

Corlon Properties Sunningdale North  
465 Sunningdale Road West (Sunningdale North Subdivision) File No. 39T-23503

Draft Plan of Subdivision not complete at this time. Geotechnical Investigation Report not received. Stormwater study not received.

Hydrogeological Report from LDS February 2023 and Ecosystem Recovery EIS February 2023 received by ECAC by e mail from file planner after June 2023 meeting

Reviewed by S. Evans, S. Hall, S. Levin and submitted to ECAC meeting of August 17, 2023

## **SUMMARY RECOMMENDATION**

There are many recommendations in the Hydrogeological Report (LDS) and the EIS.

**All must be conditions to draft plan approval. This will provide the City of London the authority to ensure that such recommendations are implemented before final plan approval is granted.**

## **KEY ISSUE**

Does the Axford Drain naturalization project provide for no net loss of ecological features and functions?

ECAC is of the opinion that there are benefits although it is unconvinced there will be no net loss of ecological functions over time.

## **RECOMMENDATION #1**

**ECAC supports requiring a detailed Environmental Management Plan as a condition of approval of the draft plan.** The plan must be approved by a City Ecologist and the UTRCA as part of the approval process.

As per page 59 of the EIS

“The detailed plan will identify the plant species selection, location and quantities to be planted within the Axford Drain corridor and will include wildlife habitat creation.”

As per Page 39 LDS, elements of an Environmental Management Plan are outlined:

“An environmental monitoring program will be prepared, to help ensure that site activities during construction, and in post-development conditions do not have a detrimental impact to natural heritage features, from an ecological and hydrologic perspective. The main objectives of the Environmental Monitoring Plan are expected to include:

- Providing an early indication should any environmental control measures (such as sediment and erosion control measures) or practices fail to achieve prescribed standards;
- Monitoring the performance and effectiveness of mitigation measures;
- Determining project compliance with regulatory requirements and standards and outlining reporting requirements, including timing and distribution;
- Identifying an emergency contact list and response protocol to respond to any issues or concerns identified during construction; and,
- Taking remedial actions if unexpected problems or unacceptable interference or negative impacts arise. From a preliminary standpoint, the following comments are provided regarding monitoring efforts which are expected to be confirmed and refined as detailed design information becomes available. The Monitoring Plan should be prepared by a Qualified Person (QP) and periodically reassessed and updated by the QP, as appropriate, to ensure that the objectives stated above are effectively and efficiently achieved.”

## **BACKGROUND**

The existing Axford Drain which crosses through the southwest part of the site (currently in a closed piped system) is expected to be reconstructed and enhanced through the proposed development, and set within a constructed corridor, which will also incorporate stormwater management features which will help to contribute base flows to the reconstructed drain alignment. Drawing 2, in Appendix A of LDS shows the Draft Plan of Subdivision.

The future development area will include the future stormwater management facility, identified as SWMF10, expected to convey flows to Medway Creek.

## **COMMENT**

It is encouraging to see the proposed daylighting and renaturalization along a 30 m corridor as it will be an amenity for new residents (likely allowing for a higher demand for lots) as well as better for the ecosystem. ECAC is encouraged by the opportunities outlined in the EIS on page 55.

It was interesting to note that the presence (page 42, EIS) of watercress during the field work. Watercress is an indicator of groundwater inputs.

## **RECOMMENDATION #2**

If at all possible utilize these locations as part of the location decision of how best to improve the watercourse post development.

## **OBSERVATION**

We do point out that some recent alteration (c. 2013-4) to the watercourse seems to have taken place without authorization that appear to have purposefully prohibited

upstream fish movement. See extract following from the Sunningdale Road EA. ECAC hopes the works planned for the watercourse do result in a net benefit.

*From Road EA*

### *3.2.2.3 Axford/McCallum Drain*

“The Axford Drain is described as an intermittent watercourse. The drain follows a south easterly direction before flowing into Medway Creek. The section of the drain in the Study Area runs primarily through rural and agricultural land uses including a golf course. Upstream of Sunningdale Road, the drain runs through an underground channelized system before opening into a plunge pool. There is no direct fish habitat noted upstream of Sunningdale Road. The drain flows underneath Sunningdale Road through a culvert into a plunge pool located at the perched outlet, which represents a barrier to upstream fish movement.

