



A special meeting of the Climate and Environment Advisory Committee for the Town of Mahone Bay was held on Thursday, July 18th, 2024, at 10:03 a.m. in Council Chambers at Town Hall.

Present

Councillor Penny Carver
Councillor Kelly Wilson (arrived at 11:33 a.m.)
Richard Wilson
Veryan Haysom
John Evarts
Gregg Little
Dylan Heide, CAO (Secretary)

Absent:

Amanda Montgomery (with regrets)
Lauren Clark, Climate & Energy Program Manager (with regrets)

1. Approval of Agenda

A motion by V. Haysom, seconded by J. Evarts, "THAT the agenda be approved as presented." Motion carried.

2. Review of Draft Stormwater By-law

A discussion paper prepared by Committee members was presented (attached for reference). Public members spoke to the need to take an environmental view and develop a comprehensive Stormwater Management Strategy identifying watersheds, defining the role of natural assets, prescribing management tools and strategies, and financing (for private and public property interventions). Discussion centered around whether the draft by-law could be amended to better achieve these ends, with CAO D. Heide speaking to the intended purpose of the draft by-law.

A motion by R. Wilson, seconded by Councillor Wilson, "THAT the discussion paper be shared with Council with their consideration." Motion defeated.

A motion by V. Haysom, seconded by J. Evarts, "THAT the discussion paper be appended to the meeting minutes, with inclusion of the date the report was presented." Motion carried.



3. Adjournment

Agenda concluded, meeting adjourned at 11:48 PM.

The next regular meeting of the Committee is scheduled for September 4th.

TOWN OF MAHONE BAY

TOWN OF MAHONE BAY

Chair, Councillor Penny Carver

CAO Dylan Heide, Recording Secretary

Discussion Paper: Mahone Bay Stormwater Management By-law

Introduction

This discussion paper focuses on suggested amendments to the draft Mahone Bay Stormwater Management By-law that received first reading on 27 June 2024. A very brief analysis, which underlies the suggested amendments, and some online references are appended.

Two essential aspects of stormwater management for which we have **not** suggested amendments are: (1) incentivizing residents and developers to minimize stormwater run-off from private property and to use green infrastructure for that purpose; and (2) the financing of grey infrastructure necessary for management of the Town's stormwater run-off. We have not made suggestions in either regard because we believe the options and implications require further consideration, involvement of the Town's residents and ratepayers, and the development of a Town policy on the issues.

Financing can be done through the property tax base; or by using the infrastructure fund that is financed via the generic infrastructure fee imposed by the Town on all properties; or by levying specific stormwater fees or charges as is done in Halifax (see *Halifax Stormwater Charges* in the references). The approach being used by the Town to finance the stormwater management system must be clear to residents and ratepayers.

Incentives for residents and ratepayers to minimize run-off and to use green infrastructure should be integral to the method used by the Town to finance its management system. If costs of the system are paid out of the tax base then a portion of that revenue should be allocated to rebates for the planting of trees, use of other green infrastructure, and minimization of non-porous surfaces in an echo of the rebate provided in Newmarket (see *Soaking Up Stormwater and Fighting Climate Change with the Newmarket Stormwater Rebate* in the references). If the costs of the system are paid out of the annual infrastructure fee then a portion of that fee should be rebated to recognize the value of approved measures taken by the property owner to minimize run-off with an emphasis on use of green infrastructure for that purpose. If a specific stormwater fee similar to the "site generated" stormwater charge used in Halifax were to be imposed, the charge would be contingent on the property's impervious area, thus incentivizing features like small roofs, roof gardens and the use of pervious pavers. In addition, off-sets could be awarded for use of approved green infrastructure designed to eliminate run-off into the Town's stormwater system.

Suggested amendments to the draft Stormwater Management By-law

1 Objectives

The objectives of this By-law are to:

- (a) develop a Town-wide drainage system adequate to safely manage the run-off from a one-in-one-hundred year storm event (250 mm rainfall in 24 hours);
- (b) develop a watershed approach to the management of stormwater in the Town by
 - (i) maintaining healthy natural wetland and watercourses; and
 - (ii) ensuring that the naturally occurring watershed structures (such as topographic, hydrologic and ecologic systems) are not materially impacted by the built environment, including built stormwater management facilities, to the largest extent possible;
- (c) manage stormwater in each of the Town's watersheds by preserving, developing and relying on green infrastructure and preserving and using the Town's natural assets to the largest extent possible;
- (d) implement a stormwater management system that minimizes any increase in the quantity, volumetric flow rate, or pollution of stormwater entering the Town's watercourses or the harbour; and
- (e) prevent the Town and its property owners materially affecting the ecology, environment and natural operation of all watercourses, watersheds, wetlands and fluvial systems in the Town.

