CITY OF LONDON

Richmond St. Pedestrian Pathway Connection

EIS Prepared By: AECOM (April 2015)

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SUMMARY

The EIS by AECOM was thorough, well-prepared, and included a comprehensive series of management recommendations with respect to construction mitigations and ecological enhancement. Our main concerns are that the intended pathway will have long-term net negative impacts by disrupting movement between the northern and southern PSWs (i.e. fragmenting the wetland system), and will increase wildlife disturbance/mortality, litter and/or salt contamination, and soil compaction and sedimentation. We also find that the wildlife inventories do not meet the 'three-season' criterion, and we consider the proposed buffers to be insufficient along the western tributary and northern PSW. We recommend that negative impacts to wildlife and litter be acknowledged, that mitigation of these impacts be considered, that effort is made to supplement wildlife inventories, and that buffers between the pathway and natural features are increased.

SPECIFIC COMMENTS

It would be helpful to present the information in Figure 8 (which includes the preferred pathway alignment) earlier in the document to give context to the other figures.
Specify if and where pathway lighting is to be used. If lighting will be installed, it should be done so to minimize light pollution and energy waste (this includes avoiding reflecting surfaces near lights, using lights that are low-intensity, direct downward/shielded to minimize light trespass, and timed to limit lighting duration).

Executive Summary

1 - Restricting the pathway to areas outside of natural heritage features will not result in a net positive impact. The path adds traffic to an otherwise undisturbed area, and that traffic bisects a corridor connecting two significant wetlands.

2 - That construction mitigation will avoid or prevent impact is, again, not a net positive impact.

2. Natural Heritage Features & Functions

The Environmental Management Guidelines (2007) (EMG), section 2, p44 states that the "standard protocol for conducting a comprehensive survey of wildlife (flora and fauna)" recommends a "three season inventory" where field investigations are to be performed "at three different times of the year per site". According to this protocol, the three seasons are

spring, summer and autumn. Although the AECOM EIS does provide details of their field assessments with the dates of the field assessments conveniently summarized in Table 2 (p10), the data presented in this table indicate that the necessary "three season inventory" was performed only one (the Floral Species List) of the eight field surveys listed in Table 2. A "three season inventory" was not completed for the following surveys: amphibian and breeding bird survey, aquatic habitat assessment, significant wildlife habitat assessment, wetland boundary assessment, wetland boundary assessment, ecological land classification, and the species at risk assessment. If some of the surveys were from previous reports, there should be some indication of what was found.

We had some concerns about the timing and breadth of surveys based on EMG recommendations. Inconsistencies with the EMG are as follows:

Survey type	Surveys in the present EIS	According to EMG
Amphibian studies	April 21, June 12/24	Late March to May
Breeding bird survey	May 27, June 6	Mid-June to July
Significant wildlife habitat assessment	August 7/15, October 1	Should include spring
Wetland boundary assessment	August 7, August 15	Should include spring
Floral species list	April 21, June 12/24, August 7/15, October 1 (all in 2014)	3 seasons, multiple years
Species at risk assessment	August 7/15, October 1	3 seasons, multiple years

Recommendation: That the listed surveys be supplemented to comply with the EMG, and/or if data from missing years and seasons was taken from pre-existing documents Aquatic Habitat Assessment should also be completed for the tributary.

Why was no benthic survey completed for the tributary? The pathway is expected to have long-term impact on sedimentation and (potentially) salt run-off into tributary. Precipitation may also be a sedimentation problem long-term; topography indicates that everything from the path will drain into the wetlands and tributary.
Recommendation: That a benthic survey is completed for the tributary to provide baseline data for post-construction surveys.

2.2.1 Vegetation Communities & Plants

How does the use of conservation coefficients and floristic/weediness indices reflect the EMG? If these are not in the EMG but are standard practice elsewhere, perhaps they should be incorporated into the new EMG?

2.2.3 Breeding Birds

Will the landowners in the adjacent property be informed that nesting barn swallow was found (McWade Pl.)?

Appendix I - Table 1.2

Criteria for Amphibian Breeding Habitat (Woodland) was met, but not Amphibian Breeding Habitat (Wetland). Unlike wetland breeding habitat, woodland breeding habitat does not require consideration of movement corridors (according to sources listed?). Breeding frogs were recorded in the southern PSW, and the northern PSW has potential breeding habitat. If both PSWs are treated as one complex (Arva Moraine), then it is possible that amphibians move between them. The pathway could therefore be a barrier for amphibian movement between the north and south PWSs.
Recommendation: Acknowledge the potential disruption of this wildlife corridor and consider mitigation (e.g. use alternative pathway surfaces—such as boardwalk—in the region between CUM1-1 and CUW1b).

5.2 Potential Short-term Impacts

Recommendation: If damage to trees or rooting zones occurs then tree planting should be done to compensate.

5.3.1 Design and Layout of Pathway

The report mentions that there will be a 5 m buffer from the high water mark of the watercourse. Does this include the maintained mowed area around the path or just to the edge of the path? According to page 121 of the EMG, the buffer recommendations are as follows:

- 10 m beyond the dripline of trees in a woodlands
- 30 m from the high water mark of a permanent watercourse
- 30 m from wetlands

Recommendation: Due to the potential sedimentation and litter resulting from a pathway that is only 5 m from the tributary, we would recommend increasing the buffer to at least 15 m (e.g. for an intermittent watercourse).

