A.4 Comments and Correspondence with Agencies

UTRCA Comments on Executive Summary – Middlesex Centre Stormwater Master Plan

Settlement Area	UTRCA Comment	Stantec Response	Report Section
Arva	• Alternative #3 would be best from a LID perspective. Alternative #3 would eliminate the proposed culvert under Medway Road (culvert means increased maintenance and eventual replacement). It would also be better to control SWM on a catchment basis and would be easier to maintain the dry pond.	• Acknowledged UTRCA prefers Alternative #3 for this SA; however, it is noted that implementing LID may prove challenging due to tight till. Following consultation with landowner and UTRCA, preferred alternative revised to #3.	Section 4.2.1 Section 6.1
Ballymote	• Realignment of the Highbury-Armitage Drain would require site-specific approval from the UTRCA • Lots do not appear large enough for private septic • UTRCA must be consulted on any watercourse realignment	• All points noted	Section 6.2
Ilderton Drain No. 2	No specific comments	-	N/A
South Ilderton Development Area	No specific comments	-	N/A
Komoka Drain No.1	• It is doubtful if there is enough capacity in any of the ponds. We are concerned that if development here continues the way it has then in the near future this area may just be one giant pond • UTRCA suggests site specific SWM should be utilized here rather than regional SWM ponds	• Stantec performed a hydraulic analysis for the preferred alternative and identified that pond levels would only increase by 6 inches in a 1:250-year storm event. Flooding can be avoided by controlling pond levels via outlet. • Noted preference for site-specific SWM controls or a lined forebay, OGS and/or swale should a regional SWM ponds be carried forward as the preferred alternative.	Section 6.5
Komoka Drain No. 3	• Which plan is accurate? The proposed SWM and drain alignments shown here differ from the plans we have been provided with through the *Planning Act* process • There are existing flooding concerns from landowners adjacent the Komoka Drainage Works (to the east) and Landsdowne Park Crescent Subdivision (to the west). We are concerned that outlets downstream are already undersized from the existing developments and to add this water from this proposed subdivision may exacerbate flooding in the existing residential areas.	• Noted, refer to figure B4-6 for an updated figure. • Stantec was not previously aware of flooding concerns in the vicinity of Landsdowne Park Crescent, as this area is beyond the current study limits. Regardless, proposed SWM controls will reduce post-development peak discharges to pre-development magnitudes, mitigating potential flooding impacts.	Appendix B.4 Section 6.6
West Komoka	• Where is the outlet for SWM1? Won't this send floodwaters to the property on the south side of Glendon Drive? • UTRCA would prefer conveyance along Glendon Drive right of way, rather than conveyance through farm field because of existing concerns with erosion on a property downstream	• Noted, refer to figure B4-7 for an updated figure which shows outlet along north side of Glendon Drive. • Flow conveyance along Glendon Drive ROW identified in the preferred alternative.	Appendix B.4 Section 6.7
Northeast Komoka	• UTRCA has no objection to SWM1. • SWM2 (gravel pit) we are concerned that it is already full year-round and will not have enough capacity. • UTRCA notes that under the assessment of alternatives regarding temperatures, SWM 1 & SWM2 would not mitigate high temperatures, rather they will likely increase them. • UTRCA is concerned by the comment that there is "*uncertainty regarding long term water levels*". As this applies to all the sites utilizing gravel pits for outlet we suggest there is no uncertainty... the certainty is levels will rise.	• Stantec agrees with UTRCA that long-term pond level monitoring will be required to confirm infiltration and long-term impacts to pond water levels. Stantec addressed concern regarding pre-treatment when considering the feasibility of each alternative for this site.	Section 4.2.4.4 Section 6.8
Kilworth Glendon Drive	• Presence of wetland (in the vicinity of the proposed road) has been identified through a recent wetland study. As previously discussed with Middlesex Centre staff and Stantec staff during the Glendon Drive EA, the future realignment of this road may require Natural Hazard and/or Natural Heritage compensation in the currently proposed development area. UTRCA will be looking for a compensation ration somewhere from 2:1 - 7:1 based on what is being proposed and details of the feature being lost • Site-specific water balance would be required to protect the wetland. • Drawings don't show where this water eventually outlets to. Would the outlet be to the aggregate ponds again?	• Concerns noted. Refer to figure B4-9 in Appendix B.4 for an updated drawing.	Appendix B.4 Section 6.9
Kilworth East	• UTRCA highly recommends MC gets rid of the ("archaic") concrete lined ditches in this subdivision and creates bio-swales with strategically placed check dams instead • In terms of the grassed swale, UTRCA recommends consideration be given to capacity, future improvements and existing erosion at the river	• Stantec acknowledges UTRCA's desire to remove concrete lined ditches; however, significant adverse impacts to property, trees, utilities, culverts etc. reduce the benefit to water quality associated with removing the concrete.	Section 6.10

UTRCA Comments on Executive Summary – Middlesex Centre Stormwater Master Plan

Settlement Area	UTRCA Comment	Stantec Response	Report Section
Melrose	No specific comments	-	N/A
General Comments	• At the current scale, it is difficult to ascertain site specific setbacks from natural hazard features. Please note that at the detail design stage and/or as development proposals come forward to arrange for SWM blocks - all SWM facilities must be located off-line, outside the furthest extent of the regulatory floodplain plus a 6 metre buffer beyond the floodplain and outside the erosion hazard with a 15 metre buffer beyond the furthest extent of the erosion hazard. SWM facilities adjacent a wetland must have an appropriate EIS/DAR/hydrogeological based buffer • UTRCA requires Level I Enhanced controls for all SWM facilities • On the current drawings it is difficult to ascertain where the SWM outlets are and/or which direction some are outletting to. It would be beneficial if the SWM outlets could be indicated for all proposed SWM facilities • UTRCA notes that the currently proposed 'Development Areas' (in purple on the drawings) may not be in keeping with Natural Hazard and/or Natural Heritage regulations, policies and setbacks and may still be subject to further studies (i.e. flood modeling, geotech, EIS/DAR, etc.) to determine the actual extent of development • Future development areas and/or SWM facilities associated with a natural feature may need to undertake a water balance • The level of detail in this EA are conventional approaches/concepts. We recommend a more proactive approach would be to consider site-specific conditions including groundwater, local soils and outlet capacity. When local/regional SWM facilities are not cited with these site-specific conditions in mind at the EA stage, it has often resulted in serious problems at the subdivision planning and detail design stage • To protect groundwater quality and to ensure that the facilities will function as intended, no SWM facilities should be allowed to interact with the groundwater or allow for infiltration into the groundwater. In other parts of the UTRCA watershed there is substantial separation between the groundwater and potential SWM ponds. Unfortunately, large areas of Middlesex Centre contain very shallow groundwater tables. We suggest preliminary hydrogeological monitoring (generally for a minimum of 3 years) should be undertaken before confirming the location of a SWM facility in areas (such as Komoka-Kilworth) that are known to have shallow groundwater tables. If proper Hydrogeological monitoring is not be undertaken as part of this SWM study perhaps there is an opportunity to add a caveat to the EA to address this • Basic groundwater consideration should be given for all SWM infrastructure (LIDs, ponds, etc.) • UTRCA suggests that local soils should be addressed at each proposed site and potential geotechnical and erosion issues (as a result of these soils) should be considered in choosing appropriate SWM facility sites.	• Comment regarding setbacks from natural features and hazards has been acknowledged. Site specific studies will be required. • All SWM facilities will be designed to Level I Enhanced control standards. Refer to Appendix D – Evaluation of Alternatives. • Comment regarding visibility of outlets on figures has been noted. Refer to appropriate figures in Appendix B. • Comment regarding current 'Development Areas' has been acknowledged. The purple polygons represent generalized areas where development may occur in Middlesex Centre. The appropriate regulations, policies and setbacks should be determined by the development proponent at the time of site-specific approval process and as a result is not included in this EA. • Water balance requirement shall be determined at the time of site-specific detailed design and planning for each SWM facility. • Area-specific conditions, including groundwater, local soils and outlet capacity have been considered in the alternative selection process. Refer to Section 3.4 of the report, as well as Appendix D for further information. • Need for hydrogeological monitoring to be communicated to proponents by the Municipality of Middlesex Centre for future development within areas where high groundwater levels pose a concern. • Consideration for groundwater has been given for all proposed alternatives within each settlement area. Refer to the evaluation tables in Appendix D for further information. • Local soils are addressed for each settlement area in Section 3.4 of this report. Concern regarding potential geotechnical and erosion issues have been noted and addressed within the evaluation tables located in Appendix D. Further consideration should be undertaken during the site selection process, detailed design and planning for each individual SWM facility.	Appendix B Appendix D Section 3.4

