6TH REPORT OF THE

ENVIRONMENTAL AND ECOLOGICAL PLANNING ADVISORY COMMITTEE

Meeting held on May 21, 2015, commencing at 5:03 PM, Committee Rooms #1 and #2, Second Floor, London City Hall.

PRESENT: S. Levin (Chair), E. Arellano, L. Des Marteaux, P.L. Ferguson, B. Gibson, D. Hiscott, C. Kushnir, M. Murphy, S. Peirce, N. St. Amour, J. Stinziano and R. Trudeau and H. Lysynski (Committee Secretary).

ABSENT: F. Cirino, C. Dyck, H. McNeely, K. Moser and J. Odanga Edubagwa.

ALSO PRESENT: C. Creighton, M. Elmadhoon, J. MacKay, A. Macpherson and L. McDougall.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it **BE NOTED** that no pecuniary interests were disclosed.

II. SCHEDULED ITEMS

2. Orientation – *Accessibility for Ontarians with Disabilities Act* (AODA) – Integrated Accessibility Standards

That it **BE NOTED** that the orientation on the *Accessibility for Ontarians with Disabilities Act* (AODA) Integrated Accessibility Standards was received.

III. SCHEDULED ITEMS

3. Ecosystem Planning

That it **BE NOTED** that the attached Ecosystem Planning presentation by L. McDougall, Ecologist Planner, was received.

IV. CONSENT ITEMS

4. 5th Report of the Environmental and Ecological Planning Advisory Committee

That it **BE NOTED** that the 5th Report of the Environmental and Ecological Planning Advisory Committee, from its meeting held on April 16, 2015, was received.

5. 4th Report of the Trees and Forests Advisory Committee

That it **BE NOTED** that the 4th Report of the Trees and Forests Advisory Committee, from its meeting held on April 22, 2015, was received.

6. 4th Report of the Advisory Committee on the Environment

That it **BE NOTED** that the 4th Report of the Advisory Committee on the Environment, from its meeting held on April 1, 2015, was received.

V. SUB-COMMITTEES & WORKING GROUPS

7. Richmond Street Overpass

That the attached, revised comments from the Richmond Street Working Group, with respect to the recreational pathway crossing of Richmond Street, **BE FORWARDED** to the Civic Administration for consideration.

8. Urban Design Guidelines

That the attached, revised comments from the Urban Design Working Group, with respect to the draft City of London Urban Design Guidelines, **BE FORWARDED** to the Civic Administration for consideration.

9. Richardson Farms Environmental Impact Statement

That the attached comments from the Richardson Farms Working Group, with respect to the Richardson Farms Environmental Impact Statement, **BE FORWARDED** to the Civic Administration for consideration.

VI. ITEMS FOR DISCUSSION

10. Trails Advisory Group

That S. Levin and L. DesMarteaux **BE APPOINTED** as the representative and the alternate, respectively, to the Trails Advisory Group; it being noted that the Environmental and Ecological Planning Advisory Committee received the Trails Advisory Group Terms of Reference.

11. Buckthorn Busting

That it **BE NOTED** that the Environmental and Ecological Planning Advisory Committee heard a verbal presentation and received a location map for the buckthorn busting event to be held on June 25, 2015.

12. 2015 Sifton Bog Three Season Vegetation Inventory and Work Plan

That it **BE NOTED** that the communication dated May 7, 2015, from Stantec Consulting, relating to the proposal for consulting services for the three season vegetation inventory at Sifton Bog, was received.

13. St. George-Grosvenor Heritage Conservation District

That it **BE NOTED** that the communication dated May 4, 2015, from K. Gonyou, Heritage Planner, relating to the St. George-Grosvenor Heritage Conservation District Study, was received.

14. Dingman B4 Stormwater Management Facilities EA

That a Working Group consisting of S. Levin (lead), B. Gibson and E. Arellano **BE ESTABLISHED**, with respect to the Dingman B4 Stormwater Management Facility Environmental Assessment.

15. North Lambeth P9 Stormwater Management Facilities EA

That a Working Group consisting of S. Levin (lead), B. Gibson and R. Trudeau **BE ESTABLISHED**, with respect to the North Lambeth P9 Stormwater Management Facility Environmental Assessment.

16. Potential impacts of Bacillus thuringiensis israelensis (B.t.i.) and B. Sphaericus on Insects

That the communication dated May, 2015, from L. Des Marteaux, with respect to the potential impacts of Bacillus thuringiensis israelensis (B.t.i.) and B. Sphaericus on insects **BE FORWARDED** to the Civic Administration and the Middlesex-London Health Unit, for information.

17. Exploring a City Environmental Statement

That a Working Group consisting of C. Kushnir (lead), L. Des Marteaux, M. Murphy, P. Ferguson, J. Stinziano and N. St. Amour **BE ESTABLISHED** to assist the Advisory Committee on the Environment with the drafting of a City of London Environmental Statement.

18. Draft Feedback Form for Members

That the Environmental and Ecological Planning Advisory Committee (EEPAC) Members **BE ASKED** to provide any suggestions and recommendations on the draft feedback from for EEPAC Members to S. Levin or P. Ferguson.

19. Old Victoria East Subdivision

That the attached comments from the Thames Village Joint Venture Working Group, with respect to the Thames Village Joint Venture Hydrology and Water Balance report **BE FORWARDED** to the Civic Administration for consideration; it being noted that the Environmental and Ecological Planning Advisory Committee (EEPAC) reviewed and received a communication dated April 23, 2015, with respect to the previous EEPAC comments relating to this matter.

20. Wonderland Road Class EA EIS

That a Working Group consisting of M. Murphy (lead), C. Dyck, E. Anello, L. Des Marteaux and J. Stinziano **BE ESTABLISHED**, with respect to the Wonderland Class Environmental Assessment Environmental Impact Statement; it being noted that the Environmental and Ecological Planning Advisory Committee received the attached presentation from G. Thompson, MMM Group, with respect to this matter.

21. Second Draft – The London Plan

That a Working Group consisting of S. Levin (lead), J. Stinziano, M. Murphy and E. Arellano **BE ESTABLISHED**, with respect to the review of the second draft of The London Plan.

22. EEPAC Terms of Reference

That the Environmental and Ecological Planning Advisory Committee Terms of Reference review **BE POSTPONED** to the next meeting.

VII. DEFERRED MATTERS/ADDITIONAL BUSINESS

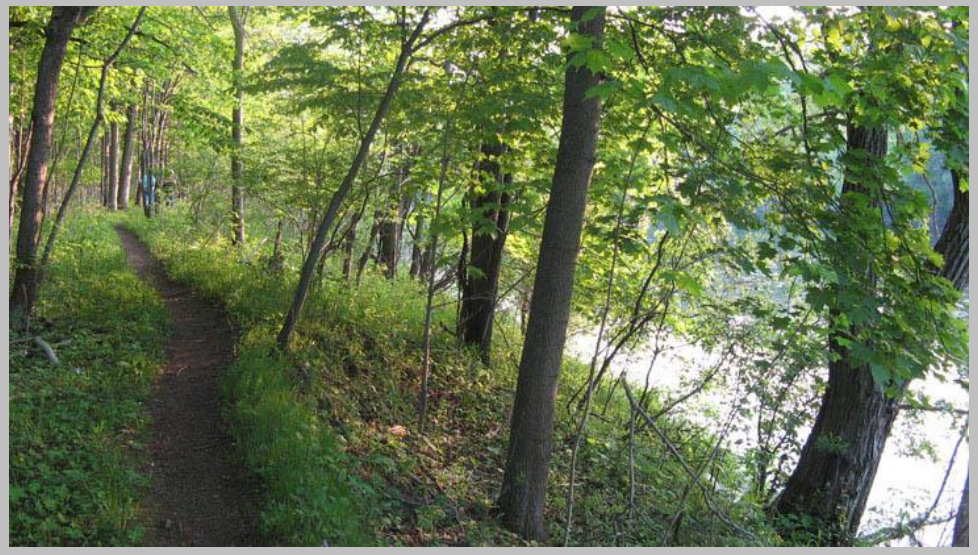
None.

VIII. ADJOURNMENT

The meeting adjourned at 8:35 PM.

Next Meeting Date: June 18, 2015 at 5:00 PM

Ecosystem Planning
EEPAC Orientation

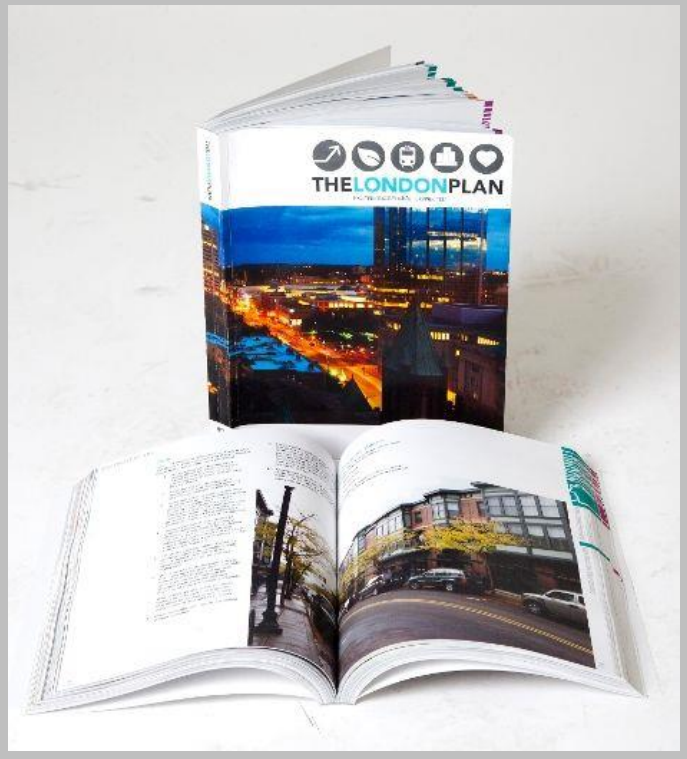


May 21, 2015

London
CANADA

Ecosystem Planning – Development Related

- PPS 2014, NHRM 2010
- SARA, 2007
- Official Plan
- Sub watershed Studies
- Area Plans, Secondary Plans
- Zoning By-law
- Environmental Assessments
- Environmental Management Guidelines



