Bloor West Village Avenue Study

Meeting Summary — October 2017 Local Advisory Committee Meeting

Wednesday, October 18, 2017
7:00 – 9:00pm
Swansea Town Hall, Rousseau Room
95 Lavinia Avenue

Overview

On Wednesday, October 18, the City of Toronto hosted the third Local Advisory Committee (LAC) meeting of the Bloor West Village Avenue Study. The LAC is a non-political advisory body with a mandate to provide a forum for feedback, guidance, and advice to the City Project Team and the Consultant Team at key points during the process of the Bloor West Village Avenue Study.

The purpose of the third LAC meeting was to present and discuss the preliminary findings from the Natural Heritage Study and Hydrogeology Study and provide an update on the overall schedule of the Avenue Study.

16 people attended the meeting, including members of residents' associations, the local BIA, ratepayers' groups, natural environment groups, historical groups, and local property and business owners. City of Toronto staff, members of the Consultant Team and Councillor Sarah Doucette also attended and participated in the meeting (see Appendix A – Participant List).

The meeting began with introductions and a review of the agenda by Ian Malczewski, Swerhun Facilitation. Following the agenda review, Greg Byrne from the City's Planning Division provided an update on the Terms of Reference and the process being followed for the Natural Heritage and Hydrogeology Studies. Brent Raymond from DTAH then gave a brief update on the overall schedule for the Avenue Study. Following the schedule update, Martin Gedeon from WSP and Mary Anne Young from Dougan and Associates, the consultants retained to complete the Natural Heritage and Hydrogeology Studies, gave presentations summarizing their findings and preliminary recommendations. Following the presentations, participants asked questions of clarification and shared feedback (see Appendix B – Meeting Agenda).

Matthew Wheatley and Ian Malczewski, third party facilitators with Swerhun Facilitation, facilitated the meeting and wrote this meeting summary and shared it with participants for review before being finalized. This summary is meant to capture key themes and feedback from the meeting; it is not intended to be a verbatim transcript.

Key messages

The following key messages emerged from the discussion. They are meant to be read along with the more detailed summary of feedback that follows.

Strong support for integration of the studies being completed as part of this process. Many participants supported the suggestion that the findings from the Hydrogeology Study and Natural Heritage Study be integrated with the other studies that are part of the overall Avenue Study. There was particular interest in seeing the findings from the Hydrogeology Study integrated with the Functional Servicing Report, looking at surface water and the soil components or conditions for each site.

Concerns about limited data. Participants noted that both the Natural Heritage and Hydrogeology Study findings identified data limitations and gaps. Participants advocated for supplementing data gaps to help with decision making and the development of concrete policies related to natural heritage and hydrogeology. Participants also said this should include an examination and mapping of the underground aquifers, ponds, rivers, and soil compaction conditions for the study and surrounding areas.

Support for the recommendations and balancing responsibility. Participants generally supported the recommendations from the Hydrogeology and Natural Heritage studies, noting they were well developed and organized. Participants also said developers should carry more responsibility for the implementation of the recommendations. Participants noted that inclusion as requirements in the by-law is essential with the supporting safety and economic insurance statements.

Recommendations should become strong policies. Participants said the recommendations from both studies should become strong, enforceable policies, not just recommended guidelines.

Protect prescribed urban burns in High Park. Participants discussed the importance of prescribed urban burns in High Park and raised concerns that intensification may put greater pressure on the City and local Councillor to prohibit these burns in the future.

Detailed summary of feedback

Following the hydrogeology and natural heritage presentations, participants asked questions of clarification. Participants then discussed the proposed natural heritage and hydrogeology recommendations in small groups at their tables. These discussions were followed by a plenary report back where each table provided a summary of their discussions.

The detailed summary below organizes participants' feedback within the topics listed above and includes feedback shared during the report back and in writing at the meeting and

afterwards. Written feedback received after the meeting is also included in full (see Appendix C – Additional Written Feedback).

1. Questions of Clarification

Participants asked questions of clarification after the presentations, responses from the City and/or study team follow each question in *italics*.

- Can we get a copy of the presentation? *The City asked that anyone who would like a digital copy of the presentation request one by emailing Greg Byrne (note added after the meeting: the City shared a copy of the presentation with all LAC members). The City also let participants know that an AODA compliant digital copy of the presentation would be put on the project website when ready.*
- Grenadier Pond gets half its water from ground water; if you send all ground water into the sewers it will have a negative impact on Grenadier Pond. Did the Hydrogeology Study consider this potential impact? *WSP: This would be a surface water issue. The Hydrogeology Study did not look at surface water issues. DTAH: The Avenue Study includes a Functional Servicing Report, which is looking at anything that is happening at the surface, including infiltration, pipe issues, etc.*
- The proposed development at 2265 Bloor St W has 5 levels of underground parking. You said that development with 5 levels of underground parking would result in 436,000 litres per day of dewatering; where would this water go? *WSP: Dewatering would occur during construction and the water would go into the sewer system. The specific amount of dewatering required would need to be looked at on a case-by-case basis, 436,000 litres per day may not be the case for the site you mentioned.*
- Are there any concerns about the surrounding area being compacted by development? *Yes, it is a concern. The City dictates the sediment program, which includes mechanisms to stop and/or mitigate impacts of compaction.*
- Did the Hydrogeology Study estimate the number of aquifers in the area that are fed from Georgian Bay? *WSP: There are many aquifers, however Georgian Bay is not connected to the surface water because of the impermeable layer between surface water and ground water. Groundwater would only be impacted if you go 38 metres below ground level.*
- Did the Hydrogeology Study consider the impacts of soil compaction resulting from dewatering? *WSP: This will be part of development and will need to be looked at on a case-by-case basis.*
- When did the City start requiring hydrogeology studies for development? *WSP: They have always been required, the difference now is they are more strictly enforced.*
- What is the red area on the maps? *WSP: This is the buffer zone used for the Hydrogeology Study, which is 500m around the Avenue Study area.*
- The water table is 12 metres down, is this normal? *There is not really a "normal" condition — it varies from location to location.*

- Has the city experienced a lot of dewatering in the past? Has this dewatering resulted primarily from urbanization over the past 150 years? *WSP: Yes, historically there has been dewatering in the City. It is not really from urbanization because development has occurred above the water table.*
- I really like the bathtub idea for basements to prevent dewatering, is this a City requirement? *WSP: No, it is not currently a City requirement and it is only necessary for developments that go below the water table. We anticipate that the City will be encouraging this strategy more strongly going forward.*
- Can you confirm that neither study looked at Wendigo and Spring Creek and how this water is managed? Examining these creeks is important because of the way they were managed over the past 50 years and the resulting impacts on ground water, surface water, fishing, etc. A lot of the question being asked are in reference to these two creeks. *WSP & Dougan and Associates: Neither study looked at these creeks. DTHA: We will check to see if the flows of these two creeks are within the boundary of the Functional Servicing Report and if there will be direct recommendations for these two water courses.*

  Bill Snodgrass (Toronto Water): We will need to integrate the outcomes from the Functional Servicing Report with the observations/finding from the Hydrogeology Study to address questions being asked by this group. This integration will be coming next. The dynamics of water flows to/from different water courses in the area (Spring Creek, Wendigo Creek, Grenadier Pond, etc.) as well as the removal of silt from Duck Pond need to be integrated into the Avenue Study so that we can provide insight into the impacts from intensification. We will also need to include indicators as part of the integration to understand the impact of intensification on water.

2. Feedback about hydrogeology

Support for integration of studies. Participants shared support for the suggestion that the findings from the Hydrogeology Study be integrated with the other studies being completed as part of overall Avenue Study, especially surface water data obtained through the Functional Servicing Report and the 2018 Groundwater Management Study.

Concerns about underground development and dewatering. There was support for limiting the depth to P4 (four levels of underground parking) because it was noted in the presentation that no dewatering would be required at this depth. Participants also said ground water levels should be determined on a case-by-case basis for all future developments to avoid dewatering and potential destabilization/settlement of surrounding properties.

Include an examination of lost rivers. Participants said there are several underground water courses in the area, commonly referred to as lost rivers, that are often overlooked. They should be considered as part of the Functional Servicing Study and the overall Avenue Study.

Ensure impacts of intensification on water courses are considered. Participants said it will be important to consider and explain any anticipated impacts of intensification on the various

water courses in the area. Participants also said it will be important to understand how past and current development has impacted existing water courses in the area. Other specific suggestions included:

- Establish and implement setback requirements for all future development within the High Park and Grenadier Pond watershed; and
- Ensure the Mandatory Downspout Disconnection By-Law is implemented and enforced within Ward 13 and the High Park and Grenadier Pond watershed.

Examining local water courses. Participants raised concerns that local water courses such as Spring Creek and Wendigo Creek were not specifically examined and suggested these should be included in the study to understand impacts of development. There was a suggestion that examination of local water courses be based on overall ecological integrity; not just water quantity and quality. There was also a request for an examination and determination of a recent "fish die off" in High Park.

Protection of Grenadier Pond. There was a suggestion to restore and enhance Grenadier Pond's catchment area. Participants suggested the Hydrogeology Study include the 1995 Gartner Lee Study prepared for the City on the rehabilitation of Grenadier Pond, Wendigo Creek and associated wetlands. They also suggested updating the study to account for changes since 1995 and highlighted specific recommendations from the study, including:

- Create policies to ensure there is no new diversion of precipitation to the storm sewer or other uses within the original, historic Grenadier Pond watershed; and
- Establish a monitoring procedure to ensure that incremental development has no negative impact on Grenadier Pond and associated wetlands/groundwater-dependent communities.

3. Feedback about natural heritage

Support for the natural heritage recommendations. Participants shared support for the recommendations from the Natural Heritage Study and noted that the four broad recommendations are well developed. There was a suggestion to develop site and area specific policies to assure preservation of natural heritage over the long-term.

Concerns about limited data. Participants noted that the Natural Heritage Study identified several data limitations and raised concerns that these data limitations would make it difficult to create concrete policies protecting natural heritage. Some suggested developers be required to produce additional data through mandated studies. Others suggested public agencies be responsible for these studies to ensure an accurate and sufficient assessment of impacts.

Balancing responsibility for the implementation of recommendations. Participants appreciated that the recommendations identified the responsible parties but said more responsibility should be given to developers. Some suggested that at least half the

responsibility should be placed on the developer as a cost of doing business and this should apply to recommendations from both the Natural Heritage Study and Hydrogeology Study.

Ensure prescribed urban burns in High Park can continue. Participants discussed the importance of prescribed burns in High Park for the natural environment and said they were concerned that future development and intensification may prevent these burns from happening. Participants noted that the local Councillor must sign-off on prescribed burns and that they may receive political pressure to not allow future burns. There was a suggestion to consider removing the responsibility from the local councillor so that this responsibility lies with City staff.

Compliance with zoning standards relating to parks and nature. There was a suggestion that the City's zoning department ensure all building proposals comply with zoning standards with respect to legislated cultural heritage, health and safety, and other technical requirements related to natural heritage.

Add a recommendation for green roofs to the Natural Heritage Study. Some participants said the Natural Heritage Study should include a recommendation for green roofs to provide additional habitat for wildlife in the area and help with stormwater management. There was a suggestion to include nesting or bee nest boxes and chimneys for Chimney Swifts on green roofs.

Consistency with and enforcement of the City's existing polices related to natural heritage. Participants said the Avenue Study should be consistent with the policies being developed as part of the City's Ravine Strategy, which is looking at the impacts of overuse on the natural environment. There was a suggestion to determine and adopt the thresholds of use / "tipping point" referred to in the 2013 – 2017 Parks Plan to understand and manage the impacts of use. Another participant said the City needs to enforce the Private Tree Bylaw for all future developments with monitoring done during and after tree plantings.

Protection for Chimney Swifts and other threatened species. There were suggestions to: make it mandatory to submit a report, much like an arborist report, confirming the presence or absence of species; obligate developers to produce specialized field surveys to confirm the presence, absence, and breeding of potential threatened species and/or flora/fauna and undertake measures to protect or enhance habitat; and formalize co-ordination of the City's and Ministry of Natural Resource and Forestry (MNRF) requirements pertaining to the building permit process.

Examine existing development and recreational impacts. There was a suggestion to monitor, analyze, and mitigate impacts already occurring in High Park and Humber Park, prior to any further development. There was also a suggestion monitor, mitigate, and redirect recreational activities taking place in High Park and Humber River parks; unless the activities are compatible with the parks' ecological function.

Requirement for a Natural Heritage Impact Study (NHIS) for future development. There was a suggestion for the City to require a NHIS for all development within 120 metres of an environmentally significant area and for the City to review the study for accuracy, completeness, and compliance with existing policies. There was another suggestion to require a review of the City's Natural Heritage Inventory to identify the presence of important species or habitats on the site.

4. Other feedback

Policies not guidelines. Participants said they would like to see the recommendations from both studies become strong, enforceable policies; not simply recommended guidelines for future development. Participants also said this should include the mapping and soil compaction of the development sites for underground aquifers, rivers, and ponds along with a policy regarding the suitability of underground parking and the requirement of bathtub technology.

Include maps that provide reference points for recommendations. Participants said to ensure the recommendations are upheld at the Ontario Municipal Board (or any other decision-making body) they need to be accompanied by clear maps with specific reference points.

Developing a plan or "idea" for High Park. There was a suggestion to review and use the essay by Jane Schmidt & Frank Remiz called *High Park Waterways: Forward to the past* as a model for developing a plan or "idea" for High Park with the purpose of limiting injury to the park. There was some concern that the Natural Heritage & Hydrogeology Studies "appear to identify and accept an existing state of decline of the assets studied".

Concern that the Avenue Designation will result in dense uses near High Park. A participant raised concerns that they could not find evidence of a study or consultation carried out to determine the possible environmental impacts of designating Bloor West Village as an Avenue. They also raised concerns that the Avenue Designation would encourage the densest uses to be built closest to High Park.

Ensure the Design Review Panel includes an environmental expert. There was a request to have at least one environmental expert on the design review panel and ensure they are present during the review of all developments situated within 500 metres of a natural heritage area.

Next steps

The City and consulting team thanked members of the LAC for their feedback and committed to sharing a draft summary of feedback in the coming weeks. The City and consulting team also informed participants that the team would be bringing forward the draft recommendations for the Avenue Study at the next LAC meeting on November 27th, public meeting on December 4th, and at the City's Design Review Panel on December 12th. Finally, the City explained they are targeting February 2018 for presentation of the Avenue Study to Etobicoke York Community Council.

Appendix A. Participant List

Participants

Bloor West Village BIA / Property Owner. David Howitt
Bloor West Village Residents' Association. Jay Zimmerman
Bloor West Village Residents' Association. Steve Dewdney
High Park Natural Environment Committee. Leslie Gooding
High Park Natural Environment Committee. Lenka Holubec
High Park Residents' Association. Lorraine Cramp
High Park Residents' Association. Allan Killin
Swansea Area Ratepayers' Association. Veronica Wynne
Swansea Area Ratepayers' Association. William Roberts
Swansea Historical Society. Susan Zalepa
West Toronto Junction Historical Society. Joan Miles
Property Owner. Tara Christie
Property Owner. John Marion
Property Owner. Jon Marion
Resident. Viola Varga
Resident. Madeleine McDowell

City of Toronto and Consulting Team

Councillor Sarah Doucette
Councillor Ward 13 Constituency Assistant. Katherine Trimble
City of Toronto City Planning. Greg Byrne
City of Toronto City Planning. Sarah Henstock.
City of Toronto City Planning. Allison Reid
City of Toronto Parks Forestry & Recreation. Janice Allen
City of Toronto Parks Forestry & Recreation. Nicola Garisto
City of Toronto Water Infrastructure Management. Bill Snodgrass
DTAH. Brent Raymond
WSP. Martin Gedeon
Dougan and Associates. Mary Anne Young
Leah Birnbaum Consulting | Urban Planning. Leah Birnbaum
Millward and Associates. Chris Hilbrecht
Swerhun Facilitation. Ian Malczewski
Swerhun Facilitation. Matthew Wheatley

Appendix B. Meeting Agenda

Bloor West Village Avenue Study

Local Advisory Committee Meeting 3

Wednesday, October 18, 2017

7:00 – 9:00 pm

Swansea Town Hall, Rousseau Room

95 Lavinia Avenue

Meeting Purpose: To provide an update on the overall schedule of the Avenue Study and present and discuss the preliminary findings from the Natural Heritage Study and Hydrogeology Study

Proposed Agenda

7:00 **Welcome & introductions**
Councillor Sarah Doucette & Swerhun Facilitation

7:05 **Review agenda**
Swerhun Facilitation

7:10 **Study Update and Process Overview**
City of Toronto

7:20 **Hydrogeological Summary & Recommendations**
WSP

Questions of Clarification

7:40 **Natural Heritage Summary & Recommendations**

Dougan and Associates

Questions of Clarification

8:00 **Discussion**

1. What are your thoughts on the proposed mitigation and enhancement measures and recommendations? Are there any that you particularly like? Are there others you would like to see considered?

8:30 **Report back**

8:55 **Wrap Up & Next Steps**

9:00 **Adjourn**

Appendix C — Additional written feedback

- Submission 1 from Lenka Holubec (High Park Natural Environment Committee)
- Submission 2 from Tara Christie (Property Owner)
- Submission 3 from Leslie Gooding (High Park Natural Environment Committee)
- Submission 4 from Allan Killin (High Park Residents' Association)
- Submission 5 from Lorraine Cramp (High Park Residents' Association)
- Submission 6 from Lenka Holubec (High Park Natural Environment Committee)
- Submission 7 from Lenka Holubec (High Park Natural Environment Committee)

Submission 1 from Lenka Holubec (High Park Natural Environment Committee)

https://www.thenatureofcities.com/2012/12/15/biodiversity-planning-:finally-getting-it-right-in- the-portland-vancouver-metro-region/

Biodiversity Planning: Finally Getting It Right in the Portland-Vancouver Metro Region Mike Houck, Portland.
15 December 2012

Summary:

In his book **Green Urbanism Tim Beatley** touted Portland, Oregon as one example of progressive regional, bioregional, and metropolitan-scale greenspace planning in the U.S. It is true that the Portland metropolitan region is well known for its land use planning and sustainable practices. Portland itself has more LEED buildings than any other American city. While the nation had increased greenhouse gases by 13% between 1990 and 2001, Portland's fell by 12%. During this period transit use increased 75% and bicycle commuting 500%. Between 1990 .and 2000 the Portland region's population grew by 31 % but consumed only 4% more land to accommodate that growth. BycontrasttheChicagoregiongrewby4%yetconsumed36%more land (Chicago Wilderness 1999: 21).

However, until relatively recently our region's urban nature agenda has lagged behind in both local and regional land use planning. Competing policies have often made otherwise progressive land use planning objectives and natural resource protection a zero sum proposition.

Urban planners have focused almost exclusively on creating compact urban form and containing sprawl to protect farm land outside the region's Urban Growth Boundary (UGB). They have maintained that protecting "too much" urban greenspace inside the UGB would result in loss of the buildable lands inventory inside the region's UGB. Most politicians, especially in Portland and Metro, ran their campaigns on a promise to hold a tight UGB.

Unfortunately, the UGB became a sacrosanct icon, an end to a means rather than merely a planning tool. As a result the Portland-Vancouver metropolitan region has failed to adequately protect natural resources within the region's Urban Growth Boundary and inside the region's twenty-five individual cities, including Portland (Houck and Labbe 2006, p. 40)...

...Armed with the high resolution mapping and modeling results The Intertwine Alliance and its partners :from nonprofit organizations and government agencies have, for the first time in the history of our region, the science-based tools to manage both the urban and rural landscapes with an aim to protect the region's biodiversity, provide a framework for adapting to climate change, and move toward creating a world-class system of parks, trails, and natural areas for the region's citizens to enjoy access to nature where they live, work and play.

Submission 2 from Tara Christie (Property Owner)

Thanks for hosting the LAC #3 meeting - very informative.
Here are my notes/comments from the evening:

NATURAL HERITAGE MEASURES AND RECOMMENDATIONS

Main green areas/habitat areas are along the Humber River and High Park. Could the addition of green roofs along BWV help create additional habitat (including nesting or bee nest boxes; chimneys for Chimney Swifts)

https://www1.toronto.ca/city_of_toronto/city_planning/zoning__environment/files/pdf/greenroofs_biodiversity.pdf
https://web.toronto.ca/wp-content/uploads/2017/08/8d24-City-of-Toronto-Guidelines-for-Biodiverse-Green-Roofs.pdf

Wendigo & Spring Creeks not included in the study.
Regarding the Species at Risk (Chimney Swifts): My concern is that both many residents and property owners do not know anything about Chimney Swifts in BWV and that they are classified as a Threatened Species. When looking to develop the property (which would include destruction of the chimney), we are at risk of further loss of habitat due to this unawareness. MNR, during previous conversations with them, indicated that it is the responsibility of the owner to confirm or deny the presence of the species. Having said that, can we make it mandatory to submit a report, much like an arborist report, confirming the presence or absence of species? The report presented by Dougan and Associates indicated that "Specialized field surveys required to confirm the presences/absence/breeding" (Under Wildlife & Wildlife Habitat: Mammals) were required - can we make this mandatory for developers to provide in order to gather data, as well as target potential threatened species, Flora/Fauna, etc and undertake measures to protect or enhance habitat? Further discussion and strategy required on how to implement this (Also per the Natural Heritage -Preliminary Recommendations, presented by Dougan and Associates)
Additionally, there is a "separate silos issue" identified by the city, whereby there isn't any formal co-ordination between the City and MNR requirements as it pertains to the Building Permit process. Permits can be issued by the City for demolition, however if there are MNR permit requirements (for a Threatened Species) that isn't factored into the process. I would argue that the MNR permit requirements need to be satisfied first, then the City Permits for demo can be issued. Not sure if this can be worked into the process or not to further protect the species.

HYDROGEOLOGY MEASURES AND RECOMMENDATIONS

Need to consider hidden rivers, creeks and swamps in the area.

General suggestion that a max of P4 for underground parking/levels given the Hydrogeology of the area *however* the final depth would be site specific (through a test hole) to determine the max depth of underground parking/levels (to avoid dewatering of the construction site and

potential destabilization/settlement of the surrounding properties or area). Given that the avenues are targeted for development (due to proximity to TTC Subway), there should not be a need for excess parking along this corridor. In the event of a development which penetrates the water table, a bathtub solution should be used - no exception - to avoid dewatering.

NOTE: the proposed development at 2265 Bloor St W *does* have 5 levels of underground parking & storage: (http://www.saveourvillage.ca/wp-content/uploads/2014/12/Revised-Architectural-Drawings-2265.pdf)

For both the Hydrogeology & Natural Heritage:

- I agree with the suggestion made during the meeting by Steve Deweney that developers should help shoulder the cost for studies, follow-up and initiatives, rather than just the city.

- I also agree with the overall impact of development in the area, again made by Steve Deweney, about 20,000 people and their dogs and where they're to go... they all can't go to High Park or the Humber River!

- That what is recommended for our Area Study is not a guideline but policy (requirement).

Submission 3 from Leslie Gooding (High Park Natural Environment Committee)

Hydrology

I learned a lot from the hydrology presentation and appreciate the opportunity to have heard it.

Grenadier Pond

Grenadier Pond is part of the High Park ANSI natural heritage feature. In 1995, a study prepared for the City of Toronto found that Grenadier Pond gets half of its water from groundwater, and that the likely source of that groundwater is the original catchment area of the pond.

Recommendations

Include the 1995 Gartner Lee study of Grenadier Pond (extracts attached) in the desktop review. Update as necessary to account for changes in conditions since 1995 and any changes in the science of hydrology

Create policies to ensure there is no new diversion of precipitation from the ground to storm sewers or other uses within the original, historic Grenadier Pond watershed, Figure 2.1 of the Gartner Lee study (I believe Toronto Water is implementing a similar policy for the Spring Creek watershed). Note this suggestion is consistent with PPS 2014 which identifies "…the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development." (Section 2.2.1 a))

Establish a monitoring procedure to ensure that incremental development has no negative impact on Grenadier Pond & associated wetlands/groundwater-dependent communities. Do the same for the eastern side of the park. Modify policies to protect the natural heritage as required (see also Section 13.5.3 of the Natural Heritage Reference Manual).

Gartner Lee (Extracts)

Proposals for the Rehabilitation of Grenadier Pond, Wendigo Creek and Associated Wetlands, Gartner Lee (June, 1995). Prepared for City of Toronto Parks and Recreation Department

Posted http://www.highparknature.org/wiki/uploads/Resources/GartnerLee1995-report-textonly_Part1.pdf

And http://www.highparknature.org/wiki/uploads/Resources/GartnerLee1995-report-textonly_Part2.pdf

Note: *Since this study was written, a) Wendigo Pond was constructed to contain stormwater flows before they reach Grenadier Pond, b) there has been development north of Bloor eg 1844 Bloor and 1990 Bloor, which would direct precipitation from the ground to storm sewers, and c) the City required that downspouts be disconnected.*

From the Introduction, pages 2-3

How Does Grenadier Pond Get Its Water Today?

The Grenadier Pond watershed is situated within an area of highly permeable sands associated with glacial Lake Iroquois. As a result of the generally high permeability of soils in the watershed, precipitation readily infiltrates and there remains a significant potential for ground water input to the pond despite about a 50% reduction in the surface drainage area over historical conditions.

Previous monitoring programs carried out by the Department of Public Works and the Environment in 1992 indicated that there was a significant inflow to Grenadier Pond from another source besides the storm flows from developed portion of the Grenadier Pond watershed.