From:	Brian Lima
To:	Bergman, Stephanie
Cc:	Dan Anderson
Subject:	FW: MNRF Comments - Stormwater Master Plan - Notice of Commencement
Date:	Tuesday, March 06, 2018 11:15:04 AM
Attachments:	image003.png 2017-04_SAR Screening Process_Technical Bulletin.pdf 2017-05_SAR Reference Material Memo_AylmerDistrict.pdf 2017-05_SAR Ref Guide - Middlesex Centre.pdf

FYI

Brian Lima, P.Eng.
Director of Public Works & Engineering
Middlesex Centre | lima@middlesexcentre.on.ca
10227 Ilderton Road, RR#2 | Ilderton, Ontario, N0M 2A0
Tel: 519.666.0190 | Fax: 519.666.0271

From: MNRF Ayl Planners (MNRF) [mailto:MNRF.Ayl.Planners@ontario.ca]
Sent: Tuesday, March 06, 2018 11:07 AM
To: Brian Lima <lima@middlesexcentre.on.ca>
Subject: MNRF Comments - Stormwater Master Plan - Notice of Commencement

Ministry of Natural Resources and Forestry

615 John Street
North
Aylmer, ON N5H 2S8
Tel: 519-773-9241
Fax: 519-773-9014

Ministère des Richesses naturelles et des Forêts

615, rue John Nord
Aylmer ON N5H 2S8
Tél: 519-773-9241
Téléc: 519-773-9014

March 6, 2018

Brian Lima
Director, Public Works and Engineering
Municipality of Middlesex Centre

Subject: Middlesex Centre Settlement Area, Stormwater Master Plan – Updated Notice of Commencement

Dear Mr. Lima,

Ministry of Natural Resources and Forestry (MNRF) Aylmer District received the Updated Notice of Commencement for the Middlesex Centre Settlement Area, Stormwater Master Plan on March 5, 2018. Thank for you for circulating this notice to our office, however, **please note that we have not completed a screening of natural heritage (including species at risk) or other resource values for the project at this time**. Please also note that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

This response provides information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, and engaging with MNRF Aylmer District for advice as needed.

Natural Heritage & Endangered Species Act

- Please refer to the attached *Species at Risk Reference Guide* for a list of threatened and endangered species that may occur in your area to further inform an initial background information review for your project. Also attached is Aylmer District's *Species at Risk Reference Material Memo* intended to introduce and explain the reference guide that is attached

- Please refer to Aylmer District's *Species at Risk Screening Process Technical Bulletin* (attached) for information about the process for seeking *Endangered Species Act 2007* advice, including the information required and where to submit a request.

Petroleum Wells & Oil, Gas and Salt Resource Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best known data on any wells recorded by MNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the Library website in order to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Gas and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at 519-873-4634.

Public Lands Act & Lakes and Rivers Improvement Act

Some Municipal projects may be subject to the provisions of the *Public Lands Act* or *Lakes and Rivers Improvement Act*. Please review the information on MNRF's web pages provided below regarding when an approval is required or not. Please note that many of the authorizations issued under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: https://www.ontario.ca/page/crown-land-work-permits

- For more information about the *Lakes and Rivers Improvement Act*: https://www.ontario.ca/document/lakes-and-rivers-improvement-act-administrative-guide

After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have any questions or concerns, please feel free to contact me.

Sincerely,

Laura Warner
Planning Intern
Ministry of Natural Resources and Forestry, Aylmer District
615 John St. N. Aylmer, ON, N5H 2S8
E-mail: MNRF.Ayl.Planners@ontario.ca

From:	Newton, Craig (MOECC)
To:	Brian Lima
Cc:	Bergman, Stephanie; Rising, Neville (MOECC); Wrigley, Rob (MOECC); Abernethy, Scott (MOECC)
Subject:	MOECC Response To Updated Notice of Commencement Middlesex Centre Settlement Area Stormwater Master Plan
Date:	Wednesday, February 28, 2018 9:31:52 AM
Attachments:	MOECC Responpse To Updated Notice of Commencement Middlesex Centre Settlement Area Stormwater Master Plan.pdf

---

Dear Mr,. Lima:

Please find attached MOECC's response to the above noted Updated Notice of the Commencement. Please note that this serves as the ministry's formal correspondence and will only be delivered via this email.

Yours truly,

Craig Newton
Regional Environmental Planner / EA Coordinator
Ministry of the Environment & Climate Change
Southwestern Region
(519) 873-5014

Ministry of the Environment and Climate Change

733 Exeter Road
London ON N6E 1L3
Tel': 519 873-5000
Fax: 519 873-5020

Ministère de l'Environnement et de l'Action en matière de changement climatique

733, rue Exeter
London ON N6E 1L3
Tél.: 519 873-5000
Fax: 519 873-5020

Ontario

February 28th, 2018

Municipality of Middlesex Centre
10227 Ilderton Road
Ilderton, Ontario
N0M 2A0

Attention: Mr. Brian Lima P.Eng.,
Director
Public Works and Engineering

Re: Updated Notice of Commencement Middlesex Centre Settlement Area Stormwater Master Plan

Dear Mr. Lima:

This letter acknowledges this ministry's receipt of the Notice of Commencement for the above noted project.

It is this ministry's understanding that the municipality is undertaking a Master Plan so as to develop a plan for effectively managing stormwater infrastructure for existing areas and to accommodate future growth in the settlement areas of Arva, Birr, Ballymote, Coldstream, Denfield, Ilderton, Kilworth, Komoka, Melrose, Poplar Hill, Bryanston and Lobo.

As you know, the Class Environmental Assessment (Class EA) planning process includes consultation with interested stakeholders, evaluation of alternatives, assessment of the effects of the proposed works and identification of measures to mitigate any adverse impacts. In addition to consultation with public agencies and the general public, consultation with Aboriginal communities is required.