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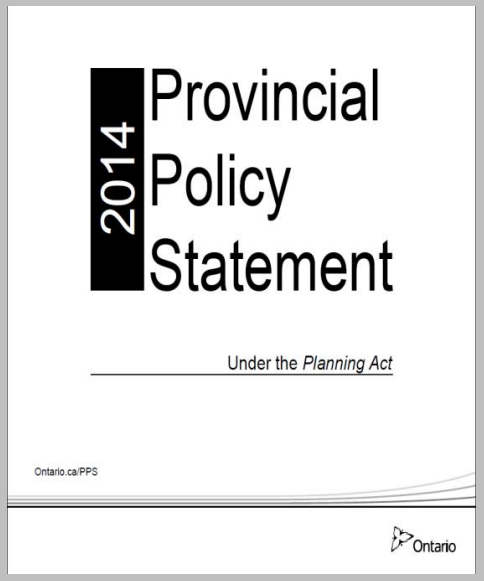
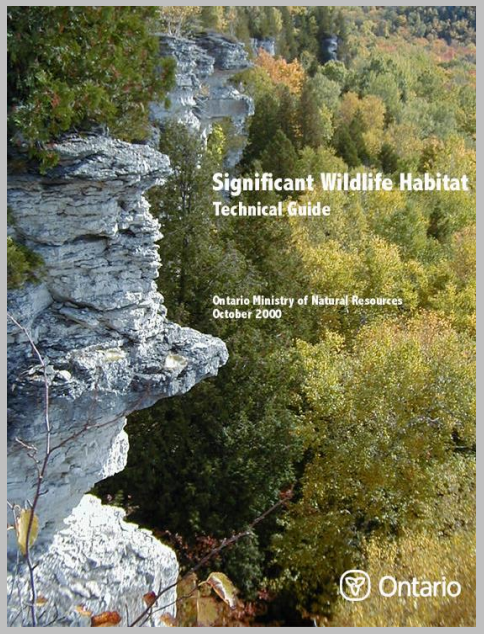
Ecosystem Planning – Management Related

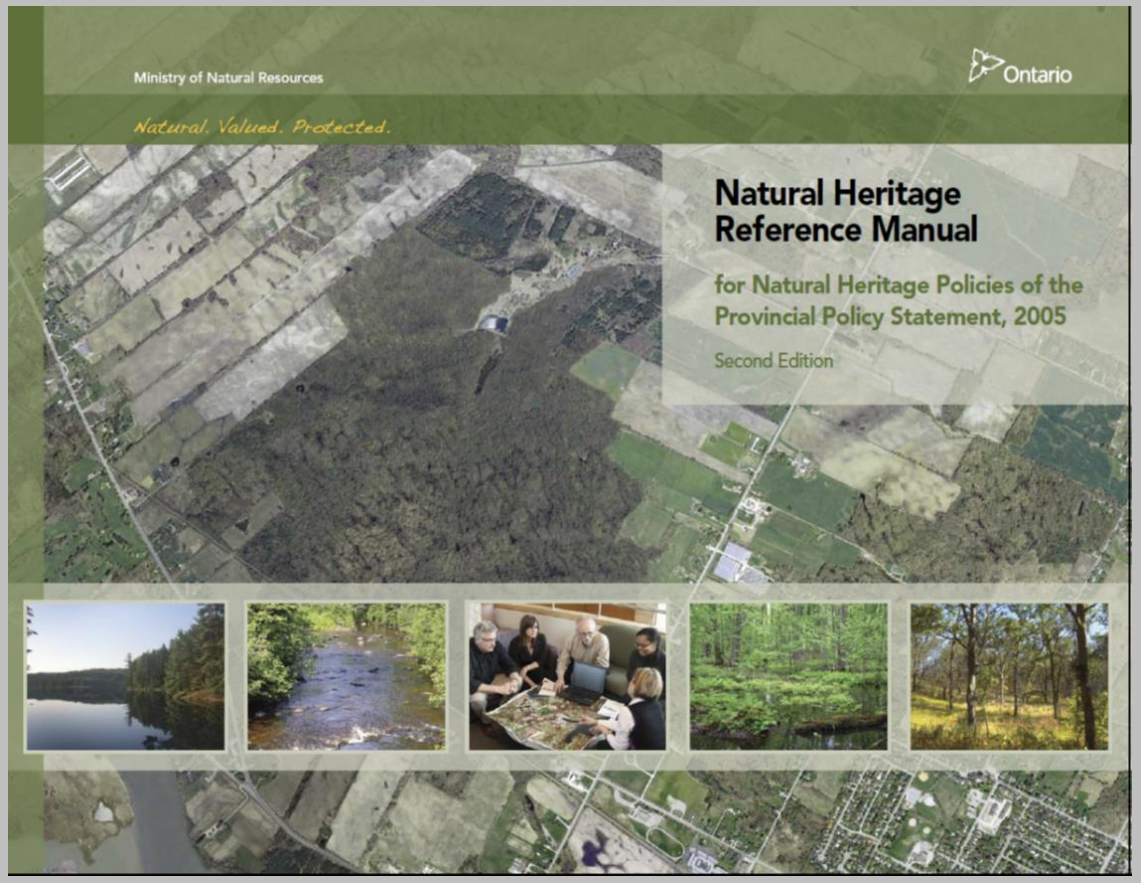
- Conservation Master Plans for ESAs
- Environmental Management Guidelines
- Planning & Design Standards for Trails in ESAs
- Stewardship Programs – Adopt an ESA
- ESA Management Contract

London
CANADA

Provincial Policy Statement / NHRM







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The Ontario Endangered Species Act, 2007

- A Provincial Act that applies to all Endangered or Threatened species on private lands, and public lands under provincial jurisdiction
- ESA came into force June 30, 2008
- The Act is administered by the Ontario Ministry of Natural Resources (MNRF)
- Both the species and habitat are protected

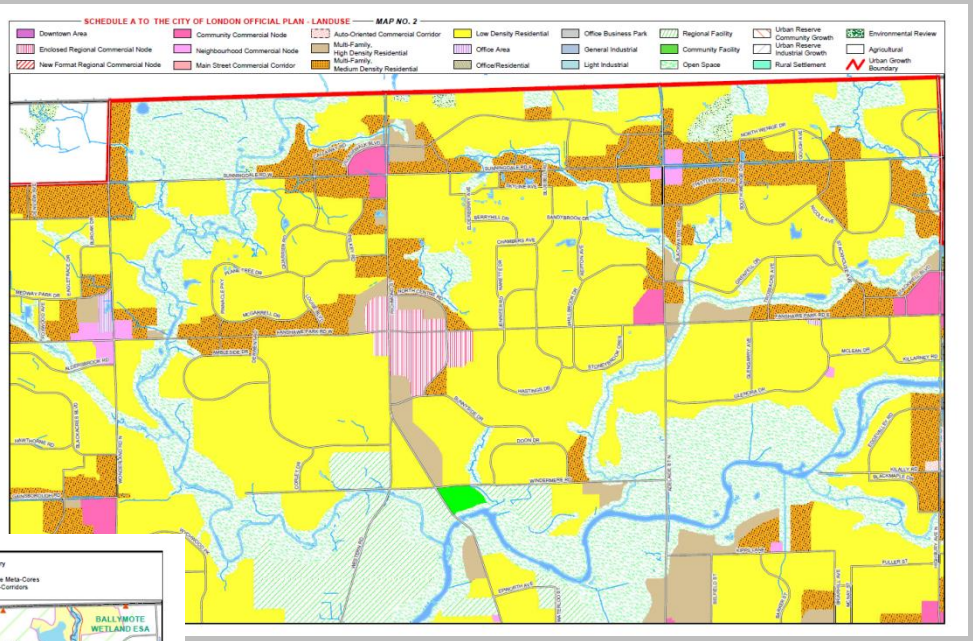
http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_WHTS_RSK_MY_AREA_EN.html

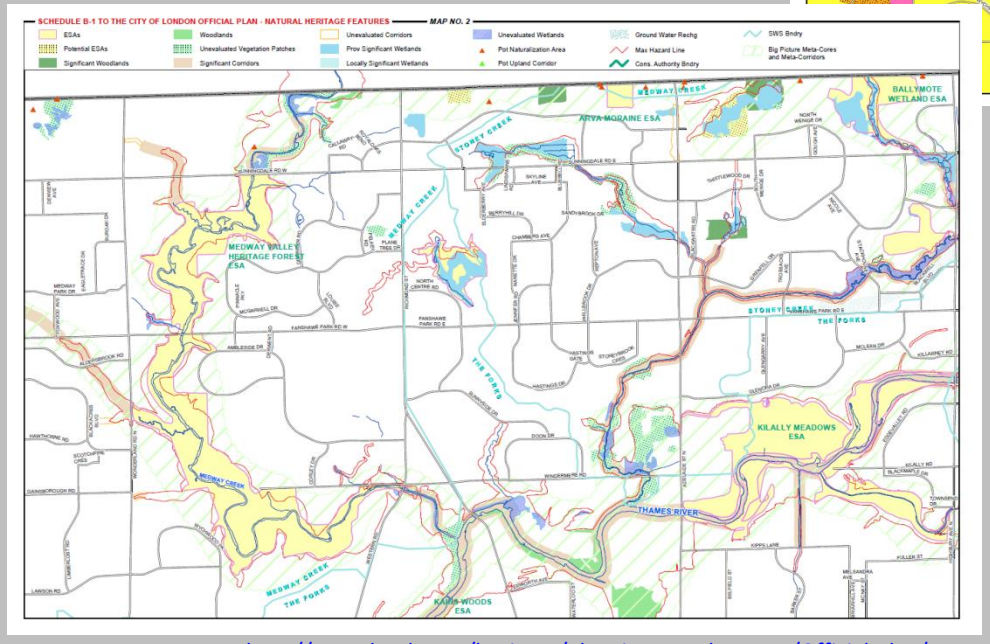
London CANADA

Official Plan

THELONDONPLAN

EXCITING. EXCEPTIONAL. CONNECTED.



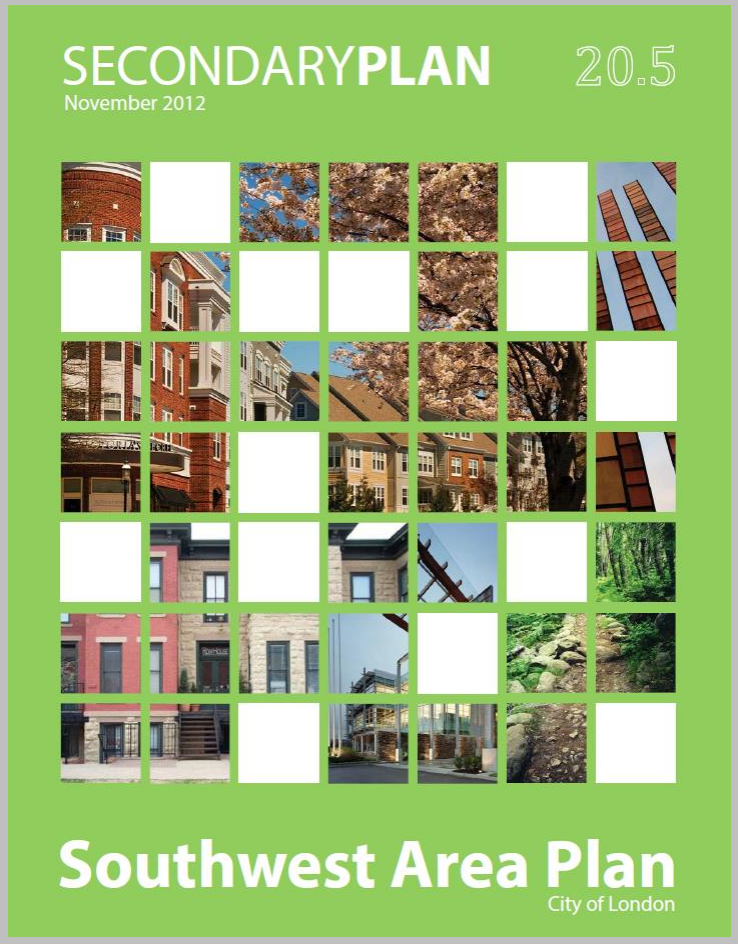


Schedule A - Land Use Designations
Schedule B-1 Natural Heritage System
Chapter 15 - Environmental Policies

http://www.london.ca/business/Planning-Development/Official-Plan/Pages/OfficialPlanDocument.aspx

London CANADA

Area Plans / Secondary Plans



Area and secondary plans provide specific policies for areas identified within an Official Plan as requiring more detailed direction on topics such as land use, infrastructure, the **natural environment**, transportation and urban design.

http://www.london.ca/business/Planning-Development/secondary-plans/Pages/AreaPlan.aspx

London CANADA

Zoning By-law - Open Space and ER

OS1, OS2 and OS3 Zone - areas outside of conservation lands.