The water budget analysis undertaken for this study for the Department of Parks and Recreation estimated that ground water, which is clean, cool and flows consistently throughout the year, contributes about 50% of the total water flow to the pond. Historically we have calculated the contribution may have been closer to 65% of the total inflow to the pond. Field studies carried out by Gartner Lee in 1993/94 confirm that ground water is actively entering through the sides of the pond but the data suggested that fine sediments may be preventing the full volume from entering. Some further hydrogeological work is needed in this area of study to quantify ground water contributions.

Much of the surface water in the Grenadier Pond watershed is captured and delivered to the pond via an extensive storm sewer system. Two sewers discharge directly to the pond at the north end at Clendenan Avenue and at Valleymede Avenue. Several other storm sewers feed into West Pond (also known as Catfish Pond) which discharges to Grenadier at the south west corner only a short distance from the outlet, also in the same corner of the pond.

These storm sewers deliver precipitation rapidly to the pond. This results in rapid increases in water level within the pond. Water level observations during this study over the fall of 1993 and summer of 1994 noted fluctuations in the order of approximately 30cm but the increases only lasted several days. Seasonal fluctuations were not observed as would have historically been the condition prior to outlet controls.

Originally, the pond was approximately 1.3 m lower when connected to Lake Ontario. The pond elevation was altered with considerable filling of the shoreline during the construction of the Queensway. We calculate that restoring the connection with the lake would result in a loss of pond area in the order of 40% given the existing of shoreline configuration.

The present size of the pond is 18.9 ha with a maximum depth of 6.S m and mean depth of 2.98 m. The pond flushes, or in other words, the water within the pond is exchanged, roughly 2.76 times per year.

Settlement (as of 1995), hydrology—pages 4-16

2.0 Review of Past and Present Conditions

2.1 DRAINAGE AREA DESCRIPTION

Grenadier Pond is located at the west end of the City of Toronto and adjacent to Lake Ontario. The pond is located within the western boundaries of High Park. On the west side is older residential development within the community of Swansea. Directly south of the pond lies the Queensway arid Lakeshore Boulevard, separating Grenadier Pond from Lake Ontario. Water from the pond exits from the southwest comer and travels via a pipe to the Humber River, eventually discharging to Lake Ontario. Historically, only a sandy beach bar divided the two water bodies. During periods of high water (e.g., spring snow melt), it is expected that Lake Ontario waters would flood over the bar and mix with Grenadier Pond. This action would both result in periodic flushing of the pond with lake water as well as seasonally affecting water levels in the pond.

The Grenadier Pond watershed is situated within an area dominated by glacial Lake Iroquois deposits (OMNR, 1980). These deposits are mostly highly permeable sands and silty sand materials. The upper portion of the historical catchment area, as shown on Figure 2.1, contains a major beach bar deposit of sand and gravel. The area west of the pond, including most of the drainage area to Catfish Pond, consists of deeper water deposits where less permeable silty--clay material is dominant. This westerly area has a lower infiltration capacity than the remainder of the basin. These key physiographic units are shown on Figure 2.1. As a result of the generally high permeability of the catchment, there has been historically high infiltration capacity and is potential for significant ground water input to the pond even today, despite extensive urbanization.

The historical surface catchment area for Grenadier Pond was much larger than the present area. Based on historical mapping sources, it appears that the original drainage area was about 477 ha and extended as far north as Sl. Clair Avenue where the beach bar deposit exists (Figure 2.1). The catchment area has undergone several changes associated with historical development of the area and separation of combined sewers. The drainage area to Grenadier Pond today is extensively channelized into storm sewers and has been reduced by about 50% from historical conditions to 245 ha based on City of Toronto sewer drawings. The area of most significant change was between Annette Street and St. Clair Avenue where the storm sewer drainage from hard surfaces (about 35% of the area) was diverted out of the catchment during urbanization of these lands. In addition, as building roof areas were typically connected to the storm system, both roof and road runoff were diverted out of the Grenadier Pond watershed. As a result of these changes, the surface water catchment has been reduced to about half its original size and the annual volume of water directed to the pond substantially reduced. The catchment area for ground water has also been affected, but to a lesser extent. (Note that the ground water catchment is larger than the surface water catchment as infiltration outside the

surface catchment will still reach Grenadier Pond through the ground water system.) It is expected, however, that much of the ground water flow from the historical catchment as far north as St. Clair Avenue, still moves towards Grenadier Pond since the sandy soil conditions are deep and continuous within the catchment. Although much of the area has storm sewers, these services are relatively shallow and are not expected to intercept significant amounts of infiltrated water either into the pipe or along service trenches. Similarly, the TIC subway line along Clendenan Avenue is shallow or at surface in this area and does not intercept ground water flow.

Specific analyses for the ground water and surface runoff contributions to Grenadier Pond are discussed in the next sections. These factors are key components of the water balance for the Grenadier Pond.

Figure 2.1

2.2 HYDROLOGY

The preparation of a water budget (or balance) is critical to understanding present conditions within the pond and the effectiveness of rehabilitation measures. Water balance components include precipitation, evapotranspiration and the annual surplus. The annual surplus is further divided into the proportions of runoff and infiltration which are dependent upon the soil permeability and land use. To better understand the contributions of ground water and surface water under past and present conditions, a spreadsheet was prepared for the Grenadier Pond watershed to quantify ground water and surface water sources based on land use and soil type. The data are further compared to empirical data collected within the study area.

2.2.1 Ground Water Contribution

Prior to this study. there had been limited data to confirm the potential or quantify the amount of ground water entering into Grenadier Pond either from the side banks or through the base of the pond. City of Toronto data (1992) on inflow and outflow points at Grenadier Pond showed that only 50% of the pond outflow could be accounted for at storm sewer inlets. The reports suggest that much of this difference may be ground water inflow. Through the water budget analysis, we have tried to define the relative contribution of ground water to the system.

An average annual evapotranspiration amount of 450 mm per year with an annual surplus of 300 mm precipitation has been assumed in Table 2.1 based on the Clendenan Avenue meteorological station. In addition, it has been assumed that any infiltrated water within the catchment will reappear in Grenadier Pond due to the steep gradients to Wendigo Creek and the pond and generally uniformly permeable and deep soils. Ground water gradients between Grenadier Pond and Lake Ontario are generally lower than those in the upper part of the basin. resulting in the pond and Wendigo Creek acting as a regional discharge point for ground water.

The percentage of annua1 infiltration (column 4 in Table 2.1) is based on long-term modelling of daily temperature and precipitation data using the model WATBUD. This model is based on

the HELP infiltration model (U.S. Army Corps of Engineers) and uses soil type and land use (imperviousness) to determine annual infiltration values. Data in Table 2.1 suggests that the historical ground water inflow was likely in the order of 30 L/s while it is presently about 15 L/s. The amount of ground water inflow appears to have decreased significantly while the amount of surface inflow has decreased only slightly. This is because the increase in surface runoff due to urbanization has been offset by the loss of drainage area north of Annette Street. The infiltration percentage in Table 2.1 has been adjusted between historical and present conditions to account for the increase in impervious area (roof and road area) for each of the sub-catchment areas as compared to undeveloped conditions. Historically. the ground water inflow was likely about 65% of the total inflow to the pond while it is in the range of 50% presently.

Table 2.1

In order to confirm the presence of ground water flow through the pond bottom, two nests of three mini-piezometers (small tubes inserted below the ground surface and extending above which allow measurements of the ground water elevation to be taken) were installed along the pond edge in September 1993. The two locations for these nests are shown on Figure 2.2. At each site. three mini-piezometers were installed at varying depths below the bottom of the pond. These depths were in the range of 2.5. 2.0 and 1.0 m below the pond bottom and at a distance of 1.0 to 2.0 m from shore. While detailed soil stratigraphy data are not available for these sites, it is reasonable to assume that the upper 0.5 to 1.0 m depth is fine sediment while the soils below 1.0 to 1.5 m are compacted sand. This configuration was noted in test pits at the south end of the pond in 1995. Water level data in these piezometers were collected during the fall of 1993 and once in 1994 and are summarized in Table 2.2.

Table 2.2 (not reproduced)

Table 2.2 data shows that all readings were positive (i,e . ground water piezo metric surface above pond elevation). This means that there were upward gradients (movement) suggesting active ground water discharge in all mini-piezometers during the late fall of 1993 and early summer of 1994. In many cases, the deeper monitors yielded a higher piezo metric surface meaning that the ground water gradient was greater at depth (i.e., in sands) and lower in shallow probes. The June 22, 1994 data are particularly significant as they were preceded by 10 days of hot, dry weather. Other evidence confirming significant ground water inflows included visible seepage and standing water at the surface along the east bank, cattails growing along the adjacent slope near the northerly mini-piezometer nest and a measured flow increase in Wendigo Creek of about 5 L/s between the Clendenan Avenue outfall at Clendenan Avenue and the existing sediment pond at the north end of Grenadier Pond on June 22, 1994.

The flux or measured discharge rate of ground water into the pond was not physically measured for this study as it would require many measurements to obtain an accurate flow reading. However, a rough estimate of ground water discharge to the pond was made using

D'Arcy's Law, hydraulic conductivity (K) in the order of 10-7 m/s for the pond sediments and assuming a pond bottom area of about 5.0 ha (25% of the pond area) around the edges contributes ground water flow through the sediments. The pond bottom area which contributes discharge to the pond was assumed to be an area which is 1.5 m deep or less. This rough calculation suggests that ground water flow to Grenadier Pond is in the order of 50 L/s. Given the uncertainty with the hydraulic conductivity values and a number of assumptions made, this compares favourably with the 15 L/s contribution calculated in Table 2.1.

2.2.2 Surface Water Contributions

The Grenadier Pond basin shown on Figure 2.3 has been about 85% developed since about 1940 with the only large open area being High Park itself and Renne Park which includes Catfish Pond. The addition of impervious surfaces such as roads and roof tops and sewer systems has changed the way water is proportioned between the surface and ground, or in other words. the natural hydrological cycle. Even the park area has been altered through road ditching, grading and manicuring practices. Minor redevelopment and infilling has also taken place in the catchment, particular to the immediate north and south of the Clendenan Avenue corridor.

Where, prior to development, we can assume virtually 0% impervious within the watershed and a significant proportion (65%) of the rainfall entered (infiltrated) the ground. today that amount of infiltration has shifted to approximately 50% (Table 2.1).

Within the present 245 ha catchment area, there are five (5) primary storm sewer outfalls to Grenadier Pond. Prior to 1990, combined sewer overflows (CSOs) were experienced in the catchment area but there were no overflows to Grenadier Pond. Roof runoff entering the Clendenan sewer still rum into the combined sewer system. which does not enter Grenadier Pond. Diversion of roof area into the storm system will only occur with redevelopment. All remaining sanitary and storm sewer systems are now separated in this area with storm water only from the area north of Bloor Street draining to Grenadier Pond. The five outfalls are summarized in Table 2.3 in addition to other non-sewered catchment areas to the pond with all locations marked in Figure 2.3. *(not reproduced)*

Table 2.3 (not reproduced)

In addition to the five sewered drainage areas, there are about 32.8 ha of parkland which drain directly to the pond and the two pond surface areas themselves. These areas and their respective imperviousness (hard surface) levels were utilized in estimating the water budget for Grenadier Pond presented later (Section 2.6).

Surface water inflow points were not extensively measured for this study. However. past continuous flow measurements were taken for the period of April to October 1992 by the City of Toronto at key outfalls to the pond. These data were used to estimate the amount of surface inflow on an annual basis.

Using data obtained in 1982 from the Quantity Quality Simulation Computer model for the area's sewer network, 373,484 m^3 of runoff were estimated to have drained into Grenadier Pond over the period April to October 1992. (This excludes unsewered areas such as High Park itself and direct precipitation to the pond areas). During this seven month period, 622 mm of rain fell at the Clendenan Avenue meteorological station which is the nearest to the study area. The average rainfall for this period is about 477 mm based on 30 years of data resulting in the 1992 rainfall being about 30% above average. The total runoff recorded was reduced to account for the abnormally high rainfall conditions in 1992 and then extended to account for the entire calendar year based on the average distribution of precipitation over all months. The average annual surface water inflow to Grenadier Pond was estimated by this method to be about 491,000 m^3, of which only a minor component is expected to be ground water inflow infiltrating into the storm sewer systems.

Dry weather flows from outfall points to both Grenadier Pond and Catfish Pond were measured on June 22, 1994 following 10 days of hot, dry conditions. The measured flow was 15 L/s to Grenadier Pond from the Clendenan Avenue sewer (SW4) and 2L/s to Catfish Pond from catchment area #3 on Figure 2.3. The total dry weather flow of 17 L/s compares very closely to past City of Toronto data with an average dry weather flow of 19 L/s (City of Toronto, 1992). These are approximate estimates as some of the storm sewer flow on June 22. 1994 was noted to be sourced from lawn watering and dewatering activity at water main construction activity in the Grenadier Pond catchment area north of Clendenan Avenue.

Additional flow data had been collected from outfalls to Grenadier Pond on October 7, 1993 and February 21. 1994. October 7 was representative of dry weather conditions with measured flows of 9.2 L/s at the base of Wendigo Creek (SW3) (which includes the Clendenan outfall); and 1.0 L/s at the outfall from Catfish Pond (SW5). A total of 10.2 L/s was measured. Flows measured on February 21, 1994 were 15.7 L/s at SW3. 0.2 L/s from the Valleymede culvert (SW7) and 11.0 L/s at SW5. The winter flow data was collected directly following a period of atypically warm weather (10 degrees C) resulting in early snowmelt that was still occurring on February 21.

2.2.3 Grenadier Pond Water Levels

Limited data on seasonal water level fluctuations in Grenadier Pond were available for this study. A stage recorder was installed at the lookout deck (barge area) in October 1993 with readings taken during field visits and periodically by City of Toronto Parks and Recreation staff. Data from these readings are summarized in Table 2.4 *(not reproduced)* with station location noted on Figure 2.2.

As noted in Table 2.4, the water levels in Grenadier Pond are relatively constant and respond primarily to major runoff events (rainfall or snowmelt) and seasonal peaks in precipitation. The increases in water level appear to last only a few days at most with maximum fluctuations likely in the order of 0.30 m given the present outlet configuration. This information is useful in

understanding how water levels fluctuate along the nearshore zone and what implications this may have on renaturalizing shoreline conditions.

As noted previously, historic conditions allowed Lake Ontario to periodically flush Grenadier Pond when water levels were high as there were no significant differences in pond-lake elevations in the past (pre-I900). Likewise, Grenadier Pond drained into the lake during runoff periods. Road and railway construction between Grenadier Pond and Lake Ontario has cut off the hydraulic connection between these two water bodies and resulted in the water levels in Grenadier Pond being regulated by an outlet weir with variations resulting from major runoff events. Even under severe storm conditions, fluctuations in the pond water level appear to be relatively low due to the large surface area relative to the catchment area.

Topographic maps indicate Grenadier Pond is situated at about 76.3 m above sea level and the average water level of Lake Ontario, from data collected by the Army Corp of Engineers from 1982-1993. is at 75.0 m above sea level. Therefore. Grenadier Pond appears to be on average. 1.3 m higher than the lake. Recent test pits (January 1995) dug along the southern shore of Grenadier Pond noted organic deposits at about 1.8 m deep, consistent with Lake Ontario water levels. The test pits were done in anticipation of future shoreline alterations along the southern shore.

If the existing outlet structure were to be removed and the "free-flow" of water between Lake Ontario and the pond restored, the result on water levels in the pond would be dramatic. Based on an equalized elevation of about 75.0 m. approximately 2.4 x 105 m^3 of water or 40% of the pond's present volume would be lost. This would result in exposed. dry land around the present pond shoreline and the exposure of mud flats at the north end. Given the already large area of the pond which was lost with the shoreline alterations, this result is clearly not consistent with long-term rehabilitative efforts.

2.2.4 Outlet Structure

Up until 1853, Grenadier Pond was connected directly to Lake Ontario via a channel which would cut through the sand bar which separated the pond from Lake Ontario. Today, the outlet consists of a t.68 m wide concrete overflow weir (top draw) located at the southwest comer of the pond. The pond outflow, under normal flow conditions, discharges to the Humber River via a storm sewer along the north side of Lakeshore Road while there is a direct overflow to Lake Ontario (see Figure 2.3) under high flow conditions. As the outlet weir is enclosed, it is very difficult to take flow measurements at this point. Dry weather flows on three occasions in 1992 by the City of Toronto determined an average flow of 41 L/s, however, the data set is insufficient to use in the water balance. During the course of this study, water could be heard continuously flowing over the weir on dates when water level readings at the barge lookout site were collected.

Gartner Lee

Scale 1: 25,000

Present and Historical Watershed Boundaries and Surficial Soil Types

Grenadier Pond

FIGURE **2.1**

Project 94-205

TABLE 2.1
GROUND WATER AND SURFACE WATER CONTRIBUTIONS TO GRENADIER POND

HISTORICAL CONDITIONS

OUTFALL	DRAINAGE AREA NO.	DRAINAGE AREA (HA)	ANNUAL SURPLUS * (MM)	INFILT%	ANNUAL INFILT (MM)	ANNUAL GW VOL (M^3)	ANNUAL RUNOFF (M^3)	
Clendenan Ave.	1.0	336.0	300.0	0.8	225.0	756000.0	252000.0	
Valleymede Rd.	2.0	16.4	300.0	0.7	195.0	31960.5	17209.5	
Into Catfish Pond	3.0	46.5	300.0	0.4	120.0	55740.0	83610.0	
Catfish Pond Drainage	4.0	15.5	300.0	0.4	120.0	18576.0	27864.0	
Into Catfish Pond	5.0	7.2	300.0	0.4	120.0	8676.0	13014.0	
Parkland Drainage	6.0	32.8	300.0	0.7	210.0	68964.0	29556.0	
Direct Precipitation	7.0	21.1	275.7	0.0	0.0	0.0	63326.3	
Direct Precipitation	8.0	1.87	24.3	0.0	0.0	0.0	5581.7	
								RUNOFF = 492163.5 m^3
		477.4 AREA				939916.5 m^3	492163.5 m^3	
				GROUND WATER ESTIMATE =		29.8 L/S		

* – Bloor Street meteorological data for precipitation.

EXISTING CONDITIONS

OUTFALL	DRAINAGE AREA NO.	DRAINAGE AREA (HA)	ANNUAL SURPLUS (MM)	INFILT%	ANNUAL INFILT (MM)	ANNUAL GW VOL (M^3)	ANNUAL RUNOFF (M^3)	
	1A	232.0	300.0	0.30	90.0	208800.0	0.0	
Clendenan Ave.	1.0	104.1	300.0	0.45	135.0	140481.0	171699.0	
Valleymede Rd.	2.0	16.4	300.0	0.45	135.0	22126.5	27043.5	
Into Catfish Pond	3.0	46.5	300.0	0.25	75.0	34837.5	104512.5	
Catfish Pond Drainage	4.0	15.5	300.0	0.25	75.0	11610.0	34830.0	
Into Catfish Pond	5.0	7.2	300.0	0.25	75.0	5422.5	16267.5	
Parkland Drainage	6.0	32.8	300.0	0.70	210.0	68964.0	29556.0	
Direct Precipitation	7.0	21.7	275.7	0.00	0.0	0.0	63328.3	
Direct Precipitation	8.0	1.87	24.3	0.00	0.0	0.0	5581.7	
								RUNOFF = 452818.5 m^3
		246.0 AREA				492241.5 m^3	452818.5 m^3	
				GROUND WATER ESTIMATE =		15.6 L/S		

* – Bloor Street meteorological data for precipitation.

Submission 4 from Allan Killin (High Park Residents' Association)

1. Both preliminary reports presented helpful information, especially in identifying the significant areas of missing data and study necessary for basic decision making.
2. However, important local features and dynamics were surprisingly excluded from the studies (perhaps due to the adoption of a standard terms of reference document that proved to be inappropriate for the studies requested by stakeholders in the LAC). For instance, while one would assume these are critical to maintenance of wetlands, related habitats, and supply/dynamics of subsurface 'groundwater', both study authors failed to mention Spring and Wendigo Creeks and explicitly told us that the study of the historic data, current conditions, proposed management strategies, for surface water in two historic water courses was not part of their scope of study. The hydrological study did include some information about Laurentian Spring, the ancient underground watercourse from Georgian Bay, but without exploring the historic context (e.g. the former High Park mineral baths) or risks related to recent interventions (deep foundations are required for ALL tall buildings, fracking, other possible interventions).
3. For a discussion of High Park that explores what it is, and what it could or should become over time, I recommend the excellent essay by Jane Schmidt & Frank Remiz called *High Park waterways: Forward to the past.* It is found, with many other good and relevant stories, in the 2008 publication HTO Toronto's Water from Lake Iroquois to Lost Rovers to Low-flow Toilets, Edited by Wayne Reeves & Christina Palassio, Coach House Books, Toronto, 2008. I feel I learned more about High Park, and its conservation, from this essay than I did from the preliminary study reports. The essay offers a compelling story, so necessary to promote any good idea or project.
4. Unlike the referenced essay (note 3), the preliminary study reports offer no plan or 'idea' for High Park and related watersheds, other than a sketch of the status quo and significant mitigation efforts that will be required to maintain it. The Studies appear to identify and accept an existing state of decline of the assets studied!

   While Avenue Studies limit their scope to providing a framework for intensification and include a set of standard assumptions and formulas (e.g. mid-rise policy), such an approach to an asset specifically bequeathed to the Citizens [refer to the Howard quote] is not appropriate. We cannot discuss how to limit injury to High Park, any included ANSI, and public amenity, without understanding the historic/current/future purpose, ideal forms and operation, ownership, legal obligations, and potential uses (other than for speculative development).
5. While my esteemed colleague objected to the Public's share of responsibility in the reported study conclusion, particularly that much more of this missing data must be provided by public agencies (tax payers) than by the developers as part of their applications, I am more concerned that applicants will be asked to provide the missing studies and continue to fail to provide accurate and sufficient assessment of impacts. Resident Association members have strongly objected to the inadequacy of past Segment and Nature Heritage Studies that have been accepted by the OMB and the City and recent

experience offers no reason to expect improvement in the required terms of reference nor the applicants' expert submissions.

6. The studies' lists of conclusions are thoughtful and rational, but fail to explicitly state that under the Planning Act and Provincial Policy Statement, development within these so-defined sensitive watersheds shall not proceed without sufficient information and infrastructure. We cannot define the required infrastructure nor the safe-guards until we understand the local system dynamics below, at, and above grade (flooding due to climate change) and have an idea of what these dynamics ought to be to meet our obligation to conserve High Park over the long-term.

Submission 5 from Lorraine Cramp (High Park Residents' Association)

Comments re: Natural Heritage Desktop Investigation Lorraine Cramp

(A) Did this study answer our question? We asked: Will the developments to the north of High Park have a cumulative negative impact on the park?

I think that this study answered that question in general terms.

Characterization: Area of Influence
Noteworthy findings (vegetation):
High Park: rare habitats (prairie/savannah) and species. High level of disturbance.

Key Sensitivities
Prairie Habitats & Species
Vulnerable to: disturbance/trampling
Implications: increased population increases trampling/disturbance impacts.

Natural Heritage - Conclusions

2. Direct footprint impacts from new development are predictable and mitigation tools exist.
Individual developers under requirements and direction of City and TRCA required to follow policy in order to address direct impacts.
3. Most indirect and cumulative impacts are regional in nature and already occurring.
Mitigation of these impacts would require City and TRCA to provide enhanced Resource Management, and Monitoring and Adaptive Management Strategies.

Problem: the City tends to be lax and inconsistent in the application of Policy re: protection of the environment.

Question: Would enhanced resource management, monitoring and adaptive management strategies be enough to reverse present damage and prevent future damage? The level of disturbance is already high and is going to become worse with increases in population.

(B) The Official Plan
When Planning staff was choosing which streets would be given the *Avenue* designation, was any study or consultation undertaken to determine the possible impacts on the environment of placing an *Avenue* so close to the Natural areas in High Park and the Humber River Wetlands

Complex?

Neither a search through City Reports from 1998 through 2002, nor an enquiry made to Planning staff has turned up any concern re: the environmental impacts of the *Avenue* overlay.

What should have been done?

From A Natural Framework: A Strategy for the Protection and Management of Natural Heritage In the Greater Toronto Area

P.23 Areas where natural areas and other land uses come in contact must be planned and designed to minimize the potential conflict or stress between human activities and natural processes.

P. 25 Even in areas committed to agricultural or urban activities, planning and design approaches can be employed that enhance ecological and natural heritage values. This can be done in ways that do not detrimentally affect the main use of the land.

P.38 5.2.3 THE INTERFACE
(a) Definition Areas where urban or agricultural land uses abut the natural heritage system.
(b) Basic Planning Approach Urban and agricultural land uses that abut the natural heritage system should be designed to enhance the natural area edge and provide a gradual or low impact transition from urban/agricultural to a natural state.

In other words, Bloor Street is not a buffer. Rather it is the interface between the built area and the Natural area. We should be placing the least dense uses closest to the park. Giving Bloor Street the designation of *Avenue* encourages the most dense uses to be built closest to the park. This was a mistake.

Another mistake made in the writing of the Official Plan: the zoning at 20 Gothic Avenue was changed from Open Space to Apartment Neighborhood. That green patch should have been retained. It could have functioned as part of a corridor or linkage.

What else should have been done? A Natural Heritage System should have been developed, beginning with topographic maps, and including map layers which identify all of the necessary components. (See pages 39-42 of A Natural Framework) There should also be inventories of existing habitats and previously existing habitats; rare, threatened and endangered species and

habitats; smaller fragmented areas. This time, we got it right. The City partnered with the TRCA to produce the 2001 Natural Heritage Study. It includes 60 overlay maps.