5.4.2 Standard Mitigation

The mitigation measures during the construction phase will not fix any changes to the drainage pattern. Based on Figure 3, the path will intersect the overland flow from the cultural woodlands into the Arva moraine. What are the potential impacts of introducing impermeable surfaces in a runoff zone, so close to a watercourse?
Recommendation: Increase the buffer to the high water level.

Is there a concern that the path will become inundated during floods and/or high precipitation events?
Recommendation: Increase the buffer to the high water level, consider less permeable solutions for the path.

Are there any fertilizers, chemicals, or other concerns for water quality that could be carried into the watercourse from the path?
Recommendation: No winter maintenance, monitoring for water quality assessment.

Which vegetative barriers will be used, and does standard practice show that this is an effective way to deter people? What is the nature of the educational signs, and where will they be placed?

5.4.3 Enhancement Mitigation

Be specific about 5-year monitoring plan - e.g. what should be included in this monitoring specifically, and who will undertake it? Who is in charge of educational signs and what information is on there?
Recommendation: Monitoring plan to include flora and fauna surveys, survey of watercourses, benthos, and invasive species.

5.5 Net Effects

The SWHTG wildlife habitat category includes animal movement corridors (which will be bisected by the pathway on the eastern side). Specifically, roads alter the natural landscape and act as a barrier and source of mortality for wildlife (Bennett 1991; Clevenger & Wierzchowski 2006). This paved path (3 m plus 1.5 m mowing/disturbed border) will have pedestrian and cyclist traffic (in addition to stroller, pets etc.), and this creates a roadkill hazard for wildlife (Kovar et al 2014). The path also creates a barrier between the two wetlands both physically and behaviorally (as human and pet traffic is disturbing to wildlife and may thereby prevent movement between wetlands and/or have detrimental impacts on wildlife in general) (Frid and Dill 2002). If the path is to be maintained in the winter, will the use of salt be avoided? Also note that dry, hot asphalt in the summer is also a barrier to many invertebrates and may impact herpetofauna (some species bask on asphalt, which increases their risk) (Asrruay & Robinson 1996).
Recommendation: AECOM should acknowledge that this pathway will result in habitat fragmentation (Bennett 1999), and some consideration should be given to minimizing this impact on wildlife mortality, disturbance, and movement between the two wetlands. Consider a bridge or boardwalk over the CUW1b—CUM1-1 corridor. Planting to shade the pathway where it bisects CUW1b and CUM1-1 would mitigate problems associated with hot dry asphalt. Perhaps mow less around the path to maintain naturalization of the corridor (and this may help with shade). Salt use for winter maintenance should be avoided to prevent water and soil contamination.

Table 16

1.3 Degradation of soil quality through compaction/contamination

Table suggests there will be a no net effect for compaction because of the use of fences. Fences will not prevent root/ soil compaction, possible low net effect during construction

This was not considered for long-term effect, but placing an asphalt path and with increased human traffic (compaction) and consequent littering/salt use/machines (sedimentation)/other contamination, this would have lasting effects.

1.4 Increase in litter and man-made debris

This is a long-term concern due to increased human traffic.
Recommendation: Installation of garbage bins to prevent littering.

1.5 Disturbance to wildlife through noise impacts

Restriction of construction to 7am until 7pm does not ensure low to no net negative effect on disturbances to wildlife. The assertions made by AECOM with respect to disturbances to wildlife due to construction are naïve. Construction will have a significant negative effect on wildlife for the duration of the construction.

2.7 Increased sedimentation

How is "minimizing effects of the pathway by offsetting 5 m" considered a net positive effect? More details about a restoration plan to benefit this water course would be needed to justify net positive impact. A 5 m buffer may not be sufficient and the path adds impermeable barrier in a drainage area, possible low net effect especially long term once the construction sedimentation mitigation efforts are removed.

2.8 Increased anthropogenic disturbances

No mention of noise, litter, and dogs off leash in this part of the report. We disagree that no net negative effects will result from this pathway (see justification above).
Recommendation: Signage to indicate that off-leash is not permitted. Placement of garbage disposal units to minimize litter.

Figure 9

Preferred pathway appears to go straight over a few trees (south of junction between MAM2 and MAS2-1).

References

Asrruav, E. P., & Robinson, J. T. 1996. Road mortality of amphibians, reptiles and other wildlife on the Long Point Causeway, Lake Erie, Ontario. *Canadian Field-Naturalist*, *110*(3), 403-412.

Bennett, A. F. 1991. Roads, roadsides and wildlife conservation: a review. *Nature conservation 2: the role of corridors*.

Bennett, A. F. 1999. *Linkages in the landscape: the role of corridors and connectivity in wildlife conservation* (No. 1). Iucn.

Clevenger, A. P., & Wierzchowski, J. 2006. Maintaining and restoring connectivity in landscapes fragmented by roads. *Conservation Biology Series-Cambridge*, *14*, 502.

Frid, A., & Dill, L. M. 2002. Human-caused disturbance stimuli as a form of predation risk. *Conservation Ecology*, *6*(1), 11.

Kovar, R., Brabec, M., Vita, R., & Bocek, R. 2014. Mortality rate and activity patterns of an Aesculapian snake (Zamenis longissimus) population divided by a busy road. *Journal of Herpetology*, *48*(1), 24-33.