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1. **From:** [Coopers](#)

To: carpriver@ottawa.ca

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Subject: Comments on Terms of Reference

Please find below my comments on the proposed Terms of Reference for the Third Party Review.

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Comments on Third Party Review Terms of Reference

I have prepared these comments with the knowledge of the alternative Terms of Reference prepared by Darlene Conway, which I take the position are superior to those offered on the City of Ottawa's website, and should form the basis on which the Third Party Review should proceed. As a result, I am submitting below only high-level comments on fundamental requirements of the audit that appeared to be lacking in the proposed version of the Terms of Reference made available for comment.

Floodplain Policy

The scope of the terms of reference needs to be expanded to include examination of floodplain policy.

Given that staff will be required to prepare reports for consideration by Committee and Council supporting future Rezoning of Hazard Lands / floodplain overlay in Kanata West, there is a need for an independent review of natural hazard policy issues.

Given the recent successful outcome of my OMB Appeal of the Jock River floodplain development – it should be apparent to Council that future staff reports prepared for PEC need to provide the policy basis on which development of existing One-Zone floodplain can proceed. In the case of the Jock River floodplain development proposal, the RVCA would not allow 7 lots to be developed from the floodplain – yet the MVC appears to be willing to allow something hundreds of lots to be developed in the 28 Ha of Carp River floodplain. How can there be such inconsistency in the application of OP Policies and the PPS within the City of Ottawa? The Third Party Reviewer should be asked to explain how there could be such a divergence in application of Natural Hazard Policies in the same municipality, employing the same OP Policies.

I have an outstanding Appeal of the Richcraft Plan of Subdivision in Kanata West and it will be necessary for the City to defend the basis on which that Approval was given based on floodplain policy. There will be a need for future Zoning Bylaw Amendments and Plans of Subdivision to

be approved that could be subject to Appeals to the OMB. Unlike the Trinity OMB Hearing, the MVC will be summonsed in future Hearings to defend its approach to floodplain management, particularly if they continue to use the 1983 floodline for planning and regulation purposes, given the number of changes that have occurred in the watershed since 1983. (A Section 43 Request for Review has been filed with the OMB regarding the April 25, 2008 Trinity OMB Decision. A Judicial Review has also not been ruled out).

Carp River as a Municipal Drain

The status of the Carp River as a municipal drain needs to be resolved – and the sooner the better. The Third Party Review could prove to be entirely pointless should a determination be made that the Carp River is a municipal drain. In some ways this should be the first task to be completed in the review, because it could require a complete shift in the process through which the Restoration Project must proceed.

There is a lot of evidence available to support the position that the Carp River has status as a municipal drain. There are engineering drawings, the 1909 OCA Decision, reference to the Carp River Drain on the OMAF Municipal Drain Index Mapping, etc. I have recently learned that a Borrowing Bylaw that was passed by a former municipality has been discovered that adds to the evidence of the Carp River being a municipal drain.

The Third Party Review should provide recommendations about how to proceed once a determination is made about the status of the Carp River as a Municipal Drain. The qualifications of the Consultant to be selected should include some familiarity with the *Drainage Act*.

Need to establish definition of Existing Conditions

The Terms of Reference, as proposed, appear to be pre-occupied with correcting only the deficiencies with the post-development model. There appears to be no identification that there is a need to first establish a credible definition of existing conditions from which an impact assessment can be conducted.

There have been many changes in land use and alterations made to the Carp River floodplain since 1983 when the floodplain mapping was first completed on the Carp River. There have even been many changes since 2000, when the Subwatershed Plan was initiated – and since it was approved in January 2005.

The impact assessment is being conducted on a very loose definition of “Existing Conditions”. In some cases the comparison is being made between the recent (2006/2007) floodplain modeling work and the 1983 floodplain report findings. In other cases it is between the non-calibrated existing and future floodplain analysis completed by CH2M Hill.

What is clear is that there is no up-to-date definition of existing floodplain conditions consistent with the “Technical Guide River & Stream Systems: Flooding Hazard

Limits (2002)”. Furthermore, the “City of Ottawa” (PWS, presumably) raised a number of concerns with the CH2M Hill existing conditions study that are included in the Class EA documentation. In particular, at point 9, the City of Ottawa’s position is that “It is recommended

that design not proceed based on flows from this analysis.”

