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■ PROVINCE RELEASES FLOOD STRATEGY

MITIGATING RISK

Andrew Reeves

Ontario's provincial government recently released its flooding strategy to better assist homeowners, municipal governments, and the province's conservation authorities in preparing for and minimizing the effects of flood damage.

Released by **Ministry of Natural Resources and Forestry Minister John Yakabuski** and Ontario's Special Advisor on Flooding, **Doug McNeil**, *Protecting People and Property* focuses on ways the government can obtain better flood data to ensure a reduction in potential and actual damages to both (as the name of the report suggests) people and property.

"We know that we can't prevent flooding in Ontario – we can only reduce the impacts when it happens," Yakabuski states in the report. "This strategy is designed to help us do just that, by introducing a series of new and enhanced actions that will reduce flood

risks and make our province better prepared for flooding events, better equipped to respond to them, and more capable of recovering from them quickly."

The need for a comprehensive flooding strategy has never been greater. The impacts of extreme weather events brought on by the climate crisis, the significant loss of wetlands throughout southwestern Ontario, and rapidly aging municipal and housing infrastructure have created a perfect storm for flooding, said **Blair Feltmate**, head of the **Intact Centre on Climate Adaptation** at the **University of Waterloo**.

Between 1983 and 2008, insurance companies in Canada paid out between \$250 and \$450 million every year in "catastrophic losses"; since 2009, that figure is close to \$1-billion annually, with two-thirds of the expenses paid out due to flood damage, he told *NRU*. But the costs of flooding are

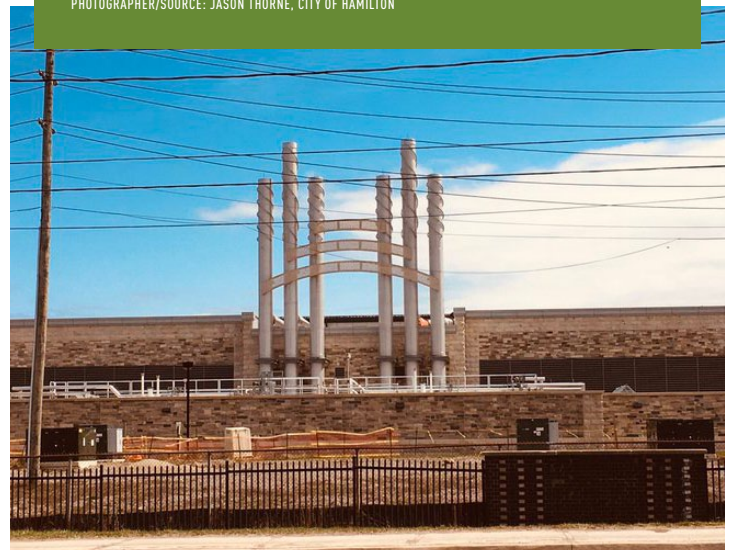
largely felt by homeowners. A typical flooded basement costs approximately \$43,000 to repair, with homeowners on the hook for between \$10,000 and 20,000 of that cost, a sum most homeowners are unable to generate on short notice.

"We do not have the luxury of time to slowly put in place measures to mitigate risk," Feltmate said. "I think the report needed more emphasis on the need to act and to act with haste to mitigate the risk

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Monday morning image tweeted by City of Hamilton manager of planning and economic development Jason Thorne, who wrote: "Don't let anyone ever tell you that engineers can't be creative. Staff at Hamilton Water found a clever way to turn the exhaust stacks at our water treatment plant's new standby power building into our City of Hamilton logo." For those less familiar with the actual logo, please see page 5 where we have reproduced it for ease of reference.

PHOTOGRAPHER/SOURCE: JASON THORNE, CITY OF HAMILTON



MITIGATING RISK

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that's on our doorstep, because the costs associated with flooding right now are going curvilinearly." This urgency, he feels, is missing from the government's strategy, along with practical information for how homeowners or local governments can do their part on the level of individual communities and individual homes.

Homeowners could drastically reduce the resilience of their homes for a few hundred dollars, Feltmate said. Municipalities could use community newspapers or property tax bills to let homeowners know how purchasing basement window covers or how ensuring their basement sump pumps are working effectively can stave off the damages caused by routine floods. This is something local governments can and should be doing across the Greater Toronto and Hamilton Area, he said, given the positive impact resilient homes have on individuals and on communities at large.

There are other actions local governments can take to address flood resiliency at the municipal level. In considering applying a stormwater levy to residential tax bills five years ago, the **City of Mississauga**

acknowledged that despite investments in upgrades and maintenance, their existing stormwater infrastructure was aging rapidly. Beyond pressures likely to mount from the climate crisis, city officials realized a growing population would also demand more from sewers that were incapable of the added volume of sewage and stormwater that the city anticipated.

A stormwater levy was adopted by council in 2015. The 2020 rate will see 80 per cent of Mississauga residents pay \$110 or less for the year, dedicated funds that the city will use to do everything from building and maintaining over 2,100 kilometres of storm sewers to rehabilitating existing stormwater management facilities. Mississauga's manager of environmental services **Lincoln Kan** told *NRU* "the stormwater charge supports the action items of the city's Climate Change Action Plan as a mechanism to enhance resilience to flooding."

