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**Item No. 13.1.2**  
**Harbour East Marine Drive Community Council**  
**Special Meeting**  
**March 4, 2021**

**TO:** Chair and Members of Harbour East Marine Drive Community Council

**SUBMITTED BY:** *-Original Signed-*  

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Kelly Denty, Executive Director of Planning and Development  
*-Original Signed-*  

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Jacques Dubé, Chief Administrative Officer

**DATE:** December 1, 2020

**SUBJECT:** **Accessory Buildings in Watercourse Setbacks and Buffers: Eastern Passage/ Cow Bay Land Use By-law**

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**ORIGIN**

On June 30, 2020, the following motion was passed by Harbour East Marine Drive Community Council:

*That Harbour East Marine Drive Community Council request a staff report to consider amendments to the Eastern Passage/ Cow Bay Land Use By-law to allow accessory structures and buildings within watercourse setbacks and buffers.*

**LEGISLATIVE AUTHORITY**

*Halifax Regional Municipality Charter (HRM Charter), Part VIII, Planning & Development, Section 235.*

**RECOMMENDATION**

It is recommended that Harbour East Marine Drive Community Council direct staff to use the results of the forthcoming Coastal Preparedness Deliverables in the HaliFACT Plan to inform future changes to Watercourse Setbacks and Buffers within the Eastern Passage / Cow Bay Land Use By-law with consideration given to achieving a consistent approach to watercourse setbacks and buffers among all HRM Land Use By-laws.

## **BACKGROUND**

### Initial Issue

A community member in the Eastern Passage / Cow Bay community was in the process of building a shed in their yard in the first half of 2020. Their understanding at the time was that no permit was required for the construction of their shed given its limited size. After discussions with his neighbours and inquiries to Planning & Development staff, it was determined that, while the size of the shed exempt it from requiring a building permit, a development permit was still required. When a development permit was applied for, it was determined through the course of review that a permit could not be issued as the shed was located within an existing watercourse setback / buffer. Construction of the shed has ceased, and the partially built shed secured in a manner to ensure its safety for the time being. Following discussions with the area Councillor, the motion referenced in the 'Origin' section of this report was made in June 2020.

### Municipal Planning Strategy Policies

Shortly following municipal amalgamation in 1996, Regional Council supported staff in investigating options for increased municipal involvement in policies and regulation pertaining to environmental protections. An amendment to the Eastern Passage/Cow Bay Municipal Planning Strategy (MPS) made in 1998 cited that Halifax Regional Municipality needed to exercise greater authority on these matters, where previously most regulation was authored and enforced by the Provincial government. Where the Eastern Passage / Cow Bay community has close ties to the water relating not only to its sense of identity, but also as part of its healthy economy, enhanced levels of environmental protection were felt to be appropriate by the Council of the time.

The MPS was amended to include a map indicating the locations of known watercourses, wetlands, floodplains and areas of steep slopes, referred to as 'Map 4 – Environmental Constraints'. Direction in the plan was included to not allow future rezonings which would result in the following:

*"...development, excavation, infilling or alteration of any wetland, watercourse, water resource or floodplain, unless it is clearly demonstrated by detailed study that any such area, in whole or in part, does not meet any definition or fulfill such natural functions, as described in this planning strategy, or is otherwise not hazardous for development."* – Policy EP-2 Eastern Passage/Cow Bay Municipal Planning Strategy

Several policies were inserted into the MPS document under the theme of environmental protections which provided direction on specific topics and locations within the community inclusive of wetlands protection, floodplains, the Cow Bay River, Smelt Brook, coastal lands, and stormwater management. Within this same group of amendments, policy direction was also included in the MPS relating to the nature of development within watercourse setbacks and buffers, and the extent to which the Eastern Passage/Cow Bay Land Use By-law should allow for development in these sensitive areas. On this issue of development within watercourse setbacks and buffers, the following policy was added to the MPS:

*EP-4 It shall be the intention of Council to establish setback and buffer requirements for all watercourses within the plan area, including but not limited to those as generally shown on Map 4 - Environmental Constraints. No structure, excavation, infilling or grade alteration shall be permitted to occur within one hundred (100) feet of any watercourse. The retention of natural vegetation within the setback/buffer area shall be part of these requirements. The land use bylaw shall contain provisions to reduce this requirement to fifty (50) feet for lots in existence on the effective date of this planning strategy where otherwise development would be prohibitive.*

A total of five individuals spoke at the public hearing for these 1998 MPS policy changes taking place on January 20, 1998 with all 5 speaking in favour of the amendments. Further, meeting minutes note that the Halifax County Watershed Board had submitted a letter respecting the proposed amendments recommending that a 200 ft. (60.96 metres) setback for buildings along the coastal area become a buffer area.