Aboriginal Consultation

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to your proposed project, **the MOECC is delegating the procedural aspects of rights-based consultation to you through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information you have provided to date and the Crown`s preliminary assessment you are required to consult with the following communities who have been identified as potentially affected by your proposed project:

Nation	Contact Information
Aamjiwnaang First Nation	Aamjiwnaang First Nation 978 Tashmoo Ave. Sarnia, ON N7T 7H5 519-336-8410 Chief Joanne Rogers chief@aamjiwnaang.ca Other Contacts: Sharilyn Johnston, Environment Coordinator sjohnston@aamjiwnaang.ca Christine Rogers, Enviroment Worker crogers@aamjiwnaang.ca (same mailing address for all)
Bkejwanong Territory (Walpole Island First Nation)	Bkejwanong Territory 117 Tahgahoning Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1481 Chief Dan Miskokomon drskoke@wifn.org Other Contacts: Dean Jacobs, Consultation Manager Walpole Island Heritage Centre 2185 River Road R.R.#3 Wallaceburg, ON N8K 4K9 519-627-1475 dean.jacobs@wifn.org and Janet Macbeth, Project Review Coordinator janet.macbeth@wifn.org
Chippewas of Kettle and Stony Point First Nation	Chippewas of Kettle and Stony Point First Nation 6247 Indian Lane, R.R.#2 Forest, ON N0N 1J1 519-786-2125 Chief Tom Bressette thomas.bressette@kettlepoint.org Other Contact: Valerie George Consultation Coordinator valerie.george@kettlepoint.org
Chippewas of the Thames First Nation	Chippewas of the Thames First Nation 320 Chippewa Rd., Muncey, ON N0L 1Y0 519-289-5555 Chief Myeengun Henry myeengun@cottfn.com Other Contacts: Kelly Riley, Acting Director - Lands & Environment kriley@cottfn.com 519-289-2662 ext. 209 Rochelle Smith, Consultation Coordinator rsmith@cottfn.com 519-289-2662 ext 213
Caldwell First Nation	Caldwell First Nation P.O. Box 388 Leamington, ON N8H 3W3 519-322-1766 or 1-800-206-7522 Chief Mary Duckworth chief.duckworth@caldwellfirstnation.ca Director of Operations, Allen Deleary allen.deleary@caldwellfirstnation.ca
Oneida Nation of the Thames ONYOTA'A:KA	Oneida Nation of the Thames 2212 Elm Ave. Southwold, ON N0L 2G0 519-652-3244 Chief Randall Phillips randall.phillips@oneida.on.ca Other Contact: Political Chief Assistant: Catherine Cornelius catherine.cornelius@oneida.on.ca

Munsee-Delaware Nation	Munsee-Delaware Nation 289 Jubilee Rd R.R.#1 Muncey, ON N0L 1Y0 519-289-5396 Chief Roger Thomas chief@munsee.ca Other Contact: Glenn Forrest, Band Manager glenn@munsee.ca

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link:

https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process

Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

You must contact the Director of Environmental Approvals Branch under the following circumstances subsequent to initial discussions with the communities identified by MOECC:

- aboriginal or treaty rights impacts are identified to you by the communities;
- you have reason to believe that your proposed project may adversely affect an aboriginal or treaty right;
- consultation has reached an impasse;
- a Part II Order request or elevation request is expected.

The Director of the Environmental Approvals Branch can be notified either by email with the subject line "Potential Duty to Consult" to EAASIBgen@ontario.ca or by mail or fax at the address provided below:

Email:	EAASIBGen@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Approvals Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON, M4V 1P5

The MOECC will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play in them.

Source Water Protection

As per the recent amendments to the Municipal Engineers Association (MEA) Class Environmental Assessment parent document approved October 2015, proponents undertaking a Municipal Class EA project must identify early in the process whether a project is occurring within a source water protection vulnerable area. This must be clearly documented in a Project File report or ESR. If the project is occurring in a vulnerable area, then there may be policies in the local Source Protection Plan (SPP) that need to be addressed (requirements under the Clean Water Act). The proponent should contact and consult with the appropriate Conservation Authority/Source Protection Authority (CA/SPA) to discuss potential considerations and policies in the SPP that apply to the project.

Please include a section in the report on Source Water Protection. Specifically, it should discuss whether or not the project is located in a vulnerable area or changes or creates new vulnerable areas, and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are a prescribed drinking water threat and thus

pose a risk to drinking water (this should be consulted on with the appropriate CA/SPA). Where an activity poses a risk to drinking water, the proponent must document and discuss in the Project File Report/ESR how the project adheres to or has regard to applicable policies in the local SPP. If creating or changing a vulnerable area, proponents should document whether any existing uses or activities may potentially be affected by the implementation of source protection policies. This section should then be used to inform and should be reflected in other sections of the report, such as the identification of net positive/ negative effects of alternatives, mitigation measures, evaluation of alternatives etc. As a note, even if the project activities in a vulnerable area are deemed not to be a drinking water risk, there may be other policies that apply and so consultation with the local CA/SPA is important.

Climate Change

The Municipality is strongly encouraged to include climate change in this EA. Climate change should be considered in the context of mitigation and the context of adaptation. The Ministry has recently released a guidance document to support proponents in including climate change in environmental assessments. The guide can be found online: https://www.ontario.ca/page/considering-climate-change-environmental-assessment-process . It should be noted that Climatic Features are identified in Appendix 2 of the Municipal Class EA page 2-7 (2015).

Conclusion

Thank you for the opportunity to comment on this project. Please keep this office fully informed of the status of this project as it proceeds through the Class EA process.

Please send all future correspondence with respect to this project to my attention, as I am this ministry's one window contact for this project: Craig Newton, Regional Environmental Planner / Regional EA Coordinator at the address below; email address:craig.newton@ontario.ca; telephone number: 519-873-5014.

A draft copy of the Environmental Study Report should be forwarded to my attention prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments. Please also forward the Notice of Completion and final ESR to me when completed. Thank you in advance.

Yours truly,

Craig Newton
Regional Environmental Planner / Regional EA Coordinator
Ministry of Environment and Climate Change
733 Exeter Road
London ON, N6E 1L3
519 873-5014

Copy: Mr. Scott Abernethy, Group Leader Surface Water, Water Resources Unit, MOECC SWR
Mr. Neville Rising, Drinking Water Inspector, MOECC Safe Drinking Water, MOECC London
Mr. Robert Wrigley, District Manager, MOECC London District
Ms. Stephanie Bergman, Planner, Stantec Consulting Ltd.

From:	Herczeg, Brooke (MTCS)
To:	Bergman, Stephanie
Cc:	Lima@middlesex.centre.on.ca
Subject:	Stormwater Master Plan - Municipality of Middlesex Centre
Date:	Monday, March 26, 2018 11:57:18 AM
Attachments:	Master Plan Screening letter.pdf

Dear Ms. Bergman,

Please find the attached MTCS comments, if you have any questions please don't hesitate to contact me.

Thank you,
Brooke

Brooke Herczeg MPL
Heritage Planner
Heritage Program | Programs and Services Branch | Ministry of Tourism, Culture and Sport
401 Bay Street Suite 1700 Toronto ON M7A 0A7
Tel. 416.314.7133| email: Brooke.Herczeg@ontario.ca

Ministry of Tourism, Culture and Sport

Heritage Program Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel: 416 314 7133
Fax: 416 212 1802

Ministère du Tourisme, de la Culture et du Sport

Unité des programmes patrimoine
Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél: 416 314 7133
Téléc: 416 212 1802

March 26, 2018 (EMAIL ONLY)

Stephanie Bergman, Planner
Stantec Consulting, Ltd
E: Stephanie.bergman@stantec.com

RE: MTCS file #: 0008448
Proponent: Municipality of Middlesex Centre
Subject: Notice of Commencement
Municipal Class EA for Stormwater Master Plan
Location: Municipality of Middlesex Centre, Ontario

Dear Ms. Bergman:

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Commencement for your project. MTCS's interest in this Master Plan project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land-based and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Under the Municipal Class Environmental Assessment (EA) process, the proponent is required to determine a project's potential impact on cultural heritage resources. A Master Plan project at minimum will address Phases 1 and 2 of the Municipal Class EA process. Developing and reviewing inventories of known and potential cultural heritage resources within the study area can identify specific resources that may play a significant role in guiding the evaluation of alternatives for subsequent project-driven EAs.