2 Watershed Protection

- (a) No person may
 - (i) fill, excavate, drain or otherwise alter an area of wetland within a Town watershed or
 - (ii) deposit any soil or material whatsoever within a wetland, watercourse or the floodplain of a watercourse within the Town without written permission from the Engineer.
- (b) A permit issued by the Engineer for purposes of subsection 2(a) shall require all measures necessary to ensure
 - (i) there is no net loss in area and function of wetlands within the relevant watershed, and
 - (iii) the requirements of subsection 2(c) are met.

- (c) A person carrying out a change to a property pursuant to a stormwater drainage alteration permit or a wetland alteration permit must
 - (i) preserve site characteristics related to the watershed in which the site is located, including natural terrain, contours, drainage patterns, soil structure, and native vegetation;
 - (ii) manage the work to maintain stormwater characteristics that emulate the pre-development natural watershed; and
 - (iii) limit the crossing, confinement, covering, or piping of watercourses to the maximum extent possible.
- (d) A person shall not carry out a change to a property on which a lost stream or part of a lost stream is situated without first obtaining a written permit issued by the Engineer.
- (e) The Engineer shall not issue a permit for purposes of section 1(d) unless they are satisfied that the change will have no negative impacts
- (f) A permit issued for purposes of section 1(d) may require the property owner to take measures to open up and restore all or part of the lost stream to its original natural state if it is practical and feasible to do so.

3 Green infrastructure and natural assets

- (a) A permit issued under this By-law shall require that the owner manages stormwater falling on or entering their property by using, mimicking and enhancing features of the natural hydrological cycle, including
 - (i) vegetative rainfall interception,
 - (ii) evapotranspiration, and
 - (iii) groundwater infiltration and percolation to the extent that subsurface conditions permit.
- (b) Permit conditions to promote vegetative rainfall interception and evapotranspiration may require:
 - (i) the preservation of mature trees and established vegetation and the planting of trees, shrubs, grasses and other ground covers on the property,
 - (ii) installation of rain gardens, vegetated swales, grassed ditches and absorbent vegetation on the property, and
 - (iii) the installation of roof-top gardens.
- (c) Permit conditions to maximize groundwater infiltration and percolation
 - (i) shall minimize the amount of impervious surface installed on a property by requiring alternatives to asphalt and concrete for laneways, driveways, walkways, patios, parking areas and sidewalks and
 - (ii) may require the installation of infiltration basins.

4 Municipal Specifications

- (a) The Municipal Specifications shall be supplemented or otherwise amended to establish standards and specifications, including specifications and standards respecting green and natural infrastructure, that the Council deems necessary and desirable to achieve the objectives of this By-law.
- (b) When issuing an approval or permit for purposes of this By-law the Engineer shall require all measures they deem necessary or advisable to ensure that the work positively contributes to the development of a Town-wide drainage system capable of safely managing the run-off from a one-in-one-hundred year storm event.

5 Definitions needed for terms proposed to be added to the By-law

grey infrastructure means the elements of the Town's stormwater drainage system and stormwater management facilities that have been engineered by humans for stormwater drainage and includes pipes, conduits, drains, roadside ditches, curbside gutters and infiltration galleries.

lost stream means a watercourse that has had its natural drainage altered by humans so as to run underground by being covered over, buried, piped or diverted underground for all or part of its course.

naturally occurring means watershed elements, past and present, existing prior to Town settlement and development.

watershed means each of the land areas that drain into the following water courses within the Town of Mahone Bay:

- Mush-a-Mush River;
- the unnamed, small brook that drains into Mahone Bay harbour beneath Edgewater Street (Highway # 3) between St. John's Lutheran Church and Civic Number 77 Edgewater Street;
- Ernst Brook;
- the unnamed, small brook that drains into Mahone Bay harbour beneath Main Street (Highway # 3) and the Mahone Bay Civic Marina between Main Street civic numbers 668 and 674; and
- the [unnamed] small brook that drains east, south-east into Mader's Cove at the intersection of Highway #3 and Mader's Cove Road.

wetland means an area, commonly referred to as marsh, swamp, fen or bog, that either periodically or permanently has a water table at, near or above the land's surface or that is saturated with water that sustains aquatic processes as indicated by the presence of poorly drained soils, hydrophytic vegetation and biological activities adapted to wet conditions. (See Nova Scotia Wetland Conservation Policy, p.19.)

