RIVERBEND SOUTH Phase 2 Environmental Management Plan (EMP)

Dated April 2016, provided to EEPAC July 21, 2016

Reviewers: S. Levin, J. Stinziano

PREAMBLE

EEPAC continues to be concerned about the generalities included in the proposed monitoring sections of this and similar documents. The city must provide a clear template to developers so that specifics are included. Specifics should include when the monitoring period starts based on the construction period (beginning? End? 70% completion of units?), that reporting should specify which member of "the City" gets reports (EEPAC recommends the City Ecologist and Development Services), and what is being monitored (expected outcomes) and what action will be taken by the proponent if monitoring shows that the expected outcomes are not being achieved.

EEPAC also points out that Figure 3a and 3b seem to show buffers that are wider than those included in the text on page 6 and 7. This can be misleading and should be reviewed and corrected.

The intent of an EMP is to avoid impacts of the proposed development on the Natural Heritage System and mitigate those that cannot be avoided. The first paragraph should be reflect this and the work of the Plan should be avoidance first.

AREAS OF AGREEMENT

EEPAC supports the recommendations #1 and #2 on page 5 regarding amendments to the City's Official Plan. EEPAC also adds the following:

Recommendation 1: The London Plan be revised to reflect the changes in delineation recommended in the EMP.

While generally supportive of Recommendation #5 on page 12 of the EMP, EEPAC is surprised that a "Buffer Management Plan" is not part of this document.

Recommendation 2: The Buffer Management Plan recommended on page 12 of the EMP must be completed before approval to develop is given. Any such plan must be approved by a City Ecologist.

In the Construction Mitigation Measures starting on page 14, EEPAC is generally supportive. We also recommend:

Recommendation 3: The proposed Construction Mitigation Plan (#7) be **approved by a City Ecologist** and the approved plan **must** (not should as stated in #8) be included in contract drawings for the development of the site.

Recommendation 4: An onsite ecologist with the power to stop work be on site at all times where work near to the buffers and ESA are taking place. When not on site, a number to contact the ecologist be posted prominently at the construction site.

OTHER RECOMMENDATIONS OF EEPAC

TRAIL MANAGEMENT AND SIGNAGE

Recommendation 4*:* Trails should be signed before development proceeds. Otherwise, people will follow desire lines or the previous trampling creating habits difficult to change.

Recommendation 5: The boundary between the buffer/ESA be fenced with no gates and signed with the following: "Sensitive plants grow by the inch and die by the foot. Please do not enter this environmentally significant area here."

Recommendation 6: No multi-use trails should be included in the buffer or the ESA.

TREE RETENTION IN BACK YARDS

EEPAC did not support tree retention in back yards, rather, trees worth retention should be in the buffer or the ESA. There is no City of London tree by law to protect these trees.

Recommendation 7: All new residents (homeowners and renters) receive the required developer created Homeowner Manual. The Manual must include information on why there are fences with no gates and why the homeowner should not gate the fence; that pools must not drain to the buffer or the ESA or woodland, that lawn chemicals with nitrates are harmful to the natural environment; a species list of recommended and plants to avoid, and why lighting is limited or full cut off.

Recommendation 8: The developer or builders agree to send the City's "Living with Natural Areas" booklet to all new owners (at a minimum, those abutting the buffers/ESA) 3 to 6 months after new owners have moved in.

Recommendation 9: Either homeowners whose lots have trees to be retained be provided a special insert in the Homeowner Manual as to why they have a retained tree, or the City's "Wildlife Tree" sign be placed on all retained trees.

Recommendation 10: Homeowners whose lots are closed to the constructed wetland be provided with a special insert in the Homeowner Manual regarding the constructed wetland and a recommendation to report wildlife sightings to the City Ecologist.

BUFFER ZONE RATIONALE (section 2.2.2, page 6 of EMP)

EEPAC is not in agreement with the treatment of the "bay" area. This area forms part of the ESA (as per the City's "Boundary Delineation Guidelines"). However, the buffer for the ESA in this location is minimal (2 m). It is specious to say that the development limit is 40 and 50 meters from the original ESA boundary. The original ESA boundary should be irrelevant – it is the present boundary that is relevant.

