three areas to improve the audit reliability (increased score), which can be most improved by the following three areas:

1. Volume from own sources
2. Billed metered volume
3. Customer meter inaccuracies

The three the key values that have a financial effect on the operation of municipal water systems are the cost of Real Losses (leakage), and the loss in revenue from Apparent Losses (customer meter under-registration, unauthorized consumption, billing etc.), and the cost of Unbilled Authorised consumption (mainly operations use). For the Town of Mahone Bay, the **Volumes** and **Values** from the AWWA software analysis are shown in the following table:

Non-Revenue Water Components Summary				
	Volume	Value	Variable	Customer
			Cost	Water Rates
	<u>ML/Year</u>	<u>\$/Year</u>	<u>\$/m3</u>	<u>\$/m3</u>
Real Losses	101.2	\$48,221	\$0.477	
Apparent Losses	3.2	\$10,150		\$3.160
Unbilled Authorised Consumption	6.5	\$3,077	\$0.477	
Non-Revenue Water Totals	110.9	\$61,448		

The AWWA software produces various Key Performance Indicators (KPIs), which are shown in the Dashboard tab of the software (**Appendix C**). The AWWA’s Water Loss Control Committee (WLCC) recommended a change in the KPIs, and these changes are included in the new version 6.0, of the water audit software. Historically utilities used “unaccounted for water” (UFW) percentage, which was imprecise. Version 5.0, of the AWWA free water audit software did include effective KPIs, but also had two percentage indicators, which were considered a weakness by the AWWA WLCC.

Typically two main KPIs historically have been used. The first, which is not produced by version 6.0 of the AWWA software, is **Volume** of NRW, as a percentage of water supplied. However, in order to compare to previous water audits, using version 5.0, where this value

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is calculated, it is shown in the following table. For Mahone Bay the percentage of NRW is 56.1%.

Percentage of Non-Revenue Water		
Volume of Water Supplied	197.7	ML
Volume of Non-Revenue Water	110.9	ML
Percentage of Non-Revenue Water	56.1%	

The second KPI regularly used is Infrastructure Leakage Index (ILI), and this is still produced by the AWWA software, version 6.0. For Mahone Bay the ILI is 5.2. ILI is the ratio of Current Annual Real Losses (CARL) to Unavoidable Annual Real Losses (UARL). In simple terms, for any water system, there are water losses that are not economic to find and repair, such as very small leaks and weeps, and this is UARL.

There are two new KPI's, which are:

- Total Loss Cost Rate expressed in *\$/service connection/year*, with one expression for Real Losses (leakage), and one for Apparent Losses. This combines **Volume** with **Value**, in one KPI – for Mahone Bay this is *\$119.36 per connection per year*. This is divided between Real Loss Cost Rate of \$98.64, and Apparent Loss Cost Rate of \$20.71, per connection per year.
- Normalised Water Losses, expressed in *volume/service connection/day* – for Mahone Bay this is *585 litres per connection per day*. This is divided between Unit Real Losses of 567 litres, and Unit Apparent Losses of 18 litres, per connection per day. To put this volume in context, households could be using between 700 and 1,000 litres per day

The Dashboard provides percentiles (%iles) from the AWWA WLCC data base of level 1 validated water audits, across North America. With these shown, the auditor can see how their utility results compare to other utility audits. For the Town of Mahone Bay, it can be seen by inspection of the Dashboard, that for both the Total Loss Cost Rate, and Normalised Water Losses (Unit Total Losses shown on the dashboard), they are at the 90th percentile, demonstrating that NRW is high.

The breakdown into Real and Apparent Losses, shows that it is the Real Losses that are at the 90th percentile, while Apparent Losses are in the Median to 75th percentile.

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6.0 Environmental Impacts of Non-Revenue Water

The environmental cost of NRW is related to the electricity used to pump the raw water from Oakland Lake, and the electricity used to treat that water, and pump it up to the Clear Well. Production of this electricity releases carbon dioxide (CO₂) to the atmosphere, with the associated negative environmental impact.

Water identified as Real Losses, and Unbilled Authorised Consumption, are the two components of NRW that cause CO₂ emissions, as well as being a financial burden to Mahone Bay, from the cost of the electricity, and chemicals used for treatment. The other component of NRW, Apparent Losses, does not have an environmental impact, but does have the financial impact of loss in revenue.

Mahone Bay produces some of its own electricity through wind turbines, and is also developing solar power. Electricity is also purchased from New Brunswick Power (NBP). The Town provided the grid intensity for Mahone Bay, which is 0.187 kg of CO₂ per kWh. With this value, along with the volumes of water pumped, and the number of kWh used, the emission of CO₂ was calculated. The calculation for this average 0.187 kg of CO₂ is:

Mahone Bay Grid Intensity				
	New Brunswick Power	Mahone Bay Electric	Area Renewable Fraction	Mahone Bay Average
kgCO ₂ / kWh	0.300	0.025	41%	0.187

The following two tables provide the results of this analysis, which is for the full year of 2020, to match the water audit period. The first table shows the values for the total volume of water pumped and treated in 2020, and the second table give the values for just the two NRW components of Real Losses and Unbilled Authorised consumption:

Environmental Impacts of Water Production - Full Year 2020		
Raw Water Pumping, Water Treatment and Pumping to Clear Wells		
Volume of Water Produced	197,674	m ³
kWh - Raw Water pumping and Water Treatment Plant	329,835	kWh
kWh per m ³	1.669	m ³
kg of CO ₂ per kWh	0.187	kg
kg of CO₂ per m³	0.312	kg
TOTAL kg of CO₂ for 2020	61,679	kg Per Year
	62	Tonne Per Year

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Environmental Impacts of Non-Revenue Water - Full Year 2020		
Non-Revenue Water (NRW) - Real Losses and Unbilled Authorised Consumption		
Volume of Water - Real Losses	101,200	m3
Volume of Water - Unbilled Authorised Consumption	6,500	m3
Total Volume of NRW Water	107,700	m3
kg of CO2 per m3	0.312	kg
TOTAL kg of CO2 for NRW for 2020	33,605	kg Per Year
	34	Tonne Per Year

To put these values into context, Mahone Bay’s Greenhouse Gas (GHG) Reduction Action Plan (February, 2021), states that the 2016 emissions inventory for the Town were as follows:

2016 Emissions Inventory		
Electricity	8,441	CO2 Tonnes
Transportation	4,348	CO2 Tonnes
Buildings	2,232	CO2 Tonnes
Solid Waste	418	CO2 Tonnes
Water and Wastewater	72	CO2 Tonnes

Although the water component is relatively small, the GHG reduction plan has set the goals are for a “45% reduction in emissions below the 2010 levels by 2030, and a further vision to be carbon neutral by 2050”.

For further context, a typical car emits about 4.6 Tonnes of CO2 per year. Also in 2016, Mahone Bay’s emissions per capita equated to 15 Tonnes of CO2

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7.0 Recommendations

These recommendations are based on the “Top Down” water audit of the Mahone Bay water supply and distribution system. In parallel with this water audit, the “Bottom Up” approach of night flow analysis and step testing was recently completed, and is reported on in Part 2 of this report.

7.1 Water Supplied Volume

The AWWA recommends that flowmeters that record the volumes of water supplied into distribution systems be checked for accuracy, and the most common frequency of testing in North America is annually. Mahone Bay has three flowmeters, two on the raw water system, and one that records flow to the Town’s distribution system. All three of these meters are magnetic inductive, or mag meters, and are the water industry standard.

The Town does complete a daily comparison of the recorded raw water and treated water volumes, and they are typically within 2%, which provides a level of confidence. However, it is still recommended that the treated water, 8 inch Rosemount mag meter, be checked every year.

The standard test for mag meters, is verification of the electronics of both the sensor (or flow tube in the watermain), and the transmitter (which converts the 4 – 20 mA signal to flow, and sends that data to SCADA). In addition, the AWWA recommends that insitu testing can also be performed. There are three methods for insitu testing flowmeters, which are either using Portable Meter Test Apparatus (for smaller meters), Inline Flow Comparison, or Reservoir Draw Down.

Because the clear well feeds directly into the treated water flowmeter, a Reservoir Draw Down test should be considered. AWWA Manual M33, Flowmeters in Water Supply, Third Edition 2018, states that accuracy is +/- 3%.

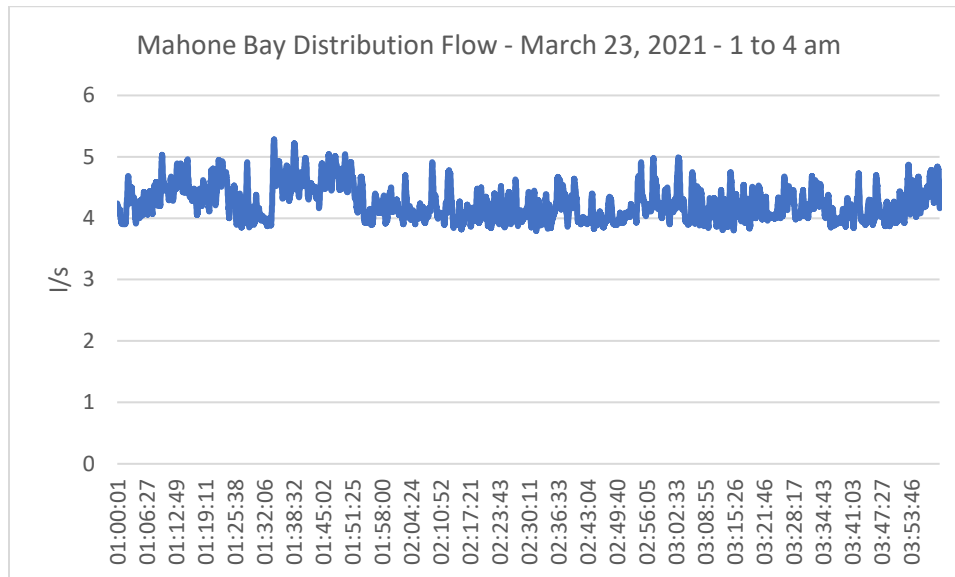
The level of effort, and costs for both electronic and insitu testing should be established, and then the most practical and cost beneficial test be completed.

7.2 Real Losses – Leakage from the Water Distribution System

The water audit has confirmed the high levels of Real Losses in Mahone Bay, which the Town were aware of. In order to identify and reduce these losses, the “Bottom Up” approach was started at the same time as the water audit.

SCADA data has been provided by the Town, for the period 1.00am to 4.00am, during the 7 days March 23 to 29, 2021. This was before any night time outside irrigation should have commenced, and the following graph shows a representative night’s flow:

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The average night flow of the full 7 day period is shown in the following table:

Mahone Bay Distribution Flow - 1 to 4 am	
Date	Average Night Flow (l/s)
March 23 2021	4.25
March 24 2021	4.33
March 25 2021	4.25
March 26 2021	4.24
March 27 2021	4.30
March 28 2021	4.25
March 29 2021	4.31
7 day average	4.28

The measured flows were compared to what would be “expected” at night, which is referred to as Legitimate Night Flow, or Background Leakage, and this was estimated at 1.03 l/s. The characteristics of the water distribution system, and number of people per household, are used in the calculation. This is very much a theoretical value, and can vary by +/- 20% or more – it just gives another indication, of potential leakage in Mahone Bay.

Furthermore, working with operations staff, step tests were designed, to “home in” on sections of Mahone Bay’s water distribution system where there is leakage. The site testing took place when outside irrigation was over, starting at 10.30 pm on Monday October 25, through to 5.00 am on Tuesday October 26, 2021. This will be described in the Part Two of the report.

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7.3 Apparent Losses – Customer Meter and Billing System

There are 495 customer water meters, and 193 are over 22 years old. The distribution of meters by date installed and age, is shown in the following table:

Customer Water Meters		
Years Installed	Number of Meters	Age - Years
1999	193	22
2000 to 2004	27	17 to 21
2005 to 2009	77	12 to 16
2010 to 2014	94	7 to 11
2015 to 2021	102	1 to 6
No service date	2	
Total	495	

For the water audit, an estimate was made of the accuracy of these customer meters. As they are mostly mechanical meters, as a group over time, they will under-register, so losing revenue for the Town. The estimated under-registration was 3.1%. It is recommended that a number of meters be tested for accuracy, across the range of ages. As shown in the following table, a testing program of between 81 and 59 meters will provide an error of between 10% and 12%, with a 95% confidence level.

Simple Random Sample											
With a 95% confidence level and 50% estimate of population proportion											
Population size – error margin	Unlimited	1,000,000	500,000	250,000	100,000	10,000	5,000	3,500	1,000	500	100
1%	9,604	9,513	9,423	9,249	8,762	4,899	3,288	2,565	906	475	99
2%	2,401	2,395	2,390	2,378	2,345	1,936	1,622	11,424	706	414	96
3%	1,067	1,066	1,065	1,063	1,056	964	879	818	516	340	91
4%	600	600	600	599	597	566	536	512	375	273	86
5%	384	384	384	384	383	370	357	346	278	217	79
6%	267	267	267	266	266	260	253	248	211	174	73
7%	196	196	196	196	196	192	189	186	164	141	66
8%	150	150	150	150	150	148	146	144	130	115	60
9%	119	119	119	119	118	117	116	115	106	96	54
10%	96	96	96	96	96	95	94	93	88	81	49
11%	79	79	79	79	79	79	78	78	74	68	44
12%	67	67	67	67	67	66	66	65	63	59	40

Reference: Chakrapani: C&K Deal, Market Research: Methods and Canadian Practice, 1992

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When the customer meters are removed for testing, a new meter should be installed. As part of this testing program, it is recommended that Mahone Bay include an assessment of the cost and benefits of a radio reading system, to eventually replace the manual touch pad reading.

A radio module would be included with the meter register, and there are generally three ways to obtain the readings. Automatic Meter Reading (AMR) is reading by either a walk-by, or drive-by system. For Advanced Metering Infrastructure (AMI), readings are “collected”, from a receiver, or multiple receivers, located on a tower. There are additional benefits for both customers and utility customer services departments, beyond increases in revenues, particularly from AMI systems.

7.4 Unbilled Authorised Consumption

The unbilled authorized consumption, which is primarily operations water use, has been well document, and measured. The only area for improvement, which has already been planned for 2021, is to install auto flushers on the two bleeders, at 918 Main Street and 77 Edgewater Road. These two bleeders are by far the largest volumes of operational water use, and this should decrease significantly after the auto flushers are installed.

7.5 Other Recommendations to Improve Data Quality

The AWWA software interactive data grading shows the areas for improvement in data quality, many of which have been covered in the recommendation above. Other areas for data quality improvement, highlighted by the software are:

Average Length of Customer Service

Take a sample of the location of the customer service lines and meter location, and extrapolate for the whole system, to arrive a more accurate length.

Length of mains

Complete additions and subtractions to the mains inventory at least annually.

Average Operating Pressure

Install temporary pressure data loggers in the distribution system, to obtain 7 day pressure profiles

7.6 Future Water Audits

It is recommended that the Town continue to complete the AWWA water audit annually, as they have been for the years prior to this audit. The water audit process introduced to Town staff during this project, will improve the quality of the audit, as it is completed by staff in future years. The data gathering spreadsheet included with this report, will be very beneficial, as it can be used to update data in future years.

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It is further recommended that the new version 6.0 of the AWWA software be used, as it has been improved considerably, when compared to earlier versions.

7.7 Additional Recommendation

It is understood that consideration is being given to replacing the existing 8 inch cast iron watermain from the WTP, and also moving the pressure reduction valve (PRV) down the hill to the junction with main street. In order to facilitate the decision to move the PRV, the following is recommended:

Install four temporary pressure data loggers, as follows

- Inlet to existing PRV
- Outlet to existing PRV
- Lowest pressure location in the distribution system – top of Long Hill Road
- Highest pressure location in the distribution system – Main Street, probably near bleeder at 918

Install the pressure loggers for at least 7 days, or longer, and this will help to understand how the existing PRV is operating, and show the diurnal pressure profile at the inlet and outlet of the PRV. In addition, the diurnal pressure profiles at the lowest and highest pressure locations, will enable hydraulic gradients to be gathered, at a range of operating flows, from the lowest, with least friction loss, to the highest, with friction loss high.

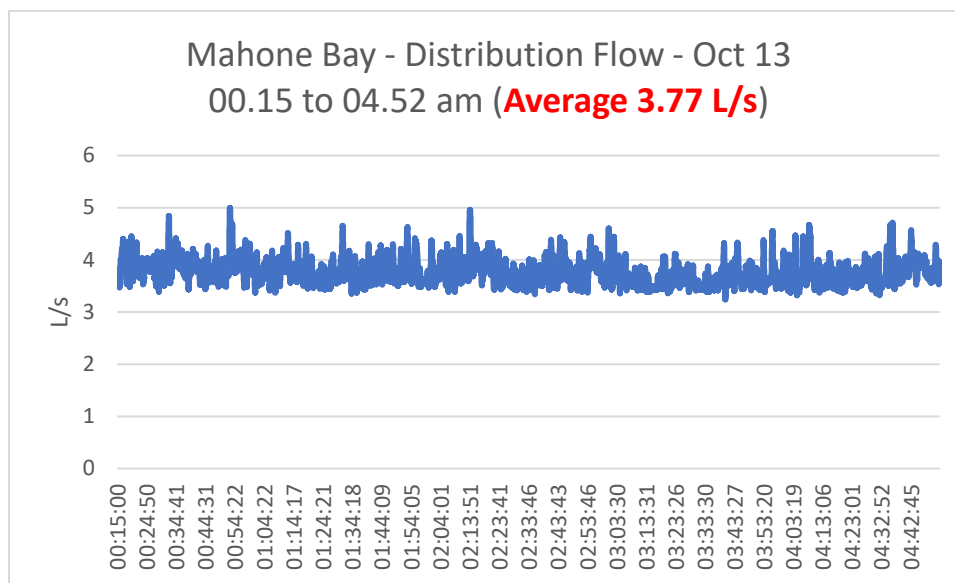
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Part Two – “Bottom Up” Night Flow Analysis, Night Step Testing and Leak Detection

8.0 Measured Night Flow

During the water audit, SCADA data of the distribution flows was analysed for the 7 day period March 23 to 29, 2021, as described in section 7.2 of this report. The average measured night flow between 1.00 and 4.00 am, over this 7 days was 4.28 l/s. When compared to what would be “expected” at night, which is referred to as Legitimate Night Flow, or Background Leakage, estimated at 1.03 l/s, it indicated that night flow was high, and that there was leakage in the water distribution system.

In order to obtain a more recent picture of the distribution flows, before the night step testing, SCADA data was analysed for October 12 to 13, 2021. The following graph shows that although the average flow had reduced to 3.77 l/s, this was still high.



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9.0 Design of Night Step Testing

Step testing involves closing smaller sections of the water distribution system, at night, typically between midnight and 5.00 am, and these isolations are brief, for 2 to 3 minutes. Operations staff were familiar with the condition of the valves on the water distribution system, through their normal operations activities, and the unidirectional flushing program, which is completed in the Spring and Fall every year. They were therefore able to provide details of the valves they had confidence in, and those that should be avoided.

Before smaller sections of the water distribution system were isolated, a step was designed to divided the Town into two large sections, and provide a higher level view first - this was step A. Then smaller steps 1 to 9 were designed, which covered all the Town, except for a short section of 8 inch cast iron watermain from the treatment plant, along Main Street to Clearway Street.

A copy of the steps is included as Appendix D, which also shows the valves to be operated, that were numbered from V1 to V15

A valving log was next developed, which detailed the valves to be operated in each step, so that each valve closing and opening was recorded. This ensures that the steps are completed in a controlled manner, and that no valves are left shut at the end of the night. In order to minimize the number of valve operation, some valves were left shut in a step, which were needed to be closed in subsequent steps. This ensured that the steps could be completed efficiently, in an organized manner.

During the night step testing, a large drop in flow was found in step 6, so later in the night, two additional small steps, 6a and 6b, were performed, in an effort to further identify the area of potential leakage.

The step log is included as Appendix E, with the record of the times of the valve operation on October 12 and 13, 2021 shown.

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10.0 Results of Night Step Testing

The procedure for step testing was that before the step, the average flow was observed at the distribution flowmeter at the water plant, and when the last valve was closed at the step, and drop in flow noted. After the step, the valve was only opened a quarter of a turn, and listened to see if there was any noise. At the same moment, an increase in flow was noted at the distribution flowmeter, to see if there was any large, or “charge up” flow.

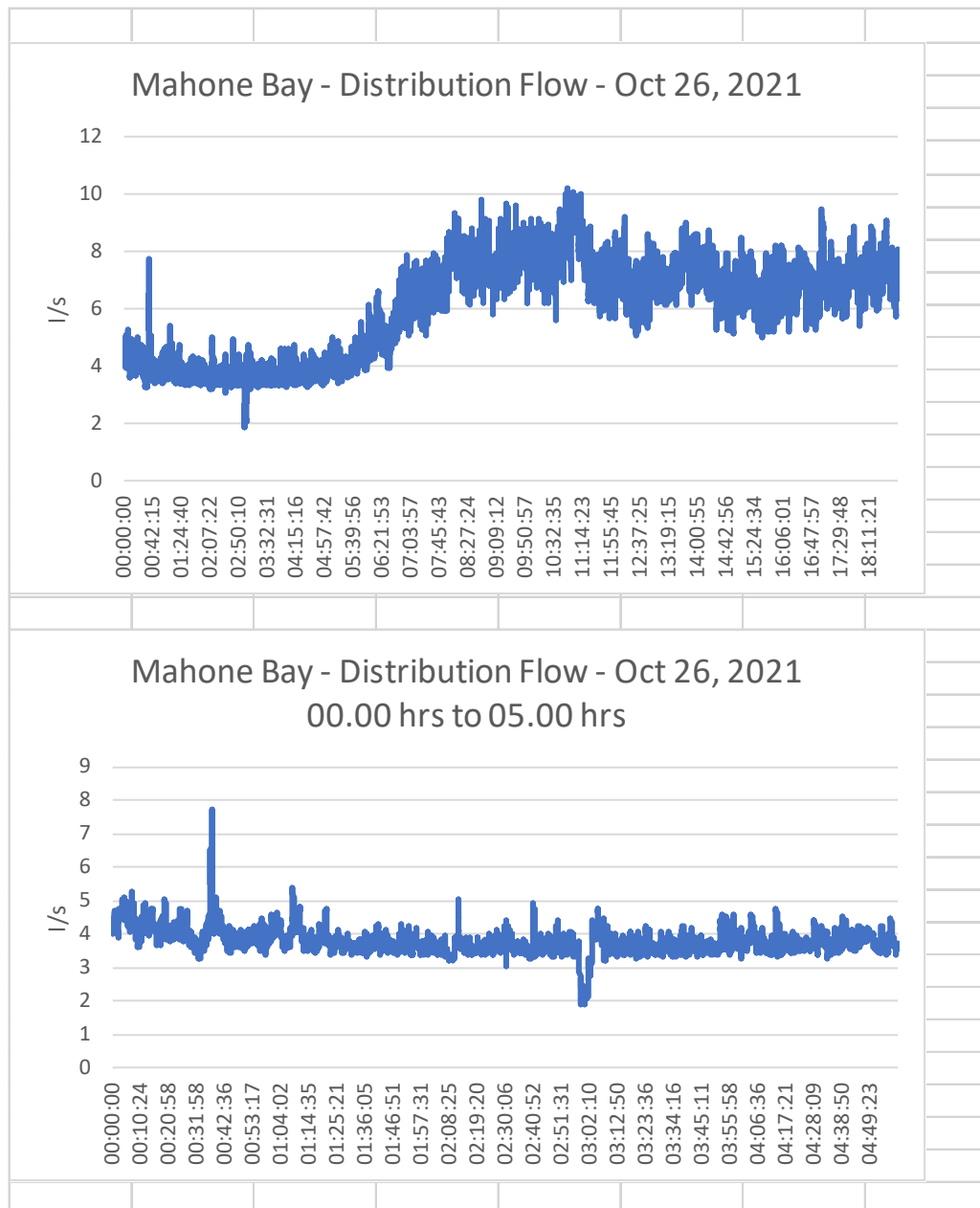
The Mahone Bay SCADA system records data every second, so after the night step testing, this data was analysed, and compared to the manual reading taken at the water plant. The spreadsheet showing this comparison is included as Appendix F, where it can be seen that the manual readings and SCADA data match very closely. For step 6, because of the large drop in flow, and loud noise when the valve was opened a quarter of a turn, the valve was left in that position for several minutes, and then only opened another eighth of a turn. This was done to avoid any surge in pressure in the watermain, that could have caused additional leakage. The time to fully charge up the main was 7 minutes.

A summary of the drop in flows at the steps is shown below. Generally the measured distribution flow before each step was in the 3.6 to 3.8 l/s range. It can be observed that as well as the large drop in flow of 1.4 l/s in step 6, there could be other potential leakage at steps 1 and 4. Based on the step testing results, the Town arranged for Graham MacDonald of GMAC Water Limited, to complete acoustic leak detection in step 6, and this was completed the night of November 4 to 5, 2021.

