

Review of:

Richardson Farms Environmental Impact Study dated February 15, 2015 and revised March 14, 2016, by Stantec for Z Group (proponent)

Reviewers: B. Gibson, S. Levin, R. Trudeau, June 8, 2016

RECOMMENDED FOR INCLUSION IN CONDITIONS OF DRAFT APPROVAL (SUMMARY)

- 1a. The proponent and the City coordinate the required approvals under the Ontario Endangered Species Act as there will be removal of SAR habitat (Eastern Meadowlark) and foraging habit for the threatened Barn Swallow.
- 1b. Compensatory mitigation under Section 15.3.3.iii of the OP be coordinated with the City and the proponent.
2. A full hydrogeological study and water balance assessment be completed as part of the final design submission (as recommended by the consultant on page 9.2).
3. As per Section 7.4, page 7.11, the boundary between development and the buffers should be clearly delineated with fencing or another barrier to prevent inadvertent or intentional encroachment into the buffer.
4. The restoration and enhancement measures in Section 8.3 page 8.2 be included
5. Monitoring requirements (section 8.4 and EEPAC's recommendations below), be included
6. The qualitative vegetation monitoring noted on page 8.3 must be included in the conditions of approval. EEPAC believes the beginning of the monitoring period should be when the buffer plantings take place, not when construction of the development is completed. This must be clearly laid out in the conditions and Development Services must follow up.
7. The subdivider be required to provide an educational kiosk (with suitable recognition for the contribution) in the park to the satisfaction of a City Ecologist. The content should include information on wetland features and functions, barn swallows, and why the wetland is being protected.

SPECIES AT RISK

Barn Swallows (threatened) are present and nests were found (in the culverts at Wharncliffe and at Exeter Road). Nests are often reused year over year and for multiple broods in a single year.

Although they were found nesting in the culverts to the west of the site, there are potential impacts to the habitat either from increased water flows through the culverts, risking the birds while nesting, from improper nearby site work, and/or from removing foraging habitat. EEPAC notes that the City plans remediation in the Pincombe Drain and the construction of the SWM pond on the proponent's site as part of the Growth Management Implementation Strategy. Therefore, EEPAC has forwarded these recommendations to the City's Stormwater Management group.

There is a General Habitat Description under the Ontario Species at Risk Act. It states as follows: <http://www.ontario.ca/environment-and-energy/barn-swallow>

Category 3

Category 3 includes the area between 5 m and 200 m of the nest and has a high tolerance to alteration. Barn Swallows depend on this area for various life processes including rearing, feeding, and resting. Barn Swallows are insectivores, foraging in relatively low airspace on the wing (Waugh 1978). They feed at lower altitudes than most other North American swallows, usually no more than 10 m above ground and often lower than 1 m from ground (Brown and Brown 1999). They depend on nearby open areas that provide good sources of flying insects, such as waterbodies, pastures with livestock, and woodland edges (Brown and Brown 1999, Evans *et al.* 2007). The stage of the nesting cycle influences foraging distance. The period of greatest energy demand for a swallow is during nestling rearing (Bryant and Westerterp in Turner 1980). Turner (1980) found the average distance traveled by Barn Swallows while feeding the first brood to be 188 m and 138 m for the second. Weather plays an important role in the variation in food availability for swallows and therefore also influences foraging distance. Turner (1980) found the average distance traveled by Barn Swallows during the breeding season was 148 m when the temperature was above 20°C but increased to 203 m when it was 16°C or less.

EEPAC would anticipate that removal of the foraging habitat will have some impact on the Barn Swallows in the culverts.

In section 7.3.5 the consultants indirectly provide support for mitigation. The consultants claim there will be no reduction in the number and range of species that could utilize this large habitat block are anticipated. However, development will remove Eastern Meadowlark habitat as well as introduce domestic cats which, as noted by the consultants, can result in increased predation of birds. The consultants then state that "...the woodland along the Pincombe will provide a variety of habitat niches for such species to find suitable habitat and adapt to increase predation." This seems specious and without basis, particularly for the Barn Swallows which are not a woodland species. The City provided 200 m of habitat along the Thorncliffe

Drain for nesting barn swallows in a culvert on Southdale Road for the new Community Centre. A similar approach should be followed here.

The EIS has no information on subdivision phasing nor as to whether parts of the subdivision will be built prior to the SWM facility will be built. Therefore, the timing of carrying out these recommendations must be specified in any development agreement and for the SWM construction contract in order to protect the Species at Risk.

