

952 Southdale at Col. Talbot Road (northeast corner) EEPAC Review of EIS by MTE dated August 19, 2021 and Hydrogeological Assessment by LDS (LDS) dated August 18, 2021

by - S. Hall, S. Levin, R. Trudeau, I. Whiteside

Summary

EEPAC has two principal concerns with this development: first, the proposed buffer width of 10 m is grossly inadequate to protect the PSW from further degradation of function and is significantly smaller than the minimum width (30m) as required by the 2007 Environmental Management Guidelines

At least the minimum buffer width should apply unless compelling evidence is provided that shows the natural heritage feature or function will be adequately protected by a narrower buffer.

Second, the post development stormwater management plan is also inadequate to protect the PSW from further degradation of function. Taken together, EEPAC considers this development in its current form to be wholly inadequate at protecting the PSW.

We recommend that the development plan be redesigned as EEPAC believes the current design does not ensure no net loss.

Specific details and recommendations, as well as other observation from our review of the EIS and Hydrogeological Assessment are provided below.

Topic 1: Buffer Width

The proposal states that a “10 m distance has been provided in all locations of the development proposal, with the exception of the road access from Southdale Road where it narrows to 3.5 m.” (EIS p.23) The City of London’s Environmental Management Guidelines (2007) recommend “a 30 m minimum buffer width for wetlands for water quality benefits” (p.122). Additionally, Beacon (2012, Table 7) indicated that buffers under 10 m from the Critical Function Zone (“CFZ”) of the wetland have a high risk of not protecting the wetland feature (Core Habitat protection) and function (water quality). There is no CFZ proposed hence the risk to both core habitat protection and water quality is very high in EEPAC’s opinion.

The proposal identifies a number of incursions into the buffer including the construction of a retaining wall on the eastern boundary of the Subject Lands to accommodate the amount of fill needed to create more accessible grading and slopes within the site. EEPAC is concerned about possible construction damage as it is anticipated to take place within the all too small 10 m being allocated for the buffer (Figure 12 EIS). As well, page 23 of the EIS makes reference to Table 4 “A Net Impact Table” of a pedestrian trail. EEPAC also notes a cycle walking trail is shown on Map 4 of the London Plan. Figure 7 – Development Plan, shows the pathway within the wetland boundary in the northern part of the site. The pathway itself would take up 5 m (3 for a paved path and 1 m on each side) of the buffer reducing its effectiveness.

Another outcome of the construction and an inadequate 10 m buffer described in the EIS is the impact on Terrestrial Crayfish chimneys found in the proposed buffer along the edge of Community 2 adjacent to the wetland communities [Figure 6] (EIS p12). Development within habitat for the Meadow and Chimney crayfish will result in direct loss of their habitat and possibly extirpation of the local population.”

“Excavation and filling where there are burrows will physically destroy the burrows and associated tunnels used by terrestrial crayfish. Heavy machinery may cause sufficient soil compression to damage or destroy

952 Southdale at Col. Talbot Road (northeast corner)

burrows and subterranean tunnels.” Additionally, where development alters the habitat’s hydrology, ecological function may be reduced or lost. (P. 391 – 392 SWHMIST 2014)

Recommendation #1: Redesign the proposal incorporating a consistent 30 m buffer along the eastern edge of the property.

Topic 2: Stormwater Management Proposal

The proposal states that the stormwater will be managed on-site with a mixture of two underground storage facilities and rooftop water storage [Figure 8 and 10], of which the latter drains directly into the adjacent PSW. Water collection via storm sewers routed to oil-grit separators will be used to treat the water entering the storage facilities. Water will be released from the storage area slowly and the outlet will spill to a rip-rap pad to help diffuse the velocity of the flow and minimize erosion (Stantec 2019, EIS p. 21). The storage is designed to capture the entirety of a 2-yr storm event over 83% of the property. Lastly, the groundwater table onsite is at or close to ground surface during seasonally wet periods, which limits the potential for LID. EEPAC has specific concerns with respect to this stormwater management proposal:

