

CHAPTER 6: PROTECTING THE ENVIRONMENT AND ACTING ON CLIMATE

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6.0 INTRODUCTION

The natural environment is one of the defining features of the Halifax region, with its extensive coastline, lakes, rivers, wetlands, and vast natural and forested areas. Residents are highly aware of the potential impacts of climate change and advocate for the protection of the natural environment which are key priorities for preserving quality of life, climate resilience, community identity, and opportunities for outdoor recreation. The natural environment also provides many ecological and economic benefits to the residents of the Municipality. Environmental stewardship requires the collaboration of all levels of government and the community. The concept of *Netukulimk*¹⁷ has guided the Mi'kmaq in their approach to sustainable living, and this approach teaches us that we must recognize the interconnectedness of our natural world, our role in it and our relationships to all living things. An integrated approach for environmental management is fundamental in maintaining the health and well-being of the whole natural system.

Watersheds are areas of land that drain or shed precipitation into river systems and contain all interconnected sources of water. Understanding the interactions between watershed components and how this is impacted by land uses within that system as an ecological unit is important to begin maintaining and improving the health of the entire system. Individual disruptions of hydraulic and hydrologic systems have cumulative impacts on how the system functions, impacting groundwater flow, water quality and water quantity, habitats, and the built environment.¹⁸ Understanding how natural processes occur within watersheds can provide a robust framework for planning and land use decisions. Watersheds form the umbrella, under which a watershed management framework is nested, and lakes, as individual units, can be monitored for water quality to indicate health of the overall watershed. Narrowing in further, source water, the individual lakes and ground water that provide us with drinking water, serve the precious function of sustaining life and require special consideration. At an even smaller scale, watercourses and wetlands are integral components that function within a watershed. The land itself is also inextricably a part of the watershed with open and green space connecting the systems. The cycling of water and energy exchanges between the water, the atmosphere, and the land drive the Earth's climate. Together, the land, water, and air are a system that work together as a functional unit. It is impossible to separate these relationships, but by protecting and connecting our green spaces, we are also protecting our water and air. Understanding that the systems are connected, the Chapter begins with land, then circles back into water and air.

Regional Council has adopted The Urban Forest Management Plan (UFMP) (2012); The Halifax Green Network Plan (HGNP) (2018); and HalifACT (2020) to further interrelated environmental goals. This includes advancing and protecting the natural environment through a network of green spaces and green

¹⁷ "Netukulimk is the use of the natural bounty provided by the Creator for the self-support and well-being of the individual and the community. Netukulimk is achieving adequate standards of community nutrition and economic well-being without jeopardizing the integrity, diversity, or productivity of our environment." (<https://www.uinr.ca/programs/netukulimk/>). See also: https://curriculum.novascotia.ca/sites/default/files/documents/resource-files/Netukulimk_ENG.pdf

¹⁸ <https://www.muskokawatershed.org/wp-content/uploads/Watersheds-as-Ecological-UnitsMuskoka.pdf>

infrastructure to preserve ecological function and biodiversity, carbon capture, connect spaces, adapt to climate change and other environmental hazards, and reduce energy consumption for residents and businesses. The Regional Plan affirms the importance of these documents in the health and sustainability of the Region.

6.1 OBJECTIVES

1. **Promote an approach to environmental management and economic development that supports a sustainable future through cooperation and collaboration with other levels of government, government agencies, residents, and non-governmental organizations.**
2. **Foster a land management and community design approach that maximizes opportunities to preserve the environment, ecology, and culture of lands and aquatic systems; and lands suited for parks, trails, wilderness areas, and corridors which provide recreational, ecological, environmental, and educational opportunities.**
3. **Adopt development practices that sustain and nourish air, land, water and groundwater resources, and reduce negative impacts to surrounding areas.**
4. **Respond to the climate emergency by supporting the rapid transition to a low carbon future by committing to a deep reduction in greenhouse gas emissions and energy consumption, responding to climate change hazards and climate conditions, improving energy security and maximizing the use of renewable energy resources.**
5. **Promote practices that support the management of stormwater quality and quantity through natural topography and land cover, and use of green and natural infrastructure.**
6. **Promote practices that support safety and resiliency of communities and assets by prioritizing and upgrading critical infrastructure to withstand climate hazards, and through setting standards for resilient infrastructure for new construction.**
7. **Adopt community and ecosystem coastal adaptation strategies for the impacts of sea level rise by updating extreme water level estimates and implementing holistic approaches to coastal protection.**

6.2 PROTECTING AND CONNECTING OUR GREEN SPACES

Halifax Regional Municipality has a full spectrum of open spaces, consisting of lands for natural resources, agriculture, recreation, environmentally sensitive areas, hazard prone lands, cultural landscapes, natural corridors, trails, parks, wilderness areas, and preservation areas for potable water and waste/resource management. This foundation of open spaces forms a Green Network that provides numerous functions such as shaping development, providing ecological services, capturing carbon, retaining lands for agricultural and forestry uses, and providing recreational opportunities. The Halifax Green Network Plan (HGNP), approved in 2018 by Regional Council, defines an interconnected open space system for the municipality, highlights ecosystem functions and benefits, and outlines strategies to manage open space. Specifically, the HGNP provides land management and community design direction to:

- maintain ecologically and culturally important land and aquatic systems;

- promote the sustainable use of natural resources and economically important open spaces; and
- identify, define and plan land suited for parks and corridors.

EC-1 The Actions of the Halifax Green Network Plan shall be considered in the business planning, programming and regulatory activities of the Municipality.

6.3.1.1 A REGIONAL GREEN NETWORK

As the region grows and changes, retaining large natural areas is of critical importance to maintaining healthy communities. Natural areas should help shape the municipality's communities, establish community edges, and provide direct connection to nature. Lands of high value to the green network provide critical ecosystem services, important habitats and should be protected from significant human activity, as part of a larger effort to maintain biodiversity, mitigate climate change, and foster increased health and well-being.

Managing these areas will require balancing ecological protection with human activity to ensure that sensitive places are preserved, and the benefits of natural ecosystems are maintained. The development pattern of the region has been shaped by a natural network of open space, consisting of inaccessible Crown lands and privately held lands for natural resource production (such as forest production and harvesting). Equally important to this network is a system of large natural areas, natural corridors, and trail systems which form a backbone of interconnected green space. The Open Space and Natural Resource Designation identifies the primary areas in this network that will be maintained as natural spaces and working landscapes.

As a system, these open spaces perform environmental services such as connecting natural areas for critical wildlife migration, retention of stormwater, mitigating flooding and coastal damage, erosion prevention, uptake of nutrients, abatement of pollution and moderation of climate, and capturing carbon. Protecting isolated blocks of habitat will not adequately protect wildlife, habitat, and ecological services. Connectivity allows the uninterrupted movement of species and flow of natural processes that sustain life on earth. By strengthening, maintaining, and, when feasible, restoring these systems, we are also protecting our environment, our economy, and our quality of life.