- 8) **RECOMMENDATION:** The MNRF be consulted to determine if a permit is required.
- 9) **RECOMMENDATION:** Any work in the area must take place outside of breeding season for this species.
- 10) **RECOMMENDATION:** At least 200m of habitat from the nesting sites be protected as per the General Habitat Description under the ESA.
<http://www.ontario.ca/environment-and-energy/barn-swallow>
- 11) **RECOMMENDATION:** As foraging habitat will be removed, kiosks or other mitigation measures must be installed at the expense of the party causing the damage. Monies may be available by application to the Species at Risk Stewardship Fund.
- 12) **RECOMMENDATION:** These recommendations also be forwarded to the City's Stormwater Management group as this relates to the detailed design of Pincombe SWM 3 that is scheduled for construction in 2017 (as per the 2017 GMIS Detailed List going to SPPC on June 9, 2016).

EASTERN MEADOWLARK

- 13) **RECOMMENDATION:** As there will be removal of habitat, there must be conditions of approval that include at least the following:
 - a. the City and the proponent work together to determine who is to apply for the required approvals under the Legislation;
 - b. the City and the proponent be required to determine the appropriate compensatory mitigation for the removal of habitat under Section 15.3.3 of the Official Plan.
- 14) **RECOMMENDATION:** If not already reported, the sightings of Barn Swallows and the Eastern Meadowlark be reported to the NHIC.

WETLAND BUFFER

Although the wetland along the Pincombe Drain is outside the study area for this development, staking of the wetland should be undertaken to ensure an appropriate buffer.

The EIS provides clear support for a 15 m buffer where the pond and park will be located. However, there is no information provided for why the buffer is only 15 metres where Blocks 5 and 44 (housing) are located. Given the EIS clearly outlines the potential impacts on the wetland due to the increase in the number of people and their pets, a wider buffer should be required in addition to the recommended fencing with no gates that EEPAC supports.

- 15) **RECOMMENDATION:** A 30 m buffer be required from the wetland from the residential blocks due to the presence of Barn Swallows. The buffer should be measured and staked based on the ELC shown in the consultants' report as a condition of the development agreement.
- 16) **RECOMMENDATION:** Educational material be supplied by the builders to new homeowners including information on the wetland and its significance.
- 17) **RECOMMENDATION:** The subdivider be required to provide an educational kiosk (with suitable recognition for the contribution) in the park to the satisfaction of a City Ecologist. The content should include information on wetland features and functions, barn swallows, and why the wetland is being protected.
- 18) **RECOMMENDATION:** EEPAC supports the consultants' recommendation on page 7.10 that the boundary between development and the buffer be fenced.
- 19) **RECOMMENDATION:** The buffer should be staked prior to any development activities and no work shall take place in the buffer nor should any equipment be stored or serviced in the buffer.

WATER BALANCE

EEPAC is concerned with the water balance report on page 6.2 which calculates, but does not state, that there will be an estimated 40% reduction in infiltration after development (from 130,000 cubic metres per year to 74,500 cubic metres per year or 136,800 under the difficult to implement recommendation of the White Oaks SWM EA Addendum noted on page 6.2). In section 7.2.1 the consultants' note that "Potential indirect impacts to the wetlands include changes to the existing water budget as a result of altered surface runoff quantity and patterns or altered shallow groundwater flow..." However, there is no information provided regarding how ground water effects this wetland if at all. As well, although surface water flows to the wetland post development will match flows under existing conditions, we assume that this is in total and will not match timing and volume of flows under various conditions over the seasons. There is no information on what changes to the hydrologic regime/hydro-period will occur.

EEPAC also notes there is a drainage divide because part of the flows from the development will go to the White Oaks Facility (SWM 3?) and part to the Pincombe 3 SWM. Pincombe 3 is scheduled for 2017 in the City's GMIS, but White Oaks 3 is shown in the draft 2017 GMIS as being in the 2022 and beyond period. Given this, EEPAC is unclear as to how this will be addressed – staging?

STORMWATER MANAGEMENT

The reach of the Pincombe Drain adjacent to the subject area has pool and riffle sequences and is part of a 640 h drainage area. In order to protect the Drain and the associated wetland, it will be important that the SWM facility and the development:

- maintain pre development flows
- maintain or improve the water temperature
- maintain pre development velocity in storm conditions
- avoid sediment loading during and post construction
- minimize changes in the timing and volume of flows during storm events (hydrologic regime)
- maintain the groundwater regime (there is no information in the EIS on the connection between the wetland and groundwater)

The detail design also consider whether or not the small berm limiting flow downstream noted by the consultant on page 4.11 should be removed.

As these are matters for the City's Stormwater Unit, EEPAC recommends that:

- 20) **RECOMMENDATION:** The paragraph above be forwarded to the City's Stormwater Unit for its consideration in the detailed design for the SWM facility (Pincombe #3) in addition to the consultant's recommendation in Section 6.2.1 regarding surface flows.
- 21) **RECOMMENDATION:** The natural hydrologic cycle should be maintained to the greatest extent possible. (EEPAC has not been given the *Richardson Lands Conceptual SWM Report* prepared by Stantec dated February 10, 2015 for the facility).

