

**10TH REPORT OF THE
ENVIRONMENTAL AND ECOLOGICAL PLANNING
ADVISORY COMMITTEE**

Meeting held on October 19, 2017, commencing at 5:00 PM, in Committee Room #1 & #2, Second Floor, London City Hall.

PRESENT: S. Levin (Chair), A. Boyer, C. Dyck, C. Evans, S. Hall, B. Krichker, K. Moser, S. Peirce, N. St. Amour, S. Sivakumar, J. Stinziano, C. Therrien, R. Trudeau and I. Whiteside and H. Lysynski (Secretary).

ABSENT: E. Arellano, E. Dusenge, P. Ferguson, C. Kushnir, S. Madhavji and N. Weerasuriya.

ALSO PRESENT: C. Creighton, 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. Responses to EEPAC's Comments on the Draft Conservation Master Plan Phase II for the Medway Valley Heritage Forest Environmentally Significant Area (south)

That the following actions be taken with respect to the Draft Conservation Master Plan for the Medway Valley Heritage Forest Environmentally Significant Area (south):

- a) the Environmental and Ecological Planning Advisory Committee (EEPAC) Chair BE GIVEN delegate status on behalf of the EEPAC when this matter is on the Planning and Environment Committee Agenda;
- b) it BE NOTED that the EEPAC received the attached presentation from J. Petruniak, Dillon Consulting Inc.; and,
- c) it BE NOTED that the EEPAC reviewed and received a communication dated October 17, 2017 from Environmental and Parks Planning and Dillon Consulting Inc., with respect to this matter.

III. CONSENT ITEMS

3. 9th Report of the Environmental and Ecological Planning Advisory Committee

That it BE NOTED that the 9th Report of the Environmental and Ecological Planning Advisory Committee from its meeting held on September 28, 2017, was received.

IV. SUB-COMMITTEES & WORKING GROUPS

4. Environmental Impact Study - 2835 Sheffield Place

That it BE NOTED that consideration of the Environmental Impact Study for the property located at 2835 Sheffield Place was referred to Item 5 of this Report, the Victoria on the River, Block 135 Zoning By-law Amendment.

5. Victoria on the River, Block 153 – Zoning By-law Amendment

That the following actions be taken with respect to the Environmental Impact Study for the property located at 2835 Sheffield Place:

- a) the attached, revised, Working Group comments BE FORWARDED to the Civic Administration for consideration; and,
- b) the Environmental and Parks Planning staff BE REQUESTED to provide the Environmental and Ecological Planning Advisory Committee (EEPAC) with a copy of the Neighbourhood Connection Plan in order to assist the EEPAC in making more informed recommendations on related matters.

V. ITEMS FOR DISCUSSION

6. Workplan

That the 2017 Environmental and Ecological Planning Advisory Committee Work Plan BE AMENDED to include “Wetland Relocation, Monitoring and Creation” and “Relocation of Wildlife” activities.

7. Discussion – Wetlands

That a Working Group consisting of C. Dyck, S. Sivakumar, C. Therrien and R. Trudeau BE ESTABLISHED to review wetland creation, monitoring and relocation and to report back at a future meeting.

VI. DEFERRED MATTERS/ADDITIONAL BUSINESS

8. (ADDED) Parker Stormwater Management Facility and Trunk Storm Sewer Outlet Working Group

That the following actions be taken with respect to the Parker Stormwater Management Facility and Trunk Storm Sewer Outlet Working Group:

- a) Dillon Consulting BE REQUESTED to provide the above-noted Working Group, consisting of B. Krichker and I. Whiteside, with the Master Drainage Addendum;
- b) the Working Group BE REQUESTED to provide further comments on this matter at the next meeting of the Environmental and Ecological Planning Advisory Committee; and,
- c) it BE NOTED that the Environmental and Ecological Planning Advisory Committee reviewed and received the attached Parker Stormwater Management Facility and Trunk Storm Sewer Outlet Working Group comments provided by Dillon Consulting, with respect to this matter.

9. (ADDED) Invasive Species Strategy

That it BE NOTED that the Environmental and Ecological Planning Advisory Committee heard a verbal update from J. MacKay, Ecologist Planner, with respect to the Municipal Council approval of the Invasive Species Strategy.

10. (ADDED) November Agenda Items

That the following items BE INCLUDED on the November 16, 2017 Environmental and Ecological Planning Advisory Committee Agenda:

- a) a discussion on the Invasive Species Strategy work in the 2018 Budget; and,
- b) a presentation from C. Therrien, with respect to fishing along trails in Environmentally Significant Areas.



VII. ADJOURNMENT

The meeting adjourned at 6:35 PM.

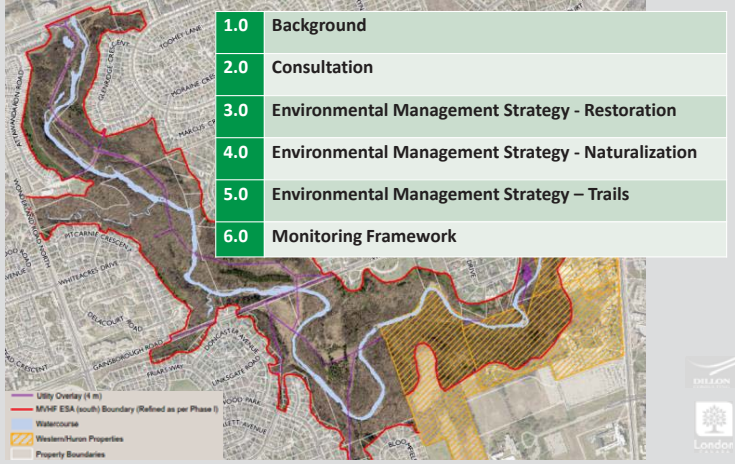
NEXT MEETING DATE: November 16, 2017




October 19, 2017

Overview of Presentation



- 1.0 Background
- 2.0 Consultation
- 3.0 Environmental Management Strategy - Restoration
- 4.0 Environmental Management Strategy - Naturalization
- 5.0 Environmental Management Strategy - Trails
- 6.0 Monitoring Framework