### Land Use By-law Requirements

The Eastern Passage / Cow Bay Land Use By-law has changed iteratively over the course of the last 15 years in regard to watercourse buffers and accessory building size and siting. In June of 2006, Regional Council approved amendments which added section 4.18 to the LUB entitled 'Watercourse Setbacks and Buffers'. This requirement applied a 30-metre watercourse buffer to lands adjacent to these features with a further requirement for additional setback where the land was significantly sloped. While the buffer applied to development of all types, accessory structures could only be built in situations where an existing residential building was already located within this buffer and the new structure would be located no closer to the watercourse than the existing main building.

In 2009, the LUB regulations were revisited in a housekeeping amendment which expanded the allowable uses within the buffer to include fences not exceeding 1.83 metres, boardwalks and trails, public road crossings, driveways, and various water related infrastructure.

In 2014, the Regional Plan update known as RP+5 was approved by Regional Council. Specific clauses in the LUB for Eastern Passage / Cow Bay were added to limit activities in watercourse setbacks and buffers inclusive of excavation, infilling, or construction of structures. No exemption for accessory structure construction was included within these amendments with the exception of the aforementioned situation where an existing residential building was already located within this buffer.

The most recent amendments to the LUB in relation to watercourse setbacks were completed in December of 2018. Harbour East Marine Drive Community Council and North West Community Council jointly made changes to amend land use by-law provisions for new residential development within the coastal elevation for lands designated Harbour consistent with the Regional Municipal Planning Strategy. These amendments were considered to be housekeeping in nature where errors had occurred in the adoption of 2014 Regional Plan amendments. The 2018 changes corrected errors caused by portions of older policies mistakenly being left in the Land Use By-law where these should have previously been deleted. The presence of these old rules created a direct conflict with new Regional Plan direction limiting residential development in areas susceptible to coastal flooding and inundation (provided they were designated Harbour under the Regional MPS).

### Land Use By-law Area Regulations Elsewhere in HRM

Where the MPS document for Eastern Passage / Cow Bay references a geographically specific community concern in the protection of watercourses and other environmental features, the rules regulating development within these buffers are in some cases unique to this plan area. As the MPS notes, the *Environment Act* states that a municipal by-law is not inconsistent or in conflict with the Act, by reason that it imposes stricter provisions respecting protection of the environment. As such, the Eastern Passage / Cow Bay by-law imposes a higher standard of protection in certain highly impacted areas.

By contrast, the Planning District 5 (Chebucto Peninsula) Land Use By-law contains similar but different rules in section 4.20 of the document. Clause 4.20 (1) d) states the following:

*Within the required buffer pursuant to clauses (a) and (b), activity shall be limited to the placement of one accessory structure or one attached deck not exceeding a footprint of 20 m<sup>2</sup> or a combination of an accessory structure and attached deck not exceeding 20 m<sup>2</sup>, fences, boardwalks, walkways and trails not exceeding 3 metres in width, wharfs, boat ramps, marine dependent uses, fisheries uses, conservation uses, parks on public lands, historic sites and monuments, and public road crossings, driveway crossings and wastewater, storm and water infrastructure, and water control structures.*

Other HRM Land Use By-laws afford a similar provision for smaller scale development which was assessed to be less intrusive or at risk in these sensitive locations.

### Climate Change Context / HaliFACT

In the summer of 2020, Regional Council authorized the direction contained in the HaliFACT 2050: Acting on Climate Together plan. This plan was the result of a tremendous amount of research, community outreach, and engagement to both experts in the field of climate change as well as the public at-large. The plan begins by acknowledging that Halifax will experience higher temperatures, more heat waves, more rain and snow and an increasing number of more severe storms, flooding events and wildfires. Extreme weather drives other climate hazards such as sea level rise, decreased snowpack and unpredictable runoff, and increases in invasive species and vector-borne diseases.

Section 5.2.9 of the adopted plan is entitled 'Coastal Preparedness'. This section commits the Municipality to two actions as the plan moves into its implementation phase. First, HRM will conduct a detailed spatially-based risk and vulnerability analysis of Halifax's coastal, waterfront, and shoreline area. Second, the Municipality will develop a coastal-specific adaptation strategy with coastal communities.

While neither of these implementation goals of the plan have been completed to date given the relatively recent adoption of the document, the plan does provide context around the need to change the approach to planning and development in environmentally sensitive areas. There is an absence of geographically specific data suggesting risk in the Eastern Passage / Cow Bay plan area is greater when compared to others where it comes to placing development within watercourse buffers. With this said, data at a regional level suggests it is highly unlikely the results of these two HaliFACT deliverables would result in recommendations to decrease, eliminate, or allow additional development within these existing buffers.