EC-2 The Municipality shall use the Green Network Plan to identify areas that are important to maintaining biodiversity and climate change mitigation and shall change land use and subdivision regulations to manage human activity in these areas to protect the benefits of natural ecosystems.

EC-3 To preserve the interconnected system of open space and minimize fragmentation within the Open Space and Natural Resource Designation the Municipality shall, through the *Subdivision By-law*, prohibit residential development on new roads within the Open Space and Natural Resource Designation.

EC-4 The Municipality shall, through the *Subdivision By-law*, provide for the creation of one additional lot from any area of land that is within the Open Space and Natural Resources Designation and does not meet the minimum road frontage requirements provided that the area of land was in existence prior to April 29, 2006.

- EC-5** The Municipality shall, through the applicable land use by-law, establish a Protected Area Zone. This Zone shall be applied to protect environmentally sensitive areas including wilderness areas which have been designated under the *Wilderness Areas Protection Act*, nature reserves designated under the *Special Places Protection Act*, and conservation-related properties owned by government, non-profit conservation organizations, private conservation organizations. The Zone shall only permit scientific study and education, trails and similar public, conservation and recreational uses.
- EC-6** Further to Policy EC-5, to enable property owners to retain a portion of their property and donate a portion of the property for conservation purposes, the Municipality shall, through the *Subdivision By-law*, provide for the creation of one additional area of land from any area of land within any designation provided that the additional area of land:
- a) shall be used only for conservation purposes; and
 - b) may not meet minimum road frontage and lot area requirements.
- EC-7** The Municipality may consider accepting or acquiring lands for conservation purposes.

6.3.1.2 PRESERVING NATURAL CORRIDORS

Within the open space network, larger patches of wilderness are connected through undeveloped natural corridors which provide opportunities for wildlife to move, seek shelter, food, water, space and mates; all important components for maintaining healthy, diverse wildlife populations. However, human activity such as new development, natural resource extraction, highway and road construction, and removal of vegetation are increasingly threatening these critical connections. Without intervention, there is a risk of losing and disconnecting these corridors permanently. Therefore, it is critical to identify and implement a clear approach to protect natural corridors as the region grows.

The HGNP was the initial step to begin conceptualizing the relationship between corridors and areas of high environmental value which were then further refined. The HGNP highlighted the connection between mainland Halifax and the Chebucto Peninsula as particularly under threat. By overlaying the HGNP essential corridors with land use and planning data, a high-level understanding of the interplay between wilderness and land use can be seen. Through this analysis, a pattern emerges, and highlights connections at the highest order as shown on Map 6 to identify varying levels of risk and the need for different levels of intervention. Three distinct corridor types are as described below:

1. **Corridors At Risk (Essential Corridor Area 1)** - Essential corridors present in areas that are not yet developed but are in pressure points and are at high risk of being lost. This is especially true to allow the movement of wildlife between the Chebucto Peninsula and Mainland Halifax. These types of corridors require immediate intervention.
2. **Developed Corridors (Essential Corridor Area 2)** - Essential corridors in which development has already occurred but there may be opportunities to reduce further impacts to the corridors. This type of corridor would require an intermediate level of intervention and considerations of tools to reduce any further damage as secondary planning documents and land use bylaws are updated.
3. **Protected Corridors (Essential Corridor Area 3)** - Essential corridors that are already protected through existing tools including Open Space Designation, Agricultural Designation, Growth Control measures, or Conservation Design Development. In these areas, intervention may not be required, but the existing tools must remain in place to continue to protect these corridors.

- EC-8** To further the goals of the Halifax Green Network Plan and guide amendments to this Plan, secondary municipal planning strategies and land use by-laws, the Municipality shall consider refining the boundaries of the Essential Corridors and Important Corridors shown on Map 5 of the Halifax Green Network Plan.
- EC-9** The Municipality shall coordinate and partner with provincial and federal levels of government, utilities, and other relevant stakeholders with a view to establishing, maintaining, protecting and strengthening wildlife corridors and wildlife crossings, including on major infrastructure like highways, utility corridors and multi-jurisdictional boundaries.
- EC-10** The Municipality shall identify Essential Corridor Areas on Map 6 Wildlife Corridors as Essential Corridor Area-1 (ECA-1), Essential Corridor Area-2 (ECA-2), and Essential Corridor Area-3 (ECA-3). Detailed overlays for each Essential Corridor Area shall be included within applicable land use by-laws.
- EC-11** Within all Essential Corridor Areas shown on Map 6, the Municipality shall consider:
- a) naturalization within public spaces and the right of way;
 - b) amending secondary municipal planning strategies and land use bylaws:
 - i. to limit uses or development forms that are incompatible with wildlife connectivity;
 - ii. to increase lot size requirements;
 - iii. to require reinstatement and maintenance of vegetation in riparian buffers; and
 - iv. to include lot coverage and landscaping requirements that promote a high percentage of open space and permeable surfaces.
- EC-12** The Municipality shall amend the Regional Subdivision By-Law, applicable secondary municipal planning strategies and land use by-laws to permit subdivision within an Essential Corridor Area-1 (ECA-1) only by development agreement.
- EC-13** Further to Policies EC-11 and EC-12, when adopting new or amending existing secondary municipal planning strategies or land use by-laws or the Regional Subdivision By-law, or considering development agreements or amendments to development agreements to permit new development on lands located within an Essential Corridor Area 1 (ECA-1), the Municipality shall:
- a) require the location and width of an Essential Corridor to be delineated at the site level;
 - b) organize land use or management of land in a way that protects the Essential Corridor 1, and ensures landscape connectivity to Essential Corridors on adjacent lands;
 - c) consider opportunities to dedicate or acquire parkland within or adjacent to Essential Corridors; and

- d) consider opportunities for wildlife crossings over transportation infrastructure or other major barriers.**

EC-14 Further to Policy EC-11, prior to any amendments to this Plan that would result in a change to the Open Space Designation, the Agricultural Designation, or those portions of the Hammonds Plains and Beaver Bank communities that are subject to Policy I-33, the Municipality shall delineate the location and width of the Essential Corridor Area-3 that would be affected by the proposed amendment.

6.3.3 NATURALIZATION AND MUNICIPAL NATURAL ASSETS MANAGEMENT

Natural assets such as wetlands, forests, waterways, and parks can mitigate coastal damage, reduce the heat island effect, provide shade and areas for reprieve, manage stormwater, clean the air and water, provide buffers and protection to inland properties, sequester carbon, and offer aesthetic and recreational opportunities and mental and physical health benefits. Natural systems have traditionally been undervalued as they are perceived to provide these services for free. The services that these natural assets provide often cannot be replicated by human-made systems or can only be replicated at a tremendous cost. Keeping natural assets intact and seeking opportunities to increase natural assets through programming effort can provide numerous benefits as these systems are self-renewing and resilient, which reduces the maintenance requirements and costs of landscape management and ecosystem restoration. Keeping natural assets in their natural state is ideal; however, this is not always possible, and the Municipality will seek opportunities to further expand on the health, biodiversity, and resiliency of natural assets through priorities plans, naturalization programming, and natural asset management. Approaches such as green infrastructure provide natural and semi-natural engineered landscape elements designed to provide services such as stormwater management, adaptation to the effects of climate change, water filtration and improved air quality.