BACKGROUND

CONSERVATION MASTER PLAN PROCESS

PHASE 1: Community Engagement and Participation ✓
 Life Science Inventory and Evaluation ✓
 Boundary Delineation ✓
 Application of Management Zones & Review of Existing Trails ✓
 Identifying Management Issues ✓

PHASE 2: Community Engagement and Participation ✓
 Goals, Objectives, Recommendations ✓
 Ecological Protection, Enhancement & Restoration ✓
 Trail Planning & Design Process ✓
 Priorities for Implementation ✓
 Final Conservation Master Plan



Community Engagement and Participation

Milestones of Phase I CMP Process:

Community Information Meetings were held on:

- July 25, 2013 - Project Initiation
- January 27, 2014 – Presentation of Key Findings

Phase 1 CMP Report to Planning and Environment Committee of Council



- February 14, 2017
- [Phase 1 CMP](#) and the [Addendum](#) updated with 2016 version of Guidelines for Management Zones and Trails in ESAs - both approved by Council




Guidelines for Management Zones and Trails in ESAs

Approved by Council in 2016



- Endorsed by Trails Focus Group 2016
- Trails Focus Group included members of the MVHF ESA (South) CMP Phase II LAC:
 - EEPAC; ACCAC; Nature London; UTRCA; MVHF ESA Adopt an ESA: Friends of Medway Creek; & MVHF ESA Adopt an ESA: Orchard Park/ SFR FR.
 - The Trail Plans in the Draft CMP all comply with the Guidelines for Management Zones and Trails in ESAs (2016) written with input from EEPAC for protection of ESA ecosystems. The Guideline document is based on the latest science and is an excellent example of how to plan and manage natural areas to protect ecological features and functions in an urban setting.

Consultation for Phase II CMP:

In addition to the consultation through the LAC, the City also:

- Notified the public about the MVHF ESA (south) CMP process and survey by publishing a notice in the Londoner
- Mail out to all homes within 200 m of the entire MVHF ESA
 - 1860 letters
- Letters and/or emails to those who participated in Phase I
- Signs at every ESA access (20) inviting residents to attend the open house/fill in survey
- Notice on City website
- Hosting two Open Houses.
 - The first was to explain the process and solicit input from the public.
 - The second will be to present the CMP that will be presented to the Planning and Environment Committee.
- Other engagement methods, including providing presentations by staff and consultants where requested (at the Orchard Park Sherwood Forest Ratepayer's AGM)

Consultation for Phase II CMP:

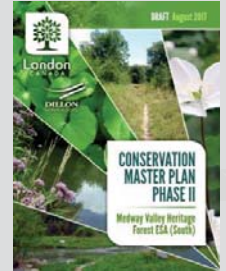
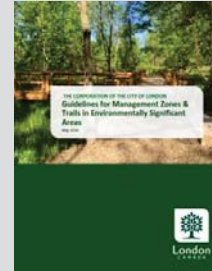
- **Draft CMP** distributed August 24 for discussion and comment
 - Feedback and comments received during consultation period from March to July formed the first draft
 - Review of feedback and comments not done quantitatively or statistically
 - Community members were encouraged to provide feedback on “Ideas, Issues, Opportunities, and Observations”
 - **The communities’ ideas were then reviewed with Council’s Guidelines for Management Zones and Trails in ESAs and those that complied with Guidelines were considered for inclusion in the CMP for the protection of ecological integrity.**
 - Draft provided to LAC, EEPAC and ACCAC for comments to obtain feedback prior to release of one trail concept plan to the public at Open House #2.
 - Revised CMP to be distributed to LAC October 23, updated as per feedback received on draft for discussion
- **CMP Document**
 - CMP document to be distributed November 24 to LAC following final LAC meeting and the second Open House (November 15)
 - CMP goes to the Planning and Environment Committee



GOAL OF MVHF ESA (SOUTH) CMP – PHASE 2

To develop a comprehensive multi-year CMP that presents recommendations for achieving long-term ecological integrity and protection of the ESA through the implementation of an **environmental management strategy**.

(Consistent with OP 15.3.8. i, ii, / London Plan policies 1421 and 1422)



Environmental Management Strategy: Restoration



- **Work in more than 50% of RO areas is completed or in process.** Primary focus of restoration efforts is work related to invasive species.
- High Priority areas to protect SAR implemented in 2013-2017
 - The City Ecologist and the rest of the ESA Management Committee successfully coordinated this restoration work in less than 4 years
- City / Dillon & UTRCA recognized for innovative work, SAR habitat protection and contributions to the [Federal Recovery Strategy for the False Rue-anemone \(*Enemion biternatum*\) in Canada](#)
- **Revised CMP will include RO16, a new restoration overlay that address the informal and closed trails**

Environmental Management Strategy: Naturalization

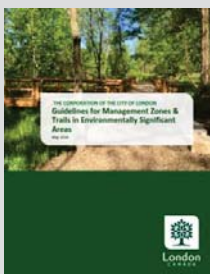


- **NA4:** Identified during Phase I
- **NA5:** Identified during Phase II
- Naturalization work in association with trail implementation over lawn areas would help to define limit of restoration and limit future encroachment
- The EIS Performance Monitoring Study by Beacon (circulated to EEPAC) showed that this approach works in London, people do not encroach on the opposite side of a trail.
- **NA5:** Trail from A4 to A1 proposed at western limit of ESA, with naturalization efforts on east side of trail
- **NA4:** Trail from A20 to A24
 - Re-opening/Relocate the Level 1 trail over lawn at top of slope

Phase I Summary of Findings

All existing managed trails were found to be compatible with significant ecological features identified in Phase I.