As keepers of extensive data on how and where water moves through the province during heavy rains, Ontario's 36 conservation authorities will play an important role in how the government's flooding strategy is implemented.

Yet in recent months, the relationship between the province and its conservation authorities has been strained. Without warning, in August 2019, Premier **Doug Ford** directed all provincial conservation authorities to "wind down" activities falling "outside the scope" of their core mandate, leaving measures like tree planting and water quality monitoring at risk. Conservation authority budgets were cut almost in half. Now, those same organizations are being called upon to provide essential services in the effort to protect people and property from flooding.

Credit Valley Conservation's chief administrative officer, **Deborah Martin-Downs**, told *NRU* the province needed a new flood strategy. "Flood management requires a comprehensive, coordinated approach by many agencies," she said. "It's multi-barrier, from science to planning, and regulations to response and remediation. We welcome the renewed interest by the province in flood management," something she notes that conservation authorities across the province have been pushing the government to act on for months.

Yet for the last two years, Martin-Downs said, "conservation authorities have rarely been meaningfully consulted on the issues." To give the latest flooding strategy teeth, Queen's Park

must detail a funding timeline for the strategy and stick to it. Conservations authorities, meanwhile, must be seen by the province as "implementation partners," Martin-Downs added. "We must be invited to the table in all aspects of flood management."

Director of the **Buoyant Foundation Project** and a professor of architecture at the University of Waterloo, **Elizabeth English** told *NRU* she was "quite distressed" reading the government's flooding strategy given its overwhelming focus on structural changes to modify how water flows, rather than changing attitudes about where we build in the province and making communities and homes more resilient.

"The policies they're exploring, besides flood mapping and preparation, [are] to continue to build [physical] barriers [to potential flood waters]," English said. "We can continue to try to build bigger barriers and higher barriers, but if you try to fight Mother Nature, Mother Nature is always going to win in the end."

English's work in Vietnam, in Louisiana, and in Jamaica currently looks at ways of retrofitting existing homes built above crawl spaces to create (as her project name suggests) a buoyant foundation that allows houses to rise with rising flood waters. It's a practice her team is also exploring with First Nations communities in

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Canada, where abandoning ancestral homes built on or near a floodplain is not an option.

While the technology underpinning the creation of an amphibious house is in its infancy and is not yet compatible with the typical single-detached homes found throughout southern Ontario (most of which have basements), the goal for municipalities within the GTHA should be stopping the construction of new buildings on floodplains.

“I think the real key is location and zoning and flood mapping,” English said. She’s not suggesting we uproot whole communities, but local governments can prevent future flooding by not building in flood zones. Such efforts are complicated by the pressures many municipalities face to increase their tax base and grow their populations, often by allowing development in parts of their community that were avoided for years because of their susceptibility to flooding. “But it’s coming back to bite us now,” she said. “I’m less interested in exploring how to make new houses that will be resistant when flooding happens than I am in seeing places where flooding is likely

to happen not have housing put in them.”

Deborah De Lange agrees. The sustainability professor with the **Ted Rogers School of Management at Ryerson University** told *NRU* that while provincial flooding strategy is correct in advocating against building homes on floodplains, it stops short of suggesting the government will do anything to keep developers from proposing projects that encroach on high-risk flood zones. “You shouldn’t be allowed to build in these areas, but there’s nothing in this document that suggests that there’s going to be a prohibition on building in flood prone areas,” she said.

It’s important for the province to expand its flood maps, De Lange said, and in time, it will reveal a fuller picture of where we should be allowing new construction and what variety of construction is appropriate. “There’s obviously a gradient,” she said. Some land floods routinely and cannot accommodate any new building, while less at-risk locations could potentially accommodate buildings with smaller footprints density-wise. Alongside more accurate flood maps, a ratings system could be useful, so homeowners have a

better sense of the flood risks associated with where their potential property is located.

Meanwhile, questions persist about how the province aims to pay for the expansion of flood mapping or the increased resiliency of public infrastructure like roads and drainage systems. While the province’s strategy makes it clear that protecting against future flood risks is the responsibility of all levels of government, including homeowners, it notes that the federal government in particular should offer up the necessary funding to make the strategy a reality. According to the strategy, “The goal of this priority is to ensure financial investments to reduce flood risk are strategic and collaborative.”

But this is a government, De Lange said, that while asking Ottawa for money to help implement its flooding strategy,

has also scrapped Ontario’s carbon tax using taxpayer dollars to fight the federal government in court over their imposed price on carbon pollution. “It’s hypocritical,” she said, and it also suggests that ultimately, protecting properties at risk of flooding will be solved by asking taxpayers for more money.

Rather, De Lange believes the government must engage with developers and insurance companies to build a fairer system that is proactive in building and designing durable and insurable homes in safe locations, rather than focusing on building a robust and reactive disaster relief process. “While the document begins speaking as if it’s taking a proactive approach,” she said, “it’s really leaving the productivity burden on those who might be affected.” 🌧️

City of Hamilton logo

SOURCE: CITY OF HAMILTON



Hamilton