(C) <u>What went wrong? Lessons which we should be learning from 1844 Bloor West.</u>
Following on the theme in the Natural Heritage Desktop Investigation: Mitigation, Resource Management, Monitoring, and Adaptive Management Strategies

The first hint of trouble was noticing that a Natural Heritage Impact Study (NHIS) was missing from the list of reports which should have been submitted by the developer. This development proposal clearly met the criteria for a NHIS. **1**

Repeated requests for a NHIS were met with refusal from City Planning. (After much frustration, Viola Varga made this her issue at the OMB hearing.)

At the prehearing, the proponent and his lawyers were overheard saying, in a puzzled tone of voice, that a NHIS had never been required in any previous development proposals near High Park.

When a NHIS was finally produced, it was of questionable value. It was full of lies, half-truths, and misdirection. And it came at the end of the entire process, instead of at the beginning, when it could have informed decisions made by Planning. By that point, it was simply a rubber stamp for the OMB Decision.

The Design Review Panel for 1844 Bloor West was focused only on built form and planning theory, in spite of the fact that an ANSI and the park's ESAs were only a few metres to the south. **2**

The Arborist Report submitted by the proponent was as questionable as the NHIS. Either the arborist was incompetent or he intentionally wrote a false report. For some of the trees he even got the species wrong. In the face of the report submitted by the residents' arborist, the proponent's arborist re-wrote his report -- twice. He took his third report to the OMB.
Again, this was all unfolding just before the OMB hearing -- far too late in the planning process. (You can read the story, in detail, in the attached PE8.5 Revisions to the Private Tree Bylaw.)

<u>A missed opportunity to correct a deficiency:</u>
1844 Bloor West revealed the failings of the Arborist report procedure. Member Motion 37.37 was an attempt to fix a system which allows incompetent and fraudulent arborist reports to become part of a development application.

It was a very disheartening experience to watch City Council vote in support of a report which allows this abuse of the system to continue, and then to watch as the City's councillors congratulated themselves on having done such a good job of protecting Toronto's trees. **3**

1844 Bloor West tree pit
The developer promised to provide the required soil volumes.

From the Toronto Green Standard Version 1:
per one tree in a planter 30 m3 = 1059 cubic feet soil volume per tree
shared planter 15m3 = 529 cubic feet soil volume per tree

I observed the construction of the tree pit, took photographs and spoke to the contractors who dug the pit. I measured the length and width. I did not measure the depth, but I estimate it to be three feet deep -- four feet at the most.

The pit does not extend under the pavers. There are two trees in the pit.

width = 7.5 feet
length = 20.8 feet
depth = 3 or 4 feet
That means that the soil volume for two trees is only 468 or 624 cubic feet, depending on whether the depth is either 3 or 4 feet.
That gives us a soil volume of 234 or 312 cubic feet per tree.

Oak trees have a six-foot-long tap root. This pit is not providing enough soil volume. 234 cubic feet is less than half of the required 529 cubic feet. **4**

1844 Bloor West was an environmental disaster. We lost a part of our precious natural resources: a stand of old-growth Black and White oak trees. We have to do better than this. **5**

TO DO LIST:

1. Change the wording in the City's NHIS to conform with the Province's NHIS requirement for a development proposal which falls within 120 metres of an environmentally significant area. This would eliminate quibbling over the meaning of the word "adjacent".
2. The Design Review Panel must include at least one environmental expert -- preferably one we can trust. This environmental expert needs to be present at the review of all new developments which are situated within 500 metres of a Natural Heritage area.

I have attended many DRP meetings. The panel members are architects and developers. They know nothing about the needs of the environment. Sometimes they make horrifying suggestions. Example: one panel member advised that a row of high-rise buildings be situated next to the ravine -- so that the ravine could be used as a recreational area by the residents.

3. Please revisit the Private Tree Bylaw. Let's get it right this time.
4. Trees should be monitored during and after planting.
5. The 2001 Natural Heritage Study shows the oak trees as "Forest" on many of the map layers. I'm not sure if that site was identified as savannah in the City's Natural Heritage inventory. It should have been. It should have been listed as a Significant Woodlot. For all new developments, we should be checking the inventory to see if there are important species or habitats on the site. We should also be looking to see if the site was part of an historic corridor or if there is an opportunity to create a new corridor.
6. In doing this research, I have frequently seen reference to attempts to "streamline the approvals process". We need to be very careful not to risk our environmental resources in the name of expediency.

Submission 6 from Lenka Holubec (High Park Natural Heritage Committee)

This Desktop Investigation format, in my opinion, needs to be followed by a more specific discussion including again the City, the Parks, Toronto Water and TRCA to be able to reflect on our Comments and their views on this feedback, so we could move beyond generalities of the Desktop Investigation.

We need a proper follow up with community participation to get things done.

At this point, community involvement seems to be an essential driving force behind preserving the Natural Heritage for a long time in Toronto.

Nevertheless, the public agencies are needed to play their very important role in this process, whether at the level of the planning decisions, the City politicians, the Parks, Toronto Water or TRCA.

Without proactive planning regarding development decisions in proximity of Toronto's Natural Heritage, availability of scientific data, best resource management and adaptive strategies for mitigation, this unique, and for sustainable city essential, asset will be gradually diminished and lost.

It is my conviction that we still have a chance to keep Nature in our growing city but to do that maintaining the status quo is not good enough. It is simply not an option.

Once we accept this and earnestly start to work towards solutions, some already existing options will become realistic and future possibilities will arise.

An excerpt from Presentation by Jennifer Keesmaat at Oct. 17, 2017, OMB Reform hearing:

"…I believe that the way the bill is structured, where ***the emphasis is placed on ensuring that planning policy will be the driver behind decision-making****, will in fact change the way municipalities plan, re-shifting our efforts to being proactive and reacting to applications to doing more secondary plans, area plans, neighbourhood plans that put in place the policy framework that clearly articulates what it is that we're looking for.*

Today, there's a disincentive to putting those proactive plans in place."

BWV Avenue Study: Comments, Recommendations, Background, LAC#3, Lenka Holubec

Foreword

What can we do to keep Nature in the city

Intensifying cities present both the challenges and potential benefits. Increasing density and urbanization impact the natural environment and human health, while the potential benefits such as reduction of greenhouse emissions, urban sprawl and energy/waste management can be only realized if the right decisions are made. The experts say that how the big cities manage to deal with ecological sustainability will significantly influence how they will be able to face the climate change, remain economically successful and healthy to live in.

Like Toronto, other cities and regions are facing a similar situation and dilemmas when trying to bring together growth with sustainability:

"Currently in the greater Portland-Vancouver region we face the challenge of providing for growing human populations and needs while simultaneously addressing the needs of native fish, wildlife, and plants and protecting important ecosystem services such as water quality and plant pollination. ***Unfortunately, maintaining the status quo is not good enough. Many native species already are at risk, from habitat loss and degradation, the presence of contaminants from urban and agricultural sources, diseases both familiar and new, and hazards associated with human activity.*** *If the predicted influx of people to the region becomes a reality, many more native species are likely to decline across the region unless we become better at conserving and enhancing their habitat."*
Threats and Challenges *Chapter7, pg123*
http://www.theintertwine.org/sites/default/files/Biodiversity%20Guide%20for%20the%20Greater%20Portland-Vancouver%20Region_0.pdf
The Intertwine Alliance. 2012. ***Biodiversity Guide for the Greater Portland-Vancouver Region. A companion to the Regional Conservation Strategy***

Protecting the natural resources within the growing cities has become difficult under competing interests and policies as it follows from the book on ***Biodiversity Planning: Finally Getting It Right in the Portland-Vancouver Metro Region by Mike Houck, Portland. 2012***
https://www.thenatureofcities.com/2012/12/15/biodiversity-planning-finally-getting-it-right-in-the-portland-vancouver-metro-region/

"Until relatively recently our region's urban nature agenda has lagged behind in both local and regional land use planning. ***Competing policies have often made otherwise progressive land use planning objectives and natural resource protection a zero sum proposition. Urban planners have focused almost exclusively on creating compact urban form and containing sprawl to protect farm land outside the region's Urban Growth Boundary (UGB).*** *They have maintained that protecting "too much" urban greenspace inside the UGB would result in loss of the buildable lands inventory inside the region's UGB. Most politicians, especially in Portland and Metro, ran their campaigns on a promise to hold a tight UGB.*

Unfortunately, the UGB (Green Belt here) became a sacrosanct icon, an end to a means rather than merely a planning tool. As a result the Portland-Vancouver metropolitan region has failed to adequately protect natural resources within the region's Urban Growth Boundary and inside the region's twenty-five individual cities, including Portland (Houck and Labbe 2006, p. 40)..."

Even here in Toronto, competing policies and rapid development in this fastest growing city in North America, have often made land use planning objectives and natural resource protection a very difficult proposition.

Yet, we have gone a long way here in developing of our awareness, strategies and policies in respect to protecting the Natural Heritage in Toronto.

Since the early nineties, there are some impressive efforts such as:

Greater Toronto Area Branch, Discussion Paper No.1
A Natural Heritage Framework
A Strategy for the Protection and Management of Natural Heritage in the Greater Toronto Area, November 1991
Greater Toronto Area Branch, Ministry of Natural Resources

Executive Summary

"1.4 Why Protect Natural Heritage?
It is a central premise of this report that society should adopt a systematic approach to protecting and managing natural heritage features to maintain or restore many of the benefits they provide. Without protection of these benefits on a comprehensive basis, it will be virtually impossible to improve or even maintain the environmental health, quality of life or variety of experience available in the Greater Toronto Area."

or

City of Toronto Narural Heriatge Study - Final Report
A Project in Partnership between City of Toronto and Toronto and Region Conservation Authority, Toronto, December, 2001

Section1:

"The City of Toronto is developing a new Official Plan (OP) for the amalgamated city. As part of this process, the recently published report, ***Toronto at the Crossroads: Shaping Our Future****, identified five campaigns to improve the quality of life within the city. Specific to the environment is the Campaign to Green Toronto, an important component of which is to identify and to understand the natural heritage of Toronto.*

The importance of Toronto's natural heritage is recognized in the City Council's Environmental Plan: Clean, Green and Healthy, *which identifies the city's green spaces as our "green infrastructure." The city's natural heritage system is as important to the city's continuing health and vitality as its transportation, water and sewage systems. The Environmental Plan recommends the development of a natural heritage strategy to ensure the protection, restoration and linkages of this system."*

WHAT IS NATURAL HERITAGE?

Natural Heritag*e is the basic fabric of the landscape including: Land (landform, soils, geology); Water (surface and ground); and Life (plants and animals). 1t includes the physical, chemical and biological elements and interactions of our environment that constitute what is often termed "Nature."*

A Natural Heritage System *is a way of interpreting and visualizing the critical interactions and dependencies between and among the features and functions of our natural heritage.*

A Natural Heritage Strategy describes how human activity can be managed in order to protect, restore, or enhance the natural heritage system."

Section5
Toronto's Natural Heritage Mosaic

"Toronto's remaining habitat is extremely valuable from the standpoint of maintaining and increasing biodiversity in this region. ***The value of all remaining habitats should be recognized by planning policy,*** *as should the need to increase total cover and to regenerate the system.* ***Existing habitat values should be maintained and improved wherever possible."***

In 2005 the Provincial Policy Statement established grounds for the preservation of the natural heritage for a long term together with the Natural Heritage Reference Manual providing guidance for implementing the natural heritage policies of the Provincial Policy Statement.

The City Official Plan 2002 and its updates (2006, 2015) have endorsed and enhanced the natural heritage policies of PPS.

The most recent efforts, **the Toronto Ravine Strategy**
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX27.8 *City Council consideration on October 2, 2017,*

adopted*"****the internationally recognized concept of "Ecological Integrity"*** *to measure the state and health of ravines and using science available at the University of Toronto's Faculty of Forestry or similar centres of research to develop baseline information and address the capacity of the City and its partners to get the work done".*

Protect **is given a priority along the guiding principles of this Strategy.**

*„****PROTECT***
Ravines are fundamentally natural spaces. Ecological function and resilience is the foundation for long-term sustainability of our ravines and watersheds.
We are all guardians of these spaces and must treat them with care and respect. All actions related to ravines should be guided by the overarching goal of protecting these spaces by maintaining and improving their ecological health."

At this point, Toronto's Natural Heritage is under many pressures. We are now more than ever at the crossroads regarding our resolution to *"keep nature in the city".*

http://www.toronto.ca/legdocs/mmis/2017/ex/bgrd/backgroundfile-106847.pdf
Attachment 1 - Draft Toronto Ravine Strategy
„Yet, ravines face increasing pressures from recreational use, encroachments from adjacent private property, illegal activities such as dumping of waste, and off-leash dog activity. In many areas, we are loving our ravines to death. With the city's population approaching 3,000,000 and an estimated 200,000 or more dogs in Toronto, management efforts need to reflect the growing demands on the system. Because enforcement of by-laws in ravines remains a challenge due to resources, educating and engaging Torontonians in ravine protection is crucial."

All our past and recent efforts to protect and preserve Toronto's Natural Heritage for a long term can be greatly enhanced but also undermined by the planning decisions regarding the land use and when determinig development activities potentially impacting the city significant Natural Heritage such as along the BWV Avenue Study and High Park Apartment Neighbourhood Character Area Study.

http://www1.toronto.ca/planning/chapters1-5.pdf#page=57

The City of Toronto Official Plan, 2016
"We must be careful to assess the impacts of new development in areas near the natural heritage system.Protecting Toronto's natural environment and urban forest should not be compromised by growth, insensitivity to the needs of the environment, or neglect."

Discussion of the preliminary findings from the Hydrogeology and Natural Heritage Desktop Investigation and Recommendations

A. Hydrogeology

Bedrock Geology

The main focus of this Desktop investigation seems to be on bedrock geology. Considering the importance of the Lauretian River and any potential impacts from development activies on this bedrock valey, this is well deserved and needed.

Conducting of further deep in situ drilling to assess depth and spatial extend of Lauratian buried valey should be done, since "in general bedrock depths within the study are are not well defined due to limited data. Some development currently built will be higher than currently existing structures (51 Quebec Ave. 2 25 atorey towers) and proposed development in High Park, north of Bloor area calls for much higher than existing structures.

Surficial Geology

Less attention is paid to Surficial Geology and how recent developments, over the past 10 years or so, have potentially impacted High Park's wetlands, seeps, and aquatic habitat, namely the Grenadier Pond.

Natural Heritage Study by Dougan & Associates concludes that we are lacking the information on this:

"Wetlands, Seeps, and Aquatic Habitat

Vulnerable to: changes in hydrology, water balance, water quality due to changes in overland flow and/or groundwater inputs
Mapped as: ELC (wetlands) mapped
Mapping/data limitations: ***Limited spatial data on seeps, knowledge of shallow-surface groundwater interactions***
Implications: connections between infiltration interception areas and seeps not known (mapped or studied) at site-specific scale"

From Garner Lee Study (1995) follows that *"The water budget analysis undertaken for this study for the Department of Parks and Recreation estimated that* ***ground water, which is clean, cool and flows consistently throughout the year, contributes about 50% of the total water flow to the pond.*** *Historically we have calculated the contribution may have been closer to 65% of the total inflow to the pond."*

http://www.highparknature.org/wiki/uploads/Resources/GartnerLee1995-report-textonly_Part2.pdf
Proposals for the Rehabilitation of Grenadier Pond, Wendigo Creek and Associated Wetlands, Gartner Lee Limited, 1995 Part 1,Part 2, Part 3

From the Introduction, pages 2-3

"How Does Grenadier Pond Get Its Water Today?

The Grenadier Pond watershed is situated within an area of highly permeable sands associated with glacial Lake Iroquois. As a result of the generally high permeability of soils in the watershed, precipitation readily infiltrates and there remains a significant potential for ground water input to the pond despite about a 50% reduction in the surface drainage area over historical conditions.

Previous monitoring programs carried out by the Department of Public Works and the Environment in 1992 indicated that there was a significant inflow to Grenadier Pond from another source besides the storm flows from developed portion of the Grenadier Pond watershed.

The water budget analysis undertaken for this study for the Department of Parks and Recreation estimated that ground water, which is clean, cool and flows consistently throughout the year, contributes about 50% of the total water flow to the pond. *Historically we have calculated the contribution may have been closer to 65% of the total inflow to the pond. Field studies carried out by Gartner Lee in 1993/94 confirm that ground water is actively entering through the sides of the pond but the data suggested that fine sediments may be preventing the full volume from entering. Some further hydrogeological work is needed in this area of study to quantify ground water contributions.*

Much of the surface water in the Grenadier Pond watershed is captured and delivered to the pond via an extensive storm sewer system. *Two sewers discharge directly to the pond at the north end at Clendenan Avenue and at Valleymede Avenue. Several other storm sewers feed into West Pond (also known as Catfish Pond) which discharges to Grenadier at the south west corner only a short distance from the outlet, also in the same corner of the pond.*

These storm sewers deliver precipitation rapidly to the pond. This results in rapid increases in water level within the pond. Water level observations during this study over the fall of 1993 and summer of 1994 noted fluctuations in the order of approximately 30cm but the increases only lasted several days. Seasonal fluctuations were not observed as would have historically been the condition prior to outlet control."

See Also:
1. ***Grenadier Pond_Present and Historical Watershed Boundaries and Surficial Soil types_Gartner Lee_1995.pdf***
Appendix

2. Grenadier Pond_Ground Water and Surface Water Contributions_Table 2.1.Gartner Lee_1995.pdf
Appendix
Includes historical and existing conditions (1995)

Note differences in annual Grounwater and Runoff

Historical GW VolMcubic 939916.5 m3 29.8 L/S, Runoff 492163.5m3

Existing (1995) GW VolMcubic 492241.5m3 15.6 L/S Runoff 452818.5m3

3. Grenadier Pond_Present and Historical Watershed_ & recent development mark up _map Gartner Lee_1995.pdf
Appendix

4. Grenadier Pond_Present and Historical Watershed_ List of recent development.doc
Appendix

5. ***Grenadier Pond_ understanding of ground and surface water flows _graphs.pdf***

Appendix

6. ***History of High Park's Stormwater Ponds***
http://www.highparknature.org/wiki/wiki.php?n=Restore.StormwaterPonds

7. ***Environmental Assessment study conducted for Ellis Ave./Grenadier Pond stormwater project***
http://www.highparknature.org/wiki/uploads/Resources/WetWeatherEA-ExSummaryToC.pdf

8. ***The report Environmentally Significant Areas (ESA's) in the City of Toronto, June 2012, prepared for City Planning***

http://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Zoning%20&%20Environment/Files/pdf/ESA/esa_report_volume1_sept2012.pdf

This report identifies that Grenadier Pond is important for Wood Duck breeding habitat. *The Wood Duck may nest in trees near water, sometimes directly over water. The ESA report, prepared in 2012 for City Planning also identifies that* ***High Park is considered a Provincial ANSI because it supports relatively high reptile diversity that is considered provincially or regionally significant (the Midland turtle, snapping turtle and Blandings turtle species)****. The alteration or destruction of wetland habitat can have a severe negative impact on Ontario's remaining turtle populations and shoreline disturbance can destroy nesting areas and terrestrial habitat adjacent to water bodies.*

Ecosystem integrity is a key issue to maintaining integrity of ecosystems and the watershed integrity should be given at least equal emphasis.

Inadequate setback from watercourses, pesticide, herbicide and fertilizer use, inadequate buffers, removal of vegetation along the waters' edge, excessive density and excessive area of impervious surfaces for roads and parking lots, contamination from effluents, destruction of natural habitats can lead to degradation of aquatic ecosystems can contribute to degradation of ecosystems integrity and destruction of watershed.

.Some observation related to recent changes/events in respect to the Grenadier Pond:

Over the past years (2013 – 2017) water levels have gone down significantly during summer months with the exception of this past Spring when intense rainfall contributed to higher levels.

Lower water levels contributed to growth of macrophytes, both native and invasives which has both positive and negative effects.

https://www.lakehuron.ca/phragmites
"In a recent study of this invasive plant at Long Point on Lake Erie, Common Reed abundance increased with lower lake levels and was reduced with higher water levels.
Also, air temperature played an important role in Common Reed abundance. Higher air temperatures led to increases in abundance. Air temperatures over the last decade have been on an upward trend in southern Ontario."

Water has become increasingly stagnant in Wendigo Creek, Wendigo Pond, the channel adjacent to Grenadier Pond and the entire pond. All water vegetation has become robust, including algaes, gradually decreasing water surface in the north end and creating more stagnancy. The channel at this point has almost diasppeared.

Blanket weed (Filamentus Algae, not the common duckweed - Lemna minor, Grenadier Pond has both) that used to appear only at some areas in the past summers (with the exception of 2017) covered most of

the pond. *"Blanket weed can be a major problem because it can clog up the other plants in the pond especially oxygenating plants, and can reduce the level of oxygen in the water which can harm the pond life."*

2013, mid April – a spill of a toxic substance occurred around Ellis Park Rd. pumphouse area and was treated.

2013 – early August, a massive fish die off took place at the Grenadier Pond. It later was considered by MNRF that the cause was the oxygen depletion.

2015-16 Removal of the toxic sediments was done to Wendigo Pond in winter 2015 –16 and to the Upper & Lower Spring Creek Ponds in 2014/16/17 (Storm water facility at Wendigo Pond was implemented in 2007)

2016 – starting in mid summer a massive occurrence of blue green algae took place at the Grenadier Pond covering the entire water surface beginning from mid August until cool down in late October. It seemingly impacted the ecological function of the area, e.g. fall migratory birds stop over was diminished. Existing fauna was potentially impacted (Grenadier Pond is a breeding place for various wildlife including Snapping Turtles, Blanding Turtles and Wood Ducks).

https://freshwaterfuturecanada.ca/2017/10/the-slime-monster-is-back/
*"**Blue-green algae** is more than just a nasty sight. It can also produce toxins harmful to humans and animals. While algae is a normal and essential part of lake ecosystems, too much algae can pollute beaches, clog water intake pipes, kill fish, and put human health at risk. Additionally, exposure to blue-green algae may cause nausea, vomiting, diarrhea, or fever in humans and pets.*
Algae grows when there is excessive nitrogen and phosphorous in the lake, which accumulates when rain and snowmelt flush these nutrients into waterways."

Hydrogeology – My Recommendations and Measures

- Conduct Environmental Assesment or a Study to update information from Gartner Lee Report, 1995, and any changes in catchment area Grenadier Pond since 1995

- Include the 1995 Gartner Lee study of Grenadier Pond in the desktop review as a reference for Grenadier Pond Ground Water and Surface Water Contributions, Grenadier Pond Present and Historical Watershed Boundaries and Surficial Soil types

- Assess Ecosystems of Aquatic Habitats and Wetlands based on Ecological Integrity not just water quantity and quality.

Water quality data alone is not sufficient to make informed decisions about ecosystem integrity. Ecosystem integrity must be assessed through monitoring programs that include biological, chemical and contaminants, and physical measurements to provide a baseline assessment of current ecological conditions of the area

- **Based on this updated scientific information and monitoring restore/enhance Grenadier Pond's catchments area and this water resource's ecosystem integrity**

- Review Stormwater Management of the Wendigo Pond and north and south weirs operation to accommodate Grenadier Pond ecological function and integrity

- Implement the proper setbacks requirements for all potential incremental developments within the High Park and Grenadier Pond watershed.

- **Assure that Mandatory Downspout Disconnection By-Law** in Ward 13 and within the watershed of Grenadier Pond and High Park is implemented and enforced.

-Enhance/Implement and Enforce applicable policies preventing any further diversion of ground water from Grenadier Pond and protecting the watershed of Wetland and Aquatic Habitat (PPS 2014, City Official Plan, TRCA Living City Policies)

- **Incorporate protection of the Natural Heritage – High Park' and Humber Park's Ecological Integrity into all planning decisions:**

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

Natural Heritage Reference Manual, 2010
13.4 Determining an Appropriate Level of Assessment
13.5 Impact Assessment Process
13.5.5 Review of Assessment
13.5.6 Planning Authority Decision
"*...The planning authority's decision can be contingent on the revision of the development proposal and/or the attachment of conditions. For example, approval may be contingent on the implementation of specific mitigation and/or monitoring measures. Alternatively, approval may be granted only after extensive revisions of the proposal.*

In situations in which mitigation measures cannot prevent negative impacts on the natural features or on the ecological functions for which the area is identified, an application should be refused."

B. Natural Heritage

Desktop Investigation confirms that **Significant Natural Heritage Resources exist within AOI but also that rare habitats (prairie/savannah and species show a high level of disturbance.**

Repeatedly, this report points to the lacking or limited data on disturbances, natural surface trails, fauna (amphibians, reptiles and insects), limited spatial data on seeps, knowledge of shallow-surface groundwater interactions and gaps in field studies (e.g. migratory birds use of study area not mapped).

All Key Sensitivities (Wetlands, Seeps and Aquatic Habitat; Prairie Habitats& Species, Wildlife & Wildlife Habitat; Species at Risk, Urban Canopy; Steep slopes) are vulnerable to impacts such as changes in hydrology, changes in overland flow and groundwater inputs, erosion, trampling, further habitat fragmentation, invasive species, disturbance (people, dogs, noise, light) loss of habitat and habitat degradation, predation (cats), road mortality, strikes on buildings. Species at Risk are vulnerable to loss of habitat (loss of structures, predation, construction disturbance).
SAR presence requires/ occurrence requires detailed study for development applications.