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Archaeological Resources
Your Master Plan project may impact archaeological resources and you should screen the project with the MTCS *Criteria for Evaluating Archaeological Potential* and *Criteria for Evaluating Marine Archaeological Potential* to determine if archaeological assessments will be needed for subsequent project-driven Municipal Class EAs. MTCS archaeological sites data are available at *archaeology@ontario.ca*, and if your Master Plan project area exhibits archaeological potential or encompasses archaeological sites of high cultural heritage value or interest, these data should be used in the evaluation of alternatives.

Built Heritage and Cultural Heritage Landscapes
The MTCS *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* should be completed to help determine whether your Master Plan project may impact cultural heritage resources. The Clerk/s for the municipality of Middlesex Centre can provide information on property registered or designated under the *Ontario Heritage Act* and municipal Heritage Planners can also provide information that will assist you in completing the checklist. A determination of whether the Master Plan project area impacts potential or known heritage resources of cultural heritage value or interest should be used in the evaluation of alternatives.

If subsequent project-driven Municipal Class EAs may impact potential or known heritage resources MTCS recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, should be completed to assess potential project impacts. Our Ministry's *Info Sheet #5: Heritage Impact Assessments and Conservation Plans* outlines the scope of HIAs. Please send the HIA to MTCS for review, and make it available to local organizations or individuals who have expressed interest in review.

Environmental Assessment Reporting
All technical heritage studies and their recommendations are to be addressed and incorporated into Master Plan projects. Please advise MTCS whether any technical heritage studies will be completed for your Master Plan project, and provide them to MTCS before issuing a Notice of Completion. If your screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the Master Plan report or file.

Thank-you for consulting MTCS on this project: please continue to do so through the Master Plan process, and contact me for any questions or clarification.

Sincerely,

Brooke Herczeg
Heritage Planner
Brooke.herczeg@Ontario.ca

Copied to: Brian Lima, Director of Public Works and Engineering – Municipality of Middlesex Centre
Lima@middlesexcentre.on.ca

From:	Bergman, Stephanie
To:	Karen Winfield
Cc:	Oliveira, Nelson; Emery, Nick; lima@middlesexcentre.on.ca; Dan Anderson
Subject:	Middlesex Centre Settlement Area SWM Master Plan
Date:	Friday, March 02, 2018 4:18:00 PM
Attachments:	Commencement_Notice_02232018.pdf

Hi there Karen,

You should be receiving the notice of commencement for the Middlesex Centre Settlement Area SWM Master Plan shortly if you haven't already received it (attached). We are currently in the process of gathering data on existing conditions, and we wanted to reach out to UTRCA early on to see if you could compile some information on any issues or problems areas from your perspective. The study is restricted to existing settlement areas, and so I've put maps for each of the settlement areas on the FTP site below to help target your review. They have some information on existing storm drainage infrastructure but please keep in mind these are our working files so they haven't been through any kind of quality review.

Understanding you and your team are very busy we wanted to reach out early. It will also be helpful as we begin to identify problem areas and constraints. The first PIC will be held in the spring to provide an overview of existing conditions, problems, and opportunities.

As you'll see from the notice we also have a nifty online webmap tool where you can submit comments directly associated with specific properties in the settlement areas. It can be found at www.middlesexcentre.on.ca/stormwater at the bottom of the page. Feel free to check it out!

Login Information

Browser link: https://tmpsftp.stantec.com
FTP Client Hostname: tmpsftp.stantec.com **Port:** 22 (can be used within an FTP client to view and transfer files and folders; e.g., FileZilla)
Login name: s0316135238
Password: 2374494
Disk Quota: 2GB
Expiry Date: 3/16/2018

Feel free to let me know if you have any initial questions. Thanks and enjoy your weekend!

Stephanie L. Bergman
MA, ENV SP
Planner

Direct: 519-675-6614
Fax: 519-645-6575

Ministry of Natural Resources and Forestry
615 John Street North
Aylmer ON N5H 2S8
Tel: 519-773-9241
Fax: 519-773-9014

Ministère des Richesses naturelles et des Forêts
615, rue John Nord
Aylmer ON N5H 2S8
Tél: 519-773-9241
Téléc: 519-773-9014

Ontario

Technical Bulletin: Aylmer District Species at Risk Screening Process

This technical bulletin outlines the process for engaging the Ministry of Natural Resources and Forestry (**MNRF**) Aylmer District Office regarding the *Endangered Species Act, 2007* (**ESA**).

The ESA provides protection for species listed as Endangered or Threatened on the Species at Risk in Ontario List. Individuals receive protection under Section 9 and their habitat is protected under Section 10. The ESA is a law of general application that is binding on everyone in the province of Ontario, and applies to both private and public lands. MNRF Aylmer District provides review of a project's compliance under the ESA by responding to species at risk (**SAR**) information requests (Stage 1) and project screening requests (Stage 2) only when both of the following conditions are met:

1. The request comes directly from the property owner or their delegate (e.g. consultants) on their behalf; and,
2. A specific project/activity is proposed.

MNRF Aylmer District Contact Information

All ESA-related requests must be submitted to MNRF Aylmer District via our ESA inbox at ESA.Aylmer@ontario.ca

> ***NOTE:*** *MNRF response time is between 8 and 10 weeks after receipt of all required information, due to the high volume of requests received.*

Stage 1: Information Request

To ensure due diligence under the ESA, MNRF encourages property owners and/or their delegates proposing to conduct site alteration (such as construction, vegetation/debris removal, site grading, etc.) to request SAR information from Aylmer District prior to beginning site alteration and/or conducting SAR surveys. For MNRF to respond to an information request, the following information is required:

- Proponent information (name, mailing address, and email address);
- Property location and mapping (municipal address and/or lot and concession);
- Digital photos of the property, including the vegetation on-site, if available;
- General description of all proposed activities and extent of development footprint (e.g. residential, driveway, vegetation clearing). Maps / site layout drawings are beneficial;
- Current state of vegetation, property maintenance/management (e.g. frequency of mowing), and recent property landscape history/changes (within the last five years);
- Timing and duration of proposed activities;
- Copies of past correspondence with MNRF about the property, if applicable; and,
- Status of municipal planning or Environmental Assessment process, if any.

Once the above information has been provided, MNRF will review available SAR data to determine if SAR species and/or their habitat(s) are known or likely to occur on or in the general area of the property. MNRF's response will be one of the following:

Ministry of Natural Resources and Forestry
615 John Street North
Aylmer ON N5H 2S8
Tel: 519-773-9241
Fax: 519-773-9014

Ministère des Richesses naturelles et des Forêts
615, rue John Nord
Aylmer ON N5H 2S8
Tél: 519-773-9241
Téléc: 519-773-9014

Ontario

1. There is a **low** likelihood for SAR species and/or habitat to occur and/or be impacted
   - Further project screening will not be needed unless recommendations to avoid impacts cannot be followed or significant changes to the project are made (e.g. natural vegetation proposed to be removed).