### Nova Scotia Coastal Protection Act

The *Nova Scotia Coastal Protection Act* was passed by the legislature in the spring of 2019. The purpose of the Act is to protect coastal ecosystems by avoiding unnecessary interference with the dynamic nature of the coast. Further, it will also ensure that new construction in coastal areas does not occur in locations where it may be vulnerable to sea level rise, coastal flooding and coastal erosion. While the Act has been passed by the legislature, the process has not yet fully completed to the point where new regulations exist and can be implemented. This work has been ongoing for the past year, and it is expected that the detailed regulation and the responsibility of municipalities in applying it will be completed in the 2021 calendar year. At that time, it is expected that horizontal protection zones and the vertical setbacks from sea level will be identified and will inform where development may occur. It is important to note that any Provincial regulation regarding development location would supersede any conflicting policies held in Municipal Planning Strategies or Land Use By-laws.

## **COMMUNITY ENGAGEMENT**

At this time, no community engagement has been undertaken on the subject of reducing or amending the requirements related to watercourse setbacks and buffers. The recommended engagement approach for future amendments could vary depending on the scope of change Council was interested in making. Should a plan amendment be necessary to facilitate changes to the Land Use By-law, initiation by Regional Council for the change would first be required, along with their adoption of a Public Participation program. A public hearing would also be required before Council could consider approval of any proposed LUB amendments.

Changes to the land use by-law will potentially impact local residents, property owners, business owners, and environmental groups.

## **DISCUSSION**

Policies requiring setbacks from watercourses are typically implemented for two possible purposes. First, they could be used to protect our built environments from nature. Where the sea level is rising, significant storm events are more frequent and intense than ever, river floodplains are expanding, and much of the future is unknown, it is prudent to protect our investments by locating them outside of areas we know will be highly impacted in these circumstances. Second, setbacks could be used to protect nature from our built environment. Where the development activities inclusive of grading land, adding fill to create flat building areas, changing stormwater flow, increasing the amount of impervious surface, etc. can have unforeseen impacts to the water quantity, quality, and flow within nearby watercourses, a common strategy is to increase setbacks to reduce the likelihood of such impacts.

The Eastern Passage / Cow Bay MPS identifies the primary objective of establishing a setback along the coast line as being to provide increased protection for structures from the constant pressure from ocean wave and wind action resulting in soil erosion. This will help to lessen the costs to homeowners and the Municipality to spend future money to fortify the shoreline against the effects of coastal erosion. While this was the intent at the time the planning policies were written – some 20+ years ago – it is likely that the results of ongoing climate and emergency preparedness work within the Municipality would conclude that changes are needed regarding the proximity of development to watercourses for both economic as well as environmental reasons.

Were Council to direct staff to author changes to the existing LUB regulations, staff have identified five possible options to move forward. Please note that some of the options outlined below would require amendments to the MPS document, and as such require initiation and the adoption of a Public Participation Program for said amendments as a first step.

### **Option 1 – Exempt Accessory Structures from Watercourse Buffers**

Similar to existing regulations contained in other by-laws such as the Planning District 5 (Chebucto Peninsula) Land Use By-law, a clause could be inserted into the Land Use By-law to exempt accessory structures from the setback buffer requirements that presently applies to all development. This exemption could be written so as to allow structures less than a prescribed floor area or could alternatively be a blanket exemption allowing any sized accessory structure otherwise allowed within the Land Use By-law.

Were Community Council to proceed with this action, initiation by Regional Council for a plan amendment would be required where the existing Policy EP-4 provides specific direction on there being no structures within watercourse buffer areas. The risk also exists that the *Nova Scotia Coastal Protection Act* could be finalized in the short to medium term future, which may render these amendments moot.

### **Option 2 - Seek Consistency Among Land Use By-laws Via the Regional Plan Review**

There is presently inconsistency amongst HRM by-laws around what type of development that is permitted within watercourse buffers and what setbacks apply. While these nuances between plan areas typically reflect the specific conditions within each area and the desires of the community, they might also be seen as unfair with respect to their inequality. Community Council could direct staff to investigate the possibility of creating standardization among the 22 Land Use By-laws in HRM through more specific wording in the Regional Plan. These changes could be considered via the ongoing Regional Plan Update project and presented to Regional Council for their consideration along with the other updating amendments to that document.

### **Option 3 – Await Coastal Preparedness Deliverables in HaliFACT Plan**

More information and better information will be available in the coming months as the HaliFACT plan begins to roll out its implementation strategy to complete the work outlined within the document. Studies – specifically those related to the section on Coastal Preparedness – could ensure that any decision of Council regarding development in environmentally sensitive areas is made with full knowledge of the science behind changing climates and the impact of increasing frequency of high impact storm events.