- Approved by Council February 14, 2017



Accessibility for Ontarians with Disabilities Act (AODA)

By law, you must make recreational trails accessible if you are:

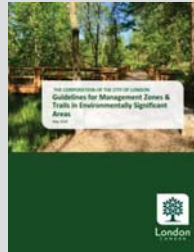
- a private or non-profit organization with 1+ employee(s) or a public sector organization; and
- building **new** public recreational trails and planning to maintain them or making major changes to existing ones and planning to maintain them
- **The Design of Public Spaces Standard (Ontario Reg. 191/11) (“the Standard”)** there can be exceptional conditions where the need to provide accessible trails may need to be balanced with other legitimate concerns:
 - Exceptions where making the trail accessible would have a negative effect on water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values
 - In such instances, **the City is expected to meet the requirements of the Standard to the greatest extent possible.**



References to AODA in Guidelines

Section 2.1: Policy for Trail Planning and Design

- Enjoyable, safe, accessible trails for recreation appropriate in an ESA and learning environment will be permitted in accordance with recognized accessibility legislation (such as the Accessibility for Ontarians with Disabilities Act, 2005 (AODA), best practices and the above principles [outlined in Guidelines]).



Section 2.3: Policy for Trail Planning and Design

- Trails to permit access for persons with disabilities, consistent with these guiding principles and AODA requirements, will be provided where this can be achieved while protecting the ecological integrity and ecosystem health of the ESA.

Section 7.1 : Design and Construction: Trails

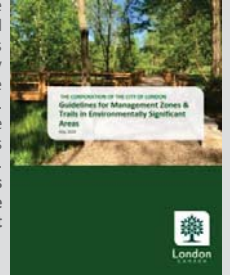
- Design and Maintenance Standards: Where the trail is deemed accessible, the trail in its entirety shall meet AODA recreational trail surface requirements for both firmness and stability.



Environmental Management Strategy: Trail Management Plan

Nature Reserve

- Where it is determined that ecological integrity can be preserved, and specific natural features and their ecological functions can be protected, public access using Level 1 trails (e.g. natural earth surface, wood chips, boardwalk, corduroy logs, stepping stones) are permitted in the Nature Reserve zone to support appropriate low-intensity, nature-based recreation. Structures (e.g. boardwalks, bridges, stairways) may be permitted to reduce impacts to significant ecological features and increase the sustainability of the trail system in the ESA. These are also areas where exceptions to making trails accessible would apply as such activities may have a negative effect on water, fish, wildlife, plants, invertebrates, species at risk, ecological integrity or natural heritage values.



Natural Environment (NE)

- Level 1 and Level 2 trails may be located in NE Zones where it can be demonstrated that the trail will not result in negative impact to the adjacent ecological features and functions of the ESA. Trails that comply with the Guidelines in NE zones can/must be made accessible as per AODA. Especially when Utility Overlay is present.



Environmental Management Strategy: Trail Management Plan

Marion (2016) Study cited by EEPAC for Trail Management:

- RE: the upgrade from Level 1 to Level 2 trails between A4 and A10 and new Level 3 trail
 - EEPAC cited Marion (2016): *It should be noted that methods other than trail hardening can be employed to manage user impacts.*
 - Other methods included: managing use levels; modifying the location of use; increase resource resistance; modify visitor behaviour; and, close and rehabilitate the resource (*Table 1 in paper*).
 - The Marion (2016) study supports the use of improved trails to limit ecological impacts, "Visitors can also travel or camp on durable non-vegetated substrates such as gravel, rock, and snow or artificial substrates such as wood and rockwork on trails that support substantial traffic with very limited impact." (p.343)



Environmental Management Strategy: Trail Management Plan

- The Marion (2016) study cited by EEPAC in their comments supports implementing formal trails, "Studies reveal that unmanaged visitation frequently results in considerably greater recreational impact. For example, informal (visitor-created) trails have design attributes that make them less sustainable than professionally designed formal trails (Wimpey and Marion 2011)." (p.343)
- Also from Marion (2016) on p. 345: "Unfortunately, unmanaged visitation tends to create large networks of informal trails with duplicative routings and alignments that are less sustainable than professionally designed trails (Wimpey and Marion 2011, Barros et al. 2013). This maximizes impact compared with that of a dispersal strategy that avoids informal trail formation or a strict containment strategy that focuses travel on new formal trails or on a selection of resistant informal trails."



Environmental Management Strategy: Trail Management Plan

Background Study cited by EEPAC for Trail Management:

- As Marion (2016) points out on p.343, "limiting use within the low-use zone, where impacts occur rapidly, can lead to substantial reductions in vegetation and soil impact"
 - Low use is defined as 50-250 passes per year along a trail
 - From the trail use counter set-up on the trail north of Fanshawe Park Road West, an average of 123 passes per day have been recorded.
 - Therefore, there are currently more than 250 passes per year and it is not a "low-use zone" according to Marion (2016). Also, as the trail would be along an existing sewer alignment in an urban centre, the results are not directly applicable as the context of the Marion (2016) paper is Wilderness/backcountry areas, as defined by the *The Wilderness Act (U.S. legislation)*.