6 Specific amendments to the text of the Draft By-law

- Amend section 3 so as to make clear that even though no additional permit is required under the Stormwater By-law, a development or other work that requires a development permit, development agreement, building permit or subdivision approval must also meet the requirements of the Stormwater By-law.
- Amend 12 (a) by adding a prohibition against use of an impervious surface for the additional parking space.
- Amend 12 (b) by adding a requirement that the roof run-off be drained to a rain garden or rain barrel.
- Amend 12(d) to be clear as to whether this is an annual or other amount and that this does not apply to clearing for purposes of wildfire control.
- Amend section 25 by (a) adding words to include a prohibition against hindering the flow of any waterworks, ditch, drain, pipe or sewer that is part of the stormwater management system, and (b) including a prohibition against increasing the flow of any part of the stormwater system.
- Amend section 26 to make clear that the prohibition against enclosure applies equally to open channels, drainage ways, ditches and swales and that “enclosure” includes diverting water in a watercourse open channel, drainage way, ditch or swale to a piped drain or culvert.
- Amend section 33 to make clear that the by-law applies to the Town.

Appendix 1

Analysis of ToMB Draft Stormwater Management By-law (the “draft by-law”)

Significant strategic lapses:

- no acknowledgement of watersheds or any sense of community stewardship over our watersheds.
- no systematic and coherent advancement of the importance and utility of natural assets and green infrastructure in stormwater management.
- no acknowledgment of the significance of climate change impacts for stormwater management.
- no baseline set (i.e. restoration, reclamation) to create achievable goals of adaptation and transition in the framework of climate change.

Questionable aspects of the draft by-law’s management strategy:

- adopts a traditional approach with a sole focus on drainage in a system that treats natural watercourses in the same manner as pipes, gutters and sewers.
- advances no approach for mitigating flooding resulting from historic approaches, attitudes and failures (such as the liberal use of impervious paving or the burial of, or restriction or confinement of, original natural waterways.)
- attacks problems created by flooding by trying to make individual property owners liable for damage rather than treating precipitation as a common resource and an environmental dynamic requiring cooperative public/private management.
- endangers good stewardship by equating naturally occurring structures and processes to human-centric concepts of “management” and “facilities”.
- creates a system of offences and prescriptive orders that emphasize after-the-fact correction which is very risky in the face of climate change and costly. A preferable approach is to incentivize preventive action that rewards the prevention of run-off, maximizes the use of green infrastructure and creates disincentives for actions, work and development that create or exacerbate stormwater management issues.

Suggested additional approaches for incorporation into the draft by-law

- watershed stewardship
- restoration and preservation of natural stormwater drainage systems and natural stormwater management facilities
- utilization of green infrastructure (natural assets) to minimize and control stormwater run-off
- adaptation and resilience in the face of climate change at minimal disruption and cost to the community
- incentivizing use of construction and landscaping standards to maximize use of green infrastructure in stormwater management and minimize stormwater run-off.

Appendix 2

References

ToMB documents that ground the additional approaches:

- *Municipal Planning Strategy*, 2024, paragraph 4.5.3
- *Strategic Plan 20221-2025*, priority # 1, priority #3
- *Mahone Bay: Adaptive and Resilient Community*, 2024 - Watershed, Infrastructure and Natural Assets.

Some online resources/references re: suggested additional approaches:

- Emily Amon, *Conventional Stormwater Systems Put Your Community At Risk – Municipal Elections Matter* (blog post, 14 October 2022, Green Communities Canada website) <https://greencommunitiescanada.org/conventional-stormwater-systems-put-your-community-at-risk/>
- Natural Assets Initiative, <https://mnai.ca/resources-for-local-governments/>
- Canadian Council of Ministers of the Environment, *Natural Infrastructure Framework: Key Concepts, Definitions and Terms*, (2021, <https://ccme.ca/en/natural-infrastructure-framework-key-concepts-definitions-and-terms>)
- Stewardship Centre for BC, *Green By-Laws Toolkit* (<https://stewardshipcentrebc.ca/green-by-laws-toolkit/>)
- *Don't "drain the swamp!" A Look Back at World Wetlands Day, February 2nd, 2023* Nature Nova Scotia, <https://naturens.ca/protecting-nova-scotias-wetlands/>.
- Jess Wilkin, *Soaking Up Stormwater and Fighting Climate Change with the Newmarket Stormwater Rebate* (blog post, 26 June 2024, LEAF website) <https://www.yourleaf.org/blog/jess-wilkin/jun-26-2024/soaking-stormwater-and-fighting-climate-change-newmarket-stormwater-rebate>
- *Halifax Stormwater Charges*, https://nsuarb.novascotia.ca/sites/default/files/nsuarb-235202-v1-stormwater_faq.pdf
- *Nova Scotia Wetland Conservation Policy*, <https://novascotia.ca/nse/wetland/conservation.policy.asp>)