- This appears to be a complex system and EEPAC is unaware of similar systems in London for similar sites and their long term track record.
- Water collected on the roof of the store may be at too high a temperature for discharge to the PSW (thermal pollution).
- The system appears to be designed to handle a 2-yr storm event, which is inadequate to manage quantity and quality control for discharge to the PSW in the event of a larger storm, which are certain to occur (e.g. London has had larger storm events a number of times in just the past few months).
- Given that the PSW is already negatively impacted from high salt concentrations, this storm water plan does not adequately address how salt will be managed – the Groundwater Report noted that “there is a risk that surface water run-off from the site could be responsible for increased salt loading during late winter and early spring periods.” (LDS pg. 35)
- The design is unclear as to what will be managed on site and what will be sent offsite through stormwater sewers. “It is understood that the site does not have a municipal stormwater outlet, or access to an external storm sewer connection. As such, stormwater run-off generated from the site is expected to be handled and treated onsite.” (LDS paragraph 1, pg. 45) followed by “Stormwater run-off containing contaminants (from site pavements) are expected to be captured and directed into a storm sewer system for treatment.” (LDS bottom of page 48, top of page 49).

Overall due to the complexity of the system outlined in the Hydrogeological Assessment, the case has not been made that a SWM system can be designed to protect either the Significant Wildlife Habitat (see above regarding terrestrial crayfish) or the wetland features and functions.

Recommendation 2: Additional monitoring be conducted on site to validate the conclusions from the hydrogeology report (consistent LDS’ recommendation on pg. 36 of the Hydrogeology Assessment). Additionally, it was not clear if a monitoring well had been placed in a location where LID measures were proposed to demonstrate that LID is feasible for the site. With these concerns in mind, EEPAC feels insufficient information is available at this time and therefore we recommend that the application should not move forward until the ongoing fieldwork is completed to the satisfaction of the City and the UTRCA. Waiting for detailed design is not appropriate, the data collection needs to take place sooner and throughout the spring of 2022.

Additional recommendations include:

- A. If the final SWM design includes roof run off, the thermal impacts of stormwater run off must be mitigated to the satisfaction of the City and the UTRCA. Standing water on flat roofs will be hot in summer.
- B. The detail design of the SWM and development may result in changes to the LID areas and whatever additional measures are necessary to ensure adequate infiltration is achieved. There needs to be a check on the SWM design prior to approval of construction to ensure it actually meets objectives.
- C. "It is recommended that geotechnical inspection of materials which are used onsite and field testing during the construction phase of the project be carried out to confirm that infiltration rates which have been used for design purposes are appropriate to the actual site conditions." (LDS p.22)
- D. Additional LID measures are recommended to ensure that adequate infiltration is achieved. These measures may include but are not limited to the use of grass swales in greenspace areas, infiltration trenches, and reduced lot grading (LDS, 2021)."

Topic 3: Hydrology and Water Balance Assessment

Maintaining current surface and groundwater flow conditions is important to maintaining the health of the PSW. Both the shallow unconfined overburden aquifer surface water (via two swales) drain into the wetland. Water quality testing indicates elevated chloride and sodium levels, which is "unsurprising" based on the adjacent main roads and the use of salt for snow and ice control. From the Hydrogeological Assessment: "Due to the surface water flows that occur under current conditions, and the base flow contributions from upgradient areas around the wetland feature, it is anticipated that both surface water and groundwater contributions help to sustain the form and function, and recharges the wetland feature." (LDS p.35)

With the need to maintain current flow conditions, we felt the water balance calculations made it difficult to determine the extent to which the proposed development will impact waterflow within the site to the PSW given the assessment was for the site its entirety, and did not, in our opinion, adequately differentiate flow from the proposed development areas to the PSW (i.e. all flows were co-mingled).