WATER COURSES - Contribution of flow of Unknown Drain 2.

Section 4.6 and the comments on March 14, 2016 letter to Ms. Pasato indicate "Surface water flow contributions to the downstream system provided by the remaining drains should be maintained post development." This is also in section 7.2.4 Fish Habitat. EEPAC certainly agrees with this however, there is nothing in the EIS as to how this might be achieved and who is charged with the responsibility for demonstrating it and at what point in the development process. Perhaps it is what Recommendation B is on page 9.2 "a full hydrogeological study and water balance assessment be completed as part of the final design submission." Given the sequence of development is, SWM system first, site development second, EEPAC recommends:

- 22) **RECOMMENDATION** The City and the proponent coordinate the requirements of the hydrogeological study and water balance assessment to determine responsibilities for the work and costs and include them in the conditions of draft approval.
- 23) **RECOMMENDATION:** The UTRCA's hydro-geologist be asked to review and comment the recommended hydrogeological study.
- 24) **RECOMMENDATION** The objective of the study include maintaining post development flows to the downstream system.
- 25) **RECOMMENDATION** The City and proponent consider the drainage divide and the schedule of construction of the Pincombe Drain SWM #3 and the White Oaks SWM #3 in light of the consultant's recommendation.

AMPHIBIAN SURVEYS

EEPAC notes that the latter two surveys were done under windier conditions (Beaufort Scale 3-4 when 3 is the recommended maximum) than recommended by the Marsh Monitoring Program. Air temperature and lack of wind are the most important factors to pay attention to when deciding when to conduct surveys.

- 26) **RECOMMENDATION:** The City Ecologist should consider if additional work is required in order to identify Significant Wildlife Habitat on the subject site.

CONSTRUCTION IMPACTS

EEPAC supports the mitigation measures listed in section 8.2.1 and adds the following:

- 27) **RECOMMENDATION:** Work near to the wetland should not take place during Barn Swallow breeding season.
- 28) **RECOMMENDATION:** No construction equipment should use or be stored in the areas determined to be buffers.
- 29) **RECOMMENDATION:**
- a. The Clean Equipment Protocol for Industry be followed. It is available at various web sites including:
<http://www.canadanursery.com/Page.asp?PageID=122&ContentID=2304&SiteNodeID=1020>
 - b. Any material or soil stockpiles construction laydown, vehicle access, fueling, etc. (page 100) should be at least 30 m from all watercourses and from the development set back.
 - c. Any material or soil stockpiles on site when heavy rain is forecasted 20 mm in 24 hours) and significant snow melts, must be covered or removed in time to reduce the chance of discharges to watercourses. This should be included in the Sediment and Erosion Control Plan (page 102). This Plan must be included in all construction documents

(including for the Stormwater Management Facility) and form a requirement of the development agreement.

- d. Hydro-seeding be avoided as this causes a large, sudden nitrate burst.
- e. The additional recommendations for buffer plantings included in the revised EIS be included in the conditions of approval.
- f. A Flood Response Plan be in place prior to the start of construction.
- g. The inspection of the wetland buffers be carried out by a City Ecologist prior to the start of construction as a condition of the development agreement and a condition of the construction contract for the Pincombe Drain SWM 3.
- h. As per the consultants' recommendation in section 7.3.1, erosion and sediment controls must be employed during all phases of construction to avoid deposition of silt and sediment in watercourses or the wetland.
- i. As per the consultant's recommendation on page 7.4, EEPAC supports fencing with no gates between the proposed development and natural areas to be retained. In particular, the side side of Block 44 and the south side of Block 39 and along the eastern boundary of the subject lands to discourage access to the significant woodland further east.

MONITORING (Section 8.4 of the EIS)

EEPAC agrees with the consultants that monitoring be required during all phases of development to ensure compliance with the final grading plan and with the erosion and sediment control plans.

- 30) **RECOMMENDATION:** Monitoring at the sub-divider's expense be included during all phases of development. This must be included as a condition in the development agreement. The condition must be clear in:
 - a. Who will receive the monitoring reports. EEPAC recommends reporting on matters related to the Natural Heritage System (particularly when remedial actions are recommended), be copied to a City Ecologist.
 - b. When the monitoring starts and stops.
 - c. Actions/compensation required if the monitoring finds there has been a negative impact to a natural feature or its ecological function.
- 31) **RECOMMENDATION:** The qualitative vegetation monitoring noted on page 8.3 must be included in the conditions of approval. EEPAC believes the beginning of the monitoring period should be when the buffer plantings take place, not when construction of the development is completed. This must be clearly laid out in the conditions and Development Services must follow up.
- 32) **RECOMMENDATION:** Similar monitoring conditions need to be included in the contract for the construction of the SWM facility.