OS4 Zone - hazard lands;

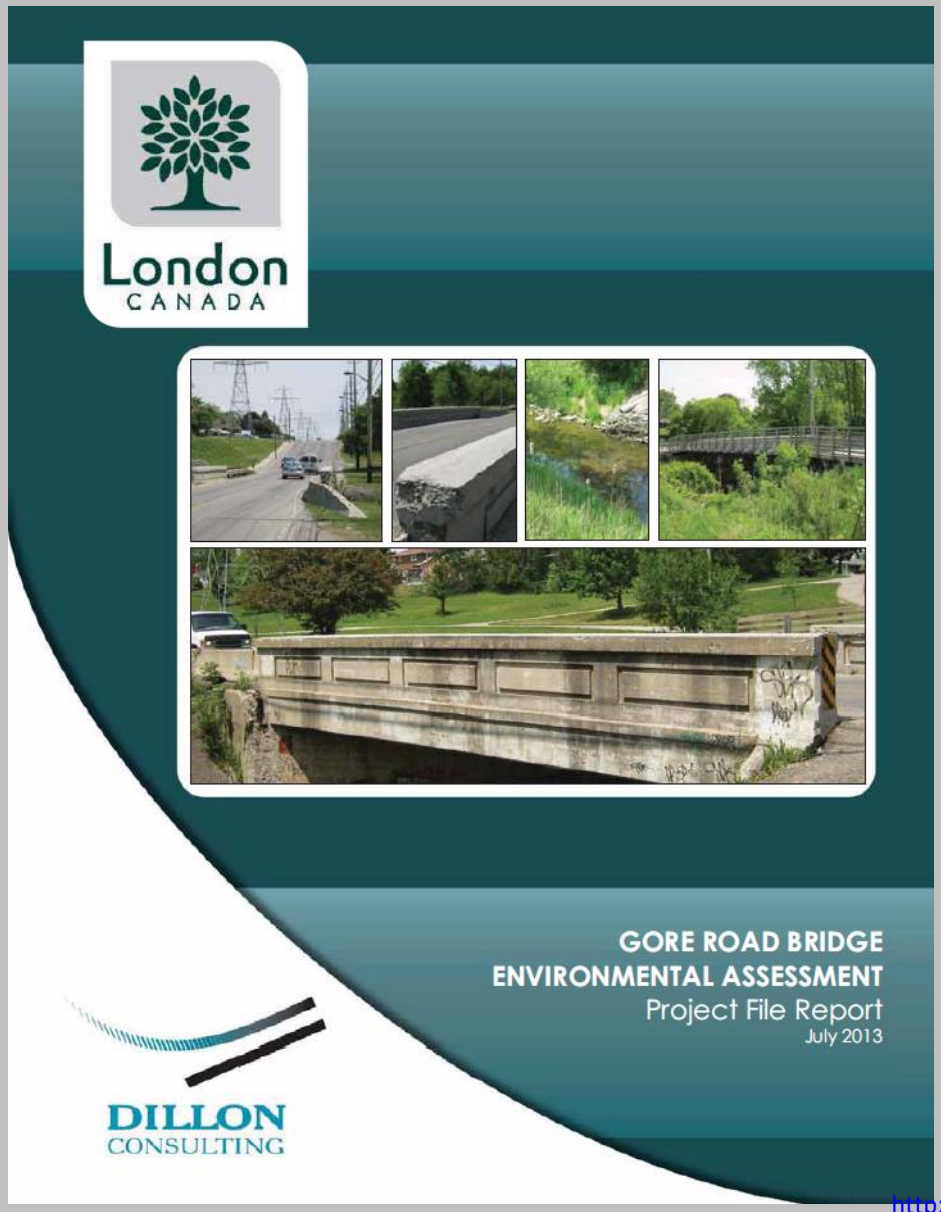
OS5 Zone - important natural features and functions recognized by Council as components of the Natural Heritage System on Schedule "B" of the Official Plan and Section 15.3 of the Official Plan.

ER Zone - designated Environmental Review on Schedule "A" of the Official Plan intended to remain in a natural condition pending environmental studies.

http://www.london.ca/business/Planning-Development/zoning-by-law/Pages/default.aspx

London CANADA

Environmental Assessments (EAs)



An Environmental Assessment is the process of determining what environmental impacts, if any, there will be during a project and how to minimize the impacts. The Environmental Assessment process falls under the Ontario Environmental Assessment Act.

The term "environment" includes the **natural**, social, cultural, built and economic environments.

An EIS is included as part of the EA process if the options may impact NHS

http://www.london.ca/residents/Environment/EAs/Pages/default.aspx

Environmental Management Guidelines

City of London

ENVIRONMENTAL MANAGEMENT GUIDELINES

Revised January 2007

The following document is a compilation of polic
and procedures for the preparation and re
Statements, Subject Lands Status Reports,
Significant Areas, Evaluations of Significant Wo
Vegetation Patches, Determination of Buffers a
for Natural Areas ands Storm Water Managem
Province and the City of London. It is not intend
of information and other essential references sh
an environmental study. For further information
Planning Division at (519) 661-4980.

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http://www.london.ca/business/Resources/Consultant-Resources/Pages/Environmental-Guidelines.aspx

London CANADA

Natural Heritage System Protection

- The City of London protects & enhances more habitat every year by protecting our natural areas, reducing mowing, planting native species including milkweed, managing invasive species and no cosmetic pesticide use

- 10% of the land in the City is publically owned parkland, and, over 60% of that area or about 1,400 hectares is managed as naturalized, non-mowed areas and this area increases every year.

- London City By-laws permit naturalizations, perennial gardens and wildflower gardens on private property including planting of pollinator habitat species such as milkweed.

London
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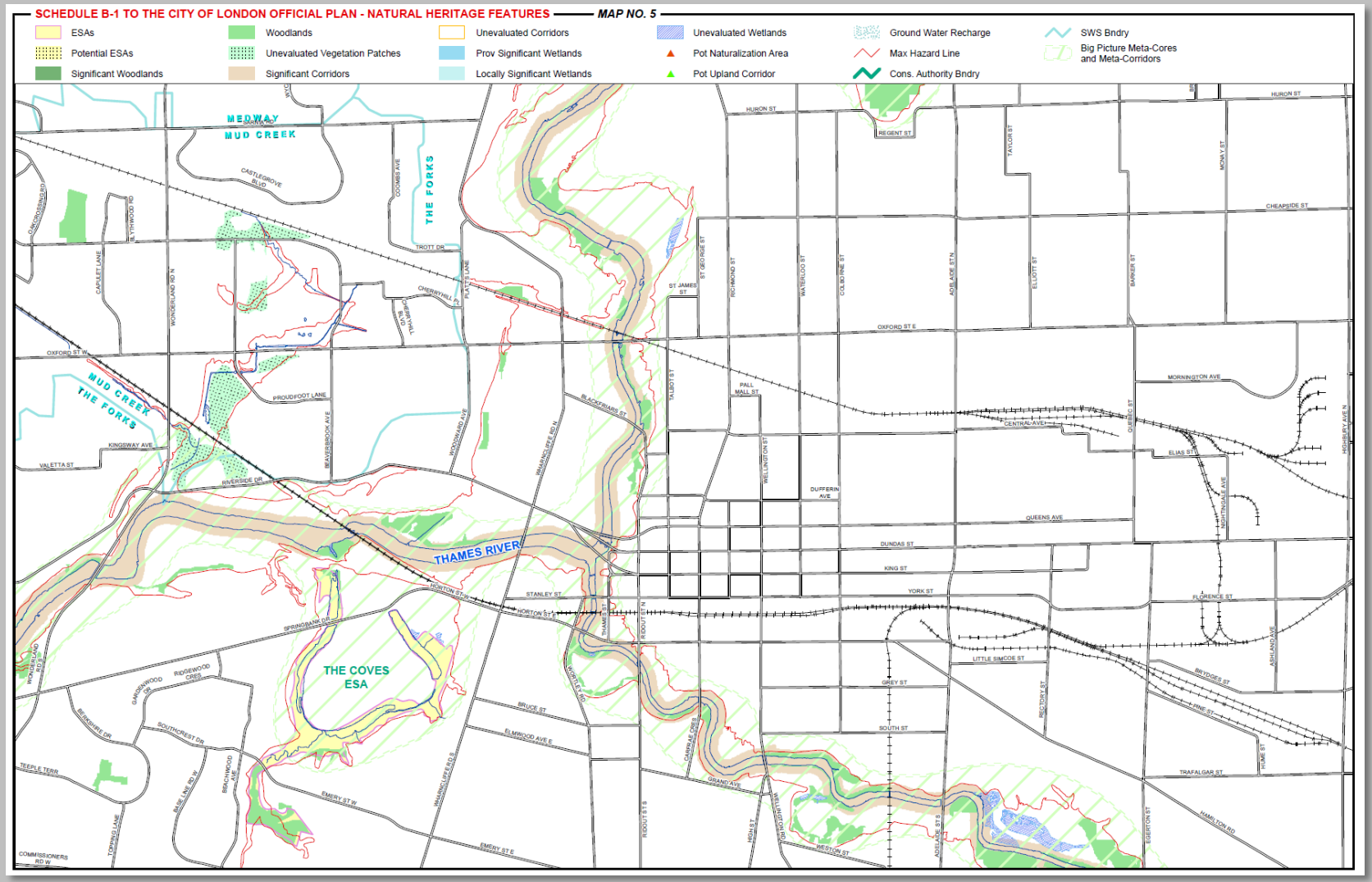
Natural Heritage System Management