Since 2019, the Municipality has been working towards a naturalization initiative, beginning with a pilot program. Various community and corporate projects have been implemented, and in 2022, Regional Council approved the expansion of the naturalization pilot into a region-wide program. Currently, 31 sites have been identified for naturalization, ranging from riparian to pollinator meadows.

EC-15 The Municipality shall support a region-wide naturalization program and promote naturalization through projects, public education and awareness.

Municipal Natural Assets refer to natural resources or ecosystems that provide local, sustainable municipal services. These services provide a variety of core services such as stormwater management, water infiltration, protection from flooding and erosion, and other services. Not only do these services provide service delivery, but they also support adaptation and mitigation for climate change, enhanced biodiversity, and ecosystem health. The location of natural assets can also inform decisions related to appropriate locations for future developments as it relates to flooding and wilderness areas. In 2020-2021, the Municipality began the first step in natural assets management, a natural assets management inventory.¹⁹

¹⁹ <https://mnai.ca/media/2021/11/MNAI-Inventory-Cluster-2-Halifax-report-103.pdf>

EC-16 The Municipality shall develop a Municipal Natural Assets framework to measure and value natural assets and make decisions on the delivery of services that natural assets provide.

6.3.4 URBAN FORESTS

The *Urban Forest Master Plan (UFMP)*, first adopted in 2012 and under review in 2023, provides a comprehensive neighbourhood approach to ensure a sustainable urban forest in the Urban Settlement Designation. To modernize the language and approach to urban forestry in the Municipality, the UFMP shall be renamed the “Urban Forest Management Plan” in future versions of the document.

EC-17 The recommendations of the *Urban Forest Management Plan*, adopted in principle by the Municipality in September 2012 as amended or readopted, shall be considered in planning, programming and regulatory activities related to managing and enhancing the urban forest cover in the Municipality.

6.4 PROTECTING OUR WATER

Water is a limited and precious resource. Water not only sustains life through providing potable water supplies, wildlife habitats and aquatic corridors; it also has historic and cultural value and provides a tremendous range of ecosystem services and recreational and aesthetic values to its citizens. Watersheds are the fundamental unit to understand the environmental, social, and cultural values of water and must be protected through land-use control and retention, enhancement, and restoration of those features that regulate water flow, mitigate flooding, reduce water pollution and protect ecological functions.

The municipality is home to over 1,000 lakes, more than 20 rivers, innumerable streams, and 23 major shorelines. These interconnected systems are vulnerable and require careful management and consideration to address complex issues such as management of surface and groundwater quantity and quality, ecosystem conservation, competing interests or users, public safety, and differing mandates from various agencies. Environmental features such as water, soils, vegetation, and habitat are all interconnected, and land use activities in one area of a watershed can adversely affect the quality and quantity of water and aquatic habitat in another, with the most impact downstream from activities occurring upstream.

6.4.1. THE UMBRELLA - WATERSHED PLANNING

As the Municipality undergoes community planning to modernize our community plans, there is an opportunity to be innovative and restructure planning that integrates ecology with land use to strive toward a healthier ecosystem and communities through comprehensive community and neighbourhood planning. Land suitability studies and watershed studies will inform how development interacts within an ecological system to minimize land use impacts on the natural system.

It's important to recognize that watersheds and sub-watersheds at different scales face different pressures and that a blanket, one-size fits all watershed management approach will not appropriately address the stresses a given watershed is facing. Watershed planning in a developed urban setting where watersheds may be degraded and require restoration require different approaches than rural contexts where there is opportunity to influence how settlement can be best arranged to maximize ecosystem health. Further, there

may be urban, suburban and rural settings all located within the same watershed, adding to the complexity of watershed planning and management.

6.4.2 WATERSHED MANAGEMENT

Watershed Management acknowledges uncertainties, considers interconnections within the system, and recognizes cumulative effects and impacts on the watershed.²⁰ Fundamentally, a Watershed Management Framework is a mechanism to organize and address the complex interactions between land-based activities and water resources using watersheds as a unit of management through a coordinated approach. The development of a Watershed Management Framework promotes a coordinated approach to balancing equitable use of water resources with the sustainability of these vital ecosystems.

Not all watersheds are the same –urban, suburban, and rural watersheds can face different stressors and may require tailored approaches depending on various impacts. For example, an urban watershed may face higher volumes of runoff and pollutants due to impervious surfaces whereas rural areas may face issues of arsenic or lack of groundwater recharge. Therefore, although there may be common components of a Watershed Management Framework, there must be flexibility and adaptability built within the Watershed Management Framework to customize local conditions. Critical to the success of Watershed Management is genuine community-level stakeholder involvement and buy-in. Without community stewardship, a Watershed Management approach will not succeed.

EC-18 The Municipality shall consider developing community-based Watershed Management Frameworks to provide recommendations for amendments to this Plan, and new or amended secondary municipal planning strategies, using watersheds as a defined unit of management. The Watershed Management Frameworks shall consider:

- a) Utilizing a holistic, adaptive approach to managing all water resources, improving the health of the watershed, and adjusting to changing circumstances;**
- b) Determining and mitigating the impact of water pollution;**
- c) Infrastructure investments, land use changes, and growth servicing;**
- d) The impacts of climate change and measures to reduce those impacts;**
- e) Restoring and maintaining water quality and natural floodplains;**
- f) The impacts of flooding on water quality and ecosystem resiliency;**
- g) Supporting, enhancing and/or restoring habitat connectivity in both aquatic and riparian zones;**

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https://conservationontario.ca/fileadmin/pdf/policy-priorities_section/IWM_WaterMgmtFramework_PP.pdf

- h) **Developing strategies to determine and implement best practices to reduce the impact of land uses adjacent to watercourses and identifying the cumulative impact of development within a watershed;**
- i) **Developing strategies to increase the naturalization of riparian buffers where they are degraded, and prevent the destruction of habitat where riparian buffer remains in a natural state;**
- j) **Improving the integration of publicly available and scientifically sound principles and available community water quality data into policy and decision-making;**
- k) **Building genuine, inclusive, collaborative relationships with community stakeholders and municipal programs; and**
- l) **Developing strategies for implementation and enforcement of watershed management strategies.**

6.4.3 WATERSHED STUDIES

The goal of a watershed study is to determine the potential impact of development on all watercourses, including wetlands, riparian zones, ground water, and waterbodies. This includes impacts on the site and the watershed(s) where the site is located, both in terms of cumulative impacts of multiple developments in one watershed, and downstream effects of a single development on ecosystems. Findings should present a watershed management plan including mitigation measures to reduce the negative impacts of development on watercourses and identify features or areas where development poses unacceptable risks. Watershed management plans will seek to achieve public health standards for body contact recreation, identify and maintain, enhance or restore ecosystem services provided by riparian and aquatic ecosystems, and to maintain the natural trophic status of our lakes and waterways.