These studies could inform development adjacent to watercourses at a Regional level – or suggest a nuanced approach where each watercourse and plan area is considered individually so as to take into account the specific environmental, social, and economic context of the area. Were this option to be chosen, staff would return to Council at such time when this HaliFACT data is available with recommendations on how policy may need to evolve based on these findings. Further, if more information regarding the aforementioned *Nova Scotia Coastal Protection Act* was available at that time, staff would also consider this Provincial legislation in the creation of updated HRM policies and regulation.

#### **Option 4 – Allow Accessory Structures Within Watercourse Buffers Where Lots Abut the Atlantic Ocean**

Many of the lots within this plan area enjoying ocean frontage are presently zoned with the RA – Rural Area Zone. This zone allows for low density residential uses, a small number of home-based businesses, as well as agricultural, forestry, and fishing related uses on lots which are located on a saltwater watercourse, or are located on Bissett Road, Cow Bay Road, or Dyke Road. Where the central goal of the plan is to protect structures from coastal erosion and wave action, it must be acknowledged that uses relating to fishing must necessarily be located in close proximity to the water. Where this is the case, large setbacks may not be appropriate for accessory structures inclusive of boat houses, the likes of which are necessary to facilitate for the uses allowed in the zone.

Council could choose to direct staff to exempt all accessory buildings on lots which abut the Atlantic Ocean or limit this exemption only to accessory structures related to fishing activities. Similar to Option 1 outlined above, initiation by Regional Council for a plan amendment would be required where the existing Policy EP-4 provides specific direction on there being no structures within watercourse buffer areas. Further, similar to Option 1, risk also exists that the *Nova Scotia Coastal Protection Act* could be finalized in the short to medium term future, which may render these amendments moot.

#### **Option 5 – Allow Accessory Structures Within Watercourse Buffers in a Geographically Specific Area Differing from That Described in Option 4**

Council could identify either a specific geographic area or characteristics of properties where they feel the existing setbacks should be relaxed due to unique circumstances of individual lots, or of a portion of the community. In this scenario, Council could direct staff to allow exceptions to the existing buffer requirements in these unique circumstances, acknowledging MPS documents can facilitate community specific rules that reflect the environmental and economic context of the area.

Staff would seek specific direction from Community and Regional Council in undertaking these amendments to ensure the geographic extent of the amendment and/or the lot characteristics that would qualify for this exemption are fully understood. Consistent with Options 1 and 4 outlined above, initiation by Regional Council for a plan amendment would be required where the existing Policy EP-4 provides specific direction on there being no structures within watercourse buffer areas.

#### **Conclusion**

Inconsistencies among HRM Land Use By-laws is an issue planning staff are presently and will continue to address over the coming years via its By-law simplification program. Members of the community can be understandably frustrated when the development rights of similar lots – sometimes metres away from one another – can be vastly different based on invisible community plan lines. With this said, it is important to recognize that each of the Municipal Planning Strategy document contains direction that represents the individual desires of its community. All MPS amendments are subject to robust public engagement processes and are intended to reflect that individualized way that community wants to see growth and development occur.

While increased levels of consistency among Land Use By-laws is undeniably an important goal, staff would advise that changes made to these documents should be based on evidence to ensure changes reflect the HRM corporate importance placed on developing a sustainable and resilient Municipality. Therefore, staff

recommend that the Harbour East Marine Drive Community Council direct staff to pursue Option 3 as described within this report.

### **FINANCIAL IMPLICATIONS**

There are no financial implications. The HRM cost associated with completing this planning work can be accommodated with the approved 2020-2021 operating budget for C310 Urban and Rural Planning Applications.

### **RISK CONSIDERATION**

There are no significant risks associated with the recommendations contained within this report. Risks will be identified to Community Council in subsequent reports depending on the direction Council directs staff to take. Community Council has the discretion to make decisions that are consistent with the MPS, and such decisions may be appealed to the N.S. Utility and Review Board. Information concerning risks and other implications of adopting future proposed LUB amendments are contained within the Discussion section of this report.

### **ENVIRONMENTAL IMPLICATIONS**

Environmental implications are at the heart of the matters discussed in this report, and several issues have been highlighted throughout it. No additional concerns were identified beyond those raised in this report.

### **ALTERNATIVES**

1. Harbour East Marine Drive Community Council may choose to direct staff to pursue one of the other four options described within this staff report.
2. Harbour East Marine Drive Community Council may choose to direct staff in a manner not identified in this report. In selecting this option, Council should be as specific as possible regarding the nature of change they are seeking to the existing policies.