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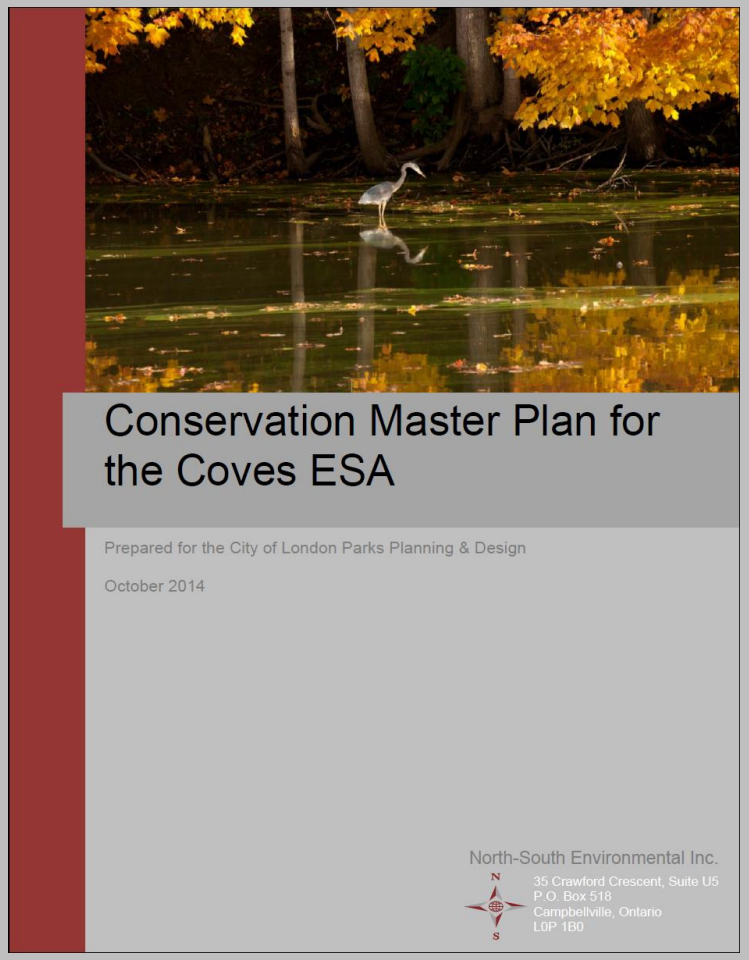
Natural Heritage System Management

- Total of 646 ha, in 8 Publically Owned ESAs w ~ 50km of trails
- CMPs are the “EA Process” for ESAs
- Medway VHF, Meadowlily Woods CMPs in progress
- No CMP for Warbler Woods , Kains Woods
- 4 ESAs have CMPs



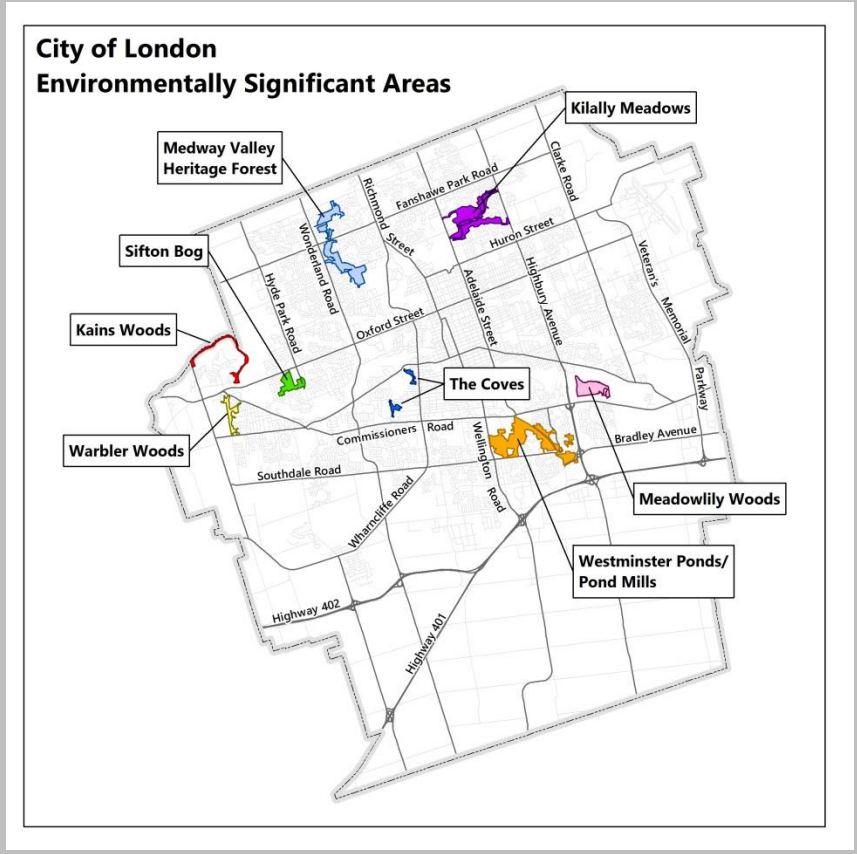
London CANADA

Natural Heritage System Management

$430k UTRCA ESA Annual Contract - 5 main areas of work:

- Invasive Species Management,
- By-law Enforcement,
- Trail Management,
- Education

- Plus - $200k capital for supporting projects across 8 ESAs



London CANADA

2015 ESA CMP Recommendation Implementation

- **Invasive Species / Habitat Restoration**

- Coves – Buckthorn
- WMP – Buckthorn Project & Loosestrife Beetle Project
- Killaly - Dog Strangling Vine
- Sifton Bog - Buckthorn & Native Tree Planting
- Medway (north) - Buckthorn & Phragmities
- Medway (south) - SAR/Goutweed/Knotweed Project & Phragmities, Periwinkle
- Warbler – Buckthorn, English Ivy & Barberry
- Meadowlily & Kains - Monitor using EDRR approach

Goutweed Control w Herbicide

Medway VHF ESA False Rue-anemone (Species at Risk)

London CANADA

ESA Habitat Protection, Restoration & Stewardship

MEDWAY VALLEY HERITAGE FOREST ENVIRONMENTALLY SIGNIFICANT AREA

City of London - Habitat Protection, Restoration & Stewardship Initiatives - Information Sheet

1. SAR False Rue-anemone Protection and Goutweed Invasive-species Mitigation Project - Ontario Invasive Plant Council / Society for Ecological Restoration AGM presentation by Linda McDougall, City Ecologist/Dillon Consulting in 2014 – project continues in 2015.

2. Phragmities, Knotweed invasive species management done in 2014 & Buckthorn, Phragmities, Knotweed, management confirmed for 2015.

3. Tree-Azin Emerald Ash Borer, Bi-annual Injection Program, 74 Ash trees injected in 2012, 51 surviving Ash trees were injected in 2014, next round in 2016 – London is a leader in protecting Ash trees in natural areas.

4. Two boardwalks, a bridge & ecological restoration work completed in 2014 in north portion of Environmentally Significant Area (ESA).

5. Three groups have adopted portions of the ESA through City's Adopt an ESA program, and are active stewards of the ESA.

6. Public Buckthorn Busting events held in 2013 (video), 2014 and planned for 2015.

7. New and effective ESA signage with QR code links to maps & observation reports installed in 2014 at the ESA access points.

8. Turtle habitat nesting areas created in north in 2014 with Scott Gillingwater of UTRCA as advisor. Habitat will be weeded by Adopt an ESA groups / Friends of Medway Creek going forward to protect the sunny habitat required.

9. Natural Heritage Inventory and Evaluation for Conservation Master Plan. Draft Phase 1 Report is available online. Dillon's Biologist Jen Petruniak MSc. presented the study findings, provided a Q&A session for EEPAC in January 2015, and January 2014 & July 2013 at Community Meetings.

CONTACT
Ecologist, Linda McDougall
519-661-2500 ext. 6494
lmcdouga@london.ca

Visit our website: www.london.ca/

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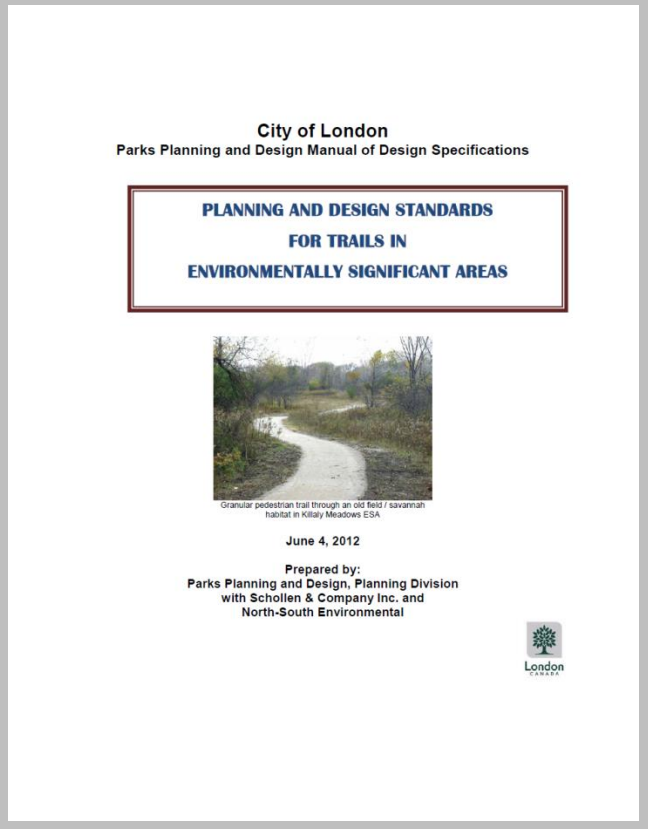
Stewardship in ESAs

- Adopt an ESA

- 9 Adopt an ESA Groups
- 3 in Medway, 2 in WMP, Coves, Meadowlily, and Killaly
- Community Buckthorn Busting in Medway on Thurs. June 25, 6pm-8pm EEPAC Welcome

London CANADA

Planning & Design Standards for Trails in ESAs


City of London
Parks Planning and Design Manual of Design Specifications

PLANNING AND DESIGN STANDARDS
FOR TRAILS IN
ENVIRONMENTALLY SIGNIFICANT AREAS

Granular pedestrian trail through an old field / savannah habitat in Killaly Meadows ESA

June 4, 2012

Prepared by:
Parks Planning and Design, Planning Division
with Schollen & Company Inc. and
North-South Environmental

London

Sandy Levin the current Chair of EEPAC and Dean Sheppard the past Chair of EEPAC provided the following communications noted in the June 27, 2012 Council Resolution:

Sandy Levin, 59 Longbow Road - advising that not everyone was at the table which leads to some misinterpretation of the work the Civic Administration is proposing; indicating that work should be completed to protect environmentally significant areas and to avoid negative impacts and degradation; advising that it is a step in the right direction to protect the environmentally significant areas; noting that this approach is consistent with the Official Plan; enquiring as to what will happen when environmentally significant areas become public lands; recommending that the Civic Administration take the appropriate planning measures to ensure that inappropriate development does not occur; requesting that a part h) be added to the Civic Administration's recommendation, which would read "the Civic Administration be requested to **bring back trail standards in five years**"; and recommending the budgeting of sufficient funds for implementing signage, by-law enforcement, ongoing public consultation and monitoring.