EC-19 When considering requests to develop future serviced communities as outlined in Policy HC-7, the Municipality shall require watershed or sub-watershed studies concerning natural watercourses where new or additional development could adversely affect watercourses within the watershed. The studies shall be designed to:

- a) **establish a reliable and accurate baseline of existing water quality;**
- b) **Recommend water quality objectives for key receiving watercourses in the study area;**
- c) **evaluate the capacity of any existing control structures in the watershed;**
- d) **model potential impacts to water quality as a result of development, and determine the amount of development and maximum inputs that receiving water bodies can assimilate without adversely affecting water quality;**
- e) **determine the parameters to be attained or retained to achieve water quality objectives;**
- f) **identify sources of contamination within the watershed;**
- g) **identify remedial measures to improve water quality;**

- h) identify areas within the watershed where changes in flow patterns from development could result in flood damage to properties or environment;
- i) evaluate and identify the potential for increased flooding hazards as a result of development, taking into consideration the effects of climate change;
- j) recommend strategies to achieve the water quality objectives set out under the watershed study;
- k) recommend methods to reduce and mitigate loss of natural infrastructure, permeable surfaces, native plants and native soils, groundwater recharge areas, and other important environmental functions within the watershed;
- l) identify appropriate riparian buffer widths for the watershed;
- m) recommend potential regulatory controls and management strategies to achieve the desired objectives;
- n) recommend an approach for a successful watershed monitoring program; and
- o) in areas served by ground water supply, recommend measures to protect and manage quantity and quality of groundwater resources and nutrient inputs.

6.4.4 RURAL COMMUNITY WATERSHED MANAGEMENT

EC-20 In addition to Policy EC-19, where the Municipality is considering adopting a new secondary municipal planning strategy in a rural area, the following shall be considered:

- a) opportunities to align the boundaries of the community plan area to the boundaries of a watershed or subwatershed;
- b) Identifying and recommending measures to protect and manage natural corridors and critical habitats for terrestrial and aquatic species, including species at risk;
- c) Prioritizing watershed-scale planning, including proactive protection of sensitive ecological features, including surface water bodies, wetlands, and groundwater recharge zones;
- d) Quantifying the percentage impervious surfaces as the threshold for intervention and cumulative impacts of development on individual water bodies and entire watersheds; and;
- e) Where applicable, developing policy to prioritize protecting natural connections between the Chebucto Peninsula and Mainland Nova Scotia.

6.4.5 LAKE MONITORING

Lakes, as a component of the watershed, reflect the health of the surrounding watershed. Water quality monitoring is a shared responsibility between each level of government and is an essential component to successfully manage water resources. The Municipality has a critical role to play in water quality, as it is the level of government that is closest to residents with responsibilities for planning, parks and recreation, community enjoyment and well-being. Water quality monitoring was recommended by the Municipality's Water Resource Management Study in 2003 and water quality monitoring has occurred sporadically over the years. In 2020, a report prepared by AECOM²¹ made recommendations and identified opportunities for the Municipality to further protect water resources. Through this work, a framework for a water quality monitoring program was chosen: a Municipal staff led approach with community volunteer support. Through this framework 76 lakes were selected for monitoring.²²

EC-21 The Municipality may consider preparing a water quality monitoring protocol to provide guidance for water quality monitoring plans accepted by the Municipality under policies of this Plan and any other monitoring programs to be undertaken for the Municipality by landowners.

EC-22 For lakes selected for water quality monitoring, the Municipality shall continue to implement a comprehensive water quality monitoring program to provide guidance for water quality monitoring plans and protocols.

EC-23 Further to Policy EC-22, the Municipality shall undertake an adaptive management approach, and based on the data collected, may adjust the water quality monitoring program.

6.4.6 RIPARIAN AREAS AND WETLANDS

Wetlands and other watercourses are vital components of the hydrological cycle and affect the quality and quantity of water and groundwater. They are natural filters for removing sediment, contaminants and excessive nutrients which are drawn up by the vegetation and settle out naturally before entering watercourses or groundwater. They absorb and help regulate peak stormwater flows, reducing the risk of flooding and erosion downstream while offsetting groundwater extraction to reduce the risk of wells running dry.

Retaining riparian buffers is important for the protection of water quality, wildlife and the protection of property and the public from flood hazards. In addition to the functions of flood regulation, the deep-rooted, native plants in riparian buffers protect shorelines by reducing bank erosion and bank failure, reduce the impacts of sedimentation, erosion and nutrient loading on watercourses, regulate the temperature of adjacent watercourses, provide important wildlife habitat, reduce the loss of valuable lands and add aesthetic value to the Municipality²³. Wetlands also provide a range of ecosystem services including wildlife habitat, opportunities for research and recreation, improved water quality, sediment filtration, water balance

²¹ [210211rwabsp911.pdf \(halifax.ca\)](#)

²² <https://cdn.halifax.ca/sites/default/files/documents/city-hall/regional-council/210629rc1141.pdf>

²³ Alberta Environment and Sustainable Resource Development. *Stepping Back from the Water: A Beneficial Management Guide for New Development near water bodies in Alberta's Settled Region*. 2012.

regulation, and carbon storage and sequestration. Moreover, while enhancing the overall aesthetics of a community, wetlands are unsuitable for development as they pose a hazard for the stability of structures.

To maximize the protection benefits of riparian buffers and wetlands, the trees, shrubs, ground cover vegetation and soils must be protected. Retaining native vegetation and native soils enhances runoff storage capacity, infiltration, and nutrient recycling. Tree canopy should also be retained over watercourses, soil erosion should be prevented, and activities or land uses which introduce nutrients or contaminants into watercourses need to be excluded.

6.4.6.1 RIPARIAN AREAS

The Green Network Plan recommends a watercourse buffer of 30 metres for stream bank stability, flood mitigation, water temperature regulation, minimal protection of wildlife, partial benefits for sediment removal, and aesthetic value. A general riparian buffer of 30 metres will be applied for protection for the whole of the Municipality until buffers that meet the specific needs of each watershed can be determined through the watershed studies and implemented through amendments to secondary municipal planning strategies.