### **ATTACHMENTS**

Attachment A: Relevant Excerpts from Eastern Passage / Cow Bay Municipal Planning Strategy  
Attachment B: Relevant Excerpts from Eastern Passage / Cow Bay Land Use By-law

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A copy of this report can be obtained online at [halifax.ca](http://halifax.ca) or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Carl Purvis – Planning Applications Program Manager - 902.490.4797

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## Attachment A

### Eastern Passage / Cow Bay Municipal Planning Strategy Excerpts Relevant to Watercourse Setbacks and Buffers

#### ENVIRONMENTAL PROTECTION - (RC-Jan 27/98;M-Apr 27/98)

There is general consensus in the Eastern Passage/Cow Bay community that the Municipality must exercise greater authority regarding environmental matters in the plan area, as provided for by provincial legislation. Therefore, the purpose of this section is to ensure that clear and effective policies and regulations are incorporated in the planning documents to meet the environmental protection needs of the communities.

Recent provincial environmental initiatives, such as the Task Force On Clean Water, 1991, and the Round Table on Environment and Economy, 1992, made numerous recommendations respecting environmental protection, the encouragement of greater municipal involvement in watershed and water resource management and sustainable development. The Nova Scotia Planning Act enables municipalities to provide environmental protection through the prohibition of development and related activities on specified lands by several means. The Environment Act, 1994-95, states that its purpose is to promote protection and prudent use of the environment and includes a goal of maintaining the principles of sustainable development, such as ecological value, the precautionary principle, and pollution prevention. Further, the Environment Act states that a municipal by-law is not inconsistent or in conflict with the Act, by reason that it imposes stricter provisions respecting protection of the environment.

The establishment of an Environmental Constraints Map provides a basis on which to establish appropriate zoning standards to protect environmentally sensitive and significant features such as wetlands, watercourses and floodplains. No rezoning applications should be considered which would result in the loss or alteration of such features, unless it is clearly demonstrated that areas have been inappropriately included.

- EP-1 It shall be the intention of Council to establish Map 4 - Environmental Constraints in the MPS. Lands included on the map are known watercourses, wetlands, floodplains and areas of steep slopes. This map shall show areas which are unsuitable or pose unusual difficulties or risks for development. With respect to floodplains, Council will encourage the development of floodplain mapping to identify the 1/20 and 1/100 year floodplains for Cow Bay River and Smelt Brook and incorporate appropriate development policy in the MPS for each.
- EP-2 It shall be the intention of Council not to consider any rezoning application which will result in the development, excavation, infilling or alteration of any wetland, watercourse, water resource or floodplain, unless it is clearly demonstrated by detailed study that any such area, in whole or in part, does not meet any definition or fulfill such natural functions, as described in this planning strategy, or is otherwise not hazardous for development.

#### Wetlands Protection

A wetland is defined as “lands commonly referred to as marshes, swamps, fens, bogs and shallow water areas that are saturated with water long enough to promote wetland or aquatic processes which are indicated by poorly drained soil, vegetation and various kinds of biological activity which are adapted to a wet environment” (Regulations Respecting On-Site Sewage Disposal Systems, N.S. Environment Act).

**A significant function of wetlands is the retention, storage and filtration of water from surface runoff, allowing sediments, contaminants and excessive nutrients to be drawn up by vegetation or settle out naturally before entering any streams or other receiving body of water. The importance of maintaining adequate levels of retention and filtration are amplified by the presence of sensitive receiving waters such as Cow Bay Lake and Cole Harbour. Watercourses and wetlands are a vital part of the hydrological cycle and affect the quality and quantity of groundwater supplies by allowing surface water opportunity to filter down into the water table. This process helps offset the use of groundwater for domestic and commercial use and reduces the risk of wells running dry. In addition, wetlands provide for wildlife habitat, fish habitats, research and educational sites and add to the overall aesthetics of a community. The destruction, infilling or alteration of wetlands is a waste of a vital natural resource, with potential cost impacts for the Municipality and residents, in addition to more general environmental and aesthetic impacts.**

**The placement of buildings in wetlands may present problems. Soil conditions are such that buildings may be unstable and lead to hazardous conditions. It is sometimes difficult to build permanent foundations and buildings may sink and foundations crack.**

**Wetlands within the plan area have been identified using the Nova Scotia Wetlands Atlas (Wetlands Protection Mapping) which was prepared for Environment Canada in 1988 and updated in 1991, with more definitive boundaries established through interpretation of air photos dated 1992. One of the intents of the Wetlands Protection Mapping program was to identify and articulate the values of these individual areas and to encourage municipalities to consider them in future land use decisions. These identified areas merit protection through the establishment of a conservation zone which will ensure long term protection of a valuable public and private resource.**

**EP-3 It shall be the intention of Council to establish an Environmental Conservation (EC) Zone in the Land Use By-Law. The zone is applied to the wetland areas identified on Map 4 - Environmental Constraints and is subject to policy EP-2. It shall further be the intention of Council to prohibit excavation, infilling, or any other alterations within this zone, including the removal of trees or other vegetation. Developments are limited to the placement of boardwalks and walkways and historic sites and monuments. A minimum twenty-five (25) foot setback for buildings from an EC zone shall be included in the LUB.**