Mahone Bay Steps - Tuesday October 26, 2021		
<u>Step</u>	<u>Time</u>	<u>Step Flow (L/s)</u>
A	0.33 to 0.36 am	0
1	1.04 to 1.07 am	0.4
2	1.25 to 1.28 am	0
3	1.48 to 1.51 am	0
4	2.07 to 2.10 am	0.2
5	2.38 to 2.41 am	0.1
6	2.58 to 3.01 am	1.4
7	3.19 to 3.22 am	0.1
8	3.29 to 3.32 am	0
9	3.44 to 3.47 am	0.1
6a	4.11 to 4.14 am	0
6b	4.22 to 4.25 am	0

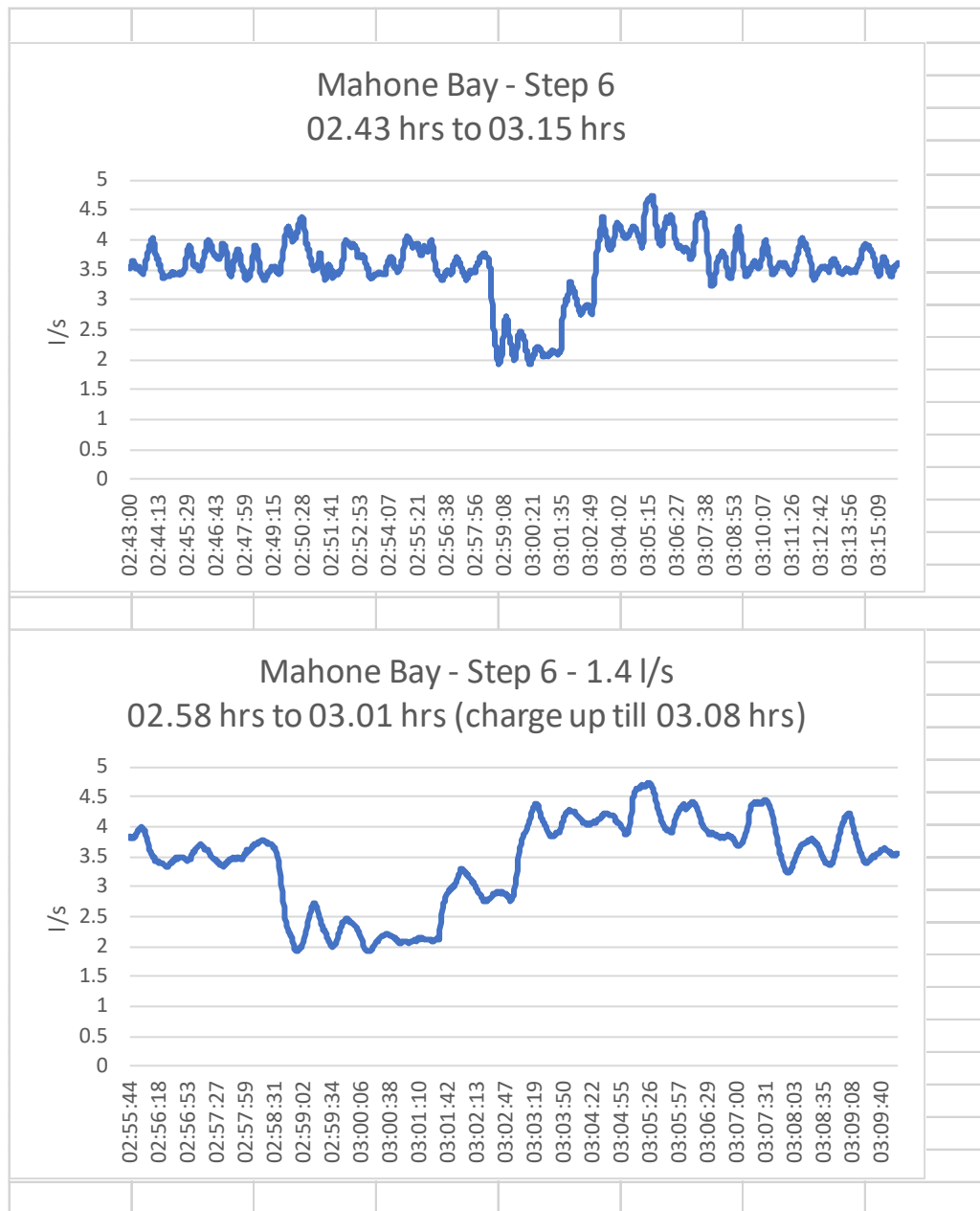
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A number of graphs of the distribution flow on October 26, 2021 were next prepared. The top graph shows the 18 hour period from midnight on October 25, to 18.11 hrs on October 26. The bottom graph the step period between 00.00 hrs and 05.00 hrs. The charge up after step A can be seen 00.36 hrs, and the large drop in flow at step 6 at 02.58 hrs can be seen.



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The following two graphs show step 6. The top graph shows the period before the step, and the period to fully charge up the system. The bottom graph shows the step in more detail, with the start of the step at 02.58 hrs, opening the valve a quarter of a turn at 03.01 hrs, opening another eight of a turn at 03.04 hrs, and finally returning the flow to pre step level at 03.08 hrs.



11.0 Leak Detection In Steps with Potential Leakage

Three potential leaks were identified by Graham Macdonald of GMAC Water Limited, during the night of November 4 to 5, 2021, as follows:

Significant service leak at Northern Sun, Gallery and Gifts, Edgewater Street

The leak is likely located between the curb stop and the Northern Sun building. The curb stop was not closed to confirm if the leak was on the customer side service, or the Town side. This was because the curb stop was in poor condition, and may have failed during operation. The Town must decide if the best course of action is to have the service repaired, or have the service replaced because of its location at the busy road junction in Town.

Regardless, the section of watermain where the leak is located needs to be established, by closing the curb stop, and the Town should be prepared to replace the curb stop if needed. Once closed, if the service is to be repaired, Graham Macdonald should be requested to return, and perform correlation to pinpoint the location of the leak.

Service leak at 210 Main Street

Further investigation is required, including access to the basement of the property to see if there is noise on the service, and the service could be shut off to determine which side of the curb stop the leak is

Main Street near Clearwater Street

A small leak noise was heard on Main Street, just south of Clearway Street, and the correlation location showed what appeared to be an old excavation, which is believed to be an old leak repair. However, there is a sewer within the area, with considerable flow, so the noise could be from a leak or sewer flow. Further investigation is required, of an exploratory excavation performed.

12.0 Measured Night Flow Targets, and Ongoing Maintenance

As each leak is found and repaired, the flowmeter to the water distribution system, at the water treatment plant, should be used to check the reduction in flow. This procedure should be repeated till the measured night flow reaches the desired target. A summary of the procedure is as follows:

1. Record the night flow to the water distribution system between 1.00 am and 4.00 am
2. Complete night time step testing, to identify the areas of potential leakage
3. Sound the step with potential leaks, and correlate / ground microphone to “pinpoint” the leak, and put a cross on the ground for repair
4. Repair the leak
5. Check the night flow, and if not reached the target, repeat steps 1 to 4

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When the target is met, this is when the leak detection can stop, and is often referred to as the “Exit” level of measured night flow. As the night flow increased, a flow can be set, where leak detection activities begin again, often referred to as the “Entry” level, at which time activities 1 to 4 detailed above commence again.

The current night flows to the water distribution system are in the range of 3.6 to 4.0 l/s. With the potential leakage found during the step testing, and the leak on main street near the water plant, which was not included in the steps, there could be a total of about 2.0 l/s of leakage identified. However, this leakage has still to be found and repaired, and the amount of reduction in night flow confirmed.

The theoretical calculation of Legitimate Night Flow which was calculated as 1.03 l/s. It would therefore seem reasonable and prudent to set progressive targets for night flow, starting with a target of 2.5 l/s, then when achieved, moving to a new target of 2.0 l/s, with the final goal of getting to 1.5 l/s or less.

The following table provides a summary of the benefits to the Town, for these targets. These benefits include reduced volumes of leakage, reduced cost of electricity, and reduced CO2 emissions:

Real Losses - Target Reductions							
	Measured Night Flow	Reduction			Variable Cost Saving Power and Chemicals	Environmental Savings	
	l/s	l/s	m3/day	m3/year	\$ per Year	kg of CO2 per Year	Tonne of CO2 per Year
Current	3.8						
Initial Target	2.5	1.3	112	40,997	\$19,555	12,791	12.8
Second Target	2.0	1.8	156	56,765	\$27,077	17,711	17.7
Final Target	1.5	2.3	199	72,533	\$34,598	22,630	22.6

In terms of the reductions in Non-Revenue Water, and reductions in CO2 emissions, the following tables provides a summary, in relation to these three targets:

Reductions in Total Volumes of Water Supplied in 2020

Reductions - Water Supplied Volumes			
		Reduced Volume	
	m3/year	m3/year	% Reduction
Total Volume of Water Supplied in 2020	197,674		
Real Losses Reduction - Initial Target	40,997	156,677	21%
Real Losses Reduction - Second Target	56,765	140,909	29%
Real Losses Reduction - Final Target	72,533	125,141	37%

The target from Mahone Bay’s Greenhouse Gas (GHG) Reduction Action Plan for reduction in water supplied volumes was a 1% reduction per year by 2050 (Action #13).

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Meeting the targets of real loss reduction will achieve between 21% to 37% of water supplied volumes - well in advance of the Action Plan targets.

Reductions in Non-Revenue Water (Real Losses) – Based on the Three Target Night Flows

Reductions - Non-Revenue Water (Real Loses)			
		Reduced Volume	
	<u>m3/year</u>	<u>m3/year</u>	<u>% Real Losses</u>
Total Volume of Real Losses		101,200	
Real Losses Reduction - Initial Target	40,997	60,203	41%
Real Losses Reduction - Second Target	56,765	44,435	56%
Real Losses Reduction - Final Target	72,533	28,667	72%

Reduction in Greenhouse Gas (GHG) – Based on the Three Target Night Flows

Reductions - Greenhouse Gas (GHG)			
		Reduced Tonnes	
	<u>tonne/year</u>	<u>tonne/year</u>	<u>% Reduction</u>
Total Volume of Water Supplied		61.7	
Real Losses Reduction - Initial Target	12.8	48.9	21%
Real Losses Reduction - Second Target	17.7	44.0	29%
Real Losses Reduction - Final Target	22.6	39.1	37%

Town of Mahone Bay
Identification and Reduction of Non-Revenue Water – Final Report

Part Three – Summary of Recommendations

The table below provides a summary of the recommendations from Parts One and Two of this report. The table is included in the Appendix B, Data Gathering Spreadsheet, at the last tab, for ongoing use and updating by Town staff.

Summary of Recommendations	
Report Section	Recommendation
Part One - "Top Down" Water Audit	
7.1 Water Supplied Volumes	Continue daily comparisons of Raw and Treated Water volumes Complete electronic or insitu testing of flowmeters
7.2 Real Losses - Leakage	Monitor measured treated water night flow Start step testing and leak detection when night flow high
7.3 Apparent Losses - Customer Meters	Complete customer meter accuracy testing Cost benefit of a customer meter radio reading system
7.4 Unbilled Authorised Consumption	Install auto flushers at 918 Main Street and 77 Edgewater Road
7.5 Improve Data Quality	Improve accuracy of average length of customer services, length of watermains, average operating pressure
7.6 Future Water Audits	Town staff continue water audits annually, using the new AWWA software, version 6.0
7.7 Additional Recommendation	Before decide location of Pressure Reduction Valve (PRV), install 7 day pressure data loggers on the distribution system
Part Two - "Bottom Up" Night Flow and Leak Detection	
11.0 Leak Detection in Step Areas (locate leaks and repair)	Significant service leak at Northern Sun Building Service leak at 210 Main Street Potential leak a Main Street, near Clearwater Street
12.0 Measured Night Flow Targets	Locate and repair potential leaks found in step testing Once repaired confirm measured night flow Repeat step 6, and if flows still high, complete leak detection Complete leak detection in steps 1 and 4, which had potential leaks Set targets to maintain leakage at lower levels

Final NRW Report prepared by:
Kingsley Blease, P.Eng., C.Eng.
November 19, 2021

APPENDICES

Town of Mahone Bay Data Gathering Questionnaire

Version 1 – August 11, 2021

Version 2 – August 16, 2021

Version 3 – September 6, 2021

Version 4 – November 4, 2021

Data required for full year – Full year 2020

MAPS OF WATER DISTRIBUTION SYSTEMS

Map has been provided – January, 2008 – updated Feb, 2011 with Long Hill Road new 8 inch PVC main

- Is there an updated map?
- Are there any other records – showing valves and hydrants?

The ESRI system has details of valves, hydrants, km mains etc, - It can produce an Excel export, and Catherine (GIS person) will be asked to provide. Also include details of customer meters

GIS exports re: mains, valves, hydrants attributes in excel spreadsheet. ~14km main; 58 active hydrants; comments from MR in green. Looking at the GIS map of water infrastructure I was able to infer that WV is a water service connection and GV is any main valve (including hydrant secondaries). When looking through attributes on the GIS map, valves I know exist are not captured; in my opinion the total numbers for GV and WV are not an accurate account of totals and locations may be off. I will need to use the existing .pdf as the background template to add additional features (hydrants, valves) for your reference.

OPERATIONS DEPT.

Meghan will provide historical water supplied / customer billed volumes for the last few years

A. Water Supplied Volumes

- Period for full year
- **Period will be defined** by the customer billed data

Flowmeter that records flow to Town - annual calibration certificate, if available –

Calibration not performed, although a clamp on ultrasonic flowmeter was used to check ?? meter

Also provide any maintenance or flowmeter replacement history

There is a flowmeter on the outlet main (to distribution) of the clear well

Is there a flowmeter on the raw water main from Oakland Lake?

Yes, there is a flowmeter at the pumping station at Oakland Lake on the raw water main, and another on the raw water main at the inlet to the water plant. After treatment, water is pumped up to the clear well, and a flowmeter is located on the outlet of the clear well.

All three meters (2 raw, 1 treated) are Magnetic Inductive (Mag) meters

Are there any other flowmeters – in water plant?

B. Non-Revenue Water – Unbilled Authorised

All Unbilled Authorised Volumes Provided by Meghan

1. Flushing of mains and sewers (indicate if data is metered or estimated). Make best estimates of average flow rates and duration, if not metered

There is a seasonal flush (spring and fall) of the whole distribution system, by the unidirectional flushing method – completed overnight. This involves the operation of many valves. Meghan, knows which valves not to use

Meghan records the distribution flowmeter reading before and after each flushing even, and will provide volume details for 2020

There is also flushing, as needed – details to be provided

	MAINS	SEWERS
Avg. # flushed / year		
Avg. flow time		
Avg. flow rate		

2. Water Taken From Hydrants – Fire Flow Tests (indicate how data is tracked)

Yes – Meghan will provide details

- a. What is the average number of flow tests per year?
- b. What is the average duration of these tests?
- c. How many areas are tested / year?
- d. What is the average pressure in the tested areas?
- e. What is the average main diameter, material and age?

3. Water Main Repairs & Subsequent Flushing

2 repairs in 2020 – Meghan to provide

- a. What is the average number of water main repairs done per year?
- b. What is the average diameter of the main?

- c. How long are the mains flushed during and after the repairs?
- d. Are the flushed water mains metered; if so, what is the average volume of water used per repair?

4. Cleaning of Storage Tanks - indicate how data is tracked?

The clear well has one compartment, and was cleaned in November, 2020, while still in operation. Meghan will provide estimated volume of water to waste

	STORAGE TANKS
Avg. # cleaned / year	
Avg. size	
Avg. time to clean	

5. Filling of Water Tankers

No bulk filling stations

- a. For metered stations, what is the annual volume of water used?
- b. For un-metered stations, what is the estimated number of fills per year and average tanker size?
- c. Are customers billed on a flat rate or by volume?

6. Water Used For Street Cleaning (indicate how data is tracked)

None

	WATER USED FOR STREET CLEANING
# of Trucks	
Avg. Volume of Water / Fill	
Avg. # of Truck Fills / Day	
Avg. # of Operation Days / Year	

7. Frost Protection (if applicable – likely not)

None

- a. What is the average duration of use?
- b. What is the average pipe size and material?

8. Building Water For Metered & Un-metered Sites

None

- a. What is the annual volume of water used for metered building sites?
- b. For un-metered building sites, are customers billed on a flat rate or by volume?
- c. Please fill in the following chart with the appropriate information for un-metered building sites – best estimate:

	UN-METERED SITES
Avg. # of Sites / Year	
Avg. # of Connections / Site	
Avg. Size of Supply / Site	
Estimated Avg. Flow / Site	
Estimated Duration / Site	

9. Blow Offs or Bleeders

There are currently two ¾ inch blow off, operating continuously. They will be replaced in the Fall with two Auto Flushers

- a. What is the total number of blow offs / year?
- b. How many blow offs are permanently running, how many are seasonal, and how many are on a timer?
- c. How many of the blow offs are metered?
- d. What is the average pipe diameter?
- e. What is the estimated flow rate and duration time for the blow offs?

10. Unavoidable Annual Real Losses (UARL)

From the hydrant data, Meghan will provide the static pressure ranges (daytime) - Provided

- a. What is the average water pressure during the day and at night?
- b. Provide an estimate on the percentage of leaks reported by customers.

11. Potential For Water Loss Reduction

See table

	MAIN LEAKS	SERVICE LEAKS
Avg. # of Leaks / Year	2	3
Avg. Size of Leak		
Avg. Duration of Leak		

12. Financial Data – Water Supplied

*****To Be Provided*****

To be provided. Include the raw water system, water treatment plant (treatment and pumping)

There are no booster pumps, as distribution is a gravity system

- What is the annual variable cost of water supplied for the full year.
Variable cost is power and chemicals
- Include the high lift pumps at the water treatment plant, and also any booster pumps in the water distribution system

BILLING DEPARTMENT

A. Revenue Water – Billed Authorised – Water Billing Data

Customer meters are read every two months (takes 2 days for each) – half the Town one month, and half the next. Billing is every two months

For the 2020 billed volumes, Meghan to provide the year total billed volumes, plus the billed volumes for Nov, Dec 2019 and Jan, Feb 2021 – for inspection. The date the meters were read in 2019 and 2021 months to be included

For all Customer Accounts

Show any segregation, if by residential, multi-residential or commercial, for example

- Metered volumes for the full year
- What are the customer water and wastewater rates for the selected 12 month period (include fixed charges, water rate per m3, wastewater charge, and any other associated charges)? **Provided**
- Are there any billed un-metered accounts? If so, how many are there, and provide details? **100% metering**

B. Customer Meters

*****To check that meters record in Imperial Gallons (not US)*****

488 services. Meter registers are metric and gallons. Meters are Neptune, and touch pad, plus ???reading system

ESRI system to export in Excel details - List the manufacturer / size / type, *****age (number installed by year).**

- Provide any customer meter accuracy testing information that is available
No meter accuracy testing completed
- Provide any details on maintenance and replacement programs for customer meters.
- Details of meter reading system (direct read, generator remote, touch pad, walk by radio read, drive by radio read, fixed network radio read)

Electrical smart meters are being progressed, so including the water meters will be considered

C. Non Revenue Water – Apparent Losses

1. Theft
 - a. Provide annual water loss estimates for the types of theft listed below.

THEFT TYPE	ESTIMATED ANNUAL VOLUME LOST
Theft From Hydrants	
Not Opening An Account	
Tampering With Meters	
Use of False Names	
Illegal Connections	

FIRE DEPARTMENT

Non-revenue Water – Unbilled Authorised

The Fire Dept. fills up from a 2 inch line at the station. It is understood that they are billed by the Town, so effectively is Non-Revenue Water. Meghan – please check this meter reading is included in the customer billed volumes, and not billed separately – *****Please check that in customer billed volume, as it is metered*****

*****Estimates of the volumes of water for filling pumper trucks, vac trucks, sweepers and construction totes were added*****

1. What is the average number of fires per year (actual or estimated). **Actual fires, not calls**

The Fire Dept will be asked about any filling from hydrants, and if they complete any fire flow tests

2. What is average duration of a fire?
3. What is the average number of water hydrants / ports used per fire?
4. Does the Fire Department do any hydrant flow tests? If so, what is the average annual number and duration of these tests?
5. Any hydrant water use for training?

ENGINEERING / INFRASTRUCTURE DEPARTMENT

Water Distribution System Infrastructure

Provide details of:

1. Water Mains (list by diameter, length, material, age if available)
Need km of mains
 - a. What are the materials of the main?
 - b. What is the average age and diameter for the water main?
 - c. What is the total length of the water main?
2. Service Mains
Same as number of customer meters? – *please confirm*****
 - a. What is the total number of active & inactive services?
 - b. What is the average age?
 - c. List the service materials.
 - d. What is the average length of the service to the curb-stop?
 - e. What is the average length of the service from the curb-stop to the house?

PARKS DEPARTMENT

Non-Revenue Water – Unbilled Authorised

None

1. Parks Irrigation

- a. For metered parks, what is the total volume of water used per year?
- b. For un-metered parks:
 - What is the total number of irrigation zones?
 - What is the number and type of sprinkler heads per zone?
 - Average pressure / head?
 - Average time that a sprinkler is used per day?
 - Average number of days / year that a sprinkler is used?
 - Are rain shut offs installed?

3. Public Fountains

- a. For metered fountains, what is the average volume of water used / year?
- b. For un-metered fountains:
 - How many are there?
 - What's the average size?
 - Is the water re-circulated?
 - How many days of the year is the fountain operated?

NIGHT FLOW ANALYSIS DATA REQUIREMENTS

Water Supplied Data

- **Distribution pump delivery volumes - Provide at same interval as recorded, 1 minute, 5minutes, other? (SCADA?), and in Excel format if available**
- **Provide for 7 days in March or April, 2020 – to be decided**

Water Distribution System Data

- **Length of watermain – 14 km**
- **Number of customer services - 488**
- **Number of hydrants - 58**
- **Average system night pressure**
- **Average people per household**

Customer Night Water Use Data

- **Identify customers using water overnight, particularly between 1.00 am and 4.00 am**

Other Night Water Use

- **Blow offs / bleeders**
- **Other**

January 1 to December 31, 2020			
Item	Water Balance Item	Volume (m3 per year)	Units
1	Volume from Own Sources	197,674	m3
2	Source Meter inaccuracies		m3
3	Water Imported	0	m3
4	Water Exported	0	m3
5	Billed Metered	86,831	m3
6	Billed Unmetered	0	m3
7	Unbilled Metered	0	m3
8	Unbilled Unmetered	6,455	m3
9	Unauthorized Consumption	217	m3
10	Customer Meter Inaccuracies	2,692	m3
11	Data Handling Errors	217	m3
12	Length of Mains	14	km
13	Number of Services	490	no
14	Av Length of Customer Service Line	24.3	m
15	Av Operating Pressure	57.0	m
16	Total Annual Cost of Operating		\$ / Yr
17	Customer Water Rates	\$3.16	\$/m3
18	Variable Water Production Cost	\$476.61	\$/ML
	<u>Key</u>		
	Data Outstanding		
	Data Complete		

Town of Mahone Bay
2020 Data

Rev 6 - November 19, 2021

2020								
Comments								
Unknown								
Use AWWA default of 0.25%								
Estimate based on age is 3.1% under-registration	Note - AWWA software calculates as 2,778 - not 2,692							
Use AWWA default of 0.25%								
80 ft average								
81 psi								
Not required for AWWA software version 6.0								

	Reservoir Outflow (litres)	
January	16,838,000	
February	15,148,000	
March	16,634,000	
April	15,855,000	
May	17,197,000	
June	16,453,000	
July	17,364,000	
August	18,990,000	
September	17,111,000	
October	16,247,000	
November	14,675,000	
December	15,162,000	
Total 2020	197,674,000	Litres
	197,674	m3

Flowmeter Details - Raw Water Pump House				
<u>Make</u>	<u>ABB Magmaster</u>			
Line Diameter	3	inch		
Inlet pipework dia	3	inch		
Straight pipe length	22.5	inch		
Straight pipe length	7.5	diameters		
Outlet pipework dia	3	inch		
Straight pipe length	12	inch		
Straight pipe length	4	diameters		
Flowmeter Details - WTP - Treated Water				
<u>Make</u>	<u>Rosemount</u>			
Line Diameter	8	inch		
Inlet pipework dia	8	inch		
Straight pipe length	54.2	inch		
Straight pipe length	6.8	diameters		
Outlet pipework dia	8	inch		
Straight pipe length	23	inch		
Straight pipe length	2.9	diameters		

[illegible]

		Billed Volumes				
			Gallons	m3		m3
		Commercial	9,234,533	41,981		1
		Residential	9,865,552	44,850		
		Total	19,100,085	86,831		
Description			January	February	March	April
5/8" Imperial Bi-monthly Com.			21,203		35,200	
1" Imperial Bi-monthly Com.						
1 1/2" Imperial Bi-monthly Com.						
5/8" Imperial Monthly Com.			19,300	24,640	22,810	25,360
3/4" Imperial Monthly Com.			2,020	1,460	1,330	1,570
1 1/2" Imperial Monthly Com.			107,000	111,700	99,700	89,300
2" Imperial Monthly Com.			120,000	170,000	120,000	150,000
5/8" Metric Bi-monthly Com.			94,160		108,900	
1" Metric Bi-Monthly Com.				34,540		39,380
1 1/2" Metric Bi-monthly Com.			41,360	71,940	18,040	65,780
5/8" Metric Monthly Com.			70,400	72,380	63,360	68,860
1 1/2" Metric Monthly Com.			38,720	17,600	14,300	25,960
2" Metric Monthly Com.			45,760	58,740	45,980	44,880
Special Water Meter 1 1/2" Metric Monthly			122,320	144,760	116,600	168,960
5/8" Imperial Bi-monthly Res.			281,859	224,667	284,784	202,366
5/8" Metric Bi-monthly Res.			426,580	572,440	414,480	535,260
Total Gallons			1,390,682	1,504,867	1,345,484	1,417,676

