Regional Watershed Advisory Board (RWAB) April 14, 2022

Report and Recommendations to the HRM Environment and Sustainability Standing Committee

Re: Southdale Future Growth Node, Dartmouth, Impacts on Eisner Cove Wetland; and Related Issues

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At the meeting of March 10, 2022, the RWAB considered the case of the Southdale Future Growth Node, which is an area identified in HRM plans for new residential development. This area is adjacent to the Eisner Cove natural wetland.

The land area identified for new residential development drains downslope to the natural wetland. There have recently been several concerns expressed by the public regarding the potential effects of drainage from streets, lawns, and other features of developed land, into the natural wetland. The introduction of road salt, nutrients and suspended sediments to the wetland could have negative effects. The steep natural slope surrounding the wetland will promote runoff entering the wetland.

HRM has received development proposals for the land in question. At a recent public meeting, representatives of the developers presented a concept plan, which included a potential engineered wetland to help manage runoff from the area. This engineered wetland would discharge to the natural Eisner Cove wetland. The RWAB has some questions and recommendations for HRM, as follows:

Questions:

1. Is there an existing storm or combined sewer system within the vicinity of the Southdale growth node area, to which the new development could be connected, and which could convey stormwater from the development away from the Eisner Cove wetland? If so, this would remove the potential for stormwater impacts on the natural wetland, provided that the natural wetland's water balance has sufficient other inputs and does not depend on drainage from the development area for water inputs. Adequate water flow to the wetland must be maintained.

2. If diversion of stormwater is not an option, then who would become responsible for ownership, operation, and maintenance of the engineered wetland? Normally Halifax Water has responsibility for stormwater facilities, but RWAB would like to have confirmed that Halifax Water will be prepared to operate and maintain the engineered wetland, and to monitor the effluent going to Eisner Cove wetland to ensure no harmful effects on the receiving water.

3. Could the use of sand for winter ice and snow control on roadways be considered for this development area (such as is now done for protected water supply areas), as an alternative to the use of road salt?

4. Regarding the proposed engineered wetland, RWAB would like confirmation on the design and discharge standards for this proposed facility, as follows:
    a. What will the discharge characteristics be for key parameters such as salinity/conductivity, pH, suspended solids, and nutrients such as total phosphorus?

b. Will they be suitable for discharge to the natural wetland without causing any harmful effects?
c. What contingencies will there be in the event these limits are not being met?
d. What are the applicable discharge limits under municipal, provincial and/or federal requirements?
e. What will be the anticipated volume of water for this stormwater management area to intercept? Is it expected that stormwater management best management practices (BMPs) such as bioswales, permeable pavers, and/or bioretention ponds will intercept all the surface runoff from impermeable surfaces throughout this development?
f. Will the HRM and Halifax Water Stormwater Management Standards or the HRM Subdivision By-Law will provide guiding principles for the stormwater quality, pre- vs post- development stormwater volume balance requirements, and erosion control measures for this site?

Recommendations:

HRM policy requires a minimum 20-meter buffer zone between residential development and a natural waterbody. However, development of the Southdale Future Growth Node requires a development agreement between HRM and the developer to allow the development to proceed. This development agreement process provides an opportunity for HRM to require appropriate additional conditions.

1. One such appropriate condition would be to increase the minimum buffer from 20-meters to some appropriate larger width such as 30-meters, to provide more undisturbed land separating the wetland from the development. This would help to reduce any impacts of runoff from adjacent lawns or streets.

2. Additionally, ensuring that the quality of existing vegetation within this buffer can be preserved should be a key priority, and must be enforced for both the developer and subsequent landowners. When establishing the minimum buffer zone, the requirements for preserving high quality vegetation should be taken into consideration. The integrity of the vegetation and soils within this buffer zone is paramount for maximizing water infiltration and ultimately for the protection of the wetland on site.