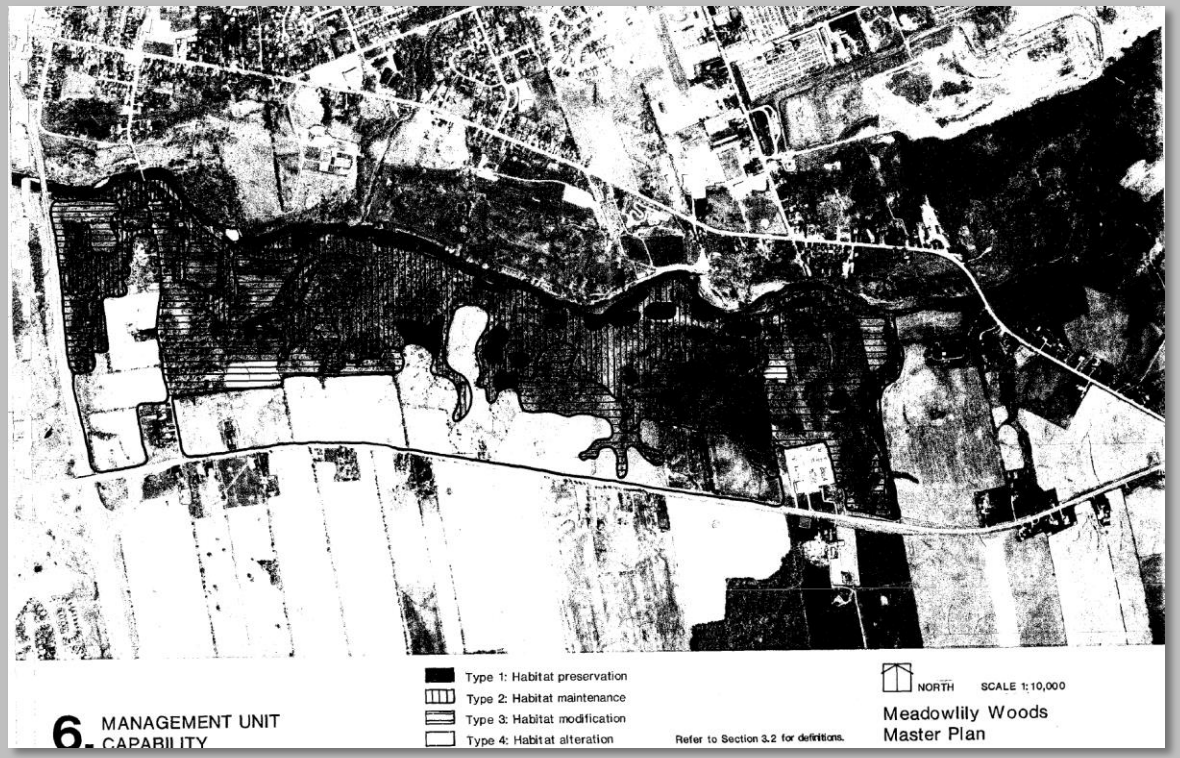
Dean Sheppard, on behalf of the Environmental and Ecological Planning Advisory Committee (EEPAC) – **advising that EEPAC has been involved in this process for over two years; commending the Parks Planning staff for keeping this project moving forward; advising that this is an excellent best practice standard that Londoners can be proud of; advising that it clarifies and strengthens London's approach; advising that the new standards are more transparent and play an important role in keeping people engaged; expressing concern with respect to trail closures; and noting that some trails will be closed, some trails will be rerouted; however, there will always be trails in environmentally significant areas**.

London
CANADA

Old vs New Management Zone System ESA CMPs

Trail Standards were adopted by Council in 2012 are currently applied to ESAs through CMP processes and through other ESA projects including:

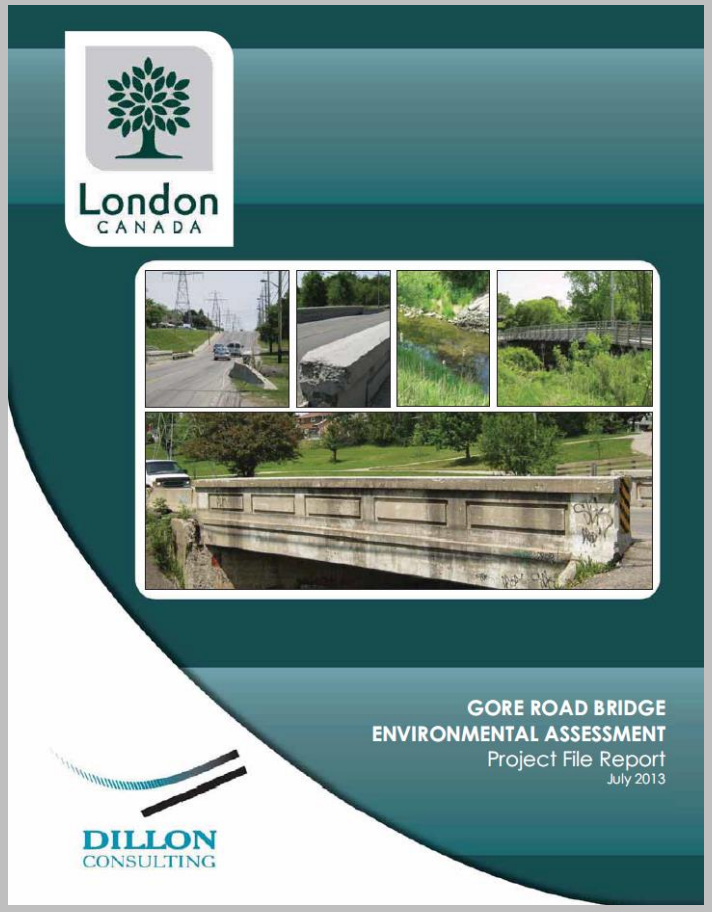
- Coves
- Westminster Ponds
- Medway
- Kains Woods
- Sifton Bog
- Meadowlily



London CANADA

EEPAC Natural Heritage System Review

- Development Applications / EIS (Planning)
- Environmental Assessments (Various Divisions)
- Policy Guideline Updates (Planning)
- Conservation Master Plans for ESAs (Planning)



http://www.london.ca/city-hall/committees/advisory-committees/Pages/Environmental-and-Ecological-Planning-Advisory-Committee.aspx

London
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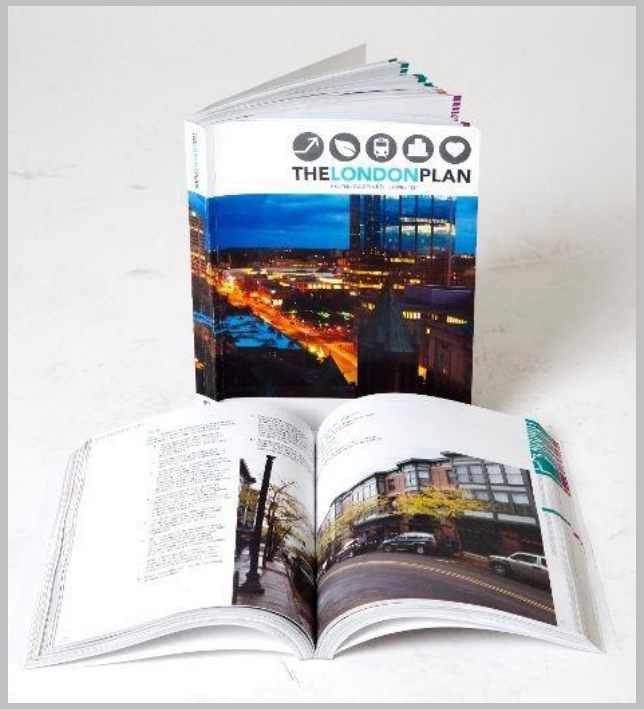
Planning Projects - EEPAC Comments

- London Plan
- Medway VHF ESA CMP
- Meadowlily ESA CMP
- EIS Performance Monitoring Study
- Environmental Management Guidelines



Recreational Pathway Crossing of Richmond Street

Reviewers: Sandy Levin
April 27, 2015

THEME #1 – Protection of Provincially Significant Wetland Complex

The project and the use of the pathway crossing should not impact the features and functions of the Provincially Significant Wetland Complex and the associated woodlands. EEPAC provides the following recommendations.

Recommendation 1: The location of the pathway leading to and from the crossing must avoid the wetland and should avoid the woodlands. This means EEPAC does not support the pathway along Richmond to the north.

Recommendation 2: Suitable wayfinding should be provided that directs users to the pathway. Lack of wayfinding could result in pedestrians and bicyclists wandering into the natural features.

Recommendation 3: Visual barriers such as fencing or railings as well as physical barriers such as native plantings of thorny plants be used to demarcate the pathway and crossing from the components of the Natural Heritage System.

Recommendation 4: Education signage or information boards be provided that explain the significance of the wetland and why it is important not to disturb the natural features and functions.

Recommendation 5: The bike path needs to follow the pipeline and avoid the natural features.

Urban Design Manual (Draft January 2015)

Reviewed May 18th, 2015 by: C. Dyck, B. Gibson, C. Kushnir, and M. Murphy

General Statement:

The Environmental and Ecological Planning Advisory Committee (EEPAC) has many recommendations to the Urban Design Manual (Draft January 2015) document created by the City of London's Planning Services. The document itself, aesthetically appealing as it may be, is quite simply a useless document if it is to be used as a "tool" (pg. ii). The document gave no directions to developers for environmental preservation, and that was evident with the word "should" being used 422 times throughout the document (or arguably 8.44 times per page). It is weak in its delivery, and gives no support to environmental considerations, or climate change adaptations (e.g. the heat island effect in dense urban areas). Moreover, the document was poorly written with many grammatical errors, especially with an inconsistent use of the use of the Oxford comma. Overall, the document was vague and had nonexistent guidelines for green roofs, SWM, site features, or connectivity, but did have very specific requirements for physical building structures. Please review the document thoroughly to fix those grammatical errors, and please consider the following EEPAC recommendations.

1) Layout of the Paper (General)

- As this is a City of London document, it was confusing that on Pg. 7, 19, etc. that you have photos from different cities. If this is a design manual for London, then consider having photos that highlight places you would like to change. RECOMMENDATION: Use only locally sourced photographs.
- Sections and Subsections: they were difficult to read and didn't follow throughout the paper consistently. Numbers jumped back and forth under your subsections. RECOMMENDATION: Please change the sections, subsections, and numbering so it eliminates confusion. How can this be utilized as a tool if you cannot find the reference?
- Pg. ii – make sure you are consistent with the use of dashes (e.g. "0 to 5, 6-10, and 11 to 20").
- Pg. iii – why is the word "applies" not capitalized?
- Pg. 1 – For the green box at the bottom, please consider making it a more readable colour and font. Does this meet accessibility requirements?
- Thoroughly defining the words used throughout the document will allow for effective understanding of the concepts, and uniform use of the guideline. RECOMMENDATION: Expand the glossary for terms like "frontage", "mixed use development", "retaining wall vs. street wall", and "built form".
- Under the broad section of "connectivity" why do you not encompass ecological connectivity? RECOMMENDATION: Ensure that ecological connectivity is put into this section by mandating an "ecological approach".

2) Site Character & Context

- Pg. 1 – are you promising to keep the natural identity? RECOMMENDATION: Make a promise to keep the natural identity by encouraging a higher standard.

- Please add commas in this section.

- Pg. 2 – is “wood lot” not “woodlot”?
- Subsection D (2) – Is this point a last resort? How can you mitigate culverts to ensure they get adequate daylight? RECOMMENDATION: Clarification is needed. Please set a standard.
- Pg. 3 – Subsection E (4) if you remove a tree are you going to replace it? RECOMMENDATION: Wording should be stronger to give preference to natural vegetation over development.
- Pg. 4 – Is this a design from London? This is confusing.