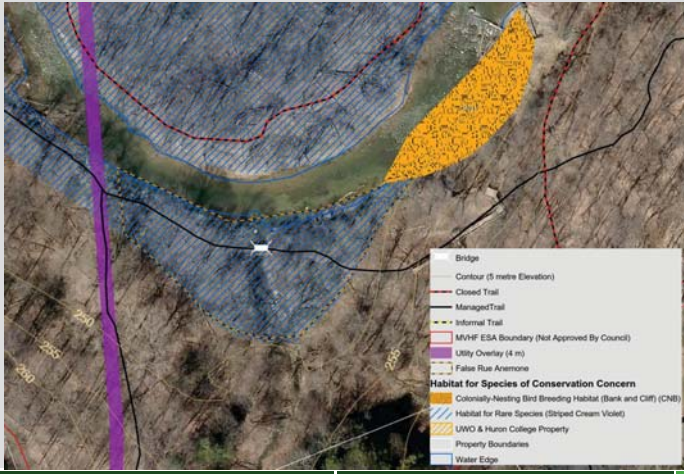
Environmental Management Strategy: Trail Management Plan



- Linkage A (Bridge) recommended :
 - Would provide increased accessibility, keeping accessible trail and linkage in already disturbed area requiring ongoing access for infrastructure maintenance and repair (Utility Overlay)
 - Supported by ACCAC
 - Area low in sensitive ecological features
 - Trail use counters proposed to be installed to document baseline use and after



Bridge near Metamora - Ecological Features



Environmental Management Strategy: Trail Management Plan

All existing managed trails identified in Phase 1 were found to be compatible with significant ecological features based on Chart 2 from the Guidelines for Management Zones and Trails in ESAs as endorsed by the Trails Focus Group, including EEPAC.

Utility Overlay

- Due to ongoing access requirements associated with the approximately 5.5 km of underground and aboveground utility infrastructure (hydro corridor, sewers & forcemain) located within the MVHF ESA (south), a Utility Overlay consisting of a 4 m wide corridor was established following the Guidelines over the various utility rights-of-way.
- Where maintenance access is required, trails are generally located along the same route to minimize impacts to the surrounding ESA. These trails are to be designed now to remain compliant with the AODA, where exceptions do not apply, so that trails can accommodate persons with disabilities wherever possible.

Photo: Example of muddy/wet Level 1 trail over sewer alignment / Utility Overlay south of Glenridge Drive, east side of ESA, near Access 10



Environmental Management Strategy: Trail Management Plan



- All recommendations in the Draft CMP comply with Council's Guidelines for the protection of ecosystems
- Utility Overlays (in purple) mean that access for infrastructure maintenance and repair coincide with the locations where Level 2 trails and connections are recommended to enhance accessibility, and avoid muddy/wet trails as per AODA.

Environmental Management Strategy: Trail Management Plan

EEPAC had questions regarding closure and timeframe for closure of unmanaged trails. Restoration Overlay (RO) RO16 will be added over the unmanaged trails to make it clear these will be prioritized, restored and monitored.



Adaptive Management and Monitoring

The Lead Agency for coordinating the Monitoring in Table 13 of CMP was corrected to read ESA Management Committee, not just the ESA Management Team, noting these groups are described on page 12 of the Draft CMP. The City Ecologist and the rest of the ESA Management Committee is already successfully coordinating much of the monitoring work.

City funded ESA team (0.5 million dollar annual contract and capital funds of about 75k per year), Forestry Staff, Environmental and Parks Planning Staff including the City Ecologists complete much of this work and also retain consultants and restoration specialists to implement CMPs and protect the ESAs.



Monitoring Measures of Success

- Trail use counters and regular monitoring are to be used as a means of documenting conditions for trail openings/closure and installation of structures, such as bridges, to determine positive or any negative impacts.
- This helps to form the monitoring aspect of adaptive management



Monitoring Measures of Success

- Levels of monitoring and metrics vary depending on budget, scope and status of the species involved
 - Invasive Species Control Program Results / Monitoring Reports funded by the City, completed by Dillon Consulting Inc. 2014-2017 for the MVHF ESA project to protect SAR/CC
- Monitoring of restoration and naturalization efforts were reviewed and revised, where applicable, to provide additional measures of success with regards to monitoring
- Lead Agency for coordinating the Monitoring corrected to "ESA Management Committee. The City Ecologist and the rest of the ESA Management Committee is already successfully coordinating much of the monitoring work.



Restoration : Species at Risk Protection Success Story

Protection of False Rue-anemone (*Enemion biternatum*), a *Threatened*[^] species found in the Medway Valley Heritage Forest ESA



Opportunity to increase awareness of Species at Risk and promote education of invasive species threats consistent with the recommendations in the proposed Recovery Strategy for the False Rue-anemone in Canada, 2016

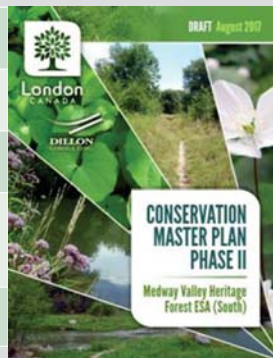
The City of London was recognized for their innovative work, habitat protection and contributions to the Federal Recovery Strategy for the False Rue-anemone in Canada, 2016.

Existing trails in the ESA have helped to limit trampling and promote public awareness of this species, while also providing a physical barrier to prevent the spread of Goutweed

[^] "Threatened" means the species lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening it.

Next Steps

October 23	Revised Phase II CMP circulated to LAC
November 2	Meeting #5 of LAC for endorsement of CMP
November 15	Community Open House #2
End November/early December	Phase II CMP Report (Final)
January 2018	CMP to Planning and Environment Committee



Victoria on the River, Block 153

Site Plan EIS dated June 29, 2017, received by EEPAC August 24, 2017, ZBA Planning Rationale Report dated May, 2017 received by EEPAC September 15, 2017 (after request to Planner)

Reviewers: C. Dyck, S. Levin, R. Trudeau

Submitted to October 19th 2017, EEPAC meeting, **revised October 23, 2017**

OVERVIEW - **Achieving a Net Benefit**

1. Consider if eliminating the controlled outlet would enhance the PSW.
2. Monitor the restoration sites for many years as restored areas are prone to invasive species for a long time.
3. Fencing areas which border the ESA prevents encroachment and contributes to a 'net benefit'
4. Educating homeowners about the presence of SARs and SWHs is crucial to achieving a 'net benefit'

THEME #1 – Compliance with OP policy

3.5.18 of the OP indicates that *its intent is to restore ecological functions and provide a net benefit for the east Meadowlily ESA and the Thames River corridor.*

It is unclear how a net benefit is achieved. Section 5.1 of the Site Plan EIS starts by discussing the existing environmental impacts which seems to set a low bar for the restoration.