2. SAR species and/or habitat are **known** to occur on or near the property, or there is a **high** likelihood for SAR species and/or habitat to occur
   - MNRF may recommend that field assessments by a qualified biologist are needed to determine whether the proposed project may contravene the ESA.
     - It is expected that the retained qualified biologist will use the information provided by MNRF to scope and design the field assessments, including identifying appropriate species-specific survey methodologies and timing.
     - MNRF can provide guidance on field assessments (i.e. protocols or proposed work plans). Some field assessment methodologies may require MNRF authorizations under the ESA and the *Fish and Wildlife Conservation Act*.
   - After field assessments have been completed, proceed to Stage 2.

   NOTE: *MNRF strongly recommends that no on-site activity (i.e. site alteration, vegetation/debris removal, etc.) occur until Stage 2 is complete, in order for proponents to demonstrate due diligence and remain in compliance with the ESA. Failure to comply with this recommendation could result in a contravention of the ESA and possible compliance / enforcement action.*

Stage 2: Project Screening / IGF Review

Following MNRF's recommendations, a qualified biologist should complete appropriate field assessments and submit the results in an Information Gathering Form (**IGF**) to initiate a project screening request.

Link to IGF:
http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/MinistryResults?Openform&SRT=T&MAX=5&ENV=WWE&STR=1&TAB=PROFILE&MIN=018&BRN=21&PRG=31

MNRF will review the IGF to determine whether the project is likely to contravene the ESA (Section 9 and/or Section 10). MNRF's response will be one of the following:

1. Contravention under the ESA is **not likely** to occur:
   - A response will be provided, which could include recommendations necessary to avoid impacts to SAR; or,

2. Contravention under the ESA is **likely** to occur:
   - MNRF will recommend options for seeking approval under the ESA, such as applying for a permit or assessing eligibility for alternative regulatory processes. Please be advised that applying for a permit does not guarantee approval and processes can take several months before a permit may be issued.

Township of Middlesex Centre

Municipal Species at Risk Reference Guide

Birds

Acadian Flycatcher

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Occupies a broad spectrum of deciduous and mixed woodlands of variable size across its breeding range. Refer to the Provincial Recovery Strategy (2016).	Migratory bird that may be present in Ontario from April through September.	Follow Breeding Bird Survey Protocol as applicable, conducting three rounds of surveys during the breeding window.
https://www.ontario.ca/page/acadian-flycatcher		http://www.ec.gc.ca/reom-mbs/default.asp?lang

Bank Swallow

Threatened

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Bank swallows nest in burrows in natural and human-made settings where there are exposed and inclined areas of erodable substrate like silt or sand, such as banks of rivers and lakes, roadsides, aggregate pits, and stock-piled materials. Refer to the Provincial Recovery Strategy (2016) and contact ESA.Aylmer@Ontario.ca for the General Habitat Description (not yet available online).	Migratory bird most commonly seen in Ontario from April through September.	Survey for burrows in potential habitat features and identify habitat according to the species general habitat description. Follow Breeding Bird Survey Protocol to assess habitat occupancy, conducting three rounds of surveys during the breeding window.
https://www.ontario.ca/page/bank-swallow		http://www.ec.gc.ca/reom-mbs/default.asp?lang

Barn Swallow

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Barn Swallow nests in Ontario are commonly situated inside or outside of buildings and other man-made shelters, under bridges and piers and in road culverts. Refer to the Provincial Recovery Strategy (2014) and the General Habitat Description.	Migratory bird most commonly seen in Ontario from April through September.	Survey structures for the presence of nest cups. Identify habitat according to the species general habitat description.
https://www.ontario.ca/page/barn-swallow		http://www.ec.gc.ca/reom-mbs/default.asp?lang

Bobolink

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Nests in grassland-like habitats typically greater than 2 hectares, such as hayfield, pasture, alfalfa, winter wheat, old/overgrown fields, prairie, savannah, and meadow or meadow marsh. Refer to the Provincial Recovery Strategy (for Bobolink and Eastern Meadowlark; 2013).	Migratory bird most commonly seen in Ontario from May to September.	Contact ESA.Aylmer@ontario.ca to obtain a copy of the MNRF draft Bobolink breeding survey protocol (2011).
https://www.ontario.ca/page/bobolink		

Cerulean Warbler

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Typically occur in mature deciduous woodlands. Has been found breeding in tracts as small as 10 hectares in Ontario. Refer to COSEWIC Assessment and Status Report (2010).	Migratory bird most commonly seen in Ontario from May to August.	Follow Breeding Bird Survey Protocol as applicable, conducting three rounds of surveys during the breeding window.
https://www.ontario.ca/page/cerulean-warbler		http://www.ec.gc.ca/reom-mbs/default.asp?lang

Chimney Swift

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
They typically nest and roost in chimneys and other man-made structures. Can also nest in hollow trees or tree cavities. Refer to COSEWIC Assessment and Status Report (2007) and the General Habitat Description.	Migratory bird most commonly seen in Ontario from mid-April to mid-October.	Follow the Ontario Swift Watch Protocol by Bird Studies Canada (2015). Identify habitat according to the general habitat description.
https://www.ontario.ca/page/chimney-swift		http://www.bsc-eoc.org/volunteer/ai/resources/

Eastern Meadowlark

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Breed primarily in grassland-like habitats, such as pastures and hayfields (including alfalfa), meadow and meadow marsh, old/overgrown fields, prairie, savannah, weedy borders of croplands, roadsides, orchards, gold courses, and other open areas, typically greater than 3 hectares. Refer to the Provincial Recovery Strategy (for Bobolink and Eastern Meadowlark; 2013).	Migratory bird most commonly seen in Ontario from March through October.	Contact ESA.Aylmer@ontario.ca to obtain a copy of the MNRF draft Eastern Meadowlark breeding survey protocol (2013) .
https://www.ontario.ca/page/eastern-meadowlark		

Least Bittern

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Found in marshes, often where vegetation cover is interspersed with areas of open water. They can be found in smaller isolated marshes though most known occurrences are in larger wetlands. Refer to the Provincial Recovery Strategy (2016).	Migratory bird most commonly seen in Ontario from May through September.	Follow the National Least Bittern Survey Protocol, CWS Technical Report Series no. 519 (2011). Contact ESA.Aylmer@ontario.ca for more information if needed.
https://www.ontario.ca/page/least-bittern		http://ec.gc.ca/Publications/default.asp?lang=E

Prothonotary Warbler

Endangered Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Key features are presence of water near wooded area with suitable cavity nest sites or nest boxes. Nests usually occur near large bodies of standing or slow-moving water, such as seasonally flooded forest, swamps, rivers, streams, ponds, or lakes. Refer to the Provincial Recovery Strategy (2012).	Migratory bird most commonly seen in Ontario from May through August.	Follow Breeding Bird Survey Protocol as applicable, conducting three rounds of surveys during the breeding window.
https://www.ontario.ca/page/prothonotary-warbler		

Yellow-breasted Chat

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
A wide variety of early-successional habitats are used (i.e., dense, low deciduous or coniferous vegetation), including early shrubby regrowth on abandoned agricultural fields, power-line corridors, clear-cuts, fencerows, forest edges and openings, and areas near streams, ponds and swamps. Refer to the COSEWIC Assessment and Status report (virens subspecies; 2012).	Migratory bird most commonly seen in Ontario from May through August.	Follow Breeding Bird Survey Protocol as applicable, conducting three rounds of surveys during the breeding window.