Observations indicate there has been some recent construction to the drain and receiving watercourse. A new culvert and riprap channel have been constructed, including a rock berm which purposefully prohibits fish movement upstream. The channel flows south through a narrow grassy cattail channel. There is evidence of erosion near the culvert as well as approximately 10 m downstream of the culvert along the left bank facing upstream. The downstream section of the Axford/McCallum Drain provides little to no direct fish habitat.”

(It is interesting to note that according to page 44 of the EIS, the Drain does contain direct fish habitat)

## **CULVERT AT SUNNINGDALE ROAD – TIMING OF CONSTRUCTION**

The Sunningdale Road EA is also relevant to this subdivision as the Axford Drain Corridor Plan drawing in the EIS (Figure 6-2) refers to the box culvert under Sunningdale being improved as part of detail design.

PROPOSED 1800x2400mm BOX  
CULVERT UNDER SUNNINGDALE ROAD  
TO BE CONFIRMED  
PER SUNNINGDALE ROAD  
IMPROVEMENTS DETAILED DESIGN

(AECOM)

LDS p. 3 also notes that:

“The existing culvert crossing at Sunningdale Road is set approximately 20 cm above the bottom of the watercourse channel on the south side of the culvert. Although improvements to the Sunningdale Road culvert crossing are expected, it is currently

anticipated that flows will be conveyed through a box culvert, and that the culvert elevation will not change significantly, due to potential conflicts with existing services which extend along Sunningdale Road, including high-pressure gas and a large-diameter watermain.”

This begs the question which comes first, the road works or the subdivision? And if the subdivision goes first, will the proponent be required to install the box culvert as part of the watercourse works?

### **RECOMMENDATION #3**

**City staff clarify timing and responsibilities for the proposed box culvert work.**

**ECAC supports rec 11 page 88 of the EIS regarding the need for exclusionary fencing of this culvert.**

### **CONSTRUCTION IMPACTS**

ECAC would hope that construction will manage stormwater better than was done at one point in the development on the south side of Sunningdale Road. The following is from a March 2022 communication to city staff, via an ECAC member, from citizens who were walking along the multi-use path. A link to a brief video is also included.

“They have built a culvert on the side of the hill close to walkway bridge closest to the Sunningdale parking lot). The pipes etc., have likely not been connected yet (i think), so I was shocked to see runoff of water and mud cascading down the hill, right next to the concrete culvert, straight into Medway Creek. The creek is now being flooded by a lot of muddy water which cannot be good for the water and for life in the creek.”

<https://drive.google.com/file/d/1j8QvgkvOl2XBWJrHzdZ73rEeZE8F4uiU/view>

There is always a requirement to stop work while active construction dewatering results in increased turbidity. The question is whether monitoring occurs and if so, who does it. And does it result in a halt in activity when such halts are costly?

### **RECOMMENDATION #4**

**ECAC encourages the city to have more site inspections given this site will not be as easily observable by the public.**

Page 33 of LDS has a number of related recommendations that ECAC supports

“Temporary short-term diversions are anticipated as work is undertaken to replace piped sections of the drain into an open watercourse. The use of erosion control protection measures (such as erosion control blankets or addition of bonded fibre matrix on bare soils within the newly constructed channels will be required to prevent sediment

loading of stormwater passing through the drain. Interceptor measures may also be required, such as fibre rolls, to slow the flow under short term conditions, which allow for sediment accumulation and removal as needed, in strategic locations. During site construction and site grading work, suitable sedimentation controls will be required to help control and reduce the turbidity of run-off water which may flow towards the surface water features. As construction work progresses at the site, regular maintenance and additional sedimentation measures will be required to limit the effect of siltation of run-off water in localized areas. If deficiencies are identified in the performance of the sediment and erosion control measures through regular inspection, enhancements beyond the recommended design may be required.”

Page 27 of LDS also has a number of recommendations supported by ECAC.

#### Additional Considerations

“Development at the site and the construction of a realigned drain corridor for the Axford Drain is expected to alter the current groundwater and surface water interactions. As part of grading works, subdrains and drainage tiles which have been installed across the site to improve drainage and redirect water from the golf features, will be removed. It is important to ensure that proposed development at the site has consideration for providing clean stormwater run-off towards the Axford Drain, and the naturalized features which will be located within the constructed corridor.

