



Gary McLaren
Acting District Planner
Kemptonville District Office
10, Campus Dr.
Postal Bag 2000
Kemptonville, ON K0G 1J0
Tel (613) 258-8264
Fax (613) 258-3920
e-mail - gary.mclaren@mnr.gov.on.ca

Ministry of
Natural Resources

Ministère de
Richesses naturelles

September 27, 2005

Mr. Rob Phillips
Program Manager (West District)
Planning and Infrastructure Approvals Branch
Planning and Growth Management
City of Ottawa
110 Laurier Avenue West, Ottawa
K1P 1J1

Dear Mr. Phillips,

Re: Kanata West Concept Plan and Carp River Watershed Plan

Thank you for the presentation to our office staff on September 9, 2005 regarding the above concept plan. The reason for our requesting the meeting was firstly to develop an appreciation for the complexity of this project (harmonization of Municipal Engineers Association Class Environmental Assessment process with a host of Planning Act development applications and related technical studies, meshed into a sub watershed plan and a two tier flood zone proposal) and secondly to discuss and clarify MNR's role at the concept plan stage rather than waiting for the location and engineering design approvals under the Lakes and River Improvement Act (LRIA) and finding the original concept plan was not feasible. We have not been involved as commenting agency for the Municipal Environmental Assessment processes connected to either the Sub-watershed plan or the concept plan, so please consider these comments as a cursory review to highlight significant issues.

To provide some substance to our natural heritage review, we are looking at the EA process similar to a location approval under LRIA. For example, the Huntmar extension would require LRIA approval for structures and also some agreement with DFO concerning compensation for fish habitat relating to MNR's role in fisheries management. Our general concern is that there are information gaps that would prevent us from considering a location approval. These gaps threaten the viability of the project and could

lead to significant alteration and costs at the engineering and design stage if not considered at concept stage.

Generally our concerns, relate to:

- i) development impacts on the features and functions of significant natural values in the context of the broad scope of this project;
- ii) cumulative hydraulic impacts within the boundary of the sub-water shed area, and
- iii) development impacts within and adjacent to the flood plain that could affect public safety concerns relating to our mandate under the Emergency Measures Act for emergency response to flood and drought events.

Although MNR has no direct approval authority for development in a floodplain (other than alteration of a watercourse under Lakes and Rivers Improvement Act (LRIA), this Ministry does have obligations for public safety and therefore should provide comments planning in a manner which would avoid emergency response scenarios.

Ecology

It would not appear that there has been an adequate review of the Species at Risk (SAR) within the study area. If there has been a scan of the Natural Heritage Information Centre element occurrences, it is not immediately apparent by reviewing the reports. Following the scan, some field work needs to be done and a level one report prepared to confirm whether or not sensitive species exist in the study area.

Biology

Significant Fish Habitat – We question the conclusion that there is no pike spawning habitat based on a single season's study data. More conclusive data is needed. This may require discussions with Department of Fisheries and Mississippi Conservation

The factors affecting the temperature of Feedmill creek should be addressed in more detail.

We have not been involved with the Watershed study or the Terrestrial EA processes. Can you advise us on their status and if possible, provide us with a copy of these final reports as back ground material.

We are presently working with DFO to try and harmonize fish habit and fisheries management issues for compensation for a HADD under the Fisheries Act.

Location and Design Approvals under LRIA

Carp River, Poole Creek and Feedmill Creek Restoration Class Environmental Assessment

prepared by TSH, and Parish Geomorphics for the City of Ottawa
Kanata West Development

The proposed channelization works for each of the watercourses, Poole Creek, Feed-mill Creek and Carp River requires a Work Permit under Ont. Reg. 454/96 and must be submitted to MNR for approval under the Lakes and Rivers Improvement Act.

Filling in the flood plain is subject to approval by the Mississippi Valley Conservation Authority.

MNR could offer an opinion about the conceptual design for future development, however we are not able to comment on the LRIA until we receive specific applications and design plans.

As presented within the document, the information provided does not have sufficient detail. We can not approve the proposed works without detailed hydrologic and hydraulic calculations to address the following:

Channelization works are often proposed to improve drainage and reduce local flooding impacts. Such works shall not increase flooding damage upstream and downstream of the channel and shall not lower river levels detrimentally from those under natural conditions. To meet this criterion, the hydraulic characteristics of the natural river channel and its floodplain must be maintained. This applies to all lengths and sizes of diversions and channelization to prevent a cumulative effect of increased flood levels and erosion rates. The following hydraulic characteristics of the natural river shall remain the same in the proposed channel:

- *travel time (not to be decreased)*
- *the stage storage and stage discharge relationships of the natural river and its floodplain are to be maintained (evaluated in 0.3 m elevation increments from the channel bed to the flood level per Provincial standards for defining natural hazards)*

These criteria maintain a flood prone area in the channelized reach, identical to that of the original watercourse. The strength of these criteria is that they are straightforward to apply and easily verified by the approving agency. However, their strict application may be inhibiting. Exceptions may be considered where the objectives of the criteria are met:

