

Strathmore Lakes Storm Pond

Strathmore Lakes Storm Pond is a body of water in the beautiful community of Strathmore Lakes. It is surrounded by a beautiful walking path, a playground, and newly planted trees.

The Role of Storm Ponds

Storm ponds play a very important role to municipalities. They collect water run - off from impermeable surfaces such as roads, sidewalks, parking lots, buildings and from permeable surfaces that cannot absorb the water during rain and melting events. The water that enters into the ponds is generally of poor quality and has dirt, sand, salt, fertilizer, pesticides, hydrocarbons from petroleum products, sticks, small rocks and garbage that is washed into a catch basin in the street which then flows through a series of pipes under the ground then into the pond via inlets. The sediment and debris settle in a forebay. The forebay allows the sediments and pollutants to settle out before the water is released into the next series of water ways.

What We Know

When a storm pond is constructed and turned over to a municipality it comes with a set of As Built drawings plus an operating manual. Items included in this manual are management of the levels of the pond, operating any pumps or gate valves, oil and grit separator maintenance, maintenance of trash racks and maintenance of aquatic vegetation. The drawings will include critical information such as the depth of the pond, location of emergency spill ways, location and depth of inlets and outlets and location of forebays. The Town does not have drawings or an operation manual for this pond. Information provided to the Town about this pond has been all through second-hand information. Employees have been told the pond is 75 feet deep and it needs to be pumped in January via an irrigation pump. Again, this is all second-hand information and we have no confirmation of this information.

What we know so far about the pond is it has six inlets. Three on the very south end of the pond, one on the south east end of the pond and two on the north west end of the pond. One of the inlets on the northwest side has water running through it year-round. We also know from a storm water study done in a previous year that the pond does not have capacity to take on water during a normal rain event.

2020/2021

This year Operations was asked to clear a skating area on Strathmore Lakes Storm Pond. This has not been done by Operations in the past. Historically, there is a resident who has been clearing a rink on the pond on the south west side of the pond. Although there are signs posted for no skating the Town has allowed this rink to remain. When we assessed the pond ourselves for a skating location, this area is the safest spot for skating. There are no inlets in the area. When forming rinks on ponds it is important to keep the rinks as close to the edge as possible and away from middle of the pond as well as from the inlets and outlets. If a rescue needs to be conducted a chance of survival is better from the edge of the pond as opposed to the middle of the pond, which is the deepest location.

We started measuring the pond on December 17 in four locations. The thickness at that time was between to 9" to 10". The ice was poor quality at the time. Ice thickness is not an indication of safe ice.

The ice quality was known as white ice (snow ice). Snow ice has a lot of air bubbles and snow in it and is poor quality and is not safe to skate on. We were measuring daily until the snow event on December 21st and 22nd. Parks staff were pulled from the ice measurement task to assist with getting the roads, back alleys, pathways, and sidewalks open for the travelling public. We started our measurements again on January 4th. The ice was still poor quality but had increased in thickness. It was at 12" when we started measuring again. The quality of ice started to improve on January 11th at two of our test holes one of these test holes is on the south west end of the pond and is clear blue ice, which is a good quality ice. All measurements along with the dates and locations are documented and kept on file.

On Saturday January 16th it was brought to my attention that a Zamboni was brought out to Strathmore and used to clear and flood the ice on Strathmore Lakes storm pond. A plain clothed Municipal Enforcement officer went on site, but the Zamboni had left by that time. He did report that there were people skating on the north end of the pond and that numerous pathways have been cleared on the pond. These pathways cross the middle of the pond. If the Zamboni that was on the ice reached a speed limit of over 10 kilometers per hour, any speed above this would cause a wave in the water under the ice. This causes the ice to shift and there is potential for a pressure crack or ridge to form. Pressure cracks or ridges are the leading cause of mortality on ice. A pressure crack can be very small and thin and can be difficult to see. This is even more so when there is a fresh snowfall on the ice. This crack is dangerous as the next piece of equipment that crosses it more than likely would fall into the pond. Any speed above 10 km per hour on any body of ice needs to be approved by an Engineer. Also, extreme caution must be used when approaching the shoreline as approaching the shoreline at a speed above 10 kilometers per hour can also create the same wave.

When the Town puts equipment on the ice we activate our Ice Safety Plan. Town staff have gone through extensive training to identify quality of ice, how to measure ice and are certified in ice rescue of themselves and each other. When we activate the ice safety plan, we inform the fire department we are going onto the ice. We use the Gold's Formula to determine what equipment can go onto the ice.

Conclusion

The water under the ice is constantly moving. We not only inspect the ice; we also check the manholes that have the pipes that lead to the inlets. Upon inspection all but one has water flowing through them at various rates. This includes the outfall. We anticipate with the colder weather predicted for this coming week these flows will slow. Moving water, water temperature changes due to vegetation or drainage and fluctuating weather conditions plus melting events lead to unknown, unpredictable and potentially dangerous ice conditions. Even though the pond may be safe on a Monday does not mean it is safe on a Friday.

We want Council to continue to allow skating on the Strathmore Lakes Storm Pond. However, we are proposing that skating only be allowed in the area determined by the Town staff to be safe. This area has been determined to be safe for skating by the current information we have about the pond and from our ice experts on staff. We would like to clear more space for additional rinks in this area as well.

We would also like Council to consider the idea of building more back yard community rinks. This has been implemented in many communities in Canada. Strathmore has a community who are passionate about outdoor winter activities and one program we think would be received positively by the community would be an Adopt a Rink program. A couple options to get this program up and running is

Town staff use park space, create a square berm with snow and utilize the Fire Department to assist with flooding with their tanker. The other option is Operations buys a hydrant meter and use a fire hydrant to flood these community rinks.

We look forward to any feedback you may have.