There is a risk that surface water run-off from the site could be responsible for increased salt loading during late winter and early spring periods. As such, consideration should be given to identifying appropriate mitigation measures to reduce potential salt loading associated with the development and control / maintenance during the winter months under post-development conditions.”

ECAC agrees that the salt and salt management ideas on page 36 of LDS are sound, it is unclear how salt and other contaminants can be avoided or mitigated post construction.

#### **RECOMMENDATION #5**

**ECAC supports the following from LDS and strongly recommends them as conditions of draft plan approval.**

**As noted on page 27 of LDS, “It is important to ensure that proposed development at the site has consideration for providing clean stormwater run-off towards the Axford Drain, and the naturalized features which will be located within the constructed corridor.”**

**Once the final proposed layout and design information is provided, detail design and the detailed stormwater management design during construction must address this to the satisfaction of the City and the UTRCA. Ideally, a flow can be**

**maintained throughout dry weather periods. (See water balance in LDS starting on page 28).**

**LDS notes on page 29: “It is also noted that the analysis presented in the following sections is based on the proposed layout and design information which has been provided by the developer and their civil design team. As detailed design occurs, updates to this analysis may be required to reflect specific changes to the proposed site grading, LID features and other design aspects of the site.”**

However, ECAC notes page 32 of LDS indicates soil conditions are unlikely to be conducive to effective LID measures.

#### **RECOMMENDATION #6**

**ECAC supports LDS page 31. This should be more than a consideration – it must be a requirement of development approval:**

“As the detailed design of the Axford Drain corridor is prepared, consideration should be given to re-assessing the infiltration and run-off components which contribute base flows to the newly constructed feature are adequate to sustain the natural features which are created within the corridor. The detailed stormwater management design will also factor into this analysis, with portions of the site being directed through future SWM facilities which will outlet to the drain.”

#### **RECOMMENDATION #7**

**ECAC supports LDS page 34**

“To help reduce dewatering requirements, consideration should be given to optimizing design depths for site servicing and building excavations. Where possible, construction during the drier summer months is preferred to carry out excavations when stabilized groundwater levels are not elevated under seasonal conditions. If construction occurs during wet-weather conditions or when seasonal water levels are elevated, monitoring the water levels within the monitoring wells during construction can be helpful to determine the zone of influence, and to identify changes in the water level while construction dewatering is actively occurring.”

#### **RECOMMENDATION #8**

**ECAC agrees with and supports including list of avoidance measures starting on page 72 of the EIS in the construction documents. They should also be included in the conditions of draft plan approval and/or of development.**

## **RECOMMENDATION #9**

The construction documents also include having on site monitoring and inspection by either City and/or UTRCA staff. We add this because page 84 discusses monitoring only at detailed design stage.

## **SPECIES AT RISK AND SIGNIFICANT WILDLIFE HABITAT**

### **BUTTERNUT**

Page 24 EIS

One butternut (*Juglans cinerea*) and a potential sapling was found within the 120 m study area, which is a species at risk and classified as Endangered. No butternut health assessment or genetic testing was undertaken on this tree as it is not anticipated to be affected by the proposed works.

## **RECOMMENDATION #10**

**Given the sensitivity of the species, and its location near the golf cart parking lot it would be helpful if the proponent would agree to a site specific management plan for these two trees. If the mature tree is healthy Cat 3 as per the Ministry MECP species at risk web site, the tree could be useful in determining how to prevent or resist Butternut Canker**

**Also, as noted on page 71 of the EIS and recommendation 5 on page 86, a tree preservation plan will be developed as a condition of the draft plan approval. This plan could incorporate recommended measures for the protection of the butternut tree and sapling.**

### **PONDS**

## **RECOMMENDATION #11**

**ECAC notes that the amount of land to replace the lost wetland features is smaller than current. This should be reviewed in light of the no net loss of ecological features requirement.**

### **TURTLES**

The EIS notes on page 45

“Turtle Wintering Area – Turtle wintering habitat is present within the study at multiple locations including Pond A, B and C and the Irrigation Pond. No turtles were observed within at these locations, but historical records, and golf course staff communication identify snapping turtle have been historically present within the golf course lands south of Sunningdale Rd. Snapping turtle are able to travel long distances over land in search of food, mates, and wintering habitat.”