For example, the proposal is to create a controlled outlet for the pond at the new laneway.

THEME #2 – Controlled Outlet

EEPAC would appreciate knowing why a controlled outlet is to be installed rather than letting the Tributary run freely. It would appear that before the pond was created, the extent of the wetland would have been larger. There is no commentary in the Site Plan EIS to address this. Did the proponent examine if a different design such as allowing the tributary to resume its natural flow, enhance the aquatic environment and the wetland feature?

Recommendation 1: The EIS not be accepted until a net benefit is clearly demonstrated to the satisfaction of the City and the UTRCA.

Theme #3 - Official Plan mapping

Page 3 of the Site Plan EIS and the ZBA Report p. 3 of 16 note that the Official Plan designation does not reflect the results of the ESA boundary amendment as recommended and accepted in the Victoria Ridge Plan of Subdivision Environmental Impact Study (AECOM 2009). Appendix A2 of the ZBA report provides a copy of Map 4 from the Victoria Ridge Plan of Subdivision Environmental Impact Study (AECOM 2009) showing the recommended delineation of the Meadowlily Woods ESA in the Block 153 area and surrounding Victoria on the River subdivision lands.

Recommendation 2: The Planning report for the ZBA include a recommendation to Council that the OP and London Plan be amended to reflect the ESA boundary as recommended by the Victoria Ridge Plan of Subdivision.

Theme #4– Restoration Plan and Monitoring

Recommendation 3: For the tributary, the best vegetation to plant on the stream banks would depend on the width of the watercourse, but you would ideally want something that is relatively fast growing and could provide adequate shading to protect the tributary from solar radiation. A good mix of grasses, shrubs, and trees would help to provide shade, run-off control, and habitat for invertebrates.

EEPAC is aware from the Site Plan EIS that work has been done in Area 1 and is considered successful. It is unclear to EEPAC what the plan was for that area and what the outcomes measures were that determined that the work was a success. Recommendation 16 on page 60 of the Site Plan EIS speaks to the development of an Environmental Monitoring Program prior to the commencement of construction. EEPAC recommends the following instead:

Recommendation 4: An Environmental Monitoring Program (EMP) be a condition of the development or site plan agreement. The Program must be to the satisfaction of a City Ecologist and the UTRCA. It should have clear outcome measures such as survival rates of trees and shrubs.

Recommendation 5: The EMP should have a monitoring period of no less than 5 spring seasons from the completion of plantings, with a particular emphasis on the Significant Wildlife Habitat. Ideally, monitoring would be by an independent consultant reporting to the City. The EMP must include requirements for watering new plantings during dry periods, warranties, replanting/reseeding requirements, invasive species management.

Recommendation 6: The plantings in Area 3 should be similar to the species in the FOD 6-5. It is unclear to EEPAC if the suggested list of plants listed on page 57 (EMP, #10, Site Plan EIS) is similar to the dominant species in this ecosite.

Recommendation 7: All trees that are planted must be 15 cm or greater at dbh and any trees that are lost to construction must be replaced at a minimum ratio of two for every tree lost.

Recommendation 8: All buffers must be planted and seeded consistent with the abutting vegetation in the ESA. If the development agreement allows for regeneration without active restoration, the agreement must include a condition that if the regeneration results in a majority being invasive species within 3 years, the proponent must initiate active restoration.

Recommendation 9: Monitoring of the restoration planting should follow the regime suggested at the end of this report from the Nature Conservancy, noting the City's standard time frame is likely insufficient:

THEME #5 – OTHER PARTS OF PROPOSED ENVIRONMENTAL MANAGEMENT PLAN

Page 10 of 16 of the ZBA report notes: “The boundary of the Site Plan and ESA buffer along the rear (and where relevant, side yards) shall be fenced (without gates) to prevent the encroachment and access of ESA lands from Block 153 residential lots.” EEPAC agrees. The recommendation for fencing is included with other recommendations on page 17 of the ZBA EIS:

In order to further ensure minimal to negligible impacts, we recommend the following mitigation measures:

*Rear yard fencing to prevent residents from entering ESA lands from rear yards;
Shielded or other forms of lighting that reduce light impacts on adjacent ESA lands;
Condominium by-laws that restrict access to ESA lands, disposal of yard waste in ESA lands, feeding of wildlife, etc.*

Recommendation 10: These recommendations from the ZBA EIS should be further detailed in Site Plan provisions or Conditions of Site Plan approval.

Recommendation 11: Recommendation #14 in the Site Plan EIS (p. 59) be amended to say fencing of the ESA – development limit be **required** to reduce encroachment into the ESA. This must be a requirement of either conditions of development or of site plan approval

EEPAC also proposes these additional steps which should also be considered conditions in the development agreement:

Recommendation 12: Turtle and / or Snake Crossing signs we installed at either end of the access to the condominium.

To deal with the indirect impact of human intrusion, In addition to the standard homeowner package and the condominium restrictions listed in Recommendation 15 of the Site Plan EIS on page 59, EEPAC recommends the following:

Recommendation 13 : An information sign about the ESA and the species present be installed in a common area of the Condominium development. The text should be to the satisfaction of a City Ecologist and include the recently developed “cat brochure” and Living with Natural Areas.

Theme #6: Remainder of Environmental Management Plan (Site Plan EIS)

EEPAC is generally supportive of the recommendations except as follows:

Recommendation 14: Recommendation #6 of the EMP dealing with buffers should be strengthen by including monitoring of the buffer plantings in the proposed Monitoring Program.

Recommendation 15: Recommendation #7 should be strengthened to include the removal of non-native and invasive species as mentioned in the text on page 54 of the Site Plan EIS that precedes the recommendation.

