To the members of

The Planning and Housing Committee – item **PH27.1**

We are writing to provide formal submissions for the Council's consideration as it undertakes the development of new building code language governing so-called "iceberg homes"—residential structures characterized by extensive below-grade excavation, multiple subterranean levels, and substantial soil displacement.

This submission is directed specifically to the appropriateness, risks, and long-term municipal liability associated with permitting iceberg-style development within floodplain neighbourhoods, ravine systems, and low-lying hilly valleys containing meandering watercourses.

The concerns outlined below are grounded in established principles of geotechnical engineering, hydrology, slope stability, arboriculture, and land-use planning, and speak to risks borne to immediately adjacent and downstream properties, as well as the municipality itself.

We live in Hoggs Hollow and have seen many applications for iceberg development approved by the COA and each of these builds have had detrimental consequences from clear cutting properties and creating mudslides and water problems. Our neighbourhood is being jeopardized by so many factors; excessive variances, lack of rules to protect ravine properties from iceberg basements, as of right applications that remove significant trees and even illegal tree removal.

So The city's initiative - PH27.1 Growing Space for Trees: Protecting and Enhancing the Tree Canopy While Supporting Infill Housing and Addressing Concerns with Iceberg Homes, is certainly a start.

So we definitely agree to:

- Support the recommended policy changes to strengthen tree protection to Chapter 4 of the Official Plan as outlined in the staff report dated November 18, 2025
- Artificial turf and permeable pavers should not be considered "soft landscaping" and permeable pavers should not count as "soft landscaping" requirements for Multiplexes
- Building setbacks need to apply to all parts of a residential building above and below ground to prevent the creation of iceberg houses
- Pools should also not be considered "soft landscaping" and there should be stronger definition of ponds to include a certain percentage of living plants

But to address the overall problem in our neighbourhood resulting from tree removal and iceberg basement approval, the city must do something about the COA approval process which has allowed these buildings to be approved, many times over. This has increased our risk of floods and mud slides, which all have occurred in the last few years.

Icebergs development has been studied and banned in other countries, (in England). We should examine the evidence and consequences of approving such builds and mitigate the adverse affects on property and the public purse.

The city must develop new building codes governing "iceberg homes"—residential structures characterized by extensive below-grade excavation, multiple subterranean levels, and substantial soil displacement.

There are substantial risks and long-term municipal liability associated with permitting iceberg-style development within floodplain neighbourhoods, ravine systems, and low-lying valleys containing meandering watercourses.

The concerns outlined below, are grounded in established principles of geotechnical engineering, hydrology, slope stability, arboriculture, and land-use planning, and speak not only to the risks to the property, but to the impacts imposed on adjacent and downstream properties, as well as the municipality itself.

FLOODPLAIN AND RAVINE CONTEXT: INHERENT SITE VULNERABILITY

Floodplain ravine neighbourhoods, like Hoggs Hollow are, by definition, dynamic and sensitive landforms. They are typically characterized by:

- High or seasonally fluctuating groundwater tables
- Alluvial and/or poorly consolidated soils
- Sloped or terraced topography subject to gravity-driven movement
- Meandering underground rivers or tributaries that actively reshape subsurface and surface hydrology

These neighbourhoods rely heavily on natural systems—particularly vegetation and intact soil structure—to maintain ground control and slope stability.

Iceberg homes introduce a level of subsurface disturbance that is fundamentally incompatible with these conditions. Deep excavation, soil removal, shoring, dewatering, and permanent below-grade construction alter the natural equilibrium of the land in ways that cannot be fully mitigated through conventional engineering alone.

TREE REMOVAL AND ROOT SYSTEM DESTRUCTION

A defining feature of iceberg home construction is the clear-cutting of trees to accommodate excavation, staging, and structural footprints.