EC-24 The Municipality shall, through the applicable land use by-law, require the retention of a minimum 30-metre-wide riparian buffer along all watercourses as well as wetlands contiguous with watercourses throughout the Municipality to protect the chemical, physical and biological functions of marine and freshwater resources. No alteration of land levels or the removal of vegetation in relation to development will be permitted within the buffer. Lands within the Halifax Harbour Sub-Designation on the Regional Land Use Structure Map (Map 2), industrial lands within the port of Sheet Harbour and lands within the Waterfront Residential (R-1C) Zone under the Shubenacadie Lakes Secondary Planning Strategy shall be exempted from the buffer requirement.

EC-25 Further to Policy EC-24, provisions may be made to permit certain features within the buffer including public (municipal) water control structures, boardwalks, walkways and trails of limited width and made of a permeable surface, fences, public road crossings, driveway crossings, public (municipal) wastewater, storm and water infrastructure, marine dependent uses, fisheries uses, boat ramps, wharves, small-scale accessory buildings, conservation uses, parks on public lands and historical sites and monuments within the buffer. In addition, no alteration of land levels or the removal of vegetation in relation to development will be permitted.*

EC-26 Further to Policy EC-24, a special area may be established through the Regional Centre Secondary Municipal Planning Strategy and Land Use By-law to allow limited recreational uses and commercial uses within a riparian buffer, through development agreement, adjacent to non-coastal watercourses where the riparian buffer has been infilled or altered prior to August 26, 2006. Any development within the special area shall be developed in an environmentally sensitive manner and provide opportunities for natural green space, water quality protection, and public access and enjoyment.

EC-27 Subject to EC*-29, the Municipality shall, through the applicable land use by-law, relax the riparian buffer requirement for lots in existence on August 26, 2006, where otherwise development would be prohibitive.

*The Draft Regional Municipal Planning Strategy accepted by Halifax Regional Council to be used for public engagement purposes on June 20, 2023 included a clerical error that has been corrected as shown

- EC-28** Subject to E-29, the Municipality shall, through the applicable land use by-law, relax the riparian buffer requirement for lots created or approved after August 26, 2006 and before *[date of adoption, 2023]*, where otherwise development would be prohibitive but shall be no less than as shown on an approved plan of subdivision that was approved prior to *[date of adoption]*.
- EC-29** The Municipality shall, through the Eastern Passage/Cow Bay Land Use By-Law, relax the riparian buffer requirement for Cow Bay Lake for lots created or approved after August 26, 2006 and before August 12, 2022.
- EC-30** The Municipality shall consider a by-law to protect existing trees and to manage the retention and the removal of existing trees within riparian buffer zones.

The Municipality recognizes that development of water lots that have been infilled may result in undesirable impacts on the marine environment and the aesthetic character of the surrounding environment.

- EC-31** The Municipality may, through secondary municipal planning strategies and land use by-laws, consider measures to regulate development of water lots, including limiting development and establishing setbacks of buildings and structures from the water.

6.4.6.2 WETLANDS

Protecting wetlands is a shared responsibility. The Nova Scotia Department of Environment regulate wetland alterations and the Municipality regulates development adjacent to wetlands. While the Municipality cannot prevent property owners from applying for a permit to alter wetlands, the Municipality seeks to protect wetland through policy options. Through this Plan, it is the Municipality's intent to discourage the development of wetlands and develop an approach to offer incentives for the protection of wetlands.

- EC-32** On all applications for development permit approval, the applicable land use by-law shall require the proponent to verify the existence and extent of any wetland. The applicable land use by-law shall prohibit development within any wetland except as required to allow for existing public infrastructure. The Municipality may consider amending the provisions made under the land use by-laws from time to time to conform to any guidelines or Statement of Provincial Interest adopted by the Province.
- EC-33** The Municipality may identify wetlands to be recommended to the Province as a Wetland of Special Significance, including wetlands within all municipal drinking water supply watersheds. In doing so, the Municipality shall consider the Provincial criteria for wetlands with exceptional qualities, as may be amended from time to time.
- EC-34** Wetlands designated as Wetlands of Special Significance by the Province of Nova Scotia shall have a minimum 30 metre wide riparian buffer along the edges of the wetland which will be implemented through the applicable land use by-laws.
- EC-35** The Municipality may cooperate with the Province of Nova Scotia to develop an approach to protecting wetland areas. Wetland protection strategies may include:
- a) provisions to permit the creation of additional lots or dwelling units where the design of a development, or the transfer of density proactively protects wetlands;

- b) identifying, prioritizing, and making recommendations to the Province of Nova Scotia for candidate wetlands to be restored, enhanced, created or expanded by compensation.

6.5 ACTING ON CLIMATE CHANGE

6.5.1 HALIFACT

HalifACT, approved by Halifax Regional Council in 2020, is the Municipality's long-term action plan and response to Halifax declaring a climate emergency in 2019. The goals of HalifACT are to reduce emissions and help communities adapt to climate change. Through this response, it is recognized that climate change is urgent, complex, and a global crisis. Due to long timelines, the dispersal of impacts across the globe, and transformational societal and systems changes required, it is a challenge to make a rapid change to a low carbon future. The changing climate poses hazards to health, economic growth, safety and the natural world. Actions require deep greenhouse gas (GHG) reductions and preparing for the hazards associated with climate change. In order to align with the 1.5 degree Celsius pathway recommended by the world's leading scientific body on climate change, the Intergovernmental Panel on Climate Change, HalifACT has proposed collaborative actions to achieve the climate response and action out to 2050. At the Provincial level, the *Environmental Goals and Climate Change Reductions Act* (2021), set Nova Scotia's targets to be at least 53% below the 2005 emissions by 2030, and net zero by 2050 by balancing GHG emissions with GHG removals and other offsetting measures. At the Municipal level, HalifACT's targets include 75% reduction in community emissions over 2016 levels by 2030, net zero municipal operations by 2030, and net-zero community emissions by 2050.

The three themes of HalifACT shall provide guidance of immediate and future work related to climate:

- **Decarbonized and Resilient Infrastructure** includes increasing efficiencies of buildings, increasing renewable energy, decarbonizing transportation, greening government operations, protecting water systems and supplies, reducing risk to critical infrastructure, improving natural areas and green infrastructure, integrating climate into planning processes (including carbon-neutral district energy and microgrids, land protection, and land acquisition), and coastal preparedness.
- **Prepared and Connected Communities** includes emergency management, community capacity, food security and resiliency, and supporting businesses for decarbonization.
- **Coordinated Governance and Leadership** includes monitoring and reporting, carbon accounting, mainstreaming climate into municipal operations, and governance and capacity for action.

EC-36 HalifACT, approved in 2020 and as updated from time to time, shall provide guidance to the Municipality for actions and programs related to improving energy security and energy conservation; supporting renewable energy sources; reducing energy consumption; mitigating climate change; and adapting to climate hazards. To further the goals of HalifACT, the Municipality shall consider adopting or amending by-laws.

EC-37 The recommendations of HalifACT provide guidance for corporate priority actions to manage the risks associated with climate change and actions to achieve municipal and community targets for reducing greenhouse gas emissions. To implement or further an action or program of HalifACT, the Municipality may consider amendments to this Plan, secondary municipal planning strategies, land use by-laws or any other by-laws of the Municipality.