Recommendation #10 on page 57 indicates trees will be planted on the slope but there is no information about removal of trees or whether the new plantings will be of the same or similar species nor what mass will be lost and what mass will be planted to replace the loss. What is the compensation for the loss of forest species? (EEPAC notes there are no drawings showing existing mature trees - Appendix M just shows the extent of vegetation).

Recommendation 16: Recommendation #10 on page 57 of the Site Plan EIS should be revised to reflect EEPAC's concerns noted in the preceding paragraph.

As per page 18 of the ZBA EIS, the following be added to the EMP:

Recommendation 17: Provide increased wildlife habitat within through the installation of bird & bat boxes, sentinel rocks/perch posts and brush piles

THEME #7 - Species at Risk

Recommendation 18: As per Appendix K, page 21 of the Site Plan EIS, a species specific survey for the Eastern Ribbon Snake be conducted before construction starts. This must be added to Recommendation 18 on page 60 of the Site Plan EIS.

Recommendation 19: At least one snake hibernacula be included in the restoration area

As per Appendix K p. 23-4 and Appendix L, pps 4 and 15, the following be required as part of Recommendation 17 on page on page 59-60 of the Site Plan EIS:

Recommendation 20:

- a. Sedimentation and erosion control measures be installed prior to any works within 30 m of aquatic or semi aquatic habitats, specifically, the pond and the MAM at the south end of the pond.
- b. Work take place outside of turtle overwintering and nesting season.
- c. Photos of the SAR turtles be posted with a number to call if turtles are encountered during construction. The # should be for the Species at Risk biologist (Scott Gillingwater) at the UTRCA.

Theme #8 Existing Berm

There is very little mentioned about the work to be done to remove and reconstruct the existing berm (see p. 41 of the Site Plan EIS). It is unclear if this is to support a future road or for some other purpose as no road is shown in any of the drawings or figures. Is it to remove the perched culvert to restore flow within the channel? It is not clear in either document.

It is unclear what compensation for loss of aquatic habitat immediately north of the existing lane way and loss of FOD6-5 (.13 ha) within the ravine north of the existing berm caused by the removal of the this berm. It appears from the Site Plan EIS that the removal of the existing perched culvert can improve function of the aquatic habit.

Recommendation 21: Plantings must be required to shade the water as well.

It is unclear though if there is any compensation at the location of the existing berm. It is not included as one of the Compensation Areas shown on the various Figures.

Recommendation 22: This deficiency should be resolved before the EIS is accepted.

THEME #9 – Construction conditions

Recommendation 23: On site monitoring should occur when the weather forecasts any heavy rain events during the construction period (to avoid the potential for excess run off from piles of top soil)

Recommendation 24: Refueling and other activities listed on page 59 of the Site Plan EIS be 30 or more metres from the Significant Wildlife Habitat, the River and Tributaries.

Recommendation 25: Construction practices follow the Clean Equipment Protocol to reduce the chance of introducing/spreading Phragmites and other invasive species into the area.

Recommendation 26: Any construction must be outside the nesting season of bank swallows.

It is likely they are nesting in the banks of the river. Construction will change their foraging. Construction should not be permitted during this species nesting season at a minimum.

Recommendation 27: In constructing access road, consideration be given to permanent measures to reduce the chance of turtles climbing on to the road surface.

Recommendation 28: In constructing the access road, Best Management Practices be employed so that salt, sand and other road contaminants do not end up untreated into the watercourse or the pond.

Theme #10 – ERRORS and OMISSIONS and OTHER

Recommendation 29: The extent of the ESA should be clearly shown on all Figures. For example, Figure 1 in both EIS seems to suggest the limit of the ESA is just west of the Study Area. This is wrong.

Recommendation 30: There should be one air photo showing the total extent of the ESA and the PSW's within it, including the unevaluated wetlands to the east. Although this appears on B-1 which is included, it is not apparent to the casual reader.

Recommendation 31: The builder/condo corporation advise prospective buyers of the sensitivity of the ESA prior to purchase.

Recommendation 32: The UTRCA map should be in the main section with the other Figures rather than in an Appendix as it better shows the extent of the PSW.

Recommendation 33: There is a recommendation in the Dec 24, 2015 letter from AECOM to M. Zunti regarding removal of agricultural waste from within the ravine slopes. This should be included as a requirement provided it does not cause additional degradation to the slopes.

Appendix – Nature Conservancy comments on restoration:

In the first summer, expect a range of non-native, common agricultural weeds, often annuals. In year two, expect to see these give way to the planted, native species. The objectives of restoration are first and foremost to establish as many native plant species as possible, and to not allow the establishment of non-native invasive species. Monitoring should focus on this. For example, look for autumn olive, buckthorn, quack grass and Canada thistle, common reed, and conduct monitoring to deal with them upon sight whenever possible. Looking for these species can be easier later on in the fall, as they remain green for longer than the native plants.

- We simply wander around and write down every species we come across; it might be useful to append some sort of abundance code, but again, a focus on what you need to know is important
- We need to know if we need to come back with a chainsaw or just loppers, and what sort of volume of glyphosate we might need, so we're not going to bother counting lamb's quarters, for example. For native species, we compare our list of observed species with our planting list.
- We are able to "get away with" a fairly low key monitoring approach like this because we do actually have a much more detailed system on one key restored site – we have 170 2 x 2 m plots set up, and have been collecting % cover for each species for 10 years now. We collect these data in the 3rd week of July (Norfolk County). We miss flowering season for asters and goldenrods, and similarly miss really early season stuff, but we do our best. This is fine, but does take a lot of time and our ongoing objectives with this work are something we are constantly trying to clarify. I don't necessarily recommend that every site needs such a detailed system – again, thinking hard about what you need to know is paramount.
- Some species do take a while to establish in an easily identifiable way. One example we have found of this is butterfly weed – it seems to take a few years to really show up. If you really need to know if every species you planted establishes, then you might consider checking in on the site for longer than just 2 years – 3 or even 4 years.
- If you are trying to create habitat for a specific species, via planting native plants, I would still recommend a focus on native vs non-native plants, especially early on, but you would also want to add in a check for your species of interest, and perhaps other components of its habitat e.g. structure, specific species composition, etc. This sort of data collecting might need to happen over several months – i.e. breeding bird season, fall, even winter.
- Photos are always good! Collect some actual data too, but take some pics from a few standardised angles each year.
- On a somewhat related note, I would also recommend that restoration sites are maintained with regards to invasives many years down the line. I appreciate how unrealistic this may be or seem, but restored areas are prone to invasive species for a long time, and I have seen several which had a lot of restoration money poured into them for 1 – 2 years, but then have been ignored and have turned into an autumn olive or buckthorn mess, which is of very limited value to anything.