Natural Heritage Desktop Investigation Conclusions:

"2. Direct footprint impacts from new development are predictable and mitigation tools exist

Individual developers under requirements and direction of City and TRCA required to follow policy in order to address direct impacts

Enhanced Best Management Practices specifically for Bloor West Village Avenue can build on existing requirements to lessen direct impacts"

"3. Most indirect and cumulative impacts are regional (local) in nature, and already occurring

Mitigation of these impacts would require City and TRCA to provide enhanced Resource Management, and Monitoring and Adaptive Management Strategies"

My comments to Natural Heritage Desktop Investigation will address this 3rd part:

Indirect and Cumulative Impacts – My Comments and additional information

The Indirect and Cumulative Impacts include all effects ensuing from the repetetive and excessive use and heavy recreational activities. These effects are manifested as ***Disturbance*** (hazards associated with human activity – stress, high impact recreational activities – dog walking, fishing).

Overuse, and Inappropriate Activities in designated areas are causing ***Erosion*** (ad hoc trails, dog walking, bicycling, off trail use) ***Trampling*** (overuse, off trail use, dog walking); ***Fragmentation of Habitat*** (dog walking, off trail use, overuse) ***Loss of Habitat*** (construction, overuse,) ***Predation*** (pets) and **Degradation** of the Natural Heritage.

"Most indirect and cumulative impacts are regional in nature, and already occurring"

Natural Heritage Desktop Investigation points out under:

"Key Sensitivities (Prairie Habitats & Species) under Implications:

-burn management
(smoke) affects
neighbourhoods
(may constrain management)

-increased population increases trampling / disturbance impacts"

Increasing density within proximity of the natural heritage resource proportionally increases all *indirect and cumulative impacts* on the natural heritage resource. The increased number of the residents, using the park on daily basis, as their local park contributes to these indirect and cumulative impacts considerably leading to Heavy recreational use – *Overuse*.

City of Toronto Natural Heritage Study - Final Report
A Project in Partnership between City of Toronto and Toronto and Region Conservation Authority, Toronto, December 2001

Section5

*"**Uncontrolled recreation** leads to trampling and erosion, and facilitates the introduction and spread of invasive plants. Wildflowers are picked to be transplanted in people's gardens; amphibians and reptiles are collected as pets; and house cats hunt for birds and small mammals. Dumping of refuse in natural areas remains a common practice, while pesticides, pollutants and dust can drift in and affect sensitive species, Even noise from backyards, traffic, industry or construction can disrupt the activities of species, especially birds and mammals. The impact of urbanization on wildlife and natural areas has been well documented."*

Management tools, pg53

*"**Use and management of natural areas are important determinants of condition. Heavy recreational use can lead to trampling, erosion, accumulation of trash, spread of exotic plants, disturbance of wildlife, plant collection etc**. Dumping, filling , and the construction of utilities, roads and trails can alter soils and hydrological patterns, introduce exotic plants, and disrupt sensitive vegetation communities and wildlife habitat.*

In short, policies and practices must reflect natural heritage conservation goals, while attempting to balance these with alternative uses. Passive activities may be permitted in sensitive areas, whereas active recreational pursuits would be directed to fewer sensitive parts of the natural heritage system".

More on this subject:

http://www.theintertwine.org/sites/default/files/Biodiversity%20Guide%20for%20the%20Greater%20Portland-Vancouver%20Region_0.pdf
The Intertwine Alliance. 2012. Biodiversity Guide for the Greater Portland-Vancouver Region. A companion to the Regional Conservation Strategy

*"**Human Activity** pg.140*

***Road noise and related traffic** can cause flight behavior in large mammals, increase stress response, and disrupt reproduction. Many native bird species particularly neotropical migrants are less attracted to areas with busy or many roads or avoid them altogether. A number of studies show that birds and frogs alter the pitch of their songs in the presence of road noise, possibly to be heard over the noise in order to attract mates or defend territories.*

***Artificial light from streetlamps**, homes, and businesses often finds its way into natural areas. Lights allow for extended foraging time for certain reptile and bird species and enhanced foraging for bats that follow insects attracted by the lights. Some nocturnal animals are disoriented by light or experience navigation issues or temporary blinding, which can lead to an increase in predation.*

***Migrating birds are known to be confused by tall buildings** lit up at night, sometimes striking a building and falling to their deaths. Lights can also form barriers to large predators who avoid well-lit areas. In some cases, artificial lighting causes birds or frogs to sing at night or earlier in the morning than they naturally would, and waste valuable energy.*

***Although trails allow people access to nature and give them a sense of connection, trails also have a subtle but direct impact on wildlife. Physically, trails create edge habitat, cause soil compaction and erosion, serve as corridors for invasive plant species, and fragment habitat at a small scale.** Trails can attract nest predators such as crows and jays. In addition, human use of trails in natural areas alters wildlife behavior; for example, nearly all birds will flee if approached too closely, although larger species and those that nest close to the ground may more tolerant of disturbances.*

Wildlife seem to be less affected by slower moving walkers than by joggers or bicyclists.

***Dogs on or near trails have negative impacts beyond those of people alone.** In one study, deer and small mammals stayed twice as far away from trails with dog activity than they did from trails with human use only; another researcher observed a 35 percent reductions of birds and small mammals near trails used by dogs compared to trails used just by people. Domestic cats may be abundant in urban natural areas and are prolific hunters who kill birds, snakes, lizards, and small mammals.*

Engage in public education, create and enforce appropriate park rules, and actively manage sites to reduce the numbers of domestic animals in wildlife areas."

Most of the Environmentally Significant Areas in Toronto were designated based on below report:

http://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Zoning%20&%20Environment/Files/pdf/ESA/esa_report_volume1_sept2012.pdf

ENVIRONMENTALLY SIGNIFICANT AREAS (ESAS)
IN THE CITY OF TORONTO, JUNE 2012, PREPARED FOR TORONTO CITY PLANNING
VOLUME 1: REPORT, APRIL 2012
Prepared by North-South Environmental, Inc. Dougan & Associates, Beacon Environmental Ltd.

6.0 ANALYSIS OF SITE CONDITION AND MANAGEMENT NEEDS

"Consideration to formalizing strategies for balancing access to and protection of natural sites qualifying as ESAs, with special consideration for restricting access to highlight sensitive portions of the sites. *Based on our informal observations, areas that were least disturbed were those that were least accessible, and management of these sites so as to maintain some areas as inaccessible may be most effective in maintaining their significant environmental qualities.*

Continued implementation and monitoring of the effectiveness of existing management plans, with updating of plans where needed, as well as development and implementation of management plans for sites qualifying as ESAs that do not have one.

Although it is beyond the scope of this study to provide detailed and comprehensive management strategies for all the sites qualifying as ESAs in the City, ***it is important to recognize that simply protecting these sites from development will not be enough to ensure their continued ability to sustain the significant habitats and ecological qualities for which they have been identified.***

Ongoing management will need to include a range of strategies (e.g., educational signs, stewardship to involve surrounding residents and users, ecologically-sensitive trail planning and design, selective exclosures to ensure that human impacts are kept out of sensitive areas, monitoring of encroachments, etc.) if these sites are to continue being of high ecological value into the future.

...Sites that meet the established ESA criteria should be protected from development, site disturbance, encroachment and inappropriate uses to ensure that the natural features and functions for which they have been identified continue to persist and flourish for the long term."

———

The number of people using the Natural Heritage resource on daily basis and a type of use (heavy recreational or passive, low impact use) determines degree of the indirect impacts.

The impacts of our recreational activities are yet to be fully recognized and accepted by us.

http://www.oregonmetro.gov/sites/default/files/impacts-of-dogs-on-wildlife-water-quality-science-review.pdf

The impacts of dogs on wildlife and water quality: A literature review
Compiled by Lori Hennings, Metro Parks and Nature, April 2016

"…Any human related activity can disturb wildlife. In order to meet Metro's dual goals of protecting natural resources and providing access to nature, Metro has tried to strategically locate trails in less sensitive habitat and to ensure that human activity is as non-disruptive as possible. ***Part of that strategy has been to allow public access, while limiting certain activities such as bringing dogs into natural areas. The evidence that dogs negatively impact wildlife is***

***overwhelming**. It is clear that people with dogs on leash or off are much more detrimental to wildlife than people without dogs. Dogs (Canis lupus familiaris) are considered to be a subspecies of wolves (Canis lupus), and wildlife perceive dogs as predators.*

Impacts include:

*1. **Physical and temporal displacement** – The presence of dogs causes wildlife to move away, temporarily or permanently reducing the amount of available habitat in which to feed, breed and rest. Animals become less active during the day to avoid dog interactions. Furthermore, the scent of dogs repels wildlife and the effects remain after the dogs are gone.*

*2. **Disturbance and stress response** – Animals are alarmed and cease their routine activities. This increases the amount of energy they use, while simultaneously reducing their opportunities to feed. Repeated stress causes long-term impacts on wildlife including reduced reproduction and growth, suppressed immune system and increased vulnerability to disease and parasites.*

*3. **Indirect and direct mortality** – Dogs transmit diseases (such as canine distemper and rabies) to and from wildlife. Loose dogs kill wildlife.*

*4. **Human disease and water quality impacts** - Dog waste pollutes water and transmits harmful parasites and diseases to people.*

***In summary, people and their dogs disturb wildlife, and people are not always aware of or willing to acknowledge the significance of their own impacts**. Wildlife perceive dogs as predators. Dogs subject wildlife to physical and temporal displacement from habitat, and dog scent repels wildlife with lingering impacts. Dogs disturb wildlife which can induce long-term stress, impact animals' immune system and reduce reproduction. Dogs spread disease to and outright kill wildlife. People with dogs are much more detrimental to wildlife than people alone; off-leash dogs are worse; and off-trail impacts are the highest"*

When heavy use keeps ever-increasing, cumulative indirect impacts become chronic causing rapid degradation of all natural features contributed to a given Significant Natural Heritage Resource.

http://www.toronto.ca/legdocs/mmis/2013/pe/bgrd/backgroundfile-57282.pdf

Parks Plan, 2013-2017

"Summary of Directions and Recommended Actions

Preserve and promote nature

4.Improve the management of natural areas

4.1 Implement a program to strengthen the management of sensitive natural areas to ensure that environmentally significant areas are protected and continue to function and flourish for the long term.

4.2 Determine thresholds of use and develop criteria and measures to protect parkland from excessive use.

4.3 Increase staff knowledge and skills to better manage environmentally sensitive lands.

5. Improve natural environment trails

5.1 Develop and implement a program to plan, design, manage and maintain natural environment trails on parkland and in ravines to ensure the protection, restoration and enhancement of natural areas.
pg 36
Protecting the natural heritage system from encroachment and inappropriate uses is important given the relatively small amount of natural area that remains in Toronto. *With the city's population expected to grow to 3 million residents by 2031 there will be growing pressure on natural areas as people seek out opportunities to experience nature. A challenge will be to ensure that natural parklands and the significant natural areas within them continue to function and flourish so that they can be enjoyed by future generations."*

Natural area management
…Insufficient infrastructure to direct activity away from sensitive sites
Impacts of climate change, such as extended seasons, extreme weather and spread of new invasive species

Limited public awareness of how to respect the natural environment and the value of natural areas

Encroachment by private landowners onto parkland, for example the extension of structures or fill onto parkland

Heavy use and sustainability

Rising population density and limited opportunities for parkland growth are resulting in more people using the City's parkland. This is, for the most part, a positive trend that can be supported by adjusting maintenance practices and the design and distribution of park features and amenities.

In some settings, however, overuse or misuse negatively affects the quality and sustainability of parkland. Natural areas are vulnerable to heavy use, as they have low 'wear tolerance' and natural ecosystems deteriorate relatively quickly under conditions of overuse.

Natural environments have a threshold (or "tipping point") for disruption beyond which severe and possibly irreversible damage is done to ecological health. Knowing where thresholds exist and when they are reached is important for understanding and managing the impacts of use. It allows for the development of early warning systems to identify at-risk locations so that timely action can protect them.

The use of parkland needs to be compatible with its physical capacities. *Parks, Forestry and Recreation currently has little data on how many people use city parks, how parks are used, and how high levels of use impact parks. This makes it challenging to prevent issues that might arise and as a result problems are dealt with case-by-case, often once damage has already been done.*

Case study: Impact and cost of overuse in Queens Park North
Queen's Park North is a tremendously popular event site. While past numerous events created a sense of vibrancy, they strained the physical environment, stressed the tree canopy, compacted the soil, and damaged turf, pathways and park amenities. Some of this damage was a result of event organizers not adhering to permit conditions, such as keeping vehicles out of the park. The City of Toronto issued a moratorium on permits in this park for 2012 so that restoration work, at a cost of over $600,000, could take place. ***It was concluded that permitting the park for events***

in the future needs to be based on ecological markers (e.g.tree roots exposed by soil compaction), the condition of park amenities, soil conditions, weather and overall use levels.

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Mitigation of the excessive use - Overuse of the Natural Heritage Resource (high impact recreational activities, inappropriate use, etc.) **requires extensive efforts** (such as implementation of Resource Management Planning, Best Management Practices, Monitoring and Adaptive Management, availability of Data and Field Studies, the Environmental Impacts Assessments) **when restoring/retaining of the area's Ecological Integrity to function and flourish to be enjoyed by future generations.**

Prevention -The Planning decisions on the land use play a pivotal role in determining where the growth should or should not go and the appropriate level of intensification when development proposals are to take place in adjacency or proximity of the Natural Heritage Resource.

Proactive Planning Decisions, based on the policies existing to protect and preserve the Natural Heritage for a long time together with implementing the Best Resource Management and Adaptive Strategies based on science, would be the best strategy to prevent degradation of these remaining Natural Resources and to contribute to sustainability of the growing city.

We all share the responsibility for preserving our Natural Heritage for future generations.

The City, specifically, has the equal obligation to follow the policies along the Places to Grow Act, 2006 - 2017 as to ensure preserving the Natural Heritage along Provincial Policy Statement, supporting guidelines from NHRM, The City Official Plan, and other relevant legislated acts and guidelines in respect to protecting our Natural Heritage in Toronto and GGH.

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https://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Urban%20Design/Mid-rise/midrise-FinalReport2.pdf

Avenues & Mid-Rise Buildings Study

Brook McIlroy Planning + Urban Design/Pace Architects
with E.R.A. Architects Quadrangle Architects LimitedUrban Marketing Collaborative
May 2010
Introduction

"Where the Recommendations of the Study Apply
The segments of the Avenues that are designated in the Official Plan as Mixed-Use Areas, Employment Areas, Institutional Areas and Regeneration Areas are the locations where Avenues are to be reurbanized and targeted for growth.

While other land use designations on the Avenues, including Neighbourhoods, Apartment Neighbourhoods, Parks and Open Space Areas, and Natural Areas are not intended for intensification, they should follow the public realm and streetscape improvement Performance Standards of this study. See Section 2.1 for further detail.

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https://www.placestogrow.ca/index.php?option=com_content&task=view&id=359#1.4

Growth Plan for the Greater Golden Horseshoe, 2006
Office Consolidation, June 2013
1.4 How to Read this Plan
"As provided for in the Places to Grow Act, 2005, this Plan prevails where there is a conflict between this Plan and the PPS. The only exception is where the conflict is between policies relating to the natural

environment or human health. In that case, the direction that provides more protection to the natural environment or human health prevails"

http://www.mah.gov.on.ca/Page14874.aspx

"Proposed Growth Plan for the Greater Golden Horseshoe 2016
This Plan also provides for the identification and protection of *natural heritage systems* in the *GGH* outside of the *Greenbelt Area* and *settlement areas*. **This Plan applies protections for *natural heritage systems* similar to those in the Greenbelt Plan in order to provide consistent and long-term protection for *natural heritage systems* in the *GGH*.**

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

NATURAL HERITAGE REFERENCE MANUAL, 2010 for Natural Heritage Policies of the Provincial Policy Statement, 2005

13.5.6 Planning Authority Decision

In making its decision about a proposed development, the planning authority would consider the results of the assessment review, along with other relevant PPS policy (see section 2.3).

The planning authority's decision can be contingent on the revision of the development proposal and/or the attachment of conditions. ***For example, approval may be contingent on the implementation of specific mitigation and/or monitoring measures. Alternatively, approval may be granted only after extensive revisions of the proposal.***

As part of the decision-making process, a planning authority may:

- *approve the development application;*
- *- require revision of the proposed development to avoid impacts that the planning authority deems unacceptable;*
- *- impose conditions of approval, where empowered under the Planning Act, to address certain already identified issues in more detail or to address new issues raised during the assessment process;*

or

- *- refuse the application*

In situations in which mitigation measures cannot prevent negative impacts on the natural features or on the ecological functions for which the area is identified, an application should be refused.

Natural Heritage - My Recommendations and Measures

I support the Natural Heritage Preliminary Recommendations and Conclusions.

In addition to these:

- Monitor, Analyze and Mitigate indirect and direct impacts already occurring in High Park and Humber Park, prior to any further development

- Determine and Adopt Thresholds of Use or Tipping Point - Parks Plan 2013-2017
"4.2 Determine thresholds of use and develop criteria and measures to protect parkland from excessive use".
"Natural environments have a threshold (or "tipping point") for disruption beyond which severe and possibly irreversible damage is done to ecological health. Knowing where thresholds exist and when they are reached is important for understanding and managing the impacts of use. It allows for the development of early warning systems to identify at-risk locations so that timely action can protect them."

- Develop SASP appropriate density to assure preservation of the Natural Heritage for a long time based on the findings of the Scientific Studies and Monitoring to support and enhance the Ecological Integrity of the Natural Heritage within BWV Avenue Study and the High Park Apartment Neighbourhood Character Area Study.

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Develop and implement within BWV Avenue Study guidelines for the Site and Area Specific Policy (SASP) for the Study Area and the High Park Apartment Neighbourhood Character Area Study taking fully to determined the appropriate density in relation to the relevant policies (PPS, 2014, NHRM, 2010, The City Official Plan, 2015) to assure preservation of the Natural Heritage for a long time and findings based on the Scientific Studies and Ecological Integrity of the Natural Heritage along follow up on Hydrogeology and Natural Heritage Preliminary Desktop Investigation

There should be no further development in the Study area and the High Park Apartment Neighbourhood Character Area Study, unless it is demonstrated that there will be no negative impacts (direct or indirect) on the Natural Heritage.

Both, direct and indirect impacts already occurring must be first monitored and analyzed to determine the extent and mitigation measures prior to further development.

See also:

Census 2016 - Toronto population change map 2011-16.pdf
Appendix

High Park Apartment Neighbourhood Character Area Study:
2016 Population: 8,841 + approx 1,200 people will be added as 51 Quebec is under construction
Area (km2): 0.24
Source: Statistics Canada, 2016 Census

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- Adopt priority of *Protect* and *Ecological Integrity* principles along the Toronto Ravine Strategy into the Guiding Principles of Terms of Reference for the Natural Heritage within BWV Avenue Study and the High Park Apartment Neighbourhood Character Area Study

- Adopt following policies and/or Adaptive Management measures based on monitoring of Key Sensitivities:

The City Municipal Code, 608-34. Dogs.
A. **While in a park, no person as owner or person having control of a dog shall**: [Amended 2007-07-19 by By-law No. 790-2007;2009-10-27 by By-law No. 1093-2009]

(2) Excluding blind persons reliant upon a guide dog, and a working dog providing a service to the City, **allow the dog to enter a prohibited area;**

Definition § 608-1:
PROHIBITED AREAS: [Added 2007-07-19 by By-law No. 790-200711]
A. Natural or environmentally sensitive areas (including designated ravines, wooded or savannah areas, sites of natural or scientific interest, areas which have undergone significant habitat restoration, wetlands or their buffer zones).
B. Playgrounds, splash pads or wading pools.
C. Horticultural display areas or ornamental gardens.
D. Skateboard bowls, tennis courts and other sports pads.
E. Sports fields and stadiums.
F. Artificial or natural ice rinks or toboggan hills.
G. Animal display areas.
H. Campgrounds. [Amended 2009-10-27 by By-law No. 1093-200912]
I. Areas posted to prohibit dogs from entering.

2. Any events taking place within the Natural Heritage be only permitted based on ecological markers - Parks Plan 2013-2017

- ***"It was concluded that permitting the park for events in the future needs to be based on ecological markers*** *(e.g.tree roots exposed by soil compaction), the condition of park amenities, soil conditions, weather and overall use levels."*

Consider reviewing of any event taking presently place in High Park or Humber Park that inflicts significant impacts on its Natural Heritage and the Ecological function, such as Cherry Blossom, large sport events, etc.

"Protecting the natural heritage system from encroachment and ***inappropriate uses*** *is important given the relatively small amount of natural area that remains in Toronto."*

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3. Monitor/ Mitigate/Redirect any impact recreational activity currently taking place in High Park/Humber Park, unless it is demonstrated that such activity is compatible with the area ecological function

"*The City Official Plan, The City's significant natural heritage, 13… Activities will be limited to those that are compatible with the preservation of the natural features and ecological functions attributed to the areas."*

These Comments cannot deal in sufficient depth with the specific issues and corresponding measures such as ad hoc trails (very significant issue causing wildlife disturbance, soil compaction and erosion in many park's areas); lacking proper signage for dog walking, public education and adequate enforcement; the inappropriate activities in designated areas issues, etc.

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In Closing

It is my conviction that we still have a chance to keep *Nature* in our growing city but to do that *maintaining the status quo is not good enough*. It is simply not an option.

Once we accept this and earnestly start to work towards solutions, some already existing options will become realistic and future possibilities will arise.

Background Information:

1. Planning, Natural Heritage, Protection, Biodiversity, Parks, Avenues, Impacts of Recreational Activities, Policies, Studies

- Biodiversity Guide for the Greater Portland-Vancouver Region. A companion to the Regional Conservation Strategy
Threats and Challenges *Chapter7*
http://www.theintertwine.org/sites/default/files/Biodiversity%20Guide%20for%20the%20Greater%20Portland-Vancouver%20Region_0.pdf

The Intertwine Alliance. 2012. ***Biodiversity Guide for the Greater Portland-Vancouver Region. A companion to the Regional Conservation Strategy***
Threats and Challenges *Chapter7*

"Unfortunately, maintaining the status quo is not good enough. Many native species already are at risk, from habitat loss and degradation, the presence of contaminants from urban and agricultural sources, diseases both familiar and new, and hazards associated with human activity."

- Biodiversity Planning: Finally Getting It Right in the Portland-Vancouver Metro Region by Mike Houck, Portland. 2012
https://www.thenatureofcities.com/2012/12/15/biodiversity-planning-finally-getting-it-right-in-the-portland-vancouver-metro-region/

"Competing policies have often made otherwise progressive land use planning objectives and natural resource protection a zero sum proposition. Urban planners have focused almost exclusively on creating compact urban form and containing sprawl to protect farm land outside the region's Urban Growth Boundary (UGB)."

- Planning and regulatory framework
http://oregonconservationstrategy.org/conservation-toolbox/existing-planning-and-regulatory-framework/

Responsibility for fish and wildlife conservation planning and regulatory programs is shared by many agencies, organizations, institutions, and individuals. In fact, there are so many entities involved that it is not feasible to describe all of their efforts here. This section addresses activities and responsibilities of state and local government entities and includes larger-scale public/private efforts to plan for and conserve fish, wildlife, and their habitats.
Oregon's Planning Efforts

Numerous planning efforts have identified priority species, habitats, and actions within Oregon. Plans have been completed at local, state, and regional levels by agencies, coalitions, and non-governmental organizations. These plans have differed in their purposes, goals, and scales of analysis. These processes, as well as more localized efforts, have built the knowledge base and relationships that set the stage for establishment of a state conservation strategy. The Strategy builds upon these existing efforts with the goal of providing an overarching framework for conservation in Oregon.

- the Toronto Ravine Strategy

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX27.8
City Council on October 2, 3 and 4, 2017, adopted the following:

1. City Council adopt the Draft Toronto Ravine Strategy in Attachment 1 to the report (September 12, 2017) from the General Manager, Parks, Forestry and Recreation, the Acting Chief Planner and Executive Director, City Planning, and the General Manager, Toronto Water.

2. City Council request the General Manager, Parks, Forestry and Recreation to consider incorporating the following in the final Toronto Ravine Strategy:

a. the internationally recognized concept of "Ecological Integrity" to measure the state and health of ravines
b. b. using science available at the University of Toronto's Faculty of Forestry or similar centres of research to develop baseline information and address the capacity of the City and its partners to get the work done; and
c. c. incorporate the Ontario Invasive Species Act into the Strategy.

http://www.toronto.ca/legdocs/mmis/2017/ex/bgrd/backgroundfile-106847.pdf
- Attachment 1 - Draft Toronto Ravine Strategy
„Yet, ravines face increasing pressures from recreational use, encroachments from adjacent private property, illegal activities such as dumping of waste, and off-leash dog activity. In many areas, we are loving our ravines to death. With the city's population approaching 3,000,000 and an estimated 200,000 or more dogs in Toronto, management efforts need to reflect the growing demands on the system. Because enforcement of by-laws in ravines remains a challenge due to resources, educating and engaging Torontonians in ravine protection is crucial."

http://www1.toronto.ca/planning/chapters1-5.pdf#page=57

- The City of Toronto Official Plan, 2016
"We must be careful to assess the impacts of new development in areas near the natural heritage system.Protecting Toronto's natural environment and urban forest should not be compromised by growth, insensitivity to the needs of the environment, or neglect."

