

Winter Maintenance Toogood Pond

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Barb Rabicki, Director Operations
Catherine Conrad, City Solicitor & Acting Director Human Resources

Background

- Toogood Pond originally cleared by residents; later by Town staff with no formal training and limited knowledge about ice safety
- A rudimentary flagging system was initiated to advise ice conditions
- Climate change & increased urban runoff have impacted ice formation in recent years
- Most years resulted in “safe” flagging for 8-12 days
- City does not permit skating on other natural ponds due to risk concerns

Discontinuation of Winter Maintenance

- Maintenance ceased 2012-13
- Staff cannot determine with certainty the safety of the ice
- Concerns raised regarding health and safety of City staff
- Numerous close calls have occurred, even under what staff considered “ideal” conditions of more than 12” of ice
- 2011 Civic Centre Ice Rink established, to support safe, outdoor recreation

Climate Considerations

- City of Toronto staff report PE05-091815-AFS#21019: “since 1948, Canadian winters have warmed an average of 3.2 degrees Celsius. The warmest winter on record for Canada was 2009-2010, followed by 2011-12. 2012-2013 was the eighth warmest winter in 100 years; winters like 2013-2014 are predicted to be an anomaly in the future. An overall warming trend, combined with Toronto’s urban heat island effect, mean that shorter, warmer winters will continue...”

Canadian Red Cross 2006 Report: “Drownings and other water-related injuries in Canada, What We Have Learned: 10 Years of Pertinent Facts”

- “Canadians are at risk of drowning as a result of falling through ice. During the period of 1991-2000, there were 218 such victims”
- “ice on reservoirs may be more hazardous than on lakes, since reservoirs accounted for 19% of all ice drownings on lakes, ponds and reservoirs. Reservoirs may also be closer to towns and are more accessible for play and walking”
- Deaths occur from cold water immersion, hypothermia and drowning

Red Cross Report con't

“Young children are at high risk of ice drowning”



Known Incidents

- City of Toronto 2006: two boys aged 11 and 15 died after falling through ice
- City of Toronto 2007: woman breaks through ice
- Ottawa Skateway 2014: woman breaks through ice
- Many municipalities have experienced tragic deaths

When is ice safe?

- **Minnesota Department of Natural Resources sums it up:**
- “There really is no sure answer. You can't judge the strength of ice just by its appearance, age, thickness, temperature, or whether or not the ice is covered with snow. Strength is based on all these factors -- plus the depth of water under the ice, size of the water body, water chemistry and currents, the distribution of the load on the ice, and local climatic conditions.
- **There is no such thing as 100 percent safe ice.”**

Ice Formation & Monitoring

- Not as simple as depth measurements
- Ice density & depth need to be considered
- “white” or “snow” ice not as strong as “clear” or “blue” ice
- Expertise is required to measure composition and combinations of white and clear ice to determine strength
- Measurements, calibration & data must be monitored as part of framework for decision-making
- Load calculations must be done which includes varying combinations of equipment, snow load, number of people using the ice at any given time
- Expertise is needed to determine ice safety

The Ontario Occupational Health & Safety Act (The “Act”)

- The *Act* sets out the rights and duties of all parties in the workplace. It establishes procedures for dealing with workplace hazards and it provides for enforcement of the law where compliance has not been achieved voluntarily by workplace parties.
- Employer responsibilities under the *Act* include taking every precaution reasonable in the circumstances for the protection of a worker.

Employee Rights

A worker can refuse work including when:

- the physical condition of the workplace or workstation is likely to endanger himself or herself.
- any machine, equipment or tool that the worker is using, or the physical condition of the workplace, contravenes the Act or regulations and is likely to endanger himself or herself or another worker.

Work Refusal

What happens when a worker refuses unsafe work?

- The worker tells the supervisor.
- The supervisor investigates the situation.
- The worker remains in a safe place and available for the purposes of the investigation, until the investigation is completed.
- If the situation is not resolved to the worker's reasonable satisfaction the Ministry of Labour is contacted and will investigate.
- At anytime a worker can contact the Ministry of Labour to make a complaint whether or not they refuse work.

Risk Management & Legal Concerns

The City's Insurance Broker identified the following liability factors:

Occupiers Liability Act

- City must do everything reasonable to ensure that all entrants on City property are reasonably safe
- This obligation relates not only to the physical condition of the property, it also applies to the conduct of the persons permitted, along with the activities that are permitted
- The City should install signage at various each entrance point (or spaced appropriately along open areas) advising entrants of any known risks (unstable ice) and that the area is not maintained or monitored by the City

Risk Management & Legal Concerns

Joint and Several Liability

- City only needs to be 1% negligent in order for the City to be found responsible for up to 100% of any judgment
- Despite an individual's contributory negligence or voluntary assumption of the risk, if entrants are seriously injured by taking unnecessary personal risks, the City can still be found responsible

Site Specific Factors

- Ice instability is a significant factor in public safety and the safety of City staff providing the winter maintenance
- Numerous municipalities have taken a similar positions in the last several years, especially during the previous mild seasons

Safe Skating Options

- Public safety is paramount to the City of Markham.
- City of Markham built Canada's largest outdoor skating rink at Civic Centre, located only 4 km away, to support safe and enjoyable recreational skating.
- Each year, the City partners in about 10 volunteer ice rinks across various Markham communities. Crosby volunteer rink is located across the road from Toogood Park.



Estimated Costs

- Ice monitoring by contracted consultants \$155,000 or \$14,800. / useable day
(15 useable days estimated)
- Volunteer Ice Rink \$1,500 or \$50. / useable day
(30 useable days estimated)

Staff recommendation

- That the staff report dated December 7, 2015 entitled “Toogood Pond Winter Maintenance Report” be received; and,
- That staff recommend due to health and safety risks, liability exposure and climate change impacts that Council:
 - Approve option C and not permit skating on Toogood Pond
 - Authorize staff to provide a volunteer natural ice rink beside Toogood Pond; and
 - Direct staff not to monitor ice or clear ice on Toogood Pond by the City workers or its contractors.