

December 21, 2021

To: Mayor Gondek and Members of Council

From: Nancy Stalker, Director, Water Services

Re: Initial findings on public safety investigation into Storm Pond Safety

The purpose of this memo is to provide City Council with an update on Administration's activities regarding *Notice of Motion* (NOM) PFC2021-0416 Storm Pond Safety (see attached). The memo highlights the short-term efforts to expand the public awareness campaign focused on storm pond safety in 2021. It also provides an update on the initial public safety investigation into storm ponds near high risk areas. A full report detailing the pond safety findings and recommendations will follow in Q3 2022.

Expanding public awareness campaigns

COVID-19 restrictions in the winter of 2020 motivated many Calgarians to seek outdoor recreational opportunities near their homes. Unfortunately, this led citizens to jeopardizing their personal safety and in some severe circumstances the need for rescue was required.¹ As an important component of Calgary's water management infrastructure, storm ponds are designed to collect, hold, and slow down rainfall and snowmelt before it reaches our rivers. They also reduce sediments and pollutants helping keep our rivers and creeks healthy. They are not designed for recreational activities.

Prior to the NOM, Water Services had partnered with several internal business units, including the Calgary Fire Department, Calgary Community Standards, and Water Resource's Citizen Program Team to address winter safety concerns at a limited number of storm ponds. Increased signage and additional Bylaw officers' and Calgary Fire presence on site helped spread the message of safe use of public spaces. In addition, increased use of The City's social media channels and web pages promoted the messages to a wide audience. Other partner organizations, including EMPOWER ME, Ward offices, and schools, were also engaged to ensure these messages were being delivered to a wide audience.

Water Services and its partners leveraged the success of the expanded communications and programs noted above to develop and deliver more targeted messages that are culturally appropriate and focused on vulnerable populations. Please see the list of actions taken to expand public awareness below:

Outreach, engagement and internal partnerships

- In November 2021 staff met with The City's Punjabi working group. The presentation focused on storm ponds and storm pond safety. What we heard at this meeting included the need for developer/realtor outreach, the use of multicultural media sources to get out our messaging and the importance of easy to understand graphics on our signage. In 2022, we will ensure that our media/social media strategies include the use of a diverse assortment of media sources. In addition, we will begin outreach with both developers and realtors. This work will include gathering information on how storm ponds are currently "marketed" to new homeowners as well as the creation of materials that can be shared with these two user groups. Finally, signage updates will be further investigated as part of the pond design guidelines initiative noted below.
- This winter the Calgary Fire Department and the Water Utility will amplify water safety messaging into the annual ice safety campaign.

¹ <https://www.cbc.ca/news/canada/calgary/seniors-saddleridge-turban-siding-hose-ice-rescue-teenagers-1.5789457>



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- After hearing from our partners that many citizens were unsure if they had a storm pond in their community, Water Services and Corporate Analytics and Innovation created a map of each quadrant of the city indicating where all storm ponds are located. These maps will be posted online so that residents can differentiate between functioning storm ponds and recreational lakes located within their community. Once citizens understand where storm ponds are located, they should be empowered to adopt the safe behaviours we are promoting around those bodies of water.
- In the first quarter of 2022 we will investigate the proper channels to get our safety information into schools. Our investigation will include partner outreach, working with schools directly to determine if/when we can include our information in parent package materials and direct presentations from City staff.
- The City will share and distribute content on storm pond safety, including providing alternative City-approved locations to recreate through enhanced our cross-corporate collaboration between Water, Parks and Calgary Neighborhoods.

Digital communications

- To meet the needs of diverse ethnic groups in Calgary, brochures were translated into Arabic, Hindi, Punjabi, Simplified Chinese, and Urdu and posted to Calgary.ca. This will allow for greater outreach for Calgarians where English is a second language.
- A set of videos related to storm ponds and storm pond safety are being created for both summer and winter conditions. The winter safety video will be completed in Q4 2021 and the summer video is projected to be finished by the end of Q1 2022. The videos will be used as part of our education and outreach work. These videos will be shared via social media, media, rec center advertising and thru partners like Trout Unlimited. The videos will also be posted to our website, Calgary.ca/stormponds.
- The storm pond web page on Calgary.ca has been updated to focus on safety as well as the purpose and function of storm ponds.
- Additional budget was allocated towards a targeted social media campaign on storm pond safety in Q4 2021.

Print/Traditional communications

- A brochure style handout has been translated into several of Calgary's top spoken languages. This brochure is available for download online and will be shared with our public safety and community partners. Internal partners include the Calgary Fire Department, the Parks Community Strategist Team and the Calgary Neighborhoods Neighborhood Strategist Teams. External partners will include Empower Me, Trout Unlimited and cultural institutions like the Genesis Centre. We will also be doing outreach with potential new external partners in 2022.
- Bold signs will be placed in communities on the winter safety priority list described below in Q4 2021.
- Key messages and content for winter safety have been developed and will be shared with Community Associations for inclusion in their newsletters in Q4 2021.