3) Site Organization

- Pg. 5 - What rules are we talking about? In reference to other municipalities that have implemented these rules? Does it mean that by implementing these rules, it would create a unified public space? What about private space? Do they not apply to private space?
- Pg. 5 – (Green box) Is there a certain percentage of green infrastructure that will be mandated? If so, what is the required percentage? Do you propose a better guideline for green infrastructure, and why is there not a whole section in this document outlining the requirements? If feels as though this was a last thought or consideration. Not well understood for those that do work in green technologies. RECOMMENDATION: Add a section for green infrastructure.
- Pg. 6 – Format subsection A the same as F2?
- Site vs. Sight? RECOMMENDATION: Please add the word “site lines” to the new glossary.
- Pg. 7 - Does organizing in a grid pattern work with the landscape and earlier messages about integration? Is this merely for density control? The sight features would not be preserved, that were previously mentioned as a goal of this tool. RECOMMENDATION: Figure out what is more important: preservation of site features, or integration.
- Pg. 8 – Why do the Subsection/Numbers change? Again, please keep it consistent.
- Pg. 8 - Could we push further and mandate permeable pavement surfaces as an LID approach? (Where possible). What about paving materials? RECOMMENDATION: Add a section on materials and LID.
- Pg. 12 – Under Subsection J. RECOMMENDATION: Reorder based on priority. Number 10 should really be number 1.
    - (4) Using a hard edge is not recommended for the initial goals of the naturalization of the edge. SWM are not meant for active neighbourhood usage. They can however be used passively.
    - (5) The design of the ponds for safety fencing depends entirely on the site design and location. The SWM requirements, size, depth, naturalization requirements, etc. should be noted.

- (11) No – SWM ponds should not be physically accessible.
- (13) What resources are available for designers to look up the intended vision for the neighbourhood? How do SWM facilities fit the vision?

- Subsection L (2 & 7) – Why are there no sections on signs?

4) Buildings

- Subsection D (1) "Tall Buildings" should be in a glossary. Toronto's guideline to reduce avian mortality should be incorporated.
- There is no mention on decreasing avian mortality with tall buildings. RECOMMENDATION: Integrate building designs to mitigate avian mortality.
- Why are the pictures on Pg. 18 and 19 not from London? If you are gathering inspiration from other cities, then why not integrate the photos and tell the reader why that photo was placed. RECOMMENDATION: Add subtitles to the pictures to explain the design concept.
- Subsection E (1) – Why is there no complete list? Isn't that what this document is for?
- Subsection G (26) – What about signage?
- Pg. 25 (photograph) – Why did you place a picture of uniform buildings? Doesn't this violate your vision of eliminating façade uniformity?
- Subsection L (7) – Why is there no section or mention of green roofs? Nothing on usability either (i.e. patios). RECOMMENDATION: Add sections for usability and green roofs.

5) Connectivity

- Subsection D (2) – "Location"? You cannot locate sewer grates on a whim because their location is determined by topography, runoff, etc. Most likely, these things are determined before development even occurs.
- Subsection G (9) – No?

6) Subdivisions

- Subsection A (1) – that is the second time this is mentioned in the document. What is the benefit of a grid like pattern? What happens if a developer doesn't abide by these design concepts? Rarely does this happen in a subdivision. RECOMMENDATION: To manage interconnectivity, should you not take an ecological approach to the design layout? Not every area can or will benefit from a grid pattern when there are Species at Risk or other sensitive areas.
- Subsection A (4, 5, & 6) – Please define "intensity".

- Subsection C (2 &3) – How does this work? Also, why are there measurements for 'block configuration', but not found anywhere else in the document? RECOMMENDATION: Add quantitative measures throughout the document.

- Subsection D (10) – What are the other examples of green features? RECOMMENDATION: Add a section for green features.

- Subsection I (4) – Should it not read "on both sides of bridge"?

- Subsection J - What do you mean by "mixed development"? What does that mean for London? RECOMMENDATION: Add "mixed development" to glossary.

7) Public Realm

- Subsection A (3...1) - please review your document for grammatical errors. Is this a missing subtitle?

- Subsection B (2, 3, & 7) – What about if trees aren't preserved? Is there going to be a replacement fee? Also, there is no mention of growth space. Why? Why isn't there any mention of local/native species? RECOMMENDATION: Please give parameters for what happens if trees aren't preserved, and also outline the growth space required. Give a list of local or native species alongside these requirements.

- Subsection (G) – Why is there not a list of plant materials? As we move towards LID, we need to think about the naturalization of areas, and unfortunately the use of turf grass goes against that ideology.

8) Other Sources/References

- Ireland has incorporated an effective Urban Design Document.

Thank you for taking the time to review this document. Please consider EEPAC's recommendations in your final draft. Any questions or concerns may be directed to the Team Lead. Moreover, if you would like help revising certain sections, we would be happy to provide you with helpful resources.

Sincerely,

Meaghan Murphy BES, MES
Team Lead, EEPAC

Review of:

Richardson Farms Environmental Impact Study dated February 15, 2015 by Stantec for Z Group (proponent)

Reviewers: B. Gibson, S. Levin, M. Murphy, R. Trudeau

SPECIES AT RISK (Ontario Endangered Species Act - ESA)

Barn Swallows (threatened) are present and nests were found. 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, or from improper nearby site work. 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 20ºC but increased to 203 m when it was 16ºC or less.

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.

1) **RECOMMENDATION:**. The MNRF be consulted to determine if a permit is required.
2) **RECOMMENDATION:** Any work in the area must take place outside of breeding season.
3) **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
4) **RECOMMENDATION:** If the nesting sites are damaged, 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.
5) **RECOMMENDATION**: These recommendations be forwarded to the City's Stormwater Management group as this relates to the Scoped EIS for the design of Pincombe SWM 3 that is scheduled for construction in 2017 as per the recent GMIS report (SPPC May 12, 2015).

In addition to the Barn Swallows, the consultants found a singing male Eastern Meadowlark (threatened) during their work. We assume it was during the morning of either June 5 or June 27 when the breeding bird inventories were done. We believe this work was done too late in the year to establish if this bird was breeding. In the COSEWIC Assessement and Status Report, 2011, for this species, it is noted that in Canada, males arrive on the breeding grounds in April and the females arrive 2 to 4 weeks later. Nesting starts 1 week after pair bonds are formed. Eggs incubate for about two weeks. Fledging 10-12 days and then continued to be fed by adults for 2 weeks or more. Male may take part if the female re-nests.

Eastern Meadowlarks walk and stalk on the ground of thickly vegetated grasslands searching for insects to eat. Males are very vocal during the breeding season, singing boldly from open areas or elevated perches. Singing is a primary means of territory establishment. **Outside of breeding season**, Eastern Meadowlarks are very shy, remaining hidden among tall grasses and silently slinking away when people approach. (Cornell Lab of Ornithology web site).

Once the breeding season is over, male *S. magna* cease defending their territories. Males establish their territories in March, females arrive about two to four weeks later females. Male S. magna display their territories with flight displays and by singing.

Given this information, EEPAC provides the following recommendations.

6) **RECOMMENDATION:** The breeding bird survey be repeated in early spring 2016 or the MNRF be consulted to determine if a permit is required for this development due to impact on this threatened species.
7) **RECOMMENDATION:** If not already reported, the sightings of Barn Swallows and the Eastern Meadowlark be reported to the NHIC.

WETLAND

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. EEPAC recommends a 30 m buffer.

8) **RECOMMENDATION:** A wetland evaluation be done by a qualified evaluator to determine if the wetland is Provincially Significant.
9) **RECOMMENDATION:** In the absence of an evaluation under the Ontario Wetland Evaluation System, the wetland be presumed to be Provincially Significant and that it be staked for a 30 m buffer prior to development beginning. This must be included as a condition in the development agreement.

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.

10) **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.

11) **RECOMMENDATION**: Educational material be supplied by the builders to new homeowners including information on the wetland and its significance including how to identify Barn Swallows.
12) **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.
13) **RECOMMENDATION**: EEPAC supports the consultants' recommendation on page 7.10 that the boundary between development and the buffer be fenced.
14) **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). 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. Both projects are scheduled for 2017 in the City's GMIS, and should proceed in such a way that there is no further negative impact on the hydrological regime.

15) **RECOMMENDATION:** The UTRCA's hydro-geologist be asked to comment on the impacts to the hydrologic regime.
16) **RECOMMENDATION:** The SWM facility be designed to mimic the present hydroperiod. (EEPAC has not seen the EA for the facility).

WATER COURSES:

The consultants identified open watercourses on the site, albeit it is not clear from the detail sheets which watercourse is "Springer Creek Drain." There is no clear justification for piping the open watercourses.

17) **RECOMMENDATION:** The EIS be considered incomplete until the consultants clarify why piping is appropriate and will not have a negative impact on natural features or ecological functions or on fish habitat.

CONSTRUCTION IMPACTS

18) **RECOMMENDATION**: Work near to the wetland should not take place during Barn Swallow breeding season.
19) **RECOMMENDATION**: No construction equipment should use or be stored in the areas determined to be buffers.
20) **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. A Flood Response Plan be in place prior to the start of construction.
f. 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.
g. 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.

MONITORING

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.

21) **RECOMMENDATION:** Monitoring at the sub-divider's expense be included during all phases of development. This must be included in the development agreement.

There is also a need to monitor the Barn Swallow population. If there is a decline in the population due to development, the subdivider should provide remediation measures.

22) **RECOMMENDATION:** Monitoring by a Species at Risk biologist with the MNR or UTRCA be required as part of the development agreement.
23) **RECOMMENDATION**: Compliance reports be sent to the City (as per page 8.2) as well as the MNR and UTRCA when the reports relate to Species At Risk.
24) **RECOMMENDATION:** The qualitative vegetation monitoring noted on page 8.2 must be included in the development agreement. EEPAC believes it should take place concurrent with and on the same schedule as the compliance monitoring, rather than annually. The beginning of the monitoring period should be when the buffer plantings take place. This must be clearly laid out in the development agreement and Development Services must follow up.

April 23, 2015 LON-00010606-GE

Thames Village Joint Venture Ltd.
598 Upper Queen Street
London, Ontario
N6C 3T9

Re: **Response to EEPAC, Dr. C. Smart Comments**
Old Victoria East Subdivision
London, Ontario

Following the meeting at City Hall on April 14, 2015, and the circulation of the EEPAC comments which included comments provided by Dr. C. Smart, please find the following comments below for circulation to the approval authorities.

1. **Cartographic convention has not been followed, so a number of the maps and figures lack registration, scale and orientation or an adequate legend. This makes comprehension and interpretation difficult at times. Casual reference to locations makes it impossible to follow the analysis at times. For example "the Cline Residence", the "hydro corridor" and "1742 Hamilton Road" are not a standard geodetic expressions. Two boreholes were not identified on any map, so lack validity. (One may have been overwritten by the legend.)**

Response:

- Drawings are all named and show directionality (where appropriate), as well as scale. This information is provided in the titleblock of each drawing. A legend is present, where appropriate – and is in fact, referenced in the latter part of the above comment.