It is unclear what steps were taken to protect turtles during construction of the subdivision south of Sunningdale.

Page 34 of the EIS notes "Overwintering habitat for turtles is present within Ponds A, B, C and the Irrigation pond due to the soft substrate, deep water levels and open water features."

ECAC believes there is a possibility that one or more of these ponds are home to a wider variety of biologic species as was the case for the anthropologic pond at 905 Sarnia Road. As noted on page 25 of the EIS, the largest pond referred to as the irrigation pond (also called Bass Pond in the EIS) is a man-made feature, which gets its water from Medway Creek has been stocked with bass. Water from this pond is pumped for irrigation and therefore is affected by fluctuating water levels. Page 25 of the EIS appears to suggest only visual observation was conducted by the consultants.

#### **RECOMMENDATION #12**

**Sampling of the ponds that have not been recently dredged (some have not been dredged in over 10 years according to the reports), be conducted to determine if they provide habitat, especially for terrestrial crayfish and turtles. If it is determined that these and other sensitive biota are present, a plan for relocation must be prepared and implemented before the features are removed.**

#### **RECOMMENDATION #13**

**ECAC recommends that Scott Gillingwater at the UTRCA be consulted at detailed design regarding the establishment of turtle overwintering habitat in the corridor (See page 87, recommendation 10 of the EIS) and that he be consulted in the preparation of the Environmental Management Plan as it relates to turtle habitat.**

It is unclear to ECAC as to the timing of works and impact on habitat. If in winter, it could harm overwintering turtles. If in the spring, work would impact amphibian breeding habitat potentially eliminating it.

ECAC notes that Golf course turf maintenance staff have identified snapping turtles using sand bunkers for laying eggs historically year after year in areas just outside of the study area. ECAC wonders what the golf course has been doing to avoid harm to this species at risk? Hopefully it has been notifying the turtle team at the UTRCA to come and get the eggs before they are damaged. If this has not been standard procedure we have this separate recommendation for the proponent:

#### **RECOMMENDATION #14:**

**When staff see a turtle laying eggs in a sand trap, immediately call the UTRCA and ask the turtle team to come out and collect the eggs.**



## **AMPHIBIAN BREEDING HABITAT – CONFIRMED SIGNIFICANT WILDLIFE HABITAT**

It is also noted that the amphibian surveys found significant activity that is to be eliminated by the development (page 32 EIS).

Page 68 of the EIS sounds hopeful about replacing amphibian breeding habitat and turtle overwintering habitat.

“While the removal of the wetlands are required as part of the development design, the creation of wetlands as part of the Axford Drain Corridor design will compensate for the removed wetlands. These will be designed to include turtle overwintering habitat, amphibian movement and different sizes, shapes, and depths to allow for wildlife use.”

### **RECOMMENDATION #15**

**Because recreational use is indicated (Drawing 2 LDS and Axford Drain Corridor Plan in the EIS show a 3.2 m wide paved path) it is recommended that signage be installed along the feature to explain the Medway environment as well as the objectives of the Drain Corridor Plan. An example of information that can be included can be found on the sign at the trail head below the Sunningdale parking lot and on signage along the multiuse pathway starting at the parking lot and going south.**

**The signage can explain what the EMP and Corridor Plan are trying to achieve, the number for the UTRCA and / or the City to report sightings, the use of eBird and iNaturalist and the like.**

Page 56 of the EIS points out the constraints. All of these losses are proposed to be compensated by the work done to remediate the watercourse. It is subjective to conclude that there is a direct compensation for loss of amphibian breeding habitat for example, by improving the watercourse. Even page 65 of the EIS points to this being a potential loss.” Potential to impact amphibian breeding habitat;”

It is difficult to understand how you remove ponds identified as breeding habitat and expect to replace them with smaller areas within the remediated corridor in an area that will become a neighbourhood with more people, 12 months of road use and maintenance including sand and possibly salt, more pets and more lighting than the current golf course use.