EC-38 The Municipality shall co-operate with external stakeholders and various levels of government in developing policies and programs to reduce greenhouse gas emissions and, where deemed advisable by the Municipality, shall consider adopting or amending by-laws to achieve these objectives.

6.5.3 STORMWATER & FLOODING

With the increased intensity and frequency of storm events linked to climate change, extreme rainfall events are becoming more prominent. Stormwater volume is increasing throughout every season with more precipitation falling as more intense rain rather than snow due to rising temperatures. The impacts of this includes flooding of property and streets, increased infiltration into the wastewater system, erosion, and degradation of water bodies due to pollutants in runoff. As flooding increases, so too will the pressure in areas with stormwater systems, including natural systems like lakes and rivers, and the associated reactive maintenance costs. Increased flooding also impacts quality of life to citizens, through reduced safety, degradation of the natural environment, and property damage due to major storm events.

In 2007, Regional Council approved the transfer of the Municipality's wastewater and stormwater services through the Wastewater and Storm Water Transfer Agreement (the Transfer Agreement) to the Halifax Regional Water Commission (Halifax Water) which was subsequently approved by the Nova Scotia Utility and Review Board (the Board). Through this governance structure, Halifax Water is responsible for the operation and administration of publicly owned stormwater facilities within the commutershed of the Regional Centre. As a public utility, Halifax Water is expected to finance its operations through user fees and charges which finance new connections to its facilities. To manage development in a fair and cost-effective manner, close cooperation between Halifax Water and the planning and operational activities of the Municipality is essential.

Within the Municipality's watersheds, there are varying levels of development and sensitivities. With changing technologies and extensive differences from watershed to watershed, stormwater management should focus on a comprehensive, system-based approach rather than a one-size-fits-all approach. Best Management Practices should be utilized to promote controlling stormwater at the source by regulating site design features, capturing and treating rain where it lands, and using green infrastructure to improve stormwater runoff quality and maintain infiltration. In some circumstances, such as highly urbanized watersheds, the Municipality may consider paying for retrofits to improve water quality in receiving watercourses, if feasible. Support for day lighting of streams and rivers will also be considered where doing so would enhance flood resiliency, the aesthetics of the area, or further restoration of a heritage resource.

The Integrated Stormwater Management Policy Framework passed by Regional Council on January 16, 2018 was developed in partnership with Halifax Water. The purpose of the policy was to prevent loss of life and property due to major storm events, and foster efficient and effective work management processes, safe and convenient use of streets and other land areas before, during and after storm events, and mitigate

the long-term impacts of development on natural systems and downstream properties. As part of this work several documents were adopted, as listed below, with more work to follow:

- By-Law G-200, A By-Law Respecting Grade Alteration;
- Administrative Order 2020-010-OP for Halifax Stormwater Management Standards for Development Activities; and
- By-Law L-402 Respecting Lot grading (to amend By-law L-400).

Stormwater management is a collaborative approach in partnership with Halifax Water and Nova Scotia Environment with future work focusing on public education, adopting standards for green infrastructure for municipal rights-of-way, and encouraging the maintenance, restoration, and/or improvement of natural infrastructure.

EC-39 The Municipality shall continue work toward a comprehensive, holistic, and future-looking stormwater management policy in partnership with Halifax Water.

EC-40 The Municipality shall continue work toward improving stormwater management practices to reduce the impacts of development on natural systems and downstream properties. Where deemed advisable, the Municipality shall consider adopting or amending by-laws to achieve these actions.

EC-41 Green infrastructure such as naturalized stormwater ponds, bioswales, and nature-based solutions shall be the preferred approach to managing stormwater. Where development is considered by development agreement or through an amendment to a secondary municipal planning strategy, the Municipality shall consider the use of naturalization and green infrastructure and promote approaches to manage stormwater on private property for multi-unit residential, commercial and industrial developments.

EC-42 The Municipality shall consider adopting a stormwater management and/or erosion control by-law with provisions made that may be area specific and may vary by type of development and, where required, be subject to approval by the Review Board. When considering adoption or amendments to the by-law, the following matters may be considered:

- a) the cost and effectiveness of methods to reduce increased stormwater flows caused by development with consideration given to problems associated with downstream flooding, stream bank erosion, water and groundwater contamination, natural habitat loss, and inflow and infiltration into wastewater systems;**
- b) the potential for maintaining natural vegetation where possible and employing green infrastructure, naturally occurring soils and native plant species in stormwater management plans;**
- c) means to reduce site disturbance and impervious surfaces in new developments;**
- d) methods of reducing sediments, nutrients and contaminants being discharged into watercourses; and**
- e) the recommendations contained in a watershed study undertaken pursuant to policy EC-19 of this Plan.**

- EC-43** The Municipality may consider regulatory and operational measures to reduce the quantity and improve the quality of stormwater entering public stormwater facilities and watercourses including, but not limited to, minimum water quality standards for release to a receiving environment, public education programs, animal waste control, spill prevention plans, enhanced street sweeping, reduction in road salts, land use restrictions and revisions of development standards. Any such measures may apply in whole or in part of HRM and may require approval of the Review Board.
- EC-44** The Municipality may consider supporting retrofits to existing stormwater facilities where it has been determined that such retrofits could be expected to mitigate flooding or to improve the quality of stormwater entering watercourses, lakes and wetlands.
- EC-45** Where public stormwater collection infrastructure must undergo significant repair or replacement, the Municipality may consider supporting funding for daylighting of the watercourse involved with consideration given to:
- a) feasibility in relation to the surrounding environment, land use and ownership, adequacy of space, drainage and potential flooding issues, safety and other practical or engineering considerations as appropriate.
 - b) replacement of culverts with bridges or an open bottom culvert rather than straight pipe is preferred wherever possible;
 - c) the potential for legal and liability issues arising; and
 - d) costs and the availability of funding.
- EC-46** In the event that the Province of Nova Scotia considers imposing standards on the quality of stormwater entering watercourses, the Municipality shall participate in consultations and shall consider amending any stormwater management by-law approved pursuant to Policy EC-48⁴²* to be consistent with or complement standards adopted by the Province of Nova Scotia.
- EC-47** The Municipality shall support efforts by Halifax Water to create a rate structure for stormwater management services that provides incentives for the retention of on-site stormwater and may consider any amendments to municipal by-laws or planning documents which would assist in facilitating these efforts.

6.5.4 FLOODPLAINS

Land adjacent to rivers and streams which are subject to flooding (floodplains) are unsuitable for development. Development or alteration of a floodplain can restrict normal water drainage patterns and cause significant damage to property and infrastructure and risk to life. Limiting development on these lands reduces the need for costly flood control infrastructure such as channels, reservoirs and dykes, and protects the public from property damage and loss of life. In the early 1980s, floodplain mapping for the Sackville and Little Sackville Rivers was prepared under the Canada-Nova Scotia Flood Damage Reduction Program and policies and regulations have been adopted under the Sackville planning documents to reduce the risk to property and the need for flood control measures.