In ravine and floodplain neighbourhoods, this practice has particularly severe consequences.

a. Root Systems as Critical Ground Stabilizers

Mature trees and their root systems serve as a primary stabilizing force in hilly, low-lying landscapes. Roots:

- Bind soil layers together
- Increase soil shear strength
- Reduce erosion
- Regulate soil moisture through transpiration

The removal of these systems significantly degrades ground stability, especially on slopes and near watercourses.

b. Damage to Neighbouring Properties' Trees

Tree root systems routinely extend well beyond property boundaries. Excavation near lot lines often severs or damages the structural roots of neighbouring trees, resulting in:

- Tree destabilization and windthrow risk https://en.m.wikipedia.org/wiki/Windthrow
- Delayed tree decline or death
- Loss of soil reinforcement on adjacent lands

This creates secondary instability on neighbouring properties, exposing residents to safety risks and property damage for which they had no agency or consent.

GROUND CONTROL AND SLOPE STABILITY IMPLICATIONS

From a ground control perspective, iceberg homes pose the following risks:

a. Loss of Lateral Soil Support

Deep excavations remove the lateral confinement that surrounding soils depend upon for stability. In ravine and valley environments, this loss of confinement can propagate beyond the subject property, increasing the likelihood of:

- Soil creep
- Rotational slope failure
- Differential settlement
- Progressive ground movement across multiple parcels

These impacts may not manifest immediately, but often occur years after construction, particularly following heavy rainfall, spring melt, or flood events.

b. Groundwater Interference and Hydrostatic Pressure

Below-grade structures displace groundwater and interrupt natural subsurface flow paths. In floodplain environments, this can result in:

- Increased hydrostatic pressure against adjacent soils and foundations
- Redirection of groundwater toward neighbouring properties
- Chronic soil saturation that reduces shear strength

Such conditions materially increase the risk of foundation damage, basement flooding, and slope instability on nearby lands that did not initiate the excavation.

CUMULATIVE AND NEIGHBOURHOOD-WIDE EFFECTS

While iceberg homes are often reviewed on a lot-by-lot basis, the impacts described above are cumulative in nature. Once root systems are destroyed and hydrology altered, the resulting soil degradation can:

- Accelerate erosion downslope toward ravines and rivers
- Increase sediment loading in watercourses
- Undermine retaining structures and municipal infrastructure
- Create long-term maintenance and liability burdens for the municipality

What may appear structurally viable on an individual site can, in aggregate, compromise the resilience of the entire neighbourhood.

ADVERSE IMPACTS TO IMMEDIATE NEIGHBOURS

Immediate neighbouring properties may experience:

- Increased flood and groundwater intrusion risk
- Foundation cracking or settlement
- Loss of mature trees and privacy
- Increased insurance premiums or loss of insurability
- Reduced property values
- Safety risks from falling trees or slope failure

These impacts raise serious equity and land-use compatibility concerns, as they transfer risk from the developer to surrounding residents and, ultimately, the municipality.

POLICY AND CODE IMPLICATIONS

Given the above, it is respectfully submitted that iceberg homes should be treated as a distinct development category requiring enhanced scrutiny, particularly within floodplain and ravine contexts.

At a minimum, new building code language should consider:

- Prohibitions or strict limitations on deep excavation in floodplains and ravines
- Mandatory minimum setbacks from lot lines for below-grade construction
- Absolute protection of mature trees and root zones, including on adjacent properties
- Independent, peer-reviewed geotechnical and hydrological assessments

- Long-term monitoring and financial securities to address delayed ground failure

Absent such measures, the approval of iceberg homes in these environments presents an unreasonable and foreseeable risk to public safety, private property, and municipal infrastructure.

CONCLUSION

Floodplain ravine neighbourhoods are sustained by delicate natural systems that cannot be readily replaced once disturbed. Iceberg homes, by their very nature, undermine those systems through excessive excavation, vegetation removal, and hydrological disruption.

We hope that the Council, in developing new building code language, can prioritize precaution, neighbourhood-scale impacts, and long-term municipal responsibility over short-term development gains.

Thank you for the opportunity to provide this submission. I request that these concerns be considered in the formulation of any new regulatory framework governing iceberg home development.

Respectfully submitted,

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HOGGS HOLLOW TREE WATCH

http://hoggshollowtreewatch.com/