Grenadier Pond

- Proposals for the Rehabilitation of Grenadier Pond, Wendigo Creek and Associated Wetlands, Gartner Lee Limited, 1995 Part 1,Part 2, Part 3

- History of High Park's Stormwater Ponds
http://www.highparknature.org/wiki/wiki.php?n=Restore.StormwaterPonds

- Environmental Assessment study conducted for Ellis Ave./Grenadier Pond stormwater project
http://www.highparknature.org/wiki/uploads/Resources/WetWeatherEA-ExSummaryToC.pdf

- The report Environmentally Significant Areas (ESA's) in the City of Toronto, June 2012, prepared for City Planning
https://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Zoning%20&%20Environment/Files/pdf/ESA/esa_report_volume1_sept2012.pdf
This report identifies that Grenadier Pond is important for Wood Duck breeding habitat. *The Wood Duck may nest in trees near water, sometimes directly over water. The ESA report, prepared in 2012 for*

City Planning also identifies that ***High Park is considered a Provincial ANSI because it supports relatively high reptile diversity that is considered provincially or regionally significant (the Midland turtle, snapping turtle and Blandings turtle species)****. The alteration or destruction of wetland habitat can have a severe negative impact on Ontario's remaining turtle populations and shoreline disturbance can destroy nesting areas and terrestrial habitat adjacent to water bodies.*

http://www.highparknature.org/wiki/wiki.php?n=Explore.GrenadierPond

- History of Grenadier Pond

Grenadier Pond is the largest of several ponds in High Park. Development in the surrounding drainage area has reduced its size from 19 ha in historical times to its present size of 14.2 ha.

Grenadier Pond is one of the areas within High Park that has been designated as an Area of Natural and Scientific Interest (ANSI) by the Ontario Ministry of Natural Resources based on a report by Steve Varga in 1989. According to this report "The wetland communities at Grenadier Pond are noteworthy at the local level for harbouring one of only two remaining lakefront marshes in the City of Toronto, the other being the Humber River Marshes...The remaining wetlands at Grenadier Pond should be protected as a locally significant lakefront marsh which still supports regionally rare wetland species."

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

- Natural Heritage Reference Manual, 2010

13.4 Determining an Appropriate Level of Assessment
13.5 Impact Assessment Process
13.5.5 Review of Assessment
13.5.6 Planning Authority Decision

"...The planning authority's decision can be contingent on the revision of the development proposal and/or the attachment of conditions. For example, approval may be contingent on the implementation of specific mitigation and/or monitoring measures. Alternatively, approval may be granted only after extensive revisions of the proposal.

In situations in which mitigation measures cannot prevent negative impacts on the natural features or on the ecological functions for which the area is identified, an application should be refused."

http://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Zoning%20&%20Environment/Files/pdf/ESA/esa_report_volume1_sept2012.pdf

ENVIRONMENTALLY SIGNIFICANT AREAS (ESAS)
IN THE CITY OF TORONTO, JUNE 2012, PREPARED FOR TORONTO CITY PLANNING
VOLUME 1: REPORT, APRIL 2012
Prepared by North-South Environmental, Inc. Dougan & Associates, Beacon Environmental Ltd.

"Consideration to formalizing strategies for balancing access to and protection of natural sites qualifying as ESAs, with special consideration for restricting access to highlight sensitive portions of the sites."

It is important to recognize that simply protecting these sites from development will not be enough to ensure their continued ability to sustain the significant habitats and ecological qualities for which they have been identified.

http://www.oregonmetro.gov/sites/default/files/impacts-of-dogs-on-wildlife-water-quality-science-review.pdf

The impacts of dogs on wildlife and water quality: A literature review Compiled by Lori Hennings, Metro Parks and Nature, April 2016

"…Any human related activity can disturb wildlife. In order to meet Metro's dual goals of protecting natural resources and providing access to nature, Metro has tried to strategically locate trails in less sensitive habitat and to ensure that human activity is as non-disruptive as possible.

In summary, people and their dogs disturb wildlife, and people are not always aware of or willing to acknowledge the significance of their own impacts*. Wildlife perceive dogs as predators. Dogs subject wildlife to physical and temporal displacement from habitat, and dog scent repels wildlife with lingering impacts. Dogs disturb wildlife which can induce long-term stress, impact animals' immune system and reduce reproduction. Dogs spread disease to and outright kill wildlife. People with dogs are much more detrimental to wildlife than people alone; off-leash dogs are worse; and off-trail impacts are the highest"*

http://www.toronto.ca/legdocs/mmis/2013/pe/bgrd/backgroundfile-57282.pdf

Parks Plan, 2013-2017
4.1 Implement a program to strengthen the management of sensitive natural areas to ensure that environmentally significant areas are protected and continue to function and flourish for the long term.

4.2 Determine thresholds of use and develop criteria and measures to protect parkland from excessive use.
Protecting the natural heritage system from encroachment and inappropriate uses is important given the relatively small amount of natural area that remains in Toronto.

In some settings, ***however, overuse or misuse negatively affects the quality and sustainability of parkland.*** *Natural areas are vulnerable to heavy use, as they have low 'wear tolerance' and natural ecosystems deteriorate relatively quickly under conditions of overuse.*

Natural environments have a threshold (or "tipping point") for disruption beyond which severe and possibly irreversible damage is done to ecological health. *Knowing where thresholds exist and when they are reached is important for understanding and managing the impacts of use. It allows for the development of early warning systems to identify at-risk locations so that timely action can protect them.*

It was concluded that permitting the park for events in the future needs to be based on ecological markers (e.g.tree roots exposed by soil compaction), the condition of park amenities, soil conditions, weather and overall use levels.

https://www1.toronto.ca/City%20Of%20Toronto/City%20Planning/Urban%20Design/Mid-rise/midrise-FinalReport2.pdf
Avenues & Mid-Rise Buildings Study
Brook McIlroy Planning + Urban Design/Pace Architects
with E.R.A. Architects Quadrangle Architects LimitedUrban Marketing Collaborative
May 2010
While other land use designations on the Avenues, including Neighbourhoods, Apartment Neighbourhoods, Parks and Open Space Areas, and Natural Areas are not intended for

intensification, they should follow the public realm and streetscape improvement Performance Standards of this study. See Section 2.1 for further detail.

https://www.placestogrow.ca/index.php?option=com_content&task=view&id=359#1.4

-Growth Plan for the Greater Golden Horseshoe, 2006
Office Consolidation, June 2013

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http://www.mah.gov.on.ca/Page14874.aspx

-Proposed Growth Plan for the Greater Golden Horseshoe 2016

This Plan also provides for the identification and protection of natural heritage systems in the GGH outside of the Greenbelt Area and settlement areas. This Plan applies protections for natural heritage systems similar to those in the Greenbelt Plan in order to provide consistent and long-term protection for natural heritage systems in the GGH.

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

-NATURAL HERITAGE REFERENCE MANUAL, 2010 for Natural Heritage Policies of the Provincial Policy Statement, 2005

13.5.6 Planning Authority Decision

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- *- require revision of the proposed development to avoid impacts that the planning authority deems unacceptable;*
- *- impose conditions of approval, where empowered under the Planning Act, to address certain already identified issues in more detail or to address new issues raised during the assessment process;*

or

- *- refuse the application*

In situations in which mitigation measures cannot prevent negative impacts on the natural features or on the ecological functions for which the area is identified, an application should be refused.

2. Views on and Research on Density and Urbanism:

http://www.nationalobserver.com/2017/04/21/news/chief-city-planner-jennifer-keesmaat-how-fix-toronto

"It's easy to make mistakes when you're building North America's fourth-largest city"

Former Chief City Planner Jennifer Keesmaat on how to fix Toronto By Riley Sparks in News, Politics from April 21st 2017
Excerpts:

National Observer spoke with Keesmaat recently about the myth of the short commute and the challenge of balancing growth, affordability and character in one of Canada's fastest-growing cities, bringing nature back into the city and more. Here's a transcript of that conversation, edited for clarity and brevity:

NO: Toronto has hit growth targets much earlier than expected. What can the city do to integrate more people, without building a condo on every corner?

"One of the challenges that we have is that we are experiencing something of a vortex sucking all kinds of growth right into the heart of the city. ***One of the really important roles for municipal government to play is to ensure that we have clarity as to where growth will go, as well as where growth won't go.***

Seventeen per cent of our city is ravines; we've just brought forward additional environmentally sensitive areas. We don't want growth in those areas. *There are also some areas that have heritage designations, and we want to be very careful in terms of how we manage growth in those areas.*

"I do get the sense, though, that when you look at the south end of Toronto, for example, there is the appetite to build those kind of condos basically forever. *How can you rein in the market without driving developers away? Is it just that Toronto is a desirable enough place to live that the market will respond, even with those restrictions in place?"*

"The new model is really about saying let's work with nature let's actually recognize that we want to bring nature into the city. We want wildlife in the city, we want trees in the city. This is a critical part of creating a livable urban environment, as opposed to the city noir, the concrete jungle. We've recognized that's actually pretty hard on human health."

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https://www.utoronto.ca/news/increases-rats-bedbugs-and-mosquitoes-are-unintended-consequencevurbanization-u-t-expert

-Increases in rats, bedbugs and mosquitoes are unintended consequence of urbanization_U of T expert

Elaine Smith, **November 2, 2017**

"As we build cities, we have little understanding of how they are influencing organisms that live there, says Marc Johnson, an associate professor of biology at U of T Mississauga who is also a director of the University of Toronto's Centre for Urban Environments.

"It's good news that some organisms are able to adapt, such as native species that have important ecological functions in the environment. But it can also be bad news that the ability of some of these organisms to adapt to our cities might increase the transmission of disease. Bedbugs, for example, were scarce two decades ago, but they've adapted to the insecticides used to keep them at bay and have exploded in abundance worldwide."

In the first study to take a broad look at the way urbanization is affecting evolution, Johnson (left) and Jason Munshi-South, an associate professor of biological sciences at Fordham University, reviewed all existing research studies about urbanization and evolution and synthesized the results.

"Traditionally, we've thought about evolution as a long-term process driven by environmental pressures and the interactions between species. But now there is a new driver that is rapidly changing many other

species, which is how they interact with humans and our built environment," says Munshi-South. "Humans and our cities are one of the most dominant forces of contemporary evolution now."

The study was funded by grants from the National Science Foundation and the Natural Sciences and Engineering Research Council of Canada.

http://www.newurbanism.org/

-Sustainable Urbanism and Beyond: Rethinking Cities for the Future
April 3, 2012
Edited by Tigran Haas

The city in the twenty-first century faces major challenges, including social and economic stratification, wasteful consumption of resources, transportation congestion, and environmental degradation. More than half of the world's population lives in cities and major metropolitan areas, and in the next two decades the number of city dwellers is estimated to reach five billion. This puts enormous pressures on transportation systems, housing stock, and infrastructure such as energy, waste, and water, which directly influences the emissions of greenhouse gases.

As the long emergency awaits us, urgent questions remain: How will our cities survive? How can we combat and reconcile urban growth with sustainable use of resources for future generations to thrive? Where and how urbanism comes into the picture and what "sustainable" urban forms can do in light of these events are some of the issues Sustainable Urbanism and Beyond explores. With more than sixty essays, including contributions by Andrés Duany, Saskia Sassen, Peter Newman, Douglas Farr, Henry Cisneros, Peter Hall, Sharon Zukin, Peter Eisenman, and others, this book is a unique perspective on architecture, urban planning, environmental and urban design, exploring ways for raising quality of life and the standard of living in a new modern era by creating better and more viable places to live.

NEW URBANISM *is the most important planning movement this century, and is about creating a better future for us all. It is an international movement to reform the design of the built environment, and is about raising our quality of life and standard of living by creating better places to live. New Urbanism is the revival of our lost art of place-making, and is essentially a re-ordering of the built environment into the form of complete cities, towns, villages, and neighborhoods - the way communities have been built for centuries around the world. New Urbanism involves fixing and infilling cities, as well as the creation of compact new towns and villages.*

"The sum of human happiness increases because of New Urbanism" -Andres Duany

http://www.newgeography.com/content/003945-health-happiness-and-density
-Health, Happiness, and Density
by Tony Recsei 09/19/**2013**
Excerpt:

"A monumental Swedish study of over four million Swedes examined whether a high level of urbanisation (which correlates with density) is associated with an increased risk of developing psychosis and depression. Adjustments were made to cater for individual demographic and socio-economic characteristics. It was found that the rates for psychosis (such as the major brain disorder schizophrenia) were 70% greater for the denser areas. There was also a 16% greater risk of developing depression. The paper discusses various reasons for this finding but the conclusion states: "A high level of urbanisation is associated with increased risk of psychosis and depression".

Another analysis, in the prestigious journal Nature, discusses urban neural social stress. It states that the incidence of schizophrenia is twice as high in cities. Brain area activity differences associated with urbanisation have been found. There is evidence of a dose-response relationship that probably reflects causation.

There are adverse mental (and other) health consequences resulting from an absence of green space. After allowing for demographic and socio-economic characteristics, a study of three hundred and fifty thousand people in Holland found that the prevalence of depression and anxiety was significantly greater for those living in areas with only 10% green space in their surroundings compared to those with 90% green space."

https://yorkspace.library.yorku.ca/xmlui/bitstream/handle/10315/30269/MESMP02347.pdf?sequence1
-Can Urban Intensification Contribute to Sustainable Cities?
An International Perspective
By Dr Katie Williams, **2007**
(Oxford Centre for Sustainable Development Oxford Brookes University)
Excerpt:

In Europe, where very mature planning systems exist, research evidence still suggests that town planners have less control than they would like over the extent of urban intensification. Planning simply responds to development pressures, which are a result of market forces, and this leads to uneven and increasingly decentralised development patterns (Williams 1998, 1999). This said, since compaction policies have been in place, especially in the UK, there has been a marked concentration of development within existing urban areas, and brownfield land redevelopment rates are running at relatively high levels (ODPM, 2003). In developed countries, only a very small proportion of development is illegal or informal. Hence, although not a perfect system for implementing urban intensification, development is certainly largely controlled and directed to the desired locations.

In short, if compact cities are to deliver sustainable outcomes, they have to be well managed: it is blatantly clear that simply increasing densities and mixing uses will not lead to sustainable outcomes. High quality infrastructure needs to be provided, public transport needs to be well managed, affordable and reliable, noise and air pollution have to be maintained at acceptable standards, basic services such as water, drainage and electricity need to be provided, and levels of public facilities such as health care and education have to be appropriate for the high numbers of city dwellers. Furthermore, urban environments have to be kept clean, safe and 'liveable'. Even in developed countries that have good basic infrastructure, these standards are hard to achieve…

http://www.neptis.org/publications/implementing-residential-intensification-targets/chapters/intensification-what-it-and

About Neptis

The Neptis Foundation is an independent, privately capitalized charitable foundation located in Toronto, Ontario, Canada.

Neptis conducts and disseminates nonpartisan research, analysis and mapping related to the design and function of Canadian urban regions. We aim to inform and to improve policy- and decision-making around regional urban growth and management.

Intensification *The redevelopment of a property, site or area at a higher density than currently exists, including the reuse of brownfield sites; the development of vacant and/or under-utilized lots within previously developed areas; infill development, or the expansion or conversion of existing buildings.*

Intensification is promoted as a way to achieve several benefits. First, if population growth can be accommodated at higher densities, or within existing urban areas, or both, less greenfield land will be required for new housing.7 Second, research shows that when density increases beyond a certain level, automobile use declines in favour of transit, walking, and cycling.8 Third, where surplus infrastructure capacity exists in urbanized areas, adding more people to these areas makes more efficient use of public urban infrastructure such as water and sewer pipes, as well as soft infrastructure such as public schools and social services.9 In short, development in already urbanized areas plays to the city's strengths rather than spreading its resources over an ever-wider territory.

http://www.prres.net/papers/Saynajoki_Urban_Density_And_Local_Sustainability.pdf

189TH ANNUAL PACIFIC-RIM REAL ESTATE SOCIETY CONFERENCE
MELBOURNE AUSTRALIA, 13-16 ***JANUARY 2013***

-URBAN DENSITY AND LOCAL SUSTAINABILITY – A CASE STUDY IN **FINLAND**

EEVA SÄYNÄJOKI1, JUKKA HEINONEN and SEPPO JUNNILA
Aalto University
Excerpt:

ABSTRACT
According to the United Nations, cities are responsible for 75% of all energy consumption and for 80% of all greenhouse gas emissions globally. Urban planning and land use policies therefore play a major role in the mitigation of climate change. High urban density is often promoted as a sustainable land use policy. However, the environmental and social sustainability of dense urban structures can be challenged. ***Even though higher urban density may correlate with the increased carbon-efficiency of transportation and housing services, recent research has demonstrated that, in several cases, urban density is not a valid indicator for overall carbon-efficiency, let alone sustainability.***

http://urban.yale.edu/research/theme-4

- Urban Planet: How Growing Cities Will Wreck the Environment Unless We Build Them Right *SETO Lab Urbanization and Global Change Environmental Impacts of Urban Growth*

Excerpt:

Research Summary

We explore and quantify the manifold impacts of urbanization on ecosystems and the services they provide.

In determining the effects of urbanization on the environment we draw data from weather stations, field interviews, satellite images, and governmental records. We develop new algorithms for processing this data, apply spatial statistical analysis to discover trends, and use coupled human environment system models to predict future impacts.

Recent Findings

The conversion of Earth's land surface to urban uses is one of the most irreversible human impacts on the global biosphere. It hastens the loss of highly productive farmland, affects energy demand, alters the climate, modifies hydrologic and biogeochemical cycles, fragments habitats, and reduces biodiversity (Seto et al., 2011) *We see these effects on multiple levels. Future urbanization will, for example, pose direct threats to high-value ecosystems: the highest rates of land nestersconversion over the next few decades will likely take place in biodiversity hotspots that were relatively undisturbed by urban development in 2000 (Seto et al., 2012). Within cities, the nature of urban growth is also an important determinant of urban dwellers' vulnerability to environmental stress (Güneralp and Seto, 2008).*

The environmental impacts of urban expansion reach far beyond urban areas themselves. In rapidly urbanizing areas, agriculture intensifies on remaining undeveloped land and is likely to expand to new areas, putting pressure on land resources (Jiang et al., 2013). Furthermore, urban areas change precipitation patterns at scales of hundreds of square kilometers (Kaufman et al., 2007) . Urban expansion will affect global climate as well. Direct loss in vegetation biomass from areas with high probability of urban expansion is predicted to contribute about 5% of total emissions from tropical deforestation and land-use change (Seto et al., 2012). The scope and scale of these impacts is yet to be fully researched.

Although many studies have described how urbanization affects CO2 emissions and heat budgets, effects on the circulation of water, aerosols, and nitrogen in the climate system are only beginning to be understood (Seto & Shepherd, 2009).

3. Major Research Papers submitted In partial fulfillment of the requirements for the degree of Master in Planning in Urban Development; Environmental Studies; Public Administration and a study from Department of Wildlife Ecology & Conservation

http://digital.library.ryerson.ca/islandora/object/RULA%3A2804/datastream/OBJ/download/Greyfield_redevelopment_in_the_Greater_Toronto_area___strategies_to_overcome_barriers.pdf

- GREYFIELD REDEVELOPMENT IN THE GREATER TORONTO AREA: STRATEGIES TO OVERCOME BARRIERS

By James Greenfield,BA(hons),

Wilfrid Laurier University 2011
A Major Research Paper Presented to **Ryerson University** In partial fulfillment of the requirements for the degree of Master of Planning In Urban Development Toronto, Ontario, Canada, 2013
Excerpt:

ABSTRACT
In 2006, the introduction of the Places to Grow Act required municipalities to meet a 40% intensification target through infill development. This has transformed the development industry as many underutilized sites, such as Greyfields, are prime locations for mixed-use and densification. Although many developers have not harnessed the potential of Greyfield redevelopment as barriers exist, which has led to continued Greenfield development and urban sprawl. This paper, through a literature review, case study analysis, and key informant interviews, examines existing barriers to Greyfield redevelopment. 1.0
Introduction

8.2.5
Redevelopment Barriers

A redevelopment barrier that has clearly evolved during this redevelopment is the length of the planning process, which can have a large effect on the financial wellbeing of the developer. There are countless studies that need to be conducted, some mandatory by the City and others are produced to provide the neighbourhood with piece of mind.

There are also architectural drawings, arborist reports, and mechanical drawings that are produced for each proposal by a large team of experts, which is an added cost to the developer.
Large developers are more able to absorb these costs, such as First Capital, compared to smaller firms because they are leaders in the real estate sector.
Village Residents Association has strong support from the local community that has consistently challenged the redevelopment of Humbertown. A wellestablished neighbourhood such as Humber Valley can have a dramatic effect on the approval process of the redevelopment; this should not be perceived as a Greyfield barrier because all developments need to have a thorough public consultation to include all members of the surrounding neighbourhood. A potential barrier that may arise through this process at Humbertown is the significant decrease in Gross Floor Area, residential units or commercial space. These reductions may have an adverse effect on the overall profitability of the redevelopment and lead to feasibility constraints.

https://yorkspace.library.yorku.ca/xmlui/bitstream/handle/10315/30269/MESMP02347.pdf?sequence=1

-Density Bonusing and Development in Toronto
By Peter Pantalone

A Major Paper submitted to the Faculty of Environmental Studies *in partial fulfillment of the requirements for the degree of Master in Environmental Studies,* ***York University*** *Ontario, Canada*
July 28, 2014

ABSTRACT
Height and density bonusing is a planning tool that municipalities in Ontario have authority to use by virtue of Section 37 of the provincial Planning Act, which allows a municipality to grant a developer

bonus height or density beyond that allowed by prevailing zoning restrictions in exchange for the provision of community benefits.

In Toronto, a major building boom has brought more than a decade of high-rise construction, mostly for new condominium towers and to a lesser extent new office buildings. Rising land values, a buoyant real estate market, and population and employment growth have created an ever-increasing incentive for developers to seek approval to build buildings taller and denser than envisioned by City Planners, local politicians, and the public at large. In order to obtain some degree of public benefit from this private development boom, the City of Toronto has extensively applied Section 37 to secure community benefits such as parkspace improvements, public art, and funds for new daycare facilities and affordable housing. ***To date, the City of Toronto has secured over $350 million through Section 37 agreements, as well as hundreds of in-kind benefits that likely double the total value of the City's Section 37 revenues to approximately $700 million.***

*Although density bonusing policies have been in place in Ontario since 1990, this planning tool continues to be fraught with criticism that such bonusing opens the door to "**let's make a deal planning**" between developers and municipal actors, and permits community opposition to be silenced through legalized bribery.*

Furthermore, the nebulous logic of the Ontario Municipal Board, which makes planning decisions that trump the authority of municipal councils, has given rise to an increasingly prevalent trend of negotiated settlement; under such an arrangement a developer obtains expedited approvals in exchange for agreeing to the local Councillor's Section 37 demands, and revising their initial proposal to mitigate the most vociferous objections of City Planning staff and community actors.

My major research paper contributes a new perspective to the limited existing literature on Section 37 agreements in Toronto, by undertaking distinct analyses four distinct actors: developers, local ward Councillors, City Planning staff and community actors. The broad objectives of my paper are as follows: first, I provide a detailed overview of the provincial and local policies that govern height and density bonusing; second, I examine several prominent development projects to analyze the effectiveness of past Section 37 agreements; third, I undertake separate analyses of each actor in Toronto's urban development process; fourth, I conduct case studies of bonusing practices in three Toronto wards, and; lastly, I discuss my findings, highlight patterns and trends, critique particular elements of Toronto's bonusing regime, and offer some recommendations regarding how it might be modified to function more effectively, consistently and equitably.

https://digital.library.txstate.edu/bitstream/handle/10877/5124/SerrinsDavid.pdf?sequence=1

-Has New Urbanism Taken Over City Planning?
A Description of the Use of the Principles of New Urbanism in Comprehensive Plans
By
David Serrins

Applied Research Project

Submitted to ***the Department of Political Science Texas State University-San Marcos***
In Partial Fulfillment for the Requirements for the Degree of Masters of Public Administration
Spring 2014

Originally conceived as a reform movement in response to suburban sprawl and development focused on automobileLcentric design, New Urbanism appears to have traversed the gap from design aesthetic to policy initiative by infiltrating plans everywhere. By 2005, New Urbanism made its way into local land development policy (Talen 2005, 217). Many city planners and local governments were enacting

regulatory changes to combat the social and economic segregation and monocultural settlement pattern of most American cities caused by Euclidian zoning methods (Talen 2005, 214). Many communities had already changed zoning ordinances from singleLuse to mixedLuse, and began considering zones that included workLplay, liveLwork, or playLlive (Talen 2005,

Increase Density
Creation of compact urban form by increasing density is an essential principle of New Urbanism. The Charter of the New Urbanism calls for compact neighborhoods, concentrations, and appropriate building densities to assert the principle of increased density (Congress for the New Urbanism 2001). The goals of higher densities in New Urbanism include mixing owners and renters to achieve social inclusiveness, providing the critical mass needed to support commercial enterprises, providing the critical mass needed to support transit and reduce auto dependence, and reducing the land consupmtion made by housing (Brown and Cropper 2001, 403).

Although high density is often unjustifiably confused with overcrowding (Jacobs 1961, 205; Waugh 2004, 14), Langdon (1994, 236)explains that the densely developed, concentrated, and walkable neighborhoods promoted by New Urbanism will reap advantages unavailable to sparsely populated tracts because they can incorporate public transit so that residents of all ages and income levels can get around more easily and reduce dependence on automobiles. Specifically, Calthorpe (1993,
83) suggests that seven units per net acre is a minimum density for New Urban developments, compared to four dwelling units or less per acre for conventional suburbs. In order to achieve such densities, communities must have a mix of multifamily and single family housing types (O'Neill 2002, 117).

Thus, New Urbanism suggests that communities increase density as a strategy to achieve the goal of compact urban form. While statistics for density targets or thresholds describe precise levels of density suggested by various theorists, this research does not operationalize densities into statistical levels as part of its model. Instead, this research asks whether increased density, a principle of New Urbanism, is proscribed as a goal or policy in each comprehensive plan being analyzed.

http://buildgreen.ufl.edu/attachment/ebmanuscript_karayoungentobthesis_.pdf

IS A NEW URBAN DEVELOPMENT MODEL BUILDING GREENER COMMUNITIES?