A better understanding of the impact on the development would be an evaluation of Catchment 101 (pre-development) and Catchments 201, 203, and 204 (post development) – i.e. exclude the wetland feature from the analysis as the wetland will not be changing. Additionally, the assumptions for post-development are somewhat unclear – does it assume the entire site concept is developed, or just the retail portion? Please note the post development catchment areas were not shown correctly in the Hydrogeology Assessment received from EEPAC (second figure in Appendix G). Additional comments and questions for each catchment noted on LDS page 42 are:

Catchment Area	Description	EEPAC's comments
201	Contains the future parking lot and small commercial buildings in the southwest quadrant of the site. It has been assumed that stormwater run-off in this area will be directed to storm sewers for water quality treatment.	Why is it assumed stormwater will be directed offsite when in the previous paragraph (p. 42) LDS states: "it is understood that the site does not have a storm sewer outlet, and that it is anticipated that the stormwater generated from the site will be accommodated onsite."

Catchment Area	Description	EEPAC's comments
203	Contains the future development block in the southeast corner of the site. May be used for future townhouse block, however details for this area are not currently confirmed.	It is not clear what assumptions are being used for this parcel – does the water balance assume the site is fully developed with townhouse blocks?
204	Contains the rooftops of the proposed residential buildings, large grocery store, and commercial building closest to the wetland. It is recommended that stormwater run-off in this area be directed towards an infiltration feature which outlets at the wetland.	Does the water balance assessment include the impact from the infiltration galleries?

Recommendation #3: In order to clarify the water balance on the site conduct an assessment of: pre-development conditions; post development conditions without any mitigating factors (e.g. LID); and post development conditions with the mitigating factors be carried out. In particular, the water balance assessment should also differentiate between a water balance assessment for the wetland itself and for the areas being developed. Lastly, EEPAC echoes the recommendation in the Hydrogeological Assessment that “when additional information regarding the stormwater management strategy is available for the site, the water balance should be updated to reflect stormwater catchments used in the design.” (LDS p 42)

Recommendation #4: The data used to calculate the water balance should be updated. London updated its Intensity Duration Frequency (IDF) curves in its Design Standards to reflect historical rainfall trends experienced in the London region using up to 2018 rainfall data.

Topic 4: Construction Related Impacts

Given the relatively shallow groundwater table (according to the data collected so far, the surface of the tableland is covered in water at various times), coupled with the adjacent wetland, construction related dewatering must incorporate adequate quality and quantity controls to ensure that dewatering does not reduce (or increase) water flow to the wetland, nor result in an increase in sedimentation. The EIS noted that “it is during construction when the greatest potential impact to the adjacent feature can occur as the site is graded. Above and beyond sediment and erosion control measures, grading works within 30m – 50m of the wetland require a very high level of management. Interim stormwater management during site grading and construction will also be critical.” (EIS pg. 19-20) **However, EEPAC points out there is no indication in either the LDS report or the EIS where dewatering will outlet to. Normally, it is into the city’s stormwater system but there are no outlets on this site nor are they proposed prior to construction.**

Given the current site design includes a retaining wall as close as 3.5 m from the PSW, construction will undoubtedly take place even closer. While the LDS report recommends a detailed erosion and sediment control plan be created, EEPAC is skeptical that even “robust” or “heavy duty” or a “multi-barrier approach” sediment control fencing (all forms used in the EIS pgs. 24-5) will prevent some siltation and other construction impacts to the feature, especially given how close construction will occur to the feature.

Recommendation #5: EEPAC’s baseline recommendation remains that this development requires significant re-design to protect the integrity of the PSW. However, were the development to proceed as proposed, a detailed ESC plan approved by the City and the UTRCA must be a condition of approval. Additionally, the construction recommendations outlined in the Hydrogeology Assessment (LDS page 51) must be followed, at minimum, with additional stronger dewatering requirements which must be followed.

Recommendation #6: EEPAC recommends that there be daily monitoring of water levels as suggested on page 57 of the LDS report, including measuring turbidity. Additionally, echoing other recommendations in the Hydrogeological Assessment, construction should only take place during the drier summer months given the shallow groundwater conditions and the lack of a clear outlet for dewatering activities. No excavation work should take place during wet weather seasons.

Topic 5: – Post Construction – Snow Removal and Salt Management

On page 52-3 of its report, LDS proposes a snow removal and salt management strategy. EEPAC is not aware of any property being managed to the standard suggested by LDS. EEPAC is concerned that there is no assurance such a plan would be implemented, monitored and sustained in the short or long term. The precautionary principle (a minimum 30 m buffer) should be followed rather than placing the bar so far above standard procedures for snow removal and salt management.