The RWAB would like to have these issues addressed by HRM prior to any final development approvals, through appropriate mechanisms such as referral to the HRM Environment and Sustainability Standing Committee (ESSC), and from the ESSC to HRM Planning staff; or direct referral of the issues to HRM Planning staff.

Re: Referral of Significant Development Proposals to RWAB

The issue of the Southdale Growth Node development was brought to the attention of the RWAB through local media coverage of the issues, and through stakeholders expressing concerns. The specific instance of this proposed development raises a larger issue for RWAB members. The mandate of the RWAB is to provide expert technical advice and recommendations to HRM, through the ESSC, on watershed issues, and specifically on impacts of human activities on natural waterbodies within the local watersheds. The activity most directly under HRM control which has the potential for significant impacts on waterbodies is the development of land, altering it from a natural state to a built environment. Impacts include the removal of vegetation and disturbance of soils, altering the quantity and quality of stormwater runoff to natural systems. Addition of impermeable surfaces, such as pavement and rooftops, causes faster and larger peaks in stormwater runoff volume. Any instances of overflow from stormwater infrastructure could raise the risk of flooding of downstream research facilities in the area on Research Drive in the case of the Southdale Growth Node. Nutrient export, alteration of pH, sedimentation, and introduction of road salt runoff are some of the more significant impacts for downstream waterbodies.

Recommendations:

1. The RWAB requests that major new developments with the potential to cause impacts to natural waterbodies be referred to RWAB for review, and consideration of issues and recommendations, at a suitable early stage in the approvals process.

In this way, the RWAB may provide HRM with the benefit of our expertise at a stage of development planning when recommendations could be incorporated into suitable conditions of development approvals. RWAB has been advised by HRM staff that there is presently no mechanism to refer development proposals to the ESSC, to which RWAB reports.

2. RWAB recommends that some suitable policy mechanism be created whereby proposed developments are referred to RWAB by HRM staff, whether through the ESSC or directly to RWAB. In this way, HRM could gain maximum benefit from the expertise and experience of the RWAB members. Suitable parameters could be developed to define what type and size of development activity would trigger such referral, based upon considerations such as the size of the area to be developed, the proximity to a natural waterbody, the degree to which runoff from the development would enter natural waterbodies, etc.

Having such a referral policy and procedure in place would avoid the present situation in which RWAB can only become aware of potential aquatic impacts through avenues such as media coverage or personal knowledge of the members. It would also provide the opportunity for expert technical advice and recommendations to HRM at an earlier stage in the development approval process.

Re: Provincial Development Initiative

The RWAB also notes the recent announcement by the province of a number of potential development areas which are to be fast-tracked for approval, possibly circumventing some of the normal municipal review and approval steps. These development areas pose some potential risks for a number of lakes within HRM, with issues similar to those discussed above for the Eisner Cove wetland. These development areas and lakes at risk are noted below:

Development Area	Lake(s) at Risk
• Penhorn Mall lands	Penhorn Lake, Dartmouth
• Southdale/Mount Hope	Eisner Cove Wetland (ref. this report)
• Bedford West 1 and 12	No adjacent waterbodies
• Bedford West 10	Kearney Lake, Bedford
• Port Wallace	Lake Charles, Dartmouth (plus potentially, downstream lakes – MicMac, Banook to the south; Lake William, Thomas Lake to the north) **Note:** Lake Charles is also potentially at risk for some impacts of drainage from the present Phase 13 Burnside Industrial Park land development.
• Indigo Shores	Drain Lake, Middle Sackville (plus potentially, downstream McCabe Lake)
• Morris Lake expansion	Morris Lake, De Said Lake, Dartmouth
• Dartmouth Crossing	Frenchman Lake, Dartmouth (plus potentially, downstream Lake Lake MicMac)
• Sandy Lake	Sandy Lake, Bedford

Recommendation:

1. The planned HRM lake monitoring program may be able to provide background data on present lake water quality for these lakes, if it proceeds prior to development activities, and then detect any changes or trends in water quality over time if the developments proceed. This monitoring program should be implemented as soon as possible.