

Sabine Dietz
28 High Marsh Rd
Sackville NB
sabine.dietz@bellaliant.net

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Mayor Higham
Councillors Evans, Aiken, Black, Butcher, O'Neil, Phinney, Tower
Mr. Handrahan
Mrs. Bickford

Re: Location of the new ambulance building in Sackville, and development in flood risk zones.

I am writing this letter as a follow up to some comments I made publicly concerning the development of Exit 506 in Sackville, and the location of the new Ambulance building.

The new location of the Ambulance building is not only ill-considered, but it potentially puts lives at risk. While I agree that the old location was highly problematic, placing an EMO building, an essential emergency service, within a known risk zone at this day and age, causes significant liability issues for our Town and residents. Let me explain.

I want to first clarify that I am not referring to flood risk from heavy rainfall events, but flood risk due to sea level rise and storm surges. The Town's current flood risk zone uses a maximum water level of 8.9 m (CGVD28). This was, when council approved the zoning, an arbitrary decision based on the fact that the flood extent would not be much different if one used 10.2 m (CGVD28) or 8.9 m (CGVD28). True: but what was not considered back then was the magnitude of difference of having 10 to 20 cm of water over a road or around a home, compared to having more than 1.4 m of water over a road or around a home. The impacts of that amount of water can be considerable, especially if one adds some wind into the mix.

My first point is that the current approved flood zone is not acceptable for us as community. It does not allow any developer or planner to adequately assess risks associated with the possible impacts from coastal flooding. Currently, in my work with municipalities, the province recommends the use of a potential storm surge in 2100, with a statistical likelihood of the event occurring once every 100 years. To make sure we understand the statistics: this means such an event has a 1% chance of occurrence annually. By way of example, the present-day 100-year storm surge water level (100-year storm surge at higher tides) of 9.1 m (CGVD28) event for Sackville would become a 25-year event by 2030 and 5-year event by 2050 (according to Daigle, 2017). As uncertainty goes, those super rare events have been happening more and more frequently across the globe and in Canada. As a result, any development considerations really need to include the possibility of such an event. Not doing so could make the Town liable, apart from the fact that it appears quite illogical.

Below is the area around exit 506, with the current flood zone indicated in blue. As is clearly visible from this map, a potential flood of 8.9 m (CGVD28) puts water over all access roads to the area around Crescent, Cattail and Robson streets. It is, of course, not clear how deep the

water over the roads would be with this level, but the Southeast Regional Service Commission can easily provide that information.



Map 1 Flood extent based on 8.9 m (CGVD28) flood levels; copied from the Tantramar Community Adaptation Viewer V 1.0, developed by Dr. David Lieske, Mount Allison University. Retrieved Dec. 12, 2018

In a recent report entitled “Updated Sea-Level Rise and Flooding Estimates for New Brunswick Coastal Sections Based on IPCC 5th Assessment Report” by Daigle, R. (2017), the estimate for a Saxby Gale event occurring in 2100, put the water level for such an event at 12 m which incorporates sea level rise changes. The report uses 10.7 m (CGVD28) as the upper bound for a 2100, 1:100 event. To compare the previous map with one showing a 10.7 level (the Viewer only goes to 10.2 m), please see the map below:



Map 2 Flood extent based on 10.2 m (CGVD28) flood levels copied from the Tantramar Community Adaptation Viewer V 1.0, developed by Dr. David Lieske, Mount Allison University. Retrieved Dec. 12, 2018

While the extent of flooding may not be greatly different, having over 1.4 m more water over the access roads makes them essentially unpassable.

We cannot rely on the current dykes to protect us from increasingly unpredictable events, and certainly not from storm surges. The dykes are already being overtopped during high tide events. While work is underway to look for solutions to the “dyke problem”, i.e., them not being able to function as protective structures in storm events, a solution is years away, and will not guarantee that we will have absolute protection for our low-lying areas. We cannot put our heads in the sand and expect for those dykes to magically be repaired tomorrow.

Any developments in flood risk zones in the community need more careful consideration than has been given so far. Allowing development with a false sense of security and under a flood risk zoning bylaw that is outdated creates liability issues for our community into the future. If development is allowed to proceed, then it needs to be appropriate development that is not impacted greatly if flooding should occur.

To conclude:

- While we were one of the first communities in NB to have a flood risk map based on predicted sea level rise (at the time), that zoning is no longer adequate, and does not account for the depth of potential flooding, nor is the level of 8.9 m (CGVD28) adequate to base any future planning or development on. I would strongly urge council to update the zoning bylaw and associated regulations, and place stronger development restrictions on that zone.
- Placing an essential emergency service in a flood risk area is illogical and dangerous and puts lives at risk. The decision to let that service relocate into a flood risk zone should be reversed. Overall, the Town should consider a long-term planning exercise to look at where and what kinds of development should occur in our low-lying areas. And certainly, for each development, the primary concern should be if it adds more risks to people.

I would be happy to give a presentation to Council and to answer any questions that may arise out of this letter.

Sincerely,



Sabine Dietz

Cc

Public Safety Minister, Hon. Carl Urquhart
Minister of Environment and Local Government, Hon. Jeff Carr
MLA Memramcook-Tantramar, Megan Mitton