- For items which are referred to as 'Casual references' – these references are based on actual site characterization and site features. The municipal address (1742 Hamilton Road), existing residence (Cline Residence) and Hydro Corridor are all features which are present onsite, and referenced in various studies for the site, including the Geotechnical Investigation, Hydrogeological Assessment and Natural Heritage Report.

- Geodetic elevations are used for ground surface elevations at the borehole locations.

- Boreholes which are relevant to our analyses are included on the mapping. Boreholes which are excluded from the mapping are expected to provide redundant or unrelated information for the purposes of the analyses.

2. **Although the slope profiles have a brief field documentation, the analysis was performed using topographic data. The origin, reliability and resolution of these data is not specified. "Top of slope" is the key datum from which all offsets and profiles are defined. How is this line defined in uneven terrain? There is no indication of quantitative field verification of profiles, not surprising as the site was snow-covered in all the photographs; a condition unsuitable for assessment. A number of the sections show a convex lower profile that might indicate slope failure. There are indication of fairly massive slope failure along this section of the South Thames River, so this is not a trivial concern. The activity and risk of stream undercutting and incision is not investigated, instead an arbitrary set-back is provided. These streams can rapidly shift and incise, particular during development, so this is of concern.**

Response

- Section 2.3 provides specific reference to the source of the topographic data.

- Top of slope is defined in accordance with the MNR Guidelines – this is industry standard practice.

- Although the February 2013 photos show snow covered conditions, exp/Trow involvement at this site dates back to 2004. We have over 10 years of site review and data collection behind our engineering review and recommendations. The February 2013 photos were the most recent photographic record of the site conditions on file.

- A convex geometry is not a reliable means of determining slope failure. More often, it can be a simplistic indicator of surface erosion. Surface erosion is discussed within the report.

- The implied presence of a massive slope failure along the Thames River is not supported by the site reconnaissance information which has been collected by exp. Site reconnaissance work by exp has been carried out during various visits to the site over the past 10 years, and has been conducted by experienced and qualified technical field staff and project engineers.

- Toe erosion setback is not arbitrary. Determining the toe erosion setback involves having regard for the MNR guidelines, geotechnical review, erodibility factors and other site specific characteristics.

- Our analyses considers a 100-year planning time frame, and includes consideration for changes in water level and levels of saturation within the subgrade soils which can be reasonably anticipated as a result of the proposed site development. This analyses has been subsequently followed up with a water balance assessment which also looks at variations in pre-development and post-development infiltration rates.

3. **There is no tabulation of fundamental borehole data; i.e. easting, northing, surface elevation and water level. It is not clear why accurate field elevations were not determined. Astonishingly, many of the borehole reports lack water levels. A coherent analysis of the risk of saturation is not undertaken. A constructed storm water pond on these sites is likely to be challenging to seal and so may substantially alter groundwater patterns and increase risk of slope failure and erosion.**

Response:

- Borehole locations are shown on site plans, and were located with reference and measurements to existing site features. Summary of UTM coordinates has been provided below, to supplement the available information:

Boreholes Drilled 2012

Borehole	Zone	Easting	Northing
BH1	17 T	488426	4757123
BH2	17 T	488213	4757236
BH3	17 T	487955	4756865
BH4	17 T	488032	4756766

Boreholes Drilled 2007

Borehole	Zone	Easting	Northing
BH201	17 T	488227	4757507
BH202	17 T	488185	4757462
BH203	17 T	488388	4757433
BH204	17 T	488430	4757372

Boreholes Drilled 2006

Borehole	Zone	Easting	Northing
BH101	17 T	488367	4757420
BH102	17 T	488162	4757365
BH103	17 T	488223	4757151
BH104	17 T	488479	4757073

- Ground surface elevations and water levels (where present) are provided on the borehole logs. Field elevations have been verified through topographic survey – the statement that they are not accurate is not correct.

- Water levels are provided on the borehole logs, and tabulated in Section 3.3.

- Section 4.3 references variation in groundwater conditions being taken into consideration in our analyses

4. **The credibility of the slope analysis is compromised as drawings 8,10 and 11 appear identical, as do figures 7 and 9.**

Response:

- All cross sections are based on the topographic survey data provided to exp, and verified through site reconnaissance visits.

- It is not surprising to find similarities in overall slope height and inclination in cross sections which are deemed to be representative of the site conditions, and in close proximity to one another.

- The slope analyses, as well has the information provided in the site descriptions, MNR Slope rating charts, and throughout the report prepared by exp has been prepared by experienced and qualified staff, and subject to internal review by Senior staff and technical experts in the field of Geotechnical Engineering and Slope Stability Assesments.

We trust that the comment provided above are suitable for your review and consideration. If you have any questions or require anything further, please don't hesitate to contact our office.

Sincerely,

Rebecca Walker, P. Eng.
Geotechnical Discipline Manager
Earth and Environment

Botel Chiu, P. Eng.
Senior Discipline Manager
Earth and Environment

May 21, 2015

WONDERLAND ROAD SOUTH

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

STUDY OVERVIEW FOR EEPAC

MMM GROUP

STUDY OVERVIEW

- Wonderland Road South is the primary gateway from Highways 401 and 402 to Central London and is the 'spine' of the Southwest Plan Area.
- Class Environmental Assessment (EA) and Preliminary Design Study for improvements to Wonderland Road South, from Southdale Road to Highway 401.
- Implements the Transportation Master Plan (TMP) and the Southwest Area Secondary Plan (SWAP)
- Provides north-south transportation capacity necessary to support the planned growth, support regional and local transportation needs and improve connectivity to Highways 401 and 402.
- This study also includes a Scoped Environmental Impact Study (EIS).
- Represents long-term planning, with implementation of some aspects of the recommended improvements occurring in 15 to 20 yrs. Therefore the current study is mainly intended to identify right-of-way requirements and protect property.

MMM GROUP

MUNICIPAL CLASS EA PROCESS & STUDY SCHEDULE

Phase 1: Problem and Opportunity
- ✓ Identify and describe problems and opportunities

Notice of Study Commencement July 2013

Phase 2: Alternative Planning Solutions
- ✓ Identify alternative planning solutions to the problem
- ✓ Inventory the natural, social, economic and cultural environments
- ✓ Assess and evaluate the planning alternatives with consideration of environmental and technical impacts
- ✓ Identify a Preliminary Preferred Planning Solution

PIC # 1 January 23, 2014
- Transportation Needs
- Evaluation of Planning Alternative Solutions
- Preliminary Preferred Planning Solution
- Preliminary Road Cross-Section Concept Alternatives

Phase 3: Alternative Design Concepts for the Preferred Planning Solution
- ✓ Confirm the Preferred Planning Solution
- ✓ Identify road cross-section and design concept alternatives
- ✓ Inventory the natural, social, economic and cultural environments (continue from Phase 2)
- ✓ Assess and evaluate the design alternatives with consideration of environmental and technical impacts
- ✓ Identify a Preliminary Preferred Design
- ✓ Confirm the Preferred Design as the Recommended Plan

PIC # 2 December 11, 2014
- Cross-Section and Design Alternatives
- Evaluation of alternative cross section and design concept alternatives
- Preliminary Preferred Design

Phase 4: Environmental Study Report
- ✓ Complete the Environmental Study Report (ESR) that documents all of the activities undertaken and the decision-making process through Phases 1, 2 and 3
- ❑ Notify the public and government agencies of completion of the ESR and of the Part II Order provision in the EA Act
- ❑ Place the ESR on public record for at least 30-calendar days for public review and comment

Notice of Study Completion Summer 2015

Phase 5: Implementation (Long-Term)
- ❑ Proceed to detailed design of the project
- ❑ Property acquisition and utility relocation
- ❑ Initiate Construction and monitor for environmental provisions and commitments

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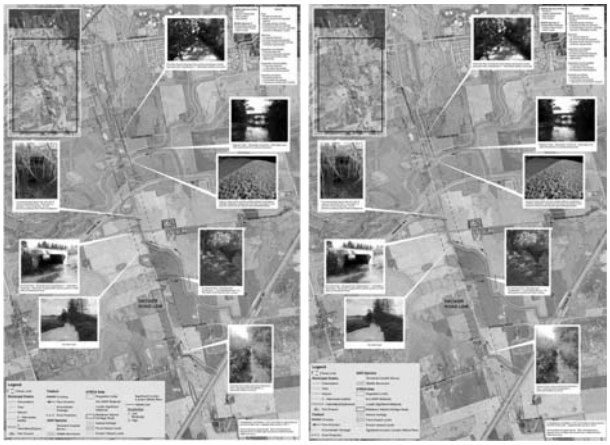
EXISTING CONDITIONS - Socio-Economic and Heritage

- Within the Urban Growth Boundary (UGB), existing land use is comprised of retail / commercial and industrial with remaining agricultural areas intended to transition to urban land use.
- Continued development and intensification within the UGB will be guided by the policies of the Southwest Area Secondary Plan (SWAP) – dominated by the Wonderland Road Enterprise Corridor.
- Outside of the Urban Growth Boundary, land use is characterized by crop production and other agricultural operations / agri-business and will remain as such.
- There are no Built Heritage Resources present that are on the City of London Heritage Register or are listed /designated under Part IV of the Ontario Heritage Act.
- Two built features of heritage interest and 11 Cultural Heritage Landscapes (roadscape, farm complexes, and agricultural landscapes) have been identified.

MMM GROUP

EXISTING CONDITIONS – Natural Heritage



DESIGN ALTERNATIVES – 2-Step Evaluation Approach

The design alternatives encompassed two aspects:

Road Cross-Section Concepts – to identify a preferred arrangement of vehicular travel lanes, sidewalks, boulevards, bicycle lanes etc.

Road cross-section concepts were developed for two distinct segments of the Wonderland Road corridor based on the different lane requirements within each segment to meet future travel demand:

- Southdale Road to Dingman Drive; and
- Highway 402 to Highway 401.

Wonderland Road from Dingman Drive to Highway 402 will be a transitional area from the 6-lane cross section in the north, through the Highway 402 Interchange, to a 4-lane cross section between Highways 402 and 401.

Road Widening Alternatives – the evaluation of the means by which road widening can be achieved.

The evaluation was carried out in a stepwise manner, with the road cross-sections being assessed first to establish road right-of-way requirements and the road widening approach developed afterward, based on the preferred cross-section.

ROAD WIDENING ALTERNATIVES

Key considerations and constraints:

- Impacts to adjacent properties and accesses including: existing commercial developments, active development applications, residences and community centres/places of worship;
- Impacts to adjacent natural features including the Lambeth Forest ESA, Dingman Creek corridor and the Locally Significant Wetland;
- Continued agricultural and agri-business activities outside of the Urban Growth Boundary including field access, ease of movement of farm vehicles, and the existing Sugar Bush;
- Design and operations – for example, considering future reduced speed limit in the urban area, road design standards and geometric design criteria that ensure alternatives are reasonable, feasible and safe.

