

August 5, 2020

To: Committee of Adjustment, Town of Pelham

From: Brian Young & Angela MacRae [REDACTED] Canboro Road

Re: File Number B2-2019P, Application to convey an easement from Part 3, a proposed condo development, in perpetuity over Part 2, known as 204 Canboro Road, into the Town of Pelham storm sewer easement.

Storm Sewer Easement Questions

Question 1

What amount and speed of runoff was the original Town of Pelham Storm Sewer Easement, of approximately 180 metres, designed to accommodate, so that the flow would end at the far west side of the valley, now designated at Part 1?

We understand that it was designed so that the water from the culvert outlet on Oakridge Drive would dissipate along the length of the drainage area built. It was lined with stones from the east end, and then zig zagged along the easement to slow the flow and allow for its absorption before it reached the end of the easement. There were weirs and silt fences along the way.

The Town of Pelham Storm Sewer easement does not appear to have been maintained over the years as there is visible erosion of its path, overflowing of its original defined channel, the silt fences are mere remnants, and there is significant overgrowth of vegetation.

Question 2

As the existing easement does not appear to have been maintained, to what extent has its capacity to control and absorb the flow of water been degraded?

Since we purchased and built our home on 206 Canboro in the spring of 2010, there have been three or four instances of flooding in our back yard valley from the Town of Pelham storm sewer easement. It would happen in the spring when the ground was still frozen and we had significant rainfall or during a very heavy summer rainstorm.

Now that the overflow runoff from the 0.75 ha of Part 3 of the proposed sketch is to be added into the easement without increasing its capacity and without maintaining it, we are concerned about flooding onto our property.

Question 3

We also note that the proposed Part 2 easement will drain into the original Town of Pelham storm sewer easement about 80 metres from the end. Please explain how the additional water conveyed directly from the proposed Part 2 easement into the existing Town of Pelham easement so close to its end will not result in runoff and flooding of our property.

Question 4

The proposed plan is for the easement to allow storm water from Part 3 to cross the Part 1 property in perpetuity. There is no mention of who will be responsible for maintaining it, or rights of access to this easement, a change of property ownership will bring this into focus.

As the potential recipients of damaging amounts of storm water runoff this should be made more clear, please explain who is responsible for stopping any flow of water our property, as there are now at least three parties involved: Will it be the owners of Part 1, the owners of the proposed condos on Part 3, or the Town of Pelham for allowing their existing easement to be undermined by a private enterprise?

Question 5

Currently, the Town of Pelham holds responsibility for maintaining the Town of Pelham Storm Sewer Easement. If the proposal to add the runoff from Part 3, the new condos is added, who has responsibility to maintain the newer, enlarged Town of Pelham storm sewer easement?

Question 6

How will the proposed expansion of the Town of Pelham storm sewer easement handle the snow melt that will come off the Part 3 condo site through the Part 2 easement when the ground is still frozen in the spring?

Question 7

How quickly will the superpipe system empty through the 120 mm diameter outlet and into the proposed Part 2 easement?

We note that in other developments the goal is to release the water slowly over a 24-hour period.

Question 8

Should repairs to the Part 2 or Part 1 easement be required, how will access to the site be granted once the condos are built?

Should the proposed superpipe system and additional storm sewer easement fail to contain water as planned, who is responsible for correcting any flooding of our property, which is adjacent to the far west end of the original Town of Pelham storm sewer easement?

Question 9

How will water and silt be controlled during the construction of the superpipe and its proposed easement? Please describe.

Question 10

Where will the addition of the uncontrolled runoff from the condos to be built across the back of Part 3, area A22 on the proposed sketch, be accommodated into the easements? Will it flow directly southward into the valley and the original Town of Pelham storm sewer easement? Or will it follow the current geography of the land and flow to the southwest corner of Part 3, where the planned superpipe exits into the Part 2 easement, and subsequently, the Town of Pelham existing easement?

If it flows into the Part 2 easement, it could increase the risk of overflow.

Question 11

Table 4, page 7 of the Upper Canada Consultants report indicates the allowable storm water peak flow rate to the southerly valley for a five-year storm event is 45.22 L/second. This equates to 2,714 L/min. in the flow rate conversion calculator shown below.

Please describe how the proposed Part 2 storm sewer easement will be designed to handle this amount of water between the outlet of Part 2 and the western end of the Town of Pelham storm sewer easement without flooding the valley and adjacent property.

http://www.onlineconversion.com/flow_rate_volume.htm

Question 12 Runoff Coefficient

Presently there is little apparent evidence of any runoff coming from Part 3 into the existing Town of Pelham easement, as the lot is mostly flat with grass cover over sandy Fonthill Kame soil. There are three buildings and a driveway on the property but there is significant distance across some of the most porous soil in Canada, the Fonthill Kame.

The document provided by Upper Canada Consultants shows a pre-development impervious area of 25%. After measurements of permeable and non-permeable areas using the Region's "Niagara Navigator" online program we have calculated that this number is closer to 7.8%.

The Coefficient number is determined by the ratio of permeable to non-permeable on a given slope. This number is utilized in determining the amount of runoff of a piece of land. We believe the Coefficient of runoff of the pre-development existing block of land to be .154 which is much lower than the .25 given by Upper Canada Consultants. This number will significantly change the calculations provided in the study. Since this Coefficient number is the basis for all post-development calculations of water flow, please resolve this apparent difference.

Summary

The Oakridge drainage area flowing into the Town of Pelham storm sewer easement is augmented by drainage from the existing undeveloped proposed condo site. This current additional volume is calculated at 17% over and above the current flow from the Oakridge drainage area, from calculations using Niagara Navigator. Post development, the condo site will augment the total volume of water going into the Town of Pelham storm sewer easement by up to 72%.

As this is a 55% increase in water volume being added to the existing easement, we are of the opinion that this additional water being added to the Town of Pelham storm sewer easement will flood our property located at the western end of the easement.