Recommendation 6: A buffer width similar to the other buffer widths should be provided. The appropriate width should be based on the proposed restoration of the bay.

EEPAC also notes the in Map 2, this area seems to be less than 2 m when compared to Buffer Management Zone 3.

Recommendation 7: EEPAC disagrees with recommendation 3 on page 7 of the EMP as trails should not be in buffers. If the EMP recommends plantings in the buffer, having trails in the buffer will result in trampling.

Recommendation 8: EEPAC supports the wider buffers recommended by the UTRCA in its letter of September 6, 2011.

Further support comes from work by Wendy McWilliam who has studied this topic extensively. Wendy McWilliam, Paul Eagles, Mark Seasons, and Robert Brown, *Assessing the Degradation Effects of Local Residents on Urban Forests in Ontario, Canada,* **Arboriculture & Urban Forestry** 2010. 36(6): 253-260

"In terms of areal extent, most impacts occur within a mean distance of 18 m of forest borders and cover a mean of 25% to 50% of the first 20 m. This finding is confirmed by another study that found a mean extent of encroachment of 16 m; however, encroachment can be found up to 50 m of forest borders (McWilliam, W.J., P. Eagles, M. Seasons, and R. Brown. 2010. *The housing/forest interface: testing structural approaches for protecting suburban natural systems following development*. **Urban Forestry and Urban Greening** 9:149–159.).

BUFFER ZONE MANAGEMENT (Section 2.2.3, page 7 of the EMP)

CREATED WETLAND

EEPAC is not convinced of the benefits of creating a wetland from a small ephemeral pond. If the pond only retains water for a few weeks a year, 50 cm elevation change is likely insufficient. Furthermore, changing the ephemeral pond to a wetland will alter habitat dramatically and could adversely affect species that depend on such ephemeral habitats. It is not mentioned in the EMP what species are currently present, which species are anticipated or if species are to be introduced. The suggestion that a clay liner may be required to retain water points to the soil conditions – which in this area are generally sandy – that are unlikely to support a wetland.

As EEPAC wrote in 2014, there is really not much point in having a pool (Management Zone 1) isolated from any connecting corridors. In addition, without any wetland corridors to allow wetland species (amphibians) to migrate as hydrological conditions evolve through seasonal cycles, the proposed pond is unlikely to succeed for amphibians. No critical function zone for such species is provided in the EIS (absolutely important for species whose life cycle includes water and land). There isn't a design water budget- so no one will have any idea what will happen post development. If this feature is agreed to by the City, there should first be a target wetland water balance, and an explanation of how the wetland would operate within those specifications.

Recommendation 9: If this pond is constructed, the monitoring period for it be extended by two years from the proposed 3 to 5. There should first be a target wetland water balance, and an explanation of how the wetland would operate within those specifications. There should also be clear outcome measures for the pond included in this EMP before acceptance of the Plan.

BUFFER MANAGEMENT ZONE 3: Meadow Enhancement (section 2.2.3.3, page 10)

EEPAC notes that only one of the species it recommended in 2014 is included in this list *(Panicum virgatum).* EEPAC repeats its comments and recommendations below. EEPAC also finds it puzzling that the EMP recommends placing a meadow between two forested areas as shown in Figure 2. What is the rationale?

From EEPAC's 2014 comments on the EIS

The key piece of information to point out, with any mitigation/restoration of Lepidopteran habitat, is the absolute necessity of the host plants for the caterpillar. All caterpillars are specialists to some degree according to *Butterflies of Canada* (an important source). For example, for this species, it states "*Panicum* spp., *Digitaria* spp., and *Poa* spp. Therefore the "butterfly plantings" need to incorporate **the native food plants of the caterpillars, i.e., native species of *Panicum, Digitaria*, and *Poa (****Poa***

palustris, Poa glauca, Poa alsodes). There are definitely native species of Panicum, e.g., Panicum virgatum, and according to USDA Plants Database, Digitaria cognata (but not filiformis) and definitely NOT *Poa pratensis*, as this is native to Europe. The butterfly plantings need to incorporate the preferred nectar plants of the adults as well, which, in Butterflies of Canada, it states members of the pea family (family Fabaceae).

