

June 27, 2006

To: Scarborough Community Council

From: Randy Rason
Director, Facilities and Real Estate

Raffi Bedrosyan
Acting Director, Technical Services

Subject: 4331 Lawrence Avenue East – Flooding of residential properties east of the new 43 Division Police Station,
Ward 44-Scarborough East.

Purpose:

This report is in response to a request by Scarborough Community Council to advise on the flooding of the properties abutting the east side of the new 43 Division Police Station at 4331 Lawrence Avenue East.

Financial Implications and Impact Statement:

There are no financial implications at this time

Recommendation:

That this report be received for information.

Background:

In 2003 an application was received to construct a new police station and ambulance facility at 4331 Lawrence Avenue East. Facilities and Real Estate, in conjunction with Toronto Police Services, retained Nelson Wong Architects Ltd as the architect retained to prepare design and tender documents for construction of the new facility. The sub-consultants were contracted by the Architect to prepare the design of the Stormwater management plan and the irrigation system for the new 43 Division Police Station. The construction of the new facility and the site works began in 2004.

The major construction work on the facility was completed in 2005 and the building and its works are under warranty. A number of deficiencies were identified including the following on the stormwater management system:

- a) Stormwater overflowing from the roof hoppers on the east side of the building into the neighbouring properties on Melchior Crescent.
- b) The stormwater ponds at the south end of the development were not functioning as per design.

At its meeting on June 13, 2006, Scarborough Community Council (Report 5, Clause 18(c)) requested the Executive Director, Facilities and Real Estate, in conjunction with the Executive Director, Technical Services, to report providing the results of their investigations into the flooding of properties to the east of the new 43 Division facility; such report to include the results of the consultations between Facilities and Real Estate, Technical Services, the contractor for 43 Division and the Storm Water Management design engineers.

Comments:

As part of the approval process for the 43 Division facility, a Storm Water Management Plan was prepared by the consultant and submitted to the Buildings and Inspections Department and reviewed by Technical Services Division. The stormwater management design called for a series of 3 interconnecting ponds discharging to infiltration ponds at the south end of the property. These ponds were constructed with a soakaway pit to percolate the stormwater into the ground. The system was designed not to have a piped outlet but would be allowed to soak away into the ground to recharge the groundwater. The drawdown of the water level was to be at the same rate of the percolation into the ground. The rate of percolation is relatively slow, in comparison to the standard ponds with piped outlets. As such, it is normal for this type of facility to have high water levels for several hours following any significant rainfall events.

The ponds have not been functioning as per design as they have been predominantly wet for several weeks since completion of the project and the stormwater has overflowed into an existing storm sewer to the southeast corner of the site. This problem may be attributed to factors such as clogging of the infiltration media or an indication that some of the design parameters pertaining to type of soil and groundwater table do not match the actual site conditions.

The ponds are still under the warranty period for the construction and will be turned over to Facilities & Real Estate to operate and maintain at the end of the warranty period. Technical Services and Facilities and Real Estate have been working together with the storm water management consultant to develop possible solutions to this problem. As an interim solution it was agreed that the minor storm water flow on the west side of the property is diverted from the ponds and into the storm sewer on Hainford Street thus reducing the volume of water contained in the ponds. The major storm flow was designed to flow to the west through the Hainford Street sewer system as part of the development proposal.

The temporary solution is to be reviewed by the storm water management consultant as to the pipe adequacy of the receiving network to take the minor storm flow prior to making the change. This action will allow for the monitoring period and for the stormwater management consultant to review and development of a permanent solution.

The permanent solution will conform to the quality and quantity criteria under the Wet Weather Flow Management Master Plan. This will require further studying of the groundwater table movement and percolation through the infiltration media and native soil under the pond over an extended period of time. Facilities and Real Estate staff will continue to coordinate the consulting services for the permanent solution. This includes data gathering and analysis; detailed design and approvals as well as construction cost estimates.

It has been confirmed through site observations that any stormwater overflow from the ponds is being fully intercepted and conveyed by the existing storm sewer at the rear of the properties on Melchior Drive and Woodgarden Crescent which flows southward to Danzig Creek. Technical Services and Toronto Water are in the process of conducting a Closed Circuit Television (CCTV) inspection of this storm sewer to assess its condition and determine whether any repairs are required. The result of the CCTV will confirm the capacity of this sewer to convey potential overflow from the ponds on a temporary basis, without causing any flooding on adjacent properties.

The issue on the east property boundary is the flooding of the adjoining residential properties. An investigation was carried out with Technical Services, Facilities and Real Estate and the contractor. It was agreed that the contractor would look at the drainage swale along the east side of the property. The swale will be lowered at the high spots to function as designed. Also, the irrigation contractor is reviewing the installation of the irrigation system to confirm it is functioning in accordance with the design. Facilities and Real Estate are working with the contractor to resolve the issues and will ensure there is no drainage from the Police Station site to the adjoining residential properties and the irrigation system is functioning as designed. Lastly related to the flooding of the neighbouring properties, there is a possibility the coupling on the cistern leaked and caused water to flood onto the adjoining properties. The contractor is replacing the couplings on the cisterns.

At the time of the site investigation it was discovered that residents have been dumping grass clippings and brush on the future walkway between the new police station and the residential properties. This may impede drainage in this area and cause water to flow into the backyards of the residential properties. Facilities and Real Estate will contact Parks and advise them of the dumping of the brush on the proposed walkway.

Conclusion:

Facilities and Real Estate will work closely with Technical Services and the consultants to develop a permanent solution on resolving the issues with the Storm Water Management Plan subject to funding being available. Secondly, Facilities and Real Estate will be working with the contractor to ensure that there is no drainage from the Police Station site to the adjoining residential properties. Lastly Facilities and Real Estate will contact Parks and advise them of dumping of brush on the proposed walkway.

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