Topic 6: Review of Recommendations in the EIS

If the development as proposed is accepted, EEPAC provides the following comments on the recommendations contained in the EIS. Overall, the EIS discusses many requirements to avoid impacts – EEPAC overall views that the greater the buffer, the less the risk.

Nos.	EEPAC Comment
1	EEPAC does not support LID measures on private property as maintenance is an ongoing issue and there is no mechanism EEPAC is aware of to inspect and deal with maintaining the function of such facilities.
2	The current vegetation between the site and the wetland (Community 2) appears to be removed during construction. So rather than a more appropriate buffer this recommendation ignores the impact on Community 2 and recommends something called “active naturalization.” This recommendation also seems to ignore a paved pathway in the buffer (and at times, in the wetland at the north end of the site according to Figure 7 - Development Plan, in the EIS and LDS reports), which will essentially reduce the amount of “active naturalization.” What is active naturalization?
4	There should be no need for a retaining wall with a 30 m buffer from the wetland. The construction of a retaining wall where proposed will likely result in a net loss of some of the feature because of the scale (4 m different in height between the tableland and the feature) and the distance from the feature (EIS p. 24 says the wall will be within 3.5 m of the feature). Construction will be even closer to the feature and possibly in the feature. Recommendation #7– If this development is approved as is, an ecologist, retained by the city at the proponent’s cost, should be required to be on site daily during construction and have authority to stop construction.
4, 10, 11, 12	It is unlikely even “robust” or “heavy duty” or a “multi-barrier approach” sediment control fencing (EIS pgs. 24-5) will prevent some siltation and other construction impacts to the feature.

Nos.	EEPAC Comment
5, 6, 7	EEPAC agrees a detailed interim stormwater management, regardless of the final site design, is required. It must be to the satisfaction of the City and the UTRCA. It is unclear from the EIS how surface flows will be unaffected during construction or the time it will take between construction and the completion of the final stormwater design. EEPAC is not aware of a similar SWM project in the city adjacent to a PSW that has been successful.
13	EEPAC agrees, although one would have expected a clearer time line other than “as soon as possible.”
14	This recommendation could be improved by making this a condition of development approval and included in the construction contracts. Or an inspection schedule, to the approval of the city, be developed to reduce the likelihood roof leaders will be connected before areas are vegetated. However, EEPAC points out this recommendation presupposes that connecting the roof leaders will be part of the approved SWM plan for the site. With a 30 m buffer, the final stormwater management plan may differ. Recommendation #8 – depending on the final SWM design an amended EIS may be required.
15	EEPAC agrees that fencing MUST be required
16	EEPAC agrees. Moreover, given the rest of the legal parcel is part of a PSW, the proponent consider donating the lands to the City which should result in no capital gains tax and obtaining a tax receipt for the value of the land. https://www.canada.ca/en/environment-climate-change/services/environmental-funding/ecological-gifts-program/publications/donation-income-tax-scenarios.html
17	The report was unclear as to the application of this recommendation as it relates to Kildeer (stated) and Bank Swallows (not stated) Recommendation #9 – a clearer recommendation re nesting birds be included in the development agreement and building permits
18-21	EEPAC agrees. We appreciate the recommendation for permanent signage

With respect to the Monitoring Plan (page 27) of the EIS:

- Noted that there is nothing in this section of the EIS related to the feature or its functions. The LDS report also recommends an EMP and page 3 states: “Outline recommendations for an environmental monitoring program to characterize water quality in the wetland during and post construction.” Sadly, the HydroG report only has bullet points of what might be included at the detailed design stage (LDS p.55).
- **Recommendation #10** - EEPAC recommends that monitoring plan at detail design subject to the approval of the UTRCA and City be a requirement of all development agreements and site plans given that various phases are proposed.
- **Recommendation #11** – the monitoring plan must include base line condition of water quality and quantity, ecological function and reporting on these measures must be reported at least annually to the City and UTRCA. In addition, given some impacts may be long term, a specific holdback of funds from the proponent be required for any mitigation or compensation that may be required for no less than 5 years.

