

## Markham Sub-Committee Meeting Minutes

May 11, 2022, 10:00 AM - 12:00 PM  
Electronic Meeting

Sub-Committee Members	Regional Councillor Jack Heath, Chair  Councillor Karen Rea Councillor Andrew Keyes Councillor Amanda Collucci Mayor Frank Scarpitti (Ex-Officio) Deputy Mayor Don Hamilton (Ex-Officio) Regional Councillor Jim Jones (Ex-Officio)
Regrets	Councillor Keith Irish (Ex-Officio)
Guests and Staff	Councillor Khalid Usman Eddy Wu, Director of Environmental Services Rob Muir, Manager, Stormwater Zahra Parhizgari, Environmental Engineer Morgan Jones, Commissioner of Community Services Alice Lam, Director of Operations Arvin Prasad, Commissioner of Development Services Eddy Wu, Director of Environmental Services Kumar Prathapan, Senior Manager, Infrastructure Sito Saran, Manager, Environmental

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### 1. CALL TO ORDER

The Markham Sub-committee convened at 10:05 AM with Regional Councillor Jack Heath in the Chair 10:05 PM.

## **2. DISCLOSURE OF PECUNIARY INTEREST**

There was no disclosures of pecuniary interest.

## **3. SWAN LAKE REPORT AND PRESENTATION**

### **3.1 ANNUAL WATER QUALITY REPORT (STAFF)**

Rob Muir, Manager, Stormwater, provided a presentation on the Annual Water Quality Report for Swan Lake.

The Committee was satisfied with initial results of the 2021 Annual Water Quality Report, and was curious about the long term expectations of the program. The Committee also discussed the difference between PAC and Phoslock, and noted that is still seeing a lot of geese in the water.

Staff advised that they are obtaining the expected results from the use of PAC to improve the water quality in Swan Lake, and will continue monitoring water quality to evaluate the treatment performance. Staff further advised that they would adjust the program over time based on the outcome of PAC's performance.

Staff noted that they started using PAC due to challenges in importing Phoslock from Australia, noting that both chemicals remove phosphate from the water, but perform this action differently.

Staff advised that they are conducting enhanced hazing, and other measures to continue to address the geese issue at Swan Lake, noting that it will be more challenging to tackle the geese population during migration season.

The representative from York University, suggested using passive water treatment systems to filter out/adsorb the nutrients and chloride.

### **3.6 RESEARCH PROPOSAL FROM YORK UNIVERSITY ON USE OF CHARCOAL FILTER SYSTEM TO REMOVE NUTRIENTS AND CHLORIDE (FOSLP)**

Satinder K. Brar, Professor in Environmental Engineering, provided a presentation on the on the research they propose on the use of charcoal filter system to remove nutrients and chloride from lakes.

The Committee advised that it would be interested in going on walk with the York University team to highlight some of the issues specific to Swan Lake.

Staff noted that they have not had the opportunity to review the materials provided by the York University in detail, but are interested to know how this method will be applied in

whole-lake systems. York U advised that this approach has not been applied in lakes, rather for wastewater treatment systems after secondary treatment to polish the partially-treated wastewater.

### **3.2 HIGH LEVEL LAKE WATER FLOW ANALYSIS (STAFF)**

Rob Muir, Manager, Stormwater, presented the lake water flow and chloride analysis.

The Committee discussed the importance of maintenance, burying the storm ponds to address algae concerns, controlling chloride in this area, and the main sources of chlorides.

With respect to controlling algae in ponds, staff advised that Swan Lake is different from stormwater ponds that are designed to capture contaminants to prevent them from discharging into downstream rivers. Staff advised that algae in stormwater ponds indicates those treatment facilities are operating as intended.

Staff advised that the main source of chlorides in this area is the salt applied for winter maintenance, and the best approach to reduce chloride load is source control.

The York University specialist suggested intensely treating the water during times of greatest contamination, and using a filter to stop some of the contamination from entering the lake.

Alice Lam, Director of Operations, advised that the City of Markham has a Salt Management Plan and uses less salt for winter maintenance relative to other municipalities. The Committee noted that the majority of the area is maintained privately.

### **3.3 REVIEW OF LONGER-TERM ACTIONS TO MAINTAIN RESTORATION (STAFF)**

Rob Muir, Manager, Stormwater, presented the staff Review of Longer-Term Actions to Maintain Restoration, including FOSLP's proposed Holistic Approach to Realizing Community Goals.

The Committee noted that making structural changes to the stormwater management system in the Swan Lake area, including modification of original infrastructure can be very costly. It also noted that some of the amenities proposed for the Swan Lake Park are being planned for the Rouge National Park nearby, where they are more appropriate.

The Committee suggested that Swan Lake could be considered for a natural heritage designation and asked that staff report back on the feasibility and implications of declaring Swan Lake a natural heritage asset or 'Eco Park' through the Official Plan

process. Staff noted that the OP has criteria for designating an area as natural heritage, and that the Environmental Services can comment on the water resources aspects.

**3.4, 3.5, 3.6 PRESENTATION, ECO PARK QUESTIONNAIRE, NATURAL HERITAGE NETWORK REPORT, ACTION PLAN TO END SWAN LAKE'S STORMWATER ROLE (ANALYSIS OF STORMWATER FLOWS SHOWING REROUTING OPTIONS), AND RESEARCH PROPOSALS (FOSLP)**

Fred Peters, Friends of Swan Lake Park, presented the Action Plan For Restoration of Swan Lake and Swan Lake Park including FOSLP's request for natural heritage designation for Swan Lake Park and FOSLP's Eco Park Questionnaire, FOSLP's request to end the stormwater management role for Swan Lake (i.e., Analysis of Stormwater Flows Showing Rerouting Options (FOSLP)), and FOSLP's request for support for research initiatives including chloride removal (i.e., per item 3.6 above), oxygen enhancement (i.e., per Fleming College's Development of a Scope of Work for Research into Water Quality on Swan Lake), and survey of lower level aquatic life.

He acknowledged that the analysis provided on rerouting stormwater flow has been done without technical tools, but he was comfortable that the ponds have the capacity to handle more flows, and the changes will not increase flooding risk downstream.

The Committee noted that historical designs could be very costly to change and it is best to focus on managing salt usage at this time. However, it noted that the City would likely need to continue its stormwater management responsibilities with respect to the lake.

Moved by Councillor Andre Keyes

Seconded by Regional Councillor Jim Jones

1. THAT the staff report and presentation on the "Swan Lake- 2021 Water Quality Status and Updates" be received; and,
2. That the FOSLP presentation "Action Plan For Restoration of Swan Lake and Swan Lake Park" and York University presentation on the research it is proposing on the use charcoal filter system to remove nutrients and chloride be received and referred to staff; and further,
3. That Markham Sub-Committee request that staff report back on the feasibility, and implications of designating Swan Lake a natural heritage asset, as part of the Official Plan update.

**Carried**

**3. ADJOURNMENT**

Moved by Councillor Andrew Keyes

Seconded by Councillor Amanda Collucci

That the Markham Sub-Committee adjourned at 12:07 PM.

**Carried**