### **RECOMMENDATION #16**

**ECAC agrees that lots abutting the naturalized watercourse should (actually, must) be fenced with no gates. This is consistent with EIS recommendation #17 page 89.**

## **SIGNIFICANT WOODLANDS**

### **RECOMMENDATION #17**

**It is noted that the amount of compensation for loss of significant woodland is less than the amount lost. This should be revised otherwise, there is net loss of ecological features.**

### **RECOMMENDATION #18**

**As noted on page 50 of the EIS, the woodlands identified as meeting the city criteria for significance be designated Green Space and zoned as such on Map 1 and changed on Map 5 from Unevaluated to Significant Woodland. This must be done as part of the subdivision process and related changes to the OP and zoning by law. (Also note this is Recommendation 1 of the EIS on page 86)**

## **BUFFERS**

Page 56 of the EIS refers to Figure 4-1 and the features on the site. Page 56 of the EIS also notes that “Associated buffer and setbacks for these valuable natural resources are required” however, none are shown on Figure 4-1. Nor are they indicated in section 7.3.4 on page 69. The drawing for the Axford Drain corridor clearly shows hard surfaces and a SWM facility within the 30 m corridor. (With minimal ecological buffers). In fact, the cross sections shown in the EIS (Figure 6-3) indicate that the proposed 10 m multi use pathway block is also labelled as a “10 m Nature Heritage Feature buffer.” This is simply not acceptable.

The buffer widths are not consistent with the current Environmental Management Guidelines. It is unclear to ECAC why page 70 of the EIS refers to the prior version of the EMG.

### **RECOMMENDATION #19**

**The current Environmental Management Guidelines must be used to determine buffer width for the Axford Drain Corridor Plan and for the Significant Woodlands.**

## **MONITORING**

As per p. 41 LDS

“Coordination with the ecological consultant will be required to document the conditions within the wetland features, and the general health of the flora and fauna within the natural features. The frequency of these inspections will be guided by the ecological consultant, to ensure that seasonal variations are suitably documented through the spring, summer and fall periods. Inspection reports should be generated, for circulation to the City (and other approval authorities, as appropriate) on a regular (seasonal) basis. Monitoring of native species plantings in buffer areas is also recommended. More

specifically, this will include inspection of tree and shrub stock and herbaceous vegetation plantings to evaluate survival and success of establishment and identify need for replacement plantings for any dead material. It is anticipated that the City of London will want the opportunity to comment on the monitoring plan prior to construction.”

ECAC notes that page 84 includes the following: “Ecosystem Recovery Inc. shall develop a pre-development, development and post development monitoring plan at the Detailed Design stage of the project. The intent is to monitor the biophysical parameters and environmental management systems throughout the project. This environmental monitoring plan will be prepared in consultation with the UTRCA and City of London staff.”

#### **RECOMMENDATION #20**

**The city should do more than just comment. The city needs to approve the monitoring plan as a condition of draft approval and / or development. The approval must require concurrence by a City Ecologist and the UTRCA.**

ECAC notes recommendation 12, page 88 of the EIS suggests a 5 year monitoring plan.

#### **RECOMMENDATION #21**

**The Environmental Management Plan also include remediation requirements. For example, amphibian surveys be required and if amphibian surveys note a reduced population of amphibians, there should be a requirement for compensation. Although the loss of SWH features is supposed to be compensated by the watercourse improvement, only time will tell if the ecological FUNCTIONS have been compensated for. Experience from the 905 Sarnia wetland compensation site cited by Stantec, points to ongoing monitoring in 2 to 3 year intervals beyond the initial period (see the last page in the following 2021 presentation to EEPAC by Stantec)**

#### **OTHER – RECOMMENDATION 8 of the EIS**

“The detailed design process will also consider the inclusion of raptor perch poles, osprey platforms and barn swallow nesting cups underneath the multi-use trail bridge, if appropriate, for this size of the restored green space corridor.”

ECAC has done some preliminary consultation with a PhD candidate at the Advanced Facility for Avian Research at Western who has the following comments:

“Most barn swallow mitigation that follows the Ontario provincial guidelines (e.g., wooden huts along highways) will never be used. I (AFAR) can provide design specs based on recommended practice and historical successes from Birds Canada, like the one we built in the Medway. The nest cups under the bridge may or may not be appropriate depending on the design of the site and the density of traffic. Is a

standalone structure possible? Birds won't use a new structure right away. Building it as early as possible (i.e., before the breeding season one year prior to site modification/construction) is recommended so that post-fledgling birds wandering the site before migrating may find it and return the following year to use it.