Topic 7: Additional Comments

1. The EIS did not address the following element at the end of the Scoping document included in the EIS (found on page 61 of 83 of the PDF document):

“EIS to address potential wetland interference/ removal on edge/ within feature limits as identified on City of London 2020 air photos.”

Recommendation #12: EIS be considered incomplete until this is addressed

2. p. 16 of the EIS - Water Quality and Quantity “Water quality and quantity contributions from the Subject Lands to the adjacent North Talbot PSW will need to be considered further in this EIS.’ This does not appear to have been addressed in the EIS.
3. EEPAC did not receive the Geotechnical Report LDS did from Oct 2020 which was referenced in the Hydrogeologic study. “LDS has also prepared the Geotechnical Report (October 2020) outlining geotechnical comments and recommendations related to the proposed site development.”
4. None of the Figures show where observer was while conducting the amphibian calling surveys. Surveys were conducted in 2017.
5. Appendix H includes a response from the MECP whose guidance expired Dec 31, 2020.
6. The London Plan policies and maps are in force and effect. Why are the previous Official Plan policies and schedules still referenced?
7. Figures showing features and outlines of built features are incomplete or even misleading. See Fig 9-11 for examples of headings in the key without lines on the site drawing or lines without headings in the key. Figure 5A was missing all of the information from the key.
8. The entire PSW is not shown in the air photo figures which is annoying at best and understates the significance of the feature.
9. The full extent of the PSW is noted on Ontario GeoHub (see appendix) and Map 5 of the London Plan. It should be clear to everyone the extent of the PSW.
10. LDS report p. 40 – “Based on information from Stantec, it is understood that Buttonbush Wetland has a contributing drainage area of 77.4 hectares, much of which has been subject to urbanization, and has an approximate impervious level of about 63 percent. It is important to note that this assessment does not consider the broader catchment area for the wetland area, which extends beyond the subject lands. This water balance is based on the onsite contributions, through surface water (stormwater run-off) and onsite infiltration which contribute to the adjacent wetland features. The following table summarizes the recommended elements of the assessment, and provides a reference to the corresponding material within this report.” Although the PSW has been negatively affected by urbanization and previous stormwater management it seems that limiting the water balance report and calculation to this small part (about 4 ha) of the 77 ha catchment means the work, while interesting, may not be very useful in determining post construction impacts to the feature or its functions.
11. From EIS p. 21 “To ensure that features are protected from sedimentation during development, a fill and grading staging plan has been prepared for the proposed development. This staging plan is discussed further under Section 7.2. Frankly, the LDS report on page 56 has more of an outline of ESC measures to be taken. The staging plan does little to mitigate the construction impacts which are more clearly outlined in the LDS report than in the EIS.

952 Southdale at Col. Talbot Road (northeast corner)

12. p. 19 “Further south, in the north Talbot community plan area, a wetland feature that receives major storm water to assist in quantity control has converted from a horse pastured wet meadow beforehand,...” It would be not a good idea to cite this example as a positive one. Beacon’s work in 2014 on EIS implementation noted that the Talbot Village site completely changed from before development and its use as a SWM facility. See Appendix
13. It is also noted that EEPAC previously reviewed work done at for the development at the northeast edge of the Buttonbush Swamp adjacent to the SWM facility built by the developer and noted significant functional issues with the facility that likely had deleterious impacts to the feature and its functions. (see appendix, extract from staff report to Planning Cte)

References:

Upper Thames River Conservation Authority. (2017). Environmental Planning Policy Manual for the Upper Thames River Conservation Authority.

Environment Canada. (2013). How Much Habitat is Enough? 3rd, 127 pp. Toronto.

Ministry of Natural Resources and Forestry. (2010a). Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Toronto: Queen's Printer for Ontario

Beacon Environmental. (2012, December). Ecological Buffer Guideline Review. Markham, Ontario, Canada: Credit Valley Conservation Authority.