Therefore, a fundamental requirement of the Third Party Review is establishing clarity in the definition of “existing conditions” from which the impact assessment of the proposed Restoration Plan is to be based.

Apparent Problems with Modeling

There are a number of problems with the modeling that need to be corrected before any work on model calibration, etc. proceeds. These are problems whereby there are inconsistencies between what is modeled and what is actually found in the field. The best examples of this are:

1. The encroachment of the Sensplex into the Carp River floodplain during its development;
2. The encroachment of the SMART Technologies development in the Carp River floodplain during its development; and
3. The actual topographic conditions that exist north of the future Campeau Drive, between Didsbury Drive and the Carp River

In the case of the Sensplex and SMART Technologies developments, because there was never any compensating cut required by the MVC to offset the impact of the large volumes of fill that were placed during the development of those sites, when the necessary changes are made to the HECRAS model, the Third Party Reviewer should comment on whether those changes should be made to the existing conditions model or the post-development model.

In the case of the area north of the future Campeau Drive a determination needs to be made by the Third Party Reviewer, from a floodplain policy perspective, whether those lands will be deemed to be within the floodplain – as shown in Figure 2 of Appendix E of the Post-Development CH2M Hill report.

I believe the above issues raise a very important question that the Third Party Reviewer needs to answer – should the City give any weight to the 1983 floodplain conditions in its impact assessment? In other words, while the 1983 floodplain mapping may be used by the MVC for Regulation under the *Conservation Authorities Act*, given the investment the City has made in updating the hydrologic and hydraulic assessments using more detailed topographic mapping and up-to-date watershed conditions, once the modeling is completed to standard, should any consideration be given to the 1983 conditions while Council is deliberating the approval of applications under the *Planning Act*?

Model Calibration vs. Sensitivity Analysis & Adaptive Management

The Third Party Reviewer should be asked to summarize model calibration requirements from the “Technical Guide - River & Stream Systems: Flooding Hazard

Limits (2002)”, and the Lakes and Rivers Improvement Act Technical Guidelines, and to comment on the differences between model calibration and sensitivity analysis.

Furthermore, given that flooding is a health and safety issue that also poses risks to property, the

Third Party Reviewer should be asked whether the precautionary principle should be applied given the uncertainty of the aerial extent and elevation of flood levels. The Third Party Reviewer should be required to provide a Professional Engineering Opinion on the appropriateness of employing Adaptive Management on an engineered system where the public's health and safety are at risk.

Development unaccounted for in Present Impact Assessment

There are at least three major developments unaccounted for in the impact assessment completed to date:

1. The expansion works planned for Highway 417 that will affect the hydrology (expansion of impervious areas and drainage improvements), and the hydraulics of the Carp River (lengthening/widening the bridges through which the river must be conveyed);
2. The Fernbank Development area that will add 200 Ha of urban area to the watershed; and
3. The Carp Road Corridor.

The Third Party Reviewer must provide recommendations about how the consideration of these development areas are to be factored in the impact assessment such that future planning approvals that are to be based on the supporting analysis have been completed using an approach that "is consistent" with the Provincial Policy Statement.

Interim Development and Identification of Stormwater Management Criteria

One of the first tasks that the Third Party Reviewer should be asked to complete is an examination of supporting documentation to determine whether there is any basis on which to assign stormwater management criteria (quantity control criteria).

Since the grading plan shown in the Kanata West Infrastructure Master Plan is based on the assumption that there is no need for quantity controls above the 10-year event, major system drainage has been directed to outlet directly to the tributaries and to the Carp River, with no opportunity for off-line stormwater management. As a result, the Third Party Reviewer must comment on whether it is prudent to allow development to continue on the basis of the grading plan from the Kanata West Infrastructure Master Plan, or if there is a need to develop a different grading plan that would provide flexibility, in case the subsequent findings of the Third Party review are such that quantity controls up to the 100-year event are found to be required.