Parker SWM Facility and Trunk Sewer Outlet EIS – GMIS Project (Tender T17-115)

EIS Report – NRSI Project 1719, July 2017 version

EEPAC response comments of Sept. 26, 2017

(Preliminary, DevEng & NRSI) – Oct. 18, 2017

EEPAC comment:	Response:
<p>Introduction</p> <p>This EIS should not be accepted until EEPAC's concerns are adequately addressed. EEPAC is of the opinion that the EIS was submitted without the Parker Stormwater Management (SWM) Facility and Trunk Storm Sewer Outlet's proposed design and does not address all required EIS considerations associated with the proposed infrastructure and evaluation of the potential adverse impacts on this water resources system functions and features by this undertaking</p> <p>The Impact Analysis of this EIS ignores the evaluation of:</p> <ul style="list-style-type: none"> • all water resources components for the proposed storm/drainage and SWM system; and • the 2004 Dingman Creek Subwatershed Study Updates (DCSSU) recommended objective to improve the existing deficiencies and apply efforts to restore/reclaim deficient systems. Natural Resources Solution Inc., only reviewed the 1995 Dingman Creek Subwatershed Study, which was superseded by the 2004 Dingman Creek Subwatershed Study Updates. 	<p>The EIS (NRSI) was undertaken pursuant to a scoped terms of reference that was established by City SWED during work plan and budget approval (Oct. 5, 19, 26, 2015 comms.) and an EIS scoping letter (NRSI – Feb. 5, 2016) and EIS scoping meeting (March 7, 2016 w/ J. MacKay). EIS p.2 clarifies the approved scope on file at City.</p> <p>The EIS was intended to serve as a supporting background study to inform the Functional Design Report (FDR). The FDR assesses the various water resources interests and objectives in relation to the Master Drainage Plan Addendum (June 2017), hydrogeological study and water balance assessment.</p> <p>The Master Drainage Addendum was completed to update the SWM strategy of the Parker Facility to recognize updated provincial policy regarding the preservation of woodlots, natural heritage features, and water balance.</p> <p>The current SWM strategy includes preservation of the Parker Woodlot (32.3ha) and maintenance of baseflows to the Hampton Scott Drain channel through an enhanced bioswale feature as part of the SWM Facility works and strategic rear yard grading of the flanking lots around the buffer (subdivision design by others). The previous Summerside Master Drainage Plan included a minor outlet to the drain channel which is no longer proposed.</p> <p>As it concerns baseflow augmentation in the Hampton Scott Drain, the water balance analysis to the Parker woodlot falls under the scope of others and is referenced in the Functional Design Report and Golder's hydrogeology report.</p> <p>City SWED confirmed (Oct. 20, 2016 comms.) that further fluvial geomorphology assessment of the Hampton Scott Drain was unwarranted on the basis of the proposed Parker SWM outlets to the existing Summerside Tunnel and not the Hampton Scott Drain. No channel improvements for the Hampton Scott Drain are proposed under the City's GMIS budget.</p> <p>The DCSSU (2005) was referenced by NRSI but perhaps the term 'Update' or 'DCSSU' was not included in the text of the EIS as presented; such clarification can be made in the report. Channel</p>

	<p>improvements were beyond the scope of the EIS terms of reference.</p>
<p>Recommendation #1</p> <p>Prior to accepting this EIS, shall be required to meet the main objectives of DCSSU, approved by City Council in relation to water resources/SWM, are to protect and restore/reclaim deficient and impacted systems and address and require further analysis prior to acceptance of the report. Impacts to the tributaries must be addressed and quantify the following:</p> <ul style="list-style-type: none"> • the hydrogeological assessment including water balance assessments (groundwater, and surface flows (under the minor and major flow conditions). • the slope stability conditions evaluations and required protections with a new storm outlet, potential dewatering detailed methodology and measures; • cumulative impact evaluations of major functions of environmental/ecological system of this watercourses that may be impacted by the proposed infrastructure discharges; • EIS is required to evaluate the potential impacts of the proposed infrastructure on the baseflows and during wet weather conditions, the recommended buffers size shall take into consideration the floodlines location for this watercourses; and • The report should address any potential impacts to groundwater by the proposed dewatering. 	<p>To accommodate the Parker SWM Facility strategy in respect of updates to provincial policies regarding the preservation of woodlots, natural heritage features, and water balance, the SWM Facility discharge strategy was revised under the approved work plan (Oct. 2015) in recognition of the Parker woodlot preservation. This was indicated in the June 2017 Master Drainage Plan Addendum. Parker SWM Facility discharge up to the 250-year event is to be routed through the Summerside tunnel system and ultimately outlet into the Thames River. Accordingly, no adverse impacts are anticipated for the drain channel due to pond flows.</p> <p>A few matters of clarification re: EIS scope follow:</p> <ul style="list-style-type: none"> - The hydrogeologic assessment and water balance analysis for the Parker woodlot is covered under scope of others and was not part of the City approved scope for the EIS. - Slope stability and new storm outlet provisions to the Hampton Scott Drain channel are not applicable to the site or scope of proposed works. Geotechnical investigation (by others) has assessed temporary construction conditions and risks including dewatering control for the trunk sewers and SWM Facility. - All construction dewatering is proposed to be treated (per sewer use bylaw) in advance of discharge to the existing Summerside SWM Facility; pumped discharge to the Hampton Scott Drain channel during construction is not proposed. - Aside from a small subdrain outlet at a proposed LID measure on the SWM block (enhanced bioswale), no new storm outlets to the Hampton Scott drain channel are proposed. In accordance with prudent practice, the vegetated buffer strip is intended to restore riparian vegetation and habitat along the north bank of the drain channel within the SWM Block where agricultural cropping currently encroaches on the top of bank. - Floodlines do not extend beyond the open channel banks for the Hampton Scott Drain. The basin is below the 125 ha threshold described in UTRCA policies (2006) for regulatory floodplain definition. - The potential impact to groundwater is addressed in the hydrogeology report; this was not part of the approved scope of the EIS report. - Dewatering discharges are proposed to be directed to the existing Summerside SWM