### **Watercourse Setbacks and Buffers**

**There are numerous small streams within the plan area which provide for surface water drainage and require protection primarily in terms of maintaining water quality, but also in maintaining the aesthetics and overall natural appearance of the area. As previously discussed, one part of the protection of watercourses will be achieved through the protection of wetlands which are an integral part of the natural drainage process. Another protection method is to establish development setbacks to provide adequate natural buffers.**

**The function of buffer areas is to provide protection for both the natural environment and the built environment. The establishment of a buffer width should consider key attributes, such**

as soil type, soil erodibility and vegetation. The majority of the land area in Eastern Passage and Cow Bay contains Mahone, Bridgewater, Hantsport, Peat and Wolfville type soils (Soil Survey of Halifax County, 1963). These soils range from moderate susceptibility to erosion to high susceptibility erosion (City of Dartmouth Lake Study, 1974). Buffer areas should be left in their natural state, as the removal of existing vegetation and/or any other disturbances increases eroded soil, nutrients and pollutants into adjacent waters and reduces their capacity to function as filtration areas. Buffers also assist in the prevention of damage to structures from potential peak flooding and erosion, and can serve as wildlife corridors to a number of species. The best means to avoid high levels of suspended solids and silt from reaching watercourses is to establish an effective setback for development.

The planning strategy establishes a setback/buffer requirement for structures, within which no alteration to the natural vegetation or grades of the land may occur. All known streams will be identified on Map 4 - Environmental Constraints, and the land use bylaw will require a buffer of 100 feet on each side of all streams, with provision for a reduction to 50 feet for existing lots which would be made undevelopable with the 100 foot requirement. Any other streams identified by detailed study and/or upon any development application will also be subject to Policy EP-4.

Watercourses were identified using topographic mapping (1:10 000 scale) produced by the Department of Housing and Municipal Affairs, NTS series mapping (1:50 000) and interpretation of air photos dated 1992.

**EP-4** It shall be the intention of Council to establish setback and buffer requirements for all watercourses within the plan area, including but not limited to those as generally shown on Map 4 - Environmental Constraints. No structure, excavation, infilling or grade alteration shall be permitted to occur within one hundred (100) feet of any watercourse. The retention of natural vegetation within the setback/buffer area shall be part of these requirements. The land use bylaw shall contain provisions to reduce this requirement to fifty (50) feet for lots in existence on the effective date of this planning strategy where otherwise development would be prohibitive.

### Floodplains

The riparian zone, the adjoining land area which is affected by lakes and streams, may extend for a considerable distance from the water and the width of the zone should be related to such factors as slope, soil type, vegetation type and the activity taking place beyond it (Nova Scotia Wildlife Habitat Conservation Manual, 1995). These areas generally exhibit floodplain characteristics, such as a gently sloping surface usually bounded by valley walls or terraces; a relatively high water table, poor drainage; vegetation consisting of species adapted to wet and flooded soil conditions; and occasional inundation by water (Environmental Analysis for Land Use and Site Planning, 1978).

### Cow Bay River

A significant extent of lands adjacent to Cow Bay River exhibit floodplain characteristics. The western side of Cow Bay River, extending from Morris Lake to Cow Bay Pond and westerly for about 800 feet (to the 30 metre contour), is about a 2 percent grade, includes poorly drained

peat and aspotogan soils (Soil Survey of Halifax County, 1963) and a series of large and small wetlands. A general characteristic of lands between 0 - 3 percent slope which abut watercourses is that of swamps, marshy areas and floodplains and are generally considered unbuildable (City Of Dartmouth Lake Study, 1974). A portion of the eastern side of the river, adjacent Cow Bay Pond, exhibits similar characteristics. The remaining southerly portion of the river exhibits a smaller riparian zone, a slightly greater slope (4%) and more stable, better drained Bridgewater type soils.

Cow Bay River flows from Morris Lake and Bissett Lake to Cow Bay Lake, a distance of about three miles. There is concern over the long term potential for increased peak flows in the river from continuing upstream urban development in Cole Harbour, particularly around Morris and Bissett Lakes. This may present future flooding problems of a larger scale than are now experienced. Therefore, the floodplain area described above reflects a need to assist in the protection of development from potential hazards, as well as protection for the natural functions of the river and Cow Bay Lake (Map 4 - Environmental Constraints). The floodplain is presently not developed and it is appropriate to establish and apply a floodplain zone

### Smelt Brook

Smelt Brook flows southerly from DeSaid Lake, which receives water from Morris Lake, for a distance of about 2.5 miles and empties into Cow Bay Lake. A portion of the lands on the western side of the brook, between Hines Road and Cow Bay Road and east of Caldwell Road, also exhibits characteristics of a floodplain with a 2 percent slope and a large area of peat soils. This soil type is usually formed in depressional areas, such as old lake beds and ponds, is saturated with water and exhibits poor drainage (Soil Survey of Halifax County, 1963). The eastern side exhibits a much smaller riparian zone. The portion of the brook between Cow Bay Road and Cow Bay Lake contains a relatively large wetland which assists in storing and filtering water during peak flow periods.