A grassy area created to replace the meadow that will be taken out would be desirable, not just for the Tawny-edged Skipper but also for other meadow species.

- The approved native plantings of buffers and butterfly habitat be monitored (see page 42 of the EIS) at the proponent's cost for 5 years from the date of the first housing unit being built. Sufficient security should be held back so a source of funding is available for any new plantings that may be required. The monitoring program must include clear outcome measures and details as to who conducts the monitoring. The City Ecologist should do site visits to confirm outcomes. It should be a condition of approval (see EIS page 43).
- The native plantings for the butterfly habitat must include the species list above for the regionally rare Tawney Skipper.

MONITORING (Section 2.5, page 15)

EEPAC points out that the monitoring period, reporting, what is being monitored, and the actions taken if there are issues, is still not completely clear in this EMP.

For example - when the three year monitoring period begins. Page 15 says "Annual reporting of monitoring results to the City of London for a period of 3 years following construction."

Does this mean the completion of construction of the housing? Of the infrastructure? If the former, this will be too late as most of the units will be occupied and the subdivision assumed by the City by that point. This is particularly significant when the bottom of the page points out that the three proposed amphibian surveys will be done in the spring of each monitoring year. While there should already be baseline data on amphibians from the EA/EIS (pre-construction), will the first survey be done in the first spring after construction starts?

Recommendation 10: The start date of the three year monitoring period be based on the recommendation of a City Ecologist in consultation with the proponent based on the forecasted period from ground breaking to assumption. This information should be in chart or table form and form part of the conditions of approval.

Buffer zone and vegetation monitoring should have similar data to be recorded. For example, it is not sufficient to monitor planted trees and shrubs in the buffer for evidence of browsing, rodent damage and mortality.

Recommendation 11: The buffer zone monitoring include monitoring of incursions and trampling by residents.

Recommendation: There be a more detailed monitoring plan developed that includes the timing of plantings and the expected condition in each reporting cycle, subject to the approval of a City Ecologist.

While EEPAC is supportive of the bird and amphibian surveys to be done as part of the monitoring (page 15), EEPAC points out that the *Marsh Monitoring Protocols* not only state time periods for monitoring but also weather conditions including temperature and wind velocity.

Recommendation 12: The last line on page 15 is unnecessary.

Recommendation 13: All monitoring reports be provided to a City Ecologist and Development Services.

Wildlife Movement Surveys (page 16) between the Significant Woodlot and the Woods will be interesting but EEPAC is not sure how useful they will be without pre-development baseline data. There has been development in the area prior to the Riverbend South application.

EEPAC is also curious to know what action will be taken if the cameras detect that the majority of wildlife are cats on their way to hunt birds?

While EEPAC is in agreement with Recommendation 9 on page 16, and that it should be a condition of approval (whether it is development approval or site plan approval, we don't take a position) we wonder why the detailed Environmental Management Program was not submitted at this time.

Recommendation 14: The proposed detailed EMP be subject to approval by a City Ecologist.

Recommendation 15: EEPAC be given an opportunity to comment on the draft detailed EMP.

Recommendation 16: EEPAC be provided with the baseline monitoring component noted at the end of page 16.

CONSTRUCTION IMPACTS

The report says nothing of mitigating the potential sunscald or wind-throw, it says only that this is a potential result of removing the plantation vegetation. If the sunscald/

windthrow would penetrate the ESA canopy, then removal of the plantation should not take place as there is no plan to mitigate it.

Recommendation 17: Mitigation measures, such as those black curtains used to contain construction dust, should be placed along the boundary of the plantation removal, and left there for ~5 years to reduce/prevent sunscald/windthrow, and be removed once the buffer zone has grown enough to serve that function.