https://www.ontario.ca/page/yellow-breasted-chat

Fishes

American Eel

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
In Canada, it is found in fresh water and salt water areas that are accessible from the Atlantic Ocean.This area extends from Niagara Falls in the Great Lakes up to the mid-Labrador coast. In Ontario, American Eels can be found as far inland as Algonquin Park. Once the eels mature (10-25 years) they return to the Sargasso Sea to spawn.	Active year round.	Contact DFO

https://www.ontario.ca/page/american-eel

Eastern Sand Darter

Endangered Species Protection ☑ Regulated Habitat Protection ☑ General Habitat Protection ☐

Habitat Information	Timing Windows	Survey Protocol
Prefers shallow habitats of lakes, rivers, and streams with clean sandy bottoms.	Active Year Round.	Contact your local CA or DFO

https://www.ontario.ca/page/eastern-sand-darter

Silver Shiner

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Found in medium to large streams, with swift currents, clear water and a wide variety of substrate including gravel, pebble, cobble, boulder, sand, mud and clay. In Ontario the Silver Shiner can be found in the Thames and Grand Rivers, and in Bronte Creek and Sixteen Mile Creek.	Spawning is known to occurs in the United States but has not been observed in Ontario.	Contact your local CA or DFO

https://www.ontario.ca/page/silver-shiner

Herbaceous

American Ginseng

Endangered Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

American Ginseng typically grows in rich, moist, but well-drained, and relatively mature, deciduous woods dominated by Sugar Maple, White Ash and American Basswood. It usually grows in deep, nutrient rich soil over limestone or marble bedrock. Refer to the general habitat description (2013) and the federal recovery strategy (2015).

https://www.ontario.ca/page/american-ginseng

Timing Windows

American Ginseng plants are typically found from May to late September. Refer to protocol for details.

Survey Protocol

Draft Site Occupancy Survey Protocol for American Ginseng in Ontario (2013) - contact MNRF Aylmer District for more information.

http://ibis.geog.ubc.ca/biodiversity/eflora/Protoc

False Rue Anemone

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Grows in deciduous forests and thickets with rich, moist soil, often in valleys, floodplains and ravine bottoms. Frequently found close to watercourses within mature forests with lots of maple and beech trees. Found in close proximity to streams on shallow slopes. Refer to the draft federal recovery strategy (2016).

https://www.ontario.ca/page/false-rue-anemone

Timing Windows

Flowers in spring, between April and June, bearing fruit from late May to June.

Survey Protocol

No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

Goldenseal

Threatened

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Grows in rich, moist semi-open to closed areas of deciduous forests. Found at periodically flooded upland sites and in moist lowlands near floodplains. Associated with Red Oak, Sugar Maple, Hawthorns, Shagbark Hickory, Ironwood and Basswood. Typically grows in disturbed areas where trees have fallen, or next to recreational paths or woodland edges. Prefers sandy loam, loam soils or clay soils depending on whether it is growing in an upland or lowland area. Refer to the provincial recovery strategy (2016).

https://www.ontario.ca/page/goldenseal

Timing Windows

Flowers April - May; fruit ripens July-August.

Survey Protocol

No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

Wood-poppy

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Found in rich mixed deciduous woodlands, forested ravines and slopes, and along wooded streams. Grows in full shade. Associated dominant trees include: Sugar Maple, White Ash, American Beech, Black Cherry, and Hackberry. Refer to the provincial recovery strategy (2011).

https://www.ontario.ca/page/wood-poppy

Timing Windows

Flowers May - early June.

Survey Protocol

No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

Mammals

American Badger (Southwestern Ontario population)

Endangered

Species Protection ☑ Regulated Habitat Protection ☑ General Habitat Protection ☐

Habitat Information	Timing Windows	Survey Protocol
Badgers are found in a variety of habitats, such as tall grass prairie, sand barrens, meadows, grasslands, ravines, hedgerows, forest edges, and farmland. Refer to the provincial recovery strategy (2010) and Ontario Regulation 242/08.	Present all year-round, semi-dormant over winter.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/american-badger

Eastern Small-footed Myotis

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Will roost in a variety of habitats changing day to day, including in trees or under tree bark, under rocks or in rock outcrops, in buildings, under bridges, etc. Over-winter in caves and abandoned mines.	Typically over-winter from about October to April.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/eastern-small-footed-bat

Little Brown Myotis (formerly little brown bat)

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Roost habitat may include human structures such as houses, bridges, and barns, or natural features such as rock crevices and forests. May over-winter in buildings, caves, or mines. Refer to the draft federal recovery strategy (2015).	They feed at night and are most active in the two or three hours after sunset. Typically over-winter from about October to April.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/little-brown-bat

Northern Myotis (formerly Northern Long-eared Bat)

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Roosts in tree cavities, under tree bark, in natural and artificial crevices such as rock outcrops and roof shingles. Over-winters in caves and mines. Refer to the draft federal recovery strategy (2015).	Typically over-winter from about October to April.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/northern-long-eared-bat

Molluscs

Round Hickorynut

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Prefers rivers with steady, moderate flows, and sand and gravel substrates at depths of up to 2 m.	Active year-round.	Please reference: Mackie, G, T.J Morris, and D Ming. "Protocol for the Detection and Relocation of Freshwater Mussel Species at Risk in Ontario Great Lakes Area (OGLA)." Fisheries and Oceans Canada. (2008).

https://www.ontario.ca/page/round-hickorynut

Mosses

Spoon-leaved Moss

Endangered Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
in Southern Ontario Spoon-leaved Moss grow in soil that is in or near flat, low-lying, seasonally wet areas. In the past in Ontario, it has been found in other locations including cedar swamps, deciduous forests, pine plantations.	Reproduces during rain or flood water where there is available water for sperm cells from the male plants to swim a maximum distance of 10 cm to eggs borne by the female plants.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/spoon-leaved-moss

Snakes

Eastern Hog-nosed Snake

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Generally use sandy beaches and dunes, wetlands, forests, forest edges, and meadows. Refer to the provincial recovery strategy (2011).	Emergence in April. Mating occurs in spring and late summer. Eggs are laid in June and July. Hatching occurs between late August and mid September.	Survey Protocol for Ontario's Species at Risk Snakes (December 2016) - contact ESA.Aylmer@Ontario.ca for more information

https://www.ontario.ca/page/eastern-hog-nosed-snake

Queensnake

Endangered

Species Protection ☑ Regulated Habitat Protection ☑ General Habitat Protection ☐

Habitat Information	Timing Windows	Survey Protocol
Queensnake is an aquatic species that is seldom found far from water. Prefers rivers and riverbanks, streams, and lakes, with the presence of crayfish. Over-wintering sites include abutments of old bridges and crevices in bedrock. Refer to the provincial recovery strategy (2011), Ontario Regulation 242/08, and the habitat protection summary (2013).	Emerges from over-wintering beginning mid April; Mating in May and September; Young born between July and September; Returns to over-wintering site early to mid October	Contact ESA.Aylmer@Ontario.ca for the Survey Protocol for Queensnake (August 2015).

https://www.ontario.ca/page/queensnake

Trees

American Chestnut

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
In Ontario, it is only found in the Carolinian Zone between Lake Erie and Lake Huron. American Chestnut grows alongside Red Oak, Black Cherry, Sugar Maple, American Beech and other deciduous tree species. Refer to the provincial recovery strategy (2012).	Trees typically flower in late May to early July. Nuts mature by mid-October.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/american-chestnut-species-risk