<u>gallons</u>							
219.969							
May	June	July	August	September	October	November	December
12,350		9,528	65,490	22,213	57,360	11,699	
27,970	33,370	37,740	47,780	60,883	39,107	29,560	22,100
1,760	2,330	2,310	3,660	4,110	2,121	1,989	2,870
117,500	121,400	173,600	127,200	75,500	116,350	105,750	106,200
130,000	140,000	120,000	140,000	120,000	130,000	100,000	150,000
70,620		114,180		215,820		163,900	
	47,520		45,540		48,400		52,140
47,080	80,080	51,040	68,640	65,120	70,620	54,560	103,400
73,040	92,180	85,800	132,660	125,180	112,200	108,680	77,440
13,860	36,520	21,120	36,080	20,900	25,520	17,380	27,720
49,720	54,560	52,580	58,740	55,000	55,440	71,500	55,220
165,440	134,200	163,680	174,240	151,140	190,740	159,940	149,380
274,043	234,768	327,985	242,706	377,566	228,743	325,785	221,780
401,500	575,300	511,940	654,940	756,800	649,000	540,100	600,160
1,384,883	1,552,228	1,671,503	1,797,676	2,050,232	1,725,601	1,690,843	1,568,410

[illegible]

[illegible]

Description	Volume (m3)
Seasonal flushing - Spring (unidirectional)	360.6
Seasonal flushing - Fall (unidirectional)	403.8
Flushing as needed	504.0
Fire flow tests	0.0
Watermain repairs and subsequent flushing	349.0
Clear well cleaning, in November, 2020	302.0
Blow offs - 2 operating continuously	4,300.0
Fire Department 2 inch fill line	0.0
Fire Deparment - fills from hydrants?	0.0
Fire Department - pumper trucks, vac trucks, sweepers, construction totes	236.0
Total	6,455

Unbilled Authorised Consumption	
Description	Volume (m3)
Seasonal flushing - Spring (unidirectional)	360.6
Seasonal flushing - Fall (unidirectional)	403.8
Flushing as needed	504.0
Fire flow tests	0.0
Watermain repairs and subsequent flushing	349.0
Clear well cleaning, in November, 2020	302.0
Bleeders - 2 operating continuously	4,300.0
Fire Department 2 inch fill line	0.0
Fire Department - no fills from hydrants	0.0
Fire Department - pumper trucks, vac trucks, sweepers, construction totes	
Total	6,219

					Customer Water Meters		
	From Meghan September 10, 2021				Years Installed	Number of Meters	Age - Years
	1999	193					
	2000	6					
	2001	3					
	2002	6			1999	193	22
	2003	9			2000 to 2004	27	17 to 21
	2004	3			2005 to 2009	77	12 to 16
	2005	3			2010 to 2014	94	7 to 11
	2006	3			2015 to 2021	102	1 to 6
	2007	22			No service date	2	
	2008	18			Total		495
	2009	31					
	2010	21					
	2011	15					
	2012	29					
	2013	11					
	2014	18					
	2015	16					
	2016	14					
	2017	16					
	2018	24					
	2019	22					
	2020	7					
	2021	3					
		493	2 meters without service dates				
	manufacturer: Neptune						

Number of services	481		<u>From Meghan September 10 2021</u>				
Abandoned services	3		Total # meters	495			
Bleeders and blow offs	6		special	1			
Number of Services	490		Imp.Comm.	23			
			Met.Comm.	55			
			Imp.Res.	115			
			Met.Res.	301			
			Total # Services:	481	plus unmetered services	Bleeder 918 Main St.	1"
						blowoff 15 Main St.	3/4"
						blowoff 57 School St.	3/4"
						Bleeder 77 Edgewater St.	3/4"
						195 Main St.	3/4"
						~91 Orchard St.	3/4"

Length from curb stop to property is on average between					
	80	ft			
Length	24.3	m			

Provided from hydrant data - static pressure (daytime)							From Meghan September 6, 2021	
							Town of Mahone Bay	
				psi	m		Hydrant Maintenance Record	
				1	0.70325		Location	Static Pressure (psi)
							117 Long Hill Road	32
Static Pressure	81	psi					73 Long Hill Road	50
	57.0	m					40 Long Hill Road	64
							95 Clearway Street	73
							110 Clearway Street	72
							155 Clearway Street	72
							20 Garden Lane	68
							Welcome Street @ Clearway Street	73
							34 Shady Lane	64
							9 Cherry Lane	84
							15 Cherry Lane	81
							33 Cherry Lane	84
							88 Orchard Street	82
							Orchard Street @ Parish Street	91
							Parish Street @ Edgewater Street	98
							77 Edgewater Street	97
							43 Clairmont Street	94
							63 Clairmont Street	91
							84 Clairmont Street	87
							136 Kinburn Street	82
							106 Kinburn Street	83
							77 Kinburn Street	84
							39 Kinburn Street	74
							147 Main Street	40
							201 Main Street	55
							255 Main Street	67
							299 Main Street	74
							358 Main Street	86
							436 Main Street	92

						482 Main Street	
						558 Main Street	
						610 Main Street	94
						690 Main Street	95
						720 Main Street	97
						794 Main Street	97
						836 Main Street	98
						882 Main Street	98
						922 Main Street	96
						Fairmont Street @ Main Street	97
						105 Fairmont Street	77
						132 Fairmont Street	69
						162 Fairmont Street	68
						23 Pleasant Street	95
						65 Pleasant Street	86
						78 Pleasant Street	87
						111 Pleasant Street	87
						Fauxbrg Road @ Pleasant Street	74
						36 Fauxburg Road	92
						146 Pine Grove Street	
						109 Spruce Street	76
						110 Maple Street	82
						71 Maple Street	82
						16 School Street	84
						45 School Street	82
						36 Pond Street	92
						20 Hedge Row	94
						Total Hydrants: 55 (+2 private)	
						Total	4,293
						No of Records	53
						Average	81

Customer Water Rates							
Period	Water Only						
	<u>1,000 gallons</u>	<u>m3</u>				<u>gallons</u>	<u>m3</u>
January to March	\$15.26	\$3.36				1,000	4.546
April to December	\$14.08	\$3.10					
Average	\$14.38	\$3.16					
Wastewater Rates Included in Tax Rate							

	<u>2020 Variable Cost</u>		
	<u>Cost</u>		
	Electricity - Raw Water Pumphouse	\$17,872.87	
	Electricity - Water Treatment Plant	\$27,429.17	
	Chemicals	\$48,910.89	
	Total Cost	\$94,212.93	
	Volume Supplied	197,674	m3
		197.674	ML
	Cost Per m3	\$0.477	
	Cost Per ML	\$476.61	

2020	Total Water Withdrawal Volume per Month (L)	Averaged Daily Water Withdrawal Rate	Peak Averaged Maximum Water Withdrawal Rate	Total Water Withdrawal Volume per Year (L)
		(L/day)	(L/day)	
January	18,026,000	408,000	629,667	211,230,000
February	16,079,000	535,967	616,000	
March	17,725,000	590,833	634,667	
April	16,807,000	560,233	584,333	
May	18,420,000	614,000	672,667	
June	17,296,000	576,533	646,667	
July	18,314,000	516,467	673,000	
August	19,834,000	661,133	699,333	
September	18,348,000	611,600	684,667	
October	17,517,000	583,900	648,667	
November	16,439,000	547,967	582,000	
December	16,425,000	547,500	579,000	

Table 1: 2020 Water Withdrawal Volumes.

211,230,000

Supplied	197,674	m3
Raw Withdrawn	211,230	m3
Raw minus Supplied	13,556	m3
percentage difference	6.4%	

Non-Revenue Water Components Summary				
	Volume	Value	Variable	Customer
	<u>ML/Year</u>	<u>\$/Year</u>	Cost <u>\$/m3</u>	Water Rates <u>\$/m3</u>
Real Losses	101.2	\$48,221	\$0.477	
Apparent Losses	3.2	\$10,150		\$3.160
Unbilled Authorised Consumption	6.5	\$3,077	\$0.477	
Non-Revenue Water Totals	110.9	\$61,448		

Percentage of Non-Revenue Water		
Volume of Water Supplied	197.7	ML
Volume of Non-Revenue Water	110.9	ML
Percentage of Non-Revenue Water	56.1%	

<u>Environmental Impacts of Water Production - Full Year 2020</u>		
<u>Raw Water Pumping, Water Treatment and Pumping to Clear Wells</u>		
Volume of Water Produced	197,674	m3
kWh - Raw Water pumping and Water Treatment	329,835	kWh
kWh per m3	1.669	m3
kg of CO2 per kWh	0.187	kg
kg of CO2 per m3	0.312	kg
TOTAL kg of CO2 for 2020	61,679	kg Per Year
	62	Tonne /Year

<u>Environmental Impacts of Non-Revenue Water - Full Year 2020</u>		
<u>Non-Revenue Water (NRW) - Real Losses and Unbilled Authorised Consumption</u>		
Volume of Water - Real Losses	101,200	m3
Volume of Water - Unbilled Authorised Consumption	6,500	m3
Total Volume of NRW Water	107,700	m3
kg of CO2 per m3	0.312	kg
TOTAL kg of CO2 for NRW for 2020	33,605	kg Per Year
	34	Tonne /Year

<u>Real Losses - Target</u>				
Measured Night Flow		Reduction		
	<u>l/s</u>	<u>l/s</u>	<u>m3/day</u>	<u>m3/year</u>
Current	3.8			
Initial Target	2.5	1.3	112	40,997
Second Target	2.0	1.8	156	56,765
Final Target	1.5	2.3	199	72,533

get Reductions		
Variable Cost Saving Power and Chemicals	Environmental Savings	
	<u>kg of CO2 per Year</u>	<u>Tonne of CO2 per Year</u>
<u>\$ per Year</u>		
\$19,555	12,791	12.8
\$27,077	17,711	17.7
\$34,598	22,630	22.6

Variable Cost	\$0.477	per m3	l/s	m3 /day	m3 / year
kg CO2 per m3	0.312	kg	1	86.4	31,536
			2	172.8	63,072
			3	259.2	94,608
			3.2	276.48	100,915

		<u>Real Losses - Target Reduction</u>		
Measured Night Flow		Reduction		
	<u>l/s</u>	<u>l/s</u>	<u>m3/day</u>	<u>m3/year</u>
Current	3.8			
Initial Target	2.5	1.3	112	40,997
Second Target	2.0	1.8	156	56,765
Final Target	1.5	2.3	199	72,533

<u>ons</u>	
Variable Cost Saving Power and Chemicals \$	Environmental Savings <u>kg of CO2</u>
\$19,555	12,791
\$27,077	17,711
\$34,598	22,630

Variable Cost	\$0.477	per m3
kg CO2 per m3	0.312	kg

Reductions - Water Supplied Volumes

	<u>m3/year</u>	Reduced Volume	
		<u>m3/year</u>	<u>% Reduction</u>
Total Volume of Water Supplied in 2020	197,674		
Real Losses Reduction - Initial Target	40,997	156,677	21%
Real Losses Reduction - Second Target	56,765	140,909	29%
Real Losses Reduction - Final Target	72,533	125,141	37%

Reductions - Non-Revenue Water (Real Losses)

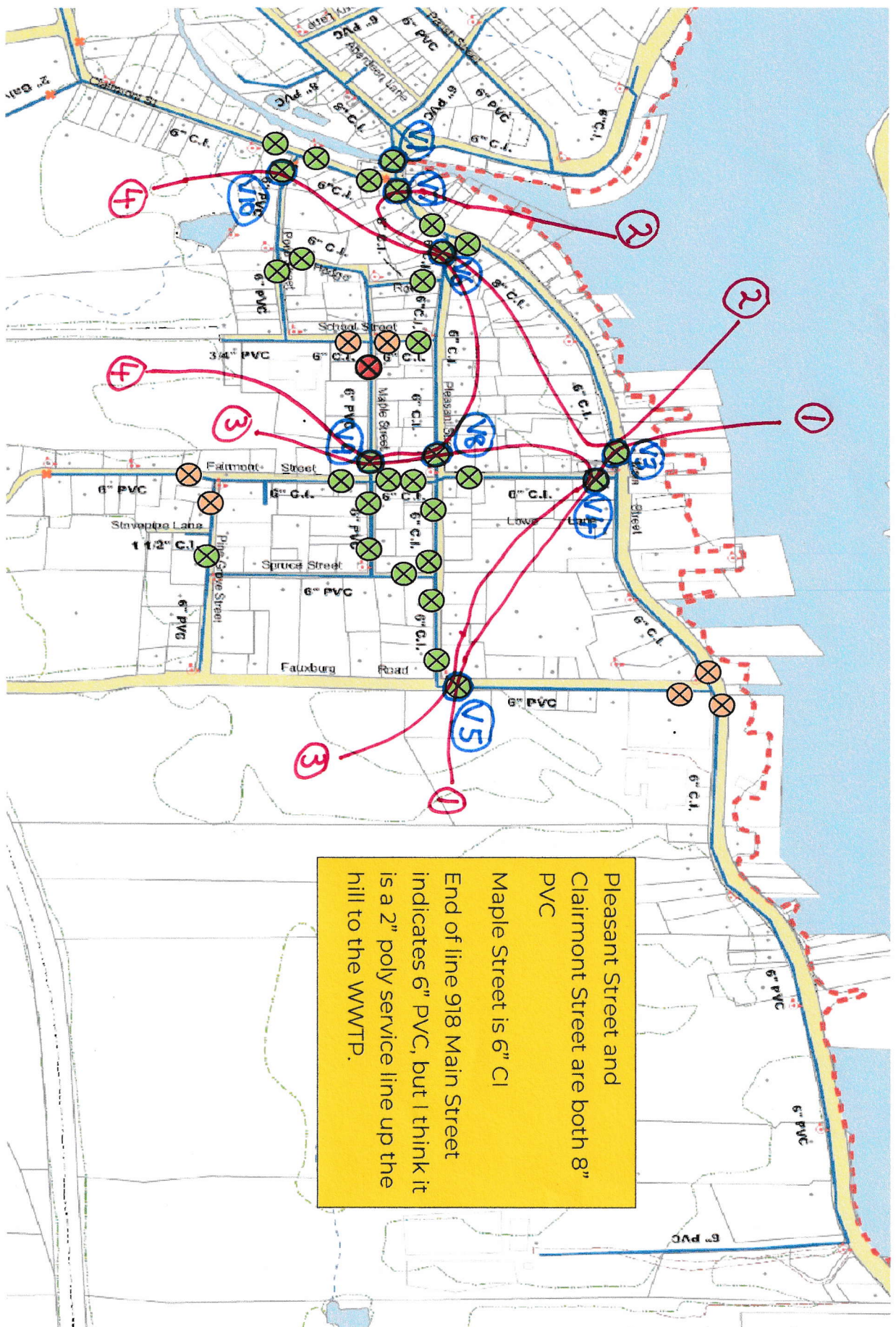
	<u>m3/year</u>	Reduced Volume	
		<u>m3/year</u>	<u>% Real Losses</u>
Total Volume of Real Losses		101,200	#DIV/0!
Real Losses Reduction - Initial Target	40,997	60,203	#DIV/0!
Real Losses Reduction - Second Target	56,765	44,435	#DIV/0!
Real Losses Reduction - Final Target	72,533	28,667	#DIV/0!

Reductions - Greenhouse Gas (GHG)

	<u>tonne/year</u>	Reduced Tonnes	
		<u>tonne/year</u>	<u>% Reduction</u>
Total Volume of Water Supplied		61.7	
Real Losses Reduction - Initial Target	12.8	48.9	21%
Real Losses Reduction - Second Target	17.7	44.0	29%
Real Losses Reduction - Final Target	22.6	39.1	37%

<u>Summary of Recommendations</u>	
Report Section	Recommendation
<u>Part One - "Top Down" Water Audit</u>	
7.1 Water Supplied Volumes	Continue daily comparisons of Raw and Treated Water volumes
	Complete electronic or insitu testing of flowmeters
7.2 Real Losses - Leakage	Monitor measured treated water night flow
	Start step testing and leak detection when night flow high
7.3 Apparent Losses - Customer Meters	Complete customer meter accuracy testing
	Cost benefit of a customer meter radio reading system
7.4 Unbilled Authorised Consumption	Install auto flushers at 918 Main Street and 77 Edgewater Road
7.5 Improve Data Quality	Improve accuracy of average length of customer services, length of watermains, average operating pressure
7.6 Future Water Audits	Town staff continue water audits annually, using the new AWWA software, version 6.0
7.7 Additional Recommendation	Before decide location of Pressure Reduction Valve (PRV), install 7 day pressure data loggers on the distribution system
<u>Part Two - "Bottom Up" Night Flow and Leak Detection</u>	
11.0 Leak Detection in Step Areas	Significant service leak at Northern Sun Building
(locate leaks and repair)	Service leak at 210 Main Street
	Potential leak a Main Street, near Clearwater Street
12.0 Measured Night Flow Targets	Locate and repair potential leaks found in step testing
	Once repaired confirm measured night flow
	Repeat step 6, and if flows still high, complete leak detection
	Complete leak detection in steps 1 and 4, which had potential leaks
	Set targets to maintain leakage at lower levels

Town of Mahone Bay: Valve Map

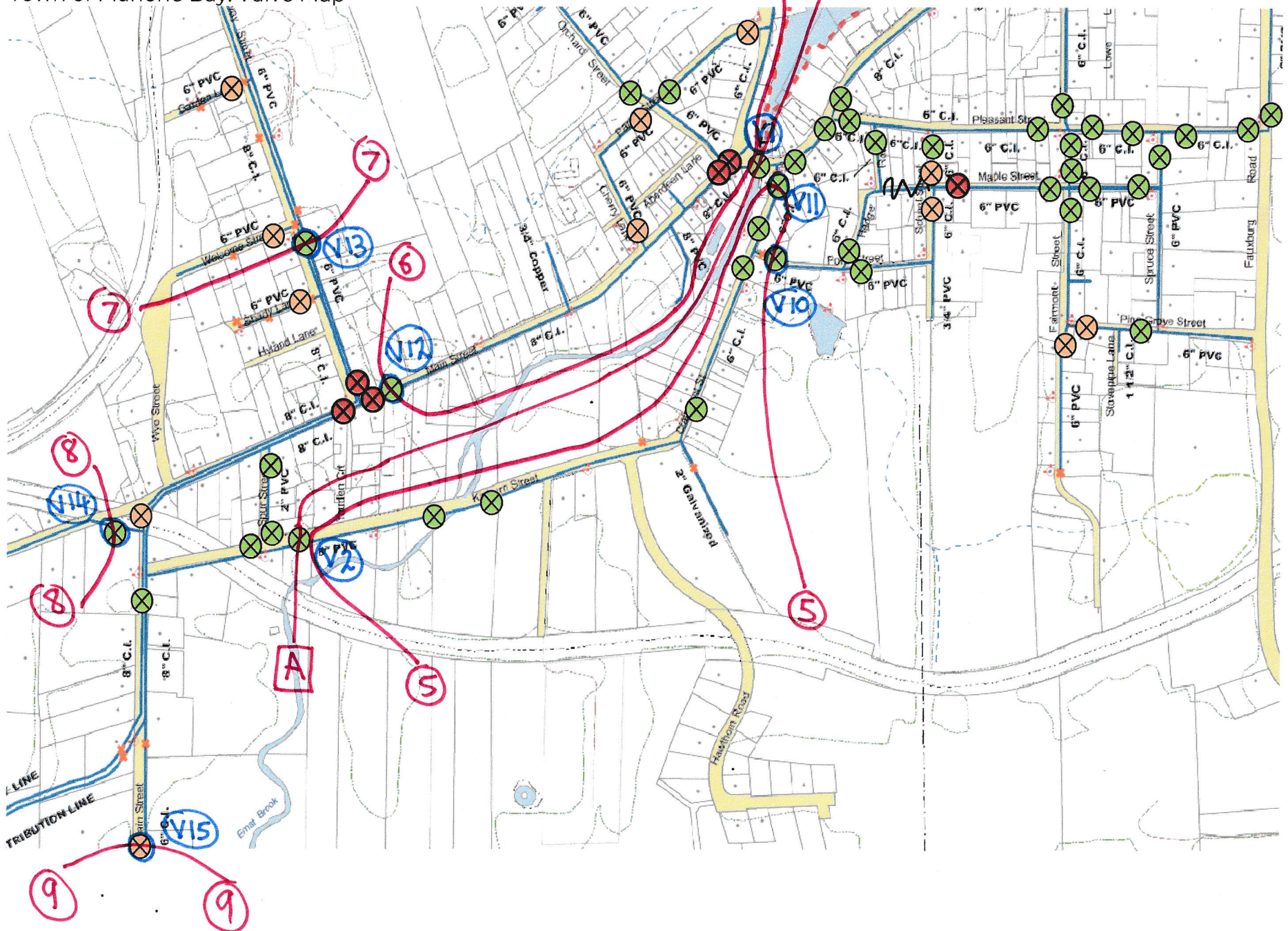


Pleasant Street and Clairmont Street are both 8" PVC
 Maple Street is 6" CI
 End of line 918 Main Street indicates 6" PVC, but I think it is a 2" poly service line up the hill to the WWTP.

K. BLEASE
 SEP 21, 2021

K. BLEASE
SEPT 21, 2021

Town of Mahone Bay: Valve Map



Mahone Bay Step Testing
Valving Log - October 26, 2021

Revision 1: November 3, 2021

Date:		26-Oct-21			
		Location			Comment
Read Customer Meters			<u>Readings</u>		
			<u>Before</u>	<u>After</u>	
		Nursing Home, 640 Main St	4,420		gallons
		RPS	9,089,000		gallons
		RPS	53,580.3		m3
		Salt Box	6,422.5		m3
		Salt Box - at back	19.4		m3
Valve No	Valve Dia		Close Time	Open Time	
Bleeders					
		918 Main St	0.16		Opened next morning
		77 Edgewater Rd	0.22		Opened next morning
Step A					
V1	8	Main St at the brook	23.38	0.44	Open
V2	8	Kinburn at Spur St	0.33	0.36	Open
Step 1					
V3	6	Main St at Fairmont St	0.50		Keep closed (open end step 2)
V4	6	Fairmont St at Main St	0.53		Keep closed (open end step 3)
V5	6	Fauxburg Rd at Pleasant St	1.04	1.07	Open
Step 2					
V6	6	Pleasant St at Main St	1.14		Keep closed (open end step 4)
V7	6	Main St at Clairmont St	1.25	1.28	Open
V3	6	Main St at Fairmont St		1.35	Open
Step 3					
V5	6	Fauxburg Rd at Pleasant St	1.48	1.51	Open
V8	6	Pleasant St at Fairmont St	1.38		Keep closed (open end step 4)
V9	6	Maple St at Fairmont St	1.43		Keep closed (open end step 4)
V4	6	Fairmont St at Main St		1.58	Open
Step 4					
V10	6	Pond St at Clairmont St	2.07	2.10	Keep closed (open end step 5)
V6	6	Pleasant St at Main St		2.23	Open
V8	6	Pleasant St at Fairmont St		2.19	Open
V9	6	Maple St at Fairmont St		2.16	Open
Step 5					
V11	8	Clairmont St at Main St	2.30	2.50	Open
V2	8	Kinburn at Spur St	2.38	2.41	Open
V10	6	Pond St at Clairmont St		2.46	Open

**Mahone Bay Step Testing
Valving Log - October 26, 2021**

Revision 1: November 3, 2021

Step 6					
V1	8	Main St at the brook	2.51	3.14	Open
V12	8	Main St at Clearway St	2.58	3.01	Open
Step 7					
V13	6	Clearway St at Welcome St	3.19	3.22	Open
Step 8					
V14	8	Little Hill Rd at Main St	3.29	3.32	Open
Step 9					
V15	6	Main St towards Zwicker Ln	3.44	3.47	Open
Step 6a					
		Orchard St, north from Parish St	4.11	4.14	Open
Step 6b					
		Parish St from Orchard to Edgewater	4.22	4.25	Open

Manual and SCADA Readings

Step No A (Divide Town Into Two Sections) flows - L/s				
Time	Site Readings		SCADA	
0.33 to 0.36 am	Open	3.9	Open	3.68
	Close	3.9	Close	3.70
	Step	0.0	Step	-0.02
	Charge Up	7.6	Charge Up	7.70
Step No 1 flows - L/s				
Time	Site Readings		SCADA	
1.04 to 1.07 am	Open	4.1	Open	4.22
	Close	3.8	Close	3.83
	Step	0.3	Step	0.39
	Charge Up	4.2	Charge Up	5.30
Step No 2 flows - L/s				
Time	Site Readings		SCADA	
1.25 to 1.28 am	Open	3.8	Open	3.70
	Close	3.8	Close	3.79
	Step	0.0	Step	-0.09
	Charge Up	0.0	Charge Up	0.00
Step No 3 flows - L/s				
Time	Site Readings		SCADA	
1.48 to 1.51 am	Open	3.8	Open	3.67
	Close	3.8	Close	3.81
	Step	0.0	Step	-0.14
	Charge Up	0.0	Charge Up	0.00
Step No 4 flows - L/s				
Time	Site Readings		SCADA	
2.07 to 2.10 am	Open	3.6	Open	3.59
	Close	3.4	Close	3.37
	Step	0.2	Step	0.22
	Charge Up	4.9	Charge Up	5.10
Step No 5 flows - L/s				
Time	Site Readings		SCADA	
2.38 to 2.41 am	Open	3.6	Open	3.64
	Close	3.5	Close	3.50
	Step	0.1	Step	0.14
	Charge Up	4.9	Charge Up	4.90
Step No 6 flows - L/s				
Time	Site Readings		SCADA	
2.58 to 3.01 am	Open	3.5	Open	3.56
	Close	2.1	Close	2.19
	Step	1.4	Step	1.37
	Charge Up	6 minutes	Charge Up	7 minutes

Manual and SCADA Readings

Step No 7 flows - L/s

Time	Site Readings		SCADA	
3.19 to 3.22 am	Open	3.8	Open	3.78
	Close	3.7	Close	3.65
	Step	0.1	Step	0.13
	Charge Up	0.0	Charge Up	0.00

Step No 8 flows - L/s

Time	Site Readings		SCADA	
3.29 to 3.32 am	Open	3.6	Open	3.53
	Close	3.6	Close	3.66
	Step	0.0	Step	-0.13
	Charge Up	0.0	Charge Up	

Step No 9 flows - L/s

Time	Site Readings		SCADA	
3.44 to 3.47 am	Open	3.6	Open	3.73
	Close	3.6	Close	3.64
	Step	0.0	Step	0.09
	Charge Up	0.0	Charge Up	0.00

Step No 6a flows - L/s

Time	Site Readings		SCADA	
4.11 to 4.14 am	Open	3.7	Open	3.72
	Close	3.7	Close	3.79
	Step	0.0	Step	-0.07
	Charge Up	0.0	Charge Up	0.00

Step No 6b flows - L/s

Time	Site Readings		SCADA	
4.22 to 4.25 am	Open	3.6	Open	3.67
	Close	3.6	Close	3.63
	Step	0.0	Step	0.04
	Charge Up	0.0	Charge Up	0.00

Mahone Bay Steps - Tuesday October 26, 2021		
<u>Step</u>	<u>Time</u>	<u>Step Flow (L/s)</u>
A	0.33 to 0.36 am	0
1	1.04 to 1.07 am	0.4
2	1.25 to 1.28 am	0
3	1.48 to 1.51 am	0
4	2.07 to 2.10 am	0.2
5	2.38 to 2.41 am	0.1
6	2.58 to 3.01 am	1.4
7	3.19 to 3.22 am	0.1
8	3.29 to 3.32 am	0
9	3.44 to 3.47 am	0.1
6a	4.11 to 4.14 am	0
6b	4.22 to 4.25 am	0



Town of Mahone Bay
Staff Report
RE: Water Plant Repairs
July 27th, 2023

General Overview:

This staff report is intended to present Council with an update and associated recommendations concerning necessary repairs to the Town's water treatment plant.