Smelt Brook is surrounded by soils high in clay content, which are highly erodible once tree cover and grades are altered. Clay also remains suspended in water for long periods of time and does not settle out easily, making standard sedimentation control techniques inadequate. The risk of environmental damage is increased in the plan area due to the fact that the brook empties into environmentally sensitive Cow Bay Lake. This area is valued not only for its natural beauty, but for high wildlife capability as shown by the presence of species such as osprey and herons. These birds, and others which nest in the area, rely heavily on the presence of a healthy fish population which can be severely impacted by the presence of high amounts of siltation and suspended solids.

Similar concerns exist respecting development adjacent Smelt Brook as they do with Cow Bay River. Therefore, the floodplain and buffer established along the brook reflects a need to assist in the protection of development from potential hazards, as well as protection for its natural functions.

**EP-5** It shall be the intention of Council to establish a Floodplain Zone for application to the identified floodplains of the Cow Bay River and Smelt Brook. Permitted uses include forestry and agricultural uses (excluding buildings), passive and active recreation uses and conservation uses. No excavation, infilling or grade alteration shall be permitted

to occur within one hundred (100) feet of Cow Bay River and within one hundred (100) feet of Smelt Brook and the retention of natural vegetation within these areas shall be required. These restrictions shall also apply to areas beyond the one hundred (100) feet that are within twenty-five (25) feet of wetlands as shown on Map 4 - Environmental Constraints.

### Drainage Basin Study

Given the impact of development in the Cole Harbour plan area on the hydrology of the Eastern Passage/Cow Bay area, it is necessary to also address these issues on the basis of drainage basins rather than political boundaries. This planning strategy will therefore encourage an examination of the wetlands, watercourses and storm flows within the Cole Harbour/Westphal areas as well, where the drainage patterns are linked with those of this area.

EP-6 It shall be the intention of Council to examine the drainage area of the community of Cole Harbour which contributes to flows into the Cow Bay River. Appropriate policies and regulations are to be considered for inclusion within the Cole Harbour/Westphal MPS which address storm water quantity and quality and the potential downstream impacts on the Cow Bay River and Cow Bay Lake.

### Coastal Lands

Certain coastal lands within the plan area contain environmentally sensitive areas, such as salt marshes, steep slopes and rock cliffs, as shown on Map 4. A portion of the coastal area around Osborne Head exhibits 25% > slopes. Further, the coastal lands outside of the sheltered area of Halifax Harbour are under constant pressure from ocean wave and wind action and are continually eroding. These areas present a hazard to development which is located too close to the water/land interface or the top of shoreline cliffs. Therefore, the primary objective of establishing a setback along the coast line is to provide increased protection for structures from these hazards. This will help to lessen the costs to homeowners and the Municipality to spend future money to fortify the shoreline against the effects of coastal erosion.

Cow Bay Lake and Barrier Ponds form part of the buffer system for the Cole Harbour-Lawrencetown Coastal Heritage Park. Portions of the shoreline in these areas are also subject to potential erosion due to their minimal shelter from heavy wave action. The significance and sensitivity of these waterbodies was previously recognized in the Halifax-Dartmouth Regional Development Plan, which established increased setbacks to protect these environmentally sensitive areas. The Nova Scotia Department of Natural Resources and the Nova Scotia Museum concur that it is important to maintain this protection. The Revised Porter Plan, 1978, recommended a 200 foot setback from Cow Bay Lake and Barrier Pond. These ponds are highly visible from the coastal highway and are of unique natural beauty. In addition to the sensitive nature of these areas, the increasing importance of tourism within the area and the expressed desire to preserve areas of natural vistas are also important considerations. It is therefore appropriate to require greater setbacks from these bodies of water.

EP-7 It shall be the intention of Council, through the land use by-law, to establish a building setback and buffer of two hundred (200) feet for those coastal lands as shown on Map 4 - Environmental Constraints. No structure, excavation, infilling or grade alteration

shall be permitted to occur within the setback/buffer area and the retention of natural vegetation within the area shall be part of these requirements. The land use bylaw shall contain provisions to reduce this requirement to one hundred (100) feet for those lots in existence on the effective date of this planning strategy and if otherwise development would be prohibitive.