Initially, conceptual plans were developed to widen Wonderland Road South:

- on existing centreline;
- to the east only (i.e., holding westerly property line)
- to the west only (i.e., holding easterly property line)

For much of the study area, there are existing constraints located along both sides of Wonderland Road. Therefore, it was not considered reasonable to develop alternatives that widen "strictly" to the east or west, or on the existing centreline.

The design will widen the road at locations that "best fit" the current road location and surrounding land uses. "Best fit" locations were evaluated and selected to improve the existing roadway alignment, minimize environmental impacts, avoid significant physical constraints and permit traffic maintenance during construction.

RECOMMENDED PLAN - Summary

Please refer to the PIC 2 materials on the City's website for detailed plans. These Plans are being refined as part of the completion of the Preliminary design.

RECOMMENDED PLAN OVERVIEW

- Widen Wonderland Road South to 6-lanes from Southdale Road West to Dingman Drive with provision for off-peak on-road parking, pedestrians and cyclists, and wide median and boulevards provide for enhanced landscaping opportunities;
- Widen Wonderland Road South to 4-lanes from Highway 402 to Highway 401, with wider travel lanes and paved shoulders;
- Transition from the 6-lane to the 4-lane roadway between Dingman Drive and Highway 402;
- Intersection improvements including dedicated turn lanes to improve operations at Southdale Road West, Wharncliffe Road South and Exeter Road; and
- Roundabout at Dingman Drive with an opportunity for a gateway urban design feature;
- Future signalized intersections at Kilbourne Road (new), Highway 402 North Ramp, Highway 402 South Ramp, Westminster Drive, and Decker Drive;
- Twinning of the Highway 402 bridge to the west to accommodate a total of 5-lanes over Highway 402;
- Minor modifications to Highway 402 ramps to tie into the widened Wonderland Road South; and
- Improvements to Westminster Road intersection including a slight shift east of the intersection;
- Realignment of two Municipal Drains within the proposed road right-of-way: CB Smith Drain and Krasnicki Drain.

PRELIMINARY PREFERRED ALTERNATIVE – More details of Key Components

Southdale Road West and Highway 402

- reconstruction of Wonderland Road South to an Interim 4-lane, and Ultimate 6-lane urban cross-section from Southdale Road West to Dingman Drive;
- minor alignment shift of the existing Wonderland Road South between Bradley Avenue and Wharncliffe Road South to maintain London Transit operations at the London Transit terminal;
- improvement of existing intersections with signalization and the addition of dedicated turning lanes where appropriate;
- incorporation of active transportation facilities within the corridor to support pedestrian/cycling activity, including a 1.8 m on-road bike lane with 1.0 m buffer and 2.0 m sidewalk on each side of Wonderland Road South;
- flexibility to use the outside lane for off-peak on-road parking or as a long-term future designated HOV lane between Southdale Road West to Hamlyn Street; and
- provision of a wide median (5 m) where feasible in the corridor, for enhancement of the streetscape and attractiveness of corridor with street trees, lighting, signage and gateway features;
- a 2-lane roundabout at Dingman Drive;
- an opportunity for a gateway feature or public art display within the roundabout, announcing the entrance to the City.

Highway 402 and Highway 401

- reconstruction of Wonderland Road South to a widened Interim 2-lane rural cross-section, and Ultimate 4-lane rural cross-section;
  - the Interim 2-lane road includes 3.5 m travel lanes, 1.5 m paved shoulder and 1.5 gravel shoulder;
  - the Ultimate 4-lane road includes 3.5 m travel lanes, 1.5 m paved shoulder and 1.5 m gravel shoulder;
- minor shifts in the alignment of Wonderland Road South based on existing constraints along the corridor;
- improvement of intersection operations with signalization and the addition of auxiliary turning lanes where appropriate;
- localized realignment of Municipal Drains, within the road right-of-way to accommodate the road improvements.

PRELIMINARY PREFERRED ALTERNATIVE – More details of Key Components

Dingman Drive to Hwy 402

- Transition between the 6-lane urban road to the north and the 4-lane rural road to the south
- One southbound lane is dropped just north of the Dingman Drive roundabout intersection, and one northbound lane is added at the Dingman Drive roundabout intersection.
- The additional elements of the transition are as follows:
  - the existing 36 m road right-of-way is maintained south of the Dingman Drive roundabout intersection (the roundabout will require additional right-of-way);
  - a centre raised median will extend south from the roundabout to the Highway 402 north ramp terminal (4 m width at the roundabout and narrows to 2 m just north of Dingman Creek)
  - on-road bike lanes continue to through this section and south to Westminster Drive, however the 1.0 m buffers do not continue south of Hamlyn Street;
  - the sidewalks do not continue south of Dingman Drive, however there is an opportunity to connect the sidewalk to a future east-west multi-use trail in the vicinity of Dingman Drive / Dingman Creek.

SUMMARY OF INTERSECTIONS

Intersecting Road	Existing Intersection	Future Intersection
Southdale Road West	Signalized	Signalized
Westwood Power Centre	Signalized	Signalized
Bradley Avenue	Signalized	Signalized
Kilbourne Road	N/A	N/A
Wharncliffe Road South	Signalized	Signalized
Exeter Road	Signalized	Signalized
Hamlyn Street	2-way Stop Control	Signalized
Dingman Drive	2-way Stop Control	Roundabout
Highway 402 North Ramp Terminal	2-way Stop Control	Signalized
Highway 402 South Ramp Terminal	2-way Stop Control	Signalized
Westminster Drive	2-way Stop Control	Signalized
Scotland Drive	2-way Stop Control	2-way Stop Control
Decker Drive	2-way Stop Control	2-way Stop Control

IMPACTS TO SIGNIFICANT NATURAL HERITAGE FEATURES

A Scoped-EIS was undertaken to address the policies of Chapter 15 of the Official Plan. Field inventory was conducted from late June - late September 2013 and May - June 2014, subject to property access.

Sensitive/significant ecological features and functions were incorporated into the evaluation of alternatives and considered carefully along with social, cultural and technical factors.

Three areas characterized as 'high' sensitivity are proposed to be impacted by the Recommended Plan:

1. **East Lambeth Forest ESA at the Dingman Creek crossing structure**
   - Dingman Creek crossing structure will require an extension on the east side of Wonderland Road by ~ 3 m to accommodate the 'ultimate' road cross section of 4 travel lanes and an extended Hwy 402 ramp (~10 to 15 year timeframe).
   - The Dingman Creek valley provides for habitat connectivity and wildlife movement opportunities between large forested areas east and west of Wonderland Road. Significant Wildlife Habitat is identified based on species observed, habitat characteristics and ecological functions.
   - The existing bridge had been built to accommodate additional lanes, however a slight widening will still be required to accommodate the proposed 4-lanes and the Highway 402 off-ramp. However, widening can be isolated to one side to minimize impacts to the Dingman Creek corridor. By widening to the east, impacts will be contained within the right-of-way and will be limited to vegetation communities and habitat that are more open/disturbed than on the west side.
   - Edge removal of adjacent Green Ash Mineral Deciduous Swamp will need to be verified during detailed design phase. Design considerations for the maintenance of wildlife passage will also be incorporated during detailed design.

IMPACTS TO SIGNIFICANT NATURAL HERITAGE FEATURES

2. **Woodland mosaic located along the west side of Wonderland Road near Dingman Drive**
   - This feature is contiguous with the East Lambeth Forest ESA, forming part of a very large natural heritage / habitat mosaic.
   - Vegetation Communities impacted by edge encroachment are: Cultural Meadow and Swamp Maple Deciduous Swamp.
   - Significant Wildlife Habitat (SWH) is identified based on species observed, habitat characteristics and ecological functions. Also noted, potential for woodland raptor, bat maternity roosts amphibian breeding habitat.
   - The Project Team considered means of avoiding impacts to these natural areas. However, opportunities to avoid the natural areas on the west side by widening to the east are constrained by road geometric design requirements and limited distance / flexibility for adjusting road alignment between Highway 402 and Dingman Drive.
   - The proposed roundabout will result in minor edge impacts to the northeast 'tip' of this feature. Opportunities to shift the roundabout and road alignment are constrained by design criteria and limited flexibility for adjusting road alignment between Highway 402 and Dingman Drive.

IMPACTS TO SIGNIFICANT NATURAL HERITAGE FEATURES

3. **Decker Drive Locally Significant Wetland**
   - This feature encompasses the hydro corridor and surrounding woodland/wetland/plantation mosaic, south of Westminster Drive.
   - Habitat diversity deemed to be good.
   - Confirmed SWH confirmed observations of Eastern Wood Peewee and Wood Thrush. Potential for woodland raptor habitat and amphibian breeding habitat.
   - The proposed road widening will result in encroachment of ~ 16 m along the length of this feature on Wonderland Road. Approximately half of the area impacted is within the hydro corridor and is a 'managed' non-native thicket swamp.
   - The most sensitive areas impacted are two patches of Bur Oak mineral Deciduous Swamp (edge impacts) located north and south of the hydro corridor. Other areas impacted north and south of the hydro corridor include white pine plantation.
   - Opportunities to realign the road to avoid impacts to the LSW are significantly constrained by the hydro tower adjacent to the east side of the road and a residence just north of the hydro corridor.
   - The Project Team considered options to avoid the wetland: including a slight easterly shift to hold the west edge of road; and a new road alignment further east. Both options were deemed to have significant socio-economic impacts. Widening to the east would result in impacts to the residence and require relocation of the hydro tower located immediately adjacent to the road, at significant cost and resulting in additional impacts to the property. Road realignment (i.e., shifting the road further east) is constrained by road geometric requirements such that the realignment would impact the farm to the south, severing it from the surrounding farm fields, and create a new intersection location at Scotland Drive.

STORMWATER MANAGEMENT

- An urban cross-section is proposed for Wonderland Road from Southdale Road to Highway 402. With an urban cross-section, drainage is conveyed through curb and gutter, catch basins and a storm sewer system.
- Quantity and quality control of runoff north of Highway 402 will primarily be provided through use of the ponds proposed in the Pincombe Drain Subwatershed Study. Where it is not feasible to convey runoff to these proposed ponds an oil-grit separator will be provided for water quality treatment.
- A rural cross-section is proposed south of Highway 402 to Highway 401. Stormwater conveyance and management in the rural cross-section will be provided in vegetated roadside embankments and ditches within the proposed road allowance.
- The Krasnicki Municipal Drain and C.B. Smith Municipal Drain will be realigned to facilitate the road widening. The realigned drains will be located within the existing or proposed road allowance.

IMPLEMENTATION

The London 2030 Transportation Master Plan (TMP) projected timing for the widening of Wonderland Road is as follows:

- **Southdale Road to Exeter Road** **15 to 20 years**
  - This segment is recommended to be widened to 6 lanes by 2033.
- **Exeter Road to Hwy 402** **5 to 20 years**
  - This section is recommended for widening to 4 lanes in 2022.
  - In addition, based on the traffic analysis in this EA study, this section is recommended to be widened to 6 lanes by 2033.
- **Highway 402 to Highway 401** **15 to 20 years**
  - This segment is recommended to be widened to 4 lanes in 2028.
- Un-signalized intersections will be reviewed periodically by the City, and signals will be implemented as warranted.