Blue Ash

Threatened Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Blue Ash grows in floodplains, river valleys, alvar and limestone, and beaches. Refer to the draft federal management plan (2016).	Flowering occurs in April and May, prior to leaf-out. Seed crops are produced every 3-4 years in late fall.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/blue-ash-species-risk

Butternut

Endangered Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information	Timing Windows	Survey Protocol
Butternut usually grows alone or in small groups in forests and woodlands. It prefers moist, well-drained soil and is also found on well-drained gravel sites. This species does not do well in the shade, and often grows in sunny openings and near forest edges. Refer to the provincial recovery strategy (2013).	Flowers from April to June. Fruits reach maturity during the month of September or October in the year of pollination and usually remain on the tree until after leaf fall.	A certified butternut health assessor must assess Butternut trees. Contact ESA.Aylmer@Ontario.ca for more information.

https://www.ontario.ca/page/butternut-species-risk

Eastern Flowering Dogwood

Endangered Species Protection ☑ Regulated Habitat Protection ☑ General Habitat Protection ☐

Habitat Information	Timing Windows	Survey Protocol
Grows in deciduous or mixed forests, open woodlands, forest edges, floodplains, slopes, bluffs, ravines, roadsides, hedgerows, and along drains. Refer to the provincial recovery strategy (2010) and Ontario Regulation 242/08.	Flowering occurs from mid-May to early June, as the leaves begin to develop. The fruits mature in August and September.	No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

https://www.ontario.ca/page/eastern-flowering-dogwood-species-riskhttps

Turtles

Blanding's Turtle

Threatened

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Blanding's Turtle lives in shallow water, usually in large wetlands and shallow lakes with lots of water plants. May travel long distances from nearest waterbody, usually while searching for mates or traveling to nesting or overwintering sites. Hibernate in the mud at the bottom of permanent water bodies from late October until the end of April. Refer to the general habitat description (2013) and the draft federal recovery strategy (2016).

https://www.ontario.ca/page/blandings-turtle

Timing Windows

Mating prior to and right after overwintering, typically in April to early May, and from the end of August to end of October. Eggs are laid in from late May to early July, with hatchlings emerging in throughout September and October. Overwinter from October to April.

Survey Protocol

Survey Protocol for Blanding's Turtle (Emydoidea blandingii) in Ontario (August 2015) - contact MNRF Aylmer District for more information.

Spiny Softshell

Threatened

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Found in large lakes, rivers, creeks, drainage ditches, ponds, but can also occur in marshes, ponds, oxbows as well as wetlands and ponds next to large bodies of water. Overwinter in aquatic habitat in underwater hibernacula, often in the stream or lake they spend the majority of time during active season. Nest in areas of sand/gravel substrate with low vegetation density and slope. Refer to the draft federal recovery strategy (2016).

https://www.ontario.ca/page/spiny-softshell

Timing Windows

Active from late March/early April to October. Mate in spring (late April or May) after emergence. Nests from early June to mid-July. Hatchlings emerge in late summer. Overwintering starts in mid-October (females) and end of November (males).

Survey Protocol

No standardized species protocol available; contact ESA.Aylmer@Ontario.ca to request specific advice on conducting adequate surveys for your project.

Spotted Turtle

Endangered

Species Protection ☑ Regulated Habitat Protection ☐ General Habitat Protection ☑

Habitat Information

Semi-aquatic preferring ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and abundant supply of aquatic vegetation. Other aquatic habitat can include vernal pools, seeps, sloughs, creeks, stormwater ponds, sheltered edges of bays, channels and drainage ditches. Strong preference for marsh meadows as well. Nests will be found in well-drained, sunny locations that are bare or have sparse vegetation. Hibernates in wetlands or seasonally wet areas associated with structures including overhanging banks, hummocks, tree roots, or aquatic animal burrows. Refer to the draft federal recovery strategy (2016) for more information.

https://www.ontario.ca/page/spotted-turtle

Timing Windows

Overwinters in underwater hibernacula for 7 to 8 months of the year, from mid-September/October to mid-late April. Basks in April. Mates begins in early spring as soon as ice/snow melt and can occur from late May through to early July.

Survey Protocol

Survey Protocol for Spotted Turtle (Clemmys guttata) in Ontario (August 2015) - contact MNRF Aylmer District for more information.

ONTARIO MINISTRY of NATURAL RESOURCES and FORESTRY | AYLMER DISTRICT OFFICE
615 John Street N. Aylmer ON, N5H 2S8 esa.aylmer@ontario.ca

This report was produced May, 2017

Please refer to the associated Municipal Species at Risk Reference Material Memo for instructions on how to use this guide.

The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List. As a result, species designations may change, which could in turn change the protection they receive under the ESA and whether proposed projects may have adverse effects on SAR. Habitat protection provisions for a species may also change if a species-specific habitat regulation comes into effect, or as new general habitat guidance is developed based on the best available information. Additionally, the province has not been comprehensively surveyed and MNRF data relies on observers to report sightings. As such, the absence of an occurrence does not indicate the absence of SAR species or habitat, and new occurrence information may affect whether a proposed project may contravene the ESA.

From: Bergman, Stephanie
To: Sones, Adrienne
Subject: RE: Middlesex Centre Settlement Area Stormwater Master Plan
Date: Thursday, March 7, 2019 3:46:00 PM
Attachments: image001.png
Pages from dwg_165630134_20190305_OPT_combined - Copy.pdf

Hi there Adrienne,

No problem! I've pulled out the alternatives mapping from Arva and Ballymote, along with the summary evaluations (preliminary recommendations are noted with the hatched border). Note that everything is draft right now, and we are still working to refine the options and evaluations.

The rest of the information presented can be found here: www.middlesexcentre.on.ca/stormwater.

Feel free to let me know if you have any specific questions about the alternatives. I'll keep you posted when more information is available.

Stephanie L. Bergman MA, ENV SP
Planner

Direct: 519-675-6614
Cell: 519-852-8945
Fax: 519-645-6575
stephanie.bergman@stantec.com

Stantec

From: Sones, Adrienne <asones@london.ca>
Sent: Tuesday, March 05, 2019 9:23 AM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: Middlesex Centre Settlement Area Stormwater Master Plan

Hi Stephanie,

Would it be possible for you to provide us with some more information on the Middlesex Centre Settlement Area Stormwater Master Plan? London would be interested primarily in communities upstream where future development is proposed. I believe this would primarily be Arva and Ballymote.

Would you be able to share the Draft Master Plan for these communities, as we are unable to attend PIC #2.

Feel free to give me a call if you'd like to discuss.

Thank you,

Adrienne Sones, P.Eng
Environmental Services Engineer
Stormwater Engineering Division
City of London

300 Dufferin Avenue, London ON N6A 4L9
P: 519.661.CITY (2489) x 5593 | Cell: 226.688.7471 | Fax: 519.661.2355
asones@london.ca | www.london.ca

From:	Bergman, Stephanie
To:	Bohnert, Sara
Subject:	FW: 0008448 -Middlesex Centre -Stormwater Master Plan -status update
Date:	Tuesday, February 4, 2020 8:16:23 AM

From: Bergman, Stephanie
Sent: Tuesday, February 4, 2020 8:16 AM
To: Kirzati, Katherine (MTCS) <Katherine.Kirzati@ontario.ca>
Subject: RE: 0008448 -Middlesex Centre -Stormwater Master Plan -status update

Hi there Katherine,

I've been going through correspondence on this fil, and wasn't able to find a response to this – apologies for the delay. We are in the process of finalizing the Master Plan recommendations. The potential to impact cultural heritage resources was incorporated into the evaluation of alternative solutions. Since this is a master plan level study, requirements for further assessment, if necessary, will also be identified for the individual projects identified within the master plan.

