



Comments on Kanata Highland Preliminary Concept Plans and Information Meeting Held on 12 December 2017

There are two main issues facing the Kanata Highlands development:

1. management of water, and
2. addressing the species at risk on the site.

1. Management of Water

Outdated Floodplain Mapping – The 100 year flood line of the Carp River is based on mapping done in 1983. MVCA has plans to update the flood plain maps for the Carp River in two sections: from the Ottawa River to the village of Carp in 2020 and from the village of Carp to Glen Cairn in 2021. The Kanata Highlands Preferred Concept Plan cannot proceed until new flood plain mapping is prepared.

Since 1983 there has been significant upstream and adjacent development with attendant hard surface runoff. Weather patterns have also changed causing multiple high intensity rain events¹ in a season. In addition a major restoration of a 6 km section of the river is nearing completion immediately upstream of the site. Under changing climatic conditions, its efficacy in handling the runoff from the new development has not been determined. The section of Huntmar Road between Richardson Side Road and the railroad tracks was twice covered by water in 2017 and had to be closed to traffic. Downstream of the site farmers and the village of Carp have experienced record high water levels making fields unworkable and causing basements to flood.

Given the significant changes noted above, to base the envelope of development and a surface water management plan on a 35-year old flood plain map is irresponsible and possibly incompetent. It could leave the City and the developer liable for damages, especially given the public forewarnings.

The City should work with MVCA to determine if new flood plain mapping can be moved forward in time, since the development envelope and storm water management plan will likely be affected.

Low Impact Development – Surrounded on three sides by natural features that include wetlands and a river, the Kanata Highlands site is ideal for demonstrating Low Impact Development (LID). Developers and city planners cite risk of the unknown in LID performance, but cities and conservation authorities in southern Ontario have put these issues to rest with empirical evidence and metrics from completed developments² that have weathered multiple seasons.

In the cited paper, Toronto and Region Conservation saw LID green infrastructure preserve the natural hydrological functions of the landscape, reducing runoff and attenuating peak flows by 70-

¹ Rainfall data and river flow data are available from MVCA.

² *Green Infrastructure Approaches to Increased Water Resources Resiliency*, by Tim Van Seters – Senior Manager, Sustainable Technologies - Toronto and Region Conservation. See also www.sustainabletechnologies.ca for data and studies.

90%. Storm water management (SWM) ponds were eliminated and the communities created had more tree cover and integrated green space.

SWM ponds collect pollutants, toxins, and fertilizers from hard surface runoff and must be periodically dredged by the municipality, with the removed sediment properly treated and disposed of. SWM ponds must be properly maintained to avoid seepage and over-topping. The three Preliminary Concept Plans locate the SWM pond(s) at the edge of the floodplain. Both construction and regular maintenance must be carefully executed to avoid dumping contaminated water into the river during flood pulses. Elimination of the ponds would save the City money in the long run.

Carp River Restoration – The Carp River between Richardson Side Road and the railroad tracks on Huntmar Road is approximately 2.6 km in length. Dredged and straightened in the early 1900's, this reach of the river and its adjacent wetlands are severely degraded. Water retention, wetland function, and conveyance could be improved by restoration that includes meanders, riparian wetlands, ponds, swamps, wet meadows, and improved channelization.



A channel drains water into the Carp River from the north side of Terry Fox Drive.

As an example, storm water from new development on the north side of Terry Fox Drive is diverted under the road and drained into the restored area of the Carp River, which was designed to handle this additional flow. Therefore it should also be possible to increase capacity on the north side of Richardson Side Road by restoring the river and wetlands, which in combination with LID will provide a cost effective solution for storm water management and flood pulse mitigation.

The upstream Carp River Restoration Project proved more costly than originally estimated, even after a number of features were scaled back. An alternative approach to the proposed restoration should be considered whereby the City and the developer work with Ducks Unlimited Canada (DUC), who would design and carry out the project. DUC has more experience than any other organization in Canada in implementing successful wetland restorations on budget. The requirements for water retention, channel flow, storm water events, etc could be set by the City and developer, the design reviewed by MVCA, and the project funded by the developer. It might even be possible for DUC to receive some federal matching funding for the project.

The proposed restoration section of the Carp River is a municipal drain. The updated Ontario Wetland Conservation Strategy provides for and encourages the restoration of wetlands under the Drainage Act.

2. Species at Risk

The Kanata Highlands site contains Blanding's Turtle habitat and is a migration corridor between the adjacent South March Highlands and the Carp River. The province's approach to addressing the impact to Species at Risk (SAR) on development property is clearly inadequate. Since the negotiation is between the proponent and MNRF for what constitutes overall benefit, the City can

only work with the developer in maximizing the intent of the permit, which may require habitat creation, fencing, new nesting areas, etc.

Given this limitation, there are three main issues with the Kanata Highlands site that the City must address in the development's design:

1. limit turtle/human contact,
2. provide an adequate corridor for turtle movement, and
3. create new, safe nesting areas.

Blanding's Turtles tend to return to the same place to nest year after year. In the village of Carp, Blanding's Turtles and Snapping Turtles emerge from the Carp Hills and lay eggs in the backyards of residents along Charlie's Lane (Hidden Lake) and on Glenncastle Drive, where they cross the road to reach what used to be the remnants of a sandy beach from the Champlain Sea. Children pick them up and dogs harass them, but many residents try to protect the eggs from predators and have seen hatchlings emerge and make their way into the Hills.

Therefore it is essential that fencing be provided to prevent the turtles from entering the development and to discourage residents from interacting with the turtles. Location of the fencing must consider current turtle routes and new routes formed by displacement due to development on the north side of Terry Fox.

In addition, the proposed turtle corridor must direct turtles to new, suitable nesting sites away from human disturbance.

Given all the above information, placing the turtle corridor in the middle of the development is a non-starter.

Butternuts are the other known SAR on the site. (There may be others that have not been publicly identified.) The central area of the site hosts 83 Butternuts, 27 of which are healthy enough to be retained according to the *Existing Conditions Report*. Working with RVCA's Butternut Recovery Program, more Butternuts must be planted on the site in undeveloped areas to compensate for those lost, with the developer paying for protective fencing and care.