*The Draft Regional Municipal Planning Strategy accepted by Halifax Regional Council to be used for public engagement purposes on June 20, 2023 included a clerical error that has been corrected as shown

To minimize effects upon natural stormwater flows, HRM will exercise control over the placement and stabilization of fill necessary for the flood proofing of structures permitted within a floodplain designation of a Secondary Municipal Planning Strategy. Through the review of subdivision applications, any roadways proposed within a floodplain designation will need to meet HRM's stormwater management requirements. The following policy is intended to mitigate the consequences of flooding along major rivers and emphasize the environmental importance of rivers in regulating and draining water flows through watersheds.

- EC-48 The Municipality shall restrict development and prohibit the placement of fill or alteration of grades in association with development that restricts the capacity of flow or increases flood levels within the 1 in 100 year and 1 in 20 year floodplains for designated watercourses, under secondary municipal planning strategies and land use by-laws.**
- EC-49 Where appropriate, the Municipality shall permit water control structures, boardwalks and walkways, conservation uses, historic sites and monuments, and wastewater, stormwater and water infrastructure within floodplains.**
- EC-50 Within the 1 in 20 year floodplain, treatment facilities for wastewater, storm water and water shall be limited to facilities that were in existence on or before June 25, 2014 or facilities installed by Halifax Water after June 25, 2014 where they deemed the facilities necessary for public health and safety.**
- EC-51 Within the 1 in 100 year floodplain, the Municipality may, through secondary municipal planning strategies and land use by-laws, permit development which has been adequately flood-proofed.**
- EC-52 The Municipality may consider regulatory and operational measures to reduce flooding including but not limited to:**
- a) adopting flood resilient design standards for new development; and**
 - b) interventions in major overland flood routes in historically flood prone areas.**

6.5.5 COASTAL PROTECTION

The municipality has an extensive coastal shoreline, offering aesthetic appeal and picturesque views. Coastal habitats such as marshlands offer valuable ecological services and provide habitat to species at risk. Protecting, restoring, and maintaining coastal habitat not only protects ecological services, but can mitigate impacts of flooding and storm surge on human safety and property.

The impacts of climate change are already being felt through increased climate events. HRM recognizes that these impacts will continue over time, and that we need to adapt to these changes. Climate change adaptation includes planning for, and acting on, the anticipated impacts of climate change. This can be achieved by readying existing infrastructure and communities, and by making new policies and standards to adapt our communities and infrastructure. Climate resiliency is the ability to recover quickly from the negative impacts of a climate hazard or event. This applies to both communities and to infrastructure. By identifying vulnerabilities, we can prioritize where and how to adapt.

- EC-53** The Municipality shall regularly update municipal LiDAR data, digital elevation models and vulnerability mapping, and may adopt policy to require emergency management services and current and future climate change hazard projections are considered as part of the as-of-right development process, discretionary planning applications, and during reviews of planning documents.
- EC-54** The Municipality shall seek to complete a spatially-based risk and vulnerability analysis of the Municipality's coastal waterfront and shoreline area and may consider adopting a coastal-specific adaptation policy using a PARAEBAs (Protect, Accommodate, Retreat, Avoid or Ecosystem Based Adaptation) Framework or other suitable framework for climate change adaptation planning to plan for hazards and increase resilience to those hazards.
- EC-55** The Municipality shall develop and/or update policies to limit development in areas determined to be vulnerable to climate hazards.
- EC-56** The Municipality shall foster sustainable coastal management along its coasts considering long term climate impacts, ecosystem health, public risk and vulnerability assessments, adaptation strategies and cost-benefit analysis of adaptation approaches. A coastal management approach shall also consider opportunities to retain and improve public coastal access.

Sea level has slowly risen along the Atlantic Coast due to coastal subsidence and accelerated by global warming. Of additional concern is the anticipated increase in the frequency and severity of storm events related to climate change. Rising sea levels and storm surges can result in increased damage to coastal communities and have significant impacts on coastal infrastructure, environmental assets, utilities, properties and community economic development. The following measures encourage the protection of natural coastal environments and mitigate the potential impact that coastal inundation and storm surge events could have on human safety.

- EC-57** Where a lot abuts the coast of the Atlantic Ocean, including its inlets, bays, and harbours, the Municipality shall, through the applicable land use-by-law, prohibit issuing permits for any portion of a main building or a backyard suite use, including their basements, that are proposed to be erected, constructed, altered, reconstructed, or located at an elevation less than 3.2 metres above the Canadian Geodetic Vertical Datum 2013 (CGVD2013) standard. Provisions shall be made within the by-law to permit residential accessory structures, marine dependant uses, open space uses, parking lots and temporary uses within the 3.2 metre elevation. Consideration may be given to amending the by-law requirements where an updated system of measurement or methodology is adopted by the Municipality to provide a reasonable level of safety or to conform with legislation, regulations, guidelines, or statements of interest adopted by the Province.
- EC-58** To support long-term safety, the Municipality shall endeavor to define coastal setbacks for development that consider coastal erosion, sea level rise, and wave runoff, and may develop by-laws or policies to further inform secondary municipal planning strategies and land-use by-laws.

- EC-59** Upon the adoption of the provincial *Coastal Protection Act* regulations, the Municipality shall adopt consistent policies and regulations that are tailored to the HRM context. In the event that the Province of Nova Scotia considers revising the *Coastal Protection Act*, the Municipality shall participate in consultations and shall consider amending or adopting policies to be consistent with or complement standards adopted by the Province of Nova Scotia and tailored to the HRM context.
- EC-60** The Municipality may consider limiting development or managed retreat in areas determined to be vulnerable to hazards such as storm surge and coastal erosion through secondary municipal planning strategies and land use bylaws.
- EC-61** The Municipality may encourage maintaining, protecting and/or restoring natural coastal ecosystems, encouraging use of nature-based and/or hybrid infrastructure on coastlines, and minimizing the use of hard infrastructure on coastlines such as armour stone and seawalls through best management practices, public education, and guidebooks.
- EC-62** The Municipality shall limit development on islands and existing undersized coastal lots which are prone to hazards such as storm surge and coastal erosion through land use bylaws.