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ABSTRACT

Neo-traditional neighborhoods are hypothesized to promote a strong sense of community and environmentalism among residents, but this claim has not been well researched.

The results suggest that Neo-traditional design could play a role in influencing a homeowner's sense of community, but it may not go far enough in terms of promoting environmental attitudes, knowledge, and behaviors.

Some of the design elements common in Neo-traditional designs, such as New Urbanism, include a circulation system that is focused on the pedestrian,(i.e., wide sidewalks and front access to stores and houses), the preservation of green spaces as a primary feature of the development, houses that are built closer to the street, front porches, rear driveways, and a complementary hierarchy of civic and private domains that group together commercial, cultural, and residential centers (Calthorpe & Fulton 2001). Supporters of this design strategy claim that not only does it increase a sense of community, but it also promotes a pro-environmental ethic through its complementary integration of the natural and built environments (Katz 1994, Crow 1990).

RESULTS
Sense of Community and Environmental Knowledge, Attitude, and Behavior
Responses to all four of the scales showed significant differences among communities

The Traditional residents were more likely to score pro-environment on the NEP scale than both the post-war Gainesville and the Neo-traditional homeowners.

The Neo-traditional residents were more likely to have more sense of community than either the Traditional or postwar residents. Post-war Gainesville residents on average could identify more plants and birds than Neo-traditional residents. On the environmental action scale, both post-war Gainesville and Traditional residents reported more environmentally friendly behaviors than Neo-traditional homeowners.

4. Two Opinions:

https://www.forbes.com/sites/joelkotkin/2013/.../megacities-and-the-density-delusion/
-Megacities And The Density Delusion: Why More People Doesn't Equal More Weal

Forbes, April, 2013

Joel Kotkin, Contributor, I cover demographic, social and economic trends around the world.
Opinions expressed by Forbes Contributors are their own.

Excerpt:

Perhaps no idea is more widely accepted among urban core theorists than the notion that higher population densities lead to more productivity and sustainable economic growth. Yet upon examination, there are less than compelling moorings for the beliefs of what Pittsburgh blogger Jim Russell calls "the density cult," whose adherents include many planners and urban land speculators.

…This imperfect, if not inverse, relationship between density and wealth is widely ignored by most urban core boosters, many of whom argue that packing people together is the true key to economic growth. But more often than not, notes Russell, the objective is aggrandizing the "creative class" -- those who tend to

settle in dense urban cores and also work in industries that do best there, but with little positive for everyone else.

Many retro-urban theorists maintain that high density is the key to urban prosperity. These theorists often point for justification to Santa Fe Institute research that, they claim, links productivity with density. Yet in reality it does nothing of the kind. Instead the study emphasizes that population size, not compactness, is the decisive factor.

…This is not to say that the higher-density enclaves of urban areas do not have an important place. In terms of culture, finance, media and certain other transaction-based industries, a number of dense urban cores remain unassailable in their efficiency and appeal. But in the United States, and much of the rest of the high-income world, this is accomplished by bringing residents from the periphery to the core -- by car, train, bus and increasingly through telecommunications, even as most jobs are located elsewhere in the urban area

http://www.cp-dr.com/articles/node-3364

-Beware the 'Density Cult'
Josh Stephens on Apr 30, 2013

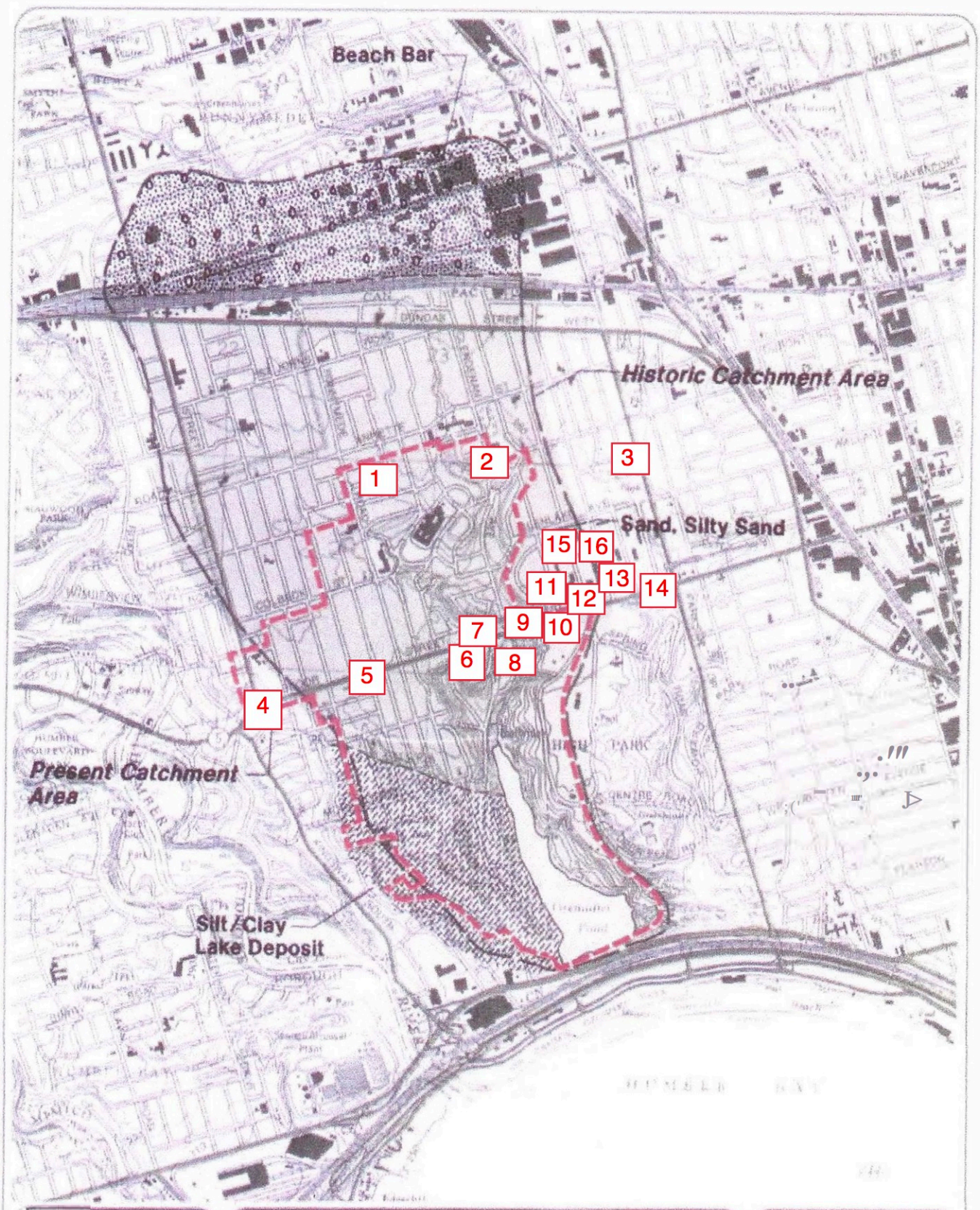
Excerpt:

"There is, apparently, a "cult of density" among urban planners these days. Specifically, Kotkin says that among "urban core theorists perhaps no idea is more widely accepted than the notion that higher population densities lead to more productivity and sustainable economic growth." I hear they also sacrifice goats on subway platforms. Kotkin implies that "higher" means "unlimited" and that these "theorists" believe that ever greater increments of density will result in ever higher increments of productivity. Just like ten helpings of quinoa is ten times healthier than is just one.

Joel Kotkin is an accomplished scholar, so I assume he knows exactly what he's doing: he is willfully distorting the ideas most famously promoted by Jane Jacobs and now accepted widely in the planning community that say that density is desirable.

But Jacobs never advocated for unlimited density, and neither does anyone else I know. It's true, of course, that many progressive planners advocate high densities in the urban core. Full stop. They are not advocating for overcrowding, nor are they advocating for endless zones of density, as if there were no difference between good planning and bad planning, or between enthusiasm and extremism."

See next page for description of numbers below



Gartner, Lee

Scale 1: 25,000

Present and Historical Watershed Boundaries and Superficial Soil Types

Grenadier Pond

2.1

Project 94,205

Present and Historical Watershed Boundaries and Superficial Soil Types – Comment Legend

1. 588 Annette Street – 5 Storeys, 19 units.
2. 248 High Park Ave – 4 storeys, 79 units 2017 development application completed.
3. 200 Keele Street – 4 storeys, 52 units proposed 15 rental units, 37 condominium ownership units. 2016 – application submitted.
4. 2452 Bloor St West – 14 storeys, 244 units, 2017 submitted development application completed.
5. 2265 Bloor St West – 8 storeys, 83 unites 2017 submitted development application completed.
6. 2115 Bloor St West 7 storeys, 45 units, 2016 submitted development application completed.
7. 2114 Bloor St West (North Drive) – 8 storey residential apartment building containing 62 units with at grade retail, 2016 development application submitted, 2017 construction in progress.
8. 383 Ellis Park Rd – 10 Storeys, 46 units, 2006 construction completed (HIGHEST PRICE PER SQ. FT. OUT OF 89 CONDOS IN WEST END, TORONTO) https://condos.ca/toronto/home-condominium-383-ellis-park-rd).
9. 1990 Bloor St West (North Drive) – 11 storeys, 104 units mixed use building, 2013 – application submitted, 2017 construction completed.
10. 20 Gothic Ave – 8 storeys, 175 units, 2009 construction completed.
11. 51 Quebec Ave (Grenadier Square) 2 buildings, 25 storeys, 528 units in total, 2013 application, 2017 construction in progress.
12. 12 High Park Ave (GWL) 3 storeys, retail.
13. 35 High park Ave (GWL) The proposed development would maintain the existing four rental buildings on thelands, except for four dwelling units, while proposing to demolish two blocks of existing townhouses comprised of 20 total units, to accommodate four new rental buildings with 1,032 dwelling units at proposed 4 building heights of 39, 34, 29, and 8 stories; 2016 application submitted, 2017 appealed to OMB.
14. 1844 Bloor St West (Daniels) – 14 storeys, 378 units, 2011 application submitted, 2015 construction completed.
15. 70 High Park Ave (Daniels) – 169 suites built over top of a historic heritage church, 2005 construction completed.
16. 111 Pacific Ave (GWL) 33 storeys, 1510 units, application submitted, 2017 appealed to OMB, this application process to amend the Zoning By-laws to permit two blocks of 3-storey townhouse, one 33 storey building, one 29 storey building, and an 8 storey building with a new 2 storey amenity pavilion, to be developed and added to the lands currently occupied by three residential rental buildings.

TABLE 2.1
GROUND WATER AND SURFACE WATER CONTRIBUTIONS TO GRENADIER POND

HISTORICAL CONDITIONS

OUTFALL	DRAINAGE AREA NO.	DRAINAGE AREA (HA)	ANNUAL SURPLUS * (MM)	INFILT%	ANNUAL INFILT (MM)	ANNUAL GW VOL (M^3)	ANNUAL RUNOFF (M^3)	
Clendenan Ave.	1.0	336.0	300.0	0.8	225.0	756000.0	252000.0	
Valleymede Rd.	2.0	16.4	300.0	0.7	195.0	31960.5	17209.5	
Into Catfish Pond	3.0	46.5	300.0	0.4	120.0	55740.0	83610.0	
Catfish Pond Drainage	4.0	15.5	300.0	0.4	120.0	18576.0	27864.0	
Into Catfish Pond	5.0	7.2	300.0	0.4	120.0	8676.0	13014.0	
Parkland Drainage	6.0	32.8	300.0	0.7	210.0	68964.0	29556.0	
Direct Precipitation	7.0	21.1	275.7	0.0	0.0	0.0	63328.3	
Direct Precipitation	8.0	1.87	24.3	0.0	0.0	0.0	5581.7	
							RUNOFF=	492163.5 m^3
		477.4 AREA				939916.5 m^3	492163.5 m^3	
				GROUND WATER ESTIMATE =		29.8 L/S		

* – Bloor Street meteorological data for precipitation.

EXISTING CONDITIONS

OUTFALL	DRAINAGE AREA NO.	DRAINAGE AREA (HA)	ANNUAL SURPLUS (MM)	INFILT%	ANNUAL INFILT (MM)	ANNUAL GW VOL (M^3)	ANNUAL RUNOFF (M^3)	
	1A	232.0	300.0	0.30	90.0	208800.0	0.0	
Clendenan Ave.	1.0	104.1	300.0	0.45	135.0	140481.0	171699.0	
Valleymede Rd.	2.0	16.4	300.0	0.45	135.0	22126.5	27043.5	
Into Catfish Pond	3.0	46.5	300.0	0.25	75.0	34837.5	104512.5	
Catfish Pond Drainage	4.0	15.5	300.0	0.25	75.0	11610.0	34830.0	
Into Catfish Pond	5.0	7.2	300.0	0.25	75.0	5422.5	16267.5	
Parkland Drainage	6.0	32.8	300.0	0.70	210.0	68964.0	29556.0	
Direct Precipitation	7.0	21.7	275.7	0.00	0.0	0.0	63328.3	
Direct Precipitation	8.0	1.87	24.3	0.00	0.0	0.0	5581.7	
							RUNOFF=	452818.5 m^3
		246.0 AREA				492241.5 m^3	452818.5 m^3	
				GROUND WATER ESTIMATE =		15.6 L/S		

* – Bloor Street meteorological data for precipitation.

Past and recent developments (2005-2017) within the Grenadier Pond's catchment area projected on Gartner Lee's Map (1995 –date of Study)

Proposed:

- 35 High Park 2016 - application submitted, 2017 - the proponent appealed to OMB
The proposed development would maintain the existing four rental buildings on the lands, except for four dwelling units, while proposing to demolish two blocks of existing townhouses comprised of 20 total units, to accommodate four new rental buildings with **1,031 dwelling units** at proposed **4 building heights of 39, 34, 29 and 8 stories**

This application proposes to amend the Zoning By-laws to permit

- 111 Pacific 2016 - application submitted, 2017 - the proponent appealed to OMB
This application proposes to amend the Zoning By-laws to permit **two blocks of 3-storey townhouse, one 33 storey building, one 29 storey building, and an 8 storey building with a new 2 storey amenity pavilion**, to be developed and added to the lands currently occupied by three residential rental buildings. **768 Units**

This application proposes to amend the Zoning By-laws to permit

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Recently submitted, approved, under construction, completed

- 2452 Bloor St West
14 storeys, **244 units** 2017 submitted development application completed,

- 2265 Bloor St West 2017 submitted development application completed
8 storeys, **83 units**

- 2115 Bloor St West, 60 Harcort Rd. 2017 2016 development application submitted, approved 7 storeys, **45 units.**

- 2114 Bloor St West 2015 development application submitted, 2017 - construction in progress
North Drive
8-storey residential apartment building containing **62units** with at grade retail Under construction.

- 51 Quebec Ave. (Grenadier Square) 2013 - application, 2017 under construction
2 buildings of 25 storeys, **528 units**

- 1990 Bloor St. West 2013 - application submitted, 2017-construction completed
North Drive
11-storey mixed use building. The new building has **104 residential** units.

-200 Keele St. 2016 - application submitted. Proposed development of a 4-storey, **52-unit** residential apartment

15 rental units, **37** condominium ownership units

- 248 HIGH PARK AVE 2017 development application completed
79 residential apartment units.

_____

Past Developments in the area:

- 1884 Bloor St. 2011 - application submitted, 2015 - construction completed

14 Storeys, **378 units**,

- 20 Gothic Ave. 2009 Construction completed

8 storeys, **175 units**. .

- 338 Ellis Park Rd. 2006 Construction completed.
10 Storeys, 46 units.
(HIGHEST PRICE PER SQ.FT. OUT OF 89 CONDOS IN WEST END, TORONTO
https://condos.ca/toronto/home-condominium-383-ellis-park-rd)

- 70 High Park Ave 2005 Construction completed

169 suites built over top an historic heritage church

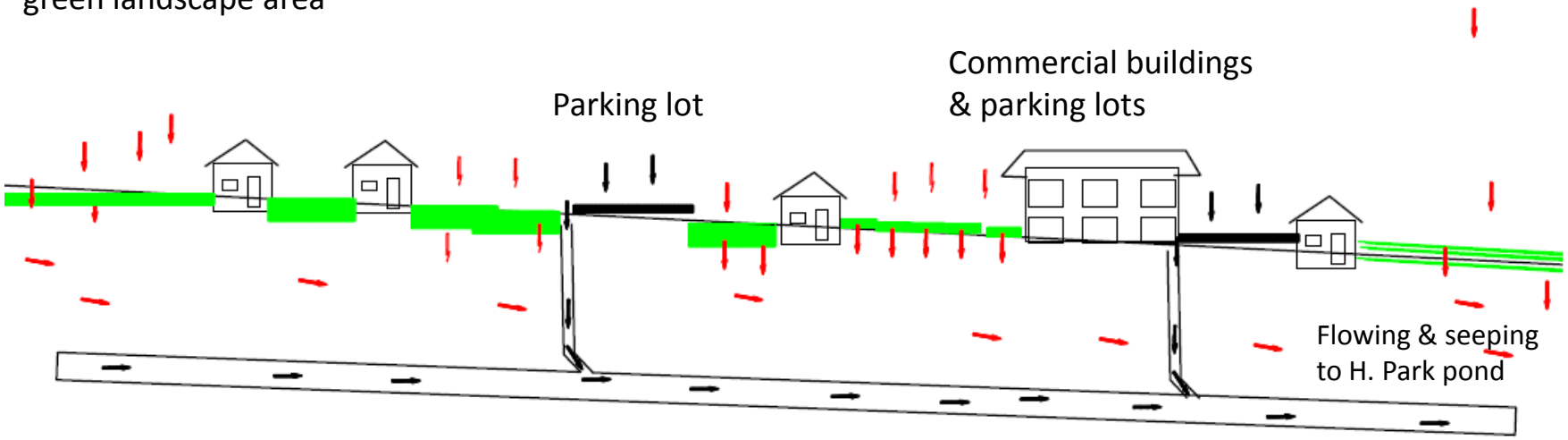
Understanding Some Aspects of Hydrogeology and Urban Planning In Respect to Natural Heritage

A city zoning standard involves the cultural heritage, health and safety technical aspects of urban design, natural resources, transportation, sanitary & stormwater management and many other infrastructure services such as fire trucks and ambulance deployments, schools, etc. Different zoning such as high, medium or low residential zones will have different sets of technical data applied to it, forming a zoning standard. This zoning standard is expressed in a series of legislated by-laws, regulations and codes of applied sciences, such as the regulations and guidelines to have building setback requirement protect the watershed.

Any building proposal submitted to the city for permit has to be reviewed by the city's zoning department to ensure that the proposal will comply with the required zoning standards in respect to the legislated cultural heritage, the health and safety requirements etc.

The Watershed Engineering Theories

Clean rain & snow water in green landscape area



Soil is the best filter & storage reservoir supplying fresh water for creeks & ponds

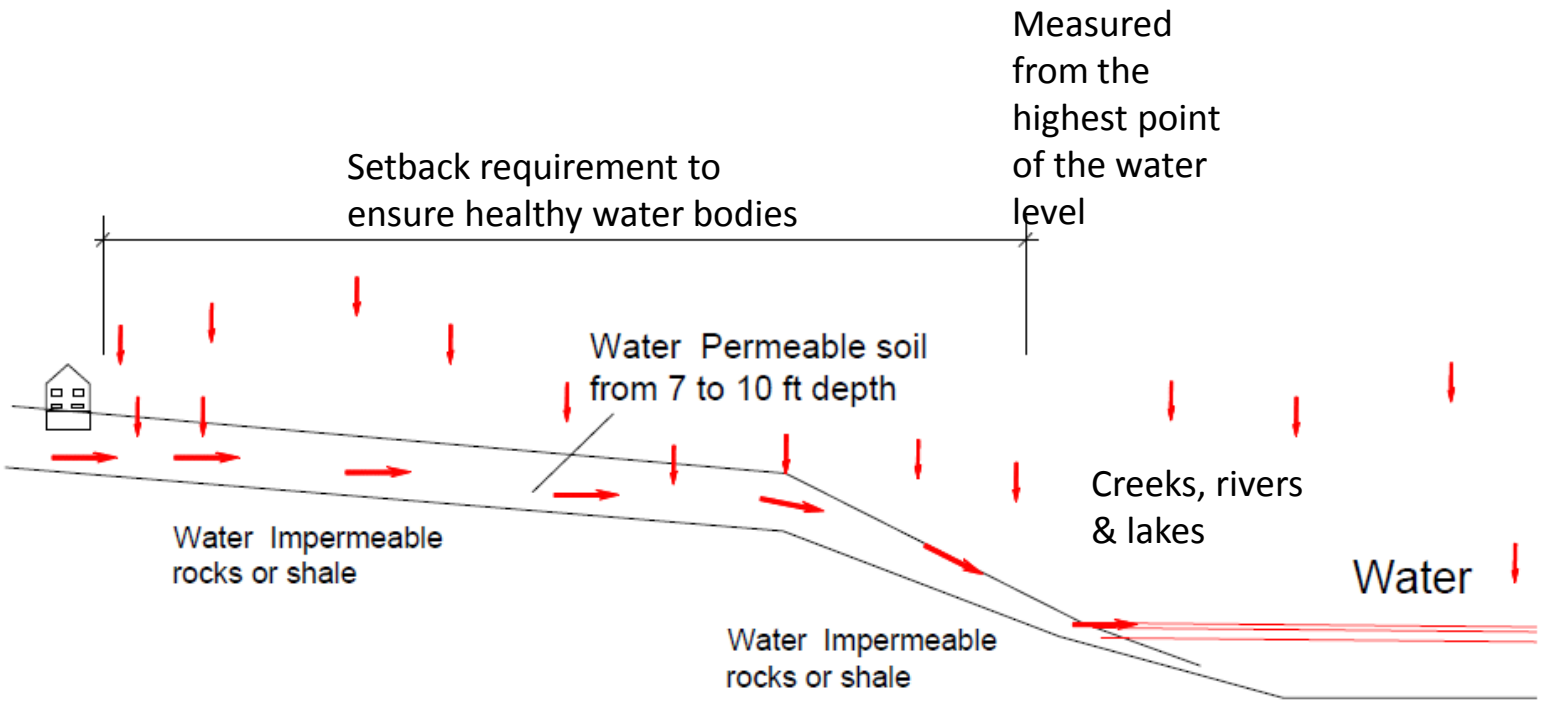
Rain & snow from parking lots & high rise buildings are polluted and required to be drained away for treatment

The Watershed Engineering Theories

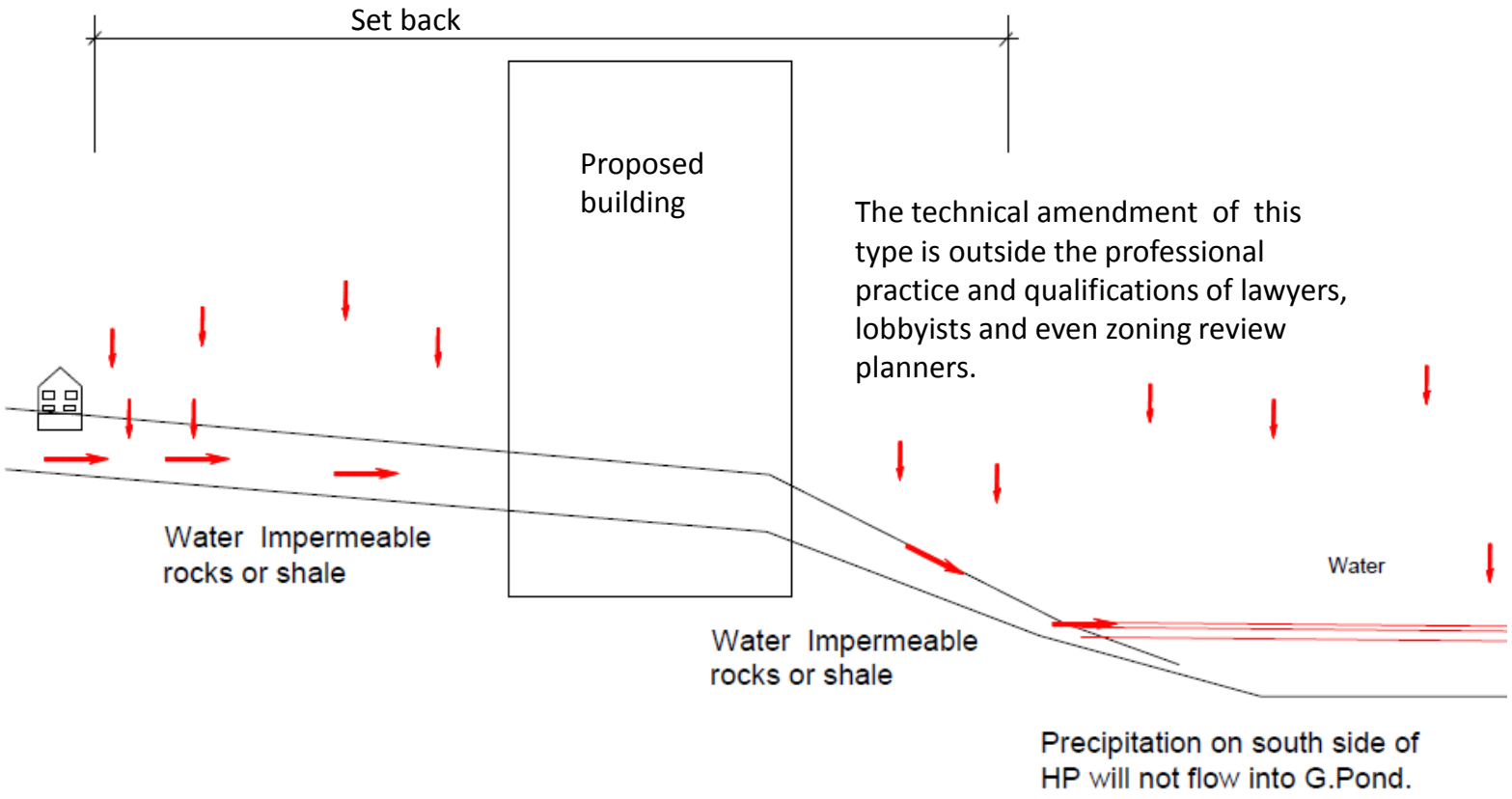
Re-zoning may cause more clean rain water to become polluted storm sewer water. It also may deplete the watershed water resource.