SWHMiST 2014 - Significant Wildlife Habitat Mitigation Support Tool, Government of Ontario

Appendix: Extract from Beacon 2014 study of EIS implementation for the City of London re Talbot Village

From p. 21 of Beacon: “Allowing development (including infrastructure like storm water management ponds) in locally significant wetlands is permissible under the 1997 PPS, but could have been considered in contravention of the City’s Official Plan in place at the time which includes locally significant wetlands within “natural heritage areas designated as Open Space” (policy 15.3.1) and specifies that permitted uses in Open Space are limited to “non-intensive uses” (Chapter 8a). In subsequent internal City correspondences (B. Bergsma, Feb. 2009) it would appear that upon closer examination by the City’s Ecologist Planner, the wetland assessment was also not as rigorous as it should have been, and could have resulted in a Provincially Significant Wetland classification.”

p. 32 from Beacon re Talbot Village: “Based on field investigations and review of recent aerial photography, it appears that the area and basic habitat types recommended for protection have been effectively protected; however, some differences were observed in terms of species composition within some of the wetland communities. Specifically, a portion of the Silver Maple swamp community identified as “W4” in the EIS contained many dead trees in 2013, relatively sparse tree cover, and an understory of Buttonbush such that this area could be classified as Buttonbush thicket swamp rather than Silver Maple swamp. In addition, community “W3” identified in the EIS (2000, 2009) as a Forb Mineral Shallow Marsh (see **Figure A-7, Appendix A**) contained a significant amount of standing water and little vegetation cover aside from sparse amounts of Buttonbush (see **Photo 6**). However, the reasons for these shifts are complex and may not be related to development of the Talbot Village site, but more so to surface water management in the broader area.”

Appendix: Extract from staff report re H-8713 to PEC March 6, 2017 re: 946, 954 AND 962 LONGWORTH ROAD

The Crestwood SWMF was one of the first stormwater management ponds constructed in the City of London. The pond was designed and constructed in 1998 with two forebays to provide water quality control and the Buttonbush Swamp to provide quantity control/attenuation of higher flows. This design was consistent with design standards at the time and all provincial approvals were obtained to construct this facility.

In recent years, this facility has had several failures of the outlets and generally underperformed for water quality based on updated design criteria. As such, the City requested the developer to improve the design prior to assumption. The retrofit of the Crestwood North and Crestwood East cells is currently being undertaken to improve water quality control. The retrofit work includes a substantial increase in the permanent pool volume (54% for Crestwood North and 138% for Crestwood East) and the extended detention volume (115% for Crestwood North and 296% for Crestwood East). The volume improvements were driven by the objective of meeting current provincial water quality requirements for stormwater management ponds, resulting in a substantial improvement to the performance of the two facilities. It is noted that the retrofit work has been approved by both the Ministry of the Environment and Climate Change and the Upper Thames River Conservation Authority.

Construction has been undertaken by the developer and the retrofitted ponds are currently substantially complete from a functional stand point. Landscaping and final grading activities will be completed spring 2017. This is a good news story for the City as the retrofit of this facility should improve the conditions of the natural environment. It is noted that the MNRF updated its wetland mapping in 2007 and recognized the Buttonbush Swamp as a Provincially Significant Wetland (PSW). Unfortunately, the original design of this facility prevents a more extensive removal of stormwater flow from the Buttonbush PSW. This is due to existing sanitary sewers bisecting the property and the proximity of existing homes surrounding the wetland

952 Southdale at Col. Talbot Road (northeast corner)

Ontario  Ontario GeoHub

Wetlands










Private Member
Ontario Ministry of Natural
Resources and Forestry

Summary

Provides a spatial representation and
attribute information for Ontario
wetlands.

[View Full Details](#)

-  **Dataset**
Feature Layer
-  **May 13, 2019**
Info Updated
-  **As Needed**
Data Updated: November 5, 2021,
8:54 AM
-  **May 1, 1978, 12:00 AM**
Published Date
-  **3,526,975 Records**
[View data table](#)
-  **Public**
Anyone can see this content
-  **Custom License**
[View license details](#)