6.5.6 PROTECTING INFRASTRUCTURE

Critical infrastructure includes a complex network of systems of energy, telecommunications, transportation, water supply, wastewater treatment, solid waste management, and buildings and food systems that are critical to support economic prosperity and social well-being. In the near and long term, critical infrastructure needs to withstand increasingly extreme storms, changing temperatures, and other climate impacts. New construction should also be built to withstand the impacts of the changing climate. To reduce future impacts, the resilience of new construction and existing critical infrastructure must be improved.²⁴

- EC-63** The Municipality shall seek to identify current and future climate change hazards and critical infrastructure at risk to climate hazards and may adopt policy to prioritize resiliency measures that will help reduce risk, protect critical infrastructure, and rebuild more resilient infrastructure.
- EC-64** The Municipality shall incorporate new standards into the Municipal Design Guidelines that consider climate change impacts and improve the resiliency of new and retrofitted municipal infrastructure in the right-of-way.
- EC-65** To support climate resilient design standards the Municipality may:
- a) retrofit and construct municipal facilities with climate resilient building designs;
 - b) develop, promote, and incentivize climate resilient building design practices;

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https://www.halifax.ca/sites/default/files/documents/about-the-city/energy-environment/HRM_HaliFACT_vNew%20Logo_.pdf

- c) consider net-zero and climate resilient new construction as part of discretionary planning applications; and
- d) set standards for resilient new construction that exceed existing building codes, where Provincial Regulations allow.

EC-66 The Municipality may consider supporting retrofits to existing infrastructure where it has been determined that such retrofits could be expected to mitigate impacts of climate hazards on assets, systems or communities, with consideration given to:

- a) feasibility in relation to the surrounding environment, land use and ownership, adequacy of space, safety and other practical or engineering considerations as appropriate;
- b) the potential for legal and liability issues arising; and
- c) costs and the availability of funding.

6.5.7 RENEWABLE ENERGY

As identified by HalifACT in 2016, fuel and electricity consumption in residential, commercial and industrial buildings accounted for 70% of all energy use in Halifax and 77% of total GHG emissions. Action on reducing energy consumption, increasing efficiency, and utilizing alternative energy sources is critical for meeting the objectives of HalifACT for a low carbon, 1.5 degree Celsius pathway.²⁵

EC-67 The Municipality shall work with renewable energy suppliers and provincial regulators to increase access to a comprehensive renewable energy distribution system across the Region.

EC-68 The Municipality shall, through applicable land-use by-laws, permit large-scale solar installations in the Rural Commuter Designation, the Rural Resource Designation, and the Agricultural Designation in accordance with applicable legislation, regulations, guidelines, or statements of interest adopted by the Provincial or Federal government. Where Federal and Provincial regulations have been amended, the Municipality may also amend municipal land use by-law regulations to remain consistent with these changes.

EC-69 The Municipality shall encourage the use of alternative energy systems, such as district energy and microgrids, as part of secondary planning and master neighbourhood planning projects.

EC-70 To support renewable energy sources and reduced reliance on fossil fuels in the development of different sites, the Municipality may:

²⁵https://www.halifax.ca/sites/default/files/documents/about-the-city/energy-environment/HRM_HaliFACT_vNew%20Logo_.pdf

- a) through applicable land use by-laws, permit district energy facilities in areas of high growth and density;
- b) encourage new development located within an area served by a district energy system to connect to such a system;
- c) identify opportunities to capture and redistribute waste energy, and encourage combined heat and power systems;
- d) develop, promote, and incentivize net-zero building design practices; and
- e) consider amendments to this Plan, including incentive or bonus zoning policies, to support renewable energy technologies in buildings that are designed to meet or exceed net zero energy standards, subject to future amendments to the Nova Scotia Building Code to establish net-zero construction standards.

EC-71 The Municipality shall seek to recognize advances in solar installations, and energy storage systems, and may amend policy and municipal land use by-law regulations to remove barriers for these utilities.

EC-72 Subject to any urban design requirements as outlined in applicable land use bylaws, land use by-laws shall allow rooftop solar collectors to protrude above the maximum permitted height for main buildings to reduce potential barriers to on-site renewable energy production.

EC-73 The Municipality shall, through applicable land use by-law, require electric vehicle infrastructure in new construction.

EC-74 Further to Policy EC-73, the number of vehicle parking stalls providing all electrical components except for a physical charger (“EV Ready”) shall be as follows:

- a) For all new residential uses, every required vehicle parking stall shall be “EV Ready”; and
- b) For all other non-residential uses, 20% of the required vehicle parking stalls shall be “EV Ready”.

6.5.8 WIND ENERGY

Within the applicable Regional Plan policy designations, three energy overlay zones were created to reflect how wind energy facilities should be treated differently between the urban and rural areas of the Municipality. The energy zones in the urban and rural areas permit a range of wind energy facilities including micro, small, medium and large scale machines which have been classified based on different heights and levels of power generation. These range from large wind farms to smaller machines used as supplemental power sources for businesses and residences.

EC-75 Within all Regional Plan Designations, the Municipality shall establish three overlay zones including an Urban Wind (UW-1) Zone, a Rural Wind (RW-2) Zone and a Restricted (R) Zone within the Land Use By-law to regulate wind energy facilities. These regulations will be implemented through the community land use by-laws. The Urban Wind (UW-1) Zone and the Rural Wind (RW-2) Zone shall be applied to those areas where various categories of wind energy facilities shall be permitted in urban and rural areas. The Restricted (R) Wind Zone shall be applied to those areas where wind energy facilities shall be prohibited including Regional Parks, Conservation Areas, Protected Areas, the Western Commons and areas within Urban areas not suitable for wind energy facilities.

EC-76 The Municipality shall establish requirements within the applicable Land Use By-laws that include regulations to control height, scale, access, setback and separation distances of such facilities in order to adequately address operational needs, safety concerns and the mitigation of impacts to adjacent properties.

Wind turbines should be permitted in the Municipality without placing a limit on the number of wind turbines within a particular location, provided that distance separation requirements can be met. However, where a property abuts another or where several properties are contiguous and are intended to be used to connect into the same large wind energy facility, the setback requirement from the property boundary may be waived where the adjoining property forms part of the same wind farm.

EC-77 The Municipality seeks to encourage the development of large-scale wind energy facilities in rural areas by permitting the expansion of wind farms in suitable locations. Accordingly, where a large-scale wind turbine is proposed to connect to a wind energy facility on an adjacent lot, the setback requirement from the property boundary may be waived where the adjoining property forms part of the same wind farm.

The Municipality recognizes that municipal regulations duplicating Provincial and/or Federal requirements should be minimized so as not to unduly hinder wind energy development and that the Provincial Environmental Assessment process guidelines may change over time which could necessitate changes to municipal regulations in order to remain both consistent and complimentary. Accordingly, the Municipality may seek to amend municipal regulations to ensure that future requirements are adequate to regulate wind energy facilities in the Municipality.

EC-78 The Municipality shall seek to ensure that Federal and Provincial processes comply with municipal requirements for large scale wind energy facility development. Where Federal and Provincial regulations have been amended, the Municipality may amend municipal land use by-law regulations to remain consistent with these changes.

EC-79 The Municipality shall seek to recognize advances in wind energy technology and wind energy standards and may amend this Plan, secondary municipal planning strategies and land use by-laws to reflect these changes.