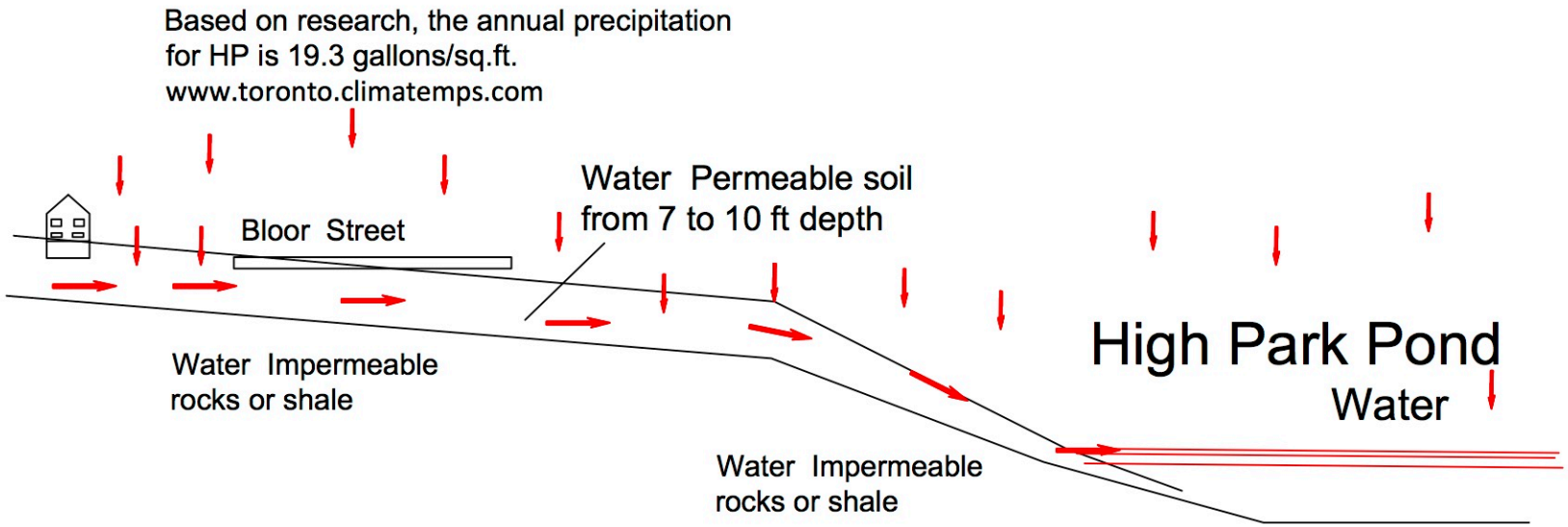
When low density residential zoning is amended to proposed high-density buildings, existing storm sewer's drain capacity cannot handle the storm water, therefore overflow or backflow will occur.

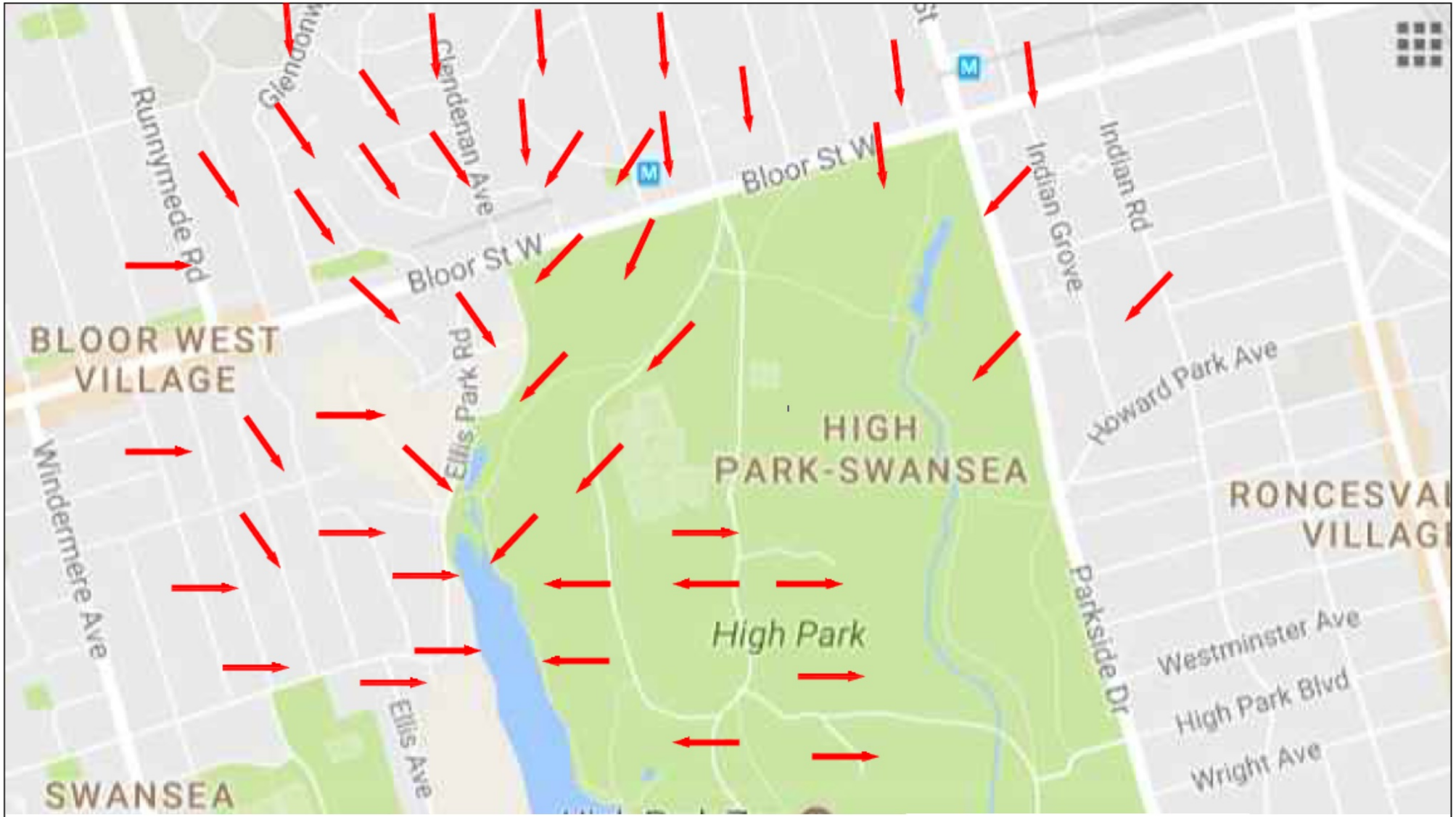
The setback requirement to protect watersheds and water resources is under the provincial legislated acts, regulations & guidelines.



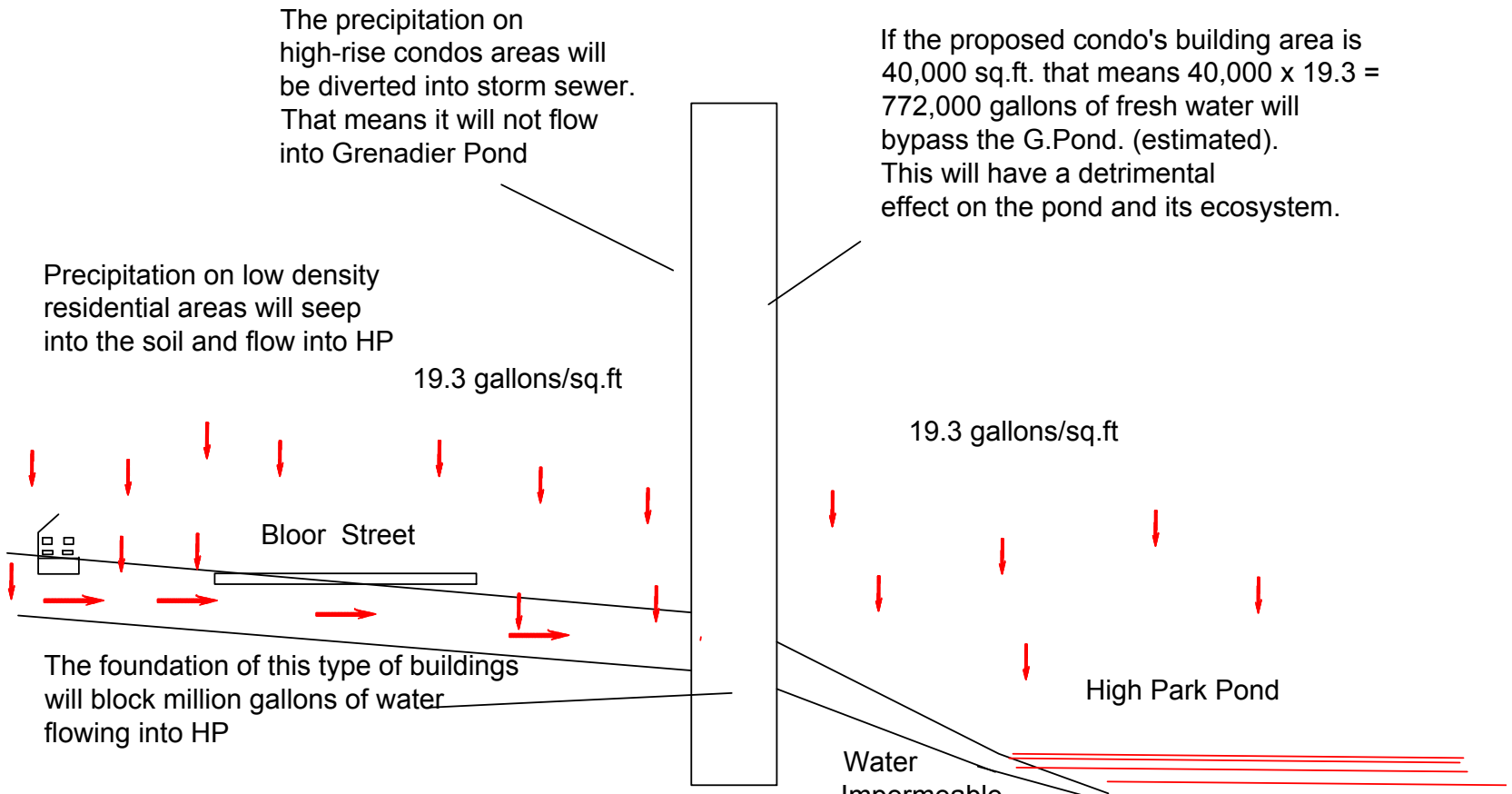
In case building proposals do not comply with the setback requirement and the planning department is willing to re-adjust the zoning by-laws, a technical amendment proposal prepared by a licensed professional with insurance liability is required to prevent any negative impacts on existing areas, and to comply with the environmental and safety zoning standards.




Based on research, the annual precipitation
for HP is 19.3 gallons/sq.ft.
www.toronto.climatemps.com
Water Permeable soil
from 7 to 10 ft depth
Bloor Street
Water Impermeable
rocks or shale
High Park Pond
Water
Water Impermeable
rocks or shale
Heritage Watershed
Precipitation on south side of
HP will not flow into G.Pond.
because of the grade elevation



In this diagram, the red arrow represents underground waterflow.
Water quality and quantity relies on its watershed.



Heritage Watershed may be impacted by development

BWV Avenue Study_Hydrogeology and Natural Heritage_Apppendix2_LAC#3_Lenka Holubec.pdf

Presentation by Jennifer Keesmaat at Oct. 17, 2017 Queen's Park OMB hearing on OMB and Bill 139

http://preservedstories.com/2017/11/05/hansard-excerpt-7-presentation-by-jennifer-keesmaat-at-oct-17-2017-omb-reform-hearing/

Hansard excerpt: Presentation by Jennifer Keesmaat at Oct. 17, 2017, OMB Reform hearing

Posted on November 5, 2017 by Jaan Pill

Below is the Hansard transcript of the presentation

The Acting Chair (Ms. Cindy Forster): We will now move on to Jennifer Keesmaat. Good afternoon. You will have up to 10 minutes for your presentation. If you could state your name for the record, please.

Ms. Jennifer Keesmaat: Fabulous. Thank you very much. My name is Jennifer Keesmaat, and I am the former chief planner and executive director of the city planning department in the city of Toronto.

I have practised planning for over 20 years in the province of Ontario and have attended many OMB hearings and mediations. I have overseen, over the course of the past five years, over 5,000 development applications in the city of Toronto alone, and have led a team that has been fully engaged in the consultation process on behalf of the province for reform of the OMB system.

I want to begin by saying that it's important to recognize the proposed changes to how the OMB will function in the context of a pro-growth context.

Since 2009, approximately 140,000 housing units have been completed within the city of Toronto. This is an astronomical amount of new housing growth, by any measure, to the extent that the greatest challenge we face is the infrastructure to keep up with the new housing units that have been built, including water capacity, parks, schools, neighbourhood facilities, and all of the components that are essential to creating a sustainable, thriving, complete community over the long term.

By any measure, we are a beacon in the world with respect to our planning process, and we recognize that a key part of our success is the provincial planning framework within which we operate, including **Places to Grow and the Greenbelt Act,** which have fundamentally transformed land use planning in the region, directing our growth to existing built-up areas in such a way that we are beginning beginning to transform our region to become transit-oriented and a fundamentally more sustainable place.

In the absence of these policy frameworks, the dream of being a transit-oriented region will not materialize. We need density. We need to be transforming and adding growth to existing built-up areas that currently do not have the growth to support high-frequency transit.

We know that this is not only critical to our quality of life in reducing congestion times but it is also critical to reducing our environmental footprint and becoming a more sustainable region.

It's important to note that our planning needs to be proactive. We need to be thinking about the future that we want to create, and creating policy frameworks that will result in that future. That is our objective: to not create a city or a region one building at a time, but to have a clearly articulated planning framework that will result in the future that we have, in fact, chosen.

This bill focuses on evaluating municipal actions in terms of their conformity with provincial plans and policies. It's difficult to state how transformative that is. Currently in the city planning department, thousands and thousands of hours are spent at the Ontario Municipal Board following council approval, following extensive consultation processes with the public in order for one individual to fight to represent their specific interest. This is not a proactive way to plan a city or to plan a region. In fact, I would argue it's an inherently problematic way. It is based on very narrow interests.

Our policy frameworks take into account the bigger picture. They look at how we are seeking to link together transit and transit densities with creating walkable, sustainable places. The vision for our region is clearly articulated through Places to Grow, with density targets.

We frequently have conversations with city councillors who will ask us, with respect to a specific proposal, about our success at the OMB: what we feel, as planners, will be achieved through the OMB process. Now, if we had a process that was driven primarily by policy, we could give a straight answer. But, in fact, we do something different: We frequently say to that councillor asking that question, It will depend on the chair. This demonstrates how this is not currently a quasi-judicial process. This is currently a process whereby unelected, unaccountable individuals make critical planning decisions that shape neighbourhoods.

Despite living in Kingston, being appointed to your position, it might be possible to fundamentally transform a neighbourhood in Toronto.

My question to you today is this: How much does respect for democracy matter? It's not just local democracy. It's about democracy. It's about accountability. The changes proposed in this bill represent a fundamental shift. They are a fundamental shift because they will change the way planning departments do their job. Rather than spending hours and hours writing witness statements and concocting arguments as to how to address a specific proposal, planning departments across this province will re-shift their efforts into creating the proactive planning frameworks that will shape and direct growth.

You might be afraid, and I'm sure you've heard today about a risk, that suddenly we will see growth stop. It's important to note, first of all, that we are a pro-growth region in any scenario. The vast majority of applications that come forward through the city of Toronto are not, in fact,

contested at the OMB. The ones that are have ripple effects and important implications, but the vast majority of projects are in fact in keeping with the provincial policy frameworks, with Places to Grow and are accepted by local communities as being an important part of creating a more sustainable region.

Some of the biggest, most significant and important developers in our city, like Westbank and First Gulf, don't go to the OMB, and they don't go to the OMB for a very important reason: They want to work collaboratively with communities and locally elected officials to create plans that are recommended and approved by city council.

One of the most recent and best examples to articulate this is the Westbank proposal for Bloor and Bathurst, or what you may know as the former Honest Ed's site. A significant amount of density has been accommodated on this site, and it has been generated through a collaborative process with the community for a very simple reason: The developer made it clear that he was not interested in a fight. He wasn't interested, from the outset, in going to the Ontario Municipal Board. He wanted to be a good corporate citizen. The community, in fact, rewarded him, and he rewarded the community with 28 heritage buildings that are now restored as part of that project, new park space and daycare on the site, and 20% affordable housing as part of that overall new development.

There was a collaboration that took place, as is always the case in our best city-building instances. That does not take place when a project gets punted to the Ontario Municipal Board. It's a very difficult dynamic. At the Ontario Municipal Board it's a bit of a crapshoot.

The opportunity with the changes that you see before you today is about reinforcing the importance of policy as being the way that we articulate in a democracy our shared objectives and what we are seeking to achieve.

If you have a problem, take it up with the policy. If you have a problem, take it up with your local elected official, who will now be accountable.

I'm sure you've heard stories of elected officials who don't take responsibility for the decisions that are being made in their communities because they know it will be shunted off to the Ontario Municipal Board.

That's not a good way for us to plan our cities. It is better for municipal politicians to take responsibility for the decisions that they make and for the implications on the communities around them.

When we were undertaking our planning process for the Eglinton Crosstown, where 19 kilometres of LRT are currently being built, one of the things we heard loud and clear from the development industry was to put as-of-right zoning in place. This is a very important part of the narrative that needs to be understood, in this city in particular, so we did. So 25% of that corridor was transformed through as-of-right zoning, where you can now build an eight-storey building by pulling a permit; you don't need to go through a community process because we did it all at once through the two-year Eglinton Connects process.

An interesting thing has happened that is one of the absurd outcomes of the OMB. The development industry said to us, Give us as-of-right zoning, and so we did. We want to see new development and intensification along our transit corridors. This is a critical part of combatting congestion. What's happened is, even though we have in fact done so, we have seen developers coming back and asking for more. This is the speculative nature of development in a high-growth city that the OMB enables. If we create policy that's based on sound planning principles, should that not be the policy that directs how we change and grow? The community really made a social contract in that process. They supported as-of-right zoning, recognizing that it was going to be compatible with the city's guidelines around creating a walkable city, mitigating the shadow impacts. But, in fact, what we've seen as a result of the opportunity of an OMB that doesn't currently respect the policy of local councillors is a whole industry that has been built on speculation.

This is not in our best interests.

The Acting Chair (Ms. Cindy Forster): Thank you. We'll start with Mr. Hardeman.

Mr. Ernie Hardeman: Thank you very much for that presentation. It was much appreciated. I think it's consistent with a lot of the things we've heard from both the development side and from the municipal side that the OMB system is broken and needs to be fixed.

I think in your presentation you pointed out that if you work together you can come up with the right decisions with the industry that wants to build and the municipality that wants it built. The developers told me today, the one group that was here, that they had only gone to the OMB once and the rest were all negotiated, but they said that the reason it was negotiated was because both sides realized that that was the best way to facilitate what should happen. That created tension in the system.

How do you envision that that would remain if there was no place to go, if there was nobody who had a risk of it going totally off the rails We have to come up with a compromise or it will go off the rails? Could you comment on that?

Ms. Jennifer Keesmaat: Yes, thank you very much for the question. There are two answers that I'll give in response to it. **The first is that it's important to recognize that the proposed changes to the OMB simply bring us in line with other jurisdictions across the country.** They're not radical; they in fact bring us in line with a more typical planning process. That's the first.

The second is that I would argue that that question of negotiation should not be happening on a site-by-site basis with the lawyer and the developer for a specific project; it should be happening in the context of an area plan, where we create planning frameworks at the area plan level like we did in Eglinton Connects. We in fact looked at the entire corridor, density targets for the entire corridor, the character of the corridor, and then put a planning framework in place to respond to that character, as opposed to the negotiation you're talking about, which is

really one specific interest. Many people are cut out of that process and are not at the negotiating table.

Mr. Ernie Hardeman: If I could, I talked to a major developer in Toronto I'm not from Toronto and that's exactly the same thing he said about what was necessary: We can accept whatever the community wants, but we need to know up front. Most of the appeals that I've had concerns expressed about were density issues, the developers wanting more density and not being able to get it, and yet you say that the lack of density is the problem for creating that city that we want. I just wonder how we deal with that.

Ms. Jennifer Keesmaat: Well, one of the challenges that we face right now and it's important to note that in Toronto we have 19 corridors that are pre-zoned for mid-rise development. Let's say that we never approve another application over the next 50 years. We'll continue to grow at the rate that we're growing at, because we have approvals in place along those mid-rise corridors. It's very important to recognize that we already have an environment that can accommodate the significant amount of growth.

The Acting Chair (Ms. Cindy Forster): Thank you. We're going to have to move on to Mr. Hatfield.

Mr. Percy Hatfield: Thank you for coming in, Jennifer. If I understand correctly, you're enthusiastic about the bill and you see the future for planning based on policy or based on sound planning principles. You expect planning departments will re-shift their framework. Can you expand on that?

Ms. Jennifer Keesmaat: That's correct. **I believe that the way the bill is structured, where the emphasis is placed on ensuring that planning policy will be the driver behind decision-making, will in fact change the way municipalities plan, re-shifting our efforts from being proactive and reacting to applications to doing more secondary plans, area plans, neighbourhood plans that put in place the policy framework that clearly articulates what it is that we're looking for.**

Today, there's a disincentive to putting those proactive plans in place. As I explained with Eglinton Connects, we put it in place, and because it's a highly speculative environment, we simply got proposals for something different. But if we have an environment that uses policy to drive decision-making, it will in fact change the way municipalities plan.

Mr. Percy Hatfield: I think enough of us around the table have served a bit of time on municipal councils that we've seen **how locally elected officials sometimes play the board politics**, but I'm encouraged by you saying that local elected officials will now have to take more responsibility for their decisions. Will that, through this bill, again, make better, sound planning policy?

Ms. Jennifer Keesmaat: **Absolutely. It's also a critical part of democracy. Currently we have people making decisions who have no accountability. In fact, the public doesn't even know**

who they are. They can't be voted out; they're not held accountable for the mistakes that they made.

The whole dynamic of democracy is that it must happen in a transparent environment that you must take accountability for the decisions that you make as an elected official. You must defend those decisions; you must believe in those decisions. I believe that the way this is now structured reinforces municipal politicians ensuring that they have their eye on the policy. Right now, you can be kind of flippant about policy because you know that someone you don't know is going to make a decision behind closed doors and they're going to accountable for it. I think that is a very dangerous way for a democracy to make decisions.

The Acting Chair (Ms. Cindy Forster): Thank you. We're going to move on to the government member: Mr. Rinaldi.

Mr. Lou Rinaldi: Thank you, Ms. Keesmaat, for being here today. Wow, the power and the enthusiasm you have it's overwhelming. Thank you for the work you did for the city of Toronto. I lived some part of my life in Toronto; I don't anymore, but certainly I was here.

Anyway, back to Bill 139: I think the comment that you made along the way was that Bill 139 proposes fundamental changes to the way we plan, and it's a different way for municipalities or elected officials and staff to deal with the planning process.

What do you think the greatest impact of these changes might be to a community not necessarily Toronto, but in general?

Ms. Jennifer Keesmaat: I believe the greatest impact is that there will be an opportunity and a re-engagement by communities in the planning process, precisely because policy will become a key driver in how decisions will be made. That will be good for our cities; it will be good for democracy.

I'm not concerned about NIMBY constraints that you may have heard about today, for the two reasons that I stated: (1) We have so much that's already approved, and (2) because we've overwhelmingly seen that we are a pro-growth region. We see the value of growth, and the vast majority of projects, even with the OMB playing the role it does today, have gone forward completely unappealed.

Mr. Lou Rinaldi: I'm not sure if you were here today, or even the other day when we were here. We've heard from some sectors that if Bill 139 were to go through, we won't see any more development; we won't see the density that's needed to support transit; and we won't see more affordable housing. How would you help us defend that?

Ms. Jennifer Keesmaat: It's really, really important to go back to what has already been approved, and the provincial policy framework. The provincial policy framework would prevent that from happening. If local councils said, We want no growth, they would lose at the OMB, because they have a provincial policy framework in places that grow that already makes it clear

where they are to accommodate growth. The policy actually works both ways. It works to promote growth.

In a corridor like Eglinton, I believe one of the positive outcomes is that we would see developers building according to the policy framework we have put in place. Right now, I have developers that come to me and say, You up-zoned to eight storeys. I want to build an eight-storey building. I go to bid on a piece of property, and someone comes in and bids way more money. I want to build what the policy allows, but someone who is speculating, who is taking a gamble that they can make more money by asking for more than they're permitted, is outbidding me. **I want to build mid-rise buildings, but I'm getting bumped out of the process because of the way speculation works in the system. I believe this will reward developers who want to build mid-rise development in the city of Toronto.**

I was just in Auckland recently, and a mid-rise building in Auckland is four storeys. We're very generous in Toronto; it's anywhere between 8 and 12. In most cities, that's considered a tall building.