I'm skeptical of the raptor perches being used. If birds are accustomed to using trees, are they going to switch to built infrastructure? These designs should be based on evidence. Osprey platforms generally seem good for this area, but their placement needs to be thought through carefully.”

### **OTHER – PRIVATE SWM**

Stormwater facility 10 which is proposed to be operated by the Golf course (page 63 of the EIS).

Given the history of privately built and operated storm facilities, ECAC questions if this is the right decision although it does appreciate that the proposal does reduce water taking from the Medway Creek.

## **STANTEC SLIDES GO HERE**



Environmental and  
Ecological Planning  
Advisory Committee

February 18, 2021

Compensation  
Wetland  
Monitoring

905 Sarnia Road,  
London



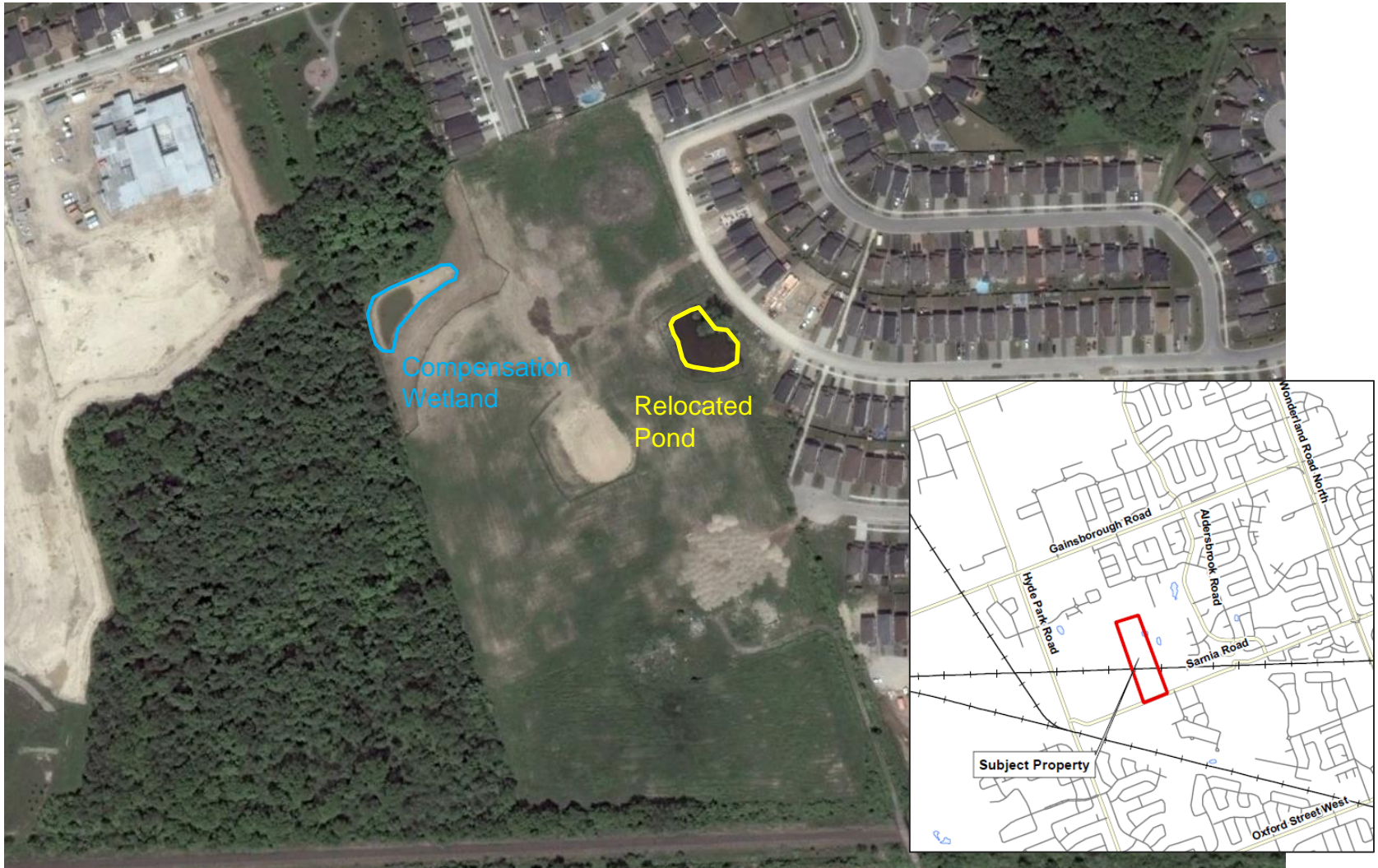


# Agenda

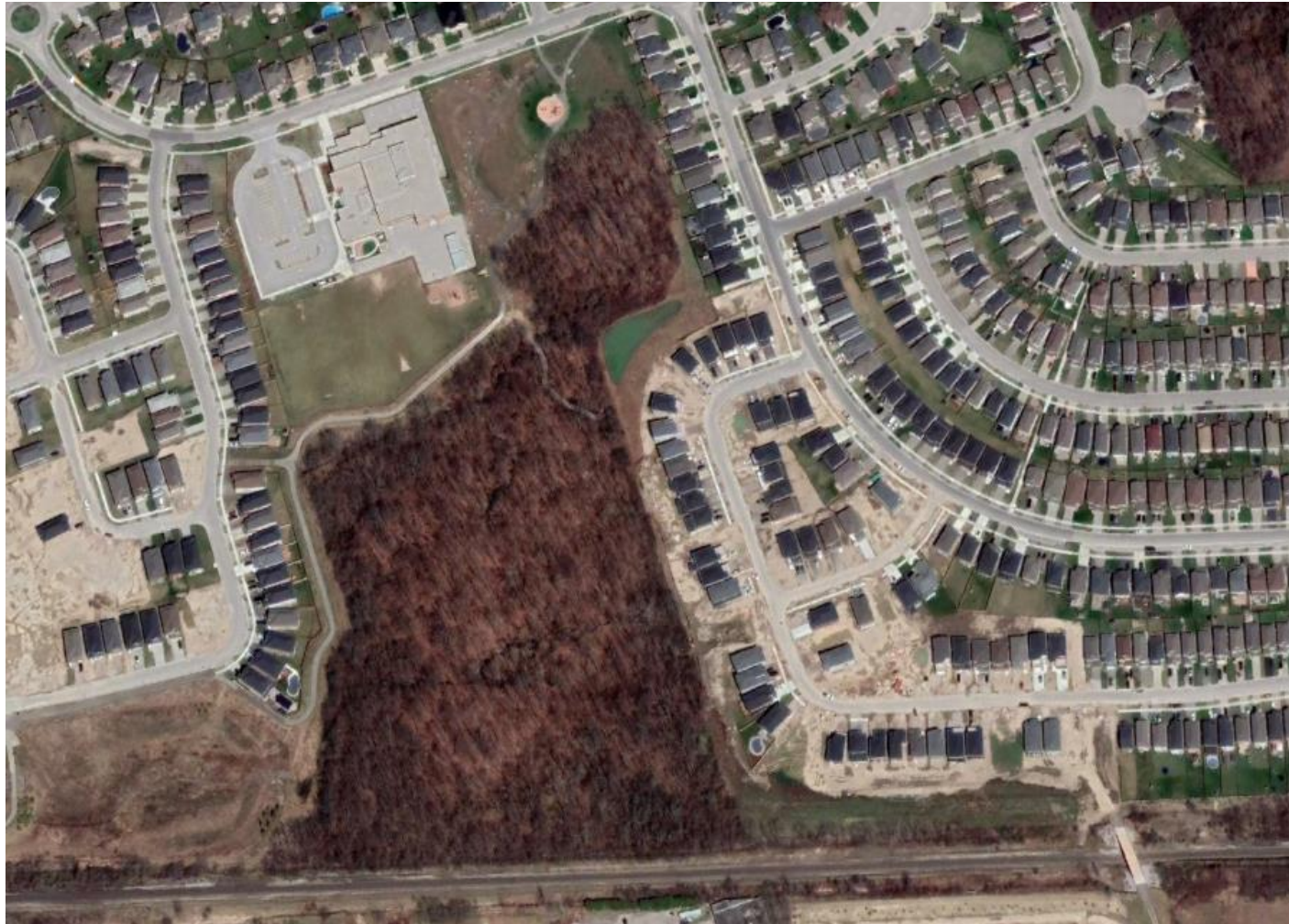
1. Site History
2. Objectives
3. Methods
4. Findings
5. Recommendations