Please let me know if you have any questions,

Stephanie Bergman
519-852-8945

From: Kirzati, Katherine (MTCS) <Katherine.Kirzati@ontario.ca>
Sent: Monday, March 25, 2019 1:52 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Subject: 0008448 -Middlesex Centre -Stormwater Master Plan -status update

Good Afternoon Stephanie:

This file has been reassigned to me and I note that the last correspondence from our office was an acknowledgement letter on Mar 25, 2018, recommending that the ministry's checklists be completed (to determine if cultural heritage resources might be impacted).

Can you tell me where the project is in the EA process, and whether the checklists were completed?

Thank you, Katherine

Katherine Kirzati
Heritage Planner
Programs and Services Branch
Ministry of Tourism, Culture and Sport
401 Bay St, Suite 1700

Toronto, ON M7A 2R9
416.314.7643
katherine.kirzati@ontario.ca

From:	Bergman, Stephanie
To:	Bohnert, Sara
Subject:	FW: Middlesex Centre SWM Master Plan
Date:	Wednesday, February 5, 2020 4:23:55 PM
Attachments:	ATT00001

From: Karen Winfield <WinfieldK@thamesriver.on.ca>
Sent: Wednesday, February 5, 2020 4:16 PM
To: Bergman, Stephanie <Stephanie.Bergman@stantec.com>
Cc: Imtiaz Shah <ShahI@thamesriver.on.ca>; Oliveira, Nelson <nelson.oliveira@stantec.com>; Robert Cascaden <cascaden@middlesexcentre.on.ca>; Spencer McDonald <McDonaldS@thamesriver.on.ca>; anderson@middlesexcentre.on.ca; Emery, Nick <nick.emery@stantec.com>
Subject: Middlesex Centre SWM Master Plan

Hi Stephanie et al,

In advance of our meeting next week and to aid in those discussions, UTRCA staff have reviewed and outlined comments on the currently proposed SWM Master Plan for Middlesex Centre. We offer the following:

General Comments on all Development Area Locations:

- At the current scale it is difficult to ascertain site specific setbacks from natural hazard features. Please note that at the detail design stage and/or as development proposals come forward to arrange for SWM blocks - all SWM facilities must be located off-line, outside the furthest extent of the regulatory floodplain plus a 6 metre buffer beyond the floodplain and outside the erosion hazard with a 15 metre buffer beyond the furthest extent of the erosion hazard. SWM facilities adjacent a wetland must have an appropriate EIS/DAR/HydroG based buffer;

- We require Level I Enhanced controls for all SWM facilities;

- On the current drawings it is difficult to ascertain where the SWM outlets are and/or which direction some are outletting to. It would be beneficial if the SWM outlets could be indicated for all proposed SWM facilities;

- We note that the currently proposed 'Development Areas' (in purple on the drawings) may not be in keeping with Natural Hazard and/or Natural Heritage regulations, policies and setbacks and may still be subject to further studies (i.e. flood modeling, geotech, EIS/DAR, etc.) to determine the actual extent of development;

- Future development areas and/or SWM facilities associated with a natural feature may need to undertake a water balance;

- The level of details in this EA are conventional approaches/concepts. We recommend a more proactive approach would be to consider site-specific conditions including groundwater, local soils and outlet capacity. When local/regional SWM facilities are not cited with these site specific conditions in mind at the EA stage it has often resulted in serious problems at the subdivision planning and detail design stage;

- To protect groundwater quality and to ensure that the facilities will function as intended no SWM facilities should be allowed to interact with the groundwater or allow for infiltration into the groundwater. In other parts of our watershed there is substantial separate between the groundwater and potential SWM ponds.

Unfortunately large areas of Middlesex Centre contain very shallow groundwater tables. We suggest preliminary HydroG monitoring (generally for a minimum of 3 years) should be undertaken before confirming the location of a SWM facility in areas (such as Komoka-Kilworth) that are known to have shallow groundwater tables. If proper HydroG will not be undertaken as part of this SWM study perhaps there is an opportunity to add a caveat to the EA to address this;

- Basic groundwater consideration should be given for all SWM infrastructure (LIDs, ponds, etc.)

- We suggest that local soils should be addressed at each proposed site and potential geotechnical and erosion issues (as a result of these soils) should be considered in choosing appropriate SWM facility sites.

Comments Regarding Specific Development Areas:

Arva

- Alternative #3 would be best from an LID perspective. Alternative #3 would eliminate the proposed culvert under Medway Road (culvert means increased maintenance and eventual replacement). It would also be better to control SWM on a catchment basis and would be easier to maintain the dry pond.

Ballymote

- Realignment of the Highbury-Armitage Drain would require site-specific approval from the UTRCA;
- Lots do not appear large enough for private septic.

Ilderton Drain #2

- No site-specific comments.

South Ilderton

- No site-specific comments.

Komoka Drain #1

- It is doubtful if there is enough capacity in any of the ponds. We are concerned that if development here continues the way it has then in the near future this area may just be one giant pond;
- We suggest site specific SWM should be utilized here rather than regional SWM ponds;

Komoka Drain No. #3

- Which plan is accurate? The proposed SWM and drain alignments shown here differ from the plans we have been provided with through the *Planning Act* process;
- There are existing flooding concerns from landowners adjacent the Komoka Drainage Works (to the east) and Landsdowne Park Crescent Subdivision (to the west). We are concerned that outlets downstream are already undersized from the existing developments and to add this water from this proposed subdivision may exacerbate flooding in the existing residential areas.

West Komoka

- Where is the outlet for SWM1? Won't this send floodwaters to the property on the south side of Glendon Drive?

North East Komoka

- We have no object to SWM1.
- SWM2 we are concerned that it is already full year round and will not have enough capacity;
- We note that under the assessment of alternatives regarding temperatures, SWM 1 & SWM2 would not mitigate high temperatures, rather they will likely increase them;
- We are concerned with the comment that there is "*uncertainty regarding long term water levels*". As this

applies to all the sites utilizing gravel pits for outlet we suggest there is no uncertainty... the certainty is levels will rise.

Kilworth Glendon Drive

- Presence of wetland (in the vicinity of the proposed road) has been identified through a recent wetland study. As previously discussed with Middlesex Centre staff and Stantec staff during the Glendon Drive EA the future realignment of this road may require Natural Hazard and/or Natural Heritage compensation in the currently proposed development area. We will be looking for a compensation ration somewhere from 2:1 - 7:1 based on what is being proposed and details of the feature being lost;
- Site-specific water balance would be required to protect the wetland;
- Drawings don't show where this water eventually outlets to. Would the outlet be to the aggregate ponds again?

Kilworth East

- We highly recommend MC gets rid of the ("archaic") concrete lined ditches in this subdivision and creates bio-swales with strategically placed check dams instead;
- In terms of the grassed swale we recommend consideration be given to capacity, future improvements and existing erosion at the river;

Melrose

- No site specific comments.

Hoping we can discuss some/all of these at our meeting next Tuesday.

Thank-you,

Karen Winfield

Land Use Regulations Officer
1424 Clarke Road London, Ontario, N5V 5B9
519.451.2800 Ext. 237 | Fax: 519.451.1188
winfieldk@thamesriver.on.ca

UPPER THAMES RIVER
CONSERVATION AUTHORITY

D N Stanlake
Consultant and Mgmt Services
43 Winding Way Crescent
London ON N6G 3E9
519 670 8480