- *the cumulative impacts of all future works in the watershed are quantified through sub-watershed studies and are considered insignificant*
- *there are no downstream impacts (i.e. channel outlets to one of the Great Lakes)*
- *the discharge storage relationship of the watercourse is maintained on an incremental basis for all floods (from the 2 year return flood to the flood per Provincial standards for defining natural hazards)*

- *routing calculations are provided which conclusively demonstrate that there would be no increase in downstream peak flows and total storage has been maintained or increased*

Based on the information in the Draft Creek Restoration Class EA, MNR can not support the proposed channelization works as presented. We require additional information to review the channelization works before preceding any farther in the EA process to ensure the works do not increase upstream water levels, negatively impact downstream areas and consideration of all channel works on a subwatershed or watershed basis for cumulative impacts have been included in the analysis.

Kanata West Road Network Environmental Study Report – Draft

prepared by Delcan for The Kanata West Land Owners' Group

MNR was not contacted as a Government Agency as noted on page 7, only DFO, the City of Ottawa, Transport Canada (Coast Guard) and MVCA.

The proposed crossings in the Kanata West Road Network ESR are subject to approval under Ont. Reg. 454/96 pursuant to LRIA as an enclosure.

The crossings must be designed to ensure there is no increase in upstream water levels, downstream velocities and erosion rates, and fish movement must be provided for the species identified by MNR and DFO.

As above, after determining the extent of the Regulatory channel width, infrastructure works can proceed to detailed design to ensure adequate capacity and location.

Kanata West Concept Plan, Master Servicing Study August 12, 2005

prepared by Stantec Consulting Ltd. and Cumming Cockburn Limited

The Kanata West Concept Plan-Master Servicing Study discusses the infiltration rates of soils in the Carp River Watershed. Figure 4 of the report illustrates the infiltration rates at the site as "required" by the Carp River Watershed/Subwatershed study. These infiltration rates as shown on Figure 4 do not seem to take into account the change in permeability (infiltration capacity) of the soils due to development. When the area is developed a significant portion of the area will become impermeable (streets, driveways, rooftops etc). The report does not seem to account for this in describing infiltration rates. The surrounding wetlands and surface water bodies are dependant to varying degrees on the amount of water received as baseflow, and the amount of baseflow received is dependant on the recharge zone and infiltration rates in the recharge zone. If the

infiltration rates in the recharge zone are altered (diminished) then baseflow will also be diminished which in turn may alter the form and function of the receiving water bodies.

In Appendix E "Post Development Condition" states that "Baseflows will continue to be discharged to the creek and river systems according to the recommendation in the Carp River Sub-Watershed Plan". While it is true that baseflow may continue, the question is whether or not sufficient baseflow will continue to maintain the creek and river systems. Closer examination of the Carp River Sub-Watershed Plan should be conducted to see what amount of baseflow to the creek system is required.

Baseflow can also be intercepted by service trenches and perimeter housing drains. The impact of diverting this groundwater flow into the storm sewer system should be discussed in terms of reduction of baseflow to the wetland, creek and river systems. A water balance should be discussed demonstrating the impact of the loss of baseflow to the surface water systems. Implications of this loss should then be discussed.

Appendix E, Figure 4 shows the proposed fill areas. In order to maintain infiltration rates the infiltration rate of this fill must be consistent (or higher) with the underlying native material. We didn't see a discussion on the pertinent characteristics of the fill material. If this fill is to come from the site, re-compaction of the fill could decrease the infiltration rate and decrease baseflow contributions.

The infiltration targets indicated for the development appear very high to address groundwater contributions and maintaining baseflow with the installation of infrastructure effectively creating an impermeable barrier for recharging the groundwater table and baseflow for all three watercourses.

Hydrogeological studies must be undertaken to quantify the existing infiltration values. Upon review and acceptance, a detailed plan demonstrating development can occur to achieve those values with no loss of form or function wrt infiltration to groundwater and baseflow, and wetlands and natural areas to be preserved.

General Additional Comments:

Corridors: The overlays for the road network and transit system either intercept or are situated in very close proximity to the water courses Carp river, Feed-mill creek and Poole creek. These overlays at the concept stage do not provide the level of detail to consider location approval let alone engineered approval under LRIA. We would either need some engineered plans or some modeling to be able to determine effects the developments would have on the features and functions of the water courses, wetlands and flood way.

Campeau Drive Extension: The portion of the corridor that is designated as degraded in the Carp River Sub watershed Study should be a priority for bringing back to a healthy functioning system.

MNR's mandate under LRIA and Emergency Measures Act closely meshes with the MVCA's mandate for flood control under the Conservation Authorities Act. We are committed to assisting the MVCA, the city, other government agencies, developers and stakeholder groups in the mitigation of this project to achieve a more vibrant ecosystem that more closely resembles the previous natural state of the Carp River sub watershed.

Any concerns, please feel free to contact the undersigned.

Yours sincerely,

Gary McLaren
Acting District Planner