# Site History – June 2016



# Site History April 2021





# Timeline

## WETLAND CONSTRUCTION

### November 2015

- Grading new wetland  
Transfer of a sample of wetland substrate and habitat features (e.g. root wads)

### May 2016

- Native seed planting

### July 2016

- Wildlife transfer
- Soil transfer
- Vegetation material transfer

## ANNUAL MONITORING

- 2016
- 2017
- 2018
- 2020



# Summary of Wildlife Relocations

Species	Calico Crayfish	Green Frog	Northern Leopard Frog	Other Invertebrates	Brook Stickleback	Eastern Newt	Midland Painted Turtle	Snapping Turtle
No. of individuals	>18,000	>4,000	>1,000	>28,000	>11,000	21	10	3



# Monitoring Objectives

2016-2018

- Three-year ecological monitoring implemented as a condition of development approval to track:
  - Water levels
  - Vegetation establishment
  - Transfer of wildlife
- Monitoring implemented by proponent

2020

- Monitoring extended to provide long-term results and inform future wetland creation projects
- Implemented by **Environmental and Ecological Planning Advisory Committee** in partnership with **Nature London**

# Methods

Type	Date(s) of Field Work
<b>Vegetation Survey</b>	
Botanical Inventory	June 26, 2020
	September 10, 2020
<b>Wildlife Surveys</b>	
Amphibian Surveys	April 8, 2020
	May 15, 2020
	June 29, 2020
Turtle Basking Surveys	May 4, 2020
	May 20, 2020
	June 26, 2020
Marsh Breeding Birds	June 7, 2020
	June 26, 2020
Terrestrial Crayfish Chimney Surveys	June 26, 2020
Terrestrial Insects	June 26, 2020
Benthic Invertebrates	September 1, 2020
Incidental Wildlife Observations	During all field visits
<b>Aquatic Survey</b>	
Water Level Monitoring	June 26, 2020



# Results - Vegetation

- Wetland emergent vegetation (cover and species) is increasing (cattails, bulrushes and sedges)
- Seeded native upland grasses (2016) are increasing (cover and species) (old switch panicgrass, yellow Indian grass, big bluestem)
- Canada thistle (invasive) is decreasing
- Phragmites (invasive) is absent



Type	2017	2018	2020
<b>Native species</b>	27	35	41
<b>Non-native species</b>	18	22	35
<b>Total species</b>	45	57	76

# Results - Wildlife

Monitoring Year			COMMON NAME
2017	2018	2020	
<b>AMPHIBIANS</b>			
X			Spotted Salamander
X	X		Tetraploid Gray Treefrog
X	X	X	Northern Green Frog
X	X	X	Northern Leopard Frog
X	X		Spring Peeper
<b>REPTILES</b>			
X	X	X	Midland Painted Turtle
X		X	Eastern Gartersnake
	X	X	Snapping Turtle
<b>FISH</b>			
X	X		Brook Stickleback
X	X	X	Calico Crayfish
	X	X	Goldfish



- **Wetland birds (foraging or breeding):** Canada Goose, Mallard, Spotted Sandpiper, Great Blue Heron, Barn Swallow, Rough-winged Swallow, Red-winged Blackbird, and Common Yellowthroat.
  - Common Yellowthroat was a new species breeding species observed in 2020
- **Insects:** diversity of Odonata and Butterflies increased from 2017 to 2020

## Results - Benthics

- 2020 was the first year benthic data was collected
- Moderate numbers of organisms and taxa richness that reflect a relatively poor-quality warmwater benthic habitat
- No pollution-sensitive taxa organisms (mayflies, stoneflies, and caddisflies) were collected from the pond
- Chironomids and oligochaetes (tolerant of nutrient enrichment) were dominant organism type







### **Monitoring**

- Continue long-term monitoring once every 2-3 years
- Additional surveys are required to determine use by woodland amphibians
- Include surveys for fish, such as minnow traps to increase detection of crayfish

## **Recommendations**

### **Enhancements**

- Plant emergent, floating-leaved and submergent vegetation to improve water quality and provide habitat (e.g. egg attachment sites for amphibians)
- Construct turtle testing habitat, monitoring use, and protect nests