### Municipal Stormwater Management

In addition to the previously expressed concerns pertaining to private development, municipal practices can have a detrimental impact on lakes, watercourses and wetlands. The traditional technique of simply piping or ditching stormwater to empty into the nearest waterbody should be reconsidered in light of more progressive approaches.

**EP-8** It shall be the intention of Council to encourage the use of innovative stormwater management systems which reduce the degree of impact on the natural environment. The use of stormwater retention/detention ponds, infiltration trenches, and velocity breaks and other similar techniques are therefore to be encouraged in any new development and in upgrades of existing systems where appropriate.

## **Attachment B**

### **Eastern Passage / Cow Bay Municipal Planning Strategy** **Excerpts Relevant to Watercourse Setbacks and Buffers**

#### **4.18 WATERCOURSE SETBACKS AND BUFFERS (RC-Jun 25/14;E-Oct 18/14)**

- (1) (a) **No development permit shall be issued for any development within 61m of the ordinary highwater mark of the Atlantic Ocean, Cow Bay or Barrier Pond in the area as shown on Map 4 - Environmental Constraints of the Eastern Passage/Cow Bay Municipal Planning Strategy; 20m of the Cow Bay River north of Caldwell Road; 30m of the ordinary highwater mark of any other watercourse.**
- (b) **Where the average positive slopes within the 20m buffer of the Cow Bay River, north of Caldwell Road, or the 30m buffer of any other watercourse, except Atlantic Ocean, Cow Bay or Barrier Pond, are greater than 20%, the buffer shall be increased by 1 metre for each additional 2% of slope, to a maximum of 60m.**
- (c) **Within the required buffers pursuant to clause (a), no excavation, infilling, tree, stump and other vegetation removal or any alteration of any kind shall be permitted in relation to development.**
- (d) **Within the required buffer pursuant to clauses (a) and (b), activity shall be limited to the placement of board walks, walkways and trails not exceeding 3 metres in width, conservation uses, parks on public lands, historic sites and monuments, public road crossings and wastewater, storm and water infrastructure, and water control structures, within the required buffer of the Cow Bay River or Smelt Brook.**
- (e) **Notwithstanding clause (a), the required buffer for construction and demolition operations shall be as specified under the applicable CD Zone.**
- (f) **Within the buffer required pursuant to clause (e), no excavation, infilling, tree, stump and other vegetation removal or any alteration of any kind shall be permitted in relation to a development.**

- (2) Notwithstanding subsection (1), where an existing residential main building is located within the required buffer, accessory structures, subject to meeting other requirements of this by-law, shall be permitted provided they are located no closer to the watercourse than the existing main building.**
- (3) Where the configuration of any existing lot, including lots approved as a result of completed tentative and final subdivisions applications on file prior to August 26, 2006, is such that no main building could be located on the lot, the buffer distance shall be reduced to 30m of the ordinary high water mark of the Atlantic Ocean, Cow Bay Lake or Barrier Pond; or 15m of the ordinary highwater mark of any other watercourse.**
- (4) Notwithstanding subsection (1), nothing in this by-law shall prohibit the removal of windblown, diseased or dead trees, deemed to be hazardous or unsafe.**
- (5) Notwithstanding subsection (1), the selective removal of vegetation to maintain the overall health of the buffer may be authorized by the Development Officer where a management plan is submitted by a qualified arborist, landscape architect, forester or forestry technician.**
- (6) Every application for a development permit for a building or structure to be erected pursuant to this section, shall be accompanied by plans drawn to an appropriate scale showing the required buffers, existing vegetation limits and contours and other information including professional opinions, as the Development Officer may require, to determine that the proposed building or structure will meet the requirements of this section.**

**4.18A COASTAL AREAS (RC-Jun 25/14;E-Oct 18/14)**

- (1) No development permit shall be issued for any dwelling on a lot abutting the coast of the Atlantic Ocean, including its inlets, bays and harbours, within a 3.8 metre elevation above Canadian Geodetic Vertical Datum (CGVD 28).**
- (2) Subsection (1) does not apply to any residential accessory structures which do not contain a backyard suite (RC-Sep 1/20;E-Nov 7/20), marine dependant uses, open space uses, parking lots and temporary uses permitted in accordance with this by-law. (HW, HEMD and NWCC – Dec 11/18; E- D 29/18)**
- (3) Notwithstanding subsection (1), any existing dwelling situated less than the required elevation may expand provided that such expansion does not further reduce the existing elevation.**
- (4) Every application for a development permit for a building or structure to be erected pursuant to this section, shall be accompanied by plans drawn to an appropriate scale showing the required elevations, contours and lot grading information to determine that the proposed building or structure will meet the requirements of this section.**