The Acting Chair (Ms. Cindy Forster): The time is up.

Mr. Lou Rinaldi: Thank you.

The Acting Chair (Ms. Cindy Forster): Thanks very much for your

presentation.

Ms. Jennifer Keesmaat: Thank you.

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Background Information:

Chief City Planner Jennifer Keesmaat on how to fix Toronto By Riley Sparks in News, Politics from April 21st 2017

"It's easy to make mistakes when you're building North America's fourth-largest city"
http://www.nationalobserver.com/2017/04/21/news/chief-city-planner-jennifer-keesmaat-how-fix-toronto

Excerpts:

National Observer spoke with Keesmaat recently about the myth of the short commute and the challenge of balancing growth, affordability and character in one of Canada's fastest-growing cities, bringing nature back into the city and more. Here's a transcript of that conversation, edited for clarity and brevity:

Toronto has hit growth targets much earlier than expected. What can the city do to integrate more people, without building a condo on every corner?

"One of the challenges that we have is that we are experiencing something of a vortex sucking all kinds of growth right into the heart of the city. One of the really important roles for municipal government to play is to ensure that we have clarity as to where growth will go, as well as where growth won't go.

Seventeen per cent of our city is ravines; we've just brought forward additional environmentally sensitive areas. We don't want growth in those areas. There are also some areas that have heritage designations, and we want to be very careful in terms of how we manage growth in those areas.

We also recognize that there are areas that can benefit in a really significant way from growth. Our downtown, of course, 40 years ago there were a ton of surface parking lots. Today, we in fact are in-filling the downtown, turning it into a truly walkable place."

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"I do get the sense, though, that when you look at the south end of Toronto, for example, there is the appetite to build those kind of condos basically forever. *How can you rein in the market without driving developers away? Is it just that Toronto is a desirable enough place to live that the market will respond, even with those restrictions in place?"*

—

"The new model is really about saying let's work with nature let's actually recognize that we want to bring nature into the city. We want wildlife in the city, we want trees in the city. This is a critical part of creating a livable urban environment, as opposed to the city noir, the concrete jungle. We've recognized that's actually pretty hard on human health."

—

"We are growing so quickly that on the one hand, we're transforming the city, and on the other hand there are these ways that we need to be changing the key infrastructure of the city, like the use of the ravines, like the use of our streets, making them more into people-places as opposed to car-places. *The risk is that if you add lots of growth but you don't actually catch up quickly, that you're going to begin to destroy the quality of life in the city.*

It follows from **2016 Census Backgrounder** below that Toronto satisfied The Growth Plan goal (as amended in 2013, includes population forecasts to 2041- **2,865,000** already in time of 2016 Census - **2,853,000.**

About half of the population growth in the city of Toronto from 2011 to 2016 was south of Bloor Street, between Victoria Park Avenue in the east and the Humber River in the west opportunities .

2016 Census Backgrounder Population Dwellings20170209.docx(Read-Only)- Microsoft Word

February 9, 2017
2016 Census: Population and Dwelling Counts
The 2016 Census Day was May 10, 2016. On February 8, 2017, Statistics Canada released its first set of data from this Census, on population and dwelling counts.

KEY POINTS
Population

-The 2016 population of Toronto is 2,731,571, or 7.8% of Canada's total population of 35,151,728. The data is not adjusted for undercoverage (see Glossary).

-Toronto's population grew by 116,511 residents between 2011 and 2016, an increase of 4.5%. This is more than the number of people added between 2006 and 2011 of 111,779 or 4.5%.

-Although Statistics Canada makes a great effort to count every person, in each Census a notable number of people are left out for a variety of reasons. For example, people may be travelling, some dwellings are hard to find, and some people simply refuse to participate. Statistics Canada takes this into account and for each Census estimates a net 'undercoverage' rate for the urban region, the Toronto Census Metropolitan Area (CMA), but not for the city. The 2011 rate for the Toronto CMA was 3.72% ± 0.53%. The 2016 rate is not yet available. If the rate were the same for 2016, the city's actual population could be 2,853,000.

-The city's population is on track with the population forecast in the Provincial Growth Plan for the Greater Golden Horseshoe (GGH).The Growth Plan as amended in 2013 includes population forecasts to 2041 which are used for planning and growth management. **The forecasts supporting the Growth Plan anticipated a 2016 population including undercoverage for the city of Toronto of 2,865,000. The city's estimated actual population in 2016 of 2,853,000 is very close to the level anticipated by the forecasts supporting the Growth Plan.**

-The total population has changed unevenly across the city. About half of the population growth in the city of Toronto from 2011 to 2016 was south of Bloor Street, between Victoria Park Avenue in the east and the Humber River in the west.

-Toronto's highest growth neighbourhoods are located in Downtown, especially the Waterfront Communities-The Island, Bay Street Corridor, and Moss Park neighbourhoods. High growth was also seen west of Downtown in Niagara and Little Portugal, and further west in the Mimico and Islington-City Centre West neighbourhoods. Another cluster of neighbourhoods that experienced high population growth is along the north side of Highway 401, especially along the Sheppard West corridor. Further west along Highway 401, Pelmo Park-Humberlea also saw very high growth.

See also:
Map 2b Population Percent Change for theCity of Toronto by Census Tract, 2006 to 2016, Residential Areas

Map 5: Toronto Population Change by Neighbourhoods, 2011 to 2016

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http://spacing.ca/toronto/2017/04/18/lorinc-libs-planning-mistakes-fuelling-gtas-real-estate-madness/

LORINC: Why the Libs' planning mistakes are fuelling the GTA's real estate madness
April 18, 2017 | By John Lorinc

Yet for reasons that surpass understanding, the Liberals have refused to thoroughly integrate the two gigantic GTA planning exercises one for the Greater Golden Horseshoe growth plan, the other for Metrolinx's Big Move (a.k.a. the Regional Transportation Plan) that have been inching glacially through their respective consultation processes over the past year.

The result is that the province is ignoring opportunities to use those much-touted transit investments to really push GTA municipalities to intensify around new subway, LRT and SmartTrack stops, or in the vicinity of the GO stations now being converted to all-day/two-way 15-minute service (regional express rail).

Those kinds of policies, widely in use in Europe and other jurisdictions that actually practice transit-oriented development, would go a long way towards mitigating the two extremes Toronto's residential market: over-development in a few key zones (Kings, Yonge/Eglinton) and insane price wars on single-family homes in most other places.

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Lenka Holubec's Comments:

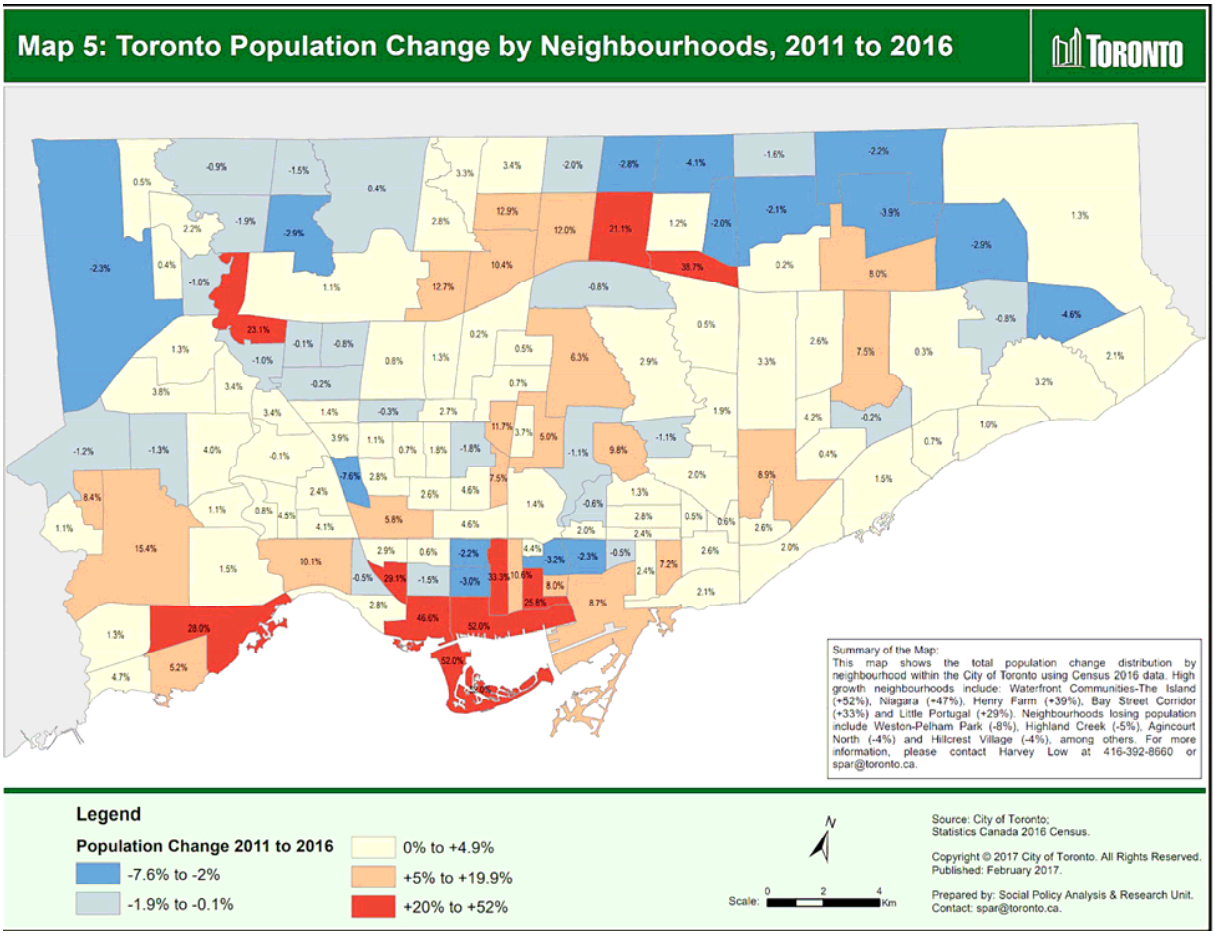
If we look at **the Map, Source: City of Toronto Statistics Canada, 2016 Census and ESA Map - See Maps below text),** we notice that a lot of the growth has been happening along downtown core, the adjacent waterfront and to the west, including the Humber Park's area and the High Park, north of Bloor area.

There are few more patches of *Red* and *Orange* – higher density and population change areas, up north but majority of population changes have been occurring in above described areas.

It seems that market was a driving force behind developing of these areas as being the most profitable, while the rest of the city remains with little change.

Some of the most populated, recently developed areas are situated in proximity to The Natural Heritage areas such as the south watershed of Humber River (Humber Park waterfront) and the High Park and Humber Park (north of Bloor St. and BWV Avenue Study).

Map, Source: City of Toronto Statistics Canada, 2016 Census



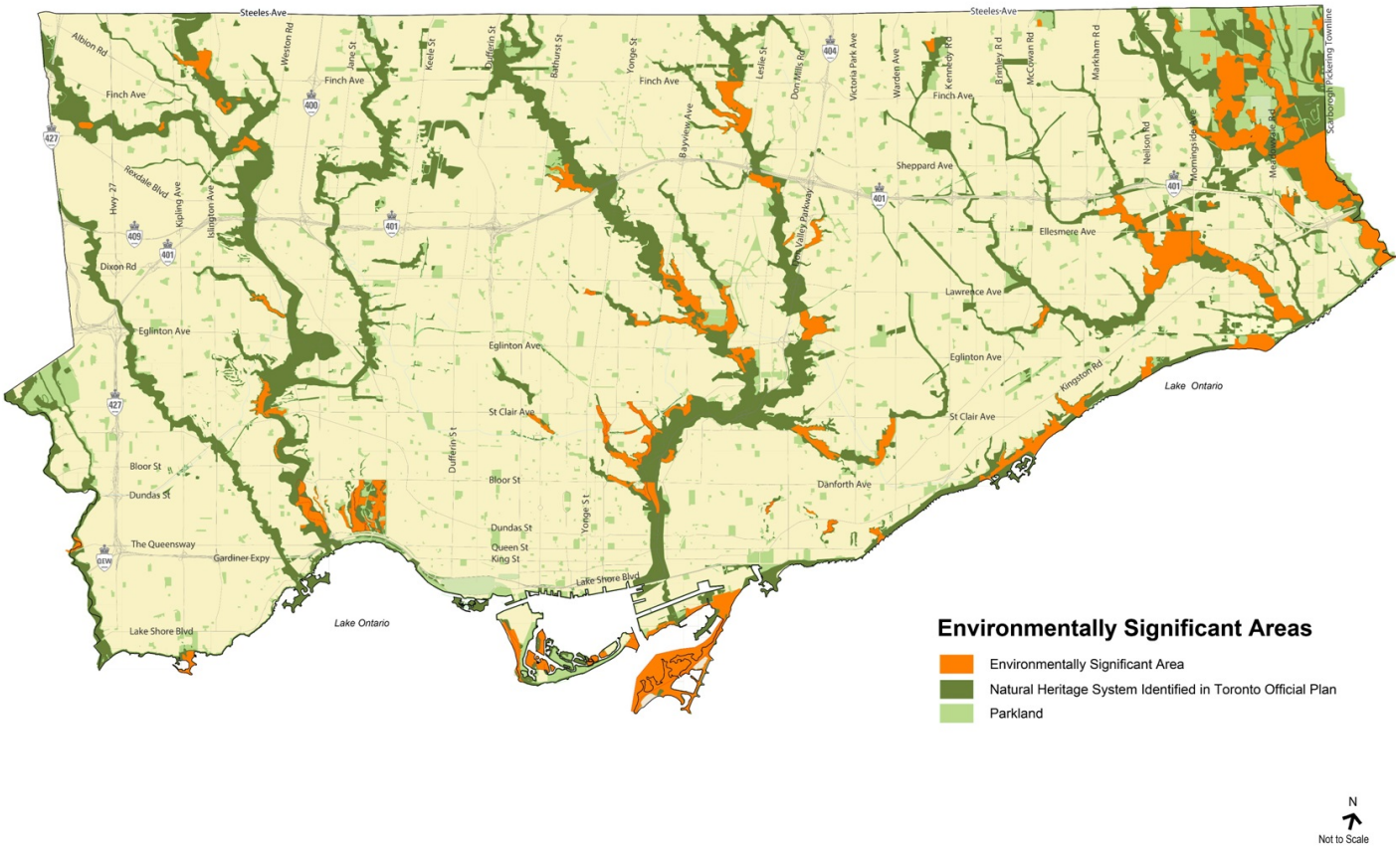
ESA Map

http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=68fd811f23248410VgnVCM10000071d60f89RCRD

Environmentally Significant Areas

Environmentally Significant Areas (ESAs) are natural spaces within Toronto's natural heritage system that require special protection to preserve their environmentally significant qualities. There are 86 Environmentally Significant Areas in the city.

The map below shows the approximate location of Environmentally Significant Areas across the city.



BWV Avenue Study_Hydrogeology and Natural Heritage_Apppendix3_LAC#3_Lenka Holubec

Impact Assessment Process

Impact Assessment process plays a crucial role in respect to development proposals and assuring preserving of the Natural Heritage for a long time.

In the course of our LAC meetings, most of the policies guiding this process were part of our feedback and the Summaries concluding the previous and recent LAC meeting. At the end of this Appendix, you will find these policies listed.

This essential process is well described in these below guides to Natural Heritage Systems Planning:

https://www.ontarionature.org/discover/resources/PDFs/reports/nhs-guide-web.pdf
Best Practices Guide to Natural Heritage Systems Planning
Excerpt

3.3.2 Principle: Policy should clearly set out the requirements for impact assessments, including required content and analysis.

Rationale: Environmental impact assessments are an essential component of the planning and development review process.

The studies must determine the potential impacts of a development proposal; provide direction on whether or not development should occur; provide mitigation recommendations; and set out requirements for monitoring. Policy should establish the minimum requirements for content and the appropriate levels of background research and impact assessment. Detailed requirements provide strong direction to applicants who are submitting information in support of development proposals.

The natural heritage features and areas, and the associated ecological functions;
g. ***review the ecological functions of the natural heritage features and areas identified including habitat needs and the contribution of the site to the natural heritage system****;*
h. ***assess the cumulative impacts of the development proposal and any other existing or known future proposals in the vicinity****; and,*
i. assess the impact of the proposed development or site alteration on the various attributes of the natural heritage system during and after construction; and, recommend measures designed to ensure there is no disturbance of the feature,

and that will
result in no negative impact;

review alternative options and identify any monitoring requirements; and,
provide a professional conclusion as to whether the proposal is acceptable, considering potential impacts to natural heritage features
and areas, related functions, and any proposed measures needed to protect the natural heritage feature(s) or area(s) affected, consistent with the
Provincial Policy Statement and the policies of
this Plan.

The requirement to assess cumulative impacts, including those of other proposed activities, is also incorporated as an important consideration in developing effective mitigation and monitoring plans.

The policy requires the proponent to consult with the municipality, the conservation authority and other appropriate agencies to determine the scope and scale of the assessment.

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Another example of explaining assessment process well can be found in:

https://webcache.googleusercontent.com/search?q=cache:sEV_GqM1gpMJ:https://caroliniancanada.ca/legacy/Publications/eis_B.pdf+&cd=1&hl=en&ct=clnk&gl=ca

https://caroliniancanada.ca/legacy/Publications/eis_B.pdf.

Carolinian Canada Draft Guideline for Environmental Impact Statements

1

1.0 INTRODUCTION

The Planning Act of Ontario requires that "no negative impact" be demonstrated where development is proposed within or adjacent to the natural heritage system. *Municipalities through their official plan set out how to satisfy the requirements of the Provincial Policy Statements and the Environmental Impact Statement (EIS) is normally completed for all development proposals where it has been identified that there may be an impact on a natural heritage feature, or area, or the function of the feature.*

The purpose of an EIS is to determine the potential impacts, direct and indirect, of a proposed development on a natural area. The Natural Heritage Reference Manual (OMNR, 1999) suggests that it should contain sufficient information to demonstrate that there will be no negative impacts on the natural features and ecological functions for which the area is identified. ***This objective is not achievable since negative impacts cannot be demonstrated before they have occurred.***
The function of the EIS is to describe and present potential impacts in such a way that planners and politicians can make properly informed decisions about which impacts of development are acceptable, and which should be avoided.

The proponent of development has a financial responsibility to fulfill the requirements established by the Province and the municipality for an Environmental Impact Study. The proponent may pay to have the EIS completed but the client is always the environment.
The EIS will contain recommendations that will maintain or enhance the features and functions of the natural heritage system. This includes management and mitigation for impacts that are unavoidable.

The completion of an EIS does not assure the approval of a development proposal. An EIS provides the mechanism for assessing impacts. Accepting, modifying, or rejecting development proposals in and adjacent to natural areas will take place after the EIS is completed and approved.

In general, the natural areas of concern to the municipality are those designated as natural heritage features in the Official Plan. Other natural heritage features not specifically identified, including headwater areas, streams and drainage corridors and remnant vegetation, may be identified as also requiring an EIS.

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The Natural Heritage Impacts Studies were done for development proposals adjacent to High Park in the past (1884 Bloor St.) and more recently (51Qeubec Ave, 111 Pacific Avenue and 35 High Park Ave) and few others.

All 3 Studies listed below:

NHIS 51Quebec Ave, Nov 2013
NHIS 35 High Park, Dec 2016
NHIS 111 Pacific, Feb 2017

include following excerpt:

"Additional Park use not an issue
Objections to prescribed burns now minimal
Not recommended for additional mitigation"

"There are two areas that do deserve comment. ***First, the development will increase the use of the Park as additional residents will be in the vicinity.*** *However, the Park now receives a million visits a year (City of Toronto,* ***2008****) and has a management plan (City of Toronto,* ***2002****) to protect and manage its features, including a trail system and delimited sensitive zones where foot traffic is discouraged.* ***The Park is urban and for people and the additional local population from the redevelopment should not be an impact issue.***

Secondly, it is necessary to periodically burn the prairie areas to reduce plant competition, kill invasives and encourage those special species (prairie plants are resistant to fire). This has caused local concern despite best efforts when it occurs. The City now advertises these events broadly so that residents are now generally aware of the need and complaints are minimal."

It seems that **Indirect and Cumulative Impacts** of development proposals in respect to the Natural Heritage of High Park were not considered so far. This needs to be urgently addressed along BWVA Study and SASP as for the policies and mitigation to reverse high level of disturbance along various Key Features.

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The Policies:

http://cloca.ca/resources/Outside%20documents/Natural%20Heritage%20Policies%20of%20the%20Provincial%20Policy%20Statement%20MNR%202010.pdf

NATURAL HERITAGE REFERENCE MANUAL for Natural Heritage Policies of the Provincial Policy Statement, 2005

13.5.5 Review of Assessment
The proponent submits an impact assessment to the planning authority. The planning authority reviews the assessment to determine whether it is acceptable in terms of the completeness of the inventory and description of features, the thoroughness of the evaluation of potential negative impacts, the adequacy of the mitigation measures and monitoring programs identified, and so on. In cases in which an approval authority does not have the capacity or expertise to review the EIS, the authority may commission a qualified professional to carry out a peer review.

13.5.6 Planning Authority Decision

In making its decision about a proposed development, the planning authority would consider the results of the assessment review, along with other relevant PPS policy (see section 2.3). The planning authority's decision can be contingent on the revision of the development proposal and/or the attachment of conditions. For example, approval may be contingent on the implementation of specific mitigation and/or monitoring measures. Alternatively, approval may be granted only after extensive revisions of the proposal.

As part of the decision-making process, a planning authority may:
- approve the development application;
- require revision of the proposed development to avoid impacts that the planning authority deems unacceptable;
-impose conditions of approval, where empowered under the Planning Act, to address certain already identified issues in more detail or to address new issues raised during the assessment process; or
-refuse the application.
In situations in which mitigation measures cannot prevent negative impacts on the natural features or on the ecological functions for which the area is identified, an application should be refused.

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http://www.mah.gov.on.ca/AssetFactory.aspx?did=10463

Provincial Policy Statement, Under the Planning Act, 2014

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http://www1.toronto.ca/planning/chapters1-5.pdf#page=57
Toronto Official Plan

3.4 THE NATURAL ENVIRONMENT

Building the City while protecting and enhancing the natural environment is the aim of good stewardship. The natural environment is complex. It does not recognize boundaries and there are limits to the stresses resulting from human activity that it can absorb. To be good stewards of the natural environment we must acknowledge that it has no boundaries and we must respect its limits.

By promoting growth in locations and in forms that support the use of transit, we will reduce energy consumption and air pollution caused by auto use. Through better green design we can save energy and reduce the impacts of stormwater run-off. Environmental considerations must also be part of our everyday decision making because interaction with the environment is constant.

The impacts of growth on the natural environment must be anticipated and assessed if we are to have a healthy environment.

Our natural heritage features and functions require special attention. They are an evolving mosaic of natural habitats that supports the variety of nature in the City. The City's significant natural heritage features and functions are shown as the natural heritage system on Map 9. The natural heritage system is made up of areas where protecting, restoring and enhancing the natural features and functions should have high priority in our city-building decisions.

We must be careful to assess the impacts of new development in areas near the natural heritage system. The size of this adjacent impact zone will vary across the City, depending on the local characteristics of the natural heritage system and adjacent areas.

The natural heritage system shown on Map 9 is an evolving natural system that may grow beyond these boundaries.

Protecting Toronto's natural environment and urban forest should not be compromised by growth, insensitivity to the needs of the environment, or neglect. To this end, proposals for new development may need to be accompanied by a study assessing their impact on the natural environment. We must also be ready to seize opportunities to restore, enhance and extend the natural heritage system through new developments or partnerships with other agencies and institutions.

REQUIREMENTS of the CITY OF TORONTO ACT, PLANNING ACT and/or Regulations
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ADDITIONAL REQUIREMENTS of the OFFICIAL PLAN
Natural Heritage Impact Study if the proposed development is likely to have impacts on the Natural Heritage System shown on Map 9.
Environmental Impact Study if the proposed development is likely to have impacts on aspects of the environment not adequately assessed in the Natural Heritage Impact Study.

Geotechnical Study hydrological review to be included where warranted.

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The proponent of development has a responsibility to clarify some of the areas in the various sections of the report as recommended by available environmental impacts assessment guidance documents, including:

- **NATURAL HERITAGE IMPACT STUDY TERMS OF REFERENCE Study Natural Heritage Impact Study, Updated: November 2006**
https://www1.toronto.ca/static_files/CityPlanning/PDF/naturalheritage.pdf

The principles and criteria which will be used to evaluate the Natural Heritage Impact Study and its recommendations are those set out in the Planning Act, Provincial Policy Statement, City's Official Plan, and other relevant documents such as the Wet Weather Flow Management Policy.

- TRCA Environmental Impact Statement Guidelines
November 2007
Excerpt:
Purpose of an EIS
The purpose of an EIS is to determine the potential impacts, direct and indirect, of a proposed development application on the natural heritage system of an area...

These studies are typically completed for smaller-scale developments or in-fill developments that are not associated with detailed studies conducted to satisfy higher-level planning processes (i.e. Secondary Plans, MESPs, etc.), although these guidelines can be used to guide the environmental components required for these higherlevel studies as well. An EIS can also be required when an assessment of ecological impacts has not been addressed at earlier planning stages or one may be required at detailed design through the permitting process.

The function of the EIS is to describe potential impacts, to better inform municipal and TRCA staff in making decisions about which impacts of development are acceptable, and which should be avoided.

The proponent of a given development has a financial responsibility to fulfill the requirements established by the Province and the municipality for an Environmental Impact Study.