Background:

The 2023/24 annual budget approved by Council on June 13th included an allocation for repairs to address issues with internal plumbing noted by utility staff. At the time of the budget's development staff had assessed this work as non-capital with a likely cost of \$2,000 in 2023/24. Unfortunately based on recent assessment staff now recommend a larger capital repair including replacement of all copper piping with PVC, based on numerous observed failings with the existing copper piping.

Additionally the flocculation mixer – scheduled for replacement next year in the Town's 10-year capital investment plan – has begun to show signs of imminent failure and, while it can likely be kept in service until a replacement arrives, requires replacement as soon as possible. The estimated cost of \$4,500+HST included in the 10-year capital investment plan remains current.

Analysis:

Plumbing repairs including replacement of copper piping with PVC are estimated at \$10,750+HST. While the major repairs proposed could conceivably be delayed to fiscal 2024/25, significant repair work would still be required to maintain normal operations and avoid costly damage to the building from leaks.

The replacement flocculation mixer has been ordered (at a cost of \$4,487+HST) with an estimated delivery time of 14 weeks. Staff have made repairs to the existing unit to hopefully keep it in service until the replacement arrives.

Staff are also looking into damage from the recent storm (July 21st) – lightning strikes – and whether this will be covered by the Town's insurance. Any such costs incurred by the utility will eventually be eligible for disaster relief if such is made available for this weather event as anticipated.

Financial Analysis:

As replacements of existing utility assets both the plumbing repairs (\$10,750+HST) and the replacement flocculation mixer (\$4,487+HST) – along with any repairs resulting from the recent storm – are water utility depreciation reserve eligible costs. With the estimated balance of the Depreciation Reserve as of March 31, 2024 at \$364,636 (per the approved budget) the reserve is capable of accommodating these unbudgeted costs in this fiscal year.

Climate Analysis:

N/A

Strategic Plan:

N/A

Recommendation:

It is recommended,

THAT Council approve the plumbing repairs (\$10,750+HST) and replacement flocculation mixer (\$4,487+HST) as recommended, to be funded from the water utility depreciation reserve.

Attached for Council Review:

None

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Dylan Heide', with a long horizontal flourish extending to the right.

Dylan Heide
Town of Mahone Bay CAO



Town of Mahone Bay
Staff Report
Date July 27, 2023
RE: Housing Action Plan

General Overview:

The Government of Canada announced the creation of the Housing Accelerator Fund, a \$4 billion dollar fund to incentivize municipalities to increase housing stock, in the 2022 federal budget.

The purpose of this staff report is to provide Council with additional information about the Housing Accelerator Fund, a summary of the response received to the community feedback survey on development of a housing action plan, and an overview of the proposed housing action plan currently under development to support the Town's anticipated Housing Accelerator Fund application.

Background:

This staff report follows on the prior report RE: Housing Accelerator Fund provided to Council's regular meeting of June 13th (attached for reference). At the June 13th meeting the following motion was passed:

THAT Council direct staff to develop a draft housing action plan to support application to the CMHC Housing Accelerator Fund, for Council's consideration.

The [Housing Accelerator Fund](#) (HAF) was announced in the 2022 Government of Canada Budget. The \$4 billion fund is administered by the Canadian Mortgage and Housing Corporation (CMHC) with the purpose of incentivizing and supporting local governments with initiatives to rapidly increase the housing stock. The initiatives should be long-term in nature and not focused on individual projects, but systemic change to encourage housing growth. The program goal is to have 100,000 net-new permits being issued across Canada by the end of 2026. Net-new permits are new permits minus demolitions of housing units. For example, there may be 5 new units permitted and 2 demolished, leaving a net-new of 3.

The HAF funding model is not directly underwriting specific housing projects or reimbursing proponents for specific costs incurred, but the funding can be used in support of housing under the following categories:

- Investments in Housing Accelerator Fund Action Plans
- Investments in Affordable Housing
- Investments in Housing-related Infrastructure
- Investments in Community-related infrastructure that supports housing.

HAF Requirements

Town of Mahone Bay qualifies to apply for the Housing Accelerator Fund under the Small/Rural/North/Indigenous stream, which is for municipalities with populations less than 10,000.

The requirements for Mahone Bay to apply for this fund are as follows:

- An Action Plan with a minimum of five (5) initiatives
- An average annual growth rate percentage change of at least 10% (HAF Incentivized Housing)
 - $(\% \text{ annual growth with HAF} - \% \text{ annual growth without HAF}) / (\% \text{ annual growth without HAF})$
- An overall annual growth rate of 1.1%
 - $(\text{annual projected permits}) / (\text{current housing stock})$

The housing needs assessment for Mahone Bay, recently conducted by the Province of Nova Scotia, will inform the above and support the establishment of a supply growth target in our municipal housing action plan.

Funding Model

The funding a municipality may receive is based on the net-new permitted housing unit in the supply growth target established in their action plan. All net-new permitted units receive a base funding of \$20,000. In addition to the base funding, there are opportunities for top up funding and affordability funding.

Base Funding	Top Up	Affordable
\$20K/unit	Near rapid transit - \$15K/Unit Missing Middle* - \$12K/Unit Multi-Unit Other \$7K/Unit	\$19K/Unit



If awarded, the funds will be disbursed to municipalities in four equal installations. The first payment will be made shortly after the application is approved, then the remaining three installments are sent annually. The first payment is sent with no conditions. The remaining payments are linked to reporting requirements and the payments are contingent on the progress being made on the Action Plan.

Application Overview

The application for HAF is based on historical permitting data, anticipated growth **without** HAF and anticipated growth **with** HAF.

The HAF [Pre-application Reference Material](#) provides information on how to apply for HAF, application requirements, and a list of acceptable Action Plan Initiatives.

The initial application is considered on a point system. Points are awarded based on a scale depending on the impact the action plan has. For example, if the action plan is anticipated to create more housing, it is awarded more points. Another example, if an action plan fits more than one of the goals of HAF, it may be awarded more points. Therefore, it is advisable to try to encourage impactful change in the housing system to encourage growth. From this, the potential initiatives for inclusion in the draft action plan for Mahone Bay have impacts on one or more of the listed initiatives in the HAF Pre-application Reference Material, which is outlined below.

The Housing Accelerator Fund application portal is open until 11:59pm PST on August 18, 2023. In order to apply, there must be a designated applicant from the organization, and they create and maintain a CMHC account and application on the portal. This has already begun. Furthermore, in that application (drawing from an approved housing action plan) approximate costing, timelines, and milestones are to be outlined. The information below is provided to assist with Council's consideration in this regard.

Mahone Bay Situation

Based on the recent needs assessment it is anticipated that the housing stock in Mahone Bay without HAF would increase by 18 units, with 12 single detached homes, and 6 multi-unit housing units over the next three years.

The projected housing growth with HAF is based on data gathered in a needs assessment, anticipation of need for health care workers, and expected population growth encouraged by the twinning of Highway 103, etc.. The projected required growth with HAF – proposed supply growth target – is 100 net-new permits, with 15 being single detached houses, 50 being 'missing middle' and 35 being multi-unit other with 60% of this total being affordable housing. Two of the goals of HAF are to increase gentle density and affordable housing.

The projected supply growth target would result in an Annual Growth Rate percentage change of 455.56% and an Annual Growth Rate of 5.51%, meeting the HAF requirements.

In consideration of this target the HAF funding estimator tool indicates that the Town of Mahone Bay is eligible for Total Estimated HAF Funding of \$3,583,000, with Average Total Funding per Unit of \$43,496.12. This amount is based on the projection that Mahone Bay will permit 60% of these units as affordable, which adds \$19,000 per unit to the funding model.

Community Feedback

A public survey was created to gather feedback on the development of a housing action plan for the Town of Mahone Bay, supporting our anticipated HAF Application. The survey asked residents a number of questions relating to housing.

In total 69 survey responses were received. Over 75% of respondents were residents of Mahone Bay.

When asked about the goal of issuing 100 building permits by September 1, 2026, 28% felt this was an impossible goal and 44% felt it was lofty, but attainable. This raises the question over the feasibility of the proposed supply growth target, though staff feel it is potentially attainable if HAC funding is received and utilized.

Currently, the Town of Mahone Bay definition of affordable housing as outlined in the 2021-2025 Strategic Plan is “costing less than 30% of Mahone Bay’s median household income). Based on 2021 Statistics Canada data, 30% of the median household income in Mahone Bay is \$1,550. 57% of respondents felt this was a reasonable definition while 40% did not. When respondents were asked to elaborate, many cited the challenges of seniors, particularly those relying on CPP and OAS being able to afford this much for housing. Many others cited that the median is skewed given a potential wealth gap in Mahone Bay.

When asked about action plans specifically, affordable housing stood out as a priority to participants. The seven most popular Action Plan Initiatives were:

- Partnering with non-profit housing providers to increase affordable housing
- Encouraging affordable housing
- Updating and expanding infrastructure to encourage housing development.
- Create a process to use currently town-owned land for development of affordable housing without requiring rezoning
- Requiring that a developer build a certain percentage of affordable housing
- Streamlining building and development processes to support construction
- Discouraging things such as vacancies, empty or undeveloped land.

Though these were the top seven, all initiatives presented in the survey garnered support. Respondents were asked to give information on their choices and why they made these selections. From those, some themes arose. Affordability was another large theme, the need for supported housing, and taking a more innovative look at supporting affordable housing. Second was the short-term use of property in Mahone Bay. Mentions of seasonal housing and short-term rentals as significant contributors to long-term housing shortages. The need for the Town to partner with local housing organizations to support their expertise in the development of affordable and suitable housing plans. And finally, a review of the Town processes in permitting and development to help remove 'red tape' from the process.

Planned Initiatives

The following is a high-level overview of the proposed initiatives staff have developed based on the public survey, data on housing stock, historical data, and projected growth. It would be the goal of our proposed action plan to have these initiatives complete by September 1, 2026 per the requirements of HAF. The HAF is basing their three-year timeline on net-new permitted construction, not necessarily new construction completed within that three-year period. The final implementation of the proposed Action Plan Initiatives may be longer than three years. It should also be considered that the Housing Accelerator Fund may not cover all costs associated with an initiative, so consideration for budgetary implications is recommended.

The final draft version of these initiatives with more detailed associated projected costing, timelines, milestones, and organizational impact will be presented at the August 11, 2023 special Council meeting.

Action Plan Initiative 1: Creation and delivery of an Asset Management and Infrastructure Plan for the Town of Mahone Bay with attention to stimulating housing development.

Estimated Cost (of \$3,583,000): \$2,083,000

Like many municipalities, Mahone Bay has begun to undertake projects in Asset Management. Asset Management is a multi-faceted approach to examining the assets of the Town, their lifespan, usefulness, and strengths, weaknesses, opportunities, and threats associated with the asset. This initiative would have some attention focused on infrastructure. The 2021-2025 Town of Mahone Bay Strategic Plan identified infrastructure, particularly water and wastewater infrastructure, as a key indicator of success around Town mission and values.

Furthermore, an Asset Management and Infrastructure plan would contribute to the goals around climate and energy action highlighted by both the HAF and Mahone Bay Strategic Plans.

The goal of this plan would be to have a long-term vision with tangible steps to accomplish to manage and update current town infrastructure with the goal of increasing the housing stock for a growing population.

This plan may include the following:

- Review of current assets and infrastructure supporting development
- Asset mapping of developable lands or assets that can be repurposed
- Engineering design supporting expansion of services and infrastructure (water/wastewater)
- Environmental assessments and remediation of environmental hazards to make land suitable for development
- Review of Town property and zoning to allow for more streamlined development of Town land or sale of Town land.
- Emergency Management Planning in response to potential emergencies, i.e. fire and flooding

Associated HAF Action Plan Initiatives

- Implementing measures to address or prevent flood plain or climate change rise (for example conservation zoning of flood plains)
- Incorporating climate adaptation planning into the Town's asset management plans
- Create a process for the disposal of Town-owned land assets for the development of affordable housing as-of-right (not requiring rezoning).
- Updating infrastructure planning to align with official community plans, growth targets, and housing needs assessment.

Potential Costs Supported by HAF

- Consulting Fees
- Staffing
- Expansion in infrastructure
- Assessments and remediation of lands
- Community energy systems that support housing
- Disaster mitigation
- Brownfield redevelopment
- Site preparation
- Investments in community-related Infrastructure
- Landscaping and greenspace



Action Plan Initiative 2: Partnering with and supporting non-profit housing organizations and providers to increase the stock of affordable and supported housing.

Estimated Cost (of \$3,583,000): \$1,100,000

One main focus of HAF, the Town of Mahone Bay Strategic Plan, and the results of the community survey was affordability. It is clear that all levels of government and the public want to see action on affordable and suitable housing. This Action Plan Initiative would see the Town of Mahone Bay partner with local non-profits housing organizations and providers to create relationships to make change to affordable housing in Mahone Bay. It is important to partner with these organizations to leverage their expertise and to support them financially to have that expertise work for the residents of Mahone Bay.

This plan may include the following:

- The creation of a multi organizational working group to work on actionable items as they relate to affordable housing.
- Creating a reserve fund in the Town of Mahone Bay budget specifically for affordable and supported housing projects and housing organization supports.
- Creation of a program to assist with the funding of affordable or supported housing projects.
- Support the creation and maintenance of an inventory of affordable and suitable housing options.

Associated HAF Action Plan Initiatives

- Partnering with non-profit housing providers to preserve and increase the stock of affordable housing.

Potential Costs Supported by HAF

- Consulting Fees
- Staffing
- Construction of affordable housing
- Repair or modernization of affordable housing
- Land or building acquisition for affordable housing
- Investments in community-related infrastructure
- Landscaping and greenspace



Action Plan Initiative 3: Creation and delivery of an affordable housing strategy in Mahone Bay

Estimated Cost (of \$3,583,000): \$150,000

This plan is closely related to proposed Action Plan Initiative 2. Though partnering with and supporting local non-profit housing organizations is an important step, it is also important for the Town of Mahone Bay to have its own plans, goals, and actions to compound the impact of partnering with organizations.

This plan would have a long-term focus on affordable housing, building on the draft action plan. It is evident that the population of Nova Scotia and Mahone Bay are growing and are projected to grow into the future and with the rapid inflation rate of recent years, this growth and expense will create issues for the Town of Mahone Bay residents. This sort of plan would likely be a 10-to-20-year vision with an intersectional approach. Looking at affordable housing in isolation is problematic, as it can ignore contributing and intersecting factors that contribute to the issue, like race, gender, education, country of origin, etc. By having an affordable housing strategy that not only looks at housing as a stock number, it will allow the Town of Mahone Bay to create solutions to other issues that will have a long-term systemic and cultural change on how we as a population view housing, which is a priority for HAF.

Though there will be an Action Plan submitted with the HAF application, there would be more detail provided in an affordable housing strategy. Also, the creation of a longer-term strategy will allow for more plans beyond the current action plan.

This plan may include the following:

- Creation of a strategy for the upgrading and maintenance of existing affordable housing stock as well as creation of new housing stock
- Grants and funding programs, for example affordable housing grants, review of the low-income tax exemption levels, etc.
- Changes to zoning and land use requirements
- Creation of partnerships with other levels of government, educational institutions, non-profit organizations.
- Changes to and realignment of programs and policies
- Review and investment in active transportation
- Review and consideration for Accessibility, Equity, Diversity and Inclusion.

Associated HAF Action Plan Initiatives

- The creation and delivery of an Affordable Housing Strategy may contribute to all the Action Plan Initiatives outlined by CMHC.

Potential Costs Supported by HAF

- Consulting fees
- Staffing
- Assessment and remediation of lands
- Software or other equipment purchases
- Indigenous consultation
- Investments in affordable housing and related infrastructure (Initiative 2)
- Investments in community-related infrastructure (Initiative 1)

Action Plan Initiative 4: Review and Improvement of Building and Development Processes in Mahone Bay

Estimated Cost (of \$3,583,000): \$150,000

The Town of Mahone Bay is currently engaged in the Plan Mahone Bay process, a review of Mahone Bay land use. As part of this process, Mahone Bay is already taking steps outlined in HAF to increase housing.

With that in mind, one area that this review would emphasize is whether Mahone Bay is most effectively encouraging construction during the building and development process, particularly around permitting, inspection, fees, etc.

This plan may include the following:

- A review of current practices and policies, which may include amendments to bylaws.
- A review of the current permitting process for Mahone Bay with recommendations for future opportunities.
- Examination of software available to help streamline and automate parts of the permitting process.
- Review of current fee structures for building and development in Mahone Bay.
- Creation and addition of housing support staff
- Creation of incentives to encourage gentle density and affordable development in Mahone Bay.

Associated HAF Action Plan Initiatives

- Aligning development charges with the costs of infrastructure and servicing
- Implementing incentives, costing or fee structures.

- Waiving public hearings on all affordable housing projects that conform to a set standard.
- Implementing new/enhanced processes or systems such as case management, e-permitting, land and building modelling.

Potential Costs Supported by HAF

- Consulting fees
- Staffing
- Purchase and maintenance of software

Action Plan Initiative 5: Creation and Delivery of Programs that Discourage Idle Land and Space

Estimated Cost (of \$3,583,000): \$100,000

The Town of Mahone Bay is just over 3 km². Though small, there is idle land and space in Town, both public and private that could be developed or used for housing. The role of the Town in the development and use of idle private land is to offer incentives or disincentives to landowners to want to develop the land. This can take on two forms, one being the positive incentivization of development, the other is the negative discouragement of idle lands by way of increased property taxes. Another form of idle land is short-term rentals and seasonal housing. Again, there are ways to discourage these vacancies on already developed land.

The development of incentive and disincentive programs for the promotion of long-term rentals, development of empty or idle lands, creation of multi-unit dwellings in large houses, could increase the housing stock.

This plan may include:

- The implementation of a marketing levy on short-term tourism properties
- Increased property taxes on idle land or empty housing units
- Incentive programs to promote landowners to develop housing on idle land
- Incentive programs to support the reconstruction of large single-use dwellings into multi-unit dwellings.
- Creation of a rebate program for long-term rental landlords

Associated HAF Action Plan Initiatives

- Implementing disincentives, costing or fee structures to discourage such things as unit vacancies, underdevelopment/idle land, and low-density forms of housing.

Potential Costs Supported by HAF

- Consulting Fees
- Staffing and training
- Software purchases and updates

Financial Analysis

Based on the proposed supply growth target and the number of affordable units being projected, the application being proposed is for \$3,583,000. Within each of the proposed Action Plan Initiatives there is a general estimate of how much each initiative would cost to complete. This staff report outlines costs with the anticipation that the Housing Accelerator Fund would fund 100% of the proposed Action Plan Initiatives. There may be an instance where a project may incur costs that are either not eligible under the HAF or costs go beyond the projections in this report, which at that time, there would be potential for staff and Council to review the Action Plan Initiative or the potential for the Town of Mahone Bay to add supplemental funding. This is particularly the case with infrastructure expansion (included in proposed initiative 1) where the Town already has initiatives in this area on the horizon in our 10-year capital investment plan.

Beyond the financial break down by Action Plan Initiative, the HAF also requests other financial projections, one such being the following:

For information purposes only. Using the illustrative examples provided by CMHC in its published program material, the applicant estimates that they may be eligible for a total of \$ under HAF.		\$3,583,000.00
Based on this assumption, it is estimated that HAF funding will be used for the following purposes:		
Permitted Uses	Applicant's Estimate %	Applicant's Estimate \$
Investments in HAF action plan items (include estimates by year of program) YR1	5.58%	\$200,000.00
Investments in HAF action plan items (include estimates by year of program) YR2	5.58%	\$200,000.00

Investments in HAF action plan items (include estimates by year of program) YR3	5.58%	\$200,000.00
Investments in affordable housing	30.70%	\$1,100,000.00
Investments in housing-related infrastructure	41.39%	\$1,483,000.00
Investments in community-related infrastructure that supports housing	11.16%	\$400,000.00
Total	100.00%	\$3,583,000.00

This projection itemizes costs based on year and infrastructure type. Though it is projection that \$200,000.00 will be spent per year on HAF action plan items, the infrastructure projections and the annual projections are interrelated. For example, there may be the development of an agreement with a non-profit housing provider support affordable housing in year 1. In that case, it may cost \$15,000 to create the agreement then the grant has a reserve of \$150,000 used to support a housing build. The \$150,000 would be considered as an investment in affordable housing.

Climate Analysis

The development and implementation of the proposed housing action plan would support the realization of the Town's goals around climate and energy as articulated in the GHG Reduction Action Plan and Council's Strategic Plan.

Links to Strategic Plan

2.1 Support Housing Supply to Meet the Needs of a Growing Community

This project also links to the Town of Mahone Bay Strategic Plan Key Measurable Results of the Mission and Values.

Council Direction

Staff are seeking Council's feedback and direction on the development of the housing action plan and HAF application as outlined in this report. This feedback

will enable staff to bring a recommendation to Council for motion on the Housing Accelerator Fund application at the special meeting on August 11, 2023. Some areas requiring feedback include:

- Confirmation of the housing target goal of 100 net-new permits. Keeping in mind that changing the housing target would impact the growth rates and the amount of funding being requested.
- Feedback concerning the extent to which affordability will be an established goal (60% of net-new permitted units).
- Feedback concerning the proposed initiatives for the action plan as outlined in this report.

Respectfully submitted,

Eric J. Levy

Deputy CAO





Town of Mahone Bay

Staff Report

RE: Housing Accelerator Fund

June 13th, 2023

General Overview:

This staff report is intended to provide Council with an update concerning the development of a Housing Strategy for Mahone Bay.

Background:

Since the last update in October of 2022 (attached for reference) we have been anticipating the release of the Provincial Needs Assessments, following which the Council expected staff to begin working on the development of a housing strategy, engaging a consultant and working with the community. Based on the timing of the Needs Assessments – which have yet to be released by the Province – Housing Strategy adoption by Council is not currently anticipated prior to Spring/Summer 2024.

Analysis:

A new program has been launched by the Canada Mortgage and Housing Corporation (CMHC) which appears to be positioned as the federal government's primary program for supporting the implementation of municipal housing strategies over the next several years. This is the Housing Accelerator Fund (<https://www.cmhc-schl.gc.ca/en/professionals/project-funding-and-mortgage-financing/funding-programs/all-funding-programs/housing-accelerator-fund>).

The Housing Accelerator Fund will have an intake window later this summer; this may be the only intake window to this new program. To apply, municipalities are required to have a completed needs assessment, along with an action plan (essentially a basic housing strategy). The intent is that the needs assessment would inform the development of an action plan. The action plan submitted with application will be the key document establishing milestones for federal funding to the municipality.

The Province of Nova Scotia has announced that municipalities will be provided with the completed Needs Assessments in time for the deadline to apply to the Housing Accelerator Fund. It is clear at this point that there will be insufficient time from the receipt of this Needs Assessment to develop the Housing Strategy envisioned by Council, but there remains the possibility of developing an action plan sufficient for application to the Housing Accelerator Fund, if the Council sees fit to proceed with the development of a streamlined action plan, acknowledging the lack of a needs assessment to

inform the development of the plan, and that the time for public engagement on the action plan will be tightly constrained.