Initial public safety investigation

As part of the NOM, Council requested an initial public safety investigation into storm ponds in close proximity to what are deemed to be potentially high risk areas including, but not limited to, schools, playgrounds, and high use parks, and to identify and implement any short term improvements that could be quickly deployed.

To satisfy the short-term request, an initial assessment was undertaken to identify risk factors that could be present in the Calgary context. This study focused on public safety incidents both in Calgary and learnings from across Canada. Specific industry studies were gathered from partner



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municipalities and utilities involved in benchmarking efforts to share experiences, learnings and best practices. These risk factors were then applied to the entire storm pond inventory. The preliminary highlights of this study are discussed below.

Use of geo-demographics and geo-spatial analysis to highlight risk

To determine potential public safety risks, a geodemographic and geospatial analysis was undertaken on 220 storm pond locations which hold water year-round. This analysis examined storm pond locations in close proximity to the following:

- parks, playgrounds, schools, playfields,
- childcare facilities,
- off-leash dog parks,
- treatment/drop-in centers and group homes,
- seniors' residences,
- other gathering places (i.e. community centres, religious/cultural institutions, etc.) and
- populations under the age of 15 living within a short walking distance of storm ponds.

Storm ponds located closest to playgrounds, elementary schools or childcare facilities, and off-leash dog parks were specifically assessed to determine if there was a direct line of sight with no physical barrier (such as a street or structure) to the pond. Where these conditions exist and direct pond access was possible, the pond's priority risk ranking was increased.

Public safety incidents and other inquiries from 9-1-1 and 311 recorded from 2018 to 2021 were reviewed and categorized to better understand the public experience at or near storm pond locations. Several insights were gleaned from this review including a large sample of calls regarding pets and/or pet-owners entering the water as well as identifying specific and unique risks for summer and winter seasons. Overlaying 9-1-1/311 calls with demographic information and geospatial data allowed for the prioritization of anticipated relative risks for all locations – where ponds, proximate populations, high use areas, and vulnerable populations overlap.

The ranking resulted in 77 ponds being identified and ranked as locations of potential concern as they have a higher relative risk profile when all factors were considered. This was further delineated to inform immediate education and outreach efforts, temporary signage needs, and potential on-site monitoring over the winter of 2021/2022 for 47 ponds in 31 communities with specific winter risks.

Updates to pond design guidelines

Public safety incidents in Calgary in 2018 and 2020 started separate reviews of pond design guidelines to ensure City requirements contain appropriate limits or requirements for slopes, pathway proximity, landscape features and vegetation, access to water surfaces, adequate and updated signage, and emergency vehicle access for new ponds and for any pond retrofit or rehabilitation project. The City works with municipalities across Canada to share best practices regarding pond design standards and has been cited in several updates to other jurisdictions' requirements. Updates to The City's storm water guidelines will be occurring throughout 2022 and will incorporate suggested changes from a collaborative discussion between The City, its consultants and members of the development community.

Q3 2022 report to Council

In Q3 of 2022, Water Services will be coming to Council with a report which will focus on actions and recommendations on how The City can reduce the public safety risk associated with storm ponds. This report will also include an implementation plan that will contain proposed schedules for implementation as well as an overview of resourcing and budgetary implications.

Key Messages

- Storm ponds play a vital role in providing communities with beautiful open spaces while they help us manage storm water. They protect communities from flooding and provide contaminants a chance to settle out before the storm water travels to our rivers, creeks, and streams.
- The City is committed to continually refining and adjusting our community safety messaging and delivery regarding storm pond safety through outreach, engagement, and partnerships with external stakeholders.
- Safety is a value we live everyday – public safety and the safety of our crews are top of mind as we deliver service.
- Recreating on or in storm ponds is prohibited at all times. The water levels in storm ponds will vary with weather conditions creating hazards and risks that require on-going education and awareness campaigns.
- Storm ponds have specific public safety risks in the summer and winter which create the need for targeted messaging and programs.
- In winter months, road salt and snowmelt can cause dangerous and unpredictable conditions at storm ponds. Storm ponds can have a strong current and very thin ice, which could be catastrophic if a person falls through and is swept under the ice.
- Throughout the winter, sledding, ice skating and hockey must be restricted to recreational facilities in all neighborhoods and communities. To find a nearby rink, follow these links:
 - <https://www.calgary.ca/csps/parks/locations/outdoor-skating-rinks.html>
 - <https://www.calgary.ca/csps/recreation/arenas.html>
- In the summer, wading, boating, fishing, and other recreational pursuits must be restricted to rivers and streams or recreational lakes built and marketed for this purpose. Pet owners should keep their animals on-leash and away from storm ponds to protect their health and safety.

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Email Distribution: This memo was emailed to: The Mayor, City Council

cc: Councillor EAs
Executive Leadership Team