	<p>Facility following pretreatment, rather than the Hampton Scott Drain channel.</p> <ul style="list-style-type: none"> - It is anticipated that with the low permeability soils, groundwater levels will not be significantly impacted following construction dewatering. Furthermore, the proposed use of sewer trench plugs will mitigate the potential for groundwater mining through the trench backfill. - Broader impacts to Parker woodlot such as cumulative impacts of land development, water balance, etc. are to be addressed by the EIS related to the subdivision.
<p>Recommendation #2</p> <p>Prior to accepting this EIS, shall be required to undertake a specific water quality/quantity and erosion control monitoring program under the pre (existing baseline conditions) and post construction conditions (including, but not be limited to, water quality basic chemistry and biological monitoring-BioMap). This matter requires further commentary/analysis prior to acceptance of the report.</p>	<p>The Parker SWM Facility will utilize the Summerside Tunnel as the outlet. As such, additional water quality, quantity and erosion control monitoring of the Hampton Scott Drain is not required to for the completion of this project.</p> <p>NRSI did undertake some baseline water chemistry analysis and aquatic species inventories as part of the EIS (ref. section 4.5). No SAR or species of conservation concern were identified to impact this project. Water quality monitoring was not recommended since this drain does not contain any critical habitat and the recommended mitigation measures are anticipated to enhance water quality in the Hampton Scott Drain.</p> <p>The EIS report as tabled meets the approved scope of review. (ref. Oct. 19, 2015 comms.).</p>
<p>Recommendation #3</p> <p>A. The dewatering plan should include an Erosion Sediment Control Plan very robust plant that will protect this watercourse, as well as appropriate measures to ensure the watercourses are not impacted by the dewatering activities. The effectiveness of these measures should be evaluated consistent with the groundwater monitoring program. The dewatering disposal system should be identified.</p> <p>B. Post-construction/dewatering, groundwater quality sampling should be conducted again to ensure no change to the baseline conditions.</p>	<p>The proposed erosion and sediment control plans are illustrated in FDR figures and contract drawings. The Hampton Scott Drain channel is to be protected with robust barrier (SPO-4.5) and filter socks during construction and contract specifications will require dewatering discharge to the Summerside SWM Facility after pre-treatment.</p> <p>It is anticipated surface runoff from the SWM Facility construction site will be minimal once the bulk excavation operation is initiated (site is a net cut rather than bulk fill condition).</p> <p>From hydrogeologic feedback received from Golder Associates, it is understood that a comprehensive groundwater monitoring program is not warranted, given the low permeability of the soils and distance to any groundwater dependent receptors. As part of the City's due diligence, the wetland will be monitored for evidence of potential impacts attributable to the construction dewatering.</p>

	<p>In relation to dewatering treatment, prescriptive contract specifications will cover this so as to relieve the City of liability during construction for contractor methodology.</p> <p>It is anticipated that a Category 3 PTTW will be required for the dewatering works. As such this permit will outline dewatering and discharge limitations/conditions.</p>
<p>Recommendation #4</p> <p>The consultant has not provided the required technical, environmental/ecological evaluation and justifications to support 15 m buffers and evaluations of the cumulative impacts from this undertaking under post construction. The entire document is weak in dealing with post construction impacts and it is post development impacts that generally have negative impacts on water resources, aquatic conditions, flora and fauna. Prior to accepting this EIS, shall be required to undertake the above-noted analyses and provide justifications to reaffirm the size of the proposed buffer.</p>	<p>In accordance with the approved scope terms of reference for the EIS study, the buffer width has been established with regard for the proposed Parker SWM Facility and the net improvement on current conditions. Agricultural cropping patterns currently encroach on the north bank of the Hampton Scott Drain channel by up to 3.7 metres, so the proposed 15 metre buffer is considered adequate to mitigate impacts and provide enhancement.</p> <p>Buffers related to the Hampton Scott Drain have been provided as per standard, accepted guidance documents. A 15m buffer is the recommended minimum buffer for a warm water stream and is adequate to protect this degraded feature that was not found to contain any Species at Risk or Species of Conservation Concern. The drain is also located adjacent to existing agricultural fields, and a 15m buffer will represent a considerable improvement (UTRCA O.Reg. 147/06). NRSI has also recommended a range of herbaceous native species to be seeded along the banks to aid in stabilization of banks and filtration of runoff.</p> <p>There is no proposed discharge to the channel from the SWM Facility. Water balance analysis (separate scope) has been undertaken to recommend measures for the Parker subdivision project (by others) to maintain baseflow and long term hydrologic conditions to the Parker woodlot and upper reaches of the Hampton Scott Drain.</p> <p>As mentioned, an outlet to from the SWM Facility to the Hampton Scott Drain is not proposed; only an emergency overflow.</p>
<p>RAH & NRSI / Oct. 18, 2017</p>	