Utilizing the budget established for the development of a Housing Strategy staff could, on Council's direction, undertake minimal public engagement and produce a draft action plan for consideration. Presuming Council members could devote sufficient time to this initiative an action plan could be approved at Council's July 27th meeting, to accompany an application to the Housing Accelerator Fund. This action plan, along with the Provincial Needs Assessment, could then form the basis for development of a more comprehensive Housing Strategy over the coming year, or alternatively the development of a Housing Strategy could be shelved in favour of proceeding to implementation of the action plan (if the Town's application to CMHC were approved). It should be acknowledged that diverting staff resources to the development of the action plan and CMHC application could delay other priorities for June/July 2023.

Financial Analysis:

Council currently has allocated \$30,000 in the 2023-24 budget for development of a Housing Strategy. It would be difficult to engage a consultant to develop a full strategy prior to the deadline for CMHC application, but we might be able to swiftly deploy external resources to assist staff with the development of an action plan, particularly as we are currently under contract with Upland Planning & Design for the Plan Mahone Bay process. Costs incurred in development of an action plan would be expected to contribute to the eventual development of a Housing Strategy, presuming Council elects to continue with that project following CMHC application.

Climate Analysis:

Increased density of housing reduces GHG emissions from transportation.

Strategic Plan:

- 1.1. Housing Supply to Meet the Needs of Growing Community
 - Develop and implement Housing Strategy with affordability as its focus.

Recommendation:

It is recommended,

THAT Council direct staff to develop a draft housing action plan to support application to the CMHC Housing Accelerator Fund, for Council's consideration.

Attached for Council Review:

- Oct 27, 2022 Staff Report

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'Dylan Heide', followed by a long horizontal flourish.

Dylan Heide
Town of Mahone Bay CAO



Town of Mahone Bay

Staff Report

RE: Housing Strategy Update

October 27th, 2022

General Overview:

This staff report is intended to present Council with an update on the planned development of a Housing Strategy for Mahone Bay.

Background:

Housing is a significant priority in Council's 2021-25 Strategic Plan.

Particularly, the four Key Measurable Results to achieve by 2025 include two in relation to housing:

1. 10% population increase with diversity in age, ethnicity and income.
2. Increased supply of affordable housing (costing less than 30% of Mahone Bay's median household income) to 25% of total housing units.

The Strategic Plan articulates Council's intentions in relation to housing:

2.1 Support Housing Supply to Meet the Needs of Growing Community

Support population growth with an increased number of dwelling units by implementing a Town Housing Strategy that fosters housing affordability, reduces the number of households in core housing need, and preserves our built heritage.

The Strategic Plan further anticipates a Mahone Bay Housing Strategy – with affordability as its focus – will be in place by the end of fiscal 2023-24.

The Staff Report re Housing Strategy Development, presented to Council's Dec 14th, 2021 meeting, is attached for reference. Per the Report, Council directed staff to reach out to the other municipal units in the County, supporting joint housing needs assessments and encouraging regional coordination on housing strategy development. Since that time the Province has undertaken needs assessments for all municipalities and staff-level discussions concerning strategy development are ongoing between the units in the County.

Analysis:

Developments in relation to the proposed Mahone Bay Housing Strategy include:

Provincial Needs Analysis

The Provincial needs analysis for all municipalities in Nova Scotia is currently underway using 2021 census data.

The Province of Nova Scotia has partnered with Turner Drake and Partners Ltd. (www.turnerdrake.com) to carry out the needs assessment. The project team also includes UPLAND Planning + Design Studio (uplandstudio.ca), COLAB (thecolab.ca) and MountainMath (mountainmath.ca).

The website for the Provincial Needs Assessment is:

<https://www.nshousingneeds.ca/>.

Though it was initially anticipated that the needs assessment would be completed late in 2022, it now appears the process will run until the Spring of 2023.

Needs Analysis Engagement

Engagement activities to inform the Provincial Needs Analysis, both general and targeted, are currently underway. Direct engagement with residents is underway with municipalities being encouraged to promote (poster attached for reference). Targeted engagement of municipal councils and staff is also underway with the Town Council participating in a session with COLAB on October 27th.

Housing Authority Consolidation

A new Crown Corporation, the “Nova Scotia Provincial Housing Agency”, will be established “to provide oversight and accountability for public housing in Nova Scotia”. This means that the current 5 Housing Authorities will join together to become one new Crown Corporation. The Department of Municipal Affairs and Housing will provide strategic oversight to the Crown Corporation while continuing to maintain responsibility for other housing-related programs, agreements, and initiatives. Existing financial agreements will not change as a result of the establishment of the new Crown Corporation.

The five Housing Authority boards will be dissolved and their review function will be undertaken by staff of the Crown Corporation. The Province’s recent news release indicates that, “The Crown Corporation

will be solely focused on improving public housing from one end of the province to the other, by standardizing and streamlining operations.” The Province anticipates that the Crown Corporation will be operational by the end of this year.

Staff-Level Regional Coordination

As noted above, relevant staff of the five municipalities in Lunenburg County are meeting semi-regularly to discuss the units’ approaches to housing strategy development. Regional strategy development has not been significantly explored to date but opportunities exist for coordination in areas such as Planning approaches, home heating programs and infrastructure development.

Provincial Interest in Planning Documents

The Province, in their action on housing, have been taking a more direct role in municipal planning through the issuance of Statements of Provincial Interest (such as the attached re small option homes) and withholding Ministerial approval from planning amendments seen as contradicting the Province’s intentions with respect to housing. It will be important to align the Town’s planning approach with that of the Province, particularly as regards housing development.

Housing and Plan Mahone Bay Process

The ongoing Plan Mahone Bay process is a key opportunity for Council to pursue its strategic goals with respect to housing as the community’s Municipal Planning Strategy and Land Use By-law are major influencers over housing development, particularly with respect to development of market housing and the affordability of housing.

Motions of Council with respect to housing in the Planning process:

“Staff to initiate discussion with MODL Planning staff and prepare a report for Council about the possibility of intermunicipal collaboration between the Town of Mahone Bay and MODL on the topic of housing in the preparation of their respective planning documents.” (Nov 26, 2020)

“That minimum standards for housing be reflected in any housing strategy that the Town may develop.” (Sep 14, 2021)

“Staff to provide a report on the next steps to develop a housing plan for Mahone Bay.” (May 10, 2022) <- this report

Financial Analysis:

The approved budget for Housing Strategy Development is \$30,000 over fiscal 2022-23 (\$5,000) and fiscal 2023-24 (\$25,000). The \$5,000 anticipated for 2022-23 would be for any additional consultation or other data collection in relation to Provincial Housing Strategy / Needs Assessment, if Council determines it necessary to supplement the work going on at the Provincial level. The allocation to 2022-23 had however anticipated earlier completion of the Provincial Needs Analysis process – as noted above – and it would now be reasonable to expect the full \$30,000 to be moved ahead to fiscal 2023-24.

Climate Analysis:

Multi-unit housing reduces emissions per dwelling unit, housing developments in the downtown core reduce emissions from transportation, new and renovated housing stock presents opportunities for electrical heating to support the phase-out of fossil fuels.

Strategic Plan:**2.1 Support Housing Supply to Meet the Needs of Growing Community**

- Develop and implement Housing Strategy with affordability as its focus

Recommendation:

It is recommended,

THAT Council accept this report for information.

Attached for Council Review:

- Dec 14, 2021 Staff Report re Housing Strategy Development
- NS Housing Strategy Poster
- Statement of Provincial Interest Regarding Housing and Small Option Homes - Bulletin of June 2022

Respectfully Submitted,



Dylan Heide
Town of Mahone Bay CAO

Appendix A



Town of Mahone Bay

Staff Report

RE: Housing Strategy Development

December 14th, 2021

General Overview:

This report is intended to provide Council with information related to the development of a housing strategy, as per Council's 2021-25 Strategic Plan, as well as to seek Council's direction on the development of the strategy.

Background:

The [2021-25 Strategic Plan](#) (approved by Council June 3, 2021) includes the following with respect to the development of a Housing Strategy:

2.1 Support Housing Supply to Meet the Needs of Growing Community

Support population growth with an increased number of dwelling units by implementing a Town Housing Strategy that fosters housing affordability, reduces the number of households in core housing need, and preserves our built heritage.

Strategic Actions:

- Develop and implement Housing Strategy with affordability as its focus

Key Measurable Results:

- 10% population increase with diversity in age, ethnicity and income.
- Increased supply of affordable housing (costing less than 30% of Mahone Bay's median household income) to 25% of total housing units.

The timeline for development and initial implementation of the strategy is shown as Q3 fiscal 2021 to Q4 fiscal 2023.

Council included an allocation of \$30,000 for housing strategy development in the 2021-22 operating budget.

In Q1 and Q2 of 2021-22 Council has also given subsequent directions re:

- Connecting with MODL planning staff with regards to housing and land use; and,
- Incorporating Minimum Standards for rental housing into the housing strategy.

Prior to the development of the 2021-25 Strategic Plan, housing had been the topic of staff reports dated Nov 28, 2019 ([re Housing Committee](#)) and Jan 28, 2021 ([re Housing Call for Proposals](#)), which informed the need for a Mahone Bay housing strategy as reflected in the 2021-25 Strategic Plan.

The South Shore Housing Action Coalition – of which the Town is a member, along with the other municipal units in Lunenburg County – has also done considerable work in recent years which would inform the development of a Mahone Bay housing strategy. In particular, a regional housing needs assessment was carried out in 2016 with Mahone Bay as one of the participating communities (available [HERE](#)) and a housing policy toolkit for municipalities was developed (available [HERE](#)).

Housing supply and affordability were significant issues in the recent Provincial and Federal elections and Provincial and Federal priorities for housing will significantly inform the development of a Mahone Bay housing strategy.

The Provincial Government in particular has unveiled a new “Solutions for Housing and Homelessness” position document since the recent election, laying out the priorities and approach of the new government (available [HERE](#)); the prior NS Housing Action Plan is available [HERE](#), for reference.

It is worth noting that the Province’s new approach includes amending the Municipal Government Act (MGA) to introduce “flexibility in taxation that will encourage affordable housing development”; we don’t yet know what form this will take, but potentially it will include giving Municipalities the ability to provide a property tax rebate for private developers on some defined form(s) of housing development.

The Federal Government has put a significant focus on housing in recent years, with a well-defined national housing strategy (detailed [HERE](#)). The federal Canada Mortgage and Housing Corporation (CMHC) provides additional guidance to municipalities on the development of local housing strategies (available [HERE](#)).

Both Provincial and Federal approaches to housing – particularly as regards financial partnerships with municipalities – tend to focus on “shovel-ready” projects on public lands.

Analysis:

In preparation for the development of a Mahone Bay housing strategy staff have reviewed numerous municipal strategy documents and guidance documents developed in various jurisdictions (for example [What is a Local](#)

[Housing Strategy and Why is it Important](#) and [Key Steps to Develop a Local Housing Strategy](#), from the American community of practice Local Housing Solutions). All local housing strategies reviewed began with a needs assessment including public engagement, followed by vision and goal setting, definition of actions, and progress measures. A needs assessment is therefore the first component of strategy development to be considered.

As noted above, a prior housing needs assessment for Mahone Bay was undertaken by the South Shore Housing Action Coalition in 2016 ([Mahone Bay needs assessment excerpt](#)). This assessment consists of statistical information (from the 2016 federal census) and public input gathered through engagement activities (a targeted phone survey carried out at the regional level).

The 2016 needs assessment includes the most recent census data currently available. Housing data from the recent 2021 census will be made available from Statistics Canada in 2022, in particular September 21st is scheduled as the release date for “Canada’s Housing Portrait” (census data release schedule available [HERE](#)). Public input informing the 2016 needs assessment is now five years old and could be updated via another targeted survey (potentially carried out again at the regional level) or other engagement activities (staff could develop a draft engagement plan at Council’s direction, in accordance with the Town’s [Public Engagement Policy](#)).

In proceeding with the development of a housing strategy for Mahone Bay Council needs to determine whether the 2016 needs assessment is sufficient or whether a new needs assessment will be conducted. If a new needs assessment is undertaken to inform the housing strategy staff strongly recommend utilizing the 2021 census data rather than 2016 data. While awaiting the release of the census data in the Fall of 2022 new public input could be collected.

Before proceeding with a new needs assessment the potential for a regional approach should be explored, particularly if there is an interest in conducting another targeted survey of residents in all participating units. Per prior reporting from the Town’s SSHAC Board member (Councillor Burdick) it is understood that the Town of Bridgewater is interested in carrying out a new needs assessment and further that SSHAC would support such a regional approach to undertaking a new needs assessment. Recent comments from the Deputy Minister of Municipal Affairs and Housing indicate that the Province would also be supportive of a regional approach to housing needs assessments. As such a regional housing needs assessment would be undertaken in 2022, agreement between participating municipal units (and potentially the Province as a funder) would be needed as soon as possible.

Financial Analysis:

The 2021-22 budget included \$30,000 for housing strategy development. Depending on Council's direction on the conduct of a needs assessment, this budget allocation – presuming it is carried over to 2022-23 – will be substantially more than would be required for this initial component, leaving remaining funds to support future strategy components (vision and goal setting, definition of actions, and progress measures), via contracted or term resources. If a needs assessment were to be carried out regionally Provincial funding may further defray the Town's costs for this component.

Climate Analysis:

The development of a Mahone Bay housing strategy presents potential opportunities for climate action to be explored.

Strategic Plan:**2.1 Support Housing Supply to Meet the Needs of Growing Community**

- Develop and implement Housing Strategy with affordability as its focus

Recommendation:

It is recommended,

THAT Council direct staff to prepare a letter to the Mayors/Wardens and Councils in Lunenburg County requesting their support for a regional housing needs assessment to be carried out in 2022 utilizing 2021 census data, and for jointly approaching the provincial Department of Municipal Affairs and Housing to support this initiative.

Attached for Council Review:

None

Respectfully Submitted,

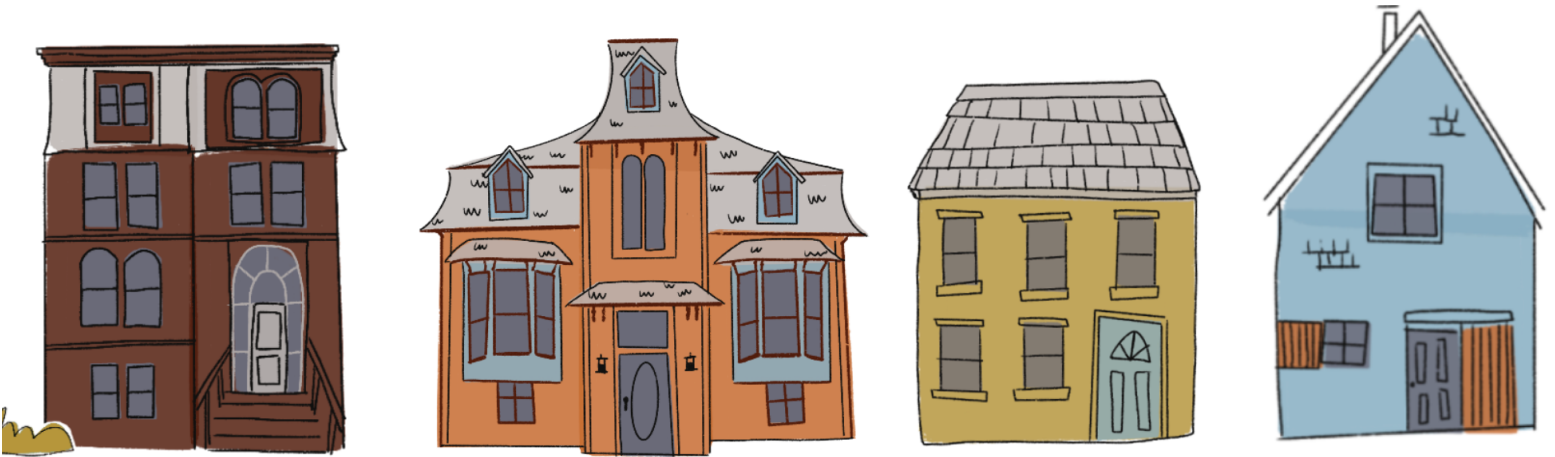


Dylan Heide
Town of Mahone Bay CAO

We want to hear from you!

Appendix B

Nova Scotia Housing Needs Assessment



What are the housing needs of Nova Scotians? What housing challenges have communities been facing? Where does housing need to be built across the province?

Addressing the housing crisis in the province requires informed decisions. However, not all 49 municipalities across the province have access to housing data and information. This is the gap that the Nova Scotia Housing Needs Assessment is trying to fill.

Want to learn more about the project?
Visit our website at NSHousingNeeds.ca

Have your voice heard!
Scan to take the Housing Needs Survey:



Appendix C



Department of Municipal Affairs and Housing

Floor 8 North, Maritime Centre
1505 Barrington Street
PO Box 216
Halifax, NS B3J 2M4

Telephone: 902.943.0408
Fax: 902.424.0821
E-mail: Christina.Lovitt@novascotia.ca

October 21, 2022

TO: CAOs & Clerks / Municipal Planning Staff

**RE: Statement of Provincial Interest Regarding Housing and Small Option Homes -
Bulletin of June 2022**

The Department of Municipal Affairs and Housing has received questions seeking clarification regarding the letter and Information Bulletin released on June 6, 2022, clarifying the Statement of Provincial Interest regarding Housing and the application to small option homes. This letter is to provide that clarification to all municipalities.

Small option homes are a type of home, licensed under the *Homes for Special Care Act*, that house three or four residents with developmental, mental health or physical disabilities. Residents live independently in community and receive assistive support from staff. In land use matters, small option homes function in the same manner as other residential dwellings. Regulation that restricts access to classes of persons where the building use, land use, structure, and lot geometry are the same as for any other dwelling within a zone are inappropriate and, in the case of small option homes, would be considered inconsistent with the Statement of Provincial Interest regarding Housing.

Small option homes typically exist as single-unit dwellings, but may also exist as other types of dwellings, such as duplexes or other conventional housing forms (triplexes, multi-unit residential, etc.). Based on this, where a type of dwelling is permitted, a small option home of that same type of dwelling is to also be permitted. This applies to all zones that permit residential uses and is not limited to zones classified as 'Residential.'

We encourage municipalities to review their Municipal Planning Strategy and/or Land Use By-law with the intent to remove any possible exclusionary language or other barriers for small option homes that may currently exist within the planning documents.

Should you have any questions pertaining to small option homes as they relate to your planning documents, please feel free to contact me.

Kind regards,

Christina Lovitt, MCIP, LPP, PMP
Provincial Director of Planning

/kz



General Overview:

The purpose of this report is to provide a recommendation to Council to approve an application to the Nova Scotia Thriving Forests program.

Background:

A new funding opportunity called *Nova Scotia's Thriving Forests* was recently launched by the Clean Foundation. This is made possible through funding from the Government of Canada's *2 Billion Trees Program* and the Province of Nova Scotia. The program will fund tree planting initiatives and habitat restoration to help Nova Scotia achieve its ambitious goal of planting 21 million trees over the next decade.

Eligible parties include individuals, community groups, businesses, non-profit organizations, Indigenous communities & organizations, municipal, provincial and federal agencies who own (or have rights to) land in the Province of Nova Scotia.

Deliverables of eligible projects include reducing GHG emissions, achieving environmental co-benefits like forest resilience to climate change, and human well being co-benefits.

The Town of Mahone Bay Urban Forest Management Plan, which is scheduled for completion this fiscal year, will likely include tree planting actions and objectives. The Town will be looking to organize tree planting initiatives in accordance with this Plan, so this funding is the perfect opportunity to support those initiatives. The Management Plan will most likely include recommendations for planting on Town and private property. Planting on Town property will include reforesting the solar garden transmission line easement that was cut back for the construction of a service road this year, as well as planting street trees to restore the urban canopy.

Analysis:

The Clean Foundation is asking for interested parties to submit Expressions of Interest (EOI), to be followed by applications if the EOIs are successful. Exact details of the project are not required at the EOI stage. No information regarding the trees, or a budget are asked for. The Clean Foundation is simply looking to identify areas, organizations and landowners in the province who are looking to plant trees.

We will be contacted by the Clean Foundation after submitting the EOI to discuss the potential project. The team will help us to develop and refine the



project idea. It will then be reviewed and approved by a Provincial Steering Committee.

The Expression of Interest is due on July 30th, 2023.

Financial Analysis:

Up to 100% of planting project costs – whether direct costs to the Town or costs incurred by residents planting on private property – may be covered through the *Nova Scotia's Thriving Forests* program. However, the Town also has the ability to leverage the \$20,000 allocation for tree removal / planting in the approved 2023-24 budget – as well as potentially donations received from the public for tree planting – and any allocation Council may see fit to make in association with the Community Solar Garden Project, demonstrating a level of commitment to the project and potentially improving the likelihood of receiving funding under this program.

Climate Analysis:

Planting trees will help the Town to achieve net zero GHG emissions, as the trees will help counteract emissions. Planting trees will also help the Town to achieve the GHG Reduction Plan goal of net zero tree loss.

Links to Strategic Plan:

3.1 Reduce Community Greenhouse Gas Emissions

- Implement community Greenhouse Gas (GHG) Reduction Action Plan

3.3 Practice Stewardship of Our Natural Environment

- Develop and implement Urban Forest Management Plan (including parks)

Recommendation:

It is recommended,

THAT Council direct staff to submit an application to the Nova Scotia Thriving Forests program.

Respectfully submitted,

Lauren Clark

Climate and Energy Program Manager



Town of Mahone Bay
Staff Report
RE: ACOA Project Funding
July 27th, 2023

General Overview:

This staff report is intended to present Council with a recommendation to apply for Federal funding to support infrastructure improvement projects.

Background:

The Canada Community Revitalization Fund (CCRF) was launched in June 2021 offering federal funding to municipalities to revitalize downtown infrastructure – particularly open outdoor spaces – in the wake of COVID-19. The fund would provide up to 50% funding for infrastructure projects and was administered in Atlantic Canada by the Atlantic Canada Opportunities Agency (ACOA).

The Town applied for CCRF funding in July of 2021. To support that application an Opinion of Probable Costs for various components was obtained from Vigilant Atlantic (attached as Appendix A).

The Town's CCRF application was not successful, and as a result some project components moved ahead with other funding while the remainder were parked on Council's 10-year capital investment plan for budgetary consideration in future years.

Analysis:

Staff continue to work to secure external funding for the various projects on Council's 10-year capital investment plan. Recently we received confirmation from ACOA that their Innovate Communities Fund (ICF) would support many of the projects formerly included in the Town's 2021 CCRF application. ICF would provide up to 33% funding for these infrastructure projects, which could in turn assist in leveraging matching funding from the Province (through various programs).

Eligible components include waterfront lighting and electrical upgrades planned for Edgewater Street, the long-proposed Edgewater-Main pedestrian bridge, upgrades to both waterfront comfort stations, and planned improvements to the bandstand. Improvements to the Mahone Bay Marina would also be eligible under this fund if we chose to include such, though not structural repairs.

These components of the Town's waterfront infrastructure improvement plans are intended to complement other larger projects including the Edgewater Multi-Use trail and Living Shoreline. Staff have developed the following illustration of the various infrastructure projects planned for the Edgewater Street area and how they fit together:



Financial Analysis:

The total ICF application to be submitted to ACOA would look much like the previous CCRF application and staff anticipate applying for funding to support approximately \$750,000 in capital expenditures (component costs per the Council's 10-year Capital Investment Plan adjusted for inflation and inclusive of construction contingency). With ICF providing 33% funding, this application would have potential to secure ~\$250,000 in federal funding to support these projects.

Most of the components would also be eligible for Provincial funding under various Department of Municipal Affairs and Department of Communities, Culture, Tourism and Heritage programs, as well as for use of the funds already granted the Town by the Sustainable Services Growth Fund (\$271,071) as noted in the 2023/24 budget process.

If ICF funding is approved it is anticipated that work on the various project components would take place in fiscals 2024/25 and 2025/26, coordinated with the other major infrastructure projects in the area. This would enable staff to continue working to secure Provincial funding through fiscal 2023/24.

Climate Analysis:

Various active transportation components included in the proposed ICF application would support residents and visitors in choosing active transportation modes over vehicle use, reducing GHG emissions from transportation in the town.

Strategic Plan:**1.3. Improve Accessibility of Public Infrastructure**

- Strategically improve transportation infrastructure to support healthy living

Recommendation:

It is recommended,

THAT Council direct staff to apply to the ACOA Innovative Communities Fund for funding to support various infrastructure improvements in the downtown core included in the Council's 10-year Capital Investment Plan.

Attached for Council Review:

- WSP Opinion of Probable Costs for 2021 CCRF Application

Respectfully Submitted,



Dylan Heide
Town of Mahone Bay CAO

OPINION OF PROBABLE COST
D Estimate

Project No. 1500002
 Location: Mahone Bay
 Client: The Town of Mahone Bay
 Designer: Dylan Heide
 Estimated by: JoAnne Murray PQS MRICS
 Reviewed by: Ian Duffett P.Eng



Date: 2021-07-23

		Quantity	Unit	Material	Installation	Equipment	Labour	Unit Price	Total	% of Total
	Project Area 1	Additional Street lights and 2 power points for events		\$ 33,994.52	\$ 13,400.00	\$ 4,000.00			\$ 56,533.98	10%
	<u>6 street poles with lights as to match existing</u>									
	Set set up, mobilize plant to site	1	Sum			\$ 2,000.00		\$ 2,000.00	\$ 2,000.00	0%
	Supply price as advised \$3266.67/pole plus 10% uplift for 2021	6	Each	\$ 21,560.02				\$ 3,593.34	\$ 21,560.02	4%
	Delivery charge - \$150/pole	6	Each	\$ 900.00				\$ 150.00	\$ 900.00	0%
	General contractors mark up on materials - 7.5%	1	Sum	\$ 1,684.50				\$ 1,684.50	\$ 1,684.50	0%
	Run duct from existing pole - assumed 30ft/pole	180	ft	\$ 4,500.00				\$ 25.00	\$ 4,500.00	1%
	Stand each pole, install and secure in concrete base	6	Each		\$ 12,810.00			\$ 2,135.00	\$ 12,810.00	2%
	<u>2 additional electrical recepticals for events</u>									
	Spur off within existing lamp pole	2	Each		\$ 440.00			\$ 220.00	\$ 440.00	0%
	Run conduit from existing pole locations, assumed 100 feet away	200	ft	\$ 5,000.00				\$ 25.00	\$ 5,000.00	1%
	Double waterproof recetacle	2	Each	\$ 350.00	\$ 150.00			\$ 250.00	\$ 500.00	0%
	Demobilise on completion	1	Sum			\$ 2,000.00		\$ 2,000.00	\$ 2,000.00	0%
	Design contingency of this Project Area	10	%						\$ 5,139.45	1%
	Project Area 2	Winterizing comfort stations		\$ 3,190.00	\$ 2,275.00	\$ 2,175.00	\$ 4,500.00		\$ 13,354.00	2%
	Set set up, mobilize plant to site	1	Sum			\$ 500.00		\$ 500.00	\$ 500.00	0%
	Remove sufficient area of gyproc ceiling to expose roof space	300	ft				\$ 750.00	\$ 2.50	\$ 750.00	0%
	Provide and install R25 insulation panels (polystyrene bats on board)	300	ft	\$ 1,050.00			\$ 1,950.00	\$ 10.00	\$ 3,000.00	1%
	Finish Gyproc, tape, flash and final paint	300	ft	\$ 600.00			\$ 1,800.00	\$ 8.00	\$ 2,400.00	0%
	Supply and install 2 electric baseboard heaters	2	Each	\$ 390.00	\$ 550.00			\$ 470.00	\$ 940.00	0%
	Locate electric feed and spur to new baseboard heaters	2	Each	\$ 50.00	\$ 100.00			\$ 75.00	\$ 150.00	0%
	At another location, supply and install 5 baseboard heaters	5	Each	\$ 975.00	\$ 1,375.00			\$ 470.00	\$ 2,350.00	0%
	Locate electric feed and spur to new baseboard heaters	5	Each	\$ 125.00	\$ 250.00			\$ 75.00	\$ 375.00	0%
	Test and certify	1	Each			\$ 175.00		\$ 175.00	\$ 175.00	0%
	Remove all arisings and demobilise on completion	1	Sum			\$ 1,500.00		\$ 1,500.00	\$ 1,500.00	0%
	Design contingency of this Project Area	10	%						\$ 1,214.00	0%
	Project Area 3	Bandstand Improvements		\$ 24,275.00	\$ 2,830.00	\$ 1,000.00	\$ 1,550.00		\$ 31,137.75	5%
	Set set up, mobilize plant to site	1	Sum			\$ 500.00		\$ 500.00	\$ 500.00	0%
	Purchase 20'x8' storage unit	1	Each	\$ 3,950.00			\$ 800.00	\$ 4,750.00	\$ 4,750.00	1%
	Check and upgrade power at bandstand	1	Sum	\$ 1,000.00	\$ 500.00			\$ 1,500.00	\$ 1,500.00	0%
	Provide power points at bandstand	8	Each	\$ 2,500.00	\$ 795.00			\$ 411.88	\$ 3,295.00	1%
	PA System, main unit, 4 standard speaker units, future proof induction loop ready	1	Each	\$ 2,500.00	\$ 795.00			\$ 3,295.00	\$ 3,295.00	1%
	Lighting - assumed floor mounted floodlights	2	Each	\$ 2,000.00	\$ 240.00			\$ 1,120.00	\$ 2,240.00	0%
	Lighting, under soffit mounted spotlights for performers	6	Each	\$ 750.00	\$ 250.00			\$ 166.67	\$ 1,000.00	0%
	Heavy duty outdoor roller shades	5	Each	\$ 125.00	\$ 250.00			\$ 75.00	\$ 375.00	0%
	Demountable sun shades over bleacher seating	2	Each	\$ 1,150.00				\$ 575.00	\$ 1,150.00	0%
	Garbage bins - aluminum with removable inner, 40 gallon capacity, in concrete base	2	Each	\$ 2,000.00			\$ 600.00	\$ 1,300.00	\$ 2,600.00	0%
	Sign plaques, with up to 450 letters incorporated within cast metal	2	Each	\$ 6,000.00				\$ 3,000.00	\$ 6,000.00	1%
	Bulletin board - 8' x 4'	2	Each	\$ 800.00			\$ 150.00	\$ 475.00	\$ 950.00	0%
	Sandwich board	2	Each	\$ 1,500.00				\$ 750.00	\$ 1,500.00	0%
	Demobilise on completion	1	Sum			\$ 500.00		\$ 500.00	\$ 500.00	0%
	Design contingency of this Project Area	5	%						\$ 1,482.75	0%
	Project Area 4	Accessible crosswalks and walkways		\$ 32,303.14	\$ 1,400.00	\$ 1,000.00	\$ 32,916.00		\$ 74,381.06	13%
	Set set up, mobilize plant to site	1	Sum			\$ 500.00		\$ 500.00	\$ 500.00	0%
	<u>Works required to 7 Nr accessible walkways</u>									
	Break out existing concrete curbs and sidewalk, area 6x6, both sides	504	SF				\$ 6,048.00	\$ 12.00	\$ 6,048.00	1%
	Precast drop curbs at either side of new sidewalk slope	28	Ea	\$ 1,540.00			\$ 4,900.00	\$ 230.00	\$ 6,440.00	1%
	Tie in to existing sidewalk, ramping down to ground level	504	SF	\$ 1,260.00			\$ 1,512.00	\$ 5.50	\$ 2,772.00	0%
	Pavement markings, thermoplastic tape, 12' wide	504	LF	\$ 1,208.00			\$ 1,008.00	\$ 4.40	\$ 2,216.00	0%
	Pole mounted pedestrian crossing sign, pole set in concrete	14	Each	\$ 7,000.00				\$ 500.00	\$ 7,000.00	1%
	Site safety for pedestrians, provide and erect suitable access control equipment	7	Each		\$ 1,400.00			\$ 200.00	\$ 1,400.00	0%
	Demobilise on completion	1	Sum			\$ 500.00		\$ 500.00	\$ 500.00	0%
	<u>Improve trail crossing at Main and Longhill</u>									
	Break and dig out existing sidewalk, area approximately 130 x 6'	780	SF				\$ 11,700.00	\$ 15.00	\$ 11,700.00	2%
	Bituminous sidewalk along trail	780	LF	\$ 1,950.00			\$ 1,560.00	\$ 4.50	\$ 3,510.00	1%
	Tie in to existing roadway	2	Each				\$ 900.00	\$ 450.00	\$ 900.00	0%
	Pavement markings, thermoplastic tape, 12' wide	144	LF	\$ 345.14			\$ 288.00	\$ 4.40	\$ 633.14	0%
	Pole mounted pedestrian crossing sign, pole set in concrete	2	Each	\$ 1,000.00			\$ 500.00	\$ 750.00	\$ 1,500.00	0%
	<u>Improve pedestrian walkway to the Aquatic Gardens</u>									
	Bituminous sidewalk - route and area to be confirmed	1500	SF	\$ 18,000.00			\$ 4,500.00	\$ 15.00	\$ 22,500.00	4%
	Design contingency of this Project Area	10	%						\$ 6,761.91	1%
	Project Area 5	Edgewater to main bridge and waterfront walkways							\$ 364,254.00	62%
	Set set up, mobilize plant to site	1	Sum			\$ 3,000.00		\$ 3,000.00	\$ 3,000.00	1%
	Prefabricated bridge structure, 160ft span, 6' wide, including cranes etc	960	SF	\$ 278,400.00	\$ 19,200.00	\$ 4,350.00		\$ 314.53	\$ 301,950.00	52%
	Concrete foundations and buttresses	2	Each	\$ 10,000.00			\$ 2,000.00	\$ 6,000.00	\$ 12,000.00	2%
	Pile central support structure	1	Each	\$ 3,500.00			\$ 2,000.00	\$ 5,500.00	\$ 5,500.00	1%
	Build up and repair rockwall to current pavement level	100	LF	\$ 2,500.00			\$ 3,500.00	\$ 60.00	\$ 6,000.00	1%
	Bituminous sidewalk, 4' wide	100	LF	\$ 540.00			\$ 650.00	\$ 11.90	\$ 1,190.00	0%
	Remove all arisings and demobilise on completion	1	Sum			\$ 1,500.00		\$ 1,500.00	\$ 1,500.00	0%
	Design contingency of this Project Area	10	%						\$ 33,114.00	6%



Town of Mahone Bay
Staff Report
July 27th, 2023
RE: Temporary Borrowing
Resolutions

RE: Waterline Upgrades for Long Term Care Facility Project Temporary Borrowing Resolution (TBR) and Balloon Payment Renewal

Overview:

The Waterline Upgrades for the Long-Term Care Facility Project cost the Town a total of \$549,771.85 (net of refundable HST).

In addition to approving a TBR in the above amount, staff are recommending that Council approve a Balloon Payment Loan Renewal in the amount of \$132,500.

Waterline Upgrades for the Long-Term Care Facility Project: The Long-Term Care Facility construction required a partnership between MacLeod Group and the Town – approved by the NSUARB. The Town needed to replace and upgrade the water distribution line from the Water Treatment Plant to Main Street to better serve the new Long-Term Care Facility. The upgrade – which also included the replacement of other buried infrastructure in the area – benefits all water system users and represents a first step in Council's goal of replacing 50% of the Town's core water, wastewater, and stormwater infrastructure on Main Street.

All costs for the project have now been incurred. To date, the Town has paid a total of \$549,771.85 (net of refundable HST); approximately 60% of total project costs. A TBR for this amount been prepared and will be filed with Council's approval.

Debenture 28-A-1 Balloon Payment Renewal: On October 24, 2008, the Town received a loan with a total Principal Payment of \$530,000. The final Principal payment of \$132,500 is due October 24, 2023. Staff are recommending that Council approval the renewal of this loan for another 5 years.

It is recommended that Council kindly pass the following resolutions (attached):

- The TBR for the Waterline Upgrades for the Long-Term Care Facility Project for \$549,771.85, and;
- The TBR Renewal Balloon Payment for \$132,500.

Kind Regards,

Ashley Yeadon-Wentzell

MUNICIPAL COUNCIL OF THE

TEMPORARY BORROWING RESOLUTION

Amount: \$ _____

Purpose: _____

WHEREAS Section 66 of the Municipal Government Act provides that the Council of the _____, subject to the approval of the Minister of Municipal Affairs and Housing, may borrow to expend funds for a capital purpose as authorized by statute;

WHEREAS the Council of the _____ has adopted a capital budget for this fiscal year as required by Section 65 of the Municipal Government Act and are so authorized to expend funds for a capital purpose as identified in their capital budget; and

WHEREAS the Council of the _____ has determined to borrow for the purposes of _____;

BE IT THEREFORE RESOLVED

THAT under the authority of Section 66 of the Municipal Government Act, the Council of the _____ borrow a sum or sums not exceeding _____ Dollars (\$ _____) for the purpose set out above, subject to the approval of the Minister of Municipal Affairs and Housing;

THAT the sum be borrowed by the issue and sale of debentures of the Council of the _____ to such an amount as the Council deems necessary;

THAT the issue of debentures be postponed pursuant to Section 92 of the Municipal Government Act and that the Council borrow from time to time a sum or sums not exceeding _____ Dollars (\$ _____) in total from any chartered bank or trust company doing business in Nova Scotia;

THAT the sum be borrowed for a period not exceeding Twelve (12) Months from the date of the approval of the Minister of Municipal Affairs and Housing of this resolution;

THAT the interest payable on the borrowing be paid at a rate to be agreed upon; and

THAT the amount borrowed be repaid from the proceeds of the debentures when sold.

THIS IS TO CERTIFY that the foregoing is a true copy of a resolution read and duly passed at a meeting of the Council of the _____

held on the _____ day of _____, 2023.

GIVEN under the hands of the Clerk and under the seal of the _____

this _____ day of _____, 2023.

Clerk

MUNICIPAL COUNCIL OF THE

TEMPORARY BORROWING RESOLUTION

Amount: \$_____

Refinance Debenture: _____

WHEREAS Section 66 of the Municipal Government Act provides that the Council of the _____ subject to the approval of the Minister of Municipal Affairs and Housing, may borrow to expend funds for a capital purpose as authorized by statute; and,

WHEREAS clause 66 (4)(b) of the Municipal Government Act authorizes the Municipality to expend funds for the purpose of paying or retiring debentures;

BE IT THEREFORE RESOLVED

THAT under the authority of Section 66 of the Municipal Government Act, the Council of the _____ borrow a sum or sums not exceeding _____ Dollars (\$ _____) for the purpose set out above, subject to the approval of the Minister of Municipal Affairs and Housing;

THAT the sum be borrowed by the issue and sale of debentures of the Council of the _____ to such an amount as the Council deems necessary;

THAT the issue of debentures be postponed pursuant to Section 92 of the Municipal Government Act and that the Municipality borrow from time to time a sum or sums not exceeding _____ Dollars (\$ _____) in total from any chartered bank or trust company doing business in Nova Scotia;

THAT the sum be borrowed for a period not exceeding Twelve (12) Months from the date of the approval of the Minister of Municipal Affairs and Housing of this resolution;

THAT the interest payable on the borrowing be paid at a rate to be agreed upon; and

THAT the amount borrowed be repaid from the proceeds of the debentures when sold.

THIS IS TO CERTIFY that the foregoing is a true copy of a resolution read and duly passed at a meeting of the Council of the

_____ held on the _____ day of _____, 2023.

GIVEN under the hands of the Clerk and under the seal of the Council of the _____ this _____ day of _____, 2023.

Clerk

What we have been up to...

TOTAL INTAKES
COMPLETED TO DATE **332**



BREAKDOWN OF HOUSEHOLDS
CURRENTLY EXPERIENCING
HOMELESSNESS/HOUSING INSECURITY

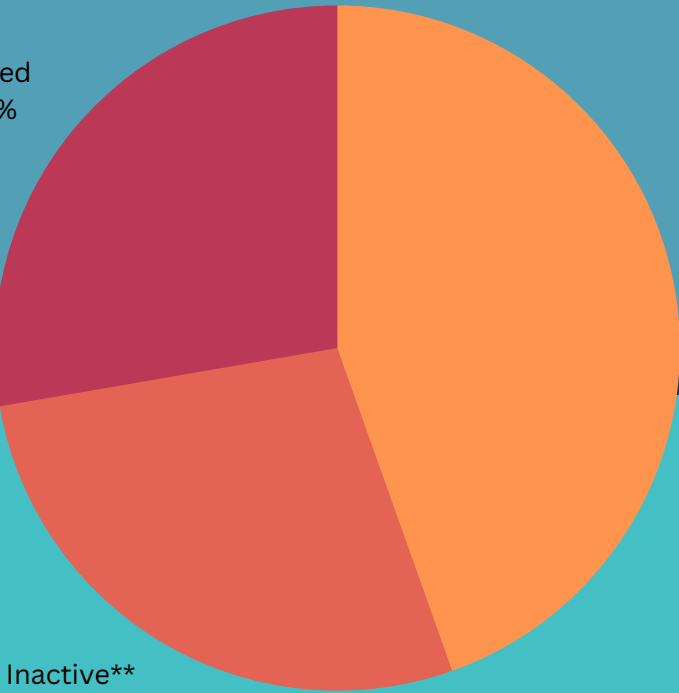
- FAMILIES 139
- SENIORS 80
- VETERANS 10
- INDIGENOUS 37
- AFRICAN NS 11
- YOUTH (25&UNDER) 55
- LATIN HISPANIC 1
- OTHER 14

Number of intakes completed May
30

INTAKES COMPLETED IN MAY:

- 23** ARE ACCESSING OTHER COMMUNITY RESOURCES
- 18** NEED A PET FRIENDLY UNIT
- INCLUDES **24** CHILDREN

Housed
27.7%



Actively Homeless
44.6%

Inactive**
27.7%

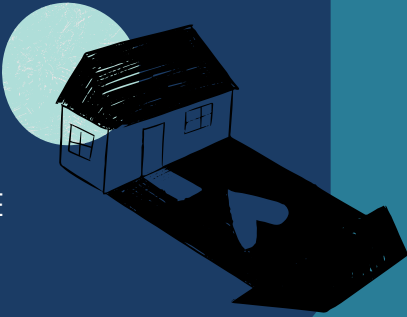
**Of the 303 intakes completed in the past year, this represents the breakdown of who remains active on our list for housing. Inactive clients include eviction prevention, loss of contact, left community, etc.

NUMBER OF
HOUSEHOLDS/INDIVIDUALS
CURRENTLY EXPERIENCING
HOMELESSNESS OR
HOUSING INSECURITY

148

42%
OF TOTAL INTAKES WERE FAMILIES
LIVING IN SITUATIONS OF
HOMELESSNESS

24%
OF TOTAL INTAKES WERE
SENIORS



ORIGIN OF
HOUSEHOLDS FOR
TOTAL INTAKES

- 143 residing in Bridgewater
- 96 residing in MODL
- 40 residing in Queens
- 13 residing in Lunenburg
- 18 residing in Chester
- 15 residing in Mahone Bay
- 19 did not disclose

CHRONIC HOMELESSNESS

DEFINITION: INDIVIDUALS OR HOUSEHOLDS THAT HAVE BEEN LIVING IN SITUATIONS OF HOMELESSNESS FOR 6+ MONTHS WITHIN A 12 MONTH PERIOD OR 18+ MONTHS WITHIN A 3 YEAR PERIOD

NUMBER OF HOUSEHOLDS CURRENTLY EXPERIENCING CHRONIC HOMELESSNESS IN LUNENBURG AND QUEENS COUNTY

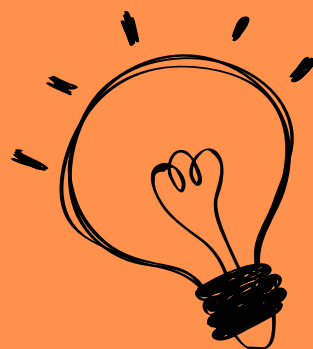
60

MOST COMMON SLEEPING ARRANGEMENTS:

-RENTING PENDING AN EVICTION

-COUCH SURFING

-UNSAFE RENTING



ENERGY POVERTY

102 households Identified as experiencing energy poverty, totalling \$93,454.80 in power arrears.



TOP REASONS FOR HOUSING LOSS

- Eviction due to building being sold
- Eviction due to renovation
- Having to leave due to domestic violence
- Eviction due to breach of conditions

COMMUNITY REFERRALS

PART OF OUR DELIVERY OF SERVICES INCLUDES ENSURING HOUSEHOLDS ENGAGING IN THE COORDINATED ACCESS SYSTEM HAVE ACCESS TO LOCAL RESOURCES OFFERED BY OUR PARTNERS, REQUIRING A COLLABORATIVE APPROACH. HERE ARE THE TOTAL NUMBER OF REFERRALS TO SSODA FROM THE COMMUNITY SINCE OUR OPENING DATE:

SELF REFERRAL - 223
HARBOUR HOUSE - 12
SCHOOLS PLUS - 9
ST VINCENT DE PAUL - 3
YMCA YOUTH OUTREACH - 4
INCOME ASSISTANCE - 35
POLICE/RCMP - 1
SENIOR SAFETY - 1
SOULS HARBOUR RESCUE MISSION - 8
AGENCY OUTSIDE OF LUNENBURG COUNTY - 11
HOSPITAL -17
JUSTICE / PROBATION - 1
LEGION - 2

71

OF HOUSEHOLDS HOUSED TO DATE

Average number of months experiencing homelessness

4

The LCSSP is a free confidential community-based non-profit service that works collaboratively with BPS, RCMP, and many community partners to help address the safety concerns of older adults (55 years of age+), residing in Lunenburg County. Service is provided through awareness campaigns, advocacy, community outreach projects, educational programs, community presentations and one to one service.

Presentations for June: Introduction of new LCSSP Coordinator by David Murdoch to MODC Council, June 14th Michelin Seniors' Expo with CST Upshaw, June 16th Senior's Safety with CST Upshaw for the South Shore Seniors' Club in East Chester.

LCSSP updates/trends:

- **Home Management Navigator Grant project.** Continuing to handout to clients. First responders are now aware of this valuable tool with a reminder of the Vial of Life Program so that new members are aware. Report for this project has been sent in to the Department of Seniors.
- **LCSSP AGM** was held on June 28th via ZOOM – Thank you to all who were able to attend; the active participation of each board member is a vital component of Lunenburg County Seniors' Safety program/service delivery throughout our communities.
- Work is ongoing with the research and development of **Seniors' Mental Wellness toolkit** including local resources to connect with. The toolkit will include a brochure, presentation/workshop (digital and hard copy) and a quick reference card for local contact numbers.
- Dates for **Seniors' Safety Academy** Oct 12 -Nov 16/2023 at the OHC in Chester. More details will follow. Preliminary Presenter interest is growing and aiming to have confirmation from the Presenters in July.
- SSC attended REMO Planning meeting June 19th. SSC inquired as to any learnings/takeaways from the recent wildfires in regards to seniors' evacuation/emergency preparedness, or those with mobility/unique medical needs. (too early for this feedback - a sub committee will meet later in the summer or early fall)
- Continued trend of older adults moving to this area without family support and finding it hard to make local connections.

Lunenburg County Seniors' Safety Program

Monthly Report – June 2023

prepared: July 6, 2023

- Collaborative Home Visits in June with Continuing Care Coordinator, SSODA, BPS and RCMP. Collaborative client meetings with Adult Protections, St. Vincent de Paul, Seniors Community Health Team, Western Housing Authority, SSRH.

Referrals: 14

New Referrals: **12** Re Referrals: **2** Home/site Visits: **23** Active clients: **67**
Closed files: **18**

New Referrals Service Area in Municipal Units (#'s have been rounded either up/down)	%
MODC	14%
MODL	57%
Mahone Bay	7%
Lunenburg	7%
Bridgewater	14%

Referral Source:

Community Partner **21%** Self/Family **40 %** RCMP **21%** BSP **8%**

Areas of concern: Safe Housing, Fraud/Scams, Community resources/connections, Seniors' Mental Health/Addictions and Adult Protection.

LCSSP Client Emergency Contingency Fund (CECF):

The CECF continues to serve the community in partnership with other organizations to help mitigate risk for seniors experiencing financial hardship. **The June 30, 2023 float count balance is: \$964.68.**

\$300 donated generously by St. Vincent de Paul in collaborative payment of a vulnerable senior's emergency moving costs of **\$780**. **\$63.25** lockbox for Continuing Care easy entrance secured apartment to provide services to client. **\$23** sun cover for client, **\$43.68** Upright vacuum for in-home care to clean floors for client.

*'Thank you to all Lunenburg County Seniors' Safety Program supporters.
We couldn't do what we do without you.'*

Accessibility Quarterly Update: April-June 2023

Completed by Ellen Johnson, Accessibility Coordinator, July 15, 2023

Summary

Accessibility work continued as the 2023-2024 fiscal year started. The Lunenburg County Accessibility Advisory Committee (LCAAC) began meeting to review the Town of Mahone Bay Accessibility Implementation Plan with the goal of providing feedback to Town of Mahone Bay Council. This work will continue, along with a similar process for the other municipalities and their plans.

The Accessibility Directorate notified us that the Lunenburg County Accessibility Plan is not currently in compliance with the requirements under the Accessibility Act. Their review of the plan noted that it does not include a required section (actions taken to improve accessibility before the 2021 plan submission). To come into compliance, the missing information will be included in the update to the plan due in 2024. The work being completed now to implement the plan in each municipal unit will be used to inform this update.

The Accessibility Coordinator has continued to work closely with the Accessibility Directorate to ensure clear communication, understanding of obligations and communication of the needs of municipalities. Examples of this work include participating in developing the Accessibility Foundations Training, organizing a meeting between communications staff and the Accessibility Directorate to identify training and resource needs, and arranging for the Accessibility Directorate to present to Town of Bridgewater Council.

At the end of May, we celebrated Access Awareness Week (AAW) with proclamations and raising AAW flags to bring attention to accessibility and the contributions of persons with disabilities. The theme for 2023 was “Access includes Everyone: Moving the Bar on the Quality of Life”. We know that Nova Scotians with disabilities consistently rate themselves lower than those without disabilities on measures of quality of life (e.g., [Engage Nova Scotia Quality of Life Initiative, Engage Nova Scotia](#)). As municipalities, we have a role to play in addressing barriers that contribute to the lower quality of life reported by this population.

The Accessibility Coordinator continues to support projects in individual municipalities to bring an accessibility lens to the work. Examples of this include reviews of policies, practices and bylaws related to heritage, planning, procurement, and Human Resources, participation in planning for projects, infrastructure, and events, and researching complex topics such as heritage and accessibility, designating accessible parking, and determining best practice for parks and trails accessibility in the absence of applicable standards.

Training on accessibility and disability related topics has also continued with the pilot Accessibility Foundations training offered to Councilors and a Plain Language training session for staff. Similar opportunities are being planned for fall 2023 to continue increasing capacity of staff and Councils.

Lunenburg County Accessibility Advisory Committee (LCAAC)

Coordinating LCAAC, ensuring committee is fully appointed and meeting its mandate.

- The LCAAC has a regular meeting time of the first Wednesday of the month at 6pm. Although the committee did not have quorum for the May 3 meeting, those who could attend (including resource staff) began the review of the Town of Mahone Bay Accessibility Implementation Plan. This review continued over two more meetings with various committee members and is expected to conclude in July after another two meetings.
- The June LCAAC meeting was cancelled due to low attendance.
- The July 5 LCAAC regular meeting will focus on updating the committee's Terms of Reference and selecting a chair and vice-chair.
- **Status:** LCAAC is scheduled to meet monthly on the first Wednesday at 6pm.

Accessibility Act Obligations and Involvement with the Accessibility Directorate

Supporting municipal units to plan and implement actions to meet commitments presented in the Lunenburg County Accessibility Plan and to meet obligations under the Accessibility Act (2017).

Lunenburg County Accessibility Plan

This involves working with individuals and small groups of municipal staff to identify appropriate actions for their specific context in development and implementation of the Lunenburg County Accessibility Plan. This also involves updating the regional plan for the 2024 submission to the province in compliance with the Accessibility Act.

With respect to compliance with the Accessibility Act, the Accessibility Directorate informed the Accessibility Coordinator in early April that the Lunenburg County Accessibility Plan that was submitted in 2021 is not in compliance with the requirements. The reason is that it does not list actions that the municipalities took to identify, remove, and prevent accessibility barriers prior to 2021. The Accessibility Coordinator discussed options with the Directorate and, after consulting with all five municipal units, confirmed that we will address this issue by submitting the missing information with the revised accessibility plan due in 2024.

Specific implementation plan progress for the five municipal units is as follows:

Category	MODC	MODL	TOB	TOL	TOMB
Goods and Services	Draft Complete	Draft Complete	Draft Complete	Draft Complete	Draft Complete
Information & Communications	Draft Complete	Draft Complete	Draft Complete	Draft Complete	Draft Complete
Transportation	Draft Complete	In Progress	Draft Complete	Draft Complete	Draft Complete
Employment	Draft Complete	Draft Complete	-	Draft Complete	Draft Complete

Built Environment	Draft Complete	-	In Progress	Draft Complete	Draft Complete
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Status: The LCAAC is currently reviewing the Town of Mahone Bay Accessibility Implementation Plan. The Town of Lunenburg plan is in the last stages of preparation for review by senior staff. The next plan to be finalized is the Municipality of the District of Chester.

Accessibility Directorate involvement

Communicating with the Accessibility Directorate and participating in information and training sessions as appropriate.

- Communications staff from MODL, MODC, and the Town of Lunenburg met with Accessibility Directorate staff to provide information about what would be most helpful to receive from them with respect to communications resources or training. This will help shape what will be offered to Prescribed Public Sector Bodies (PPSB's) in the future.
- Access Includes Everyone photography campaign: The photos taken of Bridgewater Transit for this provincial disability and accessibility awareness campaign are now being used by the provincial government to show how municipalities are taking steps to increase accessibility and to show how people with disabilities are benefiting from accessible infrastructure.
- Accessibility Foundations Workshop: The Accessibility Coordinator participated in the advisory group led by the Accessibility Directorate to develop this basic accessibility and disability awareness training for PPSB's that can be delivered to all staff and Councilors. Councilors in Lunenburg County were offered the opportunity to participate in the pilot workshop in-person on April 5 and 20 Councilors and CAO's/Deputy CAO's attended from all five municipalities. The workshop was updated based on feedback from this session and others across the province and the Accessibility Coordinator attended the train-the-trainer session on May 10.
- The Manager and Executive Director of the Accessibility Directorate presented to the Town of Bridgewater Council on May 23. This followed previous presentations to the Town of Lunenburg and MODL Councils earlier this year. The purpose was to provide up to date information about the status of the Accessibility Act implementation, including standard development and compliance and enforcement and to provide an opportunity for Councils to ask questions.

General and Joint Projects/Activities

Actions related to accessibility in general or joint actions involving multiple municipal units.

- NSBOA Conference Presentation: The Accessibility Coordinator delivered a presentation about the importance of accessibility and the vital role of building inspectors at the Nova Scotia Building Officials Association Conference on April 13, 2023. Building officials have a vital role in interpreting and applying the Nova Scotia Building Code Regulations, which

include the accessibility requirements for buildings, and it is important that they have a clear understanding of the importance of their role with respect to accessibility. This was also an opportunity to summarize the process of the upcoming Built Environment Standard and how it will impact their work.

- **Heritage and Accessibility:** The Accessibility Coordinator has been working closely with the Town of Lunenburg Community Development Department, Building officials, and the Accessibility Directorate to support the difficult situation of addressing challenges between accessibility and heritage infrastructure. The Human Rights decision that requires all new restaurants in Nova Scotia to provide a barrier free path of travel to enter and access an accessible washroom has resulted in some confusion and inconsistencies about how the building code and other regulation and legislation is interpreted and applied. Through this work, it is now very clear that **there are no exceptions** for new restaurants because of the Human Rights decision. The Accessibility Directorate and other partners in government will be working to improve communication on this issue to avoid future confusion. This is particularly important as a second phase of work in response to the Human Rights Decision around restaurants and accessibility is expected to be announced soon to address existing restaurants.
- Efforts continued to explore the best platform for communicating the accessibility features available in municipal buildings and public spaces. This is to address the lack of information available to people who may face accessibility barriers in these spaces and do not have easy access to accurate information required to make decisions about how and if they visit these spaces. This challenge has arisen in several projects including how to communicate the accessibility of washrooms in Town of Lunenburg and the accessibility features of parks and open spaces in MODC. The Accessibility Coordinator continues to raise this issue with the Accessibility Directorate and other organizations who could benefit from a standardized means of communicating this important information and will continue to work toward addressing this issue.
- Initiated conversation with CCTH Community Access-Ability Program about funding amounts, process, and eligible projects.
- **Community Outreach/Consultation:** Recognizing the importance of engaging the community of people impacted by accessibility work, efforts have continued to build and maintain connections with the community.
 - Continued participation in Community Links Aging Well Together Coalition, which brings together organizations and individuals concerned with seniors' health and wellbeing. This group provides a means to learn about issues relevant to seniors in our communities and to disseminate information through the coalition members when appropriate.
 - Continued to add to a contact list of people interested in accessibility in Lunenburg County in share information relevant to accessibility, including consultations and events.

- Continued speaking with individual community members about accessibility-related concerns and involving appropriate staff where necessary.
- Funding Opportunities: The Accessibility Coordinator continues to update the spreadsheet of available funding related to accessibility and to attend regular meetings with staff responsible for grant applications in each municipal unit to support any applications related to accessibility and encourage the inclusion of accessibility into other projects.
- Participated in the MacEachern Institute for Public Policy and Governance research advisory group on the topic of mass evacuation and persons with disabilities. This multidisciplinary project is funded through Accessibility Standards Canada. Several representatives of the group also presented a webinar entitled, [“After Popular Attention Washes Away: Check-In Post-Fiona”](#), which focused on lessons learned from preparation and response to Hurricane Fiona with respect to persons with disabilities and other vulnerable populations.
- Rural Accessibility and Age-Friendliness Infrastructure Assessment (RAAFIA) Project: This project is in partnership with the Planning for Equity, Accessibility and Community Health (PEACH) Research Unit from Dalhousie University. To support the development of the tool to assess the age-friendliness and accessibility of rural communities, community consultations have been held across the province. Two consultations took place in Bridgewater on June 17 and 22 with the Accessibility Coordinator supporting preparation and facilitation.
- Continued to participate in REMO Planning Committee, bringing an accessibility lens to discussions.
- Nova Scotia Provincial Housing Authority Accessibility Advisory Committee (NSPHA-AAAC): Continued to participate in meetings of the NSPHA-AAAC.
- Access Awareness Week (AAW) 2023: This annual celebration is an opportunity to recognize accessibility and inclusion in our province. This year, AAW took place between May 28 and June 3 with the theme of, “Access includes Everyone: Moving the Bar on the Quality of Life”. Supported municipal units to recognize this event with information about proclamations, flag purchasing, and information to share on social media.
- Accessibility-related training:
 - Plain Language Training: This six-hour training took place on June 28 and 29 and was attended by 11 staff representing all five municipal units. When we write using plain language, our message is clear and can be understood the first time. Using plain language is a way to ensure that what we are communicating is understood by the people we are trying to reach. Participants rated the training very highly in the evaluation, with 100% of respondents saying they would recommend the course to others.
 - Accessibility Foundations Training: As noted above, this training was provided in its pilot phase to municipal Councilors on April 5. It is the intention to provide this training to other Councilors and staff now that the Accessibility Coordinator has completed the Train the Trainer session.

- Accessible Social Media: The Accessibility Directorate offered a free, two-hour, virtual training session to PPSB's on June 21. The Accessibility Coordinator and several staff from Lunenburg County municipalities attended. The session focused on how to make social media posts more accessible to people with a variety of disabilities and was very well attended.
- Participation and Monitoring of Accessibility Standards, Regulations, and Programs: National accessibility standards, regulations, and programs are being developed, released, and reviewed by the Government of Canada, Accessibility Standards Canada (ASC) and Canadian Standards Association (CSA).
 - Participate in review of CSA and other accessibility-related standards as they arise.
 - Accessibility Coordinator attended the Accessibility Standards Canada Annual Meeting, which included updates about accessibility standards including the CSA/ASC B651:23 Accessible Design for the Built Environment ([available as a pdf here](#)) and CSA/ASC B652:23 Accessible Dwellings. ([available as a pdf here](#)). There was also an update about the upcoming national accessibility standard for employment, which has a target publication date of summer 2024. These standards are national and based on best practice in accessibility. Although not required to be followed, they are an excellent resource as we await the enactment of provincial accessibility standards.

Specific Projects and Activities in Each Municipal Unit

Participating in projects and activities that support integration of accessibility into everyday practices and increase accessibility in the five areas addressed in the Lunenburg County Accessibility Plan (Goods and Services, Information and Communications, Transportation, Employment, and Built Environment).

Town of Bridgewater

- Accessible Parking: Supported the Engineering Department to research and provide best practice information about the placement of accessible parking in the downtown area. This involved referencing standards from other jurisdictions, policies, and regulations to inform recommendations. A similar topic has also arisen in Town of Lunenburg, which shows that additional work in the area of accessible parking could be beneficial for staff, Councils, and the public to set expectations and clarify processes for designation, installation, and management of accessible parking stalls.
- Provided support to staff for Accessibility Audit of Bridgewater Outdoor Pool and attended site visit with auditor.
- Organized presentation to Council by the Accessibility Directorate on May 23.

Town of Mahone Bay

- Accessibility Planning: The LCAAC has met to review the Town of Mahone Bay Accessibility Implementation Plan. Once the review is complete, feedback will be provided to Mahone Bay Town Council.
- Provided support to Public Works on accessibility of the built environment.

Town of Lunenburg

- Provided support to engineering department on accessible parking placement and process.
- Participated in Accessible Media Inc. (AMI) inclusive travel TV series on the Town of Lunenburg.
- Supported planning and engineering staff on accessibility issues related to temporary sign placement near pedestrian paths of travel.
- As noted above, the Town of Lunenburg is experiencing challenges related to heritage and accessibility. Most immediate is the need to clarify requirements for new restaurants to be accessible and that there are no exceptions for heritage considerations.
- Provided accessibility support to mapping of public washrooms project.
- Supported staff and the Lunenburg Academy Foundation to plan for temporary accessible access to the facility during construction to rebuild the exterior walkway.
- Reviewed draft Heritage Conservation District Plan and Bylaw with an accessibility lens and provided feedback.
- Bluenose II Accessibility Committee: The Accessibility Coordinator continued to participate in this committee in partnership with the Nova Scotia Department of Communities, Culture, Tourism and Heritage, the Bluenose II Captain and staff, and other stakeholders. Most recently, considerations related to accessibility of the visitor experience from the Company Store to the ship and embarking and disembarking are being considered.

Municipality of the District of Lunenburg

- Participated in Parks Accessibility Audit project with staff and consultants. This included participating in initial meetings and site visits to the parks included in the audit and sharing information about trail accessibility best practices.
- Provided support to staff on the topic of accessible signage at parks and trails.
- Supported summer recreation staff to incorporate accessibility into parks surveys to gain information about accessibility of existing MODL parks.
- River Ridge Common Event Planning: Continued participation in the working group to plan a community event at River Ridge Common. The goal is to make this an inclusive and accessible event as much as possible and to engage attendees to provide feedback to improve events in the future.
- Active Transportation Committee: Continued participation in the Active Transportation committee as the updated Active Transportation Plan is created. This included review of RFP and submissions using an accessibility lens.
- MODL 2040 Project: Met with planning staff to apply an accessibility lens to their individual topic areas as they prepared staff reports for Council and attended select presentations.

Municipality of the District of Chester

- Prepared and presented Lunch and Unlearn in partnership with the Equity, Diversity, and Inclusion (EDI) Committee for Access Awareness Week 2023. This involved a film showing of ["Accidental Activist"](#) and follow-up discussion.

- Continued to support accessibility improvements to the Municipal buildings and Wild Rose Park.
- Provided support to staff for decisions related to accessible parks and trails signage.
- Supported revision of Personnel Policy by providing information about application of an accessibility lens.

A meeting of the Climate and Environment Advisory Committee for the Town of Mahone Bay was held on Wednesday, July 5, 2023, at 10:00 a.m. in Council Chambers

Present

Mayor David Devenne
Councillor Penny Carver
Councillor Kelly Wilson
Vernan Haysom
Richard Wilson
Jon Evarts
Amanda Montgomery
Dylan Heide, CAO (joined remotely)
Lauren Clark, Climate & Energy Program Manager
Melissa Walters, Natural Assets Intern

Absent:

Gregg Little (regrets)
James Tilley (regrets)

1. Approval of Agenda

A motion by Mr. Evarts, seconded by Mr. Vernan Haysom, "THAT the agenda be approved as presented." Motion carried.

2. Approval of the Minutes

The approval of the minutes of the June 7, 2023, meeting was deferred until the next meeting because the minutes weren't provided ahead of the meeting.

3. Harbour Water Quality

The committee had a brief discussion with regards to water quality and the Mahone Bay harbour.

A motion by Councillor Wilson, seconded by Mr. Wilson "THAT data and reports concerning harbour water quality monitoring be requested from Coastal Action." Motion carried.

4. Updates

Lauren Clark gave updates on the climate summit, and education package.

Melissa Walters gave an update on the natural assets mapping project.

5. GHG Reduction Action Plan Amendments

The 2023 Update to the GHG Reduction Action Plan was presented to the committee by Lauren Clark (following several months of discussion by the Committee).

A motion by Mr. Haysom, seconded by Mr. Evarts, "THAT the Committee recommend that Council adopt the proposed 2023 Update to the Town's GHG Reduction Action Plan, amended as discussed."

Motion carried.

The amended 2023 update document is attached for reference.

6. Upcoming Meetings – Scheduling

Committee members agreed to continue to meet monthly going forward, starting with the next meeting on September 6th, 2023, continuing to meet on the first Wednesday of each month, at a new start time of 9:00 a.m..

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Chair, Councillor Penny Carver

Town Clerk, Kelly Redden



Town of Mahone Bay GHG Reduction Action Plan March, 2021

2023 Update



1.0 INTRODUCTION

The Climate and Environment Advisory Committee reviewed the GHG Reduction Action Plan adopted by the Town Council in March of 2021, which can be found [on the Town of Mahone Bay website](#).

The Town's Climate & Environment Committee is tasked with reviewing the Plan on an annual basis and making recommendations to Council for updates to the Plan.

The Committee's initial review of the plan concluded in July of 2023 with this update document – prepared by the Town's Climate & Energy Program Manager – being recommended to Council.

It was decided that this update would focus only on the Plan actions, while the Committee will discuss the conduct of a more comprehensive update – including updates to community GHG emission calculations and forecasting – in a future year.

The following updated actions should be read in the context of the original plan linked above.

2.1 HEATING & BUILDING EFFICIENCY



ACTION #1

New buildings standards.

TARGET:

100% of newly constructed residential, commercial, and institutional buildings are net zero ready by 2030 and no longer use fossil fuels.

MAHONE BAY'S APPROACH:

The new 2020 National Energy Code for Buildings supports municipalities by introducing a tiered approach encouraging new construction to be Net Zero Energy Ready (NZER) through building and HVAC efficiencies. Municipalities looking to implement energy efficiency and carbon reduction strategies can prescribe or encourage tiers for new construction that align with the knowledge and capacity of their community.

Tier 1: 2020 Building Code

Tier 2: 10% improved energy performance

Tier 3: 20 % improved energy performance from 2020

Tier 4: 40% improved energy performance from 2020

Tier 5: 70% improved energy performance from 2020

The 2020 Building Code has an ~ 15% better energy ratings than what was enforced in 2015 which was already 10% better than what was enforced in 2015. 2020 Building Code standards can be enhanced via development regulations, which could potentially also impose heat source requirements on new construction (as is being done in some other Canadian jurisdictions).

RESOURCES:

The Town of Mahone is responsible for development services which are provided by the Municipality of the District of Chester under contract. This action will require additional staff time to explore and coordinate proposed regulatory changes and support related public processes / consultations.

2023

CHANGES - The number of targets has changed from 3 to 1. The targets that referred to decreasing average dwelling size and decreasing the number of new single-family homes have been removed.

UPDATES - There has been no change to the status of this Action. Progress on this action may be difficult as the Town has minimal influence over the implementation of the National Building Code.

ACTION #2

Energy efficient and electrically heated municipal buildings.

TARGETS:

100% of existing municipal buildings are retrofit to net zero ready by 2030.

New (heated) municipal buildings will be built to net zero ready standards.



MAHONE BAY'S APPROACH:

As the Town completes upgrades to, and constructs new municipal buildings, electrification and energy efficiency options will be considered in the decision-making process. Prior to major renovations or retrofits, an energy audit may be completed to better inform upgrades to maximize efficiency. Further retrofits to electrify heating systems will reduce GHGs associated with fossil fuels to make use of a cleaner electrical grid.

RESOURCES:

To ensure electrification and energy efficiency is considered in retrofits and new construction, staff time will be needed to coordinate with energy auditors and project contractors. Costs associated with electrification and efficiency options for municipal buildings will be factored into capital project costs.

2023

CHANGES – The action now clarifies that municipal buildings will either be retrofitted to be heated electrically or be built with electric heat incorporated. It gets rid of the word retrofit in the title. The targets have been expanded to include new buildings.

UPDATES – Some updates to Town Hall have been completed including several new windows and heat pumps. There are plans to complete updates to the building by 2024 including exterior improvement that includes replacing the rest of the old windows and removing the oil boiler and replacing it with an electric heat source.

ACTION #3

Electrification and energy efficient retrofits for the private sector.

TARGETS:

Eliminate fossil fuel use for 60% of non-residential buildings by 2040, 100% by 2050.

Improve the energy efficiency of non-residential buildings.



MAHONE BAY'S APPROACH:

Work with Efficiency Nova Scotia, Nova Scotia Business Inc, and other organizations to provide coordinating and external financial assistance to the owners of commercial and industrial buildings for engineering and feasibility studies for larger case-by-case energy retrofits. Smaller businesses may be able to access residential programs.

Efficiency Nova Scotia offers a \$15,000 rebate to eligible customers to conduct a feasibility study by a third-party consultant. The feasibility study will highlight recommendations to retrofit equipment and building envelopes to increase efficiency.

RESOURCES:

Town Staff can work with interested local businesses to access these programs and provide resources to help work through applications and secure reputable consultants.

2023

CHANGES – The targets have been condensed into 2 from 3. Electrifying refers to switching from fossil fuels to electricity, so this does not need to be explicitly stated. Questions around how to measure increased efficiency caused that target to be changed to be more general (improved efficiency).

UPDATES - Thinkwell Shift received funding for their Get 2 Zero program, which Mahone Bay businesses had the opportunity to participate in.

ACTION #4

Electrification of home heating systems and residential retrofits.

TARGETS:

Eliminate fossil fuel use in 50% of homes (that currently use fossil fuels) by 2030, in 80% of homes by 2040, 100% by 2050.

100% of buildings' space heating and cooling needs are met by electric systems by 2050.

Work to expand our renewable energy storage capacity in the form of batteries and electric thermal storage units.


MAHONE BAY'S APPROACH:

With the ability to ensure a 100% renewable supply, the electrification of home heating systems contributes significantly to community GHG reductions.

Approximately 50% of Mahone Bay homes and buildings were built prior to 1980 and supporting the retrofits of these homes to improve efficiencies will realize GHG reductions, more specifically from fossil fuel heated homes.

Heat Pump and Energy Thermal Storage Financing Program

In collaboration with AREA, the Town of Mahone Bay and electric utility has and will continue to implement a financing program for home heating equipment such as heat pumps. This program is referred to as the HOME Program and launched in October 2020 while drafting this action plan. This program supports residents through the process of purchasing and maintaining a heat pump and also offers a financing option. This allows customers of the program to heat their homes more efficiently, with a cleaner source of electricity compared to oil, propane, or wood heat and reduce the upfront costs to homeowners, making the equipment more accessible.




WE TAKE CARE OF YOUR EVERY STEP OF THE WAY.

We can help with your new heat pump purchase.

Make your heating upgrade easy. We take care of the installation worries and you have an easy to manage payment plan when its done!

Visit our site or give us a call for more details
www.heatpumpprogram.ca
1-800-000-0000



Data collected from residents and business also shows that many homes are



already equipped with electric heating and 37% of respondents reported having efficient heat pumps installed and 3 respondents (1%) reported having electric thermal storage units. This number is expected to grow as interest in the HOME Program increases.

There were 78 respondents (26%) that reported having both a fossil fuel source (oil/propane) and electric

source of heat. These respondents are ideal candidates for the home electrification programs as they likely require minimal electrical upgrades, if any, facilitating uptake and installation processes. Similarly, 27% of respondents also stated that they had no electric heating source and use only oil, propane, wood, or a combination of these sources. These homes would likely be more costly to begin integrating electric heat but may also present the biggest emissions savings as any electrical heating upgrades would directly offset fossil fuel emissions.

Neothermal Pilot Project

Neothermal Energy Solutions presented to Council on January 14th, 2020, about conducting a pilot project with ~10 Mahone Bay residents. While currently only in the pilot stage, Neothermal's energy storage solutions allow homeowners to use 50-80% less oil fuel to heat their homes and switch a portion of their heating needs to electric using the time-of-day rates and charging the units throughout the night. If 10 residents pursue this heating upgrade about 16,600 litres of oil per year will be avoided equaling a reduction of 28 tonnes of CO₂e per year. Additional GHG savings can also be realized if the ETS units are charged with excess renewable energy through the night when energy demand is normally low.

These units can be included in a financing program such as referenced above, and staff are investigating other options to support this pilot project. This option will be particularly useful for homeowners who have sunk costs in fossil fuel burning systems to use the remaining life of the systems more efficiently.

Efficiency Nova Scotia

Efficiency Nova Scotia (ENS) offers a Home Energy Assessment (HEA) Program which has an auditor assess homes to provide an energy efficiency roadmap. The Assessment cost is \$99 + HST and includes a follow-up audit. This fee can also be waived for income-qualifying homeowners through ENS's HomeWarming Program. If homeowners choose to make the efficiency upgrade, the follow-up will determine which rebates they are eligible for.

RESOURCES:

Staff time will be required to develop and implement financing options and programs as well as to coordinate with and maximize homeowner access to external resources such as ENS.

Capital funding of \$100,000 over two fiscal years beginning in 2020-21 (originally 2020-21) is recommended to be leveraged against FCM Community Efficiency Financing for an additional \$100,000 in external funding, though private financing to homeowners will continue to be explored wherever possible. Funding for installations on private property would be repayable by residents, secured against their properties.

2023

CHANGES - The targets have condensed into 3 from 4. Specific targets for thermal and electrical savings were removed.

UPDATES - Mahone Bay's HOME program has been in place since October 2020. This program connects residents with financing with the Credit Union Atlantic and heat pumps installed by Greenfoot. A relaunch brochure will be sent out to residents soon with electrical bills. Staff have applied for funding to do a review of the HOME Program, with the goal of identifying how the program can be improved and expanding it to include additional products.

2.2 ELECTRICITY SUPPLY

ACTION #5

Develop Community Solar gardens

TARGETS:

Replace 100% of the remaining grid electricity with green electricity by 2030.

18.8% of load supplied by solar



MAHONE BAY'S APPROACH:

The Town of Mahone Bay, in collaboration with AREA, are seeking new opportunities to expand renewable energy generation to the Mahone Bay Electric Utility (with resident investment), including a community solar garden project and the expansion of the Ellershouse Windfarm.

AREA has been working to secure contractors and materials to begin construction of the solar garden which is proposed to begin in the end of 2021/ early 2022. The community solar garden will include a community subscription opportunity that will be structured to best fit Mahone Bay and its residents and encourage community participation.

The solar garden project is predicated on external funding support through the Investing in Canada Infrastructure Program (ICIP) which is anticipated to provide 73% funding to the project with the remaining \$1,567,535, coming from the Town, further defrayed by resident subscription. This level of funding would support a solar garden producing up to 18.8% of the electricity currently required by the community.

RESOURCES:

Significant staff time will be required to support this project through to full operations, including community outreach.

Capital funding of \$1,567,535 over two fiscal years beginning in 2021-22 is recommended to be leveraged under ICIP for an additional \$4,238,151 in

external funding. Town capital funding to be further defrayed by resident investment.

2023

CHANGES – No changes

UPDATES - Work on the Community Solar Garden has nearly been completed. On behalf of Mahone Bay, Berwick, and Antigonish, AREA applied for funding for three Community Solar Projects. In July 2021 the federal and provincial funding was announced for all three of the Towns' solar garden projects (providing a combined 73% of the cost of the projects). AREA is serving as the general contractor for the projects. The Mahone Bay Community Solar Garden is a 1.873MWpdc project and is expected to provide up to 16% of the Town's energy. The Community Solar Garden has been built at the Mahone Bay wastewater treatment facility site, located at 918 Main St.



ACTION #6

Identify Opportunities for Other Renewables.

TARGETS:

Increase wind supply to 90% by 2035

Replace 100% of the remaining grid electricity with green electricity by 2030.

Offset remaining emissions with overproduction and selling of renewable energy.

MAHONE BAY'S APPROACH:

Staff continue to work with the Alternative Resource Energy Authority to find new opportunities to procure and produce more renewable energy from wind, solar, and hydro.

Currently 40% of the Town's electricity use is produced from the Ellershous Wind Farm. The Town has had great success with Ellershous and will continue to seek out wind energy opportunities to achieve 90% wind energy production by 2035.

As outlined in section 9, with all of the actions implemented from this Plan, there are still some remaining emissions in 2050. In attempt to not only reach the IPCC target of a 45% reduction from 2010 levels by 2030, but also to put Mahone Bay on a path to 100% carbon-free by 2050, opportunities to overproduce renewable electricity and sell the excess to offset remaining emissions – where economically beneficial to the Town and utility- will be identified.

RESOURCES

Town Staff to continue to work with AREA to identify renewable energy procurement opportunities and/or funding sources for development.

2023

CHANGES – No changes

UPDATES - The Alternative Resource Energy Authority (AREA) received funding through the Low Carbon Communities Fund to identify and research additional renewable energy opportunities for Mahone Bay, Berwick, and Antigonish. They will be investigating the impact of options such as additional wind turbines, expanding the capacity of our Community Solar Garden projects, acquiring battery storage, and biofuel gensets.

2.3 TRANSPORTATION

ACTION #7

Implement Transportation Plan (TP) and encourage active transportation.

TARGETS:

40% of trips are walking and cycling (including ebikes) by 2030,

50% by 2050, targeting trips of less than 2km for walking and less than 5km for cycling.

MAHONE BAY'S APPROACH:

In 2020 the Town of Mahone Bay contracted CBCL Ltd. to produce a Transportation Plan Report to address transportation needs in town including but not limited to, pedestrian safety, active transportation routes, parking, and more efficient intersections. There are numerous occasions throughout the year that parking becomes an issue increasing the amount of congestion, idling and driving around to find parking which adds to GHG emissions.

The Transportation Plan Report outlines recommendations the Town can implement to encourage active transportation choices by residents and to optimize the flow of traffic throughout town to reduce unnecessary emissions during busy periods such as events.

During data collection, when asked about active transportation 32% of respondents mentioned they choose active transportation 50% of the time or more and made the following suggestions to encourage more active transportation:

- Pedestrian safety
- Share the road initiatives
- Wider sidewalks and road shoulders
- Trail improvements and maintenance
- Designated bike paths/lanes



- Slower speed limits
- Increased accessibility
- Electric scooters

RESOURCES:

Significant staff time may be required to support this action, depending on the recommendations implemented. Staff time will also be used to encourage active transportation choices by residents.

Capital funding will be needed to implement recommendations provided in the Transportation Plan Report and Town funding can likely be leveraged for at least 50% external funding support under programs such as the Department of Energy & Mines Connect2 Program. Recommendations are likely to be focused on improvements to roads, sidewalks, crosswalks, and associated signage.

2023

CHANGES – No changes

UPDATES - The Town was successful in their 2021 Connect2 funding application. Funding for this program was used to install six new speed humps on Clairmont and Kinburn Street. This action was identified in the Transportation Plan and the Bicycle NS Bikeway Concept Design Report as a recommended speed calming measure. Connect2 funding will also be used to investigate options for a multi-use active transportation path connecting Clearway and Kinburn St. Several new crosswalks have also been installed throughout the Town. These new crosswalks are located at the Anglican Church, Kedy's Landing, on Main St. by the medical centre, and at Long Hill Rd. These new crosswalks will increase pedestrian safety throughout the Town.

Staff have also applied for funding for the Edgewater Street Active Transportation Trail through the federal Active Transportation Fund. This project would create an approximately 400m long designated active transportation trail along the Edgewater St waterfront, connecting Kedy's Landing to the Town center through active transportation. Both residents and businesses located at Kedy's Landing have expressed support for this project.

ACTION #8

Assess transit and shuttle options

TARGETS:

Support viable transit options

Transit and car share mode share increases to 10% by 2030

100% of any transit vehicles be electric by 2040.



MAHONE BAY'S APPROACH:

Citizens for Public Transportation have presented to Town Council and have undertaken considerable work on a proposed fixed-route transit plan for Mahone Bay and surrounding area. Community engagement has also supported the idea of a shuttle service during tourist seasons. These options will continue to be assessed with further work needed to find a viable option for Mahone Bay. Discussions are ongoing with neighboring municipal units.

RESOURCES:

Staff time required to assess feasible options. If a viable option for the Town is identified in the future, further financial resources may be required to implement such a service.

2023

CHANGES – No changes

UPDATES – There are no updates to report on this action item.

ACTION #9

Install electric vehicle chargers within Town

TARGET:

Install 8 charging stations



COMPLETED

2023

CHANGES – The action Item has been completed.

UPDATES - 8 level two electric vehicle charges have been installed throughout the Town. They are located on Clairmont St, at Town Hall, on Main St, the Mahone Bay Civic Marina, at the new Fire Station on Hawthorn Rd, and at the Mahone Bay Centre. These Level 2 chargers feature a J1772 connector, compatible with almost all electric vehicles and plug in hybrids. Level 2 chargers provide up to 30km of range per hour of charging. There is a \$1.50 per hour fee to use the chargers. Individuals can pay for their charging session by adding funds to their FLO account or FLO access card using a credit card. There is an additional 50 cents per hour fee for charging if you are not a FLO member. These chargers allow visitors to Mahone Bay to take advantage of our green energy – which is already 84% non-emitting!

As of July 5th, 2023, these electric vehicle chargers have been used 829 times for over 1,571 hours. The charger located on Clairmont Street by the Pharmasave has been used the most, followed by the charger located at the Mahone Bay Town Hall and the charger located at the Mahone Bay Marina.

ACTION #10

Implement an Electric Vehicle CarShare and encourage vehicle electrification.

TARGETS:

30% of new personal and commercial vehicles are electric by 2030, 60% by 2040, and 100% by 2050

Small vehicle municipal fleet 100% electric by 2030

Heavy municipal fleet is 100% electric by 2040.



MAHONE BAY'S APPROACH:

Staff are exploring options for obtaining an Electric Vehicle for municipal operations and to provide educational and awareness opportunities for community members. Additionally, Town and AREA staff have been discussing options to expand electric vehicle usage in Mahone Bay and propose "Electric Avenue" events to showcase different EV models.

Town and AREA staff are further exploring the feasibility of an Electric Vehicle Carshare Pilot Program with Department of Energy and FCM. Such a program could support early EV adoption in Mahone Bay by making EVs more available and accessible for town residents. An expansion of the single-vehicle option above, this program would allow residents to be a member of the CarShare and use the vehicles as needed while simultaneously making EVs more accessible to test drive different models and familiarize residents with the technology which isn't always available at car dealerships across the Province.

These educational events and the opportunity residents have with a CarShare program aim to facilitate greater EV uptake in town effectively increasing the electrical load and switching vehicles requiring fuel to a cleaner electrical source (and benefiting the Town's utility).

The CarShare program also aims to reduce the number of personal vehicles in town and having fewer trips with combustion engines.

As the majority of drivers in Mahone Bay are only driving 3-4 times per week and ranging 50-200km per week, these statistics look promising for facilitating carsharing as well as the uptake of electric vehicles in Mahone

Bay. Electric cars are currently the most manufactured electric vehicle and the range of these vehicles are surpassing 300km per charge. With the implementation of charging infrastructure within Town, electric vehicles would be very suitable for Mahone Bay residents and business. The data also demonstrates that community members are also interested in electric vehicles with 64% stating they would like to test drive one.

To facilitate the uptake of electric vehicles, expansions to the existing HOME Program could also consider the potential to support residents with home charger installations. This in turn, could help grow the load of the utility.

RESOURCES:

This action is scalable on confirmation of external funding support, from a single EV, test drives and education campaigns to a multi-vehicle CarShare program providing a true alternative to residents. Depending on scale significant staff time will be required to support this project.

Recommended project funding of \$60,000 over two fiscal years beginning in 2020-21 can support a single-vehicle option with educational activities (partially defrayed by corporate savings on mileage reimbursement) or can potentially be leveraged for up to 80% additional external funding (\$240,000) through FCM / provincial sources.

2023

CHANGES – There is no change to the wording of this Action.

UPDATES – Staff submitted a pre-application to the FCM for funding a feasibility study and have been approved to submit a full application. Staff have approached MODL for cost-sharing for an FCM funding application to do an electric vehicle carshare feasibility study, and MODL is interested in working together but not for the current fiscal year. Other municipalities are interested in being kept in the loop, in terms of process on this action item and if there is an opportunity to collaborate.

ACTION #11

Implement Shop and Eat Local Campaign

TARGET:

Encourage local shopping by residents

MAHONE BAY'S APPROACH

A shop local campaign is an action under transportation as it minimizes the number of residents and business ordering products online that require shipping, it also reduces the amount of vehicle trips to locations of greater distance away. Shopping local not only reduces the demand for transportation of goods but also supports Mahone Bay's local businesses.



Though local businesses may still be receiving shipments from other locations we can considerably reduce emissions associated with the transportation sector if, for example, 20 people shopped at a local store for an item rather than have a delivery truck deliver that item to 20 different residents.

Additionally, small changes in the way we choose our food can have an impact on GHG emissions. Certain foods are grown unsustainably, degrading soils and changing land use. Some food categories are energy and water intensive to raise crops and livestock while outputs from others produce significant GHG emissions, like methane from the beef industry. Processing, transport, retail and packaging are all part of our foods' life cycle that should be considered when choosing what we eat.

Eating for our environment does not mean never consuming these foods if it is something you enjoy, but simply being mindful of foods and where they come from and looking for more sustainable products or reducing consumption.

For example, if families chose one day a week and do not consume meat products, they could notice small GHG impacts which could lead to cumulative emissions reductions across the community.

RESOURCES:

This action would require staff time to create and implement the educational awareness campaign through newsletters, events, and social media content. Staff can also work with residents and businesses to determine items that have demand but no local source and work with businesses to find ways to offer these products or services.

2023

CHANGES – There is no change to the wording of this Action.

UPDATES - Initial planning for these campaigns was completed by an intern during the summer of 2022. The Town was not able to secure an intern to continue this work in 2023 but will attempt to do so in 2024.

2.4 SOLID WASTE

Action #12

Implement a waste reduction campaign

TARGETS:

100% diversion by 2050,

Reduce generation 30% by 2050

100% organics diversion by 2050

MAHONE BAY'S APPROACH:

In recent years the Province of Nova Scotia has noticed an increase in the amount of waste per capita being sent to landfills.

This action aims to reduce the use of single use items and find sustainable solutions for municipal operations and to support education and awareness for community residents and businesses.

The Town aims to provide more education on lifecycle analysis of the products consumers toss. Each item has a manufacturing and transport process with associated GHGs before making its way to a consumer. Further, Once an item reaches the end of its life there are transportation emissions to pick-up and deliver waste and additional emissions associated with the process of filling landfills and recycling products.

Finding sustainable products that we can use over again begins to reduce the lifecycle GHG emissions of single use products.

RESOURCES:

Staff time is required to create and implement an educational awareness campaign and to coordinate and host workshops, working with Region 6 Waste Management (in which the Town is a member).



2023

CHANGES – There is no change to the wording of this Action.

UPDATES – Research and outreach material for these campaigns were prepared by an intern during the summer of 2022.

An amended Solid Waste Management By-law was passed on May 26, 2022. The goal of the by-law changes is to reduce plastic contamination in the organics stream. Items such as hot beverage cups and 'biodegradable' plastic bags are often placed in the compost when they belong in the waste stream. The amendments will clarify which paper products are compostable and which are not. This in turn will improve the quality of the finished organic product and reduce plastic contaminants in the organic stream.

2.5 WASTEWATER

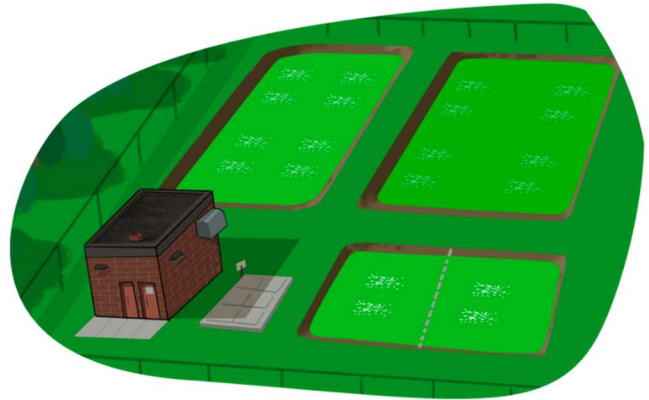
ACTION #13

Upgrade water and wastewater infrastructure

TARGETS:

Upgrade to high efficiency pumps by 2035 (-50% energy use)

Decrease water volume use by 1%/year to 2050.



MAHONE BAY'S APPROACH:

As part of Mahone Bay's asset management program, Town infrastructure is being accurately mapped including date of installation and current condition. This allows the Town to better identify and replace aging infrastructure.

Currently, the Town's water utility loses a significant amount of water through leaks in the aging distribution system. As infrastructure is replaced, less energy is required to treat and pump this lost water, and significant water savings and emissions can be realized. Likewise, infrastructure replacement presents opportunities to upgrade to more energy efficient equipment, such as newer lift pumps.

RESOURCES:

Capital funding for infrastructure is informed by the Town's asset management program and reflected in Council's long-term capital planning. Funding for water infrastructure replacement and updating can generally be leveraged for Provincial and Federal support under programs such as ICIP.

2023

CHANGES – There is no change in the wording of this Action.

UPDATES – There is no change in the state of this Action.

2.6 GREEN LAND USE

ACTION #14

Foster trees, gardens and greenspaces on municipal and private properties

TARGETS:

Collect and maintain a database of natural assets and condition;

Maintain tree and greenspace, no net tree loss;

Support designation of municipal property as parkland where viable.



MAHONE BAY'S APPROACH:

Designating green areas within Town provides opportunities to grow the Town's natural assets which serve as carbon sinks by sequestering GHGs from our environment. Tree planting and urban gardens, whether vegetable gardens, wildflower gardens, or flower beds, make use of space to offset GHG emissions and create wildlife habitat while being visually pleasing.

This action item draws from inspiration provided by Bayview Community School students who have created bee hotels out of recycled materials. Flower gardens offer bees and other insects a source of nectar. Gardens can include species preferred by our native endangered species such as milkweed for the monarch butterflies.

The Town has many natural assets that act as a carbon sink sequestering CO₂ from our environment. Though they do not offer a permanent solution as carbon is then released as material decays or is burnt, natural assets such as forests, gardens, and other vegetation offer a temporary solution to help mitigate a small percentage of Mahone Bay's emissions.

During Mahone Bay's centennial year celebration, a successful tree planting and donation campaign resulted in over 100 new trees being planted. Including municipal and privately owned lands, approximately 57% of the Town of Mahone Bay's land base is currently forested. The Town aims to

maintain and protect these assets and manage them sustainably. Residents can also be educated and encouraged to be stewards of their privately owned land as well.

In order to properly conserve and protect the Town's natural assets a project aimed at data collection for trees, waterways, wetlands and other natural assets must be completed. During this data collection the function and condition of the asset will be collected. Many of our natural assets provide essential services to our community free of charge. If these aren't protected, constructing, and maintaining infrastructure to do the same job could become costly. Collecting data on our natural assets will also contribute to the development of an Urban Forest Master Plan as per Council's 2021-2025 Strategic Plan.

RESOURCES:

Town staff time will be required to encourage planting and to assess potential parklands, public planting locations and gardens within the community, coordinating with local schools and non-profit organizations to identify opportunities.

Capital funding for a data collection project and incorporating local community groups and volunteers will be needed to progress natural asset data collection.

2023

CHANGES - There is no change in the wording of this Action.

UPDATES - In the summer/fall of 2022, a co-op student started the collection of natural asset data, funded through the provincial Community Works program. This individual captured the condition and location (GPS coordinates) of street trees in Mahone Bay. An intern has been hired for the summer of 2023, to help complete this collection of natural asset data.

2.7 POLICY & GOVERNANCE

ACTION #15

Establish climate action advisory committee.

TARGET:

Committee established in 2021-22.

COMPLETED



2023

CHANGES – This action Item has been completed.

UPDATES – The Climate & Environment Advisory Committee has been established, the Terms of Reference approved by Council, and members have been selected. The purpose of the committee is to provide leadership and guidance on climate change mitigation, adaptation, and environmental stewardship initiatives. The committee will provide feedback on issues and projects related to environmental sustainability within the Town. They will also review the Greenhouse Gas Reduction Action plan and recommend updates to Council. Meetings are being held monthly on the first Wednesday of the month. The first meeting was held on June 1st, 2022.

ACTION #16

Policies and Policy Amendments

TARGET:

Policies and policy amendments to support Plan implementation.

MAHONE BAY'S APPROACH:

The Climate Action Advisory Committee will work to develop and recommend a GHG Reduction Policy to Council. Further amendments will be made to current policies such as the Asset Management Policy, to ensure that climate change mitigation is considered in every part of the decision making and procurement process.

The Committee will help also help to inform a “Climate Analysis” to any staff report that may have a positive or negative impact on Climate Change.

RESOURCES:

Staff time to draft policies and policy amendments.



2023

CHANGES – There is no change in the wording of this action.

UPDATES - A “Climate Analysis” section has now been added to each staff report. This ensures that climate considerations are considered in every Council decision.

A meeting of the Cemetery Committee for the Town of Mahone Bay was held on Friday, July 7, 2023 at 10:00 a.m. in Council Chambers.

Present:

Councillor Joseph Feeney

Mayor David Devenne

B. Morse

S. Maples

Dylan Heide, CAO

Jonathan Uhlman, Manager of Public Works & Transportation

Kelly Redden, Town Clerk

Absent:

Councillor Nowe (regrets)

Ashley Yeadon-Wentzell, Manager of Finance (regrets)

1. Approval of Agenda

A motion by Ms. Maples, seconded by Mayor DeVenne, "THAT the agenda be approved as presented." Motion carried.

2. Minutes

A motion by Mr. Morse, seconded by Ms. Maples, "THAT the minutes of the October 14, 2022 meeting be approved as presented." Motion carried.

3. Operations Report

Jonathan Uhlman, Manager of Public Works & Transportation, provided the Operations Report to the committee.

5. Old Business

a. Columbarium

Staff will arrange for DeMones to visit Park Cemetery and review the proposed columbarium location, and subsequently to make a presentation on their columbarium proposal to members of the committee.

b. Expansion – Park Cemetery

The committee discussed potential expansion of Park Cemetery.

A motion by Ms. Maples, seconded by Mayor DeVenne, "THAT the committee recommend that Council direct staff to issue a request for proposals for creation of a future development plan for Park Cemetery." Motion carried.

Discussion at next meeting:
Fee review

The meeting adjourned at 11:09am.

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Chair, Councillor Joseph Feeney

Town Clerk, Kelly Redden

A meeting of the Heritage Advisory Committee for the Town of Mahone Bay was held on Wednesday, July 12, 2023 at 2:00 p.m. in Council Chambers.

Present:

Councillor Joseph Feeney
Councillor Penny Carver
Bryan Palfreyman
Annette St. Onge
Garry Macey
Mayor David Devenne
Deborah Trask, Heritage Researcher
Kelly Redden, Acting Town Clerk

Absent:

1. Approval of Agenda

A motion by Ms. St. Onge, seconded by Mr. Palfreyman, "THAT the agenda be approved as amended to add Renovations to the Exterior of Town Hall." Motion carried.

2. Minutes

A motion by Mr. Palfreyman, seconded by Councillor Feeney, "THAT the minutes of the May 10, 2023 meeting of the Heritage Advisory Committee be approved as presented." Motion carried.

3. Presentation

The committee received a presentation from Kevin Barrett, Heritage Property Program Coordinator for the province. Topics included how to register a municipal heritage property, what architectural details can be protected and insuring heritage properties.

4. Exterior Renovations – Town Hall

Ms. Redden proposed to the committee that they consider a recommendation concerning the renovations to the exterior of Town Hall that would direct staff to research the possibility of removing the addition on the front of the building.

A motion by Councillor Carver, seconded by Mr. Macey, "THAT the committee recommend that Council direct staff to stop all work on the exterior of Town Hall until conservation advice is obtained." Motion carried.

Next Agenda

Review of FAQ sheet

Package to potential heritage property owners

Review of TOR

Review Letter from B. Palfreyman

Annual Plaquing Ceremony

The meeting adjourned by motion at 4:19pm.

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Chair, Councillor Joseph Feeney

Acting Town Clerk, Kelly Redden



The regular meeting of the Town of Mahone Bay's Asset Management Committee for the Town of Mahone Bay was held on Thursday, July 13th, 2023, at 11:02 AM via video conference.

Present:

Mayor, D. Devenne
Councillor R. Nowe
CAO, D. Heide
Manager of Finance, A. Yeadon-Wentzell
N. Pavlinic
D. Waterfield
H. Baxter
Climate & Energy Program Manager, L. Clark

Absent:

None

Gallery:

None

Land Acknowledgement

Let us begin by acknowledging that we are gathered today in Mi'kma'ki. The ancestral, present and future territory of the Mi'kmaw people. Today, we gather with the intent followed by the living Peace and Friendship Treaties - with respect, cooperation and coexistence.

Approval of Agenda

A motion by, D. Waterfield seconded by R. Nowe "THAT the agenda be approved as presented." Motion Carried

Approval of Minutes

A motion by R. Nowe, seconded by H. Baxter, "THAT the minutes of the June 8, 2023, Asset Management Committee be approved as presented." Motion carried.

Upcoming Infrastructure Projects 2023-24

CAO, D. Heide reviewed several infrastructure projects included in the Town's approved 2023 budget, noteworthy to the Asset Management Committee, as presented below:

- Old Public Works building is scheduled for demolition in the Fall of 2023.
 - o 2023 cost of \$100,000 is expected to be spent engaging an engineering company to survey and design a new building or develop plans to renovate the old fire hall.
- 10-year Capital Budget included equipment replacement of the Public Works fleet.
- Replacement of Jubilee Pond Culvert (storm water mgmt. system, preparing for future projects using the pond as a natural stormwater mgmt. asset).
- Storm Water Project – Fairmont and Pinegrove (upgrades to water system, survey properties, etc.). Engineering this year and then construction next. No external funding has been received.
- Council has approved a grant to expand the shoulder on Edgewater Street which will allow for the installation of a multiuse trail. This is to be completed in conjunction with the living shoreline project if possible and not later than 2025.
- Town Hall Building work – taking place over the next two years.
 - o Exterior work on Town Hall building.
 - o The building is also switching from an oil boiler to an electric heat source.
 - o Reconfiguration of the Town Hall parking areas to add parking spots where the Public Works building resides currently; addition of a crosswalk in front of Town Hall
- Main Street Project – water and wastewater upgrades to replace more than half of Main Street infrastructure (currently dates to 1949). The engineering work is expected to be complete in the current fiscal year.
 - o There is some possible interest in MODL to continue the line replacement into Blockhouse. No confirmation from MODL on this to date.
- Pool – scheduled for replacement – built in 1969 – \$505,000 total budget allocated – \$55,000 this year for engineering. Survey will be sent out to public to gather information shortly.

Introduction: Infrastructure Service Standards

Council gave staff direction to develop service standard – ex. how frequently the streets are plowed, acceptable time frames for water and power outages, etc. and staff will engage the committee in discussion concerning service standards relating to Town infrastructure at the Committee's next meeting.

Complete Adaptation Tool (beginning with Water, Wastewater, Stormwater and Transportation assets)

Committee members went through the process of filling out the Adaptation Tool, lead by CAO D. Heide.

Opportunities for Cross-Committee Meetings

CAO, D. Heide discussed the Asset Management Committee reaching out to the Climate and Environment Committee to have a joint discussion on adapting the Town's infrastructure to the changing climate. It was decided that this item would be left on the agenda for further discussion at the Committee's next meeting.

Training Opportunities – AIM Conference Sept 19-20

Reminder by D. DeVenne of the conference coming up in Moncton in September.

Committee Membership

No change – still advertising to fill vacancies for public members.

Next Meeting

September 21, 2023, at 12:00 PM.

The meeting adjourned upon completion of the agenda at 1:03 PM

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Mayor, David Devenne

Recording